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GRUPPO FS ITALIANE

Direzione Tecnica

S.S.121 "Catanese"

Intervento S.S.121 – Tratto Palermo (A19) – rotatoria Bolognetta

PROGETTO DEFINITIVO

COD. UP62

PROGETTAZIONE: ATI VIA - SERING - VDP - BRENG

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GRUPPO DI PROGETTAZIONE
MANDATARIA: VIA INGEGNERIA
MANDANTI: SERING INGEGNERIA, vdp, BRENG BRIDGE ENGINEERING

OPERE D'ARTE MINORI

OPERE DI SOSTEGNO

Relazione tecnica e di calcolo muri a fondazione diretta

CODICE PROGETTO (PROGETTO / LIV. PROG. / ANNO)	NOME FILE	REVISIONE	SCALA:
DPUP0062 D 23	UP62_P00OS00GETRE01_A	A	–
	CODICE ELAB. P00OS00GETRE01		

REV.	DESCRIZIONE	DATA	REDATTO	VERIFICATO	APPROVATO
D		–	–		
C		–	–	–	–
B		–	–	–	–
A	EMISSIONE	FEB. 2023	B. Capozzi	E. STRAMACCI	G.PIAZZA

INDICE

1 GENERALITA'

1.1 Oggetto

La presente relazione illustra le analisi e le verifiche relative ai Muri di sostegno su fondazione diretta previsti nell'ambito dei lavori di realizzazione della "*UP62 - SS 121 "Catanese*"- Intervento S.S. 121 – Tratto Palermo (A19) - Rotatoria Bolognetta.

Le analisi e le verifiche statiche mirano al dimensionamento degli elementi principali per consentirne una piena definizione dal punto di vista prestazionale ed economico.

Le analisi e le verifiche degli aspetti di dettaglio, saranno sviluppate nella successiva fase di Progettazione.

1.2 Vita Nominale di progetto, Classe d'uso e Periodo di Riferimento dell'opera

1.2.1 Vita Nominale V_n

La vita nominale di progetto V_N di un'opera è convenzionalmente definita come il numero di anni nel quale è previsto che l'opera, purché soggetta alla necessaria manutenzione, mantenga specifici livelli prestazionali.

I valori minimi di V_N da adottare per i diversi tipi di costruzione sono riportati nella Tab. 2.4.I. (§ 2.4.1 NTC2018). Tali valori possono essere anche impiegati per definire le azioni dipendenti dal tempo.

Tab. 2.4.I – *Valori minimi della Vita nominale V_N di progetto per i diversi tipi di costruzioni*

	TIPI DI COSTRUZIONI	Valori minimi di V_N (anni)
1	Costruzioni temporanee e provvisorie	10
2	Costruzioni con livelli di prestazioni ordinari	50
3	Costruzioni con livelli di prestazioni elevati	100

Tabella 5.1 – Valori minimi della Vita nominale Vn di progetto per i diversi tipi di costruzioni

In accordo con la Committenza Anas è stato assunto:

- Vita Nominale di progetto: V_N = 50 anni (costruzioni con livelli di prestazione elevati).

1.2.2 Classi d'Uso

Con riferimento alle conseguenze di una interruzione di operatività o di un eventuale collasso, le costruzioni sono suddivise in classi d'uso così definite (§2.4.2 NTC2018):

Classe I: Costruzioni con presenza solo occasionale di persone, edifici agricoli.

Classe II: Costruzioni il cui uso preveda normali affollamenti, senza contenuti pericolosi per l'ambiente e senza funzioni pubbliche e sociali essenziali. Industrie con attività non pericolose per l'ambiente. Ponti, opere infrastrutturali, reti viarie non ricadenti in Classe d'uso III o in Classe d'uso IV, reti ferroviarie la cui interruzione non provochi situazioni di emergenza. Dighe il cui collasso non provochi conseguenze rilevanti.

Classe III: Costruzioni il cui uso preveda affollamenti significativi. Industrie con attività pericolose per l'ambiente. Reti viarie extraurbane non ricadenti in Classe d'uso IV. Ponti e reti ferroviarie la cui interruzione provochi situazioni di emergenza. Dighe rilevanti per le conseguenze di un loro eventuale collasso.

Classe IV: Costruzioni con funzioni pubbliche o strategiche importanti, anche con riferimento alla gestione della protezione civile in caso di calamità. Industrie con attività particolarmente pericolose per l'ambiente. Reti viarie di tipo A o B, di cui al DM 5/11/2001, n. 6792, "Norme funzionali e geometriche per la costruzione delle strade", e di tipo C quando appartenenti ad itinerari di collegamento tra capoluoghi di provincia non altresì serviti da strade di tipo A o B. Ponti e reti ferroviarie di importanza critica per il mantenimento delle vie di comunicazione, particolarmente dopo un evento sismico. Dighe connesse al funzionamento di acquedotti e a impianti di produzione di energia elettrica.

Relativamente alle conseguenze di una interruzione di operatività o di un eventuale collasso, delle opere di cui trattasi, vi si attribuisce:

- Classe d'Uso: IV;
- Coefficiente d'Uso: C_U = 2.0.

1.2.3 Periodo di Riferimento per l'azione sismica

Il periodo di riferimento, impiegato nella valutazione delle azioni sismiche risulta pari a:

- Periodo di Riferimento: $V_R = V_N \times C_U$ = 50 x 2.0 = 100 anni.

1.3 Descrizione delle opere

Tutte le opere analizzate nella presente relazione sono costituite da muri gettati in opera.

1.3.1 Muri di sostegno

I tipologici esaminati sono i seguenti:

- Muro di sostegno tipo H3 ("MSTD – H3"): per altezze del paramento 2.01 m ≤ H ≤ 3.0 m;
- Muro di sostegno tipo H4 ("MSTD – H4"): per altezze del paramento 3.01 m ≤ H ≤ 4.0 m;
- Muro di sostegno tipo H5 ("MSTD – H5"): per altezze del paramento 4.01 m ≤ H ≤ 5.0 m;
- Muro di sostegno tipo H6 ("MSTD – H6"): per altezze del paramento 5.01 m ≤ H ≤ 6.0 m;
- Muro di sostegno tipo H7 ("MSTD – H7"): per altezze del paramento 6.01 m ≤ H ≤ 7.0 m;
- Muro di sostegno tipo H8 ("MSTD – H8"): per altezze del paramento 7.01 m ≤ H ≤ 8.0 m;
- Muro di sostegno tipo H9 ("MSTD – H9"): per altezze del paramento 8.01 m ≤ H ≤ 9.0 m;
- Muro di sostegno tipo H10 ("MSTD – H10"): per altezze del paramento 9.01 m ≤ H ≤ 10.0 m.

2 NORMATIVE E RIFERIMENTI

Le analisi e le verifiche delle strutture sono state effettuate nel rispetto della seguente normativa vigente:

[D_1]. DM 17 gennaio 2018: Aggiornamento delle <<Norme tecniche per le costruzioni>> (nel seguito indicate come NTC18).

[D_2]. Circolare 21 gennaio 2019 n.7: Istruzioni per l'applicazione dell' "Aggiornamento delle Norme tecniche per le costruzioni" di cui al DM 17 gennaio 2018, supplemento ordinario n° 5 alla G. U. n° 35 del 11/02/2019 (nel seguito indicate come CNTC18).

[D_3]. Norma Europea UNI EN 206: Calcestruzzo – Specificazione, prestazione, produzione e conformità (Dicembre 2016).

[D_4]. Norma Italiana UNI 11104: Calcestruzzo – Specificazione, prestazione, produzione e conformità – Specificazioni complementari per l'applicazione della EN 206 (luglio 2016).

3 NORME TECNICHE

Il metodo di calcolo adottato è quello semiprobabilistico agli stati limite, con applicazione di coefficienti parziali per le azioni o per l'effetto delle azioni, variabili in ragione dello stato limite indagato.

4 CARATTERISTICHE DEI MATERIALI E RESISTENZE DI PROGETTO

4.1 Calcestruzzi

4.1.1 Caratteristiche ai fini della durabilità

Al fine di valutare le caratteristiche vincolanti delle miscele di calcestruzzo nei confronti della durabilità viene fatto riferimento alle norme EN206 e UNI 11104.

Relativamente alla scelta delle classi di esposizione, in accordo alla "Classificazione del livello di rischio di attacco del gelo per aree climatiche del territorio italiano" contenuta nell'appendice A alla norma, che attribuisce alla Sicilia un livello di rischio Nullo, è stata esclusa l'applicazione della classe XF (Attacco dei cicli gelo/disgelo con o senza disgelanti), e conseguentemente della classe XD (corrosione indotta da cloruri esclusi quelli provenienti dall'acqua di mare).

Relativamente all'applicazione della classe XA (Attacco chimico da parte del terreno naturale e delle acque contenute nel terreno), le analisi chimiche eseguite su campioni di terreno e su acqua di falda ai sensi della norma UNI EN 206, hanno evidenziato acidità nei terreni e concentrazioni di CO2 nell'acqua, tali da rientrare nei range illustrati nel prospetto 2 della norma.

Di seguito il prospetto di sintesi riportato nel report "Relazione sul monitoraggio ambientale ante operam".

Campione		S35_PZ_Amb	S02_DH_Amb	S05_PZ_Amb	S8_PZ_Amb	UNI EN 206:2016		
RAPPORTO DI PROVA		2146213-001	2145765-001	2145765-002	2145765-003			
PROFONDITÀ (m da p.c.)		9 - 10	2 - 3	2 - 3	9 - 10			
PARAMETRO	U.M.	VALORE				XA1 Aggressività debole	XA2 Aggressività moderata	XA3 Aggressività forte
So^{-2}_4 (ione solfato)	mg/kg	920	154	40,8	38,9	≥2000e ≤ 3000$_c$	>3000$_c$ e ≤ 12000	> 12000 e ≤ 24000
Acidità (Baumann – Gully)	ml NaOH0,1 M/Kg	12	20	12	12	> 200	Non incontrato nella pratica	

Campione		S12_PZ_Amb	S15_PZ_Amb	S20_DH_Amb	S24_PZ_Amb	UNI EN 206:2016		
RAPPORTO DI PROVA		2145765-004	2145765-005	2145765-006	2145765-007			
PROFONDITÀ (m da p.c.)		2 - 3	10 - 11	2 - 3	2 - 3			
PARAMETRO	U.M.	VALORE				XA1 Aggressività debole	XA2 Aggressività moderata	XA3 Aggressività forte
So^{-2}_4 (ione solfato)	mg/kg	18000	21	862	44,1	≥2000e ≤ 3000$_c$	>3000$_c$ e ≤ 12000	> 12000 e ≤ 24000
Acidità (Baumann – Gully)	ml NaOH0,1 M/Kg	20	16	12	8	> 200	Non incontrato nella pratica	

Tabella 5-2 - Confronto dei risultati analitici sull'aggressività del terreno con i valori delle classi UNI EN 206:2016

Sulla base delle concentrazioni rilevate, confrontate con i limiti stabiliti dalla norma UNI EN 206:2016, i campioni di terra esaminati risultano non aggressivi fatta eccezione per il campione prelevato in corrispondenza del sondaggio denominato S12_PZ_Amb il quale risulta fortemente aggressivo per il parametro $S_O{}^{-2}{}_4$ (ione solfato).

Campione		S05_PZ_Amb	S12_PZ_Amb	S28_PZ_Amb	S35_PZ_Amb	S22	SN3	UNI EN 206:2016		
RAPPORTO DI PROVA		2146823-001	2146823-003	2146823-006	2146823-007	2149554-001	2149554-002			
PROFONDITÀ PIEZOMETRO (m da p.c.)		27	27,1	27,5	24,5	28,6	29,5			
PARAMETRO	U.M.	VALORE	VALORE	VALORE	VALORE	VALORE	VALORE	XA1 Aggressività debole	XA2 Aggressività moderata	XA3 Aggressività forte
So^{-2}_4 (ione solfato)	mg/l	511	2599	237	2437	124	177	≥200 e ≤600	>600 e ≤3000	> 3000 e ≤ 6000
pH	unità	7,2	7,4	8,7	7,6	7,5	7,6	≤6,5 e ≥5,5	<5,5 e ≥4,5	<4,5 e ≥4,0
CO_2 (aggressiva)	mg/l	0,1	1,1	13,2	1,1	< 0,1	< 0,1	≥15 e ≤40	>40 e ≤100	>100 fino a saturazione
NH^{+4} (ione ammonio)	mg NH4/l	< 0,04	0,24	1,1	1,3	0,5	0,6	≥15 e ≤30	>30 e ≤60	>60 e ≤100

Tabella 5-3 - Confronto dei risultati analitici sull'aggressività delle acque sotterranee con i valori delle classi UNI EN 206:2016

Sulla base delle concentrazioni rilevate, confrontate con i limiti stabiliti dalla norma UNI EN 206:2016, i campioni di acqua sotterranea prelevati in corrispondenza dei piezometri S12_PZ_Amb e S35_PZ_Amb, denotano un ambiente chimico moderatamente aggressivo per il parametro $S_O{}^{-2}{}_4$ (ione solfato); i campioni di acqua sotteranea prelevati in corrispondenza dei piezometri S05_PZ_Amb e S28_PZ_Amb, hanno evidenziato valori di concentrazione del parametro $S_O{}^{-2}{}_4$ (ione solfato) tali per cui si denota un ambiente chimico debolmente aggressivo. Per i restanti campioni prelevati si riscontra la presenza di un ambiente chimico non aggressivo.

Di seguito, per ciascun elemento viene riportata la classe di esposizione che risulta vincolante ai fini delle caratteristiche della miscela. Inoltre, sono riportati la classe di resistenza, i range previsti per le dimensioni massime degli aggregati, la classe di consistenza, il valore massimo del rapporto acqua/cemento, il tipo di cemento da impiegare in funzione della parte d'opera e il contenuto minimo di cemento:

CARATTERISTICHE DEI CALCESTRUZZI (UNI EN 206-1 / UNI 11104)								
CALCESTRUZZO PER		Magrone di sottofondazione	Sottofondazioni - Pali trivellati e diaframmi	Fondazioni - Spalle e pile	Elevazioni - Spalle, pile e pulvini	Baggioli	Predalle prefabbricate	Getti in opera e cordoli marginali
Classe di resistenza (fck/Rck) (Mpa)		C12/15	C32/40	C32/40	C32/40	C35/45	C35/45	C35/45
Classe di esposizione ambientale		-	XC2 - AX2	XC2 - AX2	XC4	XC4	XC4	XC4
ϕ maxinerti (mm)	Dupper	-	32	32	25	25	12	25
	Dlower		20	20	16	16	8	16
Classe di consistenza		-	S5	S5	S4	S5	S5	S5
Rapporto max acqua/cemento		-	0.5	0.5	0.5	0.45	0.45	0.45
Contenuto massimo di cloruri		-	0.20%	0.20%	0.20%	CEMI÷V	CEMI÷V	CEMI÷V
Contenuto minimo di cemento (kg/m^3)		150	340	340	340	360	360	360

Tabella 5.3 – Caratteristiche dei Calcestruzzi

* Cemento LH (Low Heat) a basso calore di idratazione.

** I contenuti di cemento indicati saranno verificati in sede di prequalifica, imponendo che il riscaldamento del calcestruzzo del nucleo in condizioni adiabatiche rispetti le seguenti condizioni:

- $\delta T_{3gg} \leq 35°$ per getti di spessore non superiore a 2 m;
- $\delta T_{7gg} \leq 35°$ per getti di spessore superiore a 2 m.

In ogni caso, dovrà essere garantito il rispetto delle classi di esposizione e resistenza sopra indicate.

4.1.2 Copriferri nominali

I valori minimi dello spessore dello strato di ricoprimento di calcestruzzo (copriferro), ai fini della protezione delle armature dalla corrosione, sono riportati nella Tab. C4.1.IV delle circolari applicative §[D_2], nella quale sono distinte le tre condizioni ambientali di Tab. 4.1.III delle NTC:

Tabella C4.1.IV - *Copriferri minimi in mm*

			barre da c.a. elementi a piastra		barre da c.a. altri elementi		cavi da c.a.p. elementi a piastra		cavi da c.a.p. altri elementi	
C_{min}	C_0	ambiente	$C \geq C_0$	$C_{min} \leq C < C_0$	$C \geq C_0$	$C_{min} \leq C < C_0$	$C \geq C_0$	$C_{min} \leq C < C_0$	$C \geq C_0$	$C_{min} \leq C < C_0$
C25/30	C35/45	ordinario	15	20	20	25	25	30	30	35
C30/37	C40/50	aggressivo	25	30	30	35	35	40	40	45
C35/45	C45/55	molto ag.	35	40	40	45	45	50	50	50

I valori della tabella C4.1.IV si riferiscono a costruzioni con Vita Nominale di 50 anni (tipo 2 della Tab. 2.4.1 delle NTC). Per costruzioni con vita nominale di 100 anni (tipo 3 della citata Tab. 2.4.1), i valori della Tab. C4.1.IV vanno aumentati di 10 mm.

Per la definizione del calcestruzzo nominale, ai valori minimi di copriferro vanno aggiunte le tolleranze di posa, pari a 10 mm o minore, secondo indicazioni di norme di comprovata validità.

La tabella seguente illustra, i valori del calcestruzzo nominale, richiesti in base all'applicazione dei criteri sopra esposti e specializzati al caso in esame:

DETERMINAZIONE DEI COPRIFERRI NOMINALI SECONDO NTC2018

Dati generali relativi all'opera	Var	unità	
Tipo di costruzione (1=temp. o provvisoria; 2 = prestazioni ordinarie; 3=prestazioni elevate)	TC		2
Vita nominale dell'opera	V_N	anni	50

Tabella C4.1.IV Copriferri minimi in mm

			barre da c.a.				cavi da c.a.p.			
			elementi a piastra		altri elementi		elementi a piastra		altri elementi	
ambiente	$R_{ck\,min}$	R_{ck0}	$R_{ck} \geq R_{ck0}$	$R_{ckmin} \leq R_{ck} \leq R_{ck0}$	$R_{ck} \geq R_{ck0}$	$R_{ckmin} \leq R_{ck} \leq R_{ck0}$	$R_{ck} \geq R_{ck0}$	$R_{ckmin} \leq R_{ck} \leq R_{ck0}$	$R_{ck} \geq R_{ck0}$	$R_{ckmin} \leq R_{ck} \leq R_{ck0}$
ordinario	30	45	15	20	20	25	25	30	30	35
aggressivo	37	50	25	30	30	35	35	40	40	45
molto ag.	45	55	35	40	40	45	5	50	50	50

Elemento		Sottofondazioni - Pali trivellati e diaframmi	Fondazioni - Sottovia, Tombini, Muri	Elevazioni - Sottovia, Tombini, Muri	Elevazioni - Cordoli sommitali
Tipo di armatura (1=barre da c.a.; 2=cavi da c.a.p.)		1	1	1	1
Elemento a piastra		NO	SI	SI	NO
Classe di esposizione		XC2 - XA2	XC2 - XA2	XC4	XC4
Ambiente		aggressivo	aggressivo	aggressivo	aggressivo
Rck	Mpa	40	40	40	45
Check Rck min		OK	OK	OK	OK
copriferro minimo (Tab. C4.1.IV NTC)	mm	35	30	30	35
incremento Per Vn=100 (tipo di costruzione 3)	mm	0	0	0	0
elem. prefabbricato con ver. Copriferri*		NO	NO	NO	NO
riduzione per produzioni con ver. Copriferri		0	0	0	0
Tolleranza di posa		10	10	10	10
copriferro nominale	mm	45	40	40	45
** Elemento prefabbricato prodotto con sistema sottoposto a controllo di qualità che comprenda la verifica dei copriferri*					
copriferro nominale di progetto	mm	**75**	**50**	**50**	**50**

Tabella 4.4 – Valori dei copriferri nominali in base alle NTC2018

Nelle verifiche delle opere di fondazione è stata considerata a favore di sicurezza una classe di resistenza del calcestruzzo pari a C25/30.

4.1.3 Resistenze di progetto

Calcestruzzo C25/30:

Caratteristiche Calcestruzzo	Var	unità	C25/30
Resistenza a compressione caratteristica cubica	R_{ck}	Mpa	30
Resistenza a compressione caratteristica cilindrica	$f_{ck} = 0.83\ R_{ck}$	Mpa	25
Resistenza media a compressione cilindrica	$f_{cm} = f_{ck} + 8$	Mpa	33.00
Resistenza media a trazione semplice	f_{ctm}	Mpa	2.56
Resistenza caratteristica a trazione semplice	$f_{ctk5\%}=0.7\ f_{ctm}$	Mpa	1.80
Resistenza caratteristica a trazione semplice	$f_{ctk95\%}=1.3\ f_{ctm}$	Mpa	3.33
Resistenza media a trazione per flessione	$f_{cfm} = 1.2\ f_{ctm}$	Mpa	3.08
Modulo elastico	$E_{cm}=22000x(f_{cm}/10)^{0.3}$	Mpa	31476

STATI LIMITE ULTIMI	Var	unità	
coefficiente γ_c	γ_c		1.50
coefficiente α_{cc}	α_{cc}		0.85
Resistenza a compressione di calcolo	$f_{cd}=\alpha_{cc}\ f_{ck}/\gamma_c$	Mpa	14.17
Resistenza a trazione di calcolo	$f_{ctd}=f_{ctk}/\gamma_c$	Mpa	1.20

STATI LIMITE DI ESERCIZIO	Var	unità	
$\sigma_{c,\ max}$ - combinazione di carico caratteristica	$\sigma_{c,max}=0.60\ f_{ck}$	Mpa	15.00
$\sigma_{c,\ max}$ - combinazione di carico quasi permanente	$\sigma_{c,max}=0.45\ f_{ck}$	Mpa	11.25
σ_t - stato limite di formazione delle fessure	$\sigma_t=f_{ctm}/1.2$	Mpa	2.14

ANCORAGGIO DELLE BARRE	Var	unità	
Tensione tan. ultima di ad. ϕ<=32 mm - buona ad.	$f_{bd}=2.25\ x\ 1.0\ x\ 1.0\ x\ f_{ctk}/g_c$	Mpa	2.69
Tensione tan. ultima di ad. ϕ<=32 mm - non buona ad.	$f_{bd}=2.25\ x\ 0.7\ x\ 1.0\ x\ f_{ctk}/g_c$	MPa	1.89

Calcestruzzo non armato o a bassa perc. di armatura	Var	unità	
Resistenza a trazione di calcolo	$f_{ct1d}=0.85\ f_{ctd}$	Mpa	1.02
tensione di compressione limite	$\sigma_{clim}=f_{cd}-2(f_{ct1d}^2+ f_{cd}\ f_{ctd})^{0.5}$	Mpa	6.31

Calcestruzzo C32/40 e C35/45

Caratteristiche Calcestruzzo	Var	unità	C32/40	C35/45
Resistenza a compressione caratteristica cubica	R_{ck}	Mpa	40	45
Resistenza a compressione caratteristica cilindrica	$f_{ck} = 0.83\ R_{ck}$	Mpa	32	35
Resistenza media a compressione cilindrica	$f_{cm} = f_{ck} + 8$	Mpa	40.00	43.00
Resistenza media a trazione semplice	f_{ctm}	Mpa	3.02	3.21
Resistenza caratteristica a trazione semplice	$f_{ctk5\%}=0.7\ f_{ctm}$	Mpa	2.12	2.25
Resistenza caratteristica a trazione semplice	$f_{ctk95\%}=1.3\ f_{ctm}$	Mpa	3.93	4.17
Resistenza media a trazione per flessione	$f_{cfm} = 1.2\ f_{ctm}$	Mpa	3.63	3.85
Modulo elastico	$E_{cm}=22000x(f_{cm}/10)^{0.3}$	Mpa	33346	34077

STATI LIMITE ULTIMI	Var	unità		
coefficiente γ_c	γ_c		1.50	1.50
coefficiente α_{cc}	α_{cc}		0.85	0.85
Resistenza a compressione di calcolo	$f_{cd}=\alpha_{cc}\ f_{ck}/\gamma_c$	Mpa	18.13	19.83
Resistenza a trazione di calcolo	$f_{ctd}=f_{ctk}/\gamma_c$	Mpa	1.41	1.50

STATI LIMITE DI ESERCIZIO	Var	unità		
$\sigma_{c,\ max}$ - combinazione di carico caratteristica	$\sigma_{c,max}=0.60\ f_{ck}$	Mpa	19.20	21.00
$\sigma_{c,\ max}$ - combinazione di carico quasi permanente	$\sigma_{c,max}=0.45\ f_{ck}$	Mpa	14.40	15.75
σ_t - stato limite di formazione delle fessure	$\sigma_t=f_{ctm}/1.2$	Mpa	2.52	2.67

ANCORAGGIO DELLE BARRE	Var	unità		
Tensione tan. ultima di ad. ϕ <=32 mm - buona ad.	$f_{bd}=2.25 \times 1.0 \times 1.0 \times f_{ctk}/g_c$	Mpa	3.18	3.37
Tensione tan. ultima di ad. ϕ <=32 mm - non buona ad.	$f_{bd}=2.25 \times 0.7 \times 1.0 \times f_{ctk}/g_c$	MPa	2.22	2.36

4.1.4 Verifiche a fessurazione

Le condizioni ambientali, ai fini della protezione contro la corrosione delle armature, sono suddivise in ordinarie, aggressive e molto aggressive in relazione a quanto indicato dalla Tab. 4.1.III delle NTC2018:

Tab. 4.1.III – *Descrizione delle condizioni ambientali*

Condizioni ambientali	Classe di esposizione
Ordinarie	X0, XC1, XC2, XC3, XF1
Aggressive	XC4, XD1, XS1, XA1, XA2, XF2, XF3
Molto aggressive	XD2, XD3, XS2, XS3, XA3, XF4

Nel caso in esame si considerano:

- Condizioni aggressive: per le verifiche a fessurazione di tutte le opere in oggetto.

La Tab. 4.1.IV stabilisce i criteri per la scelta degli stati limite di fessurazione in funzione delle condizioni ambientali e del tipo di armatura:

Tab. 4.1.IV - *Criteri di scelta dello stato limite di fessurazione*

Gruppi di Esigenze	Condizioni ambientali	Combinazione di azioni	Armatura			
			Sensibile		Poco sensibile	
			Stato limite	w_k	Stato limite	w_k
A	Ordinarie	frequente	apertura fessure	$\leq w_2$	apertura fessure	$\leq w_3$
		quasi permanente	apertura fessure	$\leq w_1$	apertura fessure	$\leq w_2$
B	Aggressive	frequente	apertura fessure	$\leq w_1$	apertura fessure	$\leq w_2$
		quasi permanente	decompressione	-	apertura fessure	$\leq w_1$
C	Molto aggressive	frequente	formazione fessure	-	apertura fessure	$\leq w_1$
		quasi permanente	decompressione	-	apertura fessure	$\leq w_1$

Pertanto, nel caso in esame si ha:

- Verifiche a fessurazione – condizioni ambientali Aggressive – Armatura poco sensibile:
  - Combinazione di azioni frequente: wk ≤ w2 = 0.3 mm
  - Combinazione di azioni quasi permanente: wk ≤ w1 = 0.2 mm

In alcuni casi, in accordo al par. §4.1.2.2.4.5, le verifiche allo stato limite di apertura delle fessure sono state condotte senza calcolo diretto, verificando che la tensione di trazione dell'armatura, valutata nella sezione parzializzata per la combinazione di carico pertinente, sia contenuta entro i valori limite specificati nelle seguenti tabelle:

Tabella C4.1.II *Diametri massimi delle barre per il controllo di fessurazione*

Tensione nell'acciaio	Diametro massimo ϕ delle barre (mm)		
σ_s [MPa]	$w_3 = 0{,}4$ mm	$w_2 = 0{,}3$ mm	$w_1 = 0{,}2$ mm
160	40	32	25
200	32	25	16
240	20	16	12
280	16	12	8
320	12	10	6
360	10	8	-

Tabella C4.1.III - *Spaziatura massima delle barre per il controllo di fessurazione*

Tensione nell'acciaio	Spaziatura massima s delle barre (mm)		
σ_s [MPa]	$w_3 = 0{,}4$ mm	$w_2 = 0{,}3$ mm	$w_1 = 0{,}2$ mm
160	300	300	200
200	300	250	150
240	250	200	100
280	200	150	50
320	150	100	-
360	100	50	-

In rapporto a quanto specificato nelle precedenti tabelle è possibile individuare le tensioni limite dell'acciaio per ciascun diametro delle barre:

Tensioni limite in funzione diametro barre			
Diametro barre ϕ [mm]	Tensione max acciaio σ_s [Mpa]		
	w_3=0.4mm	w_2=0.3mm	w_1=0.2mm
40	160	114	93
36	180	137	111
32	200	160	129
30	207	171	138
28	213	183	147
26	220	194	156
24	227	204	164
22	233	213	173
20	240	222	182
18	260	231	191
16	280	240	200
14	300	260	220
12	320	280	240
10	360	320	260
8	360	360	280
6	360	360	320

4.2 Acciaio in barre per cemento armato

4.2.1 Qualità dell'acciaio

Acciaio in barre B450C in accordo a DM 17/01/2018 (Capitolo 11).

4.2.2 Resistenze di progetto

Caratteristiche Acciaio per Calcestruzzo armato	Var	unità		
Qualità dell'acciaio			B450C	B450A
Tensione caratteristica di snervamento nominale	f_{yk}	Mpa	450	450
Tensione caratteristica a carico ultimo nominale	f_{tk}	Mpa	540	450
Modulo elastico	Es	Mpa	210000	210000
diametro minimo della barra impiegabile	ϕ_{min}	mm	6	5
diametro massimo della barra impiegabile	ϕ_{max}	mm	40	10
STATI LIMITE ULTIMI	**Var**	**unità**		
coefficiente γ_s	γ_s		1.15	1.15
Resistenza di calcolo	$f_{yd}=f_{yk}/\gamma_s$	Mpa	391.3	391.3
STATI LIMITE DI ESERCIZIO	**Var**	**unità**		
$\sigma_{s,max}$ - combinazione di carico caratteristica	$\sigma_{s,max}=0.8\ f_{yk}$	Mpa	360.0	360.0

5 PARAMETRI GEOTECNICI DI PROGETTO

Sono stati adottati i seguenti parametri geotecnici:

Rilevato stradale

Peso di volume – γ (kN/mc)	19,0
Angolo di attrito – φ'(°)	35
Coesione drenata – c' (kPa)	0

Terreno di fondazione (LR)

Peso di volume – γ (kN/mc)	18,5
Angolo di attrito – φ'(°)	25
Coesione drenata – c' (kPa)	5

6 CRITERI DI CALCOLO

6.1 Modello di calcolo

Per l'analisi ed il calcolo dei muri di sostegno è stato utilizzato il software di calcolo MAX 15 prodotto dalla Aztec Informatica s.r.l., Corso Umberto 43 – 87050 Casole Bruzio (CS).

6.1.1 Calcolo della spinta sul muro

Effettuando il calcolo tramite gli Eurocodici è necessario fare la distinzione fra i parametri caratteristici ed i valori di calcolo (o di progetto) sia delle azioni che delle resistenze.

I valori di calcolo si ottengono dai valori caratteristici mediante l'applicazione di opportuni coefficienti di sicurezza parziali γ. In particolare si distinguono combinazioni di carico di tipo A1 - M1 nelle quali vengono incrementati i carichi e lasciati inalterati i parametri di resistenza del terreno e combinazioni di carico di tipo A2 - M2 nelle quali vengono ridotti i parametri di resistenza del terreno e incrementati i soli carichi variabili.

6.1.2 Metodo di Culmann

Il metodo di Culmann adotta le stesse ipotesi di base del metodo di Coulomb. La differenza sostanziale è che, mentre Coulomb considera un terrapieno con superficie a pendenza costante e carico uniformemente distribuito (il che permette di ottenere una espressione in forma chiusa per il coefficiente di spinta), il metodo di Culmann consente di analizzare situazioni con profilo di forma generica e carichi sia concentrati che distribuiti comunque disposti. Inoltre, rispetto al metodo di Coulomb, risulta più immediato e lineare tener conto della coesione del masso spingente. Il metodo di Culmann, nato come metodo essenzialmente grafico, si è evoluto per essere trattato mediante analisi numerica (noto in questa forma come metodo del cuneo di tentativo). Come il metodo di Coulomb anche questo metodo considera una superficie di rottura rettilinea.

I passi del procedimento risolutivo sono i seguenti:

- si impone una superficie di rottura (angolo di inclinazione ρ rispetto all'orizzontale) e si considera il cuneo di spinta delimitato dalla superficie di rottura stessa, dalla parete su cui si calcola la spinta e dal profilo del terreno;
- si valutano tutte le forze agenti sul cuneo di spinta e cioè peso proprio (W), carichi sul terrapieno, resistenza per attrito e per coesione lungo la superficie di rottura (R e C) e resistenza per coesione lungo la parete (A);
- dalle equazioni di equilibrio si ricava il valore della spinta S sulla parete.

Questo processo viene iterato fino a trovare l'angolo di rottura per cui la spinta risulta massima.

La convergenza non si raggiunge se il terrapieno risulta inclinato di un angolo maggiore dell'angolo d'attrito del terreno.

Nei casi in cui è applicabile il metodo di Coulomb (profilo a monte rettilineo e carico uniformemente distribuito) i risultati ottenuti col metodo di Culmann coincidono con quelli del metodo di Coulomb.

Le pressioni sulla parete di spinta si ricavano derivando l'espressione della spinta S rispetto all'ordinata z. Noto il diagramma delle pressioni è possibile ricavare il punto di applicazione della spinta.

6.1.3 Spinta in presenza di sisma

Per tener conto dell'incremento di spinta dovuta al sisma si fa riferimento al metodo di Mononobe-Okabe (cui fa riferimento la Normativa Italiana).

La Normativa Italiana suggerisce di tener conto di un incremento di spinta dovuto al sisma nel modo seguente.

Detta ε l'inclinazione del terrapieno rispetto all'orizzontale e β l'inclinazione della parete rispetto alla verticale, si calcola la spinta S' considerando un'inclinazione del terrapieno e della parte pari a:

$$\varepsilon' = \varepsilon + \theta$$

$$\beta' = \beta + \theta$$

Avendo posto

$$\theta = \arctan\left(\frac{k_h}{1 \pm k_v}\right)$$

Dove k_h e k_v sono, rispettivamente, il coefficiente sismico orizzontale e verticale.

In presenza di falda a monte, θ assume le seguenti espressioni:

<u>Terreno a bassa permeabilità</u>

$$\theta = \arctan\left[\left(\frac{\gamma}{\gamma_{sat} - \gamma_w}\right) \cdot \left(\frac{k_h}{1 \pm k_v}\right)\right]$$

<u>Terreno a permeabilità elevata</u>

$$\theta = \arctan\left[\left(\frac{\gamma}{\gamma_{sat} - \gamma_w}\right) \cdot \left(\frac{k_h}{1 \pm k_v}\right)\right]$$

Detta S la spinta calcolata in condizioni statiche, l'incremento di spinta da applicare è espresso da:

$$\Delta S = \Delta S' - S$$

dove il coefficiente A vale

$$A = \frac{\cos^2(\beta + \theta)}{\cos^2(\beta)\cos(\theta)}$$

In presenza di falda a monte, nel coefficiente A si tiene conto dell'influenza dei pesi di volume nel calcolo di θ. Adottando il metodo di Mononobe-Okabe per il calcolo della spinta, il coefficiente A viene posto pari a 1. Tale incremento di spinta è applicato a metà altezza della parete di spinta nel caso di forma rettangolare del diagramma di incremento sismico, allo stesso punto di applicazione della spinta statica nel caso in cui la forma del diagramma di incremento sismico è uguale a quella del diagramma statico.

Oltre a questo incremento bisogna tener conto delle forze d'inerzia orizzontali e verticali che si destano per effetto del sisma. Tali forze vengono valutate come

$$F_{iH} = k_h W \qquad F_{iV} = \pm k_v W$$

dove W è il peso del muro, del terreno soprastante la mensola di monte ed i relativi sovraccarichi e va applicata nel baricentro dei pesi.

Il metodo di Culmann tiene conto automaticamente dell'incremento di spinta. Basta inserire nell'equazione risolutiva la forza d'inerzia del cuneo di spinta. La superficie di rottura nel caso di sisma risulta meno inclinata della corrispondente superficie in assenza di sisma.

6.1.4 Verifica a ribaltamento

La verifica a ribaltamento consiste nel determinare il momento risultante di tutte le forze che tendono a fare ribaltare il muro (momento ribaltante M_r) ed il momento risultante di tutte le forze che tendono a stabilizzare il muro (momento stabilizzante M_s) rispetto allo spigolo a valle della fondazione e verificare che il rapporto M_s/M_r sia maggiore di un determinato coefficiente di sicurezza η_r.

Eseguendo il calcolo mediante gli Eurocodici si può impostare $\eta_r \geq 1.00$.

Deve quindi essere verificata la seguente diseguaglianza

$$\frac{M_s}{M_r} \geq \eta_r$$

Il momento ribaltante M_r è dato dalla componente orizzontale della spinta S, dalle forze di inerzia del muro e del terreno gravante sulla fondazione di monte (caso di presenza di sisma) per i rispettivi bracci. Nel momento stabilizzante interviene il peso del muro (applicato nel baricentro) ed il peso del terreno gravante sulla fondazione di monte. Per quanto riguarda invece la componente verticale della spinta essa sarà stabilizzante se l'angolo d'attrito terra-muro δ è positivo, ribaltante se δ è negativo. Il valore di δ è positivo quando è il terrapieno che scorre rispetto al muro, negativo quando è il muro che tende a scorrere rispetto al terrapieno (questo può essere il caso di una spalla da ponte gravata da carichi notevoli). Se sono presenti dei tiranti essi contribuiscono al momento stabilizzante.

Questa verifica ha significato solo per fondazione superficiale e non per fondazione su pali.

6.1.5 Verifica a scorrimento

Per la verifica a scorrimento del muro lungo il piano di fondazione deve risultare che la somma di tutte le forze parallele al piano di posa che tendono a fare scorrere il muro deve essere minore di tutte le forze, parallele al piano di scorrimento, che si oppongono allo scivolamento, secondo un certo coefficiente di sicurezza. La verifica a scorrimento risulta soddisfatta se il rapporto fra la risultante delle forze resistenti allo scivolamento F_r e la risultante delle forze che tendono a fare scorrere il muro F_s risulta maggiore di un determinato coefficiente di sicurezza η_s.

Eseguendo il calcolo mediante gli Eurocodici si può impostare $\eta_s \geq 1.00$.

$$\frac{F_r}{F_s} \geq \eta_s$$

Le forze che intervengono nella F_s sono: la componente della spinta parallela al piano di fondazione e la componente delle forze d'inerzia parallela al piano di fondazione.

La forza resistente è data dalla resistenza d'attrito e dalla resistenza per adesione lungo la base della fondazione. Detta N la componente normale al piano di fondazione del carico totale gravante in fondazione e indicando con δ_f l'angolo d'attrito terreno-fondazione, con c_a l'adesione terreno-fondazione e con B_r la larghezza della fondazione reagente, la forza resistente può esprimersi come

$$F_r = N \tan\delta_f + c_a B_r$$

La Normativa consente di computare, nelle forze resistenti, una aliquota dell'eventuale spinta dovuta al terreno posto a valle del muro. In tal caso, però, il coefficiente di sicurezza deve essere aumentato opportunamente. L'aliquota di spinta passiva che si può considerare ai fini della verifica a scorrimento non può comunque superare il 50 percento.

Per quanto riguarda l'angolo d'attrito terra-fondazione δ_f diversi autori suggeriscono di assumere un valore pari all'angolo d'attrito del terreno di fondazione.

6.1.6 Verifica al carico limite

Il rapporto fra il carico limite in fondazione e la componente normale della risultante dei carichi trasmessi dal muro sul terreno di fondazione deve essere superiore a η_q. Cioè, detto Q_u, il carico limite ed R la risultante verticale dei carichi in fondazione, deve essere:

$$\frac{Q_u}{R} \geq \eta_q$$

Eseguendo il calcolo mediante gli Eurocodici si può impostare $\eta_q \geq 1.00$.

Si adotta per il calcolo del carico limite in fondazione il metodo di MEYERHOF.

L'espressione del carico ultimo è data dalla relazione:

$$Q_u = cN_c d_c i_c + qN_q d_q i_q + 0.5\gamma B N_\gamma d_\gamma i_\gamma$$

In questa espressione

c coesione del terreno in fondazione;

φ angolo di attrito del terreno in fondazione;

γ peso di volume del terreno in fondazione;

B larghezza della fondazione;

D profondità del piano di posa;

q pressione geostatica alla quota del piano di posa.

I vari fattori che compaiono nella formula sono dati da:

$$A = e^{\pi \tan\varphi}$$

$$N_q = A\tan^2\left(45° + \frac{\varphi}{2}\right)$$

$$N_c = (N_q - 1)\cot(\varphi)$$

$$N_\gamma = (N_q - 1)\tan(1.4\varphi)$$

Indichiamo con K_p il coefficiente di spinta passiva espresso da:

$$K_p = \tan^2\left(45 + \frac{\varphi}{2}\right)$$

I fattori d e i che compaiono nella formula sono rispettivamente i fattori di profondità ed i fattori di inclinazione del carico espressi dalle seguenti relazioni:

Fattori di profondità

$$d_q = 1 + 0.2\frac{D}{B}\sqrt{K_p}$$

$$d_q = d_\gamma = 1 \qquad \text{per } \varphi = 0$$

$$d_q = d_\gamma = 1 + 0.1\frac{D}{B}\sqrt{K_p} \qquad \text{per } \varphi > 0$$

Fattori di inclinazione

Indicando con θ l'angolo che la risultante dei carichi forma con la verticale (espresso in gradi) e con φ l'angolo d'attrito del terreno di posa abbiamo:

$$i_c = i_q = \left(1 - \frac{\theta}{90}\right)^2$$

$$i_\gamma = \left(1 - \frac{\theta}{\varphi}\right)^2 \qquad \text{per } \varphi > 0$$

$$i_\gamma = 0 \qquad \text{per } \varphi = 0$$

6.1.7 Verifica alla stabilità globale

La verifica alla stabilità globale del complesso muro + terreno deve fornire un coefficiente di sicurezza non inferiore a η_g.

Eseguendo il calcolo mediante gli Eurocodici si può impostare $\eta_g \geq 1.00$.

Viene usata la tecnica della suddivisione a strisce della superficie di scorrimento da analizzare. La superficie di scorrimento viene supposta circolare e determinata in modo tale da non avere intersezione con il profilo del muro o con

i pali di fondazione. Si determina il minimo coefficiente di sicurezza su una maglia di centri di dimensioni 10x10 posta in prossimità della sommità del muro. Il numero di strisce è pari a 50.

Si adotta per la verifica di stabilità globale il metodo di Bishop. Il coefficiente di sicurezza nel metodo di Bishop si esprime secondo la seguente formula:

$$\eta = \frac{\sum_i \left(\frac{c_i b_i + (W_i - u_i b_i) \tan \varphi_i)}{m} \right)}{\sum_i W_i sen \alpha_i}$$

dove il termine m è espresso da

$$m = \left(1 + \frac{tg\varphi_i \cdot tg\alpha_i}{\eta} \right) \cos \alpha_i$$

In questa espressione η è il numero delle strisce considerate, b_i e α_i sono la larghezza e l'inclinazione della base della striscia i-esima rispetto all'orizzontale, W_i è il peso della striscia i-esima , c_i e φ_i sono le caratteristiche del terreno (coesione ed angolo di attrito) lungo la base della striscia ed u_i è la pressione neutra lungo la base della striscia.

L'espressione del coefficiente di sicurezza di Bishop contiene al secondo membro il termine *m* che è funzione di η. Quindi essa viene risolta per successive approssimazioni assumendo un valore iniziale per η da inserire nell'espressione di *m* ed iterare fino a quando il valore calcolato coincide con il valore assunto.

7 AZIONI E COMBINAZIONI DI PROGETTO

7.1 Analisi dei carichi

7.1.1 Carichi permamenti

7.1.1.1 Carichi permanenti strutturali

Il peso proprio degli elementi strutturali di tutti i muri, é automaticamente valutato dal programma di calcolo utilizzato per l'analisi.

7.1.1.2 Spinta delle terre

Il calcolo della spinta del terreno è stata effettuato con riferimento al coefficiente di spinta attiva K_A.

7.1.2 Sovraccarico accidentale a tergo del muro

E' stato considerato un sovraccarico da traffico a tergo dei muri di sostegno, secondo quanto riportato dal capitolo C5.1.3.3.5 delle NTC18.

Si riportano successivamente le azioni equivalenti considerate nelle analisi, calcolate per tipologia di altezza dei paramenti frontali:

Diffusione carichi da traffico (C5.1.3.3.5.1)

Lunghezza impronta in dir. Longitudinale	L	2.20	m
Lunghezza impronta in dir. Trasversale	B	3.00	m
Angolo di diffusione in rilevato	β	30	deg

TIPOLOGICO MURO

			H=3	H=4	H=5	H=6	H=7	H=8	H=9	H=10
Altezza paramento	H	m	3	4	5	6	7	8	9	10
Altezza rilevato a monte	Hr	m	0	0	0	0	0	0	0	0
Distanza piattaforma dal paramento	Dr	m	0	0	0	0	0	0	0	0
Spessore pavimentazione	sp	m	0	0	0	0	0	0	0	0
Altezza applicazione carico da spiccato	Htot	m	3	4	5	6	7	8	9	10
Larghezza diffusione impronta	B_{diff}	m	5.7	6.8	8.0	9.1	10.3	11.4	12.6	13.7
Area diffusione carichi	A_{diff}	m^2	17.0	20.5	23.9	27.4	30.8	34.3	37.8	41.2
Carico equivalente C1	q_{diff} C1	kN/m^2	**44.3**	**38.3**	**34.1**	**30.9**	**28.4**	**26.5**	**24.9**	**23.5**
Carico equivalente C2	q_{diff} C2	kN/m^2	**26.0**	**22.1**	**19.2**	**17.1**	**15.5**	**14.2**	**13.1**	**12.2**
Carico equivalente C3	q_{diff} C3	kN/m^2	**14.3**	**12.3**	**10.9**	**9.8**	**9.0**	**8.3**	**7.8**	**7.3**
Carico equivalente R	q_{diff} R	kN/m^2	**2.5**	**2.5**	**2.5**	**2.5**	**2.5**	**2.5**	**2.5**	**2.5**

7.1.3 Urto veicolo in svio

In accordo con quanto previsto dalle NTC2018 (par. 3.6.3.3.2) si è tenuto conto delle forze causate da urti attraverso un carico pari a 100 kN (azione eccezionale).

Tale azione è considerata agente trasversalmente ed orizzontalmente 1.0 m sopra il livello del piano di marcia.

Si riportano successivamente le azioni equivalenti considerate nelle analisi, per tipologia di altezza dei paramenti frontali:

TIPOLOGICO			H=2	H=3	H=4	H=5	H=6	H=7	H=8	H=9	H=10
Tipologia barriera (P=Puntuale, D=Diffusa)			P	P	P	P	P	P	P	P	P
Diffusione dei carichi (B=bordo, C=centrale)			B	B	B	B	B	B	B	B	B
Forza d'urto	Fu	kN	100	100	100	100	100	100	100	100	100
Altezza applicazione	Hp1	m	1	1	1	1	1	1	1	1	1
Spessore pavimentazione	Hp2	m	0	0	0	0	0	0	0	0	0
Altezza applicazione	Hp	m	1	1	1	1	1	1	1	1	1
Altezza paramento	H	m	2	3	4	5	6	7	8	9	10
Altezza applicazione carico da spiccato	Ht	m	2	3	4	5	6	7	8	9	10
Larghezza di diffusione	Bdiff	m	2	3	4	5	6	7	8	9	10
Forza in testa al muro	Ft	kN	100	100	100	100	100	100	100	100	100
Momento in testa al muro	Mt	kNm	100	100	100	100	100	100	100	100	100
Forza alla base del muro	Fb	kN	100	100	100	100	100	100	100	100	100
Momento alla base del muro	Mb	kNm	300	400	500	600	700	800	900	1000	1100
Forza alla base del concio di muro	Fb*	kN/m	50.0	33.3	25.0	20.0	16.7	14.3	12.5	11.1	10.0
Momento alla base del concio di muro	Mb*	kNm/m	150.0	133.3	125.0	120.0	116.7	114.3	112.5	111.1	110.0
Forza equivalente in testa al concio	Ft*	kN/m	**50.0**	**33.3**	**25.0**	**20.0**	**16.7**	**14.3**	**12.5**	**11.1**	**10.0**
Momento equivalente in testa al concio	Mt*	kNm/m	**50.0**	**33.3**	**25.0**	**20.0**	**16.7**	**14.3**	**12.5**	**11.1**	**10.0**

7.2 Azione sismica

L'analisi del muro in fase sismica è stato effettuato con gli usuali metodi pseudo statici in accordo a quanto previsto dalle NTC2018 (par. 7.11.6.2). L'incremento di spinta delle terre in fase sismica è stato valutato in accordo alla teoria di Mononobe-Okabe.

I coefficienti sismici orizzontale k_h e verticale k_v sono valutati come illustrato successivamente.

7.2.1 Parametri sismici fondamentali

I parametri sismici fondamentali sono stati determinati con l'ausilio del software-free SPETTRI-NTC ver. 1.0.3 (prodotto dal Consiglio Superiore dei Lavori Pubblici www.cslp.it).

I parametri utilizzati sono riassunti nel seguito.

ED50	
Lon	**Lat**
13.461809	**38.031176**

I parametri utilizzati sono riassunti nel seguito.

TUTTE LE OPERE

Vita Nominale	V_N =	50	anni
Classe d'uso	Cl =	IV	
Coefficiente d'uso	C.u. =	2.0	
Periodo di riferimento	**V_R =**	**100**	**anni**

PARAMETRI SISMICI				
STATO LIMITE	T_R [anni]	a_g [g]	F_0 [-]	T^*_C [s]
SLO	60	0.071	2.328	0.258
SLD	101	0.093	2.319	0.269
SLV	**949**	**0.230**	**2.433**	**0.307**
SLC	**1950**	**0.289**	**2.496**	**0.319**

Nel dettaglio, in favore di sicurezza sono stati considerati per le analisi i parametri più gravosi che interessano i muri in esame.

L'azione sismica viene considerata mediante spettri di risposta elastici in accelerazione delle componenti orizzontali e verticale, definiti in base al §3.2 delle NTC 2018.

Relativamente alle categorie di sottosuolo si ricade nella categoria di sottosuolo C.

La categoria topografica per i muri è la T1.

Quindi:

- Coefficiente sismico orizzontale: $k_h = S \times a_g/g \times \beta_m = 1.358 \times 0.230 \times 0.38 = 0.118$
- Coefficiente sismico verticale: $k_v = k_h /2 = \pm 0.059$

7.3 Combinazioni di Carico

In accordo al par. 2.5.3 delle NTC2018 ai fini delle verifiche degli stati limite sono state considerate le seguenti combinazioni delle azioni:

- Combinazione fondamentale, impiegata per gli stati limite ultimi (SLU):

  $\gamma_{G1} \cdot G_1 + \gamma_{G2} \cdot G_2 + \gamma_P \cdot P + \gamma_{Q1} \cdot Q_{k1} + \gamma_{Q2} \cdot Q_{k2} + \gamma_{Q3} \cdot Q_{k3} + \ldots$
- Combinazione caratteristica, cosiddetta rara, impiegata per gli stati limite di esercizio (SLE) irreversibili:

  $G_1 + G_2 + P + Q_{k1} + \psi_{02} \cdot Q_{k2} + \psi_{03} \cdot Q_{k3} + \ldots$
- Combinazione frequente, impiegata per gli stati limite di esercizio (SLE) reversibili:

  $G_1 + G_2 + P + \psi_{11} \cdot Q_{k1} + \psi_{22} \cdot Q_{k2} + \psi_{23} \cdot Q_{k3} + \ldots$
- Combinazione quasi permanente (SLE), impiegata per gli effetti a lungo termine:

  $G_1 + G_2 + P + \psi_{21} \cdot Q_{k1} + \psi_{22} \cdot Q_{k2} + \psi_{23} \cdot Q_{k3} + \ldots$
- Combinazione sismica, impiegata per gli stati limite ultimi e di esercizio connessi all'azione sismica E:

  $E + G_1 + G_2 + P + \psi_{21} \cdot Q_{k1} + \psi_{22} \cdot Q_{k2} + \ldots$
- Combinazione eccezionale, impiegata per gli stati limite ultimi connessi alle azioni eccezionali A_d:

  $G_1 + G_2 + P + A_d + \psi_{21} \cdot Q_{k1} + \psi_{22} \cdot Q_{k2} + \ldots$

Dove:

- G_1 rappresenta il peso proprio di tutti gli elementi strutturali;
- G_2 rappresenta il peso proprio di tutti gli elementi non strutturali;
- P rappresenta le azioni di pretensione e precompressione (ove presenti);
- Q_{ki} rappresenta il valore caratteristico della i-esima azione variabile;
- E rappresenta l'azione sismica per lo stato limite in esame;
- A_d rappresenta le azioni eccezionali.
- ψ_{0j}, ψ_{1j}, ψ_{2j} sono i coefficienti di combinazione per tenere conto della ridotta probabilità di concomitanza delle azioni variabili con i rispettivi valori caratteristici.

I valori dei coefficienti parziali delle azioni da assumere nell'analisi per la determinazione degli effetti delle azioni nelle verifiche SLU sono quelli già indicati al paragrafo

I valori dei coefficienti ψ_{0j}, ψ_{1j} e ψ_{2j} per le diverse categorie di azioni sono riportati nella tabella 5.1.VI delle NTC2018.

La verifica di stabilità globale è stata condotta secondo:

L'Approccio 1 – Combinazione 2 (A2+M2+R2),

tenendo conto dei coefficienti parziali riportati nelle tabelle 6.2.I, 6.2.II e 6.8.I delle NTC2018.

Le rimanenti verifiche sono state condotte secondo:

L'Approccio 2 (A1+M1+R3),

tenendo conto dei coefficienti parziali riportati nelle tabelle 6.2.I, 6.2.II e 6.5.I delle NTC2018.

Di seguito si riportano le tabelle che esplicitano i coefficienti parziali sopra illustrati:

Tab. 6.2.I – *Coefficienti parziali per le azioni o per l'effetto delle azioni*

	Effetto	Coefficiente Parziale γ_F (o γ_E)	EQU	(A1)	(A2)
Carichi permanenti G_1	Favorevole	γ_{G1}	0,9	1,0	1,0
	Sfavorevole		1,1	1,3	1,0
Carichi permanenti G_2 (1)	Favorevole	γ_{G2}	0,8	0,8	0,8
	Sfavorevole		1,5	1,5	1,3
Azioni variabili Q	Favorevole	γ_{Qi}	0,0	0,0	0,0
	Sfavorevole		1,5	1,5	1,3

(1) Per i carichi permanenti G_2 si applica quanto indicato alla Tabella 2.6.I. Per la spinta delle terre si fa riferimento ai coefficienti γ_{G1}

Tab. 6.2.II – *Coefficienti parziali per i parametri geotecnici del terreno*

Parametro	Grandezza alla quale applicare il coefficiente parziale	Coefficiente parziale γ_M	(M1)	(M2)
Tangente dell'angolo di resistenza al taglio	$\tan \varphi'_k$	$\gamma_{\varphi'}$	1,0	1,25
Coesione efficace	c'_k	$\gamma_{c'}$	1,0	1,25
Resistenza non drenata	c_{uk}	γ_{cu}	1,0	1,4
Peso dell'unità di volume	γ_γ	γ_γ	1,0	1,0

Tab. 6.5.I - *Coefficienti parziali γ_R per le verifiche agli stati limite ultimi di muri di sostegno*

Verifica	Coefficiente parziale (R3)
Capacità portante della fondazione	$\gamma_R = 1,4$
Scorrimento	$\gamma_R = 1,1$
Ribaltamento	$\gamma_R = 1,15$
Resistenza del terreno a valle	$\gamma_R = 1,4$

Tab. 6.8.I - *Coefficienti parziali per le verifiche di sicurezza di opere di materiali sciolti e di fronti di scavo*

COEFFICIENTE	R2
γ_R	1,1

8 SEZIONI DI ANALISI E RISULTATI

Di seguito si riporta una breve descrizione delle sezioni esaminate, rimandando per i dettagli ed i risultati delle verifiche effettuate ai tabulati allegati. Come è possibile evincere tutte le verifiche geotecniche e strutturali sono ampiamente soddisfatte.

8.1 Sezioni di analisi – Muri di sostegno

Sono state esaminate le seguenti sezioni tipo:

- Muro di sostegno tipo H3 (“MSTD – H3”): con altezza del paramento H = 3.0 m;
- Muro di sostegno tipo H4 (“MSTD – H4”): con altezza del paramento H = 4.0 m;
- Muro di sostegno tipo H5 (“MSTD – H5”): con altezza del paramento H = 5.0 m;
- Muro di sostegno tipo H6 (“MSTD – H6”): con altezza del paramento H = 6.0 m;
- Muro di sostegno tipo H7 (“MSTD – H7”): con altezza del paramento H = 7.0 m;
- Muro di sostegno tipo H8 (“MSTD – H8”): con altezza del paramento H = 8.0 m;
- Muro di sostegno tipo H9 (“MSTD – H9”): con altezza del paramento H = 9.0 m;
- Muro di sostegno tipo H10 (“MSTD – H10”): con altezza del paramento H = 10.0 m.

9 DICHIARAZIONE ACCETTABILITÀ RISULTATI (PAR. 10.2 N.T.C. 2018)

9.1 Tipo di analisi svolte

Le analisi strutturali e le verifiche con il dimensionamento delle strutture sono state condotte con l'ausilio di codici di calcolo automatico. La verifica della sicurezza degli elementi strutturali è stata valutata con i metodi della scienza delle costruzioni.

Il calcolo dei muri di sostegno viene eseguito secondo le seguenti fasi:

- Calcolo della spinta del terreno

- Calcolo delle sollecitazioni sia del muro che della fondazione, progetto delle armature e relative verifiche dei materiali.

L'analisi strutturale sotto le azioni sismiche è condotta con il metodo dell'analisi statica equivalente secondo le disposizioni del capitolo 7 del D.M. 17/07/2018.

La verifica delle sezioni degli elementi strutturali è eseguita con il metodo degli Stati Limite. Le combinazioni di carico adottate sono esaustive relativamente agli scenari di carico più gravosi cui le opere saranno soggette.

9.2 Origine e caratteristiche dei codici di calcolo

Nome del Software: MAX – Analisi e Calcolo Muri di Sostegno – Versione 16.0

Produttore Aztec Informatica srl, Casali del Manco - loc. Casole Bruzio (CS)

Licenza concessa a VIA INGEGNERIA s.r.l. – Licenza N° AIU4132SQ

9.3 Affidabilità dei codici di calcolo

Un attento esame preliminare della documentazione a corredo del software ha consentito di valutarne l'affidabilità. La documentazione fornita dai produttori del software contiene esaurienti descrizioni delle basi teoriche e degli algoritmi impiegati con l'individuazione dei campi d'impiego.

9.4 Modalità di presentazione dei risultati

Le relazioni di calcolo strutturale presentano i dati di calcolo tale da garantirne la leggibilità, la corretta interpretazione e la riproducibilità. Le relazioni di calcolo illustrano in modo esaustivo i dati in ingresso ed i risultati delle analisi in forma tabellare.

9.5 Informazioni generali sull'elaborazione

Il software consente di visualizzare e controllare, sia in forma grafica che tabellare, i dati del modello strutturale, in modo da avere una visione consapevole del comportamento corretto del modello strutturale.

9.6 Giudizio motivato di accettabilità dei risultati

I risultati delle elaborazioni sono stati sottoposti a controlli dal sottoscritto utente del software. Tale valutazione ha compreso il confronto con i risultati di semplici calcoli, eseguiti con metodi tradizionali. Inoltre sulla base di considerazioni riguardanti gli stati tensionali e deformativi determinati, si è valutata la validità delle scelte oconate in sede di schematizzazione e di modellazione della struttura e delle azioni.

In base a quanto sopra, il Progettista delle Strutture asserisce che l'elaborazione è corretta ed idonea al caso specifico, contanto i risultati di calcolo sono da ritenersi validi ed accettabili.

10 ALLEGATO 1 – TABULATI DI CALCOLO - MURO DI SOSTEGNO H3

Geometria profilo terreno a monte del muro

Simbologia adottata

(Sistema di riferimento con origine in testa al muro, ascissa X positiva verso monte, ordinata Y positiva verso l'alto)

n°	numero ordine del punto
X	ascissa del punto espressa in [m]
Y	ordinata del punto espressa in [m]
A	inclinazione del tratto espressa in [°]

n°	X	Y	A
	[m]	*[m]*	*[°]*
1	0.00	0.00	0.000
2	30.00	0.00	0.000

Inclinazione terreno a valle del muro rispetto all'orizzontale 0.000 [°]

Geometria muro

Geometria paramento e fondazione

Lunghezza muro	12.00	[m]

Paramento

Materiale	CLS 25/30	
Altezza paramento	3.00	[m]
Altezza paramento libero	3.00	[m]
Spessore in sommità	0.50	[m]
Spessore all'attacco con la fondazione	0.75	[m]
Inclinazione paramento esterno	0.00	[°]
Inclinazione paramento interno	4.80	[°]
Spessore rivestimento	0.20	[m]
Peso sp. rivestimento	20.0000	[kN/mc]

Mensola di marciapiede

Posizione rispetto alla testa del muro	0.00	[m]
Lunghezza	0.25	[m]
Spessore all'estremità libera	0.50	[m]
Spessore all'incastro	0.50	[m]

Fondazione

Materiale	CLS 25/30	
Lunghezza mensola di valle	0.85	[m]
Lunghezza mensola di monte	1.90	[m]
Lunghezza totale	3.50	[m]
Inclinazione piano di posa	0.00	[°]
Spessore	0.85	[m]
Spessore magrone	0.20	[m]

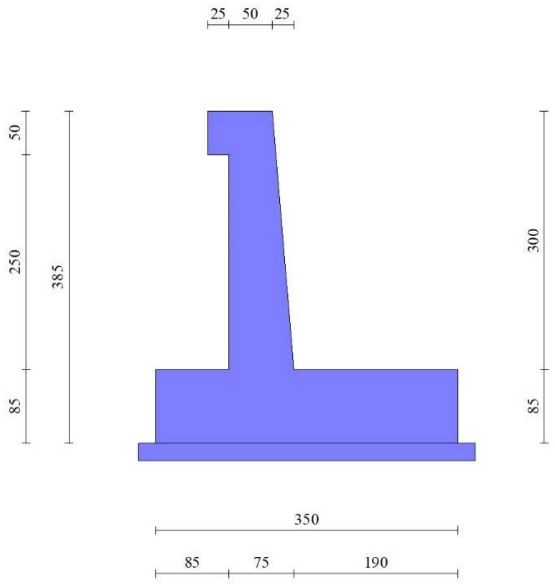

Fig. 1 - Sezione quotata del muro

Descrizione terreni

Parametri di resistenza

Simbologia adottata

n°	Indice del terreno
Descr	Descrizione terreno
γ	Peso di volume del terreno espresso in [kN/mc]
γ_s	Peso di volume saturo del terreno espresso in [kN/mc]
ϕ	Angolo d'attrito interno espresso in [°]
δ	Angolo d'attrito terra-muro espresso in [°]
c	Coesione espressa in [kPa]
c_a	Adesione terra-muro espressa in [kPa]

Per calcolo portanza con il metodo di Bustamante-Doix

Cesp Coeff. di espansione laterale (solo per il metodo di Bustamante-Doix)

τl Tensione tangenziale limite, espressa in [kPa]

n°	Descr	γ	γsat	ϕ	δ	c	ca	Cesp	τl
		[kN/mc]	[kN/mc]	[°]	[°]	[kPa]	[kPa]		[kPa]
1	Rilevato	19.0000	19.0000	35.000	23.330	0	0	---	---
2	LR	18.5000	18.5000	25.000	25.000	5	0	---	---

Stratigrafia

Simbologia adottata

n° Indice dello strato

H Spessore dello strato espresso in [m]

α Inclinazione espressa in [°]

Terreno Terreno dello strato

Kwn, Kwt Costante di Winkler normale e tangenziale alla superficie espressa in Kg/cm²/cm

Per calcolo pali (solo se presenti)

Kw Costante di Winkler orizzontale espressa in Kg/cm²/cm

Ks Coefficiente di spinta

Cesp Coefficiente di espansione laterale (per tutti i metodi tranne il metodo di Bustamante-Doix)

Per calcolo della spinta con coeff. di spinta definiti (usati solo se attiva l'opzione 'Usa coeff. di spinta da strato')

Kststa, Kstsis Coeff. di spinta statico e sismico

n°	H	α	Terreno	Kwn	Kwt	Kw	Ks	Cesp	Kststa	Kstsis
	[m]	[°]		[Kg/cm³]	[Kg/cm³]	[Kg/cm³]				
1	3.85	0.000	Rilevato	0.000	0.000	---	---	---	---	---
2	15.00	0.000	LR	2.400	1.200	---	---	---	---	---

Fig. 2 - Stratigrafia

Condizioni di carico

Simbologia adottata

Carichi verticali positivi verso il basso.

Carichi orizzontali positivi verso sinistra.

Momento positivo senso antiorario.

X	Ascissa del punto di applicazione del carico concentrato espressa in [m]
F_x	Componente orizzontale del carico concentrato espressa in [kN]
F_y	Componente verticale del carico concentrato espressa in [kN]
M	Momento espresso in [kNm]
X_i	Ascissa del punto iniziale del carico ripartito espressa in [m]
X_f	Ascissa del punto finale del carico ripartito espressa in [m]
Q_i	Intensità del carico per $x=X_i$ espressa in [kN]
Q_f	Intensità del carico per $x=X_f$ espressa in [kN]

Condizione n° 1 (traffico-stradale) - VARIABILE TF

Coeff. di combinazione Ψ_0=0.75 - Ψ_1=0.75 - Ψ_2=0.00

Carichi sul terreno

n°	Tipo	X	Fx	Fy	M	Xi	Xf	Qi	Qf
		[m]	[kN]	[kN]	[kNm]	[m]	[m]	[kN]	[kN]
1	Distribuito					0.00	3.00	44.3000	44.3000
2	Distribuito					3.00	6.00	26.0000	26.0000
3	Distribuito					6.00	9.00	14.3000	14.3000
4	Distribuito					9.00	30.00	2.5000	2.5000

Condizione n° 2 (urto) - ECCEZIONALE

Carichi sul muro

n°	Tipo	Dest	X; Y	Fx	Fy	M	Xi	Xf	Qi	Qf
			[m]	[kN]	[kN]	[kNm]	[m]	[m]	[kN]	[kN]
1	Concentrato	Mensola marciappiede	-0.50; 0.00	33.3000	0.0000	33.3000				

Condizione n° 3 (Peso barriera) - PERMANENTE NS

Condizione n° 4 (Condizione 4) - VARIABILE

Coeff. di combinazione Ψ_0=1.00 - Ψ_1=1.00 - Ψ_2=1.00

Condizione n° 5 (Condizione 5) - VARIABILE

Coeff. di combinazione Ψ_0=1.00 - Ψ_1=1.00 - Ψ_2=1.00

Condizione n° 6 (Condizione 6) - VARIABILE

Coeff. di combinazione Ψ_0=1.00 - Ψ_1=1.00 - Ψ_2=1.00

Condizione n° 7 (Condizione 7) - VARIABILE

Coeff. di combinazione Ψ_0=1.00 - Ψ_1=1.00 - Ψ_2=1.00

Condizione n° 8 (Condizione 8) - VARIABILE

Coeff. di combinazione Ψ_0=1.00 - Ψ_1=1.00 - Ψ_2=1.00

Normativa

Normativa usata: **Norme Tecniche sulle Costruzioni 2018 (D.M. 17.01.2018) + Circolare C.S.LL.PP. 21/01/2019 n.7**

Coeff. parziali per le azioni o per l'effetto delle azioni

Carichi	Effetto		Combinazioni statiche					Combinazioni sismiche	
			UPL	EQU	A1	A2	EQU	A1	A2
Permanenti strutturali	Favorevoli	$\gamma_{G1,fav}$	0.90	0.90	1.00	1.00	1.00	1.00	1.00
Permanenti strutturali	Sfavorevoli	$\gamma_{G1,sfav}$	1.10	1.10	1.35	1.00	1.00	1.00	1.00
Permanenti non strutturali	Favorevoli	$\gamma_{G2,fav}$	0.80	0.00	0.00	0.00	0.00	0.00	0.00
Permanenti non strutturali	Sfavorevoli	$\gamma_{G2,sfav}$	1.50	1.50	1.50	1.30	1.00	1.00	1.00
Variabili	Favorevoli	$\gamma_{Q,fav}$	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Variabili	Sfavorevoli	$\gamma_{Q,sfav}$	1.50	1.50	1.50	1.30	1.00	1.00	1.00
Variabili da traffico	Favorevoli	$\gamma_{QT,fav}$	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Variabili da traffico	Sfavorevoli	$\gamma_{QT,sfav}$	1.50	1.35	1.35	1.15	1.00	1.00	1.00

Coeff. parziali per i parametri geotecnici del terreno

Parametro		Combinazioni statiche		Combinazioni sismiche	
		M1	M2	M1	M2
Tangente dell'angolo di attrito	$\gamma_{\tan(\phi')}$	1.00	1.25	1.00	1.00
Coesione efficace	$\gamma_{c'}$	1.00	1.25	1.00	1.00
Resistenza non drenata	γ_{cu}	1.00	1.40	1.00	1.00
Peso nell'unita di volume	γ_{γ}	1.00	1.00	1.00	1.00

Coeff. parziali γ_R per le verifiche agli stati limite ultimi STR e GEO

Verifica	Combinazioni statiche			Combinazioni sismiche		
	R1	R2	R3	R1	R2	R3
Capacità portante	--	--	1.40	--	--	1.20
Scorrimento	--	--	1.10	--	--	1.00
Resistenza terreno a valle	--	--	1.40	--	--	1.20
Ribaltameno	--	--	1.15	--	--	1.00
Stabilità fronte di scavo	--	1.10	--	--	1.20	--

Descrizione combinazioni di carico

Con riferimento alle azioni elementari prima determinate, si sono considerate le seguenti combinazioni di carico:

- Combinazione fondamentale, impiegata per gli stati limite ultimi (SLU):

$$\gamma_{G1} G_1 + \gamma_{G2} G_2 + \gamma_{Q1} Q_{k1} + \gamma_{Q2} Q_{k2} + \gamma_{Q3} Q_{k3} + \ldots$$

- Combinazione caratteristica, cosiddetta rara, impiegata per gli stati limite di esercizio (SLE) irreversibili:

$$G_1 + G_2 + Q_{k1} + \Psi_{0,2} Q_{k2} + \Psi_{0,3} Q_{k3} + \ldots$$

- Combinazione frequente, impiegata per gli stati limite di esercizio (SLE) reversibili:

$$G_1 + G_2 + \Psi_{1,1} Q_{k1} + \Psi_{2,2} Q_{k2} + \Psi_{2,3} Q_{k3} + \ldots$$

- Combinazione quasi permanente, impiegata per gli effetti di lungo periodo:

$$G_1 + G_2 + \Psi_{2,1} Q_{k1} + \Psi_{2,2} Q_{k2} + \Psi_{2,3} Q_{k3} + \ldots$$

- Combinazione sismica, impiegata per gli stati limite ultimi connessi all'azione sismica E:

$$E + G_1 + G_2 + \Psi_{2,1} Q_{k1} + \Psi_{2,2} Q_{k2} + \Psi_{2,3} Q_{k3} + \ldots$$

- Combinazione eccezzionale, impiegata per gli stati limite ultimi connessi alle azioni eccezionali Ad:

$$G_1 + G_2 + A_d + \Psi_{2,1} Q_{k1} + \Psi_{2,2} Q_{k2} + \Psi_{2,3} Q_{k3} + \ldots$$

I valori dei coeff. $\Psi_{0,j}$, $\Psi_{1,j}$, $\Psi_{2,j}$ sono definiti nelle singole condizioni variabili.

I valori dei coeff. γ_G e γ_Q, sono definiti nella tabella normativa.

In particolare si sono considerate le seguenti combinazioni:

Simbologia adottata

γ	Coefficiente di partecipazione della condizione
Ψ	Coefficiente di combinazione della condizione

Combinazione n° 1 - STR (A1-M1-R3)

Condizione	γ	Ψ	Effetto
Peso muro	1.00	--	Favorevole
Peso terrapieno	1.00	--	Favorevole
Spinta terreno	1.35	--	Sfavorevole

Combinazione n° 2 - STR (A1-M1-R3)

Condizione	γ	Ψ	Effetto
Peso muro	1.00	--	Favorevole
Peso terrapieno	1.00	--	Favorevole
Spinta terreno	1.35	--	Sfavorevole
traffico-stradale	1.35	1.00	Sfavorevole

Combinazione n° 3 - STR (A1-M1-R3) H + V

Condizione	γ	Ψ	Effetto
Peso muro	1.00	--	Favorevole
Peso terrapieno	1.00	--	Favorevole
Spinta terreno	1.00	--	Sfavorevole

Combinazione n° 4 - STR (A1-M1-R3) H - V

Condizione	γ	Ψ	Effetto
Peso muro	1.00	--	Sfavorevole
Peso terrapieno	1.00	--	Sfavorevole
Spinta terreno	1.00	--	Sfavorevole

Combinazione n° 5 - GEO (A2-M2-R2)

Condizione	γ	Ψ	Effetto
Peso muro	1.00	--	Sfavorevole
Peso terrapieno	1.00	--	Sfavorevole
Spinta terreno	1.00	--	Sfavorevole

Combinazione n° 6 - GEO (A2-M2-R2)

Condizione	γ	Ψ	Effetto
Peso muro	1.00	--	Sfavorevole
Peso terrapieno	1.00	--	Sfavorevole
Spinta terreno	1.00	--	Sfavorevole
traffico-stradale	1.15	1.00	Sfavorevole

Combinazione n° 7 - GEO (A2-M2-R2) H + V

Condizione	γ	Ψ	Effetto
Peso muro	1.00	--	Sfavorevole
Peso terrapieno	1.00	--	Sfavorevole
Spinta terreno	1.00	--	Sfavorevole

Combinazione n° 8 - GEO (A2-M2-R2) H - V

Condizione	γ	Ψ	Effetto
Peso muro	1.00	--	Sfavorevole
Peso terrapieno	1.00	--	Sfavorevole
Spinta terreno	1.00	--	Sfavorevole

Combinazione n° 9 - ECC

Condizione	γ	Ψ	Effetto
Peso muro	1.00	--	Sfavorevole
Peso terrapieno	1.00	--	Sfavorevole
Spinta terreno	1.00	--	Sfavorevole
urto	1.00	1.00	Sfavorevole

Combinazione n° 10 - SLER

Condizione	γ	Ψ	Effetto
Peso muro	1.00	--	Sfavorevole
Peso terrapieno	1.00	--	Sfavorevole
Spinta terreno	1.00	--	Sfavorevole
traffico-stradale	1.00	0.75	Sfavorevole

Combinazione n° 11 - SLEF

Condizione	γ	Ψ	Effetto
Peso muro	1.00	--	Sfavorevole
Peso terrapieno	1.00	--	Sfavorevole
Spinta terreno	1.00	--	Sfavorevole

Combinazione n° 12 - SLEQ

Condizione	γ	Ψ	Effetto
Peso muro	1.00	--	Sfavorevole
Peso terrapieno	1.00	--	Sfavorevole
Spinta terreno	1.00	--	Sfavorevole

Dati sismici

Comune	
Provincia	
Regione	
Latitudine	43.608157
Longitudine	13.471305
Indice punti di interpolazione	20979 - 20757 - 20756 - 20978
Vita nominale	50 anni
Classe d'uso	IV
Tipo costruzione	Normali affollamenti
Vita di riferimento	100 anni

	Simbolo	U.M.		SLU	SLE
Accelerazione al suolo	a_g	[m/s^2]		2.260	0.873
Accelerazione al suolo	a_g/g	[%]		0.230	0.089
Massimo fattore amplificazione spettro orizzontale	F0			2.433	2.436
Periodo inizio tratto spettro a velocità costante	Tc*			0.307	0.282
Tipo di sottosuolo - Coefficiente stratigrafico	Ss		C	1.358	1.500
Categoria topografica - Coefficiente amplificazione topografica	St		T1	1.000	

Stato limite ...	Coeff. di riduzione β_m	kh [%]	kv [%]
Ultimo	0.380	12.099	6.049
Ultimo - Ribaltamento	0.570	18.148	9.074
Esercizio	0.470	6.275	3.138

Forma diagramma incremento sismico **Rettangolare**

Opzioni di calcolo

Spinta

Metodo di calcolo della spinta	Culmann
Tipo di spinta	Spinta attiva
Terreno a bassa permeabilità	NO
Superficie di spinta limitata	NO

Capacità portante

Metodo di calcolo della portanza	Meyerhof
Criterio di media calcolo del terreno equivalente (terreni stratificati)	Ponderata
Criterio di riduzione per eccentricità della portanza	Bowles
Criterio di riduzione per rottura locale (punzonamento)	Nessuna
Larghezza fondazione nel terzo termine della formula del carico limite ($0.5B\gamma N_\gamma$)	Larghezza effettiva (B)

Fattori di forma e inclinazione del carico — Solo i fattori di inclinazione

Se la fondazione ha larghezza superiore a 2.0 m viene applicato il fattore di riduzione per comportamento a piastra

Stabilità globale

Metodo di calcolo della stabilità globale — Bishop

Altro

Partecipazione spinta passiva terreno antistante — 0.00

Partecipazione resistenza passiva dente di fondazione — 50.00

Componente verticale della spinta nel calcolo delle sollecitazioni — NO

Considera terreno sulla fondazione di valle — NO

Considera spinta e peso acqua fondazione di valle — NO

Spostamenti

Modello a blocchi

Non è stato richiesto il calcolo degli spostamenti

Spostamento limite — 2.00 [cm]

Cedimenti

Non è stato richiesto il calcolo dei cedimenti

Specifiche per le verifiche nelle combinazioni allo Stato Limite Ultimo (SLU)

	SLU	Eccezionale
Coefficiente di sicurezza calcestruzzo a compressione	1.50	1.00
Coefficiente di sicurezza acciaio	1.15	1.00
Fattore di riduzione da resistenza cubica a cilindrica	0.83	0.83
Fattore di riduzione per carichi di lungo periodo	0.85	0.85
Coefficiente di sicurezza per la sezione	1.00	1.00

Specifiche per le verifiche nelle combinazioni allo Stato Limite di Esercizio (SLE)

Paramento e fondazione muro

Verifiche strutturali nelle combinazioni SLD **non eseguite**. Struttura in classe d'uso III o IV

Condizioni ambientali — Aggressive

Armatura ad aderenza migliorata — SI

Verifica a fessurazione

Sensibilità armatura — Poco sensibile

Metodo di calcolo aperture delle fessure — NTC 2018 - CIRCOLARE 21 gennaio 2019, n. 7 C.S.LL.PP.

Calcolo momento fessurazione — Apertura

Resistenza a trazione per — Trazione

Valori limite aperture delle fessure: — w_1=0.20

w_2=0.30

w_3=0.40

Verifica delle tensioni

Valori limite delle tensioni nei materiali:

Combinazione	Calcestruzzo	Acciaio
Rara	0.60 f_{ck}	0.80 f_{yk}
Frequente	1.00 f_{ck}	1.00 f_{yk}
Quasi permanente	0.45 f_{ck}	1.00 f_{yk}

Risultati per combinazione

Spinta e forze

Simbologia adottata

Ic	Indice della combinazione
A	Tipo azione
I	Inclinazione della spinta, espressa in [°]
V	Valore dell'azione, espressa in [kN]
C_X, C_Y	Componente in direzione X ed Y dell'azione, espressa in [kN]
P_X, P_Y	Coordinata X ed Y del punto di applicazione dell'azione, espressa in [m]

Ic	A	V	I	C_X	C_Y	P_X	P_Y
		[kN]	[°]	[kN]	[kN]	[m]	[m]
1	Spinta statica	46.47	23.33	42.67	18.40	2.15	-2.57
	Peso/Inerzia muro			0.00	124.49/0.00	0.16	-2.66
	Peso/Inerzia rivestimento			0.00	12.00	-0.60	-1.75
	Peso/Inerzia terrapieno			0.00	115.48/0.00	1.14	-1.47
2	Spinta statica	88.32	23.33	81.10	34.98	2.15	-2.14
	Peso/Inerzia muro			0.00	124.49/0.00	0.16	-2.66
	Peso/Inerzia rivestimento			0.00	12.00	-0.60	-1.75
	Peso/Inerzia terrapieno			0.00	244.18/0.00	1.11	-1.45
3	Spinta statica	34.42	23.33	31.60	13.63	2.15	-2.57
	Incremento di spinta sismica		12.77	11.73	5.06	2.15	-1.93
	Peso/Inerzia muro			15.06	124.49/7.53	0.16	-2.66
	Peso/Inerzia rivestimento			1.45	12.00	-0.60	-1.75
	Peso/Inerzia terrapieno			13.97	115.48/6.99	1.14	-1.47
4	Spinta statica	34.42	23.33	31.60	13.63	2.15	-2.57
	Incremento di spinta sismica		8.80	8.08	3.49	2.15	-1.93
	Peso/Inerzia muro			15.06	124.49/-7.53	0.16	-2.66
	Peso/Inerzia rivestimento			1.45	12.00	-0.60	-1.75
	Peso/Inerzia terrapieno			13.97	115.48/-6.99	1.14	-1.47
9	Spinta statica	34.42	23.33	31.60	13.63	2.15	-2.57
	Peso/Inerzia muro			0.00	124.49/0.00	0.16	-2.66
	Peso/Inerzia rivestimento			0.00	12.00	-0.60	-1.75
	Peso/Inerzia terrapieno			0.00	115.48/0.00	1.14	-1.47
	Risultante forze sul muro			33.30	0.00	--	--
10	Spinta statica	57.64	23.33	52.93	22.83	2.15	-2.20
	Peso/Inerzia muro			0.00	124.49/0.00	0.16	-2.66
	Peso/Inerzia rivestimento			0.00	12.00	-0.60	-1.75
	Peso/Inerzia terrapieno			0.00	186.98/0.00	1.12	-1.46
11	Spinta statica	34.42	23.33	31.60	13.63	2.15	-2.57
	Peso/Inerzia muro			0.00	124.49/0.00	0.16	-2.66
	Peso/Inerzia rivestimento			0.00	12.00	-0.60	-1.75
	Peso/Inerzia terrapieno			0.00	115.48/0.00	1.14	-1.47
12	Spinta statica	34.42	23.33	31.60	13.63	2.15	-2.57
	Peso/Inerzia muro			0.00	124.49/0.00	0.16	-2.66
	Peso/Inerzia rivestimento			0.00	12.00	-0.60	-1.75
	Peso/Inerzia terrapieno			0.00	115.48/0.00	1.14	-1.47

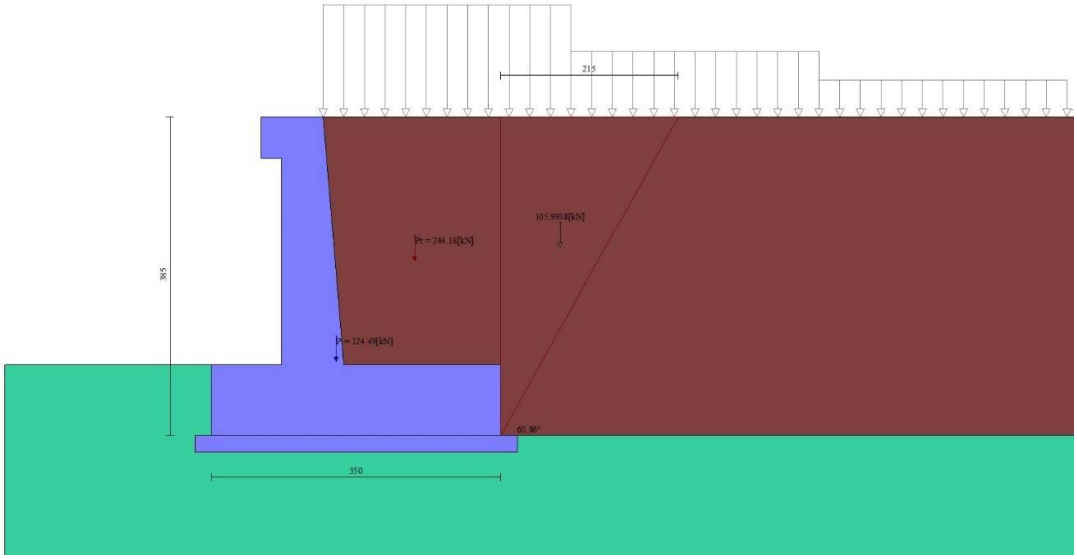

Fig. 3 - Cuneo di spinta (combinazione statica) (Combinazione n° 2)

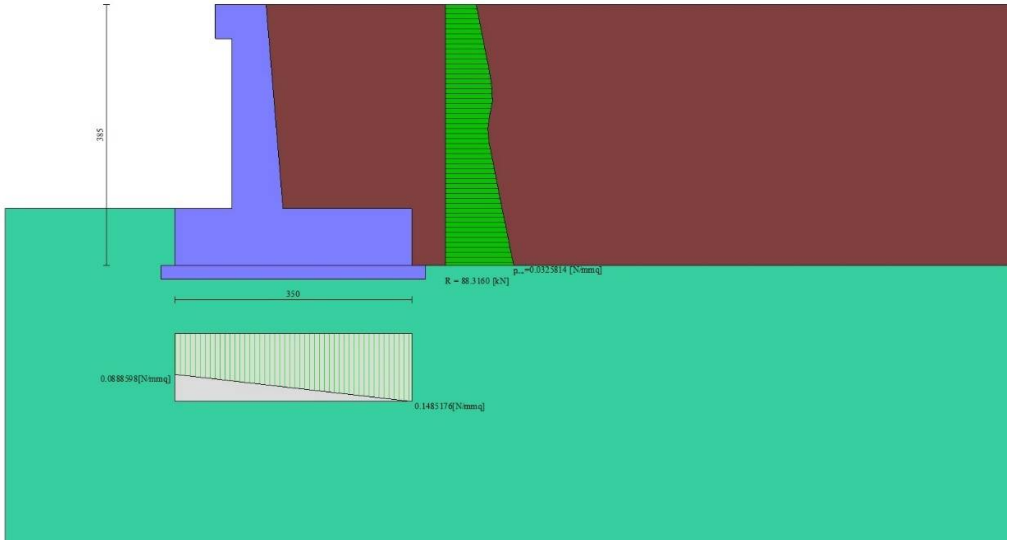

Fig. 4 - Diagramma delle pressioni (combinazione statica) (Combinazione n° 2)

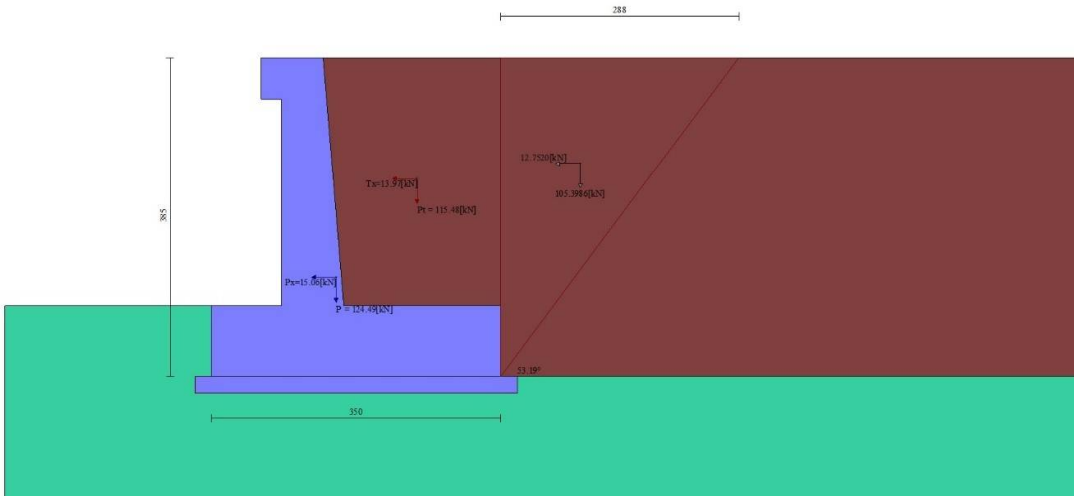

Fig. 5 - Cuneo di spinta (combinazione sismica) (Combinazione n° 3)

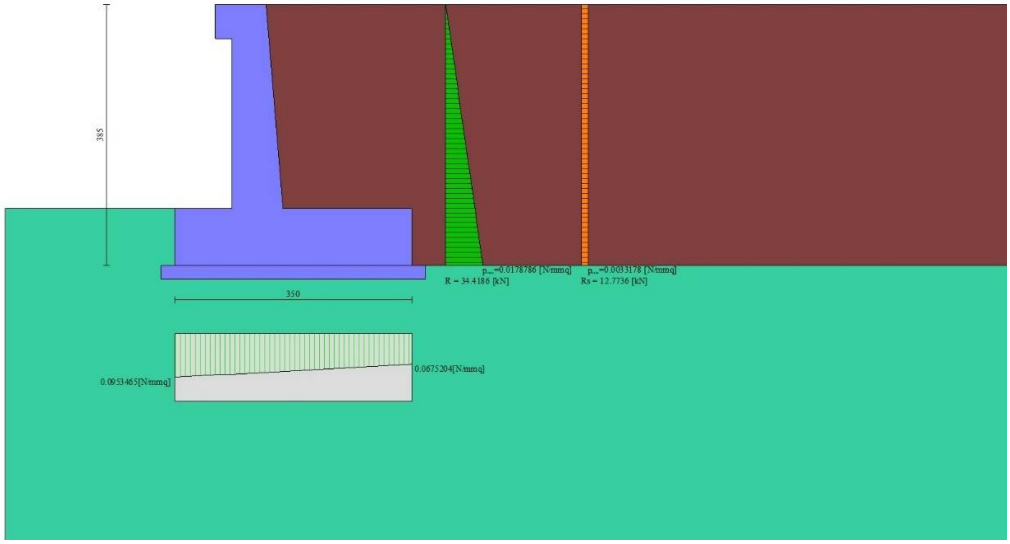

Fig. 6 - Diagramma delle pressioni (combinazione sismica) (Combinazione n° 3)

Verifiche geotecniche

Quadro riassuntivo coeff. di sicurezza calcolati

Simbologia adottata

Cmb	Indice/Tipo combinazione
S	Sisma (H: componente orizzontale, V: componente verticale)
FS_{SCO}	Coeff. di sicurezza allo scorrimento
FS_{RIB}	Coeff. di sicurezza al ribaltamento
FS_{QLIM}	Coeff. di sicurezza a carico limite
FS_{STAB}	Coeff. di sicurezza a stabilità globale
FS_{HYD}	Coeff. di sicurezza a sifonamento
FS_{UPL}	Coeff. di sicurezza a sollevamento

Cmb	Sismica	FS_{SCO}	FS_{RIB}	FS_{QLIM}	FS_{STAB}	FS_{HYD}	FS_{UPL}
1 - STR (A1-M1-R3)		2.955		3.962			
2 - STR (A1-M1-R3)		2.390		2.240			
3 - STR (A1-M1-R3)	H + V	1.801		2.700			
4 - STR (A1-M1-R3)	H - V	1.692		2.841			
5 - GEO (A2-M2-R2)					1.866		
6 - GEO (A2-M2-R2)					1.413		
7 - GEO (A2-M2-R2)	H + V				1.799		
8 - GEO (A2-M2-R2)	H - V				1.776		

Verifica stabilità globale muro + terreno

Simbologia adottata

Ic	Indice/Tipo combinazione
C	Centro superficie di scorrimento, espresso in [m]
R	Raggio, espresso in [m]
FS	Fattore di sicurezza

Ic	C	R	FS
	[m]	*[m]*	
5 - GEO (A2-M2-R2)	-0.79; 1.57	6.18	1.866
6 - GEO (A2-M2-R2)	-0.79; 0.00	4.85	1.413
7 - GEO (A2-M2-R2) H + V	-0.79; 2.36	6.88	1.799
8 - GEO (A2-M2-R2) H - V	-0.79; 2.36	6.88	1.776

Dettagli strisce verifiche stabilità

Simbologia adottata

Le ascisse X sono considerate positive verso monte

Le ordinate Y sono considerate positive verso l'alto

Origine in testa al muro (spigolo contro terra)

W	peso della striscia espresso in [kN]
Qy	carico sulla striscia espresso in [kN]
Qf	carico acqua sulla striscia espresso in [kN]
α	angolo fra la base della striscia e l'orizzontale espresso in [°] (positivo antiorario)
ϕ	angolo d'attrito del terreno lungo la base della striscia
c	coesione del terreno lungo la base della striscia espressa in [kPa]
b	larghezza della striscia espressa in [m]
u	pressione neutra lungo la base della striscia espressa in [kPa]
Tx; Ty	Resistenza al taglio fornita dai tiranti in direzione X ed Y espressa in [kPa]

Combinazione n° 5 - GEO (A2-M2-R2)

n°	W	Qy	Qf	b	α	ϕ	c	u	Tx; Ty
	[kN]	[kN]	[kN]	[m]	[°]	[°]	[kPa]	[kPa]	[kN]
1	4.17	0.00	0.00	5.20 - 0.41	69.419	29.256	0	0.0	
2	11.14	0.00	0.00	0.41	60.701	29.256	0	0.0	
3	16.06	0.00	0.00	0.41	53.670	29.256	0	0.0	
4	19.91	0.00	0.00	0.41	47.691	29.256	0	0.0	
5	23.06	0.00	0.00	0.41	42.343	29.256	0	0.0	
6	25.69	0.00	0.00	0.41	37.423	29.256	0	0.0	
7	27.90	0.00	0.00	0.41	32.810	29.256	0	0.0	
8	30.09	0.00	0.00	0.41	28.427	20.458	4	0.0	
9	33.34	0.00	0.00	0.41	24.220	20.458	4	0.0	
10	34.58	0.00	0.00	0.41	20.148	20.458	4	0.0	
11	35.59	0.00	0.00	0.41	16.180	20.458	4	0.0	
12	36.36	0.00	0.00	0.41	12.291	20.458	4	0.0	
13	40.65	0.00	0.00	0.41	8.460	20.458	4	0.0	
14	44.58	0.00	0.00	0.41	4.666	20.458	4	0.0	
15	15.30	0.00	0.00	0.41	0.892	20.458	4	0.0	
16	14.22	0.00	0.00	0.41	-2.878	20.458	4	0.0	
17	12.15	0.00	0.00	0.41	-6.660	20.458	4	0.0	
18	11.43	0.00	0.00	0.41	-10.471	20.458	4	0.0	
19	10.76	0.00	0.00	0.41	-14.331	20.458	4	0.0	
20	9.87	0.00	0.00	0.41	-18.258	20.458	4	0.0	
21	8.74	0.00	0.00	0.41	-22.277	20.458	4	0.0	
22	7.36	0.00	0.00	0.41	-26.416	20.458	4	0.0	
23	5.67	0.00	0.00	0.41	-30.710	20.458	4	0.0	
24	3.63	0.00	0.00	0.41	-35.206	20.458	4	0.0	
25	1.21	0.00	0.00	-4.95 - 0.41	-38.885	20.458	4	0.0	

Combinazione n° 6 - GEO (A2-M2-R2)

n°	W	Qy	Qf	b	α	ϕ	c	u	Tx; Ty
	[kN]	[kN]	[kN]	[m]	[°]	[°]	[kPa]	[kPa]	[kN]
1	5.95	10.38	0.00	4.07 - 0.35	79.097	29.256	0	0.0	
2	14.20	10.38	0.00	0.35	63.583	29.256	0	0.0	
3	18.16	10.38	0.00	0.35	55.362	29.256	0	0.0	
4	21.12	17.16	0.00	0.35	48.650	29.256	0	0.0	
5	23.48	17.69	0.00	0.35	42.753	29.256	0	0.0	
6	25.68	17.69	0.00	0.35	37.380	20.458	4	0.0	
7	28.75	17.69	0.00	0.35	32.373	20.458	4	0.0	
8	30.04	17.69	0.00	0.35	27.631	20.458	4	0.0	
9	31.10	17.69	0.00	0.35	23.088	20.458	4	0.0	
10	31.95	17.69	0.00	0.35	18.695	20.458	4	0.0	
11	32.61	17.69	0.00	0.35	14.414	20.458	4	0.0	
12	37.17	12.59	0.00	0.35	10.214	20.458	4	0.0	
13	39.67	0.00	0.00	0.35	6.069	20.458	4	0.0	
14	17.39	0.00	0.00	0.35	1.956	20.458	4	0.0	
15	13.78	0.00	0.00	0.35	-2.147	20.458	4	0.0	
16	12.91	0.00	0.00	0.35	-6.261	20.458	4	0.0	
17	11.52	0.00	0.00	0.35	-10.408	20.458	4	0.0	
18	11.02	0.00	0.00	0.35	-14.611	20.458	4	0.0	
19	10.35	0.00	0.00	0.35	-18.896	20.458	4	0.0	
20	9.49	0.00	0.00	0.35	-23.296	20.458	4	0.0	
21	8.42	0.00	0.00	0.35	-27.846	20.458	4	0.0	
22	7.12	0.00	0.00	0.35	-32.599	20.458	4	0.0	
23	5.54	0.00	0.00	0.35	-37.621	20.458	4	0.0	
24	3.59	0.00	0.00	0.35	-43.014	20.458	4	0.0	
25	1.21	0.00	0.00	-4.61 - 0.35	-47.758	20.458	4	0.0	

Combinazione n° 7 - GEO (A2-M2-R2) H + V

n°	W	Qy	Qf	b	α	ϕ	c	u	Tx; Ty
	[kN]	[kN]	[kN]	[m]	[°]	[°]	[kPa]	[kPa]	[kN]
1	3.82	0.00	0.00	5.69 - 0.43	65.137	35.000	0	0.0	
2	10.49	0.00	0.00	0.43	58.017	35.000	0	0.0	
3	15.57	0.00	0.00	0.43	51.716	35.000	0	0.0	
4	19.66	0.00	0.00	0.43	46.212	35.000	0	0.0	
5	23.07	0.00	0.00	0.43	41.220	35.000	0	0.0	
6	25.93	0.00	0.00	0.43	36.588	35.000	0	0.0	
7	28.37	0.00	0.00	0.43	32.221	35.000	0	0.0	
8	30.43	0.00	0.00	0.43	28.056	35.000	0	0.0	
9	33.27	0.00	0.00	0.43	24.048	25.000	5	0.0	
10	35.76	0.00	0.00	0.43	20.161	25.000	5	0.0	
11	36.90	0.00	0.00	0.43	16.370	25.000	5	0.0	
12	37.79	0.00	0.00	0.43	12.652	25.000	5	0.0	
13	39.61	0.00	0.00	0.43	8.987	25.000	5	0.0	

n°	W [kN]	Qy [kN]	Qf [kN]	b [m]	α [°]	ϕ [°]	c [kPa]	u [kPa]	Tx; Ty [kN]
14	46.48	0.00	0.00	0.43	5.359	25.000	5	0.0	
15	22.62	0.00	0.00	0.43	1.753	25.000	5	0.0	
16	14.48	0.00	0.00	0.43	-1.847	25.000	5	0.0	
17	12.70	0.00	0.00	0.43	-5.453	25.000	5	0.0	
18	11.61	0.00	0.00	0.43	-9.082	25.000	5	0.0	
19	10.95	0.00	0.00	0.43	-12.748	25.000	5	0.0	
20	10.05	0.00	0.00	0.43	-16.468	25.000	5	0.0	
21	8.90	0.00	0.00	0.43	-20.261	25.000	5	0.0	
22	7.49	0.00	0.00	0.43	-24.150	25.000	5	0.0	
23	5.76	0.00	0.00	0.43	-28.162	25.000	5	0.0	
24	3.69	0.00	0.00	0.43	-32.332	25.000	5	0.0	
25	1.25	0.00	0.00	-5.11 - 0.43	-35.917	25.000	5	0.0	

Combinazione n° 8 - GEO (A2-M2-R2) H - V

n°	W [kN]	Qy [kN]	Qf [kN]	b [m]	α [°]	ϕ [°]	c [kPa]	u [kPa]	Tx; Ty [kN]
1	3.82	0.00	0.00	5.69 - 0.43	65.137	35.000	0	0.0	
2	10.49	0.00	0.00	0.43	58.017	35.000	0	0.0	
3	15.57	0.00	0.00	0.43	51.716	35.000	0	0.0	
4	19.66	0.00	0.00	0.43	46.212	35.000	0	0.0	
5	23.07	0.00	0.00	0.43	41.220	35.000	0	0.0	
6	25.93	0.00	0.00	0.43	36.588	35.000	0	0.0	
7	28.37	0.00	0.00	0.43	32.221	35.000	0	0.0	
8	30.43	0.00	0.00	0.43	28.056	35.000	0	0.0	
9	33.27	0.00	0.00	0.43	24.048	25.000	5	0.0	
10	35.76	0.00	0.00	0.43	20.161	25.000	5	0.0	
11	36.90	0.00	0.00	0.43	16.370	25.000	5	0.0	
12	37.79	0.00	0.00	0.43	12.652	25.000	5	0.0	
13	39.61	0.00	0.00	0.43	8.987	25.000	5	0.0	
14	46.48	0.00	0.00	0.43	5.359	25.000	5	0.0	
15	22.62	0.00	0.00	0.43	1.753	25.000	5	0.0	
16	14.48	0.00	0.00	0.43	-1.847	25.000	5	0.0	
17	12.70	0.00	0.00	0.43	-5.453	25.000	5	0.0	
18	11.61	0.00	0.00	0.43	-9.082	25.000	5	0.0	
19	10.95	0.00	0.00	0.43	-12.748	25.000	5	0.0	
20	10.05	0.00	0.00	0.43	-16.468	25.000	5	0.0	
21	8.90	0.00	0.00	0.43	-20.261	25.000	5	0.0	
22	7.49	0.00	0.00	0.43	-24.150	25.000	5	0.0	
23	5.76	0.00	0.00	0.43	-28.162	25.000	5	0.0	
24	3.69	0.00	0.00	0.43	-32.332	25.000	5	0.0	
25	1.25	0.00	0.00	-5.11 - 0.43	-35.917	25.000	5	0.0	

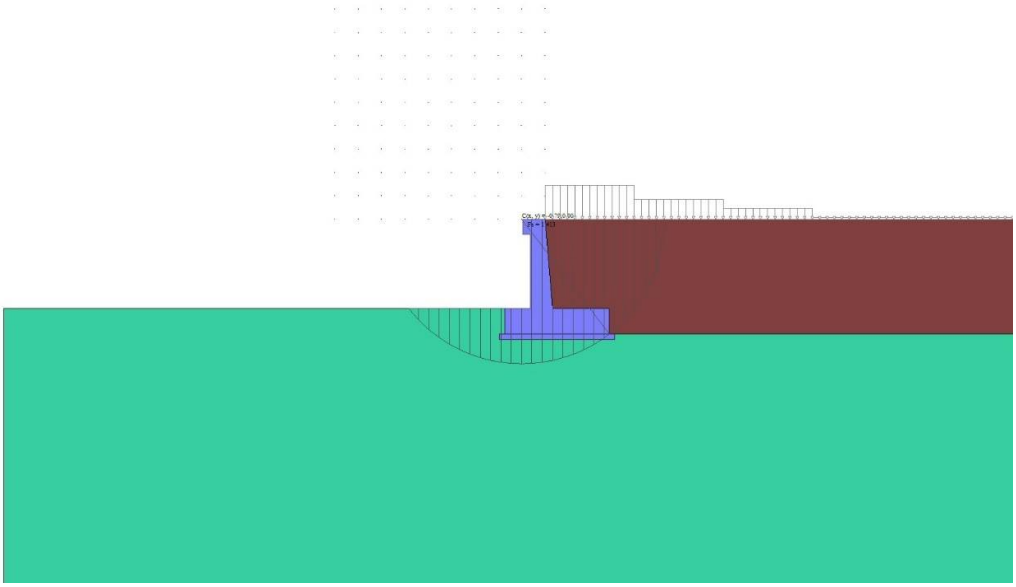

Fig. 7 - Stabilità fronte di scavo - Cerchio critico (Combinazione n° 6)

Spostamenti

Simbologia adottata

Cmb Tipo combinazione

Modello a blocchi

X Spostamento in direzione X (positivo verso monte), espresso in [cm]

Y Spostamento in direzione Y (positivo verso l'alto), espresso in [cm]

Phi Rotazione (positiva antioraria), espresso in [°]

Spostamenti ottenuti con il modello a blocchi

Cmb	X	Y	Phi
	[cm]	*[cm]*	*[°]*
1 - STR (A1-M1-R3)	-0.06272	-0.31962	-0.01961
2 - STR (A1-M1-R3)	-0.11044	-0.48651	-0.04147
3 - STR (A1-M1-R3) H + V	-0.21939	-0.35430	0.01934
4 - STR (A1-M1-R3) H - V	-0.21381	-0.31784	0.02092
9 - ECC	-0.34965	-0.35918	0.08575
10 - SLER	-0.05399	-0.40482	-0.03576
11 - SLEF	-0.02764	-0.31214	-0.02356
12 - SLEQ	-0.02764	-0.31214	-0.02356

Sollecitazioni

Elementi calcolati a trave

Simbologia adottata

n° Indice della sezione

X Posizione della sezione, espresso in [m]

N Sforzo normale, espresso in [kN]. Positivo se di compressione.

T Taglio, espresso in [kN]. Positivo se diretto da monte verso valle

M Momento, espresso in [kNm]. Positivo se tende le fibre contro terra (a monte)

La posizione delle sezioni di verifica fanno riferimento al sistema di riferimento globale la cui origine è nello spigolo in alto a destra del paramento.

Paramento

Combinazione n° 1 - STR (A1-M1-R3)

n°	X	N	T	M
	[m]	*[kN]*	*[kN]*	*[kNm]*
1	0.00	3.13	0.00	0.39
2	-0.10	4.39	0.03	0.39
3	-0.20	5.67	0.13	0.41
4	-0.30	6.97	0.29	0.44
5	-0.40	8.29	0.51	0.50
6	-0.50	9.64	0.79	0.59
7	-0.60	11.00	1.14	0.72
8	-0.70	12.39	1.55	0.89
9	-0.80	13.80	2.02	1.11
10	-0.90	15.23	2.56	1.38
11	-1.00	16.67	3.16	1.72
12	-1.10	18.15	3.82	2.13
13	-1.20	19.64	4.55	2.61

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
14	-1.30	21.15	5.34	3.18
15	-1.40	22.68	6.19	3.84
16	-1.50	24.24	7.10	4.59
17	-1.60	25.81	8.08	5.44
18	-1.70	27.41	9.12	6.39
19	-1.80	29.03	10.23	7.47
20	-1.90	30.66	11.40	8.66
21	-2.00	32.32	12.63	9.98
22	-2.10	34.00	13.92	11.43
23	-2.20	35.71	15.28	13.03
24	-2.30	37.43	16.70	14.76
25	-2.40	39.17	18.18	16.66
26	-2.50	40.94	19.73	18.71
27	-2.60	42.72	21.34	20.92
28	-2.70	44.53	23.01	23.31
29	-2.80	46.35	24.75	25.87
30	-2.90	48.20	26.55	28.62
31	-3.00	50.07	28.41	31.56

Combinazione n° 2 - STR (A1-M1-R3)

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	0.00	3.13	0.00	0.39
2	-0.10	4.39	1.50	0.47
3	-0.20	5.67	3.07	0.70
4	-0.30	6.97	4.70	1.11
5	-0.40	8.29	6.39	1.68
6	-0.50	9.64	8.15	2.43
7	-0.60	11.00	9.97	3.37
8	-0.70	12.39	11.85	4.49
9	-0.80	13.80	13.80	5.82
10	-0.90	15.23	15.80	7.34
11	-1.00	16.67	17.88	9.08
12	-1.10	18.15	20.01	11.03
13	-1.20	19.64	22.21	13.21
14	-1.30	21.15	24.47	15.62
15	-1.40	22.68	26.79	18.26
16	-1.50	24.24	29.18	21.14
17	-1.60	25.81	31.63	24.27
18	-1.70	27.41	34.14	27.66
19	-1.80	29.03	36.72	31.31
20	-1.90	30.66	39.36	35.22
21	-2.00	32.32	42.06	39.41
22	-2.10	34.00	44.83	43.88
23	-2.20	35.71	47.66	48.64
24	-2.30	37.43	50.55	53.69
25	-2.40	39.17	53.50	59.04
26	-2.50	40.94	56.52	64.70
27	-2.60	42.72	59.60	70.66
28	-2.70	44.53	62.75	76.95
29	-2.80	46.35	65.95	83.56
30	-2.90	48.20	69.22	90.51
31	-3.00	50.07	72.56	97.79

Combinazione n° 3 - STR (A1-M1-R3) H + V

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	0.00	3.31	0.00	0.41
2	-0.10	4.65	0.42	0.44
3	-0.20	6.01	0.89	0.51
4	-0.30	7.39	1.41	0.64
5	-0.40	8.79	1.98	0.83
6	-0.50	10.22	2.60	1.08
7	-0.60	11.67	3.27	1.41
8	-0.70	13.14	3.98	1.81
9	-0.80	14.63	4.75	2.29
10	-0.90	16.15	5.56	2.86
11	-1.00	17.68	6.43	3.51
12	-1.10	19.24	7.34	4.26
13	-1.20	20.82	8.30	5.12
14	-1.30	22.43	9.32	6.07
15	-1.40	24.05	10.38	7.14
16	-1.50	25.70	11.49	8.32
17	-1.60	27.37	12.65	9.63
18	-1.70	29.07	13.86	11.06
19	-1.80	30.78	15.12	12.62
20	-1.90	32.52	16.43	14.31

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
21	-2.00	34.28	17.78	16.15
22	-2.10	36.06	19.19	18.13
23	-2.20	37.87	20.65	20.27
24	-2.30	39.69	22.15	22.55
25	-2.40	41.54	23.71	25.00
26	-2.50	43.41	25.31	27.62
27	-2.60	45.31	26.96	30.40
28	-2.70	47.22	28.66	33.36
29	-2.80	49.16	30.42	36.51
30	-2.90	51.12	32.22	39.83
31	-3.00	53.10	34.07	43.35

Combinazione n° 4 - STR (A1-M1-R3) H - V

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	0.00	3.13	0.00	0.39
2	-0.10	4.31	0.34	0.41
3	-0.20	5.51	0.73	0.47
4	-0.30	6.74	1.17	0.58
5	-0.40	7.98	1.66	0.74
6	-0.50	9.24	2.19	0.95
7	-0.60	10.53	2.78	1.23
8	-0.70	11.83	3.41	1.57
9	-0.80	13.15	4.10	1.98
10	-0.90	14.49	4.83	2.48
11	-1.00	15.85	5.61	3.05
12	-1.10	17.24	6.45	3.71
13	-1.20	18.64	7.33	4.46
14	-1.30	20.06	8.26	5.30
15	-1.40	21.50	9.24	6.25
16	-1.50	22.96	10.27	7.31
17	-1.60	24.44	11.35	8.47
18	-1.70	25.94	12.47	9.76
19	-1.80	27.46	13.65	11.16
20	-1.90	29.00	14.88	12.69
21	-2.00	30.56	16.15	14.36
22	-2.10	32.14	17.48	16.16
23	-2.20	33.73	18.85	18.10
24	-2.30	35.35	20.28	20.19
25	-2.40	36.99	21.75	22.43
26	-2.50	38.65	23.27	24.82
27	-2.60	40.33	24.84	27.38
28	-2.70	42.02	26.47	30.11
29	-2.80	43.74	28.14	33.00
30	-2.90	45.48	29.86	36.07
31	-3.00	47.23	31.62	39.33

Combinazione n° 9 - ECC

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	0.00	3.13	33.30	33.69
2	-0.10	4.39	33.32	33.69
3	-0.20	5.67	33.39	33.71
4	-0.30	6.97	33.51	33.74
5	-0.40	8.29	33.68	33.78
6	-0.50	9.64	33.89	33.86
7	-0.60	11.00	34.14	33.96
8	-0.70	12.39	34.45	34.09
9	-0.80	13.80	34.80	34.27
10	-0.90	15.23	35.20	34.48
11	-1.00	16.67	35.64	34.75
12	-1.10	18.15	36.13	35.07
13	-1.20	19.64	36.67	35.44
14	-1.30	21.15	37.25	35.88
15	-1.40	22.68	37.88	36.39
16	-1.50	24.24	38.56	36.96
17	-1.60	25.81	39.29	37.62
18	-1.70	27.41	40.06	38.35
19	-1.80	29.03	40.88	39.17
20	-1.90	30.66	41.74	40.09
21	-2.00	32.32	42.65	41.10
22	-2.10	34.00	43.61	42.21
23	-2.20	35.71	44.62	43.42
24	-2.30	37.43	45.67	44.74
25	-2.40	39.17	46.77	46.18
26	-2.50	40.94	47.91	47.74
27	-2.60	42.72	49.11	49.42

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
28	-2.70	44.53	50.34	51.24
29	-2.80	46.35	51.63	53.18
30	-2.90	48.20	52.96	55.27
31	-3.00	50.07	54.34	57.50

Combinazione n° 10 - SLER

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	0.00	3.13	0.00	0.39
2	-0.10	4.39	0.84	0.43
3	-0.20	5.67	1.73	0.57
4	-0.30	6.97	2.67	0.80
5	-0.40	8.29	3.65	1.14
6	-0.50	9.64	4.67	1.58
7	-0.60	11.00	5.75	2.13
8	-0.70	12.39	6.87	2.80
9	-0.80	13.80	8.04	3.58
10	-0.90	15.23	9.25	4.49
11	-1.00	16.67	10.52	5.54
12	-1.10	18.15	11.82	6.71
13	-1.20	19.64	13.18	8.03
14	-1.30	21.15	14.58	9.49
15	-1.40	22.68	16.03	11.10
16	-1.50	24.24	17.53	12.86
17	-1.60	25.81	19.07	14.78
18	-1.70	27.41	20.66	16.87
19	-1.80	29.03	22.29	19.12
20	-1.90	30.66	23.98	21.55
21	-2.00	32.32	25.71	24.15
22	-2.10	34.00	27.48	26.93
23	-2.20	35.71	29.30	29.91
24	-2.30	37.43	31.17	33.07
25	-2.40	39.17	33.09	36.43
26	-2.50	40.94	35.05	39.99
27	-2.60	42.72	37.06	43.76
28	-2.70	44.53	39.12	47.74
29	-2.80	46.35	41.22	51.93
30	-2.90	48.20	43.37	56.35
31	-3.00	50.07	45.57	60.99

Combinazione n° 11 - SLEF

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	0.00	3.13	0.00	0.39
2	-0.10	4.39	0.02	0.39
3	-0.20	5.67	0.09	0.41
4	-0.30	6.97	0.21	0.44
5	-0.40	8.29	0.38	0.48
6	-0.50	9.64	0.59	0.56
7	-0.60	11.00	0.84	0.66
8	-0.70	12.39	1.15	0.79
9	-0.80	13.80	1.50	0.97
10	-0.90	15.23	1.90	1.18
11	-1.00	16.67	2.34	1.45
12	-1.10	18.15	2.83	1.77
13	-1.20	19.64	3.37	2.14
14	-1.30	21.15	3.95	2.58
15	-1.40	22.68	4.58	3.09
16	-1.50	24.24	5.26	3.66
17	-1.60	25.81	5.99	4.32
18	-1.70	27.41	6.76	5.05
19	-1.80	29.03	7.58	5.87
20	-1.90	30.66	8.44	6.79
21	-2.00	32.32	9.35	7.80
22	-2.10	34.00	10.31	8.91
23	-2.20	35.71	11.32	10.12
24	-2.30	37.43	12.37	11.44
25	-2.40	39.17	13.47	12.88
26	-2.50	40.94	14.61	14.44
27	-2.60	42.72	15.81	16.12
28	-2.70	44.53	17.04	17.94
29	-2.80	46.35	18.33	19.88
30	-2.90	48.20	19.66	21.97
31	-3.00	50.07	21.04	24.20

Combinazione n° 12 - SLEQ

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	0.00	3.13	0.00	0.39
2	-0.10	4.39	0.02	0.39
3	-0.20	5.67	0.09	0.41
4	-0.30	6.97	0.21	0.44
5	-0.40	8.29	0.38	0.48
6	-0.50	9.64	0.59	0.56
7	-0.60	11.00	0.84	0.66
8	-0.70	12.39	1.15	0.79
9	-0.80	13.80	1.50	0.97
10	-0.90	15.23	1.90	1.18
11	-1.00	16.67	2.34	1.45
12	-1.10	18.15	2.83	1.77
13	-1.20	19.64	3.37	2.14
14	-1.30	21.15	3.95	2.58
15	-1.40	22.68	4.58	3.09
16	-1.50	24.24	5.26	3.66
17	-1.60	25.81	5.99	4.32
18	-1.70	27.41	6.76	5.05
19	-1.80	29.03	7.58	5.87
20	-1.90	30.66	8.44	6.79
21	-2.00	32.32	9.35	7.80
22	-2.10	34.00	10.31	8.91
23	-2.20	35.71	11.32	10.12
24	-2.30	37.43	12.37	11.44
25	-2.40	39.17	13.47	12.88
26	-2.50	40.94	14.61	14.44
27	-2.60	42.72	15.81	16.12
28	-2.70	44.53	17.04	17.94
29	-2.80	46.35	18.33	19.88
30	-2.90	48.20	19.66	21.97
31	-3.00	50.07	21.04	24.20

Mensola valle

Combinazione n° 1 - STR (A1-M1-R3)

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	-0.75	0.00	0.00	0.00
2	-0.67	0.00	1.04	0.04
3	-0.58	0.00	2.08	0.17
4	-0.50	0.00	3.13	0.39
5	-0.50	0.00	3.13	0.39

Combinazione n° 2 - STR (A1-M1-R3)

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	-0.75	0.00	0.00	0.00
2	-0.67	0.00	1.04	0.04
3	-0.58	0.00	2.08	0.17
4	-0.50	0.00	3.13	0.39
5	-0.50	0.00	3.13	0.39

Combinazione n° 3 - STR (A1-M1-R3)_H + V

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	-0.75	0.00	0.00	0.00
2	-0.67	0.00	1.10	0.05
3	-0.58	0.00	2.21	0.18
4	-0.50	0.00	3.31	0.41
5	-0.50	0.00	3.31	0.41

Combinazione n° 4 - STR (A1-M1-R3) H - V

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	-0.75	0.00	0.00	0.00
2	-0.67	0.00	1.04	0.04
3	-0.58	0.00	2.08	0.17
4	-0.50	0.00	3.13	0.39
5	-0.50	0.00	3.13	0.39

Combinazione n° 9 - ECC

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	-0.75	0.00	0.00	0.00
2	-0.67	0.00	1.04	0.04
3	-0.58	0.00	2.08	0.17
4	-0.50	0.00	3.13	0.39
5	-0.50	-33.30	3.13	33.69

Combinazione n° 10 - SLER

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	-0.75	0.00	0.00	0.00
2	-0.67	0.00	1.04	0.04
3	-0.58	0.00	2.08	0.17
4	-0.50	0.00	3.13	0.39
5	-0.50	0.00	3.13	0.39

Combinazione n° 11 - SLEF

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	-0.75	0.00	0.00	0.00
2	-0.67	0.00	1.04	0.04
3	-0.58	0.00	2.08	0.17
4	-0.50	0.00	3.13	0.39
5	-0.50	0.00	3.13	0.39

Combinazione n° 12 - SLEQ

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	-0.75	0.00	0.00	0.00
2	-0.67	0.00	1.04	0.04
3	-0.58	0.00	2.08	0.17
4	-0.50	0.00	3.13	0.39
5	-0.50	0.00	3.13	0.39

Fondazione

Combinazione n° 1 - STR (A1-M1-R3)

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	-1.35	0.00	0.00	0.00
2	-1.26	0.00	3.99	0.19
3	-1.16	0.00	8.05	0.76
4	-1.07	0.00	12.18	1.71

n°	X [m]	N [kN]	T [kN]	M [kNm]
5	-0.97	0.00	16.39	3.06
6	-0.88	0.00	20.66	4.81
7	-0.78	0.00	25.01	6.96
8	-0.69	0.00	29.43	9.53
9	-0.59	0.00	33.92	12.53
10	-0.50	0.00	38.49	15.94
11	0.25	0.00	-27.63	-21.65
12	0.35	0.00	-25.45	-18.99
13	0.45	0.00	-23.35	-16.55
14	0.55	0.00	-21.34	-14.32
15	0.65	0.00	-19.40	-12.28
16	0.75	0.00	-17.54	-10.44
17	0.85	0.00	-15.77	-8.77
18	0.95	0.00	-14.07	-7.28
19	1.05	0.00	-12.45	-5.96
20	1.15	0.00	-10.92	-4.79
21	1.25	0.00	-9.46	-3.77
22	1.35	0.00	-8.09	-2.89
23	1.45	0.00	-6.80	-2.15
24	1.55	0.00	-5.59	-1.53
25	1.65	0.00	-4.45	-1.03
26	1.75	0.00	-3.40	-0.64
27	1.85	0.00	-2.43	-0.35
28	1.95	0.00	-1.54	-0.15
29	2.05	0.00	-0.73	-0.04
30	2.15	0.00	0.00	0.00

Combinazione n° 2 - STR (A1-M1-R3)

n°	X [m]	N [kN]	T [kN]	M [kNm]
1	-1.35	0.00	0.00	0.00
2	-1.26	0.00	6.46	0.30
3	-1.16	0.00	13.07	1.23
4	-1.07	0.00	19.84	2.78
5	-0.97	0.00	26.76	4.98
6	-0.88	0.00	33.83	7.84
7	-0.78	0.00	41.05	11.37
8	-0.69	0.00	48.42	15.60
9	-0.59	0.00	55.95	20.52
10	-0.50	0.00	63.62	26.17
11	0.25	0.00	-48.78	-36.60
12	0.35	0.00	-44.68	-31.93
13	0.45	0.00	-40.75	-27.66
14	0.55	0.00	-36.99	-23.77
15	0.65	0.00	-33.40	-20.26
16	0.75	0.00	-29.98	-17.09
17	0.85	0.00	-26.73	-14.25
18	0.95	0.00	-23.65	-11.74
19	1.05	0.00	-20.74	-9.52
20	1.15	0.00	-18.01	-7.58
21	1.25	0.00	-15.44	-5.91
22	1.35	0.00	-13.04	-4.49
23	1.45	0.00	-10.81	-3.30
24	1.55	0.00	-8.76	-2.32
25	1.65	0.00	-6.87	-1.54
26	1.75	0.00	-5.16	-0.94
27	1.85	0.00	-3.61	-0.50
28	1.95	0.00	-2.24	-0.21
29	2.05	0.00	-1.03	-0.05
30	2.15	0.00	0.00	0.00

Combinazione n° 3 - STR (A1-M1-R3)_H + V

n°	X [m]	N [kN]	T [kN]	M [kNm]
1	-1.35	0.00	0.00	0.00
2	-1.26	0.00	6.96	0.33
3	-1.16	0.00	13.85	1.31
4	-1.07	0.00	20.68	2.94
5	-0.97	0.00	27.43	5.22
6	-0.88	0.00	34.10	8.12
7	-0.78	0.00	40.71	11.66
8	-0.69	0.00	47.25	15.81
9	-0.59	0.00	53.72	20.58
10	-0.50	0.00	60.11	25.95
11	0.25	0.00	-6.04	-10.28
12	0.35	0.00	-6.44	-9.66
13	0.45	0.00	-6.76	-9.00

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
14	0.55	0.00	-7.00	-8.31
15	0.65	0.00	-7.16	-7.60
16	0.75	0.00	-7.23	-6.88
17	0.85	0.00	-7.23	-6.16
18	0.95	0.00	-7.15	-5.44
19	1.05	0.00	-7.00	-4.73
20	1.15	0.00	-6.76	-4.04
21	1.25	0.00	-6.44	-3.38
22	1.35	0.00	-6.04	-2.76
23	1.45	0.00	-5.56	-2.17
24	1.55	0.00	-5.01	-1.65
25	1.65	0.00	-4.37	-1.18
26	1.75	0.00	-3.66	-0.77
27	1.85	0.00	-2.86	-0.45
28	1.95	0.00	-1.99	-0.20
29	2.05	0.00	-1.03	-0.05
30	2.15	0.00	0.00	0.00

Combinazione n° 4 - STR (A1-M1-R3) H - V

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	-1.35	0.00	0.00	0.00
2	-1.26	0.00	6.24	0.30
3	-1.16	0.00	12.41	1.18
4	-1.07	0.00	18.49	2.64
5	-0.97	0.00	24.50	4.67
6	-0.88	0.00	30.44	7.26
7	-0.78	0.00	36.30	10.41
8	-0.69	0.00	42.08	14.12
9	-0.59	0.00	47.78	18.36
10	-0.50	0.00	53.41	23.14
11	0.25	0.00	-23.63	-27.36
12	0.35	0.00	-23.16	-25.02
13	0.45	0.00	-22.61	-22.73
14	0.55	0.00	-21.96	-20.50
15	0.65	0.00	-21.23	-18.34
16	0.75	0.00	-20.42	-16.26
17	0.85	0.00	-19.52	-14.26
18	0.95	0.00	-18.53	-12.36
19	1.05	0.00	-17.46	-10.56
20	1.15	0.00	-16.30	-8.87
21	1.25	0.00	-15.06	-7.30
22	1.35	0.00	-13.73	-5.86
23	1.45	0.00	-12.32	-4.56
24	1.55	0.00	-10.81	-3.40
25	1.65	0.00	-9.23	-2.40
26	1.75	0.00	-7.55	-1.56
27	1.85	0.00	-5.79	-0.89
28	1.95	0.00	-3.95	-0.40
29	2.05	0.00	-2.02	-0.10
30	2.15	0.00	0.00	0.00

Combinazione n° 9 - ECC

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	-1.35	0.00	0.00	0.00
2	-1.26	0.00	10.82	0.51
3	-1.16	0.00	21.33	2.03
4	-1.07	0.00	31.53	4.53
5	-0.97	0.00	41.41	7.98
6	-0.88	0.00	50.98	12.35
7	-0.78	0.00	60.23	17.60
8	-0.69	0.00	69.17	23.71
9	-0.59	0.00	77.80	30.66
10	-0.50	0.00	86.11	38.40
11	0.25	0.00	-58.18	-75.40
12	0.35	0.00	-58.29	-69.58
13	0.45	0.00	-58.04	-63.76
14	0.55	0.00	-57.45	-57.98
15	0.65	0.00	-56.50	-52.28
16	0.75	0.00	-55.20	-46.69
17	0.85	0.00	-53.54	-41.25
18	0.95	0.00	-51.54	-36.00
19	1.05	0.00	-49.18	-30.96
20	1.15	0.00	-46.47	-26.17
21	1.25	0.00	-43.41	-21.67
22	1.35	0.00	-40.00	-17.50

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
23	1.45	0.00	-36.23	-13.69
24	1.55	0.00	-32.11	-10.27
25	1.65	0.00	-27.64	-7.28
26	1.75	0.00	-22.82	-4.75
27	1.85	0.00	-17.64	-2.73
28	1.95	0.00	-12.11	-1.23
29	2.05	0.00	-6.23	-0.31
30	2.15	0.00	0.00	0.00

Combinazione n° 10 - SLER

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	-1.35	0.00	0.00	0.00
2	-1.26	0.00	4.97	0.23
3	-1.16	0.00	10.07	0.94
4	-1.07	0.00	15.30	2.14
5	-0.97	0.00	20.66	3.84
6	-0.88	0.00	26.15	6.05
7	-0.78	0.00	31.78	8.78
8	-0.69	0.00	37.53	12.05
9	-0.59	0.00	43.42	15.87
10	-0.50	0.00	49.44	20.26
11	0.25	0.00	-1.56	6.91
12	0.35	0.00	-0.16	6.99
13	0.45	0.00	1.10	6.95
14	0.55	0.00	2.21	6.78
15	0.65	0.00	3.17	6.51
16	0.75	0.00	3.99	6.15
17	0.85	0.00	4.66	5.72
18	0.95	0.00	5.18	5.22
19	1.05	0.00	5.56	4.69
20	1.15	0.00	5.79	4.12
21	1.25	0.00	5.87	3.53
22	1.35	0.00	5.80	2.95
23	1.45	0.00	5.59	2.38
24	1.55	0.00	5.23	1.83
25	1.65	0.00	4.73	1.34
26	1.75	0.00	4.08	0.89
27	1.85	0.00	3.28	0.52
28	1.95	0.00	2.33	0.24
29	2.05	0.00	1.24	0.06
30	2.15	0.00	0.00	0.00

Combinazione n° 11 - SLEF

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	-1.35	0.00	0.00	0.00
2	-1.26	0.00	3.60	0.17
3	-1.16	0.00	7.28	0.68
4	-1.07	0.00	11.06	1.55
5	-0.97	0.00	14.91	2.77
6	-0.88	0.00	18.86	4.37
7	-0.78	0.00	22.89	6.34
8	-0.69	0.00	27.00	8.69
9	-0.59	0.00	31.21	11.44
10	-0.50	0.00	35.50	14.59
11	0.25	0.00	10.16	15.18
12	0.35	0.00	10.49	14.15
13	0.45	0.00	10.73	13.09
14	0.55	0.00	10.88	12.00
15	0.65	0.00	10.92	10.91
16	0.75	0.00	10.87	9.82
17	0.85	0.00	10.72	8.74
18	0.95	0.00	10.48	7.68
19	1.05	0.00	10.14	6.65
20	1.15	0.00	9.70	5.66
21	1.25	0.00	9.17	4.71
22	1.35	0.00	8.54	3.83
23	1.45	0.00	7.81	3.01
24	1.55	0.00	6.98	2.27
25	1.65	0.00	6.06	1.62
26	1.75	0.00	5.04	1.06
27	1.85	0.00	3.93	0.61
28	1.95	0.00	2.71	0.28
29	2.05	0.00	1.41	0.07
30	2.15	0.00	0.00	0.00

Combinazione n° 12 - SLEQ

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	-1.35	0.00	0.00	0.00
2	-1.26	0.00	3.60	0.17
3	-1.16	0.00	7.28	0.68
4	-1.07	0.00	11.06	1.55
5	-0.97	0.00	14.91	2.77
6	-0.88	0.00	18.86	4.37
7	-0.78	0.00	22.89	6.34
8	-0.69	0.00	27.00	8.69
9	-0.59	0.00	31.21	11.44
10	-0.50	0.00	35.50	14.59
11	0.25	0.00	10.16	15.18
12	0.35	0.00	10.49	14.15
13	0.45	0.00	10.73	13.09
14	0.55	0.00	10.88	12.00
15	0.65	0.00	10.92	10.91
16	0.75	0.00	10.87	9.82
17	0.85	0.00	10.72	8.74
18	0.95	0.00	10.48	7.68
19	1.05	0.00	10.14	6.65
20	1.15	0.00	9.70	5.66
21	1.25	0.00	9.17	4.71
22	1.35	0.00	8.54	3.83
23	1.45	0.00	7.81	3.01
24	1.55	0.00	6.98	2.27
25	1.65	0.00	6.06	1.62
26	1.75	0.00	5.04	1.06
27	1.85	0.00	3.93	0.61
28	1.95	0.00	2.71	0.28
29	2.05	0.00	1.41	0.07
30	2.15	0.00	0.00	0.00

Verifiche strutturali

Verifiche a flessione

Elementi calcolati a trave

Simbologia adottata

n°	indice sezione
B	larghezza sezione espresso in [cm]
H	altezza sezione espressa in [cm]
Afi	area ferri inferiori espresso in [cmq]
Afs	area ferri superiori espressa in [cmq]
M	momento agente espressa in [kNm]
N	sforzo normale agente espressa in [kN]
Mrd	momento resistente espresso in [kNm]
Nrd	sforzo normale resistente espresso in [kN]
FS	fattore di sicurezza (rapporto tra sollecitazione ultima e sollecitazione agente)

Paramento

Combinazione n° 1 - STR (A1-M1-R3)

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
1	0.00	100	50	12.06	4.02	0.39	3.13	529.47	4235.73	1355.433
2	-0.10	100	51	12.06	4.02	0.39	4.39	474.74	5279.83	1203.930
3	-0.20	100	52	12.06	4.02	0.41	5.67	425.20	5880.58	1037.691
4	-0.30	100	53	12.06	4.02	0.44	6.97	397.33	6245.79	896.165
5	-0.40	100	53	12.06	4.02	0.50	8.29	390.17	6451.88	777.996
6	-0.50	100	54	12.06	4.02	0.59	9.64	401.18	6547.45	679.378
7	-0.60	100	55	12.06	4.02	0.72	11.00	427.25	6558.75	596.094
8	-0.70	100	56	12.06	4.02	0.89	12.39	464.51	6490.57	523.884
9	-0.80	100	57	12.06	4.02	1.11	13.80	510.98	6370.69	461.752
10	-0.90	100	58	12.06	4.02	1.38	15.23	562.42	6191.58	406.666
11	-1.00	100	58	12.06	4.02	1.72	16.67	617.11	5974.84	358.318
12	-1.10	100	59	12.06	4.02	2.13	18.15	670.42	5709.21	314.642
13	-1.20	100	60	12.06	4.02	2.61	19.64	720.43	5410.05	275.510
14	-1.30	100	61	12.06	4.02	3.18	21.15	765.33	5088.13	240.586
15	-1.40	100	62	12.06	4.02	3.84	22.68	803.18	4749.56	209.395
16	-1.50	100	63	12.06	4.02	4.59	24.24	830.78	4391.33	181.185
17	-1.60	100	63	12.06	4.02	5.44	25.81	835.55	3967.52	153.708
18	-1.70	100	64	12.06	4.02	6.39	27.41	821.80	3522.51	128.519
19	-1.80	100	65	12.06	24.13	7.47	29.03	1073.58	4173.33	143.780
20	-1.90	100	66	12.06	24.13	8.66	30.66	1118.72	3961.41	129.187
21	-2.00	100	67	12.06	24.13	9.98	32.32	1148.86	3721.17	115.122
22	-2.10	100	68	12.06	24.13	11.43	34.00	1162.60	3457.95	101.692
23	-2.20	100	68	12.06	24.13	13.03	35.71	1166.08	3196.53	89.525
24	-2.30	100	69	12.06	24.13	14.76	37.43	1168.86	2963.17	79.171
25	-2.40	100	70	12.06	20.11	16.66	39.17	1066.30	2507.84	64.023
26	-2.50	100	71	12.06	20.11	18.71	40.94	1050.79	2299.63	56.177
27	-2.60	100	72	12.06	20.11	20.92	42.72	1035.31	2114.16	49.488
28	-2.70	100	73	12.06	20.11	23.31	44.53	1015.82	1940.66	43.584
29	-2.80	100	74	12.06	20.11	25.87	46.35	1000.90	1793.27	38.686
30	-2.90	100	74	12.06	20.11	28.62	48.20	985.51	1659.72	34.432
31	-2.99	100	75	12.06	20.11	31.56	50.07	964.14	1529.57	30.548

Combinazione n° 2 - STR (A1-M1-R3)

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
1	0.00	100	50	12.06	4.02	0.39	3.13	529.47	4235.73	1355.433
2	-0.10	100	51	12.06	4.02	0.47	4.39	515.03	4827.09	1100.694
3	-0.20	100	52	12.06	4.02	0.70	5.67	557.89	4490.23	792.349
4	-0.30	100	53	12.06	4.02	1.11	6.97	599.06	3776.24	541.825
5	-0.40	100	53	12.06	4.02	1.68	8.29	569.23	2811.78	339.056
6	-0.50	100	54	12.06	4.02	2.43	9.64	457.46	1814.21	188.247
7	-0.60	100	55	12.06	4.02	3.37	11.00	298.37	975.39	88.648
8	-0.70	100	56	12.06	4.02	4.49	12.39	229.52	632.98	51.091
9	-0.80	100	57	12.06	4.02	5.82	13.80	190.31	451.45	32.722
10	-0.90	100	58	12.06	4.02	7.34	15.23	167.99	348.31	22.877
11	-1.00	100	58	12.06	4.02	9.08	16.67	154.46	283.64	17.010
12	-1.10	100	59	12.06	4.02	11.03	18.15	145.61	239.45	13.196
13	-1.20	100	60	12.06	4.02	13.21	19.64	139.55	207.42	10.563
14	-1.30	100	61	12.06	4.02	15.62	21.15	135.26	183.18	8.661
15	-1.40	100	62	12.06	4.02	18.26	22.68	132.20	164.23	7.240
16	-1.50	100	63	12.06	4.02	21.14	24.24	129.99	149.02	6.148
17	-1.60	100	63	12.06	4.02	24.27	25.81	128.41	136.55	5.290
18	-1.70	100	64	12.06	4.02	27.66	27.41	127.31	126.15	4.603
19	-1.80	100	65	12.06	24.13	31.31	29.03	686.64	636.59	21.932
20	-1.90	100	66	12.06	24.13	35.22	30.66	686.85	597.94	19.500
21	-2.00	100	67	12.06	24.13	39.41	32.32	688.08	564.31	17.458
22	-2.10	100	68	12.06	24.13	43.88	34.00	690.15	534.77	15.727
23	-2.20	100	68	12.06	24.13	48.64	35.71	692.90	508.64	14.246
24	-2.30	100	69	12.06	24.13	53.69	37.43	696.34	485.42	12.970
25	-2.40	100	70	12.06	20.11	59.04	39.17	590.83	392.00	10.007
26	-2.50	100	71	12.06	20.11	64.70	40.94	594.62	376.24	9.191
27	-2.60	100	72	12.06	20.11	70.66	42.72	598.73	361.97	8.473
28	-2.70	100	73	12.06	20.11	76.95	44.53	603.12	348.99	7.838
29	-2.80	100	74	12.06	20.11	83.56	46.35	607.75	337.13	7.273
30	-2.90	100	74	12.06	20.11	90.51	48.20	612.60	326.26	6.769
31	-2.99	100	75	12.06	20.11	97.79	50.07	616.70	315.78	6.306

Combinazione n° 3 - STR (A1-M1-R3) H + V

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
1	0.00	100	50	12.06	4.02	0.41	3.31	529.47	4235.73	1278.115
2	-0.10	100	51	12.06	4.02	0.44	4.65	485.69	5160.89	1109.679
3	-0.20	100	52	12.06	4.02	0.51	6.01	470.09	5524.52	919.252
4	-0.30	100	53	12.06	4.02	0.64	7.39	485.21	5600.08	757.680
5	-0.40	100	53	12.06	4.02	0.83	8.79	520.19	5513.97	626.971
6	-0.50	100	54	12.06	4.02	1.08	10.22	563.12	5307.95	519.348

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
7	-0.60	100	55	12.06	4.02	1.41	11.67	608.26	5036.69	431.649
8	-0.70	100	56	12.06	4.02	1.81	13.14	650.23	4721.73	359.373
9	-0.80	100	57	12.06	4.02	2.29	14.63	685.57	4380.58	299.396
10	-0.90	100	58	12.06	4.02	2.86	16.15	710.62	4017.81	248.838
11	-1.00	100	58	12.06	4.02	3.51	17.68	711.64	3583.19	202.630
12	-1.10	100	59	12.06	4.02	4.26	19.24	693.77	3131.15	162.718
13	-1.20	100	60	12.06	4.02	5.12	20.82	656.64	2672.97	128.357
14	-1.30	100	61	12.06	4.02	6.07	22.43	601.84	2222.58	99.097
15	-1.40	100	62	12.06	4.02	7.14	24.05	528.03	1778.59	73.940
16	-1.50	100	63	12.06	4.02	8.32	25.70	437.88	1351.96	52.599
17	-1.60	100	63	12.06	4.02	9.63	27.37	370.29	1052.69	38.457
18	-1.70	100	64	12.06	4.02	11.06	29.07	327.88	861.82	29.650
19	-1.80	100	65	12.06	24.13	12.62	30.78	1021.82	2492.62	80.977
20	-1.90	100	66	12.06	24.13	14.31	32.52	1021.68	2321.05	71.375
21	-2.00	100	67	12.06	24.13	16.15	34.28	1014.21	2152.62	62.797
22	-2.10	100	68	12.06	24.13	18.13	36.06	1009.48	2007.59	55.672
23	-2.20	100	68	12.06	24.13	20.27	37.87	1005.91	1879.52	49.637
24	-2.30	100	69	12.06	24.13	22.55	39.69	997.66	1755.77	44.235
25	-2.40	100	70	12.06	20.11	25.00	41.54	869.68	1444.94	34.784
26	-2.50	100	71	12.06	20.11	27.62	43.41	859.04	1350.33	31.105
27	-2.60	100	72	12.06	20.11	30.40	45.31	851.02	1268.15	27.991
28	-2.70	100	73	12.06	20.11	33.36	47.22	845.15	1196.15	25.331
29	-2.80	100	74	12.06	20.11	36.51	49.16	836.21	1126.02	22.906
30	-2.90	100	74	12.06	20.11	39.83	51.12	828.58	1063.31	20.801
31	-2.99	100	75	12.06	20.11	43.35	53.10	820.97	1005.57	18.937

Combinazione n° 4 - STR (A1-M1-R3) H - V

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
1	0.00	100	50	12.06	4.02	0.39	3.13	529.47	4235.73	1355.433
2	-0.10	100	51	12.06	4.02	0.41	4.31	488.10	5134.22	1191.444
3	-0.20	100	52	12.06	4.02	0.47	5.51	470.70	5519.34	1001.111
4	-0.30	100	53	12.06	4.02	0.58	6.74	482.05	5626.41	835.163
5	-0.40	100	53	12.06	4.02	0.74	7.98	513.47	5569.67	697.926
6	-0.50	100	54	12.06	4.02	0.95	9.24	554.79	5394.23	583.573
7	-0.60	100	55	12.06	4.02	1.23	10.53	600.25	5149.12	489.167
8	-0.70	100	56	12.06	4.02	1.57	11.83	644.12	4853.09	410.275
9	-0.80	100	57	12.06	4.02	1.98	13.15	681.34	4515.54	343.356
10	-0.90	100	58	12.06	4.02	2.48	14.49	709.38	4153.70	286.596
11	-1.00	100	58	12.06	4.02	3.05	15.85	718.99	3740.56	235.923
12	-1.10	100	59	12.06	4.02	3.71	17.24	708.48	3294.68	191.146
13	-1.20	100	60	12.06	4.02	4.46	18.64	678.58	2837.68	152.255
14	-1.30	100	61	12.06	4.02	5.30	20.06	626.84	2370.66	118.187
15	-1.40	100	62	12.06	4.02	6.25	21.50	558.45	1920.28	89.319
16	-1.50	100	63	12.06	4.02	7.31	22.96	463.03	1454.82	63.365
17	-1.60	100	63	12.06	4.02	8.47	24.44	383.57	1106.24	45.264
18	-1.70	100	64	12.06	4.02	9.76	25.94	335.35	891.51	34.369
19	-1.80	100	65	12.06	24.13	11.16	27.46	1024.89	2521.23	91.818
20	-1.90	100	66	12.06	24.13	12.69	29.00	1023.55	2338.26	80.634
21	-2.00	100	67	12.06	24.13	14.36	30.56	1015.51	2161.43	70.734
22	-2.10	100	68	12.06	24.13	16.16	32.14	1009.55	2008.03	62.486
23	-2.20	100	68	12.06	24.13	18.10	33.73	1004.60	1872.57	55.509
24	-2.30	100	69	12.06	24.13	20.19	35.35	995.22	1742.98	49.303
25	-2.40	100	70	12.06	20.11	22.43	36.99	865.55	1427.70	38.596
26	-2.50	100	71	12.06	20.11	24.82	38.65	854.07	1329.78	34.408
27	-2.60	100	72	12.06	20.11	27.38	40.33	845.37	1245.05	30.875
28	-2.70	100	73	12.06	20.11	30.11	42.02	837.95	1169.66	27.834
29	-2.80	100	74	12.06	20.11	33.00	43.74	827.87	1097.23	25.086
30	-2.90	100	74	12.06	20.11	36.07	45.48	819.84	1033.48	22.726
31	-2.99	100	75	12.06	20.11	39.33	47.23	811.93	975.06	20.644

Combinazione n° 9 - ECC

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
1	0.00	100	50	12.06	4.02	33.69	3.13	85.01	7.89	2.523
2	-0.10	100	51	12.06	4.02	33.69	4.39	87.16	11.34	2.587
3	-0.20	100	52	12.06	4.02	33.71	5.67	89.38	15.03	2.652
4	-0.30	100	53	12.06	4.02	33.74	6.97	91.69	18.94	2.718
5	-0.40	100	53	12.06	4.02	33.78	8.29	94.10	23.10	2.785
6	-0.50	100	54	12.06	4.02	33.86	9.64	96.60	27.50	2.853
7	-0.60	100	55	12.06	4.02	33.96	11.00	99.19	32.14	2.921
8	-0.70	100	56	12.06	4.02	34.09	12.39	101.88	37.03	2.988
9	-0.80	100	57	12.06	4.02	34.27	13.80	104.68	42.15	3.055
10	-0.90	100	58	12.06	4.02	34.48	15.23	107.57	47.50	3.120
11	-1.00	100	58	12.06	4.02	34.75	16.67	110.64	53.09	3.184
12	-1.10	100	59	12.06	4.02	35.07	18.15	113.82	58.89	3.246
13	-1.20	100	60	12.06	4.02	35.44	19.64	117.09	64.87	3.304

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
14	-1.30	100	61	12.06	4.02	35.88	21.15	120.46	71.00	3.357
15	-1.40	100	62	12.06	4.02	36.39	22.68	123.91	77.24	3.405
16	-1.50	100	63	12.06	4.02	36.96	24.24	127.43	83.56	3.448
17	-1.60	100	63	12.06	4.02	37.62	25.81	131.02	89.90	3.483
18	-1.70	100	64	12.06	4.02	38.35	27.41	134.65	96.23	3.511
19	-1.80	100	65	12.06	24.13	39.17	29.03	754.78	559.24	19.267
20	-1.90	100	66	12.06	24.13	40.09	30.66	774.66	592.56	19.324
21	-2.00	100	67	12.06	24.13	41.10	32.32	794.53	624.92	19.333
22	-2.10	100	68	12.06	24.13	42.21	34.00	814.31	656.08	19.294
23	-2.20	100	68	12.06	24.13	43.42	35.71	833.93	685.77	19.206
24	-2.30	100	69	12.06	24.13	44.74	37.43	853.31	713.78	19.071
25	-2.40	100	70	12.06	20.11	46.18	39.17	738.72	626.56	15.995
26	-2.50	100	71	12.06	20.11	47.74	40.94	754.65	647.06	15.807
27	-2.60	100	72	12.06	20.11	49.42	42.72	770.23	665.75	15.584
28	-2.70	100	73	12.06	20.11	51.24	44.53	785.41	682.55	15.329
29	-2.80	100	74	12.06	20.11	53.18	46.35	800.16	697.42	15.045
30	-2.90	100	74	12.06	20.11	55.27	48.20	814.46	710.34	14.737
31	-2.99	100	75	12.06	20.11	57.50	50.07	826.86	720.10	14.381

Mensola valle

Combinazione n° 1 - STR (A1-M1-R3)

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
1	-0.75	100	50	8.04	16.08	0.00	0.00	0.00	0.00	100000.000
2	-0.67	100	50	8.04	16.08	-0.04	0.00	-261.36	0.00	6021.831
3	-0.58	100	50	8.04	16.08	-0.17	0.00	-261.36	0.00	1505.458
4	-0.50	100	50	8.04	16.08	-0.39	0.00	-261.36	0.00	669.092
5	-0.50	100	50	8.04	16.08	-0.39	0.00	-261.36	0.00	669.092

Combinazione n° 2 - STR (A1-M1-R3)

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
1	-0.75	100	50	8.04	16.08	0.00	0.00	0.00	0.00	100000.000
2	-0.67	100	50	8.04	16.08	-0.04	0.00	-261.36	0.00	6021.831
3	-0.58	100	50	8.04	16.08	-0.17	0.00	-261.36	0.00	1505.458
4	-0.50	100	50	8.04	16.08	-0.39	0.00	-261.36	0.00	669.092
5	-0.50	100	50	8.04	16.08	-0.39	0.00	-261.36	0.00	669.092

Combinazione n° 3 - STR (A1-M1-R3)_H + V

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
1	-0.75	100	50	8.04	16.08	0.00	0.00	0.00	0.00	100000.000
2	-0.67	100	50	8.04	16.08	-0.05	0.00	-261.36	0.00	5678.326
3	-0.58	100	50	8.04	16.08	-0.18	0.00	-261.36	0.00	1419.581
4	-0.50	100	50	8.04	16.08	-0.41	0.00	-261.36	0.00	630.925
5	-0.50	100	50	8.04	16.08	-0.41	0.00	-261.36	0.00	630.925

Combinazione n° 4 - STR (A1-M1-R3)_H - V

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
1	-0.75	100	50	8.04	16.08	0.00	0.00	0.00	0.00	100000.000
2	-0.67	100	50	8.04	16.08	-0.04	0.00	-261.36	0.00	6021.831
3	-0.58	100	50	8.04	16.08	-0.17	0.00	-261.36	0.00	1505.458
4	-0.50	100	50	8.04	16.08	-0.39	0.00	-261.36	0.00	669.092
5	-0.50	100	50	8.04	16.08	-0.39	0.00	-261.36	0.00	669.092

Combinazione n° 9 - ECC

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
1	-0.75	100	50	8.04	16.08	0.00	0.00	0.00	0.00	100000.000
2	-0.67	100	50	8.04	16.08	-0.04	0.00	-304.18	0.00	7008.401
3	-0.58	100	50	8.04	16.08	-0.17	0.00	-304.18	0.00	1752.100
4	-0.50	100	50	8.04	16.08	-0.39	0.00	-304.18	0.00	778.711
5	-0.50	100	50	8.04	16.08	-33.69	-33.30	-250.76	-247.85	7.443

Fondazione

Combinazione n° 1 - STR (A1-M1-R3)

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
1	-1.35	100	85	18.10	18.10	0.00	0.00	0.00	0.00	100000.000
2	-1.26	100	85	18.10	18.10	0.19	0.00	535.66	0.00	2852.390
3	-1.16	100	85	18.10	18.10	0.76	0.00	535.66	0.00	708.829
4	-1.07	100	85	18.10	18.10	1.71	0.00	535.66	0.00	313.161
5	-0.97	100	85	18.10	18.10	3.06	0.00	535.66	0.00	175.111
6	-0.88	100	85	18.10	18.10	4.81	0.00	535.66	0.00	111.412
7	-0.78	100	85	18.10	18.10	6.96	0.00	535.66	0.00	76.917
8	-0.69	100	85	18.10	18.10	9.53	0.00	535.66	0.00	56.182
9	-0.59	100	85	18.10	18.10	12.53	0.00	535.66	0.00	42.766
10	-0.50	100	85	18.10	18.10	15.94	0.00	535.66	0.00	33.596
11	0.25	100	85	18.10	18.10	-21.65	0.00	-535.66	0.00	24.745
12	0.35	100	85	18.10	18.10	-18.99	0.00	-535.66	0.00	28.202
13	0.45	100	85	18.10	18.10	-16.55	0.00	-535.66	0.00	32.359
14	0.55	100	85	18.10	18.10	-14.32	0.00	-535.66	0.00	37.406
15	0.65	100	85	18.10	18.10	-12.28	0.00	-535.66	0.00	43.606
16	0.75	100	85	18.10	18.10	-10.44	0.00	-535.66	0.00	51.320
17	0.85	100	85	18.10	18.10	-8.77	0.00	-535.66	0.00	61.058
18	0.95	100	85	18.10	18.10	-7.28	0.00	-535.66	0.00	73.561
19	1.05	100	85	18.10	18.10	-5.96	0.00	-535.66	0.00	89.930
20	1.15	100	85	18.10	18.10	-4.79	0.00	-535.66	0.00	111.866
21	1.25	100	85	18.10	18.10	-3.77	0.00	-535.66	0.00	142.089
22	1.35	100	85	18.10	18.10	-2.89	0.00	-535.66	0.00	185.172
23	1.45	100	85	18.10	18.10	-2.15	0.00	-535.66	0.00	249.260
24	1.55	100	85	18.10	18.10	-1.53	0.00	-535.66	0.00	349.982
25	1.65	100	85	18.10	18.10	-1.03	0.00	-535.66	0.00	520.404
26	1.75	100	85	18.10	18.10	-0.64	0.00	-535.66	0.00	840.535
27	1.85	100	85	18.10	18.10	-0.35	0.00	-535.66	0.00	1546.397
28	1.95	100	85	18.10	18.10	-0.15	0.00	-535.66	0.00	3605.124
29	2.05	100	85	18.10	18.10	-0.04	0.00	-535.66	0.00	14961.124
30	2.15	100	85	18.10	18.10	0.00	0.00	0.00	0.00	100000.000

Combinazione n° 2 - STR (A1-M1-R3)

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
1	-1.35	100	85	18.10	18.10	0.00	0.00	0.00	0.00	100000.000
2	-1.26	100	85	18.10	18.10	0.30	0.00	535.66	0.00	1762.498
3	-1.16	100	85	18.10	18.10	1.23	0.00	535.66	0.00	437.184
4	-1.07	100	85	18.10	18.10	2.78	0.00	535.66	0.00	192.798
5	-0.97	100	85	18.10	18.10	4.98	0.00	535.66	0.00	107.615
6	-0.88	100	85	18.10	18.10	7.84	0.00	535.66	0.00	68.348
7	-0.78	100	85	18.10	18.10	11.37	0.00	535.66	0.00	47.105
8	-0.69	100	85	18.10	18.10	15.60	0.00	535.66	0.00	34.347
9	-0.59	100	85	18.10	18.10	20.52	0.00	535.66	0.00	26.101
10	-0.50	100	85	18.10	18.10	26.17	0.00	535.66	0.00	20.470
11	0.25	100	85	18.10	18.10	-36.60	0.00	-535.66	0.00	14.636
12	0.35	100	85	18.10	18.10	-31.93	0.00	-535.66	0.00	16.777
13	0.45	100	85	18.10	18.10	-27.66	0.00	-535.66	0.00	19.367
14	0.55	100	85	18.10	18.10	-23.77	0.00	-535.66	0.00	22.532
15	0.65	100	85	18.10	18.10	-20.26	0.00	-535.66	0.00	26.445
16	0.75	100	85	18.10	18.10	-17.09	0.00	-535.66	0.00	31.346
17	0.85	100	85	18.10	18.10	-14.25	0.00	-535.66	0.00	37.578
18	0.95	100	85	18.10	18.10	-11.74	0.00	-535.66	0.00	45.638
19	1.05	100	85	18.10	18.10	-9.52	0.00	-535.66	0.00	56.273
20	1.15	100	85	18.10	18.10	-7.58	0.00	-535.66	0.00	70.640
21	1.25	100	85	18.10	18.10	-5.91	0.00	-535.66	0.00	90.603
22	1.35	100	85	18.10	18.10	-4.49	0.00	-535.66	0.00	119.310
23	1.45	100	85	18.10	18.10	-3.30	0.00	-535.66	0.00	162.407
24	1.55	100	85	18.10	18.10	-2.32	0.00	-535.66	0.00	230.789
25	1.65	100	85	18.10	18.10	-1.54	0.00	-535.66	0.00	347.646
26	1.75	100	85	18.10	18.10	-0.94	0.00	-535.66	0.00	569.429
27	1.85	100	85	18.10	18.10	-0.50	0.00	-535.66	0.00	1063.687
28	1.95	100	85	18.10	18.10	-0.21	0.00	-535.66	0.00	2521.230

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
29	2.05	100	85	18.10	18.10	-0.05	0.00	-535.66	0.00	10654.455
30	2.15	100	85	18.10	18.10	0.00	0.00	0.00	0.00	100000.000

Combinazione n° 3 - STR (A1-M1-R3) H + V

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
1	-1.35	100	85	18.10	18.10	0.00	0.00	0.00	0.00	100000.000
2	-1.26	100	85	18.10	18.10	0.33	0.00	535.66	0.00	1626.449
3	-1.16	100	85	18.10	18.10	1.31	0.00	535.66	0.00	407.994
4	-1.07	100	85	18.10	18.10	2.94	0.00	535.66	0.00	181.949
5	-0.97	100	85	18.10	18.10	5.22	0.00	535.66	0.00	102.697
6	-0.88	100	85	18.10	18.10	8.12	0.00	535.66	0.00	65.952
7	-0.78	100	85	18.10	18.10	11.66	0.00	535.66	0.00	45.958
8	-0.69	100	85	18.10	18.10	15.81	0.00	535.66	0.00	33.881
9	-0.59	100	85	18.10	18.10	20.58	0.00	535.66	0.00	26.031
10	-0.50	100	85	18.10	18.10	25.95	0.00	535.66	0.00	20.639
11	0.25	100	85	18.10	18.10	-10.28	0.00	-535.66	0.00	52.090
12	0.35	100	85	18.10	18.10	-9.66	0.00	-535.66	0.00	55.460
13	0.45	100	85	18.10	18.10	-9.00	0.00	-535.66	0.00	59.532
14	0.55	100	85	18.10	18.10	-8.31	0.00	-535.66	0.00	64.464
15	0.65	100	85	18.10	18.10	-7.60	0.00	-535.66	0.00	70.471
16	0.75	100	85	18.10	18.10	-6.88	0.00	-535.66	0.00	77.846
17	0.85	100	85	18.10	18.10	-6.16	0.00	-535.66	0.00	87.001
18	0.95	100	85	18.10	18.10	-5.44	0.00	-535.66	0.00	98.524
19	1.05	100	85	18.10	18.10	-4.73	0.00	-535.66	0.00	113.278
20	1.15	100	85	18.10	18.10	-4.04	0.00	-535.66	0.00	132.574
21	1.25	100	85	18.10	18.10	-3.38	0.00	-535.66	0.00	158.477
22	1.35	100	85	18.10	18.10	-2.76	0.00	-535.66	0.00	194.403
23	1.45	100	85	18.10	18.10	-2.17	0.00	-535.66	0.00	246.337
24	1.55	100	85	18.10	18.10	-1.65	0.00	-535.66	0.00	325.576
25	1.65	100	85	18.10	18.10	-1.18	0.00	-535.66	0.00	455.627
26	1.75	100	85	18.10	18.10	-0.77	0.00	-535.66	0.00	692.418
27	1.85	100	85	18.10	18.10	-0.45	0.00	-535.66	0.00	1198.147
28	1.95	100	85	18.10	18.10	-0.20	0.00	-535.66	0.00	2625.827
29	2.05	100	85	18.10	18.10	-0.05	0.00	-535.66	0.00	10237.468
30	2.15	100	85	18.10	18.10	0.00	0.00	0.00	0.00	100000.000

Combinazione n° 4 - STR (A1-M1-R3) H - V

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
1	-1.35	100	85	18.10	18.10	0.00	0.00	0.00	0.00	100000.000
2	-1.26	100	85	18.10	18.10	0.30	0.00	535.66	0.00	1813.845
3	-1.16	100	85	18.10	18.10	1.18	0.00	535.66	0.00	455.321
4	-1.07	100	85	18.10	18.10	2.64	0.00	535.66	0.00	203.198
5	-0.97	100	85	18.10	18.10	4.67	0.00	535.66	0.00	114.772
6	-0.88	100	85	18.10	18.10	7.26	0.00	535.66	0.00	73.759
7	-0.78	100	85	18.10	18.10	10.41	0.00	535.66	0.00	51.435
8	-0.69	100	85	18.10	18.10	14.12	0.00	535.66	0.00	37.947
9	-0.59	100	85	18.10	18.10	18.36	0.00	535.66	0.00	29.176
10	-0.50	100	85	18.10	18.10	23.14	0.00	535.66	0.00	23.150
11	0.25	100	85	18.10	18.10	-27.36	0.00	-535.66	0.00	19.577
12	0.35	100	85	18.10	18.10	-25.02	0.00	-535.66	0.00	21.409
13	0.45	100	85	18.10	18.10	-22.73	0.00	-535.66	0.00	23.564
14	0.55	100	85	18.10	18.10	-20.50	0.00	-535.66	0.00	26.126
15	0.65	100	85	18.10	18.10	-18.34	0.00	-535.66	0.00	29.204
16	0.75	100	85	18.10	18.10	-16.26	0.00	-535.66	0.00	32.946
17	0.85	100	85	18.10	18.10	-14.26	0.00	-535.66	0.00	37.561
18	0.95	100	85	18.10	18.10	-12.36	0.00	-535.66	0.00	43.347
19	1.05	100	85	18.10	18.10	-10.56	0.00	-535.66	0.00	50.739
20	1.15	100	85	18.10	18.10	-8.87	0.00	-535.66	0.00	60.403
21	1.25	100	85	18.10	18.10	-7.30	0.00	-535.66	0.00	73.387
22	1.35	100	85	18.10	18.10	-5.86	0.00	-535.66	0.00	91.428
23	1.45	100	85	18.10	18.10	-4.56	0.00	-535.66	0.00	117.576
24	1.55	100	85	18.10	18.10	-3.40	0.00	-535.66	0.00	157.607
25	1.65	100	85	18.10	18.10	-2.40	0.00	-535.66	0.00	223.564
26	1.75	100	85	18.10	18.10	-1.56	0.00	-535.66	0.00	344.176
27	1.85	100	85	18.10	18.10	-0.89	0.00	-535.66	0.00	602.991
28	1.95	100	85	18.10	18.10	-0.40	0.00	-535.66	0.00	1337.329
29	2.05	100	85	18.10	18.10	-0.10	0.00	-535.66	0.00	5273.901
30	2.15	100	85	18.10	18.10	0.00	0.00	0.00	0.00	100000.000

Combinazione n° 9 - ECC

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
1	-1.35	100	85	18.10	18.10	0.00	0.00	0.00	0.00	100000.000
2	-1.26	100	85	18.10	18.10	0.51	0.00	619.82	0.00	1206.799
3	-1.16	100	85	18.10	18.10	2.03	0.00	619.82	0.00	304.633
4	-1.07	100	85	18.10	18.10	4.53	0.00	619.82	0.00	136.722
5	-0.97	100	85	18.10	18.10	7.98	0.00	619.82	0.00	77.669
6	-0.88	100	85	18.10	18.10	12.35	0.00	619.82	0.00	50.206
7	-0.78	100	85	18.10	18.10	17.60	0.00	619.82	0.00	35.218
8	-0.69	100	85	18.10	18.10	23.71	0.00	619.82	0.00	26.139
9	-0.59	100	85	18.10	18.10	30.66	0.00	619.82	0.00	20.219
10	-0.50	100	85	18.10	18.10	38.40	0.00	619.82	0.00	16.142
11	0.25	100	85	18.10	18.10	-75.40	0.00	-619.82	0.00	8.220
12	0.35	100	85	18.10	18.10	-69.58	0.00	-619.82	0.00	8.908
13	0.45	100	85	18.10	18.10	-63.76	0.00	-619.82	0.00	9.721
14	0.55	100	85	18.10	18.10	-57.98	0.00	-619.82	0.00	10.690
15	0.65	100	85	18.10	18.10	-52.28	0.00	-619.82	0.00	11.856
16	0.75	100	85	18.10	18.10	-46.69	0.00	-619.82	0.00	13.274
17	0.85	100	85	18.10	18.10	-41.25	0.00	-619.82	0.00	15.025
18	0.95	100	85	18.10	18.10	-36.00	0.00	-619.82	0.00	17.219
19	1.05	100	85	18.10	18.10	-30.96	0.00	-619.82	0.00	20.022
20	1.15	100	85	18.10	18.10	-26.17	0.00	-619.82	0.00	23.683
21	1.25	100	85	18.10	18.10	-21.67	0.00	-619.82	0.00	28.597
22	1.35	100	85	18.10	18.10	-17.50	0.00	-619.82	0.00	35.416
23	1.45	100	85	18.10	18.10	-13.69	0.00	-619.82	0.00	45.286
24	1.55	100	85	18.10	18.10	-10.27	0.00	-619.82	0.00	60.370
25	1.65	100	85	18.10	18.10	-7.28	0.00	-619.82	0.00	85.180
26	1.75	100	85	18.10	18.10	-4.75	0.00	-619.82	0.00	130.462
27	1.85	100	85	18.10	18.10	-2.73	0.00	-619.82	0.00	227.435
28	1.95	100	85	18.10	18.10	-1.23	0.00	-619.82	0.00	501.996
29	2.05	100	85	18.10	18.10	-0.31	0.00	-619.82	0.00	1970.508
30	2.15	100	85	18.10	18.10	0.00	0.00	0.00	0.00	100000.000

Verifiche a taglio

Simbologia adottata

n° (o Is)	indice sezione
Y	ordinata sezione espressa in [m]
B	larghezza sezione espresso in [cm]
H	altezza sezione espressa in [cm]
A_{sw}	area ferri a taglio espresso in [cmq]
cotgθ	inclinazione delle bielle compresse, θ inclinazione dei puntoni di calcestruzzo
V_{Rcd}	resistenza di progetto a 'taglio compressione' espressa in [kN]
V_{Rsd}	resistenza di progetto a 'taglio trazione' espressa in [kN]
V_{Rd}	resistenza di progetto a taglio espresso in [kN]. Per elementi con armature trasversali resistenti al taglio (A_{sw}>0.0) $V_{Rd}=\min(V_{Rcd}, V_{Rsd})$.
T	taglio agente espressa in [kN]
FS	fattore di sicurezza (rapporto tra sollecitazione resistente e sollecitazione agente)

Paramento

Combinazione n° 1 - STR (A1-M1-R3)

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
1	0.00	100	50	0.00	0.00	--	0.00	0.00	188.28	0.00	100.000
2	-0.10	100	51	0.00	0.00	--	0.00	0.00	190.08	0.03	5948.822
3	-0.20	100	52	0.00	0.00	--	0.00	0.00	191.88	0.13	1501.230
4	-0.30	100	53	0.00	0.00	--	0.00	0.00	193.66	0.29	675.263
5	-0.40	100	53	0.00	0.00	--	0.00	0.00	195.44	0.51	384.637
6	-0.50	100	54	0.00	0.00	--	0.00	0.00	197.21	0.79	248.950
7	-0.60	100	55	0.00	0.00	--	0.00	0.00	198.97	1.14	174.638
8	-0.70	100	56	0.00	0.00	--	0.00	0.00	200.72	1.55	129.531

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
9	-0.80	100	57	0.00	0.00	--	0.00	0.00	202.47	2.02	100.083
10	-0.90	100	58	0.00	0.00	--	0.00	0.00	204.21	2.56	79.784
11	-1.00	100	58	0.00	0.00	--	0.00	0.00	205.94	3.16	65.189
12	-1.10	100	59	0.00	0.00	--	0.00	0.00	207.67	3.82	54.336
13	-1.20	100	60	0.00	0.00	--	0.00	0.00	209.39	4.55	46.042
14	-1.30	100	61	0.00	0.00	--	0.00	0.00	211.10	5.34	39.556
15	-1.40	100	62	0.00	0.00	--	0.00	0.00	212.81	6.19	34.386
16	-1.50	100	63	0.00	0.00	--	0.00	0.00	214.52	7.10	30.196
17	-1.60	100	63	0.00	0.00	--	0.00	0.00	216.22	8.08	26.751
18	-1.70	100	64	0.00	0.00	--	0.00	0.00	217.91	9.12	23.883
19	-1.80	100	65	0.00	0.00	--	0.00	0.00	286.51	10.23	28.011
20	-1.90	100	66	0.00	0.00	--	0.00	0.00	288.65	11.40	25.328
21	-2.00	100	67	0.00	0.00	--	0.00	0.00	290.77	12.63	23.028
22	-2.10	100	68	0.00	0.00	--	0.00	0.00	292.90	13.92	21.040
23	-2.20	100	68	0.00	0.00	--	0.00	0.00	295.01	15.28	19.309
24	-2.30	100	69	0.00	0.00	--	0.00	0.00	297.12	16.70	17.793
25	-2.40	100	70	0.00	0.00	--	0.00	0.00	287.91	18.18	15.835
26	-2.50	100	71	0.00	0.00	--	0.00	0.00	289.93	19.73	14.696
27	-2.60	100	72	0.00	0.00	--	0.00	0.00	291.95	21.34	13.682
28	-2.70	100	73	0.00	0.00	--	0.00	0.00	293.97	23.01	12.775
29	-2.80	100	74	0.00	0.00	--	0.00	0.00	295.97	24.75	11.960
30	-2.90	100	74	0.00	0.00	--	0.00	0.00	297.98	26.55	11.225
31	-2.99	100	75	0.00	0.00	--	0.00	0.00	299.80	28.41	10.554

Combinazione n° 2 - STR (A1-M1-R3)

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
1	0.00	100	50	0.00	0.00	--	0.00	0.00	188.28	0.00	100.000
2	-0.10	100	51	0.00	0.00	--	0.00	0.00	190.08	1.50	126.418
3	-0.20	100	52	0.00	0.00	--	0.00	0.00	191.88	3.07	62.477
4	-0.30	100	53	0.00	0.00	--	0.00	0.00	193.66	4.70	41.188
5	-0.40	100	53	0.00	0.00	--	0.00	0.00	195.44	6.39	30.562
6	-0.50	100	54	0.00	0.00	--	0.00	0.00	197.21	8.15	24.195
7	-0.60	100	55	0.00	0.00	--	0.00	0.00	198.97	9.97	19.958
8	-0.70	100	56	0.00	0.00	--	0.00	0.00	200.72	11.85	16.936
9	-0.80	100	57	0.00	0.00	--	0.00	0.00	202.47	13.80	14.675
10	-0.90	100	58	0.00	0.00	--	0.00	0.00	204.21	15.80	12.921
11	-1.00	100	58	0.00	0.00	--	0.00	0.00	205.94	17.88	11.520
12	-1.10	100	59	0.00	0.00	--	0.00	0.00	207.67	20.01	10.378
13	-1.20	100	60	0.00	0.00	--	0.00	0.00	209.39	22.21	9.429
14	-1.30	100	61	0.00	0.00	--	0.00	0.00	211.10	24.47	8.627
15	-1.40	100	62	0.00	0.00	--	0.00	0.00	212.81	26.79	7.943
16	-1.50	100	63	0.00	0.00	--	0.00	0.00	214.52	29.18	7.352
17	-1.60	100	63	0.00	0.00	--	0.00	0.00	216.22	31.63	6.836
18	-1.70	100	64	0.00	0.00	--	0.00	0.00	217.91	34.14	6.382
19	-1.80	100	65	0.00	0.00	--	0.00	0.00	286.51	36.72	7.803
20	-1.90	100	66	0.00	0.00	--	0.00	0.00	288.65	39.36	7.334
21	-2.00	100	67	0.00	0.00	--	0.00	0.00	290.77	42.06	6.913
22	-2.10	100	68	0.00	0.00	--	0.00	0.00	292.90	44.83	6.534
23	-2.20	100	68	0.00	0.00	--	0.00	0.00	295.01	47.66	6.190
24	-2.30	100	69	0.00	0.00	--	0.00	0.00	297.12	50.55	5.878
25	-2.40	100	70	0.00	0.00	--	0.00	0.00	287.91	53.50	5.381
26	-2.50	100	71	0.00	0.00	--	0.00	0.00	289.93	56.52	5.130
27	-2.60	100	72	0.00	0.00	--	0.00	0.00	291.95	59.60	4.898
28	-2.70	100	73	0.00	0.00	--	0.00	0.00	293.97	62.75	4.685
29	-2.80	100	74	0.00	0.00	--	0.00	0.00	295.97	65.95	4.488
30	-2.90	100	74	0.00	0.00	--	0.00	0.00	297.98	69.22	4.305
31	-2.99	100	75	0.00	0.00	--	0.00	0.00	299.80	72.56	4.132

Combinazione n° 3 - STR (A1-M1-R3) H + V

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
1	0.00	100	50	0.00	0.00	--	0.00	0.00	188.31	0.00	100.000
2	-0.10	100	51	0.00	0.00	--	0.00	0.00	190.12	0.42	451.568
3	-0.20	100	52	0.00	0.00	--	0.00	0.00	191.92	0.89	215.179
4	-0.30	100	53	0.00	0.00	--	0.00	0.00	193.72	1.41	137.183
5	-0.40	100	53	0.00	0.00	--	0.00	0.00	195.51	1.98	98.689
6	-0.50	100	54	0.00	0.00	--	0.00	0.00	197.28	2.60	75.910
7	-0.60	100	55	0.00	0.00	--	0.00	0.00	199.06	3.27	60.946
8	-0.70	100	56	0.00	0.00	--	0.00	0.00	200.82	3.98	50.424
9	-0.80	100	57	0.00	0.00	--	0.00	0.00	202.58	4.75	42.663
10	-0.90	100	58	0.00	0.00	--	0.00	0.00	204.33	5.56	36.727
11	-1.00	100	58	0.00	0.00	--	0.00	0.00	206.08	6.43	32.060
12	-1.10	100	59	0.00	0.00	--	0.00	0.00	207.82	7.34	28.307
13	-1.20	100	60	0.00	0.00	--	0.00	0.00	209.55	8.30	25.233
14	-1.30	100	61	0.00	0.00	--	0.00	0.00	211.28	9.32	22.677
15	-1.40	100	62	0.00	0.00	--	0.00	0.00	213.00	10.38	20.524

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
16	-1.50	100	63	0.00	0.00	--	0.00	0.00	214.72	11.49	18.689
17	-1.60	100	63	0.00	0.00	--	0.00	0.00	216.43	12.65	17.110
18	-1.70	100	64	0.00	0.00	--	0.00	0.00	218.14	13.86	15.740
19	-1.80	100	65	0.00	0.00	--	0.00	0.00	286.75	15.12	18.968
20	-1.90	100	66	0.00	0.00	--	0.00	0.00	288.90	16.43	17.588
21	-2.00	100	67	0.00	0.00	--	0.00	0.00	291.05	17.78	16.366
22	-2.10	100	68	0.00	0.00	--	0.00	0.00	293.18	19.19	15.278
23	-2.20	100	68	0.00	0.00	--	0.00	0.00	295.31	20.65	14.304
24	-2.30	100	69	0.00	0.00	--	0.00	0.00	297.43	22.15	13.428
25	-2.40	100	70	0.00	0.00	--	0.00	0.00	288.24	23.71	12.159
26	-2.50	100	71	0.00	0.00	--	0.00	0.00	290.28	25.31	11.469
27	-2.60	100	72	0.00	0.00	--	0.00	0.00	292.31	26.96	10.842
28	-2.70	100	73	0.00	0.00	--	0.00	0.00	294.34	28.66	10.268
29	-2.80	100	74	0.00	0.00	--	0.00	0.00	296.37	30.42	9.744
30	-2.90	100	74	0.00	0.00	--	0.00	0.00	298.38	32.22	9.262
31	-2.99	100	75	0.00	0.00	--	0.00	0.00	300.23	34.07	8.813

Combinazione n° 4 - STR (A1-M1-R3) H - V

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
1	0.00	100	50	0.00	0.00	--	0.00	0.00	188.28	0.00	100.000
2	-0.10	100	51	0.00	0.00	--	0.00	0.00	190.07	0.34	559.749
3	-0.20	100	52	0.00	0.00	--	0.00	0.00	191.86	0.73	263.170
4	-0.30	100	53	0.00	0.00	--	0.00	0.00	193.63	1.17	165.812
5	-0.40	100	53	0.00	0.00	--	0.00	0.00	195.39	1.66	118.048
6	-0.50	100	54	0.00	0.00	--	0.00	0.00	197.15	2.19	89.955
7	-0.60	100	55	0.00	0.00	--	0.00	0.00	198.90	2.78	71.613
8	-0.70	100	56	0.00	0.00	--	0.00	0.00	200.64	3.41	58.797
9	-0.80	100	57	0.00	0.00	--	0.00	0.00	202.38	4.10	49.399
10	-0.90	100	58	0.00	0.00	--	0.00	0.00	204.11	4.83	42.254
11	-1.00	100	58	0.00	0.00	--	0.00	0.00	205.83	5.61	36.667
12	-1.10	100	59	0.00	0.00	--	0.00	0.00	207.54	6.45	32.199
13	-1.20	100	60	0.00	0.00	--	0.00	0.00	209.25	7.33	28.558
14	-1.30	100	61	0.00	0.00	--	0.00	0.00	210.95	8.26	25.545
15	-1.40	100	62	0.00	0.00	--	0.00	0.00	212.65	9.24	23.019
16	-1.50	100	63	0.00	0.00	--	0.00	0.00	214.34	10.27	20.876
17	-1.60	100	63	0.00	0.00	--	0.00	0.00	216.03	11.35	19.040
18	-1.70	100	64	0.00	0.00	--	0.00	0.00	217.71	12.47	17.453
19	-1.80	100	65	0.00	0.00	--	0.00	0.00	286.29	13.65	20.972
20	-1.90	100	66	0.00	0.00	--	0.00	0.00	288.42	14.88	19.385
21	-2.00	100	67	0.00	0.00	--	0.00	0.00	290.53	16.15	17.985
22	-2.10	100	68	0.00	0.00	--	0.00	0.00	292.64	17.48	16.742
23	-2.20	100	68	0.00	0.00	--	0.00	0.00	294.74	18.85	15.633
24	-2.30	100	69	0.00	0.00	--	0.00	0.00	296.83	20.28	14.638
25	-2.40	100	70	0.00	0.00	--	0.00	0.00	287.61	21.75	13.223
26	-2.50	100	71	0.00	0.00	--	0.00	0.00	289.61	23.27	12.444
27	-2.60	100	72	0.00	0.00	--	0.00	0.00	291.62	24.84	11.738
28	-2.70	100	73	0.00	0.00	--	0.00	0.00	293.62	26.47	11.094
29	-2.80	100	74	0.00	0.00	--	0.00	0.00	295.61	28.14	10.506
30	-2.90	100	74	0.00	0.00	--	0.00	0.00	297.60	29.86	9.968
31	-2.99	100	75	0.00	0.00	--	0.00	0.00	299.40	31.62	9.468

Combinazione n° 9 - ECC

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
1	0.00	100	50	0.00	0.00	--	0.00	0.00	188.28	33.30	5.654
2	-0.10	100	51	0.00	0.00	--	0.00	0.00	190.08	33.32	5.704
3	-0.20	100	52	0.00	0.00	--	0.00	0.00	191.88	33.39	5.746
4	-0.30	100	53	0.00	0.00	--	0.00	0.00	193.66	33.51	5.779
5	-0.40	100	53	0.00	0.00	--	0.00	0.00	195.44	33.68	5.803
6	-0.50	100	54	0.00	0.00	--	0.00	0.00	197.21	33.89	5.820
7	-0.60	100	55	0.00	0.00	--	0.00	0.00	198.97	34.14	5.827
8	-0.70	100	56	0.00	0.00	--	0.00	0.00	200.72	34.45	5.827
9	-0.80	100	57	0.00	0.00	--	0.00	0.00	202.47	34.80	5.818
10	-0.90	100	58	0.00	0.00	--	0.00	0.00	204.21	35.20	5.802
11	-1.00	100	58	0.00	0.00	--	0.00	0.00	205.94	35.64	5.778
12	-1.10	100	59	0.00	0.00	--	0.00	0.00	207.67	36.13	5.748
13	-1.20	100	60	0.00	0.00	--	0.00	0.00	209.39	36.67	5.710
14	-1.30	100	61	0.00	0.00	--	0.00	0.00	211.10	37.25	5.667
15	-1.40	100	62	0.00	0.00	--	0.00	0.00	212.81	37.88	5.617
16	-1.50	100	63	0.00	0.00	--	0.00	0.00	214.52	38.56	5.563
17	-1.60	100	63	0.00	0.00	--	0.00	0.00	216.22	39.29	5.504
18	-1.70	100	64	0.00	0.00	--	0.00	0.00	217.91	40.06	5.440
19	-1.80	100	65	0.00	0.00	--	0.00	0.00	286.51	40.88	7.009
20	-1.90	100	66	0.00	0.00	--	0.00	0.00	288.65	41.74	6.915
21	-2.00	100	67	0.00	0.00	--	0.00	0.00	290.77	42.65	6.817
22	-2.10	100	68	0.00	0.00	--	0.00	0.00	292.90	43.61	6.716

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
23	-2.20	100	68	0.00	0.00	--	0.00	0.00	295.01	44.62	6.612
24	-2.30	100	69	0.00	0.00	--	0.00	0.00	297.12	45.67	6.506
25	-2.40	100	70	0.00	0.00	--	0.00	0.00	287.91	46.77	6.156
26	-2.50	100	71	0.00	0.00	--	0.00	0.00	289.93	47.91	6.051
27	-2.60	100	72	0.00	0.00	--	0.00	0.00	291.95	49.11	5.945
28	-2.70	100	73	0.00	0.00	--	0.00	0.00	293.97	50.34	5.839
29	-2.80	100	74	0.00	0.00	--	0.00	0.00	295.97	51.63	5.733
30	-2.90	100	74	0.00	0.00	--	0.00	0.00	297.98	52.96	5.626
31	-2.99	100	75	0.00	0.00	--	0.00	0.00	299.80	54.34	5.517

Mensola valle

Combinazione n° 1 - STR (A1-M1-R3)

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
1	-0.75	100	50	0.00	0.00	--	0.00	0.00	215.05	0.00	100.000
2	-0.67	100	50	0.00	0.00	--	0.00	0.00	215.05	1.04	206.445
3	-0.58	100	50	0.00	0.00	--	0.00	0.00	215.05	2.08	103.223
4	-0.50	100	50	0.00	0.00	--	0.00	0.00	215.05	3.13	68.815
5	-0.50	100	50	0.00	0.00	--	0.00	0.00	215.05	3.13	68.815

Combinazione n° 2 - STR (A1-M1-R3)

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
1	-0.75	100	50	0.00	0.00	--	0.00	0.00	215.05	0.00	100.000
2	-0.67	100	50	0.00	0.00	--	0.00	0.00	215.05	1.04	206.445
3	-0.58	100	50	0.00	0.00	--	0.00	0.00	215.05	2.08	103.223
4	-0.50	100	50	0.00	0.00	--	0.00	0.00	215.05	3.13	68.815
5	-0.50	100	50	0.00	0.00	--	0.00	0.00	215.05	3.13	68.815

Combinazione n° 3 - STR (A1-M1-R3) H + V

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
1	-0.75	100	50	0.00	0.00	--	0.00	0.00	215.05	0.00	100.000
2	-0.67	100	50	0.00	0.00	--	0.00	0.00	215.05	1.10	194.669
3	-0.58	100	50	0.00	0.00	--	0.00	0.00	215.05	2.21	97.335
4	-0.50	100	50	0.00	0.00	--	0.00	0.00	215.05	3.31	64.890
5	-0.50	100	50	0.00	0.00	--	0.00	0.00	215.05	3.31	64.890

Combinazione n° 4 - STR (A1-M1-R3) H - V

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
1	-0.75	100	50	0.00	0.00	--	0.00	0.00	215.05	0.00	100.000
2	-0.67	100	50	0.00	0.00	--	0.00	0.00	215.05	1.04	206.445
3	-0.58	100	50	0.00	0.00	--	0.00	0.00	215.05	2.08	103.223
4	-0.50	100	50	0.00	0.00	--	0.00	0.00	215.05	3.13	68.815
5	-0.50	100	50	0.00	0.00	--	0.00	0.00	215.05	3.13	68.815

Combinazione n° 9 - ECC

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
1	-0.75	100	50	0.00	0.00	--	0.00	0.00	215.05	0.00	100.000
2	-0.67	100	50	0.00	0.00	--	0.00	0.00	215.05	1.04	206.445
3	-0.58	100	50	0.00	0.00	--	0.00	0.00	215.05	2.08	103.223
4	-0.50	100	50	0.00	0.00	--	0.00	0.00	215.05	3.13	68.815
5	-0.50	100	50	0.00	0.00	--	0.00	0.00	210.55	3.13	67.377

Fondazione

Combinazione n° 1 - STR (A1-M1-R3)

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
1	-1.35	100	85	0.00	0.00	--	0.00	0.00	325.13	0.00	100.000
2	-1.26	100	85	0.00	0.00	--	0.00	0.00	325.13	-3.99	81.511
3	-1.16	100	85	0.00	0.00	--	0.00	0.00	325.13	-8.05	40.392
4	-1.07	100	85	0.00	0.00	--	0.00	0.00	325.13	-12.18	26.690
5	-0.97	100	85	0.00	0.00	--	0.00	0.00	325.13	-16.39	19.842
6	-0.88	100	85	0.00	0.00	--	0.00	0.00	325.13	-20.66	15.735
7	-0.78	100	85	0.00	0.00	--	0.00	0.00	325.13	-25.01	13.000
8	-0.69	100	85	0.00	0.00	--	0.00	0.00	325.13	-29.43	11.048
9	-0.59	100	85	0.00	0.00	--	0.00	0.00	325.13	-33.92	9.585
10	-0.50	100	85	0.00	0.00	--	0.00	0.00	325.13	-38.49	8.448
11	0.25	100	85	0.00	0.00	--	0.00	0.00	325.13	-27.63	11.766
12	0.35	100	85	0.00	0.00	--	0.00	0.00	325.13	-25.45	12.774
13	0.45	100	85	0.00	0.00	--	0.00	0.00	325.13	-23.35	13.922
14	0.55	100	85	0.00	0.00	--	0.00	0.00	325.13	-21.34	15.238
15	0.65	100	85	0.00	0.00	--	0.00	0.00	325.13	-19.40	16.760
16	0.75	100	85	0.00	0.00	--	0.00	0.00	325.13	-17.54	18.535
17	0.85	100	85	0.00	0.00	--	0.00	0.00	325.13	-15.77	20.623
18	0.95	100	85	0.00	0.00	--	0.00	0.00	325.13	-14.07	23.109
19	1.05	100	85	0.00	0.00	--	0.00	0.00	325.13	-12.45	26.106
20	1.15	100	85	0.00	0.00	--	0.00	0.00	325.13	-10.92	29.776
21	1.25	100	85	0.00	0.00	--	0.00	0.00	325.13	-9.46	34.351
22	1.35	100	85	0.00	0.00	--	0.00	0.00	325.13	-8.09	40.184
23	1.45	100	85	0.00	0.00	--	0.00	0.00	325.13	-6.80	47.829
24	1.55	100	85	0.00	0.00	--	0.00	0.00	325.13	-5.59	58.215
25	1.65	100	85	0.00	0.00	--	0.00	0.00	325.13	-4.45	73.016
26	1.75	100	85	0.00	0.00	--	0.00	0.00	325.13	-3.40	95.593
27	1.85	100	85	0.00	0.00	--	0.00	0.00	325.13	-2.43	133.793
28	1.95	100	85	0.00	0.00	--	0.00	0.00	325.13	-1.54	211.188
29	2.05	100	85	0.00	0.00	--	0.00	0.00	325.13	-0.73	445.692
30	2.15	100	85	0.00	0.00	--	0.00	0.00	325.13	0.00	100.000

Combinazione n° 2 - STR (A1-M1-R3)

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
1	-1.35	100	85	0.00	0.00	--	0.00	0.00	325.13	0.00	100.000
2	-1.26	100	85	0.00	0.00	--	0.00	0.00	325.13	-6.46	50.319
3	-1.16	100	85	0.00	0.00	--	0.00	0.00	325.13	-13.07	24.867
4	-1.07	100	85	0.00	0.00	--	0.00	0.00	325.13	-19.84	16.388
5	-0.97	100	85	0.00	0.00	--	0.00	0.00	325.13	-26.76	12.151
6	-0.88	100	85	0.00	0.00	--	0.00	0.00	325.13	-33.83	9.612
7	-0.78	100	85	0.00	0.00	--	0.00	0.00	325.13	-41.05	7.921
8	-0.69	100	85	0.00	0.00	--	0.00	0.00	325.13	-48.42	6.715
9	-0.59	100	85	0.00	0.00	--	0.00	0.00	325.13	-55.95	5.812
10	-0.50	100	85	0.00	0.00	--	0.00	0.00	325.13	-63.62	5.110
11	0.25	100	85	0.00	0.00	--	0.00	0.00	325.13	-48.78	6.666
12	0.35	100	85	0.00	0.00	--	0.00	0.00	325.13	-44.68	7.278
13	0.45	100	85	0.00	0.00	--	0.00	0.00	325.13	-40.75	7.980
14	0.55	100	85	0.00	0.00	--	0.00	0.00	325.13	-36.99	8.791
15	0.65	100	85	0.00	0.00	--	0.00	0.00	325.13	-33.40	9.736
16	0.75	100	85	0.00	0.00	--	0.00	0.00	325.13	-29.98	10.846
17	0.85	100	85	0.00	0.00	--	0.00	0.00	325.13	-26.73	12.164
18	0.95	100	85	0.00	0.00	--	0.00	0.00	325.13	-23.65	13.747
19	1.05	100	85	0.00	0.00	--	0.00	0.00	325.13	-20.74	15.674
20	1.15	100	85	0.00	0.00	--	0.00	0.00	325.13	-18.01	18.058
21	1.25	100	85	0.00	0.00	--	0.00	0.00	325.13	-15.44	21.060
22	1.35	100	85	0.00	0.00	--	0.00	0.00	325.13	-13.04	24.931
23	1.45	100	85	0.00	0.00	--	0.00	0.00	325.13	-10.81	30.063
24	1.55	100	85	0.00	0.00	--	0.00	0.00	325.13	-8.76	37.120
25	1.65	100	85	0.00	0.00	--	0.00	0.00	325.13	-6.87	47.305
26	1.75	100	85	0.00	0.00	--	0.00	0.00	325.13	-5.16	63.037
27	1.85	100	85	0.00	0.00	--	0.00	0.00	325.13	-3.61	89.994
28	1.95	100	85	0.00	0.00	--	0.00	0.00	325.13	-2.24	145.265
29	2.05	100	85	0.00	0.00	--	0.00	0.00	325.13	-1.03	314.466
30	2.15	100	85	0.00	0.00	--	0.00	0.00	325.13	0.00	100.000

Combinazione n° 3 - STR (A1-M1-R3) H + V

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
1	-1.35	100	85	0.00	0.00	--	0.00	0.00	325.13	0.00	100.000

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
2	-1.26	100	85	0.00	0.00	--	0.00	0.00	325.13	-6.96	46.697
3	-1.16	100	85	0.00	0.00	--	0.00	0.00	325.13	-13.85	23.468
4	-1.07	100	85	0.00	0.00	--	0.00	0.00	325.13	-20.68	15.726
5	-0.97	100	85	0.00	0.00	--	0.00	0.00	325.13	-27.43	11.855
6	-0.88	100	85	0.00	0.00	--	0.00	0.00	325.13	-34.10	9.533
7	-0.78	100	85	0.00	0.00	--	0.00	0.00	325.13	-40.71	7.986
8	-0.69	100	85	0.00	0.00	--	0.00	0.00	325.13	-47.25	6.881
9	-0.59	100	85	0.00	0.00	--	0.00	0.00	325.13	-53.72	6.053
10	-0.50	100	85	0.00	0.00	--	0.00	0.00	325.13	-60.11	5.409
11	0.25	100	85	0.00	0.00	--	0.00	0.00	325.13	-6.04	53.796
12	0.35	100	85	0.00	0.00	--	0.00	0.00	325.13	-6.44	50.479
13	0.45	100	85	0.00	0.00	--	0.00	0.00	325.13	-6.76	48.107
14	0.55	100	85	0.00	0.00	--	0.00	0.00	325.13	-7.00	46.470
15	0.65	100	85	0.00	0.00	--	0.00	0.00	325.13	-7.16	45.440
16	0.75	100	85	0.00	0.00	--	0.00	0.00	325.13	-7.23	44.942
17	0.85	100	85	0.00	0.00	--	0.00	0.00	325.13	-7.23	44.944
18	0.95	100	85	0.00	0.00	--	0.00	0.00	325.13	-7.15	45.445
19	1.05	100	85	0.00	0.00	--	0.00	0.00	325.13	-7.00	46.479
20	1.15	100	85	0.00	0.00	--	0.00	0.00	325.13	-6.76	48.120
21	1.25	100	85	0.00	0.00	--	0.00	0.00	325.13	-6.44	50.498
22	1.35	100	85	0.00	0.00	--	0.00	0.00	325.13	-6.04	53.821
23	1.45	100	85	0.00	0.00	--	0.00	0.00	325.13	-5.56	58.435
24	1.55	100	85	0.00	0.00	--	0.00	0.00	325.13	-5.01	64.929
25	1.65	100	85	0.00	0.00	--	0.00	0.00	325.13	-4.37	74.374
26	1.75	100	85	0.00	0.00	--	0.00	0.00	325.13	-3.66	88.927
27	1.85	100	85	0.00	0.00	--	0.00	0.00	325.13	-2.86	113.630
28	1.95	100	85	0.00	0.00	--	0.00	0.00	325.13	-1.99	163.628
29	2.05	100	85	0.00	0.00	--	0.00	0.00	325.13	-1.03	314.673
30	2.15	100	85	0.00	0.00	--	0.00	0.00	325.13	0.00	100.000

Combinazione n° 4 - STR (A1-M1-R3) H - V

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
1	-1.35	100	85	0.00	0.00	--	0.00	0.00	325.13	0.00	100.000
2	-1.26	100	85	0.00	0.00	--	0.00	0.00	325.13	-6.24	52.096
3	-1.16	100	85	0.00	0.00	--	0.00	0.00	325.13	-12.41	26.209
4	-1.07	100	85	0.00	0.00	--	0.00	0.00	325.13	-18.49	17.581
5	-0.97	100	85	0.00	0.00	--	0.00	0.00	325.13	-24.50	13.268
6	-0.88	100	85	0.00	0.00	--	0.00	0.00	325.13	-30.44	10.681
7	-0.78	100	85	0.00	0.00	--	0.00	0.00	325.13	-36.30	8.958
8	-0.69	100	85	0.00	0.00	--	0.00	0.00	325.13	-42.08	7.727
9	-0.59	100	85	0.00	0.00	--	0.00	0.00	325.13	-47.78	6.804
10	-0.50	100	85	0.00	0.00	--	0.00	0.00	325.13	-53.41	6.087
11	0.25	100	85	0.00	0.00	--	0.00	0.00	325.13	-23.63	13.758
12	0.35	100	85	0.00	0.00	--	0.00	0.00	325.13	-23.16	14.037
13	0.45	100	85	0.00	0.00	--	0.00	0.00	325.13	-22.61	14.383
14	0.55	100	85	0.00	0.00	--	0.00	0.00	325.13	-21.96	14.804
15	0.65	100	85	0.00	0.00	--	0.00	0.00	325.13	-21.23	15.311
16	0.75	100	85	0.00	0.00	--	0.00	0.00	325.13	-20.42	15.922
17	0.85	100	85	0.00	0.00	--	0.00	0.00	325.13	-19.52	16.656
18	0.95	100	85	0.00	0.00	--	0.00	0.00	325.13	-18.53	17.542
19	1.05	100	85	0.00	0.00	--	0.00	0.00	325.13	-17.46	18.619
20	1.15	100	85	0.00	0.00	--	0.00	0.00	325.13	-16.30	19.941
21	1.25	100	85	0.00	0.00	--	0.00	0.00	325.13	-15.06	21.588
22	1.35	100	85	0.00	0.00	--	0.00	0.00	325.13	-13.73	23.679
23	1.45	100	85	0.00	0.00	--	0.00	0.00	325.13	-12.32	26.401
24	1.55	100	85	0.00	0.00	--	0.00	0.00	325.13	-10.81	30.067
25	1.65	100	85	0.00	0.00	--	0.00	0.00	325.13	-9.23	35.240
26	1.75	100	85	0.00	0.00	--	0.00	0.00	325.13	-7.55	43.048
27	1.85	100	85	0.00	0.00	--	0.00	0.00	325.13	-5.79	56.121
28	1.95	100	85	0.00	0.00	--	0.00	0.00	325.13	-3.95	82.349
29	2.05	100	85	0.00	0.00	--	0.00	0.00	325.13	-2.02	161.191
30	2.15	100	85	0.00	0.00	--	0.00	0.00	325.13	0.00	100.000

Combinazione n° 9 - ECC

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
1	-1.35	100	85	0.00	0.00	--	0.00	0.00	325.13	0.00	100.000
2	-1.26	100	85	0.00	0.00	--	0.00	0.00	325.13	-10.82	30.038
3	-1.16	100	85	0.00	0.00	--	0.00	0.00	325.13	-21.33	15.240
4	-1.07	100	85	0.00	0.00	--	0.00	0.00	325.13	-31.53	10.312
5	-0.97	100	85	0.00	0.00	--	0.00	0.00	325.13	-41.41	7.851
6	-0.88	100	85	0.00	0.00	--	0.00	0.00	325.13	-50.98	6.378
7	-0.78	100	85	0.00	0.00	--	0.00	0.00	325.13	-60.23	5.398
8	-0.69	100	85	0.00	0.00	--	0.00	0.00	325.13	-69.17	4.700
9	-0.59	100	85	0.00	0.00	--	0.00	0.00	325.13	-77.80	4.179
10	-0.50	100	85	0.00	0.00	--	0.00	0.00	325.13	-86.11	3.776

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
11	0.25	100	85	0.00	0.00	--	0.00	0.00	325.13	-58.18	5.588
12	0.35	100	85	0.00	0.00	--	0.00	0.00	325.13	-58.29	5.578
13	0.45	100	85	0.00	0.00	--	0.00	0.00	325.13	-58.04	5.602
14	0.55	100	85	0.00	0.00	--	0.00	0.00	325.13	-57.45	5.660
15	0.65	100	85	0.00	0.00	--	0.00	0.00	325.13	-56.50	5.755
16	0.75	100	85	0.00	0.00	--	0.00	0.00	325.13	-55.20	5.890
17	0.85	100	85	0.00	0.00	--	0.00	0.00	325.13	-53.54	6.072
18	0.95	100	85	0.00	0.00	--	0.00	0.00	325.13	-51.54	6.308
19	1.05	100	85	0.00	0.00	--	0.00	0.00	325.13	-49.18	6.611
20	1.15	100	85	0.00	0.00	--	0.00	0.00	325.13	-46.47	6.996
21	1.25	100	85	0.00	0.00	--	0.00	0.00	325.13	-43.41	7.490
22	1.35	100	85	0.00	0.00	--	0.00	0.00	325.13	-40.00	8.129
23	1.45	100	85	0.00	0.00	--	0.00	0.00	325.13	-36.23	8.974
24	1.55	100	85	0.00	0.00	--	0.00	0.00	325.13	-32.11	10.126
25	1.65	100	85	0.00	0.00	--	0.00	0.00	325.13	-27.64	11.763
26	1.75	100	85	0.00	0.00	--	0.00	0.00	325.13	-22.82	14.250
27	1.85	100	85	0.00	0.00	--	0.00	0.00	325.13	-17.64	18.431
28	1.95	100	85	0.00	0.00	--	0.00	0.00	325.13	-12.11	26.843
29	2.05	100	85	0.00	0.00	--	0.00	0.00	325.13	-6.23	52.169
30	2.15	100	85	0.00	0.00	--	0.00	0.00	325.13	0.00	100.000

Verifica a fessurazione

Simbologia adottata

n°	indice sezione
Y	ordinata sezione espressa in [m]
B	larghezza sezione espresso in [cm]
H	altezza sezione espressa in [cm]
Af	area ferri zona tesa espresso in [cmq]
Aeff	area efficace espressa in [cmq]
M	momento agente espressa in [kNm]
Mpf	momento di formazione/apertura fessure espressa in [kNm]
ε	deformazione espresso in %
Sm	spaziatura tra le fessure espressa in [mm]
w	apertura delle fessure espressa in [mm]

Combinazioni SLEF

Paramento

Combinazione n° 11 - SLEF

Apertura limite fessure w_{lim}=0.30

n°	Y	B	H	Af	Aeff	M	Mpf	ε	Sm	w
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kNm]	[%]	[mm]	[mm]
1	0.00	100	50	4.02	1447.73	0.39	113.86	0.000000	0.00	0.000
2	-0.10	100	51	4.02	1450.00	0.39	117.78	0.000000	0.00	0.000
3	-0.20	100	52	4.02	1450.00	0.41	121.78	0.000000	0.00	0.000
4	-0.30	100	53	4.02	1450.00	0.44	125.84	0.000000	0.00	0.000
5	-0.40	100	53	4.02	1450.00	0.48	129.96	0.000000	0.00	0.000
6	-0.50	100	54	4.02	1450.00	0.56	134.16	0.000000	0.00	0.000
7	-0.60	100	55	4.02	1450.00	0.66	138.42	0.000000	0.00	0.000
8	-0.70	100	56	4.02	1450.00	0.79	142.75	0.000000	0.00	0.000
9	-0.80	100	57	4.02	1450.00	0.97	147.14	0.000000	0.00	0.000
10	-0.90	100	58	4.02	1450.00	1.18	151.60	0.000000	0.00	0.000
11	-1.00	100	58	4.02	1450.00	1.45	156.14	0.000000	0.00	0.000
12	-1.10	100	59	4.02	1450.00	1.77	160.73	0.000000	0.00	0.000

n°	Y	B	H	Af	Aeff	M	Mpf	ε	Sm	w
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kNm]	[%]	[mm]	[mm]
13	-1.20	100	60	4.02	1450.00	2.14	165.39	0.000000	0.00	0.000
14	-1.30	100	61	4.02	1450.00	2.58	170.12	0.000000	0.00	0.000
15	-1.40	100	62	4.02	1450.00	3.09	174.92	0.000000	0.00	0.000
16	-1.50	100	63	4.02	1450.00	3.66	179.77	0.000000	0.00	0.000
17	-1.60	100	63	4.02	1450.00	4.32	184.71	0.000000	0.00	0.000
18	-1.70	100	64	4.02	1450.00	5.05	189.70	0.000000	0.00	0.000
19	-1.80	100	65	24.13	1450.00	5.87	218.87	0.000000	0.00	0.000
20	-1.90	100	66	24.13	1450.00	6.79	224.41	0.000000	0.00	0.000
21	-2.00	100	67	24.13	1450.00	7.80	230.04	0.000000	0.00	0.000
22	-2.10	100	68	24.13	1450.00	8.91	235.73	0.000000	0.00	0.000
23	-2.20	100	68	24.13	1450.00	10.12	241.50	0.000000	0.00	0.000
24	-2.30	100	69	24.13	1450.00	11.44	247.32	0.000000	0.00	0.000
25	-2.40	100	70	20.11	1450.00	12.88	247.92	0.000000	0.00	0.000
26	-2.50	100	71	20.11	1450.00	14.44	253.79	0.000000	0.00	0.000
27	-2.60	100	72	20.11	1450.00	16.12	259.74	0.000000	0.00	0.000
28	-2.70	100	73	20.11	1450.00	17.94	265.75	0.000000	0.00	0.000
29	-2.80	100	74	20.11	1450.00	19.88	271.83	0.000000	0.00	0.000
30	-2.90	100	74	20.11	1450.00	21.97	278.00	0.000000	0.00	0.000
31	-2.99	100	75	20.11	1450.00	24.20	283.62	0.000000	0.00	0.000

Mensola valle

Combinazione n° 11 - SLEF

Apertura limite fessure w_{lim}=0.30

n°	Y	B	H	Af	Aeff	M	Mpf	ε	Sm	w
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kNm]	[%]	[mm]	[mm]
1	-0.75	100	50	0.00	0.00	0.00	0.00	---	---	0.000
2	-0.67	100	50	16.08	1270.50	-0.04	-122.25	0.000000	0.00	0.000
3	-0.58	100	50	16.08	1270.50	-0.17	-122.25	0.000000	0.00	0.000
4	-0.50	100	50	16.08	1270.50	-0.39	-122.25	0.000000	0.00	0.000
5	-0.50	100	50	16.08	1270.50	-0.39	-122.25	0.000000	0.00	0.000

Fondazione

Combinazione n° 11 - SLEF

Apertura limite fessure w_{lim}=0.30

n°	Y	B	H	Af	Aeff	M	Mpf	ε	Sm	w
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kNm]	[%]	[mm]	[mm]
1	-1.35	100	85	0.00	0.00	0.00	0.00	---	---	0.000
2	-1.26	100	85	18.10	1450.00	0.17	352.05	0.000000	0.00	0.000
3	-1.16	100	85	18.10	1450.00	0.68	352.05	0.000000	0.00	0.000
4	-1.07	100	85	18.10	1450.00	1.55	352.05	0.000000	0.00	0.000
5	-0.97	100	85	18.10	1450.00	2.77	352.05	0.000000	0.00	0.000
6	-0.88	100	85	18.10	1450.00	4.37	352.05	0.000000	0.00	0.000
7	-0.78	100	85	18.10	1450.00	6.34	352.05	0.000000	0.00	0.000
8	-0.69	100	85	18.10	1450.00	8.69	352.05	0.000000	0.00	0.000
9	-0.59	100	85	18.10	1450.00	11.44	352.05	0.000000	0.00	0.000
10	-0.50	100	85	18.10	1450.00	14.59	352.05	0.000000	0.00	0.000
11	0.25	100	85	18.10	1450.00	15.18	352.05	0.000000	0.00	0.000
12	0.35	100	85	18.10	1450.00	14.15	352.05	0.000000	0.00	0.000
13	0.45	100	85	18.10	1450.00	13.09	352.05	0.000000	0.00	0.000
14	0.55	100	85	18.10	1450.00	12.00	352.05	0.000000	0.00	0.000
15	0.65	100	85	18.10	1450.00	10.91	352.05	0.000000	0.00	0.000
16	0.75	100	85	18.10	1450.00	9.82	352.05	0.000000	0.00	0.000
17	0.85	100	85	18.10	1450.00	8.74	352.05	0.000000	0.00	0.000
18	0.95	100	85	18.10	1450.00	7.68	352.05	0.000000	0.00	0.000
19	1.05	100	85	18.10	1450.00	6.65	352.05	0.000000	0.00	0.000
20	1.15	100	85	18.10	1450.00	5.66	352.05	0.000000	0.00	0.000
21	1.25	100	85	18.10	1450.00	4.71	352.05	0.000000	0.00	0.000
22	1.35	100	85	18.10	1450.00	3.83	352.05	0.000000	0.00	0.000
23	1.45	100	85	18.10	1450.00	3.01	352.05	0.000000	0.00	0.000
24	1.55	100	85	18.10	1450.00	2.27	352.05	0.000000	0.00	0.000
25	1.65	100	85	18.10	1450.00	1.62	352.05	0.000000	0.00	0.000

n°	Y	B	H	Af	Aeff	M	Mpf	ε	Sm	w
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kNm]	[%]	[mm]	[mm]
26	1.75	100	85	18.10	1450.00	1.06	352.05	0.000000	0.00	0.000
27	1.85	100	85	18.10	1450.00	0.61	352.05	0.000000	0.00	0.000
28	1.95	100	85	18.10	1450.00	0.28	352.05	0.000000	0.00	0.000
29	2.05	100	85	18.10	1450.00	0.07	352.05	0.000000	0.00	0.000
30	2.15	100	85	0.00	0.00	0.00	0.00	---	---	0.000

Combinazioni SLEQ

Paramento

Combinazione n° 12 - SLEQ

Apertura limite fessure w_{lim}=0.20

n°	Y	B	H	Af	Aeff	M	Mpf	ε	Sm	w
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kNm]	[%]	[mm]	[mm]
1	0.00	100	50	4.02	1447.73	0.39	113.86	0.000000	0.00	0.000
2	-0.10	100	51	4.02	1450.00	0.39	117.78	0.000000	0.00	0.000
3	-0.20	100	52	4.02	1450.00	0.41	121.78	0.000000	0.00	0.000
4	-0.30	100	53	4.02	1450.00	0.44	125.84	0.000000	0.00	0.000
5	-0.40	100	53	4.02	1450.00	0.48	129.96	0.000000	0.00	0.000
6	-0.50	100	54	4.02	1450.00	0.56	134.16	0.000000	0.00	0.000
7	-0.60	100	55	4.02	1450.00	0.66	138.42	0.000000	0.00	0.000
8	-0.70	100	56	4.02	1450.00	0.79	142.75	0.000000	0.00	0.000
9	-0.80	100	57	4.02	1450.00	0.97	147.14	0.000000	0.00	0.000
10	-0.90	100	58	4.02	1450.00	1.18	151.60	0.000000	0.00	0.000
11	-1.00	100	58	4.02	1450.00	1.45	156.14	0.000000	0.00	0.000
12	-1.10	100	59	4.02	1450.00	1.77	160.73	0.000000	0.00	0.000
13	-1.20	100	60	4.02	1450.00	2.14	165.39	0.000000	0.00	0.000
14	-1.30	100	61	4.02	1450.00	2.58	170.12	0.000000	0.00	0.000
15	-1.40	100	62	4.02	1450.00	3.09	174.92	0.000000	0.00	0.000
16	-1.50	100	63	4.02	1450.00	3.66	179.77	0.000000	0.00	0.000
17	-1.60	100	63	4.02	1450.00	4.32	184.71	0.000000	0.00	0.000
18	-1.70	100	64	4.02	1450.00	5.05	189.70	0.000000	0.00	0.000
19	-1.80	100	65	24.13	1450.00	5.87	218.87	0.000000	0.00	0.000
20	-1.90	100	66	24.13	1450.00	6.79	224.41	0.000000	0.00	0.000
21	-2.00	100	67	24.13	1450.00	7.80	230.04	0.000000	0.00	0.000
22	-2.10	100	68	24.13	1450.00	8.91	235.73	0.000000	0.00	0.000
23	-2.20	100	68	24.13	1450.00	10.12	241.50	0.000000	0.00	0.000
24	-2.30	100	69	24.13	1450.00	11.44	247.32	0.000000	0.00	0.000
25	-2.40	100	70	20.11	1450.00	12.88	247.92	0.000000	0.00	0.000
26	-2.50	100	71	20.11	1450.00	14.44	253.79	0.000000	0.00	0.000
27	-2.60	100	72	20.11	1450.00	16.12	259.74	0.000000	0.00	0.000
28	-2.70	100	73	20.11	1450.00	17.94	265.75	0.000000	0.00	0.000
29	-2.80	100	74	20.11	1450.00	19.88	271.83	0.000000	0.00	0.000
30	-2.90	100	74	20.11	1450.00	21.97	278.00	0.000000	0.00	0.000
31	-2.99	100	75	20.11	1450.00	24.20	283.62	0.000000	0.00	0.000

Mensola valle

Combinazione n° 12 - SLEQ

Apertura limite fessure w_{lim}=0.20

n°	Y	B	H	Af	Aeff	M	Mpf	ε	Sm	w
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kNm]	[%]	[mm]	[mm]
1	-0.75	100	50	0.00	0.00	0.00	0.00	---	---	0.000
2	-0.67	100	50	16.08	1270.50	-0.04	-122.25	0.000000	0.00	0.000
3	-0.58	100	50	16.08	1270.50	-0.17	-122.25	0.000000	0.00	0.000
4	-0.50	100	50	16.08	1270.50	-0.39	-122.25	0.000000	0.00	0.000
5	-0.50	100	50	16.08	1270.50	-0.39	-122.25	0.000000	0.00	0.000

Fondazione

Combinazione n° 12 - SLEQ

Apertura limite fessure w_{lim}=0.20

n°	Y	B	H	Af	Aeff	M	Mpf	ε	Sm	w
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kNm]	[%]	[mm]	[mm]
1	-1.35	100	85	0.00	0.00	0.00	0.00	---	---	0.000
2	-1.26	100	85	18.10	1450.00	0.17	352.05	0.000000	0.00	0.000
3	-1.16	100	85	18.10	1450.00	0.68	352.05	0.000000	0.00	0.000
4	-1.07	100	85	18.10	1450.00	1.55	352.05	0.000000	0.00	0.000
5	-0.97	100	85	18.10	1450.00	2.77	352.05	0.000000	0.00	0.000
6	-0.88	100	85	18.10	1450.00	4.37	352.05	0.000000	0.00	0.000
7	-0.78	100	85	18.10	1450.00	6.34	352.05	0.000000	0.00	0.000
8	-0.69	100	85	18.10	1450.00	8.69	352.05	0.000000	0.00	0.000
9	-0.59	100	85	18.10	1450.00	11.44	352.05	0.000000	0.00	0.000
10	-0.50	100	85	18.10	1450.00	14.59	352.05	0.000000	0.00	0.000
11	0.25	100	85	18.10	1450.00	15.18	352.05	0.000000	0.00	0.000
12	0.35	100	85	18.10	1450.00	14.15	352.05	0.000000	0.00	0.000
13	0.45	100	85	18.10	1450.00	13.09	352.05	0.000000	0.00	0.000
14	0.55	100	85	18.10	1450.00	12.00	352.05	0.000000	0.00	0.000
15	0.65	100	85	18.10	1450.00	10.91	352.05	0.000000	0.00	0.000
16	0.75	100	85	18.10	1450.00	9.82	352.05	0.000000	0.00	0.000
17	0.85	100	85	18.10	1450.00	8.74	352.05	0.000000	0.00	0.000
18	0.95	100	85	18.10	1450.00	7.68	352.05	0.000000	0.00	0.000
19	1.05	100	85	18.10	1450.00	6.65	352.05	0.000000	0.00	0.000
20	1.15	100	85	18.10	1450.00	5.66	352.05	0.000000	0.00	0.000
21	1.25	100	85	18.10	1450.00	4.71	352.05	0.000000	0.00	0.000
22	1.35	100	85	18.10	1450.00	3.83	352.05	0.000000	0.00	0.000
23	1.45	100	85	18.10	1450.00	3.01	352.05	0.000000	0.00	0.000
24	1.55	100	85	18.10	1450.00	2.27	352.05	0.000000	0.00	0.000
25	1.65	100	85	18.10	1450.00	1.62	352.05	0.000000	0.00	0.000
26	1.75	100	85	18.10	1450.00	1.06	352.05	0.000000	0.00	0.000
27	1.85	100	85	18.10	1450.00	0.61	352.05	0.000000	0.00	0.000
28	1.95	100	85	18.10	1450.00	0.28	352.05	0.000000	0.00	0.000
29	2.05	100	85	18.10	1450.00	0.07	352.05	0.000000	0.00	0.000
30	2.15	100	85	0.00	0.00	0.00	0.00	---	---	0.000

Elenco ferri

Simbologia adottata

n°	Indice del ferro
nf	numero ferri
D	diametro ferro espresso in [mm]
L	Lunghezza ferro espresso in [m]
P_{ferro}	Peso ferro espresso in [kN]

Paramento

n°	Tipo	nf	D	L	P_f	P_{gf}	V_{cls}
			[mm]	[m]	[kN]	[kN]	[mc]
1	Diritto inferiore	6	16.00	2.07	0.0321	0.1924	
2	Diritto superiore	10	16.00	2.64	0.0408	0.4085	
3	Diritto superiore	2	16.00	3.59	0.0556	0.1111	
4	Diritto inferiore	6	16.00	3.58	0.0554	0.3327	
5	Ripartitore	42	16.00	1.00	0.0155	0.6501	
6	Gancio	18	16.00	0.99	0.0154	0.2771	
	Totale al metro					**1.9719**	**2.00**
	Totale					**23.6627**	**24.03**

Fondazione

n°	Tipo	nf	D	L	P_f	P_{gf}	V_{cls}
			[mm]	[m]	[kN]	[kN]	[mc]
1	Diritto superiore	9	16.00	4.67	0.0722	0.6500	
2	Diritto inferiore	9	16.00	4.67	0.0722	0.6500	
3	Ripartitore	12	16.00	1.00	0.0155	0.1857	
4	Gancio	18	16.00	0.69	0.0107	0.1928	
	Totale al metro					**1.6785**	**2.98**
	Totale					**17.8710**	**35.72**

Mensola valle

n°	Tipo	nf	D	L	P_f	P_{gf}	V_{cls}
			[mm]	[m]	[kN]	[kN]	[mc]
1	Diritto inferiore	4	16.00	1.53	0.0237	0.0947	
2	Diritto superiore	8	16.00	1.53	0.0237	0.1895	
3	Ripartitore	4	16.00	1.00	0.0155	0.0619	
4	Gancio	4	16.00	0.69	0.0106	0.0426	
	Totale al metro					**0.3887**	**0.13**
	Totale					**4.0373**	**1.50**

11 ALLEGATO 2 – TABULATI DI CALCOLO - MURO DI SOSTEGNO H4

Geometria profilo terreno a monte del muro

Simbologia adottata

(Sistema di riferimento con origine in testa al muro, ascissa X positiva verso monte, ordinata Y positiva verso l'alto)

n°	numero ordine del punto
X	ascissa del punto espressa in [m]
Y	ordinata del punto espressa in [m]
A	inclinazione del tratto espressa in [°]

n°	X	Y	A
	[m]	*[m]*	*[°]*
1	0.00	0.00	0.000
2	30.00	0.00	0.000

Inclinazione terreno a valle del muro rispetto all'orizzontale 0.000 [°]

Geometria muro

Geometria paramento e fondazione

Lunghezza muro	12.00	[m]

Paramento

Materiale	CLS 25/30	
Altezza paramento	4.00	[m]
Altezza paramento libero	4.00	[m]
Spessore in sommità	0.50	[m]
Spessore all'attacco con la fondazione	0.85	[m]
Inclinazione paramento esterno	0.00	[°]
Inclinazione paramento interno	5.00	[°]
Spessore rivestimento	0.20	[m]
Peso sp. rivestimento	20.0000	[kN/mc]

Mensola di marciapiede

Posizione rispetto alla testa del muro	0.00	[m]
Lunghezza	0.25	[m]
Spessore all'estremità libera	0.50	[m]
Spessore all'incastro	0.50	[m]

Fondazione

Materiale	CLS 25/30	
Lunghezza mensola di valle	0.85	[m]
Lunghezza mensola di monte	1.70	[m]
Lunghezza totale	3.40	[m]
Inclinazione piano di posa	0.00	[°]
Spessore	0.75	[m]
Spessore magrone	0.20	[m]

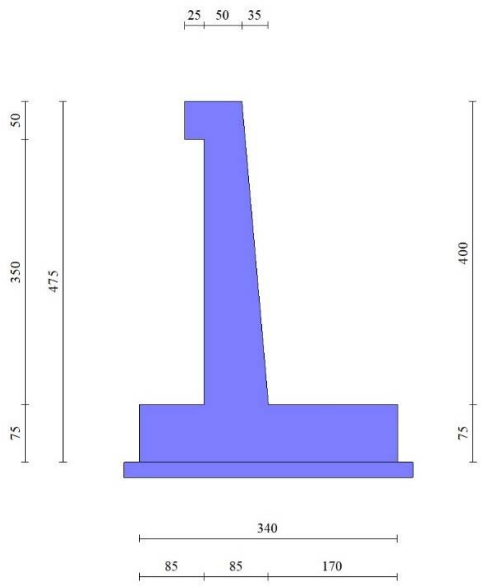

Fig. 1 - Sezione quotata del muro

Descrizione terreni

Parametri di resistenza

Simbologia adottata

n°	Indice del terreno
Descr	Descrizione terreno
γ	Peso di volume del terreno espresso in [kN/mc]
γ_s	Peso di volume saturo del terreno espresso in [kN/mc]
ϕ	Angolo d'attrito interno espresso in [°]
δ	Angolo d'attrito terra-muro espresso in [°]
c	Coesione espressa in [kPa]
c_a	Adesione terra-muro espressa in [kPa]

Per calcolo portanza con il metodo di Bustamante-Doix

Cesp Coeff. di espansione laterale (solo per il metodo di Bustamante-Doix)

τl Tensione tangenziale limite, espressa in [kPa]

n°	Descr	γ	γsat	ϕ	δ	c	ca	Cesp	τl
		[kN/mc]	[kN/mc]	[°]	[°]	[kPa]	[kPa]		[kPa]
1	Rilevato	19.0000	19.0000	35.000	23.330	0	0	---	---
2	LR	18.5000	18.5000	25.000	25.000	5	0	---	---

Stratigrafia

Simbologia adottata

n° Indice dello strato

H Spessore dello strato espresso in [m]

α Inclinazione espressa in [°]

Terreno Terreno dello strato

Kwn, Kwt Costante di Winkler normale e tangenziale alla superficie espressa in Kg/cm²/cm

Per calcolo pali (solo se presenti)

Kw Costante di Winkler orizzontale espressa in Kg/cm²/cm

Ks Coefficiente di spinta

Cesp Coefficiente di espansione laterale (per tutti i metodi tranne il metodo di Bustamante-Doix)

Per calcolo della spinta con coeff. di spinta definiti (usati solo se attiva l'opzione 'Usa coeff. di spinta da strato')

Kststa, Kstsis Coeff. di spinta statico e sismico

n°	H	α	Terreno	Kwn	Kwt	Kw	Ks	Cesp	Kststa	Kstsis
	[m]	[°]		[Kg/cm³]	[Kg/cm³]	[Kg/cm³]				
1	4.75	0.000	Rilevato	0.000	0.000	---	---	---	---	---
2	15.00	0.000	LR	2.400	1.200	---	---	---	---	---

Fig. 2 - Stratigrafia

Condizioni di carico

Simbologia adottata

Carichi verticali positivi verso il basso.

Carichi orizzontali positivi verso sinistra.

Momento positivo senso antiorario.

X	Ascissa del punto di applicazione del carico concentrato espressa in [m]
F_x	Componente orizzontale del carico concentrato espressa in [kN]
F_y	Componente verticale del carico concentrato espressa in [kN]
M	Momento espresso in [kNm]
X_i	Ascissa del punto iniziale del carico ripartito espressa in [m]
X_f	Ascissa del punto finale del carico ripartito espressa in [m]
Q_i	Intensità del carico per $x=X_i$ espressa in [kN]
Q_f	Intensità del carico per $x=X_f$ espressa in [kN]

Condizione n° 1 (traffico-stradale) - VARIABILE TF

Coeff. di combinazione Ψ_0=0.75 - Ψ_1=0.75 - Ψ_2=0.00

Carichi sul terreno

n°	Tipo	X	Fx	Fy	M	Xi	Xf	Qi	Qf
		[m]	[kN]	[kN]	[kNm]	[m]	[m]	[kN]	[kN]
1	Distribuito					0.00	3.00	38.3000	38.3000
2	Distribuito					3.00	6.00	22.1000	22.1000
3	Distribuito					6.00	9.00	12.3000	12.3000
4	Distribuito					9.00	30.00	2.5000	2.5000

Condizione n° 2 (urto) - ECCEZIONALE

Carichi sul muro

n°	Tipo	Dest	X; Y	Fx	Fy	M	Xi	Xf	Qi	Qf
			[m]	[kN]	[kN]	[kNm]	[m]	[m]	[kN]	[kN]
1	Concentrato	Mensola marciappiede	-0.50; 0.00	25.0000	0.0000	25.0000				

Condizione n° 3 (Peso barriera) - PERMANENTE NS

Condizione n° 4 (Condizione 4) - VARIABILE

Coeff. di combinazione Ψ_0=1.00 - Ψ_1=1.00 - Ψ_2=1.00

Condizione n° 5 (Condizione 5) - VARIABILE

Coeff. di combinazione Ψ_0=1.00 - Ψ_1=1.00 - Ψ_2=1.00

Condizione n° 6 (Condizione 6) - VARIABILE

Coeff. di combinazione Ψ_0=1.00 - Ψ_1=1.00 - Ψ_2=1.00

Condizione n° 7 (Condizione 7) - VARIABILE

Coeff. di combinazione Ψ_0=1.00 - Ψ_1=1.00 - Ψ_2=1.00

Condizione n° 8 (Condizione 8) - VARIABILE

Coeff. di combinazione Ψ_0=1.00 - Ψ_1=1.00 - Ψ_2=1.00

Normativa

Normativa usata: **Norme Tecniche sulle Costruzioni 2018 (D.M. 17.01.2018) + Circolare C.S.LL.PP. 21/01/2019 n.7**

Coeff. parziali per le azioni o per l'effetto delle azioni

Carichi	Effetto		Combinazioni statiche					Combinazioni sismiche	
			UPL	EQU	A1	A2	EQU	A1	A2
Permanenti strutturali	Favorevoli	$\gamma_{G1,fav}$	0.90	0.90	1.00	1.00	1.00	1.00	1.00
Permanenti strutturali	Sfavorevoli	$\gamma_{G1,sfav}$	1.10	1.10	1.35	1.00	1.00	1.00	1.00
Permanenti non strutturali	Favorevoli	$\gamma_{G2,fav}$	0.80	0.00	0.00	0.00	0.00	0.00	0.00
Permanenti non strutturali	Sfavorevoli	$\gamma_{G2,sfav}$	1.50	1.50	1.50	1.30	1.00	1.00	1.00
Variabili	Favorevoli	$\gamma_{Q,fav}$	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Variabili	Sfavorevoli	$\gamma_{Q,sfav}$	1.50	1.50	1.50	1.30	1.00	1.00	1.00
Variabili da traffico	Favorevoli	$\gamma_{QT,fav}$	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Variabili da traffico	Sfavorevoli	$\gamma_{QT,sfav}$	1.50	1.35	1.35	1.15	1.00	1.00	1.00

Coeff. parziali per i parametri geotecnici del terreno

Parametro		Combinazioni statiche		Combinazioni sismiche	
		M1	M2	M1	M2
Tangente dell'angolo di attrito	$\gamma_{\tan(\phi')}$	1.00	1.25	1.00	1.00
Coesione efficace	$\gamma_{c'}$	1.00	1.25	1.00	1.00
Resistenza non drenata	γ_{cu}	1.00	1.40	1.00	1.00
Peso nell'unita di volume	γ_{γ}	1.00	1.00	1.00	1.00

Coeff. parziali γ_R per le verifiche agli stati limite ultimi STR e GEO

Verifica	Combinazioni statiche			Combinazioni sismiche		
	R1	R2	R3	R1	R2	R3
Capacità portante	--	--	1.40	--	--	1.20
Scorrimento	--	--	1.10	--	--	1.00
Resistenza terreno a valle	--	--	1.40	--	--	1.20
Ribaltameno	--	--	1.15	--	--	1.00
Stabilità fronte di scavo	--	1.10	--	--	1.20	--

Descrizione combinazioni di carico

Con riferimento alle azioni elementari prima determinate, si sono considerate le seguenti combinazioni di carico:

- Combinazione fondamentale, impiegata per gli stati limite ultimi (SLU):

$$\gamma_{G1} G_1 + \gamma_{G2} G_2 + \gamma_{Q1} Q_{k1} + \gamma_{Q2} Q_{k2} + \gamma_{Q3} Q_{k3} + \ldots$$

- Combinazione caratteristica, cosiddetta rara, impiegata per gli stati limite di esercizio (SLE) irreversibili:

$$G_1 + G_2 + Q_{k1} + \Psi_{0,2} Q_{k2} + \Psi_{0,3} Q_{k3} + \ldots$$

- Combinazione frequente, impiegata per gli stati limite di esercizio (SLE) reversibili:

$$G_1 + G_2 + \Psi_{1,1} Q_{k1} + \Psi_{2,2} Q_{k2} + \Psi_{2,3} Q_{k3} + \ldots$$

- Combinazione quasi permanente, impiegata per gli effetti di lungo periodo:

$$G_1 + G_2 + \Psi_{2,1} Q_{k1} + \Psi_{2,2} Q_{k2} + \Psi_{2,3} Q_{k3} + \ldots$$

- Combinazione sismica, impiegata per gli stati limite ultimi connessi all'azione sismica E:

$$E + G_1 + G_2 + \Psi_{2,1} Q_{k1} + \Psi_{2,2} Q_{k2} + \Psi_{2,3} Q_{k3} + \ldots$$

- Combinazione eccezzionale, impiegata per gli stati limite ultimi connessi alle azioni eccezionali Ad:

$$G_1 + G_2 + A_d + \Psi_{2,1} Q_{k1} + \Psi_{2,2} Q_{k2} + \Psi_{2,3} Q_{k3} + \ldots$$

I valori dei coeff. $\Psi_{0,j}$, $\Psi_{1,j}$, $\Psi_{2,j}$ sono definiti nelle singole condizioni variabili.

I valori dei coeff. γ_G e γ_Q, sono definiti nella tabella normativa.

In particolare si sono considerate le seguenti combinazioni:

Simbologia adottata

γ	Coefficiente di partecipazione della condizione
Ψ	Coefficiente di combinazione della condizione

Combinazione n° 1 - STR (A1-M1-R3)

Condizione	γ	Ψ	Effetto
Peso muro	1.00	--	Favorevole
Peso terrapieno	1.00	--	Favorevole
Spinta terreno	1.35	--	Sfavorevole

Combinazione n° 2 - STR (A1-M1-R3)

Condizione	γ	Ψ	Effetto
Peso muro	1.00	--	Favorevole
Peso terrapieno	1.00	--	Favorevole
Spinta terreno	1.35	--	Sfavorevole
traffico-stradale	1.35	1.00	Sfavorevole

Combinazione n° 3 - STR (A1-M1-R3) H + V

Condizione	γ	Ψ	Effetto
Peso muro	1.00	--	Favorevole
Peso terrapieno	1.00	--	Favorevole
Spinta terreno	1.00	--	Sfavorevole

Combinazione n° 4 - STR (A1-M1-R3) H - V

Condizione	γ	Ψ	Effetto
Peso muro	1.00	--	Sfavorevole
Peso terrapieno	1.00	--	Sfavorevole
Spinta terreno	1.00	--	Sfavorevole

Combinazione n° 5 - GEO (A2-M2-R2)

Condizione	γ	Ψ	Effetto
Peso muro	1.00	--	Sfavorevole
Peso terrapieno	1.00	--	Sfavorevole
Spinta terreno	1.00	--	Sfavorevole

Combinazione n° 6 - GEO (A2-M2-R2)

Condizione	γ	Ψ	Effetto
Peso muro	1.00	--	Sfavorevole
Peso terrapieno	1.00	--	Sfavorevole
Spinta terreno	1.00	--	Sfavorevole
traffico-stradale	1.15	1.00	Sfavorevole

Combinazione n° 7 - GEO (A2-M2-R2) H + V

Condizione	γ	Ψ	Effetto
Peso muro	1.00	--	Sfavorevole
Peso terrapieno	1.00	--	Sfavorevole
Spinta terreno	1.00	--	Sfavorevole

Combinazione n° 8 - GEO (A2-M2-R2) H - V

Condizione	γ	Ψ	Effetto
Peso muro	1.00	--	Sfavorevole
Peso terrapieno	1.00	--	Sfavorevole
Spinta terreno	1.00	--	Sfavorevole

Combinazione n° 9 - ECC

Condizione	γ	Ψ	Effetto
Peso muro	1.00	--	Sfavorevole
Peso terrapieno	1.00	--	Sfavorevole
Spinta terreno	1.00	--	Sfavorevole
urto	1.00	1.00	Sfavorevole

Combinazione n° 10 - SLER

Condizione	γ	Ψ	Effetto
Peso muro	1.00	--	Sfavorevole
Peso terrapieno	1.00	--	Sfavorevole
Spinta terreno	1.00	--	Sfavorevole
traffico-stradale	1.00	0.75	Sfavorevole

Combinazione n° 11 - SLEF

Condizione	γ	Ψ	Effetto
Peso muro	1.00	--	Sfavorevole
Peso terrapieno	1.00	--	Sfavorevole
Spinta terreno	1.00	--	Sfavorevole

Combinazione n° 12 - SLEQ

Condizione	γ	Ψ	Effetto
Peso muro	1.00	--	Sfavorevole
Peso terrapieno	1.00	--	Sfavorevole
Spinta terreno	1.00	--	Sfavorevole

Dati sismici

Comune	
Provincia	
Regione	
Latitudine	43.608157
Longitudine	13.471305
Indice punti di interpolazione	20979 - 20757 - 20756 - 20978
Vita nominale	50 anni
Classe d'uso	IV
Tipo costruzione	Normali affollamenti
Vita di riferimento	100 anni

	Simbolo	U.M.		SLU	SLE
Accelerazione al suolo	a_g	[m/s^2]		2.260	0.873
Accelerazione al suolo	a_g/g	[%]		0.230	0.089
Massimo fattore amplificazione spettro orizzontale	F0			2.433	2.436
Periodo inizio tratto spettro a velocità costante	Tc*			0.307	0.282
Tipo di sottosuolo - Coefficiente stratigrafico	Ss		C	1.358	1.500
Categoria topografica - Coefficiente amplificazione topografica	St		T1	1.000	

Stato limite ...	Coeff. di riduzione β_m	kh [%]	kv [%]
Ultimo	0.380	12.099	6.049
Ultimo - Ribaltamento	0.570	18.148	9.074
Esercizio	0.470	6.275	3.138

Forma diagramma incremento sismico **Rettangolare**

Opzioni di calcolo

Spinta

Metodo di calcolo della spinta	Culmann
Tipo di spinta	Spinta attiva
Terreno a bassa permeabilità	NO
Superficie di spinta limitata	NO

Capacità portante

Metodo di calcolo della portanza	Meyerhof
Criterio di media calcolo del terreno equivalente (terreni stratificati)	Ponderata
Criterio di riduzione per eccentricità della portanza	Bowles
Criterio di riduzione per rottura locale (punzonamento)	Nessuna
Larghezza fondazione nel terzo termine della formula del carico limite ($0.5B\gamma N_\gamma$)	Larghezza effettiva (B)

Fattori di forma e inclinazione del carico — Solo i fattori di inclinazione

Se la fondazione ha larghezza superiore a 2.0 m viene applicato il fattore di riduzione per comportamento a piastra

Stabilità globale

Metodo di calcolo della stabilità globale — Bishop

Altro

Partecipazione spinta passiva terreno antistante — 0.00

Partecipazione resistenza passiva dente di fondazione — 50.00

Componente verticale della spinta nel calcolo delle sollecitazioni — NO

Considera terreno sulla fondazione di valle — NO

Considera spinta e peso acqua fondazione di valle — NO

Spostamenti

Modello a blocchi

Non è stato richiesto il calcolo degli spostamenti

Spostamento limite — 2.00 [cm]

Cedimenti

Non è stato richiesto il calcolo dei cedimenti

Specifiche per le verifiche nelle combinazioni allo Stato Limite Ultimo (SLU)

	SLU	Eccezionale
Coefficiente di sicurezza calcestruzzo a compressione	1.50	1.00
Coefficiente di sicurezza acciaio	1.15	1.00
Fattore di riduzione da resistenza cubica a cilindrica	0.83	0.83
Fattore di riduzione per carichi di lungo periodo	0.85	0.85
Coefficiente di sicurezza per la sezione	1.00	1.00

Specifiche per le verifiche nelle combinazioni allo Stato Limite di Esercizio (SLE)

Paramento e fondazione muro

Verifiche strutturali nelle combinazioni SLD **non eseguite**. Struttura in classe d'uso III o IV

Condizioni ambientali — Aggressive

Armatura ad aderenza migliorata — SI

Verifica a fessurazione

Sensibilità armatura — Poco sensibile

Metodo di calcolo aperture delle fessure — NTC 2018 - CIRCOLARE 21 gennaio 2019, n. 7 C.S.LL.PP.

Calcolo momento fessurazione — Apertura

Resistenza a trazione per — Trazione

Valori limite aperture delle fessure: — w_1=0.20

w_2=0.30

w_3=0.40

Verifica delle tensioni

Valori limite delle tensioni nei materiali:

Combinazione	Calcestruzzo	Acciaio
Rara	0.60 f_{ck}	0.80 f_{yk}
Frequente	1.00 f_{ck}	1.00 f_{yk}
Quasi permanente	0.45 f_{ck}	1.00 f_{yk}

Risultati per combinazione

Spinta e forze

Simbologia adottata

Ic	Indice della combinazione
A	Tipo azione
I	Inclinazione della spinta, espressa in [°]
V	Valore dell'azione, espressa in [kN]
C_X, C_Y	Componente in direzione X ed Y dell'azione, espressa in [kN]
P_X, P_Y	Coordinata X ed Y del punto di applicazione dell'azione, espressa in [m]

Ic	A	V	I	C_X	C_Y	P_X	P_Y
		[kN]	[°]	[kN]	[kN]	[m]	[m]
1	Spinta statica	70.73	23.33	64.94	28.01	2.05	-3.17
	Peso/Inerzia muro			0.00	134.37/0.00	0.07	-3.17
	Peso/Inerzia rivestimento			0.00	16.00	-0.60	-2.25
	Peso/Inerzia terrapieno			0.00	142.50/0.00	1.11	-1.94
2	Spinta statica	114.03	23.33	104.71	45.16	2.05	-2.74
	Peso/Inerzia muro			0.00	134.37/0.00	0.07	-3.17
	Peso/Inerzia rivestimento			0.00	16.00	-0.60	-2.25
	Peso/Inerzia terrapieno			0.00	248.49/0.00	1.08	-1.92
3	Spinta statica	52.39	23.33	48.11	20.75	2.05	-3.17
	Incremento di spinta sismica		19.44	17.85	7.70	2.05	-2.38
	Peso/Inerzia muro			16.26	134.37/8.13	0.07	-3.17
	Peso/Inerzia rivestimento			1.94	16.00	-0.60	-2.25
	Peso/Inerzia terrapieno			17.24	142.50/8.62	1.11	-1.94
4	Spinta statica	52.39	23.33	48.11	20.75	2.05	-3.17
	Incremento di spinta sismica		13.40	12.30	5.31	2.05	-2.38
	Peso/Inerzia muro			16.26	134.37/-8.13	0.07	-3.17
	Peso/Inerzia rivestimento			1.94	16.00	-0.60	-2.25
	Peso/Inerzia terrapieno			17.24	142.50/-8.62	1.11	-1.94
9	Spinta statica	52.39	23.33	48.11	20.75	2.05	-3.17
	Peso/Inerzia muro			0.00	134.37/0.00	0.07	-3.17
	Peso/Inerzia rivestimento			0.00	16.00	-0.60	-2.25
	Peso/Inerzia terrapieno			0.00	142.50/0.00	1.11	-1.94
	Risultante forze sul muro			25.00	0.00	--	--
10	Spinta statica	76.42	23.33	70.18	30.27	2.05	-2.81
	Peso/Inerzia muro			0.00	134.37/0.00	0.07	-3.17
	Peso/Inerzia rivestimento			0.00	16.00	-0.60	-2.25
	Peso/Inerzia terrapieno			0.00	201.38/0.00	1.09	-1.92
11	Spinta statica	52.39	23.33	48.11	20.75	2.05	-3.17
	Peso/Inerzia muro			0.00	134.37/0.00	0.07	-3.17
	Peso/Inerzia rivestimento			0.00	16.00	-0.60	-2.25
	Peso/Inerzia terrapieno			0.00	142.50/0.00	1.11	-1.94
12	Spinta statica	52.39	23.33	48.11	20.75	2.05	-3.17
	Peso/Inerzia muro			0.00	134.37/0.00	0.07	-3.17
	Peso/Inerzia rivestimento			0.00	16.00	-0.60	-2.25
	Peso/Inerzia terrapieno			0.00	142.50/0.00	1.11	-1.94

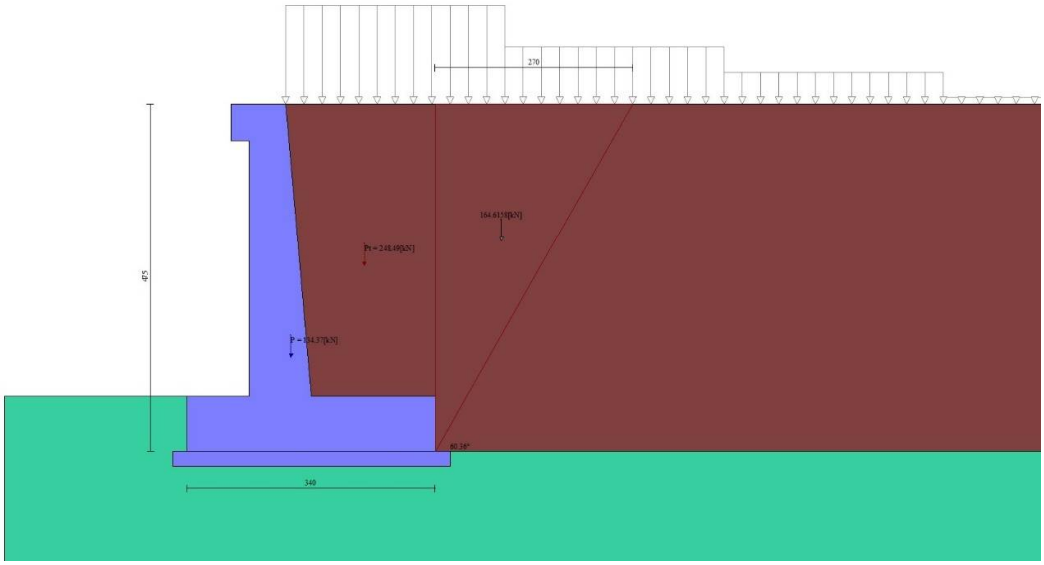

Fig. 3 - Cuneo di spinta (combinazione statica) (Combinazione n° 2)

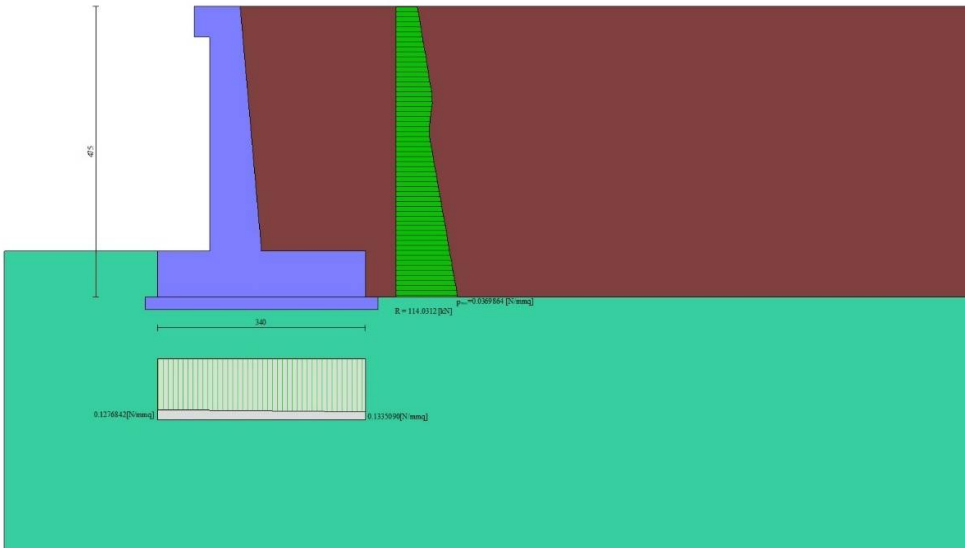

Fig. 4 - Diagramma delle pressioni (combinazione statica) (Combinazione n° 2)

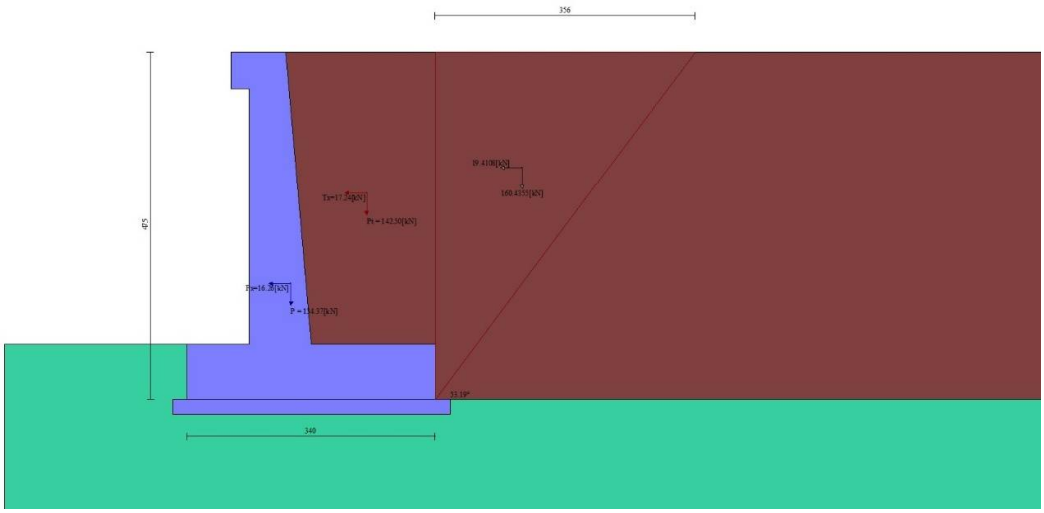

Fig. 5 - Cuneo di spinta (combinazione sismica) (Combinazione n° 3)

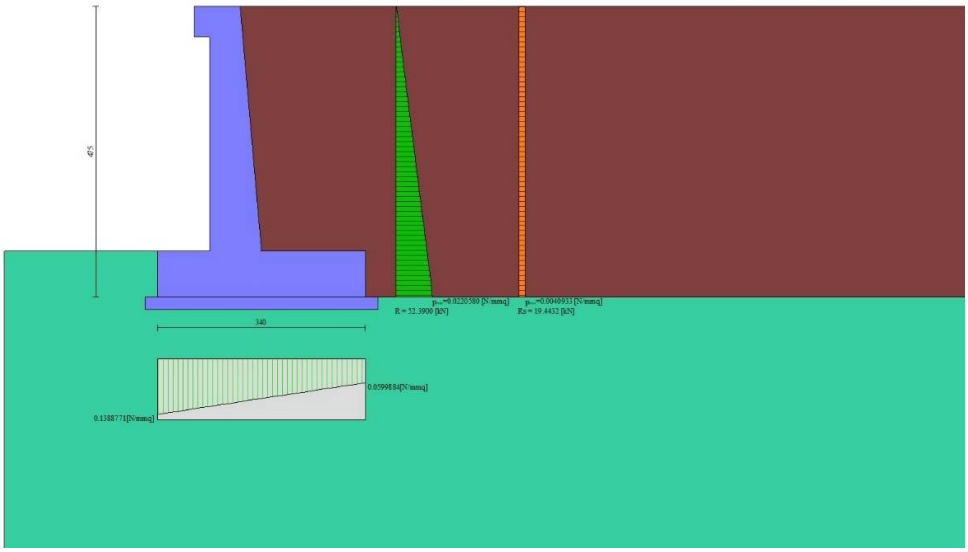

Fig. 6 - Diagramma delle pressioni (combinazione sismica) (Combinazione n° 3)

Verifiche geotecniche

Quadro riassuntivo coeff. di sicurezza calcolati

Simbologia adottata

Cmb	Indice/Tipo combinazione
S	Sisma (H: componente orizzontale, V: componente verticale)
FS_{SCO}	Coeff. di sicurezza allo scorrimento
FS_{RIB}	Coeff. di sicurezza al ribaltamento
FS_{QLIM}	Coeff. di sicurezza a carico limite
FS_{STAB}	Coeff. di sicurezza a stabilità globale
FS_{HYD}	Coeff. di sicurezza a sifonamento
FS_{UPL}	Coeff. di sicurezza a sollevamento

Cmb	Sismica	FS_{SCO}	FS_{RIB}	FS_{QLIM}	FS_{STAB}	FS_{HYD}	FS_{UPL}
1 - STR (A1-M1-R3)		2.304		2.773			
2 - STR (A1-M1-R3)		1.977		1.806			
3 - STR (A1-M1-R3)	H + V	1.555		1.682			
4 - STR (A1-M1-R3)	H - V	1.470		1.760			
5 - GEO (A2-M2-R2)					1.556		
6 - GEO (A2-M2-R2)					1.296		
7 - GEO (A2-M2-R2)	H + V				1.550		
8 - GEO (A2-M2-R2)	H - V				1.537		

Verifica stabilità globale muro + terreno

Simbologia adottata

Ic	Indice/Tipo combinazione
C	Centro superficie di scorrimento, espresso in [m]
R	Raggio, espresso in [m]
FS	Fattore di sicurezza

Ic	C	R	FS
	[m]	*[m]*	
5 - GEO (A2-M2-R2)	-1.57; 1.57	7.30	1.556
6 - GEO (A2-M2-R2)	-1.57; 1.57	7.30	1.296
7 - GEO (A2-M2-R2) H + V	-1.57; 1.57	7.30	1.550
8 - GEO (A2-M2-R2) H - V	-1.57; 1.57	7.30	1.537

Dettagli strisce verifiche stabilità

Simbologia adottata

Le ascisse X sono considerate positive verso monte

Le ordinate Y sono considerate positive verso l'alto

Origine in testa al muro (spigolo contro terra)

W	peso della striscia espresso in [kN]
Qy	carico sulla striscia espresso in [kN]
Qf	carico acqua sulla striscia espresso in [kN]
α	angolo fra la base della striscia e l'orizzontale espresso in [°] (positivo antiorario)
ϕ	angolo d'attrito del terreno lungo la base della striscia
c	coesione del terreno lungo la base della striscia espressa in [kPa]
b	larghezza della striscia espressa in [m]
u	pressione neutra lungo la base della striscia espressa in [kPa]

Tx; Ty Resistenza al taglio fornita dai tiranti in direzione X ed Y espressa in [kPa]

Combinazione n° 5 - GEO (A2-M2-R2)

n°	W	Qy	Qf	b	α	ϕ	c	u	Tx; Ty
	[kN]	[kN]	[kN]	[m]	[°]	[°]	[kPa]	[kPa]	[kN]
1	6.33	0.00	0.00	5.56 - 0.47	71.354	29.256	0	0.0	
2	16.68	0.00	0.00	0.47	61.945	29.256	0	0.0	
3	23.72	0.00	0.00	0.47	54.754	29.256	0	0.0	
4	29.18	0.00	0.00	0.47	48.703	29.256	0	0.0	
5	33.62	0.00	0.00	0.47	43.320	29.256	0	0.0	
6	37.33	0.00	0.00	0.47	38.383	29.256	0	0.0	
7	40.46	0.00	0.00	0.47	33.766	29.256	0	0.0	
8	43.33	0.00	0.00	0.47	29.388	20.458	4	0.0	
9	47.37	0.00	0.00	0.47	25.192	20.458	4	0.0	
10	49.15	0.00	0.00	0.47	21.137	20.458	4	0.0	
11	50.60	0.00	0.00	0.47	17.191	20.458	4	0.0	
12	59.03	0.00	0.00	0.47	13.327	20.458	4	0.0	
13	51.30	0.00	0.00	0.47	9.524	20.458	4	0.0	
14	17.09	0.00	0.00	0.47	5.764	20.458	4	0.0	
15	16.46	0.00	0.00	0.47	2.028	20.458	4	0.0	
16	15.25	0.00	0.00	0.47	-1.699	20.458	4	0.0	
17	14.99	0.00	0.00	0.47	-5.433	20.458	4	0.0	
18	14.45	0.00	0.00	0.47	-9.190	20.458	4	0.0	
19	13.64	0.00	0.00	0.47	-12.989	20.458	4	0.0	
20	12.53	0.00	0.00	0.47	-16.846	20.458	4	0.0	
21	11.11	0.00	0.00	0.47	-20.784	20.458	4	0.0	
22	9.35	0.00	0.00	0.47	-24.829	20.458	4	0.0	
23	7.23	0.00	0.00	0.47	-29.011	20.458	4	0.0	
24	4.66	0.00	0.00	0.47	-33.371	20.458	4	0.0	
25	1.58	0.00	0.00	-6.30 - 0.47	-37.230	20.458	4	0.0	

Combinazione n° 6 - GEO (A2-M2-R2)

n°	W	Qy	Qf	b	α	ϕ	c	u	Tx; Ty
	[kN]	[kN]	[kN]	[m]	[°]	[°]	[kPa]	[kPa]	[kN]
1	6.33	12.06	0.00	5.56 - 0.47	71.354	29.256	0	0.0	
2	16.68	12.06	0.00	0.47	61.945	29.256	0	0.0	
3	23.72	12.06	0.00	0.47	54.754	29.256	0	0.0	
4	29.18	12.06	0.00	0.47	48.703	29.256	0	0.0	
5	33.62	12.06	0.00	0.47	43.320	29.256	0	0.0	
6	37.33	17.33	0.00	0.47	38.383	29.256	0	0.0	
7	40.46	20.89	0.00	0.47	33.766	29.256	0	0.0	
8	43.33	20.89	0.00	0.47	29.388	20.458	4	0.0	
9	47.37	20.89	0.00	0.47	25.192	20.458	4	0.0	
10	49.15	20.89	0.00	0.47	21.137	20.458	4	0.0	
11	50.60	20.89	0.00	0.47	17.191	20.458	4	0.0	
12	59.03	15.21	0.00	0.47	13.327	20.458	4	0.0	
13	51.30	0.00	0.00	0.47	9.524	20.458	4	0.0	
14	17.09	0.00	0.00	0.47	5.764	20.458	4	0.0	
15	16.46	0.00	0.00	0.47	2.028	20.458	4	0.0	
16	15.25	0.00	0.00	0.47	-1.699	20.458	4	0.0	
17	14.99	0.00	0.00	0.47	-5.433	20.458	4	0.0	
18	14.45	0.00	0.00	0.47	-9.190	20.458	4	0.0	
19	13.64	0.00	0.00	0.47	-12.989	20.458	4	0.0	
20	12.53	0.00	0.00	0.47	-16.846	20.458	4	0.0	
21	11.11	0.00	0.00	0.47	-20.784	20.458	4	0.0	
22	9.35	0.00	0.00	0.47	-24.829	20.458	4	0.0	
23	7.23	0.00	0.00	0.47	-29.011	20.458	4	0.0	
24	4.66	0.00	0.00	0.47	-33.371	20.458	4	0.0	
25	1.58	0.00	0.00	-6.30 - 0.47	-37.230	20.458	4	0.0	

Combinazione n° 7 - GEO (A2-M2-R2) H + V

n°	W	Qy	Qf	b	α	ϕ	c	u	Tx; Ty
	[kN]	[kN]	[kN]	[m]	[°]	[°]	[kPa]	[kPa]	[kN]
1	6.33	0.00	0.00	5.56 - 0.47	71.354	35.000	0	0.0	
2	16.68	0.00	0.00	0.47	61.945	35.000	0	0.0	
3	23.72	0.00	0.00	0.47	54.754	35.000	0	0.0	
4	29.18	0.00	0.00	0.47	48.703	35.000	0	0.0	
5	33.62	0.00	0.00	0.47	43.320	35.000	0	0.0	
6	37.33	0.00	0.00	0.47	38.383	35.000	0	0.0	
7	40.46	0.00	0.00	0.47	33.766	35.000	0	0.0	
8	43.33	0.00	0.00	0.47	29.388	25.000	5	0.0	
9	47.37	0.00	0.00	0.47	25.192	25.000	5	0.0	
10	49.15	0.00	0.00	0.47	21.137	25.000	5	0.0	
11	50.60	0.00	0.00	0.47	17.191	25.000	5	0.0	
12	59.03	0.00	0.00	0.47	13.327	25.000	5	0.0	

n°	W [kN]	Qy [kN]	Qf [kN]	b [m]	α [°]	ϕ [°]	c [kPa]	u [kPa]	Tx; Ty [kN]
13	51.30	0.00	0.00	0.47	9.524	25.000	5	0.0	
14	17.09	0.00	0.00	0.47	5.764	25.000	5	0.0	
15	16.46	0.00	0.00	0.47	2.028	25.000	5	0.0	
16	15.25	0.00	0.00	0.47	-1.699	25.000	5	0.0	
17	14.99	0.00	0.00	0.47	-5.433	25.000	5	0.0	
18	14.45	0.00	0.00	0.47	-9.190	25.000	5	0.0	
19	13.64	0.00	0.00	0.47	-12.989	25.000	5	0.0	
20	12.53	0.00	0.00	0.47	-16.846	25.000	5	0.0	
21	11.11	0.00	0.00	0.47	-20.784	25.000	5	0.0	
22	9.35	0.00	0.00	0.47	-24.829	25.000	5	0.0	
23	7.23	0.00	0.00	0.47	-29.011	25.000	5	0.0	
24	4.66	0.00	0.00	0.47	-33.371	25.000	5	0.0	
25	1.58	0.00	0.00	-6.30 - 0.47	-37.230	25.000	5	0.0	

Combinazione n° 8 - GEO (A2-M2-R2) H - V

n°	W [kN]	Qy [kN]	Qf [kN]	b [m]	α [°]	ϕ [°]	c [kPa]	u [kPa]	Tx; Ty [kN]
1	6.33	0.00	0.00	5.56 - 0.47	71.354	35.000	0	0.0	
2	16.68	0.00	0.00	0.47	61.945	35.000	0	0.0	
3	23.72	0.00	0.00	0.47	54.754	35.000	0	0.0	
4	29.18	0.00	0.00	0.47	48.703	35.000	0	0.0	
5	33.62	0.00	0.00	0.47	43.320	35.000	0	0.0	
6	37.33	0.00	0.00	0.47	38.383	35.000	0	0.0	
7	40.46	0.00	0.00	0.47	33.766	35.000	0	0.0	
8	43.33	0.00	0.00	0.47	29.388	25.000	5	0.0	
9	47.37	0.00	0.00	0.47	25.192	25.000	5	0.0	
10	49.15	0.00	0.00	0.47	21.137	25.000	5	0.0	
11	50.60	0.00	0.00	0.47	17.191	25.000	5	0.0	
12	59.03	0.00	0.00	0.47	13.327	25.000	5	0.0	
13	51.30	0.00	0.00	0.47	9.524	25.000	5	0.0	
14	17.09	0.00	0.00	0.47	5.764	25.000	5	0.0	
15	16.46	0.00	0.00	0.47	2.028	25.000	5	0.0	
16	15.25	0.00	0.00	0.47	-1.699	25.000	5	0.0	
17	14.99	0.00	0.00	0.47	-5.433	25.000	5	0.0	
18	14.45	0.00	0.00	0.47	-9.190	25.000	5	0.0	
19	13.64	0.00	0.00	0.47	-12.989	25.000	5	0.0	
20	12.53	0.00	0.00	0.47	-16.846	25.000	5	0.0	
21	11.11	0.00	0.00	0.47	-20.784	25.000	5	0.0	
22	9.35	0.00	0.00	0.47	-24.829	25.000	5	0.0	
23	7.23	0.00	0.00	0.47	-29.011	25.000	5	0.0	
24	4.66	0.00	0.00	0.47	-33.371	25.000	5	0.0	
25	1.58	0.00	0.00	-6.30 - 0.47	-37.230	25.000	5	0.0	

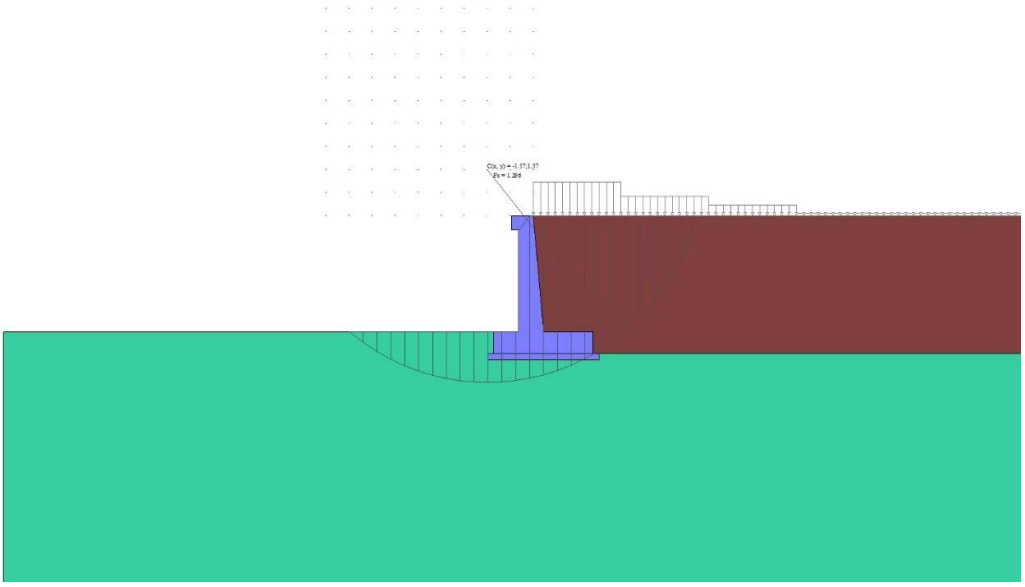

Fig. 7 - Stabilità fronte di scavo - Cerchio critico (Combinazione n° 6)

Spostamenti

Simbologia adottata

Cmb Tipo combinazione

Modello a blocchi

X Spostamento in direzione X (positivo verso monte), espresso in [cm]

Y Spostamento in direzione Y (positivo verso l'alto), espresso in [cm]

Phi Rotazione (positiva antioraria), espresso in [°]

Spostamenti ottenuti con il modello a blocchi

Cmb	X	Y	Phi
	[cm]	*[cm]*	*[°]*
1 - STR (A1-M1-R3)	-0.13891	-0.39689	-0.00850
2 - STR (A1-M1-R3)	-0.25022	-0.55286	-0.00417
3 - STR (A1-M1-R3) H + V	-0.40931	-0.44978	0.05648
4 - STR (A1-M1-R3) H - V	-0.39740	-0.40475	0.05611
9 - ECC	-0.42702	-0.43416	0.08722
10 - SLER	-0.12926	-0.46932	-0.01676
11 - SLEF	-0.06768	-0.38272	-0.01909
12 - SLEQ	-0.06768	-0.38272	-0.01909

Sollecitazioni

Elementi calcolati a trave

Simbologia adottata

n° Indice della sezione

X Posizione della sezione, espresso in [m]

N Sforzo normale, espresso in [kN]. Positivo se di compressione.

T Taglio, espresso in [kN]. Positivo se diretto da monte verso valle

M Momento, espresso in [kNm]. Positivo se tende le fibre contro terra (a monte)

La posizione delle sezioni di verifica fanno riferimento al sistema di riferimento globale la cui origine è nello spigolo in alto a destra del paramento.

Paramento

Combinazione n° 1 - STR (A1-M1-R3)

n°	X	N	T	M
	[m]	*[kN]*	*[kN]*	*[kNm]*
1	0.00	3.13	0.00	0.39
2	-0.10	4.39	0.03	0.39
3	-0.20	5.67	0.13	0.41
4	-0.30	6.97	0.29	0.44
5	-0.40	8.30	0.51	0.50
6	-0.50	9.65	0.79	0.59
7	-0.60	11.02	1.14	0.72
8	-0.70	12.41	1.55	0.89
9	-0.80	13.82	2.03	1.12
10	-0.90	15.26	2.57	1.40
11	-1.00	16.72	3.17	1.74
12	-1.10	18.20	3.84	2.15
13	-1.20	19.70	4.56	2.64

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
14	-1.30	21.22	5.36	3.21
15	-1.40	22.77	6.21	3.87
16	-1.50	24.34	7.13	4.63
17	-1.60	25.92	8.11	5.48
18	-1.70	27.54	9.16	6.45
19	-1.80	29.17	10.26	7.53
20	-1.90	30.82	11.44	8.73
21	-2.00	32.50	12.67	10.06
22	-2.10	34.20	13.97	11.53
23	-2.20	35.92	15.33	13.13
24	-2.30	37.66	16.76	14.88
25	-2.40	39.42	18.24	16.79
26	-2.50	41.21	19.80	18.85
27	-2.60	43.02	21.41	21.08
28	-2.70	44.85	23.09	23.48
29	-2.80	46.70	24.83	26.07
30	-2.90	48.57	26.64	28.83
31	-3.00	50.47	28.50	31.79
32	-3.10	52.38	30.44	34.95
33	-3.20	54.32	32.43	38.31
34	-3.30	56.28	34.49	41.89
35	-3.40	58.27	36.61	45.68
36	-3.50	60.27	38.80	49.69
37	-3.60	62.30	41.05	53.94
38	-3.70	64.35	43.36	58.42
39	-3.80	66.42	45.73	63.15
40	-3.90	68.51	48.17	68.12
41	-4.00	70.62	50.67	73.36

Combinazione n° 2 - STR (A1-M1-R3)

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	0.00	3.13	0.00	0.39
2	-0.10	4.39	1.31	0.46
3	-0.20	5.67	2.68	0.67
4	-0.30	6.97	4.12	1.02
5	-0.40	8.30	5.62	1.52
6	-0.50	9.65	7.18	2.19
7	-0.60	11.02	8.80	3.02
8	-0.70	12.41	10.49	4.02
9	-0.80	13.82	12.24	5.20
10	-0.90	15.26	14.06	6.57
11	-1.00	16.72	15.94	8.12
12	-1.10	18.20	17.88	9.87
13	-1.20	19.70	19.88	11.83
14	-1.30	21.22	21.95	14.00
15	-1.40	22.77	24.08	16.38
16	-1.50	24.34	26.28	18.99
17	-1.60	25.92	28.54	21.83
18	-1.70	27.54	30.86	24.90
19	-1.80	29.17	33.24	28.21
20	-1.90	30.82	35.69	31.78
21	-2.00	32.50	38.20	35.60
22	-2.10	34.20	40.78	39.68
23	-2.20	35.92	43.42	44.03
24	-2.30	37.66	46.12	48.65
25	-2.40	39.42	48.89	53.56
26	-2.50	41.21	51.71	58.75
27	-2.60	43.02	54.61	64.23
28	-2.70	44.85	57.56	70.02
29	-2.80	46.70	60.58	76.11
30	-2.90	48.57	63.66	82.52
31	-3.00	50.47	66.81	89.24
32	-3.10	52.38	70.01	96.30
33	-3.20	54.32	73.29	103.68
34	-3.30	56.28	76.62	111.40
35	-3.40	58.27	80.02	119.47
36	-3.50	60.27	83.48	127.89
37	-3.60	62.30	87.01	136.67
38	-3.70	64.35	90.60	145.81
39	-3.80	66.42	94.25	155.33
40	-3.90	68.51	97.96	165.22
41	-4.00	70.62	101.74	175.49

Combinazione n° 3 - STR (A1-M1-R3) H + V

n°	X [m]	N [kN]	T [kN]	M [kNm]
1	0.00	3.31	0.00	0.41
2	-0.10	4.65	0.50	0.44
3	-0.20	6.01	1.06	0.53
4	-0.30	7.40	1.66	0.68
5	-0.40	8.80	2.31	0.90
6	-0.50	10.23	3.01	1.19
7	-0.60	11.69	3.76	1.56
8	-0.70	13.16	4.56	2.02
9	-0.80	14.66	5.41	2.56
10	-0.90	16.18	6.31	3.20
11	-1.00	17.73	7.26	3.94
12	-1.10	19.30	8.26	4.78
13	-1.20	20.89	9.31	5.73
14	-1.30	22.51	10.41	6.80
15	-1.40	24.15	11.55	7.98
16	-1.50	25.81	12.75	9.29
17	-1.60	27.49	14.00	10.73
18	-1.70	29.20	15.29	12.31
19	-1.80	30.93	16.64	14.02
20	-1.90	32.69	18.03	15.88
21	-2.00	34.47	19.48	17.88
22	-2.10	36.27	20.97	20.05
23	-2.20	38.09	22.51	22.37
24	-2.30	39.94	24.11	24.85
25	-2.40	41.81	25.75	27.51
26	-2.50	43.70	27.44	30.34
27	-2.60	45.62	29.18	33.35
28	-2.70	47.56	30.98	36.55
29	-2.80	49.52	32.82	39.94
30	-2.90	51.51	34.71	43.52
31	-3.00	53.52	36.65	47.30
32	-3.10	55.55	38.64	51.29
33	-3.20	57.61	40.68	55.49
34	-3.30	59.69	42.77	59.90
35	-3.40	61.79	44.90	64.54
36	-3.50	63.92	47.09	69.40
37	-3.60	66.07	49.33	74.49
38	-3.70	68.24	51.62	79.81
39	-3.80	70.43	53.95	85.38
40	-3.90	72.65	56.34	91.19
41	-4.00	74.89	58.78	97.26

Combinazione n° 4 - STR (A1-M1-R3) H - V

n°	X [m]	N [kN]	T [kN]	M [kNm]
1	0.00	3.13	0.00	0.39
2	-0.10	4.31	0.39	0.41
3	-0.20	5.51	0.84	0.48
4	-0.30	6.74	1.33	0.60
5	-0.40	7.99	1.88	0.78
6	-0.50	9.25	2.47	1.02
7	-0.60	10.54	3.11	1.33
8	-0.70	11.85	3.80	1.71
9	-0.80	13.18	4.54	2.17
10	-0.90	14.53	5.33	2.71
11	-1.00	15.90	6.17	3.34
12	-1.10	17.29	7.06	4.06
13	-1.20	18.70	8.00	4.87
14	-1.30	20.13	8.99	5.79
15	-1.40	21.58	10.03	6.82
16	-1.50	23.05	11.11	7.96
17	-1.60	24.55	12.25	9.22
18	-1.70	26.06	13.44	10.60
19	-1.80	27.59	14.67	12.11
20	-1.90	29.15	15.96	13.75
21	-2.00	30.72	17.30	15.53
22	-2.10	32.32	18.68	17.45
23	-2.20	33.93	20.12	19.53
24	-2.30	35.57	21.60	21.75
25	-2.40	37.23	23.13	24.13
26	-2.50	38.91	24.72	26.68
27	-2.60	40.60	26.35	29.39
28	-2.70	42.32	28.03	32.28
29	-2.80	44.06	29.76	35.34
30	-2.90	45.82	31.55	38.59
31	-3.00	47.60	33.38	42.02
32	-3.10	49.40	35.26	45.65
33	-3.20	51.23	37.19	49.48
34	-3.30	53.07	39.17	53.51
35	-3.40	54.93	41.20	57.75
36	-3.50	56.81	43.28	62.21

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
37	-3.60	58.72	45.40	66.88
38	-3.70	60.64	47.58	71.78
39	-3.80	62.59	49.81	76.90
40	-3.90	64.55	52.09	82.26
41	-4.00	66.54	54.41	87.86

Combinazione n° 9 - ECC

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	0.00	3.13	25.00	25.39
2	-0.10	4.39	25.02	25.39
3	-0.20	5.67	25.10	25.41
4	-0.30	6.97	25.21	25.44
5	-0.40	8.30	25.38	25.49
6	-0.50	9.65	25.59	25.56
7	-0.60	11.02	25.85	25.66
8	-0.70	12.41	26.15	25.80
9	-0.80	13.82	26.50	25.98
10	-0.90	15.26	26.90	26.20
11	-1.00	16.72	27.35	26.46
12	-1.10	18.20	27.84	26.79
13	-1.20	19.70	28.38	27.17
14	-1.30	21.22	28.97	27.61
15	-1.40	22.77	29.60	28.12
16	-1.50	24.34	30.28	28.70
17	-1.60	25.92	31.01	29.36
18	-1.70	27.54	31.78	30.10
19	-1.80	29.17	32.60	30.93
20	-1.90	30.82	33.47	31.85
21	-2.00	32.50	34.39	32.87
22	-2.10	34.20	35.35	33.99
23	-2.20	35.92	36.36	35.21
24	-2.30	37.66	37.41	36.55
25	-2.40	39.42	38.51	38.00
26	-2.50	41.21	39.66	39.57
27	-2.60	43.02	40.86	41.27
28	-2.70	44.85	42.10	43.09
29	-2.80	46.70	43.39	45.06
30	-2.90	48.57	44.73	47.16
31	-3.00	50.47	46.11	49.40
32	-3.10	52.38	47.55	51.79
33	-3.20	54.32	49.02	54.34
34	-3.30	56.28	50.55	57.05
35	-3.40	58.27	52.12	59.92
36	-3.50	60.27	53.74	62.96
37	-3.60	62.30	55.40	66.17
38	-3.70	64.35	57.12	69.56
39	-3.80	66.42	58.88	73.13
40	-3.90	68.51	60.68	76.89
41	-4.00	70.62	62.53	80.84

Combinazione n° 10 - SLER

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	0.00	3.13	0.00	0.39
2	-0.10	4.39	0.73	0.43
3	-0.20	5.67	1.51	0.55
4	-0.30	6.97	2.34	0.76
5	-0.40	8.30	3.21	1.05
6	-0.50	9.65	4.14	1.45
7	-0.60	11.02	5.10	1.94
8	-0.70	12.41	6.12	2.54
9	-0.80	13.82	7.18	3.25
10	-0.90	15.26	8.29	4.07
11	-1.00	16.72	9.44	5.01
12	-1.10	18.20	10.64	6.08
13	-1.20	19.70	11.89	7.27
14	-1.30	21.22	13.19	8.60
15	-1.40	22.77	14.53	10.07
16	-1.50	24.34	15.92	11.68
17	-1.60	25.92	17.36	13.44
18	-1.70	27.54	18.84	15.35
19	-1.80	29.17	20.37	17.42
20	-1.90	30.82	21.95	19.66
21	-2.00	32.50	23.57	22.06
22	-2.10	34.20	25.24	24.63
23	-2.20	35.92	26.96	27.38

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
24	-2.30	37.66	28.73	30.31
25	-2.40	39.42	30.54	33.43
26	-2.50	41.21	32.40	36.74
27	-2.60	43.02	34.30	40.24
28	-2.70	44.85	36.25	43.95
29	-2.80	46.70	38.25	47.86
30	-2.90	48.57	40.30	51.98
31	-3.00	50.47	42.39	56.32
32	-3.10	52.38	44.53	60.88
33	-3.20	54.32	46.72	65.66
34	-3.30	56.28	48.95	70.67
35	-3.40	58.27	51.24	75.92
36	-3.50	60.27	53.56	81.40
37	-3.60	62.30	55.94	87.13
38	-3.70	64.35	58.36	93.11
39	-3.80	66.42	60.83	99.34
40	-3.90	68.51	63.34	105.83
41	-4.00	70.62	65.91	112.58

Combinazione n° 11 - SLEF

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	0.00	3.13	0.00	0.39
2	-0.10	4.39	0.02	0.39
3	-0.20	5.67	0.10	0.41
4	-0.30	6.97	0.21	0.44
5	-0.40	8.30	0.38	0.49
6	-0.50	9.65	0.59	0.56
7	-0.60	11.02	0.85	0.66
8	-0.70	12.41	1.15	0.80
9	-0.80	13.82	1.50	0.98
10	-0.90	15.26	1.90	1.20
11	-1.00	16.72	2.35	1.46
12	-1.10	18.20	2.84	1.79
13	-1.20	19.70	3.38	2.17
14	-1.30	21.22	3.97	2.61
15	-1.40	22.77	4.60	3.12
16	-1.50	24.34	5.28	3.70
17	-1.60	25.92	6.01	4.36
18	-1.70	27.54	6.78	5.10
19	-1.80	29.17	7.60	5.93
20	-1.90	30.82	8.47	6.85
21	-2.00	32.50	9.39	7.87
22	-2.10	34.20	10.35	8.99
23	-2.20	35.92	11.36	10.21
24	-2.30	37.66	12.41	11.55
25	-2.40	39.42	13.51	13.00
26	-2.50	41.21	14.66	14.57
27	-2.60	43.02	15.86	16.27
28	-2.70	44.85	17.10	18.09
29	-2.80	46.70	18.39	20.06
30	-2.90	48.57	19.73	22.16
31	-3.00	50.47	21.11	24.40
32	-3.10	52.38	22.55	26.79
33	-3.20	54.32	24.02	29.34
34	-3.30	56.28	25.55	32.05
35	-3.40	58.27	27.12	34.92
36	-3.50	60.27	28.74	37.96
37	-3.60	62.30	30.40	41.17
38	-3.70	64.35	32.12	44.56
39	-3.80	66.42	33.88	48.13
40	-3.90	68.51	35.68	51.89
41	-4.00	70.62	37.53	55.84

Combinazione n° 12 - SLEQ

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	0.00	3.13	0.00	0.39
2	-0.10	4.39	0.02	0.39
3	-0.20	5.67	0.10	0.41
4	-0.30	6.97	0.21	0.44
5	-0.40	8.30	0.38	0.49
6	-0.50	9.65	0.59	0.56
7	-0.60	11.02	0.85	0.66
8	-0.70	12.41	1.15	0.80
9	-0.80	13.82	1.50	0.98
10	-0.90	15.26	1.90	1.20

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
11	-1.00	16.72	2.35	1.46
12	-1.10	18.20	2.84	1.79
13	-1.20	19.70	3.38	2.17
14	-1.30	21.22	3.97	2.61
15	-1.40	22.77	4.60	3.12
16	-1.50	24.34	5.28	3.70
17	-1.60	25.92	6.01	4.36
18	-1.70	27.54	6.78	5.10
19	-1.80	29.17	7.60	5.93
20	-1.90	30.82	8.47	6.85
21	-2.00	32.50	9.39	7.87
22	-2.10	34.20	10.35	8.99
23	-2.20	35.92	11.36	10.21
24	-2.30	37.66	12.41	11.55
25	-2.40	39.42	13.51	13.00
26	-2.50	41.21	14.66	14.57
27	-2.60	43.02	15.86	16.27
28	-2.70	44.85	17.10	18.09
29	-2.80	46.70	18.39	20.06
30	-2.90	48.57	19.73	22.16
31	-3.00	50.47	21.11	24.40
32	-3.10	52.38	22.55	26.79
33	-3.20	54.32	24.02	29.34
34	-3.30	56.28	25.55	32.05
35	-3.40	58.27	27.12	34.92
36	-3.50	60.27	28.74	37.96
37	-3.60	62.30	30.40	41.17
38	-3.70	64.35	32.12	44.56
39	-3.80	66.42	33.88	48.13
40	-3.90	68.51	35.68	51.89
41	-4.00	70.62	37.53	55.84

Mensola valle

Combinazione n° 1 - STR (A1-M1-R3)

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	-0.75	0.00	0.00	0.00
2	-0.67	0.00	1.04	0.04
3	-0.58	0.00	2.08	0.17
4	-0.50	0.00	3.13	0.39
5	-0.50	0.00	3.13	0.39

Combinazione n° 2 - STR (A1-M1-R3)

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	-0.75	0.00	0.00	0.00
2	-0.67	0.00	1.04	0.04
3	-0.58	0.00	2.08	0.17
4	-0.50	0.00	3.13	0.39
5	-0.50	0.00	3.13	0.39

Combinazione n° 3 - STR (A1-M1-R3)_H + V

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	-0.75	0.00	0.00	0.00
2	-0.67	0.00	1.10	0.05
3	-0.58	0.00	2.21	0.18
4	-0.50	0.00	3.31	0.41
5	-0.50	0.00	3.31	0.41

Combinazione n° 4 - STR (A1-M1-R3)_H - V

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	-0.75	0.00	0.00	0.00
2	-0.67	0.00	1.04	0.04
3	-0.58	0.00	2.08	0.17
4	-0.50	0.00	3.13	0.39
5	-0.50	0.00	3.13	0.39

Combinazione n° 9 - ECC

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	-0.75	0.00	0.00	0.00
2	-0.67	0.00	1.04	0.04
3	-0.58	0.00	2.08	0.17
4	-0.50	0.00	3.13	0.39
5	-0.50	-25.00	3.13	25.39

Combinazione n° 10 - SLER

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	-0.75	0.00	0.00	0.00
2	-0.67	0.00	1.04	0.04
3	-0.58	0.00	2.08	0.17
4	-0.50	0.00	3.13	0.39
5	-0.50	0.00	3.13	0.39

Combinazione n° 11 - SLEF

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	-0.75	0.00	0.00	0.00
2	-0.67	0.00	1.04	0.04
3	-0.58	0.00	2.08	0.17
4	-0.50	0.00	3.13	0.39
5	-0.50	0.00	3.13	0.39

Combinazione n° 12 - SLEQ

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	-0.75	0.00	0.00	0.00
2	-0.67	0.00	1.04	0.04
3	-0.58	0.00	2.08	0.17
4	-0.50	0.00	3.13	0.39
5	-0.50	0.00	3.13	0.39

Fondazione

Combinazione n° 1 - STR (A1-M1-R3)

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	-1.35	0.00	0.00	0.00
2	-1.26	0.00	6.60	0.31
3	-1.16	0.00	13.23	1.25
4	-1.07	0.00	19.89	2.81
5	-0.97	0.00	26.58	5.00
6	-0.88	0.00	33.30	7.83
7	-0.78	0.00	40.05	11.30
8	-0.69	0.00	46.84	15.40

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
9	-0.59	0.00	53.65	20.14
10	-0.50	0.00	60.50	25.53
11	0.35	0.00	-40.81	-33.26
12	0.45	0.00	-38.13	-29.31
13	0.55	0.00	-35.48	-25.63
14	0.65	0.00	-32.87	-22.21
15	0.75	0.00	-30.30	-19.05
16	0.85	0.00	-27.76	-16.15
17	0.95	0.00	-25.25	-13.50
18	1.05	0.00	-22.78	-11.10
19	1.15	0.00	-20.35	-8.94
20	1.25	0.00	-17.95	-7.03
21	1.35	0.00	-15.58	-5.35
22	1.45	0.00	-13.25	-3.91
23	1.55	0.00	-10.95	-2.70
24	1.65	0.00	-8.69	-1.72
25	1.75	0.00	-6.47	-0.96
26	1.85	0.00	-4.28	-0.43
27	1.95	0.00	-2.12	-0.11
28	2.05	0.00	0.00	0.00

Combinazione n° 2 - STR (A1-M1-R3)

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	-1.35	0.00	0.00	0.00
2	-1.26	0.00	10.30	0.49
3	-1.16	0.00	20.61	1.95
4	-1.07	0.00	30.93	4.38
5	-0.97	0.00	41.28	7.79
6	-0.88	0.00	51.63	12.18
7	-0.78	0.00	62.00	17.54
8	-0.69	0.00	72.39	23.89
9	-0.59	0.00	82.79	31.22
10	-0.50	0.00	93.21	39.53
11	0.35	0.00	-69.70	-58.55
12	0.45	0.00	-65.47	-51.79
13	0.55	0.00	-61.25	-45.45
14	0.65	0.00	-57.04	-39.54
15	0.75	0.00	-52.86	-34.04
16	0.85	0.00	-48.69	-28.97
17	0.95	0.00	-44.54	-24.31
18	1.05	0.00	-40.40	-20.06
19	1.15	0.00	-36.29	-16.22
20	1.25	0.00	-32.19	-12.80
21	1.35	0.00	-28.10	-9.79
22	1.45	0.00	-24.04	-7.18
23	1.55	0.00	-19.99	-4.98
24	1.65	0.00	-15.96	-3.18
25	1.75	0.00	-11.94	-1.79
26	1.85	0.00	-7.94	-0.79
27	1.95	0.00	-3.96	-0.20
28	2.05	0.00	0.00	0.00

Combinazione n° 3 - STR (A1-M1-R3)_H + V

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	-1.35	0.00	0.00	0.00
2	-1.26	0.00	11.24	0.53
3	-1.16	0.00	22.28	2.12
4	-1.07	0.00	33.10	4.73
5	-0.97	0.00	43.73	8.36
6	-0.88	0.00	54.14	12.99
7	-0.78	0.00	64.35	18.58
8	-0.69	0.00	74.35	25.13
9	-0.59	0.00	84.14	32.62
10	-0.50	0.00	93.73	41.02
11	0.35	0.00	-25.57	-31.23
12	0.45	0.00	-25.92	-28.65
13	0.55	0.00	-26.04	-26.06
14	0.65	0.00	-25.93	-23.45
15	0.75	0.00	-25.58	-20.88
16	0.85	0.00	-25.01	-18.35
17	0.95	0.00	-24.20	-15.88
18	1.05	0.00	-23.16	-13.51
19	1.15	0.00	-21.89	-11.26
20	1.25	0.00	-20.38	-9.14
21	1.35	0.00	-18.65	-7.19

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
22	1.45	0.00	-16.68	-5.42
23	1.55	0.00	-14.48	-3.86
24	1.65	0.00	-12.05	-2.53
25	1.75	0.00	-9.38	-1.46
26	1.85	0.00	-6.49	-0.66
27	1.95	0.00	-3.36	-0.17
28	2.05	0.00	0.00	0.00

Combinazione n° 4 - STR (A1-M1-R3)_H - V

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	-1.35	0.00	0.00	0.00
2	-1.26	0.00	10.22	0.48
3	-1.16	0.00	20.24	1.92
4	-1.07	0.00	30.05	4.30
5	-0.97	0.00	39.65	7.59
6	-0.88	0.00	49.05	11.78
7	-0.78	0.00	58.24	16.85
8	-0.69	0.00	67.23	22.78
9	-0.59	0.00	76.01	29.54
10	-0.50	0.00	84.59	37.13
11	0.35	0.00	-43.29	-46.23
12	0.45	0.00	-42.59	-41.94
13	0.55	0.00	-41.65	-37.72
14	0.65	0.00	-40.49	-33.61
15	0.75	0.00	-39.10	-29.63
16	0.85	0.00	-37.47	-25.80
17	0.95	0.00	-35.62	-22.15
18	1.05	0.00	-33.53	-18.69
19	1.15	0.00	-31.22	-15.45
20	1.25	0.00	-28.67	-12.45
21	1.35	0.00	-25.89	-9.72
22	1.45	0.00	-22.88	-7.28
23	1.55	0.00	-19.65	-5.15
24	1.65	0.00	-16.18	-3.36
25	1.75	0.00	-12.48	-1.92
26	1.85	0.00	-8.55	-0.87
27	1.95	0.00	-4.39	-0.22
28	2.05	0.00	0.00	0.00

Combinazione n° 9 - ECC

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	-1.35	0.00	0.00	0.00
2	-1.26	0.00	12.53	0.59
3	-1.16	0.00	24.75	2.36
4	-1.07	0.00	36.64	5.26
5	-0.97	0.00	48.22	9.27
6	-0.88	0.00	59.47	14.36
7	-0.78	0.00	70.41	20.49
8	-0.69	0.00	81.02	27.65
9	-0.59	0.00	91.32	35.79
10	-0.50	0.00	101.30	44.89
11	0.35	0.00	-56.04	-62.30
12	0.45	0.00	-55.61	-56.72
13	0.55	0.00	-54.82	-51.19
14	0.65	0.00	-53.67	-45.76
15	0.75	0.00	-52.17	-40.47
16	0.85	0.00	-50.30	-35.34
17	0.95	0.00	-48.08	-30.42
18	1.05	0.00	-45.50	-25.74
19	1.15	0.00	-42.57	-21.33
20	1.25	0.00	-39.27	-17.24
21	1.35	0.00	-35.61	-13.49
22	1.45	0.00	-31.60	-10.13
23	1.55	0.00	-27.23	-7.18
24	1.65	0.00	-22.50	-4.69
25	1.75	0.00	-17.41	-2.69
26	1.85	0.00	-11.97	-1.22
27	1.95	0.00	-6.16	-0.31
28	2.05	0.00	0.00	0.00

Combinazione n° 10 - SLER

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	-1.35	0.00	0.00	0.00
2	-1.26	0.00	7.77	0.37
3	-1.16	0.00	15.59	1.47
4	-1.07	0.00	23.48	3.31
5	-0.97	0.00	31.43	5.91
6	-0.88	0.00	39.45	9.25
7	-0.78	0.00	47.52	13.36
8	-0.69	0.00	55.65	18.23
9	-0.59	0.00	63.85	23.87
10	-0.50	0.00	72.11	30.29
11	0.35	0.00	-8.95	-4.79
12	0.45	0.00	-7.87	-3.95
13	0.55	0.00	-6.86	-3.21
14	0.65	0.00	-5.92	-2.57
15	0.75	0.00	-5.05	-2.02
16	0.85	0.00	-4.25	-1.56
17	0.95	0.00	-3.52	-1.17
18	1.05	0.00	-2.85	-0.85
19	1.15	0.00	-2.26	-0.60
20	1.25	0.00	-1.73	-0.40
21	1.35	0.00	-1.27	-0.25
22	1.45	0.00	-0.89	-0.14
23	1.55	0.00	-0.57	-0.07
24	1.65	0.00	-0.32	-0.03
25	1.75	0.00	-0.13	0.00
26	1.85	0.00	-0.02	0.00
27	1.95	0.00	0.02	0.00
28	2.05	0.00	0.00	0.00

Combinazione n° 11 - SLEF

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	-1.35	0.00	0.00	0.00
2	-1.26	0.00	5.72	0.27
3	-1.16	0.00	11.50	1.08
4	-1.07	0.00	17.36	2.44
5	-0.97	0.00	23.29	4.36
6	-0.88	0.00	29.28	6.85
7	-0.78	0.00	35.35	9.90
8	-0.69	0.00	41.49	13.52
9	-0.59	0.00	47.69	17.74
10	-0.50	0.00	53.97	22.54
11	0.35	0.00	7.07	9.22
12	0.45	0.00	7.28	8.50
13	0.55	0.00	7.41	7.76
14	0.65	0.00	7.47	7.02
15	0.75	0.00	7.44	6.27
16	0.85	0.00	7.34	5.53
17	0.95	0.00	7.16	4.81
18	1.05	0.00	6.90	4.10
19	1.15	0.00	6.56	3.43
20	1.25	0.00	6.15	2.79
21	1.35	0.00	5.65	2.20
22	1.45	0.00	5.08	1.67
23	1.55	0.00	4.43	1.19
24	1.65	0.00	3.70	0.78
25	1.75	0.00	2.89	0.45
26	1.85	0.00	2.01	0.21
27	1.95	0.00	1.04	0.05
28	2.05	0.00	0.00	0.00

Combinazione n° 12 - SLEQ

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	-1.35	0.00	0.00	0.00
2	-1.26	0.00	5.72	0.27
3	-1.16	0.00	11.50	1.08
4	-1.07	0.00	17.36	2.44
5	-0.97	0.00	23.29	4.36
6	-0.88	0.00	29.28	6.85
7	-0.78	0.00	35.35	9.90
8	-0.69	0.00	41.49	13.52
9	-0.59	0.00	47.69	17.74
10	-0.50	0.00	53.97	22.54
11	0.35	0.00	7.07	9.22
12	0.45	0.00	7.28	8.50
13	0.55	0.00	7.41	7.76

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
14	0.65	0.00	7.47	7.02
15	0.75	0.00	7.44	6.27
16	0.85	0.00	7.34	5.53
17	0.95	0.00	7.16	4.81
18	1.05	0.00	6.90	4.10
19	1.15	0.00	6.56	3.43
20	1.25	0.00	6.15	2.79
21	1.35	0.00	5.65	2.20
22	1.45	0.00	5.08	1.67
23	1.55	0.00	4.43	1.19
24	1.65	0.00	3.70	0.78
25	1.75	0.00	2.89	0.45
26	1.85	0.00	2.01	0.21
27	1.95	0.00	1.04	0.05
28	2.05	0.00	0.00	0.00

Verifiche strutturali

Verifiche a flessione

Elementi calcolati a trave

Simbologia adottata

n°	indice sezione
B	larghezza sezione espresso in [cm]
H	altezza sezione espressa in [cm]
Afi	area ferri inferiori espresso in [cmq]
Afs	area ferri superiori espressa in [cmq]
M	momento agente espressa in [kNm]
N	sforzo normale agente espressa in [kN]
Mrd	momento resistente espresso in [kNm]
Nrd	sforzo normale resistente espresso in [kN]
FS	fattore di sicurezza (rapporto tra sollecitazione ultima e sollecitazione agente)

Paramento

Combinazione n° 1 - STR (A1-M1-R3)

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
1	0.00	100	50	10.05	10.05	0.39	3.13	527.66	4221.27	1350.805
2	-0.10	100	51	10.05	10.05	0.39	4.39	465.51	5176.12	1180.164
3	-0.20	100	52	10.05	10.05	0.41	5.67	416.94	5761.36	1016.338
4	-0.30	100	53	10.05	10.05	0.44	6.97	390.02	6118.79	877.445
5	-0.40	100	53	10.05	10.05	0.50	8.30	384.13	6331.27	762.805
6	-0.50	100	54	10.05	10.05	0.59	9.65	395.72	6429.14	666.342
7	-0.60	100	55	10.05	10.05	0.72	11.02	421.69	6437.62	584.245
8	-0.70	100	56	10.05	10.05	0.89	12.41	459.30	6378.19	513.919
9	-0.80	100	57	10.05	10.05	1.12	13.82	506.11	6268.92	453.451
10	-0.90	100	58	10.05	10.05	1.40	15.26	557.69	6098.96	399.648
11	-1.00	100	59	10.05	10.05	1.74	16.72	613.44	5900.58	352.935
12	-1.10	100	60	10.05	10.05	2.15	18.20	668.79	5659.52	310.992
13	-1.20	100	60	10.05	10.05	2.64	19.70	723.40	5399.83	274.106
14	-1.30	100	61	10.05	10.05	3.21	21.22	775.93	5129.57	241.696
15	-1.40	100	62	10.05	10.05	3.87	22.77	823.32	4843.11	212.711
16	-1.50	100	63	10.05	10.05	4.63	24.34	866.99	4560.52	187.401
17	-1.60	100	64	10.05	10.05	5.48	25.92	902.92	4268.36	164.645

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
18	-1.70	100	65	20.11	10.05	6.45	27.54	1026.52	4382.26	159.149
19	-1.80	100	66	20.11	10.05	7.53	29.17	1028.05	3981.87	136.514
20	-1.90	100	67	20.11	10.05	8.73	30.82	1014.64	3581.26	116.188
21	-2.00	100	67	20.11	10.05	10.06	32.50	987.99	3191.02	98.187
22	-2.10	100	68	20.11	10.05	11.53	34.20	948.18	2813.28	82.265
23	-2.20	100	69	20.11	10.05	13.13	35.92	896.23	2451.69	68.258
24	-2.30	100	70	20.11	10.05	14.88	37.66	837.20	2118.74	56.259
25	-2.40	100	71	20.11	10.05	16.79	39.42	777.00	1824.95	46.290
26	-2.50	100	72	20.11	10.05	18.85	41.21	710.85	1554.10	37.712
27	-2.60	100	73	20.11	10.05	21.08	43.02	661.62	1350.17	31.386
28	-2.70	100	74	20.11	10.05	23.48	44.85	624.49	1192.64	26.593
29	-2.80	100	74	20.11	10.05	26.07	46.70	595.80	1067.45	22.858
30	-2.90	100	75	20.11	10.05	28.83	48.57	573.22	965.66	19.881
31	-3.00	100	76	20.11	10.05	31.79	50.47	555.22	881.37	17.464
32	-3.10	100	77	20.11	10.05	34.95	52.38	540.73	810.47	15.472
33	-3.20	100	78	20.11	20.11	38.31	54.32	981.87	1392.21	25.628
34	-3.30	100	79	20.11	20.11	41.89	56.28	963.55	1294.77	23.004
35	-3.40	100	80	10.05	20.11	45.68	58.27	935.70	1193.59	20.485
36	-3.50	100	81	10.05	20.11	49.69	60.27	923.99	1120.69	18.594
37	-3.60	100	81	10.05	20.11	53.94	62.30	914.48	1056.20	16.954
38	-3.70	100	82	10.05	20.11	58.42	64.35	906.81	998.77	15.522
39	-3.80	100	83	10.05	20.11	63.15	66.42	900.70	947.32	14.263
40	-3.90	100	84	10.05	20.11	68.12	68.51	895.94	901.00	13.152
41	-3.99	100	85	10.05	20.11	73.36	70.62	890.82	857.62	12.144

Combinazione n° 2 - STR (A1-M1-R3)

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
1	0.00	100	50	10.05	10.05	0.39	3.13	527.66	4221.27	1350.805
2	-0.10	100	51	10.05	10.05	0.46	4.39	502.39	4808.10	1096.253
3	-0.20	100	52	10.05	10.05	0.67	5.67	542.30	4618.74	814.773
4	-0.30	100	53	10.05	10.05	1.02	6.97	601.53	4116.50	590.312
5	-0.40	100	53	10.05	10.05	1.52	8.30	650.69	3541.58	426.697
6	-0.50	100	54	10.05	10.05	2.19	9.65	645.38	2843.66	294.728
7	-0.60	100	55	10.05	10.05	3.02	11.02	601.14	2193.42	199.063
8	-0.70	100	56	10.05	10.05	4.02	12.41	540.04	1666.57	134.283
9	-0.80	100	57	10.05	10.05	5.20	13.82	478.31	1271.26	91.954
10	-0.90	100	58	10.05	10.05	6.57	15.26	427.49	993.56	65.106
11	-1.00	100	59	10.05	10.05	8.12	16.72	392.65	808.28	48.346
12	-1.10	100	60	10.05	10.05	9.87	18.20	370.21	682.27	37.491
13	-1.20	100	60	10.05	10.05	11.83	19.70	355.09	591.24	30.012
14	-1.30	100	61	10.05	10.05	14.00	21.22	344.66	522.54	24.621
15	-1.40	100	62	10.05	10.05	16.38	22.77	337.40	468.92	20.595
16	-1.50	100	63	10.05	10.05	18.99	24.34	331.67	425.04	17.466
17	-1.60	100	64	10.05	10.05	21.83	25.92	326.62	387.95	14.964
18	-1.70	100	65	20.11	10.05	24.90	27.54	321.81	355.89	12.925
19	-1.80	100	66	20.11	10.05	28.21	29.17	319.47	330.28	11.323
20	-1.90	100	67	20.11	10.05	31.78	30.82	318.00	308.44	10.007
21	-2.00	100	67	20.11	10.05	35.60	32.50	317.20	289.60	8.911
22	-2.10	100	68	20.11	10.05	39.68	34.20	316.96	273.18	7.988
23	-2.20	100	69	20.11	10.05	44.03	35.92	317.17	258.76	7.204
24	-2.30	100	70	20.11	10.05	48.65	37.66	317.76	245.98	6.532
25	-2.40	100	71	20.11	10.05	53.56	39.42	318.67	234.59	5.950
26	-2.50	100	72	20.11	10.05	58.75	41.21	319.85	224.37	5.444
27	-2.60	100	73	20.11	10.05	64.23	43.02	321.25	215.15	5.001
28	-2.70	100	74	20.11	10.05	70.02	44.85	322.85	206.79	4.611
29	-2.80	100	74	20.11	10.05	76.11	46.70	324.63	199.18	4.265
30	-2.90	100	75	20.11	10.05	82.52	48.57	326.55	192.22	3.957
31	-3.00	100	76	20.11	10.05	89.24	50.47	328.61	185.83	3.682
32	-3.10	100	77	20.11	10.05	96.30	52.38	330.78	179.94	3.435
33	-3.20	100	78	20.11	20.11	103.68	54.32	653.63	342.47	6.304
34	-3.30	100	79	20.11	20.11	111.40	56.28	658.53	332.71	5.911
35	-3.40	100	80	10.05	20.11	119.47	58.27	662.28	323.00	5.543
36	-3.50	100	81	10.05	20.11	127.89	60.27	668.05	314.83	5.224
37	-3.60	100	81	10.05	20.11	136.67	62.30	673.94	307.20	4.931
38	-3.70	100	82	10.05	20.11	145.81	64.35	679.55	299.88	4.660
39	-3.80	100	83	10.05	20.11	155.33	66.42	685.06	292.92	4.410
40	-3.90	100	84	10.05	20.11	165.22	68.51	690.66	286.38	4.180
41	-3.99	100	85	10.05	20.11	175.49	70.62	695.42	279.85	3.963

Combinazione n° 3 - STR (A1-M1-R3)_H + V

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
1	0.00	100	50	10.05	10.05	0.41	3.31	527.66	4221.27	1273.751
2	-0.10	100	51	10.05	10.05	0.44	4.65	479.07	5042.32	1084.077
3	-0.20	100	52	10.05	10.05	0.53	6.01	469.86	5346.82	889.406
4	-0.30	100	53	10.05	10.05	0.68	7.40	492.69	5370.15	726.159

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
5	-0.40	100	53	10.05	10.05	0.90	8.80	532.93	5226.45	593.774
6	-0.50	100	54	10.05	10.05	1.19	10.23	581.71	5000.05	488.664
7	-0.60	100	55	10.05	10.05	1.56	11.69	630.37	4715.19	403.516
8	-0.70	100	56	10.05	10.05	2.02	13.16	676.43	4411.96	335.213
9	-0.80	100	57	10.05	10.05	2.56	14.66	718.15	4108.60	280.236
10	-0.90	100	58	10.05	10.05	3.20	16.18	752.69	3805.01	235.109
11	-1.00	100	59	10.05	10.05	3.94	17.73	763.82	3437.69	193.891
12	-1.10	100	60	10.05	10.05	4.78	19.30	759.06	3063.73	158.749
13	-1.20	100	60	10.05	10.05	5.73	20.89	742.38	2705.34	129.495
14	-1.30	100	61	10.05	10.05	6.80	22.51	717.06	2373.87	105.472
15	-1.40	100	62	10.05	10.05	7.98	24.15	688.44	2082.14	86.232
16	-1.50	100	63	10.05	10.05	9.29	25.81	654.38	1817.30	70.417
17	-1.60	100	64	10.05	10.05	10.73	27.49	619.28	1586.47	57.705
18	-1.70	100	65	20.11	10.05	12.31	29.20	599.20	1421.93	48.694
19	-1.80	100	66	20.11	10.05	14.02	30.93	560.16	1236.04	39.959
20	-1.90	100	67	20.11	10.05	15.88	32.69	531.22	1093.74	33.461
21	-2.00	100	67	20.11	10.05	17.88	34.47	509.23	981.41	28.475
22	-2.10	100	68	20.11	10.05	20.05	36.27	492.24	890.56	24.556
23	-2.20	100	69	20.11	10.05	22.37	38.09	478.94	815.62	21.413
24	-2.30	100	70	20.11	10.05	24.85	39.94	468.47	752.79	18.849
25	-2.40	100	71	20.11	10.05	27.51	41.81	460.20	699.37	16.728
26	-2.50	100	72	20.11	10.05	30.34	43.70	451.42	650.19	14.878
27	-2.60	100	73	20.11	10.05	33.35	45.62	444.07	607.38	13.314
28	-2.70	100	74	20.11	10.05	36.55	47.56	438.12	570.08	11.986
29	-2.80	100	74	20.11	10.05	39.94	49.52	433.31	537.31	10.850
30	-2.90	100	75	20.11	10.05	43.52	51.51	429.46	508.30	9.868
31	-3.00	100	76	20.11	10.05	47.30	53.52	426.41	482.45	9.014
32	-3.10	100	77	20.11	10.05	51.29	55.55	424.03	459.27	8.267
33	-3.20	100	78	20.11	20.11	55.49	57.61	810.42	841.39	14.605
34	-3.30	100	79	20.11	20.11	59.90	59.69	809.97	807.07	13.521
35	-3.40	100	80	10.05	20.11	64.54	61.79	802.00	767.88	12.427
36	-3.50	100	81	10.05	20.11	69.40	63.92	802.94	739.54	11.570
37	-3.60	100	81	10.05	20.11	74.49	66.07	804.41	713.47	10.799
38	-3.70	100	82	10.05	20.11	79.81	68.24	806.37	689.43	10.103
39	-3.80	100	83	10.05	20.11	85.38	70.43	808.75	667.18	9.472
40	-3.90	100	84	10.05	20.11	91.19	72.65	811.52	646.53	8.899
41	-3.99	100	85	10.05	20.11	97.26	74.89	813.36	626.34	8.363

Combinazione n° 4 - STR (A1-M1-R3) H - V

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
1	0.00	100	50	10.05	10.05	0.39	3.13	527.66	4221.27	1350.805
2	-0.10	100	51	10.05	10.05	0.41	4.31	480.88	5024.10	1165.777
3	-0.20	100	52	10.05	10.05	0.48	5.51	468.09	5361.09	972.116
4	-0.30	100	53	10.05	10.05	0.60	6.74	485.39	5427.91	805.254
5	-0.40	100	53	10.05	10.05	0.78	7.99	521.70	5333.37	667.763
6	-0.50	100	54	10.05	10.05	1.02	9.25	567.47	5138.17	555.251
7	-0.60	100	55	10.05	10.05	1.33	10.54	616.03	4882.46	463.180
8	-0.70	100	56	10.05	10.05	1.71	11.85	663.99	4600.10	388.223
9	-0.80	100	57	10.05	10.05	2.17	13.18	708.01	4303.39	326.568
10	-0.90	100	58	10.05	10.05	2.71	14.53	745.32	3997.95	275.215
11	-1.00	100	59	10.05	10.05	3.34	15.90	771.71	3677.59	231.349
12	-1.10	100	60	10.05	10.05	4.06	17.29	774.91	3302.81	191.064
13	-1.20	100	60	10.05	10.05	4.87	18.70	765.79	2938.01	157.137
14	-1.30	100	61	10.05	10.05	5.79	20.13	746.46	2593.36	128.841
15	-1.40	100	62	10.05	10.05	6.82	21.58	715.69	2264.13	104.917
16	-1.50	100	63	10.05	10.05	7.96	23.05	681.65	1973.58	85.613
17	-1.60	100	64	10.05	10.05	9.22	24.55	651.21	1733.58	70.627
18	-1.70	100	65	20.11	10.05	10.60	26.06	634.32	1559.20	59.834
19	-1.80	100	66	20.11	10.05	12.11	27.59	585.74	1334.59	48.367
20	-1.90	100	67	20.11	10.05	13.75	29.15	550.39	1166.55	40.023
21	-2.00	100	67	20.11	10.05	15.53	30.72	523.88	1036.25	33.730
22	-2.10	100	68	20.11	10.05	17.45	32.32	503.56	932.38	28.850
23	-2.20	100	69	20.11	10.05	19.53	33.93	487.75	847.70	24.981
24	-2.30	100	70	20.11	10.05	21.75	35.57	475.32	777.40	21.855
25	-2.40	100	71	20.11	10.05	24.13	37.23	465.49	718.15	19.290
26	-2.50	100	72	20.11	10.05	26.68	38.91	456.04	665.13	17.096
27	-2.60	100	73	20.11	10.05	29.39	40.60	447.48	618.26	15.226
28	-2.70	100	74	20.11	10.05	32.28	42.32	440.53	577.69	13.649
29	-2.80	100	74	20.11	10.05	35.34	44.06	434.90	542.25	12.306
30	-2.90	100	75	20.11	10.05	38.59	45.82	430.35	511.04	11.152
31	-3.00	100	76	20.11	10.05	42.02	47.60	426.70	483.35	10.154
32	-3.10	100	77	20.11	10.05	45.65	49.40	423.82	458.64	9.283
33	-3.20	100	78	20.11	20.11	49.48	51.23	809.32	837.84	16.356
34	-3.30	100	79	20.11	20.11	53.51	53.07	808.20	801.47	15.103
35	-3.40	100	80	10.05	20.11	57.75	54.93	799.72	760.63	13.847
36	-3.50	100	81	10.05	20.11	62.21	56.81	800.15	730.77	12.862
37	-3.60	100	81	10.05	20.11	66.88	58.72	801.18	703.39	11.979
38	-3.70	100	82	10.05	20.11	71.78	60.64	802.72	678.20	11.183
39	-3.80	100	83	10.05	20.11	76.90	62.59	804.74	654.94	10.464
40	-3.90	100	84	10.05	20.11	82.26	64.55	807.17	633.41	9.812

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
41	-3.99	100	85	10.05	20.11	87.86	66.54	808.71	612.47	9.205

Combinazione n° 9 - ECC

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
1	0.00	100	50	10.05	10.05	25.39	3.13	199.36	24.54	7.852
2	-0.10	100	51	10.05	10.05	25.39	4.39	205.63	35.52	8.098
3	-0.20	100	52	10.05	10.05	25.41	5.67	212.18	47.34	8.351
4	-0.30	100	53	10.05	10.05	25.44	6.97	219.03	60.05	8.611
5	-0.40	100	53	10.05	10.05	25.49	8.30	226.19	73.66	8.875
6	-0.50	100	54	10.05	10.05	25.56	9.65	233.69	88.22	9.143
7	-0.60	100	55	10.05	10.05	25.66	11.02	241.53	103.71	9.412
8	-0.70	100	56	10.05	10.05	25.80	12.41	249.72	120.13	9.679
9	-0.80	100	57	10.05	10.05	25.98	13.82	258.27	137.46	9.943
10	-0.90	100	58	10.05	10.05	26.20	15.26	267.18	155.65	10.200
11	-1.00	100	59	10.05	10.05	26.46	16.72	276.44	174.64	10.446
12	-1.10	100	60	10.05	10.05	26.79	18.20	286.04	194.34	10.679
13	-1.20	100	60	10.05	10.05	27.17	19.70	295.96	214.62	10.895
14	-1.30	100	61	10.05	10.05	27.61	21.22	306.16	235.35	11.089
15	-1.40	100	62	10.05	10.05	28.12	22.77	316.60	256.36	11.260
16	-1.50	100	63	10.05	10.05	28.70	24.34	327.25	277.47	11.402
17	-1.60	100	64	10.05	10.05	29.36	25.92	338.03	298.46	11.513
18	-1.70	100	65	20.11	10.05	30.10	27.54	348.42	318.69	11.574
19	-1.80	100	66	20.11	10.05	30.93	29.17	359.23	338.73	11.613
20	-1.90	100	67	20.11	10.05	31.85	30.82	369.99	358.01	11.615
21	-2.00	100	67	20.11	10.05	32.87	32.50	380.63	376.32	11.579
22	-2.10	100	68	20.11	10.05	33.99	34.20	391.08	393.47	11.506
23	-2.20	100	69	20.11	10.05	35.21	35.92	401.27	409.29	11.395
24	-2.30	100	70	20.11	10.05	36.55	37.66	411.15	423.65	11.249
25	-2.40	100	71	20.11	10.05	38.00	39.42	420.67	436.44	11.070
26	-2.50	100	72	20.11	10.05	39.57	41.21	429.79	447.59	10.861
27	-2.60	100	73	20.11	10.05	41.27	43.02	438.48	457.07	10.625
28	-2.70	100	74	20.11	10.05	43.09	44.85	446.70	464.88	10.366
29	-2.80	100	74	20.11	10.05	45.06	46.70	454.47	471.05	10.087
30	-2.90	100	75	20.11	10.05	47.16	48.57	461.76	475.64	9.792
31	-3.00	100	76	20.11	10.05	49.40	50.47	468.60	478.72	9.486
32	-3.10	100	77	20.11	10.05	51.79	52.38	474.99	480.41	9.171
33	-3.20	100	78	20.11	20.11	54.34	54.32	931.96	931.64	17.150
34	-3.30	100	79	20.11	20.11	57.05	56.28	943.80	931.16	16.544
35	-3.40	100	80	10.05	20.11	59.92	58.27	947.71	921.59	15.817
36	-3.50	100	81	10.05	20.11	62.96	60.27	958.21	917.34	15.220
37	-3.60	100	81	10.05	20.11	66.17	62.30	968.21	911.59	14.633
38	-3.70	100	82	10.05	20.11	69.56	64.35	977.76	904.52	14.057
39	-3.80	100	83	10.05	20.11	73.13	66.42	986.92	896.34	13.496
40	-3.90	100	84	10.05	20.11	76.89	68.51	995.72	887.21	12.950
41	-3.99	100	85	10.05	20.11	80.84	70.62	1002.55	875.86	12.402

Mensola valle

Combinazione n° 1 - STR (A1-M1-R3)

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
1	-0.75	100	50	8.04	16.08	0.00	0.00	0.00	0.00	100000.000
2	-0.67	100	50	8.04	16.08	-0.04	0.00	-261.36	0.00	6021.831
3	-0.58	100	50	8.04	16.08	-0.17	0.00	-261.36	0.00	1505.458
4	-0.50	100	50	8.04	16.08	-0.39	0.00	-261.36	0.00	669.092
5	-0.50	100	50	8.04	16.08	-0.39	0.00	-261.36	0.00	669.092

Combinazione n° 2 - STR (A1-M1-R3)

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
1	-0.75	100	50	8.04	16.08	0.00	0.00	0.00	0.00	100000.000
2	-0.67	100	50	8.04	16.08	-0.04	0.00	-261.36	0.00	6021.831
3	-0.58	100	50	8.04	16.08	-0.17	0.00	-261.36	0.00	1505.458
4	-0.50	100	50	8.04	16.08	-0.39	0.00	-261.36	0.00	669.092
5	-0.50	100	50	8.04	16.08	-0.39	0.00	-261.36	0.00	669.092

Combinazione n° 3 - STR (A1-M1-R3) H + V

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
1	-0.75	100	50	8.04	16.08	0.00	0.00	0.00	0.00	100000.000
2	-0.67	100	50	8.04	16.08	-0.05	0.00	-261.36	0.00	5678.326
3	-0.58	100	50	8.04	16.08	-0.18	0.00	-261.36	0.00	1419.581
4	-0.50	100	50	8.04	16.08	-0.41	0.00	-261.36	0.00	630.925
5	-0.50	100	50	8.04	16.08	-0.41	0.00	-261.36	0.00	630.925

Combinazione n° 4 - STR (A1-M1-R3) H - V

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
1	-0.75	100	50	8.04	16.08	0.00	0.00	0.00	0.00	100000.000
2	-0.67	100	50	8.04	16.08	-0.04	0.00	-261.36	0.00	6021.831
3	-0.58	100	50	8.04	16.08	-0.17	0.00	-261.36	0.00	1505.458
4	-0.50	100	50	8.04	16.08	-0.39	0.00	-261.36	0.00	669.092
5	-0.50	100	50	8.04	16.08	-0.39	0.00	-261.36	0.00	669.092

Combinazione n° 9 - ECC

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
1	-0.75	100	50	8.04	16.08	0.00	0.00	0.00	0.00	100000.000
2	-0.67	100	50	8.04	16.08	-0.04	0.00	-304.18	0.00	7008.401
3	-0.58	100	50	8.04	16.08	-0.17	0.00	-304.18	0.00	1752.100
4	-0.50	100	50	8.04	16.08	-0.39	0.00	-304.18	0.00	778.711
5	-0.50	100	50	8.04	16.08	-25.39	-25.00	-250.93	-247.07	9.883

Fondazione

Combinazione n° 1 - STR (A1-M1-R3)

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
1	-1.35	100	75	15.27	15.27	0.00	0.00	0.00	0.00	100000.000
2	-1.26	100	75	15.27	15.27	0.31	0.00	394.20	0.00	1266.302
3	-1.16	100	75	15.27	15.27	1.25	0.00	394.20	0.00	316.078
4	-1.07	100	75	15.27	15.27	2.81	0.00	394.20	0.00	140.258
5	-0.97	100	75	15.27	15.27	5.00	0.00	394.20	0.00	78.772
6	-0.88	100	75	15.27	15.27	7.83	0.00	394.20	0.00	50.335
7	-0.78	100	75	15.27	15.27	11.30	0.00	394.20	0.00	34.900
8	-0.69	100	75	15.27	15.27	15.40	0.00	394.20	0.00	25.601
9	-0.59	100	75	15.27	15.27	20.14	0.00	394.20	0.00	19.570
10	-0.50	100	75	15.27	15.27	25.53	0.00	394.20	0.00	15.439
11	0.35	100	75	15.27	15.27	-33.26	0.00	-394.20	0.00	11.854
12	0.45	100	75	15.27	15.27	-29.31	0.00	-394.20	0.00	13.450
13	0.55	100	75	15.27	15.27	-25.63	0.00	-394.20	0.00	15.381
14	0.65	100	75	15.27	15.27	-22.21	0.00	-394.20	0.00	17.747
15	0.75	100	75	15.27	15.27	-19.05	0.00	-394.20	0.00	20.689
16	0.85	100	75	15.27	15.27	-16.15	0.00	-394.20	0.00	24.407
17	0.95	100	75	15.27	15.27	-13.50	0.00	-394.20	0.00	29.198
18	1.05	100	75	15.27	15.27	-11.10	0.00	-394.20	0.00	35.515
19	1.15	100	75	15.27	15.27	-8.94	0.00	-394.20	0.00	44.076
20	1.25	100	75	15.27	15.27	-7.03	0.00	-394.20	0.00	56.080
21	1.35	100	75	15.27	15.27	-5.35	0.00	-394.20	0.00	73.637
22	1.45	100	75	15.27	15.27	-3.91	0.00	-394.20	0.00	100.765
23	1.55	100	75	15.27	15.27	-2.70	0.00	-394.20	0.00	145.883
24	1.65	100	75	15.27	15.27	-1.72	0.00	-394.20	0.00	229.177
25	1.75	100	75	15.27	15.27	-0.96	0.00	-394.20	0.00	409.644
26	1.85	100	75	15.27	15.27	-0.43	0.00	-394.20	0.00	926.744
27	1.95	100	75	15.27	15.27	-0.11	0.00	-394.20	0.00	3727.377
28	2.05	100	75	15.27	15.27	0.00	0.00	0.00	0.00	100000.000

Combinazione n° 2 - STR (A1-M1-R3)

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
1	-1.35	100	75	15.27	15.27	0.00	0.00	0.00	0.00	100000.000
2	-1.26	100	75	15.27	15.27	0.49	0.00	394.20	0.00	810.993
3	-1.16	100	75	15.27	15.27	1.95	0.00	394.20	0.00	202.648
4	-1.07	100	75	15.27	15.27	4.38	0.00	394.20	0.00	90.021
5	-0.97	100	75	15.27	15.27	7.79	0.00	394.20	0.00	50.612
6	-0.88	100	75	15.27	15.27	12.18	0.00	394.20	0.00	32.376
7	-0.78	100	75	15.27	15.27	17.54	0.00	394.20	0.00	22.472
8	-0.69	100	75	15.27	15.27	23.89	0.00	394.20	0.00	16.502
9	-0.59	100	75	15.27	15.27	31.22	0.00	394.20	0.00	12.628
10	-0.50	100	75	15.27	15.27	39.53	0.00	394.20	0.00	9.973
11	0.35	100	75	15.27	15.27	-58.55	0.00	-394.20	0.00	6.733
12	0.45	100	75	15.27	15.27	-51.79	0.00	-394.20	0.00	7.612
13	0.55	100	75	15.27	15.27	-45.45	0.00	-394.20	0.00	8.673
14	0.65	100	75	15.27	15.27	-39.54	0.00	-394.20	0.00	9.970
15	0.75	100	75	15.27	15.27	-34.04	0.00	-394.20	0.00	11.579
16	0.85	100	75	15.27	15.27	-28.97	0.00	-394.20	0.00	13.609
17	0.95	100	75	15.27	15.27	-24.31	0.00	-394.20	0.00	16.219
18	1.05	100	75	15.27	15.27	-20.06	0.00	-394.20	0.00	19.653
19	1.15	100	75	15.27	15.27	-16.22	0.00	-394.20	0.00	24.297
20	1.25	100	75	15.27	15.27	-12.80	0.00	-394.20	0.00	30.795
21	1.35	100	75	15.27	15.27	-9.79	0.00	-394.20	0.00	40.279
22	1.45	100	75	15.27	15.27	-7.18	0.00	-394.20	0.00	54.903
23	1.55	100	75	15.27	15.27	-4.98	0.00	-394.20	0.00	79.174
24	1.65	100	75	15.27	15.27	-3.18	0.00	-394.20	0.00	123.887
25	1.75	100	75	15.27	15.27	-1.79	0.00	-394.20	0.00	220.560
26	1.85	100	75	15.27	15.27	-0.79	0.00	-394.20	0.00	496.974
27	1.95	100	75	15.27	15.27	-0.20	0.00	-394.20	0.00	1990.763
28	2.05	100	75	15.27	15.27	0.00	0.00	0.00	0.00	100000.000

Combinazione n° 3 - STR (A1-M1-R3) H + V

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
1	-1.35	100	75	15.27	15.27	0.00	0.00	0.00	0.00	100000.000
2	-1.26	100	75	15.27	15.27	0.53	0.00	394.20	0.00	740.293
3	-1.16	100	75	15.27	15.27	2.12	0.00	394.20	0.00	186.213
4	-1.07	100	75	15.27	15.27	4.73	0.00	394.20	0.00	83.274
5	-0.97	100	75	15.27	15.27	8.36	0.00	394.20	0.00	47.133
6	-0.88	100	75	15.27	15.27	12.99	0.00	394.20	0.00	30.355
7	-0.78	100	75	15.27	15.27	18.58	0.00	394.20	0.00	21.213
8	-0.69	100	75	15.27	15.27	25.13	0.00	394.20	0.00	15.684
9	-0.59	100	75	15.27	15.27	32.62	0.00	394.20	0.00	12.085
10	-0.50	100	75	15.27	15.27	41.02	0.00	394.20	0.00	9.610
11	0.35	100	75	15.27	15.27	-31.23	0.00	-394.20	0.00	12.622
12	0.45	100	75	15.27	15.27	-28.65	0.00	-394.20	0.00	13.757
13	0.55	100	75	15.27	15.27	-26.06	0.00	-394.20	0.00	15.130
14	0.65	100	75	15.27	15.27	-23.45	0.00	-394.20	0.00	16.807
15	0.75	100	75	15.27	15.27	-20.88	0.00	-394.20	0.00	18.882
16	0.85	100	75	15.27	15.27	-18.35	0.00	-394.20	0.00	21.487
17	0.95	100	75	15.27	15.27	-15.88	0.00	-394.20	0.00	24.818
18	1.05	100	75	15.27	15.27	-13.51	0.00	-394.20	0.00	29.171
19	1.15	100	75	15.27	15.27	-11.26	0.00	-394.20	0.00	35.011
20	1.25	100	75	15.27	15.27	-9.14	0.00	-394.20	0.00	43.112
21	1.35	100	75	15.27	15.27	-7.19	0.00	-394.20	0.00	54.825
22	1.45	100	75	15.27	15.27	-5.42	0.00	-394.20	0.00	72.707
23	1.55	100	75	15.27	15.27	-3.86	0.00	-394.20	0.00	102.077
24	1.65	100	75	15.27	15.27	-2.53	0.00	-394.20	0.00	155.600
25	1.75	100	75	15.27	15.27	-1.46	0.00	-394.20	0.00	270.028
26	1.85	100	75	15.27	15.27	-0.66	0.00	-394.20	0.00	593.415
27	1.95	100	75	15.27	15.27	-0.17	0.00	-394.20	0.00	2319.645
28	2.05	100	75	15.27	15.27	0.00	0.00	0.00	0.00	100000.000

Combinazione n° 4 - STR (A1-M1-R3) H - V

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
1	-1.35	100	75	15.27	15.27	0.00	0.00	0.00	0.00	100000.000
2	-1.26	100	75	15.27	15.27	0.48	0.00	394.20	0.00	814.018
3	-1.16	100	75	15.27	15.27	1.92	0.00	394.20	0.00	204.874
4	-1.07	100	75	15.27	15.27	4.30	0.00	394.20	0.00	91.672
5	-0.97	100	75	15.27	15.27	7.59	0.00	394.20	0.00	51.917
6	-0.88	100	75	15.27	15.27	11.78	0.00	394.20	0.00	33.455
7	-0.78	100	75	15.27	15.27	16.85	0.00	394.20	0.00	23.393
8	-0.69	100	75	15.27	15.27	22.78	0.00	394.20	0.00	17.307
9	-0.59	100	75	15.27	15.27	29.54	0.00	394.20	0.00	13.343
10	-0.50	100	75	15.27	15.27	37.13	0.00	394.20	0.00	10.617
11	0.35	100	75	15.27	15.27	-46.23	0.00	-394.20	0.00	8.526
12	0.45	100	75	15.27	15.27	-41.94	0.00	-394.20	0.00	9.400
13	0.55	100	75	15.27	15.27	-37.72	0.00	-394.20	0.00	10.450

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
14	0.65	100	75	15.27	15.27	-33.61	0.00	-394.20	0.00	11.727
15	0.75	100	75	15.27	15.27	-29.63	0.00	-394.20	0.00	13.303
16	0.85	100	75	15.27	15.27	-25.80	0.00	-394.20	0.00	15.278
17	0.95	100	75	15.27	15.27	-22.15	0.00	-394.20	0.00	17.800
18	1.05	100	75	15.27	15.27	-18.69	0.00	-394.20	0.00	21.095
19	1.15	100	75	15.27	15.27	-15.45	0.00	-394.20	0.00	25.519
20	1.25	100	75	15.27	15.27	-12.45	0.00	-394.20	0.00	31.660
21	1.35	100	75	15.27	15.27	-9.72	0.00	-394.20	0.00	40.551
22	1.45	100	75	15.27	15.27	-7.28	0.00	-394.20	0.00	54.146
23	1.55	100	75	15.27	15.27	-5.15	0.00	-394.20	0.00	76.517
24	1.65	100	75	15.27	15.27	-3.36	0.00	-394.20	0.00	117.369
25	1.75	100	75	15.27	15.27	-1.92	0.00	-394.20	0.00	204.907
26	1.85	100	75	15.27	15.27	-0.87	0.00	-394.20	0.00	452.901
27	1.95	100	75	15.27	15.27	-0.22	0.00	-394.20	0.00	1780.176
28	2.05	100	75	15.27	15.27	0.00	0.00	0.00	0.00	100000.000

Combinazione n° 9 - ECC

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
1	-1.35	100	75	15.27	15.27	0.00	0.00	0.00	0.00	100000.000
2	-1.26	100	75	15.27	15.27	0.59	0.00	456.68	0.00	768.328
3	-1.16	100	75	15.27	15.27	2.36	0.00	456.68	0.00	193.722
4	-1.07	100	75	15.27	15.27	5.26	0.00	456.68	0.00	86.840
5	-0.97	100	75	15.27	15.27	9.27	0.00	456.68	0.00	49.272
6	-0.88	100	75	15.27	15.27	14.36	0.00	456.68	0.00	31.810
7	-0.78	100	75	15.27	15.27	20.49	0.00	456.68	0.00	22.286
8	-0.69	100	75	15.27	15.27	27.65	0.00	456.68	0.00	16.519
9	-0.59	100	75	15.27	15.27	35.79	0.00	456.68	0.00	12.761
10	-0.50	100	75	15.27	15.27	44.89	0.00	456.68	0.00	10.174
11	0.35	100	75	15.27	15.27	-62.30	0.00	-456.68	0.00	7.330
12	0.45	100	75	15.27	15.27	-56.72	0.00	-456.68	0.00	8.052
13	0.55	100	75	15.27	15.27	-51.19	0.00	-456.68	0.00	8.921
14	0.65	100	75	15.27	15.27	-45.76	0.00	-456.68	0.00	9.979
15	0.75	100	75	15.27	15.27	-40.47	0.00	-456.68	0.00	11.285
16	0.85	100	75	15.27	15.27	-35.34	0.00	-456.68	0.00	12.922
17	0.95	100	75	15.27	15.27	-30.42	0.00	-456.68	0.00	15.013
18	1.05	100	75	15.27	15.27	-25.74	0.00	-456.68	0.00	17.744
19	1.15	100	75	15.27	15.27	-21.33	0.00	-456.68	0.00	21.409
20	1.25	100	75	15.27	15.27	-17.24	0.00	-456.68	0.00	26.495
21	1.35	100	75	15.27	15.27	-13.49	0.00	-456.68	0.00	33.855
22	1.45	100	75	15.27	15.27	-10.13	0.00	-456.68	0.00	45.102
23	1.55	100	75	15.27	15.27	-7.18	0.00	-456.68	0.00	63.597
24	1.65	100	75	15.27	15.27	-4.69	0.00	-456.68	0.00	97.347
25	1.75	100	75	15.27	15.27	-2.69	0.00	-456.68	0.00	169.607
26	1.85	100	75	15.27	15.27	-1.22	0.00	-456.68	0.00	374.147
27	1.95	100	75	15.27	15.27	-0.31	0.00	-456.68	0.00	1467.863
28	2.05	100	75	15.27	15.27	0.00	0.00	0.00	0.00	100000.000

Verifiche a taglio

Simbologia adottata

n° (o Is)	indice sezione
Y	ordinata sezione espressa in [m]
B	larghezza sezione espresso in [cm]
H	altezza sezione espressa in [cm]
A_{sw}	area ferri a taglio espresso in [cmq]
cotgθ	inclinazione delle bielle compresse, θ inclinazione dei puntoni di calcestruzzo
V_{Rcd}	resistenza di progetto a 'taglio compressione' espressa in [kN]
V_{Rsd}	resistenza di progetto a 'taglio trazione' espressa in [kN]
V_{Rd}	resistenza di progetto a taglio espresso in [kN]. Per elementi con armature trasversali resistenti al taglio (A_{sw}>0.0) $V_{Rd}=\min(V_{Rcd}, V_{Rsd})$.
T	taglio agente espressa in [kN]
FS	fattore di sicurezza (rapporto tra sollecitazione resistente e sollecitazione agente)

Paramento

Combinazione n° 1 - STR (A1-M1-R3)

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
1	0.00	100	50	0.00	0.00	--	0.00	0.00	202.79	0.00	100.000
2	-0.10	100	51	0.00	0.00	--	0.00	0.00	204.79	0.03	6387.192
3	-0.20	100	52	0.00	0.00	--	0.00	0.00	206.78	0.13	1612.313
4	-0.30	100	53	0.00	0.00	--	0.00	0.00	208.76	0.29	725.427
5	-0.40	100	53	0.00	0.00	--	0.00	0.00	210.73	0.51	413.319
6	-0.50	100	54	0.00	0.00	--	0.00	0.00	212.69	0.79	267.581
7	-0.60	100	55	0.00	0.00	--	0.00	0.00	214.64	1.14	187.753
8	-0.70	100	56	0.00	0.00	--	0.00	0.00	216.58	1.55	139.291
9	-0.80	100	57	0.00	0.00	--	0.00	0.00	218.52	2.03	107.649
10	-0.90	100	58	0.00	0.00	--	0.00	0.00	220.44	2.57	85.833
11	-1.00	100	59	0.00	0.00	--	0.00	0.00	222.36	3.17	70.146
12	-1.10	100	60	0.00	0.00	--	0.00	0.00	224.27	3.84	58.480
13	-1.20	100	60	0.00	0.00	--	0.00	0.00	226.18	4.56	49.563
14	-1.30	100	61	0.00	0.00	--	0.00	0.00	228.07	5.36	42.590
15	-1.40	100	62	0.00	0.00	--	0.00	0.00	229.96	6.21	37.030
16	-1.50	100	63	0.00	0.00	--	0.00	0.00	231.84	7.13	32.523
17	-1.60	100	64	0.00	0.00	--	0.00	0.00	233.72	8.11	28.818
18	-1.70	100	65	0.00	0.00	--	0.00	0.00	269.13	9.16	29.396
19	-1.80	100	66	0.00	0.00	--	0.00	0.00	271.23	10.26	26.426
20	-1.90	100	67	0.00	0.00	--	0.00	0.00	273.32	11.44	23.901
21	-2.00	100	67	0.00	0.00	--	0.00	0.00	275.41	12.67	21.736
22	-2.10	100	68	0.00	0.00	--	0.00	0.00	277.49	13.97	19.865
23	-2.20	100	69	0.00	0.00	--	0.00	0.00	279.56	15.33	18.235
24	-2.30	100	70	0.00	0.00	--	0.00	0.00	281.62	16.76	16.808
25	-2.40	100	71	0.00	0.00	--	0.00	0.00	283.68	18.24	15.549
26	-2.50	100	72	0.00	0.00	--	0.00	0.00	285.74	19.80	14.434
27	-2.60	100	73	0.00	0.00	--	0.00	0.00	287.78	21.41	13.441
28	-2.70	100	74	0.00	0.00	--	0.00	0.00	289.83	23.09	12.552
29	-2.80	100	74	0.00	0.00	--	0.00	0.00	291.86	24.83	11.754
30	-2.90	100	75	0.00	0.00	--	0.00	0.00	293.89	26.64	11.034
31	-3.00	100	76	0.00	0.00	--	0.00	0.00	295.92	28.50	10.381
32	-3.10	100	77	0.00	0.00	--	0.00	0.00	297.94	30.44	9.789
33	-3.20	100	78	0.00	0.00	--	0.00	0.00	329.38	32.43	10.156
34	-3.30	100	79	0.00	0.00	--	0.00	0.00	331.56	34.49	9.613
35	-3.40	100	80	0.00	0.00	--	0.00	0.00	303.97	36.61	8.303
36	-3.50	100	81	0.00	0.00	--	0.00	0.00	305.98	38.80	7.887
37	-3.60	100	81	0.00	0.00	--	0.00	0.00	307.97	41.05	7.503
38	-3.70	100	82	0.00	0.00	--	0.00	0.00	309.97	43.36	7.149
39	-3.80	100	83	0.00	0.00	--	0.00	0.00	311.96	45.73	6.821
40	-3.90	100	84	0.00	0.00	--	0.00	0.00	313.94	48.17	6.517
41	-3.99	100	85	0.00	0.00	--	0.00	0.00	315.75	50.67	6.231

Combinazione n° 2 - STR (A1-M1-R3)

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
1	0.00	100	50	0.00	0.00	--	0.00	0.00	202.79	0.00	100.000
2	-0.10	100	51	0.00	0.00	--	0.00	0.00	204.79	1.31	156.476
3	-0.20	100	52	0.00	0.00	--	0.00	0.00	206.78	2.68	77.109
4	-0.30	100	53	0.00	0.00	--	0.00	0.00	208.76	4.12	50.695
5	-0.40	100	53	0.00	0.00	--	0.00	0.00	210.73	5.62	37.518
6	-0.50	100	54	0.00	0.00	--	0.00	0.00	212.69	7.18	29.629
7	-0.60	100	55	0.00	0.00	--	0.00	0.00	214.64	8.80	24.381
8	-0.70	100	56	0.00	0.00	--	0.00	0.00	216.58	10.49	20.643
9	-0.80	100	57	0.00	0.00	--	0.00	0.00	218.52	12.24	17.847
10	-0.90	100	58	0.00	0.00	--	0.00	0.00	220.44	14.06	15.680
11	-1.00	100	59	0.00	0.00	--	0.00	0.00	222.36	15.94	13.952
12	-1.10	100	60	0.00	0.00	--	0.00	0.00	224.27	17.88	12.544
13	-1.20	100	60	0.00	0.00	--	0.00	0.00	226.18	19.88	11.375
14	-1.30	100	61	0.00	0.00	--	0.00	0.00	228.07	21.95	10.389
15	-1.40	100	62	0.00	0.00	--	0.00	0.00	229.96	24.08	9.548
16	-1.50	100	63	0.00	0.00	--	0.00	0.00	231.84	26.28	8.822
17	-1.60	100	64	0.00	0.00	--	0.00	0.00	233.72	28.54	8.190
18	-1.70	100	65	0.00	0.00	--	0.00	0.00	269.13	30.86	8.721
19	-1.80	100	66	0.00	0.00	--	0.00	0.00	271.23	33.24	8.159
20	-1.90	100	67	0.00	0.00	--	0.00	0.00	273.32	35.69	7.658
21	-2.00	100	67	0.00	0.00	--	0.00	0.00	275.41	38.20	7.209
22	-2.10	100	68	0.00	0.00	--	0.00	0.00	277.49	40.78	6.804
23	-2.20	100	69	0.00	0.00	--	0.00	0.00	279.56	43.42	6.439
24	-2.30	100	70	0.00	0.00	--	0.00	0.00	281.62	46.12	6.106
25	-2.40	100	71	0.00	0.00	--	0.00	0.00	283.68	48.89	5.803

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
26	-2.50	100	72	0.00	0.00	--	0.00	0.00	285.74	51.71	5.525
27	-2.60	100	73	0.00	0.00	--	0.00	0.00	287.78	54.61	5.270
28	-2.70	100	74	0.00	0.00	--	0.00	0.00	289.83	57.56	5.035
29	-2.80	100	74	0.00	0.00	--	0.00	0.00	291.86	60.58	4.818
30	-2.90	100	75	0.00	0.00	--	0.00	0.00	293.89	63.66	4.617
31	-3.00	100	76	0.00	0.00	--	0.00	0.00	295.92	66.81	4.430
32	-3.10	100	77	0.00	0.00	--	0.00	0.00	297.94	70.01	4.255
33	-3.20	100	78	0.00	0.00	--	0.00	0.00	329.38	73.29	4.494
34	-3.30	100	79	0.00	0.00	--	0.00	0.00	331.56	76.62	4.327
35	-3.40	100	80	0.00	0.00	--	0.00	0.00	303.97	80.02	3.799
36	-3.50	100	81	0.00	0.00	--	0.00	0.00	305.98	83.48	3.665
37	-3.60	100	81	0.00	0.00	--	0.00	0.00	307.97	87.01	3.540
38	-3.70	100	82	0.00	0.00	--	0.00	0.00	309.97	90.60	3.421
39	-3.80	100	83	0.00	0.00	--	0.00	0.00	311.96	94.25	3.310
40	-3.90	100	84	0.00	0.00	--	0.00	0.00	313.94	97.96	3.205
41	-3.99	100	85	0.00	0.00	--	0.00	0.00	315.75	101.74	3.103

Combinazione n° 3 - STR (A1-M1-R3) H + V

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
1	0.00	100	50	0.00	0.00	--	0.00	0.00	202.81	0.00	100.000
2	-0.10	100	51	0.00	0.00	--	0.00	0.00	204.83	0.50	407.086
3	-0.20	100	52	0.00	0.00	--	0.00	0.00	206.83	1.06	195.775
4	-0.30	100	53	0.00	0.00	--	0.00	0.00	208.82	1.66	125.846
5	-0.40	100	53	0.00	0.00	--	0.00	0.00	210.80	2.31	91.209
6	-0.50	100	54	0.00	0.00	--	0.00	0.00	212.77	3.01	70.635
7	-0.60	100	55	0.00	0.00	--	0.00	0.00	214.73	3.76	57.065
8	-0.70	100	56	0.00	0.00	--	0.00	0.00	216.69	4.56	47.486
9	-0.80	100	57	0.00	0.00	--	0.00	0.00	218.63	5.41	40.391
10	-0.90	100	58	0.00	0.00	--	0.00	0.00	220.57	6.31	34.943
11	-1.00	100	59	0.00	0.00	--	0.00	0.00	222.50	7.26	30.642
12	-1.10	100	60	0.00	0.00	--	0.00	0.00	224.42	8.26	27.171
13	-1.20	100	60	0.00	0.00	--	0.00	0.00	226.34	9.31	24.317
14	-1.30	100	61	0.00	0.00	--	0.00	0.00	228.25	10.41	21.936
15	-1.40	100	62	0.00	0.00	--	0.00	0.00	230.15	11.55	19.922
16	-1.50	100	63	0.00	0.00	--	0.00	0.00	232.05	12.75	18.201
17	-1.60	100	64	0.00	0.00	--	0.00	0.00	233.93	14.00	16.715
18	-1.70	100	65	0.00	0.00	--	0.00	0.00	269.36	15.29	17.615
19	-1.80	100	66	0.00	0.00	--	0.00	0.00	271.47	16.64	16.318
20	-1.90	100	67	0.00	0.00	--	0.00	0.00	273.58	18.03	15.172
21	-2.00	100	67	0.00	0.00	--	0.00	0.00	275.68	19.48	14.155
22	-2.10	100	68	0.00	0.00	--	0.00	0.00	277.77	20.97	13.246
23	-2.20	100	69	0.00	0.00	--	0.00	0.00	279.86	22.51	12.430
24	-2.30	100	70	0.00	0.00	--	0.00	0.00	281.94	24.11	11.695
25	-2.40	100	71	0.00	0.00	--	0.00	0.00	284.02	25.75	11.030
26	-2.50	100	72	0.00	0.00	--	0.00	0.00	286.08	27.44	10.425
27	-2.60	100	73	0.00	0.00	--	0.00	0.00	288.15	29.18	9.873
28	-2.70	100	74	0.00	0.00	--	0.00	0.00	290.20	30.98	9.369
29	-2.80	100	74	0.00	0.00	--	0.00	0.00	292.26	32.82	8.906
30	-2.90	100	75	0.00	0.00	--	0.00	0.00	294.30	34.71	8.480
31	-3.00	100	76	0.00	0.00	--	0.00	0.00	296.35	36.65	8.086
32	-3.10	100	77	0.00	0.00	--	0.00	0.00	298.38	38.64	7.723
33	-3.20	100	78	0.00	0.00	--	0.00	0.00	329.84	40.68	8.109
34	-3.30	100	79	0.00	0.00	--	0.00	0.00	332.04	42.77	7.764
35	-3.40	100	80	0.00	0.00	--	0.00	0.00	304.47	44.90	6.780
36	-3.50	100	81	0.00	0.00	--	0.00	0.00	306.49	47.09	6.508
37	-3.60	100	81	0.00	0.00	--	0.00	0.00	308.50	49.33	6.254
38	-3.70	100	82	0.00	0.00	--	0.00	0.00	310.51	51.62	6.016
39	-3.80	100	83	0.00	0.00	--	0.00	0.00	312.52	53.95	5.792
40	-3.90	100	84	0.00	0.00	--	0.00	0.00	314.53	56.34	5.583
41	-3.99	100	85	0.00	0.00	--	0.00	0.00	316.36	58.78	5.383

Combinazione n° 4 - STR (A1-M1-R3) H - V

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
1	0.00	100	50	0.00	0.00	--	0.00	0.00	202.79	0.00	100.000
2	-0.10	100	51	0.00	0.00	--	0.00	0.00	204.78	0.39	519.562
3	-0.20	100	52	0.00	0.00	--	0.00	0.00	206.76	0.84	246.604
4	-0.30	100	53	0.00	0.00	--	0.00	0.00	208.73	1.33	156.670
5	-0.40	100	53	0.00	0.00	--	0.00	0.00	210.69	1.88	112.360
6	-0.50	100	54	0.00	0.00	--	0.00	0.00	212.64	2.47	86.185
7	-0.60	100	55	0.00	0.00	--	0.00	0.00	214.58	3.11	69.021
8	-0.70	100	56	0.00	0.00	--	0.00	0.00	216.51	3.80	56.974
9	-0.80	100	57	0.00	0.00	--	0.00	0.00	218.43	4.54	48.103
10	-0.90	100	58	0.00	0.00	--	0.00	0.00	220.34	5.33	41.331
11	-1.00	100	59	0.00	0.00	--	0.00	0.00	222.25	6.17	36.015
12	-1.10	100	60	0.00	0.00	--	0.00	0.00	224.15	7.06	31.746

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
13	-1.20	100	60	0.00	0.00	--	0.00	0.00	226.04	8.00	28.256
14	-1.30	100	61	0.00	0.00	--	0.00	0.00	227.92	8.99	25.358
15	-1.40	100	62	0.00	0.00	--	0.00	0.00	229.80	10.03	22.919
16	-1.50	100	63	0.00	0.00	--	0.00	0.00	231.66	11.11	20.844
17	-1.60	100	64	0.00	0.00	--	0.00	0.00	233.53	12.25	19.061
18	-1.70	100	65	0.00	0.00	--	0.00	0.00	268.92	13.44	20.012
19	-1.80	100	66	0.00	0.00	--	0.00	0.00	271.01	14.67	18.468
20	-1.90	100	67	0.00	0.00	--	0.00	0.00	273.09	15.96	17.110
21	-2.00	100	67	0.00	0.00	--	0.00	0.00	275.16	17.30	15.909
22	-2.10	100	68	0.00	0.00	--	0.00	0.00	277.22	18.68	14.840
23	-2.20	100	69	0.00	0.00	--	0.00	0.00	279.28	20.12	13.884
24	-2.30	100	70	0.00	0.00	--	0.00	0.00	281.33	21.60	13.025
25	-2.40	100	71	0.00	0.00	--	0.00	0.00	283.38	23.13	12.249
26	-2.50	100	72	0.00	0.00	--	0.00	0.00	285.41	24.72	11.547
27	-2.60	100	73	0.00	0.00	--	0.00	0.00	287.45	26.35	10.909
28	-2.70	100	74	0.00	0.00	--	0.00	0.00	289.47	28.03	10.326
29	-2.80	100	74	0.00	0.00	--	0.00	0.00	291.49	29.76	9.793
30	-2.90	100	75	0.00	0.00	--	0.00	0.00	293.51	31.55	9.304
31	-3.00	100	76	0.00	0.00	--	0.00	0.00	295.52	33.38	8.854
32	-3.10	100	77	0.00	0.00	--	0.00	0.00	297.52	35.26	8.438
33	-3.20	100	78	0.00	0.00	--	0.00	0.00	328.94	37.19	8.845
34	-3.30	100	79	0.00	0.00	--	0.00	0.00	331.11	39.17	8.454
35	-3.40	100	80	0.00	0.00	--	0.00	0.00	303.50	41.20	7.367
36	-3.50	100	81	0.00	0.00	--	0.00	0.00	305.49	43.28	7.059
37	-3.60	100	81	0.00	0.00	--	0.00	0.00	307.47	45.40	6.772
38	-3.70	100	82	0.00	0.00	--	0.00	0.00	309.44	47.58	6.503
39	-3.80	100	83	0.00	0.00	--	0.00	0.00	311.42	49.81	6.252
40	-3.90	100	84	0.00	0.00	--	0.00	0.00	313.38	52.09	6.016
41	-3.99	100	85	0.00	0.00	--	0.00	0.00	315.18	54.41	5.792

Combinazione n° 9 - ECC

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
1	0.00	100	50	0.00	0.00	--	0.00	0.00	202.79	25.00	8.112
2	-0.10	100	51	0.00	0.00	--	0.00	0.00	204.79	25.02	8.184
3	-0.20	100	52	0.00	0.00	--	0.00	0.00	206.78	25.10	8.240
4	-0.30	100	53	0.00	0.00	--	0.00	0.00	208.76	25.21	8.280
5	-0.40	100	53	0.00	0.00	--	0.00	0.00	210.73	25.38	8.304
6	-0.50	100	54	0.00	0.00	--	0.00	0.00	212.69	25.59	8.312
7	-0.60	100	55	0.00	0.00	--	0.00	0.00	214.64	25.85	8.304
8	-0.70	100	56	0.00	0.00	--	0.00	0.00	216.58	26.15	8.282
9	-0.80	100	57	0.00	0.00	--	0.00	0.00	218.52	26.50	8.245
10	-0.90	100	58	0.00	0.00	--	0.00	0.00	220.44	26.90	8.194
11	-1.00	100	59	0.00	0.00	--	0.00	0.00	222.36	27.35	8.131
12	-1.10	100	60	0.00	0.00	--	0.00	0.00	224.27	27.84	8.056
13	-1.20	100	60	0.00	0.00	--	0.00	0.00	226.18	28.38	7.969
14	-1.30	100	61	0.00	0.00	--	0.00	0.00	228.07	28.97	7.874
15	-1.40	100	62	0.00	0.00	--	0.00	0.00	229.96	29.60	7.769
16	-1.50	100	63	0.00	0.00	--	0.00	0.00	231.84	30.28	7.657
17	-1.60	100	64	0.00	0.00	--	0.00	0.00	233.72	31.01	7.537
18	-1.70	100	65	0.00	0.00	--	0.00	0.00	269.13	31.78	8.468
19	-1.80	100	66	0.00	0.00	--	0.00	0.00	271.23	32.60	8.319
20	-1.90	100	67	0.00	0.00	--	0.00	0.00	273.32	33.47	8.166
21	-2.00	100	67	0.00	0.00	--	0.00	0.00	275.41	34.39	8.009
22	-2.10	100	68	0.00	0.00	--	0.00	0.00	277.49	35.35	7.850
23	-2.20	100	69	0.00	0.00	--	0.00	0.00	279.56	36.36	7.689
24	-2.30	100	70	0.00	0.00	--	0.00	0.00	281.62	37.41	7.528
25	-2.40	100	71	0.00	0.00	--	0.00	0.00	283.68	38.51	7.366
26	-2.50	100	72	0.00	0.00	--	0.00	0.00	285.74	39.66	7.204
27	-2.60	100	73	0.00	0.00	--	0.00	0.00	287.78	40.86	7.043
28	-2.70	100	74	0.00	0.00	--	0.00	0.00	289.83	42.10	6.884
29	-2.80	100	74	0.00	0.00	--	0.00	0.00	291.86	43.39	6.726
30	-2.90	100	75	0.00	0.00	--	0.00	0.00	293.89	44.73	6.570
31	-3.00	100	76	0.00	0.00	--	0.00	0.00	295.92	46.11	6.417
32	-3.10	100	77	0.00	0.00	--	0.00	0.00	297.94	47.55	6.266
33	-3.20	100	78	0.00	0.00	--	0.00	0.00	329.38	49.02	6.719
34	-3.30	100	79	0.00	0.00	--	0.00	0.00	331.56	50.55	6.559
35	-3.40	100	80	0.00	0.00	--	0.00	0.00	303.97	52.12	5.832
36	-3.50	100	81	0.00	0.00	--	0.00	0.00	305.98	53.74	5.694
37	-3.60	100	81	0.00	0.00	--	0.00	0.00	307.97	55.40	5.559
38	-3.70	100	82	0.00	0.00	--	0.00	0.00	309.97	57.12	5.427
39	-3.80	100	83	0.00	0.00	--	0.00	0.00	311.96	58.88	5.299
40	-3.90	100	84	0.00	0.00	--	0.00	0.00	313.94	60.68	5.174
41	-3.99	100	85	0.00	0.00	--	0.00	0.00	315.75	62.53	5.049

Mensola valle

Combinazione n° 1 - STR (A1-M1-R3)

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
1	-0.75	100	50	0.00	0.00	--	0.00	0.00	215.05	0.00	100.000
2	-0.67	100	50	0.00	0.00	--	0.00	0.00	215.05	1.04	206.445
3	-0.58	100	50	0.00	0.00	--	0.00	0.00	215.05	2.08	103.223
4	-0.50	100	50	0.00	0.00	--	0.00	0.00	215.05	3.13	68.815
5	-0.50	100	50	0.00	0.00	--	0.00	0.00	215.05	3.13	68.815

Combinazione n° 2 - STR (A1-M1-R3)

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
1	-0.75	100	50	0.00	0.00	--	0.00	0.00	215.05	0.00	100.000
2	-0.67	100	50	0.00	0.00	--	0.00	0.00	215.05	1.04	206.445
3	-0.58	100	50	0.00	0.00	--	0.00	0.00	215.05	2.08	103.223
4	-0.50	100	50	0.00	0.00	--	0.00	0.00	215.05	3.13	68.815
5	-0.50	100	50	0.00	0.00	--	0.00	0.00	215.05	3.13	68.815

Combinazione n° 3 - STR (A1-M1-R3) H + V

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
1	-0.75	100	50	0.00	0.00	--	0.00	0.00	215.05	0.00	100.000
2	-0.67	100	50	0.00	0.00	--	0.00	0.00	215.05	1.10	194.669
3	-0.58	100	50	0.00	0.00	--	0.00	0.00	215.05	2.21	97.335
4	-0.50	100	50	0.00	0.00	--	0.00	0.00	215.05	3.31	64.890
5	-0.50	100	50	0.00	0.00	--	0.00	0.00	215.05	3.31	64.890

Combinazione n° 4 - STR (A1-M1-R3) H - V

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
1	-0.75	100	50	0.00	0.00	--	0.00	0.00	215.05	0.00	100.000
2	-0.67	100	50	0.00	0.00	--	0.00	0.00	215.05	1.04	206.445
3	-0.58	100	50	0.00	0.00	--	0.00	0.00	215.05	2.08	103.223
4	-0.50	100	50	0.00	0.00	--	0.00	0.00	215.05	3.13	68.815
5	-0.50	100	50	0.00	0.00	--	0.00	0.00	215.05	3.13	68.815

Combinazione n° 9 - ECC

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
1	-0.75	100	50	0.00	0.00	--	0.00	0.00	215.05	0.00	100.000
2	-0.67	100	50	0.00	0.00	--	0.00	0.00	215.05	1.04	206.445
3	-0.58	100	50	0.00	0.00	--	0.00	0.00	215.05	2.08	103.223
4	-0.50	100	50	0.00	0.00	--	0.00	0.00	215.05	3.13	68.815
5	-0.50	100	50	0.00	0.00	--	0.00	0.00	211.67	3.13	67.735

Fondazione

Combinazione n° 1 - STR (A1-M1-R3)

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
1	-1.35	100	75	0.00	0.00	--	0.00	0.00	287.53	0.00	100.000
2	-1.26	100	75	0.00	0.00	--	0.00	0.00	287.53	-6.60	43.582
3	-1.16	100	75	0.00	0.00	--	0.00	0.00	287.53	-13.23	21.740
4	-1.07	100	75	0.00	0.00	--	0.00	0.00	287.53	-19.89	14.459
5	-0.97	100	75	0.00	0.00	--	0.00	0.00	287.53	-26.58	10.819
6	-0.88	100	75	0.00	0.00	--	0.00	0.00	287.53	-33.30	8.635
7	-0.78	100	75	0.00	0.00	--	0.00	0.00	287.53	-40.05	7.179
8	-0.69	100	75	0.00	0.00	--	0.00	0.00	287.53	-46.84	6.139
9	-0.59	100	75	0.00	0.00	--	0.00	0.00	287.53	-53.65	5.359
10	-0.50	100	75	0.00	0.00	--	0.00	0.00	287.53	-60.50	4.753

n°	Y [m]	B [cm]	H [cm]	A_{sw} [cmq]	s [cm]	cotθ	V_{Rcd} [kN]	V_{Rsd} [kN]	V_{Rd} [kN]	T [kN]	FS
11	0.35	100	75	0.00	0.00	--	0.00	0.00	287.53	-40.81	7.046
12	0.45	100	75	0.00	0.00	--	0.00	0.00	287.53	-38.13	7.541
13	0.55	100	75	0.00	0.00	--	0.00	0.00	287.53	-35.48	8.104
14	0.65	100	75	0.00	0.00	--	0.00	0.00	287.53	-32.87	8.747
15	0.75	100	75	0.00	0.00	--	0.00	0.00	287.53	-30.30	9.490
16	0.85	100	75	0.00	0.00	--	0.00	0.00	287.53	-27.76	10.359
17	0.95	100	75	0.00	0.00	--	0.00	0.00	287.53	-25.25	11.387
18	1.05	100	75	0.00	0.00	--	0.00	0.00	287.53	-22.78	12.621
19	1.15	100	75	0.00	0.00	--	0.00	0.00	287.53	-20.35	14.132
20	1.25	100	75	0.00	0.00	--	0.00	0.00	287.53	-17.95	16.022
21	1.35	100	75	0.00	0.00	--	0.00	0.00	287.53	-15.58	18.455
22	1.45	100	75	0.00	0.00	--	0.00	0.00	287.53	-13.25	21.701
23	1.55	100	75	0.00	0.00	--	0.00	0.00	287.53	-10.95	26.248
24	1.65	100	75	0.00	0.00	--	0.00	0.00	287.53	-8.69	33.074
25	1.75	100	75	0.00	0.00	--	0.00	0.00	287.53	-6.47	44.456
26	1.85	100	75	0.00	0.00	--	0.00	0.00	287.53	-4.28	67.229
27	1.95	100	75	0.00	0.00	--	0.00	0.00	287.53	-2.12	135.564
28	2.05	100	75	0.00	0.00	--	0.00	0.00	287.53	0.00	100.000

Combinazione n° 2 - STR (A1-M1-R3)

n°	Y [m]	B [cm]	H [cm]	A_{sw} [cmq]	s [cm]	cotθ	V_{Rcd} [kN]	V_{Rsd} [kN]	V_{Rd} [kN]	T [kN]	FS
1	-1.35	100	75	0.00	0.00	--	0.00	0.00	287.53	0.00	100.000
2	-1.26	100	75	0.00	0.00	--	0.00	0.00	287.53	-10.30	27.927
3	-1.16	100	75	0.00	0.00	--	0.00	0.00	287.53	-20.61	13.953
4	-1.07	100	75	0.00	0.00	--	0.00	0.00	287.53	-30.93	9.295
5	-0.97	100	75	0.00	0.00	--	0.00	0.00	287.53	-41.28	6.966
6	-0.88	100	75	0.00	0.00	--	0.00	0.00	287.53	-51.63	5.569
7	-0.78	100	75	0.00	0.00	--	0.00	0.00	287.53	-62.00	4.637
8	-0.69	100	75	0.00	0.00	--	0.00	0.00	287.53	-72.39	3.972
9	-0.59	100	75	0.00	0.00	--	0.00	0.00	287.53	-82.79	3.473
10	-0.50	100	75	0.00	0.00	--	0.00	0.00	287.53	-93.21	3.085
11	0.35	100	75	0.00	0.00	--	0.00	0.00	287.53	-69.70	4.125
12	0.45	100	75	0.00	0.00	--	0.00	0.00	287.53	-65.47	4.392
13	0.55	100	75	0.00	0.00	--	0.00	0.00	287.53	-61.25	4.695
14	0.65	100	75	0.00	0.00	--	0.00	0.00	287.53	-57.04	5.041
15	0.75	100	75	0.00	0.00	--	0.00	0.00	287.53	-52.86	5.440
16	0.85	100	75	0.00	0.00	--	0.00	0.00	287.53	-48.69	5.905
17	0.95	100	75	0.00	0.00	--	0.00	0.00	287.53	-44.54	6.456
18	1.05	100	75	0.00	0.00	--	0.00	0.00	287.53	-40.40	7.117
19	1.15	100	75	0.00	0.00	--	0.00	0.00	287.53	-36.29	7.924
20	1.25	100	75	0.00	0.00	--	0.00	0.00	287.53	-32.19	8.934
21	1.35	100	75	0.00	0.00	--	0.00	0.00	287.53	-28.10	10.232
22	1.45	100	75	0.00	0.00	--	0.00	0.00	287.53	-24.04	11.963
23	1.55	100	75	0.00	0.00	--	0.00	0.00	287.53	-19.99	14.386
24	1.65	100	75	0.00	0.00	--	0.00	0.00	287.53	-15.96	18.021
25	1.75	100	75	0.00	0.00	--	0.00	0.00	287.53	-11.94	24.079
26	1.85	100	75	0.00	0.00	--	0.00	0.00	287.53	-7.94	36.197
27	1.95	100	75	0.00	0.00	--	0.00	0.00	287.53	-3.96	72.551
28	2.05	100	75	0.00	0.00	--	0.00	0.00	287.53	0.00	100.000

Combinazione n° 3 - STR (A1-M1-R3) H + V

n°	Y [m]	B [cm]	H [cm]	A_{sw} [cmq]	s [cm]	cotθ	V_{Rcd} [kN]	V_{Rsd} [kN]	V_{Rd} [kN]	T [kN]	FS
1	-1.35	100	75	0.00	0.00	--	0.00	0.00	287.53	0.00	100.000
2	-1.26	100	75	0.00	0.00	--	0.00	0.00	287.53	-11.24	25.577
3	-1.16	100	75	0.00	0.00	--	0.00	0.00	287.53	-22.28	12.907
4	-1.07	100	75	0.00	0.00	--	0.00	0.00	287.53	-33.10	8.685
5	-0.97	100	75	0.00	0.00	--	0.00	0.00	287.53	-43.73	6.576
6	-0.88	100	75	0.00	0.00	--	0.00	0.00	287.53	-54.14	5.311
7	-0.78	100	75	0.00	0.00	--	0.00	0.00	287.53	-64.35	4.468
8	-0.69	100	75	0.00	0.00	--	0.00	0.00	287.53	-74.35	3.867
9	-0.59	100	75	0.00	0.00	--	0.00	0.00	287.53	-84.14	3.417
10	-0.50	100	75	0.00	0.00	--	0.00	0.00	287.53	-93.73	3.068
11	0.35	100	75	0.00	0.00	--	0.00	0.00	287.53	-25.57	11.246
12	0.45	100	75	0.00	0.00	--	0.00	0.00	287.53	-25.92	11.094
13	0.55	100	75	0.00	0.00	--	0.00	0.00	287.53	-26.04	11.042
14	0.65	100	75	0.00	0.00	--	0.00	0.00	287.53	-25.93	11.090
15	0.75	100	75	0.00	0.00	--	0.00	0.00	287.53	-25.58	11.239
16	0.85	100	75	0.00	0.00	--	0.00	0.00	287.53	-25.01	11.498
17	0.95	100	75	0.00	0.00	--	0.00	0.00	287.53	-24.20	11.881
18	1.05	100	75	0.00	0.00	--	0.00	0.00	287.53	-23.16	12.415
19	1.15	100	75	0.00	0.00	--	0.00	0.00	287.53	-21.89	13.136
20	1.25	100	75	0.00	0.00	--	0.00	0.00	287.53	-20.38	14.105
21	1.35	100	75	0.00	0.00	--	0.00	0.00	287.53	-18.65	15.419
22	1.45	100	75	0.00	0.00	--	0.00	0.00	287.53	-16.68	17.238
23	1.55	100	75	0.00	0.00	--	0.00	0.00	287.53	-14.48	19.857

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
24	1.65	100	75	0.00	0.00	--	0.00	0.00	287.53	-12.05	23.865
25	1.75	100	75	0.00	0.00	--	0.00	0.00	287.53	-9.38	30.639
26	1.85	100	75	0.00	0.00	--	0.00	0.00	287.53	-6.49	44.316
27	1.95	100	75	0.00	0.00	--	0.00	0.00	287.53	-3.36	85.571
28	2.05	100	75	0.00	0.00	--	0.00	0.00	287.53	0.00	100.000

Combinazione n° 4 - STR (A1-M1-R3) H - V

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
1	-1.35	100	75	0.00	0.00	--	0.00	0.00	287.53	0.00	100.000
2	-1.26	100	75	0.00	0.00	--	0.00	0.00	287.53	-10.22	28.132
3	-1.16	100	75	0.00	0.00	--	0.00	0.00	287.53	-20.24	14.209
4	-1.07	100	75	0.00	0.00	--	0.00	0.00	287.53	-30.05	9.570
5	-0.97	100	75	0.00	0.00	--	0.00	0.00	287.53	-39.65	7.252
6	-0.88	100	75	0.00	0.00	--	0.00	0.00	287.53	-49.05	5.862
7	-0.78	100	75	0.00	0.00	--	0.00	0.00	287.53	-58.24	4.937
8	-0.69	100	75	0.00	0.00	--	0.00	0.00	287.53	-67.23	4.277
9	-0.59	100	75	0.00	0.00	--	0.00	0.00	287.53	-76.01	3.783
10	-0.50	100	75	0.00	0.00	--	0.00	0.00	287.53	-84.59	3.399
11	0.35	100	75	0.00	0.00	--	0.00	0.00	287.53	-43.29	6.642
12	0.45	100	75	0.00	0.00	--	0.00	0.00	287.53	-42.59	6.752
13	0.55	100	75	0.00	0.00	--	0.00	0.00	287.53	-41.65	6.903
14	0.65	100	75	0.00	0.00	--	0.00	0.00	287.53	-40.49	7.101
15	0.75	100	75	0.00	0.00	--	0.00	0.00	287.53	-39.10	7.354
16	0.85	100	75	0.00	0.00	--	0.00	0.00	287.53	-37.47	7.673
17	0.95	100	75	0.00	0.00	--	0.00	0.00	287.53	-35.62	8.073
18	1.05	100	75	0.00	0.00	--	0.00	0.00	287.53	-33.53	8.575
19	1.15	100	75	0.00	0.00	--	0.00	0.00	287.53	-31.22	9.211
20	1.25	100	75	0.00	0.00	--	0.00	0.00	287.53	-28.67	10.029
21	1.35	100	75	0.00	0.00	--	0.00	0.00	287.53	-25.89	11.105
22	1.45	100	75	0.00	0.00	--	0.00	0.00	287.53	-22.88	12.564
23	1.55	100	75	0.00	0.00	--	0.00	0.00	287.53	-19.65	14.635
24	1.65	100	75	0.00	0.00	--	0.00	0.00	287.53	-16.18	17.772
25	1.75	100	75	0.00	0.00	--	0.00	0.00	287.53	-12.48	23.040
26	1.85	100	75	0.00	0.00	--	0.00	0.00	287.53	-8.55	33.628
27	1.95	100	75	0.00	0.00	--	0.00	0.00	287.53	-4.39	65.491
28	2.05	100	75	0.00	0.00	--	0.00	0.00	287.53	0.00	100.000

Combinazione n° 9 - ECC

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
1	-1.35	100	75	0.00	0.00	--	0.00	0.00	287.53	0.00	100.000
2	-1.26	100	75	0.00	0.00	--	0.00	0.00	287.53	-12.53	22.940
3	-1.16	100	75	0.00	0.00	--	0.00	0.00	287.53	-24.75	11.618
4	-1.07	100	75	0.00	0.00	--	0.00	0.00	287.53	-36.64	7.847
5	-0.97	100	75	0.00	0.00	--	0.00	0.00	287.53	-48.22	5.963
6	-0.88	100	75	0.00	0.00	--	0.00	0.00	287.53	-59.47	4.835
7	-0.78	100	75	0.00	0.00	--	0.00	0.00	287.53	-70.41	4.084
8	-0.69	100	75	0.00	0.00	--	0.00	0.00	287.53	-81.02	3.549
9	-0.59	100	75	0.00	0.00	--	0.00	0.00	287.53	-91.32	3.149
10	-0.50	100	75	0.00	0.00	--	0.00	0.00	287.53	-101.30	2.838
11	0.35	100	75	0.00	0.00	--	0.00	0.00	287.53	-56.04	5.131
12	0.45	100	75	0.00	0.00	--	0.00	0.00	287.53	-55.61	5.171
13	0.55	100	75	0.00	0.00	--	0.00	0.00	287.53	-54.82	5.245
14	0.65	100	75	0.00	0.00	--	0.00	0.00	287.53	-53.67	5.357
15	0.75	100	75	0.00	0.00	--	0.00	0.00	287.53	-52.17	5.512
16	0.85	100	75	0.00	0.00	--	0.00	0.00	287.53	-50.30	5.716
17	0.95	100	75	0.00	0.00	--	0.00	0.00	287.53	-48.08	5.980
18	1.05	100	75	0.00	0.00	--	0.00	0.00	287.53	-45.50	6.319
19	1.15	100	75	0.00	0.00	--	0.00	0.00	287.53	-42.57	6.755
20	1.25	100	75	0.00	0.00	--	0.00	0.00	287.53	-39.27	7.322
21	1.35	100	75	0.00	0.00	--	0.00	0.00	287.53	-35.61	8.073
22	1.45	100	75	0.00	0.00	--	0.00	0.00	287.53	-31.60	9.099
23	1.55	100	75	0.00	0.00	--	0.00	0.00	287.53	-27.23	10.559
24	1.65	100	75	0.00	0.00	--	0.00	0.00	287.53	-22.50	12.779
25	1.75	100	75	0.00	0.00	--	0.00	0.00	287.53	-17.41	16.512
26	1.85	100	75	0.00	0.00	--	0.00	0.00	287.53	-11.97	24.027
27	1.95	100	75	0.00	0.00	--	0.00	0.00	287.53	-6.16	46.656
28	2.05	100	75	0.00	0.00	--	0.00	0.00	287.53	0.00	100.000

Verifica a fessurazione

Simbologia adottata

n°	indice sezione
Y	ordinata sezione espressa in [m]
B	larghezza sezione espresso in [cm]
H	altezza sezione espressa in [cm]
Af	area ferri zona tesa espresso in [cmq]
Aeff	area efficace espressa in [cmq]
M	momento agente espressa in [kNm]
Mpf	momento di formazione/apertura fessure espressa in [kNm]
ε	deformazione espresso in %
Sm	spaziatura tra le fessure espressa in [mm]
w	apertura delle fessure espressa in [mm]

Combinazioni SLEF

Paramento

Combinazione n° 11 - SLEF

Apertura limite fessure w_{lim}=0.30

n°	Y	B	H	Af	Aeff	M	Mpf	ε	Sm	w
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kNm]	[%]	[mm]	[mm]
1	0.00	100	50	10.05	1344.22	0.39	118.24	0.000000	0.00	0.000
2	-0.10	100	51	10.05	1369.32	0.39	122.43	0.000000	0.00	0.000
3	-0.20	100	52	10.05	1394.44	0.41	126.71	0.000000	0.00	0.000
4	-0.30	100	53	10.05	1419.57	0.44	131.05	0.000000	0.00	0.000
5	-0.40	100	53	10.05	1444.73	0.49	135.46	0.000000	0.00	0.000
6	-0.50	100	54	10.05	1450.00	0.56	139.94	0.000000	0.00	0.000
7	-0.60	100	55	10.05	1450.00	0.66	144.51	0.000000	0.00	0.000
8	-0.70	100	56	10.05	1450.00	0.80	149.14	0.000000	0.00	0.000
9	-0.80	100	57	10.05	1450.00	0.98	153.84	0.000000	0.00	0.000
10	-0.90	100	58	10.05	1450.00	1.20	158.61	0.000000	0.00	0.000
11	-1.00	100	59	10.05	1450.00	1.46	163.46	0.000000	0.00	0.000
12	-1.10	100	60	10.05	1450.00	1.79	168.38	0.000000	0.00	0.000
13	-1.20	100	60	10.05	1450.00	2.17	173.37	0.000000	0.00	0.000
14	-1.30	100	61	10.05	1450.00	2.61	178.43	0.000000	0.00	0.000
15	-1.40	100	62	10.05	1450.00	3.12	183.57	0.000000	0.00	0.000
16	-1.50	100	63	10.05	1450.00	3.70	188.79	0.000000	0.00	0.000
17	-1.60	100	64	10.05	1450.00	4.36	194.06	0.000000	0.00	0.000
18	-1.70	100	65	10.05	1450.00	5.10	204.25	0.000000	0.00	0.000
19	-1.80	100	66	10.05	1450.00	5.93	209.79	0.000000	0.00	0.000
20	-1.90	100	67	10.05	1450.00	6.85	215.40	0.000000	0.00	0.000
21	-2.00	100	67	10.05	1450.00	7.87	221.09	0.000000	0.00	0.000
22	-2.10	100	68	10.05	1450.00	8.99	226.87	0.000000	0.00	0.000
23	-2.20	100	69	10.05	1450.00	10.21	232.69	0.000000	0.00	0.000
24	-2.30	100	70	10.05	1450.00	11.55	238.60	0.000000	0.00	0.000
25	-2.40	100	71	10.05	1450.00	13.00	244.59	0.000000	0.00	0.000
26	-2.50	100	72	10.05	1450.00	14.57	250.64	0.000000	0.00	0.000
27	-2.60	100	73	10.05	1450.00	16.27	256.78	0.000000	0.00	0.000
28	-2.70	100	74	10.05	1450.00	18.09	262.98	0.000000	0.00	0.000
29	-2.80	100	74	10.05	1450.00	20.06	269.27	0.000000	0.00	0.000
30	-2.90	100	75	10.05	1450.00	22.16	275.62	0.000000	0.00	0.000
31	-3.00	100	76	10.05	1450.00	24.40	282.04	0.000000	0.00	0.000
32	-3.10	100	77	10.05	1450.00	26.79	288.55	0.000000	0.00	0.000
33	-3.20	100	78	20.11	1450.00	29.34	310.64	0.000000	0.00	0.000
34	-3.30	100	79	20.11	1450.00	32.05	317.50	0.000000	0.00	0.000
35	-3.40	100	80	20.11	1450.00	34.92	317.36	0.000000	0.00	0.000
36	-3.50	100	81	20.11	1450.00	37.96	324.27	0.000000	0.00	0.000
37	-3.60	100	81	20.11	1450.00	41.17	331.23	0.000000	0.00	0.000
38	-3.70	100	82	20.11	1450.00	44.56	338.30	0.000000	0.00	0.000
39	-3.80	100	83	20.11	1450.00	48.13	345.44	0.000000	0.00	0.000

n°	Y	B	H	Af	Aeff	M	Mpf	ε	Sm	w
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kNm]	[%]	[mm]	[mm]
40	-3.90	100	84	20.11	1450.00	51.89	352.62	0.000000	0.00	0.000
41	-3.99	100	85	20.11	1450.00	55.84	359.20	0.000000	0.00	0.000

Mensola valle

Combinazione n° 11 - SLEF

Apertura limite fessure w_{lim}=0.30

n°	Y	B	H	Af	Aeff	M	Mpf	ε	Sm	w
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kNm]	[%]	[mm]	[mm]
1	-0.75	100	50	0.00	0.00	0.00	0.00	---	---	0.000
2	-0.67	100	50	16.08	1270.50	-0.04	-122.25	0.000000	0.00	0.000
3	-0.58	100	50	16.08	1270.50	-0.17	-122.25	0.000000	0.00	0.000
4	-0.50	100	50	16.08	1270.50	-0.39	-122.25	0.000000	0.00	0.000
5	-0.50	100	50	16.08	1270.50	-0.39	-122.25	0.000000	0.00	0.000

Fondazione

Combinazione n° 11 - SLEF

Apertura limite fessure w_{lim}=0.30

n°	Y	B	H	Af	Aeff	M	Mpf	ε	Sm	w
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kNm]	[%]	[mm]	[mm]
1	-1.35	100	75	0.00	0.00	0.00	0.00	---	---	0.000
2	-1.26	100	75	15.27	1475.00	0.27	271.02	0.000000	0.00	0.000
3	-1.16	100	75	15.27	1475.00	1.08	271.02	0.000000	0.00	0.000
4	-1.07	100	75	15.27	1475.00	2.44	271.02	0.000000	0.00	0.000
5	-0.97	100	75	15.27	1475.00	4.36	271.02	0.000000	0.00	0.000
6	-0.88	100	75	15.27	1475.00	6.85	271.02	0.000000	0.00	0.000
7	-0.78	100	75	15.27	1475.00	9.90	271.02	0.000000	0.00	0.000
8	-0.69	100	75	15.27	1475.00	13.52	271.02	0.000000	0.00	0.000
9	-0.59	100	75	15.27	1475.00	17.74	271.02	0.000000	0.00	0.000
10	-0.50	100	75	15.27	1475.00	22.54	271.02	0.000000	0.00	0.000
11	0.35	100	75	15.27	1475.00	9.22	271.02	0.000000	0.00	0.000
12	0.45	100	75	15.27	1475.00	8.50	271.02	0.000000	0.00	0.000
13	0.55	100	75	15.27	1475.00	7.76	271.02	0.000000	0.00	0.000
14	0.65	100	75	15.27	1475.00	7.02	271.02	0.000000	0.00	0.000
15	0.75	100	75	15.27	1475.00	6.27	271.02	0.000000	0.00	0.000
16	0.85	100	75	15.27	1475.00	5.53	271.02	0.000000	0.00	0.000
17	0.95	100	75	15.27	1475.00	4.81	271.02	0.000000	0.00	0.000
18	1.05	100	75	15.27	1475.00	4.10	271.02	0.000000	0.00	0.000
19	1.15	100	75	15.27	1475.00	3.43	271.02	0.000000	0.00	0.000
20	1.25	100	75	15.27	1475.00	2.79	271.02	0.000000	0.00	0.000
21	1.35	100	75	15.27	1475.00	2.20	271.02	0.000000	0.00	0.000
22	1.45	100	75	15.27	1475.00	1.67	271.02	0.000000	0.00	0.000
23	1.55	100	75	15.27	1475.00	1.19	271.02	0.000000	0.00	0.000
24	1.65	100	75	15.27	1475.00	0.78	271.02	0.000000	0.00	0.000
25	1.75	100	75	15.27	1475.00	0.45	271.02	0.000000	0.00	0.000
26	1.85	100	75	15.27	1475.00	0.21	271.02	0.000000	0.00	0.000
27	1.95	100	75	15.27	1475.00	0.05	271.02	0.000000	0.00	0.000
28	2.05	100	75	0.00	0.00	0.00	0.00	---	---	0.000

Combinazioni SLEQ

Paramento

Combinazione n° 12 - SLEQ

Apertura limite fessure w_{lim}=0.20

n°	Y	B	H	Af	Aeff	M	Mpf	ε	Sm	w
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kNm]	[%]	[mm]	[mm]
1	0.00	100	50	10.05	1344.22	0.39	118.24	0.000000	0.00	0.000
2	-0.10	100	51	10.05	1369.32	0.39	122.43	0.000000	0.00	0.000
3	-0.20	100	52	10.05	1394.44	0.41	126.71	0.000000	0.00	0.000
4	-0.30	100	53	10.05	1419.57	0.44	131.05	0.000000	0.00	0.000
5	-0.40	100	53	10.05	1444.73	0.49	135.46	0.000000	0.00	0.000
6	-0.50	100	54	10.05	1450.00	0.56	139.94	0.000000	0.00	0.000
7	-0.60	100	55	10.05	1450.00	0.66	144.51	0.000000	0.00	0.000
8	-0.70	100	56	10.05	1450.00	0.80	149.14	0.000000	0.00	0.000
9	-0.80	100	57	10.05	1450.00	0.98	153.84	0.000000	0.00	0.000
10	-0.90	100	58	10.05	1450.00	1.20	158.61	0.000000	0.00	0.000
11	-1.00	100	59	10.05	1450.00	1.46	163.46	0.000000	0.00	0.000
12	-1.10	100	60	10.05	1450.00	1.79	168.38	0.000000	0.00	0.000
13	-1.20	100	60	10.05	1450.00	2.17	173.37	0.000000	0.00	0.000
14	-1.30	100	61	10.05	1450.00	2.61	178.43	0.000000	0.00	0.000
15	-1.40	100	62	10.05	1450.00	3.12	183.57	0.000000	0.00	0.000
16	-1.50	100	63	10.05	1450.00	3.70	188.79	0.000000	0.00	0.000
17	-1.60	100	64	10.05	1450.00	4.36	194.06	0.000000	0.00	0.000
18	-1.70	100	65	10.05	1450.00	5.10	204.25	0.000000	0.00	0.000
19	-1.80	100	66	10.05	1450.00	5.93	209.79	0.000000	0.00	0.000
20	-1.90	100	67	10.05	1450.00	6.85	215.40	0.000000	0.00	0.000
21	-2.00	100	67	10.05	1450.00	7.87	221.09	0.000000	0.00	0.000
22	-2.10	100	68	10.05	1450.00	8.99	226.87	0.000000	0.00	0.000
23	-2.20	100	69	10.05	1450.00	10.21	232.69	0.000000	0.00	0.000
24	-2.30	100	70	10.05	1450.00	11.55	238.60	0.000000	0.00	0.000
25	-2.40	100	71	10.05	1450.00	13.00	244.59	0.000000	0.00	0.000
26	-2.50	100	72	10.05	1450.00	14.57	250.64	0.000000	0.00	0.000
27	-2.60	100	73	10.05	1450.00	16.27	256.78	0.000000	0.00	0.000
28	-2.70	100	74	10.05	1450.00	18.09	262.98	0.000000	0.00	0.000
29	-2.80	100	74	10.05	1450.00	20.06	269.27	0.000000	0.00	0.000
30	-2.90	100	75	10.05	1450.00	22.16	275.62	0.000000	0.00	0.000
31	-3.00	100	76	10.05	1450.00	24.40	282.04	0.000000	0.00	0.000
32	-3.10	100	77	10.05	1450.00	26.79	288.55	0.000000	0.00	0.000
33	-3.20	100	78	20.11	1450.00	29.34	310.64	0.000000	0.00	0.000
34	-3.30	100	79	20.11	1450.00	32.05	317.50	0.000000	0.00	0.000
35	-3.40	100	80	20.11	1450.00	34.92	317.36	0.000000	0.00	0.000
36	-3.50	100	81	20.11	1450.00	37.96	324.27	0.000000	0.00	0.000
37	-3.60	100	81	20.11	1450.00	41.17	331.23	0.000000	0.00	0.000
38	-3.70	100	82	20.11	1450.00	44.56	338.30	0.000000	0.00	0.000
39	-3.80	100	83	20.11	1450.00	48.13	345.44	0.000000	0.00	0.000
40	-3.90	100	84	20.11	1450.00	51.89	352.62	0.000000	0.00	0.000
41	-3.99	100	85	20.11	1450.00	55.84	359.20	0.000000	0.00	0.000

Mensola valle

Combinazione n° 12 - SLEQ

Apertura limite fessure w_{lim}=0.20

n°	Y	B	H	Af	Aeff	M	Mpf	ε	Sm	w
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kNm]	[%]	[mm]	[mm]
1	-0.75	100	50	0.00	0.00	0.00	0.00	---	---	0.000
2	-0.67	100	50	16.08	1270.50	-0.04	-122.25	0.000000	0.00	0.000
3	-0.58	100	50	16.08	1270.50	-0.17	-122.25	0.000000	0.00	0.000
4	-0.50	100	50	16.08	1270.50	-0.39	-122.25	0.000000	0.00	0.000
5	-0.50	100	50	16.08	1270.50	-0.39	-122.25	0.000000	0.00	0.000

Fondazione

Combinazione n° 12 - SLEQ

Apertura limite fessure w_{lim}=0.20

n°	Y	B	H	Af	Aeff	M	Mpf	ε	Sm	w
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kNm]	[%]	[mm]	[mm]
1	-1.35	100	75	0.00	0.00	0.00	0.00	---	---	0.000
2	-1.26	100	75	15.27	1475.00	0.27	271.02	0.000000	0.00	0.000
3	-1.16	100	75	15.27	1475.00	1.08	271.02	0.000000	0.00	0.000
4	-1.07	100	75	15.27	1475.00	2.44	271.02	0.000000	0.00	0.000
5	-0.97	100	75	15.27	1475.00	4.36	271.02	0.000000	0.00	0.000
6	-0.88	100	75	15.27	1475.00	6.85	271.02	0.000000	0.00	0.000
7	-0.78	100	75	15.27	1475.00	9.90	271.02	0.000000	0.00	0.000
8	-0.69	100	75	15.27	1475.00	13.52	271.02	0.000000	0.00	0.000
9	-0.59	100	75	15.27	1475.00	17.74	271.02	0.000000	0.00	0.000
10	-0.50	100	75	15.27	1475.00	22.54	271.02	0.000000	0.00	0.000
11	0.35	100	75	15.27	1475.00	9.22	271.02	0.000000	0.00	0.000
12	0.45	100	75	15.27	1475.00	8.50	271.02	0.000000	0.00	0.000
13	0.55	100	75	15.27	1475.00	7.76	271.02	0.000000	0.00	0.000
14	0.65	100	75	15.27	1475.00	7.02	271.02	0.000000	0.00	0.000
15	0.75	100	75	15.27	1475.00	6.27	271.02	0.000000	0.00	0.000
16	0.85	100	75	15.27	1475.00	5.53	271.02	0.000000	0.00	0.000
17	0.95	100	75	15.27	1475.00	4.81	271.02	0.000000	0.00	0.000
18	1.05	100	75	15.27	1475.00	4.10	271.02	0.000000	0.00	0.000
19	1.15	100	75	15.27	1475.00	3.43	271.02	0.000000	0.00	0.000
20	1.25	100	75	15.27	1475.00	2.79	271.02	0.000000	0.00	0.000
21	1.35	100	75	15.27	1475.00	2.20	271.02	0.000000	0.00	0.000
22	1.45	100	75	15.27	1475.00	1.67	271.02	0.000000	0.00	0.000
23	1.55	100	75	15.27	1475.00	1.19	271.02	0.000000	0.00	0.000
24	1.65	100	75	15.27	1475.00	0.78	271.02	0.000000	0.00	0.000
25	1.75	100	75	15.27	1475.00	0.45	271.02	0.000000	0.00	0.000
26	1.85	100	75	15.27	1475.00	0.21	271.02	0.000000	0.00	0.000
27	1.95	100	75	15.27	1475.00	0.05	271.02	0.000000	0.00	0.000
28	2.05	100	75	0.00	0.00	0.00	0.00	---	---	0.000

Elenco ferri

Simbologia adottata

n°	Indice del ferro
nf	numero ferri
D	diametro ferro espresso in [mm]
L	Lunghezza ferro espresso in [m]
P_{ferro}	Peso ferro espresso in [kN]

Paramento

n°	Tipo	nf	D	L	P_f	P_{gf}	V_{cls}
			[mm]	*[m]*	*[kN]*	*[kN]*	*[mc]*
1	Diritto inferiore	5	16.00	4.58	0.0709	0.3546	
2	Diritto inferiore	5	16.00	1.98	0.0306	0.1531	
3	Diritto superiore	5	16.00	2.14	0.0331	0.1657	
4	Diritto superiore	5	16.00	1.98	0.0307	0.1533	
5	Diritto superiore	5	16.00	4.59	0.0711	0.3556	
6	Diritto inferiore	5	16.00	2.94	0.0455	0.2275	
7	Ripartitore	24	16.00	1.00	0.0155	0.3715	
8	Gancio	24	16.00	0.86	0.0134	0.3205	
	Totale al metro					**2.1018**	**2.82**
	Totale					**25.2215**	**33.90**

Fondazione

n°	Tipo	nf	D	L	P_f	P_{gf}	V_{cls}
			[mm]	*[m]*	*[kN]*	*[kN]*	*[mc]*
1	Diritto superiore	6	18.00	4.72	0.0925	0.5550	
2	Diritto inferiore	6	18.00	4.72	0.0925	0.5550	
3	Ripartitore	12	16.00	1.00	0.0155	0.1857	
4	Gancio	16	16.00	0.70	0.0108	0.1735	
	Totale al metro					**1.4693**	**2.55**
	Totale					**15.4757**	**30.60**

Mensola valle

n°	Tipo	nf	D	L	P_f	P_{gf}	V_{cls}
			[mm]	*[m]*	*[kN]*	*[kN]*	*[mc]*
1	Diritto inferiore	4	16.00	1.53	0.0237	0.0947	
2	Diritto superiore	8	16.00	1.53	0.0237	0.1895	
3	Ripartitore	4	16.00	1.00	0.0155	0.0619	
4	Gancio	4	16.00	0.69	0.0106	0.0426	
	Totale al metro					**0.3887**	**0.13**
	Totale					**4.0373**	**1.50**

12 ALLEGATO 3 – TABULATI DI CALCOLO - MURO DI SOSTEGNO H5

Geometria profilo terreno a monte del muro

Simbologia adottata

(Sistema di riferimento con origine in testa al muro, ascissa X positiva verso monte, ordinata Y positiva verso l'alto)

n°	numero ordine del punto
X	ascissa del punto espressa in [m]
Y	ordinata del punto espressa in [m]
A	inclinazione del tratto espressa in [°]

n°	X	Y	A
	[m]	*[m]*	*[°]*
1	0.00	0.00	0.000
2	30.00	0.00	0.000

Inclinazione terreno a valle del muro rispetto all'orizzontale 0.000 [°]

Geometria muro

Geometria paramento e fondazione

Lunghezza muro	12.00	[m]

Paramento

Materiale	CLS 25/30	
Altezza paramento	5.00	[m]
Altezza paramento libero	5.00	[m]
Spessore in sommità	0.50	[m]
Spessore all'attacco con la fondazione	0.95	[m]
Inclinazione paramento esterno	0.00	[°]
Inclinazione paramento interno	5.10	[°]
Spessore rivestimento	0.20	[m]
Peso sp. rivestimento	20.0000	[kN/mc]

Mensola di marciapiede

Posizione rispetto alla testa del muro	0.00	[m]
Lunghezza	0.25	[m]
Spessore all'estremità libera	0.50	[m]
Spessore all'incastro	0.50	[m]

Fondazione

Materiale	CLS 25/30	
Lunghezza mensola di valle	0.95	[m]
Lunghezza mensola di monte	2.50	[m]
Lunghezza totale	4.40	[m]
Inclinazione piano di posa	0.00	[°]
Spessore	0.85	[m]
Spessore magrone	0.20	[m]

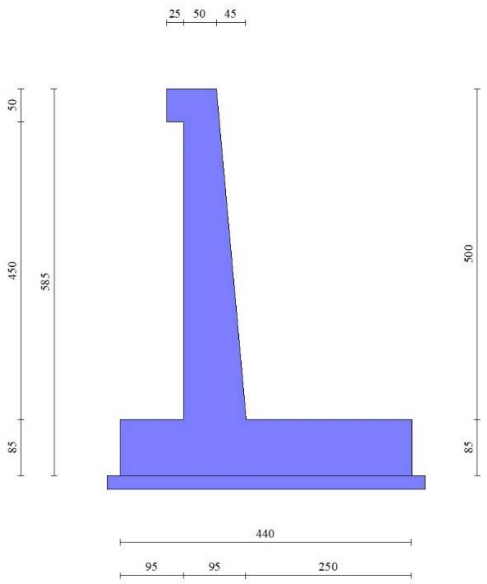

Fig. 1 - Sezione quotata del muro

Descrizione terreni

Parametri di resistenza

Simbologia adottata

n°	Indice del terreno
Descr	Descrizione terreno
γ	Peso di volume del terreno espresso in [kN/mc]
γ_s	Peso di volume saturo del terreno espresso in [kN/mc]
ϕ	Angolo d'attrito interno espresso in [°]
δ	Angolo d'attrito terra-muro espresso in [°]
c	Coesione espressa in [kPa]
c_a	Adesione terra-muro espressa in [kPa]

Per calcolo portanza con il metodo di Bustamante-Doix

Cesp Coeff. di espansione laterale (solo per il metodo di Bustamante-Doix)

τl Tensione tangenziale limite, espressa in [kPa]

n°	Descr	γ	γsat	ϕ	δ	c	ca	Cesp	τl
		[kN/mc]	[kN/mc]	[°]	[°]	[kPa]	[kPa]		[kPa]
1	Rilevato	19.0000	19.0000	35.000	23.330	0	0	---	---
2	LR	18.5000	18.5000	25.000	25.000	5	0	---	---

Stratigrafia

Simbologia adottata

n° Indice dello strato

H Spessore dello strato espresso in [m]

α Inclinazione espressa in [°]

Terreno Terreno dello strato

Kwn, Kwt Costante di Winkler normale e tangenziale alla superficie espressa in Kg/cm²/cm

Per calcolo pali (solo se presenti)

Kw Costante di Winkler orizzontale espressa in Kg/cm²/cm

Ks Coefficiente di spinta

Cesp Coefficiente di espansione laterale (per tutti i metodi tranne il metodo di Bustamante-Doix)

Per calcolo della spinta con coeff. di spinta definiti (usati solo se attiva l'opzione 'Usa coeff. di spinta da strato')

Kststa, Kstsis Coeff. di spinta statico e sismico

n°	H	α	Terreno	Kwn	Kwt	Kw	Ks	Cesp	Kststa	Kstsis
	[m]	[°]		[Kg/cm³]	[Kg/cm³]	[Kg/cm³]				
1	5.85	0.000	Rilevato	0.000	0.000	---	---	---	---	---
2	15.00	0.000	LR	2.400	1.200	---	---	---	---	---

Fig. 2 - Stratigrafia

Condizioni di carico

Simbologia adottata

Carichi verticali positivi verso il basso.

Carichi orizzontali positivi verso sinistra.

Momento positivo senso antiorario.

X	Ascissa del punto di applicazione del carico concentrato espressa in [m]
F_x	Componente orizzontale del carico concentrato espressa in [kN]
F_y	Componente verticale del carico concentrato espressa in [kN]
M	Momento espresso in [kNm]
X_i	Ascissa del punto iniziale del carico ripartito espressa in [m]
X_f	Ascissa del punto finale del carico ripartito espressa in [m]
Q_i	Intensità del carico per $x=X_i$ espressa in [kN]
Q_f	Intensità del carico per $x=X_f$ espressa in [kN]

Condizione n° 1 (traffico-stradale) - VARIABILE TF

Coeff. di combinazione Ψ_0=0.75 - Ψ_1=0.75 - Ψ_2=0.00

Carichi sul terreno

n°	Tipo	X	Fx	Fy	M	Xi	Xf	Qi	Qf
		[m]	[kN]	[kN]	[kNm]	[m]	[m]	[kN]	[kN]
1	Distribuito					0.00	3.00	34.1000	34.1000
2	Distribuito					3.00	6.00	19.2000	19.2000
3	Distribuito					6.00	9.00	10.9000	10.9000
4	Distribuito					9.00	30.00	2.5000	2.5000

Condizione n° 2 (urto) - ECCEZIONALE

Carichi sul muro

n°	Tipo	Dest	X; Y	Fx	Fy	M	Xi	Xf	Qi	Qf
			[m]	[kN]	[kN]	[kNm]	[m]	[m]	[kN]	[kN]
1	Concentrato	Mensola marciappiede	-0.50; 0.00	20.0000	0.0000	20.0000				

Condizione n° 3 (Peso barriera) - PERMANENTE NS

Condizione n° 4 (Condizione 4) - VARIABILE

Coeff. di combinazione Ψ_0=1.00 - Ψ_1=1.00 - Ψ_2=1.00

Condizione n° 5 (Condizione 5) - VARIABILE

Coeff. di combinazione Ψ_0=1.00 - Ψ_1=1.00 - Ψ_2=1.00

Condizione n° 6 (Condizione 6) - VARIABILE

Coeff. di combinazione Ψ_0=1.00 - Ψ_1=1.00 - Ψ_2=1.00

Condizione n° 7 (Condizione 7) - VARIABILE

Coeff. di combinazione Ψ_0=1.00 - Ψ_1=1.00 - Ψ_2=1.00

Condizione n° 8 (Condizione 8) - VARIABILE

Coeff. di combinazione Ψ_0=1.00 - Ψ_1=1.00 - Ψ_2=1.00

Normativa

Normativa usata: **Norme Tecniche sulle Costruzioni 2018 (D.M. 17.01.2018) + Circolare C.S.LL.PP. 21/01/2019 n.7**

Coeff. parziali per le azioni o per l'effetto delle azioni

Carichi	Effetto		Combinazioni statiche					Combinazioni sismiche	
			UPL	EQU	A1	A2	EQU	A1	A2
Permanenti strutturali	Favorevoli	$\gamma_{G1,fav}$	0.90	0.90	1.00	1.00	1.00	1.00	1.00
Permanenti strutturali	Sfavorevoli	$\gamma_{G1,sfav}$	1.10	1.10	1.35	1.00	1.00	1.00	1.00
Permanenti non strutturali	Favorevoli	$\gamma_{G2,fav}$	0.80	0.00	0.00	0.00	0.00	0.00	0.00
Permanenti non strutturali	Sfavorevoli	$\gamma_{G2,sfav}$	1.50	1.50	1.50	1.30	1.00	1.00	1.00
Variabili	Favorevoli	$\gamma_{Q,fav}$	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Variabili	Sfavorevoli	$\gamma_{Q,sfav}$	1.50	1.50	1.50	1.30	1.00	1.00	1.00
Variabili da traffico	Favorevoli	$\gamma_{QT,fav}$	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Variabili da traffico	Sfavorevoli	$\gamma_{QT,sfav}$	1.50	1.35	1.35	1.15	1.00	1.00	1.00

Coeff. parziali per i parametri geotecnici del terreno

Parametro		Combinazioni statiche		Combinazioni sismiche	
		M1	M2	M1	M2
Tangente dell'angolo di attrito	$\gamma_{\tan(\phi')}$	1.00	1.25	1.00	1.00
Coesione efficace	$\gamma_{c'}$	1.00	1.25	1.00	1.00
Resistenza non drenata	γ_{cu}	1.00	1.40	1.00	1.00
Peso nell'unita di volume	γ_{γ}	1.00	1.00	1.00	1.00

Coeff. parziali γ_R per le verifiche agli stati limite ultimi STR e GEO

Verifica	Combinazioni statiche			Combinazioni sismiche		
	R1	R2	R3	R1	R2	R3
Capacità portante	--	--	1.40	--	--	1.20
Scorrimento	--	--	1.10	--	--	1.00
Resistenza terreno a valle	--	--	1.40	--	--	1.20
Ribaltameno	--	--	1.15	--	--	1.00
Stabilità fronte di scavo	--	1.10	--	--	1.20	--

Descrizione combinazioni di carico

Con riferimento alle azioni elementari prima determinate, si sono considerate le seguenti combinazioni di carico:

- Combinazione fondamentale, impiegata per gli stati limite ultimi (SLU):

$$\gamma_{G1} G_1 + \gamma_{G2} G_2 + \gamma_{Q1} Q_{k1} + \gamma_{Q2} Q_{k2} + \gamma_{Q3} Q_{k3} + \ldots$$

- Combinazione caratteristica, cosiddetta rara, impiegata per gli stati limite di esercizio (SLE) irreversibili:

$$G_1 + G_2 + Q_{k1} + \Psi_{0,2} Q_{k2} + \Psi_{0,3} Q_{k3} + \ldots$$

- Combinazione frequente, impiegata per gli stati limite di esercizio (SLE) reversibili:

$$G_1 + G_2 + \Psi_{1,1} Q_{k1} + \Psi_{2,2} Q_{k2} + \Psi_{2,3} Q_{k3} + \ldots$$

- Combinazione quasi permanente, impiegata per gli effetti di lungo periodo:

$$G_1 + G_2 + \Psi_{2,1} Q_{k1} + \Psi_{2,2} Q_{k2} + \Psi_{2,3} Q_{k3} + \ldots$$

- Combinazione sismica, impiegata per gli stati limite ultimi connessi all'azione sismica E:

$$E + G_1 + G_2 + \Psi_{2,1} Q_{k1} + \Psi_{2,2} Q_{k2} + \Psi_{2,3} Q_{k3} + \ldots$$

- Combinazione eccezzionale, impiegata per gli stati limite ultimi connessi alle azioni eccezionali Ad:

$$G_1 + G_2 + A_d + \Psi_{2,1} Q_{k1} + \Psi_{2,2} Q_{k2} + \Psi_{2,3} Q_{k3} + \ldots$$

I valori dei coeff. $\Psi_{0,j}$, $\Psi_{1,j}$, $\Psi_{2,j}$ sono definiti nelle singole condizioni variabili.

I valori dei coeff. γ_G e γ_Q, sono definiti nella tabella normativa.

In particolare si sono considerate le seguenti combinazioni:

Simbologia adottata

γ	Coefficiente di partecipazione della condizione
Ψ	Coefficiente di combinazione della condizione

Combinazione n° 1 - STR (A1-M1-R3)

Condizione	γ	Ψ	Effetto
Peso muro	1.00	--	Favorevole
Peso terrapieno	1.00	--	Favorevole
Spinta terreno	1.35	--	Sfavorevole

Combinazione n° 2 - STR (A1-M1-R3)

Condizione	γ	Ψ	Effetto
Peso muro	1.00	--	Favorevole
Peso terrapieno	1.00	--	Favorevole
Spinta terreno	1.35	--	Sfavorevole
traffico-stradale	1.35	1.00	Sfavorevole

Combinazione n° 3 - STR (A1-M1-R3) H + V

Condizione	γ	Ψ	Effetto
Peso muro	1.00	--	Favorevole
Peso terrapieno	1.00	--	Favorevole
Spinta terreno	1.00	--	Sfavorevole

Combinazione n° 4 - STR (A1-M1-R3) H - V

Condizione	γ	Ψ	Effetto
Peso muro	1.00	--	Sfavorevole
Peso terrapieno	1.00	--	Sfavorevole
Spinta terreno	1.00	--	Sfavorevole

Combinazione n° 5 - GEO (A2-M2-R2)

Condizione	γ	Ψ	Effetto
Peso muro	1.00	--	Sfavorevole
Peso terrapieno	1.00	--	Sfavorevole
Spinta terreno	1.00	--	Sfavorevole

Combinazione n° 6 - GEO (A2-M2-R2)

Condizione	γ	Ψ	Effetto
Peso muro	1.00	--	Sfavorevole
Peso terrapieno	1.00	--	Sfavorevole
Spinta terreno	1.00	--	Sfavorevole
traffico-stradale	1.15	1.00	Sfavorevole

Combinazione n° 7 - GEO (A2-M2-R2) H + V

Condizione	γ	Ψ	Effetto
Peso muro	1.00	--	Sfavorevole
Peso terrapieno	1.00	--	Sfavorevole
Spinta terreno	1.00	--	Sfavorevole

Combinazione n° 8 - GEO (A2-M2-R2) H - V

Condizione	γ	Ψ	Effetto
Peso muro	1.00	--	Sfavorevole
Peso terrapieno	1.00	--	Sfavorevole
Spinta terreno	1.00	--	Sfavorevole

Combinazione n° 9 - ECC

Condizione	γ	Ψ	Effetto
Peso muro	1.00	--	Sfavorevole
Peso terrapieno	1.00	--	Sfavorevole
Spinta terreno	1.00	--	Sfavorevole
urto	1.00	1.00	Sfavorevole

Combinazione n° 10 - SLER

Condizione	γ	Ψ	Effetto
Peso muro	1.00	--	Sfavorevole
Peso terrapieno	1.00	--	Sfavorevole
Spinta terreno	1.00	--	Sfavorevole
traffico-stradale	1.00	0.75	Sfavorevole

Combinazione n° 11 - SLEF

Condizione	γ	Ψ	Effetto
Peso muro	1.00	--	Sfavorevole
Peso terrapieno	1.00	--	Sfavorevole
Spinta terreno	1.00	--	Sfavorevole

Combinazione n° 12 - SLEQ

Condizione	γ	Ψ	Effetto
Peso muro	1.00	--	Sfavorevole
Peso terrapieno	1.00	--	Sfavorevole
Spinta terreno	1.00	--	Sfavorevole

Dati sismici

Comune	
Provincia	
Regione	
Latitudine	43.608157
Longitudine	13.471305
Indice punti di interpolazione	20979 - 20757 - 20756 - 20978
Vita nominale	50 anni
Classe d'uso	IV
Tipo costruzione	Normali affollamenti
Vita di riferimento	100 anni

	Simbolo	U.M.		SLU	SLE
Accelerazione al suolo	a_g	[m/s^2]		2.260	0.873
Accelerazione al suolo	a_g/g	[%]		0.230	0.089
Massimo fattore amplificazione spettro orizzontale	F0			2.433	2.436
Periodo inizio tratto spettro a velocità costante	Tc*			0.307	0.282
Tipo di sottosuolo - Coefficiente stratigrafico	Ss		C	1.358	1.500
Categoria topografica - Coefficiente amplificazione topografica	St		T1	1.000	

Stato limite ...	Coeff. di riduzione β_m	kh [%]	kv [%]
Ultimo	0.380	12.099	6.049
Ultimo - Ribaltamento	0.570	18.148	9.074
Esercizio	0.470	6.275	3.138

Forma diagramma incremento sismico **Rettangolare**

Opzioni di calcolo

Spinta

Metodo di calcolo della spinta	Culmann
Tipo di spinta	Spinta attiva
Terreno a bassa permeabilità	NO
Superficie di spinta limitata	NO

Capacità portante

Metodo di calcolo della portanza	Meyerhof
Criterio di media calcolo del terreno equivalente (terreni stratificati)	Ponderata
Criterio di riduzione per eccentricità della portanza	Bowles
Criterio di riduzione per rottura locale (punzonamento)	Nessuna
Larghezza fondazione nel terzo termine della formula del carico limite ($0.5B\gamma N_\gamma$)	Larghezza effettiva (B)

Fattori di forma e inclinazione del carico — Solo i fattori di inclinazione

Se la fondazione ha larghezza superiore a 2.0 m viene applicato il fattore di riduzione per comportamento a piastra

Stabilità globale

Metodo di calcolo della stabilità globale — Bishop

Altro

Partecipazione spinta passiva terreno antistante — 0.00

Partecipazione resistenza passiva dente di fondazione — 50.00

Componente verticale della spinta nel calcolo delle sollecitazioni — NO

Considera terreno sulla fondazione di valle — NO

Considera spinta e peso acqua fondazione di valle — NO

Spostamenti

Modello a blocchi

Non è stato richiesto il calcolo degli spostamenti

Spostamento limite — 2.00 [cm]

Cedimenti

Non è stato richiesto il calcolo dei cedimenti

Specifiche per le verifiche nelle combinazioni allo Stato Limite Ultimo (SLU)

	SLU	Eccezionale
Coefficiente di sicurezza calcestruzzo a compressione	1.50	1.00
Coefficiente di sicurezza acciaio	1.15	1.00
Fattore di riduzione da resistenza cubica a cilindrica	0.83	0.83
Fattore di riduzione per carichi di lungo periodo	0.85	0.85
Coefficiente di sicurezza per la sezione	1.00	1.00

Specifiche per le verifiche nelle combinazioni allo Stato Limite di Esercizio (SLE)

Paramento e fondazione muro

Verifiche strutturali nelle combinazioni SLD **non eseguite**. Struttura in classe d'uso III o IV

Condizioni ambientali — Aggressive

Armatura ad aderenza migliorata — SI

Verifica a fessurazione

Sensibilità armatura — Poco sensibile

Metodo di calcolo aperture delle fessure — NTC 2018 - CIRCOLARE 21 gennaio 2019, n. 7 C.S.LL.PP.

Calcolo momento fessurazione — Apertura

Resistenza a trazione per — Trazione

Valori limite aperture delle fessure: — w_1=0.20

w_2=0.30

w_3=0.40

Verifica delle tensioni

Valori limite delle tensioni nei materiali:

Combinazione	Calcestruzzo	Acciaio
Rara	0.60 f_{ck}	0.80 f_{yk}
Frequente	1.00 f_{ck}	1.00 f_{yk}
Quasi permanente	0.45 f_{ck}	1.00 f_{yk}

Risultati per combinazione

Spinta e forze

Simbologia adottata

Ic	Indice della combinazione
A	Tipo azione
I	Inclinazione della spinta, espressa in [°]
V	Valore dell'azione, espressa in [kN]
C_X, C_Y	Componente in direzione X ed Y dell'azione, espressa in [kN]
P_X, P_Y	Coordinata X ed Y del punto di applicazione dell'azione, espressa in [m]

Ic	A	V	I	C_X	C_Y	P_X	P_Y
		[kN]	[°]	[kN]	[kN]	[m]	[m]
1	Spinta statica	107.28	23.33	98.50	42.48	2.95	-3.90
	Peso/Inerzia muro			0.00	186.93/0.00	0.30	-4.05
	Peso/Inerzia rivestimento			0.00	20.00	-0.60	-2.75
	Peso/Inerzia terrapieno			0.00	258.70/0.00	1.58	-2.43
2	Spinta statica	143.17	23.33	131.47	56.70	2.95	-3.62
	Peso/Inerzia muro			0.00	186.93/0.00	0.30	-4.05
	Peso/Inerzia rivestimento			0.00	20.00	-0.60	-2.75
	Peso/Inerzia terrapieno			0.00	394.33/0.00	1.55	-2.41
3	Spinta statica	79.46	23.33	72.97	31.47	2.95	-3.90
	Incremento di spinta sismica		29.49	27.08	11.68	2.95	-2.93
	Peso/Inerzia muro			22.62	186.93/11.31	0.30	-4.05
	Peso/Inerzia rivestimento			2.42	20.00	-0.60	-2.75
	Peso/Inerzia terrapieno			31.30	258.70/15.65	1.58	-2.43
4	Spinta statica	79.46	23.33	72.97	31.47	2.95	-3.90
	Incremento di spinta sismica		20.32	18.66	8.05	2.95	-2.93
	Peso/Inerzia muro			22.62	186.93/-11.31	0.30	-4.05
	Peso/Inerzia rivestimento			2.42	20.00	-0.60	-2.75
	Peso/Inerzia terrapieno			31.30	258.70/-15.65	1.58	-2.43
9	Spinta statica	79.46	23.33	72.97	31.47	2.95	-3.90
	Peso/Inerzia muro			0.00	186.93/0.00	0.30	-4.05
	Peso/Inerzia rivestimento			0.00	20.00	-0.60	-2.75
	Peso/Inerzia terrapieno			0.00	258.70/0.00	1.58	-2.43
	Risultante forze sul muro			20.00	0.00	--	--
10	Spinta statica	99.34	23.33	91.22	39.34	2.95	-3.67
	Peso/Inerzia muro			0.00	186.93/0.00	0.30	-4.05
	Peso/Inerzia rivestimento			0.00	20.00	-0.60	-2.75
	Peso/Inerzia terrapieno			0.00	334.05/0.00	1.56	-2.42
11	Spinta statica	79.46	23.33	72.97	31.47	2.95	-3.90
	Peso/Inerzia muro			0.00	186.93/0.00	0.30	-4.05
	Peso/Inerzia rivestimento			0.00	20.00	-0.60	-2.75
	Peso/Inerzia terrapieno			0.00	258.70/0.00	1.58	-2.43
12	Spinta statica	79.46	23.33	72.97	31.47	2.95	-3.90
	Peso/Inerzia muro			0.00	186.93/0.00	0.30	-4.05
	Peso/Inerzia rivestimento			0.00	20.00	-0.60	-2.75
	Peso/Inerzia terrapieno			0.00	258.70/0.00	1.58	-2.43

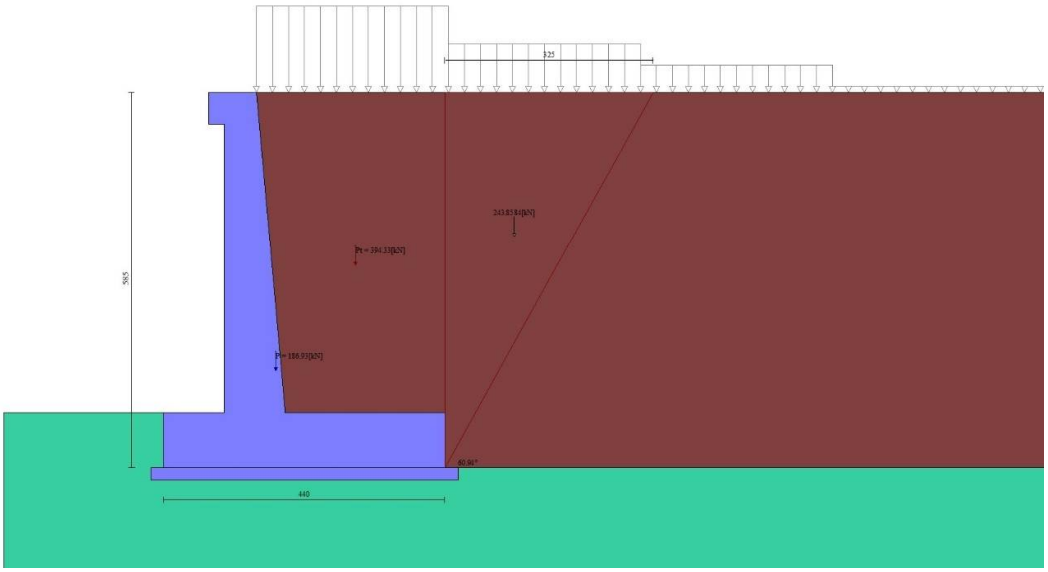

Fig. 3 - Cuneo di spinta (combinazione statica) (Combinazione n° 2)

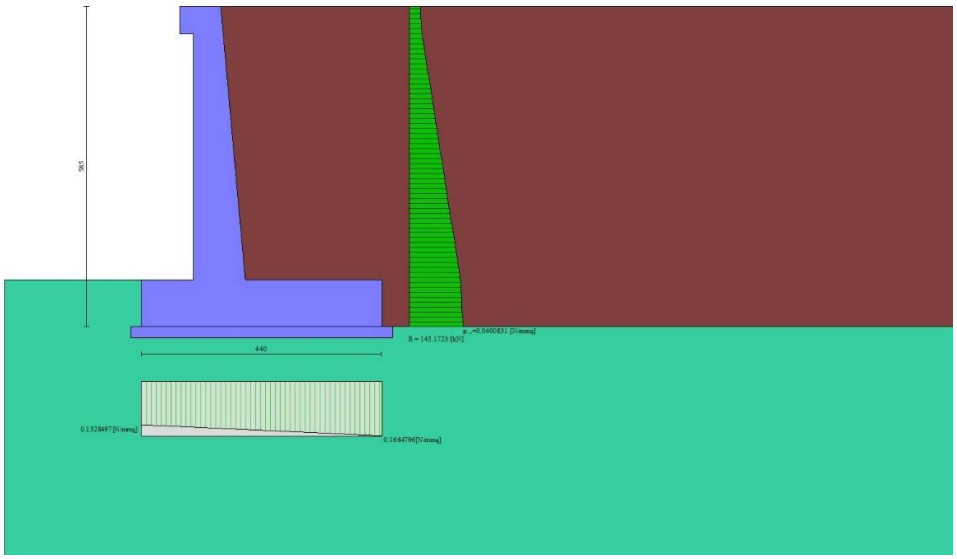

Fig. 4 - Diagramma delle pressioni (combinazione statica) (Combinazione n° 2)

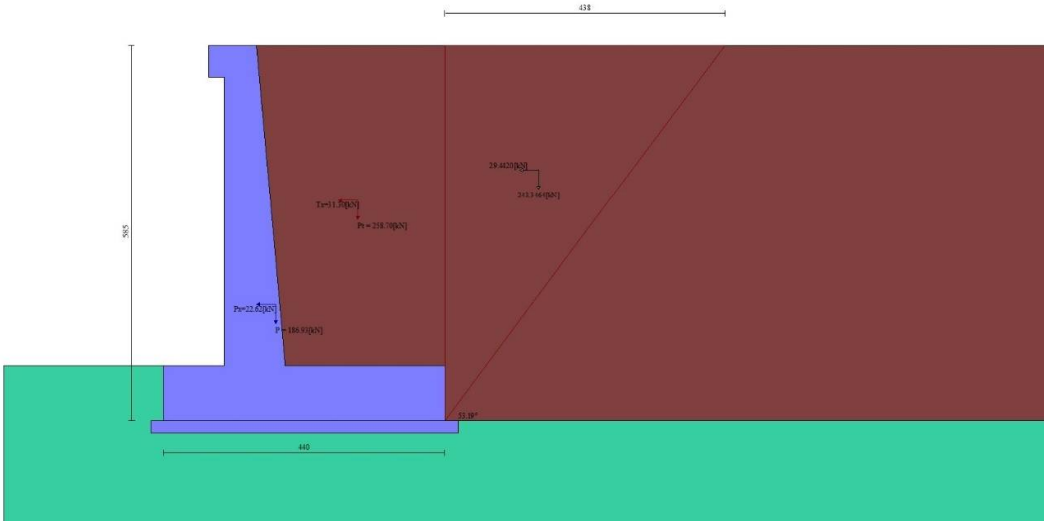

Fig. 5 - Cuneo di spinta (combinazione sismica) (Combinazione n° 3)

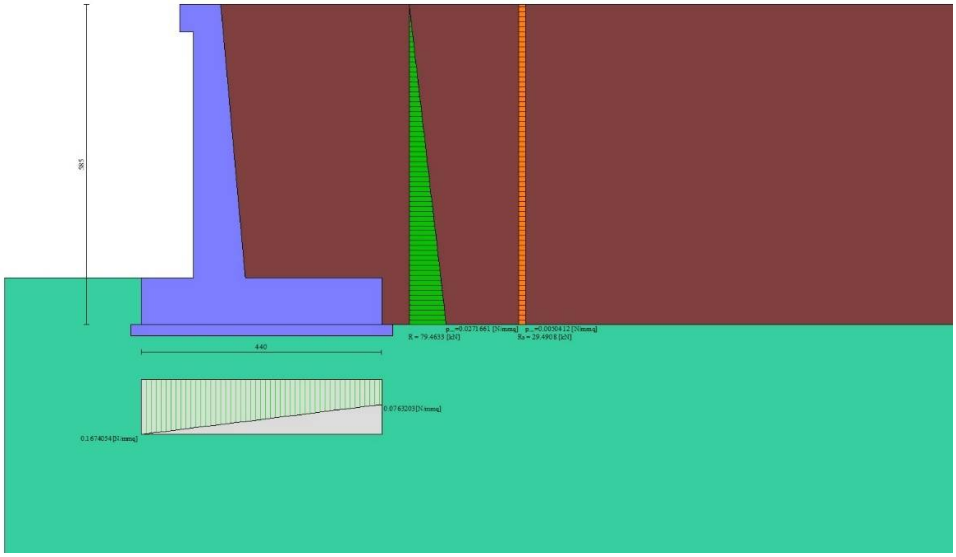

Fig. 6 - Diagramma delle pressioni (combinazione sismica) (Combinazione n° 3)

Verifiche geotecniche

Quadro riassuntivo coeff. di sicurezza calcolati

Simbologia adottata

Cmb	Indice/Tipo combinazione
S	Sisma (H: componente orizzontale, V: componente verticale)
FS_{SCO}	Coeff. di sicurezza allo scorrimento
FS_{RIB}	Coeff. di sicurezza al ribaltamento
FS_{QLIM}	Coeff. di sicurezza a carico limite
FS_{STAB}	Coeff. di sicurezza a stabilità globale
FS_{HYD}	Coeff. di sicurezza a sifonamento
FS_{UPL}	Coeff. di sicurezza a sollevamento

Cmb	Sismica	FS_{SCO}	FS_{RIB}	FS_{QLIM}	FS_{STAB}	FS_{HYD}	FS_{UPL}
1 - STR (A1-M1-R3)		2.405		2.577			
2 - STR (A1-M1-R3)		2.334		1.915			
3 - STR (A1-M1-R3)	H + V	1.597		1.556			
4 - STR (A1-M1-R3)	H - V	1.507		1.624			
5 - GEO (A2-M2-R2)					1.507		
6 - GEO (A2-M2-R2)					1.331		
7 - GEO (A2-M2-R2)	H + V				1.510		
8 - GEO (A2-M2-R2)	H - V				1.489		

Verifica stabilità globale muro + terreno

Simbologia adottata

Ic	Indice/Tipo combinazione
C	Centro superficie di scorrimento, espresso in [m]
R	Raggio, espresso in [m]
FS	Fattore di sicurezza

Ic	C	R	FS
	[m]	*[m]*	
5 - GEO (A2-M2-R2)	-1.57; 0.79	8.04	1.507
6 - GEO (A2-M2-R2)	-1.57; 0.79	8.04	1.331
7 - GEO (A2-M2-R2) H + V	-1.57; 3.15	10.08	1.510
8 - GEO (A2-M2-R2) H - V	-1.57; 3.15	10.08	1.489

Dettagli strisce verifiche stabilità

Simbologia adottata

Le ascisse X sono considerate positive verso monte

Le ordinate Y sono considerate positive verso l'alto

Origine in testa al muro (spigolo contro terra)

W	peso della striscia espresso in [kN]
Qy	carico sulla striscia espresso in [kN]
Qf	carico acqua sulla striscia espresso in [kN]
α	angolo fra la base della striscia e l'orizzontale espresso in [°] (positivo antiorario)
ϕ	angolo d'attrito del terreno lungo la base della striscia
c	coesione del terreno lungo la base della striscia espressa in [kPa]
b	larghezza della striscia espressa in [m]
u	pressione neutra lungo la base della striscia espressa in [kPa]
Tx; Ty	Resistenza al taglio fornita dai tiranti in direzione X ed Y espressa in [kPa]

Combinazione n° 5 - GEO (A2-M2-R2)

n°	W	Qy	Qf	b	α	ϕ	c	u	Tx; Ty
	[kN]	[kN]	[kN]	[m]	[°]	[°]	[kPa]	[kPa]	[kN]
1	11.34	0.00	0.00	6.44 - 0.54	76.066	29.256	0	0.0	
2	28.41	0.00	0.00	0.54	63.839	29.256	0	0.0	
3	38.30	0.00	0.00	0.54	55.969	29.256	0	0.0	
4	45.76	0.00	0.00	0.54	49.514	29.256	0	0.0	
5	51.76	0.00	0.00	0.54	43.836	29.256	0	0.0	
6	56.71	0.00	0.00	0.54	38.662	29.256	0	0.0	
7	61.01	0.00	0.00	0.54	33.843	20.458	4	0.0	
8	66.99	0.00	0.00	0.54	29.283	20.458	4	0.0	
9	69.80	0.00	0.00	0.54	24.920	20.458	4	0.0	
10	72.11	0.00	0.00	0.54	20.708	20.458	4	0.0	
11	73.96	0.00	0.00	0.54	16.610	20.458	4	0.0	
12	84.86	0.00	0.00	0.54	12.598	20.458	4	0.0	
13	73.08	0.00	0.00	0.54	8.649	20.458	4	0.0	
14	25.36	0.00	0.00	0.54	4.741	20.458	4	0.0	
15	24.23	0.00	0.00	0.54	0.855	20.458	4	0.0	
16	22.75	0.00	0.00	0.54	-3.027	20.458	4	0.0	
17	22.27	0.00	0.00	0.54	-6.924	20.458	4	0.0	
18	21.42	0.00	0.00	0.54	-10.853	20.458	4	0.0	
19	20.16	0.00	0.00	0.54	-14.834	20.458	4	0.0	
20	18.50	0.00	0.00	0.54	-18.891	20.458	4	0.0	
21	16.40	0.00	0.00	0.54	-23.049	20.458	4	0.0	
22	13.82	0.00	0.00	0.54	-27.340	20.458	4	0.0	
23	10.70	0.00	0.00	0.54	-31.806	20.458	4	0.0	
24	6.93	0.00	0.00	0.54	-36.502	20.458	4	0.0	
25	2.36	0.00	0.00	-7.17 - 0.54	-40.728	20.458	4	0.0	

Combinazione n° 6 - GEO (A2-M2-R2)

n°	W	Qy	Qf	b	α	ϕ	c	u	Tx; Ty
	[kN]	[kN]	[kN]	[m]	[°]	[°]	[kPa]	[kPa]	[kN]
1	11.34	7.84	0.00	6.44 - 0.54	76.066	29.256	0	0.0	
2	28.41	12.02	0.00	0.54	63.839	29.256	0	0.0	
3	38.30	12.02	0.00	0.54	55.969	29.256	0	0.0	
4	45.76	12.02	0.00	0.54	49.514	29.256	0	0.0	
5	51.76	12.02	0.00	0.54	43.836	29.256	0	0.0	
6	56.71	12.02	0.00	0.54	38.662	29.256	0	0.0	
7	61.01	18.39	0.00	0.54	33.843	20.458	4	0.0	
8	66.99	21.34	0.00	0.54	29.283	20.458	4	0.0	
9	69.80	21.34	0.00	0.54	24.920	20.458	4	0.0	
10	72.11	21.34	0.00	0.54	20.708	20.458	4	0.0	
11	73.96	21.34	0.00	0.54	16.610	20.458	4	0.0	
12	84.86	17.70	0.00	0.54	12.598	20.458	4	0.0	
13	73.08	0.00	0.00	0.54	8.649	20.458	4	0.0	
14	25.36	0.00	0.00	0.54	4.741	20.458	4	0.0	
15	24.23	0.00	0.00	0.54	0.855	20.458	4	0.0	
16	22.75	0.00	0.00	0.54	-3.027	20.458	4	0.0	
17	22.27	0.00	0.00	0.54	-6.924	20.458	4	0.0	
18	21.42	0.00	0.00	0.54	-10.853	20.458	4	0.0	
19	20.16	0.00	0.00	0.54	-14.834	20.458	4	0.0	
20	18.50	0.00	0.00	0.54	-18.891	20.458	4	0.0	
21	16.40	0.00	0.00	0.54	-23.049	20.458	4	0.0	
22	13.82	0.00	0.00	0.54	-27.340	20.458	4	0.0	
23	10.70	0.00	0.00	0.54	-31.806	20.458	4	0.0	
24	6.93	0.00	0.00	0.54	-36.502	20.458	4	0.0	
25	2.36	0.00	0.00	-7.17 - 0.54	-40.728	20.458	4	0.0	

Combinazione n° 7 - GEO (A2-M2-R2) H + V

n°	W	Qy	Qf	b	α	ϕ	c	u	Tx; Ty
	[kN]	[kN]	[kN]	[m]	[°]	[°]	[kPa]	[kPa]	[kN]
1	8.62	0.00	0.00	8.01 - 0.62	66.953	35.000	0	0.0	
2	23.42	0.00	0.00	0.62	59.335	35.000	0	0.0	
3	34.46	0.00	0.00	0.62	52.938	35.000	0	0.0	
4	43.30	0.00	0.00	0.62	47.396	35.000	0	0.0	
5	50.64	0.00	0.00	0.62	42.394	35.000	0	0.0	
6	56.83	0.00	0.00	0.62	37.767	35.000	0	0.0	
7	62.09	0.00	0.00	0.62	33.416	35.000	0	0.0	
8	66.56	0.00	0.00	0.62	29.275	35.000	0	0.0	
9	71.41	0.00	0.00	0.62	25.296	25.000	5	0.0	
10	76.58	0.00	0.00	0.62	21.444	25.000	5	0.0	
11	79.12	0.00	0.00	0.62	17.692	25.000	5	0.0	
12	81.15	0.00	0.00	0.62	14.017	25.000	5	0.0	
13	91.35	0.00	0.00	0.62	10.401	25.000	5	0.0	

n°	W [kN]	Qy [kN]	Qf [kN]	b [m]	α [°]	ϕ [°]	c [kPa]	u [kPa]	Tx; Ty [kN]
14	76.37	0.00	0.00	0.62	6.826	25.000	5	0.0	
15	25.39	0.00	0.00	0.62	3.277	25.000	5	0.0	
16	23.13	0.00	0.00	0.62	-0.258	25.000	5	0.0	
17	22.15	0.00	0.00	0.62	-3.795	25.000	5	0.0	
18	21.46	0.00	0.00	0.62	-7.346	25.000	5	0.0	
19	20.31	0.00	0.00	0.62	-10.926	25.000	5	0.0	
20	18.69	0.00	0.00	0.62	-14.550	25.000	5	0.0	
21	16.59	0.00	0.00	0.62	-18.235	25.000	5	0.0	
22	13.97	0.00	0.00	0.62	-22.000	25.000	5	0.0	
23	10.79	0.00	0.00	0.62	-25.869	25.000	5	0.0	
24	6.93	0.00	0.00	0.62	-29.869	25.000	5	0.0	
25	2.35	0.00	0.00	-7.52 - 0.62	-33.346	25.000	5	0.0	

Combinazione n° 8 - GEO (A2-M2-R2) H - V

n°	W [kN]	Qy [kN]	Qf [kN]	b [m]	α [°]	ϕ [°]	c [kPa]	u [kPa]	Tx; Ty [kN]
1	8.62	0.00	0.00	8.01 - 0.62	66.953	35.000	0	0.0	
2	23.42	0.00	0.00	0.62	59.335	35.000	0	0.0	
3	34.46	0.00	0.00	0.62	52.938	35.000	0	0.0	
4	43.30	0.00	0.00	0.62	47.396	35.000	0	0.0	
5	50.64	0.00	0.00	0.62	42.394	35.000	0	0.0	
6	56.83	0.00	0.00	0.62	37.767	35.000	0	0.0	
7	62.09	0.00	0.00	0.62	33.416	35.000	0	0.0	
8	66.56	0.00	0.00	0.62	29.275	35.000	0	0.0	
9	71.41	0.00	0.00	0.62	25.296	25.000	5	0.0	
10	76.58	0.00	0.00	0.62	21.444	25.000	5	0.0	
11	79.12	0.00	0.00	0.62	17.692	25.000	5	0.0	
12	81.15	0.00	0.00	0.62	14.017	25.000	5	0.0	
13	91.35	0.00	0.00	0.62	10.401	25.000	5	0.0	
14	76.37	0.00	0.00	0.62	6.826	25.000	5	0.0	
15	25.39	0.00	0.00	0.62	3.277	25.000	5	0.0	
16	23.13	0.00	0.00	0.62	-0.258	25.000	5	0.0	
17	22.15	0.00	0.00	0.62	-3.795	25.000	5	0.0	
18	21.46	0.00	0.00	0.62	-7.346	25.000	5	0.0	
19	20.31	0.00	0.00	0.62	-10.926	25.000	5	0.0	
20	18.69	0.00	0.00	0.62	-14.550	25.000	5	0.0	
21	16.59	0.00	0.00	0.62	-18.235	25.000	5	0.0	
22	13.97	0.00	0.00	0.62	-22.000	25.000	5	0.0	
23	10.79	0.00	0.00	0.62	-25.869	25.000	5	0.0	
24	6.93	0.00	0.00	0.62	-29.869	25.000	5	0.0	
25	2.35	0.00	0.00	-7.52 - 0.62	-33.346	25.000	5	0.0	

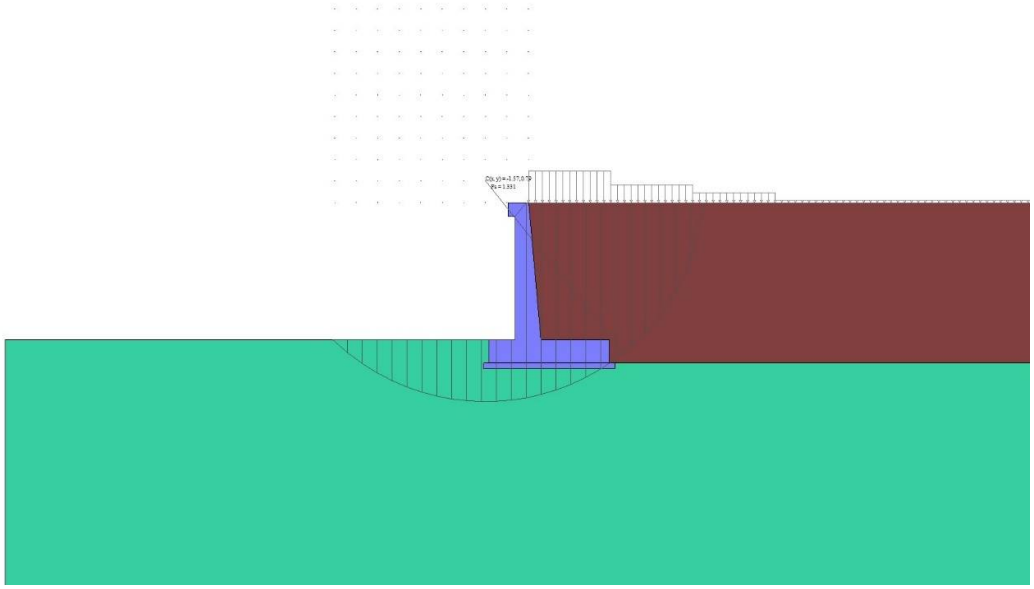

Fig. 7 - Stabilità fronte di scavo - Cerchio critico (Combinazione n° 6)

Spostamenti

Simbologia adottata

Cmb Tipo combinazione

Modello a blocchi

X Spostamento in direzione X (positivo verso monte), espresso in [cm]

Y Spostamento in direzione Y (positivo verso l'alto), espresso in [cm]

Phi Rotazione (positiva antioraria), espresso in [°]

Spostamenti ottenuti con il modello a blocchi

Cmb	X	Y	Phi
	[cm]	*[cm]*	*[°]*
1 - STR (A1-M1-R3)	-0.16393	-0.48452	-0.00842
2 - STR (A1-M1-R3)	-0.19556	-0.62140	-0.01862
3 - STR (A1-M1-R3) H + V	-0.46084	-0.55710	0.05044
4 - STR (A1-M1-R3) H - V	-0.44574	-0.50131	0.05022
9 - ECC	-0.27306	-0.50357	0.02970
10 - SLER	-0.10451	-0.54309	-0.02283
11 - SLEF	-0.08704	-0.46706	-0.01717
12 - SLEQ	-0.08704	-0.46706	-0.01717

Sollecitazioni

Elementi calcolati a trave

Simbologia adottata

n° Indice della sezione

X Posizione della sezione, espresso in [m]

N Sforzo normale, espresso in [kN]. Positivo se di compressione.

T Taglio, espresso in [kN]. Positivo se diretto da monte verso valle

M Momento, espresso in [kNm]. Positivo se tende le fibre contro terra (a monte)

La posizione delle sezioni di verifica fanno riferimento al sistema di riferimento globale la cui origine è nello spigolo in alto a destra del paramento.

Paramento

Combinazione n° 1 - STR (A1-M1-R3)

n°	X	N	T	M
	[m]	*[kN]*	*[kN]*	*[kNm]*
1	0.00	3.13	0.00	0.39
2	-0.10	4.39	0.03	0.39
3	-0.20	5.67	0.13	0.41
4	-0.30	6.98	0.29	0.45
5	-0.40	8.30	0.51	0.50
6	-0.50	9.65	0.80	0.60
7	-0.60	11.03	1.15	0.72
8	-0.70	12.42	1.56	0.90
9	-0.80	13.84	2.03	1.12
10	-0.90	15.28	2.57	1.40
11	-1.00	16.74	3.18	1.75
12	-1.10	18.22	3.84	2.16
13	-1.20	19.73	4.57	2.65

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
14	-1.30	21.26	5.36	3.23
15	-1.40	22.81	6.22	3.89
16	-1.50	24.39	7.14	4.65
17	-1.60	25.98	8.12	5.51
18	-1.70	27.60	9.17	6.48
19	-1.80	29.24	10.28	7.56
20	-1.90	30.90	11.45	8.77
21	-2.00	32.59	12.69	10.10
22	-2.10	34.29	13.99	11.57
23	-2.20	36.02	15.36	13.18
24	-2.30	37.78	16.78	14.94
25	-2.40	39.55	18.28	16.85
26	-2.50	41.35	19.83	18.92
27	-2.60	43.17	21.45	21.16
28	-2.70	45.01	23.13	23.57
29	-2.80	46.87	24.87	26.16
30	-2.90	48.76	26.68	28.94
31	-3.00	50.67	28.55	31.91
32	-3.10	52.60	30.49	35.08
33	-3.20	54.55	32.49	38.45
34	-3.30	56.52	34.55	42.03
35	-3.40	58.52	36.67	45.84
36	-3.50	60.54	38.86	49.86
37	-3.60	62.58	41.11	54.12
38	-3.70	64.65	43.43	58.62
39	-3.80	66.73	45.81	63.36
40	-3.90	68.84	48.25	68.35
41	-4.00	70.97	50.76	73.60
42	-4.10	73.13	53.33	79.11
43	-4.20	75.30	55.96	84.89
44	-4.30	77.50	58.66	90.95
45	-4.40	79.72	61.42	97.29
46	-4.50	81.97	64.24	103.92
47	-4.60	84.23	67.13	110.84
48	-4.70	86.52	70.08	118.07
49	-4.80	88.83	73.09	125.61
50	-4.90	91.16	76.17	133.46
51	-5.00	93.51	79.31	141.63

Combinazione n° 2 - STR (A1-M1-R3)

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	0.00	3.13	0.00	0.39
2	-0.10	4.39	1.17	0.45
3	-0.20	5.67	2.41	0.64
4	-0.30	6.98	3.70	0.96
5	-0.40	8.30	5.07	1.42
6	-0.50	9.65	6.49	2.02
7	-0.60	11.03	7.98	2.77
8	-0.70	12.42	9.53	3.69
9	-0.80	13.84	11.14	4.76
10	-0.90	15.28	12.82	6.01
11	-1.00	16.74	14.56	7.44
12	-1.10	18.22	16.37	9.05
13	-1.20	19.73	18.23	10.85
14	-1.30	21.26	20.17	12.85
15	-1.40	22.81	22.16	15.05
16	-1.50	24.39	24.22	17.46
17	-1.60	25.98	26.34	20.08
18	-1.70	27.60	28.53	22.93
19	-1.80	29.24	30.78	26.01
20	-1.90	30.90	33.09	29.32
21	-2.00	32.59	35.46	32.88
22	-2.10	34.29	37.90	36.68
23	-2.20	36.02	40.41	40.74
24	-2.30	37.78	42.97	45.06
25	-2.40	39.55	45.60	49.64
26	-2.50	41.35	48.30	54.50
27	-2.60	43.17	51.05	59.65
28	-2.70	45.01	53.87	65.07
29	-2.80	46.87	56.76	70.80
30	-2.90	48.76	59.70	76.82
31	-3.00	50.67	62.71	83.15
32	-3.10	52.60	65.79	89.79
33	-3.20	54.55	68.92	96.75
34	-3.30	56.52	72.12	104.03
35	-3.40	58.52	75.39	111.65
36	-3.50	60.54	78.72	119.61
37	-3.60	62.58	82.11	127.91
38	-3.70	64.65	85.56	136.56
39	-3.80	66.73	89.08	145.57

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
40	-3.90	68.84	92.66	154.95
41	-4.00	70.97	96.30	164.69
42	-4.10	73.13	100.01	174.82
43	-4.20	75.30	103.78	185.32
44	-4.30	77.50	107.62	196.22
45	-4.40	79.72	111.52	207.51
46	-4.50	81.97	115.47	219.21
47	-4.60	84.23	119.47	231.31
48	-4.70	86.52	123.50	243.83
49	-4.80	88.83	127.54	256.76
50	-4.90	91.16	131.58	270.10
51	-5.00	93.51	135.63	283.86

Combinazione n° 3 - STR (A1-M1-R3) H + V

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	0.00	3.31	0.00	0.41
2	-0.10	4.65	0.59	0.45
3	-0.20	6.01	1.22	0.54
4	-0.30	7.40	1.91	0.72
5	-0.40	8.81	2.64	0.96
6	-0.50	10.24	3.42	1.29
7	-0.60	11.69	4.26	1.71
8	-0.70	13.17	5.14	2.22
9	-0.80	14.68	6.07	2.83
10	-0.90	16.20	7.06	3.54
11	-1.00	17.75	8.09	4.36
12	-1.10	19.33	9.17	5.29
13	-1.20	20.93	10.30	6.34
14	-1.30	22.55	11.48	7.51
15	-1.40	24.19	12.71	8.81
16	-1.50	25.86	13.99	10.24
17	-1.60	27.55	15.32	11.81
18	-1.70	29.27	16.70	13.52
19	-1.80	31.01	18.13	15.38
20	-1.90	32.77	19.61	17.40
21	-2.00	34.56	21.14	19.57
22	-2.10	36.37	22.72	21.90
23	-2.20	38.20	24.35	24.41
24	-2.30	40.06	26.03	27.09
25	-2.40	41.94	27.76	29.94
26	-2.50	43.85	29.53	32.99
27	-2.60	45.78	31.36	36.21
28	-2.70	47.73	33.24	39.64
29	-2.80	49.71	35.16	43.26
30	-2.90	51.71	37.14	47.09
31	-3.00	53.73	39.17	51.12
32	-3.10	55.78	41.24	55.37
33	-3.20	57.85	43.37	59.84
34	-3.30	59.94	45.54	64.53
35	-3.40	62.06	47.77	69.46
36	-3.50	64.20	50.04	74.61
37	-3.60	66.37	52.37	80.01
38	-3.70	68.56	54.74	85.65
39	-3.80	70.77	57.16	91.54
40	-3.90	73.01	59.64	97.69
41	-4.00	75.27	62.16	104.09
42	-4.10	77.55	64.73	110.76
43	-4.20	79.86	67.35	117.70
44	-4.30	82.19	70.03	124.92
45	-4.40	84.55	72.75	132.41
46	-4.50	86.92	75.52	140.19
47	-4.60	89.33	78.34	148.26
48	-4.70	91.75	81.21	156.63
49	-4.80	94.20	84.13	165.30
50	-4.90	96.68	87.10	174.27
51	-5.00	99.17	90.12	183.55

Combinazione n° 4 - STR (A1-M1-R3) H - V

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	0.00	3.13	0.00	0.39
2	-0.10	4.31	0.45	0.42
3	-0.20	5.52	0.95	0.49
4	-0.30	6.74	1.50	0.63
5	-0.40	7.99	2.09	0.83
6	-0.50	9.26	2.74	1.09

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
7	-0.60	10.55	3.44	1.43
8	-0.70	11.86	4.18	1.85
9	-0.80	13.19	4.98	2.35
10	-0.90	14.54	5.83	2.93
11	-1.00	15.92	6.72	3.62
12	-1.10	17.31	7.67	4.40
13	-1.20	18.73	8.66	5.28
14	-1.30	20.16	9.71	6.27
15	-1.40	21.62	10.80	7.37
16	-1.50	23.10	11.95	8.60
17	-1.60	24.60	13.14	9.94
18	-1.70	26.12	14.38	11.42
19	-1.80	27.66	15.68	13.03
20	-1.90	29.22	17.02	14.77
21	-2.00	30.81	18.41	16.66
22	-2.10	32.41	19.85	18.70
23	-2.20	34.03	21.35	20.90
24	-2.30	35.68	22.89	23.25
25	-2.40	37.35	24.48	25.77
26	-2.50	39.04	26.12	28.45
27	-2.60	40.74	27.81	31.31
28	-2.70	42.47	29.55	34.35
29	-2.80	44.22	31.34	37.58
30	-2.90	46.00	33.18	40.99
31	-3.00	47.79	35.07	44.60
32	-3.10	49.60	37.01	48.40
33	-3.20	51.44	39.00	52.42
34	-3.30	53.29	41.04	56.64
35	-3.40	55.17	43.13	61.07
36	-3.50	57.07	45.26	65.73
37	-3.60	58.99	47.45	70.61
38	-3.70	60.93	49.69	75.72
39	-3.80	62.89	51.98	81.06
40	-3.90	64.87	54.31	86.65
41	-4.00	66.87	56.70	92.48
42	-4.10	68.89	59.13	98.56
43	-4.20	70.94	61.62	104.89
44	-4.30	73.00	64.16	111.49
45	-4.40	75.09	66.74	118.35
46	-4.50	77.20	69.38	125.48
47	-4.60	79.32	72.06	132.89
48	-4.70	81.47	74.80	140.58
49	-4.80	83.64	77.58	148.55
50	-4.90	85.83	80.41	156.81
51	-5.00	88.05	83.30	165.37

Combinazione n° 9 - ECC

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	0.00	3.13	20.00	20.39
2	-0.10	4.39	20.02	20.39
3	-0.20	5.67	20.10	20.41
4	-0.30	6.98	20.21	20.44
5	-0.40	8.30	20.38	20.49
6	-0.50	9.65	20.59	20.56
7	-0.60	11.03	20.85	20.66
8	-0.70	12.42	21.15	20.80
9	-0.80	13.84	21.51	20.98
10	-0.90	15.28	21.91	21.20
11	-1.00	16.74	22.35	21.47
12	-1.10	18.22	22.85	21.79
13	-1.20	19.73	23.39	22.18
14	-1.30	21.26	23.97	22.62
15	-1.40	22.81	24.61	23.13
16	-1.50	24.39	25.29	23.72
17	-1.60	25.98	26.02	24.38
18	-1.70	27.60	26.79	25.13
19	-1.80	29.24	27.62	25.96
20	-1.90	30.90	28.49	26.89
21	-2.00	32.59	29.40	27.91
22	-2.10	34.29	30.36	29.03
23	-2.20	36.02	31.38	30.26
24	-2.30	37.78	32.43	31.60
25	-2.40	39.55	33.54	33.06
26	-2.50	41.35	34.69	34.64
27	-2.60	43.17	35.89	36.34
28	-2.70	45.01	37.13	38.17
29	-2.80	46.87	38.42	40.14
30	-2.90	48.76	39.76	42.25
31	-3.00	50.67	41.15	44.50
32	-3.10	52.60	42.58	46.91

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
33	-3.20	54.55	44.06	49.46
34	-3.30	56.52	45.59	52.18
35	-3.40	58.52	47.17	55.06
36	-3.50	60.54	48.79	58.11
37	-3.60	62.58	50.46	61.33
38	-3.70	64.65	52.17	64.73
39	-3.80	66.73	53.93	68.32
40	-3.90	68.84	55.74	72.09
41	-4.00	70.97	57.60	76.05
42	-4.10	73.13	59.50	80.21
43	-4.20	75.30	61.45	84.58
44	-4.30	77.50	63.45	89.15
45	-4.40	79.72	65.49	93.93
46	-4.50	81.97	67.59	98.93
47	-4.60	84.23	69.72	104.16
48	-4.70	86.52	71.91	109.61
49	-4.80	88.83	74.14	115.28
50	-4.90	91.16	76.42	121.20
51	-5.00	93.51	78.75	127.36

Combinazione n° 10 - SLER

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	0.00	3.13	0.00	0.39
2	-0.10	4.39	0.66	0.43
3	-0.20	5.67	1.36	0.53
4	-0.30	6.98	2.11	0.72
5	-0.40	8.30	2.91	0.99
6	-0.50	9.65	3.75	1.35
7	-0.60	11.03	4.64	1.80
8	-0.70	12.42	5.58	2.35
9	-0.80	13.84	6.57	3.00
10	-0.90	15.28	7.60	3.76
11	-1.00	16.74	8.68	4.63
12	-1.10	18.22	9.80	5.62
13	-1.20	19.73	10.98	6.73
14	-1.30	21.26	12.20	7.97
15	-1.40	22.81	13.46	9.33
16	-1.50	24.39	14.78	10.84
17	-1.60	25.98	16.14	12.48
18	-1.70	27.60	17.55	14.27
19	-1.80	29.24	19.00	16.21
20	-1.90	30.90	20.50	18.31
21	-2.00	32.59	22.05	20.56
22	-2.10	34.29	23.65	22.98
23	-2.20	36.02	25.29	25.57
24	-2.30	37.78	26.98	28.33
25	-2.40	39.55	28.72	31.28
26	-2.50	41.35	30.50	34.40
27	-2.60	43.17	32.33	37.72
28	-2.70	45.01	34.21	41.23
29	-2.80	46.87	36.14	44.94
30	-2.90	48.76	38.11	48.85
31	-3.00	50.67	40.13	52.97
32	-3.10	52.60	42.19	57.30
33	-3.20	54.55	44.31	61.85
34	-3.30	56.52	46.47	66.62
35	-3.40	58.52	48.67	71.62
36	-3.50	60.54	50.93	76.85
37	-3.60	62.58	53.23	82.32
38	-3.70	64.65	55.58	88.03
39	-3.80	66.73	57.97	93.99
40	-3.90	68.84	60.41	100.20
41	-4.00	70.97	62.90	106.66
42	-4.10	73.13	65.44	113.38
43	-4.20	75.30	68.02	120.37
44	-4.30	77.50	70.65	127.63
45	-4.40	79.72	73.33	135.17
46	-4.50	81.97	76.05	142.98
47	-4.60	84.23	78.80	151.08
48	-4.70	86.52	81.58	159.47
49	-4.80	88.83	84.37	168.14
50	-4.90	91.16	87.16	177.11
51	-5.00	93.51	89.97	186.36

Combinazione n° 11 - SLEF

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	0.00	3.13	0.00	0.39
2	-0.10	4.39	0.02	0.39
3	-0.20	5.67	0.10	0.41
4	-0.30	6.98	0.21	0.44
5	-0.40	8.30	0.38	0.49
6	-0.50	9.65	0.59	0.56
7	-0.60	11.03	0.85	0.66
8	-0.70	12.42	1.15	0.80
9	-0.80	13.84	1.51	0.98
10	-0.90	15.28	1.91	1.20
11	-1.00	16.74	2.35	1.47
12	-1.10	18.22	2.85	1.79
13	-1.20	19.73	3.39	2.18
14	-1.30	21.26	3.97	2.62
15	-1.40	22.81	4.61	3.13
16	-1.50	24.39	5.29	3.72
17	-1.60	25.98	6.02	4.38
18	-1.70	27.60	6.79	5.13
19	-1.80	29.24	7.62	5.96
20	-1.90	30.90	8.49	6.89
21	-2.00	32.59	9.40	7.91
22	-2.10	34.29	10.36	9.03
23	-2.20	36.02	11.38	10.26
24	-2.30	37.78	12.43	11.60
25	-2.40	39.55	13.54	13.06
26	-2.50	41.35	14.69	14.64
27	-2.60	43.17	15.89	16.34
28	-2.70	45.01	17.13	18.17
29	-2.80	46.87	18.42	20.14
30	-2.90	48.76	19.76	22.25
31	-3.00	50.67	21.15	24.50
32	-3.10	52.60	22.58	26.91
33	-3.20	54.55	24.06	29.46
34	-3.30	56.52	25.59	32.18
35	-3.40	58.52	27.17	35.06
36	-3.50	60.54	28.79	38.11
37	-3.60	62.58	30.46	41.33
38	-3.70	64.65	32.17	44.73
39	-3.80	66.73	33.93	48.32
40	-3.90	68.84	35.74	52.09
41	-4.00	70.97	37.60	56.05
42	-4.10	73.13	39.50	60.21
43	-4.20	75.30	41.45	64.58
44	-4.30	77.50	43.45	69.15
45	-4.40	79.72	45.49	73.93
46	-4.50	81.97	47.59	78.93
47	-4.60	84.23	49.72	84.16
48	-4.70	86.52	51.91	89.61
49	-4.80	88.83	54.14	95.28
50	-4.90	91.16	56.42	101.20
51	-5.00	93.51	58.75	107.36

Combinazione n° 12 - SLEQ

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	0.00	3.13	0.00	0.39
2	-0.10	4.39	0.02	0.39
3	-0.20	5.67	0.10	0.41
4	-0.30	6.98	0.21	0.44
5	-0.40	8.30	0.38	0.49
6	-0.50	9.65	0.59	0.56
7	-0.60	11.03	0.85	0.66
8	-0.70	12.42	1.15	0.80
9	-0.80	13.84	1.51	0.98
10	-0.90	15.28	1.91	1.20
11	-1.00	16.74	2.35	1.47
12	-1.10	18.22	2.85	1.79
13	-1.20	19.73	3.39	2.18
14	-1.30	21.26	3.97	2.62
15	-1.40	22.81	4.61	3.13
16	-1.50	24.39	5.29	3.72
17	-1.60	25.98	6.02	4.38
18	-1.70	27.60	6.79	5.13
19	-1.80	29.24	7.62	5.96
20	-1.90	30.90	8.49	6.89
21	-2.00	32.59	9.40	7.91
22	-2.10	34.29	10.36	9.03
23	-2.20	36.02	11.38	10.26
24	-2.30	37.78	12.43	11.60
25	-2.40	39.55	13.54	13.06
26	-2.50	41.35	14.69	14.64

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
27	-2.60	43.17	15.89	16.34
28	-2.70	45.01	17.13	18.17
29	-2.80	46.87	18.42	20.14
30	-2.90	48.76	19.76	22.25
31	-3.00	50.67	21.15	24.50
32	-3.10	52.60	22.58	26.91
33	-3.20	54.55	24.06	29.46
34	-3.30	56.52	25.59	32.18
35	-3.40	58.52	27.17	35.06
36	-3.50	60.54	28.79	38.11
37	-3.60	62.58	30.46	41.33
38	-3.70	64.65	32.17	44.73
39	-3.80	66.73	33.93	48.32
40	-3.90	68.84	35.74	52.09
41	-4.00	70.97	37.60	56.05
42	-4.10	73.13	39.50	60.21
43	-4.20	75.30	41.45	64.58
44	-4.30	77.50	43.45	69.15
45	-4.40	79.72	45.49	73.93
46	-4.50	81.97	47.59	78.93
47	-4.60	84.23	49.72	84.16
48	-4.70	86.52	51.91	89.61
49	-4.80	88.83	54.14	95.28
50	-4.90	91.16	56.42	101.20
51	-5.00	93.51	58.75	107.36

Mensola valle

Combinazione n° 1 - STR (A1-M1-R3)

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	-0.75	0.00	0.00	0.00
2	-0.67	0.00	1.04	0.04
3	-0.58	0.00	2.08	0.17
4	-0.50	0.00	3.13	0.39
5	-0.50	0.00	3.13	0.39

Combinazione n° 2 - STR (A1-M1-R3)

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	-0.75	0.00	0.00	0.00
2	-0.67	0.00	1.04	0.04
3	-0.58	0.00	2.08	0.17
4	-0.50	0.00	3.13	0.39
5	-0.50	0.00	3.13	0.39

Combinazione n° 3 - STR (A1-M1-R3) H + V

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	-0.75	0.00	0.00	0.00
2	-0.67	0.00	1.10	0.05
3	-0.58	0.00	2.21	0.18
4	-0.50	0.00	3.31	0.41
5	-0.50	0.00	3.31	0.41

Combinazione n° 4 - STR (A1-M1-R3) H - V

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	-0.75	0.00	0.00	0.00
2	-0.67	0.00	1.04	0.04

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
3	-0.58	0.00	2.08	0.17
4	-0.50	0.00	3.13	0.39
5	-0.50	0.00	3.13	0.39

Combinazione n° 9 - ECC

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	-0.75	0.00	0.00	0.00
2	-0.67	0.00	1.04	0.04
3	-0.58	0.00	2.08	0.17
4	-0.50	0.00	3.13	0.39
5	-0.50	-20.00	3.13	20.39

Combinazione n° 10 - SLER

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	-0.75	0.00	0.00	0.00
2	-0.67	0.00	1.04	0.04
3	-0.58	0.00	2.08	0.17
4	-0.50	0.00	3.13	0.39
5	-0.50	0.00	3.13	0.39

Combinazione n° 11 - SLEF

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	-0.75	0.00	0.00	0.00
2	-0.67	0.00	1.04	0.04
3	-0.58	0.00	2.08	0.17
4	-0.50	0.00	3.13	0.39
5	-0.50	0.00	3.13	0.39

Combinazione n° 12 - SLEQ

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	-0.75	0.00	0.00	0.00
2	-0.67	0.00	1.04	0.04
3	-0.58	0.00	2.08	0.17
4	-0.50	0.00	3.13	0.39
5	-0.50	0.00	3.13	0.39

Fondazione

Combinazione n° 1 - STR (A1-M1-R3)

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	-1.45	0.00	0.00	0.00
2	-1.36	0.00	8.25	0.39
3	-1.26	0.00	16.54	1.57
4	-1.17	0.00	24.86	3.54
5	-1.07	0.00	33.21	6.29
6	-0.98	0.00	41.59	9.85
7	-0.88	0.00	50.00	14.20
8	-0.78	0.00	58.44	19.35
9	-0.69	0.00	66.91	25.30
10	-0.60	0.00	75.42	32.06
11	-0.50	0.00	83.95	39.63

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
12	0.45	0.00	-76.61	-91.25
13	0.55	0.00	-73.13	-83.77
14	0.65	0.00	-69.68	-76.63
15	0.75	0.00	-66.27	-69.83
16	0.85	0.00	-62.90	-63.37
17	0.95	0.00	-59.56	-57.25
18	1.05	0.00	-56.25	-51.46
19	1.15	0.00	-52.98	-46.00
20	1.25	0.00	-49.74	-40.86
21	1.35	0.00	-46.54	-36.05
22	1.45	0.00	-43.37	-31.55
23	1.55	0.00	-40.24	-27.37
24	1.65	0.00	-37.14	-23.51
25	1.75	0.00	-34.07	-19.95
26	1.85	0.00	-31.04	-16.69
27	1.95	0.00	-28.05	-13.74
28	2.05	0.00	-25.09	-11.08
29	2.15	0.00	-22.16	-8.72
30	2.25	0.00	-19.27	-6.65
31	2.35	0.00	-16.41	-4.86
32	2.45	0.00	-13.59	-3.36
33	2.55	0.00	-10.80	-2.14
34	2.65	0.00	-8.05	-1.20
35	2.75	0.00	-5.33	-0.53
36	2.85	0.00	-2.65	-0.13
37	2.95	0.00	0.00	0.00

Combinazione n° 2 - STR (A1-M1-R3)

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	-1.45	0.00	0.00	0.00
2	-1.36	0.00	10.64	0.50
3	-1.26	0.00	21.34	2.02
4	-1.17	0.00	32.12	4.56
5	-1.07	0.00	42.96	8.13
6	-0.98	0.00	53.87	12.73
7	-0.88	0.00	64.85	18.37
8	-0.78	0.00	75.91	25.05
9	-0.69	0.00	87.02	32.79
10	-0.60	0.00	98.21	41.59
11	-0.50	0.00	109.47	51.45
12	0.45	0.00	-96.54	-110.72
13	0.55	0.00	-91.76	-101.30
14	0.65	0.00	-87.06	-92.36
15	0.75	0.00	-82.43	-83.89
16	0.85	0.00	-77.88	-75.87
17	0.95	0.00	-73.41	-68.31
18	1.05	0.00	-69.01	-61.19
19	1.15	0.00	-64.69	-54.51
20	1.25	0.00	-60.45	-48.25
21	1.35	0.00	-56.28	-42.41
22	1.45	0.00	-52.19	-36.99
23	1.55	0.00	-48.17	-31.97
24	1.65	0.00	-44.24	-27.35
25	1.75	0.00	-40.37	-23.12
26	1.85	0.00	-36.59	-19.28
27	1.95	0.00	-32.88	-15.80
28	2.05	0.00	-29.25	-12.70
29	2.15	0.00	-25.69	-9.95
30	2.25	0.00	-22.21	-7.56
31	2.35	0.00	-18.81	-5.51
32	2.45	0.00	-15.48	-3.79
33	2.55	0.00	-12.23	-2.41
34	2.65	0.00	-9.06	-1.34
35	2.75	0.00	-5.96	-0.59
36	2.85	0.00	-2.94	-0.15
37	2.95	0.00	0.00	0.00

Combinazione n° 3 - STR (A1-M1-R3) H + V

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	-1.45	0.00	0.00	0.00
2	-1.36	0.00	13.79	0.66
3	-1.26	0.00	27.40	2.61
4	-1.17	0.00	40.81	5.86
5	-1.07	0.00	54.04	10.36
6	-0.98	0.00	67.09	16.12

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
7	-0.88	0.00	79.94	23.10
8	-0.78	0.00	92.61	31.30
9	-0.69	0.00	105.09	40.69
10	-0.60	0.00	117.39	51.26
11	-0.50	0.00	129.50	62.99
12	0.45	0.00	-35.08	-70.83
13	0.55	0.00	-36.16	-67.26
14	0.65	0.00	-37.04	-63.60
15	0.75	0.00	-37.71	-59.86
16	0.85	0.00	-38.17	-56.07
17	0.95	0.00	-38.42	-52.23
18	1.05	0.00	-38.47	-48.39
19	1.15	0.00	-38.31	-44.55
20	1.25	0.00	-37.94	-40.73
21	1.35	0.00	-37.37	-36.97
22	1.45	0.00	-36.59	-33.27
23	1.55	0.00	-35.60	-29.66
24	1.65	0.00	-34.40	-26.15
25	1.75	0.00	-33.00	-22.78
26	1.85	0.00	-31.39	-19.56
27	1.95	0.00	-29.57	-16.51
28	2.05	0.00	-27.55	-13.65
29	2.15	0.00	-25.31	-11.01
30	2.25	0.00	-22.87	-8.60
31	2.35	0.00	-20.23	-6.44
32	2.45	0.00	-17.38	-4.56
33	2.55	0.00	-14.31	-2.97
34	2.65	0.00	-11.05	-1.70
35	2.75	0.00	-7.57	-0.77
36	2.85	0.00	-3.89	-0.20
37	2.95	0.00	0.00	0.00

Combinazione n° 4 - STR (A1-M1-R3) H - V

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	-1.45	0.00	0.00	0.00
2	-1.36	0.00	12.53	0.60
3	-1.26	0.00	24.87	2.37
4	-1.17	0.00	37.03	5.32
5	-1.07	0.00	49.00	9.40
6	-0.98	0.00	60.78	14.62
7	-0.88	0.00	72.38	20.95
8	-0.78	0.00	83.79	28.37
9	-0.69	0.00	95.02	36.86
10	-0.60	0.00	106.06	46.42
11	-0.50	0.00	116.91	57.01
12	0.45	0.00	-67.59	-111.34
13	0.55	0.00	-67.36	-104.60
14	0.65	0.00	-66.93	-97.88
15	0.75	0.00	-66.28	-91.22
16	0.85	0.00	-65.44	-84.63
17	0.95	0.00	-64.38	-78.14
18	1.05	0.00	-63.12	-71.76
19	1.15	0.00	-61.66	-65.52
20	1.25	0.00	-59.99	-59.43
21	1.35	0.00	-58.11	-53.53
22	1.45	0.00	-56.02	-47.82
23	1.55	0.00	-53.73	-42.33
24	1.65	0.00	-51.24	-37.08
25	1.75	0.00	-48.53	-32.09
26	1.85	0.00	-45.62	-27.38
27	1.95	0.00	-42.51	-22.97
28	2.05	0.00	-39.18	-18.89
29	2.15	0.00	-35.66	-15.14
30	2.25	0.00	-31.92	-11.76
31	2.35	0.00	-27.98	-8.77
32	2.45	0.00	-23.83	-6.17
33	2.55	0.00	-19.48	-4.01
34	2.65	0.00	-14.92	-2.28
35	2.75	0.00	-10.15	-1.03
36	2.85	0.00	-5.18	-0.26
37	2.95	0.00	0.00	0.00

Combinazione n° 9 - ECC

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	-1.45	0.00	0.00	0.00

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
2	-1.36	0.00	11.22	0.53
3	-1.26	0.00	22.32	2.13
4	-1.17	0.00	33.32	4.77
5	-1.07	0.00	44.20	8.45
6	-0.98	0.00	54.98	13.17
7	-0.88	0.00	65.64	18.90
8	-0.78	0.00	76.20	25.63
9	-0.69	0.00	86.64	33.37
10	-0.60	0.00	96.98	42.09
11	-0.50	0.00	107.20	51.79
12	0.45	0.00	-36.85	-61.95
13	0.55	0.00	-36.84	-58.27
14	0.65	0.00	-36.71	-54.59
15	0.75	0.00	-36.46	-50.93
16	0.85	0.00	-36.08	-47.30
17	0.95	0.00	-35.58	-43.71
18	1.05	0.00	-34.96	-40.19
19	1.15	0.00	-34.22	-36.73
20	1.25	0.00	-33.36	-33.35
21	1.35	0.00	-32.37	-30.06
22	1.45	0.00	-31.26	-26.88
23	1.55	0.00	-30.03	-23.81
24	1.65	0.00	-28.68	-20.87
25	1.75	0.00	-27.20	-18.08
26	1.85	0.00	-25.61	-15.44
27	1.95	0.00	-23.89	-12.96
28	2.05	0.00	-22.05	-10.66
29	2.15	0.00	-20.09	-8.56
30	2.25	0.00	-18.00	-6.65
31	2.35	0.00	-15.80	-4.96
32	2.45	0.00	-13.47	-3.49
33	2.55	0.00	-11.02	-2.27
34	2.65	0.00	-8.45	-1.29
35	2.75	0.00	-5.75	-0.58
36	2.85	0.00	-2.94	-0.15
37	2.95	0.00	0.00	0.00

Combinazione n° 10 - SLER

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	-1.45	0.00	0.00	0.00
2	-1.36	0.00	8.61	0.41
3	-1.26	0.00	17.30	1.64
4	-1.17	0.00	26.07	3.70
5	-1.07	0.00	34.93	6.59
6	-0.98	0.00	43.87	10.34
7	-0.88	0.00	52.90	14.93
8	-0.78	0.00	62.01	20.39
9	-0.69	0.00	71.21	26.72
10	-0.60	0.00	80.50	33.92
11	-0.50	0.00	89.86	42.01
12	0.45	0.00	-2.32	9.31
13	0.55	0.00	-1.10	9.48
14	0.65	0.00	0.02	9.54
15	0.75	0.00	1.05	9.48
16	0.85	0.00	1.99	9.33
17	0.95	0.00	2.83	9.09
18	1.05	0.00	3.58	8.77
19	1.15	0.00	4.24	8.37
20	1.25	0.00	4.80	7.92
21	1.35	0.00	5.27	7.42
22	1.45	0.00	5.64	6.87
23	1.55	0.00	5.92	6.29
24	1.65	0.00	6.11	5.69
25	1.75	0.00	6.20	5.07
26	1.85	0.00	6.20	4.45
27	1.95	0.00	6.11	3.83
28	2.05	0.00	5.92	3.23
29	2.15	0.00	5.64	2.65
30	2.25	0.00	5.26	2.11
31	2.35	0.00	4.79	1.61
32	2.45	0.00	4.23	1.15
33	2.55	0.00	3.57	0.76
34	2.65	0.00	2.82	0.44
35	2.75	0.00	1.97	0.20
36	2.85	0.00	1.03	0.05
37	2.95	0.00	0.00	0.00

Combinazione n° 11 - SLEF

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	-1.45	0.00	0.00	0.00
2	-1.36	0.00	7.28	0.35
3	-1.26	0.00	14.63	1.39
4	-1.17	0.00	22.04	3.13
5	-1.07	0.00	29.51	5.57
6	-0.98	0.00	37.05	8.74
7	-0.88	0.00	44.65	12.62
8	-0.78	0.00	52.31	17.22
9	-0.69	0.00	60.04	22.56
10	-0.60	0.00	67.83	28.63
11	-0.50	0.00	75.69	35.45
12	0.45	0.00	8.78	20.16
13	0.55	0.00	9.28	19.26
14	0.65	0.00	9.70	18.31
15	0.75	0.00	10.05	17.32
16	0.85	0.00	10.34	16.30
17	0.95	0.00	10.55	15.25
18	1.05	0.00	10.69	14.19
19	1.15	0.00	10.77	13.12
20	1.25	0.00	10.77	12.04
21	1.35	0.00	10.70	10.97
22	1.45	0.00	10.56	9.90
23	1.55	0.00	10.35	8.86
24	1.65	0.00	10.07	7.84
25	1.75	0.00	9.72	6.85
26	1.85	0.00	9.30	5.89
27	1.95	0.00	8.80	4.99
28	2.05	0.00	8.24	4.14
29	2.15	0.00	7.61	3.34
30	2.25	0.00	6.90	2.62
31	2.35	0.00	6.13	1.97
32	2.45	0.00	5.28	1.39
33	2.55	0.00	4.37	0.91
34	2.65	0.00	3.38	0.52
35	2.75	0.00	2.32	0.24
36	2.85	0.00	1.20	0.06
37	2.95	0.00	0.00	0.00

Combinazione n° 12 - SLEQ

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	-1.45	0.00	0.00	0.00
2	-1.36	0.00	7.28	0.35
3	-1.26	0.00	14.63	1.39
4	-1.17	0.00	22.04	3.13
5	-1.07	0.00	29.51	5.57
6	-0.98	0.00	37.05	8.74
7	-0.88	0.00	44.65	12.62
8	-0.78	0.00	52.31	17.22
9	-0.69	0.00	60.04	22.56
10	-0.60	0.00	67.83	28.63
11	-0.50	0.00	75.69	35.45
12	0.45	0.00	8.78	20.16
13	0.55	0.00	9.28	19.26
14	0.65	0.00	9.70	18.31
15	0.75	0.00	10.05	17.32
16	0.85	0.00	10.34	16.30
17	0.95	0.00	10.55	15.25
18	1.05	0.00	10.69	14.19
19	1.15	0.00	10.77	13.12
20	1.25	0.00	10.77	12.04
21	1.35	0.00	10.70	10.97
22	1.45	0.00	10.56	9.90
23	1.55	0.00	10.35	8.86
24	1.65	0.00	10.07	7.84
25	1.75	0.00	9.72	6.85
26	1.85	0.00	9.30	5.89
27	1.95	0.00	8.80	4.99
28	2.05	0.00	8.24	4.14
29	2.15	0.00	7.61	3.34
30	2.25	0.00	6.90	2.62
31	2.35	0.00	6.13	1.97
32	2.45	0.00	5.28	1.39
33	2.55	0.00	4.37	0.91
34	2.65	0.00	3.38	0.52
35	2.75	0.00	2.32	0.24
36	2.85	0.00	1.20	0.06
37	2.95	0.00	0.00	0.00

Verifiche strutturali

Verifiche a flessione

Elementi calcolati a trave

Simbologia adottata

n°	indice sezione
B	larghezza sezione espresso in [cm]
H	altezza sezione espressa in [cm]
Afi	area ferri inferiori espresso in [cmq]
Afs	area ferri superiori espressa in [cmq]
M	momento agente espressa in [kNm]
N	sforzo normale agente espressa in [kN]
Mrd	momento resistente espresso in [kNm]
Nrd	sforzo normale resistente espresso in [kN]
FS	fattore di sicurezza (rapporto tra sollecitazione ultima e sollecitazione agente)

Paramento

Combinazione n° 1 - STR (A1-M1-R3)

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	*[cm]*	*[cm]*	*[cmq]*	*[cmq]*	*[kNm]*	*[kN]*	*[kNm]*	*[kN]*	
1	0.00	100	50	12.72	12.72	0.39	3.13	547.61	4380.85	1401.872
2	-0.10	100	51	12.72	12.72	0.39	4.39	479.89	5335.56	1216.456
3	-0.20	100	52	12.72	12.72	0.41	5.67	429.10	5926.79	1045.358
4	-0.30	100	53	12.72	12.72	0.45	6.98	401.46	6292.19	902.054
5	-0.40	100	54	12.72	12.72	0.50	8.30	395.32	6505.06	783.413
6	-0.50	100	54	12.72	12.72	0.60	9.65	407.45	6604.79	684.158
7	-0.60	100	55	12.72	12.72	0.72	11.03	434.65	6617.27	600.118
8	-0.70	100	56	12.72	12.72	0.90	12.42	473.60	6556.59	527.836
9	-0.80	100	57	12.72	12.72	1.12	13.84	522.04	6445.21	465.729
10	-0.90	100	58	12.72	12.72	1.40	15.28	576.13	6279.90	411.025
11	-1.00	100	59	12.72	12.72	1.75	16.74	634.35	6082.02	363.310
12	-1.10	100	60	12.72	12.72	2.16	18.22	692.86	5844.79	320.704
13	-1.20	100	61	12.72	12.72	2.65	19.73	751.68	5594.19	283.517
14	-1.30	100	62	12.72	12.72	3.23	21.26	807.45	5322.99	250.372
15	-1.40	100	62	12.72	12.72	3.89	22.81	860.57	5048.98	221.334
16	-1.50	100	63	12.72	12.72	4.65	24.39	910.84	4779.63	196.006
17	-1.60	100	64	12.72	12.72	5.51	25.98	953.41	4497.08	173.092
18	-1.70	100	65	12.72	12.72	6.48	27.60	992.27	4227.56	153.178
19	-1.80	100	66	25.45	25.45	7.56	29.24	1246.15	4817.88	164.773
20	-1.90	100	67	25.45	25.45	8.77	30.90	1299.09	4577.87	148.140
21	-2.00	100	68	25.45	25.45	10.10	32.59	1342.87	4331.08	132.907
22	-2.10	100	69	25.45	25.45	11.57	34.29	1359.34	4028.25	117.460
23	-2.20	100	70	25.45	25.45	13.18	36.02	1365.36	3731.12	103.572
24	-2.30	100	71	25.45	25.45	14.94	37.78	1367.46	3457.70	91.530
25	-2.40	100	71	25.45	25.45	16.85	39.55	1360.17	3192.46	80.718
26	-2.50	100	72	25.45	25.45	18.92	41.35	1350.42	2950.85	71.367
27	-2.60	100	73	25.45	25.45	21.16	43.17	1335.96	2725.36	63.136
28	-2.70	100	74	25.45	38.17	23.57	45.01	1638.39	3128.41	69.508
29	-2.80	100	75	25.45	38.17	26.16	46.87	1642.38	2942.49	62.778
30	-2.90	100	76	25.45	38.17	28.94	48.76	1648.63	2777.73	56.971
31	-3.00	100	77	25.45	38.17	31.91	50.67	1648.74	2618.02	51.673
32	-3.10	100	78	25.45	38.17	35.08	52.60	1648.74	2472.31	47.006
33	-3.20	100	79	25.45	38.17	38.45	54.55	1651.00	2342.35	42.940
34	-3.30	100	79	25.45	38.17	42.03	56.52	1651.51	2220.82	39.290
35	-3.40	100	80	25.45	38.17	45.84	58.52	1648.87	2105.15	35.972
36	-3.50	100	81	25.45	38.17	49.86	60.54	1648.37	2001.29	33.057
37	-3.60	100	82	25.45	38.17	54.12	62.58	1649.74	1907.57	30.481

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
38	-3.70	100	83	25.45	38.17	58.62	64.65	1652.71	1822.63	28.193
39	-3.80	100	84	25.45	38.17	63.36	66.73	1651.66	1739.58	26.067
40	-3.90	100	85	25.45	38.17	68.35	68.84	1649.61	1661.45	24.134
41	-4.00	100	86	25.45	38.17	73.60	70.97	1649.33	1590.48	22.409
42	-4.10	100	87	25.45	38.17	79.11	73.13	1650.60	1525.75	20.864
43	-4.20	100	87	25.45	38.17	84.89	75.30	1653.23	1466.50	19.474
44	-4.30	100	88	12.72	12.72	90.95	77.50	588.81	501.75	6.474
45	-4.40	100	89	12.72	12.72	97.29	79.72	587.28	481.24	6.036
46	-4.50	100	90	12.72	12.72	103.92	81.97	586.24	462.39	5.641
47	-4.60	100	91	12.72	12.72	110.84	84.23	585.63	445.02	5.283
48	-4.70	100	92	12.72	12.72	118.07	86.52	585.39	428.96	4.958
49	-4.80	100	93	12.72	12.72	125.61	88.83	585.51	414.07	4.661
50	-4.90	100	94	12.72	12.72	133.46	91.16	585.93	400.23	4.390
51	-4.99	100	95	12.72	12.72	141.63	93.51	585.80	386.80	4.136

Combinazione n° 2 - STR (A1-M1-R3)

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
1	0.00	100	50	12.72	12.72	0.39	3.13	547.61	4380.85	1401.872
2	-0.10	100	51	12.72	12.72	0.45	4.39	515.35	5007.17	1141.585
3	-0.20	100	52	12.72	12.72	0.64	5.67	551.81	4902.15	864.635
4	-0.30	100	53	12.72	12.72	0.96	6.98	614.21	4474.83	641.515
5	-0.40	100	54	12.72	12.72	1.42	8.30	674.96	3959.31	476.824
6	-0.50	100	54	12.72	12.72	2.02	9.65	716.92	3428.23	355.113
7	-0.60	100	55	12.72	12.72	2.77	11.03	705.71	2805.36	254.417
8	-0.70	100	56	12.72	12.72	3.69	12.42	669.01	2253.96	181.454
9	-0.80	100	57	12.72	12.72	4.76	13.84	620.99	1803.72	130.336
10	-0.90	100	58	12.72	12.72	6.01	15.28	573.78	1457.90	95.421
11	-1.00	100	59	12.72	12.72	7.44	16.74	528.81	1189.98	71.083
12	-1.10	100	60	12.72	12.72	9.05	18.22	493.04	992.97	54.484
13	-1.20	100	61	12.72	12.72	10.85	19.73	467.98	851.09	43.134
14	-1.30	100	62	12.72	12.72	12.85	21.26	450.65	745.80	35.079
15	-1.40	100	62	12.72	12.72	15.05	22.81	438.44	664.70	29.139
16	-1.50	100	63	12.72	12.72	17.46	24.39	429.80	600.38	24.621
17	-1.60	100	64	12.72	12.72	20.08	25.98	423.73	548.18	21.099
18	-1.70	100	65	12.72	12.72	22.93	27.60	419.58	504.99	18.297
19	-1.80	100	66	25.45	25.45	26.01	29.24	794.91	893.65	30.563
20	-1.90	100	67	25.45	25.45	29.32	30.90	791.63	834.29	26.998
21	-2.00	100	68	25.45	25.45	32.88	32.59	790.10	783.15	24.032
22	-2.10	100	69	25.45	25.45	36.68	34.29	790.00	738.63	21.538
23	-2.20	100	70	25.45	25.45	40.74	36.02	791.06	699.54	19.418
24	-2.30	100	71	25.45	25.45	45.06	37.78	793.10	664.95	17.602
25	-2.40	100	71	25.45	25.45	49.64	39.55	795.96	634.13	16.033
26	-2.50	100	72	25.45	25.45	54.50	41.35	799.50	606.50	14.668
27	-2.60	100	73	25.45	25.45	59.65	43.17	803.64	581.60	13.473
28	-2.70	100	74	25.45	38.17	65.07	45.01	1189.16	822.46	18.274
29	-2.80	100	75	25.45	38.17	70.80	46.87	1196.61	792.22	16.902
30	-2.90	100	76	25.45	38.17	76.82	48.76	1204.60	764.57	15.681
31	-3.00	100	77	25.45	38.17	83.15	50.67	1213.06	739.18	14.589
32	-3.10	100	78	25.45	38.17	89.79	52.60	1221.92	715.78	13.609
33	-3.20	100	79	25.45	38.17	96.75	54.55	1231.15	694.16	12.725
34	-3.30	100	79	25.45	38.17	104.03	56.52	1240.71	674.11	11.926
35	-3.40	100	80	25.45	38.17	111.65	58.52	1250.56	655.47	11.201
36	-3.50	100	81	25.45	38.17	119.61	60.54	1260.67	638.11	10.540
37	-3.60	100	82	25.45	38.17	127.91	62.58	1271.01	621.88	9.937
38	-3.70	100	83	25.45	38.17	136.56	64.65	1281.57	606.69	9.385
39	-3.80	100	84	25.45	38.17	145.57	66.73	1292.32	592.44	8.878
40	-3.90	100	85	25.45	38.17	154.95	68.84	1303.25	579.04	8.411
41	-4.00	100	86	25.45	38.17	164.69	70.97	1314.33	566.42	7.981
42	-4.10	100	87	25.45	38.17	174.82	73.13	1325.57	554.51	7.583
43	-4.20	100	87	25.45	38.17	185.32	75.30	1336.94	543.26	7.214
44	-4.30	100	88	12.72	12.72	196.22	77.50	466.60	184.30	2.378
45	-4.40	100	89	12.72	12.72	207.51	79.72	470.34	180.70	2.267
46	-4.50	100	90	12.72	12.72	219.21	81.97	474.13	177.29	2.163
47	-4.60	100	91	12.72	12.72	231.31	84.23	477.95	174.04	2.066
48	-4.70	100	92	12.72	12.72	243.83	86.52	481.82	170.97	1.976
49	-4.80	100	93	12.72	12.72	256.76	88.83	485.72	168.04	1.892
50	-4.90	100	94	12.72	12.72	270.10	91.16	489.65	165.26	1.813
51	-4.99	100	95	12.72	12.72	283.86	93.51	493.04	162.43	1.737

Combinazione n° 3 - STR (A1-M1-R3) H + V

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
1	0.00	100	50	12.72	12.72	0.41	3.31	547.61	4380.85	1321.905
2	-0.10	100	51	12.72	12.72	0.45	4.65	497.14	5184.06	1114.495
3	-0.20	100	52	12.72	12.72	0.54	6.01	493.17	5441.42	905.003
4	-0.30	100	53	12.72	12.72	0.72	7.40	523.72	5411.08	731.487

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
5	-0.40	100	54	12.72	12.72	0.96	8.81	570.92	5214.06	592.116
6	-0.50	100	54	12.72	12.72	1.29	10.24	624.61	4939.26	482.448
7	-0.60	100	55	12.72	12.72	1.71	11.69	678.17	4631.08	396.034
8	-0.70	100	56	12.72	12.72	2.22	13.17	727.22	4310.26	327.203
9	-0.80	100	57	12.72	12.72	2.83	14.68	770.12	3993.66	272.119
10	-0.90	100	58	12.72	12.72	3.54	16.20	803.74	3678.59	227.033
11	-1.00	100	59	12.72	12.72	4.36	17.75	809.11	3296.19	185.666
12	-1.10	100	60	12.72	12.72	5.29	19.33	802.51	2933.01	151.755
13	-1.20	100	61	12.72	12.72	6.34	20.93	784.96	2592.26	123.883
14	-1.30	100	62	12.72	12.72	7.51	22.55	759.00	2279.50	101.102
15	-1.40	100	62	12.72	12.72	8.81	24.19	731.50	2009.55	83.068
16	-1.50	100	63	12.72	12.72	10.24	25.86	704.21	1778.81	68.786
17	-1.60	100	64	12.72	12.72	11.81	27.55	672.38	1568.96	56.944
18	-1.70	100	65	12.72	12.72	13.52	29.27	643.84	1393.75	47.619
19	-1.80	100	66	25.45	25.45	15.38	31.01	1088.33	2193.99	70.755
20	-1.90	100	67	25.45	25.45	17.40	32.77	1075.72	2026.50	61.837
21	-2.00	100	68	25.45	25.45	19.57	34.56	1067.20	1884.69	54.536
22	-2.10	100	69	25.45	25.45	21.90	36.37	1053.02	1748.36	48.072
23	-2.20	100	70	25.45	25.45	24.41	38.20	1038.93	1626.04	42.562
24	-2.30	100	71	25.45	25.45	27.09	40.06	1028.65	1521.33	37.975
25	-2.40	100	71	25.45	25.45	29.94	41.94	1021.44	1430.72	34.111
26	-2.50	100	72	25.45	25.45	32.99	43.85	1012.87	1346.45	30.707
27	-2.60	100	73	25.45	25.45	36.21	45.78	1004.81	1270.15	27.746
28	-2.70	100	74	25.45	38.17	39.64	47.73	1410.92	1698.97	35.595
29	-2.80	100	75	25.45	38.17	43.26	49.71	1417.65	1628.90	32.770
30	-2.90	100	76	25.45	38.17	47.09	51.71	1424.74	1564.54	30.258
31	-3.00	100	77	25.45	38.17	51.12	53.73	1426.96	1499.78	27.913
32	-3.10	100	78	25.45	38.17	55.37	55.78	1430.55	1441.05	25.836
33	-3.20	100	79	25.45	38.17	59.84	57.85	1435.34	1387.58	23.986
34	-3.30	100	79	25.45	38.17	64.53	59.94	1441.18	1338.68	22.333
35	-3.40	100	80	25.45	38.17	69.46	62.06	1447.96	1293.82	20.847
36	-3.50	100	81	25.45	38.17	74.61	64.20	1455.58	1252.52	19.509
37	-3.60	100	82	25.45	38.17	80.01	66.37	1463.96	1214.38	18.297
38	-3.70	100	83	25.45	38.17	85.65	68.56	1471.11	1177.55	17.176
39	-3.80	100	84	25.45	38.17	91.54	70.77	1476.88	1141.80	16.134
40	-3.90	100	85	25.45	38.17	97.69	73.01	1483.21	1108.50	15.183
41	-4.00	100	86	25.45	38.17	104.09	75.27	1490.03	1077.43	14.315
42	-4.10	100	87	25.45	38.17	110.76	77.55	1497.30	1048.36	13.518
43	-4.20	100	87	25.45	38.17	117.70	79.86	1504.98	1021.11	12.786
44	-4.30	100	88	12.72	12.72	124.92	82.19	529.87	348.63	4.242
45	-4.40	100	89	12.72	12.72	132.41	84.55	532.27	339.85	4.020
46	-4.50	100	90	12.72	12.72	140.19	86.92	534.81	331.60	3.815
47	-4.60	100	91	12.72	12.72	148.26	89.33	537.46	323.81	3.625
48	-4.70	100	92	12.72	12.72	156.63	91.75	540.23	316.46	3.449
49	-4.80	100	93	12.72	12.72	165.30	94.20	543.10	309.50	3.286
50	-4.90	100	94	12.72	12.72	174.27	96.68	546.06	302.92	3.133
51	-4.99	100	95	12.72	12.72	183.55	99.17	548.38	296.28	2.988

Combinazione n° 4 - STR (A1-M1-R3) H - V

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
1	0.00	100	50	12.72	12.72	0.39	3.13	547.61	4380.85	1401.872
2	-0.10	100	51	12.72	12.72	0.42	4.31	498.36	5172.20	1200.084
3	-0.20	100	52	12.72	12.72	0.49	5.52	488.97	5474.63	992.557
4	-0.30	100	53	12.72	12.72	0.63	6.74	512.35	5502.49	816.094
5	-0.40	100	54	12.72	12.72	0.83	7.99	554.51	5365.16	671.465
6	-0.50	100	54	12.72	12.72	1.09	9.26	605.93	5139.07	555.039
7	-0.60	100	55	12.72	12.72	1.43	10.55	658.33	4854.66	460.218
8	-0.70	100	56	12.72	12.72	1.85	11.86	709.36	4554.15	384.016
9	-0.80	100	57	12.72	12.72	2.35	13.19	757.45	4257.14	322.735
10	-0.90	100	58	12.72	12.72	2.93	14.54	797.05	3949.72	271.582
11	-1.00	100	59	12.72	12.72	3.62	15.92	822.06	3618.69	227.348
12	-1.10	100	60	12.72	12.72	4.40	17.31	824.48	3247.42	187.588
13	-1.20	100	61	12.72	12.72	5.28	18.73	815.42	2893.37	154.503
14	-1.30	100	62	12.72	12.72	6.27	20.16	798.45	2568.27	127.374
15	-1.40	100	62	12.72	12.72	7.37	21.62	771.38	2262.06	104.625
16	-1.50	100	63	12.72	12.72	8.60	23.10	741.90	1993.70	86.311
17	-1.60	100	64	12.72	12.72	9.94	24.60	715.34	1769.89	71.952
18	-1.70	100	65	12.72	12.72	11.42	26.12	680.81	1557.51	59.633
19	-1.80	100	66	25.45	25.45	13.03	27.66	1117.82	2373.73	85.819
20	-1.90	100	67	25.45	25.45	14.77	29.22	1105.18	2186.17	74.813
21	-2.00	100	68	25.45	25.45	16.66	30.81	1092.37	2019.38	65.553
22	-2.10	100	69	25.45	25.45	18.70	32.41	1083.58	1877.59	57.934
23	-2.20	100	70	25.45	25.45	20.90	34.03	1066.01	1736.14	51.011
24	-2.30	100	71	25.45	25.45	23.25	35.68	1051.65	1613.87	45.231
25	-2.40	100	71	25.45	25.45	25.77	37.35	1041.07	1508.94	40.403
26	-2.50	100	72	25.45	25.45	28.45	39.04	1033.45	1417.80	36.321
27	-2.60	100	73	25.45	25.45	31.31	40.74	1022.39	1330.32	32.650
28	-2.70	100	74	25.45	38.17	34.35	42.47	1423.24	1759.72	41.430
29	-2.80	100	75	25.45	38.17	37.58	44.22	1428.35	1681.08	38.012
30	-2.90	100	76	25.45	38.17	40.99	46.00	1434.73	1610.00	35.003

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
31	-3.00	100	77	25.45	38.17	44.60	47.79	1437.87	1540.80	32.242
32	-3.10	100	78	25.45	38.17	48.40	49.60	1439.78	1475.46	29.745
33	-3.20	100	79	25.45	38.17	52.42	51.44	1443.08	1416.17	27.532
34	-3.30	100	79	25.45	38.17	56.64	53.29	1447.59	1362.15	25.559
35	-3.40	100	80	25.45	38.17	61.07	55.17	1453.18	1312.75	23.794
36	-3.50	100	81	25.45	38.17	65.73	57.07	1459.72	1267.40	22.209
37	-3.60	100	82	25.45	38.17	70.61	58.99	1467.11	1225.63	20.778
38	-3.70	100	83	25.45	38.17	75.72	60.93	1473.91	1185.97	19.466
39	-3.80	100	84	25.45	38.17	81.06	62.89	1478.67	1147.11	18.241
40	-3.90	100	85	25.45	38.17	86.65	64.87	1484.06	1111.02	17.127
41	-4.00	100	86	25.45	38.17	92.48	66.87	1490.02	1077.42	16.112
42	-4.10	100	87	25.45	38.17	98.56	68.89	1496.50	1046.07	15.184
43	-4.20	100	87	25.45	38.17	104.89	70.94	1503.45	1016.75	14.333
44	-4.30	100	88	12.72	12.72	111.49	73.00	529.00	346.39	4.745
45	-4.40	100	89	12.72	12.72	118.35	75.09	531.16	337.00	4.488
46	-4.50	100	90	12.72	12.72	125.48	77.20	533.47	328.19	4.251
47	-4.60	100	91	12.72	12.72	132.89	79.32	535.91	319.90	4.033
48	-4.70	100	92	12.72	12.72	140.58	81.47	538.47	312.08	3.830
49	-4.80	100	93	12.72	12.72	148.55	83.64	541.15	304.71	3.643
50	-4.90	100	94	12.72	12.72	156.81	85.83	543.93	297.74	3.469
51	-4.99	100	95	12.72	12.72	165.37	88.05	546.09	290.75	3.302

Combinazione n° 9 - ECC

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
1	0.00	100	50	12.72	12.72	20.39	3.13	250.83	38.44	12.301
2	-0.10	100	51	12.72	12.72	20.39	4.39	259.62	55.84	12.730
3	-0.20	100	52	12.72	12.72	20.41	5.67	268.89	74.70	13.175
4	-0.30	100	53	12.72	12.72	20.44	6.98	278.65	95.11	13.634
5	-0.40	100	54	12.72	12.72	20.49	8.30	288.96	117.12	14.105
6	-0.50	100	54	12.72	12.72	20.56	9.65	299.83	140.78	14.583
7	-0.60	100	55	12.72	12.72	20.66	11.03	311.30	166.11	15.064
8	-0.70	100	56	12.72	12.72	20.80	12.42	323.38	193.09	15.545
9	-0.80	100	57	12.72	12.72	20.98	13.84	336.07	221.68	16.018
10	-0.90	100	58	12.72	12.72	21.20	15.28	349.37	251.77	16.479
11	-1.00	100	59	12.72	12.72	21.47	16.74	363.28	283.24	16.919
12	-1.10	100	60	12.72	12.72	21.79	18.22	377.74	315.87	17.332
13	-1.20	100	61	12.72	12.72	22.18	19.73	392.72	349.42	17.709
14	-1.30	100	62	12.72	12.72	22.62	21.26	408.14	383.57	18.042
15	-1.40	100	62	12.72	12.72	23.13	22.81	423.91	417.99	18.323
16	-1.50	100	63	12.72	12.72	23.72	24.39	439.94	452.26	18.546
17	-1.60	100	64	12.72	12.72	24.38	25.98	456.09	485.96	18.704
18	-1.70	100	65	12.72	12.72	25.13	27.60	472.24	518.64	18.792
19	-1.80	100	66	25.45	25.45	25.96	29.24	926.20	1043.10	35.674
20	-1.90	100	67	25.45	25.45	26.89	30.90	955.10	1097.71	35.522
21	-2.00	100	68	25.45	25.45	27.91	32.59	983.29	1148.11	35.232
22	-2.10	100	69	25.45	25.45	29.03	34.29	1010.59	1193.76	34.809
23	-2.20	100	70	25.45	25.45	30.26	36.02	1036.81	1234.24	34.261
24	-2.30	100	71	25.45	25.45	31.60	37.78	1061.84	1269.27	33.600
25	-2.40	100	71	25.45	25.45	33.06	39.55	1085.55	1298.71	32.836
26	-2.50	100	72	25.45	25.45	34.64	41.35	1107.90	1322.55	31.986
27	-2.60	100	73	25.45	25.45	36.34	43.17	1128.85	1340.91	31.064
28	-2.70	100	74	25.45	38.17	38.17	45.01	1659.10	1956.15	43.463
29	-2.80	100	75	25.45	38.17	40.14	46.87	1685.66	1968.26	41.993
30	-2.90	100	76	25.45	38.17	42.25	48.76	1710.67	1974.14	40.489
31	-3.00	100	77	25.45	38.17	44.50	50.67	1734.24	1974.37	38.969
32	-3.10	100	78	25.45	38.17	46.91	52.60	1756.49	1969.56	37.447
33	-3.20	100	79	25.45	38.17	49.46	54.55	1777.55	1960.31	35.937
34	-3.30	100	79	25.45	38.17	52.18	56.52	1797.54	1947.21	34.449
35	-3.40	100	80	25.45	38.17	55.06	58.52	1816.60	1930.81	32.993
36	-3.50	100	81	25.45	38.17	58.11	60.54	1834.84	1911.65	31.576
37	-3.60	100	82	25.45	38.17	61.33	62.58	1852.38	1890.20	30.203
38	-3.70	100	83	25.45	38.17	64.73	64.65	1869.16	1866.73	28.875
39	-3.80	100	84	25.45	38.17	68.32	66.73	1882.21	1838.63	27.552
40	-3.90	100	85	25.45	38.17	72.09	68.84	1894.67	1809.40	26.283
41	-4.00	100	86	25.45	38.17	76.05	70.97	1906.66	1779.35	25.070
42	-4.10	100	87	25.45	38.17	80.21	73.13	1918.24	1748.78	23.914
43	-4.20	100	87	25.45	38.17	84.58	75.30	1929.52	1717.93	22.813
44	-4.30	100	88	12.72	12.72	89.15	77.50	689.64	599.53	7.736
45	-4.40	100	89	12.72	12.72	93.93	79.72	692.53	587.76	7.372
46	-4.50	100	90	12.72	12.72	98.93	81.97	695.37	576.10	7.029
47	-4.60	100	91	12.72	12.72	104.16	84.23	698.19	564.62	6.703
48	-4.70	100	92	12.72	12.72	109.61	86.52	700.99	553.34	6.396
49	-4.80	100	93	12.72	12.72	115.28	88.83	703.79	542.28	6.105
50	-4.90	100	94	12.72	12.72	121.20	91.16	706.60	531.47	5.830
51	-4.99	100	95	12.72	12.72	127.36	93.51	708.40	520.16	5.562

Mensola valle

Combinazione n° 1 - STR (A1-M1-R3)

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
1	-0.75	100	50	8.04	16.08	0.00	0.00	0.00	0.00	100000.000
2	-0.67	100	50	8.04	16.08	-0.04	0.00	-261.36	0.00	6021.831
3	-0.58	100	50	8.04	16.08	-0.17	0.00	-261.36	0.00	1505.458
4	-0.50	100	50	8.04	16.08	-0.39	0.00	-261.36	0.00	669.092
5	-0.50	100	50	8.04	16.08	-0.39	0.00	-261.36	0.00	669.092

Combinazione n° 2 - STR (A1-M1-R3)

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
1	-0.75	100	50	8.04	16.08	0.00	0.00	0.00	0.00	100000.000
2	-0.67	100	50	8.04	16.08	-0.04	0.00	-261.36	0.00	6021.831
3	-0.58	100	50	8.04	16.08	-0.17	0.00	-261.36	0.00	1505.458
4	-0.50	100	50	8.04	16.08	-0.39	0.00	-261.36	0.00	669.092
5	-0.50	100	50	8.04	16.08	-0.39	0.00	-261.36	0.00	669.092

Combinazione n° 3 - STR (A1-M1-R3) H + V

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
1	-0.75	100	50	8.04	16.08	0.00	0.00	0.00	0.00	100000.000
2	-0.67	100	50	8.04	16.08	-0.05	0.00	-261.36	0.00	5678.326
3	-0.58	100	50	8.04	16.08	-0.18	0.00	-261.36	0.00	1419.581
4	-0.50	100	50	8.04	16.08	-0.41	0.00	-261.36	0.00	630.925
5	-0.50	100	50	8.04	16.08	-0.41	0.00	-261.36	0.00	630.925

Combinazione n° 4 - STR (A1-M1-R3) H - V

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
1	-0.75	100	50	8.04	16.08	0.00	0.00	0.00	0.00	100000.000
2	-0.67	100	50	8.04	16.08	-0.04	0.00	-261.36	0.00	6021.831
3	-0.58	100	50	8.04	16.08	-0.17	0.00	-261.36	0.00	1505.458
4	-0.50	100	50	8.04	16.08	-0.39	0.00	-261.36	0.00	669.092
5	-0.50	100	50	8.04	16.08	-0.39	0.00	-261.36	0.00	669.092

Combinazione n° 9 - ECC

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
1	-0.75	100	50	8.04	16.08	0.00	0.00	0.00	0.00	100000.000
2	-0.67	100	50	8.04	16.08	-0.04	0.00	-304.18	0.00	7008.401
3	-0.58	100	50	8.04	16.08	-0.17	0.00	-304.18	0.00	1752.100
4	-0.50	100	50	8.04	16.08	-0.39	0.00	-304.18	0.00	778.711
5	-0.50	100	50	8.04	16.08	-20.39	-20.00	-251.10	-246.29	12.315

Fondazione

Combinazione n° 1 - STR (A1-M1-R3)

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
1	-1.45	100	85	17.81	17.81	0.00	0.00	0.00	0.00	100000.000
2	-1.36	100	85	17.81	17.81	0.39	0.00	526.70	0.00	1344.105
3	-1.26	100	85	17.81	17.81	1.57	0.00	526.70	0.00	335.603
4	-1.17	100	85	17.81	17.81	3.54	0.00	526.70	0.00	148.969
5	-1.07	100	85	17.81	17.81	6.29	0.00	526.70	0.00	83.690
6	-0.98	100	85	17.81	17.81	9.85	0.00	526.70	0.00	53.494
7	-0.88	100	85	17.81	17.81	14.20	0.00	526.70	0.00	37.102
8	-0.78	100	85	17.81	17.81	19.35	0.00	526.70	0.00	27.225

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
9	-0.69	100	85	17.81	17.81	25.30	0.00	526.70	0.00	20.818
10	-0.60	100	85	17.81	17.81	32.06	0.00	526.70	0.00	16.428
11	-0.50	100	85	17.81	17.81	39.63	0.00	526.70	0.00	13.290
12	0.45	100	85	17.81	17.81	-91.25	0.00	-526.70	0.00	5.772
13	0.55	100	85	17.81	17.81	-83.77	0.00	-526.70	0.00	6.288
14	0.65	100	85	17.81	17.81	-76.63	0.00	-526.70	0.00	6.873
15	0.75	100	85	17.81	17.81	-69.83	0.00	-526.70	0.00	7.543
16	0.85	100	85	17.81	17.81	-63.37	0.00	-526.70	0.00	8.311
17	0.95	100	85	17.81	17.81	-57.25	0.00	-526.70	0.00	9.200
18	1.05	100	85	17.81	17.81	-51.46	0.00	-526.70	0.00	10.235
19	1.15	100	85	17.81	17.81	-46.00	0.00	-526.70	0.00	11.450
20	1.25	100	85	17.81	17.81	-40.86	0.00	-526.70	0.00	12.889
21	1.35	100	85	17.81	17.81	-36.05	0.00	-526.70	0.00	14.610
22	1.45	100	85	17.81	17.81	-31.55	0.00	-526.70	0.00	16.692
23	1.55	100	85	17.81	17.81	-27.37	0.00	-526.70	0.00	19.240
24	1.65	100	85	17.81	17.81	-23.51	0.00	-526.70	0.00	22.407
25	1.75	100	85	17.81	17.81	-19.95	0.00	-526.70	0.00	26.406
26	1.85	100	85	17.81	17.81	-16.69	0.00	-526.70	0.00	31.557
27	1.95	100	85	17.81	17.81	-13.74	0.00	-526.70	0.00	38.344
28	2.05	100	85	17.81	17.81	-11.08	0.00	-526.70	0.00	47.537
29	2.15	100	85	17.81	17.81	-8.72	0.00	-526.70	0.00	60.419
30	2.25	100	85	17.81	17.81	-6.65	0.00	-526.70	0.00	79.250
31	2.35	100	85	17.81	17.81	-4.86	0.00	-526.70	0.00	108.328
32	2.45	100	85	17.81	17.81	-3.36	0.00	-526.70	0.00	156.661
33	2.55	100	85	17.81	17.81	-2.14	0.00	-526.70	0.00	245.837
34	2.65	100	85	17.81	17.81	-1.20	0.00	-526.70	0.00	438.933
35	2.75	100	85	17.81	17.81	-0.53	0.00	-526.70	0.00	991.886
36	2.85	100	85	17.81	17.81	-0.13	0.00	-526.70	0.00	3984.842
37	2.95	100	85	17.81	17.81	0.00	0.00	0.00	0.00	100000.000

Combinazione n° 2 - STR (A1-M1-R3)

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
1	-1.45	100	85	17.81	17.81	0.00	0.00	0.00	0.00	100000.000
2	-1.36	100	85	17.81	17.81	0.50	0.00	526.70	0.00	1043.616
3	-1.26	100	85	17.81	17.81	2.02	0.00	526.70	0.00	260.340
4	-1.17	100	85	17.81	17.81	4.56	0.00	526.70	0.00	115.457
5	-1.07	100	85	17.81	17.81	8.13	0.00	526.70	0.00	64.805
6	-0.98	100	85	17.81	17.81	12.73	0.00	526.70	0.00	41.386
7	-0.88	100	85	17.81	17.81	18.37	0.00	526.70	0.00	28.679
8	-0.78	100	85	17.81	17.81	25.05	0.00	526.70	0.00	21.025
9	-0.69	100	85	17.81	17.81	32.79	0.00	526.70	0.00	16.063
10	-0.60	100	85	17.81	17.81	41.59	0.00	526.70	0.00	12.665
11	-0.50	100	85	17.81	17.81	51.45	0.00	526.70	0.00	10.237
12	0.45	100	85	17.81	17.81	-110.72	0.00	-526.70	0.00	4.757
13	0.55	100	85	17.81	17.81	-101.30	0.00	-526.70	0.00	5.199
14	0.65	100	85	17.81	17.81	-92.36	0.00	-526.70	0.00	5.702
15	0.75	100	85	17.81	17.81	-83.89	0.00	-526.70	0.00	6.278
16	0.85	100	85	17.81	17.81	-75.87	0.00	-526.70	0.00	6.942
17	0.95	100	85	17.81	17.81	-68.31	0.00	-526.70	0.00	7.710
18	1.05	100	85	17.81	17.81	-61.19	0.00	-526.70	0.00	8.608
19	1.15	100	85	17.81	17.81	-54.51	0.00	-526.70	0.00	9.663
20	1.25	100	85	17.81	17.81	-48.25	0.00	-526.70	0.00	10.916
21	1.35	100	85	17.81	17.81	-42.41	0.00	-526.70	0.00	12.418
22	1.45	100	85	17.81	17.81	-36.99	0.00	-526.70	0.00	14.239
23	1.55	100	85	17.81	17.81	-31.97	0.00	-526.70	0.00	16.473
24	1.65	100	85	17.81	17.81	-27.35	0.00	-526.70	0.00	19.256
25	1.75	100	85	17.81	17.81	-23.12	0.00	-526.70	0.00	22.778
26	1.85	100	85	17.81	17.81	-19.28	0.00	-526.70	0.00	27.325
27	1.95	100	85	17.81	17.81	-15.80	0.00	-526.70	0.00	33.330
28	2.05	100	85	17.81	17.81	-12.70	0.00	-526.70	0.00	41.483
29	2.15	100	85	17.81	17.81	-9.95	0.00	-526.70	0.00	52.932
30	2.25	100	85	17.81	17.81	-7.56	0.00	-526.70	0.00	69.707
31	2.35	100	85	17.81	17.81	-5.51	0.00	-526.70	0.00	95.670
32	2.45	100	85	17.81	17.81	-3.79	0.00	-526.70	0.00	138.923
33	2.55	100	85	17.81	17.81	-2.41	0.00	-526.70	0.00	218.908
34	2.65	100	85	17.81	17.81	-1.34	0.00	-526.70	0.00	392.497
35	2.75	100	85	17.81	17.81	-0.59	0.00	-526.70	0.00	890.735
36	2.85	100	85	17.81	17.81	-0.15	0.00	-526.70	0.00	3593.937
37	2.95	100	85	17.81	17.81	0.00	0.00	0.00	0.00	100000.000

Combinazione n° 3 - STR (A1-M1-R3) H + V

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
1	-1.45	100	85	17.81	17.81	0.00	0.00	0.00	0.00	100000.000
2	-1.36	100	85	17.81	17.81	0.66	0.00	526.70	0.00	802.203
3	-1.26	100	85	17.81	17.81	2.61	0.00	526.70	0.00	201.459

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
4	-1.17	100	85	17.81	17.81	5.86	0.00	526.70	0.00	89.945
5	-1.07	100	85	17.81	17.81	10.36	0.00	526.70	0.00	50.825
6	-0.98	100	85	17.81	17.81	16.12	0.00	526.70	0.00	32.678
7	-0.88	100	85	17.81	17.81	23.10	0.00	526.70	0.00	22.797
8	-0.78	100	85	17.81	17.81	31.30	0.00	526.70	0.00	16.827
9	-0.69	100	85	17.81	17.81	40.69	0.00	526.70	0.00	12.943
10	-0.60	100	85	17.81	17.81	51.26	0.00	526.70	0.00	10.274
11	-0.50	100	85	17.81	17.81	62.99	0.00	526.70	0.00	8.361
12	0.45	100	85	17.81	17.81	-70.83	0.00	-526.70	0.00	7.437
13	0.55	100	85	17.81	17.81	-67.26	0.00	-526.70	0.00	7.831
14	0.65	100	85	17.81	17.81	-63.60	0.00	-526.70	0.00	8.281
15	0.75	100	85	17.81	17.81	-59.86	0.00	-526.70	0.00	8.799
16	0.85	100	85	17.81	17.81	-56.07	0.00	-526.70	0.00	9.394
17	0.95	100	85	17.81	17.81	-52.23	0.00	-526.70	0.00	10.083
18	1.05	100	85	17.81	17.81	-48.39	0.00	-526.70	0.00	10.885
19	1.15	100	85	17.81	17.81	-44.55	0.00	-526.70	0.00	11.823
20	1.25	100	85	17.81	17.81	-40.73	0.00	-526.70	0.00	12.930
21	1.35	100	85	17.81	17.81	-36.97	0.00	-526.70	0.00	14.248
22	1.45	100	85	17.81	17.81	-33.27	0.00	-526.70	0.00	15.833
23	1.55	100	85	17.81	17.81	-29.66	0.00	-526.70	0.00	17.760
24	1.65	100	85	17.81	17.81	-26.15	0.00	-526.70	0.00	20.138
25	1.75	100	85	17.81	17.81	-22.78	0.00	-526.70	0.00	23.119
26	1.85	100	85	17.81	17.81	-19.56	0.00	-526.70	0.00	26.925
27	1.95	100	85	17.81	17.81	-16.51	0.00	-526.70	0.00	31.898
28	2.05	100	85	17.81	17.81	-13.65	0.00	-526.70	0.00	38.574
29	2.15	100	85	17.81	17.81	-11.01	0.00	-526.70	0.00	47.840
30	2.25	100	85	17.81	17.81	-8.60	0.00	-526.70	0.00	61.256
31	2.35	100	85	17.81	17.81	-6.44	0.00	-526.70	0.00	81.767
32	2.45	100	85	17.81	17.81	-4.56	0.00	-526.70	0.00	115.515
33	2.55	100	85	17.81	17.81	-2.97	0.00	-526.70	0.00	177.138
34	2.65	100	85	17.81	17.81	-1.70	0.00	-526.70	0.00	309.168
35	2.75	100	85	17.81	17.81	-0.77	0.00	-526.70	0.00	683.164
36	2.85	100	85	17.81	17.81	-0.20	0.00	-526.70	0.00	2684.561
37	2.95	100	85	17.81	17.81	0.00	0.00	0.00	0.00	100000.000

Combinazione n° 4 - STR (A1-M1-R3) H - V

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
1	-1.45	100	85	17.81	17.81	0.00	0.00	0.00	0.00	100000.000
2	-1.36	100	85	17.81	17.81	0.60	0.00	526.70	0.00	882.822
3	-1.26	100	85	17.81	17.81	2.37	0.00	526.70	0.00	221.801
4	-1.17	100	85	17.81	17.81	5.32	0.00	526.70	0.00	99.070
5	-1.07	100	85	17.81	17.81	9.40	0.00	526.70	0.00	56.007
6	-0.98	100	85	17.81	17.81	14.62	0.00	526.70	0.00	36.025
7	-0.88	100	85	17.81	17.81	20.95	0.00	526.70	0.00	25.144
8	-0.78	100	85	17.81	17.81	28.37	0.00	526.70	0.00	18.567
9	-0.69	100	85	17.81	17.81	36.86	0.00	526.70	0.00	14.288
10	-0.60	100	85	17.81	17.81	46.42	0.00	526.70	0.00	11.348
11	-0.50	100	85	17.81	17.81	57.01	0.00	526.70	0.00	9.239
12	0.45	100	85	17.81	17.81	-111.34	0.00	-526.70	0.00	4.730
13	0.55	100	85	17.81	17.81	-104.60	0.00	-526.70	0.00	5.036
14	0.65	100	85	17.81	17.81	-97.88	0.00	-526.70	0.00	5.381
15	0.75	100	85	17.81	17.81	-91.22	0.00	-526.70	0.00	5.774
16	0.85	100	85	17.81	17.81	-84.63	0.00	-526.70	0.00	6.224
17	0.95	100	85	17.81	17.81	-78.14	0.00	-526.70	0.00	6.741
18	1.05	100	85	17.81	17.81	-71.76	0.00	-526.70	0.00	7.340
19	1.15	100	85	17.81	17.81	-65.52	0.00	-526.70	0.00	8.039
20	1.25	100	85	17.81	17.81	-59.43	0.00	-526.70	0.00	8.862
21	1.35	100	85	17.81	17.81	-53.53	0.00	-526.70	0.00	9.840
22	1.45	100	85	17.81	17.81	-47.82	0.00	-526.70	0.00	11.014
23	1.55	100	85	17.81	17.81	-42.33	0.00	-526.70	0.00	12.443
24	1.65	100	85	17.81	17.81	-37.08	0.00	-526.70	0.00	14.204
25	1.75	100	85	17.81	17.81	-32.09	0.00	-526.70	0.00	16.413
26	1.85	100	85	17.81	17.81	-27.38	0.00	-526.70	0.00	19.236
27	1.95	100	85	17.81	17.81	-22.97	0.00	-526.70	0.00	22.928
28	2.05	100	85	17.81	17.81	-18.89	0.00	-526.70	0.00	27.889
29	2.15	100	85	17.81	17.81	-15.14	0.00	-526.70	0.00	34.784
30	2.25	100	85	17.81	17.81	-11.76	0.00	-526.70	0.00	44.781
31	2.35	100	85	17.81	17.81	-8.77	0.00	-526.70	0.00	60.091
32	2.45	100	85	17.81	17.81	-6.17	0.00	-526.70	0.00	85.326
33	2.55	100	85	17.81	17.81	-4.01	0.00	-526.70	0.00	131.491
34	2.65	100	85	17.81	17.81	-2.28	0.00	-526.70	0.00	230.595
35	2.75	100	85	17.81	17.81	-1.03	0.00	-526.70	0.00	511.905
36	2.85	100	85	17.81	17.81	-0.26	0.00	-526.70	0.00	2020.614
37	2.95	100	85	17.81	17.81	0.00	0.00	0.00	0.00	100000.000

Combinazione n° 9 - ECC

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
1	-1.45	100	85	17.81	17.81	0.00	0.00	0.00	0.00	100000.000
2	-1.36	100	85	17.81	17.81	0.53	0.00	609.53	0.00	1142.283
3	-1.26	100	85	17.81	17.81	2.13	0.00	609.53	0.00	286.507
4	-1.17	100	85	17.81	17.81	4.77	0.00	609.53	0.00	127.755
5	-1.07	100	85	17.81	17.81	8.45	0.00	609.53	0.00	72.099
6	-0.98	100	85	17.81	17.81	13.17	0.00	609.53	0.00	46.296
7	-0.88	100	85	17.81	17.81	18.90	0.00	609.53	0.00	32.257
8	-0.78	100	85	17.81	17.81	25.63	0.00	609.53	0.00	23.778
9	-0.69	100	85	17.81	17.81	33.37	0.00	609.53	0.00	18.266
10	-0.60	100	85	17.81	17.81	42.09	0.00	609.53	0.00	14.481
11	-0.50	100	85	17.81	17.81	51.79	0.00	609.53	0.00	11.769
12	0.45	100	85	17.81	17.81	-61.95	0.00	-609.53	0.00	9.839
13	0.55	100	85	17.81	17.81	-58.27	0.00	-609.53	0.00	10.461
14	0.65	100	85	17.81	17.81	-54.59	0.00	-609.53	0.00	11.166
15	0.75	100	85	17.81	17.81	-50.93	0.00	-609.53	0.00	11.969
16	0.85	100	85	17.81	17.81	-47.30	0.00	-609.53	0.00	12.887
17	0.95	100	85	17.81	17.81	-43.71	0.00	-609.53	0.00	13.943
18	1.05	100	85	17.81	17.81	-40.19	0.00	-609.53	0.00	15.168
19	1.15	100	85	17.81	17.81	-36.73	0.00	-609.53	0.00	16.597
20	1.25	100	85	17.81	17.81	-33.35	0.00	-609.53	0.00	18.279
21	1.35	100	85	17.81	17.81	-30.06	0.00	-609.53	0.00	20.278
22	1.45	100	85	17.81	17.81	-26.88	0.00	-609.53	0.00	22.679
23	1.55	100	85	17.81	17.81	-23.81	0.00	-609.53	0.00	25.599
24	1.65	100	85	17.81	17.81	-20.87	0.00	-609.53	0.00	29.200
25	1.75	100	85	17.81	17.81	-18.08	0.00	-609.53	0.00	33.714
26	1.85	100	85	17.81	17.81	-15.44	0.00	-609.53	0.00	39.483
27	1.95	100	85	17.81	17.81	-12.96	0.00	-609.53	0.00	47.026
28	2.05	100	85	17.81	17.81	-10.66	0.00	-609.53	0.00	57.160
29	2.15	100	85	17.81	17.81	-8.56	0.00	-609.53	0.00	71.242
30	2.25	100	85	17.81	17.81	-6.65	0.00	-609.53	0.00	91.657
31	2.35	100	85	17.81	17.81	-4.96	0.00	-609.53	0.00	122.915
32	2.45	100	85	17.81	17.81	-3.49	0.00	-609.53	0.00	174.423
33	2.55	100	85	17.81	17.81	-2.27	0.00	-609.53	0.00	268.628
34	2.65	100	85	17.81	17.81	-1.29	0.00	-609.53	0.00	470.812
35	2.75	100	85	17.81	17.81	-0.58	0.00	-609.53	0.00	1044.564
36	2.85	100	85	17.81	17.81	-0.15	0.00	-609.53	0.00	4120.826
37	2.95	100	85	17.81	17.81	0.00	0.00	0.00	0.00	100000.000

Verifiche a taglio

Simbologia adottata

n° (o Is)	indice sezione
Y	ordinata sezione espressa in [m]
B	larghezza sezione espresso in [cm]
H	altezza sezione espressa in [cm]
A_{sw}	area ferri a taglio espresso in [cmq]
cotgθ	inclinazione delle bielle compresse, θ inclinazione dei puntoni di calcestruzzo
V_{Rcd}	resistenza di progetto a 'taglio compressione' espressa in [kN]
V_{Rsd}	resistenza di progetto a 'taglio trazione' espressa in [kN]
V_{Rd}	resistenza di progetto a taglio espresso in [kN]. Per elementi con armature trasversali resistenti al taglio (A_{sw}>0.0) V_{Rd}=min(V_{Rcd}, V_{Rsd}).
T	taglio agente espressa in [kN]
FS	fattore di sicurezza (rapporto tra sollecitazione resistente e sollecitazione agente)

Paramento

Combinazione n° 1 - STR (A1-M1-R3)

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
1	0.00	100	50	0.00	0.00	--	0.00	0.00	219.32	0.00	100.000

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
2	-0.10	100	51	0.00	0.00	--	0.00	0.00	221.51	0.03	6896.971
3	-0.20	100	52	0.00	0.00	--	0.00	0.00	223.69	0.13	1741.190
4	-0.30	100	53	0.00	0.00	--	0.00	0.00	225.85	0.29	783.495
5	-0.40	100	54	0.00	0.00	--	0.00	0.00	228.01	0.51	446.448
6	-0.50	100	54	0.00	0.00	--	0.00	0.00	230.15	0.80	289.057
7	-0.60	100	55	0.00	0.00	--	0.00	0.00	232.28	1.15	202.840
8	-0.70	100	56	0.00	0.00	--	0.00	0.00	234.40	1.56	150.497
9	-0.80	100	57	0.00	0.00	--	0.00	0.00	236.52	2.03	116.318
10	-0.90	100	58	0.00	0.00	--	0.00	0.00	238.62	2.57	92.753
11	-1.00	100	59	0.00	0.00	--	0.00	0.00	240.71	3.18	75.807
12	-1.10	100	60	0.00	0.00	--	0.00	0.00	242.80	3.84	63.204
13	-1.20	100	61	0.00	0.00	--	0.00	0.00	244.87	4.57	53.570
14	-1.30	100	62	0.00	0.00	--	0.00	0.00	246.94	5.36	46.036
15	-1.40	100	62	0.00	0.00	--	0.00	0.00	249.00	6.22	40.028
16	-1.50	100	63	0.00	0.00	--	0.00	0.00	251.05	7.14	35.159
17	-1.60	100	64	0.00	0.00	--	0.00	0.00	253.10	8.12	31.155
18	-1.70	100	65	0.00	0.00	--	0.00	0.00	255.14	9.17	27.820
19	-1.80	100	66	0.00	0.00	--	0.00	0.00	322.95	10.28	31.413
20	-1.90	100	67	0.00	0.00	--	0.00	0.00	325.44	11.45	28.411
21	-2.00	100	68	0.00	0.00	--	0.00	0.00	327.92	12.69	25.837
22	-2.10	100	69	0.00	0.00	--	0.00	0.00	330.39	13.99	23.612
23	-2.20	100	70	0.00	0.00	--	0.00	0.00	332.85	15.36	21.675
24	-2.30	100	71	0.00	0.00	--	0.00	0.00	335.30	16.78	19.977
25	-2.40	100	71	0.00	0.00	--	0.00	0.00	337.75	18.28	18.481
26	-2.50	100	72	0.00	0.00	--	0.00	0.00	340.18	19.83	17.155
27	-2.60	100	73	0.00	0.00	--	0.00	0.00	342.61	21.45	15.975
28	-2.70	100	74	0.00	0.00	--	0.00	0.00	371.19	23.13	16.049
29	-2.80	100	75	0.00	0.00	--	0.00	0.00	373.76	24.87	15.027
30	-2.90	100	76	0.00	0.00	--	0.00	0.00	376.33	26.68	14.105
31	-3.00	100	77	0.00	0.00	--	0.00	0.00	378.90	28.55	13.270
32	-3.10	100	78	0.00	0.00	--	0.00	0.00	381.45	30.49	12.512
33	-3.20	100	79	0.00	0.00	--	0.00	0.00	384.00	32.49	11.820
34	-3.30	100	79	0.00	0.00	--	0.00	0.00	386.54	34.55	11.188
35	-3.40	100	80	0.00	0.00	--	0.00	0.00	389.07	36.67	10.609
36	-3.50	100	81	0.00	0.00	--	0.00	0.00	391.59	38.86	10.076
37	-3.60	100	82	0.00	0.00	--	0.00	0.00	394.11	41.11	9.586
38	-3.70	100	83	0.00	0.00	--	0.00	0.00	396.63	43.43	9.132
39	-3.80	100	84	0.00	0.00	--	0.00	0.00	399.13	45.81	8.713
40	-3.90	100	85	0.00	0.00	--	0.00	0.00	401.63	48.25	8.324
41	-4.00	100	86	0.00	0.00	--	0.00	0.00	404.12	50.76	7.962
42	-4.10	100	87	0.00	0.00	--	0.00	0.00	406.61	53.33	7.625
43	-4.20	100	87	0.00	0.00	--	0.00	0.00	409.09	55.96	7.310
44	-4.30	100	88	0.00	0.00	--	0.00	0.00	306.13	58.66	5.219
45	-4.40	100	89	0.00	0.00	--	0.00	0.00	308.04	61.42	5.016
46	-4.50	100	90	0.00	0.00	--	0.00	0.00	309.94	64.24	4.825
47	-4.60	100	91	0.00	0.00	--	0.00	0.00	311.84	67.13	4.646
48	-4.70	100	92	0.00	0.00	--	0.00	0.00	313.73	70.08	4.477
49	-4.80	100	93	0.00	0.00	--	0.00	0.00	315.63	73.09	4.318
50	-4.90	100	94	0.00	0.00	--	0.00	0.00	317.52	76.17	4.169
51	-4.99	100	95	0.00	0.00	--	0.00	0.00	319.25	79.31	4.025

Combinazione n° 2 - STR (A1-M1-R3)

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
1	0.00	100	50	0.00	0.00	--	0.00	0.00	219.32	0.00	100.000
2	-0.10	100	51	0.00	0.00	--	0.00	0.00	221.51	1.17	189.205
3	-0.20	100	52	0.00	0.00	--	0.00	0.00	223.69	2.41	92.981
4	-0.30	100	53	0.00	0.00	--	0.00	0.00	225.85	3.70	60.972
5	-0.40	100	54	0.00	0.00	--	0.00	0.00	228.01	5.07	45.014
6	-0.50	100	54	0.00	0.00	--	0.00	0.00	230.15	6.49	35.465
7	-0.60	100	55	0.00	0.00	--	0.00	0.00	232.28	7.98	29.119
8	-0.70	100	56	0.00	0.00	--	0.00	0.00	234.40	9.53	24.601
9	-0.80	100	57	0.00	0.00	--	0.00	0.00	236.52	11.14	21.226
10	-0.90	100	58	0.00	0.00	--	0.00	0.00	238.62	12.82	18.612
11	-1.00	100	59	0.00	0.00	--	0.00	0.00	240.71	14.56	16.530
12	-1.10	100	60	0.00	0.00	--	0.00	0.00	242.80	16.37	14.835
13	-1.20	100	61	0.00	0.00	--	0.00	0.00	244.87	18.23	13.429
14	-1.30	100	62	0.00	0.00	--	0.00	0.00	246.94	20.17	12.245
15	-1.40	100	62	0.00	0.00	--	0.00	0.00	249.00	22.16	11.236
16	-1.50	100	63	0.00	0.00	--	0.00	0.00	251.05	24.22	10.365
17	-1.60	100	64	0.00	0.00	--	0.00	0.00	253.10	26.34	9.608
18	-1.70	100	65	0.00	0.00	--	0.00	0.00	255.14	28.53	8.943
19	-1.80	100	66	0.00	0.00	--	0.00	0.00	322.95	30.78	10.493
20	-1.90	100	67	0.00	0.00	--	0.00	0.00	325.44	33.09	9.835
21	-2.00	100	68	0.00	0.00	--	0.00	0.00	327.92	35.46	9.246
22	-2.10	100	69	0.00	0.00	--	0.00	0.00	330.39	37.90	8.716
23	-2.20	100	70	0.00	0.00	--	0.00	0.00	332.85	40.41	8.237
24	-2.30	100	71	0.00	0.00	--	0.00	0.00	335.30	42.97	7.803
25	-2.40	100	71	0.00	0.00	--	0.00	0.00	337.75	45.60	7.406
26	-2.50	100	72	0.00	0.00	--	0.00	0.00	340.18	48.30	7.044
27	-2.60	100	73	0.00	0.00	--	0.00	0.00	342.61	51.05	6.711

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
28	-2.70	100	74	0.00	0.00	--	0.00	0.00	371.19	53.87	6.890
29	-2.80	100	75	0.00	0.00	--	0.00	0.00	373.76	56.76	6.586
30	-2.90	100	76	0.00	0.00	--	0.00	0.00	376.33	59.70	6.304
31	-3.00	100	77	0.00	0.00	--	0.00	0.00	378.90	62.71	6.042
32	-3.10	100	78	0.00	0.00	--	0.00	0.00	381.45	65.79	5.798
33	-3.20	100	79	0.00	0.00	--	0.00	0.00	384.00	68.92	5.571
34	-3.30	100	79	0.00	0.00	--	0.00	0.00	386.54	72.12	5.359
35	-3.40	100	80	0.00	0.00	--	0.00	0.00	389.07	75.39	5.161
36	-3.50	100	81	0.00	0.00	--	0.00	0.00	391.59	78.72	4.975
37	-3.60	100	82	0.00	0.00	--	0.00	0.00	394.11	82.11	4.800
38	-3.70	100	83	0.00	0.00	--	0.00	0.00	396.63	85.56	4.636
39	-3.80	100	84	0.00	0.00	--	0.00	0.00	399.13	89.08	4.481
40	-3.90	100	85	0.00	0.00	--	0.00	0.00	401.63	92.66	4.334
41	-4.00	100	86	0.00	0.00	--	0.00	0.00	404.12	96.30	4.196
42	-4.10	100	87	0.00	0.00	--	0.00	0.00	406.61	100.01	4.066
43	-4.20	100	87	0.00	0.00	--	0.00	0.00	409.09	103.78	3.942
44	-4.30	100	88	0.00	0.00	--	0.00	0.00	306.13	107.62	2.845
45	-4.40	100	89	0.00	0.00	--	0.00	0.00	308.04	111.52	2.762
46	-4.50	100	90	0.00	0.00	--	0.00	0.00	309.94	115.47	2.684
47	-4.60	100	91	0.00	0.00	--	0.00	0.00	311.84	119.47	2.610
48	-4.70	100	92	0.00	0.00	--	0.00	0.00	313.73	123.50	2.540
49	-4.80	100	93	0.00	0.00	--	0.00	0.00	315.63	127.54	2.475
50	-4.90	100	94	0.00	0.00	--	0.00	0.00	317.52	131.58	2.413
51	-4.99	100	95	0.00	0.00	--	0.00	0.00	319.25	135.63	2.354

Combinazione n° 3 - STR (A1-M1-R3) H + V

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
1	0.00	100	50	0.00	0.00	--	0.00	0.00	219.35	0.00	100.000
2	-0.10	100	51	0.00	0.00	--	0.00	0.00	221.55	0.59	378.603
3	-0.20	100	52	0.00	0.00	--	0.00	0.00	223.73	1.22	183.296
4	-0.30	100	53	0.00	0.00	--	0.00	0.00	225.91	1.91	118.541
5	-0.40	100	54	0.00	0.00	--	0.00	0.00	228.07	2.64	86.392
6	-0.50	100	54	0.00	0.00	--	0.00	0.00	230.23	3.42	67.247
7	-0.60	100	55	0.00	0.00	--	0.00	0.00	232.37	4.26	54.586
8	-0.70	100	56	0.00	0.00	--	0.00	0.00	234.51	5.14	45.624
9	-0.80	100	57	0.00	0.00	--	0.00	0.00	236.63	6.07	38.966
10	-0.90	100	58	0.00	0.00	--	0.00	0.00	238.75	7.06	33.840
11	-1.00	100	59	0.00	0.00	--	0.00	0.00	240.85	8.09	29.781
12	-1.10	100	60	0.00	0.00	--	0.00	0.00	242.95	9.17	26.496
13	-1.20	100	61	0.00	0.00	--	0.00	0.00	245.04	10.30	23.789
14	-1.30	100	62	0.00	0.00	--	0.00	0.00	247.12	11.48	21.523
15	-1.40	100	62	0.00	0.00	--	0.00	0.00	249.19	12.71	19.602
16	-1.50	100	63	0.00	0.00	--	0.00	0.00	251.26	13.99	17.955
17	-1.60	100	64	0.00	0.00	--	0.00	0.00	253.32	15.32	16.531
18	-1.70	100	65	0.00	0.00	--	0.00	0.00	255.37	16.70	15.288
19	-1.80	100	66	0.00	0.00	--	0.00	0.00	323.20	18.13	17.823
20	-1.90	100	67	0.00	0.00	--	0.00	0.00	325.70	19.61	16.607
21	-2.00	100	68	0.00	0.00	--	0.00	0.00	328.19	21.14	15.523
22	-2.10	100	69	0.00	0.00	--	0.00	0.00	330.68	22.72	14.554
23	-2.20	100	70	0.00	0.00	--	0.00	0.00	333.15	24.35	13.682
24	-2.30	100	71	0.00	0.00	--	0.00	0.00	335.62	26.03	12.895
25	-2.40	100	71	0.00	0.00	--	0.00	0.00	338.08	27.76	12.181
26	-2.50	100	72	0.00	0.00	--	0.00	0.00	340.53	29.53	11.531
27	-2.60	100	73	0.00	0.00	--	0.00	0.00	342.97	31.36	10.937
28	-2.70	100	74	0.00	0.00	--	0.00	0.00	371.57	33.24	11.179
29	-2.80	100	75	0.00	0.00	--	0.00	0.00	374.16	35.16	10.641
30	-2.90	100	76	0.00	0.00	--	0.00	0.00	376.75	37.14	10.144
31	-3.00	100	77	0.00	0.00	--	0.00	0.00	379.33	39.17	9.685
32	-3.10	100	78	0.00	0.00	--	0.00	0.00	381.90	41.24	9.260
33	-3.20	100	79	0.00	0.00	--	0.00	0.00	384.46	43.37	8.865
34	-3.30	100	79	0.00	0.00	--	0.00	0.00	387.02	45.54	8.498
35	-3.40	100	80	0.00	0.00	--	0.00	0.00	389.57	47.77	8.156
36	-3.50	100	81	0.00	0.00	--	0.00	0.00	392.11	50.04	7.836
37	-3.60	100	82	0.00	0.00	--	0.00	0.00	394.65	52.37	7.536
38	-3.70	100	83	0.00	0.00	--	0.00	0.00	397.18	54.74	7.256
39	-3.80	100	84	0.00	0.00	--	0.00	0.00	399.70	57.16	6.992
40	-3.90	100	85	0.00	0.00	--	0.00	0.00	402.22	59.64	6.745
41	-4.00	100	86	0.00	0.00	--	0.00	0.00	404.73	62.16	6.511
42	-4.10	100	87	0.00	0.00	--	0.00	0.00	407.24	64.73	6.291
43	-4.20	100	87	0.00	0.00	--	0.00	0.00	409.74	67.35	6.083
44	-4.30	100	88	0.00	0.00	--	0.00	0.00	306.80	70.03	4.381
45	-4.40	100	89	0.00	0.00	--	0.00	0.00	308.72	72.75	4.244
46	-4.50	100	90	0.00	0.00	--	0.00	0.00	310.64	75.52	4.113
47	-4.60	100	91	0.00	0.00	--	0.00	0.00	312.56	78.34	3.990
48	-4.70	100	92	0.00	0.00	--	0.00	0.00	314.48	81.21	3.872
49	-4.80	100	93	0.00	0.00	--	0.00	0.00	316.39	84.13	3.761
50	-4.90	100	94	0.00	0.00	--	0.00	0.00	318.30	87.10	3.654
51	-4.99	100	95	0.00	0.00	--	0.00	0.00	320.05	90.12	3.551

Combinazione n° 4 - STR (A1-M1-R3) H - V

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
1	0.00	100	50	0.00	0.00	--	0.00	0.00	219.32	0.00	100.000
2	-0.10	100	51	0.00	0.00	--	0.00	0.00	221.50	0.45	493.708
3	-0.20	100	52	0.00	0.00	--	0.00	0.00	223.67	0.95	236.042
4	-0.30	100	53	0.00	0.00	--	0.00	0.00	225.82	1.50	150.931
5	-0.40	100	54	0.00	0.00	--	0.00	0.00	227.96	2.09	108.869
6	-0.50	100	54	0.00	0.00	--	0.00	0.00	230.10	2.74	83.944
7	-0.60	100	55	0.00	0.00	--	0.00	0.00	232.22	3.44	67.547
8	-0.70	100	56	0.00	0.00	--	0.00	0.00	234.33	4.18	56.000
9	-0.80	100	57	0.00	0.00	--	0.00	0.00	236.43	4.98	47.470
10	-0.90	100	58	0.00	0.00	--	0.00	0.00	238.52	5.83	40.937
11	-1.00	100	59	0.00	0.00	--	0.00	0.00	240.60	6.72	35.792
12	-1.10	100	60	0.00	0.00	--	0.00	0.00	242.67	7.67	31.650
13	-1.20	100	61	0.00	0.00	--	0.00	0.00	244.74	8.66	28.253
14	-1.30	100	62	0.00	0.00	--	0.00	0.00	246.79	9.71	25.424
15	-1.40	100	62	0.00	0.00	--	0.00	0.00	248.84	10.80	23.037
16	-1.50	100	63	0.00	0.00	--	0.00	0.00	250.88	11.95	21.002
17	-1.60	100	64	0.00	0.00	--	0.00	0.00	252.91	13.14	19.248
18	-1.70	100	65	0.00	0.00	--	0.00	0.00	254.93	14.38	17.725
19	-1.80	100	66	0.00	0.00	--	0.00	0.00	322.74	15.68	20.588
20	-1.90	100	67	0.00	0.00	--	0.00	0.00	325.21	17.02	19.109
21	-2.00	100	68	0.00	0.00	--	0.00	0.00	327.67	18.41	17.797
22	-2.10	100	69	0.00	0.00	--	0.00	0.00	330.13	19.85	16.628
23	-2.20	100	70	0.00	0.00	--	0.00	0.00	332.57	21.35	15.580
24	-2.30	100	71	0.00	0.00	--	0.00	0.00	335.01	22.89	14.637
25	-2.40	100	71	0.00	0.00	--	0.00	0.00	337.44	24.48	13.785
26	-2.50	100	72	0.00	0.00	--	0.00	0.00	339.86	26.12	13.012
27	-2.60	100	73	0.00	0.00	--	0.00	0.00	342.27	27.81	12.307
28	-2.70	100	74	0.00	0.00	--	0.00	0.00	370.83	29.55	12.549
29	-2.80	100	75	0.00	0.00	--	0.00	0.00	373.39	31.34	11.914
30	-2.90	100	76	0.00	0.00	--	0.00	0.00	375.95	33.18	11.330
31	-3.00	100	77	0.00	0.00	--	0.00	0.00	378.49	35.07	10.792
32	-3.10	100	78	0.00	0.00	--	0.00	0.00	381.03	37.01	10.295
33	-3.20	100	79	0.00	0.00	--	0.00	0.00	383.56	39.00	9.835
34	-3.30	100	79	0.00	0.00	--	0.00	0.00	386.08	41.04	9.408
35	-3.40	100	80	0.00	0.00	--	0.00	0.00	388.60	43.13	9.011
36	-3.50	100	81	0.00	0.00	--	0.00	0.00	391.11	45.26	8.641
37	-3.60	100	82	0.00	0.00	--	0.00	0.00	393.61	47.45	8.295
38	-3.70	100	83	0.00	0.00	--	0.00	0.00	396.10	49.69	7.972
39	-3.80	100	84	0.00	0.00	--	0.00	0.00	398.59	51.98	7.669
40	-3.90	100	85	0.00	0.00	--	0.00	0.00	401.07	54.31	7.385
41	-4.00	100	86	0.00	0.00	--	0.00	0.00	403.55	56.70	7.117
42	-4.10	100	87	0.00	0.00	--	0.00	0.00	406.01	59.13	6.866
43	-4.20	100	87	0.00	0.00	--	0.00	0.00	408.48	61.62	6.629
44	-4.30	100	88	0.00	0.00	--	0.00	0.00	305.50	64.16	4.762
45	-4.40	100	89	0.00	0.00	--	0.00	0.00	307.38	66.74	4.606
46	-4.50	100	90	0.00	0.00	--	0.00	0.00	309.26	69.38	4.458
47	-4.60	100	91	0.00	0.00	--	0.00	0.00	311.14	72.06	4.318
48	-4.70	100	92	0.00	0.00	--	0.00	0.00	313.02	74.80	4.185
49	-4.80	100	93	0.00	0.00	--	0.00	0.00	314.89	77.58	4.059
50	-4.90	100	94	0.00	0.00	--	0.00	0.00	316.76	80.41	3.939
51	-4.99	100	95	0.00	0.00	--	0.00	0.00	318.47	83.30	3.823

Combinazione n° 9 - ECC

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
1	0.00	100	50	0.00	0.00	--	0.00	0.00	219.32	20.00	10.966
2	-0.10	100	51	0.00	0.00	--	0.00	0.00	221.51	20.02	11.062
3	-0.20	100	52	0.00	0.00	--	0.00	0.00	223.69	20.10	11.131
4	-0.30	100	53	0.00	0.00	--	0.00	0.00	225.85	20.21	11.173
5	-0.40	100	54	0.00	0.00	--	0.00	0.00	228.01	20.38	11.189
6	-0.50	100	54	0.00	0.00	--	0.00	0.00	230.15	20.59	11.178
7	-0.60	100	55	0.00	0.00	--	0.00	0.00	232.28	20.85	11.142
8	-0.70	100	56	0.00	0.00	--	0.00	0.00	234.40	21.15	11.081
9	-0.80	100	57	0.00	0.00	--	0.00	0.00	236.52	21.51	10.998
10	-0.90	100	58	0.00	0.00	--	0.00	0.00	238.62	21.91	10.893
11	-1.00	100	59	0.00	0.00	--	0.00	0.00	240.71	22.35	10.769
12	-1.10	100	60	0.00	0.00	--	0.00	0.00	242.80	22.85	10.628
13	-1.20	100	61	0.00	0.00	--	0.00	0.00	244.87	23.39	10.471
14	-1.30	100	62	0.00	0.00	--	0.00	0.00	246.94	23.97	10.301
15	-1.40	100	62	0.00	0.00	--	0.00	0.00	249.00	24.61	10.119
16	-1.50	100	63	0.00	0.00	--	0.00	0.00	251.05	25.29	9.927
17	-1.60	100	64	0.00	0.00	--	0.00	0.00	253.10	26.02	9.728
18	-1.70	100	65	0.00	0.00	--	0.00	0.00	255.14	26.79	9.522
19	-1.80	100	66	0.00	0.00	--	0.00	0.00	322.95	27.62	11.695
20	-1.90	100	67	0.00	0.00	--	0.00	0.00	325.44	28.49	11.425
21	-2.00	100	68	0.00	0.00	--	0.00	0.00	327.92	29.40	11.153
22	-2.10	100	69	0.00	0.00	--	0.00	0.00	330.39	30.36	10.881
23	-2.20	100	70	0.00	0.00	--	0.00	0.00	332.85	31.38	10.609

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
24	-2.30	100	71	0.00	0.00	--	0.00	0.00	335.30	32.43	10.338
25	-2.40	100	71	0.00	0.00	--	0.00	0.00	337.75	33.54	10.071
26	-2.50	100	72	0.00	0.00	--	0.00	0.00	340.18	34.69	9.807
27	-2.60	100	73	0.00	0.00	--	0.00	0.00	342.61	35.89	9.547
28	-2.70	100	74	0.00	0.00	--	0.00	0.00	371.19	37.13	9.996
29	-2.80	100	75	0.00	0.00	--	0.00	0.00	373.76	38.42	9.727
30	-2.90	100	76	0.00	0.00	--	0.00	0.00	376.33	39.76	9.464
31	-3.00	100	77	0.00	0.00	--	0.00	0.00	378.90	41.15	9.208
32	-3.10	100	78	0.00	0.00	--	0.00	0.00	381.45	42.58	8.958
33	-3.20	100	79	0.00	0.00	--	0.00	0.00	384.00	44.06	8.715
34	-3.30	100	79	0.00	0.00	--	0.00	0.00	386.54	45.59	8.478
35	-3.40	100	80	0.00	0.00	--	0.00	0.00	389.07	47.17	8.249
36	-3.50	100	81	0.00	0.00	--	0.00	0.00	391.59	48.79	8.027
37	-3.60	100	82	0.00	0.00	--	0.00	0.00	394.11	50.46	7.811
38	-3.70	100	83	0.00	0.00	--	0.00	0.00	396.63	52.17	7.602
39	-3.80	100	84	0.00	0.00	--	0.00	0.00	399.13	53.93	7.401
40	-3.90	100	85	0.00	0.00	--	0.00	0.00	401.63	55.74	7.205
41	-4.00	100	86	0.00	0.00	--	0.00	0.00	404.12	57.60	7.016
42	-4.10	100	87	0.00	0.00	--	0.00	0.00	406.61	59.50	6.834
43	-4.20	100	87	0.00	0.00	--	0.00	0.00	409.09	61.45	6.657
44	-4.30	100	88	0.00	0.00	--	0.00	0.00	306.13	63.45	4.825
45	-4.40	100	89	0.00	0.00	--	0.00	0.00	308.04	65.49	4.703
46	-4.50	100	90	0.00	0.00	--	0.00	0.00	309.94	67.59	4.586
47	-4.60	100	91	0.00	0.00	--	0.00	0.00	311.84	69.72	4.473
48	-4.70	100	92	0.00	0.00	--	0.00	0.00	313.73	71.91	4.363
49	-4.80	100	93	0.00	0.00	--	0.00	0.00	315.63	74.14	4.257
50	-4.90	100	94	0.00	0.00	--	0.00	0.00	317.52	76.42	4.155
51	-4.99	100	95	0.00	0.00	--	0.00	0.00	319.25	78.75	4.054

Mensola valle

Combinazione n° 1 - STR (A1-M1-R3)

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
1	-0.75	100	50	0.00	0.00	--	0.00	0.00	215.05	0.00	100.000
2	-0.67	100	50	0.00	0.00	--	0.00	0.00	215.05	1.04	206.445
3	-0.58	100	50	0.00	0.00	--	0.00	0.00	215.05	2.08	103.223
4	-0.50	100	50	0.00	0.00	--	0.00	0.00	215.05	3.13	68.815
5	-0.50	100	50	0.00	0.00	--	0.00	0.00	215.05	3.13	68.815

Combinazione n° 2 - STR (A1-M1-R3)

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
1	-0.75	100	50	0.00	0.00	--	0.00	0.00	215.05	0.00	100.000
2	-0.67	100	50	0.00	0.00	--	0.00	0.00	215.05	1.04	206.445
3	-0.58	100	50	0.00	0.00	--	0.00	0.00	215.05	2.08	103.223
4	-0.50	100	50	0.00	0.00	--	0.00	0.00	215.05	3.13	68.815
5	-0.50	100	50	0.00	0.00	--	0.00	0.00	215.05	3.13	68.815

Combinazione n° 3 - STR (A1-M1-R3) H + V

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
1	-0.75	100	50	0.00	0.00	--	0.00	0.00	215.05	0.00	100.000
2	-0.67	100	50	0.00	0.00	--	0.00	0.00	215.05	1.10	194.669
3	-0.58	100	50	0.00	0.00	--	0.00	0.00	215.05	2.21	97.335
4	-0.50	100	50	0.00	0.00	--	0.00	0.00	215.05	3.31	64.890
5	-0.50	100	50	0.00	0.00	--	0.00	0.00	215.05	3.31	64.890

Combinazione n° 4 - STR (A1-M1-R3) H - V

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
1	-0.75	100	50	0.00	0.00	--	0.00	0.00	215.05	0.00	100.000
2	-0.67	100	50	0.00	0.00	--	0.00	0.00	215.05	1.04	206.445
3	-0.58	100	50	0.00	0.00	--	0.00	0.00	215.05	2.08	103.223
4	-0.50	100	50	0.00	0.00	--	0.00	0.00	215.05	3.13	68.815

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
5	-0.50	100	50	0.00	0.00	--	0.00	0.00	215.05	3.13	68.815

Combinazione n° 9 - ECC

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
1	-0.75	100	50	0.00	0.00	--	0.00	0.00	215.05	0.00	100.000
2	-0.67	100	50	0.00	0.00	--	0.00	0.00	215.05	1.04	206.445
3	-0.58	100	50	0.00	0.00	--	0.00	0.00	215.05	2.08	103.223
4	-0.50	100	50	0.00	0.00	--	0.00	0.00	215.05	3.13	68.815
5	-0.50	100	50	0.00	0.00	--	0.00	0.00	212.35	3.13	67.951

Fondazione

Combinazione n° 1 - STR (A1-M1-R3)

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
1	-1.45	100	85	0.00	0.00	--	0.00	0.00	323.43	0.00	100.000
2	-1.36	100	85	0.00	0.00	--	0.00	0.00	323.43	-8.25	39.180
3	-1.26	100	85	0.00	0.00	--	0.00	0.00	323.43	-16.54	19.553
4	-1.17	100	85	0.00	0.00	--	0.00	0.00	323.43	-24.86	13.011
5	-1.07	100	85	0.00	0.00	--	0.00	0.00	323.43	-33.21	9.740
6	-0.98	100	85	0.00	0.00	--	0.00	0.00	323.43	-41.59	7.777
7	-0.88	100	85	0.00	0.00	--	0.00	0.00	323.43	-50.00	6.469
8	-0.78	100	85	0.00	0.00	--	0.00	0.00	323.43	-58.44	5.534
9	-0.69	100	85	0.00	0.00	--	0.00	0.00	323.43	-66.91	4.834
10	-0.60	100	85	0.00	0.00	--	0.00	0.00	323.43	-75.42	4.289
11	-0.50	100	85	0.00	0.00	--	0.00	0.00	323.43	-83.95	3.853
12	0.45	100	85	0.00	0.00	--	0.00	0.00	323.43	-76.61	4.222
13	0.55	100	85	0.00	0.00	--	0.00	0.00	323.43	-73.13	4.423
14	0.65	100	85	0.00	0.00	--	0.00	0.00	323.43	-69.68	4.642
15	0.75	100	85	0.00	0.00	--	0.00	0.00	323.43	-66.27	4.880
16	0.85	100	85	0.00	0.00	--	0.00	0.00	323.43	-62.90	5.142
17	0.95	100	85	0.00	0.00	--	0.00	0.00	323.43	-59.56	5.431
18	1.05	100	85	0.00	0.00	--	0.00	0.00	323.43	-56.25	5.750
19	1.15	100	85	0.00	0.00	--	0.00	0.00	323.43	-52.98	6.105
20	1.25	100	85	0.00	0.00	--	0.00	0.00	323.43	-49.74	6.502
21	1.35	100	85	0.00	0.00	--	0.00	0.00	323.43	-46.54	6.950
22	1.45	100	85	0.00	0.00	--	0.00	0.00	323.43	-43.37	7.457
23	1.55	100	85	0.00	0.00	--	0.00	0.00	323.43	-40.24	8.038
24	1.65	100	85	0.00	0.00	--	0.00	0.00	323.43	-37.14	8.709
25	1.75	100	85	0.00	0.00	--	0.00	0.00	323.43	-34.07	9.492
26	1.85	100	85	0.00	0.00	--	0.00	0.00	323.43	-31.04	10.418
27	1.95	100	85	0.00	0.00	--	0.00	0.00	323.43	-28.05	11.531
28	2.05	100	85	0.00	0.00	--	0.00	0.00	323.43	-25.09	12.892
29	2.15	100	85	0.00	0.00	--	0.00	0.00	323.43	-22.16	14.594
30	2.25	100	85	0.00	0.00	--	0.00	0.00	323.43	-19.27	16.783
31	2.35	100	85	0.00	0.00	--	0.00	0.00	323.43	-16.41	19.704
32	2.45	100	85	0.00	0.00	--	0.00	0.00	323.43	-13.59	23.795
33	2.55	100	85	0.00	0.00	--	0.00	0.00	323.43	-10.80	29.934
34	2.65	100	85	0.00	0.00	--	0.00	0.00	323.43	-8.05	40.170
35	2.75	100	85	0.00	0.00	--	0.00	0.00	323.43	-5.33	60.645
36	2.85	100	85	0.00	0.00	--	0.00	0.00	323.43	-2.65	122.082
37	2.95	100	85	0.00	0.00	--	0.00	0.00	323.43	0.00	100.000

Combinazione n° 2 - STR (A1-M1-R3)

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
1	-1.45	100	85	0.00	0.00	--	0.00	0.00	323.43	0.00	100.000
2	-1.36	100	85	0.00	0.00	--	0.00	0.00	323.43	-10.64	30.407
3	-1.26	100	85	0.00	0.00	--	0.00	0.00	323.43	-21.34	15.155
4	-1.17	100	85	0.00	0.00	--	0.00	0.00	323.43	-32.12	10.070
5	-1.07	100	85	0.00	0.00	--	0.00	0.00	323.43	-42.96	7.529
6	-0.98	100	85	0.00	0.00	--	0.00	0.00	323.43	-53.87	6.004
7	-0.88	100	85	0.00	0.00	--	0.00	0.00	323.43	-64.85	4.987
8	-0.78	100	85	0.00	0.00	--	0.00	0.00	323.43	-75.91	4.261
9	-0.69	100	85	0.00	0.00	--	0.00	0.00	323.43	-87.02	3.717
10	-0.60	100	85	0.00	0.00	--	0.00	0.00	323.43	-98.21	3.293
11	-0.50	100	85	0.00	0.00	--	0.00	0.00	323.43	-109.47	2.954
12	0.45	100	85	0.00	0.00	--	0.00	0.00	323.43	-96.54	3.350

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
13	0.55	100	85	0.00	0.00	--	0.00	0.00	323.43	-91.76	3.525
14	0.65	100	85	0.00	0.00	--	0.00	0.00	323.43	-87.06	3.715
15	0.75	100	85	0.00	0.00	--	0.00	0.00	323.43	-82.43	3.923
16	0.85	100	85	0.00	0.00	--	0.00	0.00	323.43	-77.88	4.153
17	0.95	100	85	0.00	0.00	--	0.00	0.00	323.43	-73.41	4.406
18	1.05	100	85	0.00	0.00	--	0.00	0.00	323.43	-69.01	4.686
19	1.15	100	85	0.00	0.00	--	0.00	0.00	323.43	-64.69	4.999
20	1.25	100	85	0.00	0.00	--	0.00	0.00	323.43	-60.45	5.351
21	1.35	100	85	0.00	0.00	--	0.00	0.00	323.43	-56.28	5.747
22	1.45	100	85	0.00	0.00	--	0.00	0.00	323.43	-52.19	6.197
23	1.55	100	85	0.00	0.00	--	0.00	0.00	323.43	-48.17	6.714
24	1.65	100	85	0.00	0.00	--	0.00	0.00	323.43	-44.24	7.311
25	1.75	100	85	0.00	0.00	--	0.00	0.00	323.43	-40.37	8.011
26	1.85	100	85	0.00	0.00	--	0.00	0.00	323.43	-36.59	8.840
27	1.95	100	85	0.00	0.00	--	0.00	0.00	323.43	-32.88	9.837
28	2.05	100	85	0.00	0.00	--	0.00	0.00	323.43	-29.25	11.058
29	2.15	100	85	0.00	0.00	--	0.00	0.00	323.43	-25.69	12.589
30	2.25	100	85	0.00	0.00	--	0.00	0.00	323.43	-22.21	14.560
31	2.35	100	85	0.00	0.00	--	0.00	0.00	323.43	-18.81	17.194
32	2.45	100	85	0.00	0.00	--	0.00	0.00	323.43	-15.48	20.888
33	2.55	100	85	0.00	0.00	--	0.00	0.00	323.43	-12.23	26.437
34	2.65	100	85	0.00	0.00	--	0.00	0.00	323.43	-9.06	35.695
35	2.75	100	85	0.00	0.00	--	0.00	0.00	323.43	-5.96	54.229
36	2.85	100	85	0.00	0.00	--	0.00	0.00	323.43	-2.94	109.868
37	2.95	100	85	0.00	0.00	--	0.00	0.00	323.43	0.00	100.000

Combinazione n° 3 - STR (A1-M1-R3) H + V

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
1	-1.45	100	85	0.00	0.00	--	0.00	0.00	323.43	0.00	100.000
2	-1.36	100	85	0.00	0.00	--	0.00	0.00	323.43	-13.79	23.452
3	-1.26	100	85	0.00	0.00	--	0.00	0.00	323.43	-27.40	11.806
4	-1.17	100	85	0.00	0.00	--	0.00	0.00	323.43	-40.81	7.925
5	-1.07	100	85	0.00	0.00	--	0.00	0.00	323.43	-54.04	5.985
6	-0.98	100	85	0.00	0.00	--	0.00	0.00	323.43	-67.09	4.821
7	-0.88	100	85	0.00	0.00	--	0.00	0.00	323.43	-79.94	4.046
8	-0.78	100	85	0.00	0.00	--	0.00	0.00	323.43	-92.61	3.492
9	-0.69	100	85	0.00	0.00	--	0.00	0.00	323.43	-105.09	3.078
10	-0.60	100	85	0.00	0.00	--	0.00	0.00	323.43	-117.39	2.755
11	-0.50	100	85	0.00	0.00	--	0.00	0.00	323.43	-129.50	2.498
12	0.45	100	85	0.00	0.00	--	0.00	0.00	323.43	-35.08	9.220
13	0.55	100	85	0.00	0.00	--	0.00	0.00	323.43	-36.16	8.944
14	0.65	100	85	0.00	0.00	--	0.00	0.00	323.43	-37.04	8.733
15	0.75	100	85	0.00	0.00	--	0.00	0.00	323.43	-37.71	8.578
16	0.85	100	85	0.00	0.00	--	0.00	0.00	323.43	-38.17	8.474
17	0.95	100	85	0.00	0.00	--	0.00	0.00	323.43	-38.42	8.418
18	1.05	100	85	0.00	0.00	--	0.00	0.00	323.43	-38.47	8.408
19	1.15	100	85	0.00	0.00	--	0.00	0.00	323.43	-38.31	8.443
20	1.25	100	85	0.00	0.00	--	0.00	0.00	323.43	-37.94	8.524
21	1.35	100	85	0.00	0.00	--	0.00	0.00	323.43	-37.37	8.655
22	1.45	100	85	0.00	0.00	--	0.00	0.00	323.43	-36.59	8.840
23	1.55	100	85	0.00	0.00	--	0.00	0.00	323.43	-35.60	9.086
24	1.65	100	85	0.00	0.00	--	0.00	0.00	323.43	-34.40	9.402
25	1.75	100	85	0.00	0.00	--	0.00	0.00	323.43	-33.00	9.801
26	1.85	100	85	0.00	0.00	--	0.00	0.00	323.43	-31.39	10.304
27	1.95	100	85	0.00	0.00	--	0.00	0.00	323.43	-29.57	10.938
28	2.05	100	85	0.00	0.00	--	0.00	0.00	323.43	-27.55	11.742
29	2.15	100	85	0.00	0.00	--	0.00	0.00	323.43	-25.31	12.777
30	2.25	100	85	0.00	0.00	--	0.00	0.00	323.43	-22.87	14.139
31	2.35	100	85	0.00	0.00	--	0.00	0.00	323.43	-20.23	15.989
32	2.45	100	85	0.00	0.00	--	0.00	0.00	323.43	-17.38	18.615
33	2.55	100	85	0.00	0.00	--	0.00	0.00	323.43	-14.31	22.595
34	2.65	100	85	0.00	0.00	--	0.00	0.00	323.43	-11.05	29.279
35	2.75	100	85	0.00	0.00	--	0.00	0.00	323.43	-7.57	42.716
36	2.85	100	85	0.00	0.00	--	0.00	0.00	323.43	-3.89	83.157
37	2.95	100	85	0.00	0.00	--	0.00	0.00	323.43	0.00	100.000

Combinazione n° 4 - STR (A1-M1-R3) H - V

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
1	-1.45	100	85	0.00	0.00	--	0.00	0.00	323.43	0.00	100.000
2	-1.36	100	85	0.00	0.00	--	0.00	0.00	323.43	-12.53	25.814
3	-1.26	100	85	0.00	0.00	--	0.00	0.00	323.43	-24.87	13.004
4	-1.17	100	85	0.00	0.00	--	0.00	0.00	323.43	-37.03	8.734
5	-1.07	100	85	0.00	0.00	--	0.00	0.00	323.43	-49.00	6.601
6	-0.98	100	85	0.00	0.00	--	0.00	0.00	323.43	-60.78	5.321
7	-0.88	100	85	0.00	0.00	--	0.00	0.00	323.43	-72.38	4.468

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
8	-0.78	100	85	0.00	0.00	--	0.00	0.00	323.43	-83.79	3.860
9	-0.69	100	85	0.00	0.00	--	0.00	0.00	323.43	-95.02	3.404
10	-0.60	100	85	0.00	0.00	--	0.00	0.00	323.43	-106.06	3.049
11	-0.50	100	85	0.00	0.00	--	0.00	0.00	323.43	-116.91	2.766
12	0.45	100	85	0.00	0.00	--	0.00	0.00	323.43	-67.59	4.785
13	0.55	100	85	0.00	0.00	--	0.00	0.00	323.43	-67.36	4.802
14	0.65	100	85	0.00	0.00	--	0.00	0.00	323.43	-66.93	4.833
15	0.75	100	85	0.00	0.00	--	0.00	0.00	323.43	-66.28	4.879
16	0.85	100	85	0.00	0.00	--	0.00	0.00	323.43	-65.44	4.943
17	0.95	100	85	0.00	0.00	--	0.00	0.00	323.43	-64.38	5.023
18	1.05	100	85	0.00	0.00	--	0.00	0.00	323.43	-63.12	5.124
19	1.15	100	85	0.00	0.00	--	0.00	0.00	323.43	-61.66	5.245
20	1.25	100	85	0.00	0.00	--	0.00	0.00	323.43	-59.99	5.392
21	1.35	100	85	0.00	0.00	--	0.00	0.00	323.43	-58.11	5.566
22	1.45	100	85	0.00	0.00	--	0.00	0.00	323.43	-56.02	5.773
23	1.55	100	85	0.00	0.00	--	0.00	0.00	323.43	-53.73	6.019
24	1.65	100	85	0.00	0.00	--	0.00	0.00	323.43	-51.24	6.313
25	1.75	100	85	0.00	0.00	--	0.00	0.00	323.43	-48.53	6.664
26	1.85	100	85	0.00	0.00	--	0.00	0.00	323.43	-45.62	7.089
27	1.95	100	85	0.00	0.00	--	0.00	0.00	323.43	-42.51	7.609
28	2.05	100	85	0.00	0.00	--	0.00	0.00	323.43	-39.18	8.254
29	2.15	100	85	0.00	0.00	--	0.00	0.00	323.43	-35.66	9.071
30	2.25	100	85	0.00	0.00	--	0.00	0.00	323.43	-31.92	10.132
31	2.35	100	85	0.00	0.00	--	0.00	0.00	323.43	-27.98	11.560
32	2.45	100	85	0.00	0.00	--	0.00	0.00	323.43	-23.83	13.571
33	2.55	100	85	0.00	0.00	--	0.00	0.00	323.43	-19.48	16.605
34	2.65	100	85	0.00	0.00	--	0.00	0.00	323.43	-14.92	21.681
35	2.75	100	85	0.00	0.00	--	0.00	0.00	323.43	-10.15	31.860
36	2.85	100	85	0.00	0.00	--	0.00	0.00	323.43	-5.18	62.452
37	2.95	100	85	0.00	0.00	--	0.00	0.00	323.43	0.00	100.000

Combinazione n° 9 - ECC

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
1	-1.45	100	85	0.00	0.00	--	0.00	0.00	323.43	0.00	100.000
2	-1.36	100	85	0.00	0.00	--	0.00	0.00	323.43	-11.22	28.838
3	-1.26	100	85	0.00	0.00	--	0.00	0.00	323.43	-22.32	14.490
4	-1.17	100	85	0.00	0.00	--	0.00	0.00	323.43	-33.32	9.708
5	-1.07	100	85	0.00	0.00	--	0.00	0.00	323.43	-44.20	7.317
6	-0.98	100	85	0.00	0.00	--	0.00	0.00	323.43	-54.98	5.883
7	-0.88	100	85	0.00	0.00	--	0.00	0.00	323.43	-65.64	4.927
8	-0.78	100	85	0.00	0.00	--	0.00	0.00	323.43	-76.20	4.245
9	-0.69	100	85	0.00	0.00	--	0.00	0.00	323.43	-86.64	3.733
10	-0.60	100	85	0.00	0.00	--	0.00	0.00	323.43	-96.98	3.335
11	-0.50	100	85	0.00	0.00	--	0.00	0.00	323.43	-107.20	3.017
12	0.45	100	85	0.00	0.00	--	0.00	0.00	323.43	-36.85	8.776
13	0.55	100	85	0.00	0.00	--	0.00	0.00	323.43	-36.84	8.778
14	0.65	100	85	0.00	0.00	--	0.00	0.00	323.43	-36.71	8.810
15	0.75	100	85	0.00	0.00	--	0.00	0.00	323.43	-36.46	8.872
16	0.85	100	85	0.00	0.00	--	0.00	0.00	323.43	-36.08	8.964
17	0.95	100	85	0.00	0.00	--	0.00	0.00	323.43	-35.58	9.090
18	1.05	100	85	0.00	0.00	--	0.00	0.00	323.43	-34.96	9.251
19	1.15	100	85	0.00	0.00	--	0.00	0.00	323.43	-34.22	9.451
20	1.25	100	85	0.00	0.00	--	0.00	0.00	323.43	-33.36	9.696
21	1.35	100	85	0.00	0.00	--	0.00	0.00	323.43	-32.37	9.992
22	1.45	100	85	0.00	0.00	--	0.00	0.00	323.43	-31.26	10.346
23	1.55	100	85	0.00	0.00	--	0.00	0.00	323.43	-30.03	10.770
24	1.65	100	85	0.00	0.00	--	0.00	0.00	323.43	-28.68	11.278
25	1.75	100	85	0.00	0.00	--	0.00	0.00	323.43	-27.20	11.889
26	1.85	100	85	0.00	0.00	--	0.00	0.00	323.43	-25.61	12.630
27	1.95	100	85	0.00	0.00	--	0.00	0.00	323.43	-23.89	13.538
28	2.05	100	85	0.00	0.00	--	0.00	0.00	323.43	-22.05	14.668
29	2.15	100	85	0.00	0.00	--	0.00	0.00	323.43	-20.09	16.100
30	2.25	100	85	0.00	0.00	--	0.00	0.00	323.43	-18.00	17.964
31	2.35	100	85	0.00	0.00	--	0.00	0.00	323.43	-15.80	20.473
32	2.45	100	85	0.00	0.00	--	0.00	0.00	323.43	-13.47	24.011
33	2.55	100	85	0.00	0.00	--	0.00	0.00	323.43	-11.02	29.349
34	2.65	100	85	0.00	0.00	--	0.00	0.00	323.43	-8.45	38.285
35	2.75	100	85	0.00	0.00	--	0.00	0.00	323.43	-5.75	56.210
36	2.85	100	85	0.00	0.00	--	0.00	0.00	323.43	-2.94	110.085
37	2.95	100	85	0.00	0.00	--	0.00	0.00	323.43	0.00	100.000

Verifica a fessurazione

Simbologia adottata

n°	indice sezione
Y	ordinata sezione espressa in [m]
B	larghezza sezione espresso in [cm]
H	altezza sezione espressa in [cm]
Af	area ferri zona tesa espresso in [cmq]
Aeff	area efficace espressa in [cmq]
M	momento agente espressa in [kNm]
Mpf	momento di formazione/apertura fessure espressa in [kNm]
ε	deformazione espresso in %
Sm	spaziatura tra le fessure espressa in [mm]
w	apertura delle fessure espressa in [mm]

Combinazioni SLEF

Paramento

Combinazione n° 11 - SLEF

Apertura limite fessure w_{lim}=0.30

n°	Y	B	H	Af	Aeff	M	Mpf	ε	Sm	w
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kNm]	[%]	[mm]	[mm]
1	0.00	100	50	12.72	1314.60	0.39	121.11	0.000000	0.00	0.000
2	-0.10	100	51	12.72	1339.77	0.39	125.48	0.000000	0.00	0.000
3	-0.20	100	52	12.72	1364.97	0.41	129.92	0.000000	0.00	0.000
4	-0.30	100	53	12.72	1390.18	0.44	134.44	0.000000	0.00	0.000
5	-0.40	100	54	12.72	1415.42	0.49	139.04	0.000000	0.00	0.000
6	-0.50	100	54	12.72	1440.67	0.56	143.70	0.000000	0.00	0.000
7	-0.60	100	55	12.72	1465.94	0.66	148.45	0.000000	0.00	0.000
8	-0.70	100	56	12.72	1475.00	0.80	153.27	0.000000	0.00	0.000
9	-0.80	100	57	12.72	1475.00	0.98	158.16	0.000000	0.00	0.000
10	-0.90	100	58	12.72	1475.00	1.20	163.13	0.000000	0.00	0.000
11	-1.00	100	59	12.72	1475.00	1.47	168.17	0.000000	0.00	0.000
12	-1.10	100	60	12.72	1475.00	1.79	173.29	0.000000	0.00	0.000
13	-1.20	100	61	12.72	1475.00	2.18	178.49	0.000000	0.00	0.000
14	-1.30	100	62	12.72	1475.00	2.62	183.76	0.000000	0.00	0.000
15	-1.40	100	62	12.72	1475.00	3.13	189.10	0.000000	0.00	0.000
16	-1.50	100	63	12.72	1475.00	3.72	194.52	0.000000	0.00	0.000
17	-1.60	100	64	12.72	1475.00	4.38	200.02	0.000000	0.00	0.000
18	-1.70	100	65	12.72	1475.00	5.13	205.59	0.000000	0.00	0.000
19	-1.80	100	66	25.45	1475.00	5.96	233.17	0.000000	0.00	0.000
20	-1.90	100	67	25.45	1475.00	6.89	239.32	0.000000	0.00	0.000
21	-2.00	100	68	25.45	1475.00	7.91	245.55	0.000000	0.00	0.000
22	-2.10	100	69	25.45	1475.00	9.03	251.87	0.000000	0.00	0.000
23	-2.20	100	70	25.45	1475.00	10.26	258.27	0.000000	0.00	0.000
24	-2.30	100	71	25.45	1475.00	11.60	264.72	0.000000	0.00	0.000
25	-2.40	100	71	25.45	1475.00	13.06	271.27	0.000000	0.00	0.000
26	-2.50	100	72	25.45	1475.00	14.64	277.89	0.000000	0.00	0.000
27	-2.60	100	73	25.45	1475.00	16.34	284.59	0.000000	0.00	0.000
28	-2.70	100	74	38.17	1475.00	18.17	309.60	0.000000	0.00	0.000
29	-2.80	100	75	38.17	1475.00	20.14	316.74	0.000000	0.00	0.000
30	-2.90	100	76	38.17	1475.00	22.25	323.96	0.000000	0.00	0.000
31	-3.00	100	77	38.17	1475.00	24.50	331.27	0.000000	0.00	0.000
32	-3.10	100	78	38.17	1475.00	26.91	338.64	0.000000	0.00	0.000
33	-3.20	100	79	38.17	1475.00	29.46	346.08	0.000000	0.00	0.000
34	-3.30	100	79	38.17	1475.00	32.18	353.62	0.000000	0.00	0.000
35	-3.40	100	80	38.17	1475.00	35.06	361.21	0.000000	0.00	0.000
36	-3.50	100	81	38.17	1475.00	38.11	368.92	0.000000	0.00	0.000
37	-3.60	100	82	38.17	1475.00	41.33	376.68	0.000000	0.00	0.000
38	-3.70	100	83	38.17	1475.00	44.73	384.52	0.000000	0.00	0.000
39	-3.80	100	84	38.17	1475.00	48.32	392.44	0.000000	0.00	0.000
40	-3.90	100	85	38.17	1475.00	52.09	400.42	0.000000	0.00	0.000
41	-4.00	100	86	38.17	1475.00	56.05	408.52	0.000000	0.00	0.000

n°	Y	B	H	Af	Aeff	M	Mpf	ε	Sm	w
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kNm]	[%]	[mm]	[mm]
42	-4.10	100	87	38.17	1475.00	60.21	416.67	0.000000	0.00	0.000
43	-4.20	100	87	38.17	1475.00	64.58	424.90	0.000000	0.00	0.000
44	-4.30	100	88	12.72	1475.00	69.15	377.39	0.000000	0.00	0.000
45	-4.40	100	89	12.72	1475.00	73.93	385.05	0.000000	0.00	0.000
46	-4.50	100	90	12.72	1475.00	78.93	392.79	0.000000	0.00	0.000
47	-4.60	100	91	12.72	1475.00	84.16	400.58	0.000000	0.00	0.000
48	-4.70	100	92	12.72	1475.00	89.61	408.48	0.000000	0.00	0.000
49	-4.80	100	93	12.72	1475.00	95.28	416.46	0.000000	0.00	0.000
50	-4.90	100	94	12.72	1475.00	101.20	424.50	0.000000	0.00	0.000
51	-4.99	100	95	12.72	1475.00	107.36	431.84	0.000000	0.00	0.000

Mensola valle

Combinazione n° 11 - SLEF

Apertura limite fessure w_{lim}=0.30

n°	Y	B	H	Af	Aeff	M	Mpf	ε	Sm	w
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kNm]	[%]	[mm]	[mm]
1	-0.75	100	50	0.00	0.00	0.00	0.00	---	---	0.000
2	-0.67	100	50	16.08	1270.50	-0.04	-122.25	0.000000	0.00	0.000
3	-0.58	100	50	16.08	1270.50	-0.17	-122.25	0.000000	0.00	0.000
4	-0.50	100	50	16.08	1270.50	-0.39	-122.25	0.000000	0.00	0.000
5	-0.50	100	50	16.08	1270.50	-0.39	-122.25	0.000000	0.00	0.000

Fondazione

Combinazione n° 11 - SLEF

Apertura limite fessure w_{lim}=0.30

n°	Y	B	H	Af	Aeff	M	Mpf	ε	Sm	w
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kNm]	[%]	[mm]	[mm]
1	-1.45	100	85	0.00	0.00	0.00	0.00	---	---	0.000
2	-1.36	100	85	17.81	1475.00	0.35	351.12	0.000000	0.00	0.000
3	-1.26	100	85	17.81	1475.00	1.39	351.12	0.000000	0.00	0.000
4	-1.17	100	85	17.81	1475.00	3.13	351.12	0.000000	0.00	0.000
5	-1.07	100	85	17.81	1475.00	5.57	351.12	0.000000	0.00	0.000
6	-0.98	100	85	17.81	1475.00	8.74	351.12	0.000000	0.00	0.000
7	-0.88	100	85	17.81	1475.00	12.62	351.12	0.000000	0.00	0.000
8	-0.78	100	85	17.81	1475.00	17.22	351.12	0.000000	0.00	0.000
9	-0.69	100	85	17.81	1475.00	22.56	351.12	0.000000	0.00	0.000
10	-0.60	100	85	17.81	1475.00	28.63	351.12	0.000000	0.00	0.000
11	-0.50	100	85	17.81	1475.00	35.45	351.12	0.000000	0.00	0.000
12	0.45	100	85	17.81	1475.00	20.16	351.12	0.000000	0.00	0.000
13	0.55	100	85	17.81	1475.00	19.26	351.12	0.000000	0.00	0.000
14	0.65	100	85	17.81	1475.00	18.31	351.12	0.000000	0.00	0.000
15	0.75	100	85	17.81	1475.00	17.32	351.12	0.000000	0.00	0.000
16	0.85	100	85	17.81	1475.00	16.30	351.12	0.000000	0.00	0.000
17	0.95	100	85	17.81	1475.00	15.25	351.12	0.000000	0.00	0.000
18	1.05	100	85	17.81	1475.00	14.19	351.12	0.000000	0.00	0.000
19	1.15	100	85	17.81	1475.00	13.12	351.12	0.000000	0.00	0.000
20	1.25	100	85	17.81	1475.00	12.04	351.12	0.000000	0.00	0.000
21	1.35	100	85	17.81	1475.00	10.97	351.12	0.000000	0.00	0.000
22	1.45	100	85	17.81	1475.00	9.90	351.12	0.000000	0.00	0.000
23	1.55	100	85	17.81	1475.00	8.86	351.12	0.000000	0.00	0.000
24	1.65	100	85	17.81	1475.00	7.84	351.12	0.000000	0.00	0.000
25	1.75	100	85	17.81	1475.00	6.85	351.12	0.000000	0.00	0.000
26	1.85	100	85	17.81	1475.00	5.89	351.12	0.000000	0.00	0.000
27	1.95	100	85	17.81	1475.00	4.99	351.12	0.000000	0.00	0.000
28	2.05	100	85	17.81	1475.00	4.14	351.12	0.000000	0.00	0.000
29	2.15	100	85	17.81	1475.00	3.34	351.12	0.000000	0.00	0.000
30	2.25	100	85	17.81	1475.00	2.62	351.12	0.000000	0.00	0.000
31	2.35	100	85	17.81	1475.00	1.97	351.12	0.000000	0.00	0.000
32	2.45	100	85	17.81	1475.00	1.39	351.12	0.000000	0.00	0.000
33	2.55	100	85	17.81	1475.00	0.91	351.12	0.000000	0.00	0.000
34	2.65	100	85	17.81	1475.00	0.52	351.12	0.000000	0.00	0.000

n°	Y	B	H	Af	Aeff	M	Mpf	ε	Sm	w
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kNm]	[%]	[mm]	[mm]
35	2.75	100	85	17.81	1475.00	0.24	351.12	0.000000	0.00	0.000
36	2.85	100	85	17.81	1475.00	0.06	351.12	0.000000	0.00	0.000
37	2.95	100	85	0.00	0.00	0.00	0.00	---	---	0.000

Combinazioni SLEQ

Paramento

Combinazione n° 12 - SLEQ

Apertura limite fessure w_{lim}=0.20

n°	Y	B	H	Af	Aeff	M	Mpf	ε	Sm	w
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kNm]	[%]	[mm]	[mm]
1	0.00	100	50	12.72	1314.60	0.39	121.11	0.000000	0.00	0.000
2	-0.10	100	51	12.72	1339.77	0.39	125.48	0.000000	0.00	0.000
3	-0.20	100	52	12.72	1364.97	0.41	129.92	0.000000	0.00	0.000
4	-0.30	100	53	12.72	1390.18	0.44	134.44	0.000000	0.00	0.000
5	-0.40	100	54	12.72	1415.42	0.49	139.04	0.000000	0.00	0.000
6	-0.50	100	54	12.72	1440.67	0.56	143.70	0.000000	0.00	0.000
7	-0.60	100	55	12.72	1465.94	0.66	148.45	0.000000	0.00	0.000
8	-0.70	100	56	12.72	1475.00	0.80	153.27	0.000000	0.00	0.000
9	-0.80	100	57	12.72	1475.00	0.98	158.16	0.000000	0.00	0.000
10	-0.90	100	58	12.72	1475.00	1.20	163.13	0.000000	0.00	0.000
11	-1.00	100	59	12.72	1475.00	1.47	168.17	0.000000	0.00	0.000
12	-1.10	100	60	12.72	1475.00	1.79	173.29	0.000000	0.00	0.000
13	-1.20	100	61	12.72	1475.00	2.18	178.49	0.000000	0.00	0.000
14	-1.30	100	62	12.72	1475.00	2.62	183.76	0.000000	0.00	0.000
15	-1.40	100	62	12.72	1475.00	3.13	189.10	0.000000	0.00	0.000
16	-1.50	100	63	12.72	1475.00	3.72	194.52	0.000000	0.00	0.000
17	-1.60	100	64	12.72	1475.00	4.38	200.02	0.000000	0.00	0.000
18	-1.70	100	65	12.72	1475.00	5.13	205.59	0.000000	0.00	0.000
19	-1.80	100	66	25.45	1475.00	5.96	233.17	0.000000	0.00	0.000
20	-1.90	100	67	25.45	1475.00	6.89	239.32	0.000000	0.00	0.000
21	-2.00	100	68	25.45	1475.00	7.91	245.55	0.000000	0.00	0.000
22	-2.10	100	69	25.45	1475.00	9.03	251.87	0.000000	0.00	0.000
23	-2.20	100	70	25.45	1475.00	10.26	258.27	0.000000	0.00	0.000
24	-2.30	100	71	25.45	1475.00	11.60	264.72	0.000000	0.00	0.000
25	-2.40	100	71	25.45	1475.00	13.06	271.27	0.000000	0.00	0.000
26	-2.50	100	72	25.45	1475.00	14.64	277.89	0.000000	0.00	0.000
27	-2.60	100	73	25.45	1475.00	16.34	284.59	0.000000	0.00	0.000
28	-2.70	100	74	38.17	1475.00	18.17	309.60	0.000000	0.00	0.000
29	-2.80	100	75	38.17	1475.00	20.14	316.74	0.000000	0.00	0.000
30	-2.90	100	76	38.17	1475.00	22.25	323.96	0.000000	0.00	0.000
31	-3.00	100	77	38.17	1475.00	24.50	331.27	0.000000	0.00	0.000
32	-3.10	100	78	38.17	1475.00	26.91	338.64	0.000000	0.00	0.000
33	-3.20	100	79	38.17	1475.00	29.46	346.08	0.000000	0.00	0.000
34	-3.30	100	79	38.17	1475.00	32.18	353.62	0.000000	0.00	0.000
35	-3.40	100	80	38.17	1475.00	35.06	361.21	0.000000	0.00	0.000
36	-3.50	100	81	38.17	1475.00	38.11	368.92	0.000000	0.00	0.000
37	-3.60	100	82	38.17	1475.00	41.33	376.68	0.000000	0.00	0.000
38	-3.70	100	83	38.17	1475.00	44.73	384.52	0.000000	0.00	0.000
39	-3.80	100	84	38.17	1475.00	48.32	392.44	0.000000	0.00	0.000
40	-3.90	100	85	38.17	1475.00	52.09	400.42	0.000000	0.00	0.000
41	-4.00	100	86	38.17	1475.00	56.05	408.52	0.000000	0.00	0.000
42	-4.10	100	87	38.17	1475.00	60.21	416.67	0.000000	0.00	0.000
43	-4.20	100	87	38.17	1475.00	64.58	424.90	0.000000	0.00	0.000
44	-4.30	100	88	12.72	1475.00	69.15	377.39	0.000000	0.00	0.000
45	-4.40	100	89	12.72	1475.00	73.93	385.05	0.000000	0.00	0.000
46	-4.50	100	90	12.72	1475.00	78.93	392.79	0.000000	0.00	0.000
47	-4.60	100	91	12.72	1475.00	84.16	400.58	0.000000	0.00	0.000
48	-4.70	100	92	12.72	1475.00	89.61	408.48	0.000000	0.00	0.000
49	-4.80	100	93	12.72	1475.00	95.28	416.46	0.000000	0.00	0.000
50	-4.90	100	94	12.72	1475.00	101.20	424.50	0.000000	0.00	0.000
51	-4.99	100	95	12.72	1475.00	107.36	431.84	0.000000	0.00	0.000

Mensola valle

Combinazione n° 12 - SLEQ

Apertura limite fessure w_{lim}=0.20

n°	Y	B	H	Af	Aeff	M	Mpf	ε	Sm	w
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kNm]	[%]	[mm]	[mm]
1	-0.75	100	50	0.00	0.00	0.00	0.00	---	---	0.000
2	-0.67	100	50	16.08	1270.50	-0.04	-122.25	0.000000	0.00	0.000
3	-0.58	100	50	16.08	1270.50	-0.17	-122.25	0.000000	0.00	0.000
4	-0.50	100	50	16.08	1270.50	-0.39	-122.25	0.000000	0.00	0.000
5	-0.50	100	50	16.08	1270.50	-0.39	-122.25	0.000000	0.00	0.000

Fondazione

Combinazione n° 12 - SLEQ

Apertura limite fessure w_{lim}=0.20

n°	Y	B	H	Af	Aeff	M	Mpf	ε	Sm	w
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kNm]	[%]	[mm]	[mm]
1	-1.45	100	85	0.00	0.00	0.00	0.00	---	---	0.000
2	-1.36	100	85	17.81	1475.00	0.35	351.12	0.000000	0.00	0.000
3	-1.26	100	85	17.81	1475.00	1.39	351.12	0.000000	0.00	0.000
4	-1.17	100	85	17.81	1475.00	3.13	351.12	0.000000	0.00	0.000
5	-1.07	100	85	17.81	1475.00	5.57	351.12	0.000000	0.00	0.000
6	-0.98	100	85	17.81	1475.00	8.74	351.12	0.000000	0.00	0.000
7	-0.88	100	85	17.81	1475.00	12.62	351.12	0.000000	0.00	0.000
8	-0.78	100	85	17.81	1475.00	17.22	351.12	0.000000	0.00	0.000
9	-0.69	100	85	17.81	1475.00	22.56	351.12	0.000000	0.00	0.000
10	-0.60	100	85	17.81	1475.00	28.63	351.12	0.000000	0.00	0.000
11	-0.50	100	85	17.81	1475.00	35.45	351.12	0.000000	0.00	0.000
12	0.45	100	85	17.81	1475.00	20.16	351.12	0.000000	0.00	0.000
13	0.55	100	85	17.81	1475.00	19.26	351.12	0.000000	0.00	0.000
14	0.65	100	85	17.81	1475.00	18.31	351.12	0.000000	0.00	0.000
15	0.75	100	85	17.81	1475.00	17.32	351.12	0.000000	0.00	0.000
16	0.85	100	85	17.81	1475.00	16.30	351.12	0.000000	0.00	0.000
17	0.95	100	85	17.81	1475.00	15.25	351.12	0.000000	0.00	0.000
18	1.05	100	85	17.81	1475.00	14.19	351.12	0.000000	0.00	0.000
19	1.15	100	85	17.81	1475.00	13.12	351.12	0.000000	0.00	0.000
20	1.25	100	85	17.81	1475.00	12.04	351.12	0.000000	0.00	0.000
21	1.35	100	85	17.81	1475.00	10.97	351.12	0.000000	0.00	0.000
22	1.45	100	85	17.81	1475.00	9.90	351.12	0.000000	0.00	0.000
23	1.55	100	85	17.81	1475.00	8.86	351.12	0.000000	0.00	0.000
24	1.65	100	85	17.81	1475.00	7.84	351.12	0.000000	0.00	0.000
25	1.75	100	85	17.81	1475.00	6.85	351.12	0.000000	0.00	0.000
26	1.85	100	85	17.81	1475.00	5.89	351.12	0.000000	0.00	0.000
27	1.95	100	85	17.81	1475.00	4.99	351.12	0.000000	0.00	0.000
28	2.05	100	85	17.81	1475.00	4.14	351.12	0.000000	0.00	0.000
29	2.15	100	85	17.81	1475.00	3.34	351.12	0.000000	0.00	0.000
30	2.25	100	85	17.81	1475.00	2.62	351.12	0.000000	0.00	0.000
31	2.35	100	85	17.81	1475.00	1.97	351.12	0.000000	0.00	0.000
32	2.45	100	85	17.81	1475.00	1.39	351.12	0.000000	0.00	0.000
33	2.55	100	85	17.81	1475.00	0.91	351.12	0.000000	0.00	0.000
34	2.65	100	85	17.81	1475.00	0.52	351.12	0.000000	0.00	0.000
35	2.75	100	85	17.81	1475.00	0.24	351.12	0.000000	0.00	0.000
36	2.85	100	85	17.81	1475.00	0.06	351.12	0.000000	0.00	0.000
37	2.95	100	85	0.00	0.00	0.00	0.00	---	---	0.000

Elenco ferri

Simbologia adottata

n°	Indice del ferro
nf	numero ferri
D	diametro ferro espresso in [mm]
L	Lunghezza ferro espresso in [m]
P_{ferro}	Peso ferro espresso in [kN]

Paramento

n°	Tipo	nf	D	L	P_f	P_{gf}	V_{cls}
			[mm]	*[m]*	*[kN]*	*[kN]*	*[mc]*
1	Diritto inferiore	5	18.00	5.66	0.1109	0.5545	
2	Diritto inferiore	5	18.00	3.92	0.0768	0.3840	
3	Diritto superiore	5	18.00	3.82	0.0749	0.3745	
4	Diritto superiore	5	18.00	3.93	0.0770	0.3849	
5	Diritto superiore	5	18.00	5.68	0.1112	0.5561	
6	Diritto inferiore	5	18.00	2.23	0.0437	0.2185	
7	Ripartitore	40	16.00	1.00	0.0155	0.6191	
8	Gancio	30	16.00	1.21	0.0187	0.5615	
	Totale al metro					**3.6531**	**3.74**
	Totale					**43.8376**	**44.89**

Fondazione

n°	Tipo	nf	D	L	P_f	P_{gf}	V_{cls}
			[mm]	*[m]*	*[kN]*	*[kN]*	*[mc]*
1	Diritto superiore	7	18.00	5.72	0.1120	0.7841	
2	Diritto inferiore	7	18.00	5.72	0.1120	0.7841	
3	Ripartitore	14	16.00	1.00	0.0155	0.2167	
4	Gancio	22	16.00	0.66	0.0102	0.2241	
	Totale al metro					**2.0090**	**3.74**
	Totale					**21.4639**	**44.84**

Mensola valle

n°	Tipo	nf	D	L	P_f	P_{gf}	V_{cls}
			[mm]	*[m]*	*[kN]*	*[kN]*	*[mc]*
1	Diritto inferiore	4	16.00	1.53	0.0237	0.0947	
2	Diritto superiore	8	16.00	1.53	0.0237	0.1895	
3	Ripartitore	4	16.00	1.00	0.0155	0.0619	
4	Gancio	4	16.00	0.69	0.0106	0.0426	
	Totale al metro					**0.3887**	**0.13**
	Totale					**4.0373**	**1.50**

13 ALLEGATO 4 – TABULATI DI CALCOLO - MURO DI SOSTEGNO H6

Geometria profilo terreno a monte del muro

Simbologia adottata

(Sistema di riferimento con origine in testa al muro, ascissa X positiva verso monte, ordinata Y positiva verso l'alto)

n°	numero ordine del punto
X	ascissa del punto espressa in [m]
Y	ordinata del punto espressa in [m]
A	inclinazione del tratto espressa in [°]

n°	X	Y	A
	[m]	*[m]*	*[°]*
1	0.00	0.00	0.000
2	30.00	0.00	0.000

Inclinazione terreno a valle del muro rispetto all'orizzontale 0.000 [°]

Geometria muro

Geometria paramento e fondazione

Lunghezza muro	12.00	[m]

Paramento

Materiale	CLS 25/30	
Altezza paramento	6.00	[m]
Altezza paramento libero	6.00	[m]
Spessore in sommità	0.50	[m]
Spessore all'attacco con la fondazione	1.05	[m]
Inclinazione paramento esterno	0.00	[°]
Inclinazione paramento interno	5.20	[°]
Spessore rivestimento	0.20	[m]
Peso sp. rivestimento	20.0000	[kN/mc]

Mensola di marciapiede

Posizione rispetto alla testa del muro	0.00	[m]
Lunghezza	0.25	[m]
Spessore all'estremità libera	0.50	[m]
Spessore all'incastro	0.50	[m]

Fondazione

Materiale	CLS 25/30	
Lunghezza mensola di valle	1.05	[m]
Lunghezza mensola di monte	2.80	[m]
Lunghezza totale	4.90	[m]
Inclinazione piano di posa	0.00	[°]
Spessore	0.95	[m]
Spessore magrone	0.20	[m]

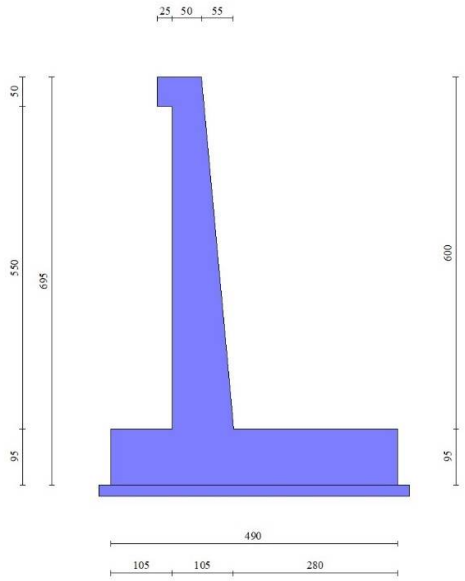

Fig. 1 - Sezione quotata del muro

Descrizione terreni

Parametri di resistenza

Simbologia adottata

n°	Indice del terreno
Descr	Descrizione terreno
γ	Peso di volume del terreno espresso in [kN/mc]
γ_s	Peso di volume saturo del terreno espresso in [kN/mc]
ϕ	Angolo d'attrito interno espresso in [°]
δ	Angolo d'attrito terra-muro espresso in [°]
c	Coesione espressa in [kPa]
c_a	Adesione terra-muro espressa in [kPa]

Per calcolo portanza con il metodo di Bustamante-Doix

Cesp Coeff. di espansione laterale (solo per il metodo di Bustamante-Doix)

τl Tensione tangenziale limite, espressa in [kPa]

n°	Descr	γ	γsat	ϕ	δ	c	ca	Cesp	τl
		[kN/mc]	[kN/mc]	[°]	[°]	[kPa]	[kPa]		[kPa]
1	Rilevato	19.0000	19.0000	35.000	23.330	0	0	---	---
2	LR	18.5000	18.5000	25.000	25.000	5	0	---	---

Stratigrafia

Simbologia adottata

n° Indice dello strato

H Spessore dello strato espresso in [m]

α Inclinazione espressa in [°]

Terreno Terreno dello strato

Kwn, Kwt Costante di Winkler normale e tangenziale alla superficie espressa in Kg/cm²/cm

Per calcolo pali (solo se presenti)

Kw Costante di Winkler orizzontale espressa in Kg/cm²/cm

Ks Coefficiente di spinta

Cesp Coefficiente di espansione laterale (per tutti i metodi tranne il metodo di Bustamante-Doix)

Per calcolo della spinta con coeff. di spinta definiti (usati solo se attiva l'opzione 'Usa coeff. di spinta da strato')

Kststa, Kstsis Coeff. di spinta statico e sismico

n°	H	α	Terreno	Kwn	Kwt	Kw	Ks	Cesp	Kststa	Kstsis
	[m]	[°]		[Kg/cm³]	[Kg/cm³]	[Kg/cm³]				
1	6.95	0.000	Rilevato	0.000	0.000	---	---	---	---	---
2	15.00	0.000	LR	2.400	1.200	---	---	---	---	---

Fig. 2 - Stratigrafia

Condizioni di carico

Simbologia adottata

Carichi verticali positivi verso il basso.

Carichi orizzontali positivi verso sinistra.

Momento positivo senso antiorario.

X	Ascissa del punto di applicazione del carico concentrato espressa in [m]
F_x	Componente orizzontale del carico concentrato espressa in [kN]
F_y	Componente verticale del carico concentrato espressa in [kN]
M	Momento espresso in [kNm]
X_i	Ascissa del punto iniziale del carico ripartito espressa in [m]
X_f	Ascissa del punto finale del carico ripartito espressa in [m]
Q_i	Intensità del carico per $x=X_i$ espressa in [kN]
Q_f	Intensità del carico per $x=X_f$ espressa in [kN]

Condizione n° 1 (traffico-stradale) - VARIABILE TF

Coeff. di combinazione Ψ_0=0.75 - Ψ_1=0.75 - Ψ_2=0.00

Carichi sul terreno

n°	Tipo	X	Fx	Fy	M	Xi	Xf	Qi	Qf
		[m]	[kN]	[kN]	[kNm]	[m]	[m]	[kN]	[kN]
1	Distribuito					0.00	3.00	30.9000	30.9000
2	Distribuito					3.00	6.00	17.1000	17.1000
3	Distribuito					6.00	9.00	9.8000	9.8000
4	Distribuito					9.00	30.00	2.5000	2.5000

Condizione n° 2 (urto) - ECCEZIONALE

Carichi sul muro

n°	Tipo	Dest	X; Y	Fx	Fy	M	Xi	Xf	Qi	Qf
			[m]	[kN]	[kN]	[kNm]	[m]	[m]	[kN]	[kN]
1	Concentrato	Mensola marciappiede	-0.50; 0.00	16.7000	0.0000	16.7000				

Condizione n° 3 (Peso barriera) - PERMANENTE NS

Condizione n° 4 (Condizione 4) - VARIABILE

Coeff. di combinazione Ψ_0=1.00 - Ψ_1=1.00 - Ψ_2=1.00

Condizione n° 5 (Condizione 5) - VARIABILE

Coeff. di combinazione Ψ_0=1.00 - Ψ_1=1.00 - Ψ_2=1.00

Condizione n° 6 (Condizione 6) - VARIABILE

Coeff. di combinazione Ψ_0=1.00 - Ψ_1=1.00 - Ψ_2=1.00

Condizione n° 7 (Condizione 7) - VARIABILE

Coeff. di combinazione Ψ_0=1.00 - Ψ_1=1.00 - Ψ_2=1.00

Condizione n° 8 (Condizione 8) - VARIABILE

Coeff. di combinazione Ψ_0=1.00 - Ψ_1=1.00 - Ψ_2=1.00

Normativa

Normativa usata: **Norme Tecniche sulle Costruzioni 2018 (D.M. 17.01.2018) + Circolare C.S.LL.PP. 21/01/2019 n.7**

Coeff. parziali per le azioni o per l'effetto delle azioni

Carichi	Effetto		Combinazioni statiche					Combinazioni sismiche	
			UPL	EQU	A1	A2	EQU	A1	A2
Permanenti strutturali	Favorevoli	$\gamma_{G1,fav}$	0.90	0.90	1.00	1.00	1.00	1.00	1.00
Permanenti strutturali	Sfavorevoli	$\gamma_{G1,sfav}$	1.10	1.10	1.35	1.00	1.00	1.00	1.00
Permanenti non strutturali	Favorevoli	$\gamma_{G2,fav}$	0.80	0.00	0.00	0.00	0.00	0.00	0.00
Permanenti non strutturali	Sfavorevoli	$\gamma_{G2,sfav}$	1.50	1.50	1.50	1.30	1.00	1.00	1.00
Variabili	Favorevoli	$\gamma_{Q,fav}$	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Variabili	Sfavorevoli	$\gamma_{Q,sfav}$	1.50	1.50	1.50	1.30	1.00	1.00	1.00
Variabili da traffico	Favorevoli	$\gamma_{QT,fav}$	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Variabili da traffico	Sfavorevoli	$\gamma_{QT,sfav}$	1.50	1.35	1.35	1.15	1.00	1.00	1.00

Coeff. parziali per i parametri geotecnici del terreno

Parametro		Combinazioni statiche		Combinazioni sismiche	
		M1	M2	M1	M2
Tangente dell'angolo di attrito	$\gamma_{\tan(\phi')}$	1.00	1.25	1.00	1.00
Coesione efficace	$\gamma_{c'}$	1.00	1.25	1.00	1.00
Resistenza non drenata	γ_{cu}	1.00	1.40	1.00	1.00
Peso nell'unita di volume	γ_{γ}	1.00	1.00	1.00	1.00

Coeff. parziali γ_R per le verifiche agli stati limite ultimi STR e GEO

Verifica	Combinazioni statiche			Combinazioni sismiche		
	R1	R2	R3	R1	R2	R3
Capacità portante	--	--	1.40	--	--	1.20
Scorrimento	--	--	1.10	--	--	1.00
Resistenza terreno a valle	--	--	1.40	--	--	1.20
Ribaltameno	--	--	1.15	--	--	1.00
Stabilità fronte di scavo	--	1.10	--	--	1.20	--

Descrizione combinazioni di carico

Con riferimento alle azioni elementari prima determinate, si sono considerate le seguenti combinazioni di carico:

- Combinazione fondamentale, impiegata per gli stati limite ultimi (SLU):

$$\gamma_{G1} G_1 + \gamma_{G2} G_2 + \gamma_{Q1} Q_{k1} + \gamma_{Q2} Q_{k2} + \gamma_{Q3} Q_{k3} + \ldots$$

- Combinazione caratteristica, cosiddetta rara, impiegata per gli stati limite di esercizio (SLE) irreversibili:

$$G_1 + G_2 + Q_{k1} + \Psi_{0,2} Q_{k2} + \Psi_{0,3} Q_{k3} + \ldots$$

- Combinazione frequente, impiegata per gli stati limite di esercizio (SLE) reversibili:

$$G_1 + G_2 + \Psi_{1,1} Q_{k1} + \Psi_{2,2} Q_{k2} + \Psi_{2,3} Q_{k3} + \ldots$$

- Combinazione quasi permanente, impiegata per gli effetti di lungo periodo:

$$G_1 + G_2 + \Psi_{2,1} Q_{k1} + \Psi_{2,2} Q_{k2} + \Psi_{2,3} Q_{k3} + \ldots$$

- Combinazione sismica, impiegata per gli stati limite ultimi connessi all'azione sismica E:

$$E + G_1 + G_2 + \Psi_{2,1} Q_{k1} + \Psi_{2,2} Q_{k2} + \Psi_{2,3} Q_{k3} + \ldots$$

- Combinazione eccezzionale, impiegata per gli stati limite ultimi connessi alle azioni eccezionali Ad:

$$G_1 + G_2 + A_d + \Psi_{2,1} Q_{k1} + \Psi_{2,2} Q_{k2} + \Psi_{2,3} Q_{k3} + \ldots$$

I valori dei coeff. $\Psi_{0,j}$, $\Psi_{1,j}$, $\Psi_{2,j}$ sono definiti nelle singole condizioni variabili.

I valori dei coeff. γ_G e γ_Q, sono definiti nella tabella normativa.

In particolare si sono considerate le seguenti combinazioni:

Simbologia adottata

γ	Coefficiente di partecipazione della condizione
Ψ	Coefficiente di combinazione della condizione

Combinazione n° 1 - STR (A1-M1-R3)

Condizione	γ	Ψ	Effetto
Peso muro	1.00	--	Favorevole
Peso terrapieno	1.00	--	Favorevole
Spinta terreno	1.35	--	Sfavorevole

Combinazione n° 2 - STR (A1-M1-R3)

Condizione	γ	Ψ	Effetto
Peso muro	1.00	--	Favorevole
Peso terrapieno	1.00	--	Favorevole
Spinta terreno	1.35	--	Sfavorevole
traffico-stradale	1.35	1.00	Sfavorevole

Combinazione n° 3 - STR (A1-M1-R3) H + V

Condizione	γ	Ψ	Effetto
Peso muro	1.00	--	Favorevole
Peso terrapieno	1.00	--	Favorevole
Spinta terreno	1.00	--	Sfavorevole

Combinazione n° 4 - STR (A1-M1-R3) H - V

Condizione	γ	Ψ	Effetto
Peso muro	1.00	--	Sfavorevole
Peso terrapieno	1.00	--	Sfavorevole
Spinta terreno	1.00	--	Sfavorevole

Combinazione n° 5 - GEO (A2-M2-R2)

Condizione	γ	Ψ	Effetto
Peso muro	1.00	--	Sfavorevole
Peso terrapieno	1.00	--	Sfavorevole
Spinta terreno	1.00	--	Sfavorevole

Combinazione n° 6 - GEO (A2-M2-R2)

Condizione	γ	Ψ	Effetto
Peso muro	1.00	--	Sfavorevole
Peso terrapieno	1.00	--	Sfavorevole
Spinta terreno	1.00	--	Sfavorevole
traffico-stradale	1.15	1.00	Sfavorevole

Combinazione n° 7 - GEO (A2-M2-R2) H + V

Condizione	γ	Ψ	Effetto
Peso muro	1.00	--	Sfavorevole
Peso terrapieno	1.00	--	Sfavorevole
Spinta terreno	1.00	--	Sfavorevole

Combinazione n° 8 - GEO (A2-M2-R2) H - V

Condizione	γ	Ψ	Effetto
Peso muro	1.00	--	Sfavorevole
Peso terrapieno	1.00	--	Sfavorevole
Spinta terreno	1.00	--	Sfavorevole

Combinazione n° 9 - ECC

Condizione	γ	Ψ	Effetto
Peso muro	1.00	--	Sfavorevole
Peso terrapieno	1.00	--	Sfavorevole
Spinta terreno	1.00	--	Sfavorevole
urto	1.00	1.00	Sfavorevole

Combinazione n° 10 - SLER

Condizione	γ	Ψ	Effetto
Peso muro	1.00	--	Sfavorevole
Peso terrapieno	1.00	--	Sfavorevole
Spinta terreno	1.00	--	Sfavorevole
traffico-stradale	1.00	0.75	Sfavorevole

Combinazione n° 11 - SLEF

Condizione	γ	Ψ	Effetto
Peso muro	1.00	--	Sfavorevole
Peso terrapieno	1.00	--	Sfavorevole
Spinta terreno	1.00	--	Sfavorevole

Combinazione n° 12 - SLEQ

Condizione	γ	Ψ	Effetto
Peso muro	1.00	--	Sfavorevole
Peso terrapieno	1.00	--	Sfavorevole
Spinta terreno	1.00	--	Sfavorevole

Dati sismici

Comune	
Provincia	
Regione	
Latitudine	43.608157
Longitudine	13.471305
Indice punti di interpolazione	20979 - 20757 - 20756 - 20978
Vita nominale	50 anni
Classe d'uso	IV
Tipo costruzione	Normali affollamenti
Vita di riferimento	100 anni

	Simbolo	U.M.		SLU	SLE
Accelerazione al suolo	a_g	[m/s^2]		2.260	0.873
Accelerazione al suolo	a_g/g	[%]		0.230	0.089
Massimo fattore amplificazione spettro orizzontale	F0			2.433	2.436
Periodo inizio tratto spettro a velocità costante	Tc*			0.307	0.282
Tipo di sottosuolo - Coefficiente stratigrafico	Ss		C	1.358	1.500
Categoria topografica - Coefficiente amplificazione topografica	St		T1	1.000	

Stato limite ...	Coeff. di riduzione β_m	kh [%]	kv [%]
Ultimo	0.380	12.099	6.049
Ultimo - Ribaltamento	0.570	18.148	9.074
Esercizio	0.470	6.275	3.138

Forma diagramma incremento sismico **Rettangolare**

Opzioni di calcolo

Spinta

Metodo di calcolo della spinta	Culmann
Tipo di spinta	Spinta attiva
Terreno a bassa permeabilità	NO
Superficie di spinta limitata	NO

Capacità portante

Metodo di calcolo della portanza	Meyerhof
Criterio di media calcolo del terreno equivalente (terreni stratificati)	Ponderata
Criterio di riduzione per eccentricità della portanza	Bowles
Criterio di riduzione per rottura locale (punzonamento)	Nessuna
Larghezza fondazione nel terzo termine della formula del carico limite ($0.5B\gamma N_\gamma$)	Larghezza effettiva (B)

Fattori di forma e inclinazione del carico — Solo i fattori di inclinazione

Se la fondazione ha larghezza superiore a 2.0 m viene applicato il fattore di riduzione per comportamento a piastra

Stabilità globale

Metodo di calcolo della stabilità globale — Bishop

Altro

Partecipazione spinta passiva terreno antistante — 0.00

Partecipazione resistenza passiva dente di fondazione — 50.00

Componente verticale della spinta nel calcolo delle sollecitazioni — NO

Considera terreno sulla fondazione di valle — NO

Considera spinta e peso acqua fondazione di valle — NO

Spostamenti

Modello a blocchi

Non è stato richiesto il calcolo degli spostamenti

Spostamento limite — 2.00 [cm]

Cedimenti

Non è stato richiesto il calcolo dei cedimenti

Specifiche per le verifiche nelle combinazioni allo Stato Limite Ultimo (SLU)

	SLU	Eccezionale
Coefficiente di sicurezza calcestruzzo a compressione	1.50	1.00
Coefficiente di sicurezza acciaio	1.15	1.00
Fattore di riduzione da resistenza cubica a cilindrica	0.83	0.83
Fattore di riduzione per carichi di lungo periodo	0.85	0.85
Coefficiente di sicurezza per la sezione	1.00	1.00

Specifiche per le verifiche nelle combinazioni allo Stato Limite di Esercizio (SLE)

Paramento e fondazione muro

Verifiche strutturali nelle combinazioni SLD **non eseguite**. Struttura in classe d'uso III o IV

Condizioni ambientali — Aggressive

Armatura ad aderenza migliorata — SI

Verifica a fessurazione

Sensibilità armatura — Poco sensibile

Metodo di calcolo aperture delle fessure — NTC 2018 - CIRCOLARE 21 gennaio 2019, n. 7 C.S.LL.PP.

Calcolo momento fessurazione — Apertura

Resistenza a trazione per — Trazione

Valori limite aperture delle fessure: — w_1=0.20

w_2=0.30

w_3=0.40

Verifica delle tensioni

Valori limite delle tensioni nei materiali:

Combinazione	Calcestruzzo	Acciaio
Rara	0.60 f_{ck}	0.80 f_{yk}
Frequente	1.00 f_{ck}	1.00 f_{yk}
Quasi permanente	0.45 f_{ck}	1.00 f_{yk}

Risultati per combinazione

Spinta e forze

Simbologia adottata

Ic	Indice della combinazione
A	Tipo azione
I	Inclinazione della spinta, espressa in [°]
V	Valore dell'azione, espressa in [kN]
C_X, C_Y	Componente in direzione X ed Y dell'azione, espressa in [kN]
P_X, P_Y	Coordinata X ed Y del punto di applicazione dell'azione, espressa in [m]

Ic	A	V	I	C_X	C_Y	P_X	P_Y
		[kN]	[°]	[kN]	[kN]	[m]	[m]
1	Spinta statica	151.41	23.33	139.03	59.96	3.35	-4.63
	Peso/Inerzia muro			0.00	235.36/0.00	0.39	-4.85
	Peso/Inerzia rivestimento			0.00	24.00	-0.60	-3.25
	Peso/Inerzia terrapieno			0.00	350.32/0.00	1.81	-2.91
2	Spinta statica	184.72	23.33	169.62	73.16	3.35	-4.35
	Peso/Inerzia muro			0.00	235.36/0.00	0.39	-4.85
	Peso/Inerzia rivestimento			0.00	24.00	-0.60	-3.25
	Peso/Inerzia terrapieno			0.00	483.46/0.00	1.77	-2.89
3	Spinta statica	112.16	23.33	102.99	44.42	3.35	-4.63
	Incremento di spinta sismica		41.62	38.22	16.48	3.35	-3.48
	Peso/Inerzia muro			28.48	235.36/14.24	0.39	-4.85
	Peso/Inerzia rivestimento			2.90	24.00	-0.60	-3.25
	Peso/Inerzia terrapieno			42.39	350.32/21.19	1.81	-2.91
4	Spinta statica	112.16	23.33	102.99	44.42	3.35	-4.63
	Incremento di spinta sismica		28.68	26.34	11.36	3.35	-3.48
	Peso/Inerzia muro			28.48	235.36/-14.24	0.39	-4.85
	Peso/Inerzia rivestimento			2.90	24.00	-0.60	-3.25
	Peso/Inerzia terrapieno			42.39	350.32/-21.19	1.81	-2.91
9	Spinta statica	112.16	23.33	102.99	44.42	3.35	-4.63
	Peso/Inerzia muro			0.00	235.36/0.00	0.39	-4.85
	Peso/Inerzia rivestimento			0.00	24.00	-0.60	-3.25
	Peso/Inerzia terrapieno			0.00	350.32/0.00	1.81	-2.91
	Risultante forze sul muro			16.70	0.00	--	--
10	Spinta statica	130.63	23.33	119.95	51.73	3.35	-4.41
	Peso/Inerzia muro			0.00	235.36/0.00	0.39	-4.85
	Peso/Inerzia rivestimento			0.00	24.00	-0.60	-3.25
	Peso/Inerzia terrapieno			0.00	424.29/0.00	1.78	-2.90
11	Spinta statica	112.16	23.33	102.99	44.42	3.35	-4.63
	Peso/Inerzia muro			0.00	235.36/0.00	0.39	-4.85
	Peso/Inerzia rivestimento			0.00	24.00	-0.60	-3.25
	Peso/Inerzia terrapieno			0.00	350.32/0.00	1.81	-2.91
12	Spinta statica	112.16	23.33	102.99	44.42	3.35	-4.63
	Peso/Inerzia muro			0.00	235.36/0.00	0.39	-4.85
	Peso/Inerzia rivestimento			0.00	24.00	-0.60	-3.25
	Peso/Inerzia terrapieno			0.00	350.32/0.00	1.81	-2.91

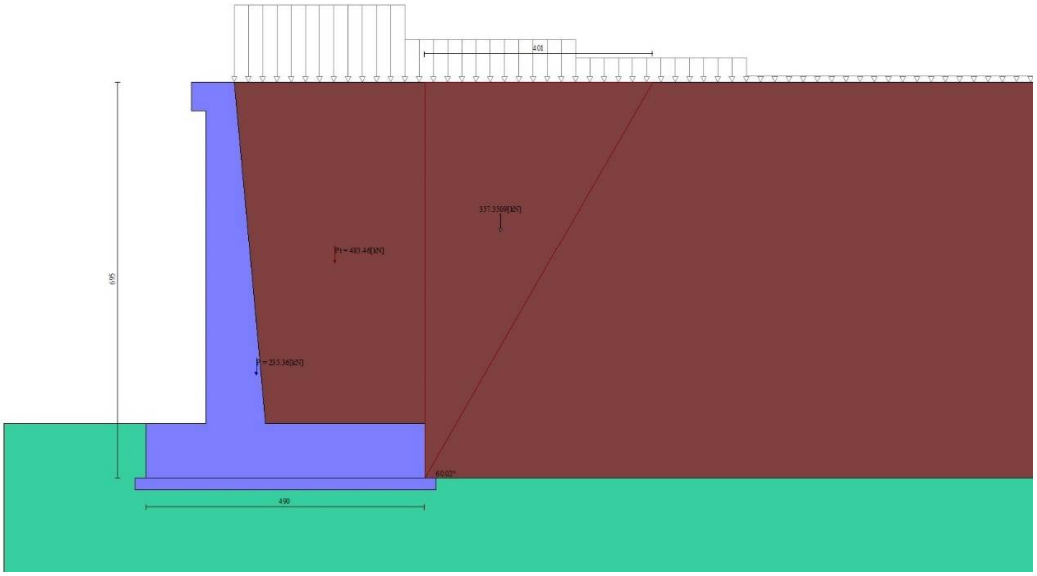

Fig. 3 - Cuneo di spinta (combinazione statica) (Combinazione n° 2)

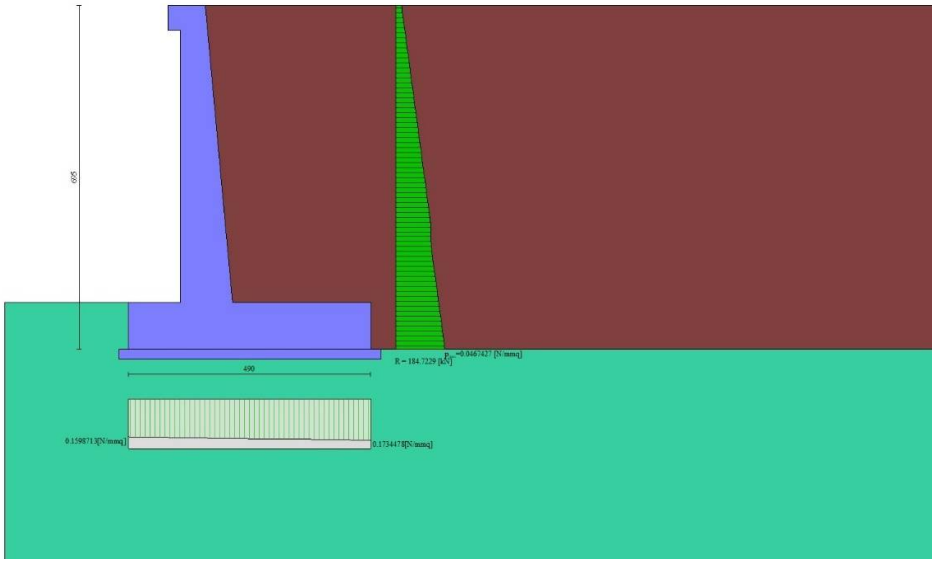

Fig. 4 - Diagramma delle pressioni (combinazione statica) (Combinazione n° 2)

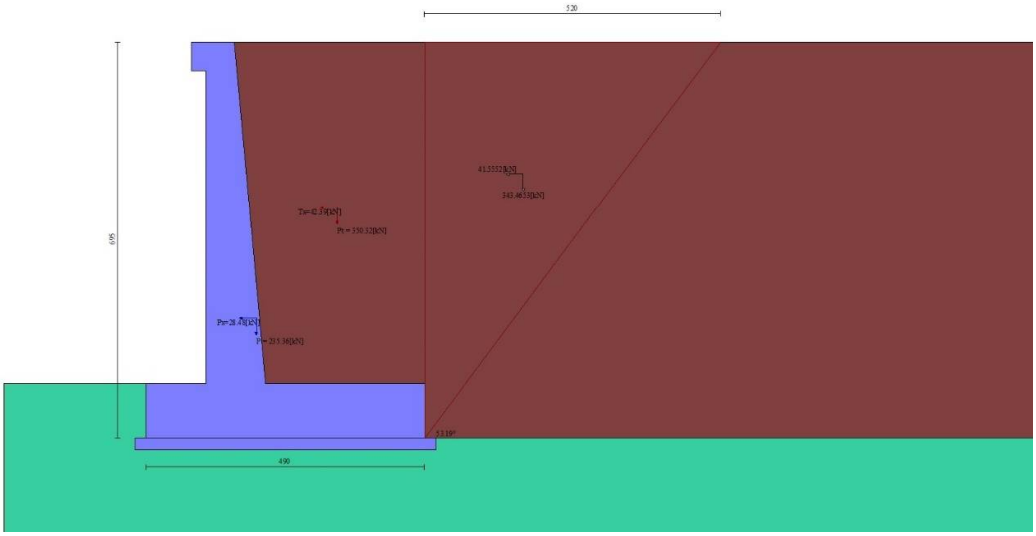

Fig. 5 - Cuneo di spinta (combinazione sismica) (Combinazione n° 3)

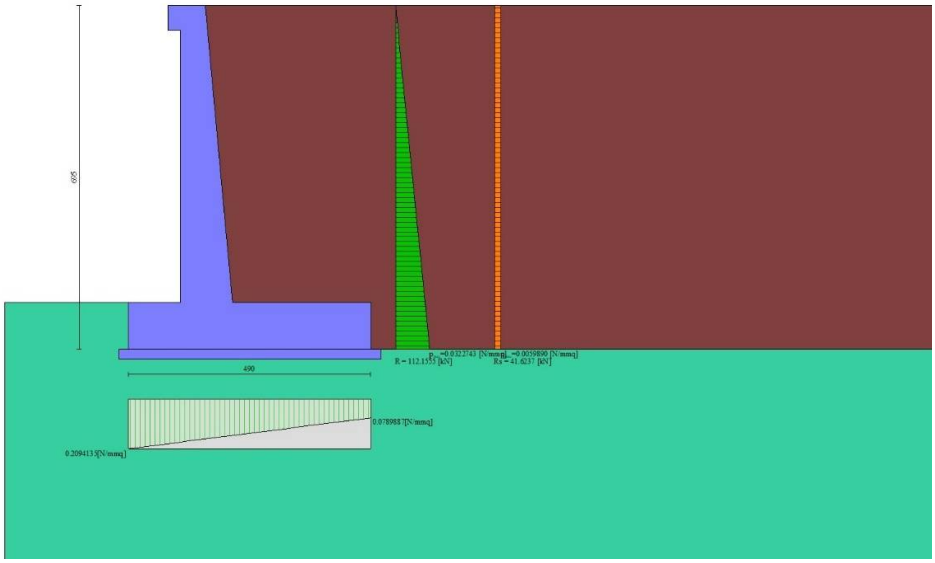

Fig. 6 - Diagramma delle pressioni (combinazione sismica) (Combinazione n° 3)

Verifiche geotecniche

Quadro riassuntivo coeff. di sicurezza calcolati

Simbologia adottata

Cmb	Indice/Tipo combinazione
S	Sisma (H: componente orizzontale, V: componente verticale)
FS_{SCO}	Coeff. di sicurezza allo scorrimento
FS_{RIB}	Coeff. di sicurezza al ribaltamento
FS_{QLIM}	Coeff. di sicurezza a carico limite
FS_{STAB}	Coeff. di sicurezza a stabilità globale
FS_{HYD}	Coeff. di sicurezza a sifonamento
FS_{UPL}	Coeff. di sicurezza a sollevamento

Cmb	Sismica	FS_{SCO}	FS_{RIB}	FS_{QLIM}	FS_{STAB}	FS_{HYD}	FS_{UPL}
1 - STR (A1-M1-R3)		2.246		2.244			
2 - STR (A1-M1-R3)		2.243		1.852			
3 - STR (A1-M1-R3)	H + V	1.531		1.324			
4 - STR (A1-M1-R3)	H - V	1.447		1.380			
5 - GEO (A2-M2-R2)					1.436		
6 - GEO (A2-M2-R2)					1.330		
7 - GEO (A2-M2-R2)	H + V				1.447		
8 - GEO (A2-M2-R2)	H - V				1.426		

Verifica stabilità globale muro + terreno

Simbologia adottata

Ic	Indice/Tipo combinazione
C	Centro superficie di scorrimento, espresso in [m]
R	Raggio, espresso in [m]
FS	Fattore di sicurezza

Ic	C	R	FS
	[m]	*[m]*	
5 - GEO (A2-M2-R2)	-1.57; 1.57	9.85	1.436
6 - GEO (A2-M2-R2)	-1.57; 0.00	8.52	1.330
7 - GEO (A2-M2-R2) H + V	-1.57; 3.15	11.24	1.447
8 - GEO (A2-M2-R2) H - V	-1.57; 3.15	11.24	1.426

Dettagli strisce verifiche stabilità

Simbologia adottata

Le ascisse X sono considerate positive verso monte

Le ordinate Y sono considerate positive verso l'alto

Origine in testa al muro (spigolo contro terra)

W	peso della striscia espresso in [kN]
Qy	carico sulla striscia espresso in [kN]
Qf	carico acqua sulla striscia espresso in [kN]
α	angolo fra la base della striscia e l'orizzontale espresso in [°] (positivo antiorario)
ϕ	angolo d'attrito del terreno lungo la base della striscia
c	coesione del terreno lungo la base della striscia espressa in [kPa]
b	larghezza della striscia espressa in [m]
u	pressione neutra lungo la base della striscia espressa in [kPa]
Tx; Ty	Resistenza al taglio fornita dai tiranti in direzione X ed Y espressa in [kPa]

Combinazione n° 5 - GEO (A2-M2-R2)

n°	W	Qy	Qf	b	α	ϕ	c	u	Tx; Ty
	[kN]	[kN]	[kN]	[m]	[°]	[°]	[kPa]	[kPa]	[kN]
1	13.51	0.00	0.00	8.16 - 0.64	73.851	29.256	0	0.0	
2	34.79	0.00	0.00	0.64	63.228	29.256	0	0.0	
3	48.29	0.00	0.00	0.64	55.761	29.256	0	0.0	
4	58.63	0.00	0.00	0.64	49.563	29.256	0	0.0	
5	67.02	0.00	0.00	0.64	44.085	29.256	0	0.0	
6	73.98	0.00	0.00	0.64	39.080	29.256	0	0.0	
7	79.84	0.00	0.00	0.64	34.412	29.256	0	0.0	
8	84.52	0.00	0.00	0.64	29.993	20.458	4	0.0	
9	92.48	0.00	0.00	0.64	25.765	20.458	4	0.0	
10	95.83	0.00	0.00	0.64	21.683	20.458	4	0.0	
11	98.56	0.00	0.00	0.64	17.714	20.458	4	0.0	
12	100.96	0.00	0.00	0.64	13.831	20.458	4	0.0	
13	118.47	0.00	0.00	0.64	10.013	20.458	4	0.0	
14	81.06	0.00	0.00	0.64	6.239	20.458	4	0.0	
15	30.83	0.00	0.00	0.64	2.493	20.458	4	0.0	
16	27.74	0.00	0.00	0.64	-1.243	20.458	4	0.0	
17	26.84	0.00	0.00	0.64	-4.984	20.458	4	0.0	
18	25.93	0.00	0.00	0.64	-8.747	20.458	4	0.0	
19	24.49	0.00	0.00	0.64	-12.548	20.458	4	0.0	
20	22.52	0.00	0.00	0.64	-16.407	20.458	4	0.0	
21	19.99	0.00	0.00	0.64	-20.344	20.458	4	0.0	
22	16.85	0.00	0.00	0.64	-24.385	20.458	4	0.0	
23	13.04	0.00	0.00	0.64	-28.560	20.458	4	0.0	
24	8.42	0.00	0.00	0.64	-32.910	20.458	4	0.0	
25	2.89	0.00	0.00	-7.88 - 0.64	-36.964	20.458	4	0.0	

Combinazione n° 6 - GEO (A2-M2-R2)

n°	W	Qy	Qf	b	α	ϕ	c	u	Tx; Ty
	[kN]	[kN]	[kN]	[m]	[°]	[°]	[kPa]	[kPa]	[kN]
1	17.19	6.58	0.00	6.95 - 0.58	79.336	29.256	0	0.0	
2	41.08	8.39	0.00	0.58	64.166	29.256	0	0.0	
3	52.59	11.48	0.00	0.58	56.137	29.256	0	0.0	
4	61.21	11.48	0.00	0.58	49.586	29.256	0	0.0	
5	68.13	11.48	0.00	0.58	43.838	29.256	0	0.0	
6	73.82	11.48	0.00	0.58	38.606	29.256	0	0.0	
7	79.47	13.62	0.00	0.58	33.735	20.458	4	0.0	
8	85.72	20.74	0.00	0.58	29.129	20.458	4	0.0	
9	88.92	20.74	0.00	0.58	24.722	20.458	4	0.0	
10	91.55	20.74	0.00	0.58	20.467	20.458	4	0.0	
11	93.66	20.74	0.00	0.58	16.328	20.458	4	0.0	
12	107.02	18.84	0.00	0.58	12.275	20.458	4	0.0	
13	94.01	0.00	0.00	0.58	8.284	20.458	4	0.0	
14	30.55	0.00	0.00	0.58	4.333	20.458	4	0.0	
15	29.36	0.00	0.00	0.58	0.403	20.458	4	0.0	
16	27.32	0.00	0.00	0.58	-3.525	20.458	4	0.0	
17	26.71	0.00	0.00	0.58	-7.470	20.458	4	0.0	
18	25.66	0.00	0.00	0.58	-11.451	20.458	4	0.0	
19	24.14	0.00	0.00	0.58	-15.489	20.458	4	0.0	
20	22.15	0.00	0.00	0.58	-19.609	20.458	4	0.0	
21	19.63	0.00	0.00	0.58	-23.837	20.458	4	0.0	
22	16.55	0.00	0.00	0.58	-28.209	20.458	4	0.0	
23	12.83	0.00	0.00	0.58	-32.769	20.458	4	0.0	
24	8.31	0.00	0.00	0.58	-37.579	20.458	4	0.0	
25	2.83	0.00	0.00	-7.64 - 0.58	-41.964	20.458	4	0.0	

Combinazione n° 7 - GEO (A2-M2-R2) H + V

n°	W	Qy	Qf	b	α	ϕ	c	u	Tx; Ty
	[kN]	[kN]	[kN]	[m]	[°]	[°]	[kPa]	[kPa]	[kN]
1	11.68	0.00	0.00	9.23 - 0.69	68.608	35.000	0	0.0	
2	31.45	0.00	0.00	0.69	60.464	35.000	0	0.0	
3	45.79	0.00	0.00	0.69	53.871	35.000	0	0.0	
4	57.18	0.00	0.00	0.69	48.214	35.000	0	0.0	
5	66.59	0.00	0.00	0.69	43.133	35.000	0	0.0	
6	74.52	0.00	0.00	0.69	38.449	35.000	0	0.0	
7	81.24	0.00	0.00	0.69	34.054	35.000	0	0.0	
8	86.97	0.00	0.00	0.69	29.878	35.000	0	0.0	
9	91.65	0.00	0.00	0.69	25.871	25.000	5	0.0	
10	99.73	0.00	0.00	0.69	21.996	25.000	5	0.0	
11	103.00	0.00	0.00	0.69	18.226	25.000	5	0.0	
12	105.62	0.00	0.00	0.69	14.535	25.000	5	0.0	
13	111.46	0.00	0.00	0.69	10.905	25.000	5	0.0	

n°	W [kN]	Qy [kN]	Qf [kN]	b [m]	α [°]	ϕ [°]	c [kPa]	u [kPa]	Tx; Ty [kN]
14	132.66	0.00	0.00	0.69	7.320	25.000	5	0.0	
15	30.51	0.00	0.00	0.69	3.763	25.000	5	0.0	
16	29.25	0.00	0.00	0.69	0.221	25.000	5	0.0	
17	26.92	0.00	0.00	0.69	-3.321	25.000	5	0.0	
18	26.12	0.00	0.00	0.69	-6.875	25.000	5	0.0	
19	24.76	0.00	0.00	0.69	-10.457	25.000	5	0.0	
20	22.82	0.00	0.00	0.69	-14.080	25.000	5	0.0	
21	20.27	0.00	0.00	0.69	-17.762	25.000	5	0.0	
22	17.09	0.00	0.00	0.69	-21.521	25.000	5	0.0	
23	13.21	0.00	0.00	0.69	-25.382	25.000	5	0.0	
24	8.49	0.00	0.00	0.69	-29.370	25.000	5	0.0	
25	2.88	0.00	0.00	-8.12 - 0.69	-32.859	25.000	5	0.0	

Combinazione n° 8 - GEO (A2-M2-R2) H - V

n°	W [kN]	Qy [kN]	Qf [kN]	b [m]	α [°]	ϕ [°]	c [kPa]	u [kPa]	Tx; Ty [kN]
1	11.68	0.00	0.00	9.23 - 0.69	68.608	35.000	0	0.0	
2	31.45	0.00	0.00	0.69	60.464	35.000	0	0.0	
3	45.79	0.00	0.00	0.69	53.871	35.000	0	0.0	
4	57.18	0.00	0.00	0.69	48.214	35.000	0	0.0	
5	66.59	0.00	0.00	0.69	43.133	35.000	0	0.0	
6	74.52	0.00	0.00	0.69	38.449	35.000	0	0.0	
7	81.24	0.00	0.00	0.69	34.054	35.000	0	0.0	
8	86.97	0.00	0.00	0.69	29.878	35.000	0	0.0	
9	91.65	0.00	0.00	0.69	25.871	25.000	5	0.0	
10	99.73	0.00	0.00	0.69	21.996	25.000	5	0.0	
11	103.00	0.00	0.00	0.69	18.226	25.000	5	0.0	
12	105.62	0.00	0.00	0.69	14.535	25.000	5	0.0	
13	111.46	0.00	0.00	0.69	10.905	25.000	5	0.0	
14	132.66	0.00	0.00	0.69	7.320	25.000	5	0.0	
15	30.51	0.00	0.00	0.69	3.763	25.000	5	0.0	
16	29.25	0.00	0.00	0.69	0.221	25.000	5	0.0	
17	26.92	0.00	0.00	0.69	-3.321	25.000	5	0.0	
18	26.12	0.00	0.00	0.69	-6.875	25.000	5	0.0	
19	24.76	0.00	0.00	0.69	-10.457	25.000	5	0.0	
20	22.82	0.00	0.00	0.69	-14.080	25.000	5	0.0	
21	20.27	0.00	0.00	0.69	-17.762	25.000	5	0.0	
22	17.09	0.00	0.00	0.69	-21.521	25.000	5	0.0	
23	13.21	0.00	0.00	0.69	-25.382	25.000	5	0.0	
24	8.49	0.00	0.00	0.69	-29.370	25.000	5	0.0	
25	2.88	0.00	0.00	-8.12 - 0.69	-32.859	25.000	5	0.0	

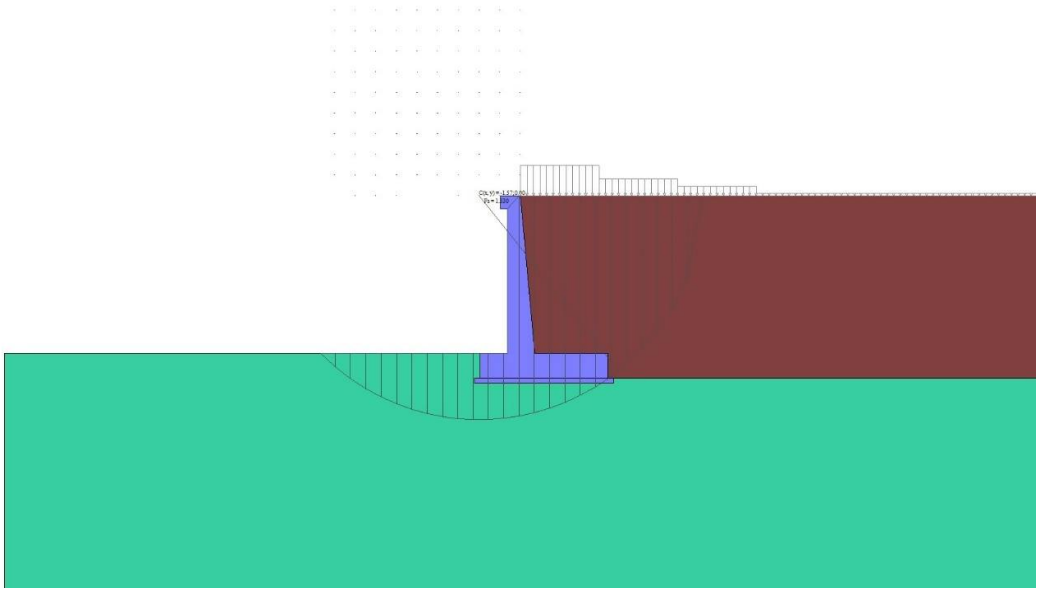

Fig. 7 - Stabilità fronte di scavo - Cerchio critico (Combinazione n° 6)

Spostamenti

Simbologia adottata

Cmb Tipo combinazione

Modello a blocchi

X Spostamento in direzione X (positivo verso monte), espresso in [cm]

Y Spostamento in direzione Y (positivo verso l'alto), espresso in [cm]

Phi Rotazione (positiva antioraria), espresso in [°]

Spostamenti ottenuti con il modello a blocchi

Cmb	X	Y	Phi
	[cm]	*[cm]*	*[°]*
1 - STR (A1-M1-R3)	-0.23210	-0.57887	-0.00252
2 - STR (A1-M1-R3)	-0.26970	-0.70208	-0.00675
3 - STR (A1-M1-R3) H + V	-0.61442	-0.67060	0.06485
4 - STR (A1-M1-R3) H - V	-0.59684	-0.60359	0.06365
9 - ECC	-0.27761	-0.58467	0.01911
10 - SLER	-0.14916	-0.62378	-0.01614
11 - SLEF	-0.12836	-0.55535	-0.01377
12 - SLEQ	-0.12836	-0.55535	-0.01377

Sollecitazioni

Elementi calcolati a trave

Simbologia adottata

n° Indice della sezione

X Posizione della sezione, espresso in [m]

N Sforzo normale, espresso in [kN]. Positivo se di compressione.

T Taglio, espresso in [kN]. Positivo se diretto da monte verso valle

M Momento, espresso in [kNm]. Positivo se tende le fibre contro terra (a monte)

La posizione delle sezioni di verifica fanno riferimento al sistema di riferimento globale la cui origine è nello spigolo in alto a destra del paramento.

Paramento

Combinazione n° 1 - STR (A1-M1-R3)

n°	X	N	T	M
	[m]	*[kN]*	*[kN]*	*[kNm]*
1	0.00	3.13	0.00	0.39
2	-0.10	4.39	0.03	0.39
3	-0.20	5.67	0.13	0.41
4	-0.30	6.98	0.29	0.45
5	-0.40	8.31	0.51	0.51
6	-0.50	9.66	0.80	0.60
7	-0.60	11.03	1.15	0.73
8	-0.70	12.43	1.56	0.90
9	-0.80	13.85	2.04	1.13
10	-0.90	15.30	2.58	1.41
11	-1.00	16.76	3.18	1.75
12	-1.10	18.25	3.85	2.17
13	-1.20	19.76	4.58	2.66

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
14	-1.30	21.30	5.37	3.24
15	-1.40	22.85	6.23	3.91
16	-1.50	24.43	7.15	4.67
17	-1.60	26.04	8.14	5.53
18	-1.70	27.66	9.19	6.51
19	-1.80	29.31	10.30	7.59
20	-1.90	30.98	11.47	8.81
21	-2.00	32.68	12.71	10.15
22	-2.10	34.39	14.02	11.62
23	-2.20	36.13	15.38	13.24
24	-2.30	37.89	16.81	15.00
25	-2.40	39.68	18.31	16.92
26	-2.50	41.48	19.86	18.99
27	-2.60	43.32	21.48	21.24
28	-2.70	45.17	23.17	23.66
29	-2.80	47.04	24.92	26.26
30	-2.90	48.94	26.73	29.04
31	-3.00	50.86	28.60	32.02
32	-3.10	52.81	30.54	35.20
33	-3.20	54.77	32.54	38.59
34	-3.30	56.76	34.61	42.18
35	-3.40	58.78	36.74	46.00
36	-3.50	60.81	38.93	50.04
37	-3.60	62.87	41.18	54.31
38	-3.70	64.95	43.50	58.82
39	-3.80	67.05	45.89	63.58
40	-3.90	69.18	48.33	68.58
41	-4.00	71.33	50.84	73.85
42	-4.10	73.50	53.42	79.37
43	-4.20	75.69	56.06	85.17
44	-4.30	77.91	58.76	91.25
45	-4.40	80.15	61.52	97.61
46	-4.50	82.41	64.35	104.25
47	-4.60	84.70	67.24	111.20
48	-4.70	87.00	70.20	118.45
49	-4.80	89.34	73.21	126.00
50	-4.90	91.69	76.30	133.88
51	-5.00	94.06	79.44	142.07
52	-5.10	96.46	82.65	150.59
53	-5.20	98.89	85.92	159.45
54	-5.30	101.33	89.26	168.65
55	-5.40	103.80	92.66	178.20
56	-5.50	106.29	96.12	188.10
57	-5.60	108.80	99.65	198.37
58	-5.70	111.34	103.24	209.00
59	-5.80	113.89	106.90	220.00
60	-5.90	116.47	110.61	231.39
61	-6.00	119.08	114.40	243.16

Combinazione n° 2 - STR (A1-M1-R3)

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	0.00	3.13	0.00	0.39
2	-0.10	4.39	1.07	0.45
3	-0.20	5.67	2.20	0.62
4	-0.30	6.98	3.39	0.91
5	-0.40	8.31	4.65	1.33
6	-0.50	9.66	5.97	1.89
7	-0.60	11.03	7.35	2.59
8	-0.70	12.43	8.79	3.43
9	-0.80	13.85	10.31	4.43
10	-0.90	15.30	11.88	5.59
11	-1.00	16.76	13.52	6.92
12	-1.10	18.25	15.22	8.42
13	-1.20	19.76	16.98	10.10
14	-1.30	21.30	18.81	11.97
15	-1.40	22.85	20.70	14.03
16	-1.50	24.43	22.66	16.29
17	-1.60	26.04	24.67	18.76
18	-1.70	27.66	26.76	21.44
19	-1.80	29.31	28.90	24.34
20	-1.90	30.98	31.11	27.46
21	-2.00	32.68	33.38	30.82
22	-2.10	34.39	35.72	34.41
23	-2.20	36.13	38.12	38.25
24	-2.30	37.89	40.58	42.34
25	-2.40	39.68	43.11	46.68
26	-2.50	41.48	45.70	51.29
27	-2.60	43.32	48.36	56.17
28	-2.70	45.17	51.07	61.33
29	-2.80	47.04	53.85	66.77

n°	X [m]	N [kN]	T [kN]	M [kNm]
30	-2.90	48.94	56.70	72.50
31	-3.00	50.86	59.61	78.53
32	-3.10	52.81	62.58	84.86
33	-3.20	54.77	65.61	91.50
34	-3.30	56.76	68.71	98.46
35	-3.40	58.78	71.88	105.74
36	-3.50	60.81	75.10	113.34
37	-3.60	62.87	78.39	121.28
38	-3.70	64.95	81.74	129.57
39	-3.80	67.05	85.16	138.20
40	-3.90	69.18	88.64	147.18
41	-4.00	71.33	92.19	156.53
42	-4.10	73.50	95.79	166.24
43	-4.20	75.69	99.46	176.33
44	-4.30	77.91	103.20	186.80
45	-4.40	80.15	107.00	197.65
46	-4.50	82.41	110.85	208.90
47	-4.60	84.70	114.75	220.55
48	-4.70	87.00	118.68	232.59
49	-4.80	89.34	122.61	245.04
50	-4.90	91.69	126.54	257.90
51	-5.00	94.06	130.46	271.16
52	-5.10	96.46	134.37	284.82
53	-5.20	98.89	138.27	298.88
54	-5.30	101.33	142.18	313.34
55	-5.40	103.80	146.13	328.21
56	-5.50	106.29	150.13	343.49
57	-5.60	108.80	154.19	359.18
58	-5.70	111.34	158.31	375.29
59	-5.80	113.89	162.50	391.83
60	-5.90	116.47	166.76	408.80
61	-6.00	119.08	171.08	426.21

Combinazione n° 3 - STR (A1-M1-R3) H + V

n°	X [m]	N [kN]	T [kN]	M [kNm]
1	0.00	3.31	0.00	0.41
2	-0.10	4.65	0.67	0.45
3	-0.20	6.01	1.38	0.56
4	-0.30	7.40	2.15	0.75
5	-0.40	8.81	2.97	1.03
6	-0.50	10.24	3.84	1.40
7	-0.60	11.70	4.75	1.86
8	-0.70	13.18	5.72	2.43
9	-0.80	14.69	6.73	3.10
10	-0.90	16.22	7.80	3.88
11	-1.00	17.78	8.91	4.78
12	-1.10	19.36	10.08	5.80
13	-1.20	20.96	11.29	6.94
14	-1.30	22.59	12.56	8.22
15	-1.40	24.24	13.87	9.63
16	-1.50	25.91	15.24	11.18
17	-1.60	27.61	16.65	12.88
18	-1.70	29.34	18.12	14.74
19	-1.80	31.08	19.63	16.75
20	-1.90	32.86	21.20	18.92
21	-2.00	34.65	22.81	21.26
22	-2.10	36.47	24.47	23.77
23	-2.20	38.32	26.19	26.45
24	-2.30	40.19	27.95	29.32
25	-2.40	42.08	29.76	32.38
26	-2.50	43.99	31.63	35.63
27	-2.60	45.94	33.54	39.08
28	-2.70	47.90	35.50	42.73
29	-2.80	49.89	37.51	46.59
30	-2.90	51.90	39.57	50.66
31	-3.00	53.94	41.69	54.94
32	-3.10	56.00	43.85	59.46
33	-3.20	58.09	46.06	64.20
34	-3.30	60.20	48.32	69.17
35	-3.40	62.33	50.63	74.38
36	-3.50	64.49	52.99	79.83
37	-3.60	66.67	55.41	85.54
38	-3.70	68.88	57.87	91.49
39	-3.80	71.11	60.38	97.71
40	-3.90	73.36	62.94	104.19
41	-4.00	75.64	65.55	110.93
42	-4.10	77.94	68.21	117.96
43	-4.20	80.27	70.92	125.26
44	-4.30	82.62	73.68	132.84
45	-4.40	85.00	76.49	140.72

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
46	-4.50	87.40	79.35	148.88
47	-4.60	89.82	82.26	157.35
48	-4.70	92.27	85.21	166.12
49	-4.80	94.74	88.22	175.21
50	-4.90	97.24	91.28	184.60
51	-5.00	99.76	94.39	194.32
52	-5.10	102.30	97.55	204.36
53	-5.20	104.87	100.76	214.73
54	-5.30	107.46	104.01	225.44
55	-5.40	110.08	107.32	236.48
56	-5.50	112.72	110.68	247.88
57	-5.60	115.38	114.09	259.62
58	-5.70	118.07	117.55	271.71
59	-5.80	120.78	121.05	284.17
60	-5.90	123.52	124.61	297.00
61	-6.00	126.28	128.22	310.19

Combinazione n° 4 - STR (A1-M1-R3) H - V

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	0.00	3.13	0.00	0.39
2	-0.10	4.31	0.50	0.42
3	-0.20	5.52	1.06	0.50
4	-0.30	6.74	1.66	0.65
5	-0.40	7.99	2.31	0.87
6	-0.50	9.26	3.01	1.16
7	-0.60	10.56	3.77	1.53
8	-0.70	11.87	4.57	1.98
9	-0.80	13.20	5.42	2.53
10	-0.90	14.56	6.32	3.16
11	-1.00	15.94	7.27	3.90
12	-1.10	17.34	8.27	4.73
13	-1.20	18.76	9.33	5.68
14	-1.30	20.20	10.43	6.74
15	-1.40	21.66	11.58	7.92
16	-1.50	23.15	12.78	9.23
17	-1.60	24.65	14.03	10.66
18	-1.70	26.18	15.33	12.23
19	-1.80	27.73	16.68	13.94
20	-1.90	29.30	18.08	15.79
21	-2.00	30.89	19.53	17.80
22	-2.10	32.50	21.03	19.95
23	-2.20	34.13	22.58	22.27
24	-2.30	35.79	24.17	24.75
25	-2.40	37.47	25.82	27.40
26	-2.50	39.16	27.52	30.23
27	-2.60	40.88	29.27	33.24
28	-2.70	42.62	31.07	36.43
29	-2.80	44.39	32.92	39.81
30	-2.90	46.17	34.82	43.39
31	-3.00	47.98	36.76	47.17
32	-3.10	49.80	38.76	51.15
33	-3.20	51.65	40.81	55.35
34	-3.30	53.52	42.91	59.76
35	-3.40	55.41	45.05	64.39
36	-3.50	57.32	47.25	69.25
37	-3.60	59.25	49.50	74.33
38	-3.70	61.21	51.79	79.66
39	-3.80	63.18	54.14	85.22
40	-3.90	65.18	56.54	91.03
41	-4.00	67.20	58.98	97.10
42	-4.10	69.24	61.48	103.42
43	-4.20	71.30	64.02	110.00
44	-4.30	73.39	66.62	116.84
45	-4.40	75.49	69.26	123.96
46	-4.50	77.61	71.96	131.36
47	-4.60	79.76	74.71	139.03
48	-4.70	81.93	77.50	147.00
49	-4.80	84.12	80.34	155.25
50	-4.90	86.33	83.24	163.80
51	-5.00	88.56	86.18	172.66
52	-5.10	90.82	89.18	181.82
53	-5.20	93.09	92.22	191.29
54	-5.30	95.39	95.32	201.08
55	-5.40	97.71	98.46	211.20
56	-5.50	100.05	101.65	221.64
57	-5.60	102.41	104.90	232.41
58	-5.70	104.79	108.19	243.52
59	-5.80	107.19	111.53	254.98
60	-5.90	109.62	114.93	266.78
61	-6.00	112.06	118.37	278.93

Combinazione n° 9 - ECC

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	0.00	3.13	16.70	17.09
2	-0.10	4.39	16.72	17.09
3	-0.20	5.67	16.80	17.11
4	-0.30	6.98	16.91	17.14
5	-0.40	8.31	17.08	17.19
6	-0.50	9.66	17.29	17.26
7	-0.60	11.03	17.55	17.37
8	-0.70	12.43	17.86	17.51
9	-0.80	13.85	18.21	17.68
10	-0.90	15.30	18.61	17.91
11	-1.00	16.76	19.06	18.18
12	-1.10	18.25	19.55	18.50
13	-1.20	19.76	20.09	18.89
14	-1.30	21.30	20.68	19.34
15	-1.40	22.85	21.32	19.85
16	-1.50	24.43	22.00	20.44
17	-1.60	26.04	22.73	21.11
18	-1.70	27.66	23.50	21.86
19	-1.80	29.31	24.33	22.69
20	-1.90	30.98	25.20	23.62
21	-2.00	32.68	26.12	24.65
22	-2.10	34.39	27.08	25.78
23	-2.20	36.13	28.09	27.01
24	-2.30	37.89	29.15	28.36
25	-2.40	39.68	30.26	29.82
26	-2.50	41.48	31.41	31.40
27	-2.60	43.32	32.61	33.11
28	-2.70	45.17	33.86	34.95
29	-2.80	47.04	35.16	36.93
30	-2.90	48.94	36.50	39.04
31	-3.00	50.86	37.89	41.31
32	-3.10	52.81	39.32	43.72
33	-3.20	54.77	40.80	46.28
34	-3.30	56.76	42.33	49.01
35	-3.40	58.78	43.91	51.90
36	-3.50	60.81	45.54	54.96
37	-3.60	62.87	47.21	58.19
38	-3.70	64.95	48.93	61.61
39	-3.80	67.05	50.69	65.20
40	-3.90	69.18	52.50	68.99
41	-4.00	71.33	54.36	72.97
42	-4.10	73.50	56.27	77.14
43	-4.20	75.69	58.22	81.52
44	-4.30	77.91	60.22	86.11
45	-4.40	80.15	62.27	90.91
46	-4.50	82.41	64.37	95.93
47	-4.60	84.70	66.51	101.17
48	-4.70	87.00	68.70	106.63
49	-4.80	89.34	70.93	112.33
50	-4.90	91.69	73.22	118.27
51	-5.00	94.06	75.55	124.44
52	-5.10	96.46	77.92	130.86
53	-5.20	98.89	80.35	137.54
54	-5.30	101.33	82.82	144.47
55	-5.40	103.80	85.34	151.66
56	-5.50	106.29	87.90	159.11
57	-5.60	108.80	90.52	166.84
58	-5.70	111.34	93.18	174.84
59	-5.80	113.89	95.88	183.12
60	-5.90	116.47	98.64	191.68
61	-6.00	119.08	101.44	200.54

Combinazione n° 10 - SLER

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	0.00	3.13	0.00	0.39
2	-0.10	4.39	0.60	0.42
3	-0.20	5.67	1.24	0.52
4	-0.30	6.98	1.94	0.70
5	-0.40	8.31	2.68	0.95
6	-0.50	9.66	3.46	1.28
7	-0.60	11.03	4.29	1.70
8	-0.70	12.43	5.17	2.21
9	-0.80	13.85	6.10	2.82
10	-0.90	15.30	7.08	3.53
11	-1.00	16.76	8.10	4.35

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
12	-1.10	18.25	9.17	5.28
13	-1.20	19.76	10.28	6.32
14	-1.30	21.30	11.44	7.49
15	-1.40	22.85	12.65	8.78
16	-1.50	24.43	13.91	10.20
17	-1.60	26.04	15.21	11.76
18	-1.70	27.66	16.57	13.45
19	-1.80	29.31	17.96	15.29
20	-1.90	30.98	19.41	17.29
21	-2.00	32.68	20.90	19.43
22	-2.10	34.39	22.44	21.74
23	-2.20	36.13	24.03	24.21
24	-2.30	37.89	25.66	26.84
25	-2.40	39.68	27.34	29.66
26	-2.50	41.48	29.07	32.65
27	-2.60	43.32	30.84	35.82
28	-2.70	45.17	32.66	39.18
29	-2.80	47.04	34.53	42.74
30	-2.90	48.94	36.45	46.49
31	-3.00	50.86	38.41	50.44
32	-3.10	52.81	40.42	54.61
33	-3.20	54.77	42.48	58.98
34	-3.30	56.76	44.58	63.58
35	-3.40	58.78	46.73	68.39
36	-3.50	60.81	48.93	73.43
37	-3.60	62.87	51.18	78.70
38	-3.70	64.95	53.47	84.21
39	-3.80	67.05	55.81	89.96
40	-3.90	69.18	58.20	95.96
41	-4.00	71.33	60.63	102.20
42	-4.10	73.50	63.11	108.70
43	-4.20	75.69	65.64	115.47
44	-4.30	77.91	68.21	122.49
45	-4.40	80.15	70.84	129.79
46	-4.50	82.41	73.50	137.36
47	-4.60	84.70	76.20	145.21
48	-4.70	87.00	78.92	153.35
49	-4.80	89.34	81.65	161.76
50	-4.90	91.69	84.39	170.46
51	-5.00	94.06	87.12	179.45
52	-5.10	96.46	89.85	188.71
53	-5.20	98.89	92.60	198.27
54	-5.30	101.33	95.38	208.11
55	-5.40	103.80	98.20	218.24
56	-5.50	106.29	101.07	228.66
57	-5.60	108.80	103.98	239.39
58	-5.70	111.34	106.94	250.42
59	-5.80	113.89	109.95	261.76
60	-5.90	116.47	113.00	273.42
61	-6.00	119.08	116.11	285.40

Combinazione n° 11 - SLEF

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	0.00	3.13	0.00	0.39
2	-0.10	4.39	0.02	0.39
3	-0.20	5.67	0.10	0.41
4	-0.30	6.98	0.21	0.44
5	-0.40	8.31	0.38	0.49
6	-0.50	9.66	0.59	0.56
7	-0.60	11.03	0.85	0.67
8	-0.70	12.43	1.16	0.81
9	-0.80	13.85	1.51	0.98
10	-0.90	15.30	1.91	1.21
11	-1.00	16.76	2.36	1.48
12	-1.10	18.25	2.85	1.80
13	-1.20	19.76	3.39	2.19
14	-1.30	21.30	3.98	2.64
15	-1.40	22.85	4.62	3.15
16	-1.50	24.43	5.30	3.74
17	-1.60	26.04	6.03	4.41
18	-1.70	27.66	6.80	5.16
19	-1.80	29.31	7.63	5.99
20	-1.90	30.98	8.50	6.92
21	-2.00	32.68	9.42	7.95
22	-2.10	34.39	10.38	9.08
23	-2.20	36.13	11.39	10.31
24	-2.30	37.89	12.45	11.66
25	-2.40	39.68	13.56	13.12
26	-2.50	41.48	14.71	14.70
27	-2.60	43.32	15.91	16.41

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
28	-2.70	45.17	17.16	18.25
29	-2.80	47.04	18.46	20.23
30	-2.90	48.94	19.80	22.34
31	-3.00	50.86	21.19	24.61
32	-3.10	52.81	22.62	27.02
33	-3.20	54.77	24.10	29.58
34	-3.30	56.76	25.63	32.31
35	-3.40	58.78	27.21	35.20
36	-3.50	60.81	28.84	38.26
37	-3.60	62.87	30.51	41.49
38	-3.70	64.95	32.23	44.91
39	-3.80	67.05	33.99	48.50
40	-3.90	69.18	35.80	52.29
41	-4.00	71.33	37.66	56.27
42	-4.10	73.50	39.57	60.44
43	-4.20	75.69	41.52	64.82
44	-4.30	77.91	43.52	69.41
45	-4.40	80.15	45.57	74.21
46	-4.50	82.41	47.67	79.23
47	-4.60	84.70	49.81	84.47
48	-4.70	87.00	52.00	89.93
49	-4.80	89.34	54.23	95.63
50	-4.90	91.69	56.52	101.57
51	-5.00	94.06	58.85	107.74
52	-5.10	96.46	61.22	114.16
53	-5.20	98.89	63.65	120.84
54	-5.30	101.33	66.12	127.77
55	-5.40	103.80	68.64	134.96
56	-5.50	106.29	71.20	142.41
57	-5.60	108.80	73.82	150.14
58	-5.70	111.34	76.48	158.14
59	-5.80	113.89	79.18	166.42
60	-5.90	116.47	81.94	174.98
61	-6.00	119.08	84.74	183.84

Combinazione n° 12 - SLEQ

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	0.00	3.13	0.00	0.39
2	-0.10	4.39	0.02	0.39
3	-0.20	5.67	0.10	0.41
4	-0.30	6.98	0.21	0.44
5	-0.40	8.31	0.38	0.49
6	-0.50	9.66	0.59	0.56
7	-0.60	11.03	0.85	0.67
8	-0.70	12.43	1.16	0.81
9	-0.80	13.85	1.51	0.98
10	-0.90	15.30	1.91	1.21
11	-1.00	16.76	2.36	1.48
12	-1.10	18.25	2.85	1.80
13	-1.20	19.76	3.39	2.19
14	-1.30	21.30	3.98	2.64
15	-1.40	22.85	4.62	3.15
16	-1.50	24.43	5.30	3.74
17	-1.60	26.04	6.03	4.41
18	-1.70	27.66	6.80	5.16
19	-1.80	29.31	7.63	5.99
20	-1.90	30.98	8.50	6.92
21	-2.00	32.68	9.42	7.95
22	-2.10	34.39	10.38	9.08
23	-2.20	36.13	11.39	10.31
24	-2.30	37.89	12.45	11.66
25	-2.40	39.68	13.56	13.12
26	-2.50	41.48	14.71	14.70
27	-2.60	43.32	15.91	16.41
28	-2.70	45.17	17.16	18.25
29	-2.80	47.04	18.46	20.23
30	-2.90	48.94	19.80	22.34
31	-3.00	50.86	21.19	24.61
32	-3.10	52.81	22.62	27.02
33	-3.20	54.77	24.10	29.58
34	-3.30	56.76	25.63	32.31
35	-3.40	58.78	27.21	35.20
36	-3.50	60.81	28.84	38.26
37	-3.60	62.87	30.51	41.49
38	-3.70	64.95	32.23	44.91
39	-3.80	67.05	33.99	48.50
40	-3.90	69.18	35.80	52.29
41	-4.00	71.33	37.66	56.27
42	-4.10	73.50	39.57	60.44
43	-4.20	75.69	41.52	64.82

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
44	-4.30	77.91	43.52	69.41
45	-4.40	80.15	45.57	74.21
46	-4.50	82.41	47.67	79.23
47	-4.60	84.70	49.81	84.47
48	-4.70	87.00	52.00	89.93
49	-4.80	89.34	54.23	95.63
50	-4.90	91.69	56.52	101.57
51	-5.00	94.06	58.85	107.74
52	-5.10	96.46	61.22	114.16
53	-5.20	98.89	63.65	120.84
54	-5.30	101.33	66.12	127.77
55	-5.40	103.80	68.64	134.96
56	-5.50	106.29	71.20	142.41
57	-5.60	108.80	73.82	150.14
58	-5.70	111.34	76.48	158.14
59	-5.80	113.89	79.18	166.42
60	-5.90	116.47	81.94	174.98
61	-6.00	119.08	84.74	183.84

Mensola valle

Combinazione n° 1 - STR (A1-M1-R3)

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	-0.75	0.00	0.00	0.00
2	-0.67	0.00	1.04	0.04
3	-0.58	0.00	2.08	0.17
4	-0.50	0.00	3.13	0.39
5	-0.50	0.00	3.13	0.39

Combinazione n° 2 - STR (A1-M1-R3)

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	-0.75	0.00	0.00	0.00
2	-0.67	0.00	1.04	0.04
3	-0.58	0.00	2.08	0.17
4	-0.50	0.00	3.13	0.39
5	-0.50	0.00	3.13	0.39

Combinazione n° 3 - STR (A1-M1-R3) H + V

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	-0.75	0.00	0.00	0.00
2	-0.67	0.00	1.10	0.05
3	-0.58	0.00	2.21	0.18
4	-0.50	0.00	3.31	0.41
5	-0.50	0.00	3.31	0.41

Combinazione n° 4 - STR (A1-M1-R3) H - V

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	-0.75	0.00	0.00	0.00
2	-0.67	0.00	1.04	0.04
3	-0.58	0.00	2.08	0.17
4	-0.50	0.00	3.13	0.39
5	-0.50	0.00	3.13	0.39

Combinazione n° 9 - ECC

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	-0.75	0.00	0.00	0.00
2	-0.67	0.00	1.04	0.04
3	-0.58	0.00	2.08	0.17
4	-0.50	0.00	3.13	0.39
5	-0.50	-16.70	3.13	17.09

Combinazione n° 10 - SLER

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	-0.75	0.00	0.00	0.00
2	-0.67	0.00	1.04	0.04
3	-0.58	0.00	2.08	0.17
4	-0.50	0.00	3.13	0.39
5	-0.50	0.00	3.13	0.39

Combinazione n° 11 - SLEF

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	-0.75	0.00	0.00	0.00
2	-0.67	0.00	1.04	0.04
3	-0.58	0.00	2.08	0.17
4	-0.50	0.00	3.13	0.39
5	-0.50	0.00	3.13	0.39

Combinazione n° 12 - SLEQ

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	-0.75	0.00	0.00	0.00
2	-0.67	0.00	1.04	0.04
3	-0.58	0.00	2.08	0.17
4	-0.50	0.00	3.13	0.39
5	-0.50	0.00	3.13	0.39

Fondazione

Combinazione n° 1 - STR (A1-M1-R3)

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	-1.55	0.00	0.00	0.00
2	-1.45	0.00	10.55	0.50
3	-1.36	0.00	21.11	2.01
4	-1.26	0.00	31.68	4.53
5	-1.17	0.00	42.26	8.06
6	-1.07	0.00	52.85	12.60
7	-0.98	0.00	63.45	18.15
8	-0.88	0.00	74.06	24.72
9	-0.79	0.00	84.68	32.29
10	-0.69	0.00	95.30	40.88
11	-0.60	0.00	105.94	50.49
12	-0.50	0.00	116.59	61.11
13	0.55	0.00	-111.42	-154.10
14	0.65	0.00	-107.30	-143.17
15	0.75	0.00	-103.20	-132.64
16	0.85	0.00	-99.10	-122.53
17	0.95	0.00	-95.01	-112.82
18	1.05	0.00	-90.93	-103.52
19	1.15	0.00	-86.86	-94.63
20	1.25	0.00	-82.81	-86.15
21	1.35	0.00	-78.76	-78.07

n°	X [m]	N [kN]	T [kN]	M [kNm]
22	1.45	0.00	-74.73	-70.40
23	1.55	0.00	-70.70	-63.13
24	1.65	0.00	-66.68	-56.26
25	1.75	0.00	-62.68	-49.79
26	1.85	0.00	-58.68	-43.72
27	1.95	0.00	-54.70	-38.05
28	2.05	0.00	-50.72	-32.78
29	2.15	0.00	-46.76	-27.91
30	2.25	0.00	-42.81	-23.43
31	2.35	0.00	-38.86	-19.35
32	2.45	0.00	-34.93	-15.66
33	2.55	0.00	-31.01	-12.36
34	2.65	0.00	-27.10	-9.45
35	2.75	0.00	-23.19	-6.94
36	2.85	0.00	-19.30	-4.81
37	2.95	0.00	-15.42	-3.08
38	3.05	0.00	-11.55	-1.73
39	3.15	0.00	-7.69	-0.77
40	3.25	0.00	-3.84	-0.19
41	3.35	0.00	0.00	0.00

Combinazione n° 2 - STR (A1-M1-R3)

n°	X [m]	N [kN]	T [kN]	M [kNm]
1	-1.55	0.00	0.00	0.00
2	-1.45	0.00	13.01	0.62
3	-1.36	0.00	26.04	2.48
4	-1.26	0.00	39.09	5.59
5	-1.17	0.00	52.18	9.95
6	-1.07	0.00	65.28	15.55
7	-0.98	0.00	78.42	22.41
8	-0.88	0.00	91.57	30.52
9	-0.79	0.00	104.76	39.89
10	-0.69	0.00	117.96	50.52
11	-0.60	0.00	131.20	62.42
12	-0.50	0.00	144.46	75.57
13	0.55	0.00	-132.99	-181.12
14	0.65	0.00	-127.64	-167.76
15	0.75	0.00	-122.31	-154.94
16	0.85	0.00	-117.01	-142.65
17	0.95	0.00	-111.74	-130.89
18	1.05	0.00	-106.50	-119.66
19	1.15	0.00	-101.28	-108.95
20	1.25	0.00	-96.09	-98.76
21	1.35	0.00	-90.93	-89.08
22	1.45	0.00	-85.80	-79.93
23	1.55	0.00	-80.70	-71.28
24	1.65	0.00	-75.62	-63.14
25	1.75	0.00	-70.57	-55.51
26	1.85	0.00	-65.55	-48.38
27	1.95	0.00	-60.55	-41.75
28	2.05	0.00	-55.59	-35.63
29	2.15	0.00	-50.65	-29.99
30	2.25	0.00	-45.74	-24.85
31	2.35	0.00	-40.86	-20.20
32	2.45	0.00	-36.00	-16.03
33	2.55	0.00	-31.17	-12.35
34	2.65	0.00	-26.37	-9.15
35	2.75	0.00	-21.60	-6.43
36	2.85	0.00	-16.86	-4.19
37	2.95	0.00	-12.14	-2.41
38	3.05	0.00	-8.31	-1.24
39	3.15	0.00	-5.51	-0.55
40	3.25	0.00	-2.74	-0.14
41	3.35	0.00	0.00	0.00

Combinazione n° 3 - STR (A1-M1-R3) H + V

n°	X [m]	N [kN]	T [kN]	M [kNm]
1	-1.55	0.00	0.00	0.00
2	-1.45	0.00	17.60	0.84
3	-1.36	0.00	34.96	3.35
4	-1.26	0.00	52.08	7.51
5	-1.17	0.00	68.95	13.29
6	-1.07	0.00	85.58	20.66
7	-0.98	0.00	101.97	29.62
8	-0.88	0.00	118.11	40.12

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
9	-0.79	0.00	134.01	52.16
10	-0.69	0.00	149.67	65.70
11	-0.60	0.00	165.09	80.72
12	-0.50	0.00	180.26	97.21
13	0.55	0.00	-60.11	-132.88
14	0.65	0.00	-61.56	-126.80
15	0.75	0.00	-62.74	-120.58
16	0.85	0.00	-63.66	-114.26
17	0.95	0.00	-64.31	-107.86
18	1.05	0.00	-64.69	-101.40
19	1.15	0.00	-64.81	-94.93
20	1.25	0.00	-64.66	-88.45
21	1.35	0.00	-64.25	-82.00
22	1.45	0.00	-63.56	-75.61
23	1.55	0.00	-62.62	-69.30
24	1.65	0.00	-61.40	-63.10
25	1.75	0.00	-59.92	-57.03
26	1.85	0.00	-58.17	-51.12
27	1.95	0.00	-56.16	-45.40
28	2.05	0.00	-53.88	-39.90
29	2.15	0.00	-51.33	-34.64
30	2.25	0.00	-48.52	-29.64
31	2.35	0.00	-45.44	-24.94
32	2.45	0.00	-42.10	-20.56
33	2.55	0.00	-38.48	-16.53
34	2.65	0.00	-34.61	-12.87
35	2.75	0.00	-30.46	-9.62
36	2.85	0.00	-26.05	-6.79
37	2.95	0.00	-21.37	-4.42
38	3.05	0.00	-16.43	-2.52
39	3.15	0.00	-11.22	-1.14
40	3.25	0.00	-5.74	-0.29
41	3.35	0.00	0.00	0.00

Combinazione n° 4 - STR (A1-M1-R3) H - V

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	-1.55	0.00	0.00	0.00
2	-1.45	0.00	16.01	0.77
3	-1.36	0.00	31.78	3.05
4	-1.26	0.00	47.31	6.82
5	-1.17	0.00	62.60	12.07
6	-1.07	0.00	77.65	18.77
7	-0.98	0.00	92.47	26.89
8	-0.88	0.00	107.05	36.41
9	-0.79	0.00	121.39	47.32
10	-0.69	0.00	135.49	59.58
11	-0.60	0.00	149.35	73.18
12	-0.50	0.00	162.97	88.08
13	0.55	0.00	-102.12	-190.80
14	0.65	0.00	-102.00	-180.60
15	0.75	0.00	-101.63	-170.41
16	0.85	0.00	-100.99	-160.28
17	0.95	0.00	-100.08	-150.22
18	1.05	0.00	-98.92	-140.27
19	1.15	0.00	-97.50	-130.45
20	1.25	0.00	-95.81	-120.78
21	1.35	0.00	-93.86	-111.29
22	1.45	0.00	-91.65	-102.02
23	1.55	0.00	-89.18	-92.97
24	1.65	0.00	-86.45	-84.19
25	1.75	0.00	-83.46	-75.69
26	1.85	0.00	-80.20	-67.51
27	1.95	0.00	-76.69	-59.66
28	2.05	0.00	-72.91	-52.18
29	2.15	0.00	-68.87	-45.09
30	2.25	0.00	-64.57	-38.41
31	2.35	0.00	-60.01	-32.18
32	2.45	0.00	-55.18	-26.42
33	2.55	0.00	-50.10	-21.15
34	2.65	0.00	-44.75	-16.41
35	2.75	0.00	-39.14	-12.21
36	2.85	0.00	-33.27	-8.59
37	2.95	0.00	-27.14	-5.57
38	3.05	0.00	-20.75	-3.17
39	3.15	0.00	-14.09	-1.43
40	3.25	0.00	-7.18	-0.36
41	3.35	0.00	0.00	0.00

Combinazione n° 9 - ECC

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	-1.55	0.00	0.00	0.00
2	-1.45	0.00	12.28	0.59
3	-1.36	0.00	24.50	2.34
4	-1.26	0.00	36.64	5.26
5	-1.17	0.00	48.71	9.33
6	-1.07	0.00	60.70	14.56
7	-0.98	0.00	72.63	20.92
8	-0.88	0.00	84.49	28.42
9	-0.79	0.00	96.27	37.05
10	-0.69	0.00	107.98	46.80
11	-0.60	0.00	119.62	57.66
12	-0.50	0.00	131.19	69.63
13	0.55	0.00	-34.66	-62.88
14	0.65	0.00	-34.48	-59.43
15	0.75	0.00	-34.23	-55.99
16	0.85	0.00	-33.89	-52.58
17	0.95	0.00	-33.48	-49.22
18	1.05	0.00	-32.98	-45.89
19	1.15	0.00	-32.41	-42.62
20	1.25	0.00	-31.77	-39.41
21	1.35	0.00	-31.04	-36.27
22	1.45	0.00	-30.23	-33.21
23	1.55	0.00	-29.35	-30.23
24	1.65	0.00	-28.38	-27.34
25	1.75	0.00	-27.34	-24.55
26	1.85	0.00	-26.22	-21.87
27	1.95	0.00	-25.02	-19.31
28	2.05	0.00	-23.75	-16.87
29	2.15	0.00	-22.39	-14.56
30	2.25	0.00	-20.96	-12.40
31	2.35	0.00	-19.44	-10.38
32	2.45	0.00	-17.85	-8.51
33	2.55	0.00	-16.18	-6.81
34	2.65	0.00	-14.43	-5.28
35	2.75	0.00	-12.61	-3.92
36	2.85	0.00	-10.70	-2.76
37	2.95	0.00	-8.72	-1.79
38	3.05	0.00	-6.66	-1.02
39	3.15	0.00	-4.52	-0.46
40	3.25	0.00	-2.30	-0.12
41	3.35	0.00	0.00	0.00

Combinazione n° 10 - SLER

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	-1.55	0.00	0.00	0.00
2	-1.45	0.00	10.55	0.50
3	-1.36	0.00	21.16	2.02
4	-1.26	0.00	31.83	4.55
5	-1.17	0.00	42.57	8.10
6	-1.07	0.00	53.36	12.67
7	-0.98	0.00	64.21	18.28
8	-0.88	0.00	75.13	24.93
9	-0.79	0.00	86.10	32.63
10	-0.69	0.00	97.13	41.37
11	-0.60	0.00	108.23	51.17
12	-0.50	0.00	119.38	62.04
13	0.55	0.00	-7.00	2.33
14	0.65	0.00	-5.72	3.15
15	0.75	0.00	-4.52	3.84
16	0.85	0.00	-3.38	4.41
17	0.95	0.00	-2.30	4.87
18	1.05	0.00	-1.29	5.23
19	1.15	0.00	-0.35	5.49
20	1.25	0.00	0.52	5.66
21	1.35	0.00	1.33	5.75
22	1.45	0.00	2.07	5.76
23	1.55	0.00	2.75	5.70
24	1.65	0.00	3.36	5.57
25	1.75	0.00	3.90	5.38
26	1.85	0.00	4.38	5.15
27	1.95	0.00	4.79	4.87
28	2.05	0.00	5.13	4.55
29	2.15	0.00	5.41	4.20
30	2.25	0.00	5.63	3.83
31	2.35	0.00	5.77	3.44
32	2.45	0.00	5.85	3.04
33	2.55	0.00	5.86	2.63

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
34	2.65	0.00	5.81	2.22
35	2.75	0.00	5.69	1.83
36	2.85	0.00	5.50	1.45
37	2.95	0.00	5.25	1.09
38	3.05	0.00	4.46	0.68
39	3.15	0.00	3.04	0.31
40	3.25	0.00	1.55	0.08
41	3.35	0.00	0.00	0.00

Combinazione n° 11 - SLEF

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	-1.55	0.00	0.00	0.00
2	-1.45	0.00	9.19	0.44
3	-1.36	0.00	18.43	1.76
4	-1.26	0.00	27.72	3.96
5	-1.17	0.00	37.07	7.05
6	-1.07	0.00	46.46	11.04
7	-0.98	0.00	55.91	15.92
8	-0.88	0.00	65.41	21.71
9	-0.79	0.00	74.96	28.41
10	-0.69	0.00	84.56	36.02
11	-0.60	0.00	94.21	44.55
12	-0.50	0.00	103.92	54.01
13	0.55	0.00	4.98	17.31
14	0.65	0.00	5.56	16.79
15	0.75	0.00	6.09	16.20
16	0.85	0.00	6.56	15.57
17	0.95	0.00	6.98	14.89
18	1.05	0.00	7.34	14.18
19	1.15	0.00	7.64	13.43
20	1.25	0.00	7.89	12.65
21	1.35	0.00	8.08	11.85
22	1.45	0.00	8.21	11.04
23	1.55	0.00	8.29	10.21
24	1.65	0.00	8.31	9.38
25	1.75	0.00	8.27	8.55
26	1.85	0.00	8.18	7.73
27	1.95	0.00	8.03	6.92
28	2.05	0.00	7.83	6.12
29	2.15	0.00	7.56	5.35
30	2.25	0.00	7.24	4.61
31	2.35	0.00	6.87	3.91
32	2.45	0.00	6.44	3.24
33	2.55	0.00	5.95	2.62
34	2.65	0.00	5.40	2.05
35	2.75	0.00	4.80	1.54
36	2.85	0.00	4.14	1.09
37	2.95	0.00	3.43	0.72
38	3.05	0.00	2.65	0.41
39	3.15	0.00	1.83	0.19
40	3.25	0.00	0.94	0.05
41	3.35	0.00	0.00	0.00

Combinazione n° 12 - SLEQ

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	-1.55	0.00	0.00	0.00
2	-1.45	0.00	9.19	0.44
3	-1.36	0.00	18.43	1.76
4	-1.26	0.00	27.72	3.96
5	-1.17	0.00	37.07	7.05
6	-1.07	0.00	46.46	11.04
7	-0.98	0.00	55.91	15.92
8	-0.88	0.00	65.41	21.71
9	-0.79	0.00	74.96	28.41
10	-0.69	0.00	84.56	36.02
11	-0.60	0.00	94.21	44.55
12	-0.50	0.00	103.92	54.01
13	0.55	0.00	4.98	17.31
14	0.65	0.00	5.56	16.79
15	0.75	0.00	6.09	16.20
16	0.85	0.00	6.56	15.57
17	0.95	0.00	6.98	14.89
18	1.05	0.00	7.34	14.18
19	1.15	0.00	7.64	13.43
20	1.25	0.00	7.89	12.65

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
21	1.35	0.00	8.08	11.85
22	1.45	0.00	8.21	11.04
23	1.55	0.00	8.29	10.21
24	1.65	0.00	8.31	9.38
25	1.75	0.00	8.27	8.55
26	1.85	0.00	8.18	7.73
27	1.95	0.00	8.03	6.92
28	2.05	0.00	7.83	6.12
29	2.15	0.00	7.56	5.35
30	2.25	0.00	7.24	4.61
31	2.35	0.00	6.87	3.91
32	2.45	0.00	6.44	3.24
33	2.55	0.00	5.95	2.62
34	2.65	0.00	5.40	2.05
35	2.75	0.00	4.80	1.54
36	2.85	0.00	4.14	1.09
37	2.95	0.00	3.43	0.72
38	3.05	0.00	2.65	0.41
39	3.15	0.00	1.83	0.19
40	3.25	0.00	0.94	0.05
41	3.35	0.00	0.00	0.00

Verifiche strutturali

Verifiche a flessione

Elementi calcolati a trave

Simbologia adottata

n°	indice sezione
B	larghezza sezione espresso in [cm]
H	altezza sezione espressa in [cm]
Afi	area ferri inferiori espresso in [cmq]
Afs	area ferri superiori espressa in [cmq]
M	momento agente espressa in [kNm]
N	sforzo normale agente espressa in [kN]
Mrd	momento resistente espresso in [kNm]
Nrd	sforzo normale resistente espresso in [kN]
FS	fattore di sicurezza (rapporto tra sollecitazione ultima e sollecitazione agente)

Paramento

Combinazione n° 1 - STR (A1-M1-R3)

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
1	0.00	100	50	12.72	12.72	0.39	3.13	547.61	4380.85	1401.872
2	-0.10	100	51	12.72	12.72	0.39	4.39	480.14	5337.78	1216.899
3	-0.20	100	52	12.72	12.72	0.41	5.67	429.58	5930.88	1045.917
4	-0.30	100	53	12.72	12.72	0.45	6.98	402.22	6297.87	902.612
5	-0.40	100	54	12.72	12.72	0.51	8.31	396.40	6512.20	783.940
6	-0.50	100	55	12.72	12.72	0.60	9.66	408.89	6613.30	684.649
7	-0.60	100	55	12.72	12.72	0.73	11.03	436.48	6626.97	600.566
8	-0.70	100	56	12.72	12.72	0.90	12.43	475.86	6567.72	528.273
9	-0.80	100	57	12.72	12.72	1.13	13.85	524.76	6457.88	466.170
10	-0.90	100	58	12.72	12.72	1.41	15.30	579.31	6293.94	411.464
11	-1.00	100	59	12.72	12.72	1.75	16.76	638.05	6097.75	363.771
12	-1.10	100	60	12.72	12.72	2.17	18.25	697.08	5862.08	321.184
13	-1.20	100	61	12.72	12.72	2.66	19.76	756.47	5613.16	284.022

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
14	-1.30	100	62	12.72	12.72	3.24	21.30	812.83	5343.53	250.899
15	-1.40	100	63	12.72	12.72	3.91	22.85	866.59	5071.10	221.885
16	-1.50	100	64	12.72	12.72	4.67	24.43	917.49	4802.99	196.565
17	-1.60	100	65	12.72	12.72	5.53	26.04	960.77	4521.82	173.667
18	-1.70	100	65	12.72	12.72	6.51	27.66	1000.72	4255.02	153.818
19	-1.80	100	66	12.72	12.72	7.59	29.31	1010.98	3901.61	133.112
20	-1.90	100	67	12.72	12.72	8.81	30.98	1009.62	3552.09	114.651
21	-2.00	100	68	12.72	12.72	10.15	32.68	998.54	3215.98	98.422
22	-2.10	100	69	12.72	12.72	11.62	34.39	981.43	2904.82	84.463
23	-2.20	100	70	12.72	12.72	13.24	36.13	951.17	2596.59	71.866
24	-2.30	100	71	12.72	12.72	15.00	37.89	919.79	2323.77	61.325
25	-2.40	100	72	12.72	12.72	16.92	39.68	886.32	2078.87	52.394
26	-2.50	100	73	12.72	12.72	18.99	41.48	850.53	1857.58	44.777
27	-2.60	100	74	12.72	12.72	21.24	43.32	812.91	1657.75	38.272
28	-2.70	100	75	12.72	12.72	23.66	45.17	780.21	1489.49	32.977
29	-2.80	100	75	12.72	12.72	26.26	47.04	744.52	1333.85	28.354
30	-2.90	100	76	12.72	12.72	29.04	48.94	716.43	1207.25	24.667
31	-3.00	100	77	12.72	12.72	32.02	50.86	694.02	1102.34	21.673
32	-3.10	100	78	12.72	12.72	35.20	52.81	675.98	1014.08	19.203
33	-3.20	100	79	12.72	12.72	38.59	54.77	661.36	938.84	17.140
34	-3.30	100	80	12.72	12.72	42.18	56.76	649.48	873.99	15.397
35	-3.40	100	81	12.72	12.72	46.00	58.78	639.81	817.56	13.910
36	-3.50	100	82	12.72	25.45	50.04	60.81	1168.42	1419.98	23.351
37	-3.60	100	83	25.45	25.45	54.31	62.87	1190.31	1377.89	21.917
38	-3.70	100	84	25.45	25.45	58.82	64.95	1179.65	1302.56	20.055
39	-3.80	100	85	25.45	25.45	63.58	67.05	1171.12	1235.16	18.421
40	-3.90	100	85	25.45	25.45	68.58	69.18	1164.41	1174.54	16.979
41	-4.00	100	86	25.45	25.45	73.85	71.33	1159.27	1119.73	15.699
42	-4.10	100	87	25.45	25.45	79.37	73.50	1155.49	1069.96	14.558
43	-4.20	100	88	25.45	25.45	85.17	75.69	1152.90	1024.58	13.536
44	-4.30	100	89	25.45	25.45	91.25	77.91	1151.35	983.06	12.618
45	-4.40	100	90	25.45	38.17	97.61	80.15	1686.01	1384.47	17.274
46	-4.50	100	91	25.45	38.17	104.25	82.41	1685.96	1332.72	16.172
47	-4.60	100	92	25.45	38.17	111.20	84.70	1686.94	1284.88	15.170
48	-4.70	100	93	25.45	38.17	118.45	87.00	1688.88	1240.56	14.259
49	-4.80	100	94	25.45	38.17	126.00	89.34	1691.69	1199.39	13.426
50	-4.90	100	95	25.45	38.17	133.88	91.69	1695.28	1161.06	12.663
51	-5.00	100	96	25.45	38.17	142.07	94.06	1699.57	1125.28	11.963
52	-5.10	100	96	25.45	38.17	150.59	96.46	1704.50	1091.83	11.319
53	-5.20	100	97	25.45	38.17	159.45	98.89	1710.02	1060.48	10.724
54	-5.30	100	98	12.72	25.45	168.65	101.33	1159.38	696.58	6.874
55	-5.40	100	99	12.72	25.45	178.20	103.80	1164.13	678.07	6.533
56	-5.50	100	100	12.72	25.45	188.10	106.29	1169.16	660.63	6.216
57	-5.60	100	101	12.72	25.45	198.37	108.80	1174.46	644.17	5.921
58	-5.70	100	102	12.72	25.45	209.00	111.34	1180.02	628.61	5.646
59	-5.80	100	103	12.72	25.45	220.00	113.89	1185.82	613.89	5.390
60	-5.90	100	104	12.72	25.45	231.39	116.47	1191.84	599.95	5.151
61	-5.99	100	105	12.72	25.45	243.16	119.08	1196.61	586.00	4.921

Combinazione n° 2 - STR (A1-M1-R3)

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
1	0.00	100	50	12.72	12.72	0.39	3.13	547.61	4380.85	1401.872
2	-0.10	100	51	12.72	12.72	0.45	4.39	512.60	5038.71	1148.719
3	-0.20	100	52	12.72	12.72	0.62	5.67	543.48	4991.38	880.237
4	-0.30	100	53	12.72	12.72	0.91	6.98	603.09	4620.58	662.223
5	-0.40	100	54	12.72	12.72	1.33	8.31	664.54	4142.94	498.728
6	-0.50	100	55	12.72	12.72	1.89	9.66	715.17	3656.76	378.570
7	-0.60	100	55	12.72	12.72	2.59	11.03	726.05	3096.71	280.638
8	-0.70	100	56	12.72	12.72	3.43	12.43	701.09	2539.00	204.224
9	-0.80	100	57	12.72	12.72	4.43	13.85	661.55	2067.35	149.234
10	-0.90	100	58	12.72	12.72	5.59	15.30	616.34	1685.42	110.184
11	-1.00	100	59	12.72	12.72	6.92	16.76	570.39	1381.34	82.406
12	-1.10	100	60	12.72	12.72	8.42	18.25	532.38	1153.56	63.204
13	-1.20	100	61	12.72	12.72	10.10	19.76	499.92	977.74	49.473
14	-1.30	100	62	12.72	12.72	11.97	21.30	477.61	849.57	39.891
15	-1.40	100	63	12.72	12.72	14.03	22.85	461.87	752.16	32.911
16	-1.50	100	64	12.72	12.72	16.29	24.43	450.62	675.72	27.654
17	-1.60	100	65	12.72	12.72	18.76	26.04	442.57	614.19	23.589
18	-1.70	100	65	12.72	12.72	21.44	27.66	436.87	563.65	20.376
19	-1.80	100	66	12.72	12.72	24.34	29.31	432.96	521.42	17.789
20	-1.90	100	67	12.72	12.72	27.46	30.98	430.44	485.62	15.674
21	-2.00	100	68	12.72	12.72	30.82	32.68	429.02	454.90	13.922
22	-2.10	100	69	12.72	12.72	34.41	34.39	427.52	427.30	12.424
23	-2.20	100	70	12.72	12.72	38.25	36.13	426.46	402.87	11.150
24	-2.30	100	71	12.72	12.72	42.34	37.89	426.10	381.38	10.065
25	-2.40	100	72	12.72	12.72	46.68	39.68	426.30	362.33	9.132
26	-2.50	100	73	12.72	12.72	51.29	41.48	426.98	345.33	8.324
27	-2.60	100	74	12.72	12.72	56.17	43.32	428.07	330.08	7.620
28	-2.70	100	75	12.72	12.72	61.33	45.17	429.50	316.31	7.003
29	-2.80	100	75	12.72	12.72	66.77	47.04	431.23	303.82	6.458

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
30	-2.90	100	76	12.72	12.72	72.50	48.94	433.23	292.44	5.975
31	-3.00	100	77	12.72	12.72	78.53	50.86	435.45	282.03	5.545
32	-3.10	100	78	12.72	12.72	84.86	52.81	437.87	272.47	5.160
33	-3.20	100	79	12.72	12.72	91.50	54.77	440.47	263.67	4.814
34	-3.30	100	80	12.72	12.72	98.46	56.76	443.23	255.53	4.502
35	-3.40	100	81	12.72	12.72	105.74	58.78	446.12	247.99	4.219
36	-3.50	100	82	12.72	25.45	113.34	60.81	869.96	466.75	7.676
37	-3.60	100	83	25.45	25.45	121.28	62.87	884.39	458.43	7.292
38	-3.70	100	84	25.45	25.45	129.57	64.95	891.71	447.00	6.882
39	-3.80	100	85	25.45	25.45	138.20	67.05	899.20	436.28	6.507
40	-3.90	100	85	25.45	25.45	147.18	69.18	906.84	426.23	6.161
41	-4.00	100	86	25.45	25.45	156.53	71.33	914.62	416.77	5.843
42	-4.10	100	87	25.45	25.45	166.24	73.50	922.06	407.65	5.546
43	-4.20	100	88	25.45	25.45	176.33	75.69	929.45	398.98	5.271
44	-4.30	100	89	25.45	25.45	186.80	77.91	936.96	390.78	5.016
45	-4.40	100	90	25.45	38.17	197.65	80.15	1387.84	562.77	7.022
46	-4.50	100	91	25.45	38.17	208.90	82.41	1399.59	552.14	6.700
47	-4.60	100	92	25.45	38.17	220.55	84.70	1411.46	542.05	6.400
48	-4.70	100	93	25.45	38.17	232.59	87.00	1423.57	532.51	6.120
49	-4.80	100	94	25.45	38.17	245.04	89.34	1435.86	523.47	5.860
50	-4.90	100	95	25.45	38.17	257.90	91.69	1448.26	514.88	5.616
51	-5.00	100	96	25.45	38.17	271.16	94.06	1460.77	506.74	5.387
52	-5.10	100	96	25.45	38.17	284.82	96.46	1473.39	499.01	5.173
53	-5.20	100	97	25.45	38.17	298.88	98.89	1486.11	491.68	4.972
54	-5.30	100	98	12.72	25.45	313.34	101.33	1014.99	328.23	3.239
55	-5.40	100	99	12.72	25.45	328.21	103.80	1023.33	323.63	3.118
56	-5.50	100	100	12.72	25.45	343.49	106.29	1031.73	319.25	3.004
57	-5.60	100	101	12.72	25.45	359.18	108.80	1040.18	315.08	2.896
58	-5.70	100	102	12.72	25.45	375.29	111.34	1048.68	311.11	2.794
59	-5.80	100	103	12.72	25.45	391.83	113.89	1057.23	307.31	2.698
60	-5.90	100	104	12.72	25.45	408.80	116.47	1065.81	303.67	2.607
61	-5.99	100	105	12.72	25.45	426.21	119.08	1073.28	299.86	2.518

Combinazione n° 3 - STR (A1-M1-R3) H + V

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
1	0.00	100	50	12.72	12.72	0.41	3.31	547.61	4380.85	1321.905
2	-0.10	100	51	12.72	12.72	0.45	4.65	499.76	5163.41	1109.999
3	-0.20	100	52	12.72	12.72	0.56	6.01	502.25	5378.00	894.316
4	-0.30	100	53	12.72	12.72	0.75	7.40	538.43	5287.51	714.580
5	-0.40	100	54	12.72	12.72	1.03	8.81	590.91	5049.37	573.170
6	-0.50	100	55	12.72	12.72	1.40	10.24	645.94	4729.58	461.705
7	-0.60	100	55	12.72	12.72	1.86	11.70	698.68	4389.04	375.066
8	-0.70	100	56	12.72	12.72	2.43	13.18	746.15	4052.71	307.384
9	-0.80	100	57	12.72	12.72	3.10	14.69	786.35	3729.12	253.835
10	-0.90	100	58	12.72	12.72	3.88	16.22	795.76	3327.57	205.129
11	-1.00	100	59	12.72	12.72	4.78	17.78	788.99	2936.17	165.170
12	-1.10	100	60	12.72	12.72	5.80	19.36	769.97	2571.49	132.855
13	-1.20	100	61	12.72	12.72	6.94	20.96	742.86	2243.28	107.034
14	-1.30	100	62	12.72	12.72	8.22	22.59	713.43	1961.05	86.826
15	-1.40	100	63	12.72	12.72	9.63	24.24	685.98	1726.60	71.237
16	-1.50	100	64	12.72	12.72	11.18	25.91	651.48	1509.48	58.252
17	-1.60	100	65	12.72	12.72	12.88	27.61	623.91	1337.07	48.423
18	-1.70	100	65	12.72	12.72	14.74	29.34	596.98	1188.35	40.508
19	-1.80	100	66	12.72	12.72	16.75	31.08	574.86	1067.01	34.327
20	-1.90	100	67	12.72	12.72	18.92	32.86	558.02	969.15	29.497
21	-2.00	100	68	12.72	12.72	21.26	34.65	545.09	888.61	25.644
22	-2.10	100	69	12.72	12.72	23.77	36.47	535.13	821.21	22.516
23	-2.20	100	70	12.72	12.72	26.45	38.32	527.48	764.00	19.939
24	-2.30	100	71	12.72	12.72	29.32	40.19	521.65	714.85	17.789
25	-2.40	100	72	12.72	12.72	32.38	42.08	517.29	672.19	15.975
26	-2.50	100	73	12.72	12.72	35.63	43.99	514.15	634.82	14.430
27	-2.60	100	74	12.72	12.72	39.08	45.94	512.00	601.83	13.102
28	-2.70	100	75	12.72	12.72	42.73	47.90	510.69	572.50	11.952
29	-2.80	100	75	12.72	12.72	46.59	49.89	510.02	546.19	10.948
30	-2.90	100	76	12.72	12.72	50.66	51.90	508.50	521.01	10.038
31	-3.00	100	77	12.72	12.72	54.94	53.94	507.59	498.31	9.238
32	-3.10	100	78	12.72	12.72	59.46	56.00	507.21	477.74	8.531
33	-3.20	100	79	12.72	12.72	64.20	58.09	507.28	459.01	7.902
34	-3.30	100	80	12.72	12.72	69.17	60.20	507.76	441.90	7.341
35	-3.40	100	81	12.72	12.72	74.38	62.33	508.58	426.20	6.838
36	-3.50	100	82	12.72	25.45	79.83	64.49	973.41	786.31	12.193
37	-3.60	100	83	25.45	25.45	85.54	66.67	988.11	770.18	11.552
38	-3.70	100	84	25.45	25.45	91.49	68.88	992.81	747.40	10.851
39	-3.80	100	85	25.45	25.45	97.71	71.11	997.88	726.22	10.213
40	-3.90	100	85	25.45	25.45	104.19	73.36	1003.30	706.46	9.630
41	-4.00	100	86	25.45	25.45	110.93	75.64	1009.01	688.00	9.096
42	-4.10	100	87	25.45	25.45	117.96	77.94	1015.01	670.70	8.605
43	-4.20	100	88	25.45	25.45	125.26	80.27	1021.26	654.47	8.153
44	-4.30	100	89	25.45	25.45	132.84	82.62	1027.75	639.21	7.737
45	-4.40	100	90	25.45	38.17	140.72	85.00	1515.88	915.64	10.773

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
46	-4.50	100	91	25.45	38.17	148.88	87.40	1525.56	895.52	10.247
47	-4.60	100	92	25.45	38.17	157.35	89.82	1535.48	876.49	9.758
48	-4.70	100	93	25.45	38.17	166.12	92.27	1545.73	858.52	9.305
49	-4.80	100	94	25.45	38.17	175.21	94.74	1556.23	841.50	8.882
50	-4.90	100	95	25.45	38.17	184.60	97.24	1566.94	825.35	8.488
51	-5.00	100	96	25.45	38.17	194.32	99.76	1577.85	810.00	8.120
52	-5.10	100	96	25.45	38.17	204.36	102.30	1588.94	795.39	7.775
53	-5.20	100	97	25.45	38.17	214.73	104.87	1600.19	781.48	7.452
54	-5.30	100	98	12.72	25.45	225.44	107.46	1090.38	519.76	4.837
55	-5.40	100	99	12.72	25.45	236.48	110.08	1098.43	511.29	4.645
56	-5.50	100	100	12.72	25.45	247.88	112.72	1106.57	503.19	4.464
57	-5.60	100	101	12.72	25.45	259.62	115.38	1114.80	495.45	4.294
58	-5.70	100	102	12.72	25.45	271.71	118.07	1123.12	488.04	4.133
59	-5.80	100	103	12.72	25.45	284.17	120.78	1131.53	480.94	3.982
60	-5.90	100	104	12.72	25.45	297.00	123.52	1140.01	474.13	3.838
61	-5.99	100	105	12.72	25.45	310.19	126.28	1147.22	467.05	3.698

Combinazione n° 4 - STR (A1-M1-R3) H - V

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
1	0.00	100	50	12.72	12.72	0.39	3.13	547.61	4380.85	1401.872
2	-0.10	100	51	12.72	12.72	0.42	4.31	500.30	5158.11	1196.758
3	-0.20	100	52	12.72	12.72	0.50	5.52	495.77	5429.16	984.165
4	-0.30	100	53	12.72	12.72	0.65	6.74	524.48	5418.16	803.365
5	-0.40	100	54	12.72	12.72	0.87	7.99	570.37	5238.28	655.314
6	-0.50	100	55	12.72	12.72	1.16	9.26	623.84	4976.23	537.151
7	-0.60	100	55	12.72	12.72	1.53	10.56	677.89	4674.20	442.798
8	-0.70	100	56	12.72	12.72	1.98	11.87	727.67	4353.18	366.757
9	-0.80	100	57	12.72	12.72	2.53	13.20	772.06	4035.89	305.655
10	-0.90	100	58	12.72	12.72	3.16	14.56	808.86	3725.08	255.841
11	-1.00	100	59	12.72	12.72	3.90	15.94	815.35	3335.36	209.276
12	-1.10	100	60	12.72	12.72	4.73	17.34	809.16	2962.95	170.909
13	-1.20	100	61	12.72	12.72	5.68	18.76	790.69	2610.16	139.159
14	-1.30	100	62	12.72	12.72	6.74	20.20	763.99	2288.32	113.293
15	-1.40	100	63	12.72	12.72	7.92	21.66	735.12	2009.48	92.769
16	-1.50	100	64	12.72	12.72	9.23	23.15	706.91	1772.84	76.595
17	-1.60	100	65	12.72	12.72	10.66	24.65	672.79	1555.32	63.093
18	-1.70	100	65	12.72	12.72	12.23	26.18	643.74	1377.68	52.627
19	-1.80	100	66	12.72	12.72	13.94	27.73	616.00	1225.18	44.188
20	-1.90	100	67	12.72	12.72	15.79	29.30	592.13	1098.40	37.492
21	-2.00	100	68	12.72	12.72	17.80	30.89	573.83	995.99	32.246
22	-2.10	100	69	12.72	12.72	19.95	32.50	559.67	911.62	28.049
23	-2.20	100	70	12.72	12.72	22.27	34.13	548.65	840.94	24.636
24	-2.30	100	71	12.72	12.72	24.75	35.79	540.07	780.91	21.819
25	-2.40	100	72	12.72	12.72	27.40	37.47	533.44	729.32	19.466
26	-2.50	100	73	12.72	12.72	30.23	39.16	528.38	684.52	17.478
27	-2.60	100	74	12.72	12.72	33.24	40.88	524.60	645.28	15.783
28	-2.70	100	75	12.72	12.72	36.43	42.62	521.89	610.64	14.326
29	-2.80	100	75	12.72	12.72	39.81	44.39	520.08	579.83	13.063
30	-2.90	100	76	12.72	12.72	43.39	46.17	518.67	551.90	11.953
31	-3.00	100	77	12.72	12.72	47.17	47.98	516.66	525.49	10.953
32	-3.10	100	78	12.72	12.72	51.15	49.80	515.30	501.68	10.074
33	-3.20	100	79	12.72	12.72	55.35	51.65	514.50	480.12	9.296
34	-3.30	100	80	12.72	12.72	59.76	53.52	514.20	460.51	8.605
35	-3.40	100	81	12.72	12.72	64.39	55.41	514.33	442.60	7.988
36	-3.50	100	82	12.72	25.45	69.25	57.32	982.02	812.90	14.182
37	-3.60	100	83	25.45	25.45	74.33	59.25	996.03	793.97	13.399
38	-3.70	100	84	25.45	25.45	79.66	61.21	999.83	768.26	12.552
39	-3.80	100	85	25.45	25.45	85.22	63.18	1004.08	744.43	11.782
40	-3.90	100	85	25.45	25.45	91.03	65.18	1008.74	722.27	11.081
41	-4.00	100	86	25.45	25.45	97.10	67.20	1013.75	701.62	10.441
42	-4.10	100	87	25.45	25.45	103.42	69.24	1019.10	682.33	9.854
43	-4.20	100	88	25.45	25.45	110.00	71.30	1024.74	664.27	9.316
44	-4.30	100	89	25.45	25.45	116.84	73.39	1030.66	647.33	8.821
45	-4.40	100	90	25.45	38.17	123.96	75.49	1519.38	925.27	12.257
46	-4.50	100	91	25.45	38.17	131.36	77.61	1528.33	903.05	11.635
47	-4.60	100	92	25.45	38.17	139.03	79.76	1537.56	882.09	11.059
48	-4.70	100	93	25.45	38.17	147.00	81.93	1547.16	862.33	10.525
49	-4.80	100	94	25.45	38.17	155.25	84.12	1557.05	843.66	10.029
50	-4.90	100	95	25.45	38.17	163.80	86.33	1567.18	825.97	9.567
51	-5.00	100	96	25.45	38.17	172.66	88.56	1577.53	809.18	9.137
52	-5.10	100	96	25.45	38.17	181.82	90.82	1588.10	793.24	8.734
53	-5.20	100	97	25.45	38.17	191.29	93.09	1598.85	778.08	8.358
54	-5.30	100	98	12.72	25.45	201.08	95.39	1089.18	516.68	5.417
55	-5.40	100	99	12.72	25.45	211.20	97.71	1096.93	507.48	5.194
56	-5.50	100	100	12.72	25.45	221.64	100.05	1104.78	498.69	4.985
57	-5.60	100	101	12.72	25.45	232.41	102.41	1112.74	490.30	4.788
58	-5.70	100	102	12.72	25.45	243.52	104.79	1120.79	482.28	4.602
59	-5.80	100	103	12.72	25.45	254.98	107.19	1128.94	474.61	4.428
60	-5.90	100	104	12.72	25.45	266.78	109.62	1137.18	467.26	4.263
61	-5.99	100	105	12.72	25.45	278.93	112.06	1144.16	459.68	4.102

Combinazione n° 9 - ECC

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
1	0.00	100	50	12.72	12.72	17.09	3.13	252.43	46.16	14.770
2	-0.10	100	51	12.72	12.72	17.09	4.39	262.15	67.27	15.336
3	-0.20	100	52	12.72	12.72	17.11	5.67	272.48	90.31	15.927
4	-0.30	100	53	12.72	12.72	17.14	6.98	283.46	115.40	16.540
5	-0.40	100	54	12.72	12.72	17.19	8.31	295.15	142.65	17.172
6	-0.50	100	55	12.72	12.72	17.26	9.66	307.58	172.11	17.818
7	-0.60	100	55	12.72	12.72	17.37	11.03	320.80	203.82	18.472
8	-0.70	100	56	12.72	12.72	17.51	12.43	334.82	237.78	19.126
9	-0.80	100	57	12.72	12.72	17.68	13.85	349.67	273.91	19.773
10	-0.90	100	58	12.72	12.72	17.91	15.30	365.33	312.07	20.401
11	-1.00	100	59	12.72	12.72	18.18	16.76	381.77	352.03	21.001
12	-1.10	100	60	12.72	12.72	18.50	18.25	398.93	393.49	21.559
13	-1.20	100	61	12.72	12.72	18.89	19.76	416.74	436.04	22.064
14	-1.30	100	62	12.72	12.72	19.34	21.30	435.07	479.22	22.501
15	-1.40	100	63	12.72	12.72	19.85	22.85	453.78	522.44	22.859
16	-1.50	100	64	12.72	12.72	20.44	24.43	472.71	565.10	23.127
17	-1.60	100	65	12.72	12.72	21.11	26.04	491.66	606.53	23.295
18	-1.70	100	65	12.72	12.72	21.86	27.66	510.43	646.06	23.355
19	-1.80	100	66	12.72	12.72	22.69	29.31	528.82	683.06	23.304
20	-1.90	100	67	12.72	12.72	23.62	30.98	546.61	716.95	23.141
21	-2.00	100	68	12.72	12.72	24.65	32.68	563.64	747.24	22.868
22	-2.10	100	69	12.72	12.72	25.78	34.39	579.74	773.55	22.492
23	-2.20	100	70	12.72	12.72	27.01	36.13	594.79	795.66	22.021
24	-2.30	100	71	12.72	12.72	28.36	37.89	608.71	813.43	21.467
25	-2.40	100	72	12.72	12.72	29.82	39.68	621.43	826.89	20.840
26	-2.50	100	73	12.72	12.72	31.40	41.48	632.95	836.18	20.156
27	-2.60	100	74	12.72	12.72	33.11	43.32	643.29	841.51	19.428
28	-2.70	100	75	12.72	12.72	34.95	45.17	652.49	843.20	18.668
29	-2.80	100	75	12.72	12.72	36.93	47.04	660.63	841.59	17.890
30	-2.90	100	76	12.72	12.72	39.04	48.94	667.79	837.07	17.103
31	-3.00	100	77	12.72	12.72	41.31	50.86	674.06	830.02	16.319
32	-3.10	100	78	12.72	12.72	43.72	52.81	679.55	820.83	15.544
33	-3.20	100	79	12.72	12.72	46.28	54.77	684.35	809.87	14.786
34	-3.30	100	80	12.72	12.72	49.01	56.76	688.55	797.47	14.049
35	-3.40	100	81	12.72	12.72	51.90	58.78	692.25	783.94	13.338
36	-3.50	100	82	12.72	25.45	54.96	60.81	1306.39	1445.43	23.769
37	-3.60	100	83	25.45	25.45	58.19	62.87	1328.87	1435.58	22.835
38	-3.70	100	84	25.45	25.45	61.61	64.95	1336.51	1408.99	21.694
39	-3.80	100	85	25.45	25.45	65.20	67.05	1343.78	1381.86	20.609
40	-3.90	100	85	25.45	25.45	68.99	69.18	1350.78	1354.47	19.580
41	-4.00	100	86	25.45	25.45	72.97	71.33	1357.56	1327.03	18.605
42	-4.10	100	87	25.45	25.45	77.14	73.50	1364.20	1299.72	17.684
43	-4.20	100	88	25.45	25.45	81.52	75.69	1370.74	1272.70	16.814
44	-4.30	100	89	25.45	25.45	86.11	77.91	1377.24	1246.07	15.994
45	-4.40	100	90	25.45	38.17	90.91	80.15	2012.80	1774.54	22.141
46	-4.50	100	91	25.45	38.17	95.93	82.41	2021.74	1736.88	21.076
47	-4.60	100	92	25.45	38.17	101.17	84.70	2030.73	1700.13	20.073
48	-4.70	100	93	25.45	38.17	106.63	87.00	2039.83	1664.35	19.130
49	-4.80	100	94	25.45	38.17	112.33	89.34	2049.05	1629.58	18.241
50	-4.90	100	95	25.45	38.17	118.27	91.69	2058.41	1595.84	17.405
51	-5.00	100	96	25.45	38.17	124.44	94.06	2067.92	1563.13	16.618
52	-5.10	100	96	25.45	38.17	130.86	96.46	2077.61	1531.47	15.876
53	-5.20	100	97	25.45	38.17	137.54	98.89	2087.47	1500.83	15.177
54	-5.30	100	98	12.72	25.45	144.47	101.33	1430.55	1003.40	9.902
55	-5.40	100	99	12.72	25.45	151.66	103.80	1437.98	984.18	9.482
56	-5.50	100	100	12.72	25.45	159.11	106.29	1445.54	965.62	9.085
57	-5.60	100	101	12.72	25.45	166.84	108.80	1453.23	947.70	8.710
58	-5.70	100	102	12.72	25.45	174.84	111.34	1461.06	930.39	8.357
59	-5.80	100	103	12.72	25.45	183.12	113.89	1469.02	913.68	8.022
60	-5.90	100	104	12.72	25.45	191.68	116.47	1477.11	897.54	7.706
61	-5.99	100	105	12.72	25.45	200.54	119.08	1483.39	880.82	7.397

Mensola valle

Combinazione n° 1 - STR (A1-M1-R3)

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
1	-0.75	100	50	8.04	16.08	0.00	0.00	0.00	0.00	100000.000
2	-0.67	100	50	8.04	16.08	-0.04	0.00	-261.36	0.00	6021.831
3	-0.58	100	50	8.04	16.08	-0.17	0.00	-261.36	0.00	1505.458
4	-0.50	100	50	8.04	16.08	-0.39	0.00	-261.36	0.00	669.092
5	-0.50	100	50	8.04	16.08	-0.39	0.00	-261.36	0.00	669.092

Combinazione n° 2 - STR (A1-M1-R3)

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
1	-0.75	100	50	8.04	16.08	0.00	0.00	0.00	0.00	100000.000
2	-0.67	100	50	8.04	16.08	-0.04	0.00	-261.36	0.00	6021.831
3	-0.58	100	50	8.04	16.08	-0.17	0.00	-261.36	0.00	1505.458
4	-0.50	100	50	8.04	16.08	-0.39	0.00	-261.36	0.00	669.092
5	-0.50	100	50	8.04	16.08	-0.39	0.00	-261.36	0.00	669.092

Combinazione n° 3 - STR (A1-M1-R3) H + V

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
1	-0.75	100	50	8.04	16.08	0.00	0.00	0.00	0.00	100000.000
2	-0.67	100	50	8.04	16.08	-0.05	0.00	-261.36	0.00	5678.326
3	-0.58	100	50	8.04	16.08	-0.18	0.00	-261.36	0.00	1419.581
4	-0.50	100	50	8.04	16.08	-0.41	0.00	-261.36	0.00	630.925
5	-0.50	100	50	8.04	16.08	-0.41	0.00	-261.36	0.00	630.925

Combinazione n° 4 - STR (A1-M1-R3) H - V

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
1	-0.75	100	50	8.04	16.08	0.00	0.00	0.00	0.00	100000.000
2	-0.67	100	50	8.04	16.08	-0.04	0.00	-261.36	0.00	6021.831
3	-0.58	100	50	8.04	16.08	-0.17	0.00	-261.36	0.00	1505.458
4	-0.50	100	50	8.04	16.08	-0.39	0.00	-261.36	0.00	669.092
5	-0.50	100	50	8.04	16.08	-0.39	0.00	-261.36	0.00	669.092

Combinazione n° 9 - ECC

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
1	-0.75	100	50	8.04	16.08	0.00	0.00	0.00	0.00	100000.000
2	-0.67	100	50	8.04	16.08	-0.04	0.00	-304.18	0.00	7008.401
3	-0.58	100	50	8.04	16.08	-0.17	0.00	-304.18	0.00	1752.100
4	-0.50	100	50	8.04	16.08	-0.39	0.00	-304.18	0.00	778.711
5	-0.50	100	50	8.04	16.08	-17.09	-16.70	-251.27	-245.53	14.702

Fondazione

Combinazione n° 1 - STR (A1-M1-R3)

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
1	-1.55	100	95	20.36	20.36	0.00	0.00	0.00	0.00	100000.000
2	-1.45	100	95	20.36	20.36	0.50	0.00	678.78	0.00	1348.047
3	-1.36	100	95	20.36	20.36	2.01	0.00	678.78	0.00	336.911
4	-1.26	100	95	20.36	20.36	4.53	0.00	678.78	0.00	149.694
5	-1.17	100	95	20.36	20.36	8.06	0.00	678.78	0.00	84.178
6	-1.07	100	95	20.36	20.36	12.60	0.00	678.78	0.00	53.858
7	-0.98	100	95	20.36	20.36	18.15	0.00	678.78	0.00	37.390
8	-0.88	100	95	20.36	20.36	24.72	0.00	678.78	0.00	27.462
9	-0.79	100	95	20.36	20.36	32.29	0.00	678.78	0.00	21.019
10	-0.69	100	95	20.36	20.36	40.88	0.00	678.78	0.00	16.603
11	-0.60	100	95	20.36	20.36	50.49	0.00	678.78	0.00	13.444
12	-0.50	100	95	20.36	20.36	61.11	0.00	678.78	0.00	11.108
13	0.55	100	95	20.36	20.36	-154.10	0.00	-678.78	0.00	4.405
14	0.65	100	95	20.36	20.36	-143.17	0.00	-678.78	0.00	4.741
15	0.75	100	95	20.36	20.36	-132.64	0.00	-678.78	0.00	5.117
16	0.85	100	95	20.36	20.36	-122.53	0.00	-678.78	0.00	5.540
17	0.95	100	95	20.36	20.36	-112.82	0.00	-678.78	0.00	6.016
18	1.05	100	95	20.36	20.36	-103.52	0.00	-678.78	0.00	6.557
19	1.15	100	95	20.36	20.36	-94.63	0.00	-678.78	0.00	7.173
20	1.25	100	95	20.36	20.36	-86.15	0.00	-678.78	0.00	7.879
21	1.35	100	95	20.36	20.36	-78.07	0.00	-678.78	0.00	8.694

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
22	1.45	100	95	20.36	20.36	-70.40	0.00	-678.78	0.00	9.642
23	1.55	100	95	20.36	20.36	-63.13	0.00	-678.78	0.00	10.753
24	1.65	100	95	20.36	20.36	-56.26	0.00	-678.78	0.00	12.066
25	1.75	100	95	20.36	20.36	-49.79	0.00	-678.78	0.00	13.633
26	1.85	100	95	20.36	20.36	-43.72	0.00	-678.78	0.00	15.525
27	1.95	100	95	20.36	20.36	-38.05	0.00	-678.78	0.00	17.838
28	2.05	100	95	20.36	20.36	-32.78	0.00	-678.78	0.00	20.706
29	2.15	100	95	20.36	20.36	-27.91	0.00	-678.78	0.00	24.323
30	2.25	100	95	20.36	20.36	-23.43	0.00	-678.78	0.00	28.972
31	2.35	100	95	20.36	20.36	-19.35	0.00	-678.78	0.00	35.087
32	2.45	100	95	20.36	20.36	-15.66	0.00	-678.78	0.00	43.356
33	2.55	100	95	20.36	20.36	-12.36	0.00	-678.78	0.00	54.921
34	2.65	100	95	20.36	20.36	-9.45	0.00	-678.78	0.00	71.798
35	2.75	100	95	20.36	20.36	-6.94	0.00	-678.78	0.00	97.812
36	2.85	100	95	20.36	20.36	-4.81	0.00	-678.78	0.00	140.975
37	2.95	100	95	20.36	20.36	-3.08	0.00	-678.78	0.00	220.471
38	3.05	100	95	20.36	20.36	-1.73	0.00	-678.78	0.00	392.299
39	3.15	100	95	20.36	20.36	-0.77	0.00	-678.78	0.00	883.464
40	3.25	100	95	20.36	20.36	-0.19	0.00	-678.78	0.00	3537.029
41	3.35	100	95	20.36	20.36	0.00	0.00	0.00	0.00	100000.000

Combinazione n° 2 - STR (A1-M1-R3)

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
1	-1.55	100	95	20.36	20.36	0.00	0.00	0.00	0.00	100000.000
2	-1.45	100	95	20.36	20.36	0.62	0.00	678.78	0.00	1093.859
3	-1.36	100	95	20.36	20.36	2.48	0.00	678.78	0.00	273.288
4	-1.26	100	95	20.36	20.36	5.59	0.00	678.78	0.00	121.383
5	-1.17	100	95	20.36	20.36	9.95	0.00	678.78	0.00	68.234
6	-1.07	100	95	20.36	20.36	15.55	0.00	678.78	0.00	43.641
7	-0.98	100	95	20.36	20.36	22.41	0.00	678.78	0.00	30.287
8	-0.88	100	95	20.36	20.36	30.52	0.00	678.78	0.00	22.237
9	-0.79	100	95	20.36	20.36	39.89	0.00	678.78	0.00	17.014
10	-0.69	100	95	20.36	20.36	50.52	0.00	678.78	0.00	13.435
11	-0.60	100	95	20.36	20.36	62.42	0.00	678.78	0.00	10.875
12	-0.50	100	95	20.36	20.36	75.57	0.00	678.78	0.00	8.982
13	0.55	100	95	20.36	20.36	-181.12	0.00	-678.78	0.00	3.748
14	0.65	100	95	20.36	20.36	-167.76	0.00	-678.78	0.00	4.046
15	0.75	100	95	20.36	20.36	-154.94	0.00	-678.78	0.00	4.381
16	0.85	100	95	20.36	20.36	-142.65	0.00	-678.78	0.00	4.758
17	0.95	100	95	20.36	20.36	-130.89	0.00	-678.78	0.00	5.186
18	1.05	100	95	20.36	20.36	-119.66	0.00	-678.78	0.00	5.673
19	1.15	100	95	20.36	20.36	-108.95	0.00	-678.78	0.00	6.230
20	1.25	100	95	20.36	20.36	-98.76	0.00	-678.78	0.00	6.873
21	1.35	100	95	20.36	20.36	-89.08	0.00	-678.78	0.00	7.620
22	1.45	100	95	20.36	20.36	-79.93	0.00	-678.78	0.00	8.493
23	1.55	100	95	20.36	20.36	-71.28	0.00	-678.78	0.00	9.523
24	1.65	100	95	20.36	20.36	-63.14	0.00	-678.78	0.00	10.750
25	1.75	100	95	20.36	20.36	-55.51	0.00	-678.78	0.00	12.228
26	1.85	100	95	20.36	20.36	-48.38	0.00	-678.78	0.00	14.030
27	1.95	100	95	20.36	20.36	-41.75	0.00	-678.78	0.00	16.257
28	2.05	100	95	20.36	20.36	-35.63	0.00	-678.78	0.00	19.054
29	2.15	100	95	20.36	20.36	-29.99	0.00	-678.78	0.00	22.633
30	2.25	100	95	20.36	20.36	-24.85	0.00	-678.78	0.00	27.316
31	2.35	100	95	20.36	20.36	-20.20	0.00	-678.78	0.00	33.608
32	2.45	100	95	20.36	20.36	-16.03	0.00	-678.78	0.00	42.338
33	2.55	100	95	20.36	20.36	-12.35	0.00	-678.78	0.00	54.956
34	2.65	100	95	20.36	20.36	-9.15	0.00	-678.78	0.00	74.169
35	2.75	100	95	20.36	20.36	-6.43	0.00	-678.78	0.00	105.551
36	2.85	100	95	20.36	20.36	-4.19	0.00	-678.78	0.00	162.166
37	2.95	100	95	20.36	20.36	-2.41	0.00	-678.78	0.00	281.233
38	3.05	100	95	20.36	20.36	-1.24	0.00	-678.78	0.00	547.229
39	3.15	100	95	20.36	20.36	-0.55	0.00	-678.78	0.00	1235.408
40	3.25	100	95	20.36	20.36	-0.14	0.00	-678.78	0.00	4958.313
41	3.35	100	95	20.36	20.36	0.00	0.00	0.00	0.00	100000.000

Combinazione n° 3 - STR (A1-M1-R3) H + V

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
1	-1.55	100	95	20.36	20.36	0.00	0.00	0.00	0.00	100000.000
2	-1.45	100	95	20.36	20.36	0.84	0.00	678.78	0.00	806.176
3	-1.36	100	95	20.36	20.36	3.35	0.00	678.78	0.00	202.472
4	-1.26	100	95	20.36	20.36	7.51	0.00	678.78	0.00	90.404
5	-1.17	100	95	20.36	20.36	13.29	0.00	678.78	0.00	51.089
6	-1.07	100	95	20.36	20.36	20.66	0.00	678.78	0.00	32.850
7	-0.98	100	95	20.36	20.36	29.62	0.00	678.78	0.00	22.919
8	-0.88	100	95	20.36	20.36	40.12	0.00	678.78	0.00	16.918

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
9	-0.79	100	95	20.36	20.36	52.16	0.00	678.78	0.00	13.014
10	-0.69	100	95	20.36	20.36	65.70	0.00	678.78	0.00	10.332
11	-0.60	100	95	20.36	20.36	80.72	0.00	678.78	0.00	8.409
12	-0.50	100	95	20.36	20.36	97.21	0.00	678.78	0.00	6.983
13	0.55	100	95	20.36	20.36	-132.88	0.00	-678.78	0.00	5.108
14	0.65	100	95	20.36	20.36	-126.80	0.00	-678.78	0.00	5.353
15	0.75	100	95	20.36	20.36	-120.58	0.00	-678.78	0.00	5.629
16	0.85	100	95	20.36	20.36	-114.26	0.00	-678.78	0.00	5.941
17	0.95	100	95	20.36	20.36	-107.86	0.00	-678.78	0.00	6.293
18	1.05	100	95	20.36	20.36	-101.40	0.00	-678.78	0.00	6.694
19	1.15	100	95	20.36	20.36	-94.93	0.00	-678.78	0.00	7.151
20	1.25	100	95	20.36	20.36	-88.45	0.00	-678.78	0.00	7.674
21	1.35	100	95	20.36	20.36	-82.00	0.00	-678.78	0.00	8.277
22	1.45	100	95	20.36	20.36	-75.61	0.00	-678.78	0.00	8.977
23	1.55	100	95	20.36	20.36	-69.30	0.00	-678.78	0.00	9.795
24	1.65	100	95	20.36	20.36	-63.10	0.00	-678.78	0.00	10.758
25	1.75	100	95	20.36	20.36	-57.03	0.00	-678.78	0.00	11.902
26	1.85	100	95	20.36	20.36	-51.12	0.00	-678.78	0.00	13.278
27	1.95	100	95	20.36	20.36	-45.40	0.00	-678.78	0.00	14.950
28	2.05	100	95	20.36	20.36	-39.90	0.00	-678.78	0.00	17.013
29	2.15	100	95	20.36	20.36	-34.64	0.00	-678.78	0.00	19.598
30	2.25	100	95	20.36	20.36	-29.64	0.00	-678.78	0.00	22.900
31	2.35	100	95	20.36	20.36	-24.94	0.00	-678.78	0.00	27.216
32	2.45	100	95	20.36	20.36	-20.56	0.00	-678.78	0.00	33.012
33	2.55	100	95	20.36	20.36	-16.53	0.00	-678.78	0.00	41.063
34	2.65	100	95	20.36	20.36	-12.87	0.00	-678.78	0.00	52.727
35	2.75	100	95	20.36	20.36	-9.62	0.00	-678.78	0.00	70.574
36	2.85	100	95	20.36	20.36	-6.79	0.00	-678.78	0.00	99.965
37	2.95	100	95	20.36	20.36	-4.42	0.00	-678.78	0.00	153.684
38	3.05	100	95	20.36	20.36	-2.52	0.00	-678.78	0.00	268.891
39	3.15	100	95	20.36	20.36	-1.14	0.00	-678.78	0.00	595.578
40	3.25	100	95	20.36	20.36	-0.29	0.00	-678.78	0.00	2345.758
41	3.35	100	95	20.36	20.36	0.00	0.00	0.00	0.00	100000.000

Combinazione n° 4 - STR (A1-M1-R3) H - V

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
1	-1.55	100	95	20.36	20.36	0.00	0.00	0.00	0.00	100000.000
2	-1.45	100	95	20.36	20.36	0.77	0.00	678.78	0.00	886.292
3	-1.36	100	95	20.36	20.36	3.05	0.00	678.78	0.00	222.675
4	-1.26	100	95	20.36	20.36	6.82	0.00	678.78	0.00	99.461
5	-1.17	100	95	20.36	20.36	12.07	0.00	678.78	0.00	56.228
6	-1.07	100	95	20.36	20.36	18.77	0.00	678.78	0.00	36.168
7	-0.98	100	95	20.36	20.36	26.89	0.00	678.78	0.00	25.244
8	-0.88	100	95	20.36	20.36	36.41	0.00	678.78	0.00	18.641
9	-0.79	100	95	20.36	20.36	47.32	0.00	678.78	0.00	14.345
10	-0.69	100	95	20.36	20.36	59.58	0.00	678.78	0.00	11.393
11	-0.60	100	95	20.36	20.36	73.18	0.00	678.78	0.00	9.276
12	-0.50	100	95	20.36	20.36	88.08	0.00	678.78	0.00	7.706
13	0.55	100	95	20.36	20.36	-190.80	0.00	-678.78	0.00	3.557
14	0.65	100	95	20.36	20.36	-180.60	0.00	-678.78	0.00	3.759
15	0.75	100	95	20.36	20.36	-170.41	0.00	-678.78	0.00	3.983
16	0.85	100	95	20.36	20.36	-160.28	0.00	-678.78	0.00	4.235
17	0.95	100	95	20.36	20.36	-150.22	0.00	-678.78	0.00	4.519
18	1.05	100	95	20.36	20.36	-140.27	0.00	-678.78	0.00	4.839
19	1.15	100	95	20.36	20.36	-130.45	0.00	-678.78	0.00	5.203
20	1.25	100	95	20.36	20.36	-120.78	0.00	-678.78	0.00	5.620
21	1.35	100	95	20.36	20.36	-111.29	0.00	-678.78	0.00	6.099
22	1.45	100	95	20.36	20.36	-102.02	0.00	-678.78	0.00	6.654
23	1.55	100	95	20.36	20.36	-92.97	0.00	-678.78	0.00	7.301
24	1.65	100	95	20.36	20.36	-84.19	0.00	-678.78	0.00	8.063
25	1.75	100	95	20.36	20.36	-75.69	0.00	-678.78	0.00	8.968
26	1.85	100	95	20.36	20.36	-67.51	0.00	-678.78	0.00	10.055
27	1.95	100	95	20.36	20.36	-59.66	0.00	-678.78	0.00	11.378
28	2.05	100	95	20.36	20.36	-52.18	0.00	-678.78	0.00	13.009
29	2.15	100	95	20.36	20.36	-45.09	0.00	-678.78	0.00	15.055
30	2.25	100	95	20.36	20.36	-38.41	0.00	-678.78	0.00	17.671
31	2.35	100	95	20.36	20.36	-32.18	0.00	-678.78	0.00	21.092
32	2.45	100	95	20.36	20.36	-26.42	0.00	-678.78	0.00	25.692
33	2.55	100	95	20.36	20.36	-21.15	0.00	-678.78	0.00	32.088
34	2.65	100	95	20.36	20.36	-16.41	0.00	-678.78	0.00	41.365
35	2.75	100	95	20.36	20.36	-12.21	0.00	-678.78	0.00	55.579
36	2.85	100	95	20.36	20.36	-8.59	0.00	-678.78	0.00	79.019
37	2.95	100	95	20.36	20.36	-5.57	0.00	-678.78	0.00	121.921
38	3.05	100	95	20.36	20.36	-3.17	0.00	-678.78	0.00	214.067
39	3.15	100	95	20.36	20.36	-1.43	0.00	-678.78	0.00	475.766
40	3.25	100	95	20.36	20.36	-0.36	0.00	-678.78	0.00	1880.094
41	3.35	100	95	20.36	20.36	0.00	0.00	0.00	0.00	100000.000

Combinazione n° 9 - ECC

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
1	-1.55	100	95	20.36	20.36	0.00	0.00	0.00	0.00	100000.000
2	-1.45	100	95	20.36	20.36	0.59	0.00	784.86	0.00	1337.420
3	-1.36	100	95	20.36	20.36	2.34	0.00	784.86	0.00	335.005
4	-1.26	100	95	20.36	20.36	5.26	0.00	784.86	0.00	149.181
5	-1.17	100	95	20.36	20.36	9.33	0.00	784.86	0.00	84.078
6	-1.07	100	95	20.36	20.36	14.56	0.00	784.86	0.00	53.915
7	-0.98	100	95	20.36	20.36	20.92	0.00	784.86	0.00	37.514
8	-0.88	100	95	20.36	20.36	28.42	0.00	784.86	0.00	27.616
9	-0.79	100	95	20.36	20.36	37.05	0.00	784.86	0.00	21.185
10	-0.69	100	95	20.36	20.36	46.80	0.00	784.86	0.00	16.772
11	-0.60	100	95	20.36	20.36	57.66	0.00	784.86	0.00	13.612
12	-0.50	100	95	20.36	20.36	69.63	0.00	784.86	0.00	11.272
13	0.55	100	95	20.36	20.36	-62.88	0.00	-784.86	0.00	12.481
14	0.65	100	95	20.36	20.36	-59.43	0.00	-784.86	0.00	13.207
15	0.75	100	95	20.36	20.36	-55.99	0.00	-784.86	0.00	14.018
16	0.85	100	95	20.36	20.36	-52.58	0.00	-784.86	0.00	14.926
17	0.95	100	95	20.36	20.36	-49.22	0.00	-784.86	0.00	15.948
18	1.05	100	95	20.36	20.36	-45.89	0.00	-784.86	0.00	17.103
19	1.15	100	95	20.36	20.36	-42.62	0.00	-784.86	0.00	18.415
20	1.25	100	95	20.36	20.36	-39.41	0.00	-784.86	0.00	19.915
21	1.35	100	95	20.36	20.36	-36.27	0.00	-784.86	0.00	21.639
22	1.45	100	95	20.36	20.36	-33.21	0.00	-784.86	0.00	23.636
23	1.55	100	95	20.36	20.36	-30.23	0.00	-784.86	0.00	25.966
24	1.65	100	95	20.36	20.36	-27.34	0.00	-784.86	0.00	28.708
25	1.75	100	95	20.36	20.36	-24.55	0.00	-784.86	0.00	31.966
26	1.85	100	95	20.36	20.36	-21.87	0.00	-784.86	0.00	35.881
27	1.95	100	95	20.36	20.36	-19.31	0.00	-784.86	0.00	40.643
28	2.05	100	95	20.36	20.36	-16.87	0.00	-784.86	0.00	46.519
29	2.15	100	95	20.36	20.36	-14.56	0.00	-784.86	0.00	53.889
30	2.25	100	95	20.36	20.36	-12.40	0.00	-784.86	0.00	63.313
31	2.35	100	95	20.36	20.36	-10.38	0.00	-784.86	0.00	75.643
32	2.45	100	95	20.36	20.36	-8.51	0.00	-784.86	0.00	92.224
33	2.55	100	95	20.36	20.36	-6.81	0.00	-784.86	0.00	115.285
34	2.65	100	95	20.36	20.36	-5.28	0.00	-784.86	0.00	148.747
35	2.75	100	95	20.36	20.36	-3.92	0.00	-784.86	0.00	200.031
36	2.85	100	95	20.36	20.36	-2.76	0.00	-784.86	0.00	284.628
37	2.95	100	95	20.36	20.36	-1.79	0.00	-784.86	0.00	439.518
38	3.05	100	95	20.36	20.36	-1.02	0.00	-784.86	0.00	772.312
39	3.15	100	95	20.36	20.36	-0.46	0.00	-784.86	0.00	1717.800
40	3.25	100	95	20.36	20.36	-0.12	0.00	-784.86	0.00	6793.392
41	3.35	100	95	20.36	20.36	0.00	0.00	0.00	0.00	100000.000

Verifiche a taglio

Simbologia adottata

n° (o Is)	indice sezione
Y	ordinata sezione espressa in [m]
B	larghezza sezione espresso in [cm]
H	altezza sezione espressa in [cm]
A_{sw}	area ferri a taglio espresso in [cmq]
cotgθ	inclinazione delle bielle compresse, θ inclinazione dei puntoni di calcestruzzo
V_{Rcd}	resistenza di progetto a 'taglio compressione' espressa in [kN]
V_{Rsd}	resistenza di progetto a 'taglio trazione' espressa in [kN]
V_{Rd}	resistenza di progetto a taglio espresso in [kN]. Per elementi con armature trasversali resistenti al taglio (A_{sw}>0.0) $V_{Rd}=\min(V_{Rcd}, V_{Rsd})$.
T	taglio agente espressa in [kN]
FS	fattore di sicurezza (rapporto tra sollecitazione resistente e sollecitazione agente)

Paramento

Combinazione n° 1 - STR (A1-M1-R3)

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
1	0.00	100	50	0.00	0.00	--	0.00	0.00	219.32	0.00	100.000
2	-0.10	100	51	0.00	0.00	--	0.00	0.00	221.55	0.03	6886.582
3	-0.20	100	52	0.00	0.00	--	0.00	0.00	223.77	0.13	1738.868
4	-0.30	100	53	0.00	0.00	--	0.00	0.00	225.97	0.29	782.581
5	-0.40	100	54	0.00	0.00	--	0.00	0.00	228.16	0.51	446.000
6	-0.50	100	55	0.00	0.00	--	0.00	0.00	230.34	0.80	288.811
7	-0.60	100	55	0.00	0.00	--	0.00	0.00	232.51	1.15	202.698
8	-0.70	100	56	0.00	0.00	--	0.00	0.00	234.67	1.56	150.414
9	-0.80	100	57	0.00	0.00	--	0.00	0.00	236.82	2.04	116.271
10	-0.90	100	58	0.00	0.00	--	0.00	0.00	238.96	2.58	92.728
11	-1.00	100	59	0.00	0.00	--	0.00	0.00	241.09	3.18	75.797
12	-1.10	100	60	0.00	0.00	--	0.00	0.00	243.21	3.85	63.204
13	-1.20	100	61	0.00	0.00	--	0.00	0.00	245.32	4.58	53.577
14	-1.30	100	62	0.00	0.00	--	0.00	0.00	247.42	5.37	46.047
15	-1.40	100	63	0.00	0.00	--	0.00	0.00	249.52	6.23	40.043
16	-1.50	100	64	0.00	0.00	--	0.00	0.00	251.60	7.15	35.176
17	-1.60	100	65	0.00	0.00	--	0.00	0.00	253.68	8.14	31.173
18	-1.70	100	65	0.00	0.00	--	0.00	0.00	255.75	9.19	27.840
19	-1.80	100	66	0.00	0.00	--	0.00	0.00	257.81	10.30	25.034
20	-1.90	100	67	0.00	0.00	--	0.00	0.00	259.87	11.47	22.648
21	-2.00	100	68	0.00	0.00	--	0.00	0.00	261.92	12.71	20.602
22	-2.10	100	69	0.00	0.00	--	0.00	0.00	263.96	14.02	18.832
23	-2.20	100	70	0.00	0.00	--	0.00	0.00	265.99	15.38	17.292
24	-2.30	100	71	0.00	0.00	--	0.00	0.00	268.02	16.81	15.942
25	-2.40	100	72	0.00	0.00	--	0.00	0.00	270.05	18.31	14.752
26	-2.50	100	73	0.00	0.00	--	0.00	0.00	272.06	19.86	13.697
27	-2.60	100	74	0.00	0.00	--	0.00	0.00	274.08	21.48	12.758
28	-2.70	100	75	0.00	0.00	--	0.00	0.00	276.08	23.17	11.917
29	-2.80	100	75	0.00	0.00	--	0.00	0.00	278.08	24.92	11.161
30	-2.90	100	76	0.00	0.00	--	0.00	0.00	280.08	26.73	10.479
31	-3.00	100	77	0.00	0.00	--	0.00	0.00	282.07	28.60	9.862
32	-3.10	100	78	0.00	0.00	--	0.00	0.00	284.05	30.54	9.301
33	-3.20	100	79	0.00	0.00	--	0.00	0.00	286.03	32.54	8.790
34	-3.30	100	80	0.00	0.00	--	0.00	0.00	288.01	34.61	8.322
35	-3.40	100	81	0.00	0.00	--	0.00	0.00	289.98	36.74	7.894
36	-3.50	100	82	0.00	0.00	--	0.00	0.00	332.96	38.93	8.553
37	-3.60	100	83	0.00	0.00	--	0.00	0.00	368.00	41.18	8.935
38	-3.70	100	84	0.00	0.00	--	0.00	0.00	370.39	43.50	8.514
39	-3.80	100	85	0.00	0.00	--	0.00	0.00	372.77	45.89	8.124
40	-3.90	100	85	0.00	0.00	--	0.00	0.00	375.15	48.33	7.762
41	-4.00	100	86	0.00	0.00	--	0.00	0.00	377.52	50.84	7.425
42	-4.10	100	87	0.00	0.00	--	0.00	0.00	379.89	53.42	7.112
43	-4.20	100	88	0.00	0.00	--	0.00	0.00	382.25	56.06	6.819
44	-4.30	100	89	0.00	0.00	--	0.00	0.00	384.61	58.76	6.546
45	-4.40	100	90	0.00	0.00	--	0.00	0.00	415.96	61.52	6.761
46	-4.50	100	91	0.00	0.00	--	0.00	0.00	418.47	64.35	6.503
47	-4.60	100	92	0.00	0.00	--	0.00	0.00	420.96	67.24	6.261
48	-4.70	100	93	0.00	0.00	--	0.00	0.00	423.46	70.20	6.033
49	-4.80	100	94	0.00	0.00	--	0.00	0.00	425.94	73.21	5.818
50	-4.90	100	95	0.00	0.00	--	0.00	0.00	428.42	76.30	5.615
51	-5.00	100	96	0.00	0.00	--	0.00	0.00	430.90	79.44	5.424
52	-5.10	100	96	0.00	0.00	--	0.00	0.00	433.37	82.65	5.243
53	-5.20	100	97	0.00	0.00	--	0.00	0.00	435.84	85.92	5.072
54	-5.30	100	98	0.00	0.00	--	0.00	0.00	371.94	89.26	4.167
55	-5.40	100	99	0.00	0.00	--	0.00	0.00	374.07	92.66	4.037
56	-5.50	100	100	0.00	0.00	--	0.00	0.00	376.19	96.12	3.914
57	-5.60	100	101	0.00	0.00	--	0.00	0.00	378.31	99.65	3.796
58	-5.70	100	102	0.00	0.00	--	0.00	0.00	380.44	103.24	3.685
59	-5.80	100	103	0.00	0.00	--	0.00	0.00	382.55	106.90	3.579
60	-5.90	100	104	0.00	0.00	--	0.00	0.00	384.67	110.61	3.478
61	-5.99	100	105	0.00	0.00	--	0.00	0.00	386.61	114.40	3.380

Combinazione n° 2 - STR (A1-M1-R3)

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
1	0.00	100	50	0.00	0.00	--	0.00	0.00	219.32	0.00	100.000
2	-0.10	100	51	0.00	0.00	--	0.00	0.00	221.55	1.07	207.894
3	-0.20	100	52	0.00	0.00	--	0.00	0.00	223.77	2.20	101.909
4	-0.30	100	53	0.00	0.00	--	0.00	0.00	225.97	3.39	66.671
5	-0.40	100	54	0.00	0.00	--	0.00	0.00	228.16	4.65	49.112
6	-0.50	100	55	0.00	0.00	--	0.00	0.00	230.34	5.97	38.614
7	-0.60	100	55	0.00	0.00	--	0.00	0.00	232.51	7.35	31.642
8	-0.70	100	56	0.00	0.00	--	0.00	0.00	234.67	8.79	26.683
9	-0.80	100	57	0.00	0.00	--	0.00	0.00	236.82	10.31	22.981
10	-0.90	100	58	0.00	0.00	--	0.00	0.00	238.96	11.88	20.116
11	-1.00	100	59	0.00	0.00	--	0.00	0.00	241.09	13.52	17.837
12	-1.10	100	60	0.00	0.00	--	0.00	0.00	243.21	15.22	15.983
13	-1.20	100	61	0.00	0.00	--	0.00	0.00	245.32	16.98	14.446
14	-1.30	100	62	0.00	0.00	--	0.00	0.00	247.42	18.81	13.154
15	-1.40	100	63	0.00	0.00	--	0.00	0.00	249.52	20.70	12.053
16	-1.50	100	64	0.00	0.00	--	0.00	0.00	251.60	22.66	11.105

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
17	-1.60	100	65	0.00	0.00	--	0.00	0.00	253.68	24.67	10.281
18	-1.70	100	65	0.00	0.00	--	0.00	0.00	255.75	26.76	9.558
19	-1.80	100	66	0.00	0.00	--	0.00	0.00	257.81	28.90	8.920
20	-1.90	100	67	0.00	0.00	--	0.00	0.00	259.87	31.11	8.353
21	-2.00	100	68	0.00	0.00	--	0.00	0.00	261.92	33.38	7.846
22	-2.10	100	69	0.00	0.00	--	0.00	0.00	263.96	35.72	7.390
23	-2.20	100	70	0.00	0.00	--	0.00	0.00	265.99	38.12	6.978
24	-2.30	100	71	0.00	0.00	--	0.00	0.00	268.02	40.58	6.604
25	-2.40	100	72	0.00	0.00	--	0.00	0.00	270.05	43.11	6.264
26	-2.50	100	73	0.00	0.00	--	0.00	0.00	272.06	45.70	5.953
27	-2.60	100	74	0.00	0.00	--	0.00	0.00	274.08	48.36	5.668
28	-2.70	100	75	0.00	0.00	--	0.00	0.00	276.08	51.07	5.406
29	-2.80	100	75	0.00	0.00	--	0.00	0.00	278.08	53.85	5.164
30	-2.90	100	76	0.00	0.00	--	0.00	0.00	280.08	56.70	4.940
31	-3.00	100	77	0.00	0.00	--	0.00	0.00	282.07	59.61	4.732
32	-3.10	100	78	0.00	0.00	--	0.00	0.00	284.05	62.58	4.539
33	-3.20	100	79	0.00	0.00	--	0.00	0.00	286.03	65.61	4.359
34	-3.30	100	80	0.00	0.00	--	0.00	0.00	288.01	68.71	4.191
35	-3.40	100	81	0.00	0.00	--	0.00	0.00	289.98	71.88	4.034
36	-3.50	100	82	0.00	0.00	--	0.00	0.00	332.96	75.10	4.433
37	-3.60	100	83	0.00	0.00	--	0.00	0.00	368.00	78.39	4.694
38	-3.70	100	84	0.00	0.00	--	0.00	0.00	370.39	81.74	4.531
39	-3.80	100	85	0.00	0.00	--	0.00	0.00	372.77	85.16	4.377
40	-3.90	100	85	0.00	0.00	--	0.00	0.00	375.15	88.64	4.232
41	-4.00	100	86	0.00	0.00	--	0.00	0.00	377.52	92.19	4.095
42	-4.10	100	87	0.00	0.00	--	0.00	0.00	379.89	95.79	3.966
43	-4.20	100	88	0.00	0.00	--	0.00	0.00	382.25	99.46	3.843
44	-4.30	100	89	0.00	0.00	--	0.00	0.00	384.61	103.20	3.727
45	-4.40	100	90	0.00	0.00	--	0.00	0.00	415.96	107.00	3.888
46	-4.50	100	91	0.00	0.00	--	0.00	0.00	418.47	110.85	3.775
47	-4.60	100	92	0.00	0.00	--	0.00	0.00	420.96	114.75	3.669
48	-4.70	100	93	0.00	0.00	--	0.00	0.00	423.46	118.68	3.568
49	-4.80	100	94	0.00	0.00	--	0.00	0.00	425.94	122.61	3.474
50	-4.90	100	95	0.00	0.00	--	0.00	0.00	428.42	126.54	3.386
51	-5.00	100	96	0.00	0.00	--	0.00	0.00	430.90	130.46	3.303
52	-5.10	100	96	0.00	0.00	--	0.00	0.00	433.37	134.37	3.225
53	-5.20	100	97	0.00	0.00	--	0.00	0.00	435.84	138.27	3.152
54	-5.30	100	98	0.00	0.00	--	0.00	0.00	371.94	142.18	2.616
55	-5.40	100	99	0.00	0.00	--	0.00	0.00	374.07	146.13	2.560
56	-5.50	100	100	0.00	0.00	--	0.00	0.00	376.19	150.13	2.506
57	-5.60	100	101	0.00	0.00	--	0.00	0.00	378.31	154.19	2.454
58	-5.70	100	102	0.00	0.00	--	0.00	0.00	380.44	158.31	2.403
59	-5.80	100	103	0.00	0.00	--	0.00	0.00	382.55	162.50	2.354
60	-5.90	100	104	0.00	0.00	--	0.00	0.00	384.67	166.76	2.307
61	-5.99	100	105	0.00	0.00	--	0.00	0.00	386.61	171.08	2.260

Combinazione n° 3 - STR (A1-M1-R3) H + V

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
1	0.00	100	50	0.00	0.00	--	0.00	0.00	219.35	0.00	100.000
2	-0.10	100	51	0.00	0.00	--	0.00	0.00	221.58	0.67	332.073
3	-0.20	100	52	0.00	0.00	--	0.00	0.00	223.81	1.38	161.601
4	-0.30	100	53	0.00	0.00	--	0.00	0.00	226.03	2.15	105.007
5	-0.40	100	54	0.00	0.00	--	0.00	0.00	228.23	2.97	76.865
6	-0.50	100	55	0.00	0.00	--	0.00	0.00	230.42	3.84	60.075
7	-0.60	100	55	0.00	0.00	--	0.00	0.00	232.60	4.75	48.952
8	-0.70	100	56	0.00	0.00	--	0.00	0.00	234.77	5.72	41.062
9	-0.80	100	57	0.00	0.00	--	0.00	0.00	236.93	6.73	35.188
10	-0.90	100	58	0.00	0.00	--	0.00	0.00	239.09	7.80	30.656
11	-1.00	100	59	0.00	0.00	--	0.00	0.00	241.23	8.91	27.060
12	-1.10	100	60	0.00	0.00	--	0.00	0.00	243.36	10.08	24.144
13	-1.20	100	61	0.00	0.00	--	0.00	0.00	245.48	11.29	21.734
14	-1.30	100	62	0.00	0.00	--	0.00	0.00	247.60	12.56	19.714
15	-1.40	100	63	0.00	0.00	--	0.00	0.00	249.71	13.87	17.998
16	-1.50	100	64	0.00	0.00	--	0.00	0.00	251.81	15.24	16.524
17	-1.60	100	65	0.00	0.00	--	0.00	0.00	253.90	16.65	15.246
18	-1.70	100	65	0.00	0.00	--	0.00	0.00	255.98	18.12	14.129
19	-1.80	100	66	0.00	0.00	--	0.00	0.00	258.06	19.63	13.145
20	-1.90	100	67	0.00	0.00	--	0.00	0.00	260.13	21.20	12.273
21	-2.00	100	68	0.00	0.00	--	0.00	0.00	262.19	22.81	11.495
22	-2.10	100	69	0.00	0.00	--	0.00	0.00	264.25	24.47	10.798
23	-2.20	100	70	0.00	0.00	--	0.00	0.00	266.30	26.19	10.169
24	-2.30	100	71	0.00	0.00	--	0.00	0.00	268.34	27.95	9.601
25	-2.40	100	72	0.00	0.00	--	0.00	0.00	270.38	29.76	9.085
26	-2.50	100	73	0.00	0.00	--	0.00	0.00	272.41	31.63	8.614
27	-2.60	100	74	0.00	0.00	--	0.00	0.00	274.44	33.54	8.183
28	-2.70	100	75	0.00	0.00	--	0.00	0.00	276.46	35.50	7.788
29	-2.80	100	75	0.00	0.00	--	0.00	0.00	278.48	37.51	7.424
30	-2.90	100	76	0.00	0.00	--	0.00	0.00	280.49	39.57	7.088
31	-3.00	100	77	0.00	0.00	--	0.00	0.00	282.50	41.69	6.777
32	-3.10	100	78	0.00	0.00	--	0.00	0.00	284.50	43.85	6.488

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
33	-3.20	100	79	0.00	0.00	--	0.00	0.00	286.50	46.06	6.220
34	-3.30	100	80	0.00	0.00	--	0.00	0.00	288.49	48.32	5.970
35	-3.40	100	81	0.00	0.00	--	0.00	0.00	290.48	50.63	5.737
36	-3.50	100	82	0.00	0.00	--	0.00	0.00	333.47	52.99	6.293
37	-3.60	100	83	0.00	0.00	--	0.00	0.00	368.54	55.41	6.652
38	-3.70	100	84	0.00	0.00	--	0.00	0.00	370.94	57.87	6.410
39	-3.80	100	85	0.00	0.00	--	0.00	0.00	373.35	60.38	6.184
40	-3.90	100	85	0.00	0.00	--	0.00	0.00	375.74	62.94	5.970
41	-4.00	100	86	0.00	0.00	--	0.00	0.00	378.13	65.55	5.769
42	-4.10	100	87	0.00	0.00	--	0.00	0.00	380.52	68.21	5.579
43	-4.20	100	88	0.00	0.00	--	0.00	0.00	382.90	70.92	5.399
44	-4.30	100	89	0.00	0.00	--	0.00	0.00	385.28	73.68	5.229
45	-4.40	100	90	0.00	0.00	--	0.00	0.00	416.65	76.49	5.447
46	-4.50	100	91	0.00	0.00	--	0.00	0.00	419.17	79.35	5.283
47	-4.60	100	92	0.00	0.00	--	0.00	0.00	421.69	82.26	5.127
48	-4.70	100	93	0.00	0.00	--	0.00	0.00	424.20	85.21	4.978
49	-4.80	100	94	0.00	0.00	--	0.00	0.00	426.71	88.22	4.837
50	-4.90	100	95	0.00	0.00	--	0.00	0.00	429.21	91.28	4.702
51	-5.00	100	96	0.00	0.00	--	0.00	0.00	431.71	94.39	4.574
52	-5.10	100	96	0.00	0.00	--	0.00	0.00	434.20	97.55	4.451
53	-5.20	100	97	0.00	0.00	--	0.00	0.00	436.69	100.76	4.334
54	-5.30	100	98	0.00	0.00	--	0.00	0.00	372.81	104.01	3.584
55	-5.40	100	99	0.00	0.00	--	0.00	0.00	374.96	107.32	3.494
56	-5.50	100	100	0.00	0.00	--	0.00	0.00	377.11	110.68	3.407
57	-5.60	100	101	0.00	0.00	--	0.00	0.00	379.25	114.09	3.324
58	-5.70	100	102	0.00	0.00	--	0.00	0.00	381.40	117.55	3.245
59	-5.80	100	103	0.00	0.00	--	0.00	0.00	383.54	121.05	3.168
60	-5.90	100	104	0.00	0.00	--	0.00	0.00	385.67	124.61	3.095
61	-5.99	100	105	0.00	0.00	--	0.00	0.00	387.63	128.22	3.023

Combinazione n° 4 - STR (A1-M1-R3) H - V

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
1	0.00	100	50	0.00	0.00	--	0.00	0.00	219.32	0.00	100.000
2	-0.10	100	51	0.00	0.00	--	0.00	0.00	221.54	0.50	440.308
3	-0.20	100	52	0.00	0.00	--	0.00	0.00	223.74	1.06	211.738
4	-0.30	100	53	0.00	0.00	--	0.00	0.00	225.94	1.66	136.100
5	-0.40	100	54	0.00	0.00	--	0.00	0.00	228.12	2.31	98.637
6	-0.50	100	55	0.00	0.00	--	0.00	0.00	230.29	3.01	76.384
7	-0.60	100	55	0.00	0.00	--	0.00	0.00	232.45	3.77	61.708
8	-0.70	100	56	0.00	0.00	--	0.00	0.00	234.59	4.57	51.348
9	-0.80	100	57	0.00	0.00	--	0.00	0.00	236.73	5.42	43.675
10	-0.90	100	58	0.00	0.00	--	0.00	0.00	238.86	6.32	37.783
11	-1.00	100	59	0.00	0.00	--	0.00	0.00	240.98	7.27	33.132
12	-1.10	100	60	0.00	0.00	--	0.00	0.00	243.08	8.27	29.378
13	-1.20	100	61	0.00	0.00	--	0.00	0.00	245.18	9.33	26.292
14	-1.30	100	62	0.00	0.00	--	0.00	0.00	247.27	10.43	23.717
15	-1.40	100	63	0.00	0.00	--	0.00	0.00	249.35	11.58	21.539
16	-1.50	100	64	0.00	0.00	--	0.00	0.00	251.42	12.78	19.678
17	-1.60	100	65	0.00	0.00	--	0.00	0.00	253.49	14.03	18.071
18	-1.70	100	65	0.00	0.00	--	0.00	0.00	255.54	15.33	16.672
19	-1.80	100	66	0.00	0.00	--	0.00	0.00	257.59	16.68	15.446
20	-1.90	100	67	0.00	0.00	--	0.00	0.00	259.63	18.08	14.363
21	-2.00	100	68	0.00	0.00	--	0.00	0.00	261.67	19.53	13.401
22	-2.10	100	69	0.00	0.00	--	0.00	0.00	263.70	21.03	12.541
23	-2.20	100	70	0.00	0.00	--	0.00	0.00	265.72	22.58	11.770
24	-2.30	100	71	0.00	0.00	--	0.00	0.00	267.73	24.17	11.075
25	-2.40	100	72	0.00	0.00	--	0.00	0.00	269.74	25.82	10.446
26	-2.50	100	73	0.00	0.00	--	0.00	0.00	271.74	27.52	9.874
27	-2.60	100	74	0.00	0.00	--	0.00	0.00	273.74	29.27	9.352
28	-2.70	100	75	0.00	0.00	--	0.00	0.00	275.73	31.07	8.875
29	-2.80	100	75	0.00	0.00	--	0.00	0.00	277.71	32.92	8.437
30	-2.90	100	76	0.00	0.00	--	0.00	0.00	279.69	34.82	8.034
31	-3.00	100	77	0.00	0.00	--	0.00	0.00	281.66	36.76	7.662
32	-3.10	100	78	0.00	0.00	--	0.00	0.00	283.63	38.76	7.318
33	-3.20	100	79	0.00	0.00	--	0.00	0.00	285.59	40.81	6.998
34	-3.30	100	80	0.00	0.00	--	0.00	0.00	287.55	42.91	6.702
35	-3.40	100	81	0.00	0.00	--	0.00	0.00	289.51	45.05	6.426
36	-3.50	100	82	0.00	0.00	--	0.00	0.00	332.46	47.25	7.036
37	-3.60	100	83	0.00	0.00	--	0.00	0.00	367.49	49.50	7.425
38	-3.70	100	84	0.00	0.00	--	0.00	0.00	369.86	51.79	7.141
39	-3.80	100	85	0.00	0.00	--	0.00	0.00	372.23	54.14	6.875
40	-3.90	100	85	0.00	0.00	--	0.00	0.00	374.59	56.54	6.626
41	-4.00	100	86	0.00	0.00	--	0.00	0.00	376.94	58.98	6.391
42	-4.10	100	87	0.00	0.00	--	0.00	0.00	379.29	61.48	6.170
43	-4.20	100	88	0.00	0.00	--	0.00	0.00	381.63	64.02	5.961
44	-4.30	100	89	0.00	0.00	--	0.00	0.00	383.97	66.62	5.764
45	-4.40	100	90	0.00	0.00	--	0.00	0.00	415.30	69.26	5.996
46	-4.50	100	91	0.00	0.00	--	0.00	0.00	417.79	71.96	5.806
47	-4.60	100	92	0.00	0.00	--	0.00	0.00	420.26	74.71	5.626
48	-4.70	100	93	0.00	0.00	--	0.00	0.00	422.74	77.50	5.455

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
49	-4.80	100	94	0.00	0.00	--	0.00	0.00	425.20	80.34	5.292
50	-4.90	100	95	0.00	0.00	--	0.00	0.00	427.66	83.24	5.138
51	-5.00	100	96	0.00	0.00	--	0.00	0.00	430.12	86.18	4.991
52	-5.10	100	96	0.00	0.00	--	0.00	0.00	432.57	89.18	4.851
53	-5.20	100	97	0.00	0.00	--	0.00	0.00	435.01	92.22	4.717
54	-5.30	100	98	0.00	0.00	--	0.00	0.00	371.09	95.32	3.893
55	-5.40	100	99	0.00	0.00	--	0.00	0.00	373.20	98.46	3.790
56	-5.50	100	100	0.00	0.00	--	0.00	0.00	375.30	101.65	3.692
57	-5.60	100	101	0.00	0.00	--	0.00	0.00	377.40	104.90	3.598
58	-5.70	100	102	0.00	0.00	--	0.00	0.00	379.50	108.19	3.508
59	-5.80	100	103	0.00	0.00	--	0.00	0.00	381.60	111.53	3.421
60	-5.90	100	104	0.00	0.00	--	0.00	0.00	383.69	114.93	3.339
61	-5.99	100	105	0.00	0.00	--	0.00	0.00	385.60	118.37	3.258

Combinazione n° 9 - ECC

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
1	0.00	100	50	0.00	0.00	--	0.00	0.00	219.32	16.70	13.133
2	-0.10	100	51	0.00	0.00	--	0.00	0.00	221.55	16.72	13.248
3	-0.20	100	52	0.00	0.00	--	0.00	0.00	223.77	16.80	13.323
4	-0.30	100	53	0.00	0.00	--	0.00	0.00	225.97	16.91	13.360
5	-0.40	100	54	0.00	0.00	--	0.00	0.00	228.16	17.08	13.359
6	-0.50	100	55	0.00	0.00	--	0.00	0.00	230.34	17.29	13.322
7	-0.60	100	55	0.00	0.00	--	0.00	0.00	232.51	17.55	13.249
8	-0.70	100	56	0.00	0.00	--	0.00	0.00	234.67	17.86	13.143
9	-0.80	100	57	0.00	0.00	--	0.00	0.00	236.82	18.21	13.006
10	-0.90	100	58	0.00	0.00	--	0.00	0.00	238.96	18.61	12.841
11	-1.00	100	59	0.00	0.00	--	0.00	0.00	241.09	19.06	12.652
12	-1.10	100	60	0.00	0.00	--	0.00	0.00	243.21	19.55	12.440
13	-1.20	100	61	0.00	0.00	--	0.00	0.00	245.32	20.09	12.210
14	-1.30	100	62	0.00	0.00	--	0.00	0.00	247.42	20.68	11.964
15	-1.40	100	63	0.00	0.00	--	0.00	0.00	249.52	21.32	11.706
16	-1.50	100	64	0.00	0.00	--	0.00	0.00	251.60	22.00	11.437
17	-1.60	100	65	0.00	0.00	--	0.00	0.00	253.68	22.73	11.162
18	-1.70	100	65	0.00	0.00	--	0.00	0.00	255.75	23.50	10.881
19	-1.80	100	66	0.00	0.00	--	0.00	0.00	257.81	24.33	10.597
20	-1.90	100	67	0.00	0.00	--	0.00	0.00	259.87	25.20	10.312
21	-2.00	100	68	0.00	0.00	--	0.00	0.00	261.92	26.12	10.028
22	-2.10	100	69	0.00	0.00	--	0.00	0.00	263.96	27.08	9.747
23	-2.20	100	70	0.00	0.00	--	0.00	0.00	265.99	28.09	9.468
24	-2.30	100	71	0.00	0.00	--	0.00	0.00	268.02	29.15	9.193
25	-2.40	100	72	0.00	0.00	--	0.00	0.00	270.05	30.26	8.924
26	-2.50	100	73	0.00	0.00	--	0.00	0.00	272.06	31.41	8.661
27	-2.60	100	74	0.00	0.00	--	0.00	0.00	274.08	32.61	8.404
28	-2.70	100	75	0.00	0.00	--	0.00	0.00	276.08	33.86	8.153
29	-2.80	100	75	0.00	0.00	--	0.00	0.00	278.08	35.16	7.910
30	-2.90	100	76	0.00	0.00	--	0.00	0.00	280.08	36.50	7.674
31	-3.00	100	77	0.00	0.00	--	0.00	0.00	282.07	37.89	7.445
32	-3.10	100	78	0.00	0.00	--	0.00	0.00	284.05	39.32	7.224
33	-3.20	100	79	0.00	0.00	--	0.00	0.00	286.03	40.80	7.010
34	-3.30	100	80	0.00	0.00	--	0.00	0.00	288.01	42.33	6.803
35	-3.40	100	81	0.00	0.00	--	0.00	0.00	289.98	43.91	6.604
36	-3.50	100	82	0.00	0.00	--	0.00	0.00	332.96	45.54	7.312
37	-3.60	100	83	0.00	0.00	--	0.00	0.00	368.00	47.21	7.795
38	-3.70	100	84	0.00	0.00	--	0.00	0.00	370.39	48.93	7.571
39	-3.80	100	85	0.00	0.00	--	0.00	0.00	372.77	50.69	7.354
40	-3.90	100	85	0.00	0.00	--	0.00	0.00	375.15	52.50	7.145
41	-4.00	100	86	0.00	0.00	--	0.00	0.00	377.52	54.36	6.945
42	-4.10	100	87	0.00	0.00	--	0.00	0.00	379.89	56.27	6.751
43	-4.20	100	88	0.00	0.00	--	0.00	0.00	382.25	58.22	6.565
44	-4.30	100	89	0.00	0.00	--	0.00	0.00	384.61	60.22	6.386
45	-4.40	100	90	0.00	0.00	--	0.00	0.00	415.96	62.27	6.680
46	-4.50	100	91	0.00	0.00	--	0.00	0.00	418.47	64.37	6.501
47	-4.60	100	92	0.00	0.00	--	0.00	0.00	420.96	66.51	6.330
48	-4.70	100	93	0.00	0.00	--	0.00	0.00	423.46	68.70	6.164
49	-4.80	100	94	0.00	0.00	--	0.00	0.00	425.94	70.93	6.005
50	-4.90	100	95	0.00	0.00	--	0.00	0.00	428.42	73.22	5.852
51	-5.00	100	96	0.00	0.00	--	0.00	0.00	430.90	75.55	5.704
52	-5.10	100	96	0.00	0.00	--	0.00	0.00	433.37	77.92	5.562
53	-5.20	100	97	0.00	0.00	--	0.00	0.00	435.84	80.35	5.424
54	-5.30	100	98	0.00	0.00	--	0.00	0.00	371.94	82.82	4.491
55	-5.40	100	99	0.00	0.00	--	0.00	0.00	374.07	85.34	4.383
56	-5.50	100	100	0.00	0.00	--	0.00	0.00	376.19	87.90	4.280
57	-5.60	100	101	0.00	0.00	--	0.00	0.00	378.31	90.52	4.180
58	-5.70	100	102	0.00	0.00	--	0.00	0.00	380.44	93.18	4.083
59	-5.80	100	103	0.00	0.00	--	0.00	0.00	382.55	95.88	3.990
60	-5.90	100	104	0.00	0.00	--	0.00	0.00	384.67	98.64	3.900
61	-5.99	100	105	0.00	0.00	--	0.00	0.00	386.61	101.44	3.811

Mensola valle

Combinazione n° 1 - STR (A1-M1-R3)

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
1	-0.75	100	50	0.00	0.00	--	0.00	0.00	215.05	0.00	100.000
2	-0.67	100	50	0.00	0.00	--	0.00	0.00	215.05	1.04	206.445
3	-0.58	100	50	0.00	0.00	--	0.00	0.00	215.05	2.08	103.223
4	-0.50	100	50	0.00	0.00	--	0.00	0.00	215.05	3.13	68.815
5	-0.50	100	50	0.00	0.00	--	0.00	0.00	215.05	3.13	68.815

Combinazione n° 2 - STR (A1-M1-R3)

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
1	-0.75	100	50	0.00	0.00	--	0.00	0.00	215.05	0.00	100.000
2	-0.67	100	50	0.00	0.00	--	0.00	0.00	215.05	1.04	206.445
3	-0.58	100	50	0.00	0.00	--	0.00	0.00	215.05	2.08	103.223
4	-0.50	100	50	0.00	0.00	--	0.00	0.00	215.05	3.13	68.815
5	-0.50	100	50	0.00	0.00	--	0.00	0.00	215.05	3.13	68.815

Combinazione n° 3 - STR (A1-M1-R3) H + V

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
1	-0.75	100	50	0.00	0.00	--	0.00	0.00	215.05	0.00	100.000
2	-0.67	100	50	0.00	0.00	--	0.00	0.00	215.05	1.10	194.669
3	-0.58	100	50	0.00	0.00	--	0.00	0.00	215.05	2.21	97.335
4	-0.50	100	50	0.00	0.00	--	0.00	0.00	215.05	3.31	64.890
5	-0.50	100	50	0.00	0.00	--	0.00	0.00	215.05	3.31	64.890

Combinazione n° 4 - STR (A1-M1-R3) H - V

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
1	-0.75	100	50	0.00	0.00	--	0.00	0.00	215.05	0.00	100.000
2	-0.67	100	50	0.00	0.00	--	0.00	0.00	215.05	1.04	206.445
3	-0.58	100	50	0.00	0.00	--	0.00	0.00	215.05	2.08	103.223
4	-0.50	100	50	0.00	0.00	--	0.00	0.00	215.05	3.13	68.815
5	-0.50	100	50	0.00	0.00	--	0.00	0.00	215.05	3.13	68.815

Combinazione n° 9 - ECC

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
1	-0.75	100	50	0.00	0.00	--	0.00	0.00	215.05	0.00	100.000
2	-0.67	100	50	0.00	0.00	--	0.00	0.00	215.05	1.04	206.445
3	-0.58	100	50	0.00	0.00	--	0.00	0.00	215.05	2.08	103.223
4	-0.50	100	50	0.00	0.00	--	0.00	0.00	215.05	3.13	68.815
5	-0.50	100	50	0.00	0.00	--	0.00	0.00	212.79	3.13	68.094

Fondazione

Combinazione n° 1 - STR (A1-M1-R3)

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
1	-1.55	100	95	0.00	0.00	--	0.00	0.00	358.80	0.00	100.000
2	-1.45	100	95	0.00	0.00	--	0.00	0.00	358.80	-10.55	34.004
3	-1.36	100	95	0.00	0.00	--	0.00	0.00	358.80	-21.11	16.994
4	-1.26	100	95	0.00	0.00	--	0.00	0.00	358.80	-31.68	11.324

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
5	-1.17	100	95	0.00	0.00	--	0.00	0.00	358.80	-42.26	8.490
6	-1.07	100	95	0.00	0.00	--	0.00	0.00	358.80	-52.85	6.789
7	-0.98	100	95	0.00	0.00	--	0.00	0.00	358.80	-63.45	5.655
8	-0.88	100	95	0.00	0.00	--	0.00	0.00	358.80	-74.06	4.845
9	-0.79	100	95	0.00	0.00	--	0.00	0.00	358.80	-84.68	4.237
10	-0.69	100	95	0.00	0.00	--	0.00	0.00	358.80	-95.30	3.765
11	-0.60	100	95	0.00	0.00	--	0.00	0.00	358.80	-105.94	3.387
12	-0.50	100	95	0.00	0.00	--	0.00	0.00	358.80	-116.59	3.078
13	0.55	100	95	0.00	0.00	--	0.00	0.00	358.80	-111.42	3.220
14	0.65	100	95	0.00	0.00	--	0.00	0.00	358.80	-107.30	3.344
15	0.75	100	95	0.00	0.00	--	0.00	0.00	358.80	-103.20	3.477
16	0.85	100	95	0.00	0.00	--	0.00	0.00	358.80	-99.10	3.621
17	0.95	100	95	0.00	0.00	--	0.00	0.00	358.80	-95.01	3.776
18	1.05	100	95	0.00	0.00	--	0.00	0.00	358.80	-90.93	3.946
19	1.15	100	95	0.00	0.00	--	0.00	0.00	358.80	-86.86	4.131
20	1.25	100	95	0.00	0.00	--	0.00	0.00	358.80	-82.81	4.333
21	1.35	100	95	0.00	0.00	--	0.00	0.00	358.80	-78.76	4.556
22	1.45	100	95	0.00	0.00	--	0.00	0.00	358.80	-74.73	4.802
23	1.55	100	95	0.00	0.00	--	0.00	0.00	358.80	-70.70	5.075
24	1.65	100	95	0.00	0.00	--	0.00	0.00	358.80	-66.68	5.381
25	1.75	100	95	0.00	0.00	--	0.00	0.00	358.80	-62.68	5.724
26	1.85	100	95	0.00	0.00	--	0.00	0.00	358.80	-58.68	6.114
27	1.95	100	95	0.00	0.00	--	0.00	0.00	358.80	-54.70	6.560
28	2.05	100	95	0.00	0.00	--	0.00	0.00	358.80	-50.72	7.073
29	2.15	100	95	0.00	0.00	--	0.00	0.00	358.80	-46.76	7.673
30	2.25	100	95	0.00	0.00	--	0.00	0.00	358.80	-42.81	8.382
31	2.35	100	95	0.00	0.00	--	0.00	0.00	358.80	-38.86	9.232
32	2.45	100	95	0.00	0.00	--	0.00	0.00	358.80	-34.93	10.272
33	2.55	100	95	0.00	0.00	--	0.00	0.00	358.80	-31.01	11.571
34	2.65	100	95	0.00	0.00	--	0.00	0.00	358.80	-27.10	13.242
35	2.75	100	95	0.00	0.00	--	0.00	0.00	358.80	-23.19	15.469
36	2.85	100	95	0.00	0.00	--	0.00	0.00	358.80	-19.30	18.588
37	2.95	100	95	0.00	0.00	--	0.00	0.00	358.80	-15.42	23.266
38	3.05	100	95	0.00	0.00	--	0.00	0.00	358.80	-11.55	31.063
39	3.15	100	95	0.00	0.00	--	0.00	0.00	358.80	-7.69	46.657
40	3.25	100	95	0.00	0.00	--	0.00	0.00	358.80	-3.84	93.440
41	3.35	100	95	0.00	0.00	--	0.00	0.00	358.80	0.00	100.000

Combinazione n° 2 - STR (A1-M1-R3)

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
1	-1.55	100	95	0.00	0.00	--	0.00	0.00	358.80	0.00	100.000
2	-1.45	100	95	0.00	0.00	--	0.00	0.00	358.80	-13.01	27.587
3	-1.36	100	95	0.00	0.00	--	0.00	0.00	358.80	-26.04	13.780
4	-1.26	100	95	0.00	0.00	--	0.00	0.00	358.80	-39.09	9.178
5	-1.17	100	95	0.00	0.00	--	0.00	0.00	358.80	-52.18	6.877
6	-1.07	100	95	0.00	0.00	--	0.00	0.00	358.80	-65.28	5.496
7	-0.98	100	95	0.00	0.00	--	0.00	0.00	358.80	-78.42	4.576
8	-0.88	100	95	0.00	0.00	--	0.00	0.00	358.80	-91.57	3.918
9	-0.79	100	95	0.00	0.00	--	0.00	0.00	358.80	-104.76	3.425
10	-0.69	100	95	0.00	0.00	--	0.00	0.00	358.80	-117.96	3.042
11	-0.60	100	95	0.00	0.00	--	0.00	0.00	358.80	-131.20	2.735
12	-0.50	100	95	0.00	0.00	--	0.00	0.00	358.80	-144.46	2.484
13	0.55	100	95	0.00	0.00	--	0.00	0.00	358.80	-132.99	2.698
14	0.65	100	95	0.00	0.00	--	0.00	0.00	358.80	-127.64	2.811
15	0.75	100	95	0.00	0.00	--	0.00	0.00	358.80	-122.31	2.934
16	0.85	100	95	0.00	0.00	--	0.00	0.00	358.80	-117.01	3.066
17	0.95	100	95	0.00	0.00	--	0.00	0.00	358.80	-111.74	3.211
18	1.05	100	95	0.00	0.00	--	0.00	0.00	358.80	-106.50	3.369
19	1.15	100	95	0.00	0.00	--	0.00	0.00	358.80	-101.28	3.543
20	1.25	100	95	0.00	0.00	--	0.00	0.00	358.80	-96.09	3.734
21	1.35	100	95	0.00	0.00	--	0.00	0.00	358.80	-90.93	3.946
22	1.45	100	95	0.00	0.00	--	0.00	0.00	358.80	-85.80	4.182
23	1.55	100	95	0.00	0.00	--	0.00	0.00	358.80	-80.70	4.446
24	1.65	100	95	0.00	0.00	--	0.00	0.00	358.80	-75.62	4.745
25	1.75	100	95	0.00	0.00	--	0.00	0.00	358.80	-70.57	5.084
26	1.85	100	95	0.00	0.00	--	0.00	0.00	358.80	-65.55	5.474
27	1.95	100	95	0.00	0.00	--	0.00	0.00	358.80	-60.55	5.925
28	2.05	100	95	0.00	0.00	--	0.00	0.00	358.80	-55.59	6.455
29	2.15	100	95	0.00	0.00	--	0.00	0.00	358.80	-50.65	7.084
30	2.25	100	95	0.00	0.00	--	0.00	0.00	358.80	-45.74	7.844
31	2.35	100	95	0.00	0.00	--	0.00	0.00	358.80	-40.86	8.782
32	2.45	100	95	0.00	0.00	--	0.00	0.00	358.80	-36.00	9.966
33	2.55	100	95	0.00	0.00	--	0.00	0.00	358.80	-31.17	11.509
34	2.65	100	95	0.00	0.00	--	0.00	0.00	358.80	-26.37	13.604
35	2.75	100	95	0.00	0.00	--	0.00	0.00	358.80	-21.60	16.609
36	2.85	100	95	0.00	0.00	--	0.00	0.00	358.80	-16.86	21.283
37	2.95	100	95	0.00	0.00	--	0.00	0.00	358.80	-12.14	29.550
38	3.05	100	95	0.00	0.00	--	0.00	0.00	358.80	-8.31	43.172
39	3.15	100	95	0.00	0.00	--	0.00	0.00	358.80	-5.51	65.084
40	3.25	100	95	0.00	0.00	--	0.00	0.00	358.80	-2.74	130.825

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
41	3.35	100	95	0.00	0.00	--	0.00	0.00	358.80	0.00	100.000

Combinazione n° 3 - STR (A1-M1-R3) H + V

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
1	-1.55	100	95	0.00	0.00	--	0.00	0.00	358.80	0.00	100.000
2	-1.45	100	95	0.00	0.00	--	0.00	0.00	358.80	-17.60	20.385
3	-1.36	100	95	0.00	0.00	--	0.00	0.00	358.80	-34.96	10.263
4	-1.26	100	95	0.00	0.00	--	0.00	0.00	358.80	-52.08	6.890
5	-1.17	100	95	0.00	0.00	--	0.00	0.00	358.80	-68.95	5.204
6	-1.07	100	95	0.00	0.00	--	0.00	0.00	358.80	-85.58	4.193
7	-0.98	100	95	0.00	0.00	--	0.00	0.00	358.80	-101.97	3.519
8	-0.88	100	95	0.00	0.00	--	0.00	0.00	358.80	-118.11	3.038
9	-0.79	100	95	0.00	0.00	--	0.00	0.00	358.80	-134.01	2.677
10	-0.69	100	95	0.00	0.00	--	0.00	0.00	358.80	-149.67	2.397
11	-0.60	100	95	0.00	0.00	--	0.00	0.00	358.80	-165.09	2.173
12	-0.50	100	95	0.00	0.00	--	0.00	0.00	358.80	-180.26	1.990
13	0.55	100	95	0.00	0.00	--	0.00	0.00	358.80	-60.11	5.969
14	0.65	100	95	0.00	0.00	--	0.00	0.00	358.80	-61.56	5.829
15	0.75	100	95	0.00	0.00	--	0.00	0.00	358.80	-62.74	5.719
16	0.85	100	95	0.00	0.00	--	0.00	0.00	358.80	-63.66	5.636
17	0.95	100	95	0.00	0.00	--	0.00	0.00	358.80	-64.31	5.579
18	1.05	100	95	0.00	0.00	--	0.00	0.00	358.80	-64.69	5.546
19	1.15	100	95	0.00	0.00	--	0.00	0.00	358.80	-64.81	5.536
20	1.25	100	95	0.00	0.00	--	0.00	0.00	358.80	-64.66	5.549
21	1.35	100	95	0.00	0.00	--	0.00	0.00	358.80	-64.25	5.585
22	1.45	100	95	0.00	0.00	--	0.00	0.00	358.80	-63.56	5.645
23	1.55	100	95	0.00	0.00	--	0.00	0.00	358.80	-62.62	5.730
24	1.65	100	95	0.00	0.00	--	0.00	0.00	358.80	-61.40	5.844
25	1.75	100	95	0.00	0.00	--	0.00	0.00	358.80	-59.92	5.988
26	1.85	100	95	0.00	0.00	--	0.00	0.00	358.80	-58.17	6.168
27	1.95	100	95	0.00	0.00	--	0.00	0.00	358.80	-56.16	6.389
28	2.05	100	95	0.00	0.00	--	0.00	0.00	358.80	-53.88	6.659
29	2.15	100	95	0.00	0.00	--	0.00	0.00	358.80	-51.33	6.990
30	2.25	100	95	0.00	0.00	--	0.00	0.00	358.80	-48.52	7.395
31	2.35	100	95	0.00	0.00	--	0.00	0.00	358.80	-45.44	7.896
32	2.45	100	95	0.00	0.00	--	0.00	0.00	358.80	-42.10	8.523
33	2.55	100	95	0.00	0.00	--	0.00	0.00	358.80	-38.48	9.323
34	2.65	100	95	0.00	0.00	--	0.00	0.00	358.80	-34.61	10.368
35	2.75	100	95	0.00	0.00	--	0.00	0.00	358.80	-30.46	11.779
36	2.85	100	95	0.00	0.00	--	0.00	0.00	358.80	-26.05	13.773
37	2.95	100	95	0.00	0.00	--	0.00	0.00	358.80	-21.37	16.787
38	3.05	100	95	0.00	0.00	--	0.00	0.00	358.80	-16.43	21.839
39	3.15	100	95	0.00	0.00	--	0.00	0.00	358.80	-11.22	31.980
40	3.25	100	95	0.00	0.00	--	0.00	0.00	358.80	-5.74	62.477
41	3.35	100	95	0.00	0.00	--	0.00	0.00	358.80	0.00	100.000

Combinazione n° 4 - STR (A1-M1-R3) H - V

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
1	-1.55	100	95	0.00	0.00	--	0.00	0.00	358.80	0.00	100.000
2	-1.45	100	95	0.00	0.00	--	0.00	0.00	358.80	-16.01	22.415
3	-1.36	100	95	0.00	0.00	--	0.00	0.00	358.80	-31.78	11.292
4	-1.26	100	95	0.00	0.00	--	0.00	0.00	358.80	-47.31	7.585
5	-1.17	100	95	0.00	0.00	--	0.00	0.00	358.80	-62.60	5.732
6	-1.07	100	95	0.00	0.00	--	0.00	0.00	358.80	-77.65	4.621
7	-0.98	100	95	0.00	0.00	--	0.00	0.00	358.80	-92.47	3.880
8	-0.88	100	95	0.00	0.00	--	0.00	0.00	358.80	-107.05	3.352
9	-0.79	100	95	0.00	0.00	--	0.00	0.00	358.80	-121.39	2.956
10	-0.69	100	95	0.00	0.00	--	0.00	0.00	358.80	-135.49	2.648
11	-0.60	100	95	0.00	0.00	--	0.00	0.00	358.80	-149.35	2.402
12	-0.50	100	95	0.00	0.00	--	0.00	0.00	358.80	-162.97	2.202
13	0.55	100	95	0.00	0.00	--	0.00	0.00	358.80	-102.12	3.513
14	0.65	100	95	0.00	0.00	--	0.00	0.00	358.80	-102.00	3.517
15	0.75	100	95	0.00	0.00	--	0.00	0.00	358.80	-101.63	3.531
16	0.85	100	95	0.00	0.00	--	0.00	0.00	358.80	-100.99	3.553
17	0.95	100	95	0.00	0.00	--	0.00	0.00	358.80	-100.08	3.585
18	1.05	100	95	0.00	0.00	--	0.00	0.00	358.80	-98.92	3.627
19	1.15	100	95	0.00	0.00	--	0.00	0.00	358.80	-97.50	3.680
20	1.25	100	95	0.00	0.00	--	0.00	0.00	358.80	-95.81	3.745
21	1.35	100	95	0.00	0.00	--	0.00	0.00	358.80	-93.86	3.823
22	1.45	100	95	0.00	0.00	--	0.00	0.00	358.80	-91.65	3.915
23	1.55	100	95	0.00	0.00	--	0.00	0.00	358.80	-89.18	4.023
24	1.65	100	95	0.00	0.00	--	0.00	0.00	358.80	-86.45	4.150
25	1.75	100	95	0.00	0.00	--	0.00	0.00	358.80	-83.46	4.299
26	1.85	100	95	0.00	0.00	--	0.00	0.00	358.80	-80.20	4.474
27	1.95	100	95	0.00	0.00	--	0.00	0.00	358.80	-76.69	4.679

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
28	2.05	100	95	0.00	0.00	--	0.00	0.00	358.80	-72.91	4.921
29	2.15	100	95	0.00	0.00	--	0.00	0.00	358.80	-68.87	5.210
30	2.25	100	95	0.00	0.00	--	0.00	0.00	358.80	-64.57	5.557
31	2.35	100	95	0.00	0.00	--	0.00	0.00	358.80	-60.01	5.979
32	2.45	100	95	0.00	0.00	--	0.00	0.00	358.80	-55.18	6.502
33	2.55	100	95	0.00	0.00	--	0.00	0.00	358.80	-50.10	7.162
34	2.65	100	95	0.00	0.00	--	0.00	0.00	358.80	-44.75	8.018
35	2.75	100	95	0.00	0.00	--	0.00	0.00	358.80	-39.14	9.167
36	2.85	100	95	0.00	0.00	--	0.00	0.00	358.80	-33.27	10.784
37	2.95	100	95	0.00	0.00	--	0.00	0.00	358.80	-27.14	13.220
38	3.05	100	95	0.00	0.00	--	0.00	0.00	358.80	-20.75	17.294
39	3.15	100	95	0.00	0.00	--	0.00	0.00	358.80	-14.09	25.460
40	3.25	100	95	0.00	0.00	--	0.00	0.00	358.80	-7.18	49.992
41	3.35	100	95	0.00	0.00	--	0.00	0.00	358.80	0.00	100.000

Combinazione n° 9 - ECC

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
1	-1.55	100	95	0.00	0.00	--	0.00	0.00	358.80	0.00	100.000
2	-1.45	100	95	0.00	0.00	--	0.00	0.00	358.80	-12.28	29.209
3	-1.36	100	95	0.00	0.00	--	0.00	0.00	358.80	-24.50	14.647
4	-1.26	100	95	0.00	0.00	--	0.00	0.00	358.80	-36.64	9.793
5	-1.17	100	95	0.00	0.00	--	0.00	0.00	358.80	-48.71	7.367
6	-1.07	100	95	0.00	0.00	--	0.00	0.00	358.80	-60.70	5.911
7	-0.98	100	95	0.00	0.00	--	0.00	0.00	358.80	-72.63	4.940
8	-0.88	100	95	0.00	0.00	--	0.00	0.00	358.80	-84.49	4.247
9	-0.79	100	95	0.00	0.00	--	0.00	0.00	358.80	-96.27	3.727
10	-0.69	100	95	0.00	0.00	--	0.00	0.00	358.80	-107.98	3.323
11	-0.60	100	95	0.00	0.00	--	0.00	0.00	358.80	-119.62	2.999
12	-0.50	100	95	0.00	0.00	--	0.00	0.00	358.80	-131.19	2.735
13	0.55	100	95	0.00	0.00	--	0.00	0.00	358.80	-34.66	10.352
14	0.65	100	95	0.00	0.00	--	0.00	0.00	358.80	-34.48	10.405
15	0.75	100	95	0.00	0.00	--	0.00	0.00	358.80	-34.23	10.483
16	0.85	100	95	0.00	0.00	--	0.00	0.00	358.80	-33.89	10.587
17	0.95	100	95	0.00	0.00	--	0.00	0.00	358.80	-33.48	10.718
18	1.05	100	95	0.00	0.00	--	0.00	0.00	358.80	-32.98	10.878
19	1.15	100	95	0.00	0.00	--	0.00	0.00	358.80	-32.41	11.069
20	1.25	100	95	0.00	0.00	--	0.00	0.00	358.80	-31.77	11.295
21	1.35	100	95	0.00	0.00	--	0.00	0.00	358.80	-31.04	11.560
22	1.45	100	95	0.00	0.00	--	0.00	0.00	358.80	-30.23	11.869
23	1.55	100	95	0.00	0.00	--	0.00	0.00	358.80	-29.35	12.226
24	1.65	100	95	0.00	0.00	--	0.00	0.00	358.80	-28.38	12.641
25	1.75	100	95	0.00	0.00	--	0.00	0.00	358.80	-27.34	13.123
26	1.85	100	95	0.00	0.00	--	0.00	0.00	358.80	-26.22	13.683
27	1.95	100	95	0.00	0.00	--	0.00	0.00	358.80	-25.02	14.339
28	2.05	100	95	0.00	0.00	--	0.00	0.00	358.80	-23.75	15.110
29	2.15	100	95	0.00	0.00	--	0.00	0.00	358.80	-22.39	16.025
30	2.25	100	95	0.00	0.00	--	0.00	0.00	358.80	-20.96	17.121
31	2.35	100	95	0.00	0.00	--	0.00	0.00	358.80	-19.44	18.453
32	2.45	100	95	0.00	0.00	--	0.00	0.00	358.80	-17.85	20.098
33	2.55	100	95	0.00	0.00	--	0.00	0.00	358.80	-16.18	22.172
34	2.65	100	95	0.00	0.00	--	0.00	0.00	358.80	-14.43	24.857
35	2.75	100	95	0.00	0.00	--	0.00	0.00	358.80	-12.61	28.458
36	2.85	100	95	0.00	0.00	--	0.00	0.00	358.80	-10.70	33.523
37	2.95	100	95	0.00	0.00	--	0.00	0.00	358.80	-8.72	41.150
38	3.05	100	95	0.00	0.00	--	0.00	0.00	358.80	-6.66	53.896
39	3.15	100	95	0.00	0.00	--	0.00	0.00	358.80	-4.52	79.439
40	3.25	100	95	0.00	0.00	--	0.00	0.00	358.80	-2.30	156.164
41	3.35	100	95	0.00	0.00	--	0.00	0.00	358.80	0.00	100.000

Verifica a fessurazione

Simbologia adottata

n°	indice sezione
Y	ordinata sezione espressa in [m]
B	larghezza sezione espresso in [cm]
H	altezza sezione espressa in [cm]

Af	area ferri zona tesa espresso in [cmq]
Aeff	area efficace espressa in [cmq]
M	momento agente espressa in [kNm]
Mpf	momento di formazione/apertura fessure espressa in [kNm]
ε	deformazione espresso in %
Sm	spaziatura tra le fessure espressa in [mm]
w	apertura delle fessure espressa in [mm]

Combinazioni SLEF

Paramento

Combinazione n° 11 - SLEF

Apertura limite fessure w_{lim}=0.30

n°	Y	B	H	Af	Aeff	M	Mpf	ε	Sm	w
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kNm]	[%]	[mm]	[mm]
1	0.00	100	50	12.72	1314.60	0.39	121.11	0.000000	0.00	0.000
2	-0.10	100	51	12.72	1340.28	0.39	125.57	0.000000	0.00	0.000
3	-0.20	100	52	12.72	1365.99	0.41	130.09	0.000000	0.00	0.000
4	-0.30	100	53	12.72	1391.71	0.44	134.71	0.000000	0.00	0.000
5	-0.40	100	54	12.72	1417.46	0.49	139.39	0.000000	0.00	0.000
6	-0.50	100	55	12.72	1443.23	0.56	144.15	0.000000	0.00	0.000
7	-0.60	100	55	12.72	1469.01	0.67	149.00	0.000000	0.00	0.000
8	-0.70	100	56	12.72	1475.00	0.81	153.91	0.000000	0.00	0.000
9	-0.80	100	57	12.72	1475.00	0.98	158.91	0.000000	0.00	0.000
10	-0.90	100	58	12.72	1475.00	1.21	164.00	0.000000	0.00	0.000
11	-1.00	100	59	12.72	1475.00	1.48	169.14	0.000000	0.00	0.000
12	-1.10	100	60	12.72	1475.00	1.80	174.38	0.000000	0.00	0.000
13	-1.20	100	61	12.72	1475.00	2.19	179.69	0.000000	0.00	0.000
14	-1.30	100	62	12.72	1475.00	2.64	185.08	0.000000	0.00	0.000
15	-1.40	100	63	12.72	1475.00	3.15	190.55	0.000000	0.00	0.000
16	-1.50	100	64	12.72	1475.00	3.74	196.09	0.000000	0.00	0.000
17	-1.60	100	65	12.72	1475.00	4.41	201.71	0.000000	0.00	0.000
18	-1.70	100	65	12.72	1475.00	5.16	207.42	0.000000	0.00	0.000
19	-1.80	100	66	12.72	1475.00	5.99	213.20	0.000000	0.00	0.000
20	-1.90	100	67	12.72	1475.00	6.92	219.07	0.000000	0.00	0.000
21	-2.00	100	68	12.72	1475.00	7.95	225.00	0.000000	0.00	0.000
22	-2.10	100	69	12.72	1475.00	9.08	231.03	0.000000	0.00	0.000
23	-2.20	100	70	12.72	1475.00	10.31	237.13	0.000000	0.00	0.000
24	-2.30	100	71	12.72	1475.00	11.66	243.30	0.000000	0.00	0.000
25	-2.40	100	72	12.72	1475.00	13.12	249.55	0.000000	0.00	0.000
26	-2.50	100	73	12.72	1475.00	14.70	255.89	0.000000	0.00	0.000
27	-2.60	100	74	12.72	1475.00	16.41	262.31	0.000000	0.00	0.000
28	-2.70	100	75	12.72	1475.00	18.25	268.80	0.000000	0.00	0.000
29	-2.80	100	75	12.72	1475.00	20.23	275.38	0.000000	0.00	0.000
30	-2.90	100	76	12.72	1475.00	22.34	282.03	0.000000	0.00	0.000
31	-3.00	100	77	12.72	1475.00	24.61	288.78	0.000000	0.00	0.000
32	-3.10	100	78	12.72	1475.00	27.02	295.59	0.000000	0.00	0.000
33	-3.20	100	79	12.72	1475.00	29.58	302.49	0.000000	0.00	0.000
34	-3.30	100	80	12.72	1475.00	32.31	309.47	0.000000	0.00	0.000
35	-3.40	100	81	12.72	1475.00	35.20	316.51	0.000000	0.00	0.000
36	-3.50	100	82	25.45	1475.00	38.26	344.13	0.000000	0.00	0.000
37	-3.60	100	83	25.45	1475.00	41.49	361.00	0.000000	0.00	0.000
38	-3.70	100	84	25.45	1475.00	44.91	368.76	0.000000	0.00	0.000
39	-3.80	100	85	25.45	1475.00	48.50	376.57	0.000000	0.00	0.000
40	-3.90	100	85	25.45	1475.00	52.29	384.49	0.000000	0.00	0.000
41	-4.00	100	86	25.45	1475.00	56.27	392.50	0.000000	0.00	0.000
42	-4.10	100	87	25.45	1475.00	60.44	400.56	0.000000	0.00	0.000
43	-4.20	100	88	25.45	1475.00	64.82	408.71	0.000000	0.00	0.000
44	-4.30	100	89	25.45	1475.00	69.41	416.96	0.000000	0.00	0.000
45	-4.40	100	90	38.17	1475.00	74.21	448.71	0.000000	0.00	0.000
46	-4.50	100	91	38.17	1475.00	79.23	457.40	0.000000	0.00	0.000
47	-4.60	100	92	38.17	1475.00	84.47	466.17	0.000000	0.00	0.000
48	-4.70	100	93	38.17	1475.00	89.93	475.04	0.000000	0.00	0.000
49	-4.80	100	94	38.17	1475.00	95.63	484.00	0.000000	0.00	0.000
50	-4.90	100	95	38.17	1475.00	101.57	492.99	0.000000	0.00	0.000
51	-5.00	100	96	38.17	1475.00	107.74	502.12	0.000000	0.00	0.000
52	-5.10	100	96	38.17	1475.00	114.16	511.30	0.000000	0.00	0.000

n°	Y	B	H	Af	Aeff	M	Mpf	ε	Sm	w
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kNm]	[%]	[mm]	[mm]
53	-5.20	100	97	38.17	1475.00	120.84	520.58	0.000000	0.00	0.000
54	-5.30	100	98	25.45	1475.00	127.77	491.73	0.000000	0.00	0.000
55	-5.40	100	99	25.45	1475.00	134.96	500.68	0.000000	0.00	0.000
56	-5.50	100	100	25.45	1475.00	142.41	509.75	0.000000	0.00	0.000
57	-5.60	100	101	25.45	1475.00	150.14	518.89	0.000000	0.00	0.000
58	-5.70	100	102	25.45	1475.00	158.14	528.12	0.000000	0.00	0.000
59	-5.80	100	103	25.45	1475.00	166.42	537.39	0.000000	0.00	0.000
60	-5.90	100	104	25.45	1475.00	174.98	546.80	0.000000	0.00	0.000
61	-5.99	100	105	25.45	1475.00	183.84	555.35	0.000000	0.00	0.000

Mensola valle

Combinazione n° 11 - SLEF

Apertura limite fessure w_{lim}=0.30

n°	Y	B	H	Af	Aeff	M	Mpf	ε	Sm	w
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kNm]	[%]	[mm]	[mm]
1	-0.75	100	50	0.00	0.00	0.00	0.00	---	---	0.000
2	-0.67	100	50	16.08	1270.50	-0.04	-122.25	0.000000	0.00	0.000
3	-0.58	100	50	16.08	1270.50	-0.17	-122.25	0.000000	0.00	0.000
4	-0.50	100	50	16.08	1270.50	-0.39	-122.25	0.000000	0.00	0.000
5	-0.50	100	50	16.08	1270.50	-0.39	-122.25	0.000000	0.00	0.000

Fondazione

Combinazione n° 11 - SLEF

Apertura limite fessure w_{lim}=0.30

n°	Y	B	H	Af	Aeff	M	Mpf	ε	Sm	w
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kNm]	[%]	[mm]	[mm]
1	-1.55	100	95	0.00	0.00	0.00	0.00	---	---	0.000
2	-1.45	100	95	20.36	1475.00	0.44	441.70	0.000000	0.00	0.000
3	-1.36	100	95	20.36	1475.00	1.76	441.70	0.000000	0.00	0.000
4	-1.26	100	95	20.36	1475.00	3.96	441.70	0.000000	0.00	0.000
5	-1.17	100	95	20.36	1475.00	7.05	441.70	0.000000	0.00	0.000
6	-1.07	100	95	20.36	1475.00	11.04	441.70	0.000000	0.00	0.000
7	-0.98	100	95	20.36	1475.00	15.92	441.70	0.000000	0.00	0.000
8	-0.88	100	95	20.36	1475.00	21.71	441.70	0.000000	0.00	0.000
9	-0.79	100	95	20.36	1475.00	28.41	441.70	0.000000	0.00	0.000
10	-0.69	100	95	20.36	1475.00	36.02	441.70	0.000000	0.00	0.000
11	-0.60	100	95	20.36	1475.00	44.55	441.70	0.000000	0.00	0.000
12	-0.50	100	95	20.36	1475.00	54.01	441.70	0.000000	0.00	0.000
13	0.55	100	95	20.36	1475.00	17.31	441.70	0.000000	0.00	0.000
14	0.65	100	95	20.36	1475.00	16.79	441.70	0.000000	0.00	0.000
15	0.75	100	95	20.36	1475.00	16.20	441.70	0.000000	0.00	0.000
16	0.85	100	95	20.36	1475.00	15.57	441.70	0.000000	0.00	0.000
17	0.95	100	95	20.36	1475.00	14.89	441.70	0.000000	0.00	0.000
18	1.05	100	95	20.36	1475.00	14.18	441.70	0.000000	0.00	0.000
19	1.15	100	95	20.36	1475.00	13.43	441.70	0.000000	0.00	0.000
20	1.25	100	95	20.36	1475.00	12.65	441.70	0.000000	0.00	0.000
21	1.35	100	95	20.36	1475.00	11.85	441.70	0.000000	0.00	0.000
22	1.45	100	95	20.36	1475.00	11.04	441.70	0.000000	0.00	0.000
23	1.55	100	95	20.36	1475.00	10.21	441.70	0.000000	0.00	0.000
24	1.65	100	95	20.36	1475.00	9.38	441.70	0.000000	0.00	0.000
25	1.75	100	95	20.36	1475.00	8.55	441.70	0.000000	0.00	0.000
26	1.85	100	95	20.36	1475.00	7.73	441.70	0.000000	0.00	0.000
27	1.95	100	95	20.36	1475.00	6.92	441.70	0.000000	0.00	0.000
28	2.05	100	95	20.36	1475.00	6.12	441.70	0.000000	0.00	0.000
29	2.15	100	95	20.36	1475.00	5.35	441.70	0.000000	0.00	0.000
30	2.25	100	95	20.36	1475.00	4.61	441.70	0.000000	0.00	0.000
31	2.35	100	95	20.36	1475.00	3.91	441.70	0.000000	0.00	0.000
32	2.45	100	95	20.36	1475.00	3.24	441.70	0.000000	0.00	0.000
33	2.55	100	95	20.36	1475.00	2.62	441.70	0.000000	0.00	0.000
34	2.65	100	95	20.36	1475.00	2.05	441.70	0.000000	0.00	0.000
35	2.75	100	95	20.36	1475.00	1.54	441.70	0.000000	0.00	0.000

n°	Y	B	H	Af	Aeff	M	Mpf	ε	Sm	w
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kNm]	[%]	[mm]	[mm]
36	2.85	100	95	20.36	1475.00	1.09	441.70	0.000000	0.00	0.000
37	2.95	100	95	20.36	1475.00	0.72	441.70	0.000000	0.00	0.000
38	3.05	100	95	20.36	1475.00	0.41	441.70	0.000000	0.00	0.000
39	3.15	100	95	20.36	1475.00	0.19	441.70	0.000000	0.00	0.000
40	3.25	100	95	20.36	1475.00	0.05	441.70	0.000000	0.00	0.000
41	3.35	100	95	0.00	0.00	0.00	0.00	---	---	0.000

Combinazioni SLEQ

Paramento

Combinazione n° 12 - SLEQ

Apertura limite fessure w_{lim}=0.20

n°	Y	B	H	Af	Aeff	M	Mpf	ε	Sm	w
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kNm]	[%]	[mm]	[mm]
1	0.00	100	50	12.72	1314.60	0.39	121.11	0.000000	0.00	0.000
2	-0.10	100	51	12.72	1340.28	0.39	125.57	0.000000	0.00	0.000
3	-0.20	100	52	12.72	1365.99	0.41	130.09	0.000000	0.00	0.000
4	-0.30	100	53	12.72	1391.71	0.44	134.71	0.000000	0.00	0.000
5	-0.40	100	54	12.72	1417.46	0.49	139.39	0.000000	0.00	0.000
6	-0.50	100	55	12.72	1443.23	0.56	144.15	0.000000	0.00	0.000
7	-0.60	100	55	12.72	1469.01	0.67	149.00	0.000000	0.00	0.000
8	-0.70	100	56	12.72	1475.00	0.81	153.91	0.000000	0.00	0.000
9	-0.80	100	57	12.72	1475.00	0.98	158.91	0.000000	0.00	0.000
10	-0.90	100	58	12.72	1475.00	1.21	164.00	0.000000	0.00	0.000
11	-1.00	100	59	12.72	1475.00	1.48	169.14	0.000000	0.00	0.000
12	-1.10	100	60	12.72	1475.00	1.80	174.38	0.000000	0.00	0.000
13	-1.20	100	61	12.72	1475.00	2.19	179.69	0.000000	0.00	0.000
14	-1.30	100	62	12.72	1475.00	2.64	185.08	0.000000	0.00	0.000
15	-1.40	100	63	12.72	1475.00	3.15	190.55	0.000000	0.00	0.000
16	-1.50	100	64	12.72	1475.00	3.74	196.09	0.000000	0.00	0.000
17	-1.60	100	65	12.72	1475.00	4.41	201.71	0.000000	0.00	0.000
18	-1.70	100	65	12.72	1475.00	5.16	207.42	0.000000	0.00	0.000
19	-1.80	100	66	12.72	1475.00	5.99	213.20	0.000000	0.00	0.000
20	-1.90	100	67	12.72	1475.00	6.92	219.07	0.000000	0.00	0.000
21	-2.00	100	68	12.72	1475.00	7.95	225.00	0.000000	0.00	0.000
22	-2.10	100	69	12.72	1475.00	9.08	231.03	0.000000	0.00	0.000
23	-2.20	100	70	12.72	1475.00	10.31	237.13	0.000000	0.00	0.000
24	-2.30	100	71	12.72	1475.00	11.66	243.30	0.000000	0.00	0.000
25	-2.40	100	72	12.72	1475.00	13.12	249.55	0.000000	0.00	0.000
26	-2.50	100	73	12.72	1475.00	14.70	255.89	0.000000	0.00	0.000
27	-2.60	100	74	12.72	1475.00	16.41	262.31	0.000000	0.00	0.000
28	-2.70	100	75	12.72	1475.00	18.25	268.80	0.000000	0.00	0.000
29	-2.80	100	75	12.72	1475.00	20.23	275.38	0.000000	0.00	0.000
30	-2.90	100	76	12.72	1475.00	22.34	282.03	0.000000	0.00	0.000
31	-3.00	100	77	12.72	1475.00	24.61	288.78	0.000000	0.00	0.000
32	-3.10	100	78	12.72	1475.00	27.02	295.59	0.000000	0.00	0.000
33	-3.20	100	79	12.72	1475.00	29.58	302.49	0.000000	0.00	0.000
34	-3.30	100	80	12.72	1475.00	32.31	309.47	0.000000	0.00	0.000
35	-3.40	100	81	12.72	1475.00	35.20	316.51	0.000000	0.00	0.000
36	-3.50	100	82	25.45	1475.00	38.26	344.13	0.000000	0.00	0.000
37	-3.60	100	83	25.45	1475.00	41.49	361.00	0.000000	0.00	0.000
38	-3.70	100	84	25.45	1475.00	44.91	368.76	0.000000	0.00	0.000
39	-3.80	100	85	25.45	1475.00	48.50	376.57	0.000000	0.00	0.000
40	-3.90	100	85	25.45	1475.00	52.29	384.49	0.000000	0.00	0.000
41	-4.00	100	86	25.45	1475.00	56.27	392.50	0.000000	0.00	0.000
42	-4.10	100	87	25.45	1475.00	60.44	400.56	0.000000	0.00	0.000
43	-4.20	100	88	25.45	1475.00	64.82	408.71	0.000000	0.00	0.000
44	-4.30	100	89	25.45	1475.00	69.41	416.96	0.000000	0.00	0.000
45	-4.40	100	90	38.17	1475.00	74.21	448.71	0.000000	0.00	0.000
46	-4.50	100	91	38.17	1475.00	79.23	457.40	0.000000	0.00	0.000
47	-4.60	100	92	38.17	1475.00	84.47	466.17	0.000000	0.00	0.000
48	-4.70	100	93	38.17	1475.00	89.93	475.04	0.000000	0.00	0.000
49	-4.80	100	94	38.17	1475.00	95.63	484.00	0.000000	0.00	0.000
50	-4.90	100	95	38.17	1475.00	101.57	492.99	0.000000	0.00	0.000
51	-5.00	100	96	38.17	1475.00	107.74	502.12	0.000000	0.00	0.000
52	-5.10	100	96	38.17	1475.00	114.16	511.30	0.000000	0.00	0.000
53	-5.20	100	97	38.17	1475.00	120.84	520.58	0.000000	0.00	0.000
54	-5.30	100	98	25.45	1475.00	127.77	491.73	0.000000	0.00	0.000
55	-5.40	100	99	25.45	1475.00	134.96	500.68	0.000000	0.00	0.000
56	-5.50	100	100	25.45	1475.00	142.41	509.75	0.000000	0.00	0.000

n°	Y	B	H	Af	Aeff	M	Mpf	ε	Sm	w
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kNm]	[%]	[mm]	[mm]
57	-5.60	100	101	25.45	1475.00	150.14	518.89	0.000000	0.00	0.000
58	-5.70	100	102	25.45	1475.00	158.14	528.12	0.000000	0.00	0.000
59	-5.80	100	103	25.45	1475.00	166.42	537.39	0.000000	0.00	0.000
60	-5.90	100	104	25.45	1475.00	174.98	546.80	0.000000	0.00	0.000
61	-5.99	100	105	25.45	1475.00	183.84	555.35	0.000000	0.00	0.000

Mensola valle

Combinazione n° 12 - SLEQ

Apertura limite fessure w_{lim}=0.20

n°	Y	B	H	Af	Aeff	M	Mpf	ε	Sm	w
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kNm]	[%]	[mm]	[mm]
1	-0.75	100	50	0.00	0.00	0.00	0.00	---	---	0.000
2	-0.67	100	50	16.08	1270.50	-0.04	-122.25	0.000000	0.00	0.000
3	-0.58	100	50	16.08	1270.50	-0.17	-122.25	0.000000	0.00	0.000
4	-0.50	100	50	16.08	1270.50	-0.39	-122.25	0.000000	0.00	0.000
5	-0.50	100	50	16.08	1270.50	-0.39	-122.25	0.000000	0.00	0.000

Fondazione

Combinazione n° 12 - SLEQ

Apertura limite fessure w_{lim}=0.20

n°	Y	B	H	Af	Aeff	M	Mpf	ε	Sm	w
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kNm]	[%]	[mm]	[mm]
1	-1.55	100	95	0.00	0.00	0.00	0.00	---	---	0.000
2	-1.45	100	95	20.36	1475.00	0.44	441.70	0.000000	0.00	0.000
3	-1.36	100	95	20.36	1475.00	1.76	441.70	0.000000	0.00	0.000
4	-1.26	100	95	20.36	1475.00	3.96	441.70	0.000000	0.00	0.000
5	-1.17	100	95	20.36	1475.00	7.05	441.70	0.000000	0.00	0.000
6	-1.07	100	95	20.36	1475.00	11.04	441.70	0.000000	0.00	0.000
7	-0.98	100	95	20.36	1475.00	15.92	441.70	0.000000	0.00	0.000
8	-0.88	100	95	20.36	1475.00	21.71	441.70	0.000000	0.00	0.000
9	-0.79	100	95	20.36	1475.00	28.41	441.70	0.000000	0.00	0.000
10	-0.69	100	95	20.36	1475.00	36.02	441.70	0.000000	0.00	0.000
11	-0.60	100	95	20.36	1475.00	44.55	441.70	0.000000	0.00	0.000
12	-0.50	100	95	20.36	1475.00	54.01	441.70	0.000000	0.00	0.000
13	0.55	100	95	20.36	1475.00	17.31	441.70	0.000000	0.00	0.000
14	0.65	100	95	20.36	1475.00	16.79	441.70	0.000000	0.00	0.000
15	0.75	100	95	20.36	1475.00	16.20	441.70	0.000000	0.00	0.000
16	0.85	100	95	20.36	1475.00	15.57	441.70	0.000000	0.00	0.000
17	0.95	100	95	20.36	1475.00	14.89	441.70	0.000000	0.00	0.000
18	1.05	100	95	20.36	1475.00	14.18	441.70	0.000000	0.00	0.000
19	1.15	100	95	20.36	1475.00	13.43	441.70	0.000000	0.00	0.000
20	1.25	100	95	20.36	1475.00	12.65	441.70	0.000000	0.00	0.000
21	1.35	100	95	20.36	1475.00	11.85	441.70	0.000000	0.00	0.000
22	1.45	100	95	20.36	1475.00	11.04	441.70	0.000000	0.00	0.000
23	1.55	100	95	20.36	1475.00	10.21	441.70	0.000000	0.00	0.000
24	1.65	100	95	20.36	1475.00	9.38	441.70	0.000000	0.00	0.000
25	1.75	100	95	20.36	1475.00	8.55	441.70	0.000000	0.00	0.000
26	1.85	100	95	20.36	1475.00	7.73	441.70	0.000000	0.00	0.000
27	1.95	100	95	20.36	1475.00	6.92	441.70	0.000000	0.00	0.000
28	2.05	100	95	20.36	1475.00	6.12	441.70	0.000000	0.00	0.000
29	2.15	100	95	20.36	1475.00	5.35	441.70	0.000000	0.00	0.000
30	2.25	100	95	20.36	1475.00	4.61	441.70	0.000000	0.00	0.000
31	2.35	100	95	20.36	1475.00	3.91	441.70	0.000000	0.00	0.000
32	2.45	100	95	20.36	1475.00	3.24	441.70	0.000000	0.00	0.000
33	2.55	100	95	20.36	1475.00	2.62	441.70	0.000000	0.00	0.000
34	2.65	100	95	20.36	1475.00	2.05	441.70	0.000000	0.00	0.000
35	2.75	100	95	20.36	1475.00	1.54	441.70	0.000000	0.00	0.000
36	2.85	100	95	20.36	1475.00	1.09	441.70	0.000000	0.00	0.000
37	2.95	100	95	20.36	1475.00	0.72	441.70	0.000000	0.00	0.000
38	3.05	100	95	20.36	1475.00	0.41	441.70	0.000000	0.00	0.000
39	3.15	100	95	20.36	1475.00	0.19	441.70	0.000000	0.00	0.000

n°	Y	B	H	Af	Aeff	M	Mpf	ε	Sm	w
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kNm]	[%]	[mm]	[mm]
40	3.25	100	95	20.36	1475.00	0.05	441.70	0.000000	0.00	0.000
41	3.35	100	95	0.00	0.00	0.00	0.00	---	---	0.000

Elenco ferri

Simbologia adottata

n°	Indice del ferro
nf	numero ferri
D	diametro ferro espresso in [mm]
L	Lunghezza ferro espresso in [m]
P_{ferro}	Peso ferro espresso in [kN]

Paramento

n°	Tipo	nf	D	L	P_f	P_{gf}	V_{cls}
			[mm]	[m]	[kN]	[kN]	[mc]
1	Diritto inferiore	5	18.00	4.01	0.0786	0.3929	
2	Diritto inferiore	5	18.00	6.66	0.1305	0.6524	
3	Diritto superiore	5	18.00	6.68	0.1309	0.6546	
4	Diritto superiore	5	18.00	4.13	0.0808	0.4040	
5	Diritto superiore	5	18.00	3.22	0.0631	0.3155	
6	Ripartitore	48	16.00	1.00	0.0155	0.7430	
7	Gancio	36	16.00	1.28	0.0197	0.7108	
	Totale al metro					**3.8732**	**4.76**
	Totale					**46.4787**	**57.16**

Fondazione

n°	Tipo	nf	D	L	P_f	P_{gf}	V_{cls}
			[mm]	[m]	[kN]	[kN]	[mc]
1	Diritto superiore	8	18.00	6.22	0.1218	0.9745	
2	Diritto inferiore	8	18.00	6.22	0.1218	0.9745	
3	Ripartitore	24	16.00	1.00	0.0155	0.3715	
4	Gancio	24	16.00	1.13	0.0176	0.4213	
	Totale al metro					**2.7417**	**4.65**
	Totale					**28.1441**	**55.81**

Mensola valle

n°	Tipo	nf	D	L	P_f	P_{gf}	V_{cls}
			[mm]	[m]	[kN]	[kN]	[mc]
1	Diritto inferiore	4	16.00	1.53	0.0237	0.0947	
2	Diritto superiore	8	16.00	1.53	0.0237	0.1895	
3	Ripartitore	4	16.00	1.00	0.0155	0.0619	
4	Gancio	4	16.00	0.69	0.0106	0.0426	
	Totale al metro					**0.3887**	**0.13**
	Totale					**4.0373**	**1.50**

14 ALLEGATO 5 – TABULATI DI CALCOLO - MURO DI SOSTEGNO H7

Geometria profilo terreno a monte del muro

Simbologia adottata

(Sistema di riferimento con origine in testa al muro, ascissa X positiva verso monte, ordinata Y positiva verso l'alto)

n°	numero ordine del punto
X	ascissa del punto espressa in [m]
Y	ordinata del punto espressa in [m]
A	inclinazione del tratto espressa in [°]

n°	X	Y	A
	[m]	*[m]*	*[°]*
1	0.00	0.00	0.000
2	30.00	0.00	0.000

Inclinazione terreno a valle del muro rispetto all'orizzontale 0.000 [°]

Geometria muro

Geometria paramento e fondazione

Lunghezza muro	12.00	[m]

Paramento

Materiale	CLS 25/30	
Altezza paramento	7.00	[m]
Altezza paramento libero	7.00	[m]
Spessore in sommità	0.50	[m]
Spessore all'attacco con la fondazione	1.15	[m]
Inclinazione paramento esterno	0.00	[°]
Inclinazione paramento interno	5.30	[°]
Spessore rivestimento	0.20	[m]
Peso sp. rivestimento	20.0000	[kN/mc]

Mensola di marciapiede

Posizione rispetto alla testa del muro	0.00	[m]
Lunghezza	0.25	[m]
Spessore all'estremità libera	0.50	[m]
Spessore all'incastro	0.50	[m]

Fondazione

Materiale	CLS 25/30	
Lunghezza mensola di valle	1.15	[m]
Lunghezza mensola di monte	3.30	[m]
Lunghezza totale	5.60	[m]
Inclinazione piano di posa	0.00	[°]
Spessore	1.05	[m]
Spessore magrone	0.20	[m]

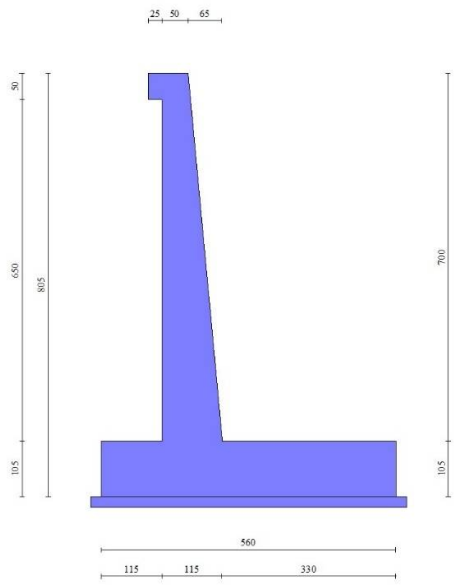

Fig. 1 - Sezione quotata del muro

Descrizione terreni

Parametri di resistenza

Simbologia adottata

n°	Indice del terreno
Descr	Descrizione terreno
γ	Peso di volume del terreno espresso in [kN/mc]
γ_s	Peso di volume saturo del terreno espresso in [kN/mc]
ϕ	Angolo d'attrito interno espresso in [°]
δ	Angolo d'attrito terra-muro espresso in [°]
c	Coesione espressa in [kPa]
c_a	Adesione terra-muro espressa in [kPa]

Per calcolo portanza con il metodo di Bustamante-Doix

Cesp Coeff. di espansione laterale (solo per il metodo di Bustamante-Doix)

τl Tensione tangenziale limite, espressa in [kPa]

n°	Descr	γ	γsat	ϕ	δ	c	ca	Cesp	τl
		[kN/mc]	[kN/mc]	[°]	[°]	[kPa]	[kPa]		[kPa]
1	Rilevato	19.0000	19.0000	35.000	23.330	0	0	---	---
2	LR	18.5000	18.5000	25.000	25.000	5	0	---	---

Stratigrafia

Simbologia adottata

n° Indice dello strato

H Spessore dello strato espresso in [m]

α Inclinazione espressa in [°]

Terreno Terreno dello strato

Kwn, Kwt Costante di Winkler normale e tangenziale alla superficie espressa in Kg/cm²/cm

Per calcolo pali (solo se presenti)

Kw Costante di Winkler orizzontale espressa in Kg/cm²/cm

Ks Coefficiente di spinta

Cesp Coefficiente di espansione laterale (per tutti i metodi tranne il metodo di Bustamante-Doix)

Per calcolo della spinta con coeff. di spinta definiti (usati solo se attiva l'opzione 'Usa coeff. di spinta da strato')

Kststa, Kstsis Coeff. di spinta statico e sismico

n°	H	α	Terreno	Kwn	Kwt	Kw	Ks	Cesp	Kststa	Kstsis
	[m]	[°]		[Kg/cm³]	[Kg/cm³]	[Kg/cm³]				
1	8.05	0.000	Rilevato	0.000	0.000	---	---	---	---	---
2	15.00	0.000	LR	2.400	1.200	---	---	---	---	---

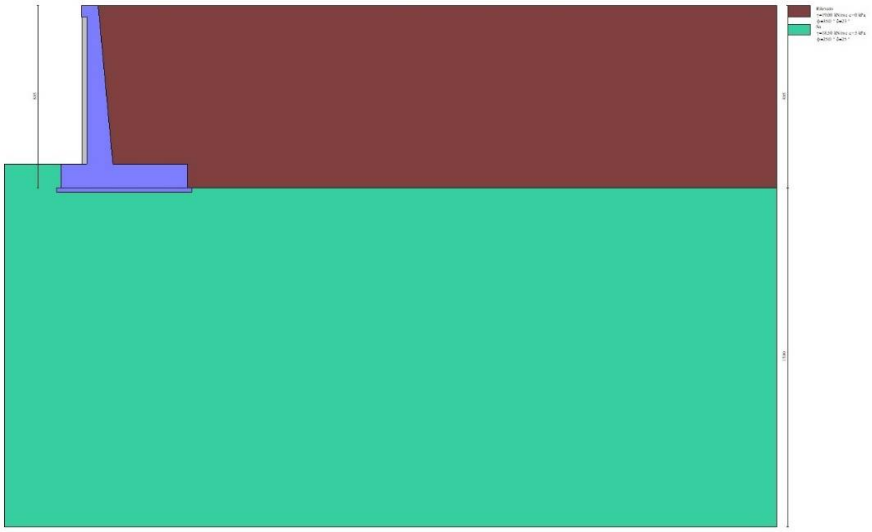

Fig. 2 - Stratigrafia

Condizioni di carico

Simbologia adottata

Carichi verticali positivi verso il basso.

Carichi orizzontali positivi verso sinistra.

Momento positivo senso antiorario.

X	Ascissa del punto di applicazione del carico concentrato espressa in [m]
F_x	Componente orizzontale del carico concentrato espressa in [kN]
F_y	Componente verticale del carico concentrato espressa in [kN]
M	Momento espresso in [kNm]
X_i	Ascissa del punto iniziale del carico ripartito espressa in [m]
X_f	Ascissa del punto finale del carico ripartito espressa in [m]
Q_i	Intensità del carico per $x=X_i$ espressa in [kN]
Q_f	Intensità del carico per $x=X_f$ espressa in [kN]

Condizione n° 1 (traffico-stradale) - VARIABILE TF

Coeff. di combinazione Ψ_0=0.75 - Ψ_1=0.75 - Ψ_2=0.00

Carichi sul terreno

n°	Tipo	X	Fx	Fy	M	Xi	Xf	Qi	Qf
		[m]	[kN]	[kN]	[kNm]	[m]	[m]	[kN]	[kN]
1	Distribuito					0.00	3.00	28.4000	28.4000
2	Distribuito					3.00	6.00	15.5000	15.5000
3	Distribuito					6.00	9.00	9.0000	9.0000
4	Distribuito					9.00	30.00	2.5000	2.5000

Condizione n° 2 (urto) - ECCEZIONALE

Carichi sul muro

n°	Tipo	Dest	X; Y	Fx	Fy	M	Xi	Xf	Qi	Qf
			[m]	[kN]	[kN]	[kNm]	[m]	[m]	[kN]	[kN]
1	Concentrato	Mensola marciappiede	-0.50; 0.00	14.3000	0.0000	14.3000				

Condizione n° 3 (Peso barriera) - PERMANENTE NS

Condizione n° 4 (Condizione 4) - VARIABILE

Coeff. di combinazione Ψ_0=1.00 - Ψ_1=1.00 - Ψ_2=1.00

Condizione n° 5 (Condizione 5) - VARIABILE

Coeff. di combinazione Ψ_0=1.00 - Ψ_1=1.00 - Ψ_2=1.00

Condizione n° 6 (Condizione 6) - VARIABILE

Coeff. di combinazione Ψ_0=1.00 - Ψ_1=1.00 - Ψ_2=1.00

Condizione n° 7 (Condizione 7) - VARIABILE

Coeff. di combinazione Ψ_0=1.00 - Ψ_1=1.00 - Ψ_2=1.00

Condizione n° 8 (Condizione 8) - VARIABILE

Coeff. di combinazione Ψ_0=1.00 - Ψ_1=1.00 - Ψ_2=1.00

Normativa

Normativa usata: **Norme Tecniche sulle Costruzioni 2018 (D.M. 17.01.2018) + Circolare C.S.LL.PP. 21/01/2019 n.7**

Coeff. parziali per le azioni o per l'effetto delle azioni

Carichi	Effetto		Combinazioni statiche					Combinazioni sismiche	
			UPL	EQU	A1	A2	EQU	A1	A2
Permanenti strutturali	Favorevoli	$\gamma_{G1,fav}$	0.90	0.90	1.00	1.00	1.00	1.00	1.00
Permanenti strutturali	Sfavorevoli	$\gamma_{G1,sfav}$	1.10	1.10	1.35	1.00	1.00	1.00	1.00
Permanenti non strutturali	Favorevoli	$\gamma_{G2,fav}$	0.80	0.00	0.00	0.00	0.00	0.00	0.00
Permanenti non strutturali	Sfavorevoli	$\gamma_{G2,sfav}$	1.50	1.50	1.50	1.30	1.00	1.00	1.00
Variabili	Favorevoli	$\gamma_{Q,fav}$	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Variabili	Sfavorevoli	$\gamma_{Q,sfav}$	1.50	1.50	1.50	1.30	1.00	1.00	1.00
Variabili da traffico	Favorevoli	$\gamma_{QT,fav}$	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Variabili da traffico	Sfavorevoli	$\gamma_{QT,sfav}$	1.50	1.35	1.35	1.15	1.00	1.00	1.00

Coeff. parziali per i parametri geotecnici del terreno

Parametro		Combinazioni statiche		Combinazioni sismiche	
		M1	M2	M1	M2
Tangente dell'angolo di attrito	$\gamma_{\tan(\phi')}$	1.00	1.25	1.00	1.00
Coesione efficace	$\gamma_{c'}$	1.00	1.25	1.00	1.00
Resistenza non drenata	γ_{cu}	1.00	1.40	1.00	1.00
Peso nell'unita di volume	γ_{γ}	1.00	1.00	1.00	1.00

Coeff. parziali γ_R per le verifiche agli stati limite ultimi STR e GEO

Verifica	Combinazioni statiche			Combinazioni sismiche		
	R1	R2	R3	R1	R2	R3
Capacità portante	--	--	1.40	--	--	1.20
Scorrimento	--	--	1.10	--	--	1.00
Resistenza terreno a valle	--	--	1.40	--	--	1.20
Ribaltameno	--	--	1.15	--	--	1.00
Stabilità fronte di scavo	--	1.10	--	--	1.20	--

Descrizione combinazioni di carico

Con riferimento alle azioni elementari prima determinate, si sono considerate le seguenti combinazioni di carico:

- Combinazione fondamentale, impiegata per gli stati limite ultimi (SLU):

$$\gamma_{G1} G_1 + \gamma_{G2} G_2 + \gamma_{Q1} Q_{k1} + \gamma_{Q2} Q_{k2} + \gamma_{Q3} Q_{k3} + \ldots$$

- Combinazione caratteristica, cosiddetta rara, impiegata per gli stati limite di esercizio (SLE) irreversibili:

$$G_1 + G_2 + Q_{k1} + \Psi_{0,2} Q_{k2} + \Psi_{0,3} Q_{k3} + \ldots$$

- Combinazione frequente, impiegata per gli stati limite di esercizio (SLE) reversibili:

$$G_1 + G_2 + \Psi_{1,1} Q_{k1} + \Psi_{2,2} Q_{k2} + \Psi_{2,3} Q_{k3} + \ldots$$

- Combinazione quasi permanente, impiegata per gli effetti di lungo periodo:

$$G_1 + G_2 + \Psi_{2,1} Q_{k1} + \Psi_{2,2} Q_{k2} + \Psi_{2,3} Q_{k3} + \ldots$$

- Combinazione sismica, impiegata per gli stati limite ultimi connessi all'azione sismica E:

$$E + G_1 + G_2 + \Psi_{2,1} Q_{k1} + \Psi_{2,2} Q_{k2} + \Psi_{2,3} Q_{k3} + \ldots$$

- Combinazione eccezzionale, impiegata per gli stati limite ultimi connessi alle azioni eccezionali Ad:

$$G_1 + G_2 + A_d + \Psi_{2,1} Q_{k1} + \Psi_{2,2} Q_{k2} + \Psi_{2,3} Q_{k3} + \ldots$$

I valori dei coeff. $\Psi_{0,j}$, $\Psi_{1,j}$, $\Psi_{2,j}$ sono definiti nelle singole condizioni variabili.

I valori dei coeff. γ_G e γ_Q, sono definiti nella tabella normativa.

In particolare si sono considerate le seguenti combinazioni:

Simbologia adottata

γ	Coefficiente di partecipazione della condizione
Ψ	Coefficiente di combinazione della condizione

Combinazione n° 1 - STR (A1-M1-R3)

Condizione	γ	Ψ	Effetto
Peso muro	1.00	--	Favorevole
Peso terrapieno	1.00	--	Favorevole
Spinta terreno	1.35	--	Sfavorevole

Combinazione n° 2 - STR (A1-M1-R3)

Condizione	γ	Ψ	Effetto
Peso muro	1.00	--	Favorevole
Peso terrapieno	1.00	--	Favorevole
Spinta terreno	1.35	--	Sfavorevole
traffico-stradale	1.35	1.00	Sfavorevole

Combinazione n° 3 - STR (A1-M1-R3) H + V

Condizione	γ	Ψ	Effetto
Peso muro	1.00	--	Favorevole
Peso terrapieno	1.00	--	Favorevole
Spinta terreno	1.00	--	Sfavorevole

Combinazione n° 4 - STR (A1-M1-R3) H - V

Condizione	γ	Ψ	Effetto
Peso muro	1.00	--	Sfavorevole
Peso terrapieno	1.00	--	Sfavorevole
Spinta terreno	1.00	--	Sfavorevole

Combinazione n° 5 - GEO (A2-M2-R2)

Condizione	γ	Ψ	Effetto
Peso muro	1.00	--	Sfavorevole
Peso terrapieno	1.00	--	Sfavorevole
Spinta terreno	1.00	--	Sfavorevole

Combinazione n° 6 - GEO (A2-M2-R2)

Condizione	γ	Ψ	Effetto
Peso muro	1.00	--	Sfavorevole
Peso terrapieno	1.00	--	Sfavorevole
Spinta terreno	1.00	--	Sfavorevole
traffico-stradale	1.15	1.00	Sfavorevole

Combinazione n° 7 - GEO (A2-M2-R2) H + V

Condizione	γ	Ψ	Effetto
Peso muro	1.00	--	Sfavorevole
Peso terrapieno	1.00	--	Sfavorevole
Spinta terreno	1.00	--	Sfavorevole

Combinazione n° 8 - GEO (A2-M2-R2) H - V

Condizione	γ	Ψ	Effetto
Peso muro	1.00	--	Sfavorevole
Peso terrapieno	1.00	--	Sfavorevole
Spinta terreno	1.00	--	Sfavorevole

Combinazione n° 9 - ECC

Condizione	γ	Ψ	Effetto
Peso muro	1.00	--	Sfavorevole
Peso terrapieno	1.00	--	Sfavorevole
Spinta terreno	1.00	--	Sfavorevole
urto	1.00	1.00	Sfavorevole

Combinazione n° 10 - SLER

Condizione	γ	Ψ	Effetto
Peso muro	1.00	--	Sfavorevole
Peso terrapieno	1.00	--	Sfavorevole
Spinta terreno	1.00	--	Sfavorevole
traffico-stradale	1.00	0.75	Sfavorevole

Combinazione n° 11 - SLEF

Condizione	γ	Ψ	Effetto
Peso muro	1.00	--	Sfavorevole
Peso terrapieno	1.00	--	Sfavorevole
Spinta terreno	1.00	--	Sfavorevole

Combinazione n° 12 - SLEQ

Condizione	γ	Ψ	Effetto
Peso muro	1.00	--	Sfavorevole
Peso terrapieno	1.00	--	Sfavorevole
Spinta terreno	1.00	--	Sfavorevole

Dati sismici

Comune	
Provincia	
Regione	
Latitudine	43.608157
Longitudine	13.471305
Indice punti di interpolazione	20979 - 20757 - 20756 - 20978
Vita nominale	50 anni
Classe d'uso	IV
Tipo costruzione	Normali affollamenti
Vita di riferimento	100 anni

	Simbolo	U.M.		SLU	SLE
Accelerazione al suolo	a_g	[m/s^2]		2.260	0.873
Accelerazione al suolo	a_g/g	[%]		0.230	0.089
Massimo fattore amplificazione spettro orizzontale	F0			2.433	2.436
Periodo inizio tratto spettro a velocità costante	Tc*			0.307	0.282
Tipo di sottosuolo - Coefficiente stratigrafico	Ss		C	1.358	1.500
Categoria topografica - Coefficiente amplificazione topografica	St		T1	1.000	

Stato limite ...	Coeff. di riduzione β_m	kh [%]	kv [%]
Ultimo	0.380	12.099	6.049
Ultimo - Ribaltamento	0.570	18.148	9.074
Esercizio	0.470	6.275	3.138

Forma diagramma incremento sismico **Rettangolare**

Opzioni di calcolo

Spinta

Metodo di calcolo della spinta	Culmann
Tipo di spinta	Spinta attiva
Terreno a bassa permeabilità	NO
Superficie di spinta limitata	NO

Capacità portante

Metodo di calcolo della portanza	Meyerhof
Criterio di media calcolo del terreno equivalente (terreni stratificati)	Ponderata
Criterio di riduzione per eccentricità della portanza	Bowles
Criterio di riduzione per rottura locale (punzonamento)	Nessuna
Larghezza fondazione nel terzo termine della formula del carico limite ($0.5B\gamma N_\gamma$)	Larghezza effettiva (B)

Fattori di forma e inclinazione del carico — Solo i fattori di inclinazione

Se la fondazione ha larghezza superiore a 2.0 m viene applicato il fattore di riduzione per comportamento a piastra

Stabilità globale

Metodo di calcolo della stabilità globale — Bishop

Altro

Partecipazione spinta passiva terreno antistante — 0.00

Partecipazione resistenza passiva dente di fondazione — 50.00

Componente verticale della spinta nel calcolo delle sollecitazioni — NO

Considera terreno sulla fondazione di valle — NO

Considera spinta e peso acqua fondazione di valle — NO

Spostamenti

Modello a blocchi

Non è stato richiesto il calcolo degli spostamenti

Spostamento limite — 2.00 [cm]

Cedimenti

Non è stato richiesto il calcolo dei cedimenti

Specifiche per le verifiche nelle combinazioni allo Stato Limite Ultimo (SLU)

	SLU	Eccezionale
Coefficiente di sicurezza calcestruzzo a compressione	1.50	1.00
Coefficiente di sicurezza acciaio	1.15	1.00
Fattore di riduzione da resistenza cubica a cilindrica	0.83	0.83
Fattore di riduzione per carichi di lungo periodo	0.85	0.85
Coefficiente di sicurezza per la sezione	1.00	1.00

Specifiche per le verifiche nelle combinazioni allo Stato Limite di Esercizio (SLE)

Paramento e fondazione muro

Verifiche strutturali nelle combinazioni SLD **non eseguite**. Struttura in classe d'uso III o IV

Condizioni ambientali — Aggressive

Armatura ad aderenza migliorata — SI

Verifica a fessurazione

Sensibilità armatura — Poco sensibile

Metodo di calcolo aperture delle fessure — NTC 2018 - CIRCOLARE 21 gennaio 2019, n. 7 C.S.LL.PP.

Calcolo momento fessurazione — Apertura

Resistenza a trazione per — Trazione

Valori limite aperture delle fessure: — w_1=0.20

w_2=0.30

w_3=0.40

Verifica delle tensioni

Valori limite delle tensioni nei materiali:

Combinazione	Calcestruzzo	Acciaio
Rara	0.60 f_{ck}	0.80 f_{yk}
Frequente	1.00 f_{ck}	1.00 f_{yk}
Quasi permanente	0.45 f_{ck}	1.00 f_{yk}

Risultati per combinazione

Spinta e forze

Simbologia adottata

Ic	Indice della combinazione
A	Tipo azione
I	Inclinazione della spinta, espressa in [°]
V	Valore dell'azione, espressa in [kN]
C_X, C_Y	Componente in direzione X ed Y dell'azione, espressa in [kN]
P_X, P_Y	Coordinata X ed Y del punto di applicazione dell'azione, espressa in [m]

Ic	A	V	I	C_X	C_Y	P_X	P_Y
		[kN]	[°]	[kN]	[kN]	[m]	[m]
1	Spinta statica	203.13	23.33	186.52	80.44	3.95	-5.37
	Peso/Inerzia muro			0.00	294.43/0.00	0.53	-5.70
	Peso/Inerzia rivestimento			0.00	28.00	-0.60	-3.75
	Peso/Inerzia terrapieno			0.00	482.08/0.00	2.13	-3.40
2	Spinta statica	234.42	23.33	215.25	92.84	3.95	-5.11
	Peso/Inerzia muro			0.00	294.43/0.00	0.53	-5.70
	Peso/Inerzia rivestimento			0.00	28.00	-0.60	-3.75
	Peso/Inerzia terrapieno			0.00	616.97/0.00	2.09	-3.37
3	Spinta statica	150.47	23.33	138.16	59.59	3.95	-5.37
	Incremento di spinta sismica		55.84	51.28	22.11	3.95	-4.03
	Peso/Inerzia muro			35.62	294.43/17.81	0.53	-5.70
	Peso/Inerzia rivestimento			3.39	28.00	-0.60	-3.75
	Peso/Inerzia terrapieno			58.33	482.08/29.16	2.13	-3.40
4	Spinta statica	150.47	23.33	138.16	59.59	3.95	-5.37
	Incremento di spinta sismica		38.48	35.33	15.24	3.95	-4.03
	Peso/Inerzia muro			35.62	294.43/-17.81	0.53	-5.70
	Peso/Inerzia rivestimento			3.39	28.00	-0.60	-3.75
	Peso/Inerzia terrapieno			58.33	482.08/-29.16	2.13	-3.40
9	Spinta statica	150.47	23.33	138.16	59.59	3.95	-5.37
	Peso/Inerzia muro			0.00	294.43/0.00	0.53	-5.70
	Peso/Inerzia rivestimento			0.00	28.00	-0.60	-3.75
	Peso/Inerzia terrapieno			0.00	482.08/0.00	2.13	-3.40
	Risultante forze sul muro			14.30	0.00	--	--
10	Spinta statica	167.84	23.33	154.12	66.47	3.95	-5.17
	Peso/Inerzia muro			0.00	294.43/0.00	0.53	-5.70
	Peso/Inerzia rivestimento			0.00	28.00	-0.60	-3.75
	Peso/Inerzia terrapieno			0.00	557.02/0.00	2.11	-3.38
11	Spinta statica	150.47	23.33	138.16	59.59	3.95	-5.37
	Peso/Inerzia muro			0.00	294.43/0.00	0.53	-5.70
	Peso/Inerzia rivestimento			0.00	28.00	-0.60	-3.75
	Peso/Inerzia terrapieno			0.00	482.08/0.00	2.13	-3.40
12	Spinta statica	150.47	23.33	138.16	59.59	3.95	-5.37
	Peso/Inerzia muro			0.00	294.43/0.00	0.53	-5.70
	Peso/Inerzia rivestimento			0.00	28.00	-0.60	-3.75
	Peso/Inerzia terrapieno			0.00	482.08/0.00	2.13	-3.40

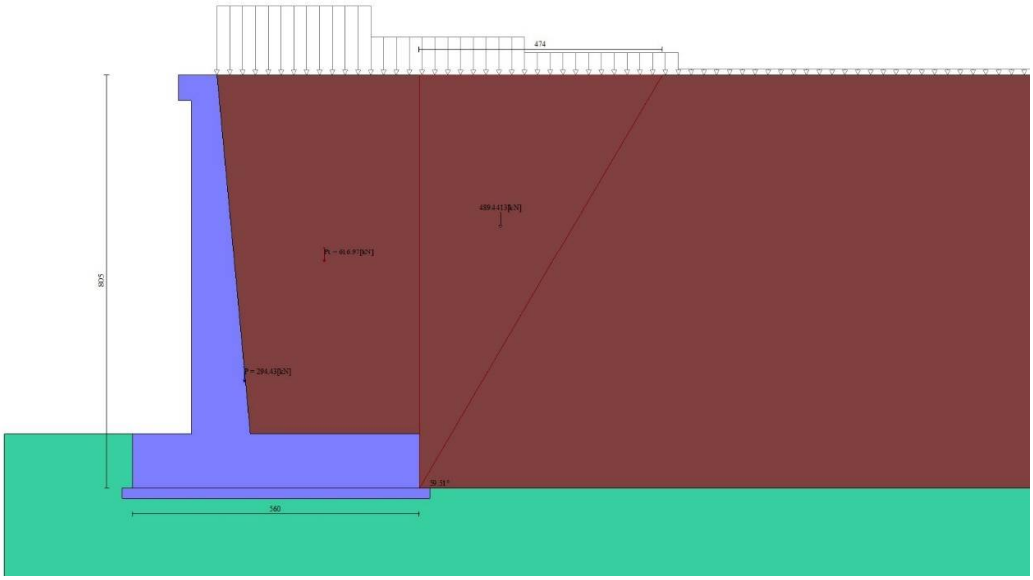

Fig. 3 - Cuneo di spinta (combinazione statica) (Combinazione n° 2)

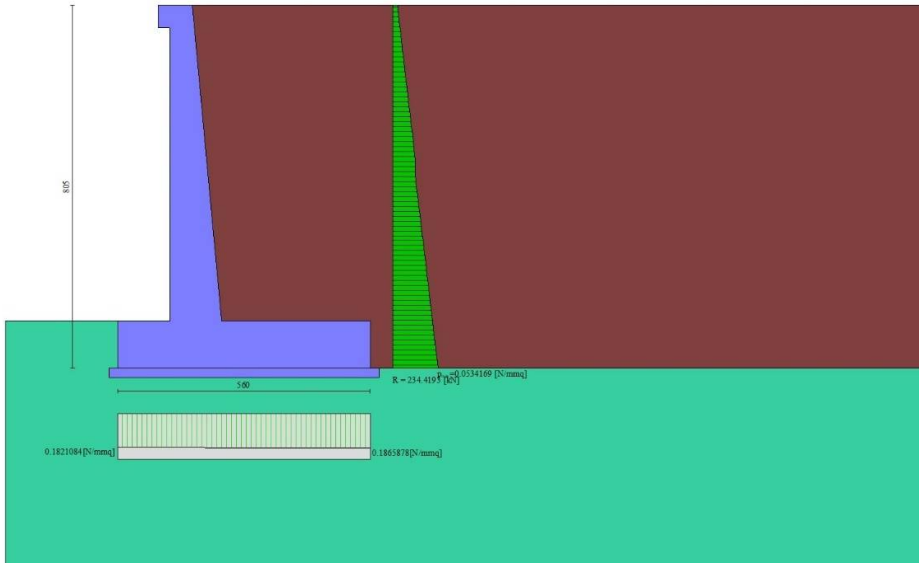

Fig. 4 - Diagramma delle pressioni (combinazione statica) (Combinazione n° 2)

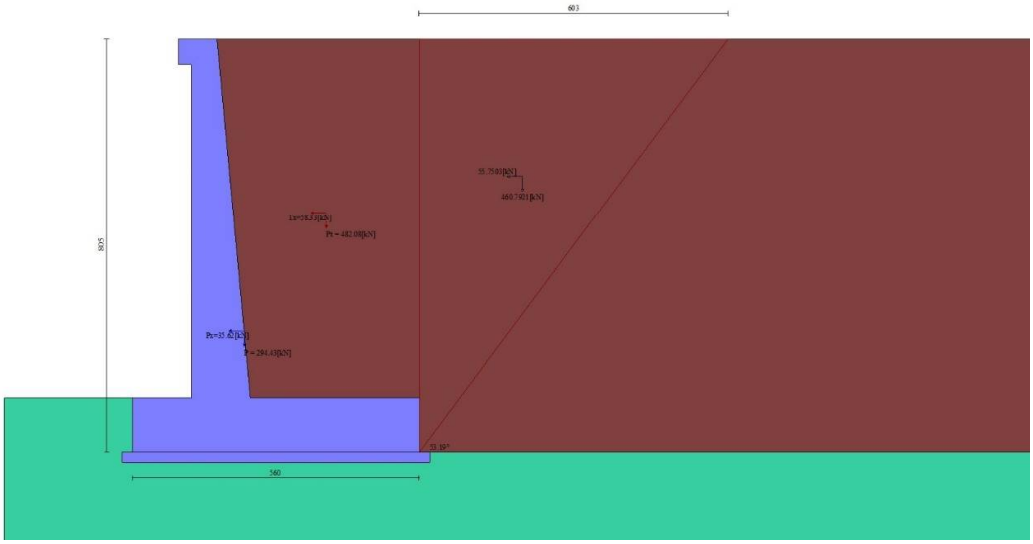

Fig. 5 - Cuneo di spinta (combinazione sismica) (Combinazione n° 3)

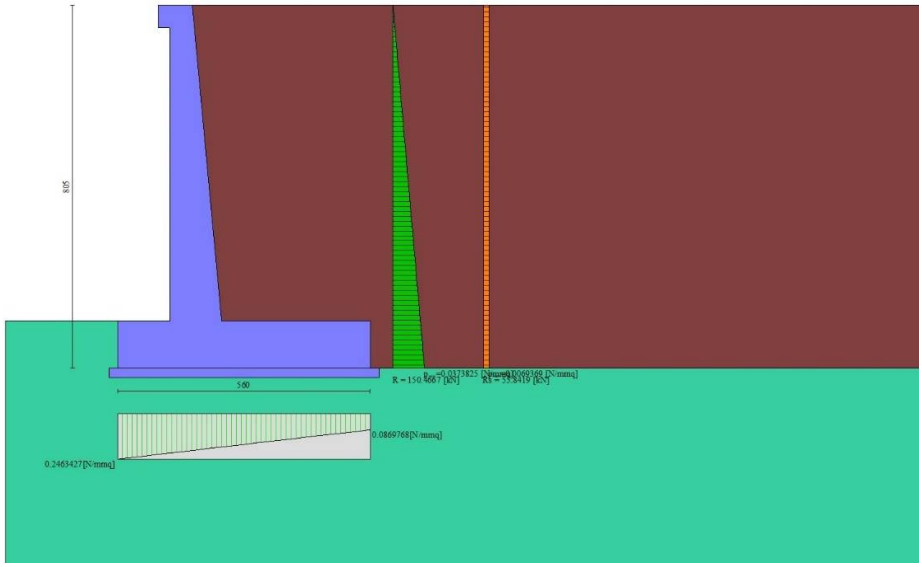

Fig. 6 - Diagramma delle pressioni (combinazione sismica) (Combinazione n° 3)

Verifiche geotecniche

Quadro riassuntivo coeff. di sicurezza calcolati

Simbologia adottata

Cmb	Indice/Tipo combinazione
S	Sisma (H: componente orizzontale, V: componente verticale)
FS_{SCO}	Coeff. di sicurezza allo scorrimento
FS_{RIB}	Coeff. di sicurezza al ribaltamento
FS_{QLIM}	Coeff. di sicurezza a carico limite
FS_{STAB}	Coeff. di sicurezza a stabilità globale
FS_{HYD}	Coeff. di sicurezza a sifonamento
FS_{UPL}	Coeff. di sicurezza a sollevamento

Cmb	Sismica	FS_{SCO}	FS_{RIB}	FS_{QLIM}	FS_{STAB}	FS_{HYD}	FS_{UPL}
1 - STR (A1-M1-R3)		2.212		2.068			
2 - STR (A1-M1-R3)		2.236		1.797			
3 - STR (A1-M1-R3)	H + V	1.517		1.209			
4 - STR (A1-M1-R3)	H - V	1.433		1.258			
5 - GEO (A2-M2-R2)					1.400		
6 - GEO (A2-M2-R2)					1.326		
7 - GEO (A2-M2-R2)	H + V				1.417		
8 - GEO (A2-M2-R2)	H - V				1.395		

Verifica stabilità globale muro + terreno

Simbologia adottata

Ic	Indice/Tipo combinazione
C	Centro superficie di scorrimento, espresso in [m]
R	Raggio, espresso in [m]
FS	Fattore di sicurezza

Ic	C	R	FS
	[m]	*[m]*	
5 - GEO (A2-M2-R2)	-1.57; 0.00	9.77	1.400
6 - GEO (A2-M2-R2)	-1.57; 0.00	9.77	1.326
7 - GEO (A2-M2-R2) H + V	-1.57; 3.15	12.49	1.417
8 - GEO (A2-M2-R2) H - V	-1.57; 3.15	12.49	1.395

Dettagli strisce verifiche stabilità

Simbologia adottata

Le ascisse X sono considerate positive verso monte

Le ordinate Y sono considerate positive verso l'alto

Origine in testa al muro (spigolo contro terra)

W	peso della striscia espresso in [kN]
Qy	carico sulla striscia espresso in [kN]
Qf	carico acqua sulla striscia espresso in [kN]
α	angolo fra la base della striscia e l'orizzontale espresso in [°] (positivo antiorario)
ϕ	angolo d'attrito del terreno lungo la base della striscia
c	coesione del terreno lungo la base della striscia espressa in [kPa]
b	larghezza della striscia espressa in [m]
u	pressione neutra lungo la base della striscia espressa in [kPa]
Tx; Ty	Resistenza al taglio fornita dai tiranti in direzione X ed Y espressa in [kPa]

Combinazione n° 5 - GEO (A2-M2-R2)

n°	W	Qy	Qf	b	α	ϕ	c	u	Tx; Ty
	[kN]	[kN]	[kN]	[m]	[°]	[°]	[kPa]	[kPa]	[kN]
1	22.35	0.00	0.00	8.20 - 0.66	79.377	29.256	0	0.0	
2	53.39	0.00	0.00	0.66	64.265	29.256	0	0.0	
3	68.36	0.00	0.00	0.66	56.267	29.256	0	0.0	
4	79.58	0.00	0.00	0.66	49.744	29.256	0	0.0	
5	88.58	0.00	0.00	0.66	44.020	29.256	0	0.0	
6	96.00	0.00	0.00	0.66	38.812	29.256	0	0.0	
7	102.24	0.00	0.00	0.66	33.964	20.458	4	0.0	
8	111.41	0.00	0.00	0.66	29.380	20.458	4	0.0	
9	115.61	0.00	0.00	0.66	24.996	20.458	4	0.0	
10	119.06	0.00	0.00	0.66	20.764	20.458	4	0.0	
11	121.83	0.00	0.00	0.66	16.649	20.458	4	0.0	
12	129.69	0.00	0.00	0.66	12.620	20.458	4	0.0	
13	151.71	0.00	0.00	0.66	8.654	20.458	4	0.0	
14	44.87	0.00	0.00	0.66	4.730	20.458	4	0.0	
15	37.80	0.00	0.00	0.66	0.828	20.458	4	0.0	
16	34.17	0.00	0.00	0.66	-3.070	20.458	4	0.0	
17	33.45	0.00	0.00	0.66	-6.983	20.458	4	0.0	
18	32.16	0.00	0.00	0.66	-10.928	20.458	4	0.0	
19	30.29	0.00	0.00	0.66	-14.927	20.458	4	0.0	
20	27.80	0.00	0.00	0.66	-19.003	20.458	4	0.0	
21	24.64	0.00	0.00	0.66	-23.181	20.458	4	0.0	
22	20.77	0.00	0.00	0.66	-27.496	20.458	4	0.0	
23	16.10	0.00	0.00	0.66	-31.988	20.458	4	0.0	
24	10.43	0.00	0.00	0.66	-36.714	20.458	4	0.0	
25	3.56	0.00	0.00	-8.41 - 0.66	-41.077	20.458	4	0.0	

Combinazione n° 6 - GEO (A2-M2-R2)

n°	W	Qy	Qf	b	α	ϕ	c	u	Tx; Ty
	[kN]	[kN]	[kN]	[m]	[°]	[°]	[kPa]	[kPa]	[kN]
1	22.35	6.87	0.00	8.20 - 0.66	79.377	29.256	0	0.0	
2	53.39	6.87	0.00	0.66	64.265	29.256	0	0.0	
3	68.36	6.87	0.00	0.66	56.267	29.256	0	0.0	
4	79.58	10.30	0.00	0.66	49.744	29.256	0	0.0	
5	88.58	11.84	0.00	0.66	44.020	29.256	0	0.0	
6	96.00	11.84	0.00	0.66	38.812	29.256	0	0.0	
7	102.24	11.84	0.00	0.66	33.964	20.458	4	0.0	
8	111.41	13.54	0.00	0.66	29.380	20.458	4	0.0	
9	115.61	21.69	0.00	0.66	24.996	20.458	4	0.0	
10	119.06	21.69	0.00	0.66	20.764	20.458	4	0.0	
11	121.83	21.69	0.00	0.66	16.649	20.458	4	0.0	
12	129.69	21.69	0.00	0.66	12.620	20.458	4	0.0	
13	151.71	7.47	0.00	0.66	8.654	20.458	4	0.0	
14	44.87	0.00	0.00	0.66	4.730	20.458	4	0.0	
15	37.80	0.00	0.00	0.66	0.828	20.458	4	0.0	
16	34.17	0.00	0.00	0.66	-3.070	20.458	4	0.0	
17	33.45	0.00	0.00	0.66	-6.983	20.458	4	0.0	
18	32.16	0.00	0.00	0.66	-10.928	20.458	4	0.0	
19	30.29	0.00	0.00	0.66	-14.927	20.458	4	0.0	
20	27.80	0.00	0.00	0.66	-19.003	20.458	4	0.0	
21	24.64	0.00	0.00	0.66	-23.181	20.458	4	0.0	
22	20.77	0.00	0.00	0.66	-27.496	20.458	4	0.0	
23	16.10	0.00	0.00	0.66	-31.988	20.458	4	0.0	
24	10.43	0.00	0.00	0.66	-36.714	20.458	4	0.0	
25	3.56	0.00	0.00	-8.41 - 0.66	-41.077	20.458	4	0.0	

Combinazione n° 7 - GEO (A2-M2-R2) H + V

n°	W	Qy	Qf	b	α	ϕ	c	u	Tx; Ty
	[kN]	[kN]	[kN]	[m]	[°]	[°]	[kPa]	[kPa]	[kN]
1	15.70	0.00	0.00	10.53 - 0.78	69.973	35.000	0	0.0	
2	41.87	0.00	0.00	0.78	61.312	35.000	0	0.0	
3	60.36	0.00	0.00	0.78	54.533	35.000	0	0.0	
4	74.93	0.00	0.00	0.78	48.763	35.000	0	0.0	
5	86.91	0.00	0.00	0.78	43.603	35.000	0	0.0	
6	96.97	0.00	0.00	0.78	38.858	35.000	0	0.0	
7	105.51	0.00	0.00	0.78	34.414	35.000	0	0.0	
8	112.76	0.00	0.00	0.78	30.196	35.000	0	0.0	
9	118.55	0.00	0.00	0.78	26.153	25.000	5	0.0	
10	128.80	0.00	0.00	0.78	22.247	25.000	5	0.0	
11	132.94	0.00	0.00	0.78	18.447	25.000	5	0.0	
12	136.27	0.00	0.00	0.78	14.730	25.000	5	0.0	
13	140.27	0.00	0.00	0.78	11.075	25.000	5	0.0	

n°	W [kN]	Qy [kN]	Qf [kN]	b [m]	α [°]	ϕ [°]	c [kPa]	u [kPa]	Tx; Ty [kN]
14	167.05	0.00	0.00	0.78	7.466	25.000	5	0.0	
15	57.47	0.00	0.00	0.78	3.886	25.000	5	0.0	
16	37.41	0.00	0.00	0.78	0.322	25.000	5	0.0	
17	33.75	0.00	0.00	0.78	-3.241	25.000	5	0.0	
18	32.77	0.00	0.00	0.78	-6.817	25.000	5	0.0	
19	31.08	0.00	0.00	0.78	-10.420	25.000	5	0.0	
20	28.66	0.00	0.00	0.78	-14.065	25.000	5	0.0	
21	25.47	0.00	0.00	0.78	-17.769	25.000	5	0.0	
22	21.49	0.00	0.00	0.78	-21.553	25.000	5	0.0	
23	16.63	0.00	0.00	0.78	-25.438	25.000	5	0.0	
24	10.71	0.00	0.00	0.78	-29.454	25.000	5	0.0	
25	3.67	0.00	0.00	-8.88 - 0.78	-33.148	25.000	5	0.0	

Combinazione n° 8 - GEO (A2-M2-R2) H - V

n°	W [kN]	Qy [kN]	Qf [kN]	b [m]	α [°]	ϕ [°]	c [kPa]	u [kPa]	Tx; Ty [kN]
1	15.70	0.00	0.00	10.53 - 0.78	69.973	35.000	0	0.0	
2	41.87	0.00	0.00	0.78	61.312	35.000	0	0.0	
3	60.36	0.00	0.00	0.78	54.533	35.000	0	0.0	
4	74.93	0.00	0.00	0.78	48.763	35.000	0	0.0	
5	86.91	0.00	0.00	0.78	43.603	35.000	0	0.0	
6	96.97	0.00	0.00	0.78	38.858	35.000	0	0.0	
7	105.51	0.00	0.00	0.78	34.414	35.000	0	0.0	
8	112.76	0.00	0.00	0.78	30.196	35.000	0	0.0	
9	118.55	0.00	0.00	0.78	26.153	25.000	5	0.0	
10	128.80	0.00	0.00	0.78	22.247	25.000	5	0.0	
11	132.94	0.00	0.00	0.78	18.447	25.000	5	0.0	
12	136.27	0.00	0.00	0.78	14.730	25.000	5	0.0	
13	140.27	0.00	0.00	0.78	11.075	25.000	5	0.0	
14	167.05	0.00	0.00	0.78	7.466	25.000	5	0.0	
15	57.47	0.00	0.00	0.78	3.886	25.000	5	0.0	
16	37.41	0.00	0.00	0.78	0.322	25.000	5	0.0	
17	33.75	0.00	0.00	0.78	-3.241	25.000	5	0.0	
18	32.77	0.00	0.00	0.78	-6.817	25.000	5	0.0	
19	31.08	0.00	0.00	0.78	-10.420	25.000	5	0.0	
20	28.66	0.00	0.00	0.78	-14.065	25.000	5	0.0	
21	25.47	0.00	0.00	0.78	-17.769	25.000	5	0.0	
22	21.49	0.00	0.00	0.78	-21.553	25.000	5	0.0	
23	16.63	0.00	0.00	0.78	-25.438	25.000	5	0.0	
24	10.71	0.00	0.00	0.78	-29.454	25.000	5	0.0	
25	3.67	0.00	0.00	-8.88 - 0.78	-33.148	25.000	5	0.0	

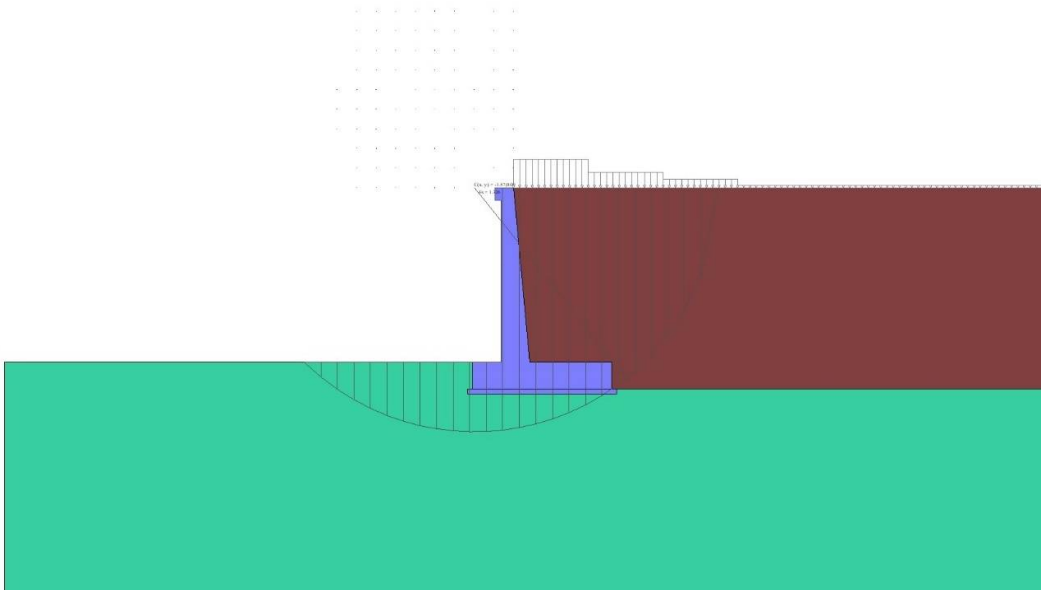

Fig. 7 - Stabilità fronte di scavo - Cerchio critico (Combinazione n° 6)

Spostamenti

Simbologia adottata

Cmb Tipo combinazione

Modello a blocchi

X Spostamento in direzione X (positivo verso monte), espresso in [cm]

Y Spostamento in direzione Y (positivo verso l'alto), espresso in [cm]

Phi Rotazione (positiva antioraria), espresso in [°]

Spostamenti ottenuti con il modello a blocchi

Cmb	X	Y	Phi
	[cm]	*[cm]*	*[°]*
1 - STR (A1-M1-R3)	-0.28300	-0.67148	-0.00001
2 - STR (A1-M1-R3)	-0.31868	-0.78116	-0.00195
3 - STR (A1-M1-R3) H + V	-0.72708	-0.78262	0.06929
4 - STR (A1-M1-R3) H - V	-0.70669	-0.70442	0.06771
9 - ECC	-0.27073	-0.66597	0.00960
10 - SLER	-0.18090	-0.70390	-0.01292
11 - SLEF	-0.16115	-0.64298	-0.01183
12 - SLEQ	-0.16115	-0.64298	-0.01183

Sollecitazioni

Elementi calcolati a trave

Simbologia adottata

n° Indice della sezione

X Posizione della sezione, espresso in [m]

N Sforzo normale, espresso in [kN]. Positivo se di compressione.

T Taglio, espresso in [kN]. Positivo se diretto da monte verso valle

M Momento, espresso in [kNm]. Positivo se tende le fibre contro terra (a monte)

La posizione delle sezioni di verifica fanno riferimento al sistema di riferimento globale la cui origine è nello spigolo in alto a destra del paramento.

Paramento

Combinazione n° 1 - STR (A1-M1-R3)

n°	X	N	T	M
	[m]	*[kN]*	*[kN]*	*[kNm]*
1	0.00	3.13	0.00	0.39
2	-0.10	4.37	0.03	0.39
3	-0.20	5.63	0.13	0.41
4	-0.30	6.92	0.28	0.44
5	-0.39	8.23	0.50	0.50
6	-0.49	9.57	0.78	0.59
7	-0.59	10.93	1.12	0.72
8	-0.69	12.30	1.52	0.88
9	-0.79	13.71	1.98	1.10
10	-0.89	15.13	2.51	1.37
11	-0.99	16.58	3.10	1.71
12	-1.08	18.05	3.75	2.11
13	-1.18	19.54	4.46	2.59

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
14	-1.28	21.05	5.23	3.14
15	-1.38	22.59	6.07	3.78
16	-1.48	24.15	6.96	4.52
17	-1.58	25.73	7.92	5.35
18	-1.68	27.33	8.94	6.29
19	-1.77	28.96	10.03	7.34
20	-1.87	30.61	11.17	8.51
21	-1.97	32.28	12.38	9.79
22	-2.07	33.98	13.65	11.21
23	-2.17	35.69	14.98	12.77
24	-2.27	37.43	16.37	14.47
25	-2.37	39.19	17.82	16.31
26	-2.46	40.98	19.34	18.31
27	-2.56	42.79	20.92	20.48
28	-2.66	44.62	22.56	22.80
29	-2.76	46.47	24.26	25.31
30	-2.86	48.34	26.02	27.99
31	-2.96	50.24	27.85	30.85
32	-3.06	52.16	29.74	33.91
33	-3.15	54.10	31.68	37.17
34	-3.25	56.07	33.70	40.63
35	-3.35	58.06	35.77	44.30
36	-3.45	60.07	37.90	48.18
37	-3.55	62.10	40.10	52.29
38	-3.65	64.15	42.36	56.63
39	-3.75	66.23	44.68	61.21
40	-3.85	68.33	47.06	66.02
41	-3.94	70.46	49.51	71.08
42	-4.04	72.60	52.01	76.40
43	-4.14	74.77	54.58	81.98
44	-4.24	76.96	57.21	87.82
45	-4.34	79.17	59.90	93.93
46	-4.44	81.41	62.65	100.33
47	-4.54	83.67	65.47	107.01
48	-4.63	85.95	68.35	113.98
49	-4.73	88.25	71.29	121.24
50	-4.83	90.58	74.29	128.81
51	-4.93	92.92	77.35	136.69
52	-5.03	95.29	80.47	144.89
53	-5.13	97.69	83.66	153.41
54	-5.23	100.10	86.91	162.25
55	-5.32	102.54	90.22	171.43
56	-5.42	105.00	93.59	180.95
57	-5.52	107.49	97.03	190.82
58	-5.62	109.99	100.52	201.04
59	-5.72	112.52	104.08	211.62
60	-5.82	115.07	107.70	222.57
61	-5.92	117.65	111.38	233.89
62	-6.01	120.24	115.13	245.58
63	-6.11	122.86	118.93	257.66
64	-6.21	125.50	122.80	270.13
65	-6.31	128.17	126.73	283.00
66	-6.41	130.85	130.72	296.26
67	-6.51	133.56	134.77	309.94
68	-6.61	136.29	138.89	324.03
69	-6.70	139.05	143.06	338.55
70	-6.80	141.82	147.30	353.49
71	-6.90	144.62	151.60	368.86
72	-7.00	147.44	155.97	384.68

Combinazione n° 2 - STR (A1-M1-R3)

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	0.00	3.13	0.00	0.39
2	-0.10	4.37	0.97	0.44
3	-0.20	5.63	2.00	0.60
4	-0.30	6.92	3.10	0.86
5	-0.39	8.23	4.25	1.24
6	-0.49	9.57	5.47	1.75
7	-0.59	10.93	6.75	2.38
8	-0.69	12.30	8.09	3.15
9	-0.79	13.71	9.49	4.06
10	-0.89	15.13	10.95	5.12
11	-0.99	16.58	12.48	6.33
12	-1.08	18.05	14.07	7.71
13	-1.18	19.54	15.72	9.25
14	-1.28	21.05	17.43	10.96
15	-1.38	22.59	19.20	12.85
16	-1.48	24.15	21.04	14.92
17	-1.58	25.73	22.93	17.19
18	-1.68	27.33	24.89	19.65

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
19	-1.77	28.96	26.91	22.32
20	-1.87	30.61	29.00	25.20
21	-1.97	32.28	31.14	28.29
22	-2.07	33.98	33.35	31.61
23	-2.17	35.69	35.62	35.15
24	-2.27	37.43	37.95	38.93
25	-2.37	39.19	40.34	42.95
26	-2.46	40.98	42.79	47.22
27	-2.56	42.79	45.31	51.74
28	-2.66	44.62	47.89	56.52
29	-2.76	46.47	50.53	61.56
30	-2.86	48.34	53.23	66.88
31	-2.96	50.24	55.99	72.47
32	-3.06	52.16	58.82	78.35
33	-3.15	54.10	61.70	84.52
34	-3.25	56.07	64.65	90.99
35	-3.35	58.06	67.66	97.76
36	-3.45	60.07	70.74	104.83
37	-3.55	62.10	73.87	112.23
38	-3.65	64.15	77.07	119.94
39	-3.75	66.23	80.33	127.98
40	-3.85	68.33	83.65	136.36
41	-3.94	70.46	87.03	145.08
42	-4.04	72.60	90.47	154.14
43	-4.14	74.77	93.98	163.55
44	-4.24	76.96	97.55	173.33
45	-4.34	79.17	101.18	183.47
46	-4.44	81.41	104.87	193.98
47	-4.54	83.67	108.61	204.86
48	-4.63	85.95	112.39	216.13
49	-4.73	88.25	116.19	227.78
50	-4.83	90.58	119.99	239.82
51	-4.93	92.92	123.79	252.24
52	-5.03	95.29	127.57	265.05
53	-5.13	97.69	131.35	278.24
54	-5.23	100.10	135.14	291.81
55	-5.32	102.54	138.95	305.77
56	-5.42	105.00	142.81	320.12
57	-5.52	107.49	146.72	334.87
58	-5.62	109.99	150.69	350.01
59	-5.72	112.52	154.73	365.56
60	-5.82	115.07	158.83	381.52
61	-5.92	117.65	162.99	397.90
62	-6.01	120.24	167.22	414.71
63	-6.11	122.86	171.51	431.95
64	-6.21	125.50	175.86	449.63
65	-6.31	128.17	180.28	467.75
66	-6.41	130.85	184.76	486.32
67	-6.51	133.56	189.30	505.35
68	-6.61	136.29	193.91	524.84
69	-6.70	139.05	198.57	544.81
70	-6.80	141.82	203.30	565.25
71	-6.90	144.62	208.10	586.17
72	-7.00	147.44	212.95	607.57

Combinazione n° 3 - STR (A1-M1-R3)_H + V

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	0.00	3.31	0.00	0.41
2	-0.10	4.63	0.74	0.45
3	-0.20	5.98	1.53	0.57
4	-0.30	7.34	2.36	0.78
5	-0.39	8.73	3.25	1.08
6	-0.49	10.15	4.18	1.47
7	-0.59	11.59	5.16	1.97
8	-0.69	13.05	6.19	2.57
9	-0.79	14.53	7.27	3.28
10	-0.89	16.04	8.40	4.10
11	-0.99	17.58	9.57	5.05
12	-1.08	19.14	10.79	6.12
13	-1.18	20.72	12.07	7.33
14	-1.28	22.32	13.39	8.66
15	-1.38	23.95	14.76	10.14
16	-1.48	25.61	16.18	11.76
17	-1.58	27.29	17.64	13.54
18	-1.68	28.99	19.16	15.46
19	-1.77	30.71	20.72	17.55
20	-1.87	32.46	22.33	19.80
21	-1.97	34.23	24.00	22.22
22	-2.07	36.03	25.70	24.82
23	-2.17	37.85	27.46	27.59

n°	X [m]	N [kN]	T [kN]	M [kNm]
24	-2.27	39.70	29.27	30.55
25	-2.37	41.57	31.12	33.70
26	-2.46	43.46	33.03	37.04
27	-2.56	45.38	34.98	40.58
28	-2.66	47.32	36.98	44.32
29	-2.76	49.28	39.03	48.28
30	-2.86	51.27	41.13	52.44
31	-2.96	53.28	43.28	56.83
32	-3.06	55.32	45.47	61.43
33	-3.15	57.38	47.71	66.27
34	-3.25	59.46	50.01	71.34
35	-3.35	61.57	52.35	76.64
36	-3.45	63.70	54.74	82.19
37	-3.55	65.86	57.18	87.99
38	-3.65	68.04	59.66	94.04
39	-3.75	70.24	62.20	100.35
40	-3.85	72.47	64.78	106.92
41	-3.94	74.72	67.41	113.76
42	-4.04	76.99	70.09	120.87
43	-4.14	79.29	72.82	128.25
44	-4.24	81.61	75.60	135.92
45	-4.34	83.96	78.43	143.88
46	-4.44	86.33	81.30	152.13
47	-4.54	88.73	84.23	160.67
48	-4.63	91.15	87.20	169.52
49	-4.73	93.59	90.22	178.67
50	-4.83	96.05	93.29	188.14
51	-4.93	98.54	96.41	197.92
52	-5.03	101.06	99.57	208.02
53	-5.13	103.60	102.79	218.45
54	-5.23	106.16	106.05	229.20
55	-5.32	108.75	109.36	240.30
56	-5.42	111.36	112.72	251.73
57	-5.52	113.99	116.13	263.52
58	-5.62	116.65	119.59	275.65
59	-5.72	119.33	123.10	288.14
60	-5.82	122.03	126.65	300.98
61	-5.92	124.76	130.26	314.20
62	-6.01	127.52	133.91	327.78
63	-6.11	130.29	137.61	341.74
64	-6.21	133.09	141.36	356.08
65	-6.31	135.92	145.16	370.80
66	-6.41	138.77	149.00	385.91
67	-6.51	141.64	152.90	401.42
68	-6.61	144.54	156.84	417.33
69	-6.70	147.46	160.83	433.64
70	-6.80	150.40	164.87	450.36
71	-6.90	153.37	168.96	467.50
72	-7.00	156.36	173.10	485.05

Combinazione n° 4 - STR (A1-M1-R3) H - V

n°	X [m]	N [kN]	T [kN]	M [kNm]
1	0.00	3.13	0.00	0.39
2	-0.10	4.29	0.55	0.42
3	-0.20	5.48	1.15	0.51
4	-0.30	6.69	1.80	0.67
5	-0.39	7.93	2.49	0.90
6	-0.49	9.18	3.23	1.21
7	-0.59	10.45	4.03	1.59
8	-0.69	11.75	4.87	2.07
9	-0.79	13.07	5.76	2.63
10	-0.89	14.40	6.69	3.30
11	-0.99	15.76	7.68	4.06
12	-1.08	17.14	8.71	4.93
13	-1.18	18.54	9.80	5.91
14	-1.28	19.97	10.93	7.00
15	-1.38	21.41	12.11	8.22
16	-1.48	22.88	13.34	9.56
17	-1.58	24.36	14.62	11.03
18	-1.68	25.87	15.94	12.64
19	-1.77	27.40	17.32	14.38
20	-1.87	28.95	18.74	16.27
21	-1.97	30.52	20.21	18.32
22	-2.07	32.11	21.73	20.51
23	-2.17	33.72	23.30	22.87
24	-2.27	35.36	24.92	25.39
25	-2.37	37.01	26.59	28.08
26	-2.46	38.69	28.30	30.94
27	-2.56	40.39	30.06	33.99
28	-2.66	42.11	31.87	37.21

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
29	-2.76	43.85	33.74	40.63
30	-2.86	45.61	35.64	44.24
31	-2.96	47.39	37.60	48.05
32	-3.06	49.19	39.61	52.06
33	-3.15	51.02	41.66	56.28
34	-3.25	52.87	43.77	60.71
35	-3.35	54.73	45.92	65.37
36	-3.45	56.62	48.12	70.24
37	-3.55	58.53	50.37	75.35
38	-3.65	60.46	52.66	80.68
39	-3.75	62.41	55.01	86.26
40	-3.85	64.39	57.40	92.07
41	-3.94	66.38	59.85	98.14
42	-4.04	68.40	62.34	104.45
43	-4.14	70.43	64.88	111.03
44	-4.24	72.49	67.47	117.86
45	-4.34	74.57	70.11	124.97
46	-4.44	76.67	72.79	132.34
47	-4.54	78.79	75.53	139.99
48	-4.63	80.94	78.31	147.93
49	-4.73	83.10	81.14	156.15
50	-4.83	85.29	84.02	164.66
51	-4.93	87.49	86.95	173.47
52	-5.03	89.72	89.93	182.58
53	-5.13	91.97	92.95	192.00
54	-5.23	94.24	96.03	201.72
55	-5.32	96.53	99.15	211.77
56	-5.42	98.84	102.32	222.13
57	-5.52	101.17	105.54	232.82
58	-5.62	103.53	108.81	243.84
59	-5.72	105.90	112.13	255.19
60	-5.82	108.30	115.49	266.89
61	-5.92	110.72	118.91	278.93
62	-6.01	113.16	122.37	291.32
63	-6.11	115.62	125.88	304.07
64	-6.21	118.10	129.44	317.17
65	-6.31	120.60	133.05	330.64
66	-6.41	123.13	136.71	344.48
67	-6.51	125.67	140.41	358.70
68	-6.61	128.24	144.17	373.29
69	-6.70	130.82	147.97	388.27
70	-6.80	133.43	151.82	403.64
71	-6.90	136.06	155.72	419.40
72	-7.00	138.71	159.67	435.56

Combinazione n° 9 - ECC

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	0.00	3.13	14.30	14.69
2	-0.10	4.37	14.32	14.69
3	-0.20	5.63	14.39	14.71
4	-0.30	6.92	14.51	14.74
5	-0.39	8.23	14.67	14.79
6	-0.49	9.57	14.88	14.86
7	-0.59	10.93	15.13	14.96
8	-0.69	12.30	15.43	15.09
9	-0.79	13.71	15.77	15.27
10	-0.89	15.13	16.16	15.48
11	-0.99	16.58	16.59	15.74
12	-1.08	18.05	17.08	16.06
13	-1.18	19.54	17.60	16.43
14	-1.28	21.05	18.18	16.86
15	-1.38	22.59	18.79	17.36
16	-1.48	24.15	19.46	17.93
17	-1.58	25.73	20.17	18.57
18	-1.68	27.33	20.93	19.29
19	-1.77	28.96	21.73	20.10
20	-1.87	30.61	22.58	21.00
21	-1.97	32.28	23.47	21.98
22	-2.07	33.98	24.41	23.07
23	-2.17	35.69	25.39	24.26
24	-2.27	37.43	26.43	25.56
25	-2.37	39.19	27.50	26.97
26	-2.46	40.98	28.63	28.49
27	-2.56	42.79	29.79	30.14
28	-2.66	44.62	31.01	31.91
29	-2.76	46.47	32.27	33.82
30	-2.86	48.34	33.58	35.85
31	-2.96	50.24	34.93	38.03
32	-3.06	52.16	36.33	40.35
33	-3.15	54.10	37.77	42.83

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
34	-3.25	56.07	39.26	45.45
35	-3.35	58.06	40.80	48.23
36	-3.45	60.07	42.38	51.18
37	-3.55	62.10	44.00	54.29
38	-3.65	64.15	45.68	57.58
39	-3.75	66.23	47.40	61.04
40	-3.85	68.33	49.16	64.68
41	-3.94	70.46	50.97	68.51
42	-4.04	72.60	52.83	72.53
43	-4.14	74.77	54.73	76.74
44	-4.24	76.96	56.68	81.16
45	-4.34	79.17	58.67	85.78
46	-4.44	81.41	60.71	90.60
47	-4.54	83.67	62.80	95.65
48	-4.63	85.95	64.93	100.90
49	-4.73	88.25	67.10	106.39
50	-4.83	90.58	69.33	112.10
51	-4.93	92.92	71.60	118.04
52	-5.03	95.29	73.91	124.22
53	-5.13	97.69	76.27	130.64
54	-5.23	100.10	78.68	137.30
55	-5.32	102.54	81.13	144.22
56	-5.42	105.00	83.63	151.39
57	-5.52	107.49	86.17	158.82
58	-5.62	109.99	88.76	166.52
59	-5.72	112.52	91.40	174.49
60	-5.82	115.07	94.08	182.72
61	-5.92	117.65	96.81	191.24
62	-6.01	120.24	99.58	200.04
63	-6.11	122.86	102.40	209.13
64	-6.21	125.50	105.26	218.51
65	-6.31	128.17	108.17	228.19
66	-6.41	130.85	111.13	238.17
67	-6.51	133.56	114.13	248.45
68	-6.61	136.29	117.18	259.05
69	-6.70	139.05	120.27	269.96
70	-6.80	141.82	123.41	281.19
71	-6.90	144.62	126.60	292.74
72	-7.00	147.44	129.83	304.63

Combinazione n° 10 - SLER

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	0.00	3.13	0.00	0.39
2	-0.10	4.37	0.54	0.42
3	-0.20	5.63	1.14	0.51
4	-0.30	6.92	1.77	0.67
5	-0.39	8.23	2.45	0.90
6	-0.49	9.57	3.18	1.20
7	-0.59	10.93	3.95	1.58
8	-0.69	12.30	4.77	2.05
9	-0.79	13.71	5.64	2.61
10	-0.89	15.13	6.55	3.26
11	-0.99	16.58	7.51	4.01
12	-1.08	18.05	8.51	4.87
13	-1.18	19.54	9.56	5.83
14	-1.28	21.05	10.65	6.90
15	-1.38	22.59	11.79	8.10
16	-1.48	24.15	12.98	9.41
17	-1.58	25.73	14.21	10.85
18	-1.68	27.33	15.49	12.42
19	-1.77	28.96	16.81	14.12
20	-1.87	30.61	18.18	15.97
21	-1.97	32.28	19.59	17.96
22	-2.07	33.98	21.05	20.10
23	-2.17	35.69	22.56	22.40
24	-2.27	37.43	24.11	24.85
25	-2.37	39.19	25.71	27.47
26	-2.46	40.98	27.36	30.25
27	-2.56	42.79	29.05	33.21
28	-2.66	44.62	30.78	36.34
29	-2.76	46.47	32.56	39.66
30	-2.86	48.34	34.39	43.16
31	-2.96	50.24	36.26	46.85
32	-3.06	52.16	38.18	50.74
33	-3.15	54.10	40.15	54.83
34	-3.25	56.07	42.16	59.13
35	-3.35	58.06	44.22	63.63
36	-3.45	60.07	46.32	68.35
37	-3.55	62.10	48.47	73.29
38	-3.65	64.15	50.66	78.45

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
39	-3.75	66.23	52.90	83.84
40	-3.85	68.33	55.19	89.46
41	-3.94	70.46	57.52	95.32
42	-4.04	72.60	59.89	101.42
43	-4.14	74.77	62.32	107.76
44	-4.24	76.96	64.79	114.36
45	-4.34	79.17	67.30	121.22
46	-4.44	81.41	69.86	128.33
47	-4.54	83.67	72.46	135.71
48	-4.63	85.95	75.09	143.36
49	-4.73	88.25	77.73	151.27
50	-4.83	90.58	80.39	159.46
51	-4.93	92.92	83.04	167.92
52	-5.03	95.29	85.70	176.66
53	-5.13	97.69	88.36	185.66
54	-5.23	100.10	91.05	194.95
55	-5.32	102.54	93.77	204.51
56	-5.42	105.00	96.54	214.35
57	-5.52	107.49	99.35	224.48
58	-5.62	109.99	102.21	234.89
59	-5.72	112.52	105.12	245.61
60	-5.82	115.07	108.07	256.62
61	-5.92	117.65	111.07	267.94
62	-6.01	120.24	114.11	279.57
63	-6.11	122.86	117.20	291.52
64	-6.21	125.50	120.34	303.78
65	-6.31	128.17	123.52	316.37
66	-6.41	130.85	126.75	329.28
67	-6.51	133.56	130.03	342.53
68	-6.61	136.29	133.35	356.12
69	-6.70	139.05	136.72	370.05
70	-6.80	141.82	140.14	384.32
71	-6.90	144.62	143.60	398.95
72	-7.00	147.44	147.11	413.93

Combinazione n° 11 - SLEF

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	0.00	3.13	0.00	0.39
2	-0.10	4.37	0.02	0.39
3	-0.20	5.63	0.09	0.41
4	-0.30	6.92	0.21	0.44
5	-0.39	8.23	0.37	0.49
6	-0.49	9.57	0.58	0.56
7	-0.59	10.93	0.83	0.66
8	-0.69	12.30	1.13	0.79
9	-0.79	13.71	1.47	0.97
10	-0.89	15.13	1.86	1.18
11	-0.99	16.58	2.29	1.44
12	-1.08	18.05	2.78	1.76
13	-1.18	19.54	3.30	2.13
14	-1.28	21.05	3.88	2.56
15	-1.38	22.59	4.49	3.06
16	-1.48	24.15	5.16	3.63
17	-1.58	25.73	5.87	4.27
18	-1.68	27.33	6.63	4.99
19	-1.77	28.96	7.43	5.80
20	-1.87	30.61	8.28	6.70
21	-1.97	32.28	9.17	7.68
22	-2.07	33.98	10.11	8.77
23	-2.17	35.69	11.09	9.96
24	-2.27	37.43	12.13	11.26
25	-2.37	39.19	13.20	12.67
26	-2.46	40.98	14.33	14.19
27	-2.56	42.79	15.49	15.84
28	-2.66	44.62	16.71	17.61
29	-2.76	46.47	17.97	19.52
30	-2.86	48.34	19.28	21.55
31	-2.96	50.24	20.63	23.73
32	-3.06	52.16	22.03	26.05
33	-3.15	54.10	23.47	28.53
34	-3.25	56.07	24.96	31.15
35	-3.35	58.06	26.50	33.93
36	-3.45	60.07	28.08	36.88
37	-3.55	62.10	29.70	39.99
38	-3.65	64.15	31.38	43.28
39	-3.75	66.23	33.10	46.74
40	-3.85	68.33	34.86	50.38
41	-3.94	70.46	36.67	54.21
42	-4.04	72.60	38.53	58.23
43	-4.14	74.77	40.43	62.44

n°	X [m]	N [kN]	T [kN]	M [kNm]
44	-4.24	76.96	42.38	66.86
45	-4.34	79.17	44.37	71.48
46	-4.44	81.41	46.41	76.30
47	-4.54	83.67	48.50	81.35
48	-4.63	85.95	50.63	86.60
49	-4.73	88.25	52.80	92.09
50	-4.83	90.58	55.03	97.80
51	-4.93	92.92	57.30	103.74
52	-5.03	95.29	59.61	109.92
53	-5.13	97.69	61.97	116.34
54	-5.23	100.10	64.38	123.00
55	-5.32	102.54	66.83	129.92
56	-5.42	105.00	69.33	137.09
57	-5.52	107.49	71.87	144.52
58	-5.62	109.99	74.46	152.22
59	-5.72	112.52	77.10	160.19
60	-5.82	115.07	79.78	168.42
61	-5.92	117.65	82.51	176.94
62	-6.01	120.24	85.28	185.74
63	-6.11	122.86	88.10	194.83
64	-6.21	125.50	90.96	204.21
65	-6.31	128.17	93.87	213.89
66	-6.41	130.85	96.83	223.87
67	-6.51	133.56	99.83	234.15
68	-6.61	136.29	102.88	244.75
69	-6.70	139.05	105.97	255.66
70	-6.80	141.82	109.11	266.89
71	-6.90	144.62	112.30	278.44
72	-7.00	147.44	115.53	290.33

Combinazione n° 12 - SLEQ

n°	X [m]	N [kN]	T [kN]	M [kNm]
1	0.00	3.13	0.00	0.39
2	-0.10	4.37	0.02	0.39
3	-0.20	5.63	0.09	0.41
4	-0.30	6.92	0.21	0.44
5	-0.39	8.23	0.37	0.49
6	-0.49	9.57	0.58	0.56
7	-0.59	10.93	0.83	0.66
8	-0.69	12.30	1.13	0.79
9	-0.79	13.71	1.47	0.97
10	-0.89	15.13	1.86	1.18
11	-0.99	16.58	2.29	1.44
12	-1.08	18.05	2.78	1.76
13	-1.18	19.54	3.30	2.13
14	-1.28	21.05	3.88	2.56
15	-1.38	22.59	4.49	3.06
16	-1.48	24.15	5.16	3.63
17	-1.58	25.73	5.87	4.27
18	-1.68	27.33	6.63	4.99
19	-1.77	28.96	7.43	5.80
20	-1.87	30.61	8.28	6.70
21	-1.97	32.28	9.17	7.68
22	-2.07	33.98	10.11	8.77
23	-2.17	35.69	11.09	9.96
24	-2.27	37.43	12.13	11.26
25	-2.37	39.19	13.20	12.67
26	-2.46	40.98	14.33	14.19
27	-2.56	42.79	15.49	15.84
28	-2.66	44.62	16.71	17.61
29	-2.76	46.47	17.97	19.52
30	-2.86	48.34	19.28	21.55
31	-2.96	50.24	20.63	23.73
32	-3.06	52.16	22.03	26.05
33	-3.15	54.10	23.47	28.53
34	-3.25	56.07	24.96	31.15
35	-3.35	58.06	26.50	33.93
36	-3.45	60.07	28.08	36.88
37	-3.55	62.10	29.70	39.99
38	-3.65	64.15	31.38	43.28
39	-3.75	66.23	33.10	46.74
40	-3.85	68.33	34.86	50.38
41	-3.94	70.46	36.67	54.21
42	-4.04	72.60	38.53	58.23
43	-4.14	74.77	40.43	62.44
44	-4.24	76.96	42.38	66.86
45	-4.34	79.17	44.37	71.48
46	-4.44	81.41	46.41	76.30
47	-4.54	83.67	48.50	81.35
48	-4.63	85.95	50.63	86.60

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
49	-4.73	88.25	52.80	92.09
50	-4.83	90.58	55.03	97.80
51	-4.93	92.92	57.30	103.74
52	-5.03	95.29	59.61	109.92
53	-5.13	97.69	61.97	116.34
54	-5.23	100.10	64.38	123.00
55	-5.32	102.54	66.83	129.92
56	-5.42	105.00	69.33	137.09
57	-5.52	107.49	71.87	144.52
58	-5.62	109.99	74.46	152.22
59	-5.72	112.52	77.10	160.19
60	-5.82	115.07	79.78	168.42
61	-5.92	117.65	82.51	176.94
62	-6.01	120.24	85.28	185.74
63	-6.11	122.86	88.10	194.83
64	-6.21	125.50	90.96	204.21
65	-6.31	128.17	93.87	213.89
66	-6.41	130.85	96.83	223.87
67	-6.51	133.56	99.83	234.15
68	-6.61	136.29	102.88	244.75
69	-6.70	139.05	105.97	255.66
70	-6.80	141.82	109.11	266.89
71	-6.90	144.62	112.30	278.44
72	-7.00	147.44	115.53	290.33

Mensola valle

Combinazione n° 1 - STR (A1-M1-R3)

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	-0.75	0.00	0.00	0.00
2	-0.67	0.00	1.04	0.04
3	-0.58	0.00	2.08	0.17
4	-0.50	0.00	3.13	0.39
5	-0.50	0.00	3.13	0.39

Combinazione n° 2 - STR (A1-M1-R3)

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	-0.75	0.00	0.00	0.00
2	-0.67	0.00	1.04	0.04
3	-0.58	0.00	2.08	0.17
4	-0.50	0.00	3.13	0.39
5	-0.50	0.00	3.13	0.39

Combinazione n° 3 - STR (A1-M1-R3)_H + V

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	-0.75	0.00	0.00	0.00
2	-0.67	0.00	1.10	0.05
3	-0.58	0.00	2.21	0.18
4	-0.50	0.00	3.31	0.41
5	-0.50	0.00	3.31	0.41

Combinazione n° 4 - STR (A1-M1-R3)_H - V

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	-0.75	0.00	0.00	0.00
2	-0.67	0.00	1.04	0.04
3	-0.58	0.00	2.08	0.17

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
4	-0.50	0.00	3.13	0.39
5	-0.50	0.00	3.13	0.39

Combinazione n° 9 - ECC

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	-0.75	0.00	0.00	0.00
2	-0.67	0.00	1.04	0.04
3	-0.58	0.00	2.08	0.17
4	-0.50	0.00	3.13	0.39
5	-0.50	-14.30	3.13	14.69

Combinazione n° 10 - SLER

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	-0.75	0.00	0.00	0.00
2	-0.67	0.00	1.04	0.04
3	-0.58	0.00	2.08	0.17
4	-0.50	0.00	3.13	0.39
5	-0.50	0.00	3.13	0.39

Combinazione n° 11 - SLEF

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	-0.75	0.00	0.00	0.00
2	-0.67	0.00	1.04	0.04
3	-0.58	0.00	2.08	0.17
4	-0.50	0.00	3.13	0.39
5	-0.50	0.00	3.13	0.39

Combinazione n° 12 - SLEQ

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	-0.75	0.00	0.00	0.00
2	-0.67	0.00	1.04	0.04
3	-0.58	0.00	2.08	0.17
4	-0.50	0.00	3.13	0.39
5	-0.50	0.00	3.13	0.39

Fondazione

Combinazione n° 1 - STR (A1-M1-R3)

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	-1.65	0.00	0.00	0.00
2	-1.55	0.00	12.63	0.61
3	-1.46	0.00	25.26	2.42
4	-1.36	0.00	37.89	5.45
5	-1.27	0.00	50.52	9.68
6	-1.17	0.00	63.14	15.13
7	-1.08	0.00	75.77	21.78
8	-0.98	0.00	88.40	29.65
9	-0.88	0.00	101.03	38.73
10	-0.79	0.00	113.66	49.02
11	-0.69	0.00	126.29	60.51
12	-0.60	0.00	138.92	73.22

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
13	-0.50	0.00	151.55	87.14
14	0.65	0.00	-157.57	-259.97
15	0.75	0.00	-152.79	-244.45
16	0.85	0.00	-148.02	-229.41
17	0.95	0.00	-143.24	-214.85
18	1.05	0.00	-138.46	-200.76
19	1.15	0.00	-133.69	-187.15
20	1.25	0.00	-128.91	-174.02
21	1.35	0.00	-124.14	-161.37
22	1.45	0.00	-119.36	-149.20
23	1.55	0.00	-114.59	-137.50
24	1.65	0.00	-109.81	-126.28
25	1.75	0.00	-105.04	-115.54
26	1.85	0.00	-100.26	-105.27
27	1.95	0.00	-95.49	-95.48
28	2.05	0.00	-90.71	-86.17
29	2.15	0.00	-85.94	-77.34
30	2.25	0.00	-81.16	-68.99
31	2.35	0.00	-76.39	-61.11
32	2.45	0.00	-71.61	-53.71
33	2.55	0.00	-66.84	-46.79
34	2.65	0.00	-62.06	-40.34
35	2.75	0.00	-57.29	-34.37
36	2.85	0.00	-52.52	-28.88
37	2.95	0.00	-47.74	-23.87
38	3.05	0.00	-42.97	-19.33
39	3.15	0.00	-38.19	-15.28
40	3.25	0.00	-33.42	-11.70
41	3.35	0.00	-28.64	-8.59
42	3.45	0.00	-23.87	-5.97
43	3.55	0.00	-19.10	-3.82
44	3.65	0.00	-14.32	-2.15
45	3.75	0.00	-9.55	-0.95
46	3.85	0.00	-4.77	-0.24
47	3.95	0.00	0.00	0.00

Combinazione n° 2 - STR (A1-M1-R3)

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	-1.65	0.00	0.00	0.00
2	-1.55	0.00	14.94	0.72
3	-1.46	0.00	29.89	2.86
4	-1.36	0.00	44.84	6.44
5	-1.27	0.00	59.80	11.46
6	-1.17	0.00	74.77	17.91
7	-1.08	0.00	89.75	25.79
8	-0.98	0.00	104.74	35.11
9	-0.88	0.00	119.73	45.87
10	-0.79	0.00	134.73	58.06
11	-0.69	0.00	149.73	71.69
12	-0.60	0.00	164.75	86.76
13	-0.50	0.00	179.77	103.26
14	0.65	0.00	-177.74	-290.88
15	0.75	0.00	-171.73	-272.58
16	0.85	0.00	-165.72	-254.88
17	0.95	0.00	-159.72	-237.79
18	1.05	0.00	-153.73	-221.29
19	1.15	0.00	-147.75	-205.39
20	1.25	0.00	-141.77	-190.08
21	1.35	0.00	-135.81	-175.38
22	1.45	0.00	-129.85	-161.27
23	1.55	0.00	-123.90	-147.75
24	1.65	0.00	-117.95	-134.83
25	1.75	0.00	-112.02	-122.51
26	1.85	0.00	-106.09	-110.78
27	1.95	0.00	-100.17	-99.64
28	2.05	0.00	-94.26	-89.09
29	2.15	0.00	-88.36	-79.13
30	2.25	0.00	-82.46	-69.76
31	2.35	0.00	-76.57	-60.99
32	2.45	0.00	-70.70	-52.80
33	2.55	0.00	-64.82	-45.19
34	2.65	0.00	-58.96	-38.18
35	2.75	0.00	-53.11	-31.75
36	2.85	0.00	-47.26	-25.90
37	2.95	0.00	-41.42	-20.64
38	3.05	0.00	-36.45	-16.35
39	3.15	0.00	-32.37	-12.91
40	3.25	0.00	-28.29	-9.88
41	3.35	0.00	-24.23	-7.25
42	3.45	0.00	-20.17	-5.03

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
43	3.55	0.00	-16.12	-3.22
44	3.65	0.00	-12.08	-1.81
45	3.75	0.00	-8.04	-0.80
46	3.85	0.00	-4.02	-0.20
47	3.95	0.00	0.00	0.00

Combinazione n° 3 - STR (A1-M1-R3) H + V

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	-1.65	0.00	0.00	0.00
2	-1.55	0.00	20.96	1.01
3	-1.46	0.00	41.66	4.01
4	-1.36	0.00	62.10	8.98
5	-1.27	0.00	82.28	15.90
6	-1.17	0.00	102.19	24.74
7	-1.08	0.00	121.85	35.48
8	-0.98	0.00	141.24	48.09
9	-0.88	0.00	160.37	62.55
10	-0.79	0.00	179.24	78.82
11	-0.69	0.00	197.85	96.89
12	-0.60	0.00	216.20	116.73
13	-0.50	0.00	234.29	138.32
14	0.65	0.00	-83.53	-223.06
15	0.75	0.00	-85.55	-214.60
16	0.85	0.00	-87.29	-205.96
17	0.95	0.00	-88.74	-197.15
18	1.05	0.00	-89.91	-188.22
19	1.15	0.00	-90.80	-179.18
20	1.25	0.00	-91.40	-170.07
21	1.35	0.00	-91.71	-160.91
22	1.45	0.00	-91.74	-151.74
23	1.55	0.00	-91.49	-142.57
24	1.65	0.00	-90.95	-133.45
25	1.75	0.00	-90.12	-124.39
26	1.85	0.00	-89.02	-115.43
27	1.95	0.00	-87.62	-106.60
28	2.05	0.00	-85.95	-97.92
29	2.15	0.00	-83.98	-89.42
30	2.25	0.00	-81.74	-81.13
31	2.35	0.00	-79.21	-73.08
32	2.45	0.00	-76.39	-65.30
33	2.55	0.00	-73.29	-57.81
34	2.65	0.00	-69.91	-50.65
35	2.75	0.00	-66.24	-43.84
36	2.85	0.00	-62.28	-37.41
37	2.95	0.00	-58.04	-31.39
38	3.05	0.00	-53.52	-25.81
39	3.15	0.00	-48.71	-20.70
40	3.25	0.00	-43.62	-16.08
41	3.35	0.00	-38.24	-11.98
42	3.45	0.00	-32.58	-8.44
43	3.55	0.00	-26.63	-5.48
44	3.65	0.00	-20.40	-3.12
45	3.75	0.00	-13.89	-1.41
46	3.85	0.00	-7.09	-0.36
47	3.95	0.00	0.00	0.00

Combinazione n° 4 - STR (A1-M1-R3) H - V

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	-1.65	0.00	0.00	0.00
2	-1.55	0.00	19.07	0.92
3	-1.46	0.00	37.87	3.65
4	-1.36	0.00	56.43	8.17
5	-1.27	0.00	74.73	14.45
6	-1.17	0.00	92.77	22.48
7	-1.08	0.00	110.56	32.23
8	-0.98	0.00	128.09	43.66
9	-0.88	0.00	145.37	56.77
10	-0.79	0.00	162.39	71.52
11	-0.69	0.00	179.16	87.89
12	-0.60	0.00	195.67	105.85
13	-0.50	0.00	211.92	125.38
14	0.65	0.00	-140.49	-315.11
15	0.75	0.00	-140.69	-301.05
16	0.85	0.00	-140.60	-286.98
17	0.95	0.00	-140.24	-272.94

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
18	1.05	0.00	-139.60	-258.95
19	1.15	0.00	-138.68	-245.03
20	1.25	0.00	-137.48	-231.22
21	1.35	0.00	-136.00	-217.54
22	1.45	0.00	-134.25	-204.03
23	1.55	0.00	-132.22	-190.70
24	1.65	0.00	-129.91	-177.59
25	1.75	0.00	-127.32	-164.73
26	1.85	0.00	-124.45	-152.14
27	1.95	0.00	-121.31	-139.85
28	2.05	0.00	-117.88	-127.89
29	2.15	0.00	-114.18	-116.28
30	2.25	0.00	-110.20	-105.06
31	2.35	0.00	-105.95	-94.25
32	2.45	0.00	-101.41	-83.88
33	2.55	0.00	-96.60	-73.98
34	2.65	0.00	-91.50	-64.57
35	2.75	0.00	-86.13	-55.69
36	2.85	0.00	-80.49	-47.35
37	2.95	0.00	-74.56	-39.60
38	3.05	0.00	-68.36	-32.45
39	3.15	0.00	-61.87	-25.94
40	3.25	0.00	-55.11	-20.08
41	3.35	0.00	-48.07	-14.92
42	3.45	0.00	-40.76	-10.48
43	3.55	0.00	-33.16	-6.78
44	3.65	0.00	-25.29	-3.86
45	3.75	0.00	-17.14	-1.73
46	3.85	0.00	-8.71	-0.44
47	3.95	0.00	0.00	0.00

Combinazione n° 9 - ECC

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	-1.65	0.00	0.00	0.00
2	-1.55	0.00	13.31	0.64
3	-1.46	0.00	26.59	2.55
4	-1.36	0.00	39.83	5.73
5	-1.27	0.00	53.03	10.18
6	-1.17	0.00	66.20	15.90
7	-1.08	0.00	79.33	22.87
8	-0.98	0.00	92.43	31.10
9	-0.88	0.00	105.49	40.59
10	-0.79	0.00	118.51	51.32
11	-0.69	0.00	131.50	63.30
12	-0.60	0.00	144.45	76.52
13	-0.50	0.00	157.37	90.99
14	0.65	0.00	-31.22	-63.32
15	0.75	0.00	-30.91	-60.21
16	0.85	0.00	-30.55	-57.14
17	0.95	0.00	-30.16	-54.10
18	1.05	0.00	-29.72	-51.11
19	1.15	0.00	-29.25	-48.16
20	1.25	0.00	-28.74	-45.26
21	1.35	0.00	-28.18	-42.41
22	1.45	0.00	-27.59	-39.62
23	1.55	0.00	-26.96	-36.90
24	1.65	0.00	-26.29	-34.23
25	1.75	0.00	-25.58	-31.64
26	1.85	0.00	-24.83	-29.12
27	1.95	0.00	-24.05	-26.67
28	2.05	0.00	-23.22	-24.31
29	2.15	0.00	-22.35	-22.03
30	2.25	0.00	-21.44	-19.84
31	2.35	0.00	-20.50	-17.74
32	2.45	0.00	-19.51	-15.74
33	2.55	0.00	-18.49	-13.84
34	2.65	0.00	-17.42	-12.05
35	2.75	0.00	-16.32	-10.36
36	2.85	0.00	-15.18	-8.78
37	2.95	0.00	-13.99	-7.33
38	3.05	0.00	-12.77	-5.99
39	3.15	0.00	-11.51	-4.77
40	3.25	0.00	-10.21	-3.69
41	3.35	0.00	-8.87	-2.73
42	3.45	0.00	-7.49	-1.91
43	3.55	0.00	-6.07	-1.24
44	3.65	0.00	-4.61	-0.70
45	3.75	0.00	-3.11	-0.31
46	3.85	0.00	-1.58	-0.08
47	3.95	0.00	0.00	0.00

Combinazione n° 10 - SLER

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	-1.65	0.00	0.00	0.00
2	-1.55	0.00	12.27	0.59
3	-1.46	0.00	24.60	2.35
4	-1.36	0.00	36.97	5.30
5	-1.27	0.00	49.39	9.44
6	-1.17	0.00	61.86	14.77
7	-1.08	0.00	74.38	21.30
8	-0.98	0.00	86.94	29.03
9	-0.88	0.00	99.56	37.97
10	-0.79	0.00	112.22	48.11
11	-0.69	0.00	124.94	59.48
12	-0.60	0.00	137.70	72.06
13	-0.50	0.00	150.51	85.87
14	0.65	0.00	-9.02	1.01
15	0.75	0.00	-7.62	2.30
16	0.85	0.00	-6.27	3.45
17	0.95	0.00	-4.98	4.47
18	1.05	0.00	-3.74	5.37
19	1.15	0.00	-2.55	6.14
20	1.25	0.00	-1.41	6.80
21	1.35	0.00	-0.33	7.34
22	1.45	0.00	0.70	7.78
23	1.55	0.00	1.68	8.12
24	1.65	0.00	2.60	8.37
25	1.75	0.00	3.47	8.53
26	1.85	0.00	4.29	8.60
27	1.95	0.00	5.05	8.59
28	2.05	0.00	5.76	8.51
29	2.15	0.00	6.42	8.36
30	2.25	0.00	7.02	8.14
31	2.35	0.00	7.58	7.87
32	2.45	0.00	8.07	7.55
33	2.55	0.00	8.52	7.18
34	2.65	0.00	8.91	6.76
35	2.75	0.00	9.25	6.31
36	2.85	0.00	9.54	5.83
37	2.95	0.00	9.77	5.33
38	3.05	0.00	9.47	4.59
39	3.15	0.00	8.63	3.68
40	3.25	0.00	7.74	2.86
41	3.35	0.00	6.79	2.13
42	3.45	0.00	5.79	1.50
43	3.55	0.00	4.74	0.98
44	3.65	0.00	3.64	0.56
45	3.75	0.00	2.48	0.25
46	3.85	0.00	1.26	0.06
47	3.95	0.00	0.00	0.00

Combinazione n° 11 - SLEF

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	-1.65	0.00	0.00	0.00
2	-1.55	0.00	10.99	0.53
3	-1.46	0.00	22.03	2.11
4	-1.36	0.00	33.11	4.75
5	-1.27	0.00	44.23	8.46
6	-1.17	0.00	55.41	13.23
7	-1.08	0.00	66.62	19.08
8	-0.98	0.00	77.88	26.00
9	-0.88	0.00	89.18	34.00
10	-0.79	0.00	100.53	43.09
11	-0.69	0.00	111.93	53.27
12	-0.60	0.00	123.36	64.55
13	-0.50	0.00	134.85	76.92
14	0.65	0.00	2.17	18.14
15	0.75	0.00	2.89	17.89
16	0.85	0.00	3.55	17.57
17	0.95	0.00	4.16	17.18
18	1.05	0.00	4.73	16.74
19	1.15	0.00	5.25	16.24
20	1.25	0.00	5.72	15.69
21	1.35	0.00	6.14	15.10
22	1.45	0.00	6.51	14.46
23	1.55	0.00	6.83	13.80
24	1.65	0.00	7.10	13.10
25	1.75	0.00	7.33	12.38

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
26	1.85	0.00	7.51	11.63
27	1.95	0.00	7.64	10.88
28	2.05	0.00	7.72	10.11
29	2.15	0.00	7.75	9.33
30	2.25	0.00	7.73	8.56
31	2.35	0.00	7.66	7.79
32	2.45	0.00	7.55	7.03
33	2.55	0.00	7.39	6.28
34	2.65	0.00	7.17	5.55
35	2.75	0.00	6.91	4.85
36	2.85	0.00	6.61	4.17
37	2.95	0.00	6.25	3.53
38	3.05	0.00	5.84	2.92
39	3.15	0.00	5.39	2.36
40	3.25	0.00	4.88	1.85
41	3.35	0.00	4.33	1.39
42	3.45	0.00	3.73	0.98
43	3.55	0.00	3.08	0.64
44	3.65	0.00	2.38	0.37
45	3.75	0.00	1.64	0.17
46	3.85	0.00	0.84	0.04
47	3.95	0.00	0.00	0.00

Combinazione n° 12 - SLEQ

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	-1.65	0.00	0.00	0.00
2	-1.55	0.00	10.99	0.53
3	-1.46	0.00	22.03	2.11
4	-1.36	0.00	33.11	4.75
5	-1.27	0.00	44.23	8.46
6	-1.17	0.00	55.41	13.23
7	-1.08	0.00	66.62	19.08
8	-0.98	0.00	77.88	26.00
9	-0.88	0.00	89.18	34.00
10	-0.79	0.00	100.53	43.09
11	-0.69	0.00	111.93	53.27
12	-0.60	0.00	123.36	64.55
13	-0.50	0.00	134.85	76.92
14	0.65	0.00	2.17	18.14
15	0.75	0.00	2.89	17.89
16	0.85	0.00	3.55	17.57
17	0.95	0.00	4.16	17.18
18	1.05	0.00	4.73	16.74
19	1.15	0.00	5.25	16.24
20	1.25	0.00	5.72	15.69
21	1.35	0.00	6.14	15.10
22	1.45	0.00	6.51	14.46
23	1.55	0.00	6.83	13.80
24	1.65	0.00	7.10	13.10
25	1.75	0.00	7.33	12.38
26	1.85	0.00	7.51	11.63
27	1.95	0.00	7.64	10.88
28	2.05	0.00	7.72	10.11
29	2.15	0.00	7.75	9.33
30	2.25	0.00	7.73	8.56
31	2.35	0.00	7.66	7.79
32	2.45	0.00	7.55	7.03
33	2.55	0.00	7.39	6.28
34	2.65	0.00	7.17	5.55
35	2.75	0.00	6.91	4.85
36	2.85	0.00	6.61	4.17
37	2.95	0.00	6.25	3.53
38	3.05	0.00	5.84	2.92
39	3.15	0.00	5.39	2.36
40	3.25	0.00	4.88	1.85
41	3.35	0.00	4.33	1.39
42	3.45	0.00	3.73	0.98
43	3.55	0.00	3.08	0.64
44	3.65	0.00	2.38	0.37
45	3.75	0.00	1.64	0.17
46	3.85	0.00	0.84	0.04
47	3.95	0.00	0.00	0.00

Verifiche strutturali

Verifiche a flessione

Elementi calcolati a trave

Simbologia adottata

n°	indice sezione
B	larghezza sezione espresso in [cm]
H	altezza sezione espressa in [cm]
Afi	area ferri inferiori espresso in [cmq]
Afs	area ferri superiori espressa in [cmq]
M	momento agente espressa in [kNm]
N	sforzo normale agente espressa in [kN]
Mrd	momento resistente espresso in [kNm]
Nrd	sforzo normale resistente espresso in [kN]
FS	fattore di sicurezza (rapporto tra sollecitazione ultima e sollecitazione agente)

Paramento

Combinazione n° 1 - STR (A1-M1-R3)

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
1	0.00	100	50	15.71	25.13	0.39	3.13	576.10	4608.84	1474.828
2	-0.10	100	51	15.71	25.13	0.39	4.37	497.60	5510.50	1261.369
3	-0.20	100	52	15.71	25.13	0.41	5.63	443.84	6095.89	1081.814
4	-0.30	100	53	15.71	25.13	0.44	6.92	414.90	6466.63	933.995
5	-0.39	100	54	15.71	25.13	0.50	8.23	408.11	6688.04	812.155
6	-0.49	100	55	15.71	25.13	0.59	9.57	419.88	6795.44	710.169
7	-0.59	100	55	15.71	25.13	0.72	10.93	447.11	6816.07	623.889
8	-0.69	100	56	15.71	25.13	0.88	12.30	486.54	6765.03	549.821
9	-0.79	100	57	15.71	25.13	1.10	13.71	535.86	6663.12	486.163
10	-0.89	100	58	15.71	25.13	1.37	15.13	592.30	6518.18	430.825
11	-0.99	100	59	15.71	25.13	1.71	16.58	652.92	6333.38	382.079
12	-1.08	100	60	15.71	25.13	2.11	18.05	716.94	6129.77	339.690
13	-1.18	100	61	15.71	25.13	2.59	19.54	781.13	5900.94	302.042
14	-1.28	100	62	15.71	25.13	3.14	21.05	846.24	5669.99	269.345
15	-1.38	100	63	15.71	25.13	3.78	22.59	909.25	5427.81	240.299
16	-1.48	100	64	15.71	25.13	4.52	24.15	972.27	5196.11	215.186
17	-1.58	100	65	15.71	25.13	5.35	25.73	1032.02	4961.82	192.851
18	-1.68	100	66	15.71	25.13	6.29	27.33	1091.16	4742.06	173.491
19	-1.77	100	66	15.71	25.13	7.34	28.96	1146.25	4523.42	156.195
20	-1.87	100	67	15.71	25.13	8.51	30.61	1196.47	4306.09	140.678
21	-1.97	100	68	15.71	25.13	9.79	32.28	1245.70	4105.48	127.178
22	-2.07	100	69	15.71	25.13	11.21	33.98	1265.66	3834.46	112.858
23	-2.17	100	70	15.71	25.13	12.77	35.69	1279.24	3575.51	100.174
24	-2.27	100	71	15.71	25.13	14.47	37.43	1284.54	3323.49	88.786
25	-2.37	100	72	15.71	25.13	16.31	39.19	1285.32	3088.05	78.787
26	-2.46	100	73	15.71	25.13	18.31	40.98	1281.82	2868.16	69.990
27	-2.56	100	74	15.71	25.13	20.48	42.79	1276.22	2666.84	62.329
28	-2.66	100	75	15.71	25.13	22.80	44.62	1265.85	2476.69	55.511
29	-2.76	100	76	15.71	25.13	25.31	46.47	1259.12	2312.17	49.757
30	-2.86	100	77	15.71	25.13	27.99	48.34	1246.48	2153.21	44.540
31	-2.96	100	77	15.71	25.13	30.85	50.24	1234.84	2010.88	40.025
32	-3.06	100	78	15.71	25.13	33.91	52.16	1226.45	1886.56	36.168
33	-3.15	100	79	15.71	25.13	37.17	54.10	1218.71	1774.11	32.791
34	-3.25	100	80	15.71	25.13	40.63	56.07	1204.84	1662.83	29.657
35	-3.35	100	81	31.42	40.84	44.30	58.06	1813.70	2377.09	40.945
36	-3.45	100	82	31.42	40.84	48.18	60.07	1812.36	2259.33	37.614
37	-3.55	100	83	31.42	40.84	52.29	62.10	1813.15	2153.15	34.673
38	-3.65	100	84	31.42	40.84	56.63	64.15	1815.79	2056.99	32.063
39	-3.75	100	85	31.42	40.84	61.21	66.23	1820.06	1969.53	29.737
40	-3.85	100	86	31.42	40.84	66.02	68.33	1817.14	1880.76	27.524
41	-3.94	100	87	31.42	40.84	71.08	70.46	1815.80	1799.74	25.544
42	-4.04	100	87	31.42	40.84	76.40	72.60	1816.30	1725.97	23.773

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
43	-4.14	100	88	31.42	40.84	81.98	74.77	1818.43	1658.53	22.182
44	-4.24	100	89	31.42	40.84	87.82	76.96	1822.00	1596.67	20.747
45	-4.34	100	90	31.42	40.84	93.93	79.17	1826.85	1539.74	19.448
46	-4.44	100	91	31.42	56.55	100.33	81.41	2376.09	1927.98	23.683
47	-4.54	100	92	31.42	56.55	107.01	83.67	2390.27	1868.88	22.337
48	-4.63	100	93	31.42	56.55	113.98	85.95	2405.22	1813.70	21.103
49	-4.73	100	94	31.42	56.55	121.24	88.25	2420.89	1762.09	19.967
50	-4.83	100	95	31.42	56.55	128.81	90.58	2437.21	1713.72	18.920
51	-4.93	100	96	31.42	56.55	136.69	92.92	2453.71	1668.02	17.950
52	-5.03	100	97	31.42	56.55	144.89	95.29	2465.98	1621.89	17.020
53	-5.13	100	98	31.42	56.55	153.41	97.69	2479.04	1578.62	16.160
54	-5.23	100	98	31.42	56.55	162.25	100.10	2492.80	1537.96	15.364
55	-5.32	100	99	31.42	56.55	171.43	102.54	2507.24	1499.69	14.625
56	-5.42	100	100	31.42	56.55	180.95	105.00	2522.28	1463.62	13.939
57	-5.52	100	101	31.42	56.55	190.82	107.49	2537.90	1429.55	13.300
58	-5.62	100	102	31.42	56.55	201.04	109.99	2553.67	1397.14	12.702
59	-5.72	100	103	31.42	56.55	211.62	112.52	2569.86	1366.41	12.144
60	-5.82	100	104	31.42	56.55	222.57	115.07	2586.43	1337.24	11.621
61	-5.92	100	105	31.42	56.55	233.89	117.65	2603.35	1309.50	11.131
62	-6.01	100	106	31.42	56.55	245.58	120.24	2620.61	1283.12	10.671
63	-6.11	100	107	31.42	56.55	257.66	122.86	2635.83	1256.86	10.230
64	-6.21	100	108	15.71	31.42	270.13	125.50	1497.39	695.69	5.543
65	-6.31	100	109	15.71	31.42	283.00	128.17	1505.55	681.85	5.320
66	-6.41	100	109	15.71	31.42	296.26	130.85	1513.89	668.65	5.110
67	-6.51	100	110	15.71	31.42	309.94	133.56	1522.42	656.05	4.912
68	-6.61	100	111	15.71	31.42	324.03	136.29	1531.11	644.01	4.725
69	-6.70	100	112	15.71	31.42	338.55	139.05	1539.96	632.49	4.549
70	-6.80	100	113	15.71	31.42	353.49	141.82	1548.95	621.46	4.382
71	-6.90	100	114	15.71	31.42	368.86	144.62	1558.09	610.89	4.224
72	-6.99	100	115	15.71	31.42	384.68	147.44	1565.66	600.11	4.070

Combinazione n° 2 - STR (A1-M1-R3)

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
1	0.00	100	50	15.71	25.13	0.39	3.13	576.10	4608.84	1474.828
2	-0.10	100	51	15.71	25.13	0.44	4.37	530.36	5257.04	1203.352
3	-0.20	100	52	15.71	25.13	0.60	5.63	556.70	5270.00	935.247
4	-0.30	100	53	15.71	25.13	0.86	6.92	619.54	4985.32	720.044
5	-0.39	100	54	15.71	25.13	1.24	8.23	691.93	4586.21	556.922
6	-0.49	100	55	15.71	25.13	1.75	9.57	762.84	4177.41	436.567
7	-0.59	100	55	15.71	25.13	2.38	10.93	828.47	3800.69	347.885
8	-0.69	100	56	15.71	25.13	3.15	12.30	884.65	3454.50	280.761
9	-0.79	100	57	15.71	25.13	4.06	13.71	915.93	3090.52	225.495
10	-0.89	100	58	15.71	25.13	5.12	15.13	919.19	2715.85	179.507
11	-0.99	100	59	15.71	25.13	6.33	16.58	913.80	2391.68	144.285
12	-1.08	100	60	15.71	25.13	7.71	18.05	905.39	2120.09	117.488
13	-1.18	100	61	15.71	25.13	9.25	19.54	891.48	1883.82	96.424
14	-1.28	100	62	15.71	25.13	10.96	21.05	880.65	1691.90	80.372
15	-1.38	100	63	15.71	25.13	12.85	22.59	868.15	1526.29	67.571
16	-1.48	100	64	15.71	25.13	14.92	24.15	860.53	1392.39	57.663
17	-1.58	100	65	15.71	25.13	17.19	25.73	850.38	1272.77	49.469
18	-1.68	100	66	15.71	25.13	19.65	27.33	840.89	1169.42	42.784
19	-1.77	100	66	15.71	25.13	22.32	28.96	834.83	1083.09	37.400
20	-1.87	100	67	15.71	25.13	25.20	30.61	831.46	1009.96	32.995
21	-1.97	100	68	15.71	25.13	28.29	32.28	828.04	944.78	29.267
22	-2.07	100	69	15.71	25.13	31.61	33.98	824.94	886.72	26.098
23	-2.17	100	70	15.71	25.13	35.15	35.69	823.45	836.11	23.425
24	-2.27	100	71	15.71	25.13	38.93	37.43	823.30	791.61	21.147
25	-2.37	100	72	15.71	25.13	42.95	39.19	824.26	752.17	19.191
26	-2.46	100	73	15.71	25.13	47.22	40.98	826.14	717.00	17.497
27	-2.56	100	74	15.71	25.13	51.74	42.79	828.82	685.44	16.020
28	-2.66	100	75	15.71	25.13	56.52	44.62	832.18	656.96	14.725
29	-2.76	100	76	15.71	25.13	61.56	46.47	836.12	631.14	13.582
30	-2.86	100	77	15.71	25.13	66.88	48.34	840.58	607.63	12.569
31	-2.96	100	77	15.71	25.13	72.47	50.24	845.48	586.12	11.666
32	-3.06	100	78	15.71	25.13	78.35	52.16	850.78	566.39	10.858
33	-3.15	100	79	15.71	25.13	84.52	54.10	856.42	548.21	10.133
34	-3.25	100	80	15.71	25.13	90.99	56.07	862.38	531.42	9.478
35	-3.35	100	81	31.42	40.84	97.76	58.06	1390.27	825.67	14.222
36	-3.45	100	82	31.42	40.84	104.83	60.07	1400.40	802.39	13.358
37	-3.55	100	83	31.42	40.84	112.23	62.10	1410.87	780.69	12.572
38	-3.65	100	84	31.42	40.84	119.94	64.15	1421.64	760.41	11.853
39	-3.75	100	85	31.42	40.84	127.98	66.23	1432.69	741.42	11.194
40	-3.85	100	86	31.42	40.84	136.36	68.33	1443.98	723.60	10.589
41	-3.94	100	87	31.42	40.84	145.08	70.46	1455.49	706.85	10.033
42	-4.04	100	87	31.42	40.84	154.14	72.60	1467.21	691.07	9.519
43	-4.14	100	88	31.42	40.84	163.55	74.77	1479.12	676.18	9.044
44	-4.24	100	89	31.42	40.84	173.33	76.96	1491.20	662.11	8.603
45	-4.34	100	90	31.42	40.84	183.47	79.17	1503.44	648.79	8.195
46	-4.44	100	91	31.42	56.55	193.98	81.41	2072.85	869.94	10.686
47	-4.54	100	92	31.42	56.55	204.86	83.67	2090.30	853.68	10.203

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
48	-4.63	100	93	31.42	56.55	216.13	85.95	2107.92	838.24	9.753
49	-4.73	100	94	31.42	56.55	227.78	88.25	2125.70	823.57	9.332
50	-4.83	100	95	31.42	56.55	239.82	90.58	2143.64	809.62	8.939
51	-4.93	100	96	31.42	56.55	252.24	92.92	2161.73	796.37	8.570
52	-5.03	100	97	31.42	56.55	265.05	95.29	2179.96	783.78	8.225
53	-5.13	100	98	31.42	56.55	278.24	97.69	2198.35	771.83	7.901
54	-5.23	100	98	31.42	56.55	291.81	100.10	2216.87	760.48	7.597
55	-5.32	100	99	31.42	56.55	305.77	102.54	2235.53	749.69	7.311
56	-5.42	100	100	31.42	56.55	320.12	105.00	2254.31	739.43	7.042
57	-5.52	100	101	31.42	56.55	334.87	107.49	2273.21	729.66	6.788
58	-5.62	100	102	31.42	56.55	350.01	109.99	2292.10	720.31	6.549
59	-5.72	100	103	31.42	56.55	365.56	112.52	2311.09	711.37	6.322
60	-5.82	100	104	31.42	56.55	381.52	115.07	2330.18	702.82	6.108
61	-5.92	100	105	31.42	56.55	397.90	117.65	2349.35	694.62	5.904
62	-6.01	100	106	31.42	56.55	414.71	120.24	2368.60	686.76	5.711
63	-6.11	100	107	31.42	56.55	431.95	122.86	2387.93	679.21	5.528
64	-6.21	100	108	15.71	31.42	449.63	125.50	1361.86	380.13	3.029
65	-6.31	100	109	15.71	31.42	467.75	128.17	1373.19	376.26	2.936
66	-6.41	100	109	15.71	31.42	486.32	130.85	1384.56	372.54	2.847
67	-6.51	100	110	15.71	31.42	505.35	133.56	1395.98	368.95	2.762
68	-6.61	100	111	15.71	31.42	524.84	136.29	1407.44	365.49	2.682
69	-6.70	100	112	15.71	31.42	544.81	139.05	1418.94	362.15	2.604
70	-6.80	100	113	15.71	31.42	565.25	141.82	1430.47	358.92	2.531
71	-6.90	100	114	15.71	31.42	586.17	144.62	1441.51	355.66	2.459
72	-6.99	100	115	15.71	31.42	607.57	147.44	1451.06	352.14	2.388

Combinazione n° 3 - STR (A1-M1-R3) H + V

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
1	0.00	100	50	15.71	25.13	0.41	3.31	576.10	4608.84	1390.699
2	-0.10	100	51	15.71	25.13	0.45	4.63	521.54	5330.81	1150.631
3	-0.20	100	52	15.71	25.13	0.57	5.98	527.87	5499.28	920.266
4	-0.30	100	53	15.71	25.13	0.78	7.34	571.78	5381.01	732.862
5	-0.39	100	54	15.71	25.13	1.08	8.73	632.34	5123.03	586.623
6	-0.49	100	55	15.71	25.13	1.47	10.15	697.39	4808.85	473.890
7	-0.59	100	55	15.71	25.13	1.97	11.59	762.08	4490.69	387.595
8	-0.69	100	56	15.71	25.13	2.57	13.05	822.81	4183.29	320.598
9	-0.79	100	57	15.71	25.13	3.28	14.53	879.93	3902.26	268.480
10	-0.89	100	58	15.71	25.13	4.10	16.04	930.52	3637.96	226.738
11	-0.99	100	59	15.71	25.13	5.05	17.58	972.64	3385.11	192.567
12	-1.08	100	60	15.71	25.13	6.12	19.14	986.30	3082.47	161.075
13	-1.18	100	61	15.71	25.13	7.33	20.72	989.99	2799.88	135.138
14	-1.28	100	62	15.71	25.13	8.66	22.32	989.88	2550.79	114.260
15	-1.38	100	63	15.71	25.13	10.14	23.95	987.48	2332.50	97.373
16	-1.48	100	64	15.71	25.13	11.76	25.61	980.54	2134.47	83.352
17	-1.58	100	65	15.71	25.13	13.54	27.29	974.90	1965.12	72.021
18	-1.68	100	66	15.71	25.13	15.46	28.99	968.86	1816.15	62.655
19	-1.77	100	66	15.71	25.13	17.55	30.71	961.12	1681.89	54.763
20	-1.87	100	67	15.71	25.13	19.80	32.46	956.63	1568.22	48.311
21	-1.97	100	68	15.71	25.13	22.22	34.23	954.34	1470.19	42.945
22	-2.07	100	69	15.71	25.13	24.82	36.03	946.08	1373.57	38.121
23	-2.17	100	70	15.71	25.13	27.59	37.85	940.62	1290.40	34.090
24	-2.27	100	71	15.71	25.13	30.55	39.70	937.44	1218.11	30.685
25	-2.37	100	72	15.71	25.13	33.70	41.57	936.13	1154.71	27.780
26	-2.46	100	73	15.71	25.13	37.04	43.46	935.68	1097.85	25.262
27	-2.56	100	74	15.71	25.13	40.58	45.38	933.15	1043.44	22.996
28	-2.66	100	75	15.71	25.13	44.32	47.32	931.93	994.86	21.026
29	-2.76	100	76	15.71	25.13	48.28	49.28	931.84	951.23	19.302
30	-2.86	100	77	15.71	25.13	52.44	51.27	932.70	911.83	17.785
31	-2.96	100	77	15.71	25.13	56.83	53.28	934.38	876.09	16.443
32	-3.06	100	78	15.71	25.13	61.43	55.32	936.79	843.52	15.249
33	-3.15	100	79	15.71	25.13	66.27	57.38	939.84	813.72	14.182
34	-3.25	100	80	15.71	25.13	71.34	59.46	943.43	786.36	13.225
35	-3.35	100	81	31.42	40.84	76.64	61.57	1518.29	1219.63	19.809
36	-3.45	100	82	31.42	40.84	82.19	63.70	1525.35	1182.13	18.558
37	-3.55	100	83	31.42	40.84	87.99	65.86	1533.00	1147.34	17.422
38	-3.65	100	84	31.42	40.84	94.04	68.04	1541.18	1114.98	16.388
39	-3.75	100	85	31.42	40.84	100.35	70.24	1549.85	1084.80	15.444
40	-3.85	100	86	31.42	40.84	106.92	72.47	1558.94	1056.59	14.580
41	-3.94	100	87	31.42	40.84	113.76	74.72	1568.42	1030.16	13.787
42	-4.04	100	87	31.42	40.84	120.87	76.99	1578.26	1005.35	13.058
43	-4.14	100	88	31.42	40.84	128.25	79.29	1588.43	982.02	12.385
44	-4.24	100	89	31.42	40.84	135.92	81.61	1598.89	960.04	11.763
45	-4.34	100	90	31.42	40.84	143.88	83.96	1609.62	939.30	11.187
46	-4.44	100	91	31.42	56.55	152.13	86.33	2189.31	1242.43	14.391
47	-4.54	100	92	31.42	56.55	160.67	88.73	2207.86	1219.23	13.741
48	-4.63	100	93	31.42	56.55	169.52	91.15	2226.75	1197.27	13.136
49	-4.73	100	94	31.42	56.55	178.67	93.59	2245.97	1176.44	12.570
50	-4.83	100	95	31.42	56.55	188.14	96.05	2265.50	1156.68	12.042
51	-4.93	100	96	31.42	56.55	197.92	98.54	2285.32	1137.89	11.547
52	-5.03	100	97	31.42	56.55	208.02	101.06	2305.41	1120.02	11.083

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
53	-5.13	100	98	31.42	56.55	218.45	103.60	2325.76	1102.99	10.647
54	-5.23	100	98	31.42	56.55	229.20	106.16	2345.30	1086.26	10.232
55	-5.32	100	99	31.42	56.55	240.30	108.75	2362.77	1069.25	9.833
56	-5.42	100	100	31.42	56.55	251.73	111.36	2380.40	1052.97	9.456
57	-5.52	100	101	31.42	56.55	263.52	113.99	2398.17	1037.37	9.101
58	-5.62	100	102	31.42	56.55	275.65	116.65	2415.92	1022.35	8.765
59	-5.72	100	103	31.42	56.55	288.14	119.33	2433.81	1007.94	8.447
60	-5.82	100	104	31.42	56.55	300.98	122.03	2451.83	994.09	8.146
61	-5.92	100	105	31.42	56.55	314.20	124.76	2469.96	980.79	7.861
62	-6.01	100	106	31.42	56.55	327.78	127.52	2488.22	967.99	7.591
63	-6.11	100	107	31.42	56.55	341.74	130.29	2506.58	955.67	7.335
64	-6.21	100	108	15.71	31.42	356.08	133.09	1427.81	533.69	4.010
65	-6.31	100	109	15.71	31.42	370.80	135.92	1438.62	527.34	3.880
66	-6.41	100	109	15.71	31.42	385.91	138.77	1449.50	521.22	3.756
67	-6.51	100	110	15.71	31.42	401.42	141.64	1460.44	515.31	3.638
68	-6.61	100	111	15.71	31.42	417.33	144.54	1471.44	509.62	3.526
69	-6.70	100	112	15.71	31.42	433.64	147.46	1482.49	504.12	3.419
70	-6.80	100	113	15.71	31.42	450.36	150.40	1493.60	498.80	3.316
71	-6.90	100	114	15.71	31.42	467.50	153.37	1504.77	493.67	3.219
72	-6.99	100	115	15.71	31.42	485.05	156.36	1514.38	488.18	3.122

Combinazione n° 4 - STR (A1-M1-R3) H - V

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
1	0.00	100	50	15.71	25.13	0.39	3.13	576.10	4608.84	1474.828
2	-0.10	100	51	15.71	25.13	0.42	4.29	521.49	5331.25	1241.722
3	-0.20	100	52	15.71	25.13	0.51	5.48	518.94	5565.01	1014.949
4	-0.30	100	53	15.71	25.13	0.67	6.69	553.11	5529.89	826.117
5	-0.39	100	54	15.71	25.13	0.90	7.93	605.88	5338.44	673.552
6	-0.49	100	55	15.71	25.13	1.21	9.18	667.64	5080.97	553.545
7	-0.59	100	55	15.71	25.13	1.59	10.45	729.87	4785.93	457.840
8	-0.69	100	56	15.71	25.13	2.07	11.75	791.62	4496.15	382.690
9	-0.79	100	57	15.71	25.13	2.63	13.07	850.34	4217.65	322.809
10	-0.89	100	58	15.71	25.13	3.30	14.40	905.73	3958.04	274.800
11	-0.99	100	59	15.71	25.13	4.06	15.76	955.39	3710.33	235.392
12	-1.08	100	60	15.71	25.13	4.93	17.14	999.67	3477.91	202.881
13	-1.18	100	61	15.71	25.13	5.91	18.54	1013.76	3182.64	171.626
14	-1.28	100	62	15.71	25.13	7.00	19.97	1019.53	2907.29	145.608
15	-1.38	100	63	15.71	25.13	8.22	21.41	1021.96	2662.67	124.363
16	-1.48	100	64	15.71	25.13	9.56	22.88	1018.93	2438.48	106.599
17	-1.58	100	65	15.71	25.13	11.03	24.36	1014.19	2240.01	91.949
18	-1.68	100	66	15.71	25.13	12.64	25.87	1007.29	2062.07	79.713
19	-1.77	100	66	15.71	25.13	14.38	27.40	1003.10	1910.72	69.741
20	-1.87	100	67	15.71	25.13	16.27	28.95	993.63	1767.30	61.053
21	-1.97	100	68	15.71	25.13	18.32	30.52	987.62	1645.53	53.920
22	-2.07	100	69	15.71	25.13	20.51	32.11	984.38	1540.92	47.989
23	-2.17	100	70	15.71	25.13	22.87	33.72	977.17	1441.00	42.730
24	-2.27	100	71	15.71	25.13	25.39	35.36	970.02	1350.89	38.207
25	-2.37	100	72	15.71	25.13	28.08	37.01	965.35	1272.53	34.381
26	-2.46	100	73	15.71	25.13	30.94	38.69	962.74	1203.78	31.114
27	-2.56	100	74	15.71	25.13	33.99	40.39	961.83	1143.02	28.301
28	-2.66	100	75	15.71	25.13	37.21	42.11	958.37	1084.41	25.754
29	-2.76	100	76	15.71	25.13	40.63	43.85	955.86	1031.57	23.527
30	-2.86	100	77	15.71	25.13	44.24	45.61	954.59	984.15	21.578
31	-2.96	100	77	15.71	25.13	48.05	47.39	954.39	941.35	19.864
32	-3.06	100	78	15.71	25.13	52.06	49.19	955.12	902.56	18.347
33	-3.15	100	79	15.71	25.13	56.28	51.02	956.64	867.23	16.998
34	-3.25	100	80	15.71	25.13	60.71	52.87	958.87	834.92	15.793
35	-3.35	100	81	31.42	40.84	65.37	54.73	1539.56	1289.12	23.553
36	-3.45	100	82	31.42	40.84	70.24	56.62	1546.59	1246.70	22.018
37	-3.55	100	83	31.42	40.84	75.35	58.53	1552.57	1206.10	20.606
38	-3.65	100	84	31.42	40.84	80.68	60.46	1559.22	1168.47	19.325
39	-3.75	100	85	31.42	40.84	86.26	62.41	1566.46	1133.48	18.161
40	-3.85	100	86	31.42	40.84	92.07	64.39	1574.23	1100.88	17.098
41	-3.94	100	87	31.42	40.84	98.14	66.38	1582.49	1070.44	16.125
42	-4.04	100	87	31.42	40.84	104.45	68.40	1591.19	1041.93	15.233
43	-4.14	100	88	31.42	40.84	111.03	70.43	1600.28	1015.20	14.413
44	-4.24	100	89	31.42	40.84	117.86	72.49	1609.74	990.07	13.658
45	-4.34	100	90	31.42	40.84	124.97	74.57	1619.53	966.42	12.960
46	-4.44	100	91	31.42	56.55	132.34	76.67	2198.96	1273.96	16.616
47	-4.54	100	92	31.42	56.55	139.99	78.79	2216.60	1247.57	15.833
48	-4.63	100	93	31.42	56.55	147.93	80.94	2234.63	1222.63	15.106
49	-4.73	100	94	31.42	56.55	156.15	83.10	2253.04	1199.03	14.429
50	-4.83	100	95	31.42	56.55	164.66	85.29	2271.80	1176.66	13.797
51	-4.93	100	96	31.42	56.55	173.47	87.49	2290.89	1155.44	13.206
52	-5.03	100	97	31.42	56.55	182.58	89.72	2310.29	1135.27	12.654
53	-5.13	100	98	31.42	56.55	192.00	91.97	2329.98	1116.08	12.136
54	-5.23	100	98	31.42	56.55	201.72	94.24	2349.83	1097.75	11.649
55	-5.32	100	99	31.42	56.55	211.77	96.53	2366.54	1078.73	11.175
56	-5.42	100	100	31.42	56.55	222.13	98.84	2383.45	1060.56	10.730
57	-5.52	100	101	31.42	56.55	232.82	101.17	2400.52	1043.17	10.311

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
58	-5.62	100	102	31.42	56.55	243.84	103.53	2417.61	1026.46	9.915
59	-5.72	100	103	31.42	56.55	255.19	105.90	2434.85	1010.45	9.541
60	-5.82	100	104	31.42	56.55	266.89	108.30	2452.24	995.09	9.188
61	-5.92	100	105	31.42	56.55	278.93	110.72	2469.78	980.35	8.854
62	-6.01	100	106	31.42	56.55	291.32	113.16	2487.45	966.20	8.539
63	-6.11	100	107	31.42	56.55	304.07	115.62	2505.25	952.59	8.239
64	-6.21	100	108	15.71	31.42	317.17	118.10	1426.77	531.26	4.498
65	-6.31	100	109	15.71	31.42	330.64	120.60	1437.28	524.25	4.347
66	-6.41	100	109	15.71	31.42	344.48	123.13	1447.88	517.50	4.203
67	-6.51	100	110	15.71	31.42	358.70	125.67	1458.54	511.00	4.066
68	-6.61	100	111	15.71	31.42	373.29	128.24	1469.27	504.74	3.936
69	-6.70	100	112	15.71	31.42	388.27	130.82	1480.06	498.69	3.812
70	-6.80	100	113	15.71	31.42	403.64	133.43	1490.92	492.86	3.694
71	-6.90	100	114	15.71	31.42	419.40	136.06	1501.84	487.23	3.581
72	-6.99	100	115	15.71	31.42	435.56	138.71	1511.21	481.28	3.470

Combinazione n° 9 - ECC

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
1	0.00	100	50	15.71	25.13	14.69	3.13	482.51	102.64	32.845
2	-0.10	100	51	15.71	25.13	14.69	4.37	502.09	149.27	34.169
3	-0.20	100	52	15.71	25.13	14.71	5.63	522.93	200.34	35.554
4	-0.30	100	53	15.71	25.13	14.74	6.92	545.13	256.11	36.991
5	-0.39	100	54	15.71	25.13	14.79	8.23	568.80	316.80	38.470
6	-0.49	100	55	15.71	25.13	14.86	9.57	594.02	382.56	39.980
7	-0.59	100	55	15.71	25.13	14.96	10.93	620.88	453.44	41.504
8	-0.69	100	56	15.71	25.13	15.09	12.30	649.40	529.37	43.024
9	-0.79	100	57	15.71	25.13	15.27	13.71	679.62	610.12	44.516
10	-0.89	100	58	15.71	25.13	15.48	15.13	711.60	695.40	45.963
11	-0.99	100	59	15.71	25.13	15.74	16.58	745.18	784.53	47.329
12	-1.08	100	60	15.71	25.13	16.06	18.05	780.13	876.62	48.579
13	-1.18	100	61	15.71	25.13	16.43	19.54	816.26	970.61	49.681
14	-1.28	100	62	15.71	25.13	16.86	21.05	853.26	1065.24	50.603
15	-1.38	100	63	15.71	25.13	17.36	22.59	890.79	1159.08	51.314
16	-1.48	100	64	15.71	25.13	17.93	24.15	928.47	1250.58	51.790
17	-1.58	100	65	15.71	25.13	18.57	25.73	965.88	1338.19	52.011
18	-1.68	100	66	15.71	25.13	19.29	27.33	1002.56	1420.36	51.965
19	-1.77	100	66	15.71	25.13	20.10	28.96	1038.11	1495.71	51.647
20	-1.87	100	67	15.71	25.13	21.00	30.61	1071.61	1562.30	51.040
21	-1.97	100	68	15.71	25.13	21.98	32.28	1102.67	1619.13	50.156
22	-2.07	100	69	15.71	25.13	23.07	33.98	1131.93	1666.91	49.061
23	-2.17	100	70	15.71	25.13	24.26	35.69	1159.28	1705.50	47.782
24	-2.27	100	71	15.71	25.13	25.56	37.43	1184.66	1735.01	46.350
25	-2.37	100	72	15.71	25.13	26.97	39.19	1208.08	1755.80	44.797
26	-2.46	100	73	15.71	25.13	28.49	40.98	1229.60	1768.41	43.154
27	-2.56	100	74	15.71	25.13	30.14	42.79	1249.08	1773.16	41.442
28	-2.66	100	75	15.71	25.13	31.91	44.62	1265.25	1768.89	39.647
29	-2.76	100	76	15.71	25.13	33.82	46.47	1279.50	1758.23	37.837
30	-2.86	100	77	15.71	25.13	35.85	48.34	1292.04	1742.10	36.036
31	-2.96	100	77	15.71	25.13	38.03	50.24	1303.07	1721.37	34.262
32	-3.06	100	78	15.71	25.13	40.35	52.16	1312.81	1696.90	32.532
33	-3.15	100	79	15.71	25.13	42.83	54.10	1321.44	1669.44	30.856
34	-3.25	100	80	15.71	25.13	45.45	56.07	1329.16	1639.69	29.244
35	-3.35	100	81	31.42	40.84	48.23	58.06	2091.92	2517.96	43.371
36	-3.45	100	82	31.42	40.84	51.18	60.07	2105.46	2471.10	41.139
37	-3.55	100	83	31.42	40.84	54.29	62.10	2118.48	2423.14	39.020
38	-3.65	100	84	31.42	40.84	57.58	64.15	2131.14	2374.61	37.014
39	-3.75	100	85	31.42	40.84	61.04	66.23	2143.56	2325.96	35.118
40	-3.85	100	86	31.42	40.84	64.68	68.33	2155.86	2277.56	33.331
41	-3.94	100	87	31.42	40.84	68.51	70.46	2168.12	2229.68	31.647
42	-4.04	100	87	31.42	40.84	72.53	72.60	2180.42	2182.57	30.063
43	-4.14	100	88	31.42	40.84	76.74	74.77	2191.32	2134.92	28.554
44	-4.24	100	89	31.42	40.84	81.16	76.96	2198.60	2084.85	27.090
45	-4.34	100	90	31.42	40.84	85.78	79.17	2206.01	2036.16	25.718
46	-4.44	100	91	31.42	56.55	90.60	81.41	2939.84	2641.44	32.447
47	-4.54	100	92	31.42	56.55	95.65	83.67	2955.16	2585.03	30.897
48	-4.63	100	93	31.42	56.55	100.90	85.95	2970.83	2530.43	29.442
49	-4.73	100	94	31.42	56.55	106.39	88.25	2986.87	2477.65	28.075
50	-4.83	100	95	31.42	56.55	112.10	90.58	3003.29	2426.68	26.792
51	-4.93	100	96	31.42	56.55	118.04	92.92	3020.10	2377.50	25.586
52	-5.03	100	97	31.42	56.55	124.22	95.29	3037.30	2330.08	24.451
53	-5.13	100	98	31.42	56.55	130.64	97.69	3054.89	2284.37	23.384
54	-5.23	100	98	31.42	56.55	137.30	100.10	3072.88	2240.33	22.380
55	-5.32	100	99	31.42	56.55	144.22	102.54	3091.25	2197.90	21.434
56	-5.42	100	100	31.42	56.55	151.39	105.00	3110.00	2157.04	20.543
57	-5.52	100	101	31.42	56.55	158.82	107.49	3129.13	2117.69	19.702
58	-5.62	100	102	31.42	56.55	166.52	109.99	3148.63	2079.79	18.908
59	-5.72	100	103	31.42	56.55	174.49	112.52	3168.50	2043.28	18.159
60	-5.82	100	104	31.42	56.55	182.72	115.07	3188.71	2008.12	17.451
61	-5.92	100	105	31.42	56.55	191.24	117.65	3203.97	1970.98	16.753
62	-6.01	100	106	31.42	56.55	200.04	120.24	3219.47	1935.17	16.094

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
63	-6.11	100	107	31.42	56.55	209.13	122.86	3235.23	1900.66	15.470
64	-6.21	100	108	15.71	31.42	218.51	125.50	1856.67	1066.39	8.497
65	-6.31	100	109	15.71	31.42	228.19	128.17	1866.61	1048.42	8.180
66	-6.41	100	109	15.71	31.42	238.17	130.85	1876.70	1031.10	7.880
67	-6.51	100	110	15.71	31.42	248.45	133.56	1886.96	1014.39	7.595
68	-6.61	100	111	15.71	31.42	259.05	136.29	1897.37	998.28	7.324
69	-6.70	100	112	15.71	31.42	269.96	139.05	1907.93	982.73	7.068
70	-6.80	100	113	15.71	31.42	281.19	141.82	1918.63	967.72	6.823
71	-6.90	100	114	15.71	31.42	292.74	144.62	1929.47	953.22	6.591
72	-6.99	100	115	15.71	31.42	304.63	147.44	1938.20	938.13	6.363

Mensola valle

Combinazione n° 1 - STR (A1-M1-R3)

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
1	-0.75	100	50	18.10	18.10	0.00	0.00	0.00	0.00	100000.000
2	-0.67	100	50	18.10	18.10	-0.04	0.00	-289.12	0.00	6661.384
3	-0.58	100	50	18.10	18.10	-0.17	0.00	-289.12	0.00	1665.346
4	-0.50	100	50	18.10	18.10	-0.39	0.00	-289.12	0.00	740.154
5	-0.50	100	50	18.10	18.10	-0.39	0.00	-289.12	0.00	740.154

Combinazione n° 2 - STR (A1-M1-R3)

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
1	-0.75	100	50	18.10	18.10	0.00	0.00	0.00	0.00	100000.000
2	-0.67	100	50	18.10	18.10	-0.04	0.00	-289.12	0.00	6661.384
3	-0.58	100	50	18.10	18.10	-0.17	0.00	-289.12	0.00	1665.346
4	-0.50	100	50	18.10	18.10	-0.39	0.00	-289.12	0.00	740.154
5	-0.50	100	50	18.10	18.10	-0.39	0.00	-289.12	0.00	740.154

Combinazione n° 3 - STR (A1-M1-R3) H + V

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
1	-0.75	100	50	18.10	18.10	0.00	0.00	0.00	0.00	100000.000
2	-0.67	100	50	18.10	18.10	-0.05	0.00	-289.12	0.00	6281.398
3	-0.58	100	50	18.10	18.10	-0.18	0.00	-289.12	0.00	1570.349
4	-0.50	100	50	18.10	18.10	-0.41	0.00	-289.12	0.00	697.933
5	-0.50	100	50	18.10	18.10	-0.41	0.00	-289.12	0.00	697.933

Combinazione n° 4 - STR (A1-M1-R3) H - V

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
1	-0.75	100	50	18.10	18.10	0.00	0.00	0.00	0.00	100000.000
2	-0.67	100	50	18.10	18.10	-0.04	0.00	-289.12	0.00	6661.384
3	-0.58	100	50	18.10	18.10	-0.17	0.00	-289.12	0.00	1665.346
4	-0.50	100	50	18.10	18.10	-0.39	0.00	-289.12	0.00	740.154
5	-0.50	100	50	18.10	18.10	-0.39	0.00	-289.12	0.00	740.154

Combinazione n° 9 - ECC

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
1	-0.75	100	50	18.10	18.10	0.00	0.00	0.00	0.00	100000.000
2	-0.67	100	50	18.10	18.10	-0.04	0.00	-337.52	0.00	7776.360
3	-0.58	100	50	18.10	18.10	-0.17	0.00	-337.52	0.00	1944.090
4	-0.50	100	50	18.10	18.10	-0.39	0.00	-337.52	0.00	864.040
5	-0.50	100	50	18.10	18.10	-14.69	-14.30	-280.94	-273.47	19.124

Fondazione

Combinazione n° 1 - STR (A1-M1-R3)

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
1	-1.65	100	105	22.62	22.62	0.00	0.00	0.00	0.00	100000.000
2	-1.55	100	105	22.62	22.62	0.61	0.00	836.91	0.00	1383.016
3	-1.46	100	105	22.62	22.62	2.42	0.00	836.91	0.00	345.754
4	-1.36	100	105	22.62	22.62	5.45	0.00	836.91	0.00	153.668
5	-1.27	100	105	22.62	22.62	9.68	0.00	836.91	0.00	86.438
6	-1.17	100	105	22.62	22.62	15.13	0.00	836.91	0.00	55.320
7	-1.08	100	105	22.62	22.62	21.78	0.00	836.91	0.00	38.417
8	-0.98	100	105	22.62	22.62	29.65	0.00	836.91	0.00	28.225
9	-0.88	100	105	22.62	22.62	38.73	0.00	836.91	0.00	21.609
10	-0.79	100	105	22.62	22.62	49.02	0.00	836.91	0.00	17.074
11	-0.69	100	105	22.62	22.62	60.51	0.00	836.91	0.00	13.830
12	-0.60	100	105	22.62	22.62	73.22	0.00	836.91	0.00	11.430
13	-0.50	100	105	22.62	22.62	87.14	0.00	836.91	0.00	9.604
14	0.65	100	105	22.62	22.62	-259.97	0.00	-836.91	0.00	3.219
15	0.75	100	105	22.62	22.62	-244.45	0.00	-836.91	0.00	3.424
16	0.85	100	105	22.62	22.62	-229.41	0.00	-836.91	0.00	3.648
17	0.95	100	105	22.62	22.62	-214.85	0.00	-836.91	0.00	3.895
18	1.05	100	105	22.62	22.62	-200.76	0.00	-836.91	0.00	4.169
19	1.15	100	105	22.62	22.62	-187.15	0.00	-836.91	0.00	4.472
20	1.25	100	105	22.62	22.62	-174.02	0.00	-836.91	0.00	4.809
21	1.35	100	105	22.62	22.62	-161.37	0.00	-836.91	0.00	5.186
22	1.45	100	105	22.62	22.62	-149.20	0.00	-836.91	0.00	5.609
23	1.55	100	105	22.62	22.62	-137.50	0.00	-836.91	0.00	6.087
24	1.65	100	105	22.62	22.62	-126.28	0.00	-836.91	0.00	6.627
25	1.75	100	105	22.62	22.62	-115.54	0.00	-836.91	0.00	7.244
26	1.85	100	105	22.62	22.62	-105.27	0.00	-836.91	0.00	7.950
27	1.95	100	105	22.62	22.62	-95.48	0.00	-836.91	0.00	8.765
28	2.05	100	105	22.62	22.62	-86.17	0.00	-836.91	0.00	9.712
29	2.15	100	105	22.62	22.62	-77.34	0.00	-836.91	0.00	10.821
30	2.25	100	105	22.62	22.62	-68.99	0.00	-836.91	0.00	12.132
31	2.35	100	105	22.62	22.62	-61.11	0.00	-836.91	0.00	13.695
32	2.45	100	105	22.62	22.62	-53.71	0.00	-836.91	0.00	15.582
33	2.55	100	105	22.62	22.62	-46.79	0.00	-836.91	0.00	17.888
34	2.65	100	105	22.62	22.62	-40.34	0.00	-836.91	0.00	20.746
35	2.75	100	105	22.62	22.62	-34.37	0.00	-836.91	0.00	24.348
36	2.85	100	105	22.62	22.62	-28.88	0.00	-836.91	0.00	28.976
37	2.95	100	105	22.62	22.62	-23.87	0.00	-836.91	0.00	35.061
38	3.05	100	105	22.62	22.62	-19.33	0.00	-836.91	0.00	43.286
39	3.15	100	105	22.62	22.62	-15.28	0.00	-836.91	0.00	54.784
40	3.25	100	105	22.62	22.62	-11.70	0.00	-836.91	0.00	71.555
41	3.35	100	105	22.62	22.62	-8.59	0.00	-836.91	0.00	97.394
42	3.45	100	105	22.62	22.62	-5.97	0.00	-836.91	0.00	140.248
43	3.55	100	105	22.62	22.62	-3.82	0.00	-836.91	0.00	219.139
44	3.65	100	105	22.62	22.62	-2.15	0.00	-836.91	0.00	389.582
45	3.75	100	105	22.62	22.62	-0.95	0.00	-836.91	0.00	876.563
46	3.85	100	105	22.62	22.62	-0.24	0.00	-836.91	0.00	3506.265
47	3.95	100	105	0.00	0.00	0.00	0.00	0.00	0.00	100000.000

Combinazione n° 2 - STR (A1-M1-R3)

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
1	-1.65	100	105	22.62	22.62	0.00	0.00	0.00	0.00	100000.000
2	-1.55	100	105	22.62	22.62	0.72	0.00	836.91	0.00	1169.157
3	-1.46	100	105	22.62	22.62	2.86	0.00	836.91	0.00	292.241
4	-1.36	100	105	22.62	22.62	6.44	0.00	836.91	0.00	129.864
5	-1.27	100	105	22.62	22.62	11.46	0.00	836.91	0.00	73.036
6	-1.17	100	105	22.62	22.62	17.91	0.00	836.91	0.00	46.736
7	-1.08	100	105	22.62	22.62	25.79	0.00	836.91	0.00	32.450
8	-0.98	100	105	22.62	22.62	35.11	0.00	836.91	0.00	23.837
9	-0.88	100	105	22.62	22.62	45.87	0.00	836.91	0.00	18.247
10	-0.79	100	105	22.62	22.62	58.06	0.00	836.91	0.00	14.415
11	-0.69	100	105	22.62	22.62	71.69	0.00	836.91	0.00	11.674
12	-0.60	100	105	22.62	22.62	86.76	0.00	836.91	0.00	9.647
13	-0.50	100	105	22.62	22.62	103.26	0.00	836.91	0.00	8.105
14	0.65	100	105	22.62	22.62	-290.88	0.00	-836.91	0.00	2.877
15	0.75	100	105	22.62	22.62	-272.58	0.00	-836.91	0.00	3.070
16	0.85	100	105	22.62	22.62	-254.88	0.00	-836.91	0.00	3.283
17	0.95	100	105	22.62	22.62	-237.79	0.00	-836.91	0.00	3.520
18	1.05	100	105	22.62	22.62	-221.29	0.00	-836.91	0.00	3.782
19	1.15	100	105	22.62	22.62	-205.39	0.00	-836.91	0.00	4.075
20	1.25	100	105	22.62	22.62	-190.08	0.00	-836.91	0.00	4.403
21	1.35	100	105	22.62	22.62	-175.38	0.00	-836.91	0.00	4.772

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
22	1.45	100	105	22.62	22.62	-161.27	0.00	-836.91	0.00	5.190
23	1.55	100	105	22.62	22.62	-147.75	0.00	-836.91	0.00	5.664
24	1.65	100	105	22.62	22.62	-134.83	0.00	-836.91	0.00	6.207
25	1.75	100	105	22.62	22.62	-122.51	0.00	-836.91	0.00	6.831
26	1.85	100	105	22.62	22.62	-110.78	0.00	-836.91	0.00	7.555
27	1.95	100	105	22.62	22.62	-99.64	0.00	-836.91	0.00	8.399
28	2.05	100	105	22.62	22.62	-89.09	0.00	-836.91	0.00	9.394
29	2.15	100	105	22.62	22.62	-79.13	0.00	-836.91	0.00	10.576
30	2.25	100	105	22.62	22.62	-69.76	0.00	-836.91	0.00	11.996
31	2.35	100	105	22.62	22.62	-60.99	0.00	-836.91	0.00	13.723
32	2.45	100	105	22.62	22.62	-52.80	0.00	-836.91	0.00	15.852
33	2.55	100	105	22.62	22.62	-45.19	0.00	-836.91	0.00	18.518
34	2.65	100	105	22.62	22.62	-38.18	0.00	-836.91	0.00	21.921
35	2.75	100	105	22.62	22.62	-31.75	0.00	-836.91	0.00	26.361
36	2.85	100	105	22.62	22.62	-25.90	0.00	-836.91	0.00	32.309
37	2.95	100	105	22.62	22.62	-20.64	0.00	-836.91	0.00	40.542
38	3.05	100	105	22.62	22.62	-16.35	0.00	-836.91	0.00	51.178
39	3.15	100	105	22.62	22.62	-12.91	0.00	-836.91	0.00	64.815
40	3.25	100	105	22.62	22.62	-9.88	0.00	-836.91	0.00	84.713
41	3.35	100	105	22.62	22.62	-7.25	0.00	-836.91	0.00	115.380
42	3.45	100	105	22.62	22.62	-5.03	0.00	-836.91	0.00	166.257
43	3.55	100	105	22.62	22.62	-3.22	0.00	-836.91	0.00	259.949
44	3.65	100	105	22.62	22.62	-1.81	0.00	-836.91	0.00	462.437
45	3.75	100	105	22.62	22.62	-0.80	0.00	-836.91	0.00	1041.174
46	3.85	100	105	22.62	22.62	-0.20	0.00	-836.91	0.00	4167.460
47	3.95	100	105	0.00	0.00	0.00	0.00	0.00	0.00	100000.000

Combinazione n° 3 - STR (A1-M1-R3) H + V

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
1	-1.65	100	105	22.62	22.62	0.00	0.00	0.00	0.00	100000.000
2	-1.55	100	105	22.62	22.62	1.01	0.00	836.91	0.00	831.508
3	-1.46	100	105	22.62	22.62	4.01	0.00	836.91	0.00	208.743
4	-1.36	100	105	22.62	22.62	8.98	0.00	836.91	0.00	93.163
5	-1.27	100	105	22.62	22.62	15.90	0.00	836.91	0.00	52.624
6	-1.17	100	105	22.62	22.62	24.74	0.00	836.91	0.00	33.821
7	-1.08	100	105	22.62	22.62	35.48	0.00	836.91	0.00	23.587
8	-0.98	100	105	22.62	22.62	48.09	0.00	836.91	0.00	17.403
9	-0.88	100	105	22.62	22.62	62.55	0.00	836.91	0.00	13.381
10	-0.79	100	105	22.62	22.62	78.82	0.00	836.91	0.00	10.618
11	-0.69	100	105	22.62	22.62	96.89	0.00	836.91	0.00	8.638
12	-0.60	100	105	22.62	22.62	116.73	0.00	836.91	0.00	7.169
13	-0.50	100	105	22.62	22.62	138.32	0.00	836.91	0.00	6.050
14	0.65	100	105	22.62	22.62	-223.06	0.00	-836.91	0.00	3.752
15	0.75	100	105	22.62	22.62	-214.60	0.00	-836.91	0.00	3.900
16	0.85	100	105	22.62	22.62	-205.96	0.00	-836.91	0.00	4.063
17	0.95	100	105	22.62	22.62	-197.15	0.00	-836.91	0.00	4.245
18	1.05	100	105	22.62	22.62	-188.22	0.00	-836.91	0.00	4.446
19	1.15	100	105	22.62	22.62	-179.18	0.00	-836.91	0.00	4.671
20	1.25	100	105	22.62	22.62	-170.07	0.00	-836.91	0.00	4.921
21	1.35	100	105	22.62	22.62	-160.91	0.00	-836.91	0.00	5.201
22	1.45	100	105	22.62	22.62	-151.74	0.00	-836.91	0.00	5.516
23	1.55	100	105	22.62	22.62	-142.57	0.00	-836.91	0.00	5.870
24	1.65	100	105	22.62	22.62	-133.45	0.00	-836.91	0.00	6.271
25	1.75	100	105	22.62	22.62	-124.39	0.00	-836.91	0.00	6.728
26	1.85	100	105	22.62	22.62	-115.43	0.00	-836.91	0.00	7.250
27	1.95	100	105	22.62	22.62	-106.60	0.00	-836.91	0.00	7.851
28	2.05	100	105	22.62	22.62	-97.92	0.00	-836.91	0.00	8.547
29	2.15	100	105	22.62	22.62	-89.42	0.00	-836.91	0.00	9.359
30	2.25	100	105	22.62	22.62	-81.13	0.00	-836.91	0.00	10.316
31	2.35	100	105	22.62	22.62	-73.08	0.00	-836.91	0.00	11.452
32	2.45	100	105	22.62	22.62	-65.30	0.00	-836.91	0.00	12.817
33	2.55	100	105	22.62	22.62	-57.81	0.00	-836.91	0.00	14.477
34	2.65	100	105	22.62	22.62	-50.65	0.00	-836.91	0.00	16.524
35	2.75	100	105	22.62	22.62	-43.84	0.00	-836.91	0.00	19.090
36	2.85	100	105	22.62	22.62	-37.41	0.00	-836.91	0.00	22.370
37	2.95	100	105	22.62	22.62	-31.39	0.00	-836.91	0.00	26.659
38	3.05	100	105	22.62	22.62	-25.81	0.00	-836.91	0.00	32.422
39	3.15	100	105	22.62	22.62	-20.70	0.00	-836.91	0.00	40.433
40	3.25	100	105	22.62	22.62	-16.08	0.00	-836.91	0.00	52.047
41	3.35	100	105	22.62	22.62	-11.98	0.00	-836.91	0.00	69.832
42	3.45	100	105	22.62	22.62	-8.44	0.00	-836.91	0.00	99.145
43	3.55	100	105	22.62	22.62	-5.48	0.00	-836.91	0.00	152.769
44	3.65	100	105	22.62	22.62	-3.12	0.00	-836.91	0.00	267.877
45	3.75	100	105	22.62	22.62	-1.41	0.00	-836.91	0.00	594.599
46	3.85	100	105	22.62	22.62	-0.36	0.00	-836.91	0.00	2346.759
47	3.95	100	105	0.00	0.00	0.00	0.00	0.00	0.00	100000.000

Combinazione n° 4 - STR (A1-M1-R3) H - V

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
1	-1.65	100	105	22.62	22.62	0.00	0.00	0.00	0.00	100000.000
2	-1.55	100	105	22.62	22.62	0.92	0.00	836.91	0.00	914.074
3	-1.46	100	105	22.62	22.62	3.65	0.00	836.91	0.00	229.541
4	-1.36	100	105	22.62	22.62	8.17	0.00	836.91	0.00	102.477
5	-1.27	100	105	22.62	22.62	14.45	0.00	836.91	0.00	57.904
6	-1.17	100	105	22.62	22.62	22.48	0.00	836.91	0.00	37.227
7	-1.08	100	105	22.62	22.62	32.23	0.00	836.91	0.00	25.970
8	-0.98	100	105	22.62	22.62	43.66	0.00	836.91	0.00	19.167
9	-0.88	100	105	22.62	22.62	56.77	0.00	836.91	0.00	14.742
10	-0.79	100	105	22.62	22.62	71.52	0.00	836.91	0.00	11.702
11	-0.69	100	105	22.62	22.62	87.89	0.00	836.91	0.00	9.523
12	-0.60	100	105	22.62	22.62	105.85	0.00	836.91	0.00	7.907
13	-0.50	100	105	22.62	22.62	125.38	0.00	836.91	0.00	6.675
14	0.65	100	105	22.62	22.62	-315.11	0.00	-836.91	0.00	2.656
15	0.75	100	105	22.62	22.62	-301.05	0.00	-836.91	0.00	2.780
16	0.85	100	105	22.62	22.62	-286.98	0.00	-836.91	0.00	2.916
17	0.95	100	105	22.62	22.62	-272.94	0.00	-836.91	0.00	3.066
18	1.05	100	105	22.62	22.62	-258.95	0.00	-836.91	0.00	3.232
19	1.15	100	105	22.62	22.62	-245.03	0.00	-836.91	0.00	3.416
20	1.25	100	105	22.62	22.62	-231.22	0.00	-836.91	0.00	3.620
21	1.35	100	105	22.62	22.62	-217.54	0.00	-836.91	0.00	3.847
22	1.45	100	105	22.62	22.62	-204.03	0.00	-836.91	0.00	4.102
23	1.55	100	105	22.62	22.62	-190.70	0.00	-836.91	0.00	4.389
24	1.65	100	105	22.62	22.62	-177.59	0.00	-836.91	0.00	4.712
25	1.75	100	105	22.62	22.62	-164.73	0.00	-836.91	0.00	5.080
26	1.85	100	105	22.62	22.62	-152.14	0.00	-836.91	0.00	5.501
27	1.95	100	105	22.62	22.62	-139.85	0.00	-836.91	0.00	5.984
28	2.05	100	105	22.62	22.62	-127.89	0.00	-836.91	0.00	6.544
29	2.15	100	105	22.62	22.62	-116.28	0.00	-836.91	0.00	7.197
30	2.25	100	105	22.62	22.62	-105.06	0.00	-836.91	0.00	7.966
31	2.35	100	105	22.62	22.62	-94.25	0.00	-836.91	0.00	8.880
32	2.45	100	105	22.62	22.62	-83.88	0.00	-836.91	0.00	9.977
33	2.55	100	105	22.62	22.62	-73.98	0.00	-836.91	0.00	11.313
34	2.65	100	105	22.62	22.62	-64.57	0.00	-836.91	0.00	12.961
35	2.75	100	105	22.62	22.62	-55.69	0.00	-836.91	0.00	15.029
36	2.85	100	105	22.62	22.62	-47.35	0.00	-836.91	0.00	17.674
37	2.95	100	105	22.62	22.62	-39.60	0.00	-836.91	0.00	21.135
38	3.05	100	105	22.62	22.62	-32.45	0.00	-836.91	0.00	25.791
39	3.15	100	105	22.62	22.62	-25.94	0.00	-836.91	0.00	32.268
40	3.25	100	105	22.62	22.62	-20.08	0.00	-836.91	0.00	41.670
41	3.35	100	105	22.62	22.62	-14.92	0.00	-836.91	0.00	56.083
42	3.45	100	105	22.62	22.62	-10.48	0.00	-836.91	0.00	79.866
43	3.55	100	105	22.62	22.62	-6.78	0.00	-836.91	0.00	123.425
44	3.65	100	105	22.62	22.62	-3.86	0.00	-836.91	0.00	217.048
45	3.75	100	105	22.62	22.62	-1.73	0.00	-836.91	0.00	483.131
46	3.85	100	105	22.62	22.62	-0.44	0.00	-836.91	0.00	1912.057
47	3.95	100	105	0.00	0.00	0.00	0.00	0.00	0.00	100000.000

Combinazione n° 9 - ECC

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
1	-1.65	100	105	22.62	22.62	0.00	0.00	0.00	0.00	100000.000
2	-1.55	100	105	22.62	22.62	0.64	0.00	967.35	0.00	1515.740
3	-1.46	100	105	22.62	22.62	2.55	0.00	967.35	0.00	379.279
4	-1.36	100	105	22.62	22.62	5.73	0.00	967.35	0.00	168.721
5	-1.27	100	105	22.62	22.62	10.18	0.00	967.35	0.00	94.992
6	-1.17	100	105	22.62	22.62	15.90	0.00	967.35	0.00	60.850
7	-1.08	100	105	22.62	22.62	22.87	0.00	967.35	0.00	42.295
8	-0.98	100	105	22.62	22.62	31.10	0.00	967.35	0.00	31.103
9	-0.88	100	105	22.62	22.62	40.59	0.00	967.35	0.00	23.835
10	-0.79	100	105	22.62	22.62	51.32	0.00	967.35	0.00	18.849
11	-0.69	100	105	22.62	22.62	63.30	0.00	967.35	0.00	15.282
12	-0.60	100	105	22.62	22.62	76.52	0.00	967.35	0.00	12.641
13	-0.50	100	105	22.62	22.62	90.99	0.00	967.35	0.00	10.632
14	0.65	100	105	22.62	22.62	-63.32	0.00	-967.35	0.00	15.278
15	0.75	100	105	22.62	22.62	-60.21	0.00	-967.35	0.00	16.066
16	0.85	100	105	22.62	22.62	-57.14	0.00	-967.35	0.00	16.930
17	0.95	100	105	22.62	22.62	-54.10	0.00	-967.35	0.00	17.880
18	1.05	100	105	22.62	22.62	-51.11	0.00	-967.35	0.00	18.927
19	1.15	100	105	22.62	22.62	-48.16	0.00	-967.35	0.00	20.086
20	1.25	100	105	22.62	22.62	-45.26	0.00	-967.35	0.00	21.373
21	1.35	100	105	22.62	22.62	-42.41	0.00	-967.35	0.00	22.807
22	1.45	100	105	22.62	22.62	-39.62	0.00	-967.35	0.00	24.413
23	1.55	100	105	22.62	22.62	-36.90	0.00	-967.35	0.00	26.218
24	1.65	100	105	22.62	22.62	-34.23	0.00	-967.35	0.00	28.258
25	1.75	100	105	22.62	22.62	-31.64	0.00	-967.35	0.00	30.574
26	1.85	100	105	22.62	22.62	-29.12	0.00	-967.35	0.00	33.222
27	1.95	100	105	22.62	22.62	-26.67	0.00	-967.35	0.00	36.266
28	2.05	100	105	22.62	22.62	-24.31	0.00	-967.35	0.00	39.792
29	2.15	100	105	22.62	22.62	-22.03	0.00	-967.35	0.00	43.908

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
30	2.25	100	105	22.62	22.62	-19.84	0.00	-967.35	0.00	48.754
31	2.35	100	105	22.62	22.62	-17.74	0.00	-967.35	0.00	54.517
32	2.45	100	105	22.62	22.62	-15.74	0.00	-967.35	0.00	61.446
33	2.55	100	105	22.62	22.62	-13.84	0.00	-967.35	0.00	69.882
34	2.65	100	105	22.62	22.62	-12.05	0.00	-967.35	0.00	80.299
35	2.75	100	105	22.62	22.62	-10.36	0.00	-967.35	0.00	93.380
36	2.85	100	105	22.62	22.62	-8.78	0.00	-967.35	0.00	110.124
37	2.95	100	105	22.62	22.62	-7.33	0.00	-967.35	0.00	132.055
38	3.05	100	105	22.62	22.62	-5.99	0.00	-967.35	0.00	161.582
39	3.15	100	105	22.62	22.62	-4.77	0.00	-967.35	0.00	202.700
40	3.25	100	105	22.62	22.62	-3.69	0.00	-967.35	0.00	262.439
41	3.35	100	105	22.62	22.62	-2.73	0.00	-967.35	0.00	354.116
42	3.45	100	105	22.62	22.62	-1.91	0.00	-967.35	0.00	505.550
43	3.55	100	105	22.62	22.62	-1.24	0.00	-967.35	0.00	783.199
44	3.65	100	105	22.62	22.62	-0.70	0.00	-967.35	0.00	1380.605
45	3.75	100	105	22.62	22.62	-0.31	0.00	-967.35	0.00	3080.367
46	3.85	100	105	22.62	22.62	-0.08	0.00	-967.35	0.00	12219.218
47	3.95	100	105	0.00	0.00	0.00	0.00	0.00	0.00	100000.000

Verifiche a taglio

Simbologia adottata

n° (o Is)	indice sezione
Y	ordinata sezione espressa in [m]
B	larghezza sezione espresso in [cm]
H	altezza sezione espressa in [cm]
A_{sw}	area ferri a taglio espresso in [cmq]
cotgθ	inclinazione delle bielle compresse, θ inclinazione dei puntoni di calcestruzzo
V_{Rcd}	resistenza di progetto a 'taglio compressione' espressa in [kN]
V_{Rsd}	resistenza di progetto a 'taglio trazione' espressa in [kN]
V_{Rd}	resistenza di progetto a taglio espresso in [kN]. Per elementi con armature trasversali resistenti al taglio (A_{sw}>0.0) V_{Rd}=min(V_{Rcd}, V_{Rsd}).
T	taglio agente espressa in [kN]
FS	fattore di sicurezza (rapporto tra sollecitazione resistente e sollecitazione agente)

Paramento

Combinazione n° 1 - STR (A1-M1-R3)

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
1	0.00	100	50	0.00	0.00	--	0.00	0.00	256.71	0.00	100.000
2	-0.10	100	51	0.00	0.00	--	0.00	0.00	259.30	0.03	8278.047
3	-0.20	100	52	0.00	0.00	--	0.00	0.00	261.87	0.13	2090.057
4	-0.30	100	53	0.00	0.00	--	0.00	0.00	264.43	0.28	940.416
5	-0.39	100	54	0.00	0.00	--	0.00	0.00	266.98	0.50	535.898
6	-0.49	100	55	0.00	0.00	--	0.00	0.00	269.51	0.78	347.019
7	-0.59	100	55	0.00	0.00	--	0.00	0.00	272.02	1.12	243.539
8	-0.69	100	56	0.00	0.00	--	0.00	0.00	274.53	1.52	180.709
9	-0.79	100	57	0.00	0.00	--	0.00	0.00	277.02	1.98	139.679
10	-0.89	100	58	0.00	0.00	--	0.00	0.00	279.50	2.51	111.388
11	-0.99	100	59	0.00	0.00	--	0.00	0.00	281.96	3.10	91.042
12	-1.08	100	60	0.00	0.00	--	0.00	0.00	284.42	3.75	75.910
13	-1.18	100	61	0.00	0.00	--	0.00	0.00	286.86	4.46	64.342
14	-1.28	100	62	0.00	0.00	--	0.00	0.00	289.29	5.23	55.295
15	-1.38	100	63	0.00	0.00	--	0.00	0.00	291.71	6.07	48.081
16	-1.48	100	64	0.00	0.00	--	0.00	0.00	294.12	6.96	42.233
17	-1.58	100	65	0.00	0.00	--	0.00	0.00	296.52	7.92	37.424
18	-1.68	100	66	0.00	0.00	--	0.00	0.00	298.92	8.94	33.419
19	-1.77	100	66	0.00	0.00	--	0.00	0.00	301.30	10.03	30.048
20	-1.87	100	67	0.00	0.00	--	0.00	0.00	303.67	11.17	27.181

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
21	-1.97	100	68	0.00	0.00	--	0.00	0.00	306.04	12.38	24.723
22	-2.07	100	69	0.00	0.00	--	0.00	0.00	308.39	13.65	22.597
23	-2.17	100	70	0.00	0.00	--	0.00	0.00	310.74	14.98	20.747
24	-2.27	100	71	0.00	0.00	--	0.00	0.00	313.08	16.37	19.125
25	-2.37	100	72	0.00	0.00	--	0.00	0.00	315.41	17.82	17.696
26	-2.46	100	73	0.00	0.00	--	0.00	0.00	317.73	19.34	16.429
27	-2.56	100	74	0.00	0.00	--	0.00	0.00	320.05	20.92	15.300
28	-2.66	100	75	0.00	0.00	--	0.00	0.00	322.36	22.56	14.290
29	-2.76	100	76	0.00	0.00	--	0.00	0.00	324.66	24.26	13.383
30	-2.86	100	77	0.00	0.00	--	0.00	0.00	326.95	26.02	12.564
31	-2.96	100	77	0.00	0.00	--	0.00	0.00	329.24	27.85	11.823
32	-3.06	100	78	0.00	0.00	--	0.00	0.00	331.52	29.74	11.149
33	-3.15	100	79	0.00	0.00	--	0.00	0.00	333.80	31.68	10.535
34	-3.25	100	80	0.00	0.00	--	0.00	0.00	336.07	33.70	9.974
35	-3.35	100	81	0.00	0.00	--	0.00	0.00	407.49	35.77	11.392
36	-3.45	100	82	0.00	0.00	--	0.00	0.00	410.16	37.90	10.821
37	-3.55	100	83	0.00	0.00	--	0.00	0.00	412.82	40.10	10.295
38	-3.65	100	84	0.00	0.00	--	0.00	0.00	415.48	42.36	9.809
39	-3.75	100	85	0.00	0.00	--	0.00	0.00	418.12	44.68	9.358
40	-3.85	100	86	0.00	0.00	--	0.00	0.00	420.76	47.06	8.941
41	-3.94	100	87	0.00	0.00	--	0.00	0.00	423.40	49.51	8.553
42	-4.04	100	87	0.00	0.00	--	0.00	0.00	426.03	52.01	8.191
43	-4.14	100	88	0.00	0.00	--	0.00	0.00	428.65	54.58	7.854
44	-4.24	100	89	0.00	0.00	--	0.00	0.00	431.26	57.21	7.538
45	-4.34	100	90	0.00	0.00	--	0.00	0.00	433.87	59.90	7.243
46	-4.44	100	91	0.00	0.00	--	0.00	0.00	465.27	62.65	7.426
47	-4.54	100	92	0.00	0.00	--	0.00	0.00	468.02	65.47	7.149
48	-4.63	100	93	0.00	0.00	--	0.00	0.00	470.76	68.35	6.888
49	-4.73	100	94	0.00	0.00	--	0.00	0.00	473.50	71.29	6.642
50	-4.83	100	95	0.00	0.00	--	0.00	0.00	476.23	74.29	6.411
51	-4.93	100	96	0.00	0.00	--	0.00	0.00	478.96	77.35	6.192
52	-5.03	100	97	0.00	0.00	--	0.00	0.00	481.67	80.47	5.985
53	-5.13	100	98	0.00	0.00	--	0.00	0.00	484.39	83.66	5.790
54	-5.23	100	98	0.00	0.00	--	0.00	0.00	487.10	86.91	5.605
55	-5.32	100	99	0.00	0.00	--	0.00	0.00	489.80	90.22	5.429
56	-5.42	100	100	0.00	0.00	--	0.00	0.00	492.50	93.59	5.262
57	-5.52	100	101	0.00	0.00	--	0.00	0.00	495.19	97.03	5.104
58	-5.62	100	102	0.00	0.00	--	0.00	0.00	497.88	100.52	4.953
59	-5.72	100	103	0.00	0.00	--	0.00	0.00	500.56	104.08	4.809
60	-5.82	100	104	0.00	0.00	--	0.00	0.00	503.24	107.70	4.673
61	-5.92	100	105	0.00	0.00	--	0.00	0.00	505.91	111.38	4.542
62	-6.01	100	106	0.00	0.00	--	0.00	0.00	508.58	115.13	4.418
63	-6.11	100	107	0.00	0.00	--	0.00	0.00	511.24	118.93	4.299
64	-6.21	100	108	0.00	0.00	--	0.00	0.00	420.74	122.80	3.426
65	-6.31	100	109	0.00	0.00	--	0.00	0.00	422.97	126.73	3.338
66	-6.41	100	109	0.00	0.00	--	0.00	0.00	425.20	130.72	3.253
67	-6.51	100	110	0.00	0.00	--	0.00	0.00	427.42	134.77	3.171
68	-6.61	100	111	0.00	0.00	--	0.00	0.00	429.64	138.89	3.093
69	-6.70	100	112	0.00	0.00	--	0.00	0.00	431.86	143.06	3.019
70	-6.80	100	113	0.00	0.00	--	0.00	0.00	434.08	147.30	2.947
71	-6.90	100	114	0.00	0.00	--	0.00	0.00	436.29	151.60	2.878
72	-6.99	100	115	0.00	0.00	--	0.00	0.00	438.32	155.97	2.810

Combinazione n° 2 - STR (A1-M1-R3)

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
1	0.00	100	50	0.00	0.00	--	0.00	0.00	256.71	0.00	100.000
2	-0.10	100	51	0.00	0.00	--	0.00	0.00	259.30	0.97	267.482
3	-0.20	100	52	0.00	0.00	--	0.00	0.00	261.87	2.00	130.840
4	-0.30	100	53	0.00	0.00	--	0.00	0.00	264.43	3.10	85.425
5	-0.39	100	54	0.00	0.00	--	0.00	0.00	266.98	4.25	62.809
6	-0.49	100	55	0.00	0.00	--	0.00	0.00	269.51	5.47	49.296
7	-0.59	100	55	0.00	0.00	--	0.00	0.00	272.02	6.75	40.326
8	-0.69	100	56	0.00	0.00	--	0.00	0.00	274.53	8.09	33.951
9	-0.79	100	57	0.00	0.00	--	0.00	0.00	277.02	9.49	29.196
10	-0.89	100	58	0.00	0.00	--	0.00	0.00	279.50	10.95	25.520
11	-0.99	100	59	0.00	0.00	--	0.00	0.00	281.96	12.48	22.596
12	-1.08	100	60	0.00	0.00	--	0.00	0.00	284.42	14.07	20.220
13	-1.18	100	61	0.00	0.00	--	0.00	0.00	286.86	15.72	18.253
14	-1.28	100	62	0.00	0.00	--	0.00	0.00	289.29	17.43	16.600
15	-1.38	100	63	0.00	0.00	--	0.00	0.00	291.71	19.20	15.193
16	-1.48	100	64	0.00	0.00	--	0.00	0.00	294.12	21.04	13.982
17	-1.58	100	65	0.00	0.00	--	0.00	0.00	296.52	22.93	12.930
18	-1.68	100	66	0.00	0.00	--	0.00	0.00	298.92	24.89	12.008
19	-1.77	100	66	0.00	0.00	--	0.00	0.00	301.30	26.91	11.195
20	-1.87	100	67	0.00	0.00	--	0.00	0.00	303.67	29.00	10.473
21	-1.97	100	68	0.00	0.00	--	0.00	0.00	306.04	31.14	9.827
22	-2.07	100	69	0.00	0.00	--	0.00	0.00	308.39	33.35	9.248
23	-2.17	100	70	0.00	0.00	--	0.00	0.00	310.74	35.62	8.725
24	-2.27	100	71	0.00	0.00	--	0.00	0.00	313.08	37.95	8.251
25	-2.37	100	72	0.00	0.00	--	0.00	0.00	315.41	40.34	7.819

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
26	-2.46	100	73	0.00	0.00	--	0.00	0.00	317.73	42.79	7.425
27	-2.56	100	74	0.00	0.00	--	0.00	0.00	320.05	45.31	7.064
28	-2.66	100	75	0.00	0.00	--	0.00	0.00	322.36	47.89	6.732
29	-2.76	100	76	0.00	0.00	--	0.00	0.00	324.66	50.53	6.426
30	-2.86	100	77	0.00	0.00	--	0.00	0.00	326.95	53.23	6.142
31	-2.96	100	77	0.00	0.00	--	0.00	0.00	329.24	55.99	5.880
32	-3.06	100	78	0.00	0.00	--	0.00	0.00	331.52	58.82	5.637
33	-3.15	100	79	0.00	0.00	--	0.00	0.00	333.80	61.70	5.410
34	-3.25	100	80	0.00	0.00	--	0.00	0.00	336.07	64.65	5.198
35	-3.35	100	81	0.00	0.00	--	0.00	0.00	407.49	67.66	6.022
36	-3.45	100	82	0.00	0.00	--	0.00	0.00	410.16	70.74	5.798
37	-3.55	100	83	0.00	0.00	--	0.00	0.00	412.82	73.87	5.588
38	-3.65	100	84	0.00	0.00	--	0.00	0.00	415.48	77.07	5.391
39	-3.75	100	85	0.00	0.00	--	0.00	0.00	418.12	80.33	5.205
40	-3.85	100	86	0.00	0.00	--	0.00	0.00	420.76	83.65	5.030
41	-3.94	100	87	0.00	0.00	--	0.00	0.00	423.40	87.03	4.865
42	-4.04	100	87	0.00	0.00	--	0.00	0.00	426.03	90.47	4.709
43	-4.14	100	88	0.00	0.00	--	0.00	0.00	428.65	93.98	4.561
44	-4.24	100	89	0.00	0.00	--	0.00	0.00	431.26	97.55	4.421
45	-4.34	100	90	0.00	0.00	--	0.00	0.00	433.87	101.18	4.288
46	-4.44	100	91	0.00	0.00	--	0.00	0.00	465.27	104.87	4.437
47	-4.54	100	92	0.00	0.00	--	0.00	0.00	468.02	108.61	4.309
48	-4.63	100	93	0.00	0.00	--	0.00	0.00	470.76	112.39	4.189
49	-4.73	100	94	0.00	0.00	--	0.00	0.00	473.50	116.19	4.075
50	-4.83	100	95	0.00	0.00	--	0.00	0.00	476.23	119.99	3.969
51	-4.93	100	96	0.00	0.00	--	0.00	0.00	478.96	123.79	3.869
52	-5.03	100	97	0.00	0.00	--	0.00	0.00	481.67	127.57	3.776
53	-5.13	100	98	0.00	0.00	--	0.00	0.00	484.39	131.35	3.688
54	-5.23	100	98	0.00	0.00	--	0.00	0.00	487.10	135.14	3.604
55	-5.32	100	99	0.00	0.00	--	0.00	0.00	489.80	138.95	3.525
56	-5.42	100	100	0.00	0.00	--	0.00	0.00	492.50	142.81	3.449
57	-5.52	100	101	0.00	0.00	--	0.00	0.00	495.19	146.72	3.375
58	-5.62	100	102	0.00	0.00	--	0.00	0.00	497.88	150.69	3.304
59	-5.72	100	103	0.00	0.00	--	0.00	0.00	500.56	154.73	3.235
60	-5.82	100	104	0.00	0.00	--	0.00	0.00	503.24	158.83	3.168
61	-5.92	100	105	0.00	0.00	--	0.00	0.00	505.91	162.99	3.104
62	-6.01	100	106	0.00	0.00	--	0.00	0.00	508.58	167.22	3.041
63	-6.11	100	107	0.00	0.00	--	0.00	0.00	511.24	171.51	2.981
64	-6.21	100	108	0.00	0.00	--	0.00	0.00	420.74	175.86	2.392
65	-6.31	100	109	0.00	0.00	--	0.00	0.00	422.97	180.28	2.346
66	-6.41	100	109	0.00	0.00	--	0.00	0.00	425.20	184.76	2.301
67	-6.51	100	110	0.00	0.00	--	0.00	0.00	427.42	189.30	2.258
68	-6.61	100	111	0.00	0.00	--	0.00	0.00	429.64	193.91	2.216
69	-6.70	100	112	0.00	0.00	--	0.00	0.00	431.86	198.57	2.175
70	-6.80	100	113	0.00	0.00	--	0.00	0.00	434.08	203.30	2.135
71	-6.90	100	114	0.00	0.00	--	0.00	0.00	436.29	208.10	2.097
72	-6.99	100	115	0.00	0.00	--	0.00	0.00	438.32	212.95	2.058

Combinazione n° 3 - STR (A1-M1-R3) H + V

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
1	0.00	100	50	0.00	0.00	--	0.00	0.00	256.74	0.00	100.000
2	-0.10	100	51	0.00	0.00	--	0.00	0.00	259.34	0.74	351.127
3	-0.20	100	52	0.00	0.00	--	0.00	0.00	261.92	1.53	171.605
4	-0.30	100	53	0.00	0.00	--	0.00	0.00	264.49	2.36	111.948
5	-0.39	100	54	0.00	0.00	--	0.00	0.00	267.05	3.25	82.246
6	-0.49	100	55	0.00	0.00	--	0.00	0.00	269.59	4.18	64.503
7	-0.59	100	55	0.00	0.00	--	0.00	0.00	272.11	5.16	52.730
8	-0.69	100	56	0.00	0.00	--	0.00	0.00	274.63	6.19	44.365
9	-0.79	100	57	0.00	0.00	--	0.00	0.00	277.13	7.27	38.128
10	-0.89	100	58	0.00	0.00	--	0.00	0.00	279.62	8.40	33.307
11	-0.99	100	59	0.00	0.00	--	0.00	0.00	282.10	9.57	29.476
12	-1.08	100	60	0.00	0.00	--	0.00	0.00	284.57	10.79	26.362
13	-1.18	100	61	0.00	0.00	--	0.00	0.00	287.02	12.07	23.786
14	-1.28	100	62	0.00	0.00	--	0.00	0.00	289.47	13.39	21.621
15	-1.38	100	63	0.00	0.00	--	0.00	0.00	291.90	14.76	19.780
16	-1.48	100	64	0.00	0.00	--	0.00	0.00	294.33	16.18	18.195
17	-1.58	100	65	0.00	0.00	--	0.00	0.00	296.74	17.64	16.820
18	-1.68	100	66	0.00	0.00	--	0.00	0.00	299.15	19.16	15.615
19	-1.77	100	66	0.00	0.00	--	0.00	0.00	301.54	20.72	14.552
20	-1.87	100	67	0.00	0.00	--	0.00	0.00	303.93	22.33	13.608
21	-1.97	100	68	0.00	0.00	--	0.00	0.00	306.31	24.00	12.765
22	-2.07	100	69	0.00	0.00	--	0.00	0.00	308.68	25.70	12.009
23	-2.17	100	70	0.00	0.00	--	0.00	0.00	311.04	27.46	11.326
24	-2.27	100	71	0.00	0.00	--	0.00	0.00	313.39	29.27	10.707
25	-2.37	100	72	0.00	0.00	--	0.00	0.00	315.74	31.12	10.144
26	-2.46	100	73	0.00	0.00	--	0.00	0.00	318.08	33.03	9.630
27	-2.56	100	74	0.00	0.00	--	0.00	0.00	320.41	34.98	9.160
28	-2.66	100	75	0.00	0.00	--	0.00	0.00	322.73	36.98	8.727
29	-2.76	100	76	0.00	0.00	--	0.00	0.00	325.05	39.03	8.328
30	-2.86	100	77	0.00	0.00	--	0.00	0.00	327.36	41.13	7.959

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
31	-2.96	100	77	0.00	0.00	--	0.00	0.00	329.67	43.28	7.618
32	-3.06	100	78	0.00	0.00	--	0.00	0.00	331.97	45.47	7.301
33	-3.15	100	79	0.00	0.00	--	0.00	0.00	334.26	47.71	7.005
34	-3.25	100	80	0.00	0.00	--	0.00	0.00	336.54	50.01	6.730
35	-3.35	100	81	0.00	0.00	--	0.00	0.00	407.98	52.35	7.794
36	-3.45	100	82	0.00	0.00	--	0.00	0.00	410.67	54.74	7.503
37	-3.55	100	83	0.00	0.00	--	0.00	0.00	413.35	57.18	7.230
38	-3.65	100	84	0.00	0.00	--	0.00	0.00	416.02	59.66	6.973
39	-3.75	100	85	0.00	0.00	--	0.00	0.00	418.69	62.20	6.732
40	-3.85	100	86	0.00	0.00	--	0.00	0.00	421.35	64.78	6.504
41	-3.94	100	87	0.00	0.00	--	0.00	0.00	424.00	67.41	6.290
42	-4.04	100	87	0.00	0.00	--	0.00	0.00	426.65	70.09	6.087
43	-4.14	100	88	0.00	0.00	--	0.00	0.00	429.29	72.82	5.895
44	-4.24	100	89	0.00	0.00	--	0.00	0.00	431.92	75.60	5.713
45	-4.34	100	90	0.00	0.00	--	0.00	0.00	434.55	78.43	5.541
46	-4.44	100	91	0.00	0.00	--	0.00	0.00	465.97	81.30	5.731
47	-4.54	100	92	0.00	0.00	--	0.00	0.00	468.74	84.23	5.565
48	-4.63	100	93	0.00	0.00	--	0.00	0.00	471.50	87.20	5.407
49	-4.73	100	94	0.00	0.00	--	0.00	0.00	474.26	90.22	5.257
50	-4.83	100	95	0.00	0.00	--	0.00	0.00	477.01	93.29	5.113
51	-4.93	100	96	0.00	0.00	--	0.00	0.00	479.75	96.41	4.976
52	-5.03	100	97	0.00	0.00	--	0.00	0.00	482.49	99.57	4.846
53	-5.13	100	98	0.00	0.00	--	0.00	0.00	485.23	102.79	4.721
54	-5.23	100	98	0.00	0.00	--	0.00	0.00	487.96	106.05	4.601
55	-5.32	100	99	0.00	0.00	--	0.00	0.00	490.68	109.36	4.487
56	-5.42	100	100	0.00	0.00	--	0.00	0.00	493.40	112.72	4.377
57	-5.52	100	101	0.00	0.00	--	0.00	0.00	496.12	116.13	4.272
58	-5.62	100	102	0.00	0.00	--	0.00	0.00	498.83	119.59	4.171
59	-5.72	100	103	0.00	0.00	--	0.00	0.00	501.53	123.10	4.074
60	-5.82	100	104	0.00	0.00	--	0.00	0.00	504.23	126.65	3.981
61	-5.92	100	105	0.00	0.00	--	0.00	0.00	506.93	130.26	3.892
62	-6.01	100	106	0.00	0.00	--	0.00	0.00	509.62	133.91	3.806
63	-6.11	100	107	0.00	0.00	--	0.00	0.00	512.30	137.61	3.723
64	-6.21	100	108	0.00	0.00	--	0.00	0.00	421.83	141.36	2.984
65	-6.31	100	109	0.00	0.00	--	0.00	0.00	424.08	145.16	2.922
66	-6.41	100	109	0.00	0.00	--	0.00	0.00	426.33	149.00	2.861
67	-6.51	100	110	0.00	0.00	--	0.00	0.00	428.58	152.90	2.803
68	-6.61	100	111	0.00	0.00	--	0.00	0.00	430.82	156.84	2.747
69	-6.70	100	112	0.00	0.00	--	0.00	0.00	433.07	160.83	2.693
70	-6.80	100	113	0.00	0.00	--	0.00	0.00	435.31	164.87	2.640
71	-6.90	100	114	0.00	0.00	--	0.00	0.00	437.54	168.96	2.590
72	-6.99	100	115	0.00	0.00	--	0.00	0.00	439.60	173.10	2.540

Combinazione n° 4 - STR (A1-M1-R3) H - V

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
1	0.00	100	50	0.00	0.00	--	0.00	0.00	256.71	0.00	100.000
2	-0.10	100	51	0.00	0.00	--	0.00	0.00	259.29	0.55	471.920
3	-0.20	100	52	0.00	0.00	--	0.00	0.00	261.85	1.15	228.095
4	-0.30	100	53	0.00	0.00	--	0.00	0.00	264.40	1.80	147.285
5	-0.39	100	54	0.00	0.00	--	0.00	0.00	266.94	2.49	107.189
6	-0.49	100	55	0.00	0.00	--	0.00	0.00	269.45	3.23	83.326
7	-0.59	100	55	0.00	0.00	--	0.00	0.00	271.96	4.03	67.556
8	-0.69	100	56	0.00	0.00	--	0.00	0.00	274.45	4.87	56.399
9	-0.79	100	57	0.00	0.00	--	0.00	0.00	276.93	5.76	48.117
10	-0.89	100	58	0.00	0.00	--	0.00	0.00	279.40	6.69	41.745
11	-0.99	100	59	0.00	0.00	--	0.00	0.00	281.85	7.68	36.703
12	-1.08	100	60	0.00	0.00	--	0.00	0.00	284.29	8.71	32.625
13	-1.18	100	61	0.00	0.00	--	0.00	0.00	286.72	9.80	29.265
14	-1.28	100	62	0.00	0.00	--	0.00	0.00	289.14	10.93	26.456
15	-1.38	100	63	0.00	0.00	--	0.00	0.00	291.55	12.11	24.076
16	-1.48	100	64	0.00	0.00	--	0.00	0.00	293.95	13.34	22.037
17	-1.58	100	65	0.00	0.00	--	0.00	0.00	296.34	14.62	20.274
18	-1.68	100	66	0.00	0.00	--	0.00	0.00	298.71	15.94	18.737
19	-1.77	100	66	0.00	0.00	--	0.00	0.00	301.08	17.32	17.386
20	-1.87	100	67	0.00	0.00	--	0.00	0.00	303.44	18.74	16.192
21	-1.97	100	68	0.00	0.00	--	0.00	0.00	305.79	20.21	15.129
22	-2.07	100	69	0.00	0.00	--	0.00	0.00	308.13	21.73	14.178
23	-2.17	100	70	0.00	0.00	--	0.00	0.00	310.46	23.30	13.324
24	-2.27	100	71	0.00	0.00	--	0.00	0.00	312.79	24.92	12.552
25	-2.37	100	72	0.00	0.00	--	0.00	0.00	315.10	26.59	11.853
26	-2.46	100	73	0.00	0.00	--	0.00	0.00	317.41	28.30	11.216
27	-2.56	100	74	0.00	0.00	--	0.00	0.00	319.71	30.06	10.635
28	-2.66	100	75	0.00	0.00	--	0.00	0.00	322.00	31.87	10.102
29	-2.76	100	76	0.00	0.00	--	0.00	0.00	324.29	33.74	9.613
30	-2.86	100	77	0.00	0.00	--	0.00	0.00	326.57	35.64	9.162
31	-2.96	100	77	0.00	0.00	--	0.00	0.00	328.84	37.60	8.745
32	-3.06	100	78	0.00	0.00	--	0.00	0.00	331.11	39.61	8.360
33	-3.15	100	79	0.00	0.00	--	0.00	0.00	333.36	41.66	8.002
34	-3.25	100	80	0.00	0.00	--	0.00	0.00	335.62	43.77	7.669
35	-3.35	100	81	0.00	0.00	--	0.00	0.00	407.02	45.92	8.864

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
36	-3.45	100	82	0.00	0.00	--	0.00	0.00	409.67	48.12	8.514
37	-3.55	100	83	0.00	0.00	--	0.00	0.00	412.32	50.37	8.186
38	-3.65	100	84	0.00	0.00	--	0.00	0.00	414.96	52.66	7.879
39	-3.75	100	85	0.00	0.00	--	0.00	0.00	417.59	55.01	7.591
40	-3.85	100	86	0.00	0.00	--	0.00	0.00	420.21	57.40	7.320
41	-3.94	100	87	0.00	0.00	--	0.00	0.00	422.82	59.85	7.065
42	-4.04	100	87	0.00	0.00	--	0.00	0.00	425.43	62.34	6.825
43	-4.14	100	88	0.00	0.00	--	0.00	0.00	428.03	64.88	6.597
44	-4.24	100	89	0.00	0.00	--	0.00	0.00	430.63	67.47	6.383
45	-4.34	100	90	0.00	0.00	--	0.00	0.00	433.22	70.11	6.180
46	-4.44	100	91	0.00	0.00	--	0.00	0.00	464.60	72.79	6.383
47	-4.54	100	92	0.00	0.00	--	0.00	0.00	467.33	75.53	6.188
48	-4.63	100	93	0.00	0.00	--	0.00	0.00	470.05	78.31	6.003
49	-4.73	100	94	0.00	0.00	--	0.00	0.00	472.77	81.14	5.827
50	-4.83	100	95	0.00	0.00	--	0.00	0.00	475.48	84.02	5.659
51	-4.93	100	96	0.00	0.00	--	0.00	0.00	478.18	86.95	5.500
52	-5.03	100	97	0.00	0.00	--	0.00	0.00	480.88	89.93	5.348
53	-5.13	100	98	0.00	0.00	--	0.00	0.00	483.57	92.95	5.202
54	-5.23	100	98	0.00	0.00	--	0.00	0.00	486.26	96.03	5.064
55	-5.32	100	99	0.00	0.00	--	0.00	0.00	488.94	99.15	4.931
56	-5.42	100	100	0.00	0.00	--	0.00	0.00	491.62	102.32	4.805
57	-5.52	100	101	0.00	0.00	--	0.00	0.00	494.29	105.54	4.683
58	-5.62	100	102	0.00	0.00	--	0.00	0.00	496.95	108.81	4.567
59	-5.72	100	103	0.00	0.00	--	0.00	0.00	499.61	112.13	4.456
60	-5.82	100	104	0.00	0.00	--	0.00	0.00	502.27	115.49	4.349
61	-5.92	100	105	0.00	0.00	--	0.00	0.00	504.92	118.91	4.246
62	-6.01	100	106	0.00	0.00	--	0.00	0.00	507.56	122.37	4.148
63	-6.11	100	107	0.00	0.00	--	0.00	0.00	510.20	125.88	4.053
64	-6.21	100	108	0.00	0.00	--	0.00	0.00	419.68	129.44	3.242
65	-6.31	100	109	0.00	0.00	--	0.00	0.00	421.89	133.05	3.171
66	-6.41	100	109	0.00	0.00	--	0.00	0.00	424.09	136.71	3.102
67	-6.51	100	110	0.00	0.00	--	0.00	0.00	426.29	140.41	3.036
68	-6.61	100	111	0.00	0.00	--	0.00	0.00	428.49	144.17	2.972
69	-6.70	100	112	0.00	0.00	--	0.00	0.00	430.68	147.97	2.911
70	-6.80	100	113	0.00	0.00	--	0.00	0.00	432.87	151.82	2.851
71	-6.90	100	114	0.00	0.00	--	0.00	0.00	435.06	155.72	2.794
72	-6.99	100	115	0.00	0.00	--	0.00	0.00	437.06	159.67	2.737

Combinazione n° 9 - ECC

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
1	0.00	100	50	0.00	0.00	--	0.00	0.00	256.71	14.30	17.952
2	-0.10	100	51	0.00	0.00	--	0.00	0.00	259.30	14.32	18.103
3	-0.20	100	52	0.00	0.00	--	0.00	0.00	261.87	14.39	18.195
4	-0.30	100	53	0.00	0.00	--	0.00	0.00	264.43	14.51	18.226
5	-0.39	100	54	0.00	0.00	--	0.00	0.00	266.98	14.67	18.200
6	-0.49	100	55	0.00	0.00	--	0.00	0.00	269.51	14.88	18.118
7	-0.59	100	55	0.00	0.00	--	0.00	0.00	272.02	15.13	17.982
8	-0.69	100	56	0.00	0.00	--	0.00	0.00	274.53	15.43	17.797
9	-0.79	100	57	0.00	0.00	--	0.00	0.00	277.02	15.77	17.567
10	-0.89	100	58	0.00	0.00	--	0.00	0.00	279.50	16.16	17.297
11	-0.99	100	59	0.00	0.00	--	0.00	0.00	281.96	16.59	16.992
12	-1.08	100	60	0.00	0.00	--	0.00	0.00	284.42	17.08	16.657
13	-1.18	100	61	0.00	0.00	--	0.00	0.00	286.86	17.60	16.297
14	-1.28	100	62	0.00	0.00	--	0.00	0.00	289.29	18.18	15.917
15	-1.38	100	63	0.00	0.00	--	0.00	0.00	291.71	18.79	15.521
16	-1.48	100	64	0.00	0.00	--	0.00	0.00	294.12	19.46	15.115
17	-1.58	100	65	0.00	0.00	--	0.00	0.00	296.52	20.17	14.702
18	-1.68	100	66	0.00	0.00	--	0.00	0.00	298.92	20.93	14.285
19	-1.77	100	66	0.00	0.00	--	0.00	0.00	301.30	21.73	13.867
20	-1.87	100	67	0.00	0.00	--	0.00	0.00	303.67	22.58	13.451
21	-1.97	100	68	0.00	0.00	--	0.00	0.00	306.04	23.47	13.040
22	-2.07	100	69	0.00	0.00	--	0.00	0.00	308.39	24.41	12.634
23	-2.17	100	70	0.00	0.00	--	0.00	0.00	310.74	25.39	12.236
24	-2.27	100	71	0.00	0.00	--	0.00	0.00	313.08	26.43	11.847
25	-2.37	100	72	0.00	0.00	--	0.00	0.00	315.41	27.50	11.468
26	-2.46	100	73	0.00	0.00	--	0.00	0.00	317.73	28.63	11.099
27	-2.56	100	74	0.00	0.00	--	0.00	0.00	320.05	29.79	10.742
28	-2.66	100	75	0.00	0.00	--	0.00	0.00	322.36	31.01	10.395
29	-2.76	100	76	0.00	0.00	--	0.00	0.00	324.66	32.27	10.061
30	-2.86	100	77	0.00	0.00	--	0.00	0.00	326.95	33.58	9.738
31	-2.96	100	77	0.00	0.00	--	0.00	0.00	329.24	34.93	9.426
32	-3.06	100	78	0.00	0.00	--	0.00	0.00	331.52	36.33	9.126
33	-3.15	100	79	0.00	0.00	--	0.00	0.00	333.80	37.77	8.838
34	-3.25	100	80	0.00	0.00	--	0.00	0.00	336.07	39.26	8.560
35	-3.35	100	81	0.00	0.00	--	0.00	0.00	407.49	40.80	9.989
36	-3.45	100	82	0.00	0.00	--	0.00	0.00	410.16	42.38	9.679
37	-3.55	100	83	0.00	0.00	--	0.00	0.00	412.82	44.00	9.382
38	-3.65	100	84	0.00	0.00	--	0.00	0.00	415.48	45.68	9.096
39	-3.75	100	85	0.00	0.00	--	0.00	0.00	418.12	47.40	8.822
40	-3.85	100	86	0.00	0.00	--	0.00	0.00	420.76	49.16	8.559

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
41	-3.94	100	87	0.00	0.00	--	0.00	0.00	423.40	50.97	8.307
42	-4.04	100	87	0.00	0.00	--	0.00	0.00	426.03	52.83	8.065
43	-4.14	100	88	0.00	0.00	--	0.00	0.00	428.65	54.73	7.832
44	-4.24	100	89	0.00	0.00	--	0.00	0.00	431.26	56.68	7.609
45	-4.34	100	90	0.00	0.00	--	0.00	0.00	433.87	58.67	7.395
46	-4.44	100	91	0.00	0.00	--	0.00	0.00	465.27	60.71	7.664
47	-4.54	100	92	0.00	0.00	--	0.00	0.00	468.02	62.80	7.453
48	-4.63	100	93	0.00	0.00	--	0.00	0.00	470.76	64.93	7.251
49	-4.73	100	94	0.00	0.00	--	0.00	0.00	473.50	67.10	7.056
50	-4.83	100	95	0.00	0.00	--	0.00	0.00	476.23	69.33	6.869
51	-4.93	100	96	0.00	0.00	--	0.00	0.00	478.96	71.60	6.690
52	-5.03	100	97	0.00	0.00	--	0.00	0.00	481.67	73.91	6.517
53	-5.13	100	98	0.00	0.00	--	0.00	0.00	484.39	76.27	6.351
54	-5.23	100	98	0.00	0.00	--	0.00	0.00	487.10	78.68	6.191
55	-5.32	100	99	0.00	0.00	--	0.00	0.00	489.80	81.13	6.037
56	-5.42	100	100	0.00	0.00	--	0.00	0.00	492.50	83.63	5.889
57	-5.52	100	101	0.00	0.00	--	0.00	0.00	495.19	86.17	5.747
58	-5.62	100	102	0.00	0.00	--	0.00	0.00	497.88	88.76	5.609
59	-5.72	100	103	0.00	0.00	--	0.00	0.00	500.56	91.40	5.477
60	-5.82	100	104	0.00	0.00	--	0.00	0.00	503.24	94.08	5.349
61	-5.92	100	105	0.00	0.00	--	0.00	0.00	505.91	96.81	5.226
62	-6.01	100	106	0.00	0.00	--	0.00	0.00	508.58	99.58	5.107
63	-6.11	100	107	0.00	0.00	--	0.00	0.00	511.24	102.40	4.993
64	-6.21	100	108	0.00	0.00	--	0.00	0.00	420.74	105.26	3.997
65	-6.31	100	109	0.00	0.00	--	0.00	0.00	422.97	108.17	3.910
66	-6.41	100	109	0.00	0.00	--	0.00	0.00	425.20	111.13	3.826
67	-6.51	100	110	0.00	0.00	--	0.00	0.00	427.42	114.13	3.745
68	-6.61	100	111	0.00	0.00	--	0.00	0.00	429.64	117.18	3.667
69	-6.70	100	112	0.00	0.00	--	0.00	0.00	431.86	120.27	3.591
70	-6.80	100	113	0.00	0.00	--	0.00	0.00	434.08	123.41	3.517
71	-6.90	100	114	0.00	0.00	--	0.00	0.00	436.29	126.60	3.446
72	-6.99	100	115	0.00	0.00	--	0.00	0.00	438.32	129.83	3.376

Mensola valle

Combinazione n° 1 - STR (A1-M1-R3)

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
1	-0.75	100	50	0.00	0.00	--	0.00	0.00	246.17	0.00	100.000
2	-0.67	100	50	0.00	0.00	--	0.00	0.00	246.17	1.04	236.321
3	-0.58	100	50	0.00	0.00	--	0.00	0.00	246.17	2.08	118.161
4	-0.50	100	50	0.00	0.00	--	0.00	0.00	246.17	3.13	78.774
5	-0.50	100	50	0.00	0.00	--	0.00	0.00	246.17	3.13	78.774

Combinazione n° 2 - STR (A1-M1-R3)

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
1	-0.75	100	50	0.00	0.00	--	0.00	0.00	246.17	0.00	100.000
2	-0.67	100	50	0.00	0.00	--	0.00	0.00	246.17	1.04	236.321
3	-0.58	100	50	0.00	0.00	--	0.00	0.00	246.17	2.08	118.161
4	-0.50	100	50	0.00	0.00	--	0.00	0.00	246.17	3.13	78.774
5	-0.50	100	50	0.00	0.00	--	0.00	0.00	246.17	3.13	78.774

Combinazione n° 3 - STR (A1-M1-R3)_H + V

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
1	-0.75	100	50	0.00	0.00	--	0.00	0.00	246.17	0.00	100.000
2	-0.67	100	50	0.00	0.00	--	0.00	0.00	246.17	1.10	222.841
3	-0.58	100	50	0.00	0.00	--	0.00	0.00	246.17	2.21	111.420
4	-0.50	100	50	0.00	0.00	--	0.00	0.00	246.17	3.31	74.280
5	-0.50	100	50	0.00	0.00	--	0.00	0.00	246.17	3.31	74.280

Combinazione n° 4 - STR (A1-M1-R3)_H - V

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
1	-0.75	100	50	0.00	0.00	--	0.00	0.00	246.17	0.00	100.000
2	-0.67	100	50	0.00	0.00	--	0.00	0.00	246.17	1.04	236.321
3	-0.58	100	50	0.00	0.00	--	0.00	0.00	246.17	2.08	118.161
4	-0.50	100	50	0.00	0.00	--	0.00	0.00	246.17	3.13	78.774
5	-0.50	100	50	0.00	0.00	--	0.00	0.00	246.17	3.13	78.774

Combinazione n° 9 - ECC

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
1	-0.75	100	50	0.00	0.00	--	0.00	0.00	246.17	0.00	100.000
2	-0.67	100	50	0.00	0.00	--	0.00	0.00	246.17	1.04	236.321
3	-0.58	100	50	0.00	0.00	--	0.00	0.00	246.17	2.08	118.161
4	-0.50	100	50	0.00	0.00	--	0.00	0.00	246.17	3.13	78.774
5	-0.50	100	50	0.00	0.00	--	0.00	0.00	244.24	3.13	78.156

Fondazione

Combinazione n° 1 - STR (A1-M1-R3)

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
1	-1.65	100	105	0.00	0.00	--	0.00	0.00	392.11	0.00	100.000
2	-1.55	100	105	0.00	0.00	--	0.00	0.00	392.11	-12.63	31.049
3	-1.46	100	105	0.00	0.00	--	0.00	0.00	392.11	-25.26	15.524
4	-1.36	100	105	0.00	0.00	--	0.00	0.00	392.11	-37.89	10.350
5	-1.27	100	105	0.00	0.00	--	0.00	0.00	392.11	-50.52	7.762
6	-1.17	100	105	0.00	0.00	--	0.00	0.00	392.11	-63.14	6.210
7	-1.08	100	105	0.00	0.00	--	0.00	0.00	392.11	-75.77	5.175
8	-0.98	100	105	0.00	0.00	--	0.00	0.00	392.11	-88.40	4.436
9	-0.88	100	105	0.00	0.00	--	0.00	0.00	392.11	-101.03	3.881
10	-0.79	100	105	0.00	0.00	--	0.00	0.00	392.11	-113.66	3.450
11	-0.69	100	105	0.00	0.00	--	0.00	0.00	392.11	-126.29	3.105
12	-0.60	100	105	0.00	0.00	--	0.00	0.00	392.11	-138.92	2.823
13	-0.50	100	105	0.00	0.00	--	0.00	0.00	392.11	-151.55	2.587
14	0.65	100	105	0.00	0.00	--	0.00	0.00	392.11	-157.57	2.489
15	0.75	100	105	0.00	0.00	--	0.00	0.00	392.11	-152.79	2.566
16	0.85	100	105	0.00	0.00	--	0.00	0.00	392.11	-148.02	2.649
17	0.95	100	105	0.00	0.00	--	0.00	0.00	392.11	-143.24	2.737
18	1.05	100	105	0.00	0.00	--	0.00	0.00	392.11	-138.46	2.832
19	1.15	100	105	0.00	0.00	--	0.00	0.00	392.11	-133.69	2.933
20	1.25	100	105	0.00	0.00	--	0.00	0.00	392.11	-128.91	3.042
21	1.35	100	105	0.00	0.00	--	0.00	0.00	392.11	-124.14	3.159
22	1.45	100	105	0.00	0.00	--	0.00	0.00	392.11	-119.36	3.285
23	1.55	100	105	0.00	0.00	--	0.00	0.00	392.11	-114.59	3.422
24	1.65	100	105	0.00	0.00	--	0.00	0.00	392.11	-109.81	3.571
25	1.75	100	105	0.00	0.00	--	0.00	0.00	392.11	-105.04	3.733
26	1.85	100	105	0.00	0.00	--	0.00	0.00	392.11	-100.26	3.911
27	1.95	100	105	0.00	0.00	--	0.00	0.00	392.11	-95.49	4.106
28	2.05	100	105	0.00	0.00	--	0.00	0.00	392.11	-90.71	4.323
29	2.15	100	105	0.00	0.00	--	0.00	0.00	392.11	-85.94	4.563
30	2.25	100	105	0.00	0.00	--	0.00	0.00	392.11	-81.16	4.831
31	2.35	100	105	0.00	0.00	--	0.00	0.00	392.11	-76.39	5.133
32	2.45	100	105	0.00	0.00	--	0.00	0.00	392.11	-71.61	5.475
33	2.55	100	105	0.00	0.00	--	0.00	0.00	392.11	-66.84	5.867
34	2.65	100	105	0.00	0.00	--	0.00	0.00	392.11	-62.06	6.318
35	2.75	100	105	0.00	0.00	--	0.00	0.00	392.11	-57.29	6.844
36	2.85	100	105	0.00	0.00	--	0.00	0.00	392.11	-52.52	7.467
37	2.95	100	105	0.00	0.00	--	0.00	0.00	392.11	-47.74	8.213
38	3.05	100	105	0.00	0.00	--	0.00	0.00	392.11	-42.97	9.126
39	3.15	100	105	0.00	0.00	--	0.00	0.00	392.11	-38.19	10.267
40	3.25	100	105	0.00	0.00	--	0.00	0.00	392.11	-33.42	11.734
41	3.35	100	105	0.00	0.00	--	0.00	0.00	392.11	-28.64	13.689
42	3.45	100	105	0.00	0.00	--	0.00	0.00	392.11	-23.87	16.427
43	3.55	100	105	0.00	0.00	--	0.00	0.00	392.11	-19.10	20.534
44	3.65	100	105	0.00	0.00	--	0.00	0.00	392.11	-14.32	27.379
45	3.75	100	105	0.00	0.00	--	0.00	0.00	392.11	-9.55	41.069
46	3.85	100	105	0.00	0.00	--	0.00	0.00	392.11	-4.77	82.138
47	3.95	100	105	0.00	0.00	--	0.00	0.00	307.26	0.00	100.000

Combinazione n° 2 - STR (A1-M1-R3)

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
1	-1.65	100	105	0.00	0.00	--	0.00	0.00	392.11	0.00	100.000
2	-1.55	100	105	0.00	0.00	--	0.00	0.00	392.11	-14.94	26.246
3	-1.46	100	105	0.00	0.00	--	0.00	0.00	392.11	-29.89	13.120
4	-1.36	100	105	0.00	0.00	--	0.00	0.00	392.11	-44.84	8.744
5	-1.27	100	105	0.00	0.00	--	0.00	0.00	392.11	-59.80	6.557
6	-1.17	100	105	0.00	0.00	--	0.00	0.00	392.11	-74.77	5.244
7	-1.08	100	105	0.00	0.00	--	0.00	0.00	392.11	-89.75	4.369
8	-0.98	100	105	0.00	0.00	--	0.00	0.00	392.11	-104.74	3.744
9	-0.88	100	105	0.00	0.00	--	0.00	0.00	392.11	-119.73	3.275
10	-0.79	100	105	0.00	0.00	--	0.00	0.00	392.11	-134.73	2.910
11	-0.69	100	105	0.00	0.00	--	0.00	0.00	392.11	-149.73	2.619
12	-0.60	100	105	0.00	0.00	--	0.00	0.00	392.11	-164.75	2.380
13	-0.50	100	105	0.00	0.00	--	0.00	0.00	392.11	-179.77	2.181
14	0.65	100	105	0.00	0.00	--	0.00	0.00	392.11	-177.74	2.206
15	0.75	100	105	0.00	0.00	--	0.00	0.00	392.11	-171.73	2.283
16	0.85	100	105	0.00	0.00	--	0.00	0.00	392.11	-165.72	2.366
17	0.95	100	105	0.00	0.00	--	0.00	0.00	392.11	-159.72	2.455
18	1.05	100	105	0.00	0.00	--	0.00	0.00	392.11	-153.73	2.551
19	1.15	100	105	0.00	0.00	--	0.00	0.00	392.11	-147.75	2.654
20	1.25	100	105	0.00	0.00	--	0.00	0.00	392.11	-141.77	2.766
21	1.35	100	105	0.00	0.00	--	0.00	0.00	392.11	-135.81	2.887
22	1.45	100	105	0.00	0.00	--	0.00	0.00	392.11	-129.85	3.020
23	1.55	100	105	0.00	0.00	--	0.00	0.00	392.11	-123.90	3.165
24	1.65	100	105	0.00	0.00	--	0.00	0.00	392.11	-117.95	3.324
25	1.75	100	105	0.00	0.00	--	0.00	0.00	392.11	-112.02	3.500
26	1.85	100	105	0.00	0.00	--	0.00	0.00	392.11	-106.09	3.696
27	1.95	100	105	0.00	0.00	--	0.00	0.00	392.11	-100.17	3.914
28	2.05	100	105	0.00	0.00	--	0.00	0.00	392.11	-94.26	4.160
29	2.15	100	105	0.00	0.00	--	0.00	0.00	392.11	-88.36	4.438
30	2.25	100	105	0.00	0.00	--	0.00	0.00	392.11	-82.46	4.755
31	2.35	100	105	0.00	0.00	--	0.00	0.00	392.11	-76.57	5.121
32	2.45	100	105	0.00	0.00	--	0.00	0.00	392.11	-70.70	5.547
33	2.55	100	105	0.00	0.00	--	0.00	0.00	392.11	-64.82	6.049
34	2.65	100	105	0.00	0.00	--	0.00	0.00	392.11	-58.96	6.650
35	2.75	100	105	0.00	0.00	--	0.00	0.00	392.11	-53.11	7.384
36	2.85	100	105	0.00	0.00	--	0.00	0.00	392.11	-47.26	8.297
37	2.95	100	105	0.00	0.00	--	0.00	0.00	392.11	-41.42	9.467
38	3.05	100	105	0.00	0.00	--	0.00	0.00	392.11	-36.45	10.758
39	3.15	100	105	0.00	0.00	--	0.00	0.00	392.11	-32.37	12.115
40	3.25	100	105	0.00	0.00	--	0.00	0.00	392.11	-28.29	13.859
41	3.35	100	105	0.00	0.00	--	0.00	0.00	392.11	-24.23	16.185
42	3.45	100	105	0.00	0.00	--	0.00	0.00	392.11	-20.17	19.442
43	3.55	100	105	0.00	0.00	--	0.00	0.00	392.11	-16.12	24.326
44	3.65	100	105	0.00	0.00	--	0.00	0.00	392.11	-12.08	32.467
45	3.75	100	105	0.00	0.00	--	0.00	0.00	392.11	-8.04	48.749
46	3.85	100	105	0.00	0.00	--	0.00	0.00	392.11	-4.02	97.596
47	3.95	100	105	0.00	0.00	--	0.00	0.00	307.26	0.00	100.000

Combinazione n° 3 - STR (A1-M1-R3) H + V

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
1	-1.65	100	105	0.00	0.00	--	0.00	0.00	392.11	0.00	100.000
2	-1.55	100	105	0.00	0.00	--	0.00	0.00	392.11	-20.96	18.706
3	-1.46	100	105	0.00	0.00	--	0.00	0.00	392.11	-41.66	9.412
4	-1.36	100	105	0.00	0.00	--	0.00	0.00	392.11	-62.10	6.314
5	-1.27	100	105	0.00	0.00	--	0.00	0.00	392.11	-82.28	4.766
6	-1.17	100	105	0.00	0.00	--	0.00	0.00	392.11	-102.19	3.837
7	-1.08	100	105	0.00	0.00	--	0.00	0.00	392.11	-121.85	3.218
8	-0.98	100	105	0.00	0.00	--	0.00	0.00	392.11	-141.24	2.776
9	-0.88	100	105	0.00	0.00	--	0.00	0.00	392.11	-160.37	2.445
10	-0.79	100	105	0.00	0.00	--	0.00	0.00	392.11	-179.24	2.188
11	-0.69	100	105	0.00	0.00	--	0.00	0.00	392.11	-197.85	1.982
12	-0.60	100	105	0.00	0.00	--	0.00	0.00	392.11	-216.20	1.814
13	-0.50	100	105	0.00	0.00	--	0.00	0.00	392.11	-234.29	1.674
14	0.65	100	105	0.00	0.00	--	0.00	0.00	392.11	-83.53	4.694
15	0.75	100	105	0.00	0.00	--	0.00	0.00	392.11	-85.55	4.583
16	0.85	100	105	0.00	0.00	--	0.00	0.00	392.11	-87.29	4.492
17	0.95	100	105	0.00	0.00	--	0.00	0.00	392.11	-88.74	4.418
18	1.05	100	105	0.00	0.00	--	0.00	0.00	392.11	-89.91	4.361
19	1.15	100	105	0.00	0.00	--	0.00	0.00	392.11	-90.80	4.319
20	1.25	100	105	0.00	0.00	--	0.00	0.00	392.11	-91.40	4.290
21	1.35	100	105	0.00	0.00	--	0.00	0.00	392.11	-91.71	4.276
22	1.45	100	105	0.00	0.00	--	0.00	0.00	392.11	-91.74	4.274
23	1.55	100	105	0.00	0.00	--	0.00	0.00	392.11	-91.49	4.286
24	1.65	100	105	0.00	0.00	--	0.00	0.00	392.11	-90.95	4.311
25	1.75	100	105	0.00	0.00	--	0.00	0.00	392.11	-90.12	4.351
26	1.85	100	105	0.00	0.00	--	0.00	0.00	392.11	-89.02	4.405
27	1.95	100	105	0.00	0.00	--	0.00	0.00	392.11	-87.62	4.475
28	2.05	100	105	0.00	0.00	--	0.00	0.00	392.11	-85.95	4.562
29	2.15	100	105	0.00	0.00	--	0.00	0.00	392.11	-83.98	4.669
30	2.25	100	105	0.00	0.00	--	0.00	0.00	392.11	-81.74	4.797

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
31	2.35	100	105	0.00	0.00	--	0.00	0.00	392.11	-79.21	4.950
32	2.45	100	105	0.00	0.00	--	0.00	0.00	392.11	-76.39	5.133
33	2.55	100	105	0.00	0.00	--	0.00	0.00	392.11	-73.29	5.350
34	2.65	100	105	0.00	0.00	--	0.00	0.00	392.11	-69.91	5.609
35	2.75	100	105	0.00	0.00	--	0.00	0.00	392.11	-66.24	5.920
36	2.85	100	105	0.00	0.00	--	0.00	0.00	392.11	-62.28	6.296
37	2.95	100	105	0.00	0.00	--	0.00	0.00	392.11	-58.04	6.756
38	3.05	100	105	0.00	0.00	--	0.00	0.00	392.11	-53.52	7.327
39	3.15	100	105	0.00	0.00	--	0.00	0.00	392.11	-48.71	8.050
40	3.25	100	105	0.00	0.00	--	0.00	0.00	392.11	-43.62	8.990
41	3.35	100	105	0.00	0.00	--	0.00	0.00	392.11	-38.24	10.254
42	3.45	100	105	0.00	0.00	--	0.00	0.00	392.11	-32.58	12.036
43	3.55	100	105	0.00	0.00	--	0.00	0.00	392.11	-26.63	14.723
44	3.65	100	105	0.00	0.00	--	0.00	0.00	392.11	-20.40	19.220
45	3.75	100	105	0.00	0.00	--	0.00	0.00	392.11	-13.89	28.239
46	3.85	100	105	0.00	0.00	--	0.00	0.00	392.11	-7.09	55.344
47	3.95	100	105	0.00	0.00	--	0.00	0.00	307.26	0.00	100.000

Combinazione n° 4 - STR (A1-M1-R3) H - V

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
1	-1.65	100	105	0.00	0.00	--	0.00	0.00	392.11	0.00	100.000
2	-1.55	100	105	0.00	0.00	--	0.00	0.00	392.11	-19.07	20.567
3	-1.46	100	105	0.00	0.00	--	0.00	0.00	392.11	-37.87	10.353
4	-1.36	100	105	0.00	0.00	--	0.00	0.00	392.11	-56.43	6.949
5	-1.27	100	105	0.00	0.00	--	0.00	0.00	392.11	-74.73	5.247
6	-1.17	100	105	0.00	0.00	--	0.00	0.00	392.11	-92.77	4.227
7	-1.08	100	105	0.00	0.00	--	0.00	0.00	392.11	-110.56	3.547
8	-0.98	100	105	0.00	0.00	--	0.00	0.00	392.11	-128.09	3.061
9	-0.88	100	105	0.00	0.00	--	0.00	0.00	392.11	-145.37	2.697
10	-0.79	100	105	0.00	0.00	--	0.00	0.00	392.11	-162.39	2.415
11	-0.69	100	105	0.00	0.00	--	0.00	0.00	392.11	-179.16	2.189
12	-0.60	100	105	0.00	0.00	--	0.00	0.00	392.11	-195.67	2.004
13	-0.50	100	105	0.00	0.00	--	0.00	0.00	392.11	-211.92	1.850
14	0.65	100	105	0.00	0.00	--	0.00	0.00	392.11	-140.49	2.791
15	0.75	100	105	0.00	0.00	--	0.00	0.00	392.11	-140.69	2.787
16	0.85	100	105	0.00	0.00	--	0.00	0.00	392.11	-140.60	2.789
17	0.95	100	105	0.00	0.00	--	0.00	0.00	392.11	-140.24	2.796
18	1.05	100	105	0.00	0.00	--	0.00	0.00	392.11	-139.60	2.809
19	1.15	100	105	0.00	0.00	--	0.00	0.00	392.11	-138.68	2.828
20	1.25	100	105	0.00	0.00	--	0.00	0.00	392.11	-137.48	2.852
21	1.35	100	105	0.00	0.00	--	0.00	0.00	392.11	-136.00	2.883
22	1.45	100	105	0.00	0.00	--	0.00	0.00	392.11	-134.25	2.921
23	1.55	100	105	0.00	0.00	--	0.00	0.00	392.11	-132.22	2.966
24	1.65	100	105	0.00	0.00	--	0.00	0.00	392.11	-129.91	3.018
25	1.75	100	105	0.00	0.00	--	0.00	0.00	392.11	-127.32	3.080
26	1.85	100	105	0.00	0.00	--	0.00	0.00	392.11	-124.45	3.151
27	1.95	100	105	0.00	0.00	--	0.00	0.00	392.11	-121.31	3.232
28	2.05	100	105	0.00	0.00	--	0.00	0.00	392.11	-117.88	3.326
29	2.15	100	105	0.00	0.00	--	0.00	0.00	392.11	-114.18	3.434
30	2.25	100	105	0.00	0.00	--	0.00	0.00	392.11	-110.20	3.558
31	2.35	100	105	0.00	0.00	--	0.00	0.00	392.11	-105.95	3.701
32	2.45	100	105	0.00	0.00	--	0.00	0.00	392.11	-101.41	3.867
33	2.55	100	105	0.00	0.00	--	0.00	0.00	392.11	-96.60	4.059
34	2.65	100	105	0.00	0.00	--	0.00	0.00	392.11	-91.50	4.285
35	2.75	100	105	0.00	0.00	--	0.00	0.00	392.11	-86.13	4.552
36	2.85	100	105	0.00	0.00	--	0.00	0.00	392.11	-80.49	4.872
37	2.95	100	105	0.00	0.00	--	0.00	0.00	392.11	-74.56	5.259
38	3.05	100	105	0.00	0.00	--	0.00	0.00	392.11	-68.36	5.736
39	3.15	100	105	0.00	0.00	--	0.00	0.00	392.11	-61.87	6.337
40	3.25	100	105	0.00	0.00	--	0.00	0.00	392.11	-55.11	7.115
41	3.35	100	105	0.00	0.00	--	0.00	0.00	392.11	-48.07	8.156
42	3.45	100	105	0.00	0.00	--	0.00	0.00	392.11	-40.76	9.621
43	3.55	100	105	0.00	0.00	--	0.00	0.00	392.11	-33.16	11.824
44	3.65	100	105	0.00	0.00	--	0.00	0.00	392.11	-25.29	15.506
45	3.75	100	105	0.00	0.00	--	0.00	0.00	392.11	-17.14	22.881
46	3.85	100	105	0.00	0.00	--	0.00	0.00	392.11	-8.71	45.031
47	3.95	100	105	0.00	0.00	--	0.00	0.00	307.26	0.00	100.000

Combinazione n° 9 - ECC

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
1	-1.65	100	105	0.00	0.00	--	0.00	0.00	392.11	0.00	100.000
2	-1.55	100	105	0.00	0.00	--	0.00	0.00	392.11	-13.31	29.453
3	-1.46	100	105	0.00	0.00	--	0.00	0.00	392.11	-26.59	14.747
4	-1.36	100	105	0.00	0.00	--	0.00	0.00	392.11	-39.83	9.845
5	-1.27	100	105	0.00	0.00	--	0.00	0.00	392.11	-53.03	7.394

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
6	-1.17	100	105	0.00	0.00	--	0.00	0.00	392.11	-66.20	5.923
7	-1.08	100	105	0.00	0.00	--	0.00	0.00	392.11	-79.33	4.943
8	-0.98	100	105	0.00	0.00	--	0.00	0.00	392.11	-92.43	4.242
9	-0.88	100	105	0.00	0.00	--	0.00	0.00	392.11	-105.49	3.717
10	-0.79	100	105	0.00	0.00	--	0.00	0.00	392.11	-118.51	3.309
11	-0.69	100	105	0.00	0.00	--	0.00	0.00	392.11	-131.50	2.982
12	-0.60	100	105	0.00	0.00	--	0.00	0.00	392.11	-144.45	2.714
13	-0.50	100	105	0.00	0.00	--	0.00	0.00	392.11	-157.37	2.492
14	0.65	100	105	0.00	0.00	--	0.00	0.00	392.11	-31.22	12.559
15	0.75	100	105	0.00	0.00	--	0.00	0.00	392.11	-30.91	12.688
16	0.85	100	105	0.00	0.00	--	0.00	0.00	392.11	-30.55	12.835
17	0.95	100	105	0.00	0.00	--	0.00	0.00	392.11	-30.16	13.003
18	1.05	100	105	0.00	0.00	--	0.00	0.00	392.11	-29.72	13.192
19	1.15	100	105	0.00	0.00	--	0.00	0.00	392.11	-29.25	13.406
20	1.25	100	105	0.00	0.00	--	0.00	0.00	392.11	-28.74	13.645
21	1.35	100	105	0.00	0.00	--	0.00	0.00	392.11	-28.18	13.912
22	1.45	100	105	0.00	0.00	--	0.00	0.00	392.11	-27.59	14.210
23	1.55	100	105	0.00	0.00	--	0.00	0.00	392.11	-26.96	14.543
24	1.65	100	105	0.00	0.00	--	0.00	0.00	392.11	-26.29	14.913
25	1.75	100	105	0.00	0.00	--	0.00	0.00	392.11	-25.58	15.327
26	1.85	100	105	0.00	0.00	--	0.00	0.00	392.11	-24.83	15.789
27	1.95	100	105	0.00	0.00	--	0.00	0.00	392.11	-24.05	16.307
28	2.05	100	105	0.00	0.00	--	0.00	0.00	392.11	-23.22	16.888
29	2.15	100	105	0.00	0.00	--	0.00	0.00	392.11	-22.35	17.544
30	2.25	100	105	0.00	0.00	--	0.00	0.00	392.11	-21.44	18.285
31	2.35	100	105	0.00	0.00	--	0.00	0.00	392.11	-20.50	19.129
32	2.45	100	105	0.00	0.00	--	0.00	0.00	392.11	-19.51	20.095
33	2.55	100	105	0.00	0.00	--	0.00	0.00	392.11	-18.49	21.210
34	2.65	100	105	0.00	0.00	--	0.00	0.00	392.11	-17.42	22.505
35	2.75	100	105	0.00	0.00	--	0.00	0.00	392.11	-16.32	24.027
36	2.85	100	105	0.00	0.00	--	0.00	0.00	392.11	-15.18	25.837
37	2.95	100	105	0.00	0.00	--	0.00	0.00	392.11	-13.99	28.021
38	3.05	100	105	0.00	0.00	--	0.00	0.00	392.11	-12.77	30.702
39	3.15	100	105	0.00	0.00	--	0.00	0.00	392.11	-11.51	34.066
40	3.25	100	105	0.00	0.00	--	0.00	0.00	392.11	-10.21	38.407
41	3.35	100	105	0.00	0.00	--	0.00	0.00	392.11	-8.87	44.210
42	3.45	100	105	0.00	0.00	--	0.00	0.00	392.11	-7.49	52.354
43	3.55	100	105	0.00	0.00	--	0.00	0.00	392.11	-6.07	64.593
44	3.65	100	105	0.00	0.00	--	0.00	0.00	392.11	-4.61	85.020
45	3.75	100	105	0.00	0.00	--	0.00	0.00	392.11	-3.11	125.916
46	3.85	100	105	0.00	0.00	--	0.00	0.00	392.11	-1.58	248.684
47	3.95	100	105	0.00	0.00	--	0.00	0.00	307.26	0.00	100.000

Verifica a fessurazione

Simbologia adottata

n°	indice sezione
Y	ordinata sezione espressa in [m]
B	larghezza sezione espresso in [cm]
H	altezza sezione espressa in [cm]
Af	area ferri zona tesa espresso in [cmq]
Aeff	area efficace espressa in [cmq]
M	momento agente espressa in [kNm]
Mpf	momento di formazione/apertura fessure espressa in [kNm]
ε	deformazione espresso in %
Sm	spaziatura tra le fessure espressa in [mm]
w	apertura delle fessure espressa in [mm]

Combinazioni SLEF

Paramento

Combinazione n° 11 - SLEF

Apertura limite fessure w_{lim}=0.30

n°	Y [m]	B [cm]	H [cm]	Af [cmq]	Aeff [cmq]	M [kNm]	Mpf [kNm]	ε [%]	Sm [mm]	w [mm]
1	0.00	100	50	25.13	1204.48	0.39	131.87	0.000000	0.00	0.000
2	-0.10	100	51	25.13	1228.51	0.39	136.66	0.000000	0.00	0.000
3	-0.20	100	52	25.13	1252.58	0.41	141.52	0.000000	0.00	0.000
4	-0.30	100	53	25.13	1276.69	0.44	146.48	0.000000	0.00	0.000
5	-0.39	100	54	25.13	1300.82	0.49	151.49	0.000000	0.00	0.000
6	-0.49	100	55	25.13	1324.98	0.56	156.61	0.000000	0.00	0.000
7	-0.59	100	55	25.13	1349.18	0.66	161.78	0.000000	0.00	0.000
8	-0.69	100	56	25.13	1373.40	0.79	167.04	0.000000	0.00	0.000
9	-0.79	100	57	25.13	1397.65	0.97	172.38	0.000000	0.00	0.000
10	-0.89	100	58	25.13	1421.93	1.18	177.80	0.000000	0.00	0.000
11	-0.99	100	59	25.13	1446.23	1.44	183.30	0.000000	0.00	0.000
12	-1.08	100	60	25.13	1470.56	1.76	188.87	0.000000	0.00	0.000
13	-1.18	100	61	25.13	1494.91	2.13	194.53	0.000000	0.00	0.000
14	-1.28	100	62	25.13	1500.00	2.56	200.27	0.000000	0.00	0.000
15	-1.38	100	63	25.13	1500.00	3.06	206.09	0.000000	0.00	0.000
16	-1.48	100	64	25.13	1500.00	3.63	211.98	0.000000	0.00	0.000
17	-1.58	100	65	25.13	1500.00	4.27	217.95	0.000000	0.00	0.000
18	-1.68	100	66	25.13	1500.00	4.99	224.02	0.000000	0.00	0.000
19	-1.77	100	66	25.13	1500.00	5.80	230.15	0.000000	0.00	0.000
20	-1.87	100	67	25.13	1500.00	6.70	236.36	0.000000	0.00	0.000
21	-1.97	100	68	25.13	1500.00	7.68	242.65	0.000000	0.00	0.000
22	-2.07	100	69	25.13	1500.00	8.77	249.03	0.000000	0.00	0.000
23	-2.17	100	70	25.13	1500.00	9.96	255.48	0.000000	0.00	0.000
24	-2.27	100	71	25.13	1500.00	11.26	262.02	0.000000	0.00	0.000
25	-2.37	100	72	25.13	1500.00	12.67	268.64	0.000000	0.00	0.000
26	-2.46	100	73	25.13	1500.00	14.19	275.32	0.000000	0.00	0.000
27	-2.56	100	74	25.13	1500.00	15.84	282.10	0.000000	0.00	0.000
28	-2.66	100	75	25.13	1500.00	17.61	288.95	0.000000	0.00	0.000
29	-2.76	100	76	25.13	1500.00	19.52	295.89	0.000000	0.00	0.000
30	-2.86	100	77	25.13	1500.00	21.55	302.91	0.000000	0.00	0.000
31	-2.96	100	77	25.13	1500.00	23.73	310.01	0.000000	0.00	0.000
32	-3.06	100	78	25.13	1500.00	26.05	317.19	0.000000	0.00	0.000
33	-3.15	100	79	25.13	1500.00	28.53	324.45	0.000000	0.00	0.000
34	-3.25	100	80	25.13	1500.00	31.15	331.79	0.000000	0.00	0.000
35	-3.35	100	81	40.84	1500.00	33.93	375.39	0.000000	0.00	0.000
36	-3.45	100	82	40.84	1500.00	36.88	383.45	0.000000	0.00	0.000
37	-3.55	100	83	40.84	1500.00	39.99	391.60	0.000000	0.00	0.000
38	-3.65	100	84	40.84	1500.00	43.28	399.85	0.000000	0.00	0.000
39	-3.75	100	85	40.84	1500.00	46.74	408.13	0.000000	0.00	0.000
40	-3.85	100	86	40.84	1500.00	50.38	416.53	0.000000	0.00	0.000
41	-3.94	100	87	40.84	1500.00	54.21	425.01	0.000000	0.00	0.000
42	-4.04	100	87	40.84	1500.00	58.23	433.57	0.000000	0.00	0.000
43	-4.14	100	88	40.84	1500.00	62.44	442.19	0.000000	0.00	0.000
44	-4.24	100	89	40.84	1500.00	66.86	450.93	0.000000	0.00	0.000
45	-4.34	100	90	40.84	1500.00	71.48	459.73	0.000000	0.00	0.000
46	-4.44	100	91	56.55	1500.00	76.30	497.88	0.000000	0.00	0.000
47	-4.54	100	92	56.55	1500.00	81.35	507.21	0.000000	0.00	0.000
48	-4.63	100	93	56.55	1500.00	86.60	516.65	0.000000	0.00	0.000
49	-4.73	100	94	56.55	1500.00	92.09	526.15	0.000000	0.00	0.000
50	-4.83	100	95	56.55	1500.00	97.80	535.73	0.000000	0.00	0.000
51	-4.93	100	96	56.55	1500.00	103.74	545.39	0.000000	0.00	0.000
52	-5.03	100	97	56.55	1500.00	109.92	555.17	0.000000	0.00	0.000
53	-5.13	100	98	56.55	1500.00	116.34	565.00	0.000000	0.00	0.000
54	-5.23	100	98	56.55	1500.00	123.00	574.92	0.000000	0.00	0.000
55	-5.32	100	99	56.55	1500.00	129.92	584.94	0.000000	0.00	0.000
56	-5.42	100	100	56.55	1500.00	137.09	595.02	0.000000	0.00	0.000
57	-5.52	100	101	56.55	1500.00	144.52	605.18	0.000000	0.00	0.000
58	-5.62	100	102	56.55	1500.00	152.22	615.44	0.000000	0.00	0.000
59	-5.72	100	103	56.55	1500.00	160.19	625.78	0.000000	0.00	0.000
60	-5.82	100	104	56.55	1500.00	168.42	636.20	0.000000	0.00	0.000
61	-5.92	100	105	56.55	1500.00	176.94	646.71	0.000000	0.00	0.000
62	-6.01	100	106	56.55	1500.00	185.74	657.31	0.000000	0.00	0.000
63	-6.11	100	107	56.55	1500.00	194.83	667.97	0.000000	0.00	0.000
64	-6.21	100	108	31.42	1500.00	204.21	604.30	0.000000	0.00	0.000
65	-6.31	100	109	31.42	1500.00	213.89	614.36	0.000000	0.00	0.000
66	-6.41	100	109	31.42	1500.00	223.87	624.45	0.000000	0.00	0.000
67	-6.51	100	110	31.42	1500.00	234.15	634.70	0.000000	0.00	0.000
68	-6.61	100	111	31.42	1500.00	244.75	644.99	0.000000	0.00	0.000
69	-6.70	100	112	31.42	1500.00	255.66	655.36	0.000000	0.00	0.000
70	-6.80	100	113	31.42	1500.00	266.89	665.82	0.000000	0.00	0.000
71	-6.90	100	114	31.42	1500.00	278.44	676.38	0.000000	0.00	0.000
72	-6.99	100	115	31.42	1500.00	290.33	685.97	0.000000	0.00	0.000

Mensola valle

Combinazione n° 11 - SLEF

Apertura limite fessure w_{lim}=0.30

n°	Y	B	H	Af	Aeff	M	Mpf	ε	Sm	w
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kNm]	[%]	[mm]	[mm]
1	-0.75	100	50	0.00	0.00	0.00	0.00	---	---	0.000
2	-0.67	100	50	18.10	1269.40	-0.04	-126.22	0.000000	0.00	0.000
3	-0.58	100	50	18.10	1269.40	-0.17	-126.22	0.000000	0.00	0.000
4	-0.50	100	50	18.10	1269.40	-0.39	-126.22	0.000000	0.00	0.000
5	-0.50	100	50	18.10	1269.40	-0.39	-126.22	0.000000	0.00	0.000

Fondazione

Combinazione n° 11 - SLEF

Apertura limite fessure w_{lim}=0.30

n°	Y	B	H	Af	Aeff	M	Mpf	ε	Sm	w
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kNm]	[%]	[mm]	[mm]
1	-1.65	100	105	0.00	0.00	0.00	0.00	---	---	0.000
2	-1.55	100	105	22.62	1550.00	0.53	540.93	0.000000	0.00	0.000
3	-1.46	100	105	22.62	1550.00	2.11	540.93	0.000000	0.00	0.000
4	-1.36	100	105	22.62	1550.00	4.75	540.93	0.000000	0.00	0.000
5	-1.27	100	105	22.62	1550.00	8.46	540.93	0.000000	0.00	0.000
6	-1.17	100	105	22.62	1550.00	13.23	540.93	0.000000	0.00	0.000
7	-1.08	100	105	22.62	1550.00	19.08	540.93	0.000000	0.00	0.000
8	-0.98	100	105	22.62	1550.00	26.00	540.93	0.000000	0.00	0.000
9	-0.88	100	105	22.62	1550.00	34.00	540.93	0.000000	0.00	0.000
10	-0.79	100	105	22.62	1550.00	43.09	540.93	0.000000	0.00	0.000
11	-0.69	100	105	22.62	1550.00	53.27	540.93	0.000000	0.00	0.000
12	-0.60	100	105	22.62	1550.00	64.55	540.93	0.000000	0.00	0.000
13	-0.50	100	105	22.62	1550.00	76.92	540.93	0.000000	0.00	0.000
14	0.65	100	105	22.62	1550.00	18.14	540.93	0.000000	0.00	0.000
15	0.75	100	105	22.62	1550.00	17.89	540.93	0.000000	0.00	0.000
16	0.85	100	105	22.62	1550.00	17.57	540.93	0.000000	0.00	0.000
17	0.95	100	105	22.62	1550.00	17.18	540.93	0.000000	0.00	0.000
18	1.05	100	105	22.62	1550.00	16.74	540.93	0.000000	0.00	0.000
19	1.15	100	105	22.62	1550.00	16.24	540.93	0.000000	0.00	0.000
20	1.25	100	105	22.62	1550.00	15.69	540.93	0.000000	0.00	0.000
21	1.35	100	105	22.62	1550.00	15.10	540.93	0.000000	0.00	0.000
22	1.45	100	105	22.62	1550.00	14.46	540.93	0.000000	0.00	0.000
23	1.55	100	105	22.62	1550.00	13.80	540.93	0.000000	0.00	0.000
24	1.65	100	105	22.62	1550.00	13.10	540.93	0.000000	0.00	0.000
25	1.75	100	105	22.62	1550.00	12.38	540.93	0.000000	0.00	0.000
26	1.85	100	105	22.62	1550.00	11.63	540.93	0.000000	0.00	0.000
27	1.95	100	105	22.62	1550.00	10.88	540.93	0.000000	0.00	0.000
28	2.05	100	105	22.62	1550.00	10.11	540.93	0.000000	0.00	0.000
29	2.15	100	105	22.62	1550.00	9.33	540.93	0.000000	0.00	0.000
30	2.25	100	105	22.62	1550.00	8.56	540.93	0.000000	0.00	0.000
31	2.35	100	105	22.62	1550.00	7.79	540.93	0.000000	0.00	0.000
32	2.45	100	105	22.62	1550.00	7.03	540.93	0.000000	0.00	0.000
33	2.55	100	105	22.62	1550.00	6.28	540.93	0.000000	0.00	0.000
34	2.65	100	105	22.62	1550.00	5.55	540.93	0.000000	0.00	0.000
35	2.75	100	105	22.62	1550.00	4.85	540.93	0.000000	0.00	0.000
36	2.85	100	105	22.62	1550.00	4.17	540.93	0.000000	0.00	0.000
37	2.95	100	105	22.62	1550.00	3.53	540.93	0.000000	0.00	0.000
38	3.05	100	105	22.62	1550.00	2.92	540.93	0.000000	0.00	0.000
39	3.15	100	105	22.62	1550.00	2.36	540.93	0.000000	0.00	0.000
40	3.25	100	105	22.62	1550.00	1.85	540.93	0.000000	0.00	0.000
41	3.35	100	105	22.62	1550.00	1.39	540.93	0.000000	0.00	0.000
42	3.45	100	105	22.62	1550.00	0.98	540.93	0.000000	0.00	0.000
43	3.55	100	105	22.62	1550.00	0.64	540.93	0.000000	0.00	0.000
44	3.65	100	105	22.62	1550.00	0.37	540.93	0.000000	0.00	0.000
45	3.75	100	105	22.62	1550.00	0.17	540.93	0.000000	0.00	0.000
46	3.85	100	105	22.62	1550.00	0.04	540.93	0.000000	0.00	0.000
47	3.95	100	105	0.00	0.00	0.00	0.00	0.000000	0.00	0.000

Combinazioni SLEQ

Paramento

Combinazione n° 12 - SLEQ

Apertura limite fessure w_{lim}=0.20

n°	Y	B	H	Af	Aeff	M	Mpf	ε	Sm	w
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kNm]	[%]	[mm]	[mm]
1	0.00	100	50	25.13	1204.48	0.39	131.87	0.000000	0.00	0.000
2	-0.10	100	51	25.13	1228.51	0.39	136.66	0.000000	0.00	0.000
3	-0.20	100	52	25.13	1252.58	0.41	141.52	0.000000	0.00	0.000
4	-0.30	100	53	25.13	1276.69	0.44	146.48	0.000000	0.00	0.000
5	-0.39	100	54	25.13	1300.82	0.49	151.49	0.000000	0.00	0.000
6	-0.49	100	55	25.13	1324.98	0.56	156.61	0.000000	0.00	0.000
7	-0.59	100	55	25.13	1349.18	0.66	161.78	0.000000	0.00	0.000
8	-0.69	100	56	25.13	1373.40	0.79	167.04	0.000000	0.00	0.000
9	-0.79	100	57	25.13	1397.65	0.97	172.38	0.000000	0.00	0.000
10	-0.89	100	58	25.13	1421.93	1.18	177.80	0.000000	0.00	0.000
11	-0.99	100	59	25.13	1446.23	1.44	183.30	0.000000	0.00	0.000
12	-1.08	100	60	25.13	1470.56	1.76	188.87	0.000000	0.00	0.000
13	-1.18	100	61	25.13	1494.91	2.13	194.53	0.000000	0.00	0.000
14	-1.28	100	62	25.13	1500.00	2.56	200.27	0.000000	0.00	0.000
15	-1.38	100	63	25.13	1500.00	3.06	206.09	0.000000	0.00	0.000
16	-1.48	100	64	25.13	1500.00	3.63	211.98	0.000000	0.00	0.000
17	-1.58	100	65	25.13	1500.00	4.27	217.95	0.000000	0.00	0.000
18	-1.68	100	66	25.13	1500.00	4.99	224.02	0.000000	0.00	0.000
19	-1.77	100	66	25.13	1500.00	5.80	230.15	0.000000	0.00	0.000
20	-1.87	100	67	25.13	1500.00	6.70	236.36	0.000000	0.00	0.000
21	-1.97	100	68	25.13	1500.00	7.68	242.65	0.000000	0.00	0.000
22	-2.07	100	69	25.13	1500.00	8.77	249.03	0.000000	0.00	0.000
23	-2.17	100	70	25.13	1500.00	9.96	255.48	0.000000	0.00	0.000
24	-2.27	100	71	25.13	1500.00	11.26	262.02	0.000000	0.00	0.000
25	-2.37	100	72	25.13	1500.00	12.67	268.64	0.000000	0.00	0.000
26	-2.46	100	73	25.13	1500.00	14.19	275.32	0.000000	0.00	0.000
27	-2.56	100	74	25.13	1500.00	15.84	282.10	0.000000	0.00	0.000
28	-2.66	100	75	25.13	1500.00	17.61	288.95	0.000000	0.00	0.000
29	-2.76	100	76	25.13	1500.00	19.52	295.89	0.000000	0.00	0.000
30	-2.86	100	77	25.13	1500.00	21.55	302.91	0.000000	0.00	0.000
31	-2.96	100	77	25.13	1500.00	23.73	310.01	0.000000	0.00	0.000
32	-3.06	100	78	25.13	1500.00	26.05	317.19	0.000000	0.00	0.000
33	-3.15	100	79	25.13	1500.00	28.53	324.45	0.000000	0.00	0.000
34	-3.25	100	80	25.13	1500.00	31.15	331.79	0.000000	0.00	0.000
35	-3.35	100	81	40.84	1500.00	33.93	375.39	0.000000	0.00	0.000
36	-3.45	100	82	40.84	1500.00	36.88	383.45	0.000000	0.00	0.000
37	-3.55	100	83	40.84	1500.00	39.99	391.60	0.000000	0.00	0.000
38	-3.65	100	84	40.84	1500.00	43.28	399.85	0.000000	0.00	0.000
39	-3.75	100	85	40.84	1500.00	46.74	408.13	0.000000	0.00	0.000
40	-3.85	100	86	40.84	1500.00	50.38	416.53	0.000000	0.00	0.000
41	-3.94	100	87	40.84	1500.00	54.21	425.01	0.000000	0.00	0.000
42	-4.04	100	87	40.84	1500.00	58.23	433.57	0.000000	0.00	0.000
43	-4.14	100	88	40.84	1500.00	62.44	442.19	0.000000	0.00	0.000
44	-4.24	100	89	40.84	1500.00	66.86	450.93	0.000000	0.00	0.000
45	-4.34	100	90	40.84	1500.00	71.48	459.73	0.000000	0.00	0.000
46	-4.44	100	91	56.55	1500.00	76.30	497.88	0.000000	0.00	0.000
47	-4.54	100	92	56.55	1500.00	81.35	507.21	0.000000	0.00	0.000
48	-4.63	100	93	56.55	1500.00	86.60	516.65	0.000000	0.00	0.000
49	-4.73	100	94	56.55	1500.00	92.09	526.15	0.000000	0.00	0.000
50	-4.83	100	95	56.55	1500.00	97.80	535.73	0.000000	0.00	0.000
51	-4.93	100	96	56.55	1500.00	103.74	545.39	0.000000	0.00	0.000
52	-5.03	100	97	56.55	1500.00	109.92	555.17	0.000000	0.00	0.000
53	-5.13	100	98	56.55	1500.00	116.34	565.00	0.000000	0.00	0.000
54	-5.23	100	98	56.55	1500.00	123.00	574.92	0.000000	0.00	0.000
55	-5.32	100	99	56.55	1500.00	129.92	584.94	0.000000	0.00	0.000
56	-5.42	100	100	56.55	1500.00	137.09	595.02	0.000000	0.00	0.000
57	-5.52	100	101	56.55	1500.00	144.52	605.18	0.000000	0.00	0.000
58	-5.62	100	102	56.55	1500.00	152.22	615.44	0.000000	0.00	0.000
59	-5.72	100	103	56.55	1500.00	160.19	625.78	0.000000	0.00	0.000
60	-5.82	100	104	56.55	1500.00	168.42	636.20	0.000000	0.00	0.000
61	-5.92	100	105	56.55	1500.00	176.94	646.71	0.000000	0.00	0.000
62	-6.01	100	106	56.55	1500.00	185.74	657.31	0.000000	0.00	0.000
63	-6.11	100	107	56.55	1500.00	194.83	667.97	0.000000	0.00	0.000
64	-6.21	100	108	31.42	1500.00	204.21	604.30	0.000000	0.00	0.000
65	-6.31	100	109	31.42	1500.00	213.89	614.36	0.000000	0.00	0.000
66	-6.41	100	109	31.42	1500.00	223.87	624.45	0.000000	0.00	0.000
67	-6.51	100	110	31.42	1500.00	234.15	634.70	0.000000	0.00	0.000

n°	Y	B	H	Af	Aeff	M	Mpf	ε	Sm	w
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kNm]	[%]	[mm]	[mm]
68	-6.61	100	111	31.42	1500.00	244.75	644.99	0.000000	0.00	0.000
69	-6.70	100	112	31.42	1500.00	255.66	655.36	0.000000	0.00	0.000
70	-6.80	100	113	31.42	1500.00	266.89	665.82	0.000000	0.00	0.000
71	-6.90	100	114	31.42	1500.00	278.44	676.38	0.000000	0.00	0.000
72	-6.99	100	115	31.42	1500.00	290.33	685.97	0.000000	0.00	0.000

Mensola valle

Combinazione n° 12 - SLEQ

Apertura limite fessure w_{lim}=0.20

n°	Y	B	H	Af	Aeff	M	Mpf	ε	Sm	w
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kNm]	[%]	[mm]	[mm]
1	-0.75	100	50	0.00	0.00	0.00	0.00	---	---	0.000
2	-0.67	100	50	18.10	1269.40	-0.04	-126.22	0.000000	0.00	0.000
3	-0.58	100	50	18.10	1269.40	-0.17	-126.22	0.000000	0.00	0.000
4	-0.50	100	50	18.10	1269.40	-0.39	-126.22	0.000000	0.00	0.000
5	-0.50	100	50	18.10	1269.40	-0.39	-126.22	0.000000	0.00	0.000

Fondazione

Combinazione n° 12 - SLEQ

Apertura limite fessure w_{lim}=0.20

n°	Y	B	H	Af	Aeff	M	Mpf	ε	Sm	w
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kNm]	[%]	[mm]	[mm]
1	-1.65	100	105	0.00	0.00	0.00	0.00	---	---	0.000
2	-1.55	100	105	22.62	1550.00	0.53	540.93	0.000000	0.00	0.000
3	-1.46	100	105	22.62	1550.00	2.11	540.93	0.000000	0.00	0.000
4	-1.36	100	105	22.62	1550.00	4.75	540.93	0.000000	0.00	0.000
5	-1.27	100	105	22.62	1550.00	8.46	540.93	0.000000	0.00	0.000
6	-1.17	100	105	22.62	1550.00	13.23	540.93	0.000000	0.00	0.000
7	-1.08	100	105	22.62	1550.00	19.08	540.93	0.000000	0.00	0.000
8	-0.98	100	105	22.62	1550.00	26.00	540.93	0.000000	0.00	0.000
9	-0.88	100	105	22.62	1550.00	34.00	540.93	0.000000	0.00	0.000
10	-0.79	100	105	22.62	1550.00	43.09	540.93	0.000000	0.00	0.000
11	-0.69	100	105	22.62	1550.00	53.27	540.93	0.000000	0.00	0.000
12	-0.60	100	105	22.62	1550.00	64.55	540.93	0.000000	0.00	0.000
13	-0.50	100	105	22.62	1550.00	76.92	540.93	0.000000	0.00	0.000
14	0.65	100	105	22.62	1550.00	18.14	540.93	0.000000	0.00	0.000
15	0.75	100	105	22.62	1550.00	17.89	540.93	0.000000	0.00	0.000
16	0.85	100	105	22.62	1550.00	17.57	540.93	0.000000	0.00	0.000
17	0.95	100	105	22.62	1550.00	17.18	540.93	0.000000	0.00	0.000
18	1.05	100	105	22.62	1550.00	16.74	540.93	0.000000	0.00	0.000
19	1.15	100	105	22.62	1550.00	16.24	540.93	0.000000	0.00	0.000
20	1.25	100	105	22.62	1550.00	15.69	540.93	0.000000	0.00	0.000
21	1.35	100	105	22.62	1550.00	15.10	540.93	0.000000	0.00	0.000
22	1.45	100	105	22.62	1550.00	14.46	540.93	0.000000	0.00	0.000
23	1.55	100	105	22.62	1550.00	13.80	540.93	0.000000	0.00	0.000
24	1.65	100	105	22.62	1550.00	13.10	540.93	0.000000	0.00	0.000
25	1.75	100	105	22.62	1550.00	12.38	540.93	0.000000	0.00	0.000
26	1.85	100	105	22.62	1550.00	11.63	540.93	0.000000	0.00	0.000
27	1.95	100	105	22.62	1550.00	10.88	540.93	0.000000	0.00	0.000
28	2.05	100	105	22.62	1550.00	10.11	540.93	0.000000	0.00	0.000
29	2.15	100	105	22.62	1550.00	9.33	540.93	0.000000	0.00	0.000
30	2.25	100	105	22.62	1550.00	8.56	540.93	0.000000	0.00	0.000
31	2.35	100	105	22.62	1550.00	7.79	540.93	0.000000	0.00	0.000
32	2.45	100	105	22.62	1550.00	7.03	540.93	0.000000	0.00	0.000
33	2.55	100	105	22.62	1550.00	6.28	540.93	0.000000	0.00	0.000
34	2.65	100	105	22.62	1550.00	5.55	540.93	0.000000	0.00	0.000
35	2.75	100	105	22.62	1550.00	4.85	540.93	0.000000	0.00	0.000
36	2.85	100	105	22.62	1550.00	4.17	540.93	0.000000	0.00	0.000
37	2.95	100	105	22.62	1550.00	3.53	540.93	0.000000	0.00	0.000
38	3.05	100	105	22.62	1550.00	2.92	540.93	0.000000	0.00	0.000
39	3.15	100	105	22.62	1550.00	2.36	540.93	0.000000	0.00	0.000

n°	Y	B	H	Af	Aeff	M	Mpf	ε	Sm	w
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kNm]	[%]	[mm]	[mm]
40	3.25	100	105	22.62	1550.00	1.85	540.93	0.000000	0.00	0.000
41	3.35	100	105	22.62	1550.00	1.39	540.93	0.000000	0.00	0.000
42	3.45	100	105	22.62	1550.00	0.98	540.93	0.000000	0.00	0.000
43	3.55	100	105	22.62	1550.00	0.64	540.93	0.000000	0.00	0.000
44	3.65	100	105	22.62	1550.00	0.37	540.93	0.000000	0.00	0.000
45	3.75	100	105	22.62	1550.00	0.17	540.93	0.000000	0.00	0.000
46	3.85	100	105	22.62	1550.00	0.04	540.93	0.000000	0.00	0.000
47	3.95	100	105	0.00	0.00	0.00	0.00	0.000000	0.00	0.000

Elenco ferri

Simbologia adottata

n°	Indice del ferro
nf	numero ferri
D	diametro ferro espresso in [mm]
L	Lunghezza ferro espresso in [m]
P_{ferro}	Peso ferro espresso in [kN]

Paramento

n°	Tipo	nf	D	L	P_f	P_{gf}	V_{cls}
			[mm]	[m]	[kN]	[kN]	[mc]
1	Diritto inferiore	5	20.00	5.44	0.1315	0.6576	
2	Diritto superiore	5	20.00	4.37	0.1057	0.5283	
3	Diritto superiore	8	20.00	7.77	0.1878	1.5026	
4	Diritto superiore	5	20.00	5.46	0.1320	0.6600	
5	Diritto inferiore	5	20.00	7.74	0.1872	0.9360	
6	Ripartitore	56	16.00	1.00	0.0155	0.8668	
7	Gancio	42	16.00	1.34	0.0207	0.8706	
	Totale al metro					**6.0218**	**5.90**
	Totale					**72.2620**	**70.77**

Fondazione

n°	Tipo	nf	D	L	P_f	P_{gf}	V_{cls}
			[mm]	[m]	[kN]	[kN]	[mc]
1	Diritto superiore	5	24.00	7.40	0.2576	1.2878	
2	Diritto inferiore	5	24.00	7.40	0.2576	1.2878	
3	Ripartitore	28	16.00	1.00	0.0155	0.4334	
4	Gancio	28	16.00	1.22	0.0189	0.5296	
	Totale al metro					**3.5386**	**5.88**
	Totale					**36.6846**	**70.55**

Mensola valle

n°	Tipo	nf	D	L	P_f	P_{gf}	V_{cls}
			[mm]	[m]	[kN]	[kN]	[mc]
1	Diritto inferiore	4	24.00	2.17	0.0756	0.3023	
2	Diritto superiore	4	24.00	2.17	0.0756	0.3023	
3	Ripartitore	4	16.00	1.00	0.0155	0.0619	
4	Gancio	4	16.00	0.67	0.0104	0.0416	
	Totale al metro					**0.7081**	**0.13**
	Totale					**7.8762**	**1.50**

15 ALLEGATO 6 – TABULATI DI CALCOLO - MURO DI SOSTEGNO H8

Geometria profilo terreno a monte del muro

Simbologia adottata

(Sistema di riferimento con origine in testa al muro, ascissa X positiva verso monte, ordinata Y positiva verso l'alto)

n°	numero ordine del punto
X	ascissa del punto espressa in [m]
Y	ordinata del punto espressa in [m]
A	inclinazione del tratto espressa in [°]

n°	X	Y	A
	[m]	*[m]*	*[°]*
1	0.00	0.00	0.000
2	30.00	0.00	0.000

Inclinazione terreno a valle del muro rispetto all'orizzontale 0.000 [°]

Geometria muro

Geometria paramento e fondazione

Lunghezza muro	12.00	[m]

Paramento

Materiale	CLS 25/30	
Altezza paramento	8.00	[m]
Altezza paramento libero	8.00	[m]
Spessore in sommità	0.50	[m]
Spessore all'attacco con la fondazione	1.25	[m]
Inclinazione paramento esterno	0.00	[°]
Inclinazione paramento interno	5.35	[°]
Spessore rivestimento	0.20	[m]
Peso sp. rivestimento	20.0000	[kN/mc]

Mensola di marciapiede

Posizione rispetto alla testa del muro	0.00	[m]
Lunghezza	0.25	[m]
Spessore all'estremità libera	0.50	[m]
Spessore all'incastro	0.50	[m]

Fondazione

Materiale	CLS 25/30	
Lunghezza mensola di valle	1.25	[m]
Lunghezza mensola di monte	4.20	[m]
Lunghezza totale	6.70	[m]
Inclinazione piano di posa	0.00	[°]
Spessore	1.15	[m]
Spessore magrone	0.20	[m]

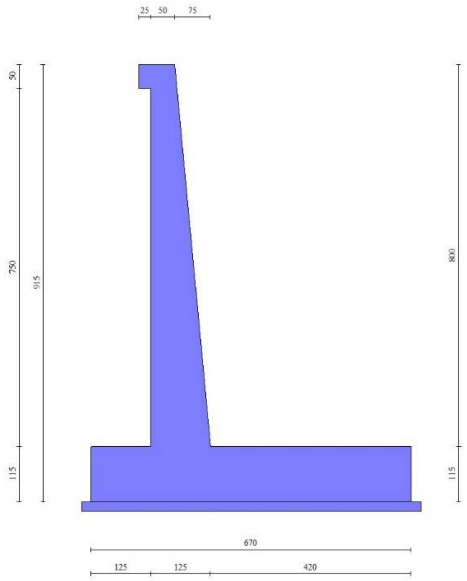

Fig. 1 - Sezione quotata del muro

Descrizione terreni

Parametri di resistenza

Simbologia adottata

n°	Indice del terreno
Descr	Descrizione terreno
γ	Peso di volume del terreno espresso in [kN/mc]
γ_s	Peso di volume saturo del terreno espresso in [kN/mc]
ϕ	Angolo d'attrito interno espresso in [°]
δ	Angolo d'attrito terra-muro espresso in [°]
c	Coesione espressa in [kPa]
c_a	Adesione terra-muro espressa in [kPa]

Per calcolo portanza con il metodo di Bustamante-Doix

Cesp Coeff. di espansione laterale (solo per il metodo di Bustamante-Doix)

τl Tensione tangenziale limite, espressa in [kPa]

n°	Descr	γ	γsat	ϕ	δ	c	ca	Cesp	τl
		[kN/mc]	[kN/mc]	[°]	[°]	[kPa]	[kPa]		[kPa]
1	Rilevato	19.0000	19.0000	35.000	23.330	0	0	---	---
2	LR	18.5000	18.5000	25.000	25.000	5	0	---	---

Stratigrafia

Simbologia adottata

n° Indice dello strato

H Spessore dello strato espresso in [m]

α Inclinazione espressa in [°]

Terreno Terreno dello strato

Kwn, Kwt Costante di Winkler normale e tangenziale alla superficie espressa in Kg/cm²/cm

Per calcolo pali (solo se presenti)

Kw Costante di Winkler orizzontale espressa in Kg/cm²/cm

Ks Coefficiente di spinta

Cesp Coefficiente di espansione laterale (per tutti i metodi tranne il metodo di Bustamante-Doix)

Per calcolo della spinta con coeff. di spinta definiti (usati solo se attiva l'opzione 'Usa coeff. di spinta da strato')

Kststa, Kstsis Coeff. di spinta statico e sismico

n°	H	α	Terreno	Kwn	Kwt	Kw	Ks	Cesp	Kststa	Kstsis
	[m]	[°]		[Kg/cm³]	[Kg/cm³]	[Kg/cm³]				
1	9.15	0.000	Rilevato	0.000	0.000	---	---	---	---	---
2	15.00	0.000	LR	2.400	1.200	---	---	---	---	---

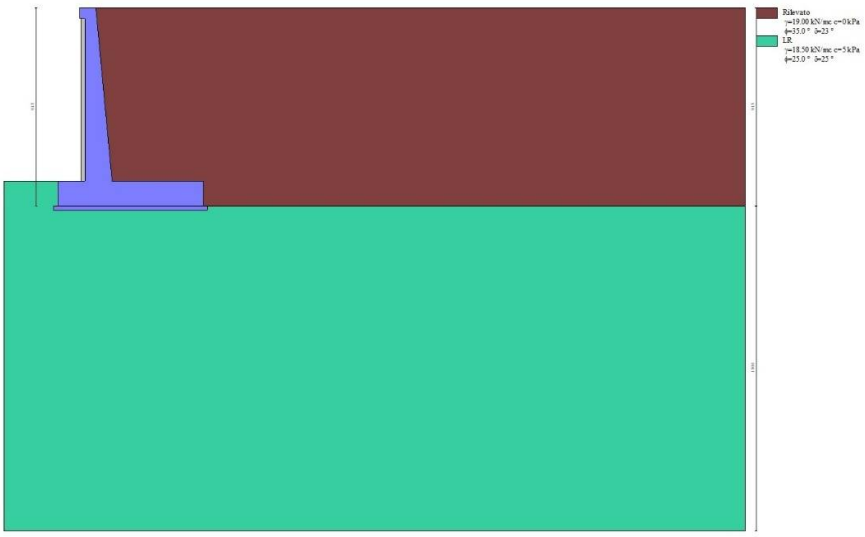

Fig. 2 - Stratigrafia

Condizioni di carico

Simbologia adottata

Carichi verticali positivi verso il basso.

Carichi orizzontali positivi verso sinistra.

Momento positivo senso antiorario.

X	Ascissa del punto di applicazione del carico concentrato espressa in [m]
F_x	Componente orizzontale del carico concentrato espressa in [kN]
F_y	Componente verticale del carico concentrato espressa in [kN]
M	Momento espresso in [kNm]
X_i	Ascissa del punto iniziale del carico ripartito espressa in [m]
X_f	Ascissa del punto finale del carico ripartito espressa in [m]
Q_i	Intensità del carico per $x=X_i$ espressa in [kN]
Q_f	Intensità del carico per $x=X_f$ espressa in [kN]

Condizione n° 1 (traffico-stradale) - VARIABILE TF

Coeff. di combinazione Ψ_0=0.75 - Ψ_1=0.75 - Ψ_2=0.00

Carichi sul terreno

n°	Tipo	X	Fx	Fy	M	Xi	Xf	Qi	Qf
		[m]	[kN]	[kN]	[kNm]	[m]	[m]	[kN]	[kN]
1	Distribuito					0.00	3.00	26.5000	26.5000
2	Distribuito					3.00	6.00	14.2000	14.2000
3	Distribuito					6.00	9.00	8.3000	8.3000
4	Distribuito					9.00	30.00	2.5000	2.5000

Condizione n° 2 (urto) - ECCEZIONALE

Carichi sul muro

n°	Tipo	Dest	X; Y	Fx	Fy	M	Xi	Xf	Qi	Qf
			[m]	[kN]	[kN]	[kNm]	[m]	[m]	[kN]	[kN]
1	Concentrato	Mensola marciappiede	-0.50; 0.00	12.5000	0.0000	12.5000				

Condizione n° 3 (Condizione 3) - VARIABILE

Coeff. di combinazione Ψ_0=1.00 - Ψ_1=1.00 - Ψ_2=1.00

Normativa

Normativa usata: **Norme Tecniche sulle Costruzioni 2018 (D.M. 17.01.2018) + Circolare C.S.LL.PP. 21/01/2019 n.7**

Coeff. parziali per le azioni o per l'effetto delle azioni

Carichi	Effetto		Combinazioni statiche					Combinazioni sismiche	
			UPL	EQU	A1	A2	EQU	A1	A2
Permanenti strutturali	Favorevoli	$\gamma_{G1,fav}$	0.90	0.90	1.00	1.00	1.00	1.00	1.00

Carichi	Effetto		Combinazioni statiche					Combinazioni sismiche	
			UPL	EQU	A1	A2	EQU	A1	A2
Permanenti strutturali	Sfavorevoli	$\gamma_{G1,sfav}$	1.10	1.10	1.35	1.00	1.00	1.00	1.00
Permanenti non strutturali	Favorevoli	$\gamma_{G2,fav}$	0.80	0.00	0.00	0.00	0.00	0.00	0.00
Permanenti non strutturali	Sfavorevoli	$\gamma_{G2,sfav}$	1.50	1.50	1.50	1.30	1.00	1.00	1.00
Variabili	Favorevoli	$\gamma_{Q,fav}$	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Variabili	Sfavorevoli	$\gamma_{Q,sfav}$	1.50	1.50	1.50	1.30	1.00	1.00	1.00
Variabili da traffico	Favorevoli	$\gamma_{QT,fav}$	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Variabili da traffico	Sfavorevoli	$\gamma_{QT,sfav}$	1.50	1.35	1.35	1.15	1.00	1.00	1.00

Coeff. parziali per i parametri geotecnici del terreno

Parametro		Combinazioni statiche		Combinazioni sismiche	
		M1	M2	M1	M2
Tangente dell'angolo di attrito	$\gamma_{\tan(\phi')}$	1.00	1.25	1.00	1.00
Coesione efficace	$\gamma_{c'}$	1.00	1.25	1.00	1.00
Resistenza non drenata	γ_{cu}	1.00	1.40	1.00	1.00
Peso nell'unita di volume	γ_{γ}	1.00	1.00	1.00	1.00

Coeff. parziali γ_R per le verifiche agli stati limite ultimi STR e GEO

Verifica	Combinazioni statiche			Combinazioni sismiche		
	R1	R2	R3	R1	R2	R3
Capacità portante	--	--	1.40	--	--	1.20
Scorrimento	--	--	1.10	--	--	1.00
Resistenza terreno a valle	--	--	1.40	--	--	1.20
Ribaltameno	--	--	1.15	--	--	1.00
Stabilità fronte di scavo	--	1.10	--	--	1.20	--

Descrizione combinazioni di carico

Con riferimento alle azioni elementari prima determinate, si sono considerate le seguenti combinazioni di carico:

- Combinazione fondamentale, impiegata per gli stati limite ultimi (SLU):

$$\gamma_{G1}\, G_1 + \gamma_{G2}\, G_2 + \gamma_{Q1}\, Q_{k1} + \gamma_{Q2}\, Q_{k2} + \gamma_{Q3}\, Q_{k3} + \ldots$$

- Combinazione caratteristica, cosiddetta rara, impiegata per gli stati limite di esercizio (SLE) irreversibili:

$$G_1 + G_2 + Q_{k1} + \Psi_{0,2}\, Q_{k2} + \Psi_{0,3}\, Q_{k3} + \ldots$$

- Combinazione frequente, impiegata per gli stati limite di esercizio (SLE) reversibili:

$$G_1 + G_2 + \Psi_{1,1}\, Q_{k1} + \Psi_{2,2}\, Q_{k2} + \Psi_{2,3}\, Q_{k3} + \ldots$$

- Combinazione quasi permanente, impiegata per gli effetti di lungo periodo:

$$G_1 + G_2 + \Psi_{2,1}\, Q_{k1} + \Psi_{2,2}\, Q_{k2} + \Psi_{2,3}\, Q_{k3} + \ldots$$

- Combinazione sismica, impiegata per gli stati limite ultimi connessi all'azione sismica E:

$$E + G_1 + G_2 + \Psi_{2,1}\, Q_{k1} + \Psi_{2,2}\, Q_{k2} + \Psi_{2,3}\, Q_{k3} + \ldots$$

- Combinazione eccezzionale, impiegata per gli stati limite ultimi connessi alle azioni eccezionali Ad:

$$G_1 + G_2 + A_d + \Psi_{2,1} Q_{k1} + \Psi_{2,2} Q_{k2} + \Psi_{2,3} Q_{k3} + \ldots$$

I valori dei coeff. $\Psi_{0,j}$, $\Psi_{1,j}$, $\Psi_{2,j}$ sono definiti nelle singole condizioni variabili.

I valori dei coeff. γ_G e γ_Q, sono definiti nella tabella normativa.

In particolare si sono considerate le seguenti combinazioni:

Simbologia adottata

γ	Coefficiente di partecipazione della condizione
Ψ	Coefficiente di combinazione della condizione

Combinazione n° 1 - STR (A1-M1-R3)

Condizione	γ	Ψ	Effetto
Peso muro	1.00	--	Favorevole
Peso terrapieno	1.00	--	Favorevole
Spinta terreno	1.35	--	Sfavorevole

Combinazione n° 2 - STR (A1-M1-R3)

Condizione	γ	Ψ	Effetto
Peso muro	1.00	--	Favorevole
Peso terrapieno	1.00	--	Favorevole
Spinta terreno	1.35	--	Sfavorevole
traffico-stradale	1.35	1.00	Sfavorevole

Combinazione n° 3 - STR (A1-M1-R3) H + V

Condizione	γ	Ψ	Effetto
Peso muro	1.00	--	Favorevole
Peso terrapieno	1.00	--	Favorevole
Spinta terreno	1.00	--	Sfavorevole

Combinazione n° 4 - STR (A1-M1-R3) H - V

Condizione	γ	Ψ	Effetto
Peso muro	1.00	--	Sfavorevole
Peso terrapieno	1.00	--	Sfavorevole
Spinta terreno	1.00	--	Sfavorevole

Combinazione n° 5 - GEO (A2-M2-R2)

Condizione	γ	Ψ	Effetto
Peso muro	1.00	--	Sfavorevole
Peso terrapieno	1.00	--	Sfavorevole
Spinta terreno	1.00	--	Sfavorevole

Combinazione n° 6 - GEO (A2-M2-R2)

Condizione	γ	Ψ	Effetto
Peso muro	1.00	--	Sfavorevole
Peso terrapieno	1.00	--	Sfavorevole

Condizione	γ	Ψ	Effetto
Spinta terreno	1.00	--	Sfavorevole
traffico-stradale	1.15	1.00	Sfavorevole

Combinazione n° 7 - GEO (A2-M2-R2) H + V

Condizione	γ	Ψ	Effetto
Peso muro	1.00	--	Sfavorevole
Peso terrapieno	1.00	--	Sfavorevole
Spinta terreno	1.00	--	Sfavorevole

Combinazione n° 8 - GEO (A2-M2-R2) H - V

Condizione	γ	Ψ	Effetto
Peso muro	1.00	--	Sfavorevole
Peso terrapieno	1.00	--	Sfavorevole
Spinta terreno	1.00	--	Sfavorevole

Combinazione n° 9 - ECC

Condizione	γ	Ψ	Effetto
Peso muro	1.00	--	Sfavorevole
Peso terrapieno	1.00	--	Sfavorevole
Spinta terreno	1.00	--	Sfavorevole
urto	1.00	1.00	Sfavorevole

Combinazione n° 10 - SLER

Condizione	γ	Ψ	Effetto
Peso muro	1.00	--	Sfavorevole
Peso terrapieno	1.00	--	Sfavorevole
Spinta terreno	1.00	--	Sfavorevole
traffico-stradale	1.00	0.75	Sfavorevole

Combinazione n° 11 - SLEF

Condizione	γ	Ψ	Effetto
Peso muro	1.00	--	Sfavorevole
Peso terrapieno	1.00	--	Sfavorevole
Spinta terreno	1.00	--	Sfavorevole

Combinazione n° 12 - SLEQ

Condizione	γ	Ψ	Effetto
Peso muro	1.00	--	Sfavorevole
Peso terrapieno	1.00	--	Sfavorevole
Spinta terreno	1.00	--	Sfavorevole

Dati sismici

Comune	
Provincia	
Regione	
Latitudine	43.608157
Longitudine	13.471305
Indice punti di interpolazione	20979 - 20757 - 20756 - 20978

Vita nominale	50 anni
Classe d'uso	IV
Tipo costruzione	Normali affollamenti
Vita di riferimento	100 anni

	Simbolo	U.M.		SLU	SLE
Accelerazione al suolo	a_g	[m/s²]		2.260	0.873
Accelerazione al suolo	a_g/g	[%]		0.230	0.089
Massimo fattore amplificazione spettro orizzontale	F0			2.433	2.436
Periodo inizio tratto spettro a velocità costante	Tc*			0.307	0.282
Tipo di sottosuolo - Coefficiente stratigrafico	Ss		C	1.358	1.500
Categoria topografica - Coefficiente amplificazione topografica	St		T1	1.000	

Stato limite ...	Coeff. di riduzione β_m	kh [%]	kv [%]
Ultimo	0.380	12.099	6.049
Ultimo - Ribaltamento	0.570	18.148	9.074
Esercizio	0.470	6.275	3.138

Forma diagramma incremento sismico **Rettangolare**

Opzioni di calcolo

Spinta

Metodo di calcolo della spinta	Culmann
Tipo di spinta	Spinta attiva
Terreno a bassa permeabilità	NO
Superficie di spinta limitata	NO

Capacità portante

Metodo di calcolo della portanza	Meyerhof
Criterio di media calcolo del terreno equivalente (terreni stratificati)	Ponderata
Criterio di riduzione per eccentricità della portanza	Bowles
Criterio di riduzione per rottura locale (punzonamento)	Nessuna
Larghezza fondazione nel terzo termine della formula del carico limite ($0.5B\gamma N_\gamma$)	Larghezza effettiva (B)
Fattori di forma e inclinazione del carico	Solo i fattori di inclinazione

Se la fondazione ha larghezza superiore a 2.0 m viene applicato il fattore di riduzione per comportamento a piastra

Stabilità globale

Metodo di calcolo della stabilità globale	Bishop

Altro

Partecipazione spinta passiva terreno antistante	0.00
Partecipazione resistenza passiva dente di fondazione	50.00
Componente verticale della spinta nel calcolo delle sollecitazioni	NO
Considera terreno sulla fondazione di valle	NO
Considera spinta e peso acqua fondazione di valle	NO

Spostamenti

Modello a blocchi

Non è stato richiesto il calcolo degli spostamenti

Spostamento limite 2.00 [cm]

Cedimenti

Non è stato richiesto il calcolo dei cedimenti

Specifiche per le verifiche nelle combinazioni allo Stato Limite Ultimo (SLU)

	SLU	Eccezionale
Coefficiente di sicurezza calcestruzzo a compressione	1.50	1.00
Coefficiente di sicurezza acciaio	1.15	1.00
Fattore di riduzione da resistenza cubica a cilindrica	0.83	0.83
Fattore di riduzione per carichi di lungo periodo	0.85	0.85
Coefficiente di sicurezza per la sezione	1.00	1.00

Specifiche per le verifiche nelle combinazioni allo Stato Limite di Esercizio (SLE)

Paramento e fondazione muro

Verifiche strutturali nelle combinazioni SLD **non eseguite**. Struttura in classe d'uso III o IV

Condizioni ambientali Aggressive

Armatura ad aderenza migliorata SI

Verifica a fessurazione

Sensibilità armatura Poco sensibile

Metodo di calcolo aperture delle fessure NTC 2018 - CIRCOLARE 21 gennaio 2019, n. 7 C.S.LL.PP.

Calcolo momento fessurazione Apertura

Resistenza a trazione per Trazione

Valori limite aperture delle fessure: w_1=0.20

w_2=0.30

w_3=0.40

Verifica delle tensioni

Valori limite delle tensioni nei materiali:

Combinazione	Calcestruzzo	Acciaio
Rara	0.60 f_{ck}	0.80 f_{yk}
Frequente	1.00 f_{ck}	1.00 f_{yk}
Quasi permanente	0.45 f_{ck}	1.00 f_{yk}

Risultati per combinazione

Spinta e forze

Simbologia adottata

Ic	Indice della combinazione
A	Tipo azione
I	Inclinazione della spinta, espressa in [°]
V	Valore dell'azione, espressa in [kN]
C_X, C_Y	Componente in direzione X ed Y dell'azione, espressa in [kN]
P_X, P_Y	Coordinata X ed Y del punto di applicazione dell'azione, espressa in [m]

Ic	A	V	I	C_X	C_Y	P_X	P_Y
		[kN]	[°]	[kN]	[kN]	[m]	[m]
1	Spinta statica	262.44	23.33	240.98	103.93	4.95	-6.10
	Peso/Inerzia muro			0.00	370.64/0.00	0.81	-6.62
	Peso/Inerzia rivestimento			0.00	32.00	-0.60	-4.25
	Peso/Inerzia terrapieno			0.00	695.34/0.00	2.66	-3.89
2	Spinta statica	286.59	23.33	263.16	113.50	4.95	-5.87
	Peso/Inerzia muro			0.00	370.64/0.00	0.81	-6.62
	Peso/Inerzia rivestimento			0.00	32.00	-0.60	-4.25
	Peso/Inerzia terrapieno			0.00	840.03/0.00	2.61	-3.87
3	Spinta statica	194.40	23.33	178.50	76.99	4.95	-6.10
	Incremento di spinta sismica		72.15	66.25	28.57	4.95	-4.58
	Peso/Inerzia muro			44.84	370.64/22.42	0.81	-6.62
	Peso/Inerzia rivestimento			3.87	32.00	-0.60	-4.25
	Peso/Inerzia terrapieno			84.13	695.34/42.06	2.66	-3.89
4	Spinta statica	194.40	23.33	178.50	76.99	4.95	-6.10
	Incremento di spinta sismica		49.71	45.65	19.69	4.95	-4.58
	Peso/Inerzia muro			44.84	370.64/-22.42	0.81	-6.62
	Peso/Inerzia rivestimento			3.87	32.00	-0.60	-4.25
	Peso/Inerzia terrapieno			84.13	695.34/-42.06	2.66	-3.89
9	Spinta statica	194.40	23.33	178.50	76.99	4.95	-6.10
	Peso/Inerzia muro			0.00	370.64/0.00	0.81	-6.62
	Peso/Inerzia rivestimento			0.00	32.00	-0.60	-4.25
	Peso/Inerzia terrapieno			0.00	695.34/0.00	2.66	-3.89
	Risultante forze sul muro			12.50	0.00	--	--
10	Spinta statica	207.77	23.33	190.78	82.28	4.95	-5.93
	Peso/Inerzia muro			0.00	370.64/0.00	0.81	-6.62
	Peso/Inerzia rivestimento			0.00	32.00	-0.60	-4.25
	Peso/Inerzia terrapieno			0.00	775.72/0.00	2.63	-3.88
11	Spinta statica	194.40	23.33	178.50	76.99	4.95	-6.10
	Peso/Inerzia muro			0.00	370.64/0.00	0.81	-6.62
	Peso/Inerzia rivestimento			0.00	32.00	-0.60	-4.25
	Peso/Inerzia terrapieno			0.00	695.34/0.00	2.66	-3.89
12	Spinta statica	194.40	23.33	178.50	76.99	4.95	-6.10
	Peso/Inerzia muro			0.00	370.64/0.00	0.81	-6.62
	Peso/Inerzia rivestimento			0.00	32.00	-0.60	-4.25
	Peso/Inerzia terrapieno			0.00	695.34/0.00	2.66	-3.89

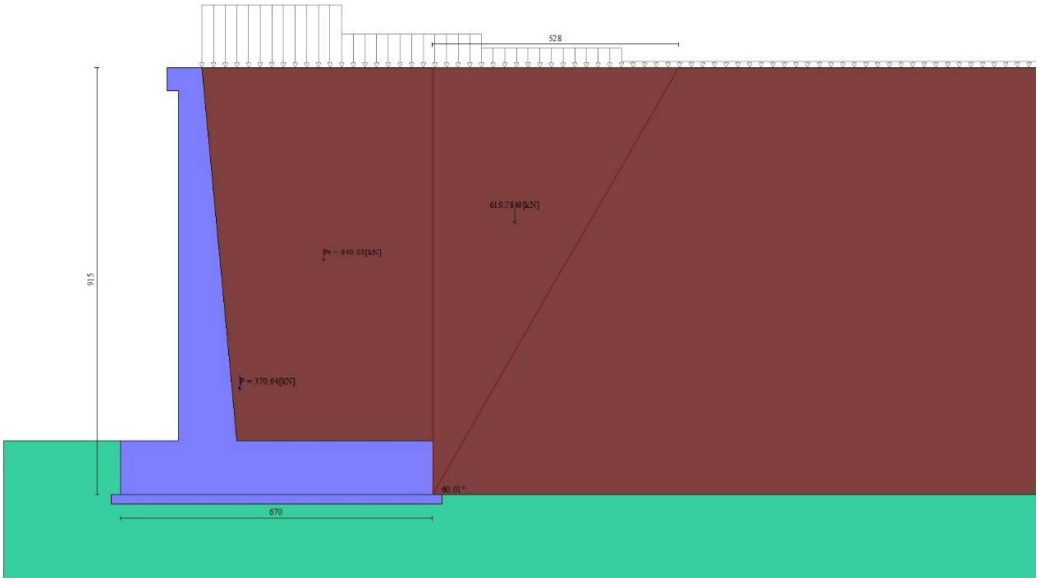

Fig. 3 - Cuneo di spinta (combinazione statica) (Combinazione n° 2)

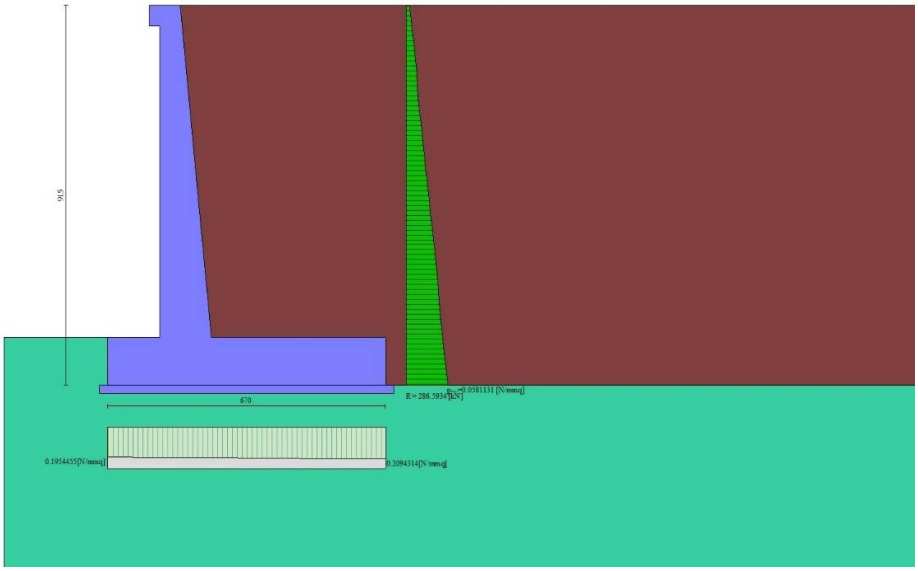

Fig. 4 - Diagramma delle pressioni (combinazione statica) (Combinazione n° 2)

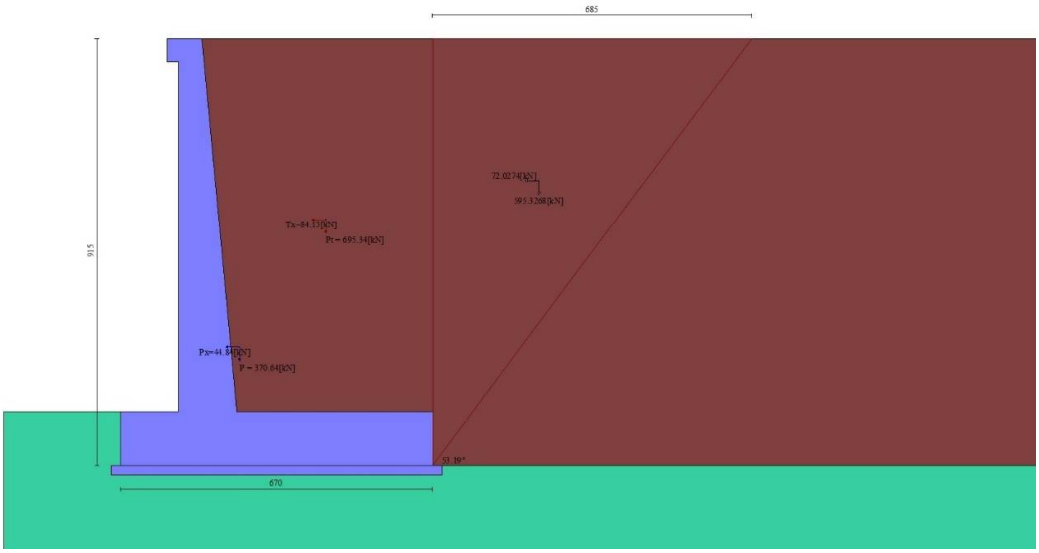

Fig. 5 - Cuneo di spinta (combinazione sismica) (Combinazione n° 3)

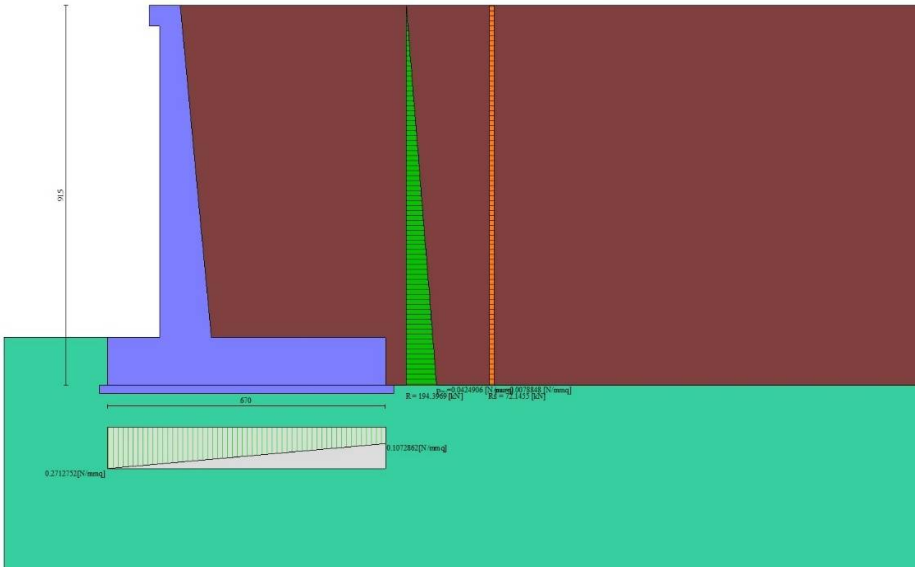

Fig. 6 - Diagramma delle pressioni (combinazione sismica) (Combinazione n° 3)

<u>Verifiche geotecniche</u>

Quadro riassuntivo coeff. di sicurezza calcolati

Simbologia adottata

Cmb	Indice/Tipo combinazione
S	Sisma (H: componente orizzontale, V: componente verticale)
FS_{SCO}	Coeff. di sicurezza allo scorrimento
FS_{RIB}	Coeff. di sicurezza al ribaltamento
FS_{QLIM}	Coeff. di sicurezza a carico limite
FS_{STAB}	Coeff. di sicurezza a stabilità globale
FS_{HYD}	Coeff. di sicurezza a sifonamento
FS_{UPL}	Coeff. di sicurezza a sollevamento

Cmb	Sismica	FS_{SCO}	FS_{RIB}	FS_{QLIM}	FS_{STAB}	FS_{HYD}	FS_{UPL}
1 - STR (A1-M1-R3)		2.326		2.072			
2 - STR (A1-M1-R3)		2.403		1.881			
3 - STR (A1-M1-R3)	H + V	1.566		1.202			
4 - STR (A1-M1-R3)	H - V	1.476		1.249			
5 - GEO (A2-M2-R2)					1.400		
6 - GEO (A2-M2-R2)					1.350		
7 - GEO (A2-M2-R2)	H + V				1.410		
8 - GEO (A2-M2-R2)	H - V				1.385		

Verifica stabilità globale muro + terreno

Simbologia adottata

Ic	Indice/Tipo combinazione
C	Centro superficie di scorrimento, espresso in [m]
R	Raggio, espresso in [m]
FS	Fattore di sicurezza

Ic	C	R	FS
	[m]	*[m]*	
5 - GEO (A2-M2-R2)	-2.36; 1.57	12.99	1.400
6 - GEO (A2-M2-R2)	-2.36; 1.57	12.99	1.350
7 - GEO (A2-M2-R2) H + V	-2.36; 3.15	14.31	1.410
8 - GEO (A2-M2-R2) H - V	-2.36; 6.29	17.09	1.385

Dettagli strisce verifiche stabilità

Simbologia adottata

Le ascisse X sono considerate positive verso monte

Le ordinate Y sono considerate positive verso l'alto

Origine in testa al muro (spigolo contro terra)

W	peso della striscia espresso in [kN]
Qy	carico sulla striscia espresso in [kN]
Qf	carico acqua sulla striscia espresso in [kN]
α	angolo fra la base della striscia e l'orizzontale espresso in [°] (positivo antiorario)
ϕ	angolo d'attrito del terreno lungo la base della striscia
c	coesione del terreno lungo la base della striscia espressa in [kPa]
b	larghezza della striscia espressa in [m]
u	pressione neutra lungo la base della striscia espressa in [kPa]
Tx; Ty	Resistenza al taglio fornita dai tiranti in direzione X ed Y espressa in [kPa]

Combinazione n° 5 - GEO (A2-M2-R2)

n°	W	Qy	Qf	b	α	ϕ	c	u	Tx; Ty
	[kN]	[kN]	[kN]	[m]	[°]	[°]	[kPa]	[kPa]	[kN]
1	27.28	0.00	0.00	10.54 - 0.87	75.315	29.256	0	0.0	
2	68.97	0.00	0.00	0.87	63.604	29.256	0	0.0	
3	93.93	0.00	0.00	0.87	55.882	29.256	0	0.0	
4	112.86	0.00	0.00	0.87	49.519	29.256	0	0.0	
5	128.12	0.00	0.00	0.87	43.912	29.256	0	0.0	
6	140.75	0.00	0.00	0.87	38.799	29.256	0	0.0	
7	154.60	0.00	0.00	0.87	34.033	20.458	4	0.0	
8	165.95	0.00	0.00	0.87	29.523	20.458	4	0.0	
9	173.17	0.00	0.00	0.87	25.208	20.458	4	0.0	
10	179.12	0.00	0.00	0.87	21.041	20.458	4	0.0	
11	183.93	0.00	0.00	0.87	16.989	20.458	4	0.0	
12	199.89	0.00	0.00	0.87	13.023	20.458	4	0.0	
13	181.12	0.00	0.00	0.87	9.120	20.458	4	0.0	
14	60.28	0.00	0.00	0.87	5.259	20.458	4	0.0	
15	56.12	0.00	0.00	0.87	1.422	20.458	4	0.0	
16	54.99	0.00	0.00	0.87	-2.408	20.458	4	0.0	
17	53.94	0.00	0.00	0.87	-6.249	20.458	4	0.0	
18	51.93	0.00	0.00	0.87	-10.119	20.458	4	0.0	
19	48.95	0.00	0.00	0.87	-14.037	20.458	4	0.0	
20	44.94	0.00	0.00	0.87	-18.022	20.458	4	0.0	
21	39.85	0.00	0.00	0.87	-22.101	20.458	4	0.0	
22	33.58	0.00	0.00	0.87	-26.302	20.458	4	0.0	
23	26.01	0.00	0.00	0.87	-30.663	20.458	4	0.0	
24	16.90	0.00	0.00	0.87	-35.232	20.458	4	0.0	
25	5.85	0.00	0.00	-11.15 - 0.87	-39.685	20.458	4	0.0	

Combinazione n° 6 - GEO (A2-M2-R2)

n°	W	Qy	Qf	b	α	ϕ	c	u	Tx; Ty
	[kN]	[kN]	[kN]	[m]	[°]	[°]	[kPa]	[kPa]	[kN]
1	27.28	2.49	0.00	10.54 - 0.87	75.315	29.256	0	0.0	
2	68.97	3.78	0.00	0.87	63.604	29.256	0	0.0	
3	93.93	8.28	0.00	0.87	55.882	29.256	0	0.0	
4	112.86	8.28	0.00	0.87	49.519	29.256	0	0.0	
5	128.12	8.28	0.00	0.87	43.912	29.256	0	0.0	
6	140.75	12.78	0.00	0.87	38.799	29.256	0	0.0	
7	154.60	14.17	0.00	0.87	34.033	20.458	4	0.0	
8	165.95	14.17	0.00	0.87	29.523	20.458	4	0.0	
9	173.17	17.93	0.00	0.87	25.208	20.458	4	0.0	
10	179.12	26.44	0.00	0.87	21.041	20.458	4	0.0	
11	183.93	26.44	0.00	0.87	16.989	20.458	4	0.0	
12	199.89	26.44	0.00	0.87	13.023	20.458	4	0.0	
13	181.12	4.00	0.00	0.87	9.120	20.458	4	0.0	
14	60.28	0.00	0.00	0.87	5.259	20.458	4	0.0	
15	56.12	0.00	0.00	0.87	1.422	20.458	4	0.0	
16	54.99	0.00	0.00	0.87	-2.408	20.458	4	0.0	
17	53.94	0.00	0.00	0.87	-6.249	20.458	4	0.0	
18	51.93	0.00	0.00	0.87	-10.119	20.458	4	0.0	
19	48.95	0.00	0.00	0.87	-14.037	20.458	4	0.0	
20	44.94	0.00	0.00	0.87	-18.022	20.458	4	0.0	
21	39.85	0.00	0.00	0.87	-22.101	20.458	4	0.0	
22	33.58	0.00	0.00	0.87	-26.302	20.458	4	0.0	
23	26.01	0.00	0.00	0.87	-30.663	20.458	4	0.0	
24	16.90	0.00	0.00	0.87	-35.232	20.458	4	0.0	
25	5.85	0.00	0.00	-11.15 - 0.87	-39.685	20.458	4	0.0	

Combinazione n° 7 - GEO (A2-M2-R2) H + V

n°	W	Qy	Qf	b	α	ϕ	c	u	Tx; Ty
	[kN]	[kN]	[kN]	[m]	[°]	[°]	[kPa]	[kPa]	[kN]
1	23.77	0.00	0.00	11.61 - 0.92	71.355	35.000	0	0.0	
2	62.54	0.00	0.00	0.92	61.889	35.000	0	0.0	
3	88.92	0.00	0.00	0.92	54.792	35.000	0	0.0	
4	109.45	0.00	0.00	0.92	48.808	35.000	0	0.0	
5	126.21	0.00	0.00	0.92	43.480	35.000	0	0.0	
6	140.22	0.00	0.00	0.92	38.592	35.000	0	0.0	
7	152.03	0.00	0.00	0.92	34.020	35.000	0	0.0	
8	162.87	0.00	0.00	0.92	29.684	25.000	5	0.0	
9	176.48	0.00	0.00	0.92	25.529	25.000	5	0.0	
10	183.28	0.00	0.00	0.92	21.514	25.000	5	0.0	
11	188.84	0.00	0.00	0.92	17.608	25.000	5	0.0	
12	194.05	0.00	0.00	0.92	13.785	25.000	5	0.0	
13	229.48	0.00	0.00	0.92	10.023	25.000	5	0.0	

n°	W [kN]	Qy [kN]	Qf [kN]	b [m]	α [°]	ϕ [°]	c [kPa]	u [kPa]	Tx; Ty [kN]
14	81.16	0.00	0.00	0.92	6.306	25.000	5	0.0	
15	57.47	0.00	0.00	0.92	2.614	25.000	5	0.0	
16	54.21	0.00	0.00	0.92	-1.066	25.000	5	0.0	
17	53.42	0.00	0.00	0.92	-4.751	25.000	5	0.0	
18	51.61	0.00	0.00	0.92	-8.455	25.000	5	0.0	
19	48.76	0.00	0.00	0.92	-12.196	25.000	5	0.0	
20	44.83	0.00	0.00	0.92	-15.991	25.000	5	0.0	
21	39.78	0.00	0.00	0.92	-19.859	25.000	5	0.0	
22	33.51	0.00	0.00	0.92	-23.825	25.000	5	0.0	
23	25.92	0.00	0.00	0.92	-27.917	25.000	5	0.0	
24	16.78	0.00	0.00	0.92	-32.171	25.000	5	0.0	
25	5.78	0.00	0.00	-11.35 - 0.92	-36.210	25.000	5	0.0	

Combinazione n° 8 - GEO (A2-M2-R2) H - V

n°	W [kN]	Qy [kN]	Qf [kN]	b [m]	α [°]	ϕ [°]	c [kPa]	u [kPa]	Tx; Ty [kN]
1	20.18	0.00	0.00	13.55 - 1.01	64.263	35.000	0	0.0	
2	55.61	0.00	0.00	1.01	57.447	35.000	0	0.0	
3	83.11	0.00	0.00	1.01	51.565	35.000	0	0.0	
4	105.57	0.00	0.00	1.01	46.376	35.000	0	0.0	
5	124.43	0.00	0.00	1.01	41.647	35.000	0	0.0	
6	140.48	0.00	0.00	1.01	37.246	35.000	0	0.0	
7	154.22	0.00	0.00	1.01	33.091	35.000	0	0.0	
8	165.98	0.00	0.00	1.01	29.124	35.000	0	0.0	
9	175.20	0.00	0.00	1.01	25.306	25.000	5	0.0	
10	191.22	0.00	0.00	1.01	21.605	25.000	5	0.0	
11	198.04	0.00	0.00	1.01	17.997	25.000	5	0.0	
12	203.57	0.00	0.00	1.01	14.462	25.000	5	0.0	
13	200.86	0.00	0.00	1.01	10.983	25.000	5	0.0	
14	227.06	0.00	0.00	1.01	7.544	25.000	5	0.0	
15	59.06	0.00	0.00	1.01	4.132	25.000	5	0.0	
16	53.68	0.00	0.00	1.01	0.735	25.000	5	0.0	
17	52.56	0.00	0.00	1.01	-2.659	25.000	5	0.0	
18	51.11	0.00	0.00	1.01	-6.063	25.000	5	0.0	
19	48.53	0.00	0.00	1.01	-9.488	25.000	5	0.0	
20	44.76	0.00	0.00	1.01	-12.948	25.000	5	0.0	
21	39.79	0.00	0.00	1.01	-16.457	25.000	5	0.0	
22	33.54	0.00	0.00	1.01	-20.032	25.000	5	0.0	
23	25.92	0.00	0.00	1.01	-23.689	25.000	5	0.0	
24	16.70	0.00	0.00	1.01	-27.453	25.000	5	0.0	
25	5.72	0.00	0.00	-11.75 - 1.01	-30.910	25.000	5	0.0	

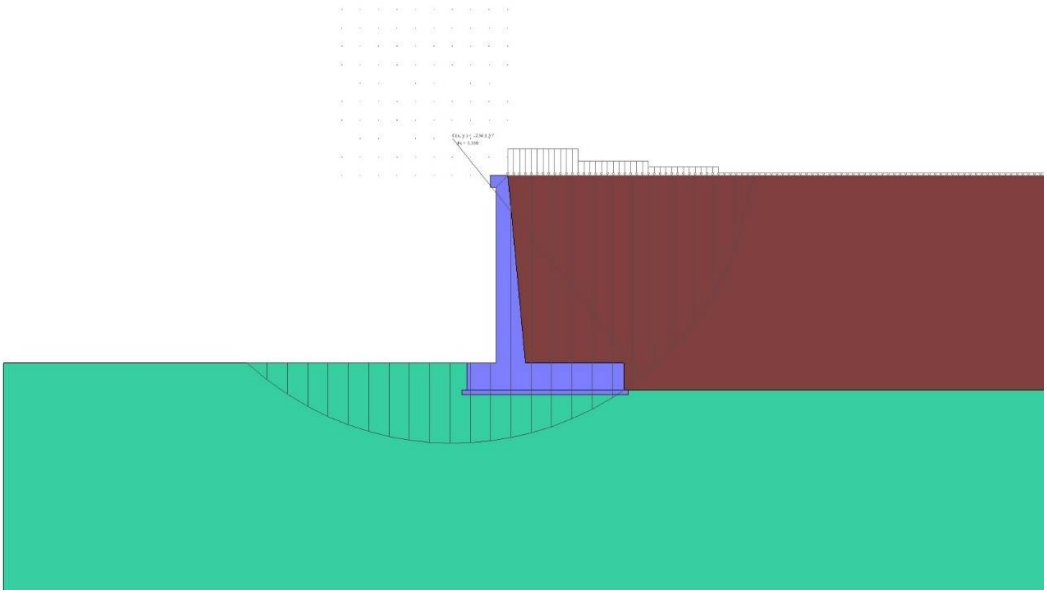

Fig. 7 - Stabilità fronte di scavo - Cerchio critico (Combinazione n° 6)

Spostamenti

Simbologia adottata

Cmb Tipo combinazione

Modello a blocchi

X Spostamento in direzione X (positivo verso monte), espresso in [cm]

Y Spostamento in direzione Y (positivo verso l'alto), espresso in [cm]

Phi Rotazione (positiva antioraria), espresso in [°]

Spostamenti ottenuti con il modello a blocchi

Cmb	X	Y	Phi
	[cm]	*[cm]*	*[°]*
1 - STR (A1-M1-R3)	-0.29288	-0.75829	-0.00289
2 - STR (A1-M1-R3)	-0.31132	-0.85310	-0.00508
3 - STR (A1-M1-R3) H + V	-0.74515	-0.88657	0.05959
4 - STR (A1-M1-R3) H - V	-0.72206	-0.79767	0.05853
9 - ECC	-0.24086	-0.74475	-0.00032
10 - SLER	-0.18088	-0.78047	-0.01381
11 - SLEF	-0.17074	-0.72783	-0.01259
12 - SLEQ	-0.17074	-0.72783	-0.01259

Sollecitazioni

Elementi calcolati a trave

Simbologia adottata

n° Indice della sezione

X Posizione della sezione, espresso in [m]

N Sforzo normale, espresso in [kN]. Positivo se di compressione.

T Taglio, espresso in [kN]. Positivo se diretto da monte verso valle

M Momento, espresso in [kNm]. Positivo se tende le fibre contro terra (a monte)

La posizione delle sezioni di verifica fanno riferimento al sistema di riferimento globale la cui origine è nello spigolo in alto a destra del paramento.

Paramento

Combinazione n° 1 - STR (A1-M1-R3)

n°	X	N	T	M
	[m]	*[kN]*	*[kN]*	*[kNm]*
1	0.00	3.13	0.00	0.39
2	-0.10	4.39	0.03	0.39
3	-0.20	5.67	0.13	0.41
4	-0.30	6.98	0.29	0.45
5	-0.40	8.31	0.51	0.51
6	-0.50	9.67	0.80	0.60
7	-0.60	11.05	1.15	0.73
8	-0.70	12.45	1.56	0.91
9	-0.80	13.87	2.04	1.13
10	-0.90	15.32	2.58	1.42
11	-1.00	16.80	3.19	1.77
12	-1.10	18.29	3.86	2.19
13	-1.20	19.81	4.59	2.68

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
14	-1.30	21.35	5.39	3.26
15	-1.40	22.92	6.25	3.93
16	-1.50	24.51	7.17	4.70
17	-1.60	26.12	8.16	5.57
18	-1.70	27.76	9.21	6.55
19	-1.80	29.42	10.32	7.64
20	-1.90	31.10	11.50	8.86
21	-2.00	32.81	12.75	10.21
22	-2.10	34.54	14.05	11.69
23	-2.20	36.29	15.42	13.31
24	-2.30	38.07	16.85	15.09
25	-2.40	39.87	18.35	17.01
26	-2.50	41.69	19.91	19.10
27	-2.60	43.54	21.54	21.36
28	-2.70	45.41	23.23	23.79
29	-2.80	47.30	24.98	26.40
30	-2.90	49.22	26.79	29.20
31	-3.00	51.16	28.67	32.20
32	-3.10	53.12	30.62	35.39
33	-3.20	55.11	32.62	38.79
34	-3.30	57.12	34.69	42.40
35	-3.40	59.16	36.83	46.24
36	-3.50	61.21	39.03	50.30
37	-3.60	63.30	41.29	54.59
38	-3.70	65.40	43.61	59.12
39	-3.80	67.53	46.00	63.90
40	-3.90	69.68	48.46	68.93
41	-4.00	71.85	50.97	74.21
42	-4.10	74.05	53.55	79.77
43	-4.20	76.27	56.20	85.59
44	-4.30	78.52	58.90	91.69
45	-4.40	80.79	61.68	98.08
46	-4.50	83.08	64.51	104.76
47	-4.60	85.39	67.41	111.73
48	-4.70	87.73	70.37	119.01
49	-4.80	90.10	73.40	126.60
50	-4.90	92.48	76.49	134.51
51	-5.00	94.89	79.64	142.74
52	-5.10	97.32	82.86	151.30
53	-5.20	99.78	86.14	160.19
54	-5.30	102.26	89.49	169.43
55	-5.40	104.76	92.89	179.02
56	-5.50	107.29	96.37	188.97
57	-5.60	109.83	99.90	199.27
58	-5.70	112.41	103.50	209.95
59	-5.80	115.00	107.17	221.00
60	-5.90	117.62	110.89	232.43
61	-6.00	120.27	114.68	244.25
62	-6.10	122.93	118.54	256.47
63	-6.20	125.62	122.46	269.08
64	-6.30	128.34	126.44	282.11
65	-6.40	131.07	130.48	295.55
66	-6.50	133.83	134.59	309.40
67	-6.60	136.62	138.77	323.69
68	-6.70	139.42	143.00	338.41
69	-6.80	142.25	147.30	353.57
70	-6.90	145.11	151.67	369.18
71	-7.00	147.98	156.10	385.23
72	-7.10	150.88	160.59	401.75
73	-7.20	153.81	165.14	418.74
74	-7.30	156.76	169.76	436.20
75	-7.40	159.73	174.44	454.13
76	-7.50	162.72	179.19	472.55
77	-7.60	165.74	184.00	491.47
78	-7.70	168.78	188.88	510.88
79	-7.80	171.84	193.81	530.80
80	-7.90	174.93	198.81	551.22
81	-8.00	178.04	203.88	572.17

Combinazione n° 2 - STR (A1-M1-R3)

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	0.00	3.13	0.00	0.39
2	-0.10	4.39	0.92	0.44
3	-0.20	5.67	1.91	0.59
4	-0.30	6.98	2.96	0.85
5	-0.40	8.31	4.07	1.22
6	-0.50	9.67	5.24	1.71
7	-0.60	11.05	6.48	2.33
8	-0.70	12.45	7.78	3.08
9	-0.80	13.87	9.15	3.98

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
10	-0.90	15.32	10.58	5.02
11	-1.00	16.80	12.07	6.21
12	-1.10	18.29	13.63	7.56
13	-1.20	19.81	15.25	9.08
14	-1.30	21.35	16.94	10.77
15	-1.40	22.92	18.69	12.64
16	-1.50	24.51	20.50	14.70
17	-1.60	26.12	22.38	16.94
18	-1.70	27.76	24.32	19.39
19	-1.80	29.42	26.32	22.04
20	-1.90	31.10	28.39	24.90
21	-2.00	32.81	30.52	27.98
22	-2.10	34.54	32.71	31.28
23	-2.20	36.29	34.97	34.82
24	-2.30	38.07	37.29	38.59
25	-2.40	39.87	39.68	42.61
26	-2.50	41.69	42.13	46.87
27	-2.60	43.54	44.64	51.40
28	-2.70	45.41	47.22	56.18
29	-2.80	47.30	49.86	61.24
30	-2.90	49.22	52.56	66.57
31	-3.00	51.16	55.33	72.18
32	-3.10	53.12	58.16	78.09
33	-3.20	55.11	61.06	84.29
34	-3.30	57.12	64.02	90.79
35	-3.40	59.16	67.04	97.60
36	-3.50	61.21	70.13	104.72
37	-3.60	63.30	73.28	112.17
38	-3.70	65.40	76.49	119.94
39	-3.80	67.53	79.77	128.05
40	-3.90	69.68	83.11	136.50
41	-4.00	71.85	86.52	145.30
42	-4.10	74.05	89.99	154.45
43	-4.20	76.27	93.52	163.96
44	-4.30	78.52	97.11	173.84
45	-4.40	80.79	100.77	184.10
46	-4.50	83.08	104.49	194.73
47	-4.60	85.39	108.25	205.74
48	-4.70	87.73	112.04	217.15
49	-4.80	90.10	115.84	228.94
50	-4.90	92.48	119.63	241.13
51	-5.00	94.89	123.42	253.71
52	-5.10	97.32	127.20	266.67
53	-5.20	99.78	130.99	280.03
54	-5.30	102.26	134.80	293.78
55	-5.40	104.76	138.66	307.92
56	-5.50	107.29	142.58	322.46
57	-5.60	109.83	146.56	337.41
58	-5.70	112.41	150.60	352.78
59	-5.80	115.00	154.71	368.56
60	-5.90	117.62	158.88	384.77
61	-6.00	120.27	163.12	401.41
62	-6.10	122.93	167.43	418.49
63	-6.20	125.62	171.80	436.02
64	-6.30	128.34	176.23	454.00
65	-6.40	131.07	180.73	472.44
66	-6.50	133.83	185.30	491.35
67	-6.60	136.62	189.92	510.73
68	-6.70	139.42	194.62	530.58
69	-6.80	142.25	199.37	550.93
70	-6.90	145.11	204.20	571.76
71	-7.00	147.98	209.08	593.10
72	-7.10	150.88	214.03	614.94
73	-7.20	153.81	219.05	637.29
74	-7.30	156.76	224.13	660.16
75	-7.40	159.73	229.27	683.56
76	-7.50	162.72	234.48	707.49
77	-7.60	165.74	239.75	731.95
78	-7.70	168.78	245.09	756.96
79	-7.80	171.84	250.49	782.52
80	-7.90	174.93	255.96	808.64
81	-8.00	178.04	261.49	835.33

Combinazione n° 3 - STR (A1-M1-R3) H + V

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	0.00	3.31	0.00	0.41
2	-0.10	4.65	0.83	0.46
3	-0.20	6.01	1.71	0.59
4	-0.30	7.40	2.65	0.83
5	-0.40	8.82	3.63	1.16

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
6	-0.50	10.25	4.66	1.61
7	-0.60	11.71	5.74	2.16
8	-0.70	13.20	6.87	2.84
9	-0.80	14.71	8.05	3.63
10	-0.90	16.25	9.28	4.55
11	-1.00	17.81	10.57	5.61
12	-1.10	19.40	11.90	6.81
13	-1.20	21.01	13.28	8.14
14	-1.30	22.65	14.71	9.63
15	-1.40	24.31	16.19	11.27
16	-1.50	25.99	17.72	13.07
17	-1.60	27.70	19.31	15.03
18	-1.70	29.44	20.94	17.16
19	-1.80	31.20	22.62	19.46
20	-1.90	32.98	24.35	21.94
21	-2.00	34.79	26.13	24.61
22	-2.10	36.63	27.96	27.47
23	-2.20	38.49	29.85	30.52
24	-2.30	40.37	31.78	33.77
25	-2.40	42.28	33.76	37.22
26	-2.50	44.21	35.79	40.89
27	-2.60	46.17	37.87	44.76
28	-2.70	48.16	40.01	48.86
29	-2.80	50.16	42.19	53.19
30	-2.90	52.20	44.42	57.74
31	-3.00	54.26	46.70	62.53
32	-3.10	56.34	49.03	67.56
33	-3.20	58.45	51.42	72.84
34	-3.30	60.58	53.85	78.36
35	-3.40	62.74	56.33	84.14
36	-3.50	64.92	58.86	90.19
37	-3.60	67.12	61.44	96.49
38	-3.70	69.36	64.08	103.07
39	-3.80	71.61	66.76	109.93
40	-3.90	73.89	69.49	117.07
41	-4.00	76.20	72.27	124.49
42	-4.10	78.53	75.11	132.21
43	-4.20	80.89	77.99	140.22
44	-4.30	83.27	80.92	148.53
45	-4.40	85.67	83.90	157.15
46	-4.50	88.11	86.94	166.09
47	-4.60	90.56	90.02	175.34
48	-4.70	93.04	93.15	184.91
49	-4.80	95.55	96.33	194.81
50	-4.90	98.08	99.57	205.04
51	-5.00	100.63	102.85	215.61
52	-5.10	103.21	106.18	226.52
53	-5.20	105.81	109.56	237.78
54	-5.30	108.44	113.00	249.40
55	-5.40	111.10	116.48	261.37
56	-5.50	113.78	120.01	273.70
57	-5.60	116.48	123.59	286.41
58	-5.70	119.21	127.23	299.48
59	-5.80	121.96	130.91	312.94
60	-5.90	124.74	134.64	326.78
61	-6.00	127.54	138.43	341.01
62	-6.10	130.37	142.26	355.63
63	-6.20	133.22	146.14	370.65
64	-6.30	136.10	150.07	386.08
65	-6.40	139.00	154.06	401.91
66	-6.50	141.93	158.09	418.16
67	-6.60	144.88	162.17	434.83
68	-6.70	147.86	166.31	451.92
69	-6.80	150.86	170.49	469.44
70	-6.90	153.89	174.72	487.40
71	-7.00	156.94	179.00	505.80
72	-7.10	160.01	183.34	524.64
73	-7.20	163.11	187.72	543.94
74	-7.30	166.24	192.15	563.69
75	-7.40	169.39	196.64	583.90
76	-7.50	172.56	201.17	604.57
77	-7.60	175.76	205.75	625.72
78	-7.70	178.99	210.39	647.34
79	-7.80	182.24	215.07	669.44
80	-7.90	185.51	219.80	692.03
81	-8.00	188.81	224.59	715.11

Combinazione n° 4 - STR (A1-M1-R3) H - V

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	0.00	3.13	0.00	0.39

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
2	-0.10	4.31	0.61	0.42
3	-0.20	5.52	1.27	0.53
4	-0.30	6.75	1.99	0.70
5	-0.40	8.00	2.75	0.96
6	-0.50	9.27	3.56	1.30
7	-0.60	10.57	4.42	1.73
8	-0.70	11.88	5.34	2.26
9	-0.80	13.22	6.30	2.88
10	-0.90	14.59	7.31	3.61
11	-1.00	15.97	8.37	4.45
12	-1.10	17.37	9.48	5.41
13	-1.20	18.80	10.65	6.48
14	-1.30	20.25	11.86	7.69
15	-1.40	21.72	13.12	9.02
16	-1.50	23.22	14.43	10.49
17	-1.60	24.73	15.79	12.09
18	-1.70	26.27	17.21	13.85
19	-1.80	27.83	18.67	15.75
20	-1.90	29.41	20.18	17.82
21	-2.00	31.01	21.74	20.04
22	-2.10	32.64	23.36	22.43
23	-2.20	34.28	25.02	24.99
24	-2.30	35.95	26.73	27.72
25	-2.40	37.64	28.49	30.64
26	-2.50	39.36	30.31	33.75
27	-2.60	41.09	32.17	37.04
28	-2.70	42.85	34.08	40.54
29	-2.80	44.63	36.04	44.23
30	-2.90	46.43	38.06	48.14
31	-3.00	48.25	40.12	52.25
32	-3.10	50.10	42.23	56.59
33	-3.20	51.97	44.39	61.14
34	-3.30	53.86	46.61	65.92
35	-3.40	55.77	48.87	70.94
36	-3.50	57.70	51.18	76.19
37	-3.60	59.66	53.54	81.69
38	-3.70	61.63	55.96	87.43
39	-3.80	63.63	58.42	93.43
40	-3.90	65.65	60.93	99.68
41	-4.00	67.70	63.50	106.20
42	-4.10	69.76	66.11	112.99
43	-4.20	71.85	68.77	120.05
44	-4.30	73.96	71.48	127.39
45	-4.40	76.09	74.25	135.01
46	-4.50	78.24	77.06	142.92
47	-4.60	80.42	79.92	151.13
48	-4.70	82.62	82.84	159.63
49	-4.80	84.83	85.80	168.44
50	-4.90	87.08	88.81	177.56
51	-5.00	89.34	91.88	186.99
52	-5.10	91.62	94.99	196.74
53	-5.20	93.93	98.15	206.82
54	-5.30	96.26	101.36	217.23
55	-5.40	98.61	104.63	227.97
56	-5.50	100.98	107.94	239.05
57	-5.60	103.38	111.30	250.47
58	-5.70	105.80	114.72	262.25
59	-5.80	108.24	118.18	274.38
60	-5.90	110.70	121.69	286.87
61	-6.00	113.18	125.26	299.73
62	-6.10	115.69	128.87	312.96
63	-6.20	118.21	132.53	326.56
64	-6.30	120.76	136.25	340.54
65	-6.40	123.33	140.01	354.91
66	-6.50	125.93	143.82	369.67
67	-6.60	128.54	147.69	384.83
68	-6.70	131.18	151.60	400.39
69	-6.80	133.84	155.57	416.35
70	-6.90	136.52	159.58	432.72
71	-7.00	139.22	163.64	449.52
72	-7.10	141.95	167.76	466.73
73	-7.20	144.69	171.92	484.37
74	-7.30	147.46	176.13	502.44
75	-7.40	150.25	180.40	520.95
76	-7.50	153.07	184.71	539.90
77	-7.60	155.90	189.07	559.30
78	-7.70	158.76	193.49	579.15
79	-7.80	161.64	197.95	599.45
80	-7.90	164.54	202.47	620.22
81	-8.00	167.46	207.03	641.46

Combinazione n° 9 - ECC

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	0.00	3.13	12.50	12.89
2	-0.10	4.39	12.52	12.89
3	-0.20	5.67	12.60	12.91
4	-0.30	6.98	12.71	12.94
5	-0.40	8.31	12.88	12.99
6	-0.50	9.67	13.09	13.07
7	-0.60	11.05	13.35	13.17
8	-0.70	12.45	13.66	13.31
9	-0.80	13.87	14.01	13.49
10	-0.90	15.32	14.41	13.72
11	-1.00	16.80	14.86	13.99
12	-1.10	18.29	15.36	14.32
13	-1.20	19.81	15.90	14.71
14	-1.30	21.35	16.49	15.16
15	-1.40	22.92	17.13	15.68
16	-1.50	24.51	17.81	16.27
17	-1.60	26.12	18.54	16.94
18	-1.70	27.76	19.32	17.69
19	-1.80	29.42	20.15	18.54
20	-1.90	31.10	21.02	19.47
21	-2.00	32.81	21.94	20.50
22	-2.10	34.54	22.91	21.64
23	-2.20	36.29	23.92	22.88
24	-2.30	38.07	24.99	24.24
25	-2.40	39.87	26.09	25.71
26	-2.50	41.69	27.25	27.30
27	-2.60	43.54	28.45	29.02
28	-2.70	45.41	29.70	30.87
29	-2.80	47.30	31.00	32.86
30	-2.90	49.22	32.35	34.99
31	-3.00	51.16	33.74	37.26
32	-3.10	53.12	35.18	39.69
33	-3.20	55.11	36.67	42.27
34	-3.30	57.12	38.20	45.01
35	-3.40	59.16	39.78	47.91
36	-3.50	61.21	41.41	50.99
37	-3.60	63.30	43.08	54.24
38	-3.70	65.40	44.81	57.67
39	-3.80	67.53	46.58	61.29
40	-3.90	69.68	48.39	65.09
41	-4.00	71.85	50.26	69.09
42	-4.10	74.05	52.17	73.29
43	-4.20	76.27	54.13	77.69
44	-4.30	78.52	56.13	82.30
45	-4.40	80.79	58.19	87.12
46	-4.50	83.08	60.29	92.17
47	-4.60	85.39	62.43	97.43
48	-4.70	87.73	64.63	102.93
49	-4.80	90.10	66.87	108.65
50	-4.90	92.48	69.16	114.62
51	-5.00	94.89	71.49	120.82
52	-5.10	97.32	73.88	127.28
53	-5.20	99.78	76.31	133.98
54	-5.30	102.26	78.79	140.94
55	-5.40	104.76	81.31	148.17
56	-5.50	107.29	83.88	155.66
57	-5.60	109.83	86.50	163.42
58	-5.70	112.41	89.17	171.46
59	-5.80	115.00	91.88	179.78
60	-5.90	117.62	94.64	188.39
61	-6.00	120.27	97.45	197.28
62	-6.10	122.93	100.31	206.47
63	-6.20	125.62	103.21	215.97
64	-6.30	128.34	106.16	225.77
65	-6.40	131.07	109.15	235.87
66	-6.50	133.83	112.20	246.30
67	-6.60	136.62	115.29	257.04
68	-6.70	139.42	118.43	268.11
69	-6.80	142.25	121.61	279.50
70	-6.90	145.11	124.85	291.23
71	-7.00	147.98	128.13	303.30
72	-7.10	150.88	131.45	315.72
73	-7.20	153.81	134.83	328.48
74	-7.30	156.76	138.25	341.59
75	-7.40	159.73	141.72	355.07
76	-7.50	162.72	145.23	368.91
77	-7.60	165.74	148.80	383.11
78	-7.70	168.78	152.41	397.69
79	-7.80	171.84	156.07	412.65
80	-7.90	174.93	159.77	427.99
81	-8.00	178.04	163.52	443.71

Combinazione n° 10 - SLER

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	0.00	3.13	0.00	0.39
2	-0.10	4.39	0.52	0.42
3	-0.20	5.67	1.08	0.51
4	-0.30	6.98	1.70	0.66
5	-0.40	8.31	2.35	0.88
6	-0.50	9.67	3.06	1.18
7	-0.60	11.05	3.81	1.56
8	-0.70	12.45	4.61	2.02
9	-0.80	13.87	5.46	2.57
10	-0.90	15.32	6.36	3.22
11	-1.00	16.80	7.30	3.96
12	-1.10	18.29	8.29	4.80
13	-1.20	19.81	9.32	5.76
14	-1.30	21.35	10.41	6.83
15	-1.40	22.92	11.54	8.01
16	-1.50	24.51	12.72	9.32
17	-1.60	26.12	13.94	10.76
18	-1.70	27.76	15.21	12.33
19	-1.80	29.42	16.53	14.03
20	-1.90	31.10	17.90	15.88
21	-2.00	32.81	19.31	17.88
22	-2.10	34.54	20.78	20.02
23	-2.20	36.29	22.28	22.33
24	-2.30	38.07	23.84	24.79
25	-2.40	39.87	25.44	27.43
26	-2.50	41.69	27.09	30.23
27	-2.60	43.54	28.79	33.21
28	-2.70	45.41	30.53	36.37
29	-2.80	47.30	32.32	39.71
30	-2.90	49.22	34.16	43.25
31	-3.00	51.16	36.05	46.98
32	-3.10	53.12	37.98	50.91
33	-3.20	55.11	39.96	55.04
34	-3.30	57.12	41.99	59.39
35	-3.40	59.16	44.06	63.95
36	-3.50	61.21	46.19	68.73
37	-3.60	63.30	48.36	73.73
38	-3.70	65.40	50.57	78.96
39	-3.80	67.53	52.84	84.43
40	-3.90	69.68	55.15	90.14
41	-4.00	71.85	57.50	96.08
42	-4.10	74.05	59.91	102.28
43	-4.20	76.27	62.36	108.73
44	-4.30	78.52	64.86	115.44
45	-4.40	80.79	67.41	122.41
46	-4.50	83.08	70.00	129.65
47	-4.60	85.39	72.62	137.16
48	-4.70	87.73	75.26	144.95
49	-4.80	90.10	77.92	153.01
50	-4.90	92.48	80.58	161.34
51	-5.00	94.89	83.24	169.96
52	-5.10	97.32	85.91	178.85
53	-5.20	99.78	88.61	188.03
54	-5.30	102.26	91.34	197.48
55	-5.40	104.76	94.11	207.22
56	-5.50	107.29	96.94	217.26
57	-5.60	109.83	99.80	227.59
58	-5.70	112.41	102.72	238.22
59	-5.80	115.00	105.69	249.16
60	-5.90	117.62	108.70	260.41
61	-6.00	120.27	111.76	271.97
62	-6.10	122.93	114.87	283.86
63	-6.20	125.62	118.02	296.07
64	-6.30	128.34	121.23	308.61
65	-6.40	131.07	124.48	321.49
66	-6.50	133.83	127.78	334.70
67	-6.60	136.62	131.12	348.27
68	-6.70	139.42	134.52	362.18
69	-6.80	142.25	137.96	376.45
70	-6.90	145.11	141.45	391.08
71	-7.00	147.98	144.99	406.07
72	-7.10	150.88	148.57	421.43
73	-7.20	153.81	152.20	437.17
74	-7.30	156.76	155.88	453.29
75	-7.40	159.73	159.61	469.79
76	-7.50	162.72	163.38	486.68
77	-7.60	165.74	167.20	503.96
78	-7.70	168.78	171.07	521.64
79	-7.80	171.84	174.99	539.73
80	-7.90	174.93	178.95	558.22
81	-8.00	178.04	182.96	577.13

Combinazione n° 11 - SLEF

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	0.00	3.13	0.00	0.39
2	-0.10	4.39	0.02	0.39
3	-0.20	5.67	0.10	0.41
4	-0.30	6.98	0.21	0.44
5	-0.40	8.31	0.38	0.49
6	-0.50	9.67	0.59	0.57
7	-0.60	11.05	0.85	0.67
8	-0.70	12.45	1.16	0.81
9	-0.80	13.87	1.51	0.99
10	-0.90	15.32	1.91	1.22
11	-1.00	16.80	2.36	1.49
12	-1.10	18.29	2.86	1.82
13	-1.20	19.81	3.40	2.21
14	-1.30	21.35	3.99	2.66
15	-1.40	22.92	4.63	3.18
16	-1.50	24.51	5.31	3.77
17	-1.60	26.12	6.04	4.44
18	-1.70	27.76	6.82	5.19
19	-1.80	29.42	7.65	6.04
20	-1.90	31.10	8.52	6.97
21	-2.00	32.81	9.44	8.00
22	-2.10	34.54	10.41	9.14
23	-2.20	36.29	11.42	10.38
24	-2.30	38.07	12.49	11.74
25	-2.40	39.87	13.59	13.21
26	-2.50	41.69	14.75	14.80
27	-2.60	43.54	15.95	16.52
28	-2.70	45.41	17.20	18.37
29	-2.80	47.30	18.50	20.36
30	-2.90	49.22	19.85	22.49
31	-3.00	51.16	21.24	24.76
32	-3.10	53.12	22.68	27.19
33	-3.20	55.11	24.17	29.77
34	-3.30	57.12	25.70	32.51
35	-3.40	59.16	27.28	35.41
36	-3.50	61.21	28.91	38.49
37	-3.60	63.30	30.58	41.74
38	-3.70	65.40	32.31	45.17
39	-3.80	67.53	34.08	48.79
40	-3.90	69.68	35.89	52.59
41	-4.00	71.85	37.76	56.59
42	-4.10	74.05	39.67	60.79
43	-4.20	76.27	41.63	65.19
44	-4.30	78.52	43.63	69.80
45	-4.40	80.79	45.69	74.62
46	-4.50	83.08	47.79	79.67
47	-4.60	85.39	49.93	84.93
48	-4.70	87.73	52.13	90.43
49	-4.80	90.10	54.37	96.15
50	-4.90	92.48	56.66	102.12
51	-5.00	94.89	58.99	108.32
52	-5.10	97.32	61.38	114.78
53	-5.20	99.78	63.81	121.48
54	-5.30	102.26	66.29	128.44
55	-5.40	104.76	68.81	135.67
56	-5.50	107.29	71.38	143.16
57	-5.60	109.83	74.00	150.92
58	-5.70	112.41	76.67	158.96
59	-5.80	115.00	79.38	167.28
60	-5.90	117.62	82.14	175.89
61	-6.00	120.27	84.95	184.78
62	-6.10	122.93	87.81	193.97
63	-6.20	125.62	90.71	203.47
64	-6.30	128.34	93.66	213.27
65	-6.40	131.07	96.65	223.37
66	-6.50	133.83	99.70	233.80
67	-6.60	136.62	102.79	244.54
68	-6.70	139.42	105.93	255.61
69	-6.80	142.25	109.11	267.00
70	-6.90	145.11	112.35	278.73
71	-7.00	147.98	115.63	290.80
72	-7.10	150.88	118.95	303.22
73	-7.20	153.81	122.33	315.98
74	-7.30	156.76	125.75	329.09
75	-7.40	159.73	129.22	342.57
76	-7.50	162.72	132.73	356.41
77	-7.60	165.74	136.30	370.61
78	-7.70	168.78	139.91	385.19
79	-7.80	171.84	143.57	400.15
80	-7.90	174.93	147.27	415.49

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
81	-8.00	178.04	151.02	431.21

Combinazione n° 12 - SLEQ

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	0.00	3.13	0.00	0.39
2	-0.10	4.39	0.02	0.39
3	-0.20	5.67	0.10	0.41
4	-0.30	6.98	0.21	0.44
5	-0.40	8.31	0.38	0.49
6	-0.50	9.67	0.59	0.57
7	-0.60	11.05	0.85	0.67
8	-0.70	12.45	1.16	0.81
9	-0.80	13.87	1.51	0.99
10	-0.90	15.32	1.91	1.22
11	-1.00	16.80	2.36	1.49
12	-1.10	18.29	2.86	1.82
13	-1.20	19.81	3.40	2.21
14	-1.30	21.35	3.99	2.66
15	-1.40	22.92	4.63	3.18
16	-1.50	24.51	5.31	3.77
17	-1.60	26.12	6.04	4.44
18	-1.70	27.76	6.82	5.19
19	-1.80	29.42	7.65	6.04
20	-1.90	31.10	8.52	6.97
21	-2.00	32.81	9.44	8.00
22	-2.10	34.54	10.41	9.14
23	-2.20	36.29	11.42	10.38
24	-2.30	38.07	12.49	11.74
25	-2.40	39.87	13.59	13.21
26	-2.50	41.69	14.75	14.80
27	-2.60	43.54	15.95	16.52
28	-2.70	45.41	17.20	18.37
29	-2.80	47.30	18.50	20.36
30	-2.90	49.22	19.85	22.49
31	-3.00	51.16	21.24	24.76
32	-3.10	53.12	22.68	27.19
33	-3.20	55.11	24.17	29.77
34	-3.30	57.12	25.70	32.51
35	-3.40	59.16	27.28	35.41
36	-3.50	61.21	28.91	38.49
37	-3.60	63.30	30.58	41.74
38	-3.70	65.40	32.31	45.17
39	-3.80	67.53	34.08	48.79
40	-3.90	69.68	35.89	52.59
41	-4.00	71.85	37.76	56.59
42	-4.10	74.05	39.67	60.79
43	-4.20	76.27	41.63	65.19
44	-4.30	78.52	43.63	69.80
45	-4.40	80.79	45.69	74.62
46	-4.50	83.08	47.79	79.67
47	-4.60	85.39	49.93	84.93
48	-4.70	87.73	52.13	90.43
49	-4.80	90.10	54.37	96.15
50	-4.90	92.48	56.66	102.12
51	-5.00	94.89	58.99	108.32
52	-5.10	97.32	61.38	114.78
53	-5.20	99.78	63.81	121.48
54	-5.30	102.26	66.29	128.44
55	-5.40	104.76	68.81	135.67
56	-5.50	107.29	71.38	143.16
57	-5.60	109.83	74.00	150.92
58	-5.70	112.41	76.67	158.96
59	-5.80	115.00	79.38	167.28
60	-5.90	117.62	82.14	175.89
61	-6.00	120.27	84.95	184.78
62	-6.10	122.93	87.81	193.97
63	-6.20	125.62	90.71	203.47
64	-6.30	128.34	93.66	213.27
65	-6.40	131.07	96.65	223.37
66	-6.50	133.83	99.70	233.80
67	-6.60	136.62	102.79	244.54
68	-6.70	139.42	105.93	255.61
69	-6.80	142.25	109.11	267.00
70	-6.90	145.11	112.35	278.73
71	-7.00	147.98	115.63	290.80
72	-7.10	150.88	118.95	303.22
73	-7.20	153.81	122.33	315.98
74	-7.30	156.76	125.75	329.09
75	-7.40	159.73	129.22	342.57
76	-7.50	162.72	132.73	356.41

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
77	-7.60	165.74	136.30	370.61
78	-7.70	168.78	139.91	385.19
79	-7.80	171.84	143.57	400.15
80	-7.90	174.93	147.27	415.49
81	-8.00	178.04	151.02	431.21

Mensola valle

Combinazione n° 1 - STR (A1-M1-R3)

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	-0.75	0.00	0.00	0.00
2	-0.67	0.00	1.04	0.04
3	-0.58	0.00	2.08	0.17
4	-0.50	0.00	3.13	0.39
5	-0.50	0.00	3.13	0.39

Combinazione n° 2 - STR (A1-M1-R3)

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	-0.75	0.00	0.00	0.00
2	-0.67	0.00	1.04	0.04
3	-0.58	0.00	2.08	0.17
4	-0.50	0.00	3.13	0.39
5	-0.50	0.00	3.13	0.39

Combinazione n° 3 - STR (A1-M1-R3) H + V

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	-0.75	0.00	0.00	0.00
2	-0.67	0.00	1.10	0.05
3	-0.58	0.00	2.21	0.18
4	-0.50	0.00	3.31	0.41
5	-0.50	0.00	3.31	0.41

Combinazione n° 4 - STR (A1-M1-R3) H - V

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	-0.75	0.00	0.00	0.00
2	-0.67	0.00	1.04	0.04
3	-0.58	0.00	2.08	0.17
4	-0.50	0.00	3.13	0.39
5	-0.50	0.00	3.13	0.39

Combinazione n° 9 - ECC

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	-0.75	0.00	0.00	0.00
2	-0.67	0.00	1.04	0.04
3	-0.58	0.00	2.08	0.17
4	-0.50	0.00	3.13	0.39
5	-0.50	-12.50	3.13	12.89

Combinazione n° 10 - SLER

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	-0.75	0.00	0.00	0.00
2	-0.67	0.00	1.04	0.04
3	-0.58	0.00	2.08	0.17
4	-0.50	0.00	3.13	0.39
5	-0.50	0.00	3.13	0.39

Combinazione n° 11 - SLEF

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	-0.75	0.00	0.00	0.00
2	-0.67	0.00	1.04	0.04
3	-0.58	0.00	2.08	0.17
4	-0.50	0.00	3.13	0.39
5	-0.50	0.00	3.13	0.39

Combinazione n° 12 - SLEQ

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	-0.75	0.00	0.00	0.00
2	-0.67	0.00	1.04	0.04
3	-0.58	0.00	2.08	0.17
4	-0.50	0.00	3.13	0.39
5	-0.50	0.00	3.13	0.39

Fondazione

Combinazione n° 1 - STR (A1-M1-R3)

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	-1.75	0.00	0.00	0.00
2	-1.65	0.00	14.11	0.68
3	-1.56	0.00	28.23	2.71
4	-1.46	0.00	42.36	6.11
5	-1.37	0.00	56.51	10.86
6	-1.27	0.00	70.66	16.97
7	-1.17	0.00	84.82	24.45
8	-1.08	0.00	99.00	33.29
9	-0.98	0.00	113.19	43.49
10	-0.88	0.00	127.38	55.05
11	-0.79	0.00	141.59	67.99
12	-0.69	0.00	155.81	82.28
13	-0.60	0.00	170.04	97.95
14	-0.50	0.00	184.29	114.99
15	0.75	0.00	-222.83	-460.62
16	0.85	0.00	-217.28	-438.61
17	0.95	0.00	-211.74	-417.16
18	1.05	0.00	-206.22	-396.26
19	1.15	0.00	-200.71	-375.92
20	1.25	0.00	-195.21	-356.12
21	1.35	0.00	-189.72	-336.87
22	1.45	0.00	-184.24	-318.18
23	1.55	0.00	-178.77	-300.03
24	1.65	0.00	-173.32	-282.42
25	1.75	0.00	-167.88	-265.36
26	1.85	0.00	-162.45	-248.85
27	1.95	0.00	-157.03	-232.87
28	2.05	0.00	-151.62	-217.44
29	2.15	0.00	-146.23	-202.55
30	2.25	0.00	-140.84	-188.19
31	2.35	0.00	-135.47	-174.38
32	2.45	0.00	-130.12	-161.10
33	2.55	0.00	-124.77	-148.35
34	2.65	0.00	-119.43	-136.14

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
35	2.75	0.00	-114.11	-124.47
36	2.85	0.00	-108.80	-113.32
37	2.95	0.00	-103.50	-102.71
38	3.05	0.00	-98.21	-92.62
39	3.15	0.00	-92.94	-83.06
40	3.25	0.00	-87.67	-74.03
41	3.35	0.00	-82.42	-65.53
42	3.45	0.00	-77.18	-57.55
43	3.55	0.00	-71.95	-50.09
44	3.65	0.00	-66.73	-43.16
45	3.75	0.00	-61.53	-36.75
46	3.85	0.00	-56.34	-30.85
47	3.95	0.00	-51.16	-25.48
48	4.05	0.00	-45.99	-20.62
49	4.15	0.00	-40.83	-16.28
50	4.25	0.00	-35.68	-12.46
51	4.35	0.00	-30.55	-9.14
52	4.45	0.00	-25.43	-6.35
53	4.55	0.00	-20.32	-4.06
54	4.65	0.00	-15.22	-2.28
55	4.75	0.00	-10.14	-1.01
56	4.85	0.00	-5.06	-0.25
57	4.95	0.00	0.00	0.00

Combinazione n° 2 - STR (A1-M1-R3)

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	-1.75	0.00	0.00	0.00
2	-1.65	0.00	16.04	0.77
3	-1.56	0.00	32.10	3.08
4	-1.46	0.00	48.17	6.94
5	-1.37	0.00	64.27	12.35
6	-1.27	0.00	80.38	19.30
7	-1.17	0.00	96.52	27.81
8	-1.08	0.00	112.67	37.87
9	-0.98	0.00	128.84	49.48
10	-0.88	0.00	145.04	62.64
11	-0.79	0.00	161.25	77.37
12	-0.69	0.00	177.48	93.65
13	-0.60	0.00	193.73	111.50
14	-0.50	0.00	210.00	130.91
15	0.75	0.00	-239.28	-489.60
16	0.85	0.00	-232.38	-464.40
17	0.95	0.00	-225.51	-439.89
18	1.05	0.00	-218.66	-416.06
19	1.15	0.00	-211.82	-392.92
20	1.25	0.00	-205.01	-370.46
21	1.35	0.00	-198.22	-348.68
22	1.45	0.00	-191.45	-327.58
23	1.55	0.00	-184.70	-307.15
24	1.65	0.00	-177.97	-287.40
25	1.75	0.00	-171.26	-268.32
26	1.85	0.00	-164.58	-249.91
27	1.95	0.00	-157.91	-232.17
28	2.05	0.00	-151.26	-215.09
29	2.15	0.00	-144.64	-198.68
30	2.25	0.00	-138.04	-182.92
31	2.35	0.00	-131.45	-167.83
32	2.45	0.00	-124.89	-153.40
33	2.55	0.00	-118.35	-139.62
34	2.65	0.00	-111.83	-126.49
35	2.75	0.00	-105.33	-114.01
36	2.85	0.00	-98.85	-102.19
37	2.95	0.00	-92.40	-91.00
38	3.05	0.00	-86.78	-81.24
39	3.15	0.00	-82.02	-72.80
40	3.25	0.00	-77.29	-64.84
41	3.35	0.00	-72.57	-57.35
42	3.45	0.00	-67.88	-50.32
43	3.55	0.00	-63.21	-43.77
44	3.65	0.00	-58.56	-37.68
45	3.75	0.00	-53.93	-32.06
46	3.85	0.00	-49.32	-26.89
47	3.95	0.00	-44.73	-22.19
48	4.05	0.00	-40.17	-17.95
49	4.15	0.00	-35.62	-14.16
50	4.25	0.00	-31.09	-10.82
51	4.35	0.00	-26.59	-7.94
52	4.45	0.00	-22.11	-5.50
53	4.55	0.00	-17.64	-3.52
54	4.65	0.00	-13.20	-1.98

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
55	4.75	0.00	-8.78	-0.88
56	4.85	0.00	-4.38	-0.22
57	4.95	0.00	0.00	0.00

Combinazione n° 3 - STR (A1-M1-R3) H + V

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	-1.75	0.00	0.00	0.00
2	-1.65	0.00	23.21	1.12
3	-1.56	0.00	46.19	4.46
4	-1.46	0.00	68.94	9.99
5	-1.37	0.00	91.47	17.71
6	-1.27	0.00	113.77	27.58
7	-1.17	0.00	135.84	39.58
8	-1.08	0.00	157.69	53.69
9	-0.98	0.00	179.32	69.90
10	-0.88	0.00	200.71	88.17
11	-0.79	0.00	221.88	108.49
12	-0.69	0.00	242.82	130.83
13	-0.60	0.00	263.54	155.18
14	-0.50	0.00	284.03	181.50
15	0.75	0.00	-92.64	-345.68
16	0.85	0.00	-95.46	-336.28
17	0.95	0.00	-98.02	-326.60
18	1.05	0.00	-100.35	-316.68
19	1.15	0.00	-102.42	-306.54
20	1.25	0.00	-104.26	-296.20
21	1.35	0.00	-105.85	-285.70
22	1.45	0.00	-107.19	-275.04
23	1.55	0.00	-108.29	-264.27
24	1.65	0.00	-109.14	-253.39
25	1.75	0.00	-109.75	-242.45
26	1.85	0.00	-110.12	-231.45
27	1.95	0.00	-110.24	-220.43
28	2.05	0.00	-110.11	-209.41
29	2.15	0.00	-109.74	-198.42
30	2.25	0.00	-109.13	-187.47
31	2.35	0.00	-108.27	-176.60
32	2.45	0.00	-107.16	-165.83
33	2.55	0.00	-105.81	-155.18
34	2.65	0.00	-104.22	-144.67
35	2.75	0.00	-102.38	-134.34
36	2.85	0.00	-100.30	-124.20
37	2.95	0.00	-97.97	-114.29
38	3.05	0.00	-95.40	-104.62
39	3.15	0.00	-92.58	-95.22
40	3.25	0.00	-89.52	-86.11
41	3.35	0.00	-86.21	-77.32
42	3.45	0.00	-82.66	-68.88
43	3.55	0.00	-78.86	-60.80
44	3.65	0.00	-74.82	-53.11
45	3.75	0.00	-70.53	-45.84
46	3.85	0.00	-66.00	-39.02
47	3.95	0.00	-61.22	-32.65
48	4.05	0.00	-56.20	-26.78
49	4.15	0.00	-50.94	-21.42
50	4.25	0.00	-45.43	-16.60
51	4.35	0.00	-39.67	-12.34
52	4.45	0.00	-33.67	-8.67
53	4.55	0.00	-27.43	-5.62
54	4.65	0.00	-20.94	-3.20
55	4.75	0.00	-14.20	-1.44
56	4.85	0.00	-7.22	-0.36
57	4.95	0.00	0.00	0.00

Combinazione n° 4 - STR (A1-M1-R3) H - V

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	-1.75	0.00	0.00	0.00
2	-1.65	0.00	21.09	1.02
3	-1.56	0.00	41.96	4.05
4	-1.46	0.00	62.60	9.08
5	-1.37	0.00	83.02	16.08
6	-1.27	0.00	103.22	25.04
7	-1.17	0.00	123.20	35.92
8	-1.08	0.00	142.96	48.72
9	-0.98	0.00	162.49	63.41

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
10	-0.88	0.00	181.80	79.96
11	-0.79	0.00	200.89	98.36
12	-0.69	0.00	219.76	118.59
13	-0.60	0.00	238.40	140.62
14	-0.50	0.00	256.82	164.43
15	0.75	0.00	-176.78	-519.67
16	0.85	0.00	-177.50	-501.96
17	0.95	0.00	-177.98	-484.18
18	1.05	0.00	-178.22	-466.37
19	1.15	0.00	-178.21	-448.55
20	1.25	0.00	-177.97	-430.73
21	1.35	0.00	-177.49	-412.96
22	1.45	0.00	-176.77	-395.24
23	1.55	0.00	-175.80	-377.61
24	1.65	0.00	-174.60	-360.09
25	1.75	0.00	-173.16	-342.70
26	1.85	0.00	-171.47	-325.47
27	1.95	0.00	-169.55	-308.42
28	2.05	0.00	-167.38	-291.57
29	2.15	0.00	-164.98	-274.95
30	2.25	0.00	-162.33	-258.58
31	2.35	0.00	-159.44	-242.49
32	2.45	0.00	-156.32	-226.70
33	2.55	0.00	-152.95	-211.23
34	2.65	0.00	-149.34	-196.12
35	2.75	0.00	-145.49	-181.37
36	2.85	0.00	-141.40	-167.03
37	2.95	0.00	-137.07	-153.10
38	3.05	0.00	-132.50	-139.62
39	3.15	0.00	-127.69	-126.61
40	3.25	0.00	-122.64	-114.09
41	3.35	0.00	-117.35	-102.09
42	3.45	0.00	-111.82	-90.63
43	3.55	0.00	-106.05	-79.73
44	3.65	0.00	-100.04	-69.43
45	3.75	0.00	-93.78	-59.73
46	3.85	0.00	-87.29	-50.68
47	3.95	0.00	-80.56	-42.28
48	4.05	0.00	-73.58	-34.57
49	4.15	0.00	-66.37	-27.57
50	4.25	0.00	-58.91	-21.31
51	4.35	0.00	-51.22	-15.80
52	4.45	0.00	-43.28	-11.07
53	4.55	0.00	-35.11	-7.15
54	4.65	0.00	-26.69	-4.06
55	4.75	0.00	-18.03	-1.82
56	4.85	0.00	-9.14	-0.46
57	4.95	0.00	0.00	0.00

Combinazione n° 9 - ECC

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	-1.75	0.00	0.00	0.00
2	-1.65	0.00	14.06	0.68
3	-1.56	0.00	28.12	2.70
4	-1.46	0.00	42.18	6.08
5	-1.37	0.00	56.24	10.81
6	-1.27	0.00	70.30	16.90
7	-1.17	0.00	84.37	24.33
8	-1.08	0.00	98.43	33.12
9	-0.98	0.00	112.50	43.26
10	-0.88	0.00	126.57	54.76
11	-0.79	0.00	140.64	67.60
12	-0.69	0.00	154.71	81.80
13	-0.60	0.00	168.78	97.36
14	-0.50	0.00	182.85	114.26
15	0.75	0.00	-21.82	-45.02
16	0.85	0.00	-21.28	-42.86
17	0.95	0.00	-20.73	-40.76
18	1.05	0.00	-20.19	-38.71
19	1.15	0.00	-19.64	-36.72
20	1.25	0.00	-19.10	-34.79
21	1.35	0.00	-18.56	-32.90
22	1.45	0.00	-18.02	-31.07
23	1.55	0.00	-17.49	-29.30
24	1.65	0.00	-16.95	-27.58
25	1.75	0.00	-16.42	-25.91
26	1.85	0.00	-15.88	-24.29
27	1.95	0.00	-15.35	-22.73
28	2.05	0.00	-14.82	-21.22
29	2.15	0.00	-14.29	-19.77

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
30	2.25	0.00	-13.76	-18.36
31	2.35	0.00	-13.24	-17.01
32	2.45	0.00	-12.71	-15.72
33	2.55	0.00	-12.19	-14.47
34	2.65	0.00	-11.66	-13.28
35	2.75	0.00	-11.14	-12.14
36	2.85	0.00	-10.62	-11.05
37	2.95	0.00	-10.10	-10.01
38	3.05	0.00	-9.58	-9.03
39	3.15	0.00	-9.07	-8.10
40	3.25	0.00	-8.55	-7.22
41	3.35	0.00	-8.04	-6.39
42	3.45	0.00	-7.53	-5.61
43	3.55	0.00	-7.02	-4.88
44	3.65	0.00	-6.51	-4.21
45	3.75	0.00	-6.00	-3.58
46	3.85	0.00	-5.49	-3.01
47	3.95	0.00	-4.99	-2.48
48	4.05	0.00	-4.48	-2.01
49	4.15	0.00	-3.98	-1.59
50	4.25	0.00	-3.48	-1.21
51	4.35	0.00	-2.98	-0.89
52	4.45	0.00	-2.48	-0.62
53	4.55	0.00	-1.98	-0.39
54	4.65	0.00	-1.48	-0.22
55	4.75	0.00	-0.99	-0.10
56	4.85	0.00	-0.49	-0.02
57	4.95	0.00	0.00	0.00

Combinazione n° 10 - SLER

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	-1.75	0.00	0.00	0.00
2	-1.65	0.00	13.53	0.65
3	-1.56	0.00	27.11	2.60
4	-1.46	0.00	40.74	5.86
5	-1.37	0.00	54.43	10.44
6	-1.27	0.00	68.17	16.33
7	-1.17	0.00	81.96	23.55
8	-1.08	0.00	95.80	32.10
9	-0.98	0.00	109.70	41.98
10	-0.88	0.00	123.64	53.19
11	-0.79	0.00	137.64	65.75
12	-0.69	0.00	151.70	79.66
13	-0.60	0.00	165.80	94.93
14	-0.50	0.00	179.96	111.55
15	0.75	0.00	-4.51	25.57
16	0.85	0.00	-2.81	26.83
17	0.95	0.00	-1.17	27.93
18	1.05	0.00	0.42	28.87
19	1.15	0.00	1.95	29.65
20	1.25	0.00	3.42	30.28
21	1.35	0.00	4.83	30.76
22	1.45	0.00	6.19	31.11
23	1.55	0.00	7.49	31.33
24	1.65	0.00	8.74	31.41
25	1.75	0.00	9.93	31.38
26	1.85	0.00	11.06	31.23
27	1.95	0.00	12.13	30.97
28	2.05	0.00	13.15	30.60
29	2.15	0.00	14.11	30.14
30	2.25	0.00	15.02	29.58
31	2.35	0.00	15.86	28.93
32	2.45	0.00	16.65	28.21
33	2.55	0.00	17.39	27.40
34	2.65	0.00	18.06	26.53
35	2.75	0.00	18.69	25.59
36	2.85	0.00	19.25	24.59
37	2.95	0.00	19.76	23.54
38	3.05	0.00	19.75	22.01
39	3.15	0.00	19.22	20.06
40	3.25	0.00	18.64	18.17
41	3.35	0.00	18.00	16.33
42	3.45	0.00	17.30	14.57
43	3.55	0.00	16.54	12.88
44	3.65	0.00	15.73	11.26
45	3.75	0.00	14.86	9.73
46	3.85	0.00	13.93	8.29
47	3.95	0.00	12.95	6.95
48	4.05	0.00	11.91	5.70
49	4.15	0.00	10.81	4.57

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
50	4.25	0.00	9.66	3.54
51	4.35	0.00	8.45	2.64
52	4.45	0.00	7.18	1.86
53	4.55	0.00	5.86	1.20
54	4.65	0.00	4.48	0.68
55	4.75	0.00	3.04	0.31
56	4.85	0.00	1.55	0.08
57	4.95	0.00	0.00	0.00

Combinazione n° 11 - SLEF

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	-1.75	0.00	0.00	0.00
2	-1.65	0.00	12.46	0.60
3	-1.56	0.00	24.97	2.40
4	-1.46	0.00	37.52	5.40
5	-1.37	0.00	50.12	9.61
6	-1.27	0.00	62.77	15.04
7	-1.17	0.00	75.47	21.69
8	-1.08	0.00	88.21	29.56
9	-0.98	0.00	101.01	38.65
10	-0.88	0.00	113.85	48.98
11	-0.79	0.00	126.74	60.55
12	-0.69	0.00	139.67	73.36
13	-0.60	0.00	152.66	87.41
14	-0.50	0.00	165.69	102.72
15	0.75	0.00	4.62	41.63
16	0.85	0.00	5.57	41.12
17	0.95	0.00	6.47	40.52
18	1.05	0.00	7.32	39.83
19	1.15	0.00	8.11	39.05
20	1.25	0.00	8.85	38.21
21	1.35	0.00	9.55	37.28
22	1.45	0.00	10.19	36.30
23	1.55	0.00	10.77	35.25
24	1.65	0.00	11.31	34.14
25	1.75	0.00	11.79	32.99
26	1.85	0.00	12.23	31.79
27	1.95	0.00	12.61	30.55
28	2.05	0.00	12.94	29.27
29	2.15	0.00	13.22	27.96
30	2.25	0.00	13.44	26.63
31	2.35	0.00	13.62	25.27
32	2.45	0.00	13.74	23.90
33	2.55	0.00	13.81	22.53
34	2.65	0.00	13.83	21.14
35	2.75	0.00	13.80	19.76
36	2.85	0.00	13.71	18.39
37	2.95	0.00	13.58	17.02
38	3.05	0.00	13.39	15.67
39	3.15	0.00	13.15	14.35
40	3.25	0.00	12.86	13.05
41	3.35	0.00	12.52	11.78
42	3.45	0.00	12.12	10.54
43	3.55	0.00	11.67	9.35
44	3.65	0.00	11.18	8.21
45	3.75	0.00	10.63	7.12
46	3.85	0.00	10.03	6.09
47	3.95	0.00	9.37	5.12
48	4.05	0.00	8.67	4.21
49	4.15	0.00	7.91	3.39
50	4.25	0.00	7.10	2.63
51	4.35	0.00	6.24	1.97
52	4.45	0.00	5.33	1.39
53	4.55	0.00	4.37	0.90
54	4.65	0.00	3.35	0.51
55	4.75	0.00	2.29	0.23
56	4.85	0.00	1.17	0.06
57	4.95	0.00	0.00	0.00

Combinazione n° 12 - SLEQ

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	-1.75	0.00	0.00	0.00
2	-1.65	0.00	12.46	0.60
3	-1.56	0.00	24.97	2.40
4	-1.46	0.00	37.52	5.40

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
5	-1.37	0.00	50.12	9.61
6	-1.27	0.00	62.77	15.04
7	-1.17	0.00	75.47	21.69
8	-1.08	0.00	88.21	29.56
9	-0.98	0.00	101.01	38.65
10	-0.88	0.00	113.85	48.98
11	-0.79	0.00	126.74	60.55
12	-0.69	0.00	139.67	73.36
13	-0.60	0.00	152.66	87.41
14	-0.50	0.00	165.69	102.72
15	0.75	0.00	4.62	41.63
16	0.85	0.00	5.57	41.12
17	0.95	0.00	6.47	40.52
18	1.05	0.00	7.32	39.83
19	1.15	0.00	8.11	39.05
20	1.25	0.00	8.85	38.21
21	1.35	0.00	9.55	37.28
22	1.45	0.00	10.19	36.30
23	1.55	0.00	10.77	35.25
24	1.65	0.00	11.31	34.14
25	1.75	0.00	11.79	32.99
26	1.85	0.00	12.23	31.79
27	1.95	0.00	12.61	30.55
28	2.05	0.00	12.94	29.27
29	2.15	0.00	13.22	27.96
30	2.25	0.00	13.44	26.63
31	2.35	0.00	13.62	25.27
32	2.45	0.00	13.74	23.90
33	2.55	0.00	13.81	22.53
34	2.65	0.00	13.83	21.14
35	2.75	0.00	13.80	19.76
36	2.85	0.00	13.71	18.39
37	2.95	0.00	13.58	17.02
38	3.05	0.00	13.39	15.67
39	3.15	0.00	13.15	14.35
40	3.25	0.00	12.86	13.05
41	3.35	0.00	12.52	11.78
42	3.45	0.00	12.12	10.54
43	3.55	0.00	11.67	9.35
44	3.65	0.00	11.18	8.21
45	3.75	0.00	10.63	7.12
46	3.85	0.00	10.03	6.09
47	3.95	0.00	9.37	5.12
48	4.05	0.00	8.67	4.21
49	4.15	0.00	7.91	3.39
50	4.25	0.00	7.10	2.63
51	4.35	0.00	6.24	1.97
52	4.45	0.00	5.33	1.39
53	4.55	0.00	4.37	0.90
54	4.65	0.00	3.35	0.51
55	4.75	0.00	2.29	0.23
56	4.85	0.00	1.17	0.06
57	4.95	0.00	0.00	0.00

Verifiche strutturali

Verifiche a flessione

Elementi calcolati a trave

Simbologia adottata

n°	indice sezione
B	larghezza sezione espresso in [cm]
H	altezza sezione espressa in [cm]
Afi	area ferri inferiori espresso in [cmq]
Afs	area ferri superiori espressa in [cmq]
M	momento agente espressa in [kNm]

N sforzo normale agente espressa in [kN]

Mrd momento resistente espresso in [kNm]

Nrd sforzo normale resistente espresso in [kN]

FS fattore di sicurezza (rapporto tra sollecitazione ultima e sollecitazione agente)

Paramento

Combinazione n° 1 - STR (A1-M1-R3)

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
1	0.00	100	50	31.42	31.42	0.39	3.13	676.60	5412.79	1732.092
2	-0.10	100	51	31.42	31.42	0.39	4.39	577.89	6423.63	1464.340
3	-0.20	100	52	31.42	31.42	0.41	5.67	511.77	7061.16	1244.954
4	-0.30	100	53	31.42	31.42	0.45	6.98	476.74	7453.90	1067.839
5	-0.40	100	54	31.42	31.42	0.51	8.31	468.82	7683.12	924.308
6	-0.50	100	55	31.42	31.42	0.60	9.67	483.21	7789.04	805.681
7	-0.60	100	56	31.42	31.42	0.73	11.05	515.84	7799.85	706.098
8	-0.70	100	57	31.42	31.42	0.91	12.45	563.26	7738.50	621.636
9	-0.80	100	57	31.42	31.42	1.13	13.87	621.79	7615.22	548.877
10	-0.90	100	58	31.42	31.42	1.42	15.32	688.48	7443.50	485.768
11	-1.00	100	59	31.42	31.42	1.77	16.80	761.10	7238.70	430.988
12	-1.10	100	60	31.42	31.42	2.19	18.29	836.47	7001.68	382.785
13	-1.20	100	61	31.42	31.42	2.68	19.81	913.75	6750.26	340.739
14	-1.30	100	62	31.42	31.42	3.26	21.35	990.67	6485.54	303.725
15	-1.40	100	63	31.42	31.42	3.93	22.92	1067.09	6220.17	271.394
16	-1.50	100	64	31.42	31.42	4.70	24.51	1141.60	5954.78	242.965
17	-1.60	100	65	31.42	31.42	5.57	26.12	1215.12	5700.17	218.216
18	-1.70	100	66	31.42	31.42	6.55	27.76	1285.82	5450.99	196.375
19	-1.80	100	67	31.42	31.42	7.64	29.42	1355.72	5218.01	177.376
20	-1.90	100	68	31.42	31.42	8.86	31.10	1419.88	4983.56	160.239
21	-2.00	100	69	31.42	31.42	10.21	32.81	1479.94	4756.38	144.979
22	-2.10	100	70	31.42	31.42	11.69	34.54	1538.81	4546.19	131.631
23	-2.20	100	71	31.42	31.42	13.31	36.29	1560.58	4253.58	117.209
24	-2.30	100	72	31.42	31.42	15.09	38.07	1576.31	3977.27	104.480
25	-2.40	100	72	31.42	31.42	17.01	39.87	1585.43	3714.81	93.179
26	-2.50	100	73	31.42	31.42	19.10	41.69	1586.48	3462.23	83.045
27	-2.60	100	74	31.42	31.42	21.36	43.54	1586.19	3233.01	74.257
28	-2.70	100	75	31.42	31.42	23.79	45.41	1578.87	3013.38	66.361
29	-2.80	100	76	31.42	31.42	26.40	47.30	1571.16	2814.70	59.504
30	-2.90	100	77	31.42	31.42	29.20	49.22	1563.44	2635.03	53.536
31	-3.00	100	78	31.42	31.42	32.20	51.16	1550.01	2462.96	48.142
32	-3.10	100	79	31.42	31.42	35.39	53.12	1540.47	2312.40	43.528
33	-3.20	100	80	31.42	31.42	38.79	55.11	1533.09	2178.16	39.523
34	-3.30	100	81	31.42	31.42	42.40	57.12	1515.63	2041.72	35.743
35	-3.40	100	82	31.42	31.42	46.24	59.16	1502.32	1922.12	32.492
36	-3.50	100	83	31.42	31.42	50.30	61.21	1492.49	1816.48	29.674
37	-3.60	100	84	31.42	31.42	54.59	63.30	1485.58	1722.55	27.214
38	-3.70	100	85	31.42	31.42	59.12	65.40	1473.88	1630.46	24.930
39	-3.80	100	86	31.42	31.42	63.90	67.53	1462.96	1546.12	22.896
40	-3.90	100	87	31.42	31.42	68.93	69.68	1454.35	1470.27	21.100
41	-4.00	100	87	31.42	31.42	74.21	71.85	1447.73	1401.72	19.508
42	-4.10	100	88	31.42	31.42	79.77	74.05	1442.83	1339.49	18.088
43	-4.20	100	89	31.42	31.42	85.59	76.27	1439.43	1282.76	16.818
44	-4.30	100	90	31.42	31.42	91.69	78.52	1437.35	1230.85	15.676
45	-4.40	100	91	31.42	62.83	98.08	80.79	2576.95	2122.63	26.274
46	-4.50	100	92	31.42	62.83	104.76	83.08	2598.15	2060.52	24.802
47	-4.60	100	93	31.42	62.83	111.73	85.39	2616.47	1999.72	23.417
48	-4.70	100	94	31.42	62.83	119.01	87.73	2633.25	1941.19	22.126
49	-4.80	100	95	31.42	62.83	126.60	90.10	2650.78	1886.42	20.938
50	-4.90	100	96	31.42	62.83	134.51	92.48	2669.01	1835.08	19.843
51	-5.00	100	97	31.42	62.83	142.74	94.89	2687.87	1786.85	18.831
52	-5.10	100	98	31.42	62.83	151.30	97.32	2707.33	1741.49	17.894
53	-5.20	100	99	31.42	62.83	160.19	99.78	2727.33	1698.74	17.025
54	-5.30	100	100	31.42	62.83	169.43	102.26	2747.85	1658.39	16.218
55	-5.40	100	101	31.42	62.83	179.02	104.76	2768.85	1620.27	15.467
56	-5.50	100	102	62.83	62.83	188.97	107.29	2907.73	1650.86	15.388
57	-5.60	100	102	62.83	62.83	199.27	109.83	2919.52	1609.18	14.651
58	-5.70	100	103	62.83	62.83	209.95	112.41	2931.96	1569.79	13.965
59	-5.80	100	104	62.83	62.83	221.00	115.00	2944.98	1532.52	13.326
60	-5.90	100	105	62.83	62.83	232.43	117.62	2958.55	1497.20	12.729
61	-6.00	100	106	62.83	62.83	244.25	120.27	2972.63	1463.69	12.170
62	-6.10	100	107	62.83	62.83	256.47	122.93	2987.18	1431.85	11.647
63	-6.20	100	108	62.83	62.83	269.08	125.62	3002.16	1401.57	11.157
64	-6.30	100	109	62.83	62.83	282.11	128.34	3017.67	1372.79	10.697
65	-6.40	100	110	62.83	62.83	295.55	131.07	3033.60	1345.38	10.264
66	-6.50	100	111	62.83	62.83	309.40	133.83	3049.91	1319.23	9.857
67	-6.60	100	112	62.83	62.83	323.69	136.62	3066.56	1294.27	9.474

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
68	-6.70	100	113	62.83	62.83	338.41	139.42	3083.54	1270.40	9.112
69	-6.80	100	114	62.83	62.83	353.57	142.25	3100.83	1247.57	8.770
70	-6.90	100	115	62.83	62.83	369.18	145.11	3118.41	1225.71	8.447
71	-7.00	100	116	62.83	62.83	385.23	147.98	3136.26	1204.76	8.141
72	-7.10	100	116	62.83	62.83	401.75	150.88	3154.38	1184.67	7.852
73	-7.20	100	117	62.83	62.83	418.74	153.81	3172.73	1165.39	7.577
74	-7.30	100	118	31.42	31.42	436.20	156.76	1623.24	583.35	3.721
75	-7.40	100	119	31.42	31.42	454.13	159.73	1632.35	574.13	3.594
76	-7.50	100	120	31.42	31.42	472.55	162.72	1641.55	565.26	3.474
77	-7.60	100	121	31.42	31.42	491.47	165.74	1650.86	556.72	3.359
78	-7.70	100	122	31.42	31.42	510.88	168.78	1660.25	548.50	3.250
79	-7.80	100	123	31.42	31.42	530.80	171.84	1669.74	540.58	3.146
80	-7.90	100	124	31.42	31.42	551.22	174.93	1679.31	532.93	3.047
81	-7.99	100	125	31.42	31.42	572.17	178.04	1687.32	525.05	2.949

Combinazione n° 2 - STR (A1-M1-R3)

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
1	0.00	100	50	31.42	31.42	0.39	3.13	676.60	5412.79	1732.092
2	-0.10	100	51	31.42	31.42	0.44	4.39	615.51	6149.47	1401.843
3	-0.20	100	52	31.42	31.42	0.59	5.67	642.57	6189.88	1091.339
4	-0.30	100	53	31.42	31.42	0.85	6.98	714.87	5896.18	844.682
5	-0.40	100	54	31.42	31.42	1.22	8.31	801.89	5472.14	658.318
6	-0.50	100	55	31.42	31.42	1.71	9.67	888.55	5022.04	519.468
7	-0.60	100	56	31.42	31.42	2.33	11.05	969.82	4597.81	416.226
8	-0.70	100	57	31.42	31.42	3.08	12.45	1044.34	4216.65	338.725
9	-0.80	100	57	31.42	31.42	3.98	13.87	1110.20	3873.68	279.201
10	-0.90	100	58	31.42	31.42	5.02	15.32	1145.32	3498.72	228.329
11	-1.00	100	59	31.42	31.42	6.21	16.80	1151.67	3115.36	185.487
12	-1.10	100	60	31.42	31.42	7.56	18.29	1148.33	2777.92	151.870
13	-1.20	100	61	31.42	31.42	9.08	19.81	1140.51	2488.46	125.612
14	-1.30	100	62	31.42	31.42	10.77	21.35	1128.62	2237.59	104.789
15	-1.40	100	63	31.42	31.42	12.64	22.92	1115.78	2023.15	88.273
16	-1.50	100	64	31.42	31.42	14.70	24.51	1104.40	1841.90	75.153
17	-1.60	100	65	31.42	31.42	16.94	26.12	1093.31	1685.64	64.530
18	-1.70	100	66	31.42	31.42	19.39	27.76	1077.87	1543.20	55.595
19	-1.80	100	67	31.42	31.42	22.04	29.42	1067.51	1424.95	48.438
20	-1.90	100	68	31.42	31.42	24.90	31.10	1061.08	1325.30	42.613
21	-2.00	100	69	31.42	31.42	27.98	32.81	1056.50	1238.78	37.759
22	-2.10	100	70	31.42	31.42	31.28	34.54	1051.54	1160.90	33.613
23	-2.20	100	71	31.42	31.42	34.82	36.29	1048.76	1093.09	30.121
24	-2.30	100	72	31.42	31.42	38.59	38.07	1047.75	1033.54	27.150
25	-2.40	100	72	31.42	31.42	42.61	39.87	1048.31	980.92	24.604
26	-2.50	100	73	31.42	31.42	46.87	41.69	1050.15	934.06	22.404
27	-2.60	100	74	31.42	31.42	51.40	43.54	1053.06	892.07	20.489
28	-2.70	100	75	31.42	31.42	56.18	45.41	1056.89	854.23	18.812
29	-2.80	100	76	31.42	31.42	61.24	47.30	1061.52	819.96	17.334
30	-2.90	100	77	31.42	31.42	66.57	49.22	1066.83	788.79	16.026
31	-3.00	100	78	31.42	31.42	72.18	51.16	1072.75	760.31	14.861
32	-3.10	100	79	31.42	31.42	78.09	53.12	1079.20	734.20	13.820
33	-3.20	100	80	31.42	31.42	84.29	55.11	1086.11	710.17	12.886
34	-3.30	100	81	31.42	31.42	90.79	57.12	1093.44	687.98	12.044
35	-3.40	100	82	31.42	31.42	97.60	59.16	1101.15	667.44	11.282
36	-3.50	100	83	31.42	31.42	104.72	61.21	1109.18	648.36	10.592
37	-3.60	100	84	31.42	31.42	112.17	63.30	1117.52	630.60	9.963
38	-3.70	100	85	31.42	31.42	119.94	65.40	1126.13	614.03	9.389
39	-3.80	100	86	31.42	31.42	128.05	67.53	1134.99	598.53	8.863
40	-3.90	100	87	31.42	31.42	136.50	69.68	1144.07	584.00	8.381
41	-4.00	100	87	31.42	31.42	145.30	71.85	1153.36	570.36	7.938
42	-4.10	100	88	31.42	31.42	154.45	74.05	1162.84	557.53	7.529
43	-4.20	100	89	31.42	31.42	163.96	76.27	1172.49	545.43	7.151
44	-4.30	100	90	31.42	31.42	173.84	78.52	1182.30	534.01	6.801
45	-4.40	100	91	31.42	62.83	184.10	80.79	2290.64	1005.21	12.443
46	-4.50	100	92	31.42	62.83	194.73	83.08	2312.38	986.56	11.875
47	-4.60	100	93	31.42	62.83	205.74	85.39	2334.41	968.90	11.346
48	-4.70	100	94	31.42	62.83	217.15	87.73	2356.72	952.17	10.853
49	-4.80	100	95	31.42	62.83	228.94	90.10	2379.30	936.32	10.392
50	-4.90	100	96	31.42	62.83	241.13	92.48	2402.15	921.30	9.962
51	-5.00	100	97	31.42	62.83	253.71	94.89	2425.26	907.08	9.559
52	-5.10	100	98	31.42	62.83	266.67	97.32	2448.61	893.62	9.182
53	-5.20	100	99	31.42	62.83	280.03	99.78	2472.21	880.88	8.828
54	-5.30	100	100	31.42	62.83	293.78	102.26	2494.96	868.44	8.493
55	-5.40	100	101	31.42	62.83	307.92	104.76	2516.15	856.04	8.171
56	-5.50	100	102	62.83	62.83	322.46	107.29	2572.21	855.79	7.977
57	-5.60	100	102	62.83	62.83	337.41	109.83	2593.59	844.26	7.687
58	-5.70	100	103	62.83	62.83	352.78	112.41	2615.09	833.27	7.413
59	-5.80	100	104	62.83	62.83	368.56	115.00	2636.71	822.75	7.154
60	-5.90	100	105	62.83	62.83	384.77	117.62	2658.45	812.69	6.909
61	-6.00	100	106	62.83	62.83	401.41	120.27	2680.28	803.04	6.677
62	-6.10	100	107	62.83	62.83	418.49	122.93	2702.20	793.78	6.457
63	-6.20	100	108	62.83	62.83	436.02	125.62	2724.21	784.88	6.248

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
64	-6.30	100	109	62.83	62.83	454.00	128.34	2746.46	776.36	6.049
65	-6.40	100	110	62.83	62.83	472.44	131.07	2768.85	768.18	5.861
66	-6.50	100	111	62.83	62.83	491.35	133.83	2791.32	760.30	5.681
67	-6.60	100	112	62.83	62.83	510.73	136.62	2813.86	752.69	5.510
68	-6.70	100	113	62.83	62.83	530.58	139.42	2836.48	745.35	5.346
69	-6.80	100	114	62.83	62.83	550.93	142.25	2859.17	738.26	5.190
70	-6.90	100	115	62.83	62.83	571.76	145.11	2881.92	731.40	5.040
71	-7.00	100	116	62.83	62.83	593.10	147.98	2904.73	724.76	4.898
72	-7.10	100	116	62.83	62.83	614.94	150.88	2927.60	718.33	4.761
73	-7.20	100	117	62.83	62.83	637.29	153.81	2950.52	712.10	4.630
74	-7.30	100	118	31.42	31.42	660.16	156.76	1506.49	357.72	2.282
75	-7.40	100	119	31.42	31.42	683.56	159.73	1517.83	354.67	2.220
76	-7.50	100	120	31.42	31.42	707.49	162.72	1529.20	351.71	2.161
77	-7.60	100	121	31.42	31.42	731.95	165.74	1540.58	348.84	2.105
78	-7.70	100	122	31.42	31.42	756.96	168.78	1551.98	346.04	2.050
79	-7.80	100	123	31.42	31.42	782.52	171.84	1563.40	343.33	1.998
80	-7.90	100	124	31.42	31.42	808.64	174.93	1574.83	340.68	1.948
81	-7.99	100	125	31.42	31.42	835.33	178.04	1584.83	337.79	1.897

Combinazione n° 3 - STR (A1-M1-R3) H + V

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
1	0.00	100	50	31.42	31.42	0.41	3.31	676.60	5412.79	1633.288
2	-0.10	100	51	31.42	31.42	0.46	4.65	610.05	6189.28	1330.433
3	-0.20	100	52	31.42	31.42	0.59	6.01	624.73	6317.37	1050.281
4	-0.30	100	53	31.42	31.42	0.83	7.40	685.27	6124.44	827.333
5	-0.40	100	54	31.42	31.42	1.16	8.82	763.22	5780.03	655.694
6	-0.50	100	55	31.42	31.42	1.61	10.25	845.16	5391.98	525.920
7	-0.60	100	56	31.42	31.42	2.16	11.71	924.99	5010.89	427.746
8	-0.70	100	57	31.42	31.42	2.84	13.20	999.50	4653.56	352.498
9	-0.80	100	57	31.42	31.42	3.63	14.71	1069.27	4332.70	294.472
10	-0.90	100	58	31.42	31.42	4.55	16.25	1131.37	4036.57	248.402
11	-1.00	100	59	31.42	31.42	5.61	17.81	1182.04	3752.34	210.668
12	-1.10	100	60	31.42	31.42	6.81	19.40	1198.19	3415.33	176.067
13	-1.20	100	61	31.42	31.42	8.14	21.01	1203.88	3106.11	147.846
14	-1.30	100	62	31.42	31.42	9.63	22.65	1202.62	2828.39	124.901
15	-1.40	100	63	31.42	31.42	11.27	24.31	1200.09	2588.74	106.507
16	-1.50	100	64	31.42	31.42	13.07	25.99	1192.55	2372.38	91.276
17	-1.60	100	65	31.42	31.42	15.03	27.70	1187.02	2188.28	78.994
18	-1.70	100	66	31.42	31.42	17.16	29.44	1177.82	2020.89	68.651
19	-1.80	100	67	31.42	31.42	19.46	31.20	1172.81	1880.14	60.266
20	-1.90	100	68	31.42	31.42	21.94	32.98	1164.82	1750.80	53.083
21	-2.00	100	69	31.42	31.42	24.61	34.79	1154.33	1631.90	46.904
22	-2.10	100	70	31.42	31.42	27.47	36.63	1147.55	1530.27	41.780
23	-2.20	100	71	31.42	31.42	30.52	38.49	1143.77	1442.45	37.480
24	-2.30	100	72	31.42	31.42	33.77	40.37	1142.44	1365.86	33.833
25	-2.40	100	72	31.42	31.42	37.22	42.28	1138.99	1293.77	30.600
26	-2.50	100	73	31.42	31.42	40.89	44.21	1136.98	1229.53	27.809
27	-2.60	100	74	31.42	31.42	44.76	46.17	1136.55	1172.29	25.390
28	-2.70	100	75	31.42	31.42	48.86	48.16	1137.44	1120.97	23.278
29	-2.80	100	76	31.42	31.42	53.19	50.16	1139.47	1074.70	21.424
30	-2.90	100	77	31.42	31.42	57.74	52.20	1142.48	1032.78	19.786
31	-3.00	100	78	31.42	31.42	62.53	54.26	1146.34	994.63	18.332
32	-3.10	100	79	31.42	31.42	67.56	56.34	1150.95	959.77	17.036
33	-3.20	100	80	31.42	31.42	72.84	58.45	1156.21	927.78	15.874
34	-3.30	100	81	31.42	31.42	78.36	60.58	1162.04	898.33	14.829
35	-3.40	100	82	31.42	31.42	84.14	62.74	1168.39	871.13	13.886
36	-3.50	100	83	31.42	31.42	90.19	64.92	1175.20	845.94	13.031
37	-3.60	100	84	31.42	31.42	96.49	67.12	1182.42	822.53	12.254
38	-3.70	100	85	31.42	31.42	103.07	69.36	1190.01	800.74	11.545
39	-3.80	100	86	31.42	31.42	109.93	71.61	1197.93	780.39	10.897
40	-3.90	100	87	31.42	31.42	117.07	73.89	1206.16	761.35	10.303
41	-4.00	100	87	31.42	31.42	124.49	76.20	1214.67	743.50	9.757
42	-4.10	100	88	31.42	31.42	132.21	78.53	1223.42	726.73	9.254
43	-4.20	100	89	31.42	31.42	140.22	80.89	1232.41	710.95	8.789
44	-4.30	100	90	31.42	31.42	148.53	83.27	1241.62	696.07	8.359
45	-4.40	100	91	31.42	62.83	157.15	85.67	2379.95	1297.47	15.144
46	-4.50	100	92	31.42	62.83	166.09	88.11	2400.99	1273.68	14.456
47	-4.60	100	93	31.42	62.83	175.34	90.56	2422.15	1251.03	13.814
48	-4.70	100	94	31.42	62.83	184.91	93.04	2443.64	1229.57	13.215
49	-4.80	100	95	31.42	62.83	194.81	95.55	2465.45	1209.21	12.656
50	-4.90	100	96	31.42	62.83	205.04	98.08	2487.56	1189.86	12.132
51	-5.00	100	97	31.42	62.83	215.61	100.63	2509.96	1171.46	11.641
52	-5.10	100	98	31.42	62.83	226.52	103.21	2532.63	1153.93	11.180
53	-5.20	100	99	31.42	62.83	237.78	105.81	2555.55	1137.22	10.747
54	-5.30	100	100	31.42	62.83	249.40	108.44	2578.72	1121.28	10.340
55	-5.40	100	101	31.42	62.83	261.37	111.10	2602.12	1106.05	9.956
56	-5.50	100	102	62.83	62.83	273.70	113.78	2681.45	1114.65	9.797
57	-5.60	100	102	62.83	62.83	286.41	116.48	2702.10	1098.92	9.434
58	-5.70	100	103	62.83	62.83	299.48	119.21	2722.89	1083.83	9.092
59	-5.80	100	104	62.83	62.83	312.94	121.96	2743.81	1069.34	8.768

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
60	-5.90	100	105	62.83	62.83	326.78	124.74	2764.86	1055.41	8.461
61	-6.00	100	106	62.83	62.83	341.01	127.54	2786.03	1042.02	8.170
62	-6.10	100	107	62.83	62.83	355.63	130.37	2807.31	1029.13	7.894
63	-6.20	100	108	62.83	62.83	370.65	133.22	2828.70	1016.71	7.632
64	-6.30	100	109	62.83	62.83	386.08	136.10	2850.34	1004.80	7.383
65	-6.40	100	110	62.83	62.83	401.91	139.00	2872.12	993.33	7.146
66	-6.50	100	111	62.83	62.83	418.16	141.93	2894.01	982.27	6.921
67	-6.60	100	112	62.83	62.83	434.83	144.88	2916.00	971.58	6.706
68	-6.70	100	113	62.83	62.83	451.92	147.86	2938.08	961.27	6.501
69	-6.80	100	114	62.83	62.83	469.44	150.86	2960.25	951.30	6.306
70	-6.90	100	115	62.83	62.83	487.40	153.89	2982.51	941.65	6.119
71	-7.00	100	116	62.83	62.83	505.80	156.94	3004.85	932.32	5.941
72	-7.10	100	116	62.83	62.83	524.64	160.01	3027.27	923.29	5.770
73	-7.20	100	117	62.83	62.83	543.94	163.11	3049.77	914.55	5.607
74	-7.30	100	118	31.42	31.42	563.69	166.24	1559.35	459.87	2.766
75	-7.40	100	119	31.42	31.42	583.90	169.39	1570.50	455.61	2.690
76	-7.50	100	120	31.42	31.42	604.57	172.56	1581.68	451.46	2.616
77	-7.60	100	121	31.42	31.42	625.72	175.76	1592.89	447.45	2.546
78	-7.70	100	122	31.42	31.42	647.34	178.99	1604.12	443.54	2.478
79	-7.80	100	123	31.42	31.42	669.44	182.24	1615.39	439.75	2.413
80	-7.90	100	124	31.42	31.42	692.03	185.51	1626.67	436.07	2.351
81	-7.99	100	125	31.42	31.42	715.11	188.81	1636.43	432.07	2.288

Combinazione n° 4 - STR (A1-M1-R3) H - V

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
1	0.00	100	50	31.42	31.42	0.39	3.13	676.60	5412.79	1732.092
2	-0.10	100	51	31.42	31.42	0.42	4.31	608.98	6197.08	1437.711
3	-0.20	100	52	31.42	31.42	0.53	5.52	611.26	6413.69	1162.373
4	-0.30	100	53	31.42	31.42	0.70	6.75	657.83	6316.77	936.217
5	-0.40	100	54	31.42	31.42	0.96	8.00	726.84	6062.29	757.928
6	-0.50	100	55	31.42	31.42	1.30	9.27	803.75	5732.76	618.297
7	-0.60	100	56	31.42	31.42	1.73	10.57	881.17	5380.52	509.171
8	-0.70	100	57	31.42	31.42	2.26	11.88	956.87	5040.63	424.132
9	-0.80	100	57	31.42	31.42	2.88	13.22	1028.39	4719.62	356.900
10	-0.90	100	58	31.42	31.42	3.61	14.59	1096.39	4427.40	303.553
11	-1.00	100	59	31.42	31.42	4.45	15.97	1157.19	4150.30	259.904
12	-1.10	100	60	31.42	31.42	5.41	17.37	1215.62	3905.24	224.776
13	-1.20	100	61	31.42	31.42	6.48	18.80	1233.38	3576.21	190.211
14	-1.30	100	62	31.42	31.42	7.69	20.25	1242.10	3272.66	161.608
15	-1.40	100	63	31.42	31.42	9.02	21.72	1245.44	2999.95	138.107
16	-1.50	100	64	31.42	31.42	10.49	23.22	1244.72	2755.79	118.706
17	-1.60	100	65	31.42	31.42	12.09	24.73	1238.33	2532.16	102.390
18	-1.70	100	66	31.42	31.42	13.85	26.27	1233.58	2339.82	89.075
19	-1.80	100	67	31.42	31.42	15.75	27.83	1225.20	2164.14	77.771
20	-1.90	100	68	31.42	31.42	17.82	29.41	1217.82	2010.28	68.357
21	-2.00	100	69	31.42	31.42	20.04	31.01	1214.01	1878.84	60.585
22	-2.10	100	70	31.42	31.42	22.43	32.64	1202.21	1749.52	53.605
23	-2.20	100	71	31.42	31.42	24.99	34.28	1192.64	1636.38	47.730
24	-2.30	100	72	31.42	31.42	27.72	35.95	1186.43	1538.60	42.794
25	-2.40	100	72	31.42	31.42	30.64	37.64	1182.99	1453.32	38.606
26	-2.50	100	73	31.42	31.42	33.75	39.36	1180.12	1376.31	34.969
27	-2.60	100	74	31.42	31.42	37.04	41.09	1175.92	1304.44	31.743
28	-2.70	100	75	31.42	31.42	40.54	42.85	1173.52	1240.45	28.948
29	-2.80	100	76	31.42	31.42	44.23	44.63	1172.65	1183.13	26.510
30	-2.90	100	77	31.42	31.42	48.14	46.43	1173.09	1131.50	24.369
31	-3.00	100	78	31.42	31.42	52.25	48.25	1174.65	1084.76	22.480
32	-3.10	100	79	31.42	31.42	56.59	50.10	1177.19	1042.26	20.804
33	-3.20	100	80	31.42	31.42	61.14	51.97	1180.58	1003.44	19.309
34	-3.30	100	81	31.42	31.42	65.92	53.86	1184.72	967.86	17.971
35	-3.40	100	82	31.42	31.42	70.94	55.77	1189.52	935.12	16.768
36	-3.50	100	83	31.42	31.42	76.19	57.70	1194.91	904.91	15.683
37	-3.60	100	84	31.42	31.42	81.69	59.66	1200.82	876.95	14.700
38	-3.70	100	85	31.42	31.42	87.43	61.63	1207.20	850.99	13.807
39	-3.80	100	86	31.42	31.42	93.43	63.63	1214.01	826.84	12.994
40	-3.90	100	87	31.42	31.42	99.68	65.65	1221.20	804.30	12.251
41	-4.00	100	87	31.42	31.42	106.20	67.70	1228.73	783.23	11.570
42	-4.10	100	88	31.42	31.42	112.99	69.76	1236.59	763.49	10.944
43	-4.20	100	89	31.42	31.42	120.05	71.85	1244.73	744.96	10.368
44	-4.30	100	90	31.42	31.42	127.39	73.96	1253.13	727.53	9.837
45	-4.40	100	91	31.42	62.83	135.01	76.09	2392.52	1348.37	17.721
46	-4.50	100	92	31.42	62.83	142.92	78.24	2416.06	1322.66	16.905
47	-4.60	100	93	31.42	62.83	151.13	80.42	2436.24	1296.36	16.120
48	-4.70	100	94	31.42	62.83	159.63	82.62	2456.76	1271.45	15.390
49	-4.80	100	95	31.42	62.83	168.44	84.83	2477.65	1247.84	14.709
50	-4.90	100	96	31.42	62.83	177.56	87.08	2498.88	1225.45	14.073
51	-5.00	100	97	31.42	62.83	186.99	89.34	2520.45	1204.18	13.479
52	-5.10	100	98	31.42	62.83	196.74	91.62	2542.32	1183.96	12.922
53	-5.20	100	99	31.42	62.83	206.82	93.93	2564.49	1164.70	12.400
54	-5.30	100	100	31.42	62.83	217.23	96.26	2586.93	1146.35	11.909
55	-5.40	100	101	31.42	62.83	227.97	98.61	2609.64	1128.84	11.447

n°	Y [m]	B [cm]	H [cm]	Afi [cmq]	Afs [cmq]	M [kNm]	N [kN]	Mrd [kNm]	Nrd [kN]	FS
56	-5.50	100	102	62.83	62.83	239.05	100.98	2690.75	1136.69	11.256
57	-5.60	100	102	62.83	62.83	250.47	103.38	2710.54	1118.74	10.822
58	-5.70	100	103	62.83	62.83	262.25	105.80	2730.51	1101.54	10.412
59	-5.80	100	104	62.83	62.83	274.38	108.24	2750.64	1085.05	10.025
60	-5.90	100	105	62.83	62.83	286.87	110.70	2770.92	1069.23	9.659
61	-6.00	100	106	62.83	62.83	299.73	113.18	2791.35	1054.04	9.313
62	-6.10	100	107	62.83	62.83	312.96	115.69	2811.92	1039.43	8.985
63	-6.20	100	108	62.83	62.83	326.56	118.21	2832.61	1025.39	8.674
64	-6.30	100	109	62.83	62.83	340.54	120.76	2853.57	1011.92	8.380
65	-6.40	100	110	62.83	62.83	354.91	123.33	2874.71	998.97	8.100
66	-6.50	100	111	62.83	62.83	369.67	125.93	2895.96	986.49	7.834
67	-6.60	100	112	62.83	62.83	384.83	128.54	2917.34	974.45	7.581
68	-6.70	100	113	62.83	62.83	400.39	131.18	2938.82	962.84	7.340
69	-6.80	100	114	62.83	62.83	416.35	133.84	2960.41	951.64	7.110
70	-6.90	100	115	62.83	62.83	432.72	136.52	2982.11	940.81	6.891
71	-7.00	100	116	62.83	62.83	449.52	139.22	3003.90	930.35	6.683
72	-7.10	100	116	62.83	62.83	466.73	141.95	3025.78	920.23	6.483
73	-7.20	100	117	62.83	62.83	484.37	144.69	3047.75	910.44	6.292
74	-7.30	100	118	31.42	31.42	502.44	147.46	1558.00	457.26	3.101
75	-7.40	100	119	31.42	31.42	520.95	150.25	1568.88	452.50	3.012
76	-7.50	100	120	31.42	31.42	539.90	153.07	1579.80	447.89	2.926
77	-7.60	100	121	31.42	31.42	559.30	155.90	1590.75	443.41	2.844
78	-7.70	100	122	31.42	31.42	579.15	158.76	1601.74	439.08	2.766
79	-7.80	100	123	31.42	31.42	599.45	161.64	1612.75	434.86	2.690
80	-7.90	100	124	31.42	31.42	620.22	164.54	1623.80	430.78	2.618
81	-7.99	100	125	31.42	31.42	641.46	167.46	1633.33	426.40	2.546

Combinazione n° 9 - ECC

n°	Y [m]	B [cm]	H [cm]	Afi [cmq]	Afs [cmq]	M [kNm]	N [kN]	Mrd [kNm]	Nrd [kN]	FS
1	0.00	100	50	31.42	31.42	12.89	3.13	598.81	145.17	46.453
2	-0.10	100	51	31.42	31.42	12.89	4.39	625.50	212.80	48.509
3	-0.20	100	52	31.42	31.42	12.91	5.67	654.14	287.41	50.674
4	-0.30	100	53	31.42	31.42	12.94	6.98	684.91	369.50	52.934
5	-0.40	100	54	31.42	31.42	12.99	8.31	718.01	459.47	55.276
6	-0.50	100	55	31.42	31.42	13.07	9.67	753.58	557.62	57.679
7	-0.60	100	56	31.42	31.42	13.17	11.05	791.76	664.06	60.115
8	-0.70	100	57	31.42	31.42	13.31	12.45	832.63	778.67	62.551
9	-0.80	100	57	31.42	31.42	13.49	13.87	876.20	901.06	64.945
10	-0.90	100	58	31.42	31.42	13.72	15.32	922.40	1030.48	67.250
11	-1.00	100	59	31.42	31.42	13.99	16.80	971.05	1165.79	69.411
12	-1.10	100	60	31.42	31.42	14.32	18.29	1021.87	1305.45	71.370
13	-1.20	100	61	31.42	31.42	14.71	19.81	1074.44	1447.48	73.066
14	-1.30	100	62	31.42	31.42	15.16	21.35	1127.24	1588.18	74.376
15	-1.40	100	63	31.42	31.42	15.68	22.92	1178.72	1723.42	75.195
16	-1.50	100	64	31.42	31.42	16.27	24.51	1229.82	1852.75	75.595
17	-1.60	100	65	31.42	31.42	16.94	26.12	1279.88	1973.63	75.555
18	-1.70	100	66	31.42	31.42	17.69	27.76	1328.25	2083.73	75.068
19	-1.80	100	67	31.42	31.42	18.54	29.42	1374.35	2181.14	74.144
20	-1.90	100	68	31.42	31.42	19.47	31.10	1417.62	2264.30	72.805
21	-2.00	100	69	31.42	31.42	20.50	32.81	1457.44	2331.97	71.081
22	-2.10	100	70	31.42	31.42	21.64	34.54	1493.86	2384.29	69.035
23	-2.20	100	71	31.42	31.42	22.88	36.29	1526.82	2421.57	66.727
24	-2.30	100	72	31.42	31.42	24.24	38.07	1556.37	2444.58	64.217
25	-2.40	100	72	31.42	31.42	25.71	39.87	1582.68	2454.45	61.565
26	-2.50	100	73	31.42	31.42	27.30	41.69	1605.99	2452.54	58.826
27	-2.60	100	74	31.42	31.42	29.02	43.54	1626.61	2440.35	56.051
28	-2.70	100	75	31.42	31.42	30.87	45.41	1644.85	2419.40	53.281
29	-2.80	100	76	31.42	31.42	32.86	47.30	1661.05	2391.19	50.551
30	-2.90	100	77	31.42	31.42	34.99	49.22	1675.53	2357.12	47.890
31	-3.00	100	78	31.42	31.42	37.26	51.16	1688.60	2318.47	45.318
32	-3.10	100	79	31.42	31.42	39.69	53.12	1700.55	2276.37	42.850
33	-3.20	100	80	31.42	31.42	42.27	55.11	1709.50	2229.01	40.445
34	-3.30	100	81	31.42	31.42	45.01	57.12	1715.07	2176.72	38.106
35	-3.40	100	82	31.42	31.42	47.91	59.16	1719.95	2123.54	35.897
36	-3.50	100	83	31.42	31.42	50.99	61.21	1724.35	2070.11	33.817
37	-3.60	100	84	31.42	31.42	54.24	63.30	1728.42	2016.94	31.865
38	-3.70	100	85	31.42	31.42	57.67	65.40	1732.32	1964.45	30.037
39	-3.80	100	86	31.42	31.42	61.29	67.53	1736.15	1912.94	28.328
40	-3.90	100	87	31.42	31.42	65.09	69.68	1740.01	1862.64	26.731
41	-4.00	100	87	31.42	31.42	69.09	71.85	1743.98	1813.73	25.242
42	-4.10	100	88	31.42	31.42	73.29	74.05	1748.11	1766.33	23.852
43	-4.20	100	89	31.42	31.42	77.69	76.27	1752.44	1720.50	22.557
44	-4.30	100	90	31.42	31.42	82.30	78.52	1757.02	1676.29	21.349
45	-4.40	100	91	31.42	62.83	87.12	80.79	3206.13	2972.93	36.799
46	-4.50	100	92	31.42	62.83	92.17	83.08	3231.22	2912.63	35.058
47	-4.60	100	93	31.42	62.83	97.43	85.39	3256.62	2854.27	33.424
48	-4.70	100	94	31.42	62.83	102.93	87.73	3282.33	2797.85	31.890
49	-4.80	100	95	31.42	62.83	108.65	90.10	3308.37	2743.35	30.449
50	-4.90	100	96	31.42	62.83	114.62	92.48	3334.75	2690.74	29.095
51	-5.00	100	97	31.42	62.83	120.82	94.89	3361.46	2639.99	27.822

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
52	-5.10	100	98	31.42	62.83	127.28	97.32	3381.26	2585.51	26.567
53	-5.20	100	99	31.42	62.83	133.98	99.78	3399.67	2531.78	25.374
54	-5.30	100	100	31.42	62.83	140.94	102.26	3418.60	2480.25	24.255
55	-5.40	100	101	31.42	62.83	148.17	104.76	3438.04	2430.80	23.204
56	-5.50	100	102	62.83	62.83	155.66	107.29	3580.45	2467.76	23.002
57	-5.60	100	102	62.83	62.83	163.42	109.83	3595.25	2416.35	22.000
58	-5.70	100	103	62.83	62.83	171.46	112.41	3610.55	2367.03	21.058
59	-5.80	100	104	62.83	62.83	179.78	115.00	3626.31	2319.71	20.171
60	-5.90	100	105	62.83	62.83	188.39	117.62	3642.52	2274.29	19.335
61	-6.00	100	106	62.83	62.83	197.28	120.27	3659.17	2230.68	18.548
62	-6.10	100	107	62.83	62.83	206.47	122.93	3676.24	2188.79	17.805
63	-6.20	100	108	62.83	62.83	215.97	125.62	3693.71	2148.53	17.103
64	-6.30	100	109	62.83	62.83	225.77	128.34	3711.57	2109.83	16.440
65	-6.40	100	110	62.83	62.83	235.87	131.07	3729.80	2072.61	15.813
66	-6.50	100	111	62.83	62.83	246.30	133.83	3748.38	2036.80	15.219
67	-6.60	100	112	62.83	62.83	257.04	136.62	3767.31	2002.32	14.657
68	-6.70	100	113	62.83	62.83	268.11	139.42	3786.56	1969.12	14.123
69	-6.80	100	114	62.83	62.83	279.50	142.25	3806.13	1937.14	13.618
70	-6.90	100	115	62.83	62.83	291.23	145.11	3826.00	1906.31	13.137
71	-7.00	100	116	62.83	62.83	303.30	147.98	3846.17	1876.58	12.681
72	-7.10	100	116	62.83	62.83	315.72	150.88	3866.61	1847.90	12.247
73	-7.20	100	117	62.83	62.83	328.48	153.81	3887.32	1820.22	11.834
74	-7.30	100	118	31.42	31.42	341.59	156.76	2001.00	918.25	5.858
75	-7.40	100	119	31.42	31.42	355.07	159.73	2010.92	904.60	5.663
76	-7.50	100	120	31.42	31.42	368.91	162.72	2020.96	891.42	5.478
77	-7.60	100	121	31.42	31.42	383.11	165.74	2031.12	878.69	5.302
78	-7.70	100	122	31.42	31.42	397.69	168.78	2041.40	866.37	5.133
79	-7.80	100	123	31.42	31.42	412.65	171.84	2051.79	854.45	4.972
80	-7.90	100	124	31.42	31.42	427.99	174.93	2062.29	842.93	4.819
81	-7.99	100	125	31.42	31.42	443.71	178.04	2070.75	830.91	4.667

Mensola valle

Combinazione n° 1 - STR (A1-M1-R3)

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
1	-0.75	100	50	12.57	15.71	0.00	0.00	0.00	0.00	100000.000
2	-0.67	100	50	12.57	15.71	-0.04	0.00	-254.16	0.00	5855.812
3	-0.58	100	50	12.57	15.71	-0.17	0.00	-254.16	0.00	1463.953
4	-0.50	100	50	12.57	15.71	-0.39	0.00	-254.16	0.00	650.646
5	-0.50	100	50	12.57	15.71	-0.39	0.00	-254.16	0.00	650.646

Combinazione n° 2 - STR (A1-M1-R3)

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
1	-0.75	100	50	12.57	15.71	0.00	0.00	0.00	0.00	100000.000
2	-0.67	100	50	12.57	15.71	-0.04	0.00	-254.16	0.00	5855.812
3	-0.58	100	50	12.57	15.71	-0.17	0.00	-254.16	0.00	1463.953
4	-0.50	100	50	12.57	15.71	-0.39	0.00	-254.16	0.00	650.646
5	-0.50	100	50	12.57	15.71	-0.39	0.00	-254.16	0.00	650.646

Combinazione n° 3 - STR (A1-M1-R3)_H + V

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
1	-0.75	100	50	12.57	15.71	0.00	0.00	0.00	0.00	100000.000
2	-0.67	100	50	12.57	15.71	-0.05	0.00	-254.16	0.00	5521.778
3	-0.58	100	50	12.57	15.71	-0.18	0.00	-254.16	0.00	1380.444
4	-0.50	100	50	12.57	15.71	-0.41	0.00	-254.16	0.00	613.531
5	-0.50	100	50	12.57	15.71	-0.41	0.00	-254.16	0.00	613.531

Combinazione n° 4 - STR (A1-M1-R3)_H - V

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
1	-0.75	100	50	12.57	15.71	0.00	0.00	0.00	0.00	100000.000
2	-0.67	100	50	12.57	15.71	-0.04	0.00	-254.16	0.00	5855.812

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
3	-0.58	100	50	12.57	15.71	-0.17	0.00	-254.16	0.00	1463.953
4	-0.50	100	50	12.57	15.71	-0.39	0.00	-254.16	0.00	650.646
5	-0.50	100	50	12.57	15.71	-0.39	0.00	-254.16	0.00	650.646

Combinazione n° 9 - ECC

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
1	-0.75	100	50	12.57	15.71	0.00	0.00	0.00	0.00	100000.000
2	-0.67	100	50	12.57	15.71	-0.04	0.00	-296.20	0.00	6824.491
3	-0.58	100	50	12.57	15.71	-0.17	0.00	-296.20	0.00	1706.123
4	-0.50	100	50	12.57	15.71	-0.39	0.00	-296.20	0.00	758.277
5	-0.50	100	50	12.57	15.71	-12.89	-12.50	-245.55	-238.11	19.049

Fondazione

Combinazione n° 1 - STR (A1-M1-R3)

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
1	-1.75	100	115	27.14	27.14	0.00	0.00	0.00	0.00	100000.000
2	-1.65	100	115	27.14	27.14	0.68	0.00	1106.03	0.00	1630.643
3	-1.56	100	115	27.14	27.14	2.71	0.00	1106.03	0.00	407.555
4	-1.46	100	115	27.14	27.14	6.11	0.00	1106.03	0.00	181.089
5	-1.37	100	115	27.14	27.14	10.86	0.00	1106.03	0.00	101.836
6	-1.27	100	115	27.14	27.14	16.97	0.00	1106.03	0.00	65.158
7	-1.17	100	115	27.14	27.14	24.45	0.00	1106.03	0.00	45.237
8	-1.08	100	115	27.14	27.14	33.29	0.00	1106.03	0.00	33.227
9	-0.98	100	115	27.14	27.14	43.49	0.00	1106.03	0.00	25.433
10	-0.88	100	115	27.14	27.14	55.05	0.00	1106.03	0.00	20.090
11	-0.79	100	115	27.14	27.14	67.99	0.00	1106.03	0.00	16.268
12	-0.69	100	115	27.14	27.14	82.28	0.00	1106.03	0.00	13.442
13	-0.60	100	115	27.14	27.14	97.95	0.00	1106.03	0.00	11.292
14	-0.50	100	115	27.14	27.14	114.99	0.00	1106.03	0.00	9.619
15	0.75	100	115	27.14	27.14	-460.62	0.00	-1106.03	0.00	2.401
16	0.85	100	115	27.14	27.14	-438.61	0.00	-1106.03	0.00	2.522
17	0.95	100	115	27.14	27.14	-417.16	0.00	-1106.03	0.00	2.651
18	1.05	100	115	27.14	27.14	-396.26	0.00	-1106.03	0.00	2.791
19	1.15	100	115	27.14	27.14	-375.92	0.00	-1106.03	0.00	2.942
20	1.25	100	115	27.14	27.14	-356.12	0.00	-1106.03	0.00	3.106
21	1.35	100	115	27.14	27.14	-336.87	0.00	-1106.03	0.00	3.283
22	1.45	100	115	27.14	27.14	-318.18	0.00	-1106.03	0.00	3.476
23	1.55	100	115	27.14	27.14	-300.03	0.00	-1106.03	0.00	3.686
24	1.65	100	115	27.14	27.14	-282.42	0.00	-1106.03	0.00	3.916
25	1.75	100	115	27.14	27.14	-265.36	0.00	-1106.03	0.00	4.168
26	1.85	100	115	27.14	27.14	-248.85	0.00	-1106.03	0.00	4.445
27	1.95	100	115	27.14	27.14	-232.87	0.00	-1106.03	0.00	4.750
28	2.05	100	115	27.14	27.14	-217.44	0.00	-1106.03	0.00	5.087
29	2.15	100	115	27.14	27.14	-202.55	0.00	-1106.03	0.00	5.461
30	2.25	100	115	27.14	27.14	-188.19	0.00	-1106.03	0.00	5.877
31	2.35	100	115	27.14	27.14	-174.38	0.00	-1106.03	0.00	6.343
32	2.45	100	115	27.14	27.14	-161.10	0.00	-1106.03	0.00	6.866
33	2.55	100	115	27.14	27.14	-148.35	0.00	-1106.03	0.00	7.455
34	2.65	100	115	27.14	27.14	-136.14	0.00	-1106.03	0.00	8.124
35	2.75	100	115	27.14	27.14	-124.47	0.00	-1106.03	0.00	8.886
36	2.85	100	115	27.14	27.14	-113.32	0.00	-1106.03	0.00	9.760
37	2.95	100	115	27.14	27.14	-102.71	0.00	-1106.03	0.00	10.769
38	3.05	100	115	27.14	27.14	-92.62	0.00	-1106.03	0.00	11.941
39	3.15	100	115	27.14	27.14	-83.06	0.00	-1106.03	0.00	13.315
40	3.25	100	115	27.14	27.14	-74.03	0.00	-1106.03	0.00	14.939
41	3.35	100	115	27.14	27.14	-65.53	0.00	-1106.03	0.00	16.878
42	3.45	100	115	27.14	27.14	-57.55	0.00	-1106.03	0.00	19.218
43	3.55	100	115	27.14	27.14	-50.09	0.00	-1106.03	0.00	22.079
44	3.65	100	115	27.14	27.14	-43.16	0.00	-1106.03	0.00	25.626
45	3.75	100	115	27.14	27.14	-36.75	0.00	-1106.03	0.00	30.099
46	3.85	100	115	27.14	27.14	-30.85	0.00	-1106.03	0.00	35.848
47	3.95	100	115	27.14	27.14	-25.48	0.00	-1106.03	0.00	43.409
48	4.05	100	115	27.14	27.14	-20.62	0.00	-1106.03	0.00	53.633
49	4.15	100	115	27.14	27.14	-16.28	0.00	-1106.03	0.00	67.932
50	4.25	100	115	27.14	27.14	-12.46	0.00	-1106.03	0.00	88.797
51	4.35	100	115	27.14	27.14	-9.14	0.00	-1106.03	0.00	120.957
52	4.45	100	115	27.14	27.14	-6.35	0.00	-1106.03	0.00	174.314
53	4.55	100	115	27.14	27.14	-4.06	0.00	-1106.03	0.00	272.577
54	4.65	100	115	27.14	27.14	-2.28	0.00	-1106.03	0.00	484.960
55	4.75	100	115	27.14	27.14	-1.01	0.00	-1106.03	0.00	1092.013

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
56	4.85	100	115	27.14	27.14	-0.25	0.00	-1106.03	0.00	4371.468
57	4.95	100	115	0.00	0.00	0.00	0.00	0.00	0.00	100000.000

Combinazione n° 2 - STR (A1-M1-R3)

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
1	-1.75	100	115	27.14	27.14	0.00	0.00	0.00	0.00	100000.000
2	-1.65	100	115	27.14	27.14	0.77	0.00	1106.03	0.00	1434.709
3	-1.56	100	115	27.14	27.14	3.08	0.00	1106.03	0.00	358.533
4	-1.46	100	115	27.14	27.14	6.94	0.00	1106.03	0.00	159.284
5	-1.37	100	115	27.14	27.14	12.35	0.00	1106.03	0.00	89.561
6	-1.27	100	115	27.14	27.14	19.30	0.00	1106.03	0.00	57.296
7	-1.17	100	115	27.14	27.14	27.81	0.00	1106.03	0.00	39.773
8	-1.08	100	115	27.14	27.14	37.87	0.00	1106.03	0.00	29.209
9	-0.98	100	115	27.14	27.14	49.48	0.00	1106.03	0.00	22.355
10	-0.88	100	115	27.14	27.14	62.64	0.00	1106.03	0.00	17.656
11	-0.79	100	115	27.14	27.14	77.37	0.00	1106.03	0.00	14.295
12	-0.69	100	115	27.14	27.14	93.65	0.00	1106.03	0.00	11.810
13	-0.60	100	115	27.14	27.14	111.50	0.00	1106.03	0.00	9.919
14	-0.50	100	115	27.14	27.14	130.91	0.00	1106.03	0.00	8.449
15	0.75	100	115	27.14	27.14	-489.60	0.00	-1106.03	0.00	2.259
16	0.85	100	115	27.14	27.14	-464.40	0.00	-1106.03	0.00	2.382
17	0.95	100	115	27.14	27.14	-439.89	0.00	-1106.03	0.00	2.514
18	1.05	100	115	27.14	27.14	-416.06	0.00	-1106.03	0.00	2.658
19	1.15	100	115	27.14	27.14	-392.92	0.00	-1106.03	0.00	2.815
20	1.25	100	115	27.14	27.14	-370.46	0.00	-1106.03	0.00	2.986
21	1.35	100	115	27.14	27.14	-348.68	0.00	-1106.03	0.00	3.172
22	1.45	100	115	27.14	27.14	-327.58	0.00	-1106.03	0.00	3.376
23	1.55	100	115	27.14	27.14	-307.15	0.00	-1106.03	0.00	3.601
24	1.65	100	115	27.14	27.14	-287.40	0.00	-1106.03	0.00	3.848
25	1.75	100	115	27.14	27.14	-268.32	0.00	-1106.03	0.00	4.122
26	1.85	100	115	27.14	27.14	-249.91	0.00	-1106.03	0.00	4.426
27	1.95	100	115	27.14	27.14	-232.17	0.00	-1106.03	0.00	4.764
28	2.05	100	115	27.14	27.14	-215.09	0.00	-1106.03	0.00	5.142
29	2.15	100	115	27.14	27.14	-198.68	0.00	-1106.03	0.00	5.567
30	2.25	100	115	27.14	27.14	-182.92	0.00	-1106.03	0.00	6.046
31	2.35	100	115	27.14	27.14	-167.83	0.00	-1106.03	0.00	6.590
32	2.45	100	115	27.14	27.14	-153.40	0.00	-1106.03	0.00	7.210
33	2.55	100	115	27.14	27.14	-139.62	0.00	-1106.03	0.00	7.922
34	2.65	100	115	27.14	27.14	-126.49	0.00	-1106.03	0.00	8.744
35	2.75	100	115	27.14	27.14	-114.01	0.00	-1106.03	0.00	9.701
36	2.85	100	115	27.14	27.14	-102.19	0.00	-1106.03	0.00	10.824
37	2.95	100	115	27.14	27.14	-91.00	0.00	-1106.03	0.00	12.153
38	3.05	100	115	27.14	27.14	-81.24	0.00	-1106.03	0.00	13.614
39	3.15	100	115	27.14	27.14	-72.80	0.00	-1106.03	0.00	15.192
40	3.25	100	115	27.14	27.14	-64.84	0.00	-1106.03	0.00	17.058
41	3.35	100	115	27.14	27.14	-57.35	0.00	-1106.03	0.00	19.287
42	3.45	100	115	27.14	27.14	-50.32	0.00	-1106.03	0.00	21.978
43	3.55	100	115	27.14	27.14	-43.77	0.00	-1106.03	0.00	25.269
44	3.65	100	115	27.14	27.14	-37.68	0.00	-1106.03	0.00	29.352
45	3.75	100	115	27.14	27.14	-32.06	0.00	-1106.03	0.00	34.502
46	3.85	100	115	27.14	27.14	-26.89	0.00	-1106.03	0.00	41.124
47	3.95	100	115	27.14	27.14	-22.19	0.00	-1106.03	0.00	49.838
48	4.05	100	115	27.14	27.14	-17.95	0.00	-1106.03	0.00	61.625
49	4.15	100	115	27.14	27.14	-14.16	0.00	-1106.03	0.00	78.117
50	4.25	100	115	27.14	27.14	-10.82	0.00	-1106.03	0.00	102.192
51	4.35	100	115	27.14	27.14	-7.94	0.00	-1106.03	0.00	139.313
52	4.45	100	115	27.14	27.14	-5.50	0.00	-1106.03	0.00	200.928
53	4.55	100	115	27.14	27.14	-3.52	0.00	-1106.03	0.00	314.448
54	4.65	100	115	27.14	27.14	-1.98	0.00	-1106.03	0.00	559.904
55	4.75	100	115	27.14	27.14	-0.88	0.00	-1106.03	0.00	1261.785
56	4.85	100	115	27.14	27.14	-0.22	0.00	-1106.03	0.00	5055.166
57	4.95	100	115	0.00	0.00	0.00	0.00	0.00	0.00	100000.000

Combinazione n° 3 - STR (A1-M1-R3)_H + V

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
1	-1.75	100	115	27.14	27.14	0.00	0.00	0.00	0.00	100000.000
2	-1.65	100	115	27.14	27.14	1.12	0.00	1106.03	0.00	989.720
3	-1.56	100	115	27.14	27.14	4.46	0.00	1106.03	0.00	248.236
4	-1.46	100	115	27.14	27.14	9.99	0.00	1106.03	0.00	110.687
5	-1.37	100	115	27.14	27.14	17.71	0.00	1106.03	0.00	62.466
6	-1.27	100	115	27.14	27.14	27.58	0.00	1106.03	0.00	40.110
7	-1.17	100	115	27.14	27.14	39.58	0.00	1106.03	0.00	27.946
8	-1.08	100	115	27.14	27.14	53.69	0.00	1106.03	0.00	20.600
9	-0.98	100	115	27.14	27.14	69.90	0.00	1106.03	0.00	15.824
10	-0.88	100	115	27.14	27.14	88.17	0.00	1106.03	0.00	12.544

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
11	-0.79	100	115	27.14	27.14	108.49	0.00	1106.03	0.00	10.195
12	-0.69	100	115	27.14	27.14	130.83	0.00	1106.03	0.00	8.454
13	-0.60	100	115	27.14	27.14	155.18	0.00	1106.03	0.00	7.128
14	-0.50	100	115	27.14	27.14	181.50	0.00	1106.03	0.00	6.094
15	0.75	100	115	27.14	27.14	-345.68	0.00	-1106.03	0.00	3.200
16	0.85	100	115	27.14	27.14	-336.28	0.00	-1106.03	0.00	3.289
17	0.95	100	115	27.14	27.14	-326.60	0.00	-1106.03	0.00	3.386
18	1.05	100	115	27.14	27.14	-316.68	0.00	-1106.03	0.00	3.493
19	1.15	100	115	27.14	27.14	-306.54	0.00	-1106.03	0.00	3.608
20	1.25	100	115	27.14	27.14	-296.20	0.00	-1106.03	0.00	3.734
21	1.35	100	115	27.14	27.14	-285.70	0.00	-1106.03	0.00	3.871
22	1.45	100	115	27.14	27.14	-275.04	0.00	-1106.03	0.00	4.021
23	1.55	100	115	27.14	27.14	-264.27	0.00	-1106.03	0.00	4.185
24	1.65	100	115	27.14	27.14	-253.39	0.00	-1106.03	0.00	4.365
25	1.75	100	115	27.14	27.14	-242.45	0.00	-1106.03	0.00	4.562
26	1.85	100	115	27.14	27.14	-231.45	0.00	-1106.03	0.00	4.779
27	1.95	100	115	27.14	27.14	-220.43	0.00	-1106.03	0.00	5.018
28	2.05	100	115	27.14	27.14	-209.41	0.00	-1106.03	0.00	5.282
29	2.15	100	115	27.14	27.14	-198.42	0.00	-1106.03	0.00	5.574
30	2.25	100	115	27.14	27.14	-187.47	0.00	-1106.03	0.00	5.900
31	2.35	100	115	27.14	27.14	-176.60	0.00	-1106.03	0.00	6.263
32	2.45	100	115	27.14	27.14	-165.83	0.00	-1106.03	0.00	6.670
33	2.55	100	115	27.14	27.14	-155.18	0.00	-1106.03	0.00	7.128
34	2.65	100	115	27.14	27.14	-144.67	0.00	-1106.03	0.00	7.645
35	2.75	100	115	27.14	27.14	-134.34	0.00	-1106.03	0.00	8.233
36	2.85	100	115	27.14	27.14	-124.20	0.00	-1106.03	0.00	8.905
37	2.95	100	115	27.14	27.14	-114.29	0.00	-1106.03	0.00	9.677
38	3.05	100	115	27.14	27.14	-104.62	0.00	-1106.03	0.00	10.572
39	3.15	100	115	27.14	27.14	-95.22	0.00	-1106.03	0.00	11.616
40	3.25	100	115	27.14	27.14	-86.11	0.00	-1106.03	0.00	12.844
41	3.35	100	115	27.14	27.14	-77.32	0.00	-1106.03	0.00	14.304
42	3.45	100	115	27.14	27.14	-68.88	0.00	-1106.03	0.00	16.058
43	3.55	100	115	27.14	27.14	-60.80	0.00	-1106.03	0.00	18.191
44	3.65	100	115	27.14	27.14	-53.11	0.00	-1106.03	0.00	20.824
45	3.75	100	115	27.14	27.14	-45.84	0.00	-1106.03	0.00	24.126
46	3.85	100	115	27.14	27.14	-39.02	0.00	-1106.03	0.00	28.348
47	3.95	100	115	27.14	27.14	-32.65	0.00	-1106.03	0.00	33.873
48	4.05	100	115	27.14	27.14	-26.78	0.00	-1106.03	0.00	41.303
49	4.15	100	115	27.14	27.14	-21.42	0.00	-1106.03	0.00	51.636
50	4.25	100	115	27.14	27.14	-16.60	0.00	-1106.03	0.00	66.631
51	4.35	100	115	27.14	27.14	-12.34	0.00	-1106.03	0.00	89.613
52	4.45	100	115	27.14	27.14	-8.67	0.00	-1106.03	0.00	127.525
53	4.55	100	115	27.14	27.14	-5.62	0.00	-1106.03	0.00	196.942
54	4.65	100	115	27.14	27.14	-3.20	0.00	-1106.03	0.00	346.096
55	4.75	100	115	27.14	27.14	-1.44	0.00	-1106.03	0.00	769.871
56	4.85	100	115	27.14	27.14	-0.36	0.00	-1106.03	0.00	3044.896
57	4.95	100	115	0.00	0.00	0.00	0.00	0.00	0.00	100000.000

Combinazione n° 4 - STR (A1-M1-R3) H - V

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
1	-1.75	100	115	27.14	27.14	0.00	0.00	0.00	0.00	100000.000
2	-1.65	100	115	27.14	27.14	1.02	0.00	1106.03	0.00	1088.939
3	-1.56	100	115	27.14	27.14	4.05	0.00	1106.03	0.00	273.193
4	-1.46	100	115	27.14	27.14	9.08	0.00	1106.03	0.00	121.848
5	-1.37	100	115	27.14	27.14	16.08	0.00	1106.03	0.00	68.782
6	-1.27	100	115	27.14	27.14	25.04	0.00	1106.03	0.00	44.177
7	-1.17	100	115	27.14	27.14	35.92	0.00	1106.03	0.00	30.788
8	-1.08	100	115	27.14	27.14	48.72	0.00	1106.03	0.00	22.701
9	-0.98	100	115	27.14	27.14	63.41	0.00	1106.03	0.00	17.443
10	-0.88	100	115	27.14	27.14	79.96	0.00	1106.03	0.00	13.832
11	-0.79	100	115	27.14	27.14	98.36	0.00	1106.03	0.00	11.244
12	-0.69	100	115	27.14	27.14	118.59	0.00	1106.03	0.00	9.327
13	-0.60	100	115	27.14	27.14	140.62	0.00	1106.03	0.00	7.866
14	-0.50	100	115	27.14	27.14	164.43	0.00	1106.03	0.00	6.727
15	0.75	100	115	27.14	27.14	-519.67	0.00	-1106.03	0.00	2.128
16	0.85	100	115	27.14	27.14	-501.96	0.00	-1106.03	0.00	2.203
17	0.95	100	115	27.14	27.14	-484.18	0.00	-1106.03	0.00	2.284
18	1.05	100	115	27.14	27.14	-466.37	0.00	-1106.03	0.00	2.372
19	1.15	100	115	27.14	27.14	-448.55	0.00	-1106.03	0.00	2.466
20	1.25	100	115	27.14	27.14	-430.73	0.00	-1106.03	0.00	2.568
21	1.35	100	115	27.14	27.14	-412.96	0.00	-1106.03	0.00	2.678
22	1.45	100	115	27.14	27.14	-395.24	0.00	-1106.03	0.00	2.798
23	1.55	100	115	27.14	27.14	-377.61	0.00	-1106.03	0.00	2.929
24	1.65	100	115	27.14	27.14	-360.09	0.00	-1106.03	0.00	3.072
25	1.75	100	115	27.14	27.14	-342.70	0.00	-1106.03	0.00	3.227
26	1.85	100	115	27.14	27.14	-325.47	0.00	-1106.03	0.00	3.398
27	1.95	100	115	27.14	27.14	-308.42	0.00	-1106.03	0.00	3.586
28	2.05	100	115	27.14	27.14	-291.57	0.00	-1106.03	0.00	3.793
29	2.15	100	115	27.14	27.14	-274.95	0.00	-1106.03	0.00	4.023
30	2.25	100	115	27.14	27.14	-258.58	0.00	-1106.03	0.00	4.277

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
31	2.35	100	115	27.14	27.14	-242.49	0.00	-1106.03	0.00	4.561
32	2.45	100	115	27.14	27.14	-226.70	0.00	-1106.03	0.00	4.879
33	2.55	100	115	27.14	27.14	-211.23	0.00	-1106.03	0.00	5.236
34	2.65	100	115	27.14	27.14	-196.12	0.00	-1106.03	0.00	5.640
35	2.75	100	115	27.14	27.14	-181.37	0.00	-1106.03	0.00	6.098
36	2.85	100	115	27.14	27.14	-167.03	0.00	-1106.03	0.00	6.622
37	2.95	100	115	27.14	27.14	-153.10	0.00	-1106.03	0.00	7.224
38	3.05	100	115	27.14	27.14	-139.62	0.00	-1106.03	0.00	7.922
39	3.15	100	115	27.14	27.14	-126.61	0.00	-1106.03	0.00	8.736
40	3.25	100	115	27.14	27.14	-114.09	0.00	-1106.03	0.00	9.694
41	3.35	100	115	27.14	27.14	-102.09	0.00	-1106.03	0.00	10.834
42	3.45	100	115	27.14	27.14	-90.63	0.00	-1106.03	0.00	12.204
43	3.55	100	115	27.14	27.14	-79.73	0.00	-1106.03	0.00	13.872
44	3.65	100	115	27.14	27.14	-69.43	0.00	-1106.03	0.00	15.931
45	3.75	100	115	27.14	27.14	-59.73	0.00	-1106.03	0.00	18.516
46	3.85	100	115	27.14	27.14	-50.68	0.00	-1106.03	0.00	21.825
47	3.95	100	115	27.14	27.14	-42.28	0.00	-1106.03	0.00	26.158
48	4.05	100	115	27.14	27.14	-34.57	0.00	-1106.03	0.00	31.991
49	4.15	100	115	27.14	27.14	-27.57	0.00	-1106.03	0.00	40.112
50	4.25	100	115	27.14	27.14	-21.31	0.00	-1106.03	0.00	51.908
51	4.35	100	115	27.14	27.14	-15.80	0.00	-1106.03	0.00	70.007
52	4.45	100	115	27.14	27.14	-11.07	0.00	-1106.03	0.00	99.898
53	4.55	100	115	27.14	27.14	-7.15	0.00	-1106.03	0.00	154.692
54	4.65	100	115	27.14	27.14	-4.06	0.00	-1106.03	0.00	272.563
55	4.75	100	115	27.14	27.14	-1.82	0.00	-1106.03	0.00	607.865
56	4.85	100	115	27.14	27.14	-0.46	0.00	-1106.03	0.00	2410.228
57	4.95	100	115	0.00	0.00	0.00	0.00	0.00	0.00	100000.000

Combinazione n° 9 - ECC

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
1	-1.75	100	115	27.14	27.14	0.00	0.00	0.00	0.00	100000.000
2	-1.65	100	115	27.14	27.14	0.68	0.00	1277.53	0.00	1890.203
3	-1.56	100	115	27.14	27.14	2.70	0.00	1277.53	0.00	472.537
4	-1.46	100	115	27.14	27.14	6.08	0.00	1277.53	0.00	210.010
5	-1.37	100	115	27.14	27.14	10.81	0.00	1277.53	0.00	118.127
6	-1.27	100	115	27.14	27.14	16.90	0.00	1277.53	0.00	75.599
7	-1.17	100	115	27.14	27.14	24.33	0.00	1277.53	0.00	52.498
8	-1.08	100	115	27.14	27.14	33.12	0.00	1277.53	0.00	38.569
9	-0.98	100	115	27.14	27.14	43.26	0.00	1277.53	0.00	29.528
10	-0.88	100	115	27.14	27.14	54.76	0.00	1277.53	0.00	23.330
11	-0.79	100	115	27.14	27.14	67.60	0.00	1277.53	0.00	18.897
12	-0.69	100	115	27.14	27.14	81.80	0.00	1277.53	0.00	15.617
13	-0.60	100	115	27.14	27.14	97.36	0.00	1277.53	0.00	13.122
14	-0.50	100	115	27.14	27.14	114.26	0.00	1277.53	0.00	11.181
15	0.75	100	115	27.14	27.14	-45.02	0.00	-1277.53	0.00	28.380
16	0.85	100	115	27.14	27.14	-42.86	0.00	-1277.53	0.00	29.807
17	0.95	100	115	27.14	27.14	-40.76	0.00	-1277.53	0.00	31.342
18	1.05	100	115	27.14	27.14	-38.71	0.00	-1277.53	0.00	32.999
19	1.15	100	115	27.14	27.14	-36.72	0.00	-1277.53	0.00	34.788
20	1.25	100	115	27.14	27.14	-34.79	0.00	-1277.53	0.00	36.726
21	1.35	100	115	27.14	27.14	-32.90	0.00	-1277.53	0.00	38.828
22	1.45	100	115	27.14	27.14	-31.07	0.00	-1277.53	0.00	41.114
23	1.55	100	115	27.14	27.14	-29.30	0.00	-1277.53	0.00	43.606
24	1.65	100	115	27.14	27.14	-27.58	0.00	-1277.53	0.00	46.329
25	1.75	100	115	27.14	27.14	-25.91	0.00	-1277.53	0.00	49.312
26	1.85	100	115	27.14	27.14	-24.29	0.00	-1277.53	0.00	52.590
27	1.95	100	115	27.14	27.14	-22.73	0.00	-1277.53	0.00	56.203
28	2.05	100	115	27.14	27.14	-21.22	0.00	-1277.53	0.00	60.199
29	2.15	100	115	27.14	27.14	-19.77	0.00	-1277.53	0.00	64.631
30	2.25	100	115	27.14	27.14	-18.36	0.00	-1277.53	0.00	69.568
31	2.35	100	115	27.14	27.14	-17.01	0.00	-1277.53	0.00	75.088
32	2.45	100	115	27.14	27.14	-15.72	0.00	-1277.53	0.00	81.286
33	2.55	100	115	27.14	27.14	-14.47	0.00	-1277.53	0.00	88.277
34	2.65	100	115	27.14	27.14	-13.28	0.00	-1277.53	0.00	96.204
35	2.75	100	115	27.14	27.14	-12.14	0.00	-1277.53	0.00	105.241
36	2.85	100	115	27.14	27.14	-11.05	0.00	-1277.53	0.00	115.604
37	2.95	100	115	27.14	27.14	-10.01	0.00	-1277.53	0.00	127.564
38	3.05	100	115	27.14	27.14	-9.03	0.00	-1277.53	0.00	141.469
39	3.15	100	115	27.14	27.14	-8.10	0.00	-1277.53	0.00	157.763
40	3.25	100	115	27.14	27.14	-7.22	0.00	-1277.53	0.00	177.025
41	3.35	100	115	27.14	27.14	-6.39	0.00	-1277.53	0.00	200.020
42	3.45	100	115	27.14	27.14	-5.61	0.00	-1277.53	0.00	227.778
43	3.55	100	115	27.14	27.14	-4.88	0.00	-1277.53	0.00	261.710
44	3.65	100	115	27.14	27.14	-4.21	0.00	-1277.53	0.00	303.789
45	3.75	100	115	27.14	27.14	-3.58	0.00	-1277.53	0.00	356.844
46	3.85	100	115	27.14	27.14	-3.01	0.00	-1277.53	0.00	425.049
47	3.95	100	115	27.14	27.14	-2.48	0.00	-1277.53	0.00	514.763
48	4.05	100	115	27.14	27.14	-2.01	0.00	-1277.53	0.00	636.072
49	4.15	100	115	27.14	27.14	-1.59	0.00	-1277.53	0.00	805.740
50	4.25	100	115	27.14	27.14	-1.21	0.00	-1277.53	0.00	1053.327

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
51	4.35	100	115	27.14	27.14	-0.89	0.00	-1277.53	0.00	1434.965
52	4.45	100	115	27.14	27.14	-0.62	0.00	-1277.53	0.00	2068.183
53	4.55	100	115	27.14	27.14	-0.39	0.00	-1277.53	0.00	3234.404
54	4.65	100	115	27.14	27.14	-0.22	0.00	-1277.53	0.00	5755.160
55	4.75	100	115	27.14	27.14	-0.10	0.00	-1277.53	0.00	12960.624
56	4.85	100	115	27.14	27.14	-0.02	0.00	-1277.53	0.00	51888.638
57	4.95	100	115	0.00	0.00	0.00	0.00	0.00	0.00	100000.000

Verifiche a taglio

Simbologia adottata

n° (o Is)	indice sezione
Y	ordinata sezione espressa in [m]
B	larghezza sezione espresso in [cm]
H	altezza sezione espressa in [cm]
A_{sw}	area ferri a taglio espresso in [cmq]
cotgθ	inclinazione delle bielle compresse, θ inclinazione dei puntoni di calcestruzzo
V_{Rcd}	resistenza di progetto a 'taglio compressione' espressa in [kN]
V_{Rsd}	resistenza di progetto a 'taglio trazione' espressa in [kN]
V_{Rd}	resistenza di progetto a taglio espresso in [kN]. Per elementi con armature trasversali resistenti al taglio (A_{sw}>0.0) V_{Rd}=min(V_{Rcd}, V_{Rsd}).
T	taglio agente espressa in [kN]
FS	fattore di sicurezza (rapporto tra sollecitazione resistente e sollecitazione agente)

Paramento

Combinazione n° 1 - STR (A1-M1-R3)

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
1	0.00	100	50	0.00	0.00	--	0.00	0.00	296.28	0.00	100.000
2	-0.10	100	51	0.00	0.00	--	0.00	0.00	299.32	0.03	9280.559
3	-0.20	100	52	0.00	0.00	--	0.00	0.00	302.33	0.13	2343.496
4	-0.30	100	53	0.00	0.00	--	0.00	0.00	305.32	0.29	1054.750
5	-0.40	100	54	0.00	0.00	--	0.00	0.00	308.30	0.51	601.138
6	-0.50	100	55	0.00	0.00	--	0.00	0.00	311.26	0.80	389.286
7	-0.60	100	56	0.00	0.00	--	0.00	0.00	314.20	1.15	273.223
8	-0.70	100	57	0.00	0.00	--	0.00	0.00	317.12	1.56	202.752
9	-0.80	100	57	0.00	0.00	--	0.00	0.00	320.03	2.04	156.730
10	-0.90	100	58	0.00	0.00	--	0.00	0.00	322.93	2.58	124.996
11	-1.00	100	59	0.00	0.00	--	0.00	0.00	325.80	3.19	102.173
12	-1.10	100	60	0.00	0.00	--	0.00	0.00	328.67	3.86	85.197
13	-1.20	100	61	0.00	0.00	--	0.00	0.00	331.51	4.59	72.219
14	-1.30	100	62	0.00	0.00	--	0.00	0.00	334.35	5.39	62.069
15	-1.40	100	63	0.00	0.00	--	0.00	0.00	337.17	6.25	53.974
16	-1.50	100	64	0.00	0.00	--	0.00	0.00	339.98	7.17	47.413
17	-1.60	100	65	0.00	0.00	--	0.00	0.00	342.78	8.16	42.016
18	-1.70	100	66	0.00	0.00	--	0.00	0.00	345.56	9.21	37.522
19	-1.80	100	67	0.00	0.00	--	0.00	0.00	348.33	10.32	33.739
20	-1.90	100	68	0.00	0.00	--	0.00	0.00	351.09	11.50	30.522
21	-2.00	100	69	0.00	0.00	--	0.00	0.00	353.84	12.75	27.762
22	-2.10	100	70	0.00	0.00	--	0.00	0.00	356.58	14.05	25.377
23	-2.20	100	71	0.00	0.00	--	0.00	0.00	359.31	15.42	23.300
24	-2.30	100	72	0.00	0.00	--	0.00	0.00	362.03	16.85	21.479
25	-2.40	100	72	0.00	0.00	--	0.00	0.00	364.74	18.35	19.874
26	-2.50	100	73	0.00	0.00	--	0.00	0.00	367.43	19.91	18.452
27	-2.60	100	74	0.00	0.00	--	0.00	0.00	370.12	21.54	17.185
28	-2.70	100	75	0.00	0.00	--	0.00	0.00	372.80	23.23	16.051
29	-2.80	100	76	0.00	0.00	--	0.00	0.00	375.47	24.98	15.032
30	-2.90	100	77	0.00	0.00	--	0.00	0.00	378.13	26.79	14.113
31	-3.00	100	78	0.00	0.00	--	0.00	0.00	380.79	28.67	13.280
32	-3.10	100	79	0.00	0.00	--	0.00	0.00	383.43	30.62	12.524
33	-3.20	100	80	0.00	0.00	--	0.00	0.00	386.07	32.62	11.834

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
34	-3.30	100	81	0.00	0.00	--	0.00	0.00	388.70	34.69	11.204
35	-3.40	100	82	0.00	0.00	--	0.00	0.00	391.32	36.83	10.626
36	-3.50	100	83	0.00	0.00	--	0.00	0.00	393.93	39.03	10.094
37	-3.60	100	84	0.00	0.00	--	0.00	0.00	396.54	41.29	9.604
38	-3.70	100	85	0.00	0.00	--	0.00	0.00	399.14	43.61	9.152
39	-3.80	100	86	0.00	0.00	--	0.00	0.00	401.73	46.00	8.733
40	-3.90	100	87	0.00	0.00	--	0.00	0.00	404.32	48.46	8.344
41	-4.00	100	87	0.00	0.00	--	0.00	0.00	406.90	50.97	7.983
42	-4.10	100	88	0.00	0.00	--	0.00	0.00	409.47	53.55	7.646
43	-4.20	100	89	0.00	0.00	--	0.00	0.00	412.04	56.20	7.332
44	-4.30	100	90	0.00	0.00	--	0.00	0.00	414.60	58.90	7.039
45	-4.40	100	91	0.00	0.00	--	0.00	0.00	475.87	61.68	7.716
46	-4.50	100	92	0.00	0.00	--	0.00	0.00	478.74	64.51	7.421
47	-4.60	100	93	0.00	0.00	--	0.00	0.00	481.60	67.41	7.144
48	-4.70	100	94	0.00	0.00	--	0.00	0.00	484.45	70.37	6.884
49	-4.80	100	95	0.00	0.00	--	0.00	0.00	487.30	73.40	6.639
50	-4.90	100	96	0.00	0.00	--	0.00	0.00	490.15	76.49	6.408
51	-5.00	100	97	0.00	0.00	--	0.00	0.00	492.98	79.64	6.190
52	-5.10	100	98	0.00	0.00	--	0.00	0.00	495.81	82.86	5.984
53	-5.20	100	99	0.00	0.00	--	0.00	0.00	498.64	86.14	5.789
54	-5.30	100	100	0.00	0.00	--	0.00	0.00	501.46	89.49	5.604
55	-5.40	100	101	0.00	0.00	--	0.00	0.00	504.27	92.89	5.428
56	-5.50	100	102	0.00	0.00	--	0.00	0.00	556.57	96.37	5.776
57	-5.60	100	102	0.00	0.00	--	0.00	0.00	559.62	99.90	5.602
58	-5.70	100	103	0.00	0.00	--	0.00	0.00	562.66	103.50	5.436
59	-5.80	100	104	0.00	0.00	--	0.00	0.00	565.69	107.17	5.279
60	-5.90	100	105	0.00	0.00	--	0.00	0.00	568.72	110.89	5.129
61	-6.00	100	106	0.00	0.00	--	0.00	0.00	571.74	114.68	4.985
62	-6.10	100	107	0.00	0.00	--	0.00	0.00	574.75	118.54	4.849
63	-6.20	100	108	0.00	0.00	--	0.00	0.00	577.76	122.46	4.718
64	-6.30	100	109	0.00	0.00	--	0.00	0.00	580.77	126.44	4.593
65	-6.40	100	110	0.00	0.00	--	0.00	0.00	583.77	130.48	4.474
66	-6.50	100	111	0.00	0.00	--	0.00	0.00	586.76	134.59	4.360
67	-6.60	100	112	0.00	0.00	--	0.00	0.00	589.75	138.77	4.250
68	-6.70	100	113	0.00	0.00	--	0.00	0.00	592.73	143.00	4.145
69	-6.80	100	114	0.00	0.00	--	0.00	0.00	595.71	147.30	4.044
70	-6.90	100	115	0.00	0.00	--	0.00	0.00	598.69	151.67	3.947
71	-7.00	100	116	0.00	0.00	--	0.00	0.00	601.65	156.10	3.854
72	-7.10	100	116	0.00	0.00	--	0.00	0.00	604.62	160.59	3.765
73	-7.20	100	117	0.00	0.00	--	0.00	0.00	607.58	165.14	3.679
74	-7.30	100	118	0.00	0.00	--	0.00	0.00	489.23	169.76	2.882
75	-7.40	100	119	0.00	0.00	--	0.00	0.00	491.66	174.44	2.818
76	-7.50	100	120	0.00	0.00	--	0.00	0.00	494.09	179.19	2.757
77	-7.60	100	121	0.00	0.00	--	0.00	0.00	496.51	184.00	2.698
78	-7.70	100	122	0.00	0.00	--	0.00	0.00	498.94	188.88	2.642
79	-7.80	100	123	0.00	0.00	--	0.00	0.00	501.36	193.81	2.587
80	-7.90	100	124	0.00	0.00	--	0.00	0.00	503.78	198.81	2.534
81	-7.99	100	125	0.00	0.00	--	0.00	0.00	506.00	203.88	2.482

Combinazione n° 2 - STR (A1-M1-R3)

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
1	0.00	100	50	0.00	0.00	--	0.00	0.00	296.28	0.00	100.000
2	-0.10	100	51	0.00	0.00	--	0.00	0.00	299.32	0.92	325.053
3	-0.20	100	52	0.00	0.00	--	0.00	0.00	302.33	1.91	158.606
4	-0.30	100	53	0.00	0.00	--	0.00	0.00	305.32	2.96	103.316
5	-0.40	100	54	0.00	0.00	--	0.00	0.00	308.30	4.07	75.801
6	-0.50	100	55	0.00	0.00	--	0.00	0.00	311.26	5.24	59.372
7	-0.60	100	56	0.00	0.00	--	0.00	0.00	314.20	6.48	48.476
8	-0.70	100	57	0.00	0.00	--	0.00	0.00	317.12	7.78	40.739
9	-0.80	100	57	0.00	0.00	--	0.00	0.00	320.03	9.15	34.973
10	-0.90	100	58	0.00	0.00	--	0.00	0.00	322.93	10.58	30.520
11	-1.00	100	59	0.00	0.00	--	0.00	0.00	325.80	12.07	26.982
12	-1.10	100	60	0.00	0.00	--	0.00	0.00	328.67	13.63	24.109
13	-1.20	100	61	0.00	0.00	--	0.00	0.00	331.51	15.25	21.734
14	-1.30	100	62	0.00	0.00	--	0.00	0.00	334.35	16.94	19.739
15	-1.40	100	63	0.00	0.00	--	0.00	0.00	337.17	18.69	18.043
16	-1.50	100	64	0.00	0.00	--	0.00	0.00	339.98	20.50	16.585
17	-1.60	100	65	0.00	0.00	--	0.00	0.00	342.78	22.38	15.319
18	-1.70	100	66	0.00	0.00	--	0.00	0.00	345.56	24.32	14.211
19	-1.80	100	67	0.00	0.00	--	0.00	0.00	348.33	26.32	13.235
20	-1.90	100	68	0.00	0.00	--	0.00	0.00	351.09	28.39	12.368
21	-2.00	100	69	0.00	0.00	--	0.00	0.00	353.84	30.52	11.595
22	-2.10	100	70	0.00	0.00	--	0.00	0.00	356.58	32.71	10.901
23	-2.20	100	71	0.00	0.00	--	0.00	0.00	359.31	34.97	10.275
24	-2.30	100	72	0.00	0.00	--	0.00	0.00	362.03	37.29	9.708
25	-2.40	100	72	0.00	0.00	--	0.00	0.00	364.74	39.68	9.192
26	-2.50	100	73	0.00	0.00	--	0.00	0.00	367.43	42.13	8.722
27	-2.60	100	74	0.00	0.00	--	0.00	0.00	370.12	44.64	8.291
28	-2.70	100	75	0.00	0.00	--	0.00	0.00	372.80	47.22	7.895
29	-2.80	100	76	0.00	0.00	--	0.00	0.00	375.47	49.86	7.531

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
30	-2.90	100	77	0.00	0.00	--	0.00	0.00	378.13	52.56	7.194
31	-3.00	100	78	0.00	0.00	--	0.00	0.00	380.79	55.33	6.882
32	-3.10	100	79	0.00	0.00	--	0.00	0.00	383.43	58.16	6.592
33	-3.20	100	80	0.00	0.00	--	0.00	0.00	386.07	61.06	6.323
34	-3.30	100	81	0.00	0.00	--	0.00	0.00	388.70	64.02	6.072
35	-3.40	100	82	0.00	0.00	--	0.00	0.00	391.32	67.04	5.837
36	-3.50	100	83	0.00	0.00	--	0.00	0.00	393.93	70.13	5.617
37	-3.60	100	84	0.00	0.00	--	0.00	0.00	396.54	73.28	5.411
38	-3.70	100	85	0.00	0.00	--	0.00	0.00	399.14	76.49	5.218
39	-3.80	100	86	0.00	0.00	--	0.00	0.00	401.73	79.77	5.036
40	-3.90	100	87	0.00	0.00	--	0.00	0.00	404.32	83.11	4.865
41	-4.00	100	87	0.00	0.00	--	0.00	0.00	406.90	86.52	4.703
42	-4.10	100	88	0.00	0.00	--	0.00	0.00	409.47	89.99	4.550
43	-4.20	100	89	0.00	0.00	--	0.00	0.00	412.04	93.52	4.406
44	-4.30	100	90	0.00	0.00	--	0.00	0.00	414.60	97.11	4.269
45	-4.40	100	91	0.00	0.00	--	0.00	0.00	475.87	100.77	4.722
46	-4.50	100	92	0.00	0.00	--	0.00	0.00	478.74	104.49	4.582
47	-4.60	100	93	0.00	0.00	--	0.00	0.00	481.60	108.25	4.449
48	-4.70	100	94	0.00	0.00	--	0.00	0.00	484.45	112.04	4.324
49	-4.80	100	95	0.00	0.00	--	0.00	0.00	487.30	115.84	4.207
50	-4.90	100	96	0.00	0.00	--	0.00	0.00	490.15	119.63	4.097
51	-5.00	100	97	0.00	0.00	--	0.00	0.00	492.98	123.42	3.994
52	-5.10	100	98	0.00	0.00	--	0.00	0.00	495.81	127.20	3.898
53	-5.20	100	99	0.00	0.00	--	0.00	0.00	498.64	130.99	3.807
54	-5.30	100	100	0.00	0.00	--	0.00	0.00	501.46	134.80	3.720
55	-5.40	100	101	0.00	0.00	--	0.00	0.00	504.27	138.66	3.637
56	-5.50	100	102	0.00	0.00	--	0.00	0.00	556.57	142.58	3.904
57	-5.60	100	102	0.00	0.00	--	0.00	0.00	559.62	146.56	3.818
58	-5.70	100	103	0.00	0.00	--	0.00	0.00	562.66	150.60	3.736
59	-5.80	100	104	0.00	0.00	--	0.00	0.00	565.69	154.71	3.656
60	-5.90	100	105	0.00	0.00	--	0.00	0.00	568.72	158.88	3.579
61	-6.00	100	106	0.00	0.00	--	0.00	0.00	571.74	163.12	3.505
62	-6.10	100	107	0.00	0.00	--	0.00	0.00	574.75	167.43	3.433
63	-6.20	100	108	0.00	0.00	--	0.00	0.00	577.76	171.80	3.363
64	-6.30	100	109	0.00	0.00	--	0.00	0.00	580.77	176.23	3.295
65	-6.40	100	110	0.00	0.00	--	0.00	0.00	583.77	180.73	3.230
66	-6.50	100	111	0.00	0.00	--	0.00	0.00	586.76	185.30	3.167
67	-6.60	100	112	0.00	0.00	--	0.00	0.00	589.75	189.92	3.105
68	-6.70	100	113	0.00	0.00	--	0.00	0.00	592.73	194.62	3.046
69	-6.80	100	114	0.00	0.00	--	0.00	0.00	595.71	199.37	2.988
70	-6.90	100	115	0.00	0.00	--	0.00	0.00	598.69	204.20	2.932
71	-7.00	100	116	0.00	0.00	--	0.00	0.00	601.65	209.08	2.878
72	-7.10	100	116	0.00	0.00	--	0.00	0.00	604.62	214.03	2.825
73	-7.20	100	117	0.00	0.00	--	0.00	0.00	607.58	219.05	2.774
74	-7.30	100	118	0.00	0.00	--	0.00	0.00	489.23	224.13	2.183
75	-7.40	100	119	0.00	0.00	--	0.00	0.00	491.66	229.27	2.144
76	-7.50	100	120	0.00	0.00	--	0.00	0.00	494.09	234.48	2.107
77	-7.60	100	121	0.00	0.00	--	0.00	0.00	496.51	239.75	2.071
78	-7.70	100	122	0.00	0.00	--	0.00	0.00	498.94	245.09	2.036
79	-7.80	100	123	0.00	0.00	--	0.00	0.00	501.36	250.49	2.002
80	-7.90	100	124	0.00	0.00	--	0.00	0.00	503.78	255.96	1.968
81	-7.99	100	125	0.00	0.00	--	0.00	0.00	506.00	261.49	1.935

Combinazione n° 3 - STR (A1-M1-R3) H + V

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
1	0.00	100	50	0.00	0.00	--	0.00	0.00	296.31	0.00	100.000
2	-0.10	100	51	0.00	0.00	--	0.00	0.00	299.35	0.83	359.986
3	-0.20	100	52	0.00	0.00	--	0.00	0.00	302.38	1.71	176.442
4	-0.30	100	53	0.00	0.00	--	0.00	0.00	305.38	2.65	115.415
5	-0.40	100	54	0.00	0.00	--	0.00	0.00	308.37	3.63	85.006
6	-0.50	100	55	0.00	0.00	--	0.00	0.00	311.34	4.66	66.825
7	-0.60	100	56	0.00	0.00	--	0.00	0.00	314.29	5.74	54.751
8	-0.70	100	57	0.00	0.00	--	0.00	0.00	317.23	6.87	46.163
9	-0.80	100	57	0.00	0.00	--	0.00	0.00	320.15	8.05	39.754
10	-0.90	100	58	0.00	0.00	--	0.00	0.00	323.05	9.28	34.794
11	-1.00	100	59	0.00	0.00	--	0.00	0.00	325.94	10.57	30.847
12	-1.10	100	60	0.00	0.00	--	0.00	0.00	328.82	11.90	27.637
13	-1.20	100	61	0.00	0.00	--	0.00	0.00	331.68	13.28	24.977
14	-1.30	100	62	0.00	0.00	--	0.00	0.00	334.53	14.71	22.740
15	-1.40	100	63	0.00	0.00	--	0.00	0.00	337.36	16.19	20.834
16	-1.50	100	64	0.00	0.00	--	0.00	0.00	340.19	17.72	19.193
17	-1.60	100	65	0.00	0.00	--	0.00	0.00	343.00	19.31	17.766
18	-1.70	100	66	0.00	0.00	--	0.00	0.00	345.79	20.94	16.515
19	-1.80	100	67	0.00	0.00	--	0.00	0.00	348.58	22.62	15.411
20	-1.90	100	68	0.00	0.00	--	0.00	0.00	351.36	24.35	14.429
21	-2.00	100	69	0.00	0.00	--	0.00	0.00	354.12	26.13	13.551
22	-2.10	100	70	0.00	0.00	--	0.00	0.00	356.87	27.96	12.762
23	-2.20	100	71	0.00	0.00	--	0.00	0.00	359.62	29.85	12.049
24	-2.30	100	72	0.00	0.00	--	0.00	0.00	362.35	31.78	11.402
25	-2.40	100	72	0.00	0.00	--	0.00	0.00	365.07	33.76	10.814

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
26	-2.50	100	73	0.00	0.00	--	0.00	0.00	367.79	35.79	10.276
27	-2.60	100	74	0.00	0.00	--	0.00	0.00	370.49	37.87	9.782
28	-2.70	100	75	0.00	0.00	--	0.00	0.00	373.19	40.01	9.328
29	-2.80	100	76	0.00	0.00	--	0.00	0.00	375.87	42.19	8.910
30	-2.90	100	77	0.00	0.00	--	0.00	0.00	378.55	44.42	8.522
31	-3.00	100	78	0.00	0.00	--	0.00	0.00	381.22	46.70	8.163
32	-3.10	100	79	0.00	0.00	--	0.00	0.00	383.88	49.03	7.829
33	-3.20	100	80	0.00	0.00	--	0.00	0.00	386.54	51.42	7.518
34	-3.30	100	81	0.00	0.00	--	0.00	0.00	389.19	53.85	7.227
35	-3.40	100	82	0.00	0.00	--	0.00	0.00	391.82	56.33	6.956
36	-3.50	100	83	0.00	0.00	--	0.00	0.00	394.46	58.86	6.701
37	-3.60	100	84	0.00	0.00	--	0.00	0.00	397.08	61.44	6.462
38	-3.70	100	85	0.00	0.00	--	0.00	0.00	399.70	64.08	6.238
39	-3.80	100	86	0.00	0.00	--	0.00	0.00	402.31	66.76	6.026
40	-3.90	100	87	0.00	0.00	--	0.00	0.00	404.92	69.49	5.827
41	-4.00	100	87	0.00	0.00	--	0.00	0.00	407.51	72.27	5.638
42	-4.10	100	88	0.00	0.00	--	0.00	0.00	410.11	75.11	5.460
43	-4.20	100	89	0.00	0.00	--	0.00	0.00	412.69	77.99	5.292
44	-4.30	100	90	0.00	0.00	--	0.00	0.00	415.27	80.92	5.132
45	-4.40	100	91	0.00	0.00	--	0.00	0.00	476.56	83.90	5.680
46	-4.50	100	92	0.00	0.00	--	0.00	0.00	479.45	86.94	5.515
47	-4.60	100	93	0.00	0.00	--	0.00	0.00	482.33	90.02	5.358
48	-4.70	100	94	0.00	0.00	--	0.00	0.00	485.21	93.15	5.209
49	-4.80	100	95	0.00	0.00	--	0.00	0.00	488.08	96.33	5.067
50	-4.90	100	96	0.00	0.00	--	0.00	0.00	490.94	99.57	4.931
51	-5.00	100	97	0.00	0.00	--	0.00	0.00	493.80	102.85	4.801
52	-5.10	100	98	0.00	0.00	--	0.00	0.00	496.65	106.18	4.677
53	-5.20	100	99	0.00	0.00	--	0.00	0.00	499.50	109.56	4.559
54	-5.30	100	100	0.00	0.00	--	0.00	0.00	502.34	113.00	4.446
55	-5.40	100	101	0.00	0.00	--	0.00	0.00	505.17	116.48	4.337
56	-5.50	100	102	0.00	0.00	--	0.00	0.00	557.50	120.01	4.645
57	-5.60	100	102	0.00	0.00	--	0.00	0.00	560.56	123.59	4.536
58	-5.70	100	103	0.00	0.00	--	0.00	0.00	563.63	127.23	4.430
59	-5.80	100	104	0.00	0.00	--	0.00	0.00	566.68	130.91	4.329
60	-5.90	100	105	0.00	0.00	--	0.00	0.00	569.73	134.64	4.231
61	-6.00	100	106	0.00	0.00	--	0.00	0.00	572.78	138.43	4.138
62	-6.10	100	107	0.00	0.00	--	0.00	0.00	575.82	142.26	4.048
63	-6.20	100	108	0.00	0.00	--	0.00	0.00	578.85	146.14	3.961
64	-6.30	100	109	0.00	0.00	--	0.00	0.00	581.88	150.07	3.877
65	-6.40	100	110	0.00	0.00	--	0.00	0.00	584.90	154.06	3.797
66	-6.50	100	111	0.00	0.00	--	0.00	0.00	587.92	158.09	3.719
67	-6.60	100	112	0.00	0.00	--	0.00	0.00	590.93	162.17	3.644
68	-6.70	100	113	0.00	0.00	--	0.00	0.00	593.94	166.31	3.571
69	-6.80	100	114	0.00	0.00	--	0.00	0.00	596.95	170.49	3.501
70	-6.90	100	115	0.00	0.00	--	0.00	0.00	599.95	174.72	3.434
71	-7.00	100	116	0.00	0.00	--	0.00	0.00	602.94	179.00	3.368
72	-7.10	100	116	0.00	0.00	--	0.00	0.00	605.93	183.34	3.305
73	-7.20	100	117	0.00	0.00	--	0.00	0.00	608.91	187.72	3.244
74	-7.30	100	118	0.00	0.00	--	0.00	0.00	490.59	192.15	2.553
75	-7.40	100	119	0.00	0.00	--	0.00	0.00	493.05	196.64	2.507
76	-7.50	100	120	0.00	0.00	--	0.00	0.00	495.50	201.17	2.463
77	-7.60	100	121	0.00	0.00	--	0.00	0.00	497.96	205.75	2.420
78	-7.70	100	122	0.00	0.00	--	0.00	0.00	500.41	210.39	2.379
79	-7.80	100	123	0.00	0.00	--	0.00	0.00	502.86	215.07	2.338
80	-7.90	100	124	0.00	0.00	--	0.00	0.00	505.30	219.80	2.299
81	-7.99	100	125	0.00	0.00	--	0.00	0.00	507.55	224.59	2.260

Combinazione n° 4 - STR (A1-M1-R3) H - V

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
1	0.00	100	50	0.00	0.00	--	0.00	0.00	296.28	0.00	100.000
2	-0.10	100	51	0.00	0.00	--	0.00	0.00	299.31	0.61	488.977
3	-0.20	100	52	0.00	0.00	--	0.00	0.00	302.31	1.27	237.137
4	-0.30	100	53	0.00	0.00	--	0.00	0.00	305.29	1.99	153.601
5	-0.40	100	54	0.00	0.00	--	0.00	0.00	308.26	2.75	112.103
6	-0.50	100	55	0.00	0.00	--	0.00	0.00	311.20	3.56	87.376
7	-0.60	100	56	0.00	0.00	--	0.00	0.00	314.13	4.42	71.013
8	-0.70	100	57	0.00	0.00	--	0.00	0.00	317.05	5.34	59.421
9	-0.80	100	57	0.00	0.00	--	0.00	0.00	319.94	6.30	50.804
10	-0.90	100	58	0.00	0.00	--	0.00	0.00	322.82	7.31	44.164
11	-1.00	100	59	0.00	0.00	--	0.00	0.00	325.69	8.37	38.904
12	-1.10	100	60	0.00	0.00	--	0.00	0.00	328.54	9.48	34.642
13	-1.20	100	61	0.00	0.00	--	0.00	0.00	331.38	10.65	31.127
14	-1.30	100	62	0.00	0.00	--	0.00	0.00	334.20	11.86	28.183
15	-1.40	100	63	0.00	0.00	--	0.00	0.00	337.01	13.12	25.686
16	-1.50	100	64	0.00	0.00	--	0.00	0.00	339.80	14.43	23.545
17	-1.60	100	65	0.00	0.00	--	0.00	0.00	342.58	15.79	21.690
18	-1.70	100	66	0.00	0.00	--	0.00	0.00	345.35	17.21	20.071
19	-1.80	100	67	0.00	0.00	--	0.00	0.00	348.11	18.67	18.647
20	-1.90	100	68	0.00	0.00	--	0.00	0.00	350.86	20.18	17.385
21	-2.00	100	69	0.00	0.00	--	0.00	0.00	353.59	21.74	16.262

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
22	-2.10	100	70	0.00	0.00	--	0.00	0.00	356.32	23.36	15.256
23	-2.20	100	71	0.00	0.00	--	0.00	0.00	359.03	25.02	14.351
24	-2.30	100	72	0.00	0.00	--	0.00	0.00	361.73	26.73	13.533
25	-2.40	100	72	0.00	0.00	--	0.00	0.00	364.43	28.49	12.790
26	-2.50	100	73	0.00	0.00	--	0.00	0.00	367.11	30.31	12.114
27	-2.60	100	74	0.00	0.00	--	0.00	0.00	369.78	32.17	11.495
28	-2.70	100	75	0.00	0.00	--	0.00	0.00	372.44	34.08	10.928
29	-2.80	100	76	0.00	0.00	--	0.00	0.00	375.10	36.04	10.407
30	-2.90	100	77	0.00	0.00	--	0.00	0.00	377.74	38.06	9.926
31	-3.00	100	78	0.00	0.00	--	0.00	0.00	380.38	40.12	9.481
32	-3.10	100	79	0.00	0.00	--	0.00	0.00	383.01	42.23	9.069
33	-3.20	100	80	0.00	0.00	--	0.00	0.00	385.63	44.39	8.687
34	-3.30	100	81	0.00	0.00	--	0.00	0.00	388.24	46.61	8.330
35	-3.40	100	82	0.00	0.00	--	0.00	0.00	390.84	48.87	7.998
36	-3.50	100	83	0.00	0.00	--	0.00	0.00	393.44	51.18	7.687
37	-3.60	100	84	0.00	0.00	--	0.00	0.00	396.03	53.54	7.396
38	-3.70	100	85	0.00	0.00	--	0.00	0.00	398.61	55.96	7.124
39	-3.80	100	86	0.00	0.00	--	0.00	0.00	401.18	58.42	6.867
40	-3.90	100	87	0.00	0.00	--	0.00	0.00	403.75	60.93	6.626
41	-4.00	100	87	0.00	0.00	--	0.00	0.00	406.31	63.50	6.399
42	-4.10	100	88	0.00	0.00	--	0.00	0.00	408.87	66.11	6.185
43	-4.20	100	89	0.00	0.00	--	0.00	0.00	411.41	68.77	5.982
44	-4.30	100	90	0.00	0.00	--	0.00	0.00	413.95	71.48	5.791
45	-4.40	100	91	0.00	0.00	--	0.00	0.00	475.20	74.25	6.400
46	-4.50	100	92	0.00	0.00	--	0.00	0.00	478.05	77.06	6.204
47	-4.60	100	93	0.00	0.00	--	0.00	0.00	480.89	79.92	6.017
48	-4.70	100	94	0.00	0.00	--	0.00	0.00	483.73	82.84	5.840
49	-4.80	100	95	0.00	0.00	--	0.00	0.00	486.56	85.80	5.671
50	-4.90	100	96	0.00	0.00	--	0.00	0.00	489.38	88.81	5.510
51	-5.00	100	97	0.00	0.00	--	0.00	0.00	492.19	91.88	5.357
52	-5.10	100	98	0.00	0.00	--	0.00	0.00	495.00	94.99	5.211
53	-5.20	100	99	0.00	0.00	--	0.00	0.00	497.81	98.15	5.072
54	-5.30	100	100	0.00	0.00	--	0.00	0.00	500.60	101.36	4.939
55	-5.40	100	101	0.00	0.00	--	0.00	0.00	503.39	104.63	4.811
56	-5.50	100	102	0.00	0.00	--	0.00	0.00	555.67	107.94	5.148
57	-5.60	100	102	0.00	0.00	--	0.00	0.00	558.69	111.30	5.020
58	-5.70	100	103	0.00	0.00	--	0.00	0.00	561.71	114.72	4.896
59	-5.80	100	104	0.00	0.00	--	0.00	0.00	564.72	118.18	4.778
60	-5.90	100	105	0.00	0.00	--	0.00	0.00	567.73	121.69	4.665
61	-6.00	100	106	0.00	0.00	--	0.00	0.00	570.73	125.26	4.556
62	-6.10	100	107	0.00	0.00	--	0.00	0.00	573.72	128.87	4.452
63	-6.20	100	108	0.00	0.00	--	0.00	0.00	576.70	132.53	4.351
64	-6.30	100	109	0.00	0.00	--	0.00	0.00	579.68	136.25	4.255
65	-6.40	100	110	0.00	0.00	--	0.00	0.00	582.66	140.01	4.162
66	-6.50	100	111	0.00	0.00	--	0.00	0.00	585.63	143.82	4.072
67	-6.60	100	112	0.00	0.00	--	0.00	0.00	588.59	147.69	3.985
68	-6.70	100	113	0.00	0.00	--	0.00	0.00	591.55	151.60	3.902
69	-6.80	100	114	0.00	0.00	--	0.00	0.00	594.51	155.57	3.822
70	-6.90	100	115	0.00	0.00	--	0.00	0.00	597.45	159.58	3.744
71	-7.00	100	116	0.00	0.00	--	0.00	0.00	600.40	163.64	3.669
72	-7.10	100	116	0.00	0.00	--	0.00	0.00	603.34	167.76	3.597
73	-7.20	100	117	0.00	0.00	--	0.00	0.00	606.27	171.92	3.526
74	-7.30	100	118	0.00	0.00	--	0.00	0.00	487.89	176.13	2.770
75	-7.40	100	119	0.00	0.00	--	0.00	0.00	490.30	180.40	2.718
76	-7.50	100	120	0.00	0.00	--	0.00	0.00	492.70	184.71	2.667
77	-7.60	100	121	0.00	0.00	--	0.00	0.00	495.10	189.07	2.619
78	-7.70	100	122	0.00	0.00	--	0.00	0.00	497.50	193.49	2.571
79	-7.80	100	123	0.00	0.00	--	0.00	0.00	499.89	197.95	2.525
80	-7.90	100	124	0.00	0.00	--	0.00	0.00	502.28	202.47	2.481
81	-7.99	100	125	0.00	0.00	--	0.00	0.00	504.47	207.03	2.437

Combinazione n° 9 - ECC

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
1	0.00	100	50	0.00	0.00	--	0.00	0.00	296.28	12.50	23.703
2	-0.10	100	51	0.00	0.00	--	0.00	0.00	299.32	12.52	23.900
3	-0.20	100	52	0.00	0.00	--	0.00	0.00	302.33	12.60	24.003
4	-0.30	100	53	0.00	0.00	--	0.00	0.00	305.32	12.71	24.014
5	-0.40	100	54	0.00	0.00	--	0.00	0.00	308.30	12.88	23.937
6	-0.50	100	55	0.00	0.00	--	0.00	0.00	311.26	13.09	23.774
7	-0.60	100	56	0.00	0.00	--	0.00	0.00	314.20	13.35	23.532
8	-0.70	100	57	0.00	0.00	--	0.00	0.00	317.12	13.66	23.218
9	-0.80	100	57	0.00	0.00	--	0.00	0.00	320.03	14.01	22.839
10	-0.90	100	58	0.00	0.00	--	0.00	0.00	322.93	14.41	22.404
11	-1.00	100	59	0.00	0.00	--	0.00	0.00	325.80	14.86	21.922
12	-1.10	100	60	0.00	0.00	--	0.00	0.00	328.67	15.36	21.401
13	-1.20	100	61	0.00	0.00	--	0.00	0.00	331.51	15.90	20.850
14	-1.30	100	62	0.00	0.00	--	0.00	0.00	334.35	16.49	20.276
15	-1.40	100	63	0.00	0.00	--	0.00	0.00	337.17	17.13	19.686
16	-1.50	100	64	0.00	0.00	--	0.00	0.00	339.98	17.81	19.088
17	-1.60	100	65	0.00	0.00	--	0.00	0.00	342.78	18.54	18.485

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
18	-1.70	100	66	0.00	0.00	--	0.00	0.00	345.56	19.32	17.885
19	-1.80	100	67	0.00	0.00	--	0.00	0.00	348.33	20.15	17.289
20	-1.90	100	68	0.00	0.00	--	0.00	0.00	351.09	21.02	16.702
21	-2.00	100	69	0.00	0.00	--	0.00	0.00	353.84	21.94	16.127
22	-2.10	100	70	0.00	0.00	--	0.00	0.00	356.58	22.91	15.565
23	-2.20	100	71	0.00	0.00	--	0.00	0.00	359.31	23.92	15.019
24	-2.30	100	72	0.00	0.00	--	0.00	0.00	362.03	24.99	14.490
25	-2.40	100	72	0.00	0.00	--	0.00	0.00	364.74	26.09	13.978
26	-2.50	100	73	0.00	0.00	--	0.00	0.00	367.43	27.25	13.484
27	-2.60	100	74	0.00	0.00	--	0.00	0.00	370.12	28.45	13.008
28	-2.70	100	75	0.00	0.00	--	0.00	0.00	372.80	29.70	12.550
29	-2.80	100	76	0.00	0.00	--	0.00	0.00	375.47	31.00	12.111
30	-2.90	100	77	0.00	0.00	--	0.00	0.00	378.13	32.35	11.690
31	-3.00	100	78	0.00	0.00	--	0.00	0.00	380.79	33.74	11.286
32	-3.10	100	79	0.00	0.00	--	0.00	0.00	383.43	35.18	10.900
33	-3.20	100	80	0.00	0.00	--	0.00	0.00	386.07	36.67	10.530
34	-3.30	100	81	0.00	0.00	--	0.00	0.00	388.70	38.20	10.176
35	-3.40	100	82	0.00	0.00	--	0.00	0.00	391.32	39.78	9.837
36	-3.50	100	83	0.00	0.00	--	0.00	0.00	393.93	41.41	9.513
37	-3.60	100	84	0.00	0.00	--	0.00	0.00	396.54	43.08	9.204
38	-3.70	100	85	0.00	0.00	--	0.00	0.00	399.14	44.81	8.908
39	-3.80	100	86	0.00	0.00	--	0.00	0.00	401.73	46.58	8.625
40	-3.90	100	87	0.00	0.00	--	0.00	0.00	404.32	48.39	8.355
41	-4.00	100	87	0.00	0.00	--	0.00	0.00	406.90	50.26	8.096
42	-4.10	100	88	0.00	0.00	--	0.00	0.00	409.47	52.17	7.849
43	-4.20	100	89	0.00	0.00	--	0.00	0.00	412.04	54.13	7.612
44	-4.30	100	90	0.00	0.00	--	0.00	0.00	414.60	56.13	7.386
45	-4.40	100	91	0.00	0.00	--	0.00	0.00	475.87	58.19	8.178
46	-4.50	100	92	0.00	0.00	--	0.00	0.00	478.74	60.29	7.941
47	-4.60	100	93	0.00	0.00	--	0.00	0.00	481.60	62.43	7.714
48	-4.70	100	94	0.00	0.00	--	0.00	0.00	484.45	64.63	7.496
49	-4.80	100	95	0.00	0.00	--	0.00	0.00	487.30	66.87	7.287
50	-4.90	100	96	0.00	0.00	--	0.00	0.00	490.15	69.16	7.087
51	-5.00	100	97	0.00	0.00	--	0.00	0.00	492.98	71.49	6.895
52	-5.10	100	98	0.00	0.00	--	0.00	0.00	495.81	73.88	6.711
53	-5.20	100	99	0.00	0.00	--	0.00	0.00	498.64	76.31	6.535
54	-5.30	100	100	0.00	0.00	--	0.00	0.00	501.46	78.79	6.365
55	-5.40	100	101	0.00	0.00	--	0.00	0.00	504.27	81.31	6.202
56	-5.50	100	102	0.00	0.00	--	0.00	0.00	556.57	83.88	6.635
57	-5.60	100	102	0.00	0.00	--	0.00	0.00	559.62	86.50	6.469
58	-5.70	100	103	0.00	0.00	--	0.00	0.00	562.66	89.17	6.310
59	-5.80	100	104	0.00	0.00	--	0.00	0.00	565.69	91.88	6.157
60	-5.90	100	105	0.00	0.00	--	0.00	0.00	568.72	94.64	6.009
61	-6.00	100	106	0.00	0.00	--	0.00	0.00	571.74	97.45	5.867
62	-6.10	100	107	0.00	0.00	--	0.00	0.00	574.75	100.31	5.730
63	-6.20	100	108	0.00	0.00	--	0.00	0.00	577.76	103.21	5.598
64	-6.30	100	109	0.00	0.00	--	0.00	0.00	580.77	106.16	5.471
65	-6.40	100	110	0.00	0.00	--	0.00	0.00	583.77	109.15	5.348
66	-6.50	100	111	0.00	0.00	--	0.00	0.00	586.76	112.20	5.230
67	-6.60	100	112	0.00	0.00	--	0.00	0.00	589.75	115.29	5.115
68	-6.70	100	113	0.00	0.00	--	0.00	0.00	592.73	118.43	5.005
69	-6.80	100	114	0.00	0.00	--	0.00	0.00	595.71	121.61	4.898
70	-6.90	100	115	0.00	0.00	--	0.00	0.00	598.69	124.85	4.795
71	-7.00	100	116	0.00	0.00	--	0.00	0.00	601.65	128.13	4.696
72	-7.10	100	116	0.00	0.00	--	0.00	0.00	604.62	131.45	4.599
73	-7.20	100	117	0.00	0.00	--	0.00	0.00	607.58	134.83	4.506
74	-7.30	100	118	0.00	0.00	--	0.00	0.00	489.23	138.25	3.539
75	-7.40	100	119	0.00	0.00	--	0.00	0.00	491.66	141.72	3.469
76	-7.50	100	120	0.00	0.00	--	0.00	0.00	494.09	145.23	3.402
77	-7.60	100	121	0.00	0.00	--	0.00	0.00	496.51	148.80	3.337
78	-7.70	100	122	0.00	0.00	--	0.00	0.00	498.94	152.41	3.274
79	-7.80	100	123	0.00	0.00	--	0.00	0.00	501.36	156.07	3.212
80	-7.90	100	124	0.00	0.00	--	0.00	0.00	503.78	159.77	3.153
81	-7.99	100	125	0.00	0.00	--	0.00	0.00	506.00	163.52	3.094

Mensola valle

Combinazione n° 1 - STR (A1-M1-R3)

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
1	-0.75	100	50	0.00	0.00	--	0.00	0.00	226.72	0.00	100.000
2	-0.67	100	50	0.00	0.00	--	0.00	0.00	226.72	1.04	217.654
3	-0.58	100	50	0.00	0.00	--	0.00	0.00	226.72	2.08	108.827
4	-0.50	100	50	0.00	0.00	--	0.00	0.00	226.72	3.13	72.551
5	-0.50	100	50	0.00	0.00	--	0.00	0.00	226.72	3.13	72.551

Combinazione n° 2 - STR (A1-M1-R3)

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
1	-0.75	100	50	0.00	0.00	--	0.00	0.00	226.72	0.00	100.000
2	-0.67	100	50	0.00	0.00	--	0.00	0.00	226.72	1.04	217.654
3	-0.58	100	50	0.00	0.00	--	0.00	0.00	226.72	2.08	108.827
4	-0.50	100	50	0.00	0.00	--	0.00	0.00	226.72	3.13	72.551
5	-0.50	100	50	0.00	0.00	--	0.00	0.00	226.72	3.13	72.551

Combinazione n° 3 - STR (A1-M1-R3) H + V

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
1	-0.75	100	50	0.00	0.00	--	0.00	0.00	226.72	0.00	100.000
2	-0.67	100	50	0.00	0.00	--	0.00	0.00	226.72	1.10	205.238
3	-0.58	100	50	0.00	0.00	--	0.00	0.00	226.72	2.21	102.619
4	-0.50	100	50	0.00	0.00	--	0.00	0.00	226.72	3.31	68.413
5	-0.50	100	50	0.00	0.00	--	0.00	0.00	226.72	3.31	68.413

Combinazione n° 4 - STR (A1-M1-R3) H - V

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
1	-0.75	100	50	0.00	0.00	--	0.00	0.00	226.72	0.00	100.000
2	-0.67	100	50	0.00	0.00	--	0.00	0.00	226.72	1.04	217.654
3	-0.58	100	50	0.00	0.00	--	0.00	0.00	226.72	2.08	108.827
4	-0.50	100	50	0.00	0.00	--	0.00	0.00	226.72	3.13	72.551
5	-0.50	100	50	0.00	0.00	--	0.00	0.00	226.72	3.13	72.551

Combinazione n° 9 - ECC

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
1	-0.75	100	50	0.00	0.00	--	0.00	0.00	226.72	0.00	100.000
2	-0.67	100	50	0.00	0.00	--	0.00	0.00	226.72	1.04	217.654
3	-0.58	100	50	0.00	0.00	--	0.00	0.00	226.72	2.08	108.827
4	-0.50	100	50	0.00	0.00	--	0.00	0.00	226.72	3.13	72.551
5	-0.50	100	50	0.00	0.00	--	0.00	0.00	225.03	3.13	72.011

Fondazione

Combinazione n° 1 - STR (A1-M1-R3)

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
1	-1.75	100	115	0.00	0.00	--	0.00	0.00	437.63	0.00	100.000
2	-1.65	100	115	0.00	0.00	--	0.00	0.00	437.63	-14.11	31.016
3	-1.56	100	115	0.00	0.00	--	0.00	0.00	437.63	-28.23	15.502
4	-1.46	100	115	0.00	0.00	--	0.00	0.00	437.63	-42.36	10.331
5	-1.37	100	115	0.00	0.00	--	0.00	0.00	437.63	-56.51	7.745
6	-1.27	100	115	0.00	0.00	--	0.00	0.00	437.63	-70.66	6.194
7	-1.17	100	115	0.00	0.00	--	0.00	0.00	437.63	-84.82	5.159
8	-1.08	100	115	0.00	0.00	--	0.00	0.00	437.63	-99.00	4.421
9	-0.98	100	115	0.00	0.00	--	0.00	0.00	437.63	-113.19	3.866
10	-0.88	100	115	0.00	0.00	--	0.00	0.00	437.63	-127.38	3.436
11	-0.79	100	115	0.00	0.00	--	0.00	0.00	437.63	-141.59	3.091
12	-0.69	100	115	0.00	0.00	--	0.00	0.00	437.63	-155.81	2.809
13	-0.60	100	115	0.00	0.00	--	0.00	0.00	437.63	-170.04	2.574
14	-0.50	100	115	0.00	0.00	--	0.00	0.00	437.63	-184.29	2.375
15	0.75	100	115	0.00	0.00	--	0.00	0.00	437.63	-222.83	1.964
16	0.85	100	115	0.00	0.00	--	0.00	0.00	437.63	-217.28	2.014
17	0.95	100	115	0.00	0.00	--	0.00	0.00	437.63	-211.74	2.067
18	1.05	100	115	0.00	0.00	--	0.00	0.00	437.63	-206.22	2.122
19	1.15	100	115	0.00	0.00	--	0.00	0.00	437.63	-200.71	2.180
20	1.25	100	115	0.00	0.00	--	0.00	0.00	437.63	-195.21	2.242
21	1.35	100	115	0.00	0.00	--	0.00	0.00	437.63	-189.72	2.307
22	1.45	100	115	0.00	0.00	--	0.00	0.00	437.63	-184.24	2.375
23	1.55	100	115	0.00	0.00	--	0.00	0.00	437.63	-178.77	2.448

n°	Y [m]	B [cm]	H [cm]	A_{sw} [cmq]	s [cm]	cotθ	V_{Rcd} [kN]	V_{Rsd} [kN]	V_{Rd} [kN]	T [kN]	FS
24	1.65	100	115	0.00	0.00	--	0.00	0.00	437.63	-173.32	2.525
25	1.75	100	115	0.00	0.00	--	0.00	0.00	437.63	-167.88	2.607
26	1.85	100	115	0.00	0.00	--	0.00	0.00	437.63	-162.45	2.694
27	1.95	100	115	0.00	0.00	--	0.00	0.00	437.63	-157.03	2.787
28	2.05	100	115	0.00	0.00	--	0.00	0.00	437.63	-151.62	2.886
29	2.15	100	115	0.00	0.00	--	0.00	0.00	437.63	-146.23	2.993
30	2.25	100	115	0.00	0.00	--	0.00	0.00	437.63	-140.84	3.107
31	2.35	100	115	0.00	0.00	--	0.00	0.00	437.63	-135.47	3.230
32	2.45	100	115	0.00	0.00	--	0.00	0.00	437.63	-130.12	3.363
33	2.55	100	115	0.00	0.00	--	0.00	0.00	437.63	-124.77	3.508
34	2.65	100	115	0.00	0.00	--	0.00	0.00	437.63	-119.43	3.664
35	2.75	100	115	0.00	0.00	--	0.00	0.00	437.63	-114.11	3.835
36	2.85	100	115	0.00	0.00	--	0.00	0.00	437.63	-108.80	4.022
37	2.95	100	115	0.00	0.00	--	0.00	0.00	437.63	-103.50	4.228
38	3.05	100	115	0.00	0.00	--	0.00	0.00	437.63	-98.21	4.456
39	3.15	100	115	0.00	0.00	--	0.00	0.00	437.63	-92.94	4.709
40	3.25	100	115	0.00	0.00	--	0.00	0.00	437.63	-87.67	4.992
41	3.35	100	115	0.00	0.00	--	0.00	0.00	437.63	-82.42	5.310
42	3.45	100	115	0.00	0.00	--	0.00	0.00	437.63	-77.18	5.670
43	3.55	100	115	0.00	0.00	--	0.00	0.00	437.63	-71.95	6.082
44	3.65	100	115	0.00	0.00	--	0.00	0.00	437.63	-66.73	6.558
45	3.75	100	115	0.00	0.00	--	0.00	0.00	437.63	-61.53	7.113
46	3.85	100	115	0.00	0.00	--	0.00	0.00	437.63	-56.34	7.768
47	3.95	100	115	0.00	0.00	--	0.00	0.00	437.63	-51.16	8.555
48	4.05	100	115	0.00	0.00	--	0.00	0.00	437.63	-45.99	9.516
49	4.15	100	115	0.00	0.00	--	0.00	0.00	437.63	-40.83	10.718
50	4.25	100	115	0.00	0.00	--	0.00	0.00	437.63	-35.68	12.264
51	4.35	100	115	0.00	0.00	--	0.00	0.00	437.63	-30.55	14.325
52	4.45	100	115	0.00	0.00	--	0.00	0.00	437.63	-25.43	17.210
53	4.55	100	115	0.00	0.00	--	0.00	0.00	437.63	-20.32	21.537
54	4.65	100	115	0.00	0.00	--	0.00	0.00	437.63	-15.22	28.750
55	4.75	100	115	0.00	0.00	--	0.00	0.00	437.63	-10.14	43.175
56	4.85	100	115	0.00	0.00	--	0.00	0.00	437.63	-5.06	86.451
57	4.95	100	115	0.00	0.00	--	0.00	0.00	330.72	0.00	100.000

Combinazione n° 2 - STR (A1-M1-R3)

n°	Y [m]	B [cm]	H [cm]	A_{sw} [cmq]	s [cm]	cotθ	V_{Rcd} [kN]	V_{Rsd} [kN]	V_{Rd} [kN]	T [kN]	FS
1	-1.75	100	115	0.00	0.00	--	0.00	0.00	437.63	0.00	100.000
2	-1.65	100	115	0.00	0.00	--	0.00	0.00	437.63	-16.04	27.287
3	-1.56	100	115	0.00	0.00	--	0.00	0.00	437.63	-32.10	13.635
4	-1.46	100	115	0.00	0.00	--	0.00	0.00	437.63	-48.17	9.085
5	-1.37	100	115	0.00	0.00	--	0.00	0.00	437.63	-64.27	6.809
6	-1.27	100	115	0.00	0.00	--	0.00	0.00	437.63	-80.38	5.444
7	-1.17	100	115	0.00	0.00	--	0.00	0.00	437.63	-96.52	4.534
8	-1.08	100	115	0.00	0.00	--	0.00	0.00	437.63	-112.67	3.884
9	-0.98	100	115	0.00	0.00	--	0.00	0.00	437.63	-128.84	3.397
10	-0.88	100	115	0.00	0.00	--	0.00	0.00	437.63	-145.04	3.017
11	-0.79	100	115	0.00	0.00	--	0.00	0.00	437.63	-161.25	2.714
12	-0.69	100	115	0.00	0.00	--	0.00	0.00	437.63	-177.48	2.466
13	-0.60	100	115	0.00	0.00	--	0.00	0.00	437.63	-193.73	2.259
14	-0.50	100	115	0.00	0.00	--	0.00	0.00	437.63	-210.00	2.084
15	0.75	100	115	0.00	0.00	--	0.00	0.00	437.63	-239.28	1.829
16	0.85	100	115	0.00	0.00	--	0.00	0.00	437.63	-232.38	1.883
17	0.95	100	115	0.00	0.00	--	0.00	0.00	437.63	-225.51	1.941
18	1.05	100	115	0.00	0.00	--	0.00	0.00	437.63	-218.66	2.001
19	1.15	100	115	0.00	0.00	--	0.00	0.00	437.63	-211.82	2.066
20	1.25	100	115	0.00	0.00	--	0.00	0.00	437.63	-205.01	2.135
21	1.35	100	115	0.00	0.00	--	0.00	0.00	437.63	-198.22	2.208
22	1.45	100	115	0.00	0.00	--	0.00	0.00	437.63	-191.45	2.286
23	1.55	100	115	0.00	0.00	--	0.00	0.00	437.63	-184.70	2.369
24	1.65	100	115	0.00	0.00	--	0.00	0.00	437.63	-177.97	2.459
25	1.75	100	115	0.00	0.00	--	0.00	0.00	437.63	-171.26	2.555
26	1.85	100	115	0.00	0.00	--	0.00	0.00	437.63	-164.58	2.659
27	1.95	100	115	0.00	0.00	--	0.00	0.00	437.63	-157.91	2.771
28	2.05	100	115	0.00	0.00	--	0.00	0.00	437.63	-151.26	2.893
29	2.15	100	115	0.00	0.00	--	0.00	0.00	437.63	-144.64	3.026
30	2.25	100	115	0.00	0.00	--	0.00	0.00	437.63	-138.04	3.170
31	2.35	100	115	0.00	0.00	--	0.00	0.00	437.63	-131.45	3.329
32	2.45	100	115	0.00	0.00	--	0.00	0.00	437.63	-124.89	3.504
33	2.55	100	115	0.00	0.00	--	0.00	0.00	437.63	-118.35	3.698
34	2.65	100	115	0.00	0.00	--	0.00	0.00	437.63	-111.83	3.913
35	2.75	100	115	0.00	0.00	--	0.00	0.00	437.63	-105.33	4.155
36	2.85	100	115	0.00	0.00	--	0.00	0.00	437.63	-98.85	4.427
37	2.95	100	115	0.00	0.00	--	0.00	0.00	437.63	-92.40	4.736
38	3.05	100	115	0.00	0.00	--	0.00	0.00	437.63	-86.78	5.043
39	3.15	100	115	0.00	0.00	--	0.00	0.00	437.63	-82.02	5.336
40	3.25	100	115	0.00	0.00	--	0.00	0.00	437.63	-77.29	5.662
41	3.35	100	115	0.00	0.00	--	0.00	0.00	437.63	-72.57	6.030
42	3.45	100	115	0.00	0.00	--	0.00	0.00	437.63	-67.88	6.447
43	3.55	100	115	0.00	0.00	--	0.00	0.00	437.63	-63.21	6.923

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
44	3.65	100	115	0.00	0.00	--	0.00	0.00	437.63	-58.56	7.473
45	3.75	100	115	0.00	0.00	--	0.00	0.00	437.63	-53.93	8.115
46	3.85	100	115	0.00	0.00	--	0.00	0.00	437.63	-49.32	8.873
47	3.95	100	115	0.00	0.00	--	0.00	0.00	437.63	-44.73	9.783
48	4.05	100	115	0.00	0.00	--	0.00	0.00	437.63	-40.17	10.896
49	4.15	100	115	0.00	0.00	--	0.00	0.00	437.63	-35.62	12.286
50	4.25	100	115	0.00	0.00	--	0.00	0.00	437.63	-31.09	14.075
51	4.35	100	115	0.00	0.00	--	0.00	0.00	437.63	-26.59	16.459
52	4.45	100	115	0.00	0.00	--	0.00	0.00	437.63	-22.11	19.798
53	4.55	100	115	0.00	0.00	--	0.00	0.00	437.63	-17.64	24.806
54	4.65	100	115	0.00	0.00	--	0.00	0.00	437.63	-13.20	33.153
55	4.75	100	115	0.00	0.00	--	0.00	0.00	437.63	-8.78	49.847
56	4.85	100	115	0.00	0.00	--	0.00	0.00	437.63	-4.38	99.932
57	4.95	100	115	0.00	0.00	--	0.00	0.00	330.72	0.00	100.000

Combinazione n° 3 - STR (A1-M1-R3) H + V

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
1	-1.75	100	115	0.00	0.00	--	0.00	0.00	437.63	0.00	100.000
2	-1.65	100	115	0.00	0.00	--	0.00	0.00	437.63	-23.21	18.858
3	-1.56	100	115	0.00	0.00	--	0.00	0.00	437.63	-46.19	9.475
4	-1.46	100	115	0.00	0.00	--	0.00	0.00	437.63	-68.94	6.348
5	-1.37	100	115	0.00	0.00	--	0.00	0.00	437.63	-91.47	4.785
6	-1.27	100	115	0.00	0.00	--	0.00	0.00	437.63	-113.77	3.847
7	-1.17	100	115	0.00	0.00	--	0.00	0.00	437.63	-135.84	3.222
8	-1.08	100	115	0.00	0.00	--	0.00	0.00	437.63	-157.69	2.775
9	-0.98	100	115	0.00	0.00	--	0.00	0.00	437.63	-179.32	2.441
10	-0.88	100	115	0.00	0.00	--	0.00	0.00	437.63	-200.71	2.180
11	-0.79	100	115	0.00	0.00	--	0.00	0.00	437.63	-221.88	1.972
12	-0.69	100	115	0.00	0.00	--	0.00	0.00	437.63	-242.82	1.802
13	-0.60	100	115	0.00	0.00	--	0.00	0.00	437.63	-263.54	1.661
14	-0.50	100	115	0.00	0.00	--	0.00	0.00	437.63	-284.03	1.541
15	0.75	100	115	0.00	0.00	--	0.00	0.00	437.63	-92.64	4.724
16	0.85	100	115	0.00	0.00	--	0.00	0.00	437.63	-95.46	4.585
17	0.95	100	115	0.00	0.00	--	0.00	0.00	437.63	-98.02	4.465
18	1.05	100	115	0.00	0.00	--	0.00	0.00	437.63	-100.35	4.361
19	1.15	100	115	0.00	0.00	--	0.00	0.00	437.63	-102.42	4.273
20	1.25	100	115	0.00	0.00	--	0.00	0.00	437.63	-104.26	4.198
21	1.35	100	115	0.00	0.00	--	0.00	0.00	437.63	-105.85	4.135
22	1.45	100	115	0.00	0.00	--	0.00	0.00	437.63	-107.19	4.083
23	1.55	100	115	0.00	0.00	--	0.00	0.00	437.63	-108.29	4.041
24	1.65	100	115	0.00	0.00	--	0.00	0.00	437.63	-109.14	4.010
25	1.75	100	115	0.00	0.00	--	0.00	0.00	437.63	-109.75	3.987
26	1.85	100	115	0.00	0.00	--	0.00	0.00	437.63	-110.12	3.974
27	1.95	100	115	0.00	0.00	--	0.00	0.00	437.63	-110.24	3.970
28	2.05	100	115	0.00	0.00	--	0.00	0.00	437.63	-110.11	3.974
29	2.15	100	115	0.00	0.00	--	0.00	0.00	437.63	-109.74	3.988
30	2.25	100	115	0.00	0.00	--	0.00	0.00	437.63	-109.13	4.010
31	2.35	100	115	0.00	0.00	--	0.00	0.00	437.63	-108.27	4.042
32	2.45	100	115	0.00	0.00	--	0.00	0.00	437.63	-107.16	4.084
33	2.55	100	115	0.00	0.00	--	0.00	0.00	437.63	-105.81	4.136
34	2.65	100	115	0.00	0.00	--	0.00	0.00	437.63	-104.22	4.199
35	2.75	100	115	0.00	0.00	--	0.00	0.00	437.63	-102.38	4.275
36	2.85	100	115	0.00	0.00	--	0.00	0.00	437.63	-100.30	4.363
37	2.95	100	115	0.00	0.00	--	0.00	0.00	437.63	-97.97	4.467
38	3.05	100	115	0.00	0.00	--	0.00	0.00	437.63	-95.40	4.587
39	3.15	100	115	0.00	0.00	--	0.00	0.00	437.63	-92.58	4.727
40	3.25	100	115	0.00	0.00	--	0.00	0.00	437.63	-89.52	4.889
41	3.35	100	115	0.00	0.00	--	0.00	0.00	437.63	-86.21	5.076
42	3.45	100	115	0.00	0.00	--	0.00	0.00	437.63	-82.66	5.295
43	3.55	100	115	0.00	0.00	--	0.00	0.00	437.63	-78.86	5.549
44	3.65	100	115	0.00	0.00	--	0.00	0.00	437.63	-74.82	5.849
45	3.75	100	115	0.00	0.00	--	0.00	0.00	437.63	-70.53	6.205
46	3.85	100	115	0.00	0.00	--	0.00	0.00	437.63	-66.00	6.631
47	3.95	100	115	0.00	0.00	--	0.00	0.00	437.63	-61.22	7.148
48	4.05	100	115	0.00	0.00	--	0.00	0.00	437.63	-56.20	7.787
49	4.15	100	115	0.00	0.00	--	0.00	0.00	437.63	-50.94	8.591
50	4.25	100	115	0.00	0.00	--	0.00	0.00	437.63	-45.43	9.634
51	4.35	100	115	0.00	0.00	--	0.00	0.00	437.63	-39.67	11.031
52	4.45	100	115	0.00	0.00	--	0.00	0.00	437.63	-33.67	12.997
53	4.55	100	115	0.00	0.00	--	0.00	0.00	437.63	-27.43	15.956
54	4.65	100	115	0.00	0.00	--	0.00	0.00	437.63	-20.94	20.902
55	4.75	100	115	0.00	0.00	--	0.00	0.00	437.63	-14.20	30.812
56	4.85	100	115	0.00	0.00	--	0.00	0.00	437.63	-7.22	60.580
57	4.95	100	115	0.00	0.00	--	0.00	0.00	330.72	0.00	100.000

Combinazione n° 4 - STR (A1-M1-R3) H - V

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
1	-1.75	100	115	0.00	0.00	--	0.00	0.00	437.63	0.00	100.000
2	-1.65	100	115	0.00	0.00	--	0.00	0.00	437.63	-21.09	20.751
3	-1.56	100	115	0.00	0.00	--	0.00	0.00	437.63	-41.96	10.431
4	-1.46	100	115	0.00	0.00	--	0.00	0.00	437.63	-62.60	6.991
5	-1.37	100	115	0.00	0.00	--	0.00	0.00	437.63	-83.02	5.271
6	-1.27	100	115	0.00	0.00	--	0.00	0.00	437.63	-103.22	4.240
7	-1.17	100	115	0.00	0.00	--	0.00	0.00	437.63	-123.20	3.552
8	-1.08	100	115	0.00	0.00	--	0.00	0.00	437.63	-142.96	3.061
9	-0.98	100	115	0.00	0.00	--	0.00	0.00	437.63	-162.49	2.693
10	-0.88	100	115	0.00	0.00	--	0.00	0.00	437.63	-181.80	2.407
11	-0.79	100	115	0.00	0.00	--	0.00	0.00	437.63	-200.89	2.178
12	-0.69	100	115	0.00	0.00	--	0.00	0.00	437.63	-219.76	1.991
13	-0.60	100	115	0.00	0.00	--	0.00	0.00	437.63	-238.40	1.836
14	-0.50	100	115	0.00	0.00	--	0.00	0.00	437.63	-256.82	1.704
15	0.75	100	115	0.00	0.00	--	0.00	0.00	437.63	-176.78	2.476
16	0.85	100	115	0.00	0.00	--	0.00	0.00	437.63	-177.50	2.466
17	0.95	100	115	0.00	0.00	--	0.00	0.00	437.63	-177.98	2.459
18	1.05	100	115	0.00	0.00	--	0.00	0.00	437.63	-178.22	2.456
19	1.15	100	115	0.00	0.00	--	0.00	0.00	437.63	-178.21	2.456
20	1.25	100	115	0.00	0.00	--	0.00	0.00	437.63	-177.97	2.459
21	1.35	100	115	0.00	0.00	--	0.00	0.00	437.63	-177.49	2.466
22	1.45	100	115	0.00	0.00	--	0.00	0.00	437.63	-176.77	2.476
23	1.55	100	115	0.00	0.00	--	0.00	0.00	437.63	-175.80	2.489
24	1.65	100	115	0.00	0.00	--	0.00	0.00	437.63	-174.60	2.506
25	1.75	100	115	0.00	0.00	--	0.00	0.00	437.63	-173.16	2.527
26	1.85	100	115	0.00	0.00	--	0.00	0.00	437.63	-171.47	2.552
27	1.95	100	115	0.00	0.00	--	0.00	0.00	437.63	-169.55	2.581
28	2.05	100	115	0.00	0.00	--	0.00	0.00	437.63	-167.38	2.615
29	2.15	100	115	0.00	0.00	--	0.00	0.00	437.63	-164.98	2.653
30	2.25	100	115	0.00	0.00	--	0.00	0.00	437.63	-162.33	2.696
31	2.35	100	115	0.00	0.00	--	0.00	0.00	437.63	-159.44	2.745
32	2.45	100	115	0.00	0.00	--	0.00	0.00	437.63	-156.32	2.800
33	2.55	100	115	0.00	0.00	--	0.00	0.00	437.63	-152.95	2.861
34	2.65	100	115	0.00	0.00	--	0.00	0.00	437.63	-149.34	2.930
35	2.75	100	115	0.00	0.00	--	0.00	0.00	437.63	-145.49	3.008
36	2.85	100	115	0.00	0.00	--	0.00	0.00	437.63	-141.40	3.095
37	2.95	100	115	0.00	0.00	--	0.00	0.00	437.63	-137.07	3.193
38	3.05	100	115	0.00	0.00	--	0.00	0.00	437.63	-132.50	3.303
39	3.15	100	115	0.00	0.00	--	0.00	0.00	437.63	-127.69	3.427
40	3.25	100	115	0.00	0.00	--	0.00	0.00	437.63	-122.64	3.568
41	3.35	100	115	0.00	0.00	--	0.00	0.00	437.63	-117.35	3.729
42	3.45	100	115	0.00	0.00	--	0.00	0.00	437.63	-111.82	3.914
43	3.55	100	115	0.00	0.00	--	0.00	0.00	437.63	-106.05	4.127
44	3.65	100	115	0.00	0.00	--	0.00	0.00	437.63	-100.04	4.375
45	3.75	100	115	0.00	0.00	--	0.00	0.00	437.63	-93.78	4.666
46	3.85	100	115	0.00	0.00	--	0.00	0.00	437.63	-87.29	5.013
47	3.95	100	115	0.00	0.00	--	0.00	0.00	437.63	-80.56	5.433
48	4.05	100	115	0.00	0.00	--	0.00	0.00	437.63	-73.58	5.947
49	4.15	100	115	0.00	0.00	--	0.00	0.00	437.63	-66.37	6.594
50	4.25	100	115	0.00	0.00	--	0.00	0.00	437.63	-58.91	7.428
51	4.35	100	115	0.00	0.00	--	0.00	0.00	437.63	-51.22	8.544
52	4.45	100	115	0.00	0.00	--	0.00	0.00	437.63	-43.28	10.111
53	4.55	100	115	0.00	0.00	--	0.00	0.00	437.63	-35.11	12.465
54	4.65	100	115	0.00	0.00	--	0.00	0.00	437.63	-26.69	16.396
55	4.75	100	115	0.00	0.00	--	0.00	0.00	437.63	-18.03	24.266
56	4.85	100	115	0.00	0.00	--	0.00	0.00	437.63	-9.14	47.893
57	4.95	100	115	0.00	0.00	--	0.00	0.00	330.72	0.00	100.000

Combinazione n° 9 - ECC

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
1	-1.75	100	115	0.00	0.00	--	0.00	0.00	437.63	0.00	100.000
2	-1.65	100	115	0.00	0.00	--	0.00	0.00	437.63	-14.06	31.130
3	-1.56	100	115	0.00	0.00	--	0.00	0.00	437.63	-28.12	15.564
4	-1.46	100	115	0.00	0.00	--	0.00	0.00	437.63	-42.18	10.376
5	-1.37	100	115	0.00	0.00	--	0.00	0.00	437.63	-56.24	7.781
6	-1.27	100	115	0.00	0.00	--	0.00	0.00	437.63	-70.30	6.225
7	-1.17	100	115	0.00	0.00	--	0.00	0.00	437.63	-84.37	5.187
8	-1.08	100	115	0.00	0.00	--	0.00	0.00	437.63	-98.43	4.446
9	-0.98	100	115	0.00	0.00	--	0.00	0.00	437.63	-112.50	3.890
10	-0.88	100	115	0.00	0.00	--	0.00	0.00	437.63	-126.57	3.458
11	-0.79	100	115	0.00	0.00	--	0.00	0.00	437.63	-140.64	3.112
12	-0.69	100	115	0.00	0.00	--	0.00	0.00	437.63	-154.71	2.829
13	-0.60	100	115	0.00	0.00	--	0.00	0.00	437.63	-168.78	2.593
14	-0.50	100	115	0.00	0.00	--	0.00	0.00	437.63	-182.85	2.393
15	0.75	100	115	0.00	0.00	--	0.00	0.00	437.63	-21.82	20.054
16	0.85	100	115	0.00	0.00	--	0.00	0.00	437.63	-21.28	20.569
17	0.95	100	115	0.00	0.00	--	0.00	0.00	437.63	-20.73	21.110
18	1.05	100	115	0.00	0.00	--	0.00	0.00	437.63	-20.19	21.679
19	1.15	100	115	0.00	0.00	--	0.00	0.00	437.63	-19.64	22.278
20	1.25	100	115	0.00	0.00	--	0.00	0.00	437.63	-19.10	22.909

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
21	1.35	100	115	0.00	0.00	--	0.00	0.00	437.63	-18.56	23.575
22	1.45	100	115	0.00	0.00	--	0.00	0.00	437.63	-18.02	24.280
23	1.55	100	115	0.00	0.00	--	0.00	0.00	437.63	-17.49	25.026
24	1.65	100	115	0.00	0.00	--	0.00	0.00	437.63	-16.95	25.817
25	1.75	100	115	0.00	0.00	--	0.00	0.00	437.63	-16.42	26.658
26	1.85	100	115	0.00	0.00	--	0.00	0.00	437.63	-15.88	27.554
27	1.95	100	115	0.00	0.00	--	0.00	0.00	437.63	-15.35	28.509
28	2.05	100	115	0.00	0.00	--	0.00	0.00	437.63	-14.82	29.530
29	2.15	100	115	0.00	0.00	--	0.00	0.00	437.63	-14.29	30.624
30	2.25	100	115	0.00	0.00	--	0.00	0.00	437.63	-13.76	31.799
31	2.35	100	115	0.00	0.00	--	0.00	0.00	437.63	-13.24	33.064
32	2.45	100	115	0.00	0.00	--	0.00	0.00	437.63	-12.71	34.432
33	2.55	100	115	0.00	0.00	--	0.00	0.00	437.63	-12.19	35.913
34	2.65	100	115	0.00	0.00	--	0.00	0.00	437.63	-11.66	37.523
35	2.75	100	115	0.00	0.00	--	0.00	0.00	437.63	-11.14	39.279
36	2.85	100	115	0.00	0.00	--	0.00	0.00	437.63	-10.62	41.203
37	2.95	100	115	0.00	0.00	--	0.00	0.00	437.63	-10.10	43.319
38	3.05	100	115	0.00	0.00	--	0.00	0.00	437.63	-9.58	45.659
39	3.15	100	115	0.00	0.00	--	0.00	0.00	437.63	-9.07	48.258
40	3.25	100	115	0.00	0.00	--	0.00	0.00	437.63	-8.55	51.164
41	3.35	100	115	0.00	0.00	--	0.00	0.00	437.63	-8.04	54.433
42	3.45	100	115	0.00	0.00	--	0.00	0.00	437.63	-7.53	58.138
43	3.55	100	115	0.00	0.00	--	0.00	0.00	437.63	-7.02	62.372
44	3.65	100	115	0.00	0.00	--	0.00	0.00	437.63	-6.51	67.258
45	3.75	100	115	0.00	0.00	--	0.00	0.00	437.63	-6.00	72.959
46	3.85	100	115	0.00	0.00	--	0.00	0.00	437.63	-5.49	79.696
47	3.95	100	115	0.00	0.00	--	0.00	0.00	437.63	-4.99	87.781
48	4.05	100	115	0.00	0.00	--	0.00	0.00	437.63	-4.48	97.664
49	4.15	100	115	0.00	0.00	--	0.00	0.00	437.63	-3.98	110.017
50	4.25	100	115	0.00	0.00	--	0.00	0.00	437.63	-3.48	125.900
51	4.35	100	115	0.00	0.00	--	0.00	0.00	437.63	-2.98	147.078
52	4.45	100	115	0.00	0.00	--	0.00	0.00	437.63	-2.48	176.728
53	4.55	100	115	0.00	0.00	--	0.00	0.00	437.63	-1.98	221.203
54	4.65	100	115	0.00	0.00	--	0.00	0.00	437.63	-1.48	295.330
55	4.75	100	115	0.00	0.00	--	0.00	0.00	437.63	-0.99	443.586
56	4.85	100	115	0.00	0.00	--	0.00	0.00	437.63	-0.49	888.356
57	4.95	100	115	0.00	0.00	--	0.00	0.00	330.72	0.00	100.000

Verifica a fessurazione

Simbologia adottata

n°	indice sezione
Y	ordinata sezione espressa in [m]
B	larghezza sezione espresso in [cm]
H	altezza sezione espressa in [cm]
Af	area ferri zona tesa espresso in [cmq]
Aeff	area efficace espressa in [cmq]
M	momento agente espressa in [kNm]
Mpf	momento di formazione/apertura fessure espressa in [kNm]
ε	deformazione espresso in %
Sm	spaziatura tra le fessure espressa in [mm]
w	apertura delle fessure espressa in [mm]

Combinazioni SLEF

Paramento

Combinazione n° 11 - SLEF

Apertura limite fessure w_{lim}=0.30

n°	Y	B	H	Af	Aeff	M	Mpf	ε	Sm	w
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kNm]	[%]	[mm]	[mm]
1	0.00	100	50	31.42	1190.27	0.39	141.69	0.000000	0.00	0.000
2	-0.10	100	51	31.42	1214.60	0.39	146.91	0.000000	0.00	0.000
3	-0.20	100	52	31.42	1238.96	0.41	152.22	0.000000	0.00	0.000
4	-0.30	100	53	31.42	1263.35	0.44	157.61	0.000000	0.00	0.000
5	-0.40	100	54	31.42	1287.76	0.49	163.08	0.000000	0.00	0.000
6	-0.50	100	55	31.42	1312.21	0.57	168.64	0.000000	0.00	0.000
7	-0.60	100	56	31.42	1336.68	0.67	174.27	0.000000	0.00	0.000
8	-0.70	100	57	31.42	1361.18	0.81	180.00	0.000000	0.00	0.000
9	-0.80	100	57	31.42	1385.70	0.99	185.81	0.000000	0.00	0.000
10	-0.90	100	58	31.42	1410.25	1.22	191.70	0.000000	0.00	0.000
11	-1.00	100	59	31.42	1434.82	1.49	197.68	0.000000	0.00	0.000
12	-1.10	100	60	31.42	1459.41	1.82	203.74	0.000000	0.00	0.000
13	-1.20	100	61	31.42	1484.03	2.21	209.88	0.000000	0.00	0.000
14	-1.30	100	62	31.42	1500.00	2.66	216.11	0.000000	0.00	0.000
15	-1.40	100	63	31.42	1500.00	3.18	222.43	0.000000	0.00	0.000
16	-1.50	100	64	31.42	1500.00	3.77	228.83	0.000000	0.00	0.000
17	-1.60	100	65	31.42	1500.00	4.44	235.30	0.000000	0.00	0.000
18	-1.70	100	66	31.42	1500.00	5.19	241.86	0.000000	0.00	0.000
19	-1.80	100	67	31.42	1500.00	6.04	248.52	0.000000	0.00	0.000
20	-1.90	100	68	31.42	1500.00	6.97	255.24	0.000000	0.00	0.000
21	-2.00	100	69	31.42	1500.00	8.00	262.08	0.000000	0.00	0.000
22	-2.10	100	70	31.42	1500.00	9.14	268.98	0.000000	0.00	0.000
23	-2.20	100	71	31.42	1500.00	10.38	275.97	0.000000	0.00	0.000
24	-2.30	100	72	31.42	1500.00	11.74	283.03	0.000000	0.00	0.000
25	-2.40	100	72	31.42	1500.00	13.21	290.19	0.000000	0.00	0.000
26	-2.50	100	73	31.42	1500.00	14.80	297.44	0.000000	0.00	0.000
27	-2.60	100	74	31.42	1500.00	16.52	304.77	0.000000	0.00	0.000
28	-2.70	100	75	31.42	1500.00	18.37	312.19	0.000000	0.00	0.000
29	-2.80	100	76	31.42	1500.00	20.36	319.68	0.000000	0.00	0.000
30	-2.90	100	77	31.42	1500.00	22.49	327.26	0.000000	0.00	0.000
31	-3.00	100	78	31.42	1500.00	24.76	334.94	0.000000	0.00	0.000
32	-3.10	100	79	31.42	1500.00	27.19	342.69	0.000000	0.00	0.000
33	-3.20	100	80	31.42	1500.00	29.77	350.52	0.000000	0.00	0.000
34	-3.30	100	81	31.42	1500.00	32.51	358.45	0.000000	0.00	0.000
35	-3.40	100	82	31.42	1500.00	35.41	366.47	0.000000	0.00	0.000
36	-3.50	100	83	31.42	1500.00	38.49	374.57	0.000000	0.00	0.000
37	-3.60	100	84	31.42	1500.00	41.74	382.74	0.000000	0.00	0.000
38	-3.70	100	85	31.42	1500.00	45.17	391.02	0.000000	0.00	0.000
39	-3.80	100	86	31.42	1500.00	48.79	399.36	0.000000	0.00	0.000
40	-3.90	100	87	31.42	1500.00	52.59	407.80	0.000000	0.00	0.000
41	-4.00	100	87	31.42	1500.00	56.59	416.34	0.000000	0.00	0.000
42	-4.10	100	88	31.42	1500.00	60.79	424.94	0.000000	0.00	0.000
43	-4.20	100	89	31.42	1500.00	65.19	433.64	0.000000	0.00	0.000
44	-4.30	100	90	31.42	1500.00	69.80	442.42	0.000000	0.00	0.000
45	-4.40	100	91	62.83	1500.00	74.62	509.92	0.000000	0.00	0.000
46	-4.50	100	92	62.83	1500.00	79.67	519.63	0.000000	0.00	0.000
47	-4.60	100	93	62.83	1500.00	84.93	529.42	0.000000	0.00	0.000
48	-4.70	100	94	62.83	1500.00	90.43	539.32	0.000000	0.00	0.000
49	-4.80	100	95	62.83	1500.00	96.15	549.30	0.000000	0.00	0.000
50	-4.90	100	96	62.83	1500.00	102.12	559.36	0.000000	0.00	0.000
51	-5.00	100	97	62.83	1500.00	108.32	569.51	0.000000	0.00	0.000
52	-5.10	100	98	62.83	1500.00	114.78	579.72	0.000000	0.00	0.000
53	-5.20	100	99	62.83	1500.00	121.48	590.06	0.000000	0.00	0.000
54	-5.30	100	100	62.83	1500.00	128.44	600.47	0.000000	0.00	0.000
55	-5.40	100	101	62.83	1500.00	135.67	610.95	0.000000	0.00	0.000
56	-5.50	100	102	62.83	1500.00	143.16	651.50	0.000000	0.00	0.000
57	-5.60	100	102	62.83	1500.00	150.92	662.60	0.000000	0.00	0.000
58	-5.70	100	103	62.83	1500.00	158.96	673.78	0.000000	0.00	0.000
59	-5.80	100	104	62.83	1500.00	167.28	685.05	0.000000	0.00	0.000
60	-5.90	100	105	62.83	1500.00	175.89	696.37	0.000000	0.00	0.000
61	-6.00	100	106	62.83	1500.00	184.78	707.84	0.000000	0.00	0.000
62	-6.10	100	107	62.83	1500.00	193.97	719.33	0.000000	0.00	0.000
63	-6.20	100	108	62.83	1500.00	203.47	730.97	0.000000	0.00	0.000
64	-6.30	100	109	62.83	1500.00	213.27	742.68	0.000000	0.00	0.000
65	-6.40	100	110	62.83	1500.00	223.37	754.47	0.000000	0.00	0.000
66	-6.50	100	111	62.83	1500.00	233.80	766.35	0.000000	0.00	0.000
67	-6.60	100	112	62.83	1500.00	244.54	778.32	0.000000	0.00	0.000
68	-6.70	100	113	62.83	1500.00	255.61	790.38	0.000000	0.00	0.000
69	-6.80	100	114	62.83	1500.00	267.00	802.55	0.000000	0.00	0.000
70	-6.90	100	115	62.83	1500.00	278.73	814.81	0.000000	0.00	0.000
71	-7.00	100	116	62.83	1500.00	290.80	827.15	0.000000	0.00	0.000
72	-7.10	100	116	62.83	1500.00	303.22	839.60	0.000000	0.00	0.000
73	-7.20	100	117	62.83	1500.00	315.98	852.10	0.000000	0.00	0.000
74	-7.30	100	118	31.42	1500.00	329.09	746.69	0.000000	0.00	0.000
75	-7.40	100	119	31.42	1500.00	342.57	758.21	0.000000	0.00	0.000
76	-7.50	100	120	31.42	1500.00	356.41	769.82	0.000000	0.00	0.000
77	-7.60	100	121	31.42	1500.00	370.61	781.50	0.000000	0.00	0.000
78	-7.70	100	122	31.42	1500.00	385.19	793.28	0.000000	0.00	0.000
79	-7.80	100	123	31.42	1500.00	400.15	805.14	0.000000	0.00	0.000
80	-7.90	100	124	31.42	1500.00	415.49	817.10	0.000000	0.00	0.000

n°	Y	B	H	Af	Aeff	M	Mpf	ε	Sm	w
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kNm]	[%]	[mm]	[mm]
81	-7.99	100	125	31.42	1500.00	431.21	828.04	0.000000	0.00	0.000

Mensola valle

Combinazione n° 11 - SLEF

Apertura limite fessure w_{lim}=0.30

n°	Y	B	H	Af	Aeff	M	Mpf	ε	Sm	w
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kNm]	[%]	[mm]	[mm]
1	-0.75	100	50	0.00	0.00	0.00	0.00	---	---	0.000
2	-0.67	100	50	15.71	1283.16	-0.04	-123.05	0.000000	0.00	0.000
3	-0.58	100	50	15.71	1283.16	-0.17	-123.05	0.000000	0.00	0.000
4	-0.50	100	50	15.71	1283.16	-0.39	-123.05	0.000000	0.00	0.000
5	-0.50	100	50	15.71	1283.16	-0.39	-123.05	0.000000	0.00	0.000

Fondazione

Combinazione n° 11 - SLEF

Apertura limite fessure w_{lim}=0.30

n°	Y	B	H	Af	Aeff	M	Mpf	ε	Sm	w
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kNm]	[%]	[mm]	[mm]
1	-1.75	100	115	0.00	0.00	0.00	0.00	---	---	0.000
2	-1.65	100	115	27.14	1550.00	0.60	659.18	0.000000	0.00	0.000
3	-1.56	100	115	27.14	1550.00	2.40	659.18	0.000000	0.00	0.000
4	-1.46	100	115	27.14	1550.00	5.40	659.18	0.000000	0.00	0.000
5	-1.37	100	115	27.14	1550.00	9.61	659.18	0.000000	0.00	0.000
6	-1.27	100	115	27.14	1550.00	15.04	659.18	0.000000	0.00	0.000
7	-1.17	100	115	27.14	1550.00	21.69	659.18	0.000000	0.00	0.000
8	-1.08	100	115	27.14	1550.00	29.56	659.18	0.000000	0.00	0.000
9	-0.98	100	115	27.14	1550.00	38.65	659.18	0.000000	0.00	0.000
10	-0.88	100	115	27.14	1550.00	48.98	659.18	0.000000	0.00	0.000
11	-0.79	100	115	27.14	1550.00	60.55	659.18	0.000000	0.00	0.000
12	-0.69	100	115	27.14	1550.00	73.36	659.18	0.000000	0.00	0.000
13	-0.60	100	115	27.14	1550.00	87.41	659.18	0.000000	0.00	0.000
14	-0.50	100	115	27.14	1550.00	102.72	659.18	0.000000	0.00	0.000
15	0.75	100	115	27.14	1550.00	41.63	659.18	0.000000	0.00	0.000
16	0.85	100	115	27.14	1550.00	41.12	659.18	0.000000	0.00	0.000
17	0.95	100	115	27.14	1550.00	40.52	659.18	0.000000	0.00	0.000
18	1.05	100	115	27.14	1550.00	39.83	659.18	0.000000	0.00	0.000
19	1.15	100	115	27.14	1550.00	39.05	659.18	0.000000	0.00	0.000
20	1.25	100	115	27.14	1550.00	38.21	659.18	0.000000	0.00	0.000
21	1.35	100	115	27.14	1550.00	37.28	659.18	0.000000	0.00	0.000
22	1.45	100	115	27.14	1550.00	36.30	659.18	0.000000	0.00	0.000
23	1.55	100	115	27.14	1550.00	35.25	659.18	0.000000	0.00	0.000
24	1.65	100	115	27.14	1550.00	34.14	659.18	0.000000	0.00	0.000
25	1.75	100	115	27.14	1550.00	32.99	659.18	0.000000	0.00	0.000
26	1.85	100	115	27.14	1550.00	31.79	659.18	0.000000	0.00	0.000
27	1.95	100	115	27.14	1550.00	30.55	659.18	0.000000	0.00	0.000
28	2.05	100	115	27.14	1550.00	29.27	659.18	0.000000	0.00	0.000
29	2.15	100	115	27.14	1550.00	27.96	659.18	0.000000	0.00	0.000
30	2.25	100	115	27.14	1550.00	26.63	659.18	0.000000	0.00	0.000
31	2.35	100	115	27.14	1550.00	25.27	659.18	0.000000	0.00	0.000
32	2.45	100	115	27.14	1550.00	23.90	659.18	0.000000	0.00	0.000
33	2.55	100	115	27.14	1550.00	22.53	659.18	0.000000	0.00	0.000
34	2.65	100	115	27.14	1550.00	21.14	659.18	0.000000	0.00	0.000
35	2.75	100	115	27.14	1550.00	19.76	659.18	0.000000	0.00	0.000
36	2.85	100	115	27.14	1550.00	18.39	659.18	0.000000	0.00	0.000
37	2.95	100	115	27.14	1550.00	17.02	659.18	0.000000	0.00	0.000
38	3.05	100	115	27.14	1550.00	15.67	659.18	0.000000	0.00	0.000
39	3.15	100	115	27.14	1550.00	14.35	659.18	0.000000	0.00	0.000
40	3.25	100	115	27.14	1550.00	13.05	659.18	0.000000	0.00	0.000
41	3.35	100	115	27.14	1550.00	11.78	659.18	0.000000	0.00	0.000
42	3.45	100	115	27.14	1550.00	10.54	659.18	0.000000	0.00	0.000
43	3.55	100	115	27.14	1550.00	9.35	659.18	0.000000	0.00	0.000

n°	Y	B	H	Af	Aeff	M	Mpf	ε	Sm	w
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kNm]	[%]	[mm]	[mm]
44	3.65	100	115	27.14	1550.00	8.21	659.18	0.000000	0.00	0.000
45	3.75	100	115	27.14	1550.00	7.12	659.18	0.000000	0.00	0.000
46	3.85	100	115	27.14	1550.00	6.09	659.18	0.000000	0.00	0.000
47	3.95	100	115	27.14	1550.00	5.12	659.18	0.000000	0.00	0.000
48	4.05	100	115	27.14	1550.00	4.21	659.18	0.000000	0.00	0.000
49	4.15	100	115	27.14	1550.00	3.39	659.18	0.000000	0.00	0.000
50	4.25	100	115	27.14	1550.00	2.63	659.18	0.000000	0.00	0.000
51	4.35	100	115	27.14	1550.00	1.97	659.18	0.000000	0.00	0.000
52	4.45	100	115	27.14	1550.00	1.39	659.18	0.000000	0.00	0.000
53	4.55	100	115	27.14	1550.00	0.90	659.18	0.000000	0.00	0.000
54	4.65	100	115	27.14	1550.00	0.51	659.18	0.000000	0.00	0.000
55	4.75	100	115	27.14	1550.00	0.23	659.18	0.000000	0.00	0.000
56	4.85	100	115	27.14	1550.00	0.06	659.18	0.000000	0.00	0.000
57	4.95	100	115	0.00	0.00	0.00	0.00	0.000000	0.00	0.000

Combinazioni SLEQ

Paramento

Combinazione n° 12 - SLEQ

Apertura limite fessure w_{lim}=0.20

n°	Y	B	H	Af	Aeff	M	Mpf	ε	Sm	w
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kNm]	[%]	[mm]	[mm]
1	0.00	100	50	31.42	1190.27	0.39	141.69	0.000000	0.00	0.000
2	-0.10	100	51	31.42	1214.60	0.39	146.91	0.000000	0.00	0.000
3	-0.20	100	52	31.42	1238.96	0.41	152.22	0.000000	0.00	0.000
4	-0.30	100	53	31.42	1263.35	0.44	157.61	0.000000	0.00	0.000
5	-0.40	100	54	31.42	1287.76	0.49	163.08	0.000000	0.00	0.000
6	-0.50	100	55	31.42	1312.21	0.57	168.64	0.000000	0.00	0.000
7	-0.60	100	56	31.42	1336.68	0.67	174.27	0.000000	0.00	0.000
8	-0.70	100	57	31.42	1361.18	0.81	180.00	0.000000	0.00	0.000
9	-0.80	100	57	31.42	1385.70	0.99	185.81	0.000000	0.00	0.000
10	-0.90	100	58	31.42	1410.25	1.22	191.70	0.000000	0.00	0.000
11	-1.00	100	59	31.42	1434.82	1.49	197.68	0.000000	0.00	0.000
12	-1.10	100	60	31.42	1459.41	1.82	203.74	0.000000	0.00	0.000
13	-1.20	100	61	31.42	1484.03	2.21	209.88	0.000000	0.00	0.000
14	-1.30	100	62	31.42	1500.00	2.66	216.11	0.000000	0.00	0.000
15	-1.40	100	63	31.42	1500.00	3.18	222.43	0.000000	0.00	0.000
16	-1.50	100	64	31.42	1500.00	3.77	228.83	0.000000	0.00	0.000
17	-1.60	100	65	31.42	1500.00	4.44	235.30	0.000000	0.00	0.000
18	-1.70	100	66	31.42	1500.00	5.19	241.86	0.000000	0.00	0.000
19	-1.80	100	67	31.42	1500.00	6.04	248.52	0.000000	0.00	0.000
20	-1.90	100	68	31.42	1500.00	6.97	255.24	0.000000	0.00	0.000
21	-2.00	100	69	31.42	1500.00	8.00	262.08	0.000000	0.00	0.000
22	-2.10	100	70	31.42	1500.00	9.14	268.98	0.000000	0.00	0.000
23	-2.20	100	71	31.42	1500.00	10.38	275.97	0.000000	0.00	0.000
24	-2.30	100	72	31.42	1500.00	11.74	283.03	0.000000	0.00	0.000
25	-2.40	100	72	31.42	1500.00	13.21	290.19	0.000000	0.00	0.000
26	-2.50	100	73	31.42	1500.00	14.80	297.44	0.000000	0.00	0.000
27	-2.60	100	74	31.42	1500.00	16.52	304.77	0.000000	0.00	0.000
28	-2.70	100	75	31.42	1500.00	18.37	312.19	0.000000	0.00	0.000
29	-2.80	100	76	31.42	1500.00	20.36	319.68	0.000000	0.00	0.000
30	-2.90	100	77	31.42	1500.00	22.49	327.26	0.000000	0.00	0.000
31	-3.00	100	78	31.42	1500.00	24.76	334.94	0.000000	0.00	0.000
32	-3.10	100	79	31.42	1500.00	27.19	342.69	0.000000	0.00	0.000
33	-3.20	100	80	31.42	1500.00	29.77	350.52	0.000000	0.00	0.000
34	-3.30	100	81	31.42	1500.00	32.51	358.45	0.000000	0.00	0.000
35	-3.40	100	82	31.42	1500.00	35.41	366.47	0.000000	0.00	0.000
36	-3.50	100	83	31.42	1500.00	38.49	374.57	0.000000	0.00	0.000
37	-3.60	100	84	31.42	1500.00	41.74	382.74	0.000000	0.00	0.000
38	-3.70	100	85	31.42	1500.00	45.17	391.02	0.000000	0.00	0.000
39	-3.80	100	86	31.42	1500.00	48.79	399.36	0.000000	0.00	0.000
40	-3.90	100	87	31.42	1500.00	52.59	407.80	0.000000	0.00	0.000
41	-4.00	100	87	31.42	1500.00	56.59	416.34	0.000000	0.00	0.000
42	-4.10	100	88	31.42	1500.00	60.79	424.94	0.000000	0.00	0.000
43	-4.20	100	89	31.42	1500.00	65.19	433.64	0.000000	0.00	0.000
44	-4.30	100	90	31.42	1500.00	69.80	442.42	0.000000	0.00	0.000
45	-4.40	100	91	62.83	1500.00	74.62	509.92	0.000000	0.00	0.000
46	-4.50	100	92	62.83	1500.00	79.67	519.63	0.000000	0.00	0.000
47	-4.60	100	93	62.83	1500.00	84.93	529.42	0.000000	0.00	0.000
48	-4.70	100	94	62.83	1500.00	90.43	539.32	0.000000	0.00	0.000

n°	Y	B	H	Af	Aeff	M	Mpf	ε	Sm	w
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kNm]	[%]	[mm]	[mm]
49	-4.80	100	95	62.83	1500.00	96.15	549.30	0.000000	0.00	0.000
50	-4.90	100	96	62.83	1500.00	102.12	559.36	0.000000	0.00	0.000
51	-5.00	100	97	62.83	1500.00	108.32	569.51	0.000000	0.00	0.000
52	-5.10	100	98	62.83	1500.00	114.78	579.72	0.000000	0.00	0.000
53	-5.20	100	99	62.83	1500.00	121.48	590.06	0.000000	0.00	0.000
54	-5.30	100	100	62.83	1500.00	128.44	600.47	0.000000	0.00	0.000
55	-5.40	100	101	62.83	1500.00	135.67	610.95	0.000000	0.00	0.000
56	-5.50	100	102	62.83	1500.00	143.16	651.50	0.000000	0.00	0.000
57	-5.60	100	102	62.83	1500.00	150.92	662.60	0.000000	0.00	0.000
58	-5.70	100	103	62.83	1500.00	158.96	673.78	0.000000	0.00	0.000
59	-5.80	100	104	62.83	1500.00	167.28	685.05	0.000000	0.00	0.000
60	-5.90	100	105	62.83	1500.00	175.89	696.37	0.000000	0.00	0.000
61	-6.00	100	106	62.83	1500.00	184.78	707.84	0.000000	0.00	0.000
62	-6.10	100	107	62.83	1500.00	193.97	719.33	0.000000	0.00	0.000
63	-6.20	100	108	62.83	1500.00	203.47	730.97	0.000000	0.00	0.000
64	-6.30	100	109	62.83	1500.00	213.27	742.68	0.000000	0.00	0.000
65	-6.40	100	110	62.83	1500.00	223.37	754.47	0.000000	0.00	0.000
66	-6.50	100	111	62.83	1500.00	233.80	766.35	0.000000	0.00	0.000
67	-6.60	100	112	62.83	1500.00	244.54	778.32	0.000000	0.00	0.000
68	-6.70	100	113	62.83	1500.00	255.61	790.38	0.000000	0.00	0.000
69	-6.80	100	114	62.83	1500.00	267.00	802.55	0.000000	0.00	0.000
70	-6.90	100	115	62.83	1500.00	278.73	814.81	0.000000	0.00	0.000
71	-7.00	100	116	62.83	1500.00	290.80	827.15	0.000000	0.00	0.000
72	-7.10	100	116	62.83	1500.00	303.22	839.60	0.000000	0.00	0.000
73	-7.20	100	117	62.83	1500.00	315.98	852.10	0.000000	0.00	0.000
74	-7.30	100	118	31.42	1500.00	329.09	746.69	0.000000	0.00	0.000
75	-7.40	100	119	31.42	1500.00	342.57	758.21	0.000000	0.00	0.000
76	-7.50	100	120	31.42	1500.00	356.41	769.82	0.000000	0.00	0.000
77	-7.60	100	121	31.42	1500.00	370.61	781.50	0.000000	0.00	0.000
78	-7.70	100	122	31.42	1500.00	385.19	793.28	0.000000	0.00	0.000
79	-7.80	100	123	31.42	1500.00	400.15	805.14	0.000000	0.00	0.000
80	-7.90	100	124	31.42	1500.00	415.49	817.10	0.000000	0.00	0.000
81	-7.99	100	125	31.42	1500.00	431.21	828.04	0.000000	0.00	0.000

Mensola valle

Combinazione n° 12 - SLEQ

Apertura limite fessure w_{lim}=0.20

n°	Y	B	H	Af	Aeff	M	Mpf	ε	Sm	w
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kNm]	[%]	[mm]	[mm]
1	-0.75	100	50	0.00	0.00	0.00	0.00	---	---	0.000
2	-0.67	100	50	15.71	1283.16	-0.04	-123.05	0.000000	0.00	0.000
3	-0.58	100	50	15.71	1283.16	-0.17	-123.05	0.000000	0.00	0.000
4	-0.50	100	50	15.71	1283.16	-0.39	-123.05	0.000000	0.00	0.000
5	-0.50	100	50	15.71	1283.16	-0.39	-123.05	0.000000	0.00	0.000

Fondazione

Combinazione n° 12 - SLEQ

Apertura limite fessure w_{lim}=0.20

n°	Y	B	H	Af	Aeff	M	Mpf	ε	Sm	w
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kNm]	[%]	[mm]	[mm]
1	-1.75	100	115	0.00	0.00	0.00	0.00	---	---	0.000
2	-1.65	100	115	27.14	1550.00	0.60	659.18	0.000000	0.00	0.000
3	-1.56	100	115	27.14	1550.00	2.40	659.18	0.000000	0.00	0.000
4	-1.46	100	115	27.14	1550.00	5.40	659.18	0.000000	0.00	0.000
5	-1.37	100	115	27.14	1550.00	9.61	659.18	0.000000	0.00	0.000
6	-1.27	100	115	27.14	1550.00	15.04	659.18	0.000000	0.00	0.000
7	-1.17	100	115	27.14	1550.00	21.69	659.18	0.000000	0.00	0.000
8	-1.08	100	115	27.14	1550.00	29.56	659.18	0.000000	0.00	0.000
9	-0.98	100	115	27.14	1550.00	38.65	659.18	0.000000	0.00	0.000
10	-0.88	100	115	27.14	1550.00	48.98	659.18	0.000000	0.00	0.000
11	-0.79	100	115	27.14	1550.00	60.55	659.18	0.000000	0.00	0.000

n°	Y	B	H	Af	Aeff	M	Mpf	ε	Sm	w
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kNm]	[%]	[mm]	[mm]
12	-0.69	100	115	27.14	1550.00	73.36	659.18	0.000000	0.00	0.000
13	-0.60	100	115	27.14	1550.00	87.41	659.18	0.000000	0.00	0.000
14	-0.50	100	115	27.14	1550.00	102.72	659.18	0.000000	0.00	0.000
15	0.75	100	115	27.14	1550.00	41.63	659.18	0.000000	0.00	0.000
16	0.85	100	115	27.14	1550.00	41.12	659.18	0.000000	0.00	0.000
17	0.95	100	115	27.14	1550.00	40.52	659.18	0.000000	0.00	0.000
18	1.05	100	115	27.14	1550.00	39.83	659.18	0.000000	0.00	0.000
19	1.15	100	115	27.14	1550.00	39.05	659.18	0.000000	0.00	0.000
20	1.25	100	115	27.14	1550.00	38.21	659.18	0.000000	0.00	0.000
21	1.35	100	115	27.14	1550.00	37.28	659.18	0.000000	0.00	0.000
22	1.45	100	115	27.14	1550.00	36.30	659.18	0.000000	0.00	0.000
23	1.55	100	115	27.14	1550.00	35.25	659.18	0.000000	0.00	0.000
24	1.65	100	115	27.14	1550.00	34.14	659.18	0.000000	0.00	0.000
25	1.75	100	115	27.14	1550.00	32.99	659.18	0.000000	0.00	0.000
26	1.85	100	115	27.14	1550.00	31.79	659.18	0.000000	0.00	0.000
27	1.95	100	115	27.14	1550.00	30.55	659.18	0.000000	0.00	0.000
28	2.05	100	115	27.14	1550.00	29.27	659.18	0.000000	0.00	0.000
29	2.15	100	115	27.14	1550.00	27.96	659.18	0.000000	0.00	0.000
30	2.25	100	115	27.14	1550.00	26.63	659.18	0.000000	0.00	0.000
31	2.35	100	115	27.14	1550.00	25.27	659.18	0.000000	0.00	0.000
32	2.45	100	115	27.14	1550.00	23.90	659.18	0.000000	0.00	0.000
33	2.55	100	115	27.14	1550.00	22.53	659.18	0.000000	0.00	0.000
34	2.65	100	115	27.14	1550.00	21.14	659.18	0.000000	0.00	0.000
35	2.75	100	115	27.14	1550.00	19.76	659.18	0.000000	0.00	0.000
36	2.85	100	115	27.14	1550.00	18.39	659.18	0.000000	0.00	0.000
37	2.95	100	115	27.14	1550.00	17.02	659.18	0.000000	0.00	0.000
38	3.05	100	115	27.14	1550.00	15.67	659.18	0.000000	0.00	0.000
39	3.15	100	115	27.14	1550.00	14.35	659.18	0.000000	0.00	0.000
40	3.25	100	115	27.14	1550.00	13.05	659.18	0.000000	0.00	0.000
41	3.35	100	115	27.14	1550.00	11.78	659.18	0.000000	0.00	0.000
42	3.45	100	115	27.14	1550.00	10.54	659.18	0.000000	0.00	0.000
43	3.55	100	115	27.14	1550.00	9.35	659.18	0.000000	0.00	0.000
44	3.65	100	115	27.14	1550.00	8.21	659.18	0.000000	0.00	0.000
45	3.75	100	115	27.14	1550.00	7.12	659.18	0.000000	0.00	0.000
46	3.85	100	115	27.14	1550.00	6.09	659.18	0.000000	0.00	0.000
47	3.95	100	115	27.14	1550.00	5.12	659.18	0.000000	0.00	0.000
48	4.05	100	115	27.14	1550.00	4.21	659.18	0.000000	0.00	0.000
49	4.15	100	115	27.14	1550.00	3.39	659.18	0.000000	0.00	0.000
50	4.25	100	115	27.14	1550.00	2.63	659.18	0.000000	0.00	0.000
51	4.35	100	115	27.14	1550.00	1.97	659.18	0.000000	0.00	0.000
52	4.45	100	115	27.14	1550.00	1.39	659.18	0.000000	0.00	0.000
53	4.55	100	115	27.14	1550.00	0.90	659.18	0.000000	0.00	0.000
54	4.65	100	115	27.14	1550.00	0.51	659.18	0.000000	0.00	0.000
55	4.75	100	115	27.14	1550.00	0.23	659.18	0.000000	0.00	0.000
56	4.85	100	115	27.14	1550.00	0.06	659.18	0.000000	0.00	0.000
57	4.95	100	115	0.00	0.00	0.00	0.00	0.000000	0.00	0.000

Elenco ferri

Simbologia adottata

n°	Indice del ferro
nf	numero ferri
D	diametro ferro espresso in [mm]
L	Lunghezza ferro espresso in [m]
P_{ferro}	Peso ferro espresso in [kN]

Paramento

n°	Tipo	nf	D	L	P_f	P_{gf}	V_{cls}
			[mm]	[m]	[kN]	[kN]	[mc]
1	Diritto inferiore	10	20.00	4.39	0.1062	1.0617	
2	Diritto superiore	10	20.00	5.51	0.1333	1.3327	
3	Diritto superiore	10	20.00	8.77	0.2121	2.1213	
4	Diritto inferiore	10	20.00	8.74	0.2114	2.1138	
5	Ripartitore	80	16.00	1.00	0.0155	1.2383	
6	Gancio	48	16.00	0.89	0.0137	0.6586	
	Totale al metro					**8.5264**	**7.12**
	Totale					**102.3170**	**85.46**

Fondazione

n°	Tipo	nf	D	L	P_f	P_{gf}	V_{cls}
			[mm]	[m]	[kN]	[kN]	[mc]
1	Diritto superiore	6	24.00	8.50	0.2959	1.7751	
2	Diritto inferiore	6	24.00	8.50	0.2959	1.7751	
3	Ripartitore	34	16.00	1.00	0.0155	0.5263	
4	Gancio	34	16.00	1.32	0.0205	0.6957	
	Totale al metro					**4.7723**	**7.70**
	Totale					**49.9354**	**92.45**

Mensola valle

n°	Tipo	nf	D	L	P_f	P_{gf}	V_{cls}
			[mm]	[m]	[kN]	[kN]	[mc]
1	Diritto inferiore	4	20.00	1.85	0.0447	0.1790	
2	Diritto superiore	5	20.00	1.85	0.0447	0.2237	
3	Ripartitore	4	16.00	1.00	0.0155	0.0619	
4	Gancio	4	16.00	0.68	0.0105	0.0421	
	Totale al metro					**0.5067**	**0.13**
	Totale					**5.4563**	**1.50**

16 ALLEGATO 7 – TABULATI DI CALCOLO - MURO DI SOSTEGNO H9

Geometria profilo terreno a monte del muro

Simbologia adottata

(Sistema di riferimento con origine in testa al muro, ascissa X positiva verso monte, ordinata Y positiva verso l'alto)

n°	numero ordine del punto
X	ascissa del punto espressa in [m]
Y	ordinata del punto espressa in [m]
A	inclinazione del tratto espressa in [°]

n°	X	Y	A
	[m]	*[m]*	*[°]*
1	0.00	0.00	0.000
2	30.00	0.00	0.000

Inclinazione terreno a valle del muro rispetto all'orizzontale 0.000 [°]

Geometria muro

Geometria paramento e fondazione

Lunghezza muro	12.00	[m]

Paramento

Materiale	CLS 25/30	
Altezza paramento	9.00	[m]
Altezza paramento libero	9.00	[m]
Spessore in sommità	0.50	[m]
Spessore all'attacco con la fondazione	1.35	[m]
Inclinazione paramento esterno	0.00	[°]
Inclinazione paramento interno	5.40	[°]
Spessore rivestimento	0.20	[m]
Peso sp. rivestimento	20.0000	[kN/mc]

Mensola di marciapiede

Posizione rispetto alla testa del muro	0.00	[m]
Lunghezza	0.25	[m]
Spessore all'estremità libera	0.50	[m]
Spessore all'incastro	0.50	[m]

Fondazione

Materiale	CLS 25/30	
Lunghezza mensola di valle	1.35	[m]
Lunghezza mensola di monte	5.20	[m]
Lunghezza totale	7.90	[m]
Inclinazione piano di posa	0.00	[°]
Spessore	1.25	[m]
Spessore magrone	0.20	[m]

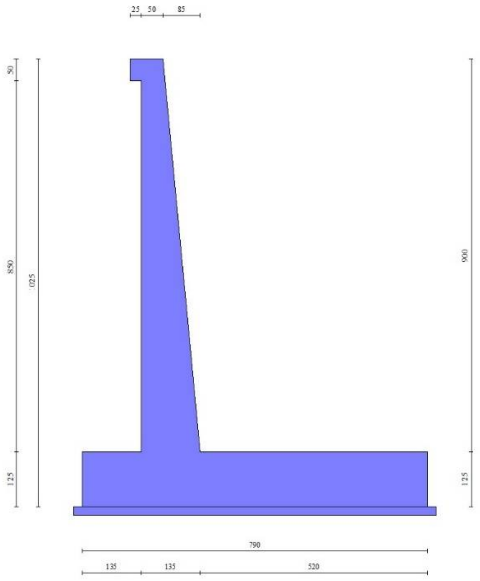

Fig. 1 - Sezione quotata del muro

Descrizione terreni

Parametri di resistenza

Simbologia adottata

n°	Indice del terreno
Descr	Descrizione terreno
γ	Peso di volume del terreno espresso in [kN/mc]
γ_s	Peso di volume saturo del terreno espresso in [kN/mc]
ϕ	Angolo d'attrito interno espresso in [°]
δ	Angolo d'attrito terra-muro espresso in [°]
c	Coesione espressa in [kPa]
c_a	Adesione terra-muro espressa in [kPa]

Per calcolo portanza con il metodo di Bustamante-Doix

Cesp Coeff. di espansione laterale (solo per il metodo di Bustamante-Doix)

τl Tensione tangenziale limite, espressa in [kPa]

n°	Descr	γ	γsat	ϕ	δ	c	ca	Cesp	τl
		[kN/mc]	[kN/mc]	[°]	[°]	[kPa]	[kPa]		[kPa]
1	Rilevato	19.0000	19.0000	35.000	23.330	0	0	---	---
2	LR	18.5000	18.5000	25.000	25.000	5	0	---	---

Stratigrafia

Simbologia adottata

n° Indice dello strato

H Spessore dello strato espresso in [m]

α Inclinazione espressa in [°]

Terreno Terreno dello strato

Kwn, Kwt Costante di Winkler normale e tangenziale alla superficie espressa in Kg/cm²/cm

Per calcolo pali (solo se presenti)

Kw Costante di Winkler orizzontale espressa in Kg/cm²/cm

Ks Coefficiente di spinta

Cesp Coefficiente di espansione laterale (per tutti i metodi tranne il metodo di Bustamante-Doix)

Per calcolo della spinta con coeff. di spinta definiti (usati solo se attiva l'opzione 'Usa coeff. di spinta da strato')

Kststa, Kstsis Coeff. di spinta statico e sismico

n°	H	α	Terreno	Kwn	Kwt	Kw	Ks	Cesp	Kststa	Kstsis
	[m]	[°]		[Kg/cm³]	[Kg/cm³]	[Kg/cm³]				
1	10.25	0.000	Rilevato	0.000	0.000	---	---	---	---	---
2	15.00	0.000	LR	2.400	1.200	---	---	---	---	---

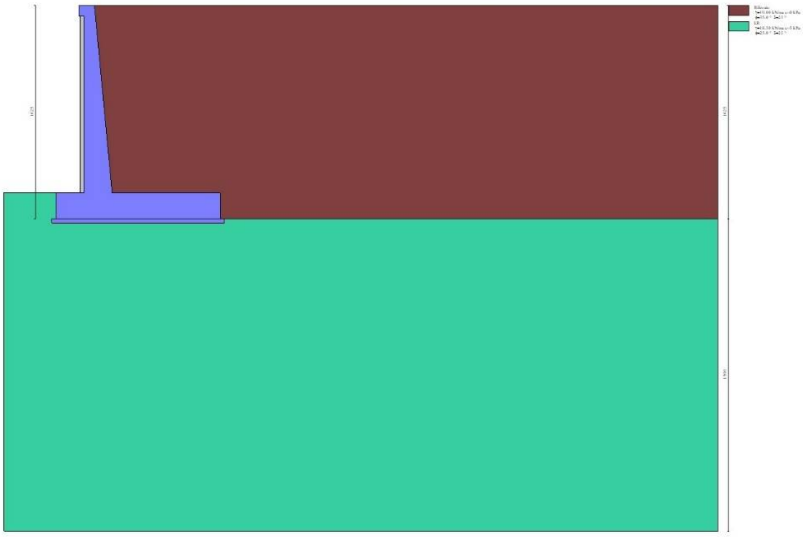

Fig. 2 - Stratigrafia

Condizioni di carico

Simbologia adottata

Carichi verticali positivi verso il basso.

Carichi orizzontali positivi verso sinistra.

Momento positivo senso antiorario.

X	Ascissa del punto di applicazione del carico concentrato espressa in [m]
F_x	Componente orizzontale del carico concentrato espressa in [kN]
F_y	Componente verticale del carico concentrato espressa in [kN]
M	Momento espresso in [kNm]
X_i	Ascissa del punto iniziale del carico ripartito espressa in [m]
X_f	Ascissa del punto finale del carico ripartito espressa in [m]
Q_i	Intensità del carico per $x=X_i$ espressa in [kN]
Q_f	Intensità del carico per $x=X_f$ espressa in [kN]

Condizione n° 1 (traffico-stradale) - VARIABILE TF

Coeff. di combinazione $\Psi_0=0.75$ - $\Psi_1=0.75$ - $\Psi_2=0.00$

Carichi sul terreno

n°	Tipo	X [m]	Fx [kN]	Fy [kN]	M [kNm]	Xi [m]	Xf [m]	Qi [kN]	Qf [kN]
1	Distribuito					0.00	3.00	24.9000	24.9000
2	Distribuito					3.00	6.00	13.1000	13.1000
3	Distribuito					6.00	9.00	7.8000	7.8000
4	Distribuito					9.00	30.00	2.5000	2.5000

Condizione n° 2 (urto) - ECCEZIONALE

Carichi sul muro

n°	Tipo	Dest	X; Y [m]	Fx [kN]	Fy [kN]	M [kNm]	Xi [m]	Xf [m]	Qi [kN]	Qf [kN]
1	Concentrato	Mensola marciappiede	-0.50; 0.00	11.1000	0.0000	11.1000				

Normativa

Normativa usata: **Norme Tecniche sulle Costruzioni 2018 (D.M. 17.01.2018) + Circolare C.S.LL.PP. 21/01/2019 n.7**

Coeff. parziali per le azioni o per l'effetto delle azioni

Carichi	Effetto		Combinazioni statiche					Combinazioni sismiche	
			UPL	EQU	A1	A2	EQU	A1	A2
Permanenti strutturali	Favorevoli	$\gamma_{G1,fav}$	0.90	0.90	1.00	1.00	1.00	1.00	1.00
Permanenti strutturali	Sfavorevoli	$\gamma_{G1,sfav}$	1.10	1.10	1.35	1.00	1.00	1.00	1.00
Permanenti non strutturali	Favorevoli	$\gamma_{G2,fav}$	0.80	0.00	0.00	0.00	0.00	0.00	0.00
Permanenti non strutturali	Sfavorevoli	$\gamma_{G2,sfav}$	1.50	1.50	1.50	1.30	1.00	1.00	1.00
Variabili	Favorevoli	$\gamma_{Q,fav}$	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Variabili	Sfavorevoli	$\gamma_{Q,sfav}$	1.50	1.50	1.50	1.30	1.00	1.00	1.00

Carichi	Effetto		Combinazioni statiche					Combinazioni sismiche	
			UPL	EQU	A1	A2	EQU	A1	A2
Variabili da traffico	Favorevoli	$\gamma_{QT,fav}$	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Variabili da traffico	Sfavorevoli	$\gamma_{QT,sfav}$	1.50	1.35	1.35	1.15	1.00	1.00	1.00

Coeff. parziali per i parametri geotecnici del terreno

Parametro		Combinazioni statiche		Combinazioni sismiche	
		M1	M2	M1	M2
Tangente dell'angolo di attrito	$\gamma_{\tan(\phi')}$	1.00	1.25	1.00	1.00
Coesione efficace	$\gamma_{c'}$	1.00	1.25	1.00	1.00
Resistenza non drenata	γ_{cu}	1.00	1.40	1.00	1.00
Peso nell'unita di volume	γ_{γ}	1.00	1.00	1.00	1.00

Coeff. parziali γ_R per le verifiche agli stati limite ultimi STR e GEO

Verifica	Combinazioni statiche			Combinazioni sismiche		
	R1	R2	R3	R1	R2	R3
Capacità portante	--	--	1.40	--	--	1.20
Scorrimento	--	--	1.10	--	--	1.00
Resistenza terreno a valle	--	--	1.40	--	--	1.20
Ribaltameno	--	--	1.15	--	--	1.00
Stabilità fronte di scavo	--	1.10	--	--	1.20	--

Descrizione combinazioni di carico

Con riferimento alle azioni elementari prima determinate, si sono considerate le seguenti combinazioni di carico:

- Combinazione fondamentale, impiegata per gli stati limite ultimi (SLU):

$$\gamma_{G1} G_1 + \gamma_{G2} G_2 + \gamma_{Q1} Q_{k1} + \gamma_{Q2} Q_{k2} + \gamma_{Q3} Q_{k3} + \ldots$$

- Combinazione caratteristica, cosiddetta rara, impiegata per gli stati limite di esercizio (SLE) irreversibili:

$$G_1 + G_2 + Q_{k1} + \Psi_{0,2} Q_{k2} + \Psi_{0,3} Q_{k3} + \ldots$$

- Combinazione frequente, impiegata per gli stati limite di esercizio (SLE) reversibili:

$$G_1 + G_2 + \Psi_{1,1} Q_{k1} + \Psi_{2,2} Q_{k2} + \Psi_{2,3} Q_{k3} + \ldots$$

- Combinazione quasi permanente, impiegata per gli effetti di lungo periodo:

$$G_1 + G_2 + \Psi_{2,1} Q_{k1} + \Psi_{2,2} Q_{k2} + \Psi_{2,3} Q_{k3} + \ldots$$

- Combinazione sismica, impiegata per gli stati limite ultimi connessi all'azione sismica E:

$$E + G_1 + G_2 + \Psi_{2,1} Q_{k1} + \Psi_{2,2} Q_{k2} + \Psi_{2,3} Q_{k3} + \ldots$$

- Combinazione eccezzionale, impiegata per gli stati limite ultimi connessi alle azioni eccezionali Ad:

$$G_1 + G_2 + A_d + \Psi_{2,1} Q_{k1} + \Psi_{2,2} Q_{k2} + \Psi_{2,3} Q_{k3} + \ldots$$

I valori dei coeff. $\Psi_{0,j}$, $\Psi_{1,j}$, $\Psi_{2,j}$ sono definiti nelle singole condizioni variabili.

I valori dei coeff. γ_G e γ_Q, sono definiti nella tabella normativa.

In particolare si sono considerate le seguenti combinazioni:

Simbologia adottata

γ Coefficiente di partecipazione della condizione

Ψ Coefficiente di combinazione della condizione

Combinazione n° 1 - STR (A1-M1-R3)

Condizione	γ	Ψ	Effetto
Peso muro	1.00	--	Favorevole
Peso terrapieno	1.00	--	Favorevole
Spinta terreno	1.35	--	Sfavorevole

Combinazione n° 2 - STR (A1-M1-R3)

Condizione	γ	Ψ	Effetto
Peso muro	1.00	--	Favorevole
Peso terrapieno	1.00	--	Favorevole
Spinta terreno	1.35	--	Sfavorevole
traffico-stradale	1.35	1.00	Sfavorevole

Combinazione n° 3 - STR (A1-M1-R3) H + V

Condizione	γ	Ψ	Effetto
Peso muro	1.00	--	Favorevole
Peso terrapieno	1.00	--	Favorevole
Spinta terreno	1.00	--	Sfavorevole

Combinazione n° 4 - STR (A1-M1-R3) H - V

Condizione	γ	Ψ	Effetto
Peso muro	1.00	--	Sfavorevole
Peso terrapieno	1.00	--	Sfavorevole
Spinta terreno	1.00	--	Sfavorevole

Combinazione n° 5 - GEO (A2-M2-R2)

Condizione	γ	Ψ	Effetto
Peso muro	1.00	--	Sfavorevole
Peso terrapieno	1.00	--	Sfavorevole
Spinta terreno	1.00	--	Sfavorevole

Combinazione n° 6 - GEO (A2-M2-R2)

Condizione	γ	Ψ	Effetto
Peso muro	1.00	--	Sfavorevole
Peso terrapieno	1.00	--	Sfavorevole
Spinta terreno	1.00	--	Sfavorevole
traffico-stradale	1.15	1.00	Sfavorevole

Combinazione n° 7 - GEO (A2-M2-R2) H + V

Condizione	γ	Ψ	Effetto
Peso muro	1.00	--	Sfavorevole
Peso terrapieno	1.00	--	Sfavorevole
Spinta terreno	1.00	--	Sfavorevole

Combinazione n° 8 - GEO (A2-M2-R2) H - V

Condizione	γ	Ψ	Effetto
Peso muro	1.00	--	Sfavorevole
Peso terrapieno	1.00	--	Sfavorevole
Spinta terreno	1.00	--	Sfavorevole

Combinazione n° 9 - ECC

Condizione	γ	Ψ	Effetto
Peso muro	1.00	--	Sfavorevole
Peso terrapieno	1.00	--	Sfavorevole
Spinta terreno	1.00	--	Sfavorevole
urto	1.00	1.00	Sfavorevole

Combinazione n° 10 - SLER

Condizione	γ	Ψ	Effetto
Peso muro	1.00	--	Sfavorevole
Peso terrapieno	1.00	--	Sfavorevole
Spinta terreno	1.00	--	Sfavorevole
traffico-stradale	1.00	0.75	Sfavorevole

Combinazione n° 11 - SLEF

Condizione	γ	Ψ	Effetto
Peso muro	1.00	--	Sfavorevole
Peso terrapieno	1.00	--	Sfavorevole
Spinta terreno	1.00	--	Sfavorevole

Combinazione n° 12 - SLEQ

Condizione	γ	Ψ	Effetto
Peso muro	1.00	--	Sfavorevole
Peso terrapieno	1.00	--	Sfavorevole
Spinta terreno	1.00	--	Sfavorevole

Dati sismici

Comune

Provincia

Regione

Latitudine 43.608157

Longitudine 13.471305

Indice punti di interpolazione	20979 - 20757 - 20756 - 20978
Vita nominale	50 anni
Classe d'uso	IV
Tipo costruzione	Normali affollamenti
Vita di riferimento	100 anni

	Simbolo	U.M.		SLU	SLE
Accelerazione al suolo	a_g	[m/s^2]		2.260	0.873
Accelerazione al suolo	a_g/g	[%]		0.230	0.089
Massimo fattore amplificazione spettro orizzontale	F0			2.433	2.436
Periodo inizio tratto spettro a velocità costante	Tc*			0.307	0.282
Tipo di sottosuolo - Coefficiente stratigrafico	Ss		C	1.358	1.500
Categoria topografica - Coefficiente amplificazione topografica	St		T1	1.000	

Stato limite ...	Coeff. di riduzione β_m	kh [%]	kv [%]
Ultimo	0.380	12.099	6.049
Ultimo - Ribaltamento	0.570	18.148	9.074
Esercizio	0.470	6.275	3.138

Forma diagramma incremento sismico **Rettangolare**

Opzioni di calcolo

Spinta

Metodo di calcolo della spinta	Culmann
Tipo di spinta	Spinta attiva
Terreno a bassa permeabilità	NO
Superficie di spinta limitata	NO

Capacità portante

Metodo di calcolo della portanza	Meyerhof
Criterio di media calcolo del terreno equivalente (terreni stratificati)	Ponderata
Criterio di riduzione per eccentricità della portanza	Bowles
Criterio di riduzione per rottura locale (punzonamento)	Nessuna
Larghezza fondazione nel terzo termine della formula del carico limite ($0.5B\gamma N_\gamma$)	Larghezza effettiva (B)
Fattori di forma e inclinazione del carico	Solo i fattori di inclinazione

Se la fondazione ha larghezza superiore a 2.0 m viene applicato il fattore di riduzione per comportamento a piastra

Stabilità globale

Metodo di calcolo della stabilità globale	Bishop

Altro

Partecipazione spinta passiva terreno antistante	0.00
Partecipazione resistenza passiva dente di fondazione	50.00
Componente verticale della spinta nel calcolo delle sollecitazioni	NO
Considera terreno sulla fondazione di valle	NO
Considera spinta e peso acqua fondazione di valle	NO

Spostamenti

Modello a blocchi

Non è stato richiesto il calcolo degli spostamenti

Spostamento limite 2.00 [cm]

Cedimenti

Non è stato richiesto il calcolo dei cedimenti

Specifiche per le verifiche nelle combinazioni allo Stato Limite Ultimo (SLU)

	SLU	Eccezionale
Coefficiente di sicurezza calcestruzzo a compressione	1.50	1.00
Coefficiente di sicurezza acciaio	1.15	1.00
Fattore di riduzione da resistenza cubica a cilindrica	0.83	0.83
Fattore di riduzione per carichi di lungo periodo	0.85	0.85
Coefficiente di sicurezza per la sezione	1.00	1.00

Specifiche per le verifiche nelle combinazioni allo Stato Limite di Esercizio (SLE)

Paramento e fondazione muro

Verifiche strutturali nelle combinazioni SLD **non eseguite**. Struttura in classe d'uso III o IV

Condizioni ambientali Aggressive

Armatura ad aderenza migliorata SI

Verifica a fessurazione

Sensibilità armatura Poco sensibile

Metodo di calcolo aperture delle fessure NTC 2018 - CIRCOLARE 21 gennaio 2019, n. 7 C.S.LL.PP.

Calcolo momento fessurazione Apertura

Resistenza a trazione per Trazione

Valori limite aperture delle fessure: w_1=0.20

w_2=0.30

w_3=0.40

Verifica delle tensioni

Valori limite delle tensioni nei materiali:

Combinazione	Calcestruzzo	Acciaio
Rara	0.60 f_{ck}	0.80 f_{yk}
Frequente	1.00 f_{ck}	1.00 f_{yk}
Quasi permanente	0.45 f_{ck}	1.00 f_{yk}

Risultati per combinazione

Spinta e forze

Simbologia adottata

Ic	Indice della combinazione
A	Tipo azione
I	Inclinazione della spinta, espressa in [°]
V	Valore dell'azione, espressa in [kN]
C_X, C_Y	Componente in direzione X ed Y dell'azione, espressa in [kN]
P_X, P_Y	Coordinata X ed Y del punto di applicazione dell'azione, espressa in [m]

Ic	A	V	I	C_X	C_Y	P_X	P_Y
		[kN]	[°]	[kN]	[kN]	[m]	[m]
1	Spinta statica	329.33	23.33	302.40	130.42	6.05	-6.83
	Peso/Inerzia muro			0.00	458.23/0.00	1.13	-7.55
	Peso/Inerzia rivestimento			0.00	36.00	-0.60	-4.75
	Peso/Inerzia terrapieno			0.00	961.94/0.00	3.23	-4.39
2	Spinta statica	346.42	23.33	318.10	137.19	6.05	-6.68
	Peso/Inerzia muro			0.00	458.23/0.00	1.13	-7.55
	Peso/Inerzia rivestimento			0.00	36.00	-0.60	-4.75
	Peso/Inerzia terrapieno			0.00	1116.37/0.00	3.19	-4.36
3	Spinta statica	243.95	23.33	224.00	96.61	6.05	-6.83
	Incremento di spinta sismica		90.53	83.13	35.85	6.05	-5.13
	Peso/Inerzia muro			55.44	458.23/27.72	1.13	-7.55
	Peso/Inerzia rivestimento			4.36	36.00	-0.60	-4.75
	Peso/Inerzia terrapieno			116.38	961.94/58.19	3.23	-4.39
4	Spinta statica	243.95	23.33	224.00	96.61	6.05	-6.83
	Incremento di spinta sismica		62.39	57.28	24.71	6.05	-5.13
	Peso/Inerzia muro			55.44	458.23/-27.72	1.13	-7.55
	Peso/Inerzia rivestimento			4.36	36.00	-0.60	-4.75
	Peso/Inerzia terrapieno			116.38	961.94/-58.19	3.23	-4.39
9	Spinta statica	243.95	23.33	224.00	96.61	6.05	-6.83
	Peso/Inerzia muro			0.00	458.23/0.00	1.13	-7.55
	Peso/Inerzia rivestimento			0.00	36.00	-0.60	-4.75
	Peso/Inerzia terrapieno			0.00	961.94/0.00	3.23	-4.39
	Risultante forze sul muro			11.10	0.00	--	--
10	Spinta statica	253.43	23.33	232.71	100.37	6.05	-6.72
	Peso/Inerzia muro			0.00	458.23/0.00	1.13	-7.55
	Peso/Inerzia rivestimento			0.00	36.00	-0.60	-4.75
	Peso/Inerzia terrapieno			0.00	1047.74/0.00	3.21	-4.37
11	Spinta statica	243.95	23.33	224.00	96.61	6.05	-6.83
	Peso/Inerzia muro			0.00	458.23/0.00	1.13	-7.55
	Peso/Inerzia rivestimento			0.00	36.00	-0.60	-4.75
	Peso/Inerzia terrapieno			0.00	961.94/0.00	3.23	-4.39
12	Spinta statica	243.95	23.33	224.00	96.61	6.05	-6.83
	Peso/Inerzia muro			0.00	458.23/0.00	1.13	-7.55
	Peso/Inerzia rivestimento			0.00	36.00	-0.60	-4.75
	Peso/Inerzia terrapieno			0.00	961.94/0.00	3.23	-4.39

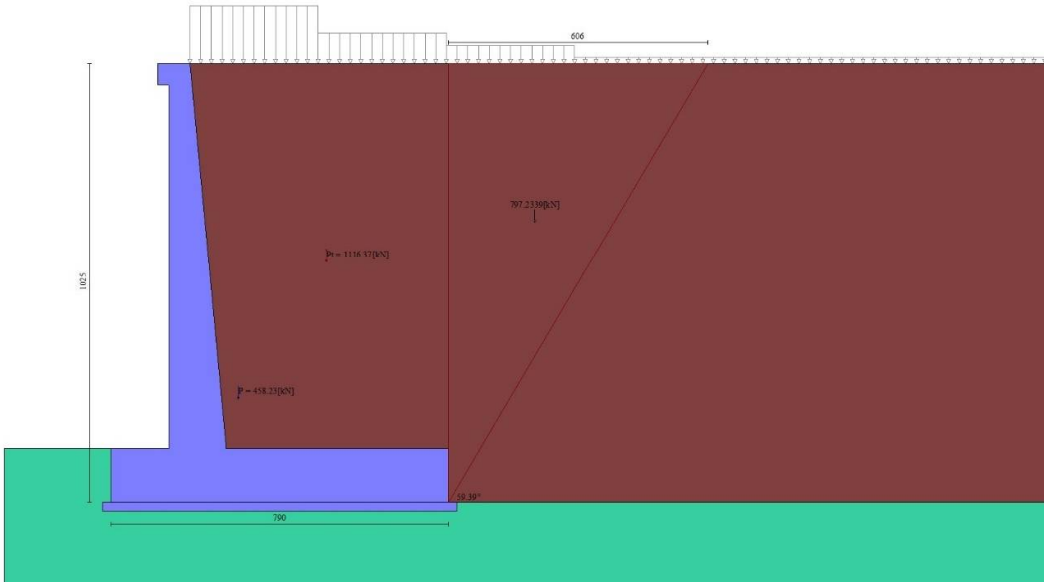

Fig. 3 - Cuneo di spinta (combinazione statica) (Combinazione n° 2)

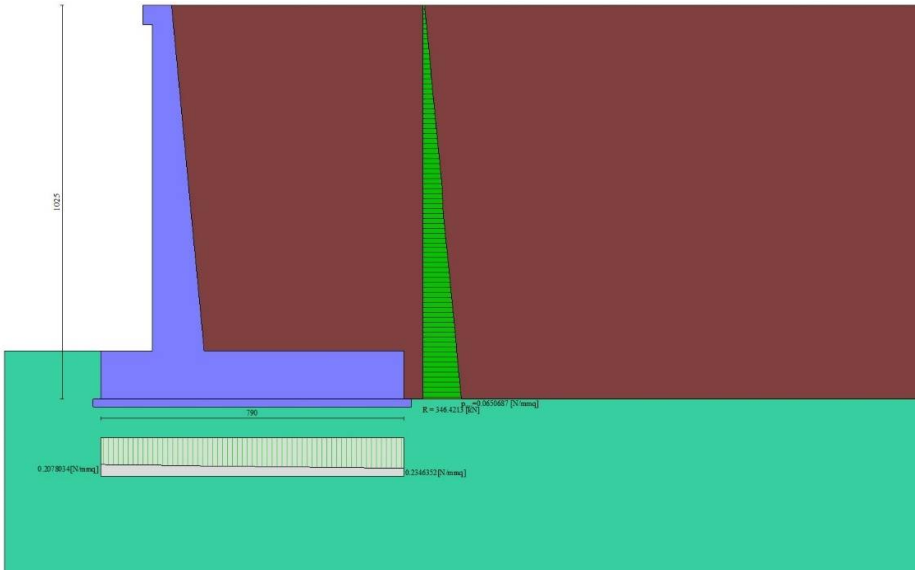

Fig. 4 - Diagramma delle pressioni (combinazione statica) (Combinazione n° 2)

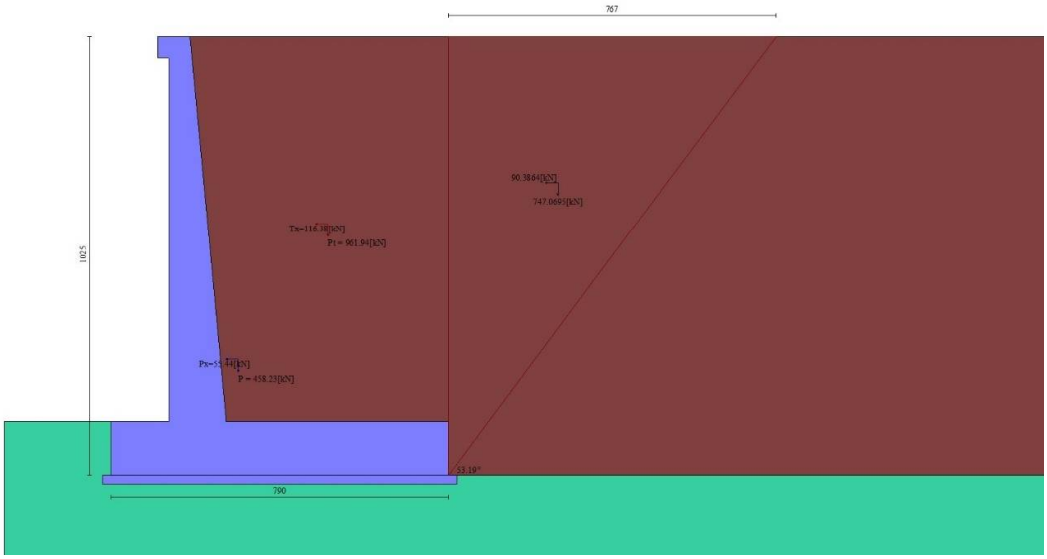

Fig. 5 - Cuneo di spinta (combinazione sismica) (Combinazione n° 3)

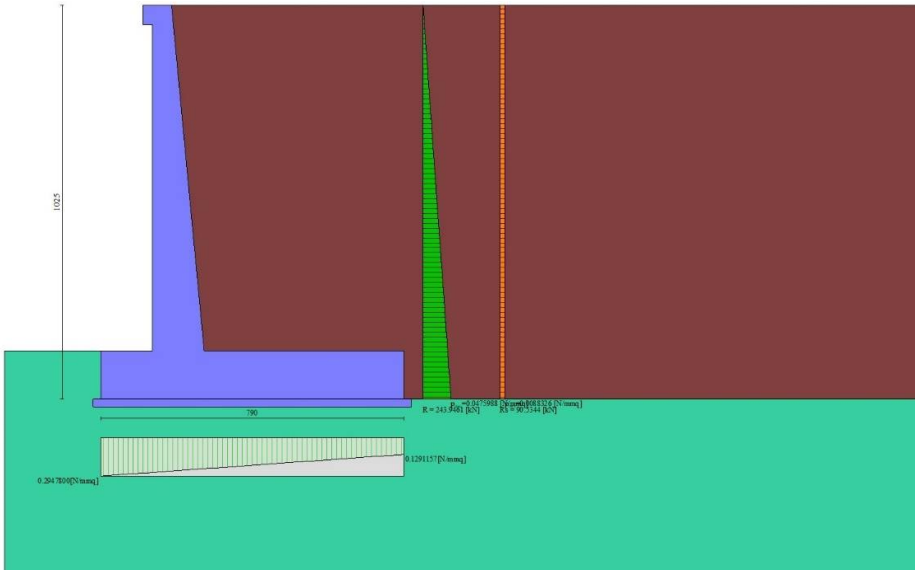

Fig. 6 - Diagramma delle pressioni (combinazione sismica) (Combinazione n° 3)

Verifiche geotecniche

Quadro riassuntivo coeff. di sicurezza calcolati

Simbologia adottata

Cmb	Indice/Tipo combinazione
S	Sisma (H: componente orizzontale, V: componente verticale)
FS_{SCO}	Coeff. di sicurezza allo scorrimento
FS_{RIB}	Coeff. di sicurezza al ribaltamento
FS_{QLIM}	Coeff. di sicurezza a carico limite
FS_{STAB}	Coeff. di sicurezza a stabilità globale
FS_{HYD}	Coeff. di sicurezza a sifonamento
FS_{UPL}	Coeff. di sicurezza a sollevamento

Cmb	Sismica	FS_{SCO}	FS_{RIB}	FS_{QLIM}	FS_{STAB}	FS_{HYD}	FS_{UPL}
1 - STR (A1-M1-R3)		2.447		2.079			
2 - STR (A1-M1-R3)		2.562		1.931			
3 - STR (A1-M1-R3)	H + V	1.616		1.208			
4 - STR (A1-M1-R3)	H - V	1.520		1.254			
5 - GEO (A2-M2-R2)					1.404		
6 - GEO (A2-M2-R2)					1.377		
7 - GEO (A2-M2-R2)	H + V				1.402		
8 - GEO (A2-M2-R2)	H - V				1.376		

Verifica stabilità globale muro + terreno

Simbologia adottata

Ic	Indice/Tipo combinazione
C	Centro superficie di scorrimento, espresso in [m]
R	Raggio, espresso in [m]
FS	Fattore di sicurezza

Ic	C	R	FS
	[m]	*[m]*	
5 - GEO (A2-M2-R2)	-1.57; 0.79	13.42	1.404
6 - GEO (A2-M2-R2)	-1.57; 0.79	13.42	1.377
7 - GEO (A2-M2-R2) H + V	-3.15; 6.29	18.94	1.402
8 - GEO (A2-M2-R2) H - V	-3.15; 6.29	18.94	1.376

Dettagli strisce verifiche stabilità

Simbologia adottata

Le ascisse X sono considerate positive verso monte

Le ordinate Y sono considerate positive verso l'alto

Origine in testa al muro (spigolo contro terra)

W	peso della striscia espresso in [kN]
Qy	carico sulla striscia espresso in [kN]
Qf	carico acqua sulla striscia espresso in [kN]
α	angolo fra la base della striscia e l'orizzontale espresso in [°] (positivo antiorario)
ϕ	angolo d'attrito del terreno lungo la base della striscia
c	coesione del terreno lungo la base della striscia espressa in [kPa]
b	larghezza della striscia espressa in [m]
u	pressione neutra lungo la base della striscia espressa in [kPa]
Tx; Ty	Resistenza al taglio fornita dai tiranti in direzione X ed Y espressa in [kPa]

Combinazione n° 5 - GEO (A2-M2-R2)

n°	W	Qy	Qf	b	α	ϕ	c	u	Tx; Ty
	[kN]	[kN]	[kN]	[m]	[°]	[°]	[kPa]	[kPa]	[kN]
1	35.16	0.00	0.00	11.84 - 0.90	77.534	29.256	0	0.0	
2	86.43	0.00	0.00	0.90	64.245	29.256	0	0.0	
3	114.20	0.00	0.00	0.90	56.315	29.256	0	0.0	
4	135.07	0.00	0.00	0.90	49.838	29.256	0	0.0	
5	151.83	0.00	0.00	0.90	44.152	29.256	0	0.0	
6	165.66	0.00	0.00	0.90	38.977	29.256	0	0.0	
7	181.26	0.00	0.00	0.90	34.160	20.458	4	0.0	
8	193.42	0.00	0.00	0.90	29.605	20.458	4	0.0	
9	201.29	0.00	0.00	0.90	25.250	20.458	4	0.0	
10	207.77	0.00	0.00	0.90	21.046	20.458	4	0.0	
11	212.99	0.00	0.00	0.90	16.959	20.458	4	0.0	
12	217.04	0.00	0.00	0.90	12.959	20.458	4	0.0	
13	238.90	0.00	0.00	0.90	9.023	20.458	4	0.0	
14	200.31	0.00	0.00	0.90	5.129	20.458	4	0.0	
15	68.03	0.00	0.00	0.90	1.260	20.458	4	0.0	
16	61.97	0.00	0.00	0.90	-2.604	20.458	4	0.0	
17	59.87	0.00	0.00	0.90	-6.480	20.458	4	0.0	
18	57.62	0.00	0.00	0.90	-10.386	20.458	4	0.0	
19	54.30	0.00	0.00	0.90	-14.342	20.458	4	0.0	
20	49.85	0.00	0.00	0.90	-18.369	20.458	4	0.0	
21	44.20	0.00	0.00	0.90	-22.494	20.458	4	0.0	
22	37.25	0.00	0.00	0.90	-26.746	20.458	4	0.0	
23	28.86	0.00	0.00	0.90	-31.164	20.458	4	0.0	
24	18.75	0.00	0.00	0.90	-35.802	20.458	4	0.0	
25	6.46	0.00	0.00	-10.78 - 0.90	-40.228	20.458	4	0.0	

Combinazione n° 6 - GEO (A2-M2-R2)

n°	W	Qy	Qf	b	α	ϕ	c	u	Tx; Ty
	[kN]	[kN]	[kN]	[m]	[°]	[°]	[kPa]	[kPa]	[kN]
1	35.16	2.60	0.00	11.84 - 0.90	77.534	29.256	0	0.0	
2	86.43	2.60	0.00	0.90	64.245	29.256	0	0.0	
3	114.20	2.60	0.00	0.90	56.315	29.256	0	0.0	
4	135.07	7.36	0.00	0.90	49.838	29.256	0	0.0	
5	151.83	8.11	0.00	0.90	44.152	29.256	0	0.0	
6	165.66	8.11	0.00	0.90	38.977	29.256	0	0.0	
7	181.26	11.13	0.00	0.90	34.160	20.458	4	0.0	
8	193.42	13.63	0.00	0.90	29.605	20.458	4	0.0	
9	201.29	13.63	0.00	0.90	25.250	20.458	4	0.0	
10	207.77	16.45	0.00	0.90	21.046	20.458	4	0.0	
11	212.99	25.90	0.00	0.90	16.959	20.458	4	0.0	
12	217.04	25.90	0.00	0.90	12.959	20.458	4	0.0	
13	238.90	25.90	0.00	0.90	9.023	20.458	4	0.0	
14	200.31	2.25	0.00	0.90	5.129	20.458	4	0.0	
15	68.03	0.00	0.00	0.90	1.260	20.458	4	0.0	
16	61.97	0.00	0.00	0.90	-2.604	20.458	4	0.0	
17	59.87	0.00	0.00	0.90	-6.480	20.458	4	0.0	
18	57.62	0.00	0.00	0.90	-10.386	20.458	4	0.0	
19	54.30	0.00	0.00	0.90	-14.342	20.458	4	0.0	
20	49.85	0.00	0.00	0.90	-18.369	20.458	4	0.0	
21	44.20	0.00	0.00	0.90	-22.494	20.458	4	0.0	
22	37.25	0.00	0.00	0.90	-26.746	20.458	4	0.0	
23	28.86	0.00	0.00	0.90	-31.164	20.458	4	0.0	
24	18.75	0.00	0.00	0.90	-35.802	20.458	4	0.0	
25	6.46	0.00	0.00	-10.78 - 0.90	-40.228	20.458	4	0.0	

Combinazione n° 7 - GEO (A2-M2-R2) H + V

n°	W	Qy	Qf	b	α	ϕ	c	u	Tx; Ty
	[kN]	[kN]	[kN]	[m]	[°]	[°]	[kPa]	[kPa]	[kN]
1	28.91	0.00	0.00	14.73 - 1.16	66.067	35.000	0	0.0	
2	78.80	0.00	0.00	1.16	58.558	35.000	0	0.0	
3	116.39	0.00	0.00	1.16	52.309	35.000	0	0.0	
4	146.69	0.00	0.00	1.16	46.860	35.000	0	0.0	
5	171.91	0.00	0.00	1.16	41.924	35.000	0	0.0	
6	193.22	0.00	0.00	1.16	37.349	35.000	0	0.0	
7	211.36	0.00	0.00	1.16	33.039	35.000	0	0.0	
8	231.41	0.00	0.00	1.16	28.932	25.000	5	0.0	
9	248.22	0.00	0.00	1.16	24.983	25.000	5	0.0	
10	258.88	0.00	0.00	1.16	21.157	25.000	5	0.0	
11	267.64	0.00	0.00	1.16	17.429	25.000	5	0.0	
12	274.78	0.00	0.00	1.16	13.775	25.000	5	0.0	
13	323.39	0.00	0.00	1.16	10.178	25.000	5	0.0	

n°	W [kN]	Qy [kN]	Qf [kN]	b [m]	α [°]	ϕ [°]	c [kPa]	u [kPa]	Tx; Ty [kN]
14	98.66	0.00	0.00	1.16	6.622	25.000	5	0.0	
15	80.59	0.00	0.00	1.16	3.091	25.000	5	0.0	
16	78.88	0.00	0.00	1.16	-0.429	25.000	5	0.0	
17	77.93	0.00	0.00	1.16	-3.950	25.000	5	0.0	
18	75.42	0.00	0.00	1.16	-7.486	25.000	5	0.0	
19	71.34	0.00	0.00	1.16	-11.051	25.000	5	0.0	
20	65.63	0.00	0.00	1.16	-14.660	25.000	5	0.0	
21	58.23	0.00	0.00	1.16	-18.330	25.000	5	0.0	
22	49.02	0.00	0.00	1.16	-22.080	25.000	5	0.0	
23	37.88	0.00	0.00	1.16	-25.933	25.000	5	0.0	
24	24.52	0.00	0.00	1.16	-29.917	25.000	5	0.0	
25	8.47	0.00	0.00	-14.33 - 1.16	-33.755	25.000	5	0.0	

Combinazione n° 8 - GEO (A2-M2-R2) H - V

n°	W [kN]	Qy [kN]	Qf [kN]	b [m]	α [°]	ϕ [°]	c [kPa]	u [kPa]	Tx; Ty [kN]
1	28.91	0.00	0.00	14.73 - 1.16	66.067	35.000	0	0.0	
2	78.80	0.00	0.00	1.16	58.558	35.000	0	0.0	
3	116.39	0.00	0.00	1.16	52.309	35.000	0	0.0	
4	146.69	0.00	0.00	1.16	46.860	35.000	0	0.0	
5	171.91	0.00	0.00	1.16	41.924	35.000	0	0.0	
6	193.22	0.00	0.00	1.16	37.349	35.000	0	0.0	
7	211.36	0.00	0.00	1.16	33.039	35.000	0	0.0	
8	231.41	0.00	0.00	1.16	28.932	25.000	5	0.0	
9	248.22	0.00	0.00	1.16	24.983	25.000	5	0.0	
10	258.88	0.00	0.00	1.16	21.157	25.000	5	0.0	
11	267.64	0.00	0.00	1.16	17.429	25.000	5	0.0	
12	274.78	0.00	0.00	1.16	13.775	25.000	5	0.0	
13	323.39	0.00	0.00	1.16	10.178	25.000	5	0.0	
14	98.66	0.00	0.00	1.16	6.622	25.000	5	0.0	
15	80.59	0.00	0.00	1.16	3.091	25.000	5	0.0	
16	78.88	0.00	0.00	1.16	-0.429	25.000	5	0.0	
17	77.93	0.00	0.00	1.16	-3.950	25.000	5	0.0	
18	75.42	0.00	0.00	1.16	-7.486	25.000	5	0.0	
19	71.34	0.00	0.00	1.16	-11.051	25.000	5	0.0	
20	65.63	0.00	0.00	1.16	-14.660	25.000	5	0.0	
21	58.23	0.00	0.00	1.16	-18.330	25.000	5	0.0	
22	49.02	0.00	0.00	1.16	-22.080	25.000	5	0.0	
23	37.88	0.00	0.00	1.16	-25.933	25.000	5	0.0	
24	24.52	0.00	0.00	1.16	-29.917	25.000	5	0.0	
25	8.47	0.00	0.00	-14.33 - 1.16	-33.755	25.000	5	0.0	

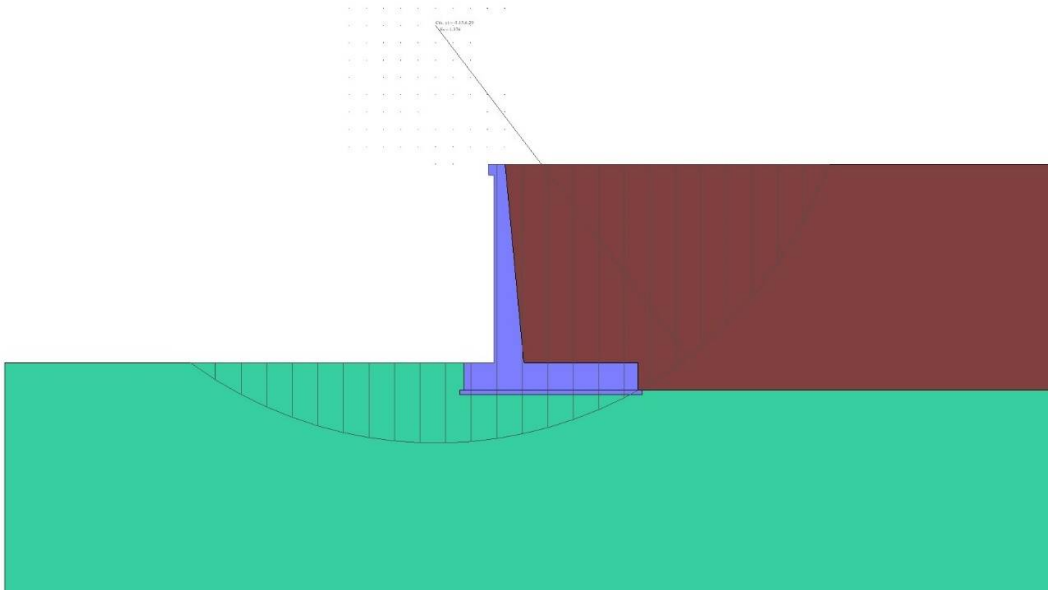

Fig. 7 - Stabilità fronte di scavo - Cerchio critico (Combinazione n° 8)

Spostamenti

Simbologia adottata

Cmb Tipo combinazione

Modello a blocchi

X Spostamento in direzione X (positivo verso monte), espresso in [cm]

Y Spostamento in direzione Y (positivo verso l'alto), espresso in [cm]

Phi Rotazione (positiva antioraria), espresso in [°]

Spostamenti ottenuti con il modello a blocchi

Cmb	X	Y	Phi
	[cm]	*[cm]*	*[°]*
1 - STR (A1-M1-R3)	-0.30040	-0.84426	-0.00526
2 - STR (A1-M1-R3)	-0.30310	-0.92584	-0.00827
3 - STR (A1-M1-R3) H + V	-0.76091	-0.98749	0.05104
4 - STR (A1-M1-R3) H - V	-0.73410	-0.88802	0.05041
9 - ECC	-0.22539	-0.82513	-0.00582
10 - SLER	-0.18018	-0.85792	-0.01485
11 - SLEF	-0.17872	-0.81261	-0.01318
12 - SLEQ	-0.17872	-0.81261	-0.01318

Sollecitazioni

Elementi calcolati a trave

Simbologia adottata

n° Indice della sezione

X Posizione della sezione, espresso in [m]

N Sforzo normale, espresso in [kN]. Positivo se di compressione.

T Taglio, espresso in [kN]. Positivo se diretto da monte verso valle

M Momento, espresso in [kNm]. Positivo se tende le fibre contro terra (a monte)

La posizione delle sezioni di verifica fanno riferimento al sistema di riferimento globale la cui origine è nello spigolo in alto a destra del paramento.

Paramento

Combinazione n° 1 - STR (A1-M1-R3)

n°	X	N	T	M
	[m]	*[kN]*	*[kN]*	*[kNm]*
1	0.00	3.13	0.00	0.39
2	-0.10	4.39	0.03	0.39
3	-0.20	5.67	0.13	0.41
4	-0.30	6.98	0.29	0.45
5	-0.40	8.31	0.51	0.51
6	-0.50	9.67	0.80	0.60
7	-0.60	11.05	1.15	0.73
8	-0.70	12.45	1.57	0.91
9	-0.80	13.88	2.04	1.14
10	-0.90	15.33	2.59	1.42
11	-1.00	16.81	3.19	1.77
12	-1.10	18.30	3.86	2.19
13	-1.20	19.83	4.59	2.69

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
14	-1.30	21.37	5.39	3.27
15	-1.40	22.94	6.25	3.94
16	-1.50	24.53	7.18	4.71
17	-1.60	26.15	8.17	5.58
18	-1.70	27.79	9.22	6.56
19	-1.80	29.45	10.33	7.66
20	-1.90	31.14	11.51	8.88
21	-2.00	32.85	12.76	10.23
22	-2.10	34.59	14.06	11.71
23	-2.20	36.34	15.43	13.34
24	-2.30	38.13	16.87	15.12
25	-2.40	39.93	18.37	17.05
26	-2.50	41.76	19.93	19.14
27	-2.60	43.61	21.56	21.40
28	-2.70	45.49	23.25	23.84
29	-2.80	47.39	25.00	26.45
30	-2.90	49.31	26.82	29.26
31	-3.00	51.26	28.70	32.25
32	-3.10	53.23	30.64	35.45
33	-3.20	55.22	32.65	38.86
34	-3.30	57.24	34.72	42.48
35	-3.40	59.28	36.86	46.32
36	-3.50	61.35	39.06	50.38
37	-3.60	63.44	41.32	54.68
38	-3.70	65.55	43.65	59.22
39	-3.80	67.69	46.04	64.00
40	-3.90	69.85	48.50	69.04
41	-4.00	72.03	51.01	74.34
42	-4.10	74.24	53.60	79.90
43	-4.20	76.47	56.24	85.73
44	-4.30	78.72	58.95	91.84
45	-4.40	81.00	61.73	98.24
46	-4.50	83.30	64.56	104.92
47	-4.60	85.63	67.47	111.91
48	-4.70	87.98	70.43	119.20
49	-4.80	90.35	73.46	126.80
50	-4.90	92.75	76.55	134.72
51	-5.00	95.16	79.71	142.96
52	-5.10	97.61	82.93	151.53
53	-5.20	100.08	86.21	160.44
54	-5.30	102.57	89.56	169.69
55	-5.40	105.08	92.97	179.30
56	-5.50	107.62	96.45	189.25
57	-5.60	110.18	99.99	199.58
58	-5.70	112.77	103.59	210.27
59	-5.80	115.37	107.26	221.33
60	-5.90	118.01	110.99	232.78
61	-6.00	120.66	114.78	244.62
62	-6.10	123.34	118.64	256.85
63	-6.20	126.05	122.56	269.48
64	-6.30	128.77	126.54	282.52
65	-6.40	131.52	130.59	295.98
66	-6.50	134.30	134.71	309.86
67	-6.60	137.10	138.88	324.16
68	-6.70	139.92	143.12	338.90
69	-6.80	142.76	147.43	354.08
70	-6.90	145.63	151.79	369.71
71	-7.00	148.52	156.23	385.79
72	-7.10	151.44	160.72	402.33
73	-7.20	154.38	165.28	419.34
74	-7.30	157.34	169.90	436.82
75	-7.40	160.33	174.59	454.78
76	-7.50	163.34	179.34	473.23
77	-7.60	166.37	184.16	492.17
78	-7.70	169.43	189.03	511.60
79	-7.80	172.51	193.97	531.55
80	-7.90	175.62	198.98	552.00
81	-8.00	178.75	204.05	572.98
82	-8.10	181.90	209.18	594.47
83	-8.20	185.08	214.38	616.50
84	-8.30	188.28	219.64	639.07
85	-8.40	191.50	224.96	662.18
86	-8.50	194.75	230.35	685.85
87	-8.60	198.02	235.80	710.07
88	-8.70	201.31	241.32	734.85
89	-8.80	204.63	246.90	760.21
90	-8.90	207.97	252.54	786.14
91	-9.00	211.33	258.25	812.66

Combinazione n° 2 - STR (A1-M1-R3)

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	0.00	3.13	0.00	0.39
2	-0.10	4.39	0.87	0.44
3	-0.20	5.67	1.80	0.58
4	-0.30	6.98	2.80	0.82
5	-0.40	8.31	3.86	1.18
6	-0.50	9.67	4.98	1.65
7	-0.60	11.05	6.16	2.24
8	-0.70	12.45	7.41	2.96
9	-0.80	13.88	8.73	3.81
10	-0.90	15.33	10.11	4.80
11	-1.00	16.81	11.55	5.95
12	-1.10	18.30	13.05	7.25
13	-1.20	19.83	14.62	8.70
14	-1.30	21.37	16.25	10.33
15	-1.40	22.94	17.95	12.13
16	-1.50	24.53	19.71	14.11
17	-1.60	26.15	21.54	16.28
18	-1.70	27.79	23.42	18.64
19	-1.80	29.45	25.37	21.20
20	-1.90	31.14	27.39	23.96
21	-2.00	32.85	29.47	26.94
22	-2.10	34.59	31.61	30.14
23	-2.20	36.34	33.82	33.56
24	-2.30	38.13	36.09	37.22
25	-2.40	39.93	38.42	41.11
26	-2.50	41.76	40.82	45.25
27	-2.60	43.61	43.28	49.65
28	-2.70	45.49	45.81	54.30
29	-2.80	47.39	48.40	59.21
30	-2.90	49.31	51.05	64.40
31	-3.00	51.26	53.77	69.86
32	-3.10	53.23	56.55	75.61
33	-3.20	55.22	59.39	81.64
34	-3.30	57.24	62.30	87.98
35	-3.40	59.28	65.27	94.62
36	-3.50	61.35	68.31	101.57
37	-3.60	63.44	71.41	108.83
38	-3.70	65.55	74.57	116.42
39	-3.80	67.69	77.80	124.34
40	-3.90	69.85	81.09	132.59
41	-4.00	72.03	84.44	141.19
42	-4.10	74.24	87.86	150.13
43	-4.20	76.47	91.34	159.43
44	-4.30	78.72	94.89	169.10
45	-4.40	81.00	98.50	179.13
46	-4.50	83.30	102.16	189.53
47	-4.60	85.63	105.87	200.32
48	-4.70	87.98	109.61	211.49
49	-4.80	90.35	113.35	223.04
50	-4.90	92.75	117.10	234.98
51	-5.00	95.16	120.84	247.31
52	-5.10	97.61	124.58	260.02
53	-5.20	100.08	128.33	273.12
54	-5.30	102.57	132.10	286.60
55	-5.40	105.08	135.93	300.48
56	-5.50	107.62	139.81	314.76
57	-5.60	110.18	143.76	329.43
58	-5.70	112.77	147.77	344.52
59	-5.80	115.37	151.85	360.03
60	-5.90	118.01	155.99	375.96
61	-6.00	120.66	160.20	392.31
62	-6.10	123.34	164.47	409.11
63	-6.20	126.05	168.81	426.35
64	-6.30	128.77	173.21	444.03
65	-6.40	131.52	177.68	462.18
66	-6.50	134.30	182.21	480.79
67	-6.60	137.10	186.81	499.86
68	-6.70	139.92	191.47	519.42
69	-6.80	142.76	196.20	539.45
70	-6.90	145.63	200.99	559.98
71	-7.00	148.52	205.84	581.00
72	-7.10	151.44	210.76	602.52
73	-7.20	154.38	215.75	624.56
74	-7.30	157.34	220.79	647.11
75	-7.40	160.33	225.91	670.18
76	-7.50	163.34	231.08	693.77
77	-7.60	166.37	236.32	717.91
78	-7.70	169.43	241.63	742.58
79	-7.80	172.51	247.00	767.81
80	-7.90	175.62	252.43	793.59
81	-8.00	178.75	257.93	819.93
82	-8.10	181.90	263.49	846.84
83	-8.20	185.08	269.12	874.32
84	-8.30	188.28	274.81	902.38
85	-8.40	191.50	280.56	931.03
86	-8.50	194.75	286.38	960.28

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
87	-8.60	198.02	292.26	990.12
88	-8.70	201.31	298.21	1020.57
89	-8.80	204.63	304.22	1051.64
90	-8.90	207.97	310.29	1083.32
91	-9.00	211.33	316.43	1115.63

Combinazione n° 3 - STR (A1-M1-R3) H + V

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	0.00	3.31	0.00	0.41
2	-0.10	4.65	0.91	0.46
3	-0.20	6.02	1.88	0.61
4	-0.30	7.40	2.89	0.87
5	-0.40	8.82	3.96	1.23
6	-0.50	10.26	5.07	1.71
7	-0.60	11.72	6.23	2.31
8	-0.70	13.21	7.45	3.04
9	-0.80	14.72	8.71	3.90
10	-0.90	16.26	10.03	4.89
11	-1.00	17.82	11.39	6.03
12	-1.10	19.41	12.80	7.31
13	-1.20	21.03	14.27	8.74
14	-1.30	22.66	15.78	10.33
15	-1.40	24.33	17.35	12.08
16	-1.50	26.02	18.96	14.00
17	-1.60	27.73	20.63	16.09
18	-1.70	29.47	22.34	18.36
19	-1.80	31.24	24.11	20.81
20	-1.90	33.02	25.92	23.45
21	-2.00	34.84	27.79	26.28
22	-2.10	36.68	29.70	29.30
23	-2.20	38.54	31.67	32.53
24	-2.30	40.43	33.68	35.97
25	-2.40	42.35	35.75	39.62
26	-2.50	44.29	37.87	43.49
27	-2.60	46.25	40.03	47.58
28	-2.70	48.24	42.25	51.91
29	-2.80	50.26	44.51	56.46
30	-2.90	52.30	46.83	61.25
31	-3.00	54.36	49.19	66.29
32	-3.10	56.45	51.61	71.58
33	-3.20	58.57	54.08	77.12
34	-3.30	60.71	56.59	82.92
35	-3.40	62.87	59.16	88.98
36	-3.50	65.06	61.78	95.31
37	-3.60	67.28	64.44	101.92
38	-3.70	69.52	67.16	108.81
39	-3.80	71.78	69.93	115.98
40	-3.90	74.07	72.74	123.44
41	-4.00	76.39	75.61	131.20
42	-4.10	78.73	78.53	139.26
43	-4.20	81.09	81.49	147.62
44	-4.30	83.48	84.51	156.29
45	-4.40	85.90	87.58	165.28
46	-4.50	88.34	90.70	174.59
47	-4.60	90.81	93.86	184.23
48	-4.70	93.30	97.08	194.19
49	-4.80	95.81	100.35	204.49
50	-4.90	98.36	103.67	215.14
51	-5.00	100.92	107.04	226.13
52	-5.10	103.51	110.45	237.47
53	-5.20	106.13	113.92	249.17
54	-5.30	108.77	117.44	261.23
55	-5.40	111.44	121.01	273.65
56	-5.50	114.13	124.63	286.45
57	-5.60	116.85	128.29	299.63
58	-5.70	119.59	132.01	313.19
59	-5.80	122.35	135.78	327.13
60	-5.90	125.15	139.60	341.47
61	-6.00	127.96	143.47	356.21
62	-6.10	130.80	147.39	371.34
63	-6.20	133.67	151.36	386.89
64	-6.30	136.56	155.38	402.85
65	-6.40	139.48	159.45	419.23
66	-6.50	142.42	163.57	436.03
67	-6.60	145.39	167.73	453.26
68	-6.70	148.38	171.95	470.92
69	-6.80	151.40	176.22	489.02
70	-6.90	154.44	180.54	507.57
71	-7.00	157.51	184.91	526.56
72	-7.10	160.60	189.33	546.01

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
73	-7.20	163.72	193.80	565.91
74	-7.30	166.86	198.32	586.29
75	-7.40	170.03	202.89	607.13
76	-7.50	173.22	207.51	628.44
77	-7.60	176.44	212.18	650.24
78	-7.70	179.68	216.90	672.52
79	-7.80	182.95	221.67	695.29
80	-7.90	186.24	226.50	718.55
81	-8.00	189.56	231.37	742.32
82	-8.10	192.90	236.29	766.59
83	-8.20	196.27	241.26	791.37
84	-8.30	199.66	246.28	816.66
85	-8.40	203.08	251.35	842.48
86	-8.50	206.53	256.47	868.82
87	-8.60	209.99	261.64	895.70
88	-8.70	213.49	266.86	923.11
89	-8.80	217.01	272.13	951.06
90	-8.90	220.55	277.46	979.56
91	-9.00	224.12	282.83	1008.61

Combinazione n° 4 - STR (A1-M1-R3)_H - V

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	0.00	3.13	0.00	0.39
2	-0.10	4.31	0.67	0.43
3	-0.20	5.52	1.38	0.54
4	-0.30	6.75	2.15	0.73
5	-0.40	8.00	2.97	1.00
6	-0.50	9.27	3.83	1.37
7	-0.60	10.57	4.75	1.83
8	-0.70	11.89	5.72	2.39
9	-0.80	13.23	6.74	3.06
10	-0.90	14.59	7.80	3.84
11	-1.00	15.98	8.92	4.73
12	-1.10	17.39	10.09	5.74
13	-1.20	18.82	11.30	6.88
14	-1.30	20.27	12.57	8.15
15	-1.40	21.74	13.89	9.56
16	-1.50	23.24	15.26	11.11
17	-1.60	24.76	16.67	12.80
18	-1.70	26.30	18.14	14.65
19	-1.80	27.86	19.66	16.65
20	-1.90	29.45	21.23	18.82
21	-2.00	31.05	22.85	21.15
22	-2.10	32.68	24.51	23.65
23	-2.20	34.33	26.23	26.33
24	-2.30	36.01	28.00	29.19
25	-2.40	37.70	29.82	32.24
26	-2.50	39.42	31.69	35.49
27	-2.60	41.16	33.61	38.93
28	-2.70	42.93	35.57	42.57
29	-2.80	44.71	37.59	46.42
30	-2.90	46.52	39.66	50.48
31	-3.00	48.35	41.78	54.76
32	-3.10	50.20	43.95	59.27
33	-3.20	52.07	46.17	64.00
34	-3.30	53.97	48.44	68.97
35	-3.40	55.89	50.76	74.17
36	-3.50	57.83	53.13	79.62
37	-3.60	59.79	55.55	85.32
38	-3.70	61.77	58.02	91.27
39	-3.80	63.78	60.54	97.47
40	-3.90	65.81	63.11	103.95
41	-4.00	67.86	65.73	110.69
42	-4.10	69.94	68.40	117.71
43	-4.20	72.03	71.12	125.00
44	-4.30	74.15	73.89	132.58
45	-4.40	76.29	76.71	140.45
46	-4.50	78.45	79.58	148.62
47	-4.60	80.64	82.50	157.08
48	-4.70	82.84	85.47	165.85
49	-4.80	85.07	88.49	174.93
50	-4.90	87.32	91.56	184.32
51	-5.00	89.60	94.68	194.04
52	-5.10	91.89	97.85	204.08
53	-5.20	94.21	101.07	214.45
54	-5.30	96.55	104.34	225.16
55	-5.40	98.91	107.66	236.20
56	-5.50	101.30	111.03	247.60
57	-5.60	103.70	114.46	259.34
58	-5.70	106.13	117.93	271.44

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
59	-5.80	108.58	121.45	283.90
60	-5.90	111.06	125.02	296.73
61	-6.00	113.55	128.64	309.93
62	-6.10	116.07	132.31	323.50
63	-6.20	118.61	136.04	337.46
64	-6.30	121.17	139.81	351.80
65	-6.40	123.76	143.63	366.54
66	-6.50	126.36	147.50	381.67
67	-6.60	128.99	151.42	397.21
68	-6.70	131.64	155.40	413.15
69	-6.80	134.31	159.42	429.50
70	-6.90	137.01	163.49	446.27
71	-7.00	139.73	167.61	463.47
72	-7.10	142.47	171.79	481.09
73	-7.20	145.23	176.01	499.14
74	-7.30	148.01	180.28	517.64
75	-7.40	150.82	184.61	536.57
76	-7.50	153.65	188.98	555.95
77	-7.60	156.50	193.40	575.79
78	-7.70	159.37	197.88	596.09
79	-7.80	162.27	202.40	616.85
80	-7.90	165.18	206.97	638.07
81	-8.00	168.12	211.60	659.77
82	-8.10	171.08	216.27	681.95
83	-8.20	174.07	220.99	704.62
84	-8.30	177.07	225.77	727.77
85	-8.40	180.10	230.59	751.42
86	-8.50	183.15	235.47	775.56
87	-8.60	186.23	240.39	800.21
88	-8.70	189.32	245.36	825.37
89	-8.80	192.44	250.39	851.05
90	-8.90	195.58	255.46	877.24
91	-9.00	198.74	260.59	903.96

Combinazione n° 9 - ECC

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	0.00	3.13	11.10	11.49
2	-0.10	4.39	11.12	11.49
3	-0.20	5.67	11.20	11.51
4	-0.30	6.98	11.31	11.54
5	-0.40	8.31	11.48	11.59
6	-0.50	9.67	11.69	11.67
7	-0.60	11.05	11.95	11.77
8	-0.70	12.45	12.26	11.91
9	-0.80	13.88	12.61	12.09
10	-0.90	15.33	13.02	12.32
11	-1.00	16.81	13.46	12.59
12	-1.10	18.30	13.96	12.92
13	-1.20	19.83	14.50	13.31
14	-1.30	21.37	15.09	13.76
15	-1.40	22.94	15.73	14.28
16	-1.50	24.53	16.42	14.88
17	-1.60	26.15	17.15	15.55
18	-1.70	27.79	17.93	16.31
19	-1.80	29.45	18.75	17.15
20	-1.90	31.14	19.63	18.09
21	-2.00	32.85	20.55	19.12
22	-2.10	34.59	21.52	20.26
23	-2.20	36.34	22.53	21.51
24	-2.30	38.13	23.60	22.86
25	-2.40	39.93	24.71	24.34
26	-2.50	41.76	25.86	25.93
27	-2.60	43.61	27.07	27.66
28	-2.70	45.49	28.32	29.51
29	-2.80	47.39	29.62	31.50
30	-2.90	49.31	30.96	33.63
31	-3.00	51.26	32.36	35.91
32	-3.10	53.23	33.80	38.34
33	-3.20	55.22	35.29	40.93
34	-3.30	57.24	36.82	43.67
35	-3.40	59.28	38.40	46.59
36	-3.50	61.35	40.03	49.67
37	-3.60	63.44	41.71	52.92
38	-3.70	65.55	43.43	56.36
39	-3.80	67.69	45.20	59.98
40	-3.90	69.85	47.02	63.79
41	-4.00	72.03	48.89	67.80
42	-4.10	74.24	50.80	72.00
43	-4.20	76.47	52.76	76.41
44	-4.30	78.72	54.77	81.03

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
45	-4.40	81.00	56.82	85.86
46	-4.50	83.30	58.93	90.91
47	-4.60	85.63	61.07	96.19
48	-4.70	87.98	63.27	101.69
49	-4.80	90.35	65.51	107.43
50	-4.90	92.75	67.81	113.40
51	-5.00	95.16	70.14	119.62
52	-5.10	97.61	72.53	126.08
53	-5.20	100.08	74.96	132.80
54	-5.30	102.57	77.44	139.77
55	-5.40	105.08	79.97	147.01
56	-5.50	107.62	82.54	154.51
57	-5.60	110.18	85.16	162.28
58	-5.70	112.77	87.83	170.34
59	-5.80	115.37	90.55	178.67
60	-5.90	118.01	93.31	187.29
61	-6.00	120.66	96.12	196.20
62	-6.10	123.34	98.98	205.40
63	-6.20	126.05	101.88	214.91
64	-6.30	128.77	104.84	224.73
65	-6.40	131.52	107.84	234.85
66	-6.50	134.30	110.88	245.29
67	-6.60	137.10	113.98	256.05
68	-6.70	139.92	117.12	267.13
69	-6.80	142.76	120.30	278.54
70	-6.90	145.63	123.54	290.29
71	-7.00	148.52	126.82	302.38
72	-7.10	151.44	130.15	314.81
73	-7.20	154.38	133.53	327.60
74	-7.30	157.34	136.95	340.73
75	-7.40	160.33	140.43	354.23
76	-7.50	163.34	143.95	368.08
77	-7.60	166.37	147.51	382.31
78	-7.70	169.43	151.12	396.91
79	-7.80	172.51	154.79	411.89
80	-7.90	175.62	158.49	427.25
81	-8.00	178.75	162.25	443.00
82	-8.10	181.90	166.05	459.14
83	-8.20	185.08	169.90	475.68
84	-8.30	188.28	173.80	492.62
85	-8.40	191.50	177.74	509.97
86	-8.50	194.75	181.73	527.73
87	-8.60	198.02	185.77	545.91
88	-8.70	201.31	189.86	564.51
89	-8.80	204.63	193.99	583.54
90	-8.90	207.97	198.17	603.00
91	-9.00	211.33	202.40	622.89

Combinazione n° 10 - SLER

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	0.00	3.13	0.00	0.39
2	-0.10	4.39	0.49	0.42
3	-0.20	5.67	1.02	0.50
4	-0.30	6.98	1.61	0.65
5	-0.40	8.31	2.24	0.86
6	-0.50	9.67	2.91	1.15
7	-0.60	11.05	3.64	1.51
8	-0.70	12.45	4.41	1.95
9	-0.80	13.88	5.23	2.48
10	-0.90	15.33	6.09	3.10
11	-1.00	16.81	7.01	3.81
12	-1.10	18.30	7.97	4.63
13	-1.20	19.83	8.97	5.55
14	-1.30	21.37	10.03	6.59
15	-1.40	22.94	11.13	7.73
16	-1.50	24.53	12.28	9.00
17	-1.60	26.15	13.48	10.39
18	-1.70	27.79	14.72	11.92
19	-1.80	29.45	16.01	13.57
20	-1.90	31.14	17.35	15.37
21	-2.00	32.85	18.73	17.31
22	-2.10	34.59	20.17	19.40
23	-2.20	36.34	21.65	21.64
24	-2.30	38.13	23.17	24.04
25	-2.40	39.93	24.75	26.61
26	-2.50	41.76	26.37	29.34
27	-2.60	43.61	28.04	32.25
28	-2.70	45.49	29.75	35.33
29	-2.80	47.39	31.52	38.60
30	-2.90	49.31	33.33	42.06

n°	X [m]	N [kN]	T [kN]	M [kNm]
31	-3.00	51.26	35.18	45.70
32	-3.10	53.23	37.09	49.55
33	-3.20	55.22	39.04	53.60
34	-3.30	57.24	41.04	57.85
35	-3.40	59.28	43.09	62.32
36	-3.50	61.35	45.18	67.00
37	-3.60	63.44	47.32	71.91
38	-3.70	65.55	49.51	77.04
39	-3.80	67.69	51.75	82.40
40	-3.90	69.85	54.03	88.00
41	-4.00	72.03	56.36	93.84
42	-4.10	74.24	58.74	99.92
43	-4.20	76.47	61.16	106.26
44	-4.30	78.72	63.63	112.85
45	-4.40	81.00	66.15	119.70
46	-4.50	83.30	68.71	126.82
47	-4.60	85.63	71.31	134.20
48	-4.70	87.98	73.92	141.86
49	-4.80	90.35	76.55	149.79
50	-4.90	92.75	79.19	158.00
51	-5.00	95.16	81.82	166.48
52	-5.10	97.61	84.47	175.23
53	-5.20	100.08	87.15	184.26
54	-5.30	102.57	89.86	193.58
55	-5.40	105.08	92.62	203.18
56	-5.50	107.62	95.42	213.07
57	-5.60	110.18	98.27	223.25
58	-5.70	112.77	101.17	233.74
59	-5.80	115.37	104.12	244.52
60	-5.90	118.01	107.12	255.62
61	-6.00	120.66	110.16	267.03
62	-6.10	123.34	113.25	278.77
63	-6.20	126.05	116.39	290.82
64	-6.30	128.77	119.57	303.21
65	-6.40	131.52	122.81	315.93
66	-6.50	134.30	126.09	328.98
67	-6.60	137.10	129.42	342.39
68	-6.70	139.92	132.80	356.14
69	-6.80	142.76	136.22	370.24
70	-6.90	145.63	139.69	384.70
71	-7.00	148.52	143.21	399.53
72	-7.10	151.44	146.78	414.72
73	-7.20	154.38	150.40	430.29
74	-7.30	157.34	154.06	446.23
75	-7.40	160.33	157.77	462.56
76	-7.50	163.34	161.52	479.27
77	-7.60	166.37	165.33	496.38
78	-7.70	169.43	169.18	513.88
79	-7.80	172.51	173.08	531.79
80	-7.90	175.62	177.03	550.10
81	-8.00	178.75	181.02	568.83
82	-8.10	181.90	185.06	587.97
83	-8.20	185.08	189.15	607.53
84	-8.30	188.28	193.29	627.52
85	-8.40	191.50	197.47	647.94
86	-8.50	194.75	201.70	668.80
87	-8.60	198.02	205.98	690.09
88	-8.70	201.31	210.31	711.84
89	-8.80	204.63	214.68	734.03
90	-8.90	207.97	219.10	756.68
91	-9.00	211.33	223.57	779.79

Combinazione n° 11 - SLEF

n°	X [m]	N [kN]	T [kN]	M [kNm]
1	0.00	3.13	0.00	0.39
2	-0.10	4.39	0.02	0.39
3	-0.20	5.67	0.10	0.41
4	-0.30	6.98	0.21	0.44
5	-0.40	8.31	0.38	0.49
6	-0.50	9.67	0.59	0.57
7	-0.60	11.05	0.85	0.67
8	-0.70	12.45	1.16	0.81
9	-0.80	13.88	1.51	0.99
10	-0.90	15.33	1.92	1.22
11	-1.00	16.81	2.36	1.49
12	-1.10	18.30	2.86	1.82
13	-1.20	19.83	3.40	2.21
14	-1.30	21.37	3.99	2.66
15	-1.40	22.94	4.63	3.18
16	-1.50	24.53	5.32	3.78

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
17	-1.60	26.15	6.05	4.45
18	-1.70	27.79	6.83	5.21
19	-1.80	29.45	7.65	6.05
20	-1.90	31.14	8.53	6.99
21	-2.00	32.85	9.45	8.02
22	-2.10	34.59	10.42	9.16
23	-2.20	36.34	11.43	10.41
24	-2.30	38.13	12.50	11.76
25	-2.40	39.93	13.61	13.24
26	-2.50	41.76	14.76	14.83
27	-2.60	43.61	15.97	16.56
28	-2.70	45.49	17.22	18.41
29	-2.80	47.39	18.52	20.40
30	-2.90	49.31	19.86	22.53
31	-3.00	51.26	21.26	24.81
32	-3.10	53.23	22.70	27.24
33	-3.20	55.22	24.19	29.83
34	-3.30	57.24	25.72	32.57
35	-3.40	59.28	27.30	35.49
36	-3.50	61.35	28.93	38.57
37	-3.60	63.44	30.61	41.82
38	-3.70	65.55	32.33	45.26
39	-3.80	67.69	34.10	48.88
40	-3.90	69.85	35.92	52.69
41	-4.00	72.03	37.79	56.70
42	-4.10	74.24	39.70	60.90
43	-4.20	76.47	41.66	65.31
44	-4.30	78.72	43.67	69.93
45	-4.40	81.00	45.72	74.76
46	-4.50	83.30	47.83	79.81
47	-4.60	85.63	49.97	85.09
48	-4.70	87.98	52.17	90.59
49	-4.80	90.35	54.41	96.33
50	-4.90	92.75	56.71	102.30
51	-5.00	95.16	59.04	108.52
52	-5.10	97.61	61.43	114.98
53	-5.20	100.08	63.86	121.70
54	-5.30	102.57	66.34	128.67
55	-5.40	105.08	68.87	135.91
56	-5.50	107.62	71.44	143.41
57	-5.60	110.18	74.06	151.18
58	-5.70	112.77	76.73	159.24
59	-5.80	115.37	79.45	167.57
60	-5.90	118.01	82.21	176.19
61	-6.00	120.66	85.02	185.10
62	-6.10	123.34	87.88	194.30
63	-6.20	126.05	90.78	203.81
64	-6.30	128.77	93.74	213.63
65	-6.40	131.52	96.74	223.75
66	-6.50	134.30	99.78	234.19
67	-6.60	137.10	102.88	244.95
68	-6.70	139.92	106.02	256.03
69	-6.80	142.76	109.20	267.44
70	-6.90	145.63	112.44	279.19
71	-7.00	148.52	115.72	291.28
72	-7.10	151.44	119.05	303.71
73	-7.20	154.38	122.43	316.50
74	-7.30	157.34	125.85	329.63
75	-7.40	160.33	129.33	343.13
76	-7.50	163.34	132.85	356.98
77	-7.60	166.37	136.41	371.21
78	-7.70	169.43	140.02	385.81
79	-7.80	172.51	143.69	400.79
80	-7.90	175.62	147.39	416.15
81	-8.00	178.75	151.15	431.90
82	-8.10	181.90	154.95	448.04
83	-8.20	185.08	158.80	464.58
84	-8.30	188.28	162.70	481.52
85	-8.40	191.50	166.64	498.87
86	-8.50	194.75	170.63	516.63
87	-8.60	198.02	174.67	534.81
88	-8.70	201.31	178.76	553.41
89	-8.80	204.63	182.89	572.44
90	-8.90	207.97	187.07	591.90
91	-9.00	211.33	191.30	611.79

Combinazione n° 12 - SLEQ

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	0.00	3.13	0.00	0.39
2	-0.10	4.39	0.02	0.39

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
3	-0.20	5.67	0.10	0.41
4	-0.30	6.98	0.21	0.44
5	-0.40	8.31	0.38	0.49
6	-0.50	9.67	0.59	0.57
7	-0.60	11.05	0.85	0.67
8	-0.70	12.45	1.16	0.81
9	-0.80	13.88	1.51	0.99
10	-0.90	15.33	1.92	1.22
11	-1.00	16.81	2.36	1.49
12	-1.10	18.30	2.86	1.82
13	-1.20	19.83	3.40	2.21
14	-1.30	21.37	3.99	2.66
15	-1.40	22.94	4.63	3.18
16	-1.50	24.53	5.32	3.78
17	-1.60	26.15	6.05	4.45
18	-1.70	27.79	6.83	5.21
19	-1.80	29.45	7.65	6.05
20	-1.90	31.14	8.53	6.99
21	-2.00	32.85	9.45	8.02
22	-2.10	34.59	10.42	9.16
23	-2.20	36.34	11.43	10.41
24	-2.30	38.13	12.50	11.76
25	-2.40	39.93	13.61	13.24
26	-2.50	41.76	14.76	14.83
27	-2.60	43.61	15.97	16.56
28	-2.70	45.49	17.22	18.41
29	-2.80	47.39	18.52	20.40
30	-2.90	49.31	19.86	22.53
31	-3.00	51.26	21.26	24.81
32	-3.10	53.23	22.70	27.24
33	-3.20	55.22	24.19	29.83
34	-3.30	57.24	25.72	32.57
35	-3.40	59.28	27.30	35.49
36	-3.50	61.35	28.93	38.57
37	-3.60	63.44	30.61	41.82
38	-3.70	65.55	32.33	45.26
39	-3.80	67.69	34.10	48.88
40	-3.90	69.85	35.92	52.69
41	-4.00	72.03	37.79	56.70
42	-4.10	74.24	39.70	60.90
43	-4.20	76.47	41.66	65.31
44	-4.30	78.72	43.67	69.93
45	-4.40	81.00	45.72	74.76
46	-4.50	83.30	47.83	79.81
47	-4.60	85.63	49.97	85.09
48	-4.70	87.98	52.17	90.59
49	-4.80	90.35	54.41	96.33
50	-4.90	92.75	56.71	102.30
51	-5.00	95.16	59.04	108.52
52	-5.10	97.61	61.43	114.98
53	-5.20	100.08	63.86	121.70
54	-5.30	102.57	66.34	128.67
55	-5.40	105.08	68.87	135.91
56	-5.50	107.62	71.44	143.41
57	-5.60	110.18	74.06	151.18
58	-5.70	112.77	76.73	159.24
59	-5.80	115.37	79.45	167.57
60	-5.90	118.01	82.21	176.19
61	-6.00	120.66	85.02	185.10
62	-6.10	123.34	87.88	194.30
63	-6.20	126.05	90.78	203.81
64	-6.30	128.77	93.74	213.63
65	-6.40	131.52	96.74	223.75
66	-6.50	134.30	99.78	234.19
67	-6.60	137.10	102.88	244.95
68	-6.70	139.92	106.02	256.03
69	-6.80	142.76	109.20	267.44
70	-6.90	145.63	112.44	279.19
71	-7.00	148.52	115.72	291.28
72	-7.10	151.44	119.05	303.71
73	-7.20	154.38	122.43	316.50
74	-7.30	157.34	125.85	329.63
75	-7.40	160.33	129.33	343.13
76	-7.50	163.34	132.85	356.98
77	-7.60	166.37	136.41	371.21
78	-7.70	169.43	140.02	385.81
79	-7.80	172.51	143.69	400.79
80	-7.90	175.62	147.39	416.15
81	-8.00	178.75	151.15	431.90
82	-8.10	181.90	154.95	448.04
83	-8.20	185.08	158.80	464.58
84	-8.30	188.28	162.70	481.52
85	-8.40	191.50	166.64	498.87
86	-8.50	194.75	170.63	516.63
87	-8.60	198.02	174.67	534.81
88	-8.70	201.31	178.76	553.41

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
89	-8.80	204.63	182.89	572.44
90	-8.90	207.97	187.07	591.90
91	-9.00	211.33	191.30	611.79

Mensola valle

Combinazione n° 1 - STR (A1-M1-R3)

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	-0.75	0.00	0.00	0.00
2	-0.67	0.00	1.04	0.04
3	-0.58	0.00	2.08	0.17
4	-0.50	0.00	3.13	0.39
5	-0.50	0.00	3.13	0.39

Combinazione n° 2 - STR (A1-M1-R3)

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	-0.75	0.00	0.00	0.00
2	-0.67	0.00	1.04	0.04
3	-0.58	0.00	2.08	0.17
4	-0.50	0.00	3.13	0.39
5	-0.50	0.00	3.13	0.39

Combinazione n° 3 - STR (A1-M1-R3) H + V

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	-0.75	0.00	0.00	0.00
2	-0.67	0.00	1.10	0.05
3	-0.58	0.00	2.21	0.18
4	-0.50	0.00	3.31	0.41
5	-0.50	0.00	3.31	0.41

Combinazione n° 4 - STR (A1-M1-R3) H - V

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	-0.75	0.00	0.00	0.00
2	-0.67	0.00	1.04	0.04
3	-0.58	0.00	2.08	0.17
4	-0.50	0.00	3.13	0.39
5	-0.50	0.00	3.13	0.39

Combinazione n° 9 - ECC

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	-0.75	0.00	0.00	0.00
2	-0.67	0.00	1.04	0.04
3	-0.58	0.00	2.08	0.17
4	-0.50	0.00	3.13	0.39
5	-0.50	-11.10	3.13	11.49

Combinazione n° 10 - SLER

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	-0.75	0.00	0.00	0.00
2	-0.67	0.00	1.04	0.04
3	-0.58	0.00	2.08	0.17
4	-0.50	0.00	3.13	0.39
5	-0.50	0.00	3.13	0.39

Combinazione n° 11 - SLEF

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	-0.75	0.00	0.00	0.00
2	-0.67	0.00	1.04	0.04
3	-0.58	0.00	2.08	0.17
4	-0.50	0.00	3.13	0.39
5	-0.50	0.00	3.13	0.39

Combinazione n° 12 - SLEQ

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	-0.75	0.00	0.00	0.00
2	-0.67	0.00	1.04	0.04
3	-0.58	0.00	2.08	0.17
4	-0.50	0.00	3.13	0.39
5	-0.50	0.00	3.13	0.39

Fondazione

Combinazione n° 1 - STR (A1-M1-R3)

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	-1.85	0.00	0.00	0.00
2	-1.75	0.00	15.54	0.75
3	-1.66	0.00	31.09	3.00
4	-1.56	0.00	46.67	6.75
5	-1.46	0.00	62.27	12.00
6	-1.37	0.00	77.89	18.76
7	-1.27	0.00	93.53	27.02
8	-1.18	0.00	109.18	36.79
9	-1.08	0.00	124.86	48.08
10	-0.98	0.00	140.56	60.88
11	-0.89	0.00	156.28	75.19
12	-0.79	0.00	172.02	91.02
13	-0.69	0.00	187.78	108.36
14	-0.60	0.00	203.55	127.23
15	-0.50	0.00	219.35	147.62
16	0.85	0.00	-303.50	-763.76
17	0.95	0.00	-297.11	-733.73
18	1.05	0.00	-290.74	-704.34
19	1.15	0.00	-284.40	-675.58
20	1.25	0.00	-278.08	-647.45
21	1.35	0.00	-271.77	-619.96
22	1.45	0.00	-265.49	-593.10
23	1.55	0.00	-259.24	-566.86
24	1.65	0.00	-253.00	-541.25
25	1.75	0.00	-246.78	-516.26
26	1.85	0.00	-240.59	-491.89
27	1.95	0.00	-234.42	-468.14
28	2.05	0.00	-228.27	-445.01
29	2.15	0.00	-222.14	-422.49
30	2.25	0.00	-216.03	-400.58
31	2.35	0.00	-209.95	-379.28
32	2.45	0.00	-203.89	-358.59
33	2.55	0.00	-197.84	-338.50
34	2.65	0.00	-191.82	-319.02
35	2.75	0.00	-185.83	-300.14
36	2.85	0.00	-179.85	-281.85

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
37	2.95	0.00	-173.89	-264.17
38	3.05	0.00	-167.96	-247.07
39	3.15	0.00	-162.05	-230.57
40	3.25	0.00	-156.16	-214.66
41	3.35	0.00	-150.29	-199.34
42	3.45	0.00	-144.44	-184.61
43	3.55	0.00	-138.61	-170.45
44	3.65	0.00	-132.81	-156.88
45	3.75	0.00	-127.03	-143.89
46	3.85	0.00	-121.27	-131.48
47	3.95	0.00	-115.53	-119.64
48	4.05	0.00	-109.81	-108.37
49	4.15	0.00	-104.11	-97.67
50	4.25	0.00	-98.44	-87.55
51	4.35	0.00	-92.79	-77.98
52	4.45	0.00	-87.16	-68.99
53	4.55	0.00	-81.55	-60.55
54	4.65	0.00	-75.96	-52.68
55	4.75	0.00	-70.39	-45.36
56	4.85	0.00	-64.85	-38.60
57	4.95	0.00	-59.33	-32.39
58	5.05	0.00	-53.82	-26.73
59	5.15	0.00	-48.34	-21.62
60	5.25	0.00	-42.89	-17.06
61	5.35	0.00	-37.45	-13.05
62	5.45	0.00	-32.04	-9.57
63	5.55	0.00	-26.64	-6.64
64	5.65	0.00	-21.27	-4.24
65	5.75	0.00	-15.92	-2.38
66	5.85	0.00	-10.59	-1.06
67	5.95	0.00	-5.29	-0.26
68	6.05	0.00	0.00	0.00

Combinazione n° 2 - STR (A1-M1-R3)

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	-1.85	0.00	0.00	0.00
2	-1.75	0.00	17.04	0.82
3	-1.66	0.00	34.11	3.29
4	-1.56	0.00	51.22	7.40
5	-1.46	0.00	68.35	13.17
6	-1.37	0.00	85.52	20.58
7	-1.27	0.00	102.72	29.66
8	-1.18	0.00	119.95	40.40
9	-1.08	0.00	137.21	52.79
10	-0.98	0.00	154.50	66.86
11	-0.89	0.00	171.83	82.59
12	-0.79	0.00	189.18	100.00
13	-0.69	0.00	206.57	119.08
14	-0.60	0.00	223.99	139.84
15	-0.50	0.00	241.44	162.28
16	0.85	0.00	-314.57	-778.09
17	0.95	0.00	-306.71	-744.57
18	1.05	0.00	-298.89	-711.85
19	1.15	0.00	-291.10	-679.90
20	1.25	0.00	-283.34	-648.73
21	1.35	0.00	-275.62	-618.33
22	1.45	0.00	-267.94	-588.71
23	1.55	0.00	-260.28	-559.85
24	1.65	0.00	-252.66	-531.75
25	1.75	0.00	-245.08	-504.42
26	1.85	0.00	-237.53	-477.84
27	1.95	0.00	-230.01	-452.02
28	2.05	0.00	-222.53	-426.94
29	2.15	0.00	-215.08	-402.61
30	2.25	0.00	-207.66	-379.03
31	2.35	0.00	-200.28	-356.18
32	2.45	0.00	-192.93	-334.07
33	2.55	0.00	-185.62	-312.70
34	2.65	0.00	-178.34	-292.05
35	2.75	0.00	-171.09	-272.13
36	2.85	0.00	-163.88	-252.94
37	2.95	0.00	-156.70	-234.46
38	3.05	0.00	-150.37	-217.91
39	3.15	0.00	-144.85	-203.13
40	3.25	0.00	-139.37	-188.90
41	3.35	0.00	-133.92	-175.22
42	3.45	0.00	-128.51	-162.08
43	3.55	0.00	-123.12	-149.48
44	3.65	0.00	-117.78	-137.42
45	3.75	0.00	-112.46	-125.89

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
46	3.85	0.00	-107.19	-114.89
47	3.95	0.00	-101.94	-104.42
48	4.05	0.00	-96.73	-94.46
49	4.15	0.00	-91.55	-85.03
50	4.25	0.00	-86.41	-76.12
51	4.35	0.00	-81.30	-67.71
52	4.45	0.00	-76.22	-59.82
53	4.55	0.00	-71.18	-52.43
54	4.65	0.00	-66.17	-45.55
55	4.75	0.00	-61.20	-39.16
56	4.85	0.00	-56.26	-33.27
57	4.95	0.00	-51.36	-27.87
58	5.05	0.00	-46.48	-22.96
59	5.15	0.00	-41.65	-18.53
60	5.25	0.00	-36.84	-14.59
61	5.35	0.00	-32.07	-11.13
62	5.45	0.00	-27.34	-8.14
63	5.55	0.00	-22.64	-5.62
64	5.65	0.00	-17.97	-3.58
65	5.75	0.00	-13.33	-1.99
66	5.85	0.00	-8.73	-0.87
67	5.95	0.00	-4.17	-0.21
68	6.05	0.00	0.00	0.00

Combinazione n° 3 - STR (A1-M1-R3) H + V

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	-1.85	0.00	0.00	0.00
2	-1.75	0.00	25.31	1.22
3	-1.66	0.00	50.43	4.88
4	-1.56	0.00	75.36	10.94
5	-1.46	0.00	100.09	19.40
6	-1.37	0.00	124.62	30.24
7	-1.27	0.00	148.96	43.43
8	-1.18	0.00	173.11	58.96
9	-1.08	0.00	197.06	76.81
10	-0.98	0.00	220.81	96.96
11	-0.89	0.00	244.37	119.39
12	-0.79	0.00	267.73	144.08
13	-0.69	0.00	290.90	171.02
14	-0.60	0.00	313.88	200.18
15	-0.50	0.00	336.66	231.54
16	0.85	0.00	-96.81	-497.39
17	0.95	0.00	-100.29	-487.54
18	1.05	0.00	-103.57	-477.34
19	1.15	0.00	-106.64	-466.83
20	1.25	0.00	-109.49	-456.02
21	1.35	0.00	-112.14	-444.94
22	1.45	0.00	-114.57	-433.60
23	1.55	0.00	-116.80	-422.03
24	1.65	0.00	-118.82	-410.25
25	1.75	0.00	-120.63	-398.27
26	1.85	0.00	-122.22	-386.13
27	1.95	0.00	-123.61	-373.84
28	2.05	0.00	-124.79	-361.41
29	2.15	0.00	-125.76	-348.88
30	2.25	0.00	-126.52	-336.27
31	2.35	0.00	-127.07	-323.59
32	2.45	0.00	-127.41	-310.86
33	2.55	0.00	-127.54	-298.11
34	2.65	0.00	-127.46	-285.36
35	2.75	0.00	-127.17	-272.63
36	2.85	0.00	-126.67	-259.93
37	2.95	0.00	-125.96	-247.30
38	3.05	0.00	-125.05	-234.75
39	3.15	0.00	-123.92	-222.30
40	3.25	0.00	-122.58	-209.97
41	3.35	0.00	-121.03	-197.79
42	3.45	0.00	-119.28	-185.77
43	3.55	0.00	-117.31	-173.94
44	3.65	0.00	-115.13	-162.32
45	3.75	0.00	-112.75	-150.92
46	3.85	0.00	-110.15	-139.77
47	3.95	0.00	-107.35	-128.90
48	4.05	0.00	-104.33	-118.31
49	4.15	0.00	-101.11	-108.04
50	4.25	0.00	-97.67	-98.10
51	4.35	0.00	-94.03	-88.51
52	4.45	0.00	-90.18	-79.30
53	4.55	0.00	-86.11	-70.48
54	4.65	0.00	-81.84	-62.08

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
55	4.75	0.00	-77.36	-54.12
56	4.85	0.00	-72.66	-46.62
57	4.95	0.00	-67.76	-39.59
58	5.05	0.00	-62.65	-33.07
59	5.15	0.00	-57.33	-27.07
60	5.25	0.00	-51.80	-21.61
61	5.35	0.00	-46.06	-16.72
62	5.45	0.00	-40.11	-12.41
63	5.55	0.00	-33.95	-8.70
64	5.65	0.00	-27.58	-5.63
65	5.75	0.00	-21.00	-3.20
66	5.85	0.00	-14.21	-1.43
67	5.95	0.00	-7.21	-0.36
68	6.05	0.00	0.00	0.00

Combinazione n° 4 - STR (A1-M1-R3) H - V

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	-1.85	0.00	0.00	0.00
2	-1.75	0.00	22.98	1.11
3	-1.66	0.00	45.77	4.43
4	-1.56	0.00	68.37	9.93
5	-1.46	0.00	90.78	17.61
6	-1.37	0.00	112.99	27.43
7	-1.27	0.00	135.01	39.39
8	-1.18	0.00	156.84	53.46
9	-1.08	0.00	178.48	69.63
10	-0.98	0.00	199.92	87.88
11	-0.89	0.00	221.17	108.18
12	-0.79	0.00	242.23	130.53
13	-0.69	0.00	263.09	154.89
14	-0.60	0.00	283.77	181.26
15	-0.50	0.00	304.25	209.61
16	0.85	0.00	-215.41	-802.73
17	0.95	0.00	-216.55	-781.13
18	1.05	0.00	-217.48	-759.43
19	1.15	0.00	-218.21	-737.64
20	1.25	0.00	-218.72	-715.79
21	1.35	0.00	-219.03	-693.90
22	1.45	0.00	-219.14	-671.99
23	1.55	0.00	-219.03	-650.08
24	1.65	0.00	-218.72	-628.19
25	1.75	0.00	-218.20	-606.34
26	1.85	0.00	-217.48	-584.56
27	1.95	0.00	-216.54	-562.86
28	2.05	0.00	-215.40	-541.26
29	2.15	0.00	-214.06	-519.78
30	2.25	0.00	-212.50	-498.45
31	2.35	0.00	-210.74	-477.29
32	2.45	0.00	-208.77	-456.31
33	2.55	0.00	-206.60	-435.54
34	2.65	0.00	-204.22	-415.00
35	2.75	0.00	-201.63	-394.70
36	2.85	0.00	-198.83	-374.68
37	2.95	0.00	-195.83	-354.94
38	3.05	0.00	-192.62	-335.52
39	3.15	0.00	-189.20	-316.43
40	3.25	0.00	-185.57	-297.69
41	3.35	0.00	-181.74	-279.32
42	3.45	0.00	-177.70	-261.35
43	3.55	0.00	-173.46	-243.79
44	3.65	0.00	-169.00	-226.66
45	3.75	0.00	-164.34	-209.99
46	3.85	0.00	-159.48	-193.80
47	3.95	0.00	-154.40	-178.10
48	4.05	0.00	-149.12	-162.93
49	4.15	0.00	-143.63	-148.29
50	4.25	0.00	-137.94	-134.21
51	4.35	0.00	-132.03	-120.71
52	4.45	0.00	-125.92	-107.81
53	4.55	0.00	-119.61	-95.53
54	4.65	0.00	-113.08	-83.89
55	4.75	0.00	-106.35	-72.92
56	4.85	0.00	-99.41	-62.63
57	4.95	0.00	-92.27	-53.04
58	5.05	0.00	-84.91	-44.18
59	5.15	0.00	-77.35	-36.07
60	5.25	0.00	-69.59	-28.72
61	5.35	0.00	-61.61	-22.16
62	5.45	0.00	-53.43	-16.40
63	5.55	0.00	-45.05	-11.48

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
64	5.65	0.00	-36.45	-7.40
65	5.75	0.00	-27.65	-4.19
66	5.85	0.00	-18.64	-1.88
67	5.95	0.00	-9.42	-0.47
68	6.05	0.00	0.00	0.00

Combinazione n° 9 - ECC

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	-1.85	0.00	0.00	0.00
2	-1.75	0.00	15.04	0.72
3	-1.66	0.00	30.10	2.90
4	-1.56	0.00	45.18	6.53
5	-1.46	0.00	60.29	11.62
6	-1.37	0.00	75.42	18.16
7	-1.27	0.00	90.57	26.16
8	-1.18	0.00	105.74	35.63
9	-1.08	0.00	120.93	46.55
10	-0.98	0.00	136.15	58.95
11	-0.89	0.00	151.39	72.81
12	-0.79	0.00	166.65	88.15
13	-0.69	0.00	181.93	104.95
14	-0.60	0.00	197.24	123.23
15	-0.50	0.00	212.57	142.99
16	0.85	0.00	-12.93	-5.61
17	0.95	0.00	-12.07	-4.36
18	1.05	0.00	-11.24	-3.19
19	1.15	0.00	-10.43	-2.11
20	1.25	0.00	-9.64	-1.11
21	1.35	0.00	-8.88	-0.18
22	1.45	0.00	-8.14	0.67
23	1.55	0.00	-7.42	1.45
24	1.65	0.00	-6.73	2.15
25	1.75	0.00	-6.07	2.79
26	1.85	0.00	-5.42	3.37
27	1.95	0.00	-4.80	3.88
28	2.05	0.00	-4.21	4.33
29	2.15	0.00	-3.64	4.72
30	2.25	0.00	-3.09	5.06
31	2.35	0.00	-2.57	5.34
32	2.45	0.00	-2.07	5.57
33	2.55	0.00	-1.59	5.75
34	2.65	0.00	-1.14	5.89
35	2.75	0.00	-0.71	5.98
36	2.85	0.00	-0.31	6.03
37	2.95	0.00	0.07	6.05
38	3.05	0.00	0.43	6.02
39	3.15	0.00	0.76	5.96
40	3.25	0.00	1.07	5.87
41	3.35	0.00	1.35	5.75
42	3.45	0.00	1.61	5.60
43	3.55	0.00	1.85	5.43
44	3.65	0.00	2.06	5.23
45	3.75	0.00	2.25	5.01
46	3.85	0.00	2.42	4.78
47	3.95	0.00	2.56	4.53
48	4.05	0.00	2.68	4.27
49	4.15	0.00	2.77	4.00
50	4.25	0.00	2.84	3.72
51	4.35	0.00	2.88	3.43
52	4.45	0.00	2.91	3.14
53	4.55	0.00	2.90	2.85
54	4.65	0.00	2.88	2.56
55	4.75	0.00	2.83	2.28
56	4.85	0.00	2.75	2.00
57	4.95	0.00	2.65	1.73
58	5.05	0.00	2.53	1.47
59	5.15	0.00	2.39	1.22
60	5.25	0.00	2.22	0.99
61	5.35	0.00	2.02	0.78
62	5.45	0.00	1.81	0.59
63	5.55	0.00	1.57	0.42
64	5.65	0.00	1.30	0.27
65	5.75	0.00	1.01	0.16
66	5.85	0.00	0.70	0.07
67	5.95	0.00	0.36	0.02
68	6.05	0.00	0.00	0.00

Combinazione n° 10 - SLER

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	-1.85	0.00	0.00	0.00
2	-1.75	0.00	14.74	0.71
3	-1.66	0.00	29.53	2.84
4	-1.56	0.00	44.38	6.41
5	-1.46	0.00	59.28	11.40
6	-1.37	0.00	74.25	17.84
7	-1.27	0.00	89.26	25.72
8	-1.18	0.00	104.34	35.06
9	-1.08	0.00	119.47	45.85
10	-0.98	0.00	134.66	58.10
11	-0.89	0.00	149.91	71.82
12	-0.79	0.00	165.21	87.01
13	-0.69	0.00	180.57	103.69
14	-0.60	0.00	195.99	121.84
15	-0.50	0.00	211.46	141.48
16	0.85	0.00	2.16	77.10
17	0.95	0.00	4.20	78.15
18	1.05	0.00	6.17	78.99
19	1.15	0.00	8.09	79.63
20	1.25	0.00	9.94	80.09
21	1.35	0.00	11.74	80.37
22	1.45	0.00	13.47	80.47
23	1.55	0.00	15.14	80.40
24	1.65	0.00	16.75	80.16
25	1.75	0.00	18.30	79.77
26	1.85	0.00	19.79	79.22
27	1.95	0.00	21.22	78.53
28	2.05	0.00	22.58	77.70
29	2.15	0.00	23.89	76.74
30	2.25	0.00	25.13	75.65
31	2.35	0.00	26.31	74.43
32	2.45	0.00	27.44	73.11
33	2.55	0.00	28.50	71.67
34	2.65	0.00	29.50	70.13
35	2.75	0.00	30.44	68.49
36	2.85	0.00	31.31	66.76
37	2.95	0.00	32.13	64.95
38	3.05	0.00	32.44	62.39
39	3.15	0.00	32.25	59.16
40	3.25	0.00	32.00	55.96
41	3.35	0.00	31.69	52.78
42	3.45	0.00	31.31	49.64
43	3.55	0.00	30.88	46.54
44	3.65	0.00	30.38	43.49
45	3.75	0.00	29.83	40.49
46	3.85	0.00	29.21	37.55
47	3.95	0.00	28.53	34.67
48	4.05	0.00	27.79	31.86
49	4.15	0.00	26.99	29.13
50	4.25	0.00	26.13	26.48
51	4.35	0.00	25.21	23.93
52	4.45	0.00	24.23	21.46
53	4.55	0.00	23.18	19.10
54	4.65	0.00	22.08	16.85
55	4.75	0.00	20.91	14.71
56	4.85	0.00	19.69	12.69
57	4.95	0.00	18.40	10.80
58	5.05	0.00	17.05	9.03
59	5.15	0.00	15.64	7.41
60	5.25	0.00	14.17	5.93
61	5.35	0.00	12.64	4.60
62	5.45	0.00	11.04	3.42
63	5.55	0.00	9.39	2.41
64	5.65	0.00	7.67	1.57
65	5.75	0.00	5.90	0.90
66	5.85	0.00	4.06	0.41
67	5.95	0.00	2.16	0.11
68	6.05	0.00	0.00	0.00

Combinazione n° 11 - SLEF

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	-1.85	0.00	0.00	0.00
2	-1.75	0.00	13.90	0.67
3	-1.66	0.00	27.85	2.68
4	-1.56	0.00	41.85	6.04
5	-1.46	0.00	55.91	10.76
6	-1.37	0.00	70.01	16.83
7	-1.27	0.00	84.16	24.26
8	-1.18	0.00	98.37	33.06

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
9	-1.08	0.00	112.62	43.23
10	-0.98	0.00	126.92	54.78
11	-0.89	0.00	141.28	67.71
12	-0.79	0.00	155.68	82.03
13	-0.69	0.00	170.14	97.74
14	-0.60	0.00	184.64	114.84
15	-0.50	0.00	199.20	133.35
16	0.85	0.00	8.30	85.01
17	0.95	0.00	9.52	84.12
18	1.05	0.00	10.69	83.11
19	1.15	0.00	11.80	81.99
20	1.25	0.00	12.86	80.75
21	1.35	0.00	13.86	79.42
22	1.45	0.00	14.81	77.98
23	1.55	0.00	15.71	76.45
24	1.65	0.00	16.55	74.84
25	1.75	0.00	17.34	73.15
26	1.85	0.00	18.07	71.38
27	1.95	0.00	18.75	69.53
28	2.05	0.00	19.38	67.63
29	2.15	0.00	19.95	65.66
30	2.25	0.00	20.47	63.64
31	2.35	0.00	20.93	61.57
32	2.45	0.00	21.34	59.46
33	2.55	0.00	21.69	57.30
34	2.65	0.00	21.99	55.12
35	2.75	0.00	22.24	52.91
36	2.85	0.00	22.43	50.67
37	2.95	0.00	22.57	48.42
38	3.05	0.00	22.65	46.16
39	3.15	0.00	22.68	43.89
40	3.25	0.00	22.66	41.63
41	3.35	0.00	22.58	39.36
42	3.45	0.00	22.45	37.11
43	3.55	0.00	22.26	34.88
44	3.65	0.00	22.02	32.66
45	3.75	0.00	21.73	30.47
46	3.85	0.00	21.38	28.32
47	3.95	0.00	20.97	26.20
48	4.05	0.00	20.52	24.12
49	4.15	0.00	20.00	22.10
50	4.25	0.00	19.44	20.13
51	4.35	0.00	18.82	18.21
52	4.45	0.00	18.14	16.36
53	4.55	0.00	17.42	14.59
54	4.65	0.00	16.63	12.88
55	4.75	0.00	15.80	11.26
56	4.85	0.00	14.91	9.72
57	4.95	0.00	13.96	8.28
58	5.05	0.00	12.96	6.93
59	5.15	0.00	11.91	5.69
60	5.25	0.00	10.80	4.55
61	5.35	0.00	9.64	3.53
62	5.45	0.00	8.43	2.63
63	5.55	0.00	7.16	1.85
64	5.65	0.00	5.84	1.20
65	5.75	0.00	4.46	0.68
66	5.85	0.00	3.03	0.31
67	5.95	0.00	1.54	0.08
68	6.05	0.00	0.00	0.00

Combinazione n° 12 - SLEQ

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	-1.85	0.00	0.00	0.00
2	-1.75	0.00	13.90	0.67
3	-1.66	0.00	27.85	2.68
4	-1.56	0.00	41.85	6.04
5	-1.46	0.00	55.91	10.76
6	-1.37	0.00	70.01	16.83
7	-1.27	0.00	84.16	24.26
8	-1.18	0.00	98.37	33.06
9	-1.08	0.00	112.62	43.23
10	-0.98	0.00	126.92	54.78
11	-0.89	0.00	141.28	67.71
12	-0.79	0.00	155.68	82.03
13	-0.69	0.00	170.14	97.74
14	-0.60	0.00	184.64	114.84
15	-0.50	0.00	199.20	133.35
16	0.85	0.00	8.30	85.01
17	0.95	0.00	9.52	84.12

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
18	1.05	0.00	10.69	83.11
19	1.15	0.00	11.80	81.99
20	1.25	0.00	12.86	80.75
21	1.35	0.00	13.86	79.42
22	1.45	0.00	14.81	77.98
23	1.55	0.00	15.71	76.45
24	1.65	0.00	16.55	74.84
25	1.75	0.00	17.34	73.15
26	1.85	0.00	18.07	71.38
27	1.95	0.00	18.75	69.53
28	2.05	0.00	19.38	67.63
29	2.15	0.00	19.95	65.66
30	2.25	0.00	20.47	63.64
31	2.35	0.00	20.93	61.57
32	2.45	0.00	21.34	59.46
33	2.55	0.00	21.69	57.30
34	2.65	0.00	21.99	55.12
35	2.75	0.00	22.24	52.91
36	2.85	0.00	22.43	50.67
37	2.95	0.00	22.57	48.42
38	3.05	0.00	22.65	46.16
39	3.15	0.00	22.68	43.89
40	3.25	0.00	22.66	41.63
41	3.35	0.00	22.58	39.36
42	3.45	0.00	22.45	37.11
43	3.55	0.00	22.26	34.88
44	3.65	0.00	22.02	32.66
45	3.75	0.00	21.73	30.47
46	3.85	0.00	21.38	28.32
47	3.95	0.00	20.97	26.20
48	4.05	0.00	20.52	24.12
49	4.15	0.00	20.00	22.10
50	4.25	0.00	19.44	20.13
51	4.35	0.00	18.82	18.21
52	4.45	0.00	18.14	16.36
53	4.55	0.00	17.42	14.59
54	4.65	0.00	16.63	12.88
55	4.75	0.00	15.80	11.26
56	4.85	0.00	14.91	9.72
57	4.95	0.00	13.96	8.28
58	5.05	0.00	12.96	6.93
59	5.15	0.00	11.91	5.69
60	5.25	0.00	10.80	4.55
61	5.35	0.00	9.64	3.53
62	5.45	0.00	8.43	2.63
63	5.55	0.00	7.16	1.85
64	5.65	0.00	5.84	1.20
65	5.75	0.00	4.46	0.68
66	5.85	0.00	3.03	0.31
67	5.95	0.00	1.54	0.08
68	6.05	0.00	0.00	0.00

Verifiche strutturali

Verifiche a flessione

Elementi calcolati a trave

Simbologia adottata

n°	indice sezione
B	larghezza sezione espresso in [cm]
H	altezza sezione espressa in [cm]
Afi	area ferri inferiori espresso in [cmq]
Afs	area ferri superiori espressa in [cmq]
M	momento agente espressa in [kNm]
N	sforzo normale agente espressa in [kN]
Mrd	momento resistente espresso in [kNm]

Nrd sforzo normale resistente espresso in [kN]

FS fattore di sicurezza (rapporto tra sollecitazione ultima e sollecitazione agente)

Paramento

Combinazione n° 1 - STR (A1-M1-R3)

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
1	0.00	100	50	31.42	31.42	0.39	3.13	676.60	5412.79	1732.092
2	-0.10	100	51	31.42	31.42	0.39	4.39	578.03	6424.81	1464.574
3	-0.20	100	52	31.42	31.42	0.41	5.67	512.04	7063.31	1245.236
4	-0.30	100	53	31.42	31.42	0.45	6.98	477.16	7456.83	1068.108
5	-0.40	100	54	31.42	31.42	0.51	8.31	469.42	7686.75	924.549
6	-0.50	100	55	31.42	31.42	0.60	9.67	484.02	7793.34	805.897
7	-0.60	100	56	31.42	31.42	0.73	11.05	516.88	7804.84	706.297
8	-0.70	100	57	31.42	31.42	0.91	12.45	564.53	7744.23	621.828
9	-0.80	100	58	31.42	31.42	1.14	13.88	623.32	7621.68	549.064
10	-0.90	100	59	31.42	31.42	1.42	15.33	690.28	7450.83	485.963
11	-1.00	100	59	31.42	31.42	1.77	16.81	763.18	7246.88	431.193
12	-1.10	100	60	31.42	31.42	2.19	18.30	838.86	7010.81	383.005
13	-1.20	100	61	31.42	31.42	2.69	19.83	916.46	6760.33	340.974
14	-1.30	100	62	31.42	31.42	3.27	21.37	993.72	6496.52	303.975
15	-1.40	100	63	31.42	31.42	3.94	22.94	1070.51	6232.08	271.657
16	-1.50	100	64	31.42	31.42	4.71	24.53	1145.40	5967.49	243.237
17	-1.60	100	65	31.42	31.42	5.58	26.15	1219.34	5713.70	218.498
18	-1.70	100	66	31.42	31.42	6.56	27.79	1290.45	5465.17	196.661
19	-1.80	100	67	31.42	31.42	7.66	29.45	1360.77	5232.77	177.663
20	-1.90	100	68	31.42	31.42	8.88	31.14	1425.44	4999.06	160.532
21	-2.00	100	69	31.42	31.42	10.23	32.85	1485.89	4772.18	145.266
22	-2.10	100	70	31.42	31.42	11.71	34.59	1545.18	4562.24	131.911
23	-2.20	100	71	31.42	31.42	13.34	36.34	1567.80	4271.05	117.517
24	-2.30	100	72	31.42	31.42	15.12	38.13	1584.10	3995.22	104.791
25	-2.40	100	73	31.42	31.42	17.05	39.93	1593.48	3732.40	93.471
26	-2.50	100	74	31.42	31.42	19.14	41.76	1595.08	3480.10	83.336
27	-2.60	100	75	31.42	31.42	21.40	43.61	1594.96	3250.32	74.527
28	-2.70	100	76	31.42	31.42	23.84	45.49	1588.16	3030.82	66.628
29	-2.80	100	76	31.42	31.42	26.45	47.39	1580.54	2831.44	59.749
30	-2.90	100	77	31.42	31.42	29.26	49.31	1573.35	2651.88	53.777
31	-3.00	100	78	31.42	31.42	32.25	51.26	1559.91	2479.01	48.362
32	-3.10	100	79	31.42	31.42	35.45	53.23	1550.38	2327.76	43.730
33	-3.20	100	80	31.42	31.42	38.86	55.22	1543.68	2193.81	39.725
34	-3.30	100	81	47.12	31.42	42.48	57.24	1579.95	2129.11	37.195
35	-3.40	100	82	47.12	31.42	46.32	59.28	1553.72	1988.71	33.545
36	-3.50	100	83	47.12	31.42	50.38	61.35	1532.26	1865.78	30.412
37	-3.60	100	84	47.12	31.42	54.68	63.44	1514.74	1757.32	27.701
38	-3.70	100	85	47.12	31.42	59.22	65.55	1500.53	1660.96	25.338
39	-3.80	100	86	47.12	31.42	64.00	67.69	1489.13	1574.83	23.266
40	-3.90	100	87	47.12	31.42	69.04	69.85	1480.11	1497.41	21.438
41	-4.00	100	88	47.12	31.42	74.34	72.03	1473.16	1427.47	19.818
42	-4.10	100	89	47.12	31.42	79.90	74.24	1467.99	1364.01	18.373
43	-4.20	100	90	47.12	31.42	85.73	76.47	1464.37	1306.17	17.081
44	-4.30	100	91	47.12	31.42	91.84	78.72	1462.12	1253.27	15.920
45	-4.40	100	92	47.12	62.83	98.24	81.00	2718.56	2241.57	27.673
46	-4.50	100	93	47.12	62.83	104.92	83.30	2734.78	2171.21	26.064
47	-4.60	100	93	47.12	62.83	111.91	85.63	2751.95	2105.64	24.591
48	-4.70	100	94	47.12	62.83	119.20	87.98	2769.97	2044.40	23.238
49	-4.80	100	95	47.12	62.83	126.80	90.35	2785.22	1984.55	21.965
50	-4.90	100	96	47.12	62.83	134.72	92.75	2798.43	1926.54	20.772
51	-5.00	100	97	47.12	62.83	142.96	95.16	2812.73	1872.36	19.675
52	-5.10	100	98	47.12	62.83	151.53	97.61	2828.03	1821.65	18.663
53	-5.20	100	99	47.12	62.83	160.44	100.08	2844.24	1774.10	17.728
54	-5.30	100	100	47.12	62.83	169.69	102.57	2861.31	1729.43	16.862
55	-5.40	100	101	47.12	62.83	179.30	105.08	2879.15	1687.39	16.058
56	-5.50	100	102	47.12	62.83	189.25	107.62	2897.13	1647.44	15.308
57	-5.60	100	103	47.12	62.83	199.58	110.18	2915.51	1609.57	14.609
58	-5.70	100	104	47.12	62.83	210.27	112.77	2932.40	1572.64	13.946
59	-5.80	100	105	47.12	62.83	221.33	115.37	2945.75	1535.54	13.309
60	-5.90	100	106	47.12	62.83	232.78	118.01	2959.64	1500.37	12.714
61	-6.00	100	107	47.12	62.83	244.62	120.66	2974.03	1467.01	12.158
62	-6.10	100	108	47.12	62.83	256.85	123.34	2988.89	1435.30	11.637
63	-6.20	100	109	47.12	62.83	269.48	126.05	3004.17	1405.15	11.148
64	-6.30	100	110	47.12	62.83	282.52	128.77	3019.86	1376.43	10.689
65	-6.40	100	110	47.12	62.83	295.98	131.52	3035.92	1349.05	10.257
66	-6.50	100	111	47.12	62.83	309.86	134.30	3052.33	1322.93	9.851
67	-6.60	100	112	47.12	62.83	324.16	137.10	3069.07	1297.97	9.468
68	-6.70	100	113	47.12	62.83	338.90	139.92	3086.11	1274.10	9.106
69	-6.80	100	114	47.12	62.83	354.08	142.76	3103.44	1251.27	8.765
70	-6.90	100	115	47.12	62.83	369.71	145.63	3121.05	1229.39	8.442
71	-7.00	100	116	47.12	62.83	385.79	148.52	3138.90	1208.42	8.136

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
72	-7.10	100	117	47.12	62.83	402.33	151.44	3157.00	1188.30	7.847
73	-7.20	100	118	47.12	62.83	419.34	154.38	3175.32	1168.98	7.572
74	-7.30	100	119	47.12	62.83	436.82	157.34	3193.85	1150.42	7.312
75	-7.40	100	120	47.12	62.83	454.78	160.33	3212.59	1132.57	7.064
76	-7.50	100	121	47.12	62.83	473.23	163.34	3231.51	1115.39	6.829
77	-7.60	100	122	47.12	62.83	492.17	166.37	3250.62	1098.85	6.605
78	-7.70	100	123	47.12	62.83	511.60	169.43	3269.90	1082.92	6.391
79	-7.80	100	124	47.12	62.83	531.55	172.51	3289.33	1067.55	6.188
80	-7.90	100	125	47.12	62.83	552.00	175.62	3308.93	1052.73	5.994
81	-8.00	100	126	47.12	62.83	572.98	178.75	3328.67	1038.42	5.809
82	-8.10	100	127	47.12	62.83	594.47	181.90	3348.54	1024.60	5.633
83	-8.20	100	128	62.83	62.83	616.50	185.08	3393.93	1018.86	5.505
84	-8.30	100	128	15.71	31.42	639.07	188.28	1724.82	508.14	2.699
85	-8.40	100	129	15.71	31.42	662.18	191.50	1734.85	501.70	2.620
86	-8.50	100	130	15.71	31.42	685.85	194.75	1744.94	495.47	2.544
87	-8.60	100	131	15.71	31.42	710.07	198.02	1755.09	489.44	2.472
88	-8.70	100	132	15.71	31.42	734.85	201.31	1765.30	483.60	2.402
89	-8.80	100	133	15.71	31.42	760.21	204.63	1775.57	477.93	2.336
90	-8.90	100	134	15.71	31.42	786.14	207.97	1785.88	472.45	2.272
91	-8.99	100	135	15.71	31.42	812.66	211.33	1794.66	466.71	2.208

Combinazione n° 2 - STR (A1-M1-R3)

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
1	0.00	100	50	31.42	31.42	0.39	3.13	676.60	5412.79	1732.092
2	-0.10	100	51	31.42	31.42	0.44	4.39	613.50	6166.33	1405.650
3	-0.20	100	52	31.42	31.42	0.58	5.67	636.19	6239.88	1100.069
4	-0.30	100	53	31.42	31.42	0.82	6.98	704.97	5981.75	856.819
5	-0.40	100	54	31.42	31.42	1.18	8.31	789.89	5583.20	671.537
6	-0.50	100	55	31.42	31.42	1.65	9.67	875.56	5146.70	532.212
7	-0.60	100	56	31.42	31.42	2.24	11.05	957.33	4731.24	428.152
8	-0.70	100	57	31.42	31.42	2.96	12.45	1034.09	4357.96	349.925
9	-0.80	100	58	31.42	31.42	3.81	13.88	1100.65	4010.80	288.937
10	-0.90	100	59	31.42	31.42	4.80	15.33	1153.79	3681.75	240.133
11	-1.00	100	59	31.42	31.42	5.95	16.81	1166.08	3294.79	196.042
12	-1.10	100	60	31.42	31.42	7.25	18.30	1168.38	2951.60	161.248
13	-1.20	100	61	31.42	31.42	8.70	19.83	1162.18	2647.17	133.517
14	-1.30	100	62	31.42	31.42	10.33	21.37	1151.28	2381.84	111.447
15	-1.40	100	63	31.42	31.42	12.13	22.94	1142.67	2161.09	94.202
16	-1.50	100	64	31.42	31.42	14.11	24.53	1128.68	1962.49	79.992
17	-1.60	100	65	31.42	31.42	16.28	26.15	1120.27	1799.80	68.826
18	-1.70	100	66	31.42	31.42	18.64	27.79	1106.09	1649.31	59.349
19	-1.80	100	67	31.42	31.42	21.20	29.45	1093.27	1519.13	51.577
20	-1.90	100	68	31.42	31.42	23.96	31.14	1084.88	1409.84	45.273
21	-2.00	100	69	31.42	31.42	26.94	32.85	1079.97	1316.87	40.086
22	-2.10	100	70	31.42	31.42	30.14	34.59	1074.97	1233.54	35.666
23	-2.20	100	71	31.42	31.42	33.56	36.34	1070.83	1159.54	31.905
24	-2.30	100	72	31.42	31.42	37.22	38.13	1068.71	1094.72	28.713
25	-2.40	100	73	31.42	31.42	41.11	39.93	1068.30	1037.55	25.984
26	-2.50	100	74	31.42	31.42	45.25	41.76	1069.30	986.74	23.629
27	-2.60	100	75	31.42	31.42	49.65	43.61	1071.50	941.28	21.583
28	-2.70	100	76	31.42	31.42	54.30	45.49	1074.71	900.39	19.794
29	-2.80	100	76	31.42	31.42	59.21	47.39	1078.80	863.42	18.220
30	-2.90	100	77	31.42	31.42	64.40	49.31	1083.65	829.83	16.828
31	-3.00	100	78	31.42	31.42	69.86	51.26	1089.16	799.18	15.591
32	-3.10	100	79	31.42	31.42	75.61	53.23	1095.25	771.10	14.486
33	-3.20	100	80	31.42	31.42	81.64	55.22	1101.85	745.30	13.496
34	-3.30	100	81	47.12	31.42	87.98	57.24	1115.93	726.07	12.684
35	-3.40	100	82	47.12	31.42	94.62	59.28	1123.49	703.94	11.874
36	-3.50	100	83	47.12	31.42	101.57	61.35	1131.42	683.42	11.140
37	-3.60	100	84	47.12	31.42	108.83	63.44	1139.68	664.32	10.472
38	-3.70	100	85	47.12	31.42	116.42	65.55	1148.23	646.52	9.863
39	-3.80	100	86	47.12	31.42	124.34	67.69	1157.06	629.88	9.306
40	-3.90	100	87	47.12	31.42	132.59	69.85	1166.14	614.30	8.795
41	-4.00	100	88	47.12	31.42	141.19	72.03	1175.44	599.68	8.325
42	-4.10	100	89	47.12	31.42	150.13	74.24	1184.94	585.93	7.893
43	-4.20	100	90	47.12	31.42	159.43	76.47	1194.19	572.76	7.490
44	-4.30	100	91	47.12	31.42	169.10	78.72	1203.37	560.22	7.116
45	-4.40	100	92	47.12	62.83	179.13	81.00	2362.09	1068.12	13.187
46	-4.50	100	93	47.12	62.83	189.53	83.30	2381.45	1046.67	12.565
47	-4.60	100	93	47.12	62.83	200.32	85.63	2401.05	1026.34	11.986
48	-4.70	100	94	47.12	62.83	211.49	87.98	2420.88	1007.05	11.447
49	-4.80	100	95	47.12	62.83	223.04	90.35	2440.93	988.75	10.944
50	-4.90	100	96	47.12	62.83	234.98	92.75	2461.19	971.40	10.474
51	-5.00	100	97	47.12	62.83	247.31	95.16	2481.66	954.94	10.035
52	-5.10	100	98	47.12	62.83	260.02	97.61	2502.32	939.33	9.624
53	-5.20	100	99	47.12	62.83	273.12	100.08	2523.19	924.54	9.238
54	-5.30	100	100	47.12	62.83	286.60	102.57	2544.23	910.49	8.877
55	-5.40	100	101	47.12	62.83	300.48	105.08	2565.44	897.15	8.538
56	-5.50	100	102	47.12	62.83	314.76	107.62	2586.71	884.42	8.218
57	-5.60	100	103	47.12	62.83	329.43	110.18	2608.10	872.29	7.917

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
58	-5.70	100	104	47.12	62.83	344.52	112.77	2629.63	860.70	7.633
59	-5.80	100	105	47.12	62.83	360.03	115.37	2651.28	849.63	7.364
60	-5.90	100	106	47.12	62.83	375.96	118.01	2673.04	839.03	7.110
61	-6.00	100	107	47.12	62.83	392.31	120.66	2694.91	828.86	6.869
62	-6.10	100	108	47.12	62.83	409.11	123.34	2716.88	819.11	6.641
63	-6.20	100	109	47.12	62.83	426.35	126.05	2738.93	809.74	6.424
64	-6.30	100	110	47.12	62.83	444.03	128.77	2761.07	800.73	6.218
65	-6.40	100	110	47.12	62.83	462.18	131.52	2783.29	792.04	6.022
66	-6.50	100	111	47.12	62.83	480.79	134.30	2805.57	783.68	5.835
67	-6.60	100	112	47.12	62.83	499.86	137.10	2827.93	775.60	5.657
68	-6.70	100	113	47.12	62.83	519.42	139.92	2850.35	767.81	5.488
69	-6.80	100	114	47.12	62.83	539.45	142.76	2872.82	760.27	5.325
70	-6.90	100	115	47.12	62.83	559.98	145.63	2895.35	752.98	5.170
71	-7.00	100	116	47.12	62.83	581.00	148.52	2917.93	745.92	5.022
72	-7.10	100	117	47.12	62.83	602.52	151.44	2940.56	739.09	4.880
73	-7.20	100	118	47.12	62.83	624.56	154.38	2963.24	732.46	4.745
74	-7.30	100	119	47.12	62.83	647.11	157.34	2985.96	726.03	4.614
75	-7.40	100	120	47.12	62.83	670.18	160.33	3008.72	719.79	4.489
76	-7.50	100	121	47.12	62.83	693.77	163.34	3031.51	713.73	4.370
77	-7.60	100	122	47.12	62.83	717.91	166.37	3054.35	707.84	4.255
78	-7.70	100	123	47.12	62.83	742.58	169.43	3077.21	702.11	4.144
79	-7.80	100	124	47.12	62.83	767.81	172.51	3100.11	696.54	4.038
80	-7.90	100	125	47.12	62.83	793.59	175.62	3123.05	691.12	3.935
81	-8.00	100	126	47.12	62.83	819.93	178.75	3146.01	685.84	3.837
82	-8.10	100	127	47.12	62.83	846.84	181.90	3168.99	680.70	3.742
83	-8.20	100	128	62.83	62.83	874.32	185.08	3213.73	680.28	3.676
84	-8.30	100	128	15.71	31.42	902.38	188.28	1631.36	340.37	1.808
85	-8.40	100	129	15.71	31.42	931.03	191.50	1642.90	337.92	1.765
86	-8.50	100	130	15.71	31.42	960.28	194.75	1654.46	335.53	1.723
87	-8.60	100	131	15.71	31.42	990.12	198.02	1666.03	333.19	1.683
88	-8.70	100	132	15.71	31.42	1020.57	201.31	1677.62	330.91	1.644
89	-8.80	100	133	15.71	31.42	1051.64	204.63	1689.21	328.69	1.606
90	-8.90	100	134	15.71	31.42	1083.32	207.97	1700.82	326.51	1.570
91	-8.99	100	135	15.71	31.42	1115.63	211.33	1710.99	324.11	1.534

Combinazione n° 3 - STR (A1-M1-R3) H + V

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
1	0.00	100	50	31.42	31.42	0.41	3.31	676.60	5412.79	1633.288
2	-0.10	100	51	31.42	31.42	0.46	4.65	613.36	6167.38	1325.693
3	-0.20	100	52	31.42	31.42	0.61	6.02	635.03	6248.19	1038.698
4	-0.30	100	53	31.42	31.42	0.87	7.40	702.02	6005.01	811.086
5	-0.40	100	54	31.42	31.42	1.23	8.82	784.67	5623.67	637.821
6	-0.50	100	55	31.42	31.42	1.71	10.26	868.49	5206.95	507.727
7	-0.60	100	56	31.42	31.42	2.31	11.72	948.78	4809.92	410.443
8	-0.70	100	57	31.42	31.42	3.04	13.21	1024.14	4451.54	337.050
9	-0.80	100	58	31.42	31.42	3.90	14.72	1090.81	4121.10	279.948
10	-0.90	100	59	31.42	31.42	4.89	16.26	1152.69	3832.36	235.699
11	-1.00	100	59	31.42	31.42	6.03	17.82	1175.46	3476.82	195.071
12	-1.10	100	60	31.42	31.42	7.31	19.41	1182.47	3141.18	161.816
13	-1.20	100	61	31.42	31.42	8.74	21.03	1182.33	2844.12	135.268
14	-1.30	100	62	31.42	31.42	10.33	22.66	1179.85	2588.57	114.211
15	-1.40	100	63	31.42	31.42	12.08	24.33	1170.71	2357.38	96.897
16	-1.50	100	64	31.42	31.42	14.00	26.02	1164.47	2163.99	83.174
17	-1.60	100	65	31.42	31.42	16.09	27.73	1154.44	1989.61	71.745
18	-1.70	100	66	31.42	31.42	18.36	29.47	1148.97	1844.43	62.585
19	-1.80	100	67	31.42	31.42	20.81	31.24	1139.47	1710.43	54.760
20	-1.90	100	68	31.42	31.42	23.45	33.02	1128.93	1590.15	48.151
21	-2.00	100	69	31.42	31.42	26.28	34.84	1122.26	1488.00	42.711
22	-2.10	100	70	31.42	31.42	29.30	36.68	1118.68	1400.23	38.176
23	-2.20	100	71	31.42	31.42	32.53	38.54	1117.13	1323.48	34.338
24	-2.30	100	72	31.42	31.42	35.97	40.43	1113.75	1251.86	30.962
25	-2.40	100	73	31.42	31.42	39.62	42.35	1112.25	1188.71	28.071
26	-2.50	100	74	31.42	31.42	43.49	44.29	1112.32	1132.63	25.575
27	-2.60	100	75	31.42	31.42	47.58	46.25	1113.71	1082.49	23.405
28	-2.70	100	76	31.42	31.42	51.91	48.24	1116.23	1037.41	21.505
29	-2.80	100	76	31.42	31.42	56.46	50.26	1119.72	996.66	19.832
30	-2.90	100	77	31.42	31.42	61.25	52.30	1124.05	959.65	18.351
31	-3.00	100	78	31.42	31.42	66.29	54.36	1129.10	925.89	17.033
32	-3.10	100	79	31.42	31.42	71.58	56.45	1134.80	894.98	15.854
33	-3.20	100	80	31.42	31.42	77.12	58.57	1141.06	866.56	14.796
34	-3.30	100	81	47.12	31.42	82.92	60.71	1155.62	846.06	13.937
35	-3.40	100	82	47.12	31.42	88.98	62.87	1162.92	821.69	13.069
36	-3.50	100	83	47.12	31.42	95.31	65.06	1170.63	799.07	12.282
37	-3.60	100	84	47.12	31.42	101.92	67.28	1178.70	778.04	11.565
38	-3.70	100	85	47.12	31.42	108.81	69.52	1187.10	758.43	10.910
39	-3.80	100	86	47.12	31.42	115.98	71.78	1195.79	740.10	10.310
40	-3.90	100	87	47.12	31.42	123.44	74.07	1204.76	722.92	9.760
41	-4.00	100	88	47.12	31.42	131.20	76.39	1213.97	706.81	9.253
42	-4.10	100	89	47.12	31.42	139.26	78.73	1223.40	691.65	8.785
43	-4.20	100	90	47.12	31.42	147.62	81.09	1233.05	677.37	8.353

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
44	-4.30	100	91	47.12	31.42	156.29	83.48	1242.88	663.89	7.952
45	-4.40	100	92	47.12	62.83	165.28	85.90	2435.48	1265.78	14.735
46	-4.50	100	93	47.12	62.83	174.59	88.34	2454.84	1242.13	14.061
47	-4.60	100	93	47.12	62.83	184.23	90.81	2474.47	1219.70	13.432
48	-4.70	100	94	47.12	62.83	194.19	93.30	2494.33	1198.38	12.845
49	-4.80	100	95	47.12	62.83	204.49	95.81	2514.41	1178.11	12.296
50	-4.90	100	96	47.12	62.83	215.14	98.36	2534.69	1158.80	11.782
51	-5.00	100	97	47.12	62.83	226.13	100.92	2555.17	1140.38	11.300
52	-5.10	100	98	47.12	62.83	237.47	103.51	2575.82	1122.80	10.847
53	-5.20	100	99	47.12	62.83	249.17	106.13	2596.64	1106.00	10.421
54	-5.30	100	100	47.12	62.83	261.23	108.77	2617.61	1089.93	10.020
55	-5.40	100	101	47.12	62.83	273.65	111.44	2638.73	1074.54	9.643
56	-5.50	100	102	47.12	62.83	286.45	114.13	2659.85	1059.74	9.285
57	-5.60	100	103	47.12	62.83	299.63	116.85	2681.08	1045.53	8.948
58	-5.70	100	104	47.12	62.83	313.19	119.59	2702.43	1031.89	8.629
59	-5.80	100	105	47.12	62.83	327.13	122.35	2723.90	1018.79	8.327
60	-5.90	100	106	47.12	62.83	341.47	125.15	2745.48	1006.19	8.040
61	-6.00	100	107	47.12	62.83	356.21	127.96	2767.17	994.07	7.768
62	-6.10	100	108	47.12	62.83	371.34	130.80	2788.95	982.39	7.510
63	-6.20	100	109	47.12	62.83	386.89	133.67	2810.83	971.14	7.265
64	-6.30	100	110	47.12	62.83	402.85	136.56	2832.80	960.29	7.032
65	-6.40	100	110	47.12	62.83	419.23	139.48	2854.85	949.83	6.810
66	-6.50	100	111	47.12	62.83	436.03	142.42	2876.98	939.72	6.598
67	-6.60	100	112	47.12	62.83	453.26	145.39	2899.18	929.96	6.396
68	-6.70	100	113	47.12	62.83	470.92	148.38	2921.46	920.52	6.204
69	-6.80	100	114	47.12	62.83	489.02	151.40	2943.80	911.39	6.020
70	-6.90	100	115	47.12	62.83	507.57	154.44	2966.21	902.55	5.844
71	-7.00	100	116	47.12	62.83	526.56	157.51	2988.68	893.99	5.676
72	-7.10	100	117	47.12	62.83	546.01	160.60	3011.20	885.70	5.515
73	-7.20	100	118	47.12	62.83	565.91	163.72	3033.79	877.67	5.361
74	-7.30	100	119	47.12	62.83	586.29	166.86	3056.42	869.88	5.213
75	-7.40	100	120	47.12	62.83	607.13	170.03	3079.11	862.32	5.072
76	-7.50	100	121	47.12	62.83	628.44	173.22	3101.85	854.98	4.936
77	-7.60	100	122	47.12	62.83	650.24	176.44	3124.63	847.85	4.805
78	-7.70	100	123	47.12	62.83	672.52	179.68	3147.45	840.93	4.680
79	-7.80	100	124	47.12	62.83	695.29	182.95	3170.32	834.20	4.560
80	-7.90	100	125	47.12	62.83	718.55	186.24	3193.23	827.66	4.444
81	-8.00	100	126	47.12	62.83	742.32	189.56	3216.18	821.29	4.333
82	-8.10	100	127	47.12	62.83	766.59	192.90	3239.16	815.10	4.225
83	-8.20	100	128	62.83	62.83	791.37	196.27	3285.33	814.81	4.151
84	-8.30	100	128	15.71	31.42	816.66	199.66	1669.07	408.07	2.044
85	-8.40	100	129	15.71	31.42	842.48	203.08	1680.63	405.12	1.995
86	-8.50	100	130	15.71	31.42	868.82	206.53	1692.21	402.25	1.948
87	-8.60	100	131	15.71	31.42	895.70	209.99	1703.80	399.45	1.902
88	-8.70	100	132	15.71	31.42	923.11	213.49	1715.41	396.72	1.858
89	-8.80	100	133	15.71	31.42	951.06	217.01	1727.04	394.06	1.816
90	-8.90	100	134	15.71	31.42	979.56	220.55	1738.68	391.47	1.775
91	-8.99	100	135	15.71	31.42	1008.61	224.12	1748.83	388.60	1.734

Combinazione n° 4 - STR (A1-M1-R3) H - V

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
1	0.00	100	50	31.42	31.42	0.39	3.13	676.60	5412.79	1732.092
2	-0.10	100	51	31.42	31.42	0.43	4.31	611.39	6181.69	1434.106
3	-0.20	100	52	31.42	31.42	0.54	5.52	619.02	6362.56	1153.020
4	-0.30	100	53	31.42	31.42	0.73	6.75	671.39	6228.35	922.984
5	-0.40	100	54	31.42	31.42	1.00	8.00	744.31	5936.57	742.057
6	-0.50	100	55	31.42	31.42	1.37	9.27	824.19	5584.41	602.129
7	-0.60	100	56	31.42	31.42	1.83	10.57	902.81	5215.63	493.393
8	-0.70	100	57	31.42	31.42	2.39	11.89	978.51	4865.44	409.217
9	-0.80	100	58	31.42	31.42	3.06	13.23	1050.61	4545.48	343.560
10	-0.90	100	59	31.42	31.42	3.84	14.59	1115.72	4245.26	290.898
11	-1.00	100	59	31.42	31.42	4.73	15.98	1176.34	3975.12	248.772
12	-1.10	100	60	31.42	31.42	5.74	17.39	1210.61	3665.34	210.816
13	-1.20	100	61	31.42	31.42	6.88	18.82	1223.13	3343.99	177.719
14	-1.30	100	62	31.42	31.42	8.15	20.27	1229.21	3055.66	150.762
15	-1.40	100	63	31.42	31.42	9.56	21.74	1226.67	2789.68	128.307
16	-1.50	100	64	31.42	31.42	11.11	23.24	1221.84	2555.98	109.989
17	-1.60	100	65	31.42	31.42	12.80	24.76	1215.70	2350.71	94.951
18	-1.70	100	66	31.42	31.42	14.65	26.30	1208.15	2168.75	82.469
19	-1.80	100	67	31.42	31.42	16.65	27.86	1199.83	2007.39	72.051
20	-1.90	100	68	31.42	31.42	18.82	29.45	1195.42	1870.64	63.528
21	-2.00	100	69	31.42	31.42	21.15	31.05	1184.25	1738.87	55.997
22	-2.10	100	70	31.42	31.42	23.65	32.68	1174.23	1622.57	49.646
23	-2.20	100	71	31.42	31.42	26.33	34.33	1167.78	1522.65	44.348
24	-2.30	100	72	31.42	31.42	29.19	36.01	1164.22	1435.92	39.877
25	-2.40	100	73	31.42	31.42	32.24	37.70	1161.53	1358.19	36.022
26	-2.50	100	74	31.42	31.42	35.49	39.42	1157.50	1285.87	32.617
27	-2.60	100	75	31.42	31.42	38.93	41.16	1155.32	1221.69	29.679
28	-2.70	100	76	31.42	31.42	42.57	42.93	1154.70	1164.37	27.125
29	-2.80	100	76	31.42	31.42	46.42	44.71	1155.41	1112.87	24.890

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
30	-2.90	100	77	31.42	31.42	50.48	46.52	1157.25	1066.36	22.923
31	-3.00	100	78	31.42	31.42	54.76	48.35	1160.07	1024.15	21.183
32	-3.10	100	79	31.42	31.42	59.27	50.20	1163.76	985.68	19.635
33	-3.20	100	80	31.42	31.42	64.00	52.07	1168.19	950.47	18.253
34	-3.30	100	81	47.12	31.42	68.97	53.97	1181.61	924.65	17.133
35	-3.40	100	82	47.12	31.42	74.17	55.89	1187.36	894.66	16.008
36	-3.50	100	83	47.12	31.42	79.62	57.83	1193.64	866.95	14.992
37	-3.60	100	84	47.12	31.42	85.32	59.79	1200.39	841.25	14.070
38	-3.70	100	85	47.12	31.42	91.27	61.77	1207.57	817.36	13.231
39	-3.80	100	86	47.12	31.42	97.47	63.78	1215.12	795.11	12.466
40	-3.90	100	87	47.12	31.42	103.95	65.81	1223.03	774.32	11.766
41	-4.00	100	88	47.12	31.42	110.69	67.86	1231.25	754.86	11.123
42	-4.10	100	89	47.12	31.42	117.71	69.94	1239.76	736.61	10.533
43	-4.20	100	90	47.12	31.42	125.00	72.03	1248.53	719.46	9.988
44	-4.30	100	91	47.12	31.42	132.58	74.15	1257.54	703.31	9.485
45	-4.40	100	92	47.12	62.83	140.45	76.29	2457.15	1334.66	17.495
46	-4.50	100	93	47.12	62.83	148.62	78.45	2479.13	1308.69	16.681
47	-4.60	100	93	47.12	62.83	157.08	80.64	2498.31	1282.49	15.905
48	-4.70	100	94	47.12	62.83	165.85	82.84	2516.91	1257.21	15.176
49	-4.80	100	95	47.12	62.83	174.93	85.07	2535.79	1233.21	14.496
50	-4.90	100	96	47.12	62.83	184.32	87.32	2554.93	1210.40	13.861
51	-5.00	100	97	47.12	62.83	194.04	89.60	2574.32	1188.68	13.267
52	-5.10	100	98	47.12	62.83	204.08	91.89	2593.92	1167.99	12.710
53	-5.20	100	99	47.12	62.83	214.45	94.21	2613.74	1148.25	12.188
54	-5.30	100	100	47.12	62.83	225.16	96.55	2633.75	1129.39	11.697
55	-5.40	100	101	47.12	62.83	236.20	98.91	2653.94	1111.37	11.236
56	-5.50	100	102	47.12	62.83	247.60	101.30	2674.17	1094.06	10.801
57	-5.60	100	103	47.12	62.83	259.34	103.70	2694.54	1077.48	10.390
58	-5.70	100	104	47.12	62.83	271.44	106.13	2715.06	1061.58	10.002
59	-5.80	100	105	47.12	62.83	283.90	108.58	2735.73	1046.33	9.636
60	-5.90	100	106	47.12	62.83	296.73	111.06	2756.53	1031.69	9.290
61	-6.00	100	107	47.12	62.83	309.93	113.55	2777.47	1017.62	8.962
62	-6.10	100	108	47.12	62.83	323.50	116.07	2798.53	1004.09	8.651
63	-6.20	100	109	47.12	62.83	337.46	118.61	2819.71	991.07	8.356
64	-6.30	100	110	47.12	62.83	351.80	121.17	2840.99	978.53	8.076
65	-6.40	100	110	47.12	62.83	366.54	123.76	2862.38	966.44	7.809
66	-6.50	100	111	47.12	62.83	381.67	126.36	2883.87	954.78	7.556
67	-6.60	100	112	47.12	62.83	397.21	128.99	2905.45	943.53	7.315
68	-6.70	100	113	47.12	62.83	413.15	131.64	2927.12	932.67	7.085
69	-6.80	100	114	47.12	62.83	429.50	134.31	2948.87	922.18	6.866
70	-6.90	100	115	47.12	62.83	446.27	137.01	2970.70	912.03	6.657
71	-7.00	100	116	47.12	62.83	463.47	139.73	2992.61	902.22	6.457
72	-7.10	100	117	47.12	62.83	481.09	142.47	3014.59	892.72	6.266
73	-7.20	100	118	47.12	62.83	499.14	145.23	3036.63	883.53	6.084
74	-7.30	100	119	47.12	62.83	517.64	148.01	3058.75	874.62	5.909
75	-7.40	100	120	47.12	62.83	536.57	150.82	3080.92	865.99	5.742
76	-7.50	100	121	47.12	62.83	555.95	153.65	3103.16	857.61	5.582
77	-7.60	100	122	47.12	62.83	575.79	156.50	3125.45	849.49	5.428
78	-7.70	100	123	47.12	62.83	596.09	159.37	3147.79	841.60	5.281
79	-7.80	100	124	47.12	62.83	616.85	162.27	3170.19	833.95	5.139
80	-7.90	100	125	47.12	62.83	638.07	165.18	3192.64	826.51	5.004
81	-8.00	100	126	47.12	62.83	659.77	168.12	3215.14	819.28	4.873
82	-8.10	100	127	47.12	62.83	681.95	171.08	3237.68	812.25	4.748
83	-8.20	100	128	62.83	62.83	704.62	174.07	3283.37	811.12	4.660
84	-8.30	100	128	15.71	31.42	727.77	177.07	1667.80	405.80	2.292
85	-8.40	100	129	15.71	31.42	751.42	180.10	1679.14	402.46	2.235
86	-8.50	100	130	15.71	31.42	775.56	183.15	1690.49	399.22	2.180
87	-8.60	100	131	15.71	31.42	800.21	186.23	1701.87	396.06	2.127
88	-8.70	100	132	15.71	31.42	825.37	189.32	1713.26	392.98	2.076
89	-8.80	100	133	15.71	31.42	851.05	192.44	1724.68	389.98	2.027
90	-8.90	100	134	15.71	31.42	877.24	195.58	1736.11	387.06	1.979
91	-8.99	100	135	15.71	31.42	903.96	198.74	1746.05	383.88	1.932

Combinazione n° 9 - ECC

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
1	0.00	100	50	31.42	31.42	11.49	3.13	602.31	163.80	52.417
2	-0.10	100	51	31.42	31.42	11.49	4.39	631.01	240.83	54.898
3	-0.20	100	52	31.42	31.42	11.51	5.67	662.04	326.29	57.524
4	-0.30	100	53	31.42	31.42	11.54	6.98	695.64	420.87	60.285
5	-0.40	100	54	31.42	31.42	11.59	8.31	732.04	525.13	63.162
6	-0.50	100	55	31.42	31.42	11.67	9.67	771.46	639.50	66.130
7	-0.60	100	56	31.42	31.42	11.77	11.05	814.06	764.16	69.153
8	-0.70	100	57	31.42	31.42	11.91	12.45	859.96	899.02	72.187
9	-0.80	100	58	31.42	31.42	12.09	13.88	909.17	1043.55	75.177
10	-0.90	100	59	31.42	31.42	12.32	15.33	961.59	1196.78	78.057
11	-1.00	100	59	31.42	31.42	12.59	16.81	1016.97	1357.16	80.752
12	-1.10	100	60	31.42	31.42	12.92	18.30	1073.75	1520.94	83.090
13	-1.20	100	61	31.42	31.42	13.31	19.83	1130.27	1683.53	84.913
14	-1.30	100	62	31.42	31.42	13.76	21.37	1187.53	1844.08	86.285
15	-1.40	100	63	31.42	31.42	14.28	22.94	1244.75	1999.19	87.145

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
16	-1.50	100	64	31.42	31.42	14.88	24.53	1301.04	2145.40	87.447
17	-1.60	100	65	31.42	31.42	15.55	26.15	1355.55	2279.46	87.169
18	-1.70	100	66	31.42	31.42	16.31	27.79	1407.45	2398.55	86.310
19	-1.80	100	67	31.42	31.42	17.15	29.45	1456.06	2500.47	84.896
20	-1.90	100	68	31.42	31.42	18.09	31.14	1500.58	2583.40	82.959
21	-2.00	100	69	31.42	31.42	19.12	32.85	1540.51	2646.42	80.557
22	-2.10	100	70	31.42	31.42	20.26	34.59	1576.04	2690.38	77.788
23	-2.20	100	71	31.42	31.42	21.51	36.34	1607.26	2716.24	74.737
24	-2.30	100	72	31.42	31.42	22.86	38.13	1634.39	2725.48	71.487
25	-2.40	100	73	31.42	31.42	24.34	39.93	1657.74	2719.94	68.116
26	-2.50	100	74	31.42	31.42	25.93	41.76	1677.74	2701.63	64.694
27	-2.60	100	75	31.42	31.42	27.66	43.61	1694.82	2672.64	61.281
28	-2.70	100	76	31.42	31.42	29.51	45.49	1709.44	2634.95	57.925
29	-2.80	100	76	31.42	31.42	31.50	47.39	1722.02	2590.42	54.663
30	-2.90	100	77	31.42	31.42	33.63	49.31	1732.97	2540.73	51.523
31	-3.00	100	78	31.42	31.42	35.91	51.26	1742.66	2487.32	48.524
32	-3.10	100	79	31.42	31.42	38.34	53.23	1751.41	2431.44	45.678
33	-3.20	100	80	31.42	31.42	40.93	55.22	1759.50	2374.11	42.990
34	-3.30	100	81	47.12	31.42	43.67	57.24	1785.52	2340.25	40.883
35	-3.40	100	82	47.12	31.42	46.59	59.28	1787.11	2274.26	38.362
36	-3.50	100	83	47.12	31.42	49.67	61.35	1788.45	2209.12	36.009
37	-3.60	100	84	47.12	31.42	52.92	63.44	1789.72	2145.29	33.817
38	-3.70	100	85	47.12	31.42	56.36	65.55	1791.05	2083.11	31.778
39	-3.80	100	86	47.12	31.42	59.98	67.69	1792.55	2022.81	29.885
40	-3.90	100	87	47.12	31.42	63.79	69.85	1794.28	1964.55	28.126
41	-4.00	100	88	47.12	31.42	67.80	72.03	1796.32	1908.43	26.495
42	-4.10	100	89	47.12	31.42	72.00	74.24	1798.71	1854.50	24.981
43	-4.20	100	90	47.12	31.42	76.41	76.47	1801.47	1802.77	23.575
44	-4.30	100	91	47.12	31.42	81.03	78.72	1804.64	1753.22	22.271
45	-4.40	100	92	47.12	62.83	85.86	81.00	3382.88	3191.30	39.398
46	-4.50	100	93	47.12	62.83	90.91	83.30	3406.90	3121.66	37.474
47	-4.60	100	93	47.12	62.83	96.19	85.63	3420.60	3045.06	35.562
48	-4.70	100	94	47.12	62.83	101.69	87.98	3435.09	2971.84	33.780
49	-4.80	100	95	47.12	62.83	107.43	90.35	3450.35	2901.87	32.118
50	-4.90	100	96	47.12	62.83	113.40	92.75	3466.36	2835.01	30.568
51	-5.00	100	97	47.12	62.83	119.62	95.16	3483.11	2771.12	29.119
52	-5.10	100	98	47.12	62.83	126.08	97.61	3500.56	2710.06	27.765
53	-5.20	100	99	47.12	62.83	132.80	100.08	3518.70	2651.69	26.497
54	-5.30	100	100	47.12	62.83	139.77	102.57	3537.50	2595.89	25.309
55	-5.40	100	101	47.12	62.83	147.01	105.08	3556.94	2542.51	24.196
56	-5.50	100	102	47.12	62.83	154.51	107.62	3576.99	2491.44	23.151
57	-5.60	100	103	47.12	62.83	162.28	110.18	3597.64	2442.56	22.169
58	-5.70	100	104	47.12	62.83	170.34	112.77	3618.86	2395.75	21.245
59	-5.80	100	105	47.12	62.83	178.67	115.37	3638.50	2349.53	20.365
60	-5.90	100	106	47.12	62.83	187.29	118.01	3654.29	2302.50	19.512
61	-6.00	100	107	47.12	62.83	196.20	120.66	3670.53	2257.39	18.708
62	-6.10	100	108	47.12	62.83	205.40	123.34	3687.19	2214.10	17.951
63	-6.20	100	109	47.12	62.83	214.91	126.05	3704.26	2172.54	17.236
64	-6.30	100	110	47.12	62.83	224.73	128.77	3721.72	2132.63	16.561
65	-6.40	100	110	47.12	62.83	234.85	131.52	3739.54	2094.27	15.923
66	-6.50	100	111	47.12	62.83	245.29	134.30	3757.72	2057.39	15.320
67	-6.60	100	112	47.12	62.83	256.05	137.10	3776.35	2021.98	14.749
68	-6.70	100	113	47.12	62.83	267.13	139.92	3795.37	1987.92	14.208
69	-6.80	100	114	47.12	62.83	278.54	142.76	3814.72	1955.15	13.695
70	-6.90	100	115	47.12	62.83	290.29	145.63	3834.40	1923.59	13.209
71	-7.00	100	116	47.12	62.83	302.38	148.52	3854.38	1893.19	12.747
72	-7.10	100	117	47.12	62.83	314.81	151.44	3874.67	1863.88	12.308
73	-7.20	100	118	47.12	62.83	327.60	154.38	3895.24	1835.62	11.890
74	-7.30	100	119	47.12	62.83	340.73	157.34	3916.08	1808.36	11.493
75	-7.40	100	120	47.12	62.83	354.23	160.33	3937.18	1782.04	11.115
76	-7.50	100	121	47.12	62.83	368.08	163.34	3958.54	1756.63	10.754
77	-7.60	100	122	47.12	62.83	382.31	166.37	3980.13	1732.07	10.411
78	-7.70	100	123	47.12	62.83	396.91	169.43	4001.96	1708.34	10.083
79	-7.80	100	124	47.12	62.83	411.89	172.51	4024.01	1685.39	9.770
80	-7.90	100	125	47.12	62.83	427.25	175.62	4046.27	1663.19	9.470
81	-8.00	100	126	47.12	62.83	443.00	178.75	4068.74	1641.71	9.185
82	-8.10	100	127	47.12	62.83	459.14	181.90	4091.41	1620.90	8.911
83	-8.20	100	128	62.83	62.83	475.68	185.08	4144.99	1612.71	8.714
84	-8.30	100	128	15.71	31.42	492.62	188.28	2118.55	809.69	4.301
85	-8.40	100	129	15.71	31.42	509.97	191.50	2129.56	799.67	4.176
86	-8.50	100	130	15.71	31.42	527.73	194.75	2140.66	789.95	4.056
87	-8.60	100	131	15.71	31.42	545.91	198.02	2151.85	780.53	3.942
88	-8.70	100	132	15.71	31.42	564.51	201.31	2163.11	771.39	3.832
89	-8.80	100	133	15.71	31.42	583.54	204.63	2174.45	762.51	3.726
90	-8.90	100	134	15.71	31.42	603.00	207.97	2185.87	753.89	3.625
91	-8.99	100	135	15.71	31.42	622.89	211.33	2195.31	744.82	3.524

Mensola valle

Combinazione n° 1 - STR (A1-M1-R3)

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
1	-0.75	100	50	12.57	15.71	0.00	0.00	0.00	0.00	100000.000
2	-0.67	100	50	12.57	15.71	-0.04	0.00	-254.16	0.00	5855.812
3	-0.58	100	50	12.57	15.71	-0.17	0.00	-254.16	0.00	1463.953
4	-0.50	100	50	12.57	15.71	-0.39	0.00	-254.16	0.00	650.646
5	-0.50	100	50	12.57	15.71	-0.39	0.00	-254.16	0.00	650.646

Combinazione n° 2 - STR (A1-M1-R3)

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
1	-0.75	100	50	12.57	15.71	0.00	0.00	0.00	0.00	100000.000
2	-0.67	100	50	12.57	15.71	-0.04	0.00	-254.16	0.00	5855.812
3	-0.58	100	50	12.57	15.71	-0.17	0.00	-254.16	0.00	1463.953
4	-0.50	100	50	12.57	15.71	-0.39	0.00	-254.16	0.00	650.646
5	-0.50	100	50	12.57	15.71	-0.39	0.00	-254.16	0.00	650.646

Combinazione n° 3 - STR (A1-M1-R3) H + V

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
1	-0.75	100	50	12.57	15.71	0.00	0.00	0.00	0.00	100000.000
2	-0.67	100	50	12.57	15.71	-0.05	0.00	-254.16	0.00	5521.778
3	-0.58	100	50	12.57	15.71	-0.18	0.00	-254.16	0.00	1380.444
4	-0.50	100	50	12.57	15.71	-0.41	0.00	-254.16	0.00	613.531
5	-0.50	100	50	12.57	15.71	-0.41	0.00	-254.16	0.00	613.531

Combinazione n° 4 - STR (A1-M1-R3) H - V

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
1	-0.75	100	50	12.57	15.71	0.00	0.00	0.00	0.00	100000.000
2	-0.67	100	50	12.57	15.71	-0.04	0.00	-254.16	0.00	5855.812
3	-0.58	100	50	12.57	15.71	-0.17	0.00	-254.16	0.00	1463.953
4	-0.50	100	50	12.57	15.71	-0.39	0.00	-254.16	0.00	650.646
5	-0.50	100	50	12.57	15.71	-0.39	0.00	-254.16	0.00	650.646

Combinazione n° 9 - ECC

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
1	-0.75	100	50	12.57	15.71	0.00	0.00	0.00	0.00	100000.000
2	-0.67	100	50	12.57	15.71	-0.04	0.00	-296.20	0.00	6824.491
3	-0.58	100	50	12.57	15.71	-0.17	0.00	-296.20	0.00	1706.123
4	-0.50	100	50	12.57	15.71	-0.39	0.00	-296.20	0.00	758.277
5	-0.50	100	50	12.57	15.71	-11.49	-11.10	-245.72	-237.36	21.384

Fondazione

Combinazione n° 1 - STR (A1-M1-R3)

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
1	-1.85	100	125	27.14	27.14	0.00	0.00	0.00	0.00	100000.000
2	-1.75	100	125	27.14	27.14	0.75	0.00	1211.06	0.00	1616.983
3	-1.66	100	125	27.14	27.14	3.00	0.00	1211.06	0.00	404.072
4	-1.56	100	125	27.14	27.14	6.75	0.00	1211.06	0.00	179.510
5	-1.46	100	125	27.14	27.14	12.00	0.00	1211.06	0.00	100.931
6	-1.37	100	125	27.14	27.14	18.76	0.00	1211.06	0.00	64.568
7	-1.27	100	125	27.14	27.14	27.02	0.00	1211.06	0.00	44.820
8	-1.18	100	125	27.14	27.14	36.79	0.00	1211.06	0.00	32.914
9	-1.08	100	125	27.14	27.14	48.08	0.00	1211.06	0.00	25.189
10	-0.98	100	125	27.14	27.14	60.88	0.00	1211.06	0.00	19.894
11	-0.89	100	125	27.14	27.14	75.19	0.00	1211.06	0.00	16.107
12	-0.79	100	125	27.14	27.14	91.02	0.00	1211.06	0.00	13.306

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
13	-0.69	100	125	27.14	27.14	108.36	0.00	1211.06	0.00	11.176
14	-0.60	100	125	27.14	27.14	127.23	0.00	1211.06	0.00	9.519
15	-0.50	100	125	27.14	27.14	147.62	0.00	1211.06	0.00	8.204
16	0.85	100	125	27.14	27.14	-763.76	0.00	-1211.06	0.00	1.586
17	0.95	100	125	27.14	27.14	-733.73	0.00	-1211.06	0.00	1.651
18	1.05	100	125	27.14	27.14	-704.34	0.00	-1211.06	0.00	1.719
19	1.15	100	125	27.14	27.14	-675.58	0.00	-1211.06	0.00	1.793
20	1.25	100	125	27.14	27.14	-647.45	0.00	-1211.06	0.00	1.870
21	1.35	100	125	27.14	27.14	-619.96	0.00	-1211.06	0.00	1.953
22	1.45	100	125	27.14	27.14	-593.10	0.00	-1211.06	0.00	2.042
23	1.55	100	125	27.14	27.14	-566.86	0.00	-1211.06	0.00	2.136
24	1.65	100	125	27.14	27.14	-541.25	0.00	-1211.06	0.00	2.238
25	1.75	100	125	27.14	27.14	-516.26	0.00	-1211.06	0.00	2.346
26	1.85	100	125	27.14	27.14	-491.89	0.00	-1211.06	0.00	2.462
27	1.95	100	125	27.14	27.14	-468.14	0.00	-1211.06	0.00	2.587
28	2.05	100	125	27.14	27.14	-445.01	0.00	-1211.06	0.00	2.721
29	2.15	100	125	27.14	27.14	-422.49	0.00	-1211.06	0.00	2.866
30	2.25	100	125	27.14	27.14	-400.58	0.00	-1211.06	0.00	3.023
31	2.35	100	125	27.14	27.14	-379.28	0.00	-1211.06	0.00	3.193
32	2.45	100	125	27.14	27.14	-358.59	0.00	-1211.06	0.00	3.377
33	2.55	100	125	27.14	27.14	-338.50	0.00	-1211.06	0.00	3.578
34	2.65	100	125	27.14	27.14	-319.02	0.00	-1211.06	0.00	3.796
35	2.75	100	125	27.14	27.14	-300.14	0.00	-1211.06	0.00	4.035
36	2.85	100	125	27.14	27.14	-281.85	0.00	-1211.06	0.00	4.297
37	2.95	100	125	27.14	27.14	-264.17	0.00	-1211.06	0.00	4.584
38	3.05	100	125	27.14	27.14	-247.07	0.00	-1211.06	0.00	4.902
39	3.15	100	125	27.14	27.14	-230.57	0.00	-1211.06	0.00	5.252
40	3.25	100	125	27.14	27.14	-214.66	0.00	-1211.06	0.00	5.642
41	3.35	100	125	27.14	27.14	-199.34	0.00	-1211.06	0.00	6.075
42	3.45	100	125	27.14	27.14	-184.61	0.00	-1211.06	0.00	6.560
43	3.55	100	125	27.14	27.14	-170.45	0.00	-1211.06	0.00	7.105
44	3.65	100	125	27.14	27.14	-156.88	0.00	-1211.06	0.00	7.720
45	3.75	100	125	27.14	27.14	-143.89	0.00	-1211.06	0.00	8.417
46	3.85	100	125	27.14	27.14	-131.48	0.00	-1211.06	0.00	9.211
47	3.95	100	125	27.14	27.14	-119.64	0.00	-1211.06	0.00	10.123
48	4.05	100	125	27.14	27.14	-108.37	0.00	-1211.06	0.00	11.175
49	4.15	100	125	27.14	27.14	-97.67	0.00	-1211.06	0.00	12.399
50	4.25	100	125	27.14	27.14	-87.55	0.00	-1211.06	0.00	13.833
51	4.35	100	125	27.14	27.14	-77.98	0.00	-1211.06	0.00	15.530
52	4.45	100	125	27.14	27.14	-68.99	0.00	-1211.06	0.00	17.555
53	4.55	100	125	27.14	27.14	-60.55	0.00	-1211.06	0.00	20.000
54	4.65	100	125	27.14	27.14	-52.68	0.00	-1211.06	0.00	22.990
55	4.75	100	125	27.14	27.14	-45.36	0.00	-1211.06	0.00	26.699
56	4.85	100	125	27.14	27.14	-38.60	0.00	-1211.06	0.00	31.376
57	4.95	100	125	27.14	27.14	-32.39	0.00	-1211.06	0.00	37.391
58	5.05	100	125	27.14	27.14	-26.73	0.00	-1211.06	0.00	45.304
59	5.15	100	125	27.14	27.14	-21.62	0.00	-1211.06	0.00	56.006
60	5.25	100	125	27.14	27.14	-17.06	0.00	-1211.06	0.00	70.979
61	5.35	100	125	27.14	27.14	-13.05	0.00	-1211.06	0.00	92.832
62	5.45	100	125	27.14	27.14	-9.57	0.00	-1211.06	0.00	126.526
63	5.55	100	125	27.14	27.14	-6.64	0.00	-1211.06	0.00	182.445
64	5.65	100	125	27.14	27.14	-4.24	0.00	-1211.06	0.00	285.458
65	5.75	100	125	27.14	27.14	-2.38	0.00	-1211.06	0.00	508.171
66	5.85	100	125	27.14	27.14	-1.06	0.00	-1211.06	0.00	1144.943
67	5.95	100	125	27.14	27.14	-0.26	0.00	-1211.06	0.00	4586.020
68	6.05	100	125	0.00	0.00	0.00	0.00	0.00	0.00	100000.000

Combinazione n° 2 - STR (A1-M1-R3)

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
1	-1.85	100	125	27.14	27.14	0.00	0.00	0.00	0.00	100000.000
2	-1.75	100	125	27.14	27.14	0.82	0.00	1211.06	0.00	1474.486
3	-1.66	100	125	27.14	27.14	3.29	0.00	1211.06	0.00	368.394
4	-1.56	100	125	27.14	27.14	7.40	0.00	1211.06	0.00	163.630
5	-1.46	100	125	27.14	27.14	13.17	0.00	1211.06	0.00	91.985
6	-1.37	100	125	27.14	27.14	20.58	0.00	1211.06	0.00	58.834
7	-1.27	100	125	27.14	27.14	29.66	0.00	1211.06	0.00	40.832
8	-1.18	100	125	27.14	27.14	40.40	0.00	1211.06	0.00	29.980
9	-1.08	100	125	27.14	27.14	52.79	0.00	1211.06	0.00	22.940
10	-0.98	100	125	27.14	27.14	66.86	0.00	1211.06	0.00	18.114
11	-0.89	100	125	27.14	27.14	82.59	0.00	1211.06	0.00	14.663
12	-0.79	100	125	27.14	27.14	100.00	0.00	1211.06	0.00	12.111
13	-0.69	100	125	27.14	27.14	119.08	0.00	1211.06	0.00	10.170
14	-0.60	100	125	27.14	27.14	139.84	0.00	1211.06	0.00	8.661
15	-0.50	100	125	27.14	27.14	162.28	0.00	1211.06	0.00	7.463
16	0.85	100	125	27.14	27.14	-778.09	0.00	-1211.06	0.00	1.556
17	0.95	100	125	27.14	27.14	-744.57	0.00	-1211.06	0.00	1.627
18	1.05	100	125	27.14	27.14	-711.85	0.00	-1211.06	0.00	1.701
19	1.15	100	125	27.14	27.14	-679.90	0.00	-1211.06	0.00	1.781
20	1.25	100	125	27.14	27.14	-648.73	0.00	-1211.06	0.00	1.867
21	1.35	100	125	27.14	27.14	-618.33	0.00	-1211.06	0.00	1.959

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
22	1.45	100	125	27.14	27.14	-588.71	0.00	-1211.06	0.00	2.057
23	1.55	100	125	27.14	27.14	-559.85	0.00	-1211.06	0.00	2.163
24	1.65	100	125	27.14	27.14	-531.75	0.00	-1211.06	0.00	2.277
25	1.75	100	125	27.14	27.14	-504.42	0.00	-1211.06	0.00	2.401
26	1.85	100	125	27.14	27.14	-477.84	0.00	-1211.06	0.00	2.534
27	1.95	100	125	27.14	27.14	-452.02	0.00	-1211.06	0.00	2.679
28	2.05	100	125	27.14	27.14	-426.94	0.00	-1211.06	0.00	2.837
29	2.15	100	125	27.14	27.14	-402.61	0.00	-1211.06	0.00	3.008
30	2.25	100	125	27.14	27.14	-379.03	0.00	-1211.06	0.00	3.195
31	2.35	100	125	27.14	27.14	-356.18	0.00	-1211.06	0.00	3.400
32	2.45	100	125	27.14	27.14	-334.07	0.00	-1211.06	0.00	3.625
33	2.55	100	125	27.14	27.14	-312.70	0.00	-1211.06	0.00	3.873
34	2.65	100	125	27.14	27.14	-292.05	0.00	-1211.06	0.00	4.147
35	2.75	100	125	27.14	27.14	-272.13	0.00	-1211.06	0.00	4.450
36	2.85	100	125	27.14	27.14	-252.94	0.00	-1211.06	0.00	4.788
37	2.95	100	125	27.14	27.14	-234.46	0.00	-1211.06	0.00	5.165
38	3.05	100	125	27.14	27.14	-217.91	0.00	-1211.06	0.00	5.558
39	3.15	100	125	27.14	27.14	-203.13	0.00	-1211.06	0.00	5.962
40	3.25	100	125	27.14	27.14	-188.90	0.00	-1211.06	0.00	6.411
41	3.35	100	125	27.14	27.14	-175.22	0.00	-1211.06	0.00	6.912
42	3.45	100	125	27.14	27.14	-162.08	0.00	-1211.06	0.00	7.472
43	3.55	100	125	27.14	27.14	-149.48	0.00	-1211.06	0.00	8.102
44	3.65	100	125	27.14	27.14	-137.42	0.00	-1211.06	0.00	8.813
45	3.75	100	125	27.14	27.14	-125.89	0.00	-1211.06	0.00	9.620
46	3.85	100	125	27.14	27.14	-114.89	0.00	-1211.06	0.00	10.541
47	3.95	100	125	27.14	27.14	-104.42	0.00	-1211.06	0.00	11.598
48	4.05	100	125	27.14	27.14	-94.46	0.00	-1211.06	0.00	12.820
49	4.15	100	125	27.14	27.14	-85.03	0.00	-1211.06	0.00	14.242
50	4.25	100	125	27.14	27.14	-76.12	0.00	-1211.06	0.00	15.911
51	4.35	100	125	27.14	27.14	-67.71	0.00	-1211.06	0.00	17.885
52	4.45	100	125	27.14	27.14	-59.82	0.00	-1211.06	0.00	20.245
53	4.55	100	125	27.14	27.14	-52.43	0.00	-1211.06	0.00	23.098
54	4.65	100	125	27.14	27.14	-45.55	0.00	-1211.06	0.00	26.590
55	4.75	100	125	27.14	27.14	-39.16	0.00	-1211.06	0.00	30.927
56	4.85	100	125	27.14	27.14	-33.27	0.00	-1211.06	0.00	36.403
57	4.95	100	125	27.14	27.14	-27.87	0.00	-1211.06	0.00	43.455
58	5.05	100	125	27.14	27.14	-22.96	0.00	-1211.06	0.00	52.748
59	5.15	100	125	27.14	27.14	-18.53	0.00	-1211.06	0.00	65.340
60	5.25	100	125	27.14	27.14	-14.59	0.00	-1211.06	0.00	82.992
61	5.35	100	125	27.14	27.14	-11.13	0.00	-1211.06	0.00	108.823
62	5.45	100	125	27.14	27.14	-8.14	0.00	-1211.06	0.00	148.774
63	5.55	100	125	27.14	27.14	-5.62	0.00	-1211.06	0.00	215.350
64	5.65	100	125	27.14	27.14	-3.58	0.00	-1211.06	0.00	338.703
65	5.75	100	125	27.14	27.14	-1.99	0.00	-1211.06	0.00	607.793
66	5.85	100	125	27.14	27.14	-0.87	0.00	-1211.06	0.00	1390.089
67	5.95	100	125	27.14	27.14	-0.21	0.00	-1211.06	0.00	5817.966
68	6.05	100	125	0.00	0.00	0.00	0.00	0.00	0.00	100000.000

Combinazione n° 3 - STR (A1-M1-R3) H + V

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
1	-1.85	100	125	27.14	27.14	0.00	0.00	0.00	0.00	100000.000
2	-1.75	100	125	27.14	27.14	1.22	0.00	1211.06	0.00	990.986
3	-1.66	100	125	27.14	27.14	4.88	0.00	1211.06	0.00	248.383
4	-1.56	100	125	27.14	27.14	10.94	0.00	1211.06	0.00	110.677
5	-1.46	100	125	27.14	27.14	19.40	0.00	1211.06	0.00	62.417
6	-1.37	100	125	27.14	27.14	30.24	0.00	1211.06	0.00	40.050
7	-1.27	100	125	27.14	27.14	43.43	0.00	1211.06	0.00	27.885
8	-1.18	100	125	27.14	27.14	58.96	0.00	1211.06	0.00	20.540
9	-1.08	100	125	27.14	27.14	76.81	0.00	1211.06	0.00	15.767
10	-0.98	100	125	27.14	27.14	96.96	0.00	1211.06	0.00	12.491
11	-0.89	100	125	27.14	27.14	119.39	0.00	1211.06	0.00	10.144
12	-0.79	100	125	27.14	27.14	144.08	0.00	1211.06	0.00	8.405
13	-0.69	100	125	27.14	27.14	171.02	0.00	1211.06	0.00	7.082
14	-0.60	100	125	27.14	27.14	200.18	0.00	1211.06	0.00	6.050
15	-0.50	100	125	27.14	27.14	231.54	0.00	1211.06	0.00	5.230
16	0.85	100	125	27.14	27.14	-497.39	0.00	-1211.06	0.00	2.435
17	0.95	100	125	27.14	27.14	-487.54	0.00	-1211.06	0.00	2.484
18	1.05	100	125	27.14	27.14	-477.34	0.00	-1211.06	0.00	2.537
19	1.15	100	125	27.14	27.14	-466.83	0.00	-1211.06	0.00	2.594
20	1.25	100	125	27.14	27.14	-456.02	0.00	-1211.06	0.00	2.656
21	1.35	100	125	27.14	27.14	-444.94	0.00	-1211.06	0.00	2.722
22	1.45	100	125	27.14	27.14	-433.60	0.00	-1211.06	0.00	2.793
23	1.55	100	125	27.14	27.14	-422.03	0.00	-1211.06	0.00	2.870
24	1.65	100	125	27.14	27.14	-410.25	0.00	-1211.06	0.00	2.952
25	1.75	100	125	27.14	27.14	-398.27	0.00	-1211.06	0.00	3.041
26	1.85	100	125	27.14	27.14	-386.13	0.00	-1211.06	0.00	3.136
27	1.95	100	125	27.14	27.14	-373.84	0.00	-1211.06	0.00	3.240
28	2.05	100	125	27.14	27.14	-361.41	0.00	-1211.06	0.00	3.351
29	2.15	100	125	27.14	27.14	-348.88	0.00	-1211.06	0.00	3.471
30	2.25	100	125	27.14	27.14	-336.27	0.00	-1211.06	0.00	3.601

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
31	2.35	100	125	27.14	27.14	-323.59	0.00	-1211.06	0.00	3.743
32	2.45	100	125	27.14	27.14	-310.86	0.00	-1211.06	0.00	3.896
33	2.55	100	125	27.14	27.14	-298.11	0.00	-1211.06	0.00	4.062
34	2.65	100	125	27.14	27.14	-285.36	0.00	-1211.06	0.00	4.244
35	2.75	100	125	27.14	27.14	-272.63	0.00	-1211.06	0.00	4.442
36	2.85	100	125	27.14	27.14	-259.93	0.00	-1211.06	0.00	4.659
37	2.95	100	125	27.14	27.14	-247.30	0.00	-1211.06	0.00	4.897
38	3.05	100	125	27.14	27.14	-234.75	0.00	-1211.06	0.00	5.159
39	3.15	100	125	27.14	27.14	-222.30	0.00	-1211.06	0.00	5.448
40	3.25	100	125	27.14	27.14	-209.97	0.00	-1211.06	0.00	5.768
41	3.35	100	125	27.14	27.14	-197.79	0.00	-1211.06	0.00	6.123
42	3.45	100	125	27.14	27.14	-185.77	0.00	-1211.06	0.00	6.519
43	3.55	100	125	27.14	27.14	-173.94	0.00	-1211.06	0.00	6.963
44	3.65	100	125	27.14	27.14	-162.32	0.00	-1211.06	0.00	7.461
45	3.75	100	125	27.14	27.14	-150.92	0.00	-1211.06	0.00	8.025
46	3.85	100	125	27.14	27.14	-139.77	0.00	-1211.06	0.00	8.664
47	3.95	100	125	27.14	27.14	-128.90	0.00	-1211.06	0.00	9.396
48	4.05	100	125	27.14	27.14	-118.31	0.00	-1211.06	0.00	10.236
49	4.15	100	125	27.14	27.14	-108.04	0.00	-1211.06	0.00	11.210
50	4.25	100	125	27.14	27.14	-98.10	0.00	-1211.06	0.00	12.346
51	4.35	100	125	27.14	27.14	-88.51	0.00	-1211.06	0.00	13.683
52	4.45	100	125	27.14	27.14	-79.30	0.00	-1211.06	0.00	15.272
53	4.55	100	125	27.14	27.14	-70.48	0.00	-1211.06	0.00	17.183
54	4.65	100	125	27.14	27.14	-62.08	0.00	-1211.06	0.00	19.507
55	4.75	100	125	27.14	27.14	-54.12	0.00	-1211.06	0.00	22.377
56	4.85	100	125	27.14	27.14	-46.62	0.00	-1211.06	0.00	25.979
57	4.95	100	125	27.14	27.14	-39.59	0.00	-1211.06	0.00	30.586
58	5.05	100	125	27.14	27.14	-33.07	0.00	-1211.06	0.00	36.618
59	5.15	100	125	27.14	27.14	-27.07	0.00	-1211.06	0.00	44.735
60	5.25	100	125	27.14	27.14	-21.61	0.00	-1211.06	0.00	56.032
61	5.35	100	125	27.14	27.14	-16.72	0.00	-1211.06	0.00	72.435
62	5.45	100	125	27.14	27.14	-12.41	0.00	-1211.06	0.00	97.593
63	5.55	100	125	27.14	27.14	-8.70	0.00	-1211.06	0.00	139.123
64	5.65	100	125	27.14	27.14	-5.63	0.00	-1211.06	0.00	215.220
65	5.75	100	125	27.14	27.14	-3.20	0.00	-1211.06	0.00	378.849
66	5.85	100	125	27.14	27.14	-1.43	0.00	-1211.06	0.00	844.106
67	5.95	100	125	27.14	27.14	-0.36	0.00	-1211.06	0.00	3343.844
68	6.05	100	125	0.00	0.00	0.00	0.00	0.00	0.00	100000.000

Combinazione n° 4 - STR (A1-M1-R3) H - V

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
1	-1.85	100	125	27.14	27.14	0.00	0.00	0.00	0.00	100000.000
2	-1.75	100	125	27.14	27.14	1.11	0.00	1211.06	0.00	1091.356
3	-1.66	100	125	27.14	27.14	4.43	0.00	1211.06	0.00	273.602
4	-1.56	100	125	27.14	27.14	9.93	0.00	1211.06	0.00	121.942
5	-1.46	100	125	27.14	27.14	17.61	0.00	1211.06	0.00	68.785
6	-1.37	100	125	27.14	27.14	27.43	0.00	1211.06	0.00	44.147
7	-1.27	100	125	27.14	27.14	39.39	0.00	1211.06	0.00	30.744
8	-1.18	100	125	27.14	27.14	53.46	0.00	1211.06	0.00	22.652
9	-1.08	100	125	27.14	27.14	69.63	0.00	1211.06	0.00	17.392
10	-0.98	100	125	27.14	27.14	87.88	0.00	1211.06	0.00	13.781
11	-0.89	100	125	27.14	27.14	108.18	0.00	1211.06	0.00	11.195
12	-0.79	100	125	27.14	27.14	130.53	0.00	1211.06	0.00	9.278
13	-0.69	100	125	27.14	27.14	154.89	0.00	1211.06	0.00	7.819
14	-0.60	100	125	27.14	27.14	181.26	0.00	1211.06	0.00	6.681
15	-0.50	100	125	27.14	27.14	209.61	0.00	1211.06	0.00	5.778
16	0.85	100	125	27.14	27.14	-802.73	0.00	-1211.06	0.00	1.509
17	0.95	100	125	27.14	27.14	-781.13	0.00	-1211.06	0.00	1.550
18	1.05	100	125	27.14	27.14	-759.43	0.00	-1211.06	0.00	1.595
19	1.15	100	125	27.14	27.14	-737.64	0.00	-1211.06	0.00	1.642
20	1.25	100	125	27.14	27.14	-715.79	0.00	-1211.06	0.00	1.692
21	1.35	100	125	27.14	27.14	-693.90	0.00	-1211.06	0.00	1.745
22	1.45	100	125	27.14	27.14	-671.99	0.00	-1211.06	0.00	1.802
23	1.55	100	125	27.14	27.14	-650.08	0.00	-1211.06	0.00	1.863
24	1.65	100	125	27.14	27.14	-628.19	0.00	-1211.06	0.00	1.928
25	1.75	100	125	27.14	27.14	-606.34	0.00	-1211.06	0.00	1.997
26	1.85	100	125	27.14	27.14	-584.56	0.00	-1211.06	0.00	2.072
27	1.95	100	125	27.14	27.14	-562.86	0.00	-1211.06	0.00	2.152
28	2.05	100	125	27.14	27.14	-541.26	0.00	-1211.06	0.00	2.238
29	2.15	100	125	27.14	27.14	-519.78	0.00	-1211.06	0.00	2.330
30	2.25	100	125	27.14	27.14	-498.45	0.00	-1211.06	0.00	2.430
31	2.35	100	125	27.14	27.14	-477.29	0.00	-1211.06	0.00	2.537
32	2.45	100	125	27.14	27.14	-456.31	0.00	-1211.06	0.00	2.654
33	2.55	100	125	27.14	27.14	-435.54	0.00	-1211.06	0.00	2.781
34	2.65	100	125	27.14	27.14	-415.00	0.00	-1211.06	0.00	2.918
35	2.75	100	125	27.14	27.14	-394.70	0.00	-1211.06	0.00	3.068
36	2.85	100	125	27.14	27.14	-374.68	0.00	-1211.06	0.00	3.232
37	2.95	100	125	27.14	27.14	-354.94	0.00	-1211.06	0.00	3.412
38	3.05	100	125	27.14	27.14	-335.52	0.00	-1211.06	0.00	3.610
39	3.15	100	125	27.14	27.14	-316.43	0.00	-1211.06	0.00	3.827

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
40	3.25	100	125	27.14	27.14	-297.69	0.00	-1211.06	0.00	4.068
41	3.35	100	125	27.14	27.14	-279.32	0.00	-1211.06	0.00	4.336
42	3.45	100	125	27.14	27.14	-261.35	0.00	-1211.06	0.00	4.634
43	3.55	100	125	27.14	27.14	-243.79	0.00	-1211.06	0.00	4.968
44	3.65	100	125	27.14	27.14	-226.66	0.00	-1211.06	0.00	5.343
45	3.75	100	125	27.14	27.14	-209.99	0.00	-1211.06	0.00	5.767
46	3.85	100	125	27.14	27.14	-193.80	0.00	-1211.06	0.00	6.249
47	3.95	100	125	27.14	27.14	-178.10	0.00	-1211.06	0.00	6.800
48	4.05	100	125	27.14	27.14	-162.93	0.00	-1211.06	0.00	7.433
49	4.15	100	125	27.14	27.14	-148.29	0.00	-1211.06	0.00	8.167
50	4.25	100	125	27.14	27.14	-134.21	0.00	-1211.06	0.00	9.024
51	4.35	100	125	27.14	27.14	-120.71	0.00	-1211.06	0.00	10.033
52	4.45	100	125	27.14	27.14	-107.81	0.00	-1211.06	0.00	11.234
53	4.55	100	125	27.14	27.14	-95.53	0.00	-1211.06	0.00	12.677
54	4.65	100	125	27.14	27.14	-83.89	0.00	-1211.06	0.00	14.436
55	4.75	100	125	27.14	27.14	-72.92	0.00	-1211.06	0.00	16.608
56	4.85	100	125	27.14	27.14	-62.63	0.00	-1211.06	0.00	19.337
57	4.95	100	125	27.14	27.14	-53.04	0.00	-1211.06	0.00	22.831
58	5.05	100	125	27.14	27.14	-44.18	0.00	-1211.06	0.00	27.410
59	5.15	100	125	27.14	27.14	-36.07	0.00	-1211.06	0.00	33.577
60	5.25	100	125	27.14	27.14	-28.72	0.00	-1211.06	0.00	42.170
61	5.35	100	125	27.14	27.14	-22.16	0.00	-1211.06	0.00	54.658
62	5.45	100	125	27.14	27.14	-16.40	0.00	-1211.06	0.00	73.832
63	5.55	100	125	27.14	27.14	-11.48	0.00	-1211.06	0.00	105.519
64	5.65	100	125	27.14	27.14	-7.40	0.00	-1211.06	0.00	163.643
65	5.75	100	125	27.14	27.14	-4.19	0.00	-1211.06	0.00	288.767
66	5.85	100	125	27.14	27.14	-1.88	0.00	-1211.06	0.00	644.948
67	5.95	100	125	27.14	27.14	-0.47	0.00	-1211.06	0.00	2560.964
68	6.05	100	125	0.00	0.00	0.00	0.00	0.00	0.00	100000.000

Combinazione n° 9 - ECC

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
1	-1.85	100	125	27.14	27.14	0.00	0.00	0.00	0.00	100000.000
2	-1.75	100	125	27.14	27.14	0.72	0.00	1398.26	0.00	1928.876
3	-1.66	100	125	27.14	27.14	2.90	0.00	1398.26	0.00	481.982
4	-1.56	100	125	27.14	27.14	6.53	0.00	1398.26	0.00	214.109
5	-1.46	100	125	27.14	27.14	11.62	0.00	1398.26	0.00	120.377
6	-1.37	100	125	27.14	27.14	18.16	0.00	1398.26	0.00	77.003
7	-1.27	100	125	27.14	27.14	26.16	0.00	1398.26	0.00	53.448
8	-1.18	100	125	27.14	27.14	35.63	0.00	1398.26	0.00	39.249
9	-1.08	100	125	27.14	27.14	46.55	0.00	1398.26	0.00	30.035
10	-0.98	100	125	27.14	27.14	58.95	0.00	1398.26	0.00	23.720
11	-0.89	100	125	27.14	27.14	72.81	0.00	1398.26	0.00	19.204
12	-0.79	100	125	27.14	27.14	88.15	0.00	1398.26	0.00	15.863
13	-0.69	100	125	27.14	27.14	104.95	0.00	1398.26	0.00	13.323
14	-0.60	100	125	27.14	27.14	123.23	0.00	1398.26	0.00	11.346
15	-0.50	100	125	27.14	27.14	142.99	0.00	1398.26	0.00	9.779
16	0.85	100	125	27.14	27.14	-5.61	0.00	-1398.26	0.00	249.268
17	0.95	100	125	27.14	27.14	-4.36	0.00	-1398.26	0.00	320.729
18	1.05	100	125	27.14	27.14	-3.19	0.00	-1398.26	0.00	437.719
19	1.15	100	125	27.14	27.14	-2.11	0.00	-1398.26	0.00	662.228
20	1.25	100	125	27.14	27.14	-1.11	0.00	-1398.26	0.00	1261.619
21	1.35	100	125	27.14	27.14	-0.18	0.00	-1398.26	0.00	7656.907
22	1.45	100	125	27.14	27.14	0.67	0.00	1398.26	0.00	2093.143
23	1.55	100	125	27.14	27.14	1.45	0.00	1398.26	0.00	966.995
24	1.65	100	125	27.14	27.14	2.15	0.00	1398.26	0.00	649.245
25	1.75	100	125	27.14	27.14	2.79	0.00	1398.26	0.00	500.546
26	1.85	100	125	27.14	27.14	3.37	0.00	1398.26	0.00	415.188
27	1.95	100	125	27.14	27.14	3.88	0.00	1398.26	0.00	360.472
28	2.05	100	125	27.14	27.14	4.33	0.00	1398.26	0.00	322.965
29	2.15	100	125	27.14	27.14	4.72	0.00	1398.26	0.00	296.141
30	2.25	100	125	27.14	27.14	5.06	0.00	1398.26	0.00	276.456
31	2.35	100	125	27.14	27.14	5.34	0.00	1398.26	0.00	261.823
32	2.45	100	125	27.14	27.14	5.57	0.00	1398.26	0.00	250.945
33	2.55	100	125	27.14	27.14	5.75	0.00	1398.26	0.00	242.976
34	2.65	100	125	27.14	27.14	5.89	0.00	1398.26	0.00	237.351
35	2.75	100	125	27.14	27.14	5.98	0.00	1398.26	0.00	233.687
36	2.85	100	125	27.14	27.14	6.03	0.00	1398.26	0.00	231.720
37	2.95	100	125	27.14	27.14	6.05	0.00	1398.26	0.00	231.276
38	3.05	100	125	27.14	27.14	6.02	0.00	1398.26	0.00	232.245
39	3.15	100	125	27.14	27.14	5.96	0.00	1398.26	0.00	234.570
40	3.25	100	125	27.14	27.14	5.87	0.00	1398.26	0.00	238.234
41	3.35	100	125	27.14	27.14	5.75	0.00	1398.26	0.00	243.263
42	3.45	100	125	27.14	27.14	5.60	0.00	1398.26	0.00	249.719
43	3.55	100	125	27.14	27.14	5.43	0.00	1398.26	0.00	257.702
44	3.65	100	125	27.14	27.14	5.23	0.00	1398.26	0.00	267.356
45	3.75	100	125	27.14	27.14	5.01	0.00	1398.26	0.00	278.874
46	3.85	100	125	27.14	27.14	4.78	0.00	1398.26	0.00	292.509
47	3.95	100	125	27.14	27.14	4.53	0.00	1398.26	0.00	308.583
48	4.05	100	125	27.14	27.14	4.27	0.00	1398.26	0.00	327.515

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
49	4.15	100	125	27.14	27.14	4.00	0.00	1398.26	0.00	349.840
50	4.25	100	125	27.14	27.14	3.72	0.00	1398.26	0.00	376.253
51	4.35	100	125	27.14	27.14	3.43	0.00	1398.26	0.00	407.661
52	4.45	100	125	27.14	27.14	3.14	0.00	1398.26	0.00	445.266
53	4.55	100	125	27.14	27.14	2.85	0.00	1398.26	0.00	490.679
54	4.65	100	125	27.14	27.14	2.56	0.00	1398.26	0.00	546.102
55	4.75	100	125	27.14	27.14	2.28	0.00	1398.26	0.00	614.607
56	4.85	100	125	27.14	27.14	2.00	0.00	1398.26	0.00	700.578
57	4.95	100	125	27.14	27.14	1.73	0.00	1398.26	0.00	810.451
58	5.05	100	125	27.14	27.14	1.47	0.00	1398.26	0.00	953.993
59	5.15	100	125	27.14	27.14	1.22	0.00	1398.26	0.00	1146.605
60	5.25	100	125	27.14	27.14	0.99	0.00	1398.26	0.00	1413.763
61	5.35	100	125	27.14	27.14	0.78	0.00	1398.26	0.00	1800.143
62	5.45	100	125	27.14	27.14	0.59	0.00	1398.26	0.00	2390.130
63	5.55	100	125	27.14	27.14	0.42	0.00	1398.26	0.00	3359.433
64	5.65	100	125	27.14	27.14	0.27	0.00	1398.26	0.00	5126.450
65	5.75	100	125	27.14	27.14	0.16	0.00	1398.26	0.00	8905.578
66	5.85	100	125	27.14	27.14	0.07	0.00	1398.26	0.00	19590.208
67	5.95	100	125	27.14	27.14	0.02	0.00	1398.26	0.00	76649.616
68	6.05	100	125	0.00	0.00	0.00	0.00	0.00	0.00	100000.000

Verifiche a taglio

Simbologia adottata

n° (o Is)	indice sezione
Y	ordinata sezione espressa in [m]
B	larghezza sezione espresso in [cm]
H	altezza sezione espressa in [cm]
A_{sw}	area ferri a taglio espresso in [cmq]
cotgθ	inclinazione delle bielle compresse, θ inclinazione dei puntoni di calcestruzzo
V_{Rcd}	resistenza di progetto a 'taglio compressione' espressa in [kN]
V_{Rsd}	resistenza di progetto a 'taglio trazione' espressa in [kN]
V_{Rd}	resistenza di progetto a taglio espresso in [kN]. Per elementi con armature trasversali resistenti al taglio (A_{sw}>0.0) $V_{Rd}=\min(V_{Rcd}, V_{Rsd})$.
T	taglio agente espressa in [kN]
FS	fattore di sicurezza (rapporto tra sollecitazione resistente e sollecitazione agente)

Paramento

Combinazione n° 1 - STR (A1-M1-R3)

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
1	0.00	100	50	0.00	0.00	--	0.00	0.00	296.28	0.00	100.000
2	-0.10	100	51	0.00	0.00	--	0.00	0.00	299.34	0.03	9273.652
3	-0.20	100	52	0.00	0.00	--	0.00	0.00	302.38	0.13	2341.955
4	-0.30	100	53	0.00	0.00	--	0.00	0.00	305.40	0.29	1054.144
5	-0.40	100	54	0.00	0.00	--	0.00	0.00	308.41	0.51	600.841
6	-0.50	100	55	0.00	0.00	--	0.00	0.00	311.39	0.80	389.124
7	-0.60	100	56	0.00	0.00	--	0.00	0.00	314.36	1.15	273.130
8	-0.70	100	57	0.00	0.00	--	0.00	0.00	317.30	1.57	202.698
9	-0.80	100	58	0.00	0.00	--	0.00	0.00	320.24	2.04	156.699
10	-0.90	100	59	0.00	0.00	--	0.00	0.00	323.15	2.59	124.980
11	-1.00	100	59	0.00	0.00	--	0.00	0.00	326.05	3.19	102.167
12	-1.10	100	60	0.00	0.00	--	0.00	0.00	328.94	3.86	85.198
13	-1.20	100	61	0.00	0.00	--	0.00	0.00	331.81	4.59	72.224
14	-1.30	100	62	0.00	0.00	--	0.00	0.00	334.67	5.39	62.077
15	-1.40	100	63	0.00	0.00	--	0.00	0.00	337.52	6.25	53.985
16	-1.50	100	64	0.00	0.00	--	0.00	0.00	340.35	7.18	47.424
17	-1.60	100	65	0.00	0.00	--	0.00	0.00	343.17	8.17	42.029
18	-1.70	100	66	0.00	0.00	--	0.00	0.00	345.97	9.22	37.536

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
19	-1.80	100	67	0.00	0.00	--	0.00	0.00	348.77	10.33	33.753
20	-1.90	100	68	0.00	0.00	--	0.00	0.00	351.55	11.51	30.536
21	-2.00	100	69	0.00	0.00	--	0.00	0.00	354.32	12.76	27.777
22	-2.10	100	70	0.00	0.00	--	0.00	0.00	357.08	14.06	25.391
23	-2.20	100	71	0.00	0.00	--	0.00	0.00	359.83	15.43	23.314
24	-2.30	100	72	0.00	0.00	--	0.00	0.00	362.57	16.87	21.493
25	-2.40	100	73	0.00	0.00	--	0.00	0.00	365.30	18.37	19.888
26	-2.50	100	74	0.00	0.00	--	0.00	0.00	368.02	19.93	18.466
27	-2.60	100	75	0.00	0.00	--	0.00	0.00	370.73	21.56	17.199
28	-2.70	100	76	0.00	0.00	--	0.00	0.00	373.43	23.25	16.065
29	-2.80	100	76	0.00	0.00	--	0.00	0.00	376.12	25.00	15.045
30	-2.90	100	77	0.00	0.00	--	0.00	0.00	378.80	26.82	14.126
31	-3.00	100	78	0.00	0.00	--	0.00	0.00	381.47	28.70	13.293
32	-3.10	100	79	0.00	0.00	--	0.00	0.00	384.14	30.64	12.536
33	-3.20	100	80	0.00	0.00	--	0.00	0.00	386.79	32.65	11.846
34	-3.30	100	81	0.00	0.00	--	0.00	0.00	418.89	34.72	12.064
35	-3.40	100	82	0.00	0.00	--	0.00	0.00	421.71	36.86	11.441
36	-3.50	100	83	0.00	0.00	--	0.00	0.00	424.53	39.06	10.869
37	-3.60	100	84	0.00	0.00	--	0.00	0.00	427.33	41.32	10.341
38	-3.70	100	85	0.00	0.00	--	0.00	0.00	430.13	43.65	9.854
39	-3.80	100	86	0.00	0.00	--	0.00	0.00	432.92	46.04	9.403
40	-3.90	100	87	0.00	0.00	--	0.00	0.00	435.70	48.50	8.984
41	-4.00	100	88	0.00	0.00	--	0.00	0.00	438.48	51.01	8.595
42	-4.10	100	89	0.00	0.00	--	0.00	0.00	441.24	53.60	8.233
43	-4.20	100	90	0.00	0.00	--	0.00	0.00	444.00	56.24	7.894
44	-4.30	100	91	0.00	0.00	--	0.00	0.00	446.76	58.95	7.578
45	-4.40	100	92	0.00	0.00	--	0.00	0.00	501.49	61.73	8.124
46	-4.50	100	93	0.00	0.00	--	0.00	0.00	504.52	64.56	7.814
47	-4.60	100	93	0.00	0.00	--	0.00	0.00	507.54	67.47	7.523
48	-4.70	100	94	0.00	0.00	--	0.00	0.00	510.55	70.43	7.249
49	-4.80	100	95	0.00	0.00	--	0.00	0.00	513.55	73.46	6.991
50	-4.90	100	96	0.00	0.00	--	0.00	0.00	516.55	76.55	6.748
51	-5.00	100	97	0.00	0.00	--	0.00	0.00	519.53	79.71	6.518
52	-5.10	100	98	0.00	0.00	--	0.00	0.00	522.52	82.93	6.301
53	-5.20	100	99	0.00	0.00	--	0.00	0.00	525.49	86.21	6.095
54	-5.30	100	100	0.00	0.00	--	0.00	0.00	528.46	89.56	5.901
55	-5.40	100	101	0.00	0.00	--	0.00	0.00	531.42	92.97	5.716
56	-5.50	100	102	0.00	0.00	--	0.00	0.00	534.38	96.45	5.541
57	-5.60	100	103	0.00	0.00	--	0.00	0.00	537.33	99.99	5.374
58	-5.70	100	104	0.00	0.00	--	0.00	0.00	540.28	103.59	5.216
59	-5.80	100	105	0.00	0.00	--	0.00	0.00	543.21	107.26	5.065
60	-5.90	100	106	0.00	0.00	--	0.00	0.00	546.15	110.99	4.921
61	-6.00	100	107	0.00	0.00	--	0.00	0.00	549.08	114.78	4.784
62	-6.10	100	108	0.00	0.00	--	0.00	0.00	552.00	118.64	4.653
63	-6.20	100	109	0.00	0.00	--	0.00	0.00	554.91	122.56	4.528
64	-6.30	100	110	0.00	0.00	--	0.00	0.00	557.83	126.54	4.408
65	-6.40	100	110	0.00	0.00	--	0.00	0.00	560.73	130.59	4.294
66	-6.50	100	111	0.00	0.00	--	0.00	0.00	563.63	134.71	4.184
67	-6.60	100	112	0.00	0.00	--	0.00	0.00	566.53	138.88	4.079
68	-6.70	100	113	0.00	0.00	--	0.00	0.00	569.42	143.12	3.979
69	-6.80	100	114	0.00	0.00	--	0.00	0.00	572.31	147.43	3.882
70	-6.90	100	115	0.00	0.00	--	0.00	0.00	575.19	151.79	3.789
71	-7.00	100	116	0.00	0.00	--	0.00	0.00	578.07	156.23	3.700
72	-7.10	100	117	0.00	0.00	--	0.00	0.00	580.94	160.72	3.615
73	-7.20	100	118	0.00	0.00	--	0.00	0.00	583.81	165.28	3.532
74	-7.30	100	119	0.00	0.00	--	0.00	0.00	586.68	169.90	3.453
75	-7.40	100	120	0.00	0.00	--	0.00	0.00	589.54	174.59	3.377
76	-7.50	100	121	0.00	0.00	--	0.00	0.00	592.39	179.34	3.303
77	-7.60	100	122	0.00	0.00	--	0.00	0.00	595.25	184.16	3.232
78	-7.70	100	123	0.00	0.00	--	0.00	0.00	598.10	189.03	3.164
79	-7.80	100	124	0.00	0.00	--	0.00	0.00	600.94	193.97	3.098
80	-7.90	100	125	0.00	0.00	--	0.00	0.00	603.78	198.98	3.034
81	-8.00	100	126	0.00	0.00	--	0.00	0.00	606.62	204.05	2.973
82	-8.10	100	127	0.00	0.00	--	0.00	0.00	609.46	209.18	2.914
83	-8.20	100	128	0.00	0.00	--	0.00	0.00	638.94	214.38	2.980
84	-8.30	100	128	0.00	0.00	--	0.00	0.00	470.44	219.64	2.142
85	-8.40	100	129	0.00	0.00	--	0.00	0.00	472.69	224.96	2.101
86	-8.50	100	130	0.00	0.00	--	0.00	0.00	474.93	230.35	2.062
87	-8.60	100	131	0.00	0.00	--	0.00	0.00	477.18	235.80	2.024
88	-8.70	100	132	0.00	0.00	--	0.00	0.00	479.42	241.32	1.987
89	-8.80	100	133	0.00	0.00	--	0.00	0.00	481.66	246.90	1.951
90	-8.90	100	134	0.00	0.00	--	0.00	0.00	483.90	252.54	1.916
91	-8.99	100	135	0.00	0.00	--	0.00	0.00	485.96	258.25	1.882

Combinazione n° 2 - STR (A1-M1-R3)

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
1	0.00	100	50	0.00	0.00	--	0.00	0.00	296.28	0.00	100.000
2	-0.10	100	51	0.00	0.00	--	0.00	0.00	299.34	0.87	344.907
3	-0.20	100	52	0.00	0.00	--	0.00	0.00	302.38	1.80	167.956
4	-0.30	100	53	0.00	0.00	--	0.00	0.00	305.40	2.80	109.204

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
5	-0.40	100	54	0.00	0.00	--	0.00	0.00	308.41	3.86	79.984
6	-0.50	100	55	0.00	0.00	--	0.00	0.00	311.39	4.98	62.547
7	-0.60	100	56	0.00	0.00	--	0.00	0.00	314.36	6.16	50.992
8	-0.70	100	57	0.00	0.00	--	0.00	0.00	317.30	7.41	42.793
9	-0.80	100	58	0.00	0.00	--	0.00	0.00	320.24	8.73	36.687
10	-0.90	100	59	0.00	0.00	--	0.00	0.00	323.15	10.11	31.975
11	-1.00	100	59	0.00	0.00	--	0.00	0.00	326.05	11.55	28.235
12	-1.10	100	60	0.00	0.00	--	0.00	0.00	328.94	13.05	25.200
13	-1.20	100	61	0.00	0.00	--	0.00	0.00	331.81	14.62	22.693
14	-1.30	100	62	0.00	0.00	--	0.00	0.00	334.67	16.25	20.589
15	-1.40	100	63	0.00	0.00	--	0.00	0.00	337.52	17.95	18.802
16	-1.50	100	64	0.00	0.00	--	0.00	0.00	340.35	19.71	17.267
17	-1.60	100	65	0.00	0.00	--	0.00	0.00	343.17	21.54	15.935
18	-1.70	100	66	0.00	0.00	--	0.00	0.00	345.97	23.42	14.771
19	-1.80	100	67	0.00	0.00	--	0.00	0.00	348.77	25.37	13.745
20	-1.90	100	68	0.00	0.00	--	0.00	0.00	351.55	27.39	12.835
21	-2.00	100	69	0.00	0.00	--	0.00	0.00	354.32	29.47	12.023
22	-2.10	100	70	0.00	0.00	--	0.00	0.00	357.08	31.61	11.296
23	-2.20	100	71	0.00	0.00	--	0.00	0.00	359.83	33.82	10.640
24	-2.30	100	72	0.00	0.00	--	0.00	0.00	362.57	36.09	10.047
25	-2.40	100	73	0.00	0.00	--	0.00	0.00	365.30	38.42	9.507
26	-2.50	100	74	0.00	0.00	--	0.00	0.00	368.02	40.82	9.015
27	-2.60	100	75	0.00	0.00	--	0.00	0.00	370.73	43.28	8.565
28	-2.70	100	76	0.00	0.00	--	0.00	0.00	373.43	45.81	8.152
29	-2.80	100	76	0.00	0.00	--	0.00	0.00	376.12	48.40	7.771
30	-2.90	100	77	0.00	0.00	--	0.00	0.00	378.80	51.05	7.420
31	-3.00	100	78	0.00	0.00	--	0.00	0.00	381.47	53.77	7.095
32	-3.10	100	79	0.00	0.00	--	0.00	0.00	384.14	56.55	6.793
33	-3.20	100	80	0.00	0.00	--	0.00	0.00	386.79	59.39	6.513
34	-3.30	100	81	0.00	0.00	--	0.00	0.00	418.89	62.30	6.724
35	-3.40	100	82	0.00	0.00	--	0.00	0.00	421.71	65.27	6.461
36	-3.50	100	83	0.00	0.00	--	0.00	0.00	424.53	68.31	6.215
37	-3.60	100	84	0.00	0.00	--	0.00	0.00	427.33	71.41	5.985
38	-3.70	100	85	0.00	0.00	--	0.00	0.00	430.13	74.57	5.768
39	-3.80	100	86	0.00	0.00	--	0.00	0.00	432.92	77.80	5.565
40	-3.90	100	87	0.00	0.00	--	0.00	0.00	435.70	81.09	5.373
41	-4.00	100	88	0.00	0.00	--	0.00	0.00	438.48	84.44	5.193
42	-4.10	100	89	0.00	0.00	--	0.00	0.00	441.24	87.86	5.022
43	-4.20	100	90	0.00	0.00	--	0.00	0.00	444.00	91.34	4.861
44	-4.30	100	91	0.00	0.00	--	0.00	0.00	446.76	94.89	4.708
45	-4.40	100	92	0.00	0.00	--	0.00	0.00	501.49	98.50	5.092
46	-4.50	100	93	0.00	0.00	--	0.00	0.00	504.52	102.16	4.938
47	-4.60	100	93	0.00	0.00	--	0.00	0.00	507.54	105.87	4.794
48	-4.70	100	94	0.00	0.00	--	0.00	0.00	510.55	109.61	4.658
49	-4.80	100	95	0.00	0.00	--	0.00	0.00	513.55	113.35	4.530
50	-4.90	100	96	0.00	0.00	--	0.00	0.00	516.55	117.10	4.411
51	-5.00	100	97	0.00	0.00	--	0.00	0.00	519.53	120.84	4.299
52	-5.10	100	98	0.00	0.00	--	0.00	0.00	522.52	124.58	4.194
53	-5.20	100	99	0.00	0.00	--	0.00	0.00	525.49	128.33	4.095
54	-5.30	100	100	0.00	0.00	--	0.00	0.00	528.46	132.10	4.000
55	-5.40	100	101	0.00	0.00	--	0.00	0.00	531.42	135.93	3.910
56	-5.50	100	102	0.00	0.00	--	0.00	0.00	534.38	139.81	3.822
57	-5.60	100	103	0.00	0.00	--	0.00	0.00	537.33	143.76	3.738
58	-5.70	100	104	0.00	0.00	--	0.00	0.00	540.28	147.77	3.656
59	-5.80	100	105	0.00	0.00	--	0.00	0.00	543.21	151.85	3.577
60	-5.90	100	106	0.00	0.00	--	0.00	0.00	546.15	155.99	3.501
61	-6.00	100	107	0.00	0.00	--	0.00	0.00	549.08	160.20	3.427
62	-6.10	100	108	0.00	0.00	--	0.00	0.00	552.00	164.47	3.356
63	-6.20	100	109	0.00	0.00	--	0.00	0.00	554.91	168.81	3.287
64	-6.30	100	110	0.00	0.00	--	0.00	0.00	557.83	173.21	3.220
65	-6.40	100	110	0.00	0.00	--	0.00	0.00	560.73	177.68	3.156
66	-6.50	100	111	0.00	0.00	--	0.00	0.00	563.63	182.21	3.093
67	-6.60	100	112	0.00	0.00	--	0.00	0.00	566.53	186.81	3.033
68	-6.70	100	113	0.00	0.00	--	0.00	0.00	569.42	191.47	2.974
69	-6.80	100	114	0.00	0.00	--	0.00	0.00	572.31	196.20	2.917
70	-6.90	100	115	0.00	0.00	--	0.00	0.00	575.19	200.99	2.862
71	-7.00	100	116	0.00	0.00	--	0.00	0.00	578.07	205.84	2.808
72	-7.10	100	117	0.00	0.00	--	0.00	0.00	580.94	210.76	2.756
73	-7.20	100	118	0.00	0.00	--	0.00	0.00	583.81	215.75	2.706
74	-7.30	100	119	0.00	0.00	--	0.00	0.00	586.68	220.79	2.657
75	-7.40	100	120	0.00	0.00	--	0.00	0.00	589.54	225.91	2.610
76	-7.50	100	121	0.00	0.00	--	0.00	0.00	592.39	231.08	2.564
77	-7.60	100	122	0.00	0.00	--	0.00	0.00	595.25	236.32	2.519
78	-7.70	100	123	0.00	0.00	--	0.00	0.00	598.10	241.63	2.475
79	-7.80	100	124	0.00	0.00	--	0.00	0.00	600.94	247.00	2.433
80	-7.90	100	125	0.00	0.00	--	0.00	0.00	603.78	252.43	2.392
81	-8.00	100	126	0.00	0.00	--	0.00	0.00	606.62	257.93	2.352
82	-8.10	100	127	0.00	0.00	--	0.00	0.00	609.46	263.49	2.313
83	-8.20	100	128	0.00	0.00	--	0.00	0.00	638.94	269.12	2.374
84	-8.30	100	128	0.00	0.00	--	0.00	0.00	470.44	274.81	1.712
85	-8.40	100	129	0.00	0.00	--	0.00	0.00	472.69	280.56	1.685
86	-8.50	100	130	0.00	0.00	--	0.00	0.00	474.93	286.38	1.658
87	-8.60	100	131	0.00	0.00	--	0.00	0.00	477.18	292.26	1.633
88	-8.70	100	132	0.00	0.00	--	0.00	0.00	479.42	298.21	1.608
89	-8.80	100	133	0.00	0.00	--	0.00	0.00	481.66	304.22	1.583
90	-8.90	100	134	0.00	0.00	--	0.00	0.00	483.90	310.29	1.559

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
91	-8.99	100	135	0.00	0.00	--	0.00	0.00	485.96	316.43	1.536

Combinazione n° 3 - STR (A1-M1-R3) H + V

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
1	0.00	100	50	0.00	0.00	--	0.00	0.00	296.31	0.00	100.000
2	-0.10	100	51	0.00	0.00	--	0.00	0.00	299.38	0.91	327.658
3	-0.20	100	52	0.00	0.00	--	0.00	0.00	302.43	1.88	161.032
4	-0.30	100	53	0.00	0.00	--	0.00	0.00	305.46	2.89	105.603
5	-0.40	100	54	0.00	0.00	--	0.00	0.00	308.47	3.96	77.966
6	-0.50	100	55	0.00	0.00	--	0.00	0.00	311.47	5.07	61.430
7	-0.60	100	56	0.00	0.00	--	0.00	0.00	314.45	6.23	50.439
8	-0.70	100	57	0.00	0.00	--	0.00	0.00	317.41	7.45	42.616
9	-0.80	100	58	0.00	0.00	--	0.00	0.00	320.35	8.71	36.771
10	-0.90	100	59	0.00	0.00	--	0.00	0.00	323.28	10.03	32.243
11	-1.00	100	59	0.00	0.00	--	0.00	0.00	326.19	11.39	28.637
12	-1.10	100	60	0.00	0.00	--	0.00	0.00	329.09	12.80	25.701
13	-1.20	100	61	0.00	0.00	--	0.00	0.00	331.98	14.27	23.265
14	-1.30	100	62	0.00	0.00	--	0.00	0.00	334.85	15.78	21.215
15	-1.40	100	63	0.00	0.00	--	0.00	0.00	337.71	17.35	19.466
16	-1.50	100	64	0.00	0.00	--	0.00	0.00	340.55	18.96	17.959
17	-1.60	100	65	0.00	0.00	--	0.00	0.00	343.39	20.63	16.647
18	-1.70	100	66	0.00	0.00	--	0.00	0.00	346.21	22.34	15.495
19	-1.80	100	67	0.00	0.00	--	0.00	0.00	349.01	24.11	14.477
20	-1.90	100	68	0.00	0.00	--	0.00	0.00	351.81	25.92	13.572
21	-2.00	100	69	0.00	0.00	--	0.00	0.00	354.60	27.79	12.761
22	-2.10	100	70	0.00	0.00	--	0.00	0.00	357.37	29.70	12.031
23	-2.20	100	71	0.00	0.00	--	0.00	0.00	360.14	31.67	11.372
24	-2.30	100	72	0.00	0.00	--	0.00	0.00	362.89	33.68	10.773
25	-2.40	100	73	0.00	0.00	--	0.00	0.00	365.64	35.75	10.228
26	-2.50	100	74	0.00	0.00	--	0.00	0.00	368.37	37.87	9.728
27	-2.60	100	75	0.00	0.00	--	0.00	0.00	371.09	40.03	9.270
28	-2.70	100	76	0.00	0.00	--	0.00	0.00	373.81	42.25	8.848
29	-2.80	100	76	0.00	0.00	--	0.00	0.00	376.52	44.51	8.459
30	-2.90	100	77	0.00	0.00	--	0.00	0.00	379.22	46.83	8.098
31	-3.00	100	78	0.00	0.00	--	0.00	0.00	381.91	49.19	7.763
32	-3.10	100	79	0.00	0.00	--	0.00	0.00	384.59	51.61	7.452
33	-3.20	100	80	0.00	0.00	--	0.00	0.00	387.26	54.08	7.161
34	-3.30	100	81	0.00	0.00	--	0.00	0.00	419.38	56.59	7.410
35	-3.40	100	82	0.00	0.00	--	0.00	0.00	422.22	59.16	7.137
36	-3.50	100	83	0.00	0.00	--	0.00	0.00	425.05	61.78	6.880
37	-3.60	100	84	0.00	0.00	--	0.00	0.00	427.87	64.44	6.640
38	-3.70	100	85	0.00	0.00	--	0.00	0.00	430.69	67.16	6.413
39	-3.80	100	86	0.00	0.00	--	0.00	0.00	433.50	69.93	6.199
40	-3.90	100	87	0.00	0.00	--	0.00	0.00	436.30	72.74	5.998
41	-4.00	100	88	0.00	0.00	--	0.00	0.00	439.09	75.61	5.807
42	-4.10	100	89	0.00	0.00	--	0.00	0.00	441.88	78.53	5.627
43	-4.20	100	90	0.00	0.00	--	0.00	0.00	444.66	81.49	5.456
44	-4.30	100	91	0.00	0.00	--	0.00	0.00	447.43	84.51	5.294
45	-4.40	100	92	0.00	0.00	--	0.00	0.00	502.19	87.58	5.734
46	-4.50	100	93	0.00	0.00	--	0.00	0.00	505.23	90.70	5.571
47	-4.60	100	93	0.00	0.00	--	0.00	0.00	508.27	93.86	5.415
48	-4.70	100	94	0.00	0.00	--	0.00	0.00	511.30	97.08	5.267
49	-4.80	100	95	0.00	0.00	--	0.00	0.00	514.33	100.35	5.125
50	-4.90	100	96	0.00	0.00	--	0.00	0.00	517.34	103.67	4.990
51	-5.00	100	97	0.00	0.00	--	0.00	0.00	520.35	107.04	4.862
52	-5.10	100	98	0.00	0.00	--	0.00	0.00	523.36	110.45	4.738
53	-5.20	100	99	0.00	0.00	--	0.00	0.00	526.35	113.92	4.620
54	-5.30	100	100	0.00	0.00	--	0.00	0.00	529.35	117.44	4.507
55	-5.40	100	101	0.00	0.00	--	0.00	0.00	532.33	121.01	4.399
56	-5.50	100	102	0.00	0.00	--	0.00	0.00	535.31	124.63	4.295
57	-5.60	100	103	0.00	0.00	--	0.00	0.00	538.28	128.29	4.196
58	-5.70	100	104	0.00	0.00	--	0.00	0.00	541.25	132.01	4.100
59	-5.80	100	105	0.00	0.00	--	0.00	0.00	544.21	135.78	4.008
60	-5.90	100	106	0.00	0.00	--	0.00	0.00	547.17	139.60	3.920
61	-6.00	100	107	0.00	0.00	--	0.00	0.00	550.12	143.47	3.834
62	-6.10	100	108	0.00	0.00	--	0.00	0.00	553.06	147.39	3.752
63	-6.20	100	109	0.00	0.00	--	0.00	0.00	556.01	151.36	3.673
64	-6.30	100	110	0.00	0.00	--	0.00	0.00	558.94	155.38	3.597
65	-6.40	100	110	0.00	0.00	--	0.00	0.00	561.87	159.45	3.524
66	-6.50	100	111	0.00	0.00	--	0.00	0.00	564.80	163.57	3.453
67	-6.60	100	112	0.00	0.00	--	0.00	0.00	567.72	167.73	3.385
68	-6.70	100	113	0.00	0.00	--	0.00	0.00	570.63	171.95	3.319
69	-6.80	100	114	0.00	0.00	--	0.00	0.00	573.55	176.22	3.255
70	-6.90	100	115	0.00	0.00	--	0.00	0.00	576.45	180.54	3.193
71	-7.00	100	116	0.00	0.00	--	0.00	0.00	579.36	184.91	3.133
72	-7.10	100	117	0.00	0.00	--	0.00	0.00	582.26	189.33	3.075
73	-7.20	100	118	0.00	0.00	--	0.00	0.00	585.15	193.80	3.019
74	-7.30	100	119	0.00	0.00	--	0.00	0.00	588.04	198.32	2.965
75	-7.40	100	120	0.00	0.00	--	0.00	0.00	590.93	202.89	2.913
76	-7.50	100	121	0.00	0.00	--	0.00	0.00	593.82	207.51	2.862

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
77	-7.60	100	122	0.00	0.00	--	0.00	0.00	596.70	212.18	2.812
78	-7.70	100	123	0.00	0.00	--	0.00	0.00	599.57	216.90	2.764
79	-7.80	100	124	0.00	0.00	--	0.00	0.00	602.44	221.67	2.718
80	-7.90	100	125	0.00	0.00	--	0.00	0.00	605.31	226.50	2.673
81	-8.00	100	126	0.00	0.00	--	0.00	0.00	608.18	231.37	2.629
82	-8.10	100	127	0.00	0.00	--	0.00	0.00	611.04	236.29	2.586
83	-8.20	100	128	0.00	0.00	--	0.00	0.00	640.56	241.26	2.655
84	-8.30	100	128	0.00	0.00	--	0.00	0.00	472.09	246.28	1.917
85	-8.40	100	129	0.00	0.00	--	0.00	0.00	474.36	251.35	1.887
86	-8.50	100	130	0.00	0.00	--	0.00	0.00	476.63	256.47	1.858
87	-8.60	100	131	0.00	0.00	--	0.00	0.00	478.91	261.64	1.830
88	-8.70	100	132	0.00	0.00	--	0.00	0.00	481.18	266.86	1.803
89	-8.80	100	133	0.00	0.00	--	0.00	0.00	483.45	272.13	1.776
90	-8.90	100	134	0.00	0.00	--	0.00	0.00	485.72	277.46	1.751
91	-8.99	100	135	0.00	0.00	--	0.00	0.00	487.81	282.83	1.725

Combinazione n° 4 - STR (A1-M1-R3) H - V

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
1	0.00	100	50	0.00	0.00	--	0.00	0.00	296.28	0.00	100.000
2	-0.10	100	51	0.00	0.00	--	0.00	0.00	299.33	0.67	449.063
3	-0.20	100	52	0.00	0.00	--	0.00	0.00	302.36	1.38	218.498
4	-0.30	100	53	0.00	0.00	--	0.00	0.00	305.37	2.15	141.956
5	-0.40	100	54	0.00	0.00	--	0.00	0.00	308.36	2.97	103.895
6	-0.50	100	55	0.00	0.00	--	0.00	0.00	311.34	3.83	81.189
7	-0.60	100	56	0.00	0.00	--	0.00	0.00	314.29	4.75	66.147
8	-0.70	100	57	0.00	0.00	--	0.00	0.00	317.23	5.72	55.476
9	-0.80	100	58	0.00	0.00	--	0.00	0.00	320.15	6.74	47.534
10	-0.90	100	59	0.00	0.00	--	0.00	0.00	323.05	7.80	41.405
11	-1.00	100	59	0.00	0.00	--	0.00	0.00	325.94	8.92	36.543
12	-1.10	100	60	0.00	0.00	--	0.00	0.00	328.82	10.09	32.600
13	-1.20	100	61	0.00	0.00	--	0.00	0.00	331.67	11.30	29.342
14	-1.30	100	62	0.00	0.00	--	0.00	0.00	334.52	12.57	26.610
15	-1.40	100	63	0.00	0.00	--	0.00	0.00	337.35	13.89	24.290
16	-1.50	100	64	0.00	0.00	--	0.00	0.00	340.17	15.26	22.297
17	-1.60	100	65	0.00	0.00	--	0.00	0.00	342.97	16.67	20.569
18	-1.70	100	66	0.00	0.00	--	0.00	0.00	345.77	18.14	19.059
19	-1.80	100	67	0.00	0.00	--	0.00	0.00	348.55	19.66	17.729
20	-1.90	100	68	0.00	0.00	--	0.00	0.00	351.31	21.23	16.550
21	-2.00	100	69	0.00	0.00	--	0.00	0.00	354.07	22.85	15.498
22	-2.10	100	70	0.00	0.00	--	0.00	0.00	356.82	24.51	14.556
23	-2.20	100	71	0.00	0.00	--	0.00	0.00	359.55	26.23	13.707
24	-2.30	100	72	0.00	0.00	--	0.00	0.00	362.27	28.00	12.938
25	-2.40	100	73	0.00	0.00	--	0.00	0.00	364.99	29.82	12.240
26	-2.50	100	74	0.00	0.00	--	0.00	0.00	367.69	31.69	11.604
27	-2.60	100	75	0.00	0.00	--	0.00	0.00	370.38	33.61	11.021
28	-2.70	100	76	0.00	0.00	--	0.00	0.00	373.07	35.57	10.487
29	-2.80	100	76	0.00	0.00	--	0.00	0.00	375.74	37.59	9.995
30	-2.90	100	77	0.00	0.00	--	0.00	0.00	378.41	39.66	9.541
31	-3.00	100	78	0.00	0.00	--	0.00	0.00	381.06	41.78	9.121
32	-3.10	100	79	0.00	0.00	--	0.00	0.00	383.71	43.95	8.731
33	-3.20	100	80	0.00	0.00	--	0.00	0.00	386.35	46.17	8.368
34	-3.30	100	81	0.00	0.00	--	0.00	0.00	418.43	48.44	8.638
35	-3.40	100	82	0.00	0.00	--	0.00	0.00	421.23	50.76	8.299
36	-3.50	100	83	0.00	0.00	--	0.00	0.00	424.03	53.13	7.981
37	-3.60	100	84	0.00	0.00	--	0.00	0.00	426.82	55.55	7.684
38	-3.70	100	85	0.00	0.00	--	0.00	0.00	429.60	58.02	7.405
39	-3.80	100	86	0.00	0.00	--	0.00	0.00	432.37	60.54	7.142
40	-3.90	100	87	0.00	0.00	--	0.00	0.00	435.13	63.11	6.895
41	-4.00	100	88	0.00	0.00	--	0.00	0.00	437.89	65.73	6.662
42	-4.10	100	89	0.00	0.00	--	0.00	0.00	440.63	68.40	6.442
43	-4.20	100	90	0.00	0.00	--	0.00	0.00	443.38	71.12	6.235
44	-4.30	100	91	0.00	0.00	--	0.00	0.00	446.11	73.89	6.038
45	-4.40	100	92	0.00	0.00	--	0.00	0.00	500.82	76.71	6.529
46	-4.50	100	93	0.00	0.00	--	0.00	0.00	503.83	79.58	6.331
47	-4.60	100	93	0.00	0.00	--	0.00	0.00	506.83	82.50	6.144
48	-4.70	100	94	0.00	0.00	--	0.00	0.00	509.82	85.47	5.965
49	-4.80	100	95	0.00	0.00	--	0.00	0.00	512.80	88.49	5.795
50	-4.90	100	96	0.00	0.00	--	0.00	0.00	515.77	91.56	5.633
51	-5.00	100	97	0.00	0.00	--	0.00	0.00	518.74	94.68	5.479
52	-5.10	100	98	0.00	0.00	--	0.00	0.00	521.70	97.85	5.332
53	-5.20	100	99	0.00	0.00	--	0.00	0.00	524.66	101.07	5.191
54	-5.30	100	100	0.00	0.00	--	0.00	0.00	527.60	104.34	5.056
55	-5.40	100	101	0.00	0.00	--	0.00	0.00	530.55	107.66	4.928
56	-5.50	100	102	0.00	0.00	--	0.00	0.00	533.48	111.03	4.805
57	-5.60	100	103	0.00	0.00	--	0.00	0.00	536.41	114.46	4.687
58	-5.70	100	104	0.00	0.00	--	0.00	0.00	539.33	117.93	4.573
59	-5.80	100	105	0.00	0.00	--	0.00	0.00	542.24	121.45	4.465
60	-5.90	100	106	0.00	0.00	--	0.00	0.00	545.15	125.02	4.361
61	-6.00	100	107	0.00	0.00	--	0.00	0.00	548.06	128.64	4.260
62	-6.10	100	108	0.00	0.00	--	0.00	0.00	550.96	132.31	4.164

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
63	-6.20	100	109	0.00	0.00	--	0.00	0.00	553.85	136.04	4.071
64	-6.30	100	110	0.00	0.00	--	0.00	0.00	556.74	139.81	3.982
65	-6.40	100	110	0.00	0.00	--	0.00	0.00	559.62	143.63	3.896
66	-6.50	100	111	0.00	0.00	--	0.00	0.00	562.50	147.50	3.813
67	-6.60	100	112	0.00	0.00	--	0.00	0.00	565.37	151.42	3.734
68	-6.70	100	113	0.00	0.00	--	0.00	0.00	568.23	155.40	3.657
69	-6.80	100	114	0.00	0.00	--	0.00	0.00	571.10	159.42	3.582
70	-6.90	100	115	0.00	0.00	--	0.00	0.00	573.95	163.49	3.511
71	-7.00	100	116	0.00	0.00	--	0.00	0.00	576.81	167.61	3.441
72	-7.10	100	117	0.00	0.00	--	0.00	0.00	579.65	171.79	3.374
73	-7.20	100	118	0.00	0.00	--	0.00	0.00	582.50	176.01	3.309
74	-7.30	100	119	0.00	0.00	--	0.00	0.00	585.34	180.28	3.247
75	-7.40	100	120	0.00	0.00	--	0.00	0.00	588.17	184.61	3.186
76	-7.50	100	121	0.00	0.00	--	0.00	0.00	591.00	188.98	3.127
77	-7.60	100	122	0.00	0.00	--	0.00	0.00	593.83	193.40	3.070
78	-7.70	100	123	0.00	0.00	--	0.00	0.00	596.65	197.88	3.015
79	-7.80	100	124	0.00	0.00	--	0.00	0.00	599.47	202.40	2.962
80	-7.90	100	125	0.00	0.00	--	0.00	0.00	602.28	206.97	2.910
81	-8.00	100	126	0.00	0.00	--	0.00	0.00	605.09	211.60	2.860
82	-8.10	100	127	0.00	0.00	--	0.00	0.00	607.90	216.27	2.811
83	-8.20	100	128	0.00	0.00	--	0.00	0.00	637.36	220.99	2.884
84	-8.30	100	128	0.00	0.00	--	0.00	0.00	468.83	225.77	2.077
85	-8.40	100	129	0.00	0.00	--	0.00	0.00	471.05	230.59	2.043
86	-8.50	100	130	0.00	0.00	--	0.00	0.00	473.26	235.47	2.010
87	-8.60	100	131	0.00	0.00	--	0.00	0.00	475.48	240.39	1.978
88	-8.70	100	132	0.00	0.00	--	0.00	0.00	477.69	245.36	1.947
89	-8.80	100	133	0.00	0.00	--	0.00	0.00	479.90	250.39	1.917
90	-8.90	100	134	0.00	0.00	--	0.00	0.00	482.11	255.46	1.887
91	-8.99	100	135	0.00	0.00	--	0.00	0.00	484.14	260.59	1.858

Combinazione n° 9 - ECC

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
1	0.00	100	50	0.00	0.00	--	0.00	0.00	296.28	11.10	26.692
2	-0.10	100	51	0.00	0.00	--	0.00	0.00	299.34	11.12	26.910
3	-0.20	100	52	0.00	0.00	--	0.00	0.00	302.38	11.20	27.009
4	-0.30	100	53	0.00	0.00	--	0.00	0.00	305.40	11.31	26.992
5	-0.40	100	54	0.00	0.00	--	0.00	0.00	308.41	11.48	26.864
6	-0.50	100	55	0.00	0.00	--	0.00	0.00	311.39	11.69	26.631
7	-0.60	100	56	0.00	0.00	--	0.00	0.00	314.36	11.95	26.300
8	-0.70	100	57	0.00	0.00	--	0.00	0.00	317.30	12.26	25.882
9	-0.80	100	58	0.00	0.00	--	0.00	0.00	320.24	12.61	25.388
10	-0.90	100	59	0.00	0.00	--	0.00	0.00	323.15	13.02	24.829
11	-1.00	100	59	0.00	0.00	--	0.00	0.00	326.05	13.46	24.217
12	-1.10	100	60	0.00	0.00	--	0.00	0.00	328.94	13.96	23.563
13	-1.20	100	61	0.00	0.00	--	0.00	0.00	331.81	14.50	22.879
14	-1.30	100	62	0.00	0.00	--	0.00	0.00	334.67	15.09	22.173
15	-1.40	100	63	0.00	0.00	--	0.00	0.00	337.52	15.73	21.455
16	-1.50	100	64	0.00	0.00	--	0.00	0.00	340.35	16.42	20.733
17	-1.60	100	65	0.00	0.00	--	0.00	0.00	343.17	17.15	20.012
18	-1.70	100	66	0.00	0.00	--	0.00	0.00	345.97	17.93	19.298
19	-1.80	100	67	0.00	0.00	--	0.00	0.00	348.77	18.75	18.597
20	-1.90	100	68	0.00	0.00	--	0.00	0.00	351.55	19.63	17.911
21	-2.00	100	69	0.00	0.00	--	0.00	0.00	354.32	20.55	17.243
22	-2.10	100	70	0.00	0.00	--	0.00	0.00	357.08	21.52	16.595
23	-2.20	100	71	0.00	0.00	--	0.00	0.00	359.83	22.53	15.969
24	-2.30	100	72	0.00	0.00	--	0.00	0.00	362.57	23.60	15.366
25	-2.40	100	73	0.00	0.00	--	0.00	0.00	365.30	24.71	14.786
26	-2.50	100	74	0.00	0.00	--	0.00	0.00	368.02	25.86	14.230
27	-2.60	100	75	0.00	0.00	--	0.00	0.00	370.73	27.07	13.697
28	-2.70	100	76	0.00	0.00	--	0.00	0.00	373.43	28.32	13.187
29	-2.80	100	76	0.00	0.00	--	0.00	0.00	376.12	29.62	12.699
30	-2.90	100	77	0.00	0.00	--	0.00	0.00	378.80	30.96	12.234
31	-3.00	100	78	0.00	0.00	--	0.00	0.00	381.47	32.36	11.789
32	-3.10	100	79	0.00	0.00	--	0.00	0.00	384.14	33.80	11.366
33	-3.20	100	80	0.00	0.00	--	0.00	0.00	386.79	35.29	10.962
34	-3.30	100	81	0.00	0.00	--	0.00	0.00	418.89	36.82	11.377
35	-3.40	100	82	0.00	0.00	--	0.00	0.00	421.71	38.40	10.981
36	-3.50	100	83	0.00	0.00	--	0.00	0.00	424.53	40.03	10.605
37	-3.60	100	84	0.00	0.00	--	0.00	0.00	427.33	41.71	10.245
38	-3.70	100	85	0.00	0.00	--	0.00	0.00	430.13	43.43	9.903
39	-3.80	100	86	0.00	0.00	--	0.00	0.00	432.92	45.20	9.577
40	-3.90	100	87	0.00	0.00	--	0.00	0.00	435.70	47.02	9.266
41	-4.00	100	88	0.00	0.00	--	0.00	0.00	438.48	48.89	8.969
42	-4.10	100	89	0.00	0.00	--	0.00	0.00	441.24	50.80	8.686
43	-4.20	100	90	0.00	0.00	--	0.00	0.00	444.00	52.76	8.415
44	-4.30	100	91	0.00	0.00	--	0.00	0.00	446.76	54.77	8.157
45	-4.40	100	92	0.00	0.00	--	0.00	0.00	501.49	56.82	8.825
46	-4.50	100	93	0.00	0.00	--	0.00	0.00	504.52	58.93	8.562
47	-4.60	100	93	0.00	0.00	--	0.00	0.00	507.54	61.07	8.310
48	-4.70	100	94	0.00	0.00	--	0.00	0.00	510.55	63.27	8.069

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
49	-4.80	100	95	0.00	0.00	--	0.00	0.00	513.55	65.51	7.839
50	-4.90	100	96	0.00	0.00	--	0.00	0.00	516.55	67.81	7.618
51	-5.00	100	97	0.00	0.00	--	0.00	0.00	519.53	70.14	7.407
52	-5.10	100	98	0.00	0.00	--	0.00	0.00	522.52	72.53	7.204
53	-5.20	100	99	0.00	0.00	--	0.00	0.00	525.49	74.96	7.010
54	-5.30	100	100	0.00	0.00	--	0.00	0.00	528.46	77.44	6.824
55	-5.40	100	101	0.00	0.00	--	0.00	0.00	531.42	79.97	6.645
56	-5.50	100	102	0.00	0.00	--	0.00	0.00	534.38	82.54	6.474
57	-5.60	100	103	0.00	0.00	--	0.00	0.00	537.33	85.16	6.309
58	-5.70	100	104	0.00	0.00	--	0.00	0.00	540.28	87.83	6.151
59	-5.80	100	105	0.00	0.00	--	0.00	0.00	543.21	90.55	5.999
60	-5.90	100	106	0.00	0.00	--	0.00	0.00	546.15	93.31	5.853
61	-6.00	100	107	0.00	0.00	--	0.00	0.00	549.08	96.12	5.712
62	-6.10	100	108	0.00	0.00	--	0.00	0.00	552.00	98.98	5.577
63	-6.20	100	109	0.00	0.00	--	0.00	0.00	554.91	101.88	5.447
64	-6.30	100	110	0.00	0.00	--	0.00	0.00	557.83	104.84	5.321
65	-6.40	100	110	0.00	0.00	--	0.00	0.00	560.73	107.84	5.200
66	-6.50	100	111	0.00	0.00	--	0.00	0.00	563.63	110.88	5.083
67	-6.60	100	112	0.00	0.00	--	0.00	0.00	566.53	113.98	4.971
68	-6.70	100	113	0.00	0.00	--	0.00	0.00	569.42	117.12	4.862
69	-6.80	100	114	0.00	0.00	--	0.00	0.00	572.31	120.30	4.757
70	-6.90	100	115	0.00	0.00	--	0.00	0.00	575.19	123.54	4.656
71	-7.00	100	116	0.00	0.00	--	0.00	0.00	578.07	126.82	4.558
72	-7.10	100	117	0.00	0.00	--	0.00	0.00	580.94	130.15	4.464
73	-7.20	100	118	0.00	0.00	--	0.00	0.00	583.81	133.53	4.372
74	-7.30	100	119	0.00	0.00	--	0.00	0.00	586.68	136.95	4.284
75	-7.40	100	120	0.00	0.00	--	0.00	0.00	589.54	140.43	4.198
76	-7.50	100	121	0.00	0.00	--	0.00	0.00	592.39	143.95	4.115
77	-7.60	100	122	0.00	0.00	--	0.00	0.00	595.25	147.51	4.035
78	-7.70	100	123	0.00	0.00	--	0.00	0.00	598.10	151.12	3.958
79	-7.80	100	124	0.00	0.00	--	0.00	0.00	600.94	154.79	3.882
80	-7.90	100	125	0.00	0.00	--	0.00	0.00	603.78	158.49	3.810
81	-8.00	100	126	0.00	0.00	--	0.00	0.00	606.62	162.25	3.739
82	-8.10	100	127	0.00	0.00	--	0.00	0.00	609.46	166.05	3.670
83	-8.20	100	128	0.00	0.00	--	0.00	0.00	638.94	169.90	3.761
84	-8.30	100	128	0.00	0.00	--	0.00	0.00	470.44	173.80	2.707
85	-8.40	100	129	0.00	0.00	--	0.00	0.00	472.69	177.74	2.659
86	-8.50	100	130	0.00	0.00	--	0.00	0.00	474.93	181.73	2.613
87	-8.60	100	131	0.00	0.00	--	0.00	0.00	477.18	185.77	2.569
88	-8.70	100	132	0.00	0.00	--	0.00	0.00	479.42	189.86	2.525
89	-8.80	100	133	0.00	0.00	--	0.00	0.00	481.66	193.99	2.483
90	-8.90	100	134	0.00	0.00	--	0.00	0.00	483.90	198.17	2.442
91	-8.99	100	135	0.00	0.00	--	0.00	0.00	485.96	202.40	2.401

Mensola valle

Combinazione n° 1 - STR (A1-M1-R3)

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
1	-0.75	100	50	0.00	0.00	--	0.00	0.00	226.72	0.00	100.000
2	-0.67	100	50	0.00	0.00	--	0.00	0.00	226.72	1.04	217.654
3	-0.58	100	50	0.00	0.00	--	0.00	0.00	226.72	2.08	108.827
4	-0.50	100	50	0.00	0.00	--	0.00	0.00	226.72	3.13	72.551
5	-0.50	100	50	0.00	0.00	--	0.00	0.00	226.72	3.13	72.551

Combinazione n° 2 - STR (A1-M1-R3)

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
1	-0.75	100	50	0.00	0.00	--	0.00	0.00	226.72	0.00	100.000
2	-0.67	100	50	0.00	0.00	--	0.00	0.00	226.72	1.04	217.654
3	-0.58	100	50	0.00	0.00	--	0.00	0.00	226.72	2.08	108.827
4	-0.50	100	50	0.00	0.00	--	0.00	0.00	226.72	3.13	72.551
5	-0.50	100	50	0.00	0.00	--	0.00	0.00	226.72	3.13	72.551

Combinazione n° 3 - STR (A1-M1-R3) H + V

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
1	-0.75	100	50	0.00	0.00	--	0.00	0.00	226.72	0.00	100.000
2	-0.67	100	50	0.00	0.00	--	0.00	0.00	226.72	1.10	205.238

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
3	-0.58	100	50	0.00	0.00	--	0.00	0.00	226.72	2.21	102.619
4	-0.50	100	50	0.00	0.00	--	0.00	0.00	226.72	3.31	68.413
5	-0.50	100	50	0.00	0.00	--	0.00	0.00	226.72	3.31	68.413

Combinazione n° 4 - STR (A1-M1-R3) H - V

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
1	-0.75	100	50	0.00	0.00	--	0.00	0.00	226.72	0.00	100.000
2	-0.67	100	50	0.00	0.00	--	0.00	0.00	226.72	1.04	217.654
3	-0.58	100	50	0.00	0.00	--	0.00	0.00	226.72	2.08	108.827
4	-0.50	100	50	0.00	0.00	--	0.00	0.00	226.72	3.13	72.551
5	-0.50	100	50	0.00	0.00	--	0.00	0.00	226.72	3.13	72.551

Combinazione n° 9 - ECC

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
1	-0.75	100	50	0.00	0.00	--	0.00	0.00	226.72	0.00	100.000
2	-0.67	100	50	0.00	0.00	--	0.00	0.00	226.72	1.04	217.654
3	-0.58	100	50	0.00	0.00	--	0.00	0.00	226.72	2.08	108.827
4	-0.50	100	50	0.00	0.00	--	0.00	0.00	226.72	3.13	72.551
5	-0.50	100	50	0.00	0.00	--	0.00	0.00	225.22	3.13	72.072

Fondazione

Combinazione n° 1 - STR (A1-M1-R3)

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
1	-1.85	100	125	0.00	0.00	--	0.00	0.00	457.87	0.00	100.000
2	-1.75	100	125	0.00	0.00	--	0.00	0.00	457.87	-15.54	29.469
3	-1.66	100	125	0.00	0.00	--	0.00	0.00	457.87	-31.09	14.725
4	-1.56	100	125	0.00	0.00	--	0.00	0.00	457.87	-46.67	9.810
5	-1.46	100	125	0.00	0.00	--	0.00	0.00	457.87	-62.27	7.353
6	-1.37	100	125	0.00	0.00	--	0.00	0.00	457.87	-77.89	5.878
7	-1.27	100	125	0.00	0.00	--	0.00	0.00	457.87	-93.53	4.896
8	-1.18	100	125	0.00	0.00	--	0.00	0.00	457.87	-109.18	4.194
9	-1.08	100	125	0.00	0.00	--	0.00	0.00	457.87	-124.86	3.667
10	-0.98	100	125	0.00	0.00	--	0.00	0.00	457.87	-140.56	3.257
11	-0.89	100	125	0.00	0.00	--	0.00	0.00	457.87	-156.28	2.930
12	-0.79	100	125	0.00	0.00	--	0.00	0.00	457.87	-172.02	2.662
13	-0.69	100	125	0.00	0.00	--	0.00	0.00	457.87	-187.78	2.438
14	-0.60	100	125	0.00	0.00	--	0.00	0.00	457.87	-203.55	2.249
15	-0.50	100	125	0.00	0.00	--	0.00	0.00	457.87	-219.35	2.087
16	0.85	100	125	0.00	0.00	--	0.00	0.00	457.87	-303.50	1.509
17	0.95	100	125	0.00	0.00	--	0.00	0.00	457.87	-297.11	1.541
18	1.05	100	125	0.00	0.00	--	0.00	0.00	457.87	-290.74	1.575
19	1.15	100	125	0.00	0.00	--	0.00	0.00	457.87	-284.40	1.610
20	1.25	100	125	0.00	0.00	--	0.00	0.00	457.87	-278.08	1.647
21	1.35	100	125	0.00	0.00	--	0.00	0.00	457.87	-271.77	1.685
22	1.45	100	125	0.00	0.00	--	0.00	0.00	457.87	-265.49	1.725
23	1.55	100	125	0.00	0.00	--	0.00	0.00	457.87	-259.24	1.766
24	1.65	100	125	0.00	0.00	--	0.00	0.00	457.87	-253.00	1.810
25	1.75	100	125	0.00	0.00	--	0.00	0.00	457.87	-246.78	1.855
26	1.85	100	125	0.00	0.00	--	0.00	0.00	457.87	-240.59	1.903
27	1.95	100	125	0.00	0.00	--	0.00	0.00	457.87	-234.42	1.953
28	2.05	100	125	0.00	0.00	--	0.00	0.00	457.87	-228.27	2.006
29	2.15	100	125	0.00	0.00	--	0.00	0.00	457.87	-222.14	2.061
30	2.25	100	125	0.00	0.00	--	0.00	0.00	457.87	-216.03	2.119
31	2.35	100	125	0.00	0.00	--	0.00	0.00	457.87	-209.95	2.181
32	2.45	100	125	0.00	0.00	--	0.00	0.00	457.87	-203.89	2.246
33	2.55	100	125	0.00	0.00	--	0.00	0.00	457.87	-197.84	2.314
34	2.65	100	125	0.00	0.00	--	0.00	0.00	457.87	-191.82	2.387
35	2.75	100	125	0.00	0.00	--	0.00	0.00	457.87	-185.83	2.464
36	2.85	100	125	0.00	0.00	--	0.00	0.00	457.87	-179.85	2.546
37	2.95	100	125	0.00	0.00	--	0.00	0.00	457.87	-173.89	2.633
38	3.05	100	125	0.00	0.00	--	0.00	0.00	457.87	-167.96	2.726
39	3.15	100	125	0.00	0.00	--	0.00	0.00	457.87	-162.05	2.826
40	3.25	100	125	0.00	0.00	--	0.00	0.00	457.87	-156.16	2.932
41	3.35	100	125	0.00	0.00	--	0.00	0.00	457.87	-150.29	3.047
42	3.45	100	125	0.00	0.00	--	0.00	0.00	457.87	-144.44	3.170

n°	Y [m]	B [cm]	H [cm]	A_{sw} [cmq]	s [cm]	cotθ	V_{Rcd} [kN]	V_{Rsd} [kN]	V_{Rd} [kN]	T [kN]	FS
43	3.55	100	125	0.00	0.00	--	0.00	0.00	457.87	-138.61	3.303
44	3.65	100	125	0.00	0.00	--	0.00	0.00	457.87	-132.81	3.448
45	3.75	100	125	0.00	0.00	--	0.00	0.00	457.87	-127.03	3.604
46	3.85	100	125	0.00	0.00	--	0.00	0.00	457.87	-121.27	3.776
47	3.95	100	125	0.00	0.00	--	0.00	0.00	457.87	-115.53	3.963
48	4.05	100	125	0.00	0.00	--	0.00	0.00	457.87	-109.81	4.170
49	4.15	100	125	0.00	0.00	--	0.00	0.00	457.87	-104.11	4.398
50	4.25	100	125	0.00	0.00	--	0.00	0.00	457.87	-98.44	4.651
51	4.35	100	125	0.00	0.00	--	0.00	0.00	457.87	-92.79	4.935
52	4.45	100	125	0.00	0.00	--	0.00	0.00	457.87	-87.16	5.253
53	4.55	100	125	0.00	0.00	--	0.00	0.00	457.87	-81.55	5.615
54	4.65	100	125	0.00	0.00	--	0.00	0.00	457.87	-75.96	6.028
55	4.75	100	125	0.00	0.00	--	0.00	0.00	457.87	-70.39	6.504
56	4.85	100	125	0.00	0.00	--	0.00	0.00	457.87	-64.85	7.061
57	4.95	100	125	0.00	0.00	--	0.00	0.00	457.87	-59.33	7.718
58	5.05	100	125	0.00	0.00	--	0.00	0.00	457.87	-53.82	8.507
59	5.15	100	125	0.00	0.00	--	0.00	0.00	457.87	-48.34	9.471
60	5.25	100	125	0.00	0.00	--	0.00	0.00	457.87	-42.89	10.676
61	5.35	100	125	0.00	0.00	--	0.00	0.00	457.87	-37.45	12.226
62	5.45	100	125	0.00	0.00	--	0.00	0.00	457.87	-32.04	14.293
63	5.55	100	125	0.00	0.00	--	0.00	0.00	457.87	-26.64	17.186
64	5.65	100	125	0.00	0.00	--	0.00	0.00	457.87	-21.27	21.526
65	5.75	100	125	0.00	0.00	--	0.00	0.00	457.87	-15.92	28.760
66	5.85	100	125	0.00	0.00	--	0.00	0.00	457.87	-10.59	43.228
67	5.95	100	125	0.00	0.00	--	0.00	0.00	457.87	-5.29	86.633
68	6.05	100	125	0.00	0.00	--	0.00	0.00	353.92	0.00	100.000

Combinazione n° 2 - STR (A1-M1-R3)

n°	Y [m]	B [cm]	H [cm]	A_{sw} [cmq]	s [cm]	cotθ	V_{Rcd} [kN]	V_{Rsd} [kN]	V_{Rd} [kN]	T [kN]	FS
1	-1.85	100	125	0.00	0.00	--	0.00	0.00	457.87	0.00	100.000
2	-1.75	100	125	0.00	0.00	--	0.00	0.00	457.87	-17.04	26.869
3	-1.66	100	125	0.00	0.00	--	0.00	0.00	457.87	-34.11	13.422
4	-1.56	100	125	0.00	0.00	--	0.00	0.00	457.87	-51.22	8.940
5	-1.46	100	125	0.00	0.00	--	0.00	0.00	457.87	-68.35	6.699
6	-1.37	100	125	0.00	0.00	--	0.00	0.00	457.87	-85.52	5.354
7	-1.27	100	125	0.00	0.00	--	0.00	0.00	457.87	-102.72	4.458
8	-1.18	100	125	0.00	0.00	--	0.00	0.00	457.87	-119.95	3.817
9	-1.08	100	125	0.00	0.00	--	0.00	0.00	457.87	-137.21	3.337
10	-0.98	100	125	0.00	0.00	--	0.00	0.00	457.87	-154.50	2.963
11	-0.89	100	125	0.00	0.00	--	0.00	0.00	457.87	-171.83	2.665
12	-0.79	100	125	0.00	0.00	--	0.00	0.00	457.87	-189.18	2.420
13	-0.69	100	125	0.00	0.00	--	0.00	0.00	457.87	-206.57	2.217
14	-0.60	100	125	0.00	0.00	--	0.00	0.00	457.87	-223.99	2.044
15	-0.50	100	125	0.00	0.00	--	0.00	0.00	457.87	-241.44	1.896
16	0.85	100	125	0.00	0.00	--	0.00	0.00	457.87	-314.57	1.456
17	0.95	100	125	0.00	0.00	--	0.00	0.00	457.87	-306.71	1.493
18	1.05	100	125	0.00	0.00	--	0.00	0.00	457.87	-298.89	1.532
19	1.15	100	125	0.00	0.00	--	0.00	0.00	457.87	-291.10	1.573
20	1.25	100	125	0.00	0.00	--	0.00	0.00	457.87	-283.34	1.616
21	1.35	100	125	0.00	0.00	--	0.00	0.00	457.87	-275.62	1.661
22	1.45	100	125	0.00	0.00	--	0.00	0.00	457.87	-267.94	1.709
23	1.55	100	125	0.00	0.00	--	0.00	0.00	457.87	-260.28	1.759
24	1.65	100	125	0.00	0.00	--	0.00	0.00	457.87	-252.66	1.812
25	1.75	100	125	0.00	0.00	--	0.00	0.00	457.87	-245.08	1.868
26	1.85	100	125	0.00	0.00	--	0.00	0.00	457.87	-237.53	1.928
27	1.95	100	125	0.00	0.00	--	0.00	0.00	457.87	-230.01	1.991
28	2.05	100	125	0.00	0.00	--	0.00	0.00	457.87	-222.53	2.058
29	2.15	100	125	0.00	0.00	--	0.00	0.00	457.87	-215.08	2.129
30	2.25	100	125	0.00	0.00	--	0.00	0.00	457.87	-207.66	2.205
31	2.35	100	125	0.00	0.00	--	0.00	0.00	457.87	-200.28	2.286
32	2.45	100	125	0.00	0.00	--	0.00	0.00	457.87	-192.93	2.373
33	2.55	100	125	0.00	0.00	--	0.00	0.00	457.87	-185.62	2.467
34	2.65	100	125	0.00	0.00	--	0.00	0.00	457.87	-178.34	2.567
35	2.75	100	125	0.00	0.00	--	0.00	0.00	457.87	-171.09	2.676
36	2.85	100	125	0.00	0.00	--	0.00	0.00	457.87	-163.88	2.794
37	2.95	100	125	0.00	0.00	--	0.00	0.00	457.87	-156.70	2.922
38	3.05	100	125	0.00	0.00	--	0.00	0.00	457.87	-150.37	3.045
39	3.15	100	125	0.00	0.00	--	0.00	0.00	457.87	-144.85	3.161
40	3.25	100	125	0.00	0.00	--	0.00	0.00	457.87	-139.37	3.285
41	3.35	100	125	0.00	0.00	--	0.00	0.00	457.87	-133.92	3.419
42	3.45	100	125	0.00	0.00	--	0.00	0.00	457.87	-128.51	3.563
43	3.55	100	125	0.00	0.00	--	0.00	0.00	457.87	-123.12	3.719
44	3.65	100	125	0.00	0.00	--	0.00	0.00	457.87	-117.78	3.888
45	3.75	100	125	0.00	0.00	--	0.00	0.00	457.87	-112.46	4.071
46	3.85	100	125	0.00	0.00	--	0.00	0.00	457.87	-107.19	4.272
47	3.95	100	125	0.00	0.00	--	0.00	0.00	457.87	-101.94	4.492
48	4.05	100	125	0.00	0.00	--	0.00	0.00	457.87	-96.73	4.734
49	4.15	100	125	0.00	0.00	--	0.00	0.00	457.87	-91.55	5.001
50	4.25	100	125	0.00	0.00	--	0.00	0.00	457.87	-86.41	5.299
51	4.35	100	125	0.00	0.00	--	0.00	0.00	457.87	-81.30	5.632

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
52	4.45	100	125	0.00	0.00	--	0.00	0.00	457.87	-76.22	6.007
53	4.55	100	125	0.00	0.00	--	0.00	0.00	457.87	-71.18	6.432
54	4.65	100	125	0.00	0.00	--	0.00	0.00	457.87	-66.17	6.919
55	4.75	100	125	0.00	0.00	--	0.00	0.00	457.87	-61.20	7.481
56	4.85	100	125	0.00	0.00	--	0.00	0.00	457.87	-56.26	8.138
57	4.95	100	125	0.00	0.00	--	0.00	0.00	457.87	-51.36	8.915
58	5.05	100	125	0.00	0.00	--	0.00	0.00	457.87	-46.48	9.850
59	5.15	100	125	0.00	0.00	--	0.00	0.00	457.87	-41.65	10.994
60	5.25	100	125	0.00	0.00	--	0.00	0.00	457.87	-36.84	12.427
61	5.35	100	125	0.00	0.00	--	0.00	0.00	457.87	-32.07	14.275
62	5.45	100	125	0.00	0.00	--	0.00	0.00	457.87	-27.34	16.748
63	5.55	100	125	0.00	0.00	--	0.00	0.00	457.87	-22.64	20.227
64	5.65	100	125	0.00	0.00	--	0.00	0.00	457.87	-17.97	25.482
65	5.75	100	125	0.00	0.00	--	0.00	0.00	457.87	-13.33	34.337
66	5.85	100	125	0.00	0.00	--	0.00	0.00	457.87	-8.73	52.419
67	5.95	100	125	0.00	0.00	--	0.00	0.00	457.87	-4.17	109.830
68	6.05	100	125	0.00	0.00	--	0.00	0.00	353.92	0.00	100.000

Combinazione n° 3 - STR (A1-M1-R3) H + V

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
1	-1.85	100	125	0.00	0.00	--	0.00	0.00	457.87	0.00	100.000
2	-1.75	100	125	0.00	0.00	--	0.00	0.00	457.87	-25.31	18.087
3	-1.66	100	125	0.00	0.00	--	0.00	0.00	457.87	-50.43	9.079
4	-1.56	100	125	0.00	0.00	--	0.00	0.00	457.87	-75.36	6.076
5	-1.46	100	125	0.00	0.00	--	0.00	0.00	457.87	-100.09	4.575
6	-1.37	100	125	0.00	0.00	--	0.00	0.00	457.87	-124.62	3.674
7	-1.27	100	125	0.00	0.00	--	0.00	0.00	457.87	-148.96	3.074
8	-1.18	100	125	0.00	0.00	--	0.00	0.00	457.87	-173.11	2.645
9	-1.08	100	125	0.00	0.00	--	0.00	0.00	457.87	-197.06	2.324
10	-0.98	100	125	0.00	0.00	--	0.00	0.00	457.87	-220.81	2.074
11	-0.89	100	125	0.00	0.00	--	0.00	0.00	457.87	-244.37	1.874
12	-0.79	100	125	0.00	0.00	--	0.00	0.00	457.87	-267.73	1.710
13	-0.69	100	125	0.00	0.00	--	0.00	0.00	457.87	-290.90	1.574
14	-0.60	100	125	0.00	0.00	--	0.00	0.00	457.87	-313.88	1.459
15	-0.50	100	125	0.00	0.00	--	0.00	0.00	457.87	-336.66	1.360
16	0.85	100	125	0.00	0.00	--	0.00	0.00	457.87	-96.81	4.730
17	0.95	100	125	0.00	0.00	--	0.00	0.00	457.87	-100.29	4.565
18	1.05	100	125	0.00	0.00	--	0.00	0.00	457.87	-103.57	4.421
19	1.15	100	125	0.00	0.00	--	0.00	0.00	457.87	-106.64	4.294
20	1.25	100	125	0.00	0.00	--	0.00	0.00	457.87	-109.49	4.182
21	1.35	100	125	0.00	0.00	--	0.00	0.00	457.87	-112.14	4.083
22	1.45	100	125	0.00	0.00	--	0.00	0.00	457.87	-114.57	3.996
23	1.55	100	125	0.00	0.00	--	0.00	0.00	457.87	-116.80	3.920
24	1.65	100	125	0.00	0.00	--	0.00	0.00	457.87	-118.82	3.853
25	1.75	100	125	0.00	0.00	--	0.00	0.00	457.87	-120.63	3.796
26	1.85	100	125	0.00	0.00	--	0.00	0.00	457.87	-122.22	3.746
27	1.95	100	125	0.00	0.00	--	0.00	0.00	457.87	-123.61	3.704
28	2.05	100	125	0.00	0.00	--	0.00	0.00	457.87	-124.79	3.669
29	2.15	100	125	0.00	0.00	--	0.00	0.00	457.87	-125.76	3.641
30	2.25	100	125	0.00	0.00	--	0.00	0.00	457.87	-126.52	3.619
31	2.35	100	125	0.00	0.00	--	0.00	0.00	457.87	-127.07	3.603
32	2.45	100	125	0.00	0.00	--	0.00	0.00	457.87	-127.41	3.594
33	2.55	100	125	0.00	0.00	--	0.00	0.00	457.87	-127.54	3.590
34	2.65	100	125	0.00	0.00	--	0.00	0.00	457.87	-127.46	3.592
35	2.75	100	125	0.00	0.00	--	0.00	0.00	457.87	-127.17	3.600
36	2.85	100	125	0.00	0.00	--	0.00	0.00	457.87	-126.67	3.615
37	2.95	100	125	0.00	0.00	--	0.00	0.00	457.87	-125.96	3.635
38	3.05	100	125	0.00	0.00	--	0.00	0.00	457.87	-125.05	3.662
39	3.15	100	125	0.00	0.00	--	0.00	0.00	457.87	-123.92	3.695
40	3.25	100	125	0.00	0.00	--	0.00	0.00	457.87	-122.58	3.735
41	3.35	100	125	0.00	0.00	--	0.00	0.00	457.87	-121.03	3.783
42	3.45	100	125	0.00	0.00	--	0.00	0.00	457.87	-119.28	3.839
43	3.55	100	125	0.00	0.00	--	0.00	0.00	457.87	-117.31	3.903
44	3.65	100	125	0.00	0.00	--	0.00	0.00	457.87	-115.13	3.977
45	3.75	100	125	0.00	0.00	--	0.00	0.00	457.87	-112.75	4.061
46	3.85	100	125	0.00	0.00	--	0.00	0.00	457.87	-110.15	4.157
47	3.95	100	125	0.00	0.00	--	0.00	0.00	457.87	-107.35	4.265
48	4.05	100	125	0.00	0.00	--	0.00	0.00	457.87	-104.33	4.389
49	4.15	100	125	0.00	0.00	--	0.00	0.00	457.87	-101.11	4.528
50	4.25	100	125	0.00	0.00	--	0.00	0.00	457.87	-97.67	4.688
51	4.35	100	125	0.00	0.00	--	0.00	0.00	457.87	-94.03	4.869
52	4.45	100	125	0.00	0.00	--	0.00	0.00	457.87	-90.18	5.077
53	4.55	100	125	0.00	0.00	--	0.00	0.00	457.87	-86.11	5.317
54	4.65	100	125	0.00	0.00	--	0.00	0.00	457.87	-81.84	5.595
55	4.75	100	125	0.00	0.00	--	0.00	0.00	457.87	-77.36	5.919
56	4.85	100	125	0.00	0.00	--	0.00	0.00	457.87	-72.66	6.301
57	4.95	100	125	0.00	0.00	--	0.00	0.00	457.87	-67.76	6.757
58	5.05	100	125	0.00	0.00	--	0.00	0.00	457.87	-62.65	7.308
59	5.15	100	125	0.00	0.00	--	0.00	0.00	457.87	-57.33	7.987
60	5.25	100	125	0.00	0.00	--	0.00	0.00	457.87	-51.80	8.840

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
61	5.35	100	125	0.00	0.00	--	0.00	0.00	457.87	-46.06	9.941
62	5.45	100	125	0.00	0.00	--	0.00	0.00	457.87	-40.11	11.416
63	5.55	100	125	0.00	0.00	--	0.00	0.00	457.87	-33.95	13.488
64	5.65	100	125	0.00	0.00	--	0.00	0.00	457.87	-27.58	16.604
65	5.75	100	125	0.00	0.00	--	0.00	0.00	457.87	-21.00	21.807
66	5.85	100	125	0.00	0.00	--	0.00	0.00	457.87	-14.21	32.227
67	5.95	100	125	0.00	0.00	--	0.00	0.00	457.87	-7.21	63.517
68	6.05	100	125	0.00	0.00	--	0.00	0.00	353.92	0.00	100.000

Combinazione n° 4 - STR (A1-M1-R3) H - V

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
1	-1.85	100	125	0.00	0.00	--	0.00	0.00	457.87	0.00	100.000
2	-1.75	100	125	0.00	0.00	--	0.00	0.00	457.87	-22.98	19.921
3	-1.66	100	125	0.00	0.00	--	0.00	0.00	457.87	-45.77	10.003
4	-1.56	100	125	0.00	0.00	--	0.00	0.00	457.87	-68.37	6.697
5	-1.46	100	125	0.00	0.00	--	0.00	0.00	457.87	-90.78	5.044
6	-1.37	100	125	0.00	0.00	--	0.00	0.00	457.87	-112.99	4.052
7	-1.27	100	125	0.00	0.00	--	0.00	0.00	457.87	-135.01	3.391
8	-1.18	100	125	0.00	0.00	--	0.00	0.00	457.87	-156.84	2.919
9	-1.08	100	125	0.00	0.00	--	0.00	0.00	457.87	-178.48	2.565
10	-0.98	100	125	0.00	0.00	--	0.00	0.00	457.87	-199.92	2.290
11	-0.89	100	125	0.00	0.00	--	0.00	0.00	457.87	-221.17	2.070
12	-0.79	100	125	0.00	0.00	--	0.00	0.00	457.87	-242.23	1.890
13	-0.69	100	125	0.00	0.00	--	0.00	0.00	457.87	-263.09	1.740
14	-0.60	100	125	0.00	0.00	--	0.00	0.00	457.87	-283.77	1.614
15	-0.50	100	125	0.00	0.00	--	0.00	0.00	457.87	-304.25	1.505
16	0.85	100	125	0.00	0.00	--	0.00	0.00	457.87	-215.41	2.126
17	0.95	100	125	0.00	0.00	--	0.00	0.00	457.87	-216.55	2.114
18	1.05	100	125	0.00	0.00	--	0.00	0.00	457.87	-217.48	2.105
19	1.15	100	125	0.00	0.00	--	0.00	0.00	457.87	-218.21	2.098
20	1.25	100	125	0.00	0.00	--	0.00	0.00	457.87	-218.72	2.093
21	1.35	100	125	0.00	0.00	--	0.00	0.00	457.87	-219.03	2.090
22	1.45	100	125	0.00	0.00	--	0.00	0.00	457.87	-219.14	2.089
23	1.55	100	125	0.00	0.00	--	0.00	0.00	457.87	-219.03	2.090
24	1.65	100	125	0.00	0.00	--	0.00	0.00	457.87	-218.72	2.093
25	1.75	100	125	0.00	0.00	--	0.00	0.00	457.87	-218.20	2.098
26	1.85	100	125	0.00	0.00	--	0.00	0.00	457.87	-217.48	2.105
27	1.95	100	125	0.00	0.00	--	0.00	0.00	457.87	-216.54	2.114
28	2.05	100	125	0.00	0.00	--	0.00	0.00	457.87	-215.40	2.126
29	2.15	100	125	0.00	0.00	--	0.00	0.00	457.87	-214.06	2.139
30	2.25	100	125	0.00	0.00	--	0.00	0.00	457.87	-212.50	2.155
31	2.35	100	125	0.00	0.00	--	0.00	0.00	457.87	-210.74	2.173
32	2.45	100	125	0.00	0.00	--	0.00	0.00	457.87	-208.77	2.193
33	2.55	100	125	0.00	0.00	--	0.00	0.00	457.87	-206.60	2.216
34	2.65	100	125	0.00	0.00	--	0.00	0.00	457.87	-204.22	2.242
35	2.75	100	125	0.00	0.00	--	0.00	0.00	457.87	-201.63	2.271
36	2.85	100	125	0.00	0.00	--	0.00	0.00	457.87	-198.83	2.303
37	2.95	100	125	0.00	0.00	--	0.00	0.00	457.87	-195.83	2.338
38	3.05	100	125	0.00	0.00	--	0.00	0.00	457.87	-192.62	2.377
39	3.15	100	125	0.00	0.00	--	0.00	0.00	457.87	-189.20	2.420
40	3.25	100	125	0.00	0.00	--	0.00	0.00	457.87	-185.57	2.467
41	3.35	100	125	0.00	0.00	--	0.00	0.00	457.87	-181.74	2.519
42	3.45	100	125	0.00	0.00	--	0.00	0.00	457.87	-177.70	2.577
43	3.55	100	125	0.00	0.00	--	0.00	0.00	457.87	-173.46	2.640
44	3.65	100	125	0.00	0.00	--	0.00	0.00	457.87	-169.00	2.709
45	3.75	100	125	0.00	0.00	--	0.00	0.00	457.87	-164.34	2.786
46	3.85	100	125	0.00	0.00	--	0.00	0.00	457.87	-159.48	2.871
47	3.95	100	125	0.00	0.00	--	0.00	0.00	457.87	-154.40	2.965
48	4.05	100	125	0.00	0.00	--	0.00	0.00	457.87	-149.12	3.070
49	4.15	100	125	0.00	0.00	--	0.00	0.00	457.87	-143.63	3.188
50	4.25	100	125	0.00	0.00	--	0.00	0.00	457.87	-137.94	3.319
51	4.35	100	125	0.00	0.00	--	0.00	0.00	457.87	-132.03	3.468
52	4.45	100	125	0.00	0.00	--	0.00	0.00	457.87	-125.92	3.636
53	4.55	100	125	0.00	0.00	--	0.00	0.00	457.87	-119.61	3.828
54	4.65	100	125	0.00	0.00	--	0.00	0.00	457.87	-113.08	4.049
55	4.75	100	125	0.00	0.00	--	0.00	0.00	457.87	-106.35	4.305
56	4.85	100	125	0.00	0.00	--	0.00	0.00	457.87	-99.41	4.606
57	4.95	100	125	0.00	0.00	--	0.00	0.00	457.87	-92.27	4.962
58	5.05	100	125	0.00	0.00	--	0.00	0.00	457.87	-84.91	5.392
59	5.15	100	125	0.00	0.00	--	0.00	0.00	457.87	-77.35	5.919
60	5.25	100	125	0.00	0.00	--	0.00	0.00	457.87	-69.59	6.580
61	5.35	100	125	0.00	0.00	--	0.00	0.00	457.87	-61.61	7.431
62	5.45	100	125	0.00	0.00	--	0.00	0.00	457.87	-53.43	8.569
63	5.55	100	125	0.00	0.00	--	0.00	0.00	457.87	-45.05	10.164
64	5.65	100	125	0.00	0.00	--	0.00	0.00	457.87	-36.45	12.561
65	5.75	100	125	0.00	0.00	--	0.00	0.00	457.87	-27.65	16.560
66	5.85	100	125	0.00	0.00	--	0.00	0.00	457.87	-18.64	24.564
67	5.95	100	125	0.00	0.00	--	0.00	0.00	457.87	-9.42	48.588
68	6.05	100	125	0.00	0.00	--	0.00	0.00	353.92	0.00	100.000

Combinazione n° 9 - ECC

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
1	-1.85	100	125	0.00	0.00	--	0.00	0.00	457.87	0.00	100.000
2	-1.75	100	125	0.00	0.00	--	0.00	0.00	457.87	-15.04	30.445
3	-1.66	100	125	0.00	0.00	--	0.00	0.00	457.87	-30.10	15.211
4	-1.56	100	125	0.00	0.00	--	0.00	0.00	457.87	-45.18	10.133
5	-1.46	100	125	0.00	0.00	--	0.00	0.00	457.87	-60.29	7.595
6	-1.37	100	125	0.00	0.00	--	0.00	0.00	457.87	-75.42	6.071
7	-1.27	100	125	0.00	0.00	--	0.00	0.00	457.87	-90.57	5.056
8	-1.18	100	125	0.00	0.00	--	0.00	0.00	457.87	-105.74	4.330
9	-1.08	100	125	0.00	0.00	--	0.00	0.00	457.87	-120.93	3.786
10	-0.98	100	125	0.00	0.00	--	0.00	0.00	457.87	-136.15	3.363
11	-0.89	100	125	0.00	0.00	--	0.00	0.00	457.87	-151.39	3.024
12	-0.79	100	125	0.00	0.00	--	0.00	0.00	457.87	-166.65	2.747
13	-0.69	100	125	0.00	0.00	--	0.00	0.00	457.87	-181.93	2.517
14	-0.60	100	125	0.00	0.00	--	0.00	0.00	457.87	-197.24	2.321
15	-0.50	100	125	0.00	0.00	--	0.00	0.00	457.87	-212.57	2.154
16	0.85	100	125	0.00	0.00	--	0.00	0.00	457.87	-12.93	35.413
17	0.95	100	125	0.00	0.00	--	0.00	0.00	457.87	-12.07	37.930
18	1.05	100	125	0.00	0.00	--	0.00	0.00	457.87	-11.24	40.746
19	1.15	100	125	0.00	0.00	--	0.00	0.00	457.87	-10.43	43.913
20	1.25	100	125	0.00	0.00	--	0.00	0.00	457.87	-9.64	47.495
21	1.35	100	125	0.00	0.00	--	0.00	0.00	457.87	-8.88	51.575
22	1.45	100	125	0.00	0.00	--	0.00	0.00	457.87	-8.14	56.256
23	1.55	100	125	0.00	0.00	--	0.00	0.00	457.87	-7.42	61.671
24	1.65	100	125	0.00	0.00	--	0.00	0.00	457.87	-6.73	67.998
25	1.75	100	125	0.00	0.00	--	0.00	0.00	457.87	-6.07	75.474
26	1.85	100	125	0.00	0.00	--	0.00	0.00	457.87	-5.42	84.422
27	1.95	100	125	0.00	0.00	--	0.00	0.00	457.87	-4.80	95.302
28	2.05	100	125	0.00	0.00	--	0.00	0.00	457.87	-4.21	108.778
29	2.15	100	125	0.00	0.00	--	0.00	0.00	457.87	-3.64	125.862
30	2.25	100	125	0.00	0.00	--	0.00	0.00	457.87	-3.09	148.156
31	2.35	100	125	0.00	0.00	--	0.00	0.00	457.87	-2.57	178.372
32	2.45	100	125	0.00	0.00	--	0.00	0.00	457.87	-2.07	221.480
33	2.55	100	125	0.00	0.00	--	0.00	0.00	457.87	-1.59	287.679
34	2.65	100	125	0.00	0.00	--	0.00	0.00	457.87	-1.14	401.715
35	2.75	100	125	0.00	0.00	--	0.00	0.00	457.87	-0.71	643.188
36	2.85	100	125	0.00	0.00	--	0.00	0.00	457.87	-0.31	1487.235
37	2.95	100	125	0.00	0.00	--	0.00	0.00	457.87	0.07	6338.139
38	3.05	100	125	0.00	0.00	--	0.00	0.00	457.87	0.43	1068.678
39	3.15	100	125	0.00	0.00	--	0.00	0.00	457.87	0.76	601.869
40	3.25	100	125	0.00	0.00	--	0.00	0.00	457.87	1.07	428.257
41	3.35	100	125	0.00	0.00	--	0.00	0.00	457.87	1.35	338.250
42	3.45	100	125	0.00	0.00	--	0.00	0.00	457.87	1.61	283.644
43	3.55	100	125	0.00	0.00	--	0.00	0.00	457.87	1.85	247.372
44	3.65	100	125	0.00	0.00	--	0.00	0.00	457.87	2.06	221.866
45	3.75	100	125	0.00	0.00	--	0.00	0.00	457.87	2.25	203.262
46	3.85	100	125	0.00	0.00	--	0.00	0.00	457.87	2.42	189.390
47	3.95	100	125	0.00	0.00	--	0.00	0.00	457.87	2.56	178.948
48	4.05	100	125	0.00	0.00	--	0.00	0.00	457.87	2.68	171.111
49	4.15	100	125	0.00	0.00	--	0.00	0.00	457.87	2.77	165.347
50	4.25	100	125	0.00	0.00	--	0.00	0.00	457.87	2.84	161.306
51	4.35	100	125	0.00	0.00	--	0.00	0.00	457.87	2.88	158.762
52	4.45	100	125	0.00	0.00	--	0.00	0.00	457.87	2.91	157.584
53	4.55	100	125	0.00	0.00	--	0.00	0.00	457.87	2.90	157.710
54	4.65	100	125	0.00	0.00	--	0.00	0.00	457.87	2.88	159.148
55	4.75	100	125	0.00	0.00	--	0.00	0.00	457.87	2.83	161.971
56	4.85	100	125	0.00	0.00	--	0.00	0.00	457.87	2.75	166.327
57	4.95	100	125	0.00	0.00	--	0.00	0.00	457.87	2.65	172.463
58	5.05	100	125	0.00	0.00	--	0.00	0.00	457.87	2.53	180.758
59	5.15	100	125	0.00	0.00	--	0.00	0.00	457.87	2.39	191.794
60	5.25	100	125	0.00	0.00	--	0.00	0.00	457.87	2.22	206.466
61	5.35	100	125	0.00	0.00	--	0.00	0.00	457.87	2.02	226.208
62	5.45	100	125	0.00	0.00	--	0.00	0.00	457.87	1.81	253.435
63	5.55	100	125	0.00	0.00	--	0.00	0.00	457.87	1.57	292.512
64	5.65	100	125	0.00	0.00	--	0.00	0.00	457.87	1.30	352.195
65	5.75	100	125	0.00	0.00	--	0.00	0.00	457.87	1.01	452.938
66	5.85	100	125	0.00	0.00	--	0.00	0.00	457.87	0.70	656.135
67	5.95	100	125	0.00	0.00	--	0.00	0.00	457.87	0.36	1268.811
68	6.05	100	125	0.00	0.00	--	0.00	0.00	353.92	0.00	100.000

Verifica a fessurazione

Simbologia adottata

n°	indice sezione
Y	ordinata sezione espressa in [m]
B	larghezza sezione espresso in [cm]
H	altezza sezione espressa in [cm]
Af	area ferri zona tesa espresso in [cmq]
Aeff	area efficace espressa in [cmq]
M	momento agente espressa in [kNm]
Mpf	momento di formazione/apertura fessure espressa in [kNm]
ε	deformazione espresso in %
Sm	spaziatura tra le fessure espressa in [mm]
w	apertura delle fessure espressa in [mm]

Combinazioni SLEF

Paramento

Combinazione n° 11 - SLEF

Apertura limite fessure w_{lim}=0.30

n°	Y	B	H	Af	Aeff	M	Mpf	ε	Sm	w
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kNm]	[%]	[mm]	[mm]
1	0.00	100	50	31.42	1190.27	0.39	141.69	0.000000	0.00	0.000
2	-0.10	100	51	31.42	1214.83	0.39	146.96	0.000000	0.00	0.000
3	-0.20	100	52	31.42	1239.43	0.41	152.32	0.000000	0.00	0.000
4	-0.30	100	53	31.42	1264.05	0.44	157.75	0.000000	0.00	0.000
5	-0.40	100	54	31.42	1288.71	0.49	163.28	0.000000	0.00	0.000
6	-0.50	100	55	31.42	1313.39	0.57	168.89	0.000000	0.00	0.000
7	-0.60	100	56	31.42	1338.10	0.67	174.59	0.000000	0.00	0.000
8	-0.70	100	57	31.42	1362.84	0.81	180.37	0.000000	0.00	0.000
9	-0.80	100	58	31.42	1387.60	0.99	186.23	0.000000	0.00	0.000
10	-0.90	100	59	31.42	1412.39	1.22	192.18	0.000000	0.00	0.000
11	-1.00	100	59	31.42	1437.20	1.49	198.22	0.000000	0.00	0.000
12	-1.10	100	60	31.42	1462.04	1.82	204.36	0.000000	0.00	0.000
13	-1.20	100	61	31.42	1486.90	2.21	210.57	0.000000	0.00	0.000
14	-1.30	100	62	31.42	1500.00	2.66	216.86	0.000000	0.00	0.000
15	-1.40	100	63	31.42	1500.00	3.18	223.24	0.000000	0.00	0.000
16	-1.50	100	64	31.42	1500.00	3.78	229.70	0.000000	0.00	0.000
17	-1.60	100	65	31.42	1500.00	4.45	236.25	0.000000	0.00	0.000
18	-1.70	100	66	31.42	1500.00	5.21	242.89	0.000000	0.00	0.000
19	-1.80	100	67	31.42	1500.00	6.05	249.61	0.000000	0.00	0.000
20	-1.90	100	68	31.42	1500.00	6.99	256.43	0.000000	0.00	0.000
21	-2.00	100	69	31.42	1500.00	8.02	263.33	0.000000	0.00	0.000
22	-2.10	100	70	31.42	1500.00	9.16	270.31	0.000000	0.00	0.000
23	-2.20	100	71	31.42	1500.00	10.41	277.37	0.000000	0.00	0.000
24	-2.30	100	72	31.42	1500.00	11.76	284.53	0.000000	0.00	0.000
25	-2.40	100	73	31.42	1500.00	13.24	291.77	0.000000	0.00	0.000
26	-2.50	100	74	31.42	1500.00	14.83	299.12	0.000000	0.00	0.000
27	-2.60	100	75	31.42	1500.00	16.56	306.51	0.000000	0.00	0.000
28	-2.70	100	76	31.42	1500.00	18.41	314.01	0.000000	0.00	0.000
29	-2.80	100	76	31.42	1500.00	20.40	321.62	0.000000	0.00	0.000
30	-2.90	100	77	31.42	1500.00	22.53	329.28	0.000000	0.00	0.000
31	-3.00	100	78	31.42	1500.00	24.81	337.04	0.000000	0.00	0.000
32	-3.10	100	79	31.42	1500.00	27.24	344.89	0.000000	0.00	0.000
33	-3.20	100	80	31.42	1500.00	29.83	352.84	0.000000	0.00	0.000
34	-3.30	100	81	31.42	1500.00	32.57	370.87	0.000000	0.00	0.000
35	-3.40	100	82	31.42	1500.00	35.49	379.18	0.000000	0.00	0.000
36	-3.50	100	83	31.42	1500.00	38.57	387.55	0.000000	0.00	0.000
37	-3.60	100	84	31.42	1500.00	41.82	396.04	0.000000	0.00	0.000
38	-3.70	100	85	31.42	1500.00	45.26	404.61	0.000000	0.00	0.000
39	-3.80	100	86	31.42	1500.00	48.88	413.27	0.000000	0.00	0.000
40	-3.90	100	87	31.42	1500.00	52.69	422.02	0.000000	0.00	0.000
41	-4.00	100	88	31.42	1500.00	56.70	430.83	0.000000	0.00	0.000
42	-4.10	100	89	31.42	1500.00	60.90	439.77	0.000000	0.00	0.000
43	-4.20	100	90	31.42	1500.00	65.31	448.77	0.000000	0.00	0.000

n°	Y	B	H	Af	Aeff	M	Mpf	ε	Sm	w
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kNm]	[%]	[mm]	[mm]
44	-4.30	100	91	31.42	1500.00	69.93	457.87	0.000000	0.00	0.000
45	-4.40	100	92	62.83	1500.00	74.76	527.18	0.000000	0.00	0.000
46	-4.50	100	93	62.83	1500.00	79.81	537.21	0.000000	0.00	0.000
47	-4.60	100	93	62.83	1500.00	85.09	547.35	0.000000	0.00	0.000
48	-4.70	100	94	62.83	1500.00	90.59	557.56	0.000000	0.00	0.000
49	-4.80	100	95	62.83	1500.00	96.33	567.86	0.000000	0.00	0.000
50	-4.90	100	96	62.83	1500.00	102.30	578.27	0.000000	0.00	0.000
51	-5.00	100	97	62.83	1500.00	108.52	588.74	0.000000	0.00	0.000
52	-5.10	100	98	62.83	1500.00	114.98	599.34	0.000000	0.00	0.000
53	-5.20	100	99	62.83	1500.00	121.70	609.97	0.000000	0.00	0.000
54	-5.30	100	100	62.83	1500.00	128.67	620.73	0.000000	0.00	0.000
55	-5.40	100	101	62.83	1500.00	135.91	631.61	0.000000	0.00	0.000
56	-5.50	100	102	62.83	1500.00	143.41	642.52	0.000000	0.00	0.000
57	-5.60	100	103	62.83	1500.00	151.18	653.55	0.000000	0.00	0.000
58	-5.70	100	104	62.83	1500.00	159.24	664.67	0.000000	0.00	0.000
59	-5.80	100	105	62.83	1500.00	167.57	675.88	0.000000	0.00	0.000
60	-5.90	100	106	62.83	1500.00	176.19	687.14	0.000000	0.00	0.000
61	-6.00	100	107	62.83	1500.00	185.10	698.54	0.000000	0.00	0.000
62	-6.10	100	108	62.83	1500.00	194.30	710.00	0.000000	0.00	0.000
63	-6.20	100	109	62.83	1500.00	203.81	721.58	0.000000	0.00	0.000
64	-6.30	100	110	62.83	1500.00	213.63	733.23	0.000000	0.00	0.000
65	-6.40	100	110	62.83	1500.00	223.75	744.97	0.000000	0.00	0.000
66	-6.50	100	111	62.83	1500.00	234.19	756.82	0.000000	0.00	0.000
67	-6.60	100	112	62.83	1500.00	244.95	768.77	0.000000	0.00	0.000
68	-6.70	100	113	62.83	1500.00	256.03	780.77	0.000000	0.00	0.000
69	-6.80	100	114	62.83	1500.00	267.44	792.88	0.000000	0.00	0.000
70	-6.90	100	115	62.83	1500.00	279.19	805.08	0.000000	0.00	0.000
71	-7.00	100	116	62.83	1500.00	291.28	817.40	0.000000	0.00	0.000
72	-7.10	100	117	62.83	1500.00	303.71	829.76	0.000000	0.00	0.000
73	-7.20	100	118	62.83	1500.00	316.50	842.23	0.000000	0.00	0.000
74	-7.30	100	119	62.83	1500.00	329.63	854.79	0.000000	0.00	0.000
75	-7.40	100	120	62.83	1500.00	343.13	867.48	0.000000	0.00	0.000
76	-7.50	100	121	62.83	1500.00	356.98	880.19	0.000000	0.00	0.000
77	-7.60	100	122	62.83	1500.00	371.21	893.04	0.000000	0.00	0.000
78	-7.70	100	123	62.83	1500.00	385.81	905.96	0.000000	0.00	0.000
79	-7.80	100	124	62.83	1500.00	400.79	919.02	0.000000	0.00	0.000
80	-7.90	100	125	62.83	1500.00	416.15	932.16	0.000000	0.00	0.000
81	-8.00	100	126	62.83	1500.00	431.90	945.30	0.000000	0.00	0.000
82	-8.10	100	127	62.83	1500.00	448.04	958.61	0.000000	0.00	0.000
83	-8.20	100	128	62.83	1500.00	464.58	992.23	0.000000	0.00	0.000
84	-8.30	100	128	31.42	1500.00	481.52	853.38	0.000000	0.00	0.000
85	-8.40	100	129	31.42	1500.00	498.87	865.75	0.000000	0.00	0.000
86	-8.50	100	130	31.42	1500.00	516.63	878.18	0.000000	0.00	0.000
87	-8.60	100	131	31.42	1500.00	534.81	890.77	0.000000	0.00	0.000
88	-8.70	100	132	31.42	1500.00	553.41	903.39	0.000000	0.00	0.000
89	-8.80	100	133	31.42	1500.00	572.44	916.14	0.000000	0.00	0.000
90	-8.90	100	134	31.42	1500.00	591.90	928.97	0.000000	0.00	0.000
91	-8.99	100	135	31.42	1500.00	611.79	940.70	0.000000	0.00	0.000

Mensola valle

Combinazione n° 11 - SLEF

Apertura limite fessure w_{lim}=0.30

n°	Y	B	H	Af	Aeff	M	Mpf	ε	Sm	w
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kNm]	[%]	[mm]	[mm]
1	-0.75	100	50	0.00	0.00	0.00	0.00	---	---	0.000
2	-0.67	100	50	15.71	1283.16	-0.04	-123.05	0.000000	0.00	0.000
3	-0.58	100	50	15.71	1283.16	-0.17	-123.05	0.000000	0.00	0.000
4	-0.50	100	50	15.71	1283.16	-0.39	-123.05	0.000000	0.00	0.000
5	-0.50	100	50	15.71	1283.16	-0.39	-123.05	0.000000	0.00	0.000

Fondazione

Combinazione n° 11 - SLEF

Apertura limite fessure w_{lim}=0.30

n°	Y	B	H	Af	Aeff	M	Mpf	ε	Sm	w
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kNm]	[%]	[mm]	[mm]
1	-1.85	100	125	0.00	0.00	0.00	0.00	---	---	0.000
2	-1.75	100	125	27.14	1550.00	0.67	771.81	0.000000	0.00	0.000
3	-1.66	100	125	27.14	1550.00	2.68	771.81	0.000000	0.00	0.000
4	-1.56	100	125	27.14	1550.00	6.04	771.81	0.000000	0.00	0.000
5	-1.46	100	125	27.14	1550.00	10.76	771.81	0.000000	0.00	0.000
6	-1.37	100	125	27.14	1550.00	16.83	771.81	0.000000	0.00	0.000
7	-1.27	100	125	27.14	1550.00	24.26	771.81	0.000000	0.00	0.000
8	-1.18	100	125	27.14	1550.00	33.06	771.81	0.000000	0.00	0.000
9	-1.08	100	125	27.14	1550.00	43.23	771.81	0.000000	0.00	0.000
10	-0.98	100	125	27.14	1550.00	54.78	771.81	0.000000	0.00	0.000
11	-0.89	100	125	27.14	1550.00	67.71	771.81	0.000000	0.00	0.000
12	-0.79	100	125	27.14	1550.00	82.03	771.81	0.000000	0.00	0.000
13	-0.69	100	125	27.14	1550.00	97.74	771.81	0.000000	0.00	0.000
14	-0.60	100	125	27.14	1550.00	114.84	771.81	0.000000	0.00	0.000
15	-0.50	100	125	27.14	1550.00	133.35	771.81	0.000000	0.00	0.000
16	0.85	100	125	27.14	1550.00	85.01	771.81	0.000000	0.00	0.000
17	0.95	100	125	27.14	1550.00	84.12	771.81	0.000000	0.00	0.000
18	1.05	100	125	27.14	1550.00	83.11	771.81	0.000000	0.00	0.000
19	1.15	100	125	27.14	1550.00	81.99	771.81	0.000000	0.00	0.000
20	1.25	100	125	27.14	1550.00	80.75	771.81	0.000000	0.00	0.000
21	1.35	100	125	27.14	1550.00	79.42	771.81	0.000000	0.00	0.000
22	1.45	100	125	27.14	1550.00	77.98	771.81	0.000000	0.00	0.000
23	1.55	100	125	27.14	1550.00	76.45	771.81	0.000000	0.00	0.000
24	1.65	100	125	27.14	1550.00	74.84	771.81	0.000000	0.00	0.000
25	1.75	100	125	27.14	1550.00	73.15	771.81	0.000000	0.00	0.000
26	1.85	100	125	27.14	1550.00	71.38	771.81	0.000000	0.00	0.000
27	1.95	100	125	27.14	1550.00	69.53	771.81	0.000000	0.00	0.000
28	2.05	100	125	27.14	1550.00	67.63	771.81	0.000000	0.00	0.000
29	2.15	100	125	27.14	1550.00	65.66	771.81	0.000000	0.00	0.000
30	2.25	100	125	27.14	1550.00	63.64	771.81	0.000000	0.00	0.000
31	2.35	100	125	27.14	1550.00	61.57	771.81	0.000000	0.00	0.000
32	2.45	100	125	27.14	1550.00	59.46	771.81	0.000000	0.00	0.000
33	2.55	100	125	27.14	1550.00	57.30	771.81	0.000000	0.00	0.000
34	2.65	100	125	27.14	1550.00	55.12	771.81	0.000000	0.00	0.000
35	2.75	100	125	27.14	1550.00	52.91	771.81	0.000000	0.00	0.000
36	2.85	100	125	27.14	1550.00	50.67	771.81	0.000000	0.00	0.000
37	2.95	100	125	27.14	1550.00	48.42	771.81	0.000000	0.00	0.000
38	3.05	100	125	27.14	1550.00	46.16	771.81	0.000000	0.00	0.000
39	3.15	100	125	27.14	1550.00	43.89	771.81	0.000000	0.00	0.000
40	3.25	100	125	27.14	1550.00	41.63	771.81	0.000000	0.00	0.000
41	3.35	100	125	27.14	1550.00	39.36	771.81	0.000000	0.00	0.000
42	3.45	100	125	27.14	1550.00	37.11	771.81	0.000000	0.00	0.000
43	3.55	100	125	27.14	1550.00	34.88	771.81	0.000000	0.00	0.000
44	3.65	100	125	27.14	1550.00	32.66	771.81	0.000000	0.00	0.000
45	3.75	100	125	27.14	1550.00	30.47	771.81	0.000000	0.00	0.000
46	3.85	100	125	27.14	1550.00	28.32	771.81	0.000000	0.00	0.000
47	3.95	100	125	27.14	1550.00	26.20	771.81	0.000000	0.00	0.000
48	4.05	100	125	27.14	1550.00	24.12	771.81	0.000000	0.00	0.000
49	4.15	100	125	27.14	1550.00	22.10	771.81	0.000000	0.00	0.000
50	4.25	100	125	27.14	1550.00	20.13	771.81	0.000000	0.00	0.000
51	4.35	100	125	27.14	1550.00	18.21	771.81	0.000000	0.00	0.000
52	4.45	100	125	27.14	1550.00	16.36	771.81	0.000000	0.00	0.000
53	4.55	100	125	27.14	1550.00	14.59	771.81	0.000000	0.00	0.000
54	4.65	100	125	27.14	1550.00	12.88	771.81	0.000000	0.00	0.000
55	4.75	100	125	27.14	1550.00	11.26	771.81	0.000000	0.00	0.000
56	4.85	100	125	27.14	1550.00	9.72	771.81	0.000000	0.00	0.000
57	4.95	100	125	27.14	1550.00	8.28	771.81	0.000000	0.00	0.000
58	5.05	100	125	27.14	1550.00	6.93	771.81	0.000000	0.00	0.000
59	5.15	100	125	27.14	1550.00	5.69	771.81	0.000000	0.00	0.000
60	5.25	100	125	27.14	1550.00	4.55	771.81	0.000000	0.00	0.000
61	5.35	100	125	27.14	1550.00	3.53	771.81	0.000000	0.00	0.000
62	5.45	100	125	27.14	1550.00	2.63	771.81	0.000000	0.00	0.000
63	5.55	100	125	27.14	1550.00	1.85	771.81	0.000000	0.00	0.000
64	5.65	100	125	27.14	1550.00	1.20	771.81	0.000000	0.00	0.000
65	5.75	100	125	27.14	1550.00	0.68	771.81	0.000000	0.00	0.000
66	5.85	100	125	27.14	1550.00	0.31	771.81	0.000000	0.00	0.000
67	5.95	100	125	27.14	1550.00	0.08	771.81	0.000000	0.00	0.000
68	6.05	100	125	0.00	0.00	0.00	0.00	0.000000	0.00	0.000

Combinazioni SLEQ

Paramento

Combinazione n° 12 - SLEQ

Apertura limite fessure w_{lim}=0.20

n°	Y	B	H	Af	Aeff	M	Mpf	ε	Sm	w
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kNm]	[%]	[mm]	[mm]
1	0.00	100	50	31.42	1190.27	0.39	141.69	0.000000	0.00	0.000
2	-0.10	100	51	31.42	1214.83	0.39	146.96	0.000000	0.00	0.000
3	-0.20	100	52	31.42	1239.43	0.41	152.32	0.000000	0.00	0.000
4	-0.30	100	53	31.42	1264.05	0.44	157.75	0.000000	0.00	0.000
5	-0.40	100	54	31.42	1288.71	0.49	163.28	0.000000	0.00	0.000
6	-0.50	100	55	31.42	1313.39	0.57	168.89	0.000000	0.00	0.000
7	-0.60	100	56	31.42	1338.10	0.67	174.59	0.000000	0.00	0.000
8	-0.70	100	57	31.42	1362.84	0.81	180.37	0.000000	0.00	0.000
9	-0.80	100	58	31.42	1387.60	0.99	186.23	0.000000	0.00	0.000
10	-0.90	100	59	31.42	1412.39	1.22	192.18	0.000000	0.00	0.000
11	-1.00	100	59	31.42	1437.20	1.49	198.22	0.000000	0.00	0.000
12	-1.10	100	60	31.42	1462.04	1.82	204.36	0.000000	0.00	0.000
13	-1.20	100	61	31.42	1486.90	2.21	210.57	0.000000	0.00	0.000
14	-1.30	100	62	31.42	1500.00	2.66	216.86	0.000000	0.00	0.000
15	-1.40	100	63	31.42	1500.00	3.18	223.24	0.000000	0.00	0.000
16	-1.50	100	64	31.42	1500.00	3.78	229.70	0.000000	0.00	0.000
17	-1.60	100	65	31.42	1500.00	4.45	236.25	0.000000	0.00	0.000
18	-1.70	100	66	31.42	1500.00	5.21	242.89	0.000000	0.00	0.000
19	-1.80	100	67	31.42	1500.00	6.05	249.61	0.000000	0.00	0.000
20	-1.90	100	68	31.42	1500.00	6.99	256.43	0.000000	0.00	0.000
21	-2.00	100	69	31.42	1500.00	8.02	263.33	0.000000	0.00	0.000
22	-2.10	100	70	31.42	1500.00	9.16	270.31	0.000000	0.00	0.000
23	-2.20	100	71	31.42	1500.00	10.41	277.37	0.000000	0.00	0.000
24	-2.30	100	72	31.42	1500.00	11.76	284.53	0.000000	0.00	0.000
25	-2.40	100	73	31.42	1500.00	13.24	291.77	0.000000	0.00	0.000
26	-2.50	100	74	31.42	1500.00	14.83	299.12	0.000000	0.00	0.000
27	-2.60	100	75	31.42	1500.00	16.56	306.51	0.000000	0.00	0.000
28	-2.70	100	76	31.42	1500.00	18.41	314.01	0.000000	0.00	0.000
29	-2.80	100	76	31.42	1500.00	20.40	321.62	0.000000	0.00	0.000
30	-2.90	100	77	31.42	1500.00	22.53	329.28	0.000000	0.00	0.000
31	-3.00	100	78	31.42	1500.00	24.81	337.04	0.000000	0.00	0.000
32	-3.10	100	79	31.42	1500.00	27.24	344.89	0.000000	0.00	0.000
33	-3.20	100	80	31.42	1500.00	29.83	352.84	0.000000	0.00	0.000
34	-3.30	100	81	31.42	1500.00	32.57	370.87	0.000000	0.00	0.000
35	-3.40	100	82	31.42	1500.00	35.49	379.18	0.000000	0.00	0.000
36	-3.50	100	83	31.42	1500.00	38.57	387.55	0.000000	0.00	0.000
37	-3.60	100	84	31.42	1500.00	41.82	396.04	0.000000	0.00	0.000
38	-3.70	100	85	31.42	1500.00	45.26	404.61	0.000000	0.00	0.000
39	-3.80	100	86	31.42	1500.00	48.88	413.27	0.000000	0.00	0.000
40	-3.90	100	87	31.42	1500.00	52.69	422.02	0.000000	0.00	0.000
41	-4.00	100	88	31.42	1500.00	56.70	430.83	0.000000	0.00	0.000
42	-4.10	100	89	31.42	1500.00	60.90	439.77	0.000000	0.00	0.000
43	-4.20	100	90	31.42	1500.00	65.31	448.77	0.000000	0.00	0.000
44	-4.30	100	91	31.42	1500.00	69.93	457.87	0.000000	0.00	0.000
45	-4.40	100	92	62.83	1500.00	74.76	527.18	0.000000	0.00	0.000
46	-4.50	100	93	62.83	1500.00	79.81	537.21	0.000000	0.00	0.000
47	-4.60	100	93	62.83	1500.00	85.09	547.35	0.000000	0.00	0.000
48	-4.70	100	94	62.83	1500.00	90.59	557.56	0.000000	0.00	0.000
49	-4.80	100	95	62.83	1500.00	96.33	567.86	0.000000	0.00	0.000
50	-4.90	100	96	62.83	1500.00	102.30	578.27	0.000000	0.00	0.000
51	-5.00	100	97	62.83	1500.00	108.52	588.74	0.000000	0.00	0.000
52	-5.10	100	98	62.83	1500.00	114.98	599.34	0.000000	0.00	0.000
53	-5.20	100	99	62.83	1500.00	121.70	609.97	0.000000	0.00	0.000
54	-5.30	100	100	62.83	1500.00	128.67	620.73	0.000000	0.00	0.000
55	-5.40	100	101	62.83	1500.00	135.91	631.61	0.000000	0.00	0.000
56	-5.50	100	102	62.83	1500.00	143.41	642.52	0.000000	0.00	0.000
57	-5.60	100	103	62.83	1500.00	151.18	653.55	0.000000	0.00	0.000
58	-5.70	100	104	62.83	1500.00	159.24	664.67	0.000000	0.00	0.000
59	-5.80	100	105	62.83	1500.00	167.57	675.88	0.000000	0.00	0.000
60	-5.90	100	106	62.83	1500.00	176.19	687.14	0.000000	0.00	0.000
61	-6.00	100	107	62.83	1500.00	185.10	698.54	0.000000	0.00	0.000
62	-6.10	100	108	62.83	1500.00	194.30	710.00	0.000000	0.00	0.000
63	-6.20	100	109	62.83	1500.00	203.81	721.58	0.000000	0.00	0.000
64	-6.30	100	110	62.83	1500.00	213.63	733.23	0.000000	0.00	0.000
65	-6.40	100	110	62.83	1500.00	223.75	744.97	0.000000	0.00	0.000
66	-6.50	100	111	62.83	1500.00	234.19	756.82	0.000000	0.00	0.000
67	-6.60	100	112	62.83	1500.00	244.95	768.77	0.000000	0.00	0.000
68	-6.70	100	113	62.83	1500.00	256.03	780.77	0.000000	0.00	0.000
69	-6.80	100	114	62.83	1500.00	267.44	792.88	0.000000	0.00	0.000
70	-6.90	100	115	62.83	1500.00	279.19	805.08	0.000000	0.00	0.000
71	-7.00	100	116	62.83	1500.00	291.28	817.40	0.000000	0.00	0.000
72	-7.10	100	117	62.83	1500.00	303.71	829.76	0.000000	0.00	0.000
73	-7.20	100	118	62.83	1500.00	316.50	842.23	0.000000	0.00	0.000
74	-7.30	100	119	62.83	1500.00	329.63	854.79	0.000000	0.00	0.000
75	-7.40	100	120	62.83	1500.00	343.13	867.48	0.000000	0.00	0.000
76	-7.50	100	121	62.83	1500.00	356.98	880.19	0.000000	0.00	0.000
77	-7.60	100	122	62.83	1500.00	371.21	893.04	0.000000	0.00	0.000
78	-7.70	100	123	62.83	1500.00	385.81	905.96	0.000000	0.00	0.000
79	-7.80	100	124	62.83	1500.00	400.79	919.02	0.000000	0.00	0.000
80	-7.90	100	125	62.83	1500.00	416.15	932.16	0.000000	0.00	0.000

n°	Y [m]	B [cm]	H [cm]	Af [cmq]	Aeff [cmq]	M [kNm]	Mpf [kNm]	ε [%]	Sm [mm]	w [mm]
81	-8.00	100	126	62.83	1500.00	431.90	945.30	0.000000	0.00	0.000
82	-8.10	100	127	62.83	1500.00	448.04	958.61	0.000000	0.00	0.000
83	-8.20	100	128	62.83	1500.00	464.58	992.23	0.000000	0.00	0.000
84	-8.30	100	128	31.42	1500.00	481.52	853.38	0.000000	0.00	0.000
85	-8.40	100	129	31.42	1500.00	498.87	865.75	0.000000	0.00	0.000
86	-8.50	100	130	31.42	1500.00	516.63	878.18	0.000000	0.00	0.000
87	-8.60	100	131	31.42	1500.00	534.81	890.77	0.000000	0.00	0.000
88	-8.70	100	132	31.42	1500.00	553.41	903.39	0.000000	0.00	0.000
89	-8.80	100	133	31.42	1500.00	572.44	916.14	0.000000	0.00	0.000
90	-8.90	100	134	31.42	1500.00	591.90	928.97	0.000000	0.00	0.000
91	-8.99	100	135	31.42	1500.00	611.79	940.70	0.000000	0.00	0.000

Mensola valle

Combinazione n° 12 - SLEQ

Apertura limite fessure w_{lim}=0.20

n°	Y [m]	B [cm]	H [cm]	Af [cmq]	Aeff [cmq]	M [kNm]	Mpf [kNm]	ε [%]	Sm [mm]	w [mm]
1	-0.75	100	50	0.00	0.00	0.00	0.00	---	---	0.000
2	-0.67	100	50	15.71	1283.16	-0.04	-123.05	0.000000	0.00	0.000
3	-0.58	100	50	15.71	1283.16	-0.17	-123.05	0.000000	0.00	0.000
4	-0.50	100	50	15.71	1283.16	-0.39	-123.05	0.000000	0.00	0.000
5	-0.50	100	50	15.71	1283.16	-0.39	-123.05	0.000000	0.00	0.000

Fondazione

Combinazione n° 12 - SLEQ

Apertura limite fessure w_{lim}=0.20

n°	Y [m]	B [cm]	H [cm]	Af [cmq]	Aeff [cmq]	M [kNm]	Mpf [kNm]	ε [%]	Sm [mm]	w [mm]
1	-1.85	100	125	0.00	0.00	0.00	0.00	---	---	0.000
2	-1.75	100	125	27.14	1550.00	0.67	771.81	0.000000	0.00	0.000
3	-1.66	100	125	27.14	1550.00	2.68	771.81	0.000000	0.00	0.000
4	-1.56	100	125	27.14	1550.00	6.04	771.81	0.000000	0.00	0.000
5	-1.46	100	125	27.14	1550.00	10.76	771.81	0.000000	0.00	0.000
6	-1.37	100	125	27.14	1550.00	16.83	771.81	0.000000	0.00	0.000
7	-1.27	100	125	27.14	1550.00	24.26	771.81	0.000000	0.00	0.000
8	-1.18	100	125	27.14	1550.00	33.06	771.81	0.000000	0.00	0.000
9	-1.08	100	125	27.14	1550.00	43.23	771.81	0.000000	0.00	0.000
10	-0.98	100	125	27.14	1550.00	54.78	771.81	0.000000	0.00	0.000
11	-0.89	100	125	27.14	1550.00	67.71	771.81	0.000000	0.00	0.000
12	-0.79	100	125	27.14	1550.00	82.03	771.81	0.000000	0.00	0.000
13	-0.69	100	125	27.14	1550.00	97.74	771.81	0.000000	0.00	0.000
14	-0.60	100	125	27.14	1550.00	114.84	771.81	0.000000	0.00	0.000
15	-0.50	100	125	27.14	1550.00	133.35	771.81	0.000000	0.00	0.000
16	0.85	100	125	27.14	1550.00	85.01	771.81	0.000000	0.00	0.000
17	0.95	100	125	27.14	1550.00	84.12	771.81	0.000000	0.00	0.000
18	1.05	100	125	27.14	1550.00	83.11	771.81	0.000000	0.00	0.000
19	1.15	100	125	27.14	1550.00	81.99	771.81	0.000000	0.00	0.000
20	1.25	100	125	27.14	1550.00	80.75	771.81	0.000000	0.00	0.000
21	1.35	100	125	27.14	1550.00	79.42	771.81	0.000000	0.00	0.000
22	1.45	100	125	27.14	1550.00	77.98	771.81	0.000000	0.00	0.000
23	1.55	100	125	27.14	1550.00	76.45	771.81	0.000000	0.00	0.000
24	1.65	100	125	27.14	1550.00	74.84	771.81	0.000000	0.00	0.000
25	1.75	100	125	27.14	1550.00	73.15	771.81	0.000000	0.00	0.000
26	1.85	100	125	27.14	1550.00	71.38	771.81	0.000000	0.00	0.000
27	1.95	100	125	27.14	1550.00	69.53	771.81	0.000000	0.00	0.000
28	2.05	100	125	27.14	1550.00	67.63	771.81	0.000000	0.00	0.000
29	2.15	100	125	27.14	1550.00	65.66	771.81	0.000000	0.00	0.000
30	2.25	100	125	27.14	1550.00	63.64	771.81	0.000000	0.00	0.000
31	2.35	100	125	27.14	1550.00	61.57	771.81	0.000000	0.00	0.000
32	2.45	100	125	27.14	1550.00	59.46	771.81	0.000000	0.00	0.000
33	2.55	100	125	27.14	1550.00	57.30	771.81	0.000000	0.00	0.000

n°	Y	B	H	Af	Aeff	M	Mpf	ε	Sm	w
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kNm]	[%]	[mm]	[mm]
34	2.65	100	125	27.14	1550.00	55.12	771.81	0.000000	0.00	0.000
35	2.75	100	125	27.14	1550.00	52.91	771.81	0.000000	0.00	0.000
36	2.85	100	125	27.14	1550.00	50.67	771.81	0.000000	0.00	0.000
37	2.95	100	125	27.14	1550.00	48.42	771.81	0.000000	0.00	0.000
38	3.05	100	125	27.14	1550.00	46.16	771.81	0.000000	0.00	0.000
39	3.15	100	125	27.14	1550.00	43.89	771.81	0.000000	0.00	0.000
40	3.25	100	125	27.14	1550.00	41.63	771.81	0.000000	0.00	0.000
41	3.35	100	125	27.14	1550.00	39.36	771.81	0.000000	0.00	0.000
42	3.45	100	125	27.14	1550.00	37.11	771.81	0.000000	0.00	0.000
43	3.55	100	125	27.14	1550.00	34.88	771.81	0.000000	0.00	0.000
44	3.65	100	125	27.14	1550.00	32.66	771.81	0.000000	0.00	0.000
45	3.75	100	125	27.14	1550.00	30.47	771.81	0.000000	0.00	0.000
46	3.85	100	125	27.14	1550.00	28.32	771.81	0.000000	0.00	0.000
47	3.95	100	125	27.14	1550.00	26.20	771.81	0.000000	0.00	0.000
48	4.05	100	125	27.14	1550.00	24.12	771.81	0.000000	0.00	0.000
49	4.15	100	125	27.14	1550.00	22.10	771.81	0.000000	0.00	0.000
50	4.25	100	125	27.14	1550.00	20.13	771.81	0.000000	0.00	0.000
51	4.35	100	125	27.14	1550.00	18.21	771.81	0.000000	0.00	0.000
52	4.45	100	125	27.14	1550.00	16.36	771.81	0.000000	0.00	0.000
53	4.55	100	125	27.14	1550.00	14.59	771.81	0.000000	0.00	0.000
54	4.65	100	125	27.14	1550.00	12.88	771.81	0.000000	0.00	0.000
55	4.75	100	125	27.14	1550.00	11.26	771.81	0.000000	0.00	0.000
56	4.85	100	125	27.14	1550.00	9.72	771.81	0.000000	0.00	0.000
57	4.95	100	125	27.14	1550.00	8.28	771.81	0.000000	0.00	0.000
58	5.05	100	125	27.14	1550.00	6.93	771.81	0.000000	0.00	0.000
59	5.15	100	125	27.14	1550.00	5.69	771.81	0.000000	0.00	0.000
60	5.25	100	125	27.14	1550.00	4.55	771.81	0.000000	0.00	0.000
61	5.35	100	125	27.14	1550.00	3.53	771.81	0.000000	0.00	0.000
62	5.45	100	125	27.14	1550.00	2.63	771.81	0.000000	0.00	0.000
63	5.55	100	125	27.14	1550.00	1.85	771.81	0.000000	0.00	0.000
64	5.65	100	125	27.14	1550.00	1.20	771.81	0.000000	0.00	0.000
65	5.75	100	125	27.14	1550.00	0.68	771.81	0.000000	0.00	0.000
66	5.85	100	125	27.14	1550.00	0.31	771.81	0.000000	0.00	0.000
67	5.95	100	125	27.14	1550.00	0.08	771.81	0.000000	0.00	0.000
68	6.05	100	125	0.00	0.00	0.00	0.00	0.000000	0.00	0.000

Elenco ferri

Simbologia adottata

n°	Indice del ferro
nf	numero ferri
D	diametro ferro espresso in [mm]
L	Lunghezza ferro espresso in [m]
P_{ferro}	Peso ferro espresso in [kN]

Paramento

n°	Tipo	nf	D	L	P_f	P_{gf}	V_{cls}
			[mm]	[m]	[kN]	[kN]	[mc]
1	Diritto inferiore	5	20.00	2.79	0.0675	0.3374	
2	Diritto inferiore	10	20.00	9.74	0.2356	2.3556	
3	Diritto superiore	10	20.00	9.78	0.2364	2.3644	
4	Diritto superiore	10	20.00	6.62	0.1600	1.6000	
5	Diritto inferiore	5	20.00	6.50	0.1572	0.7860	
6	Ripartitore	90	16.00	1.00	0.0155	1.3931	
7	Gancio	54	16.00	0.94	0.0146	0.7868	
	Totale al metro					**9.6233**	**8.45**
	Totale					**115.4800**	**101.44**

Fondazione

n°	Tipo	nf	D	L	P_f	P_{gf}	V_{cls}
			[mm]	[m]	[kN]	[kN]	[mc]
1	Diritto superiore	6	24.00	9.70	0.3377	2.0262	
2	Diritto inferiore	6	24.00	9.70	0.3377	2.0262	
3	Ripartitore	40	16.00	1.00	0.0155	0.6191	
4	Gancio	40	16.00	1.42	0.0220	0.8804	
	Totale al metro					**5.5520**	**9.88**
	Totale					**57.6266**	**118.51**

Mensola valle

n°	Tipo	nf	D	L	P_f	P_{gf}	V_{cls}
			[mm]	[m]	[kN]	[kN]	[mc]
1	Diritto inferiore	4	20.00	1.85	0.0447	0.1790	
2	Diritto superiore	5	20.00	1.85	0.0447	0.2237	
3	Ripartitore	4	16.00	1.00	0.0155	0.0619	
4	Gancio	4	16.00	0.68	0.0105	0.0421	
	Totale al metro					**0.5067**	**0.13**
	Totale					**5.4563**	**1.50**

17 ALLEGATO 8 – TABULATI DI CALCOLO - MURO DI SOSTEGNO H10

Geometria profilo terreno a monte del muro

Simbologia adottata

(Sistema di riferimento con origine in testa al muro, ascissa X positiva verso monte, ordinata Y positiva verso l'alto)

n°	numero ordine del punto
X	ascissa del punto espressa in [m]
Y	ordinata del punto espressa in [m]
A	inclinazione del tratto espressa in [°]

n°	X	Y	A
	[m]	*[m]*	*[°]*
1	0.00	0.00	0.000
2	30.00	0.00	0.000

Inclinazione terreno a valle del muro rispetto all'orizzontale 0.000 [°]

Geometria muro

Geometria paramento e fondazione

Lunghezza muro	12.00	[m]

Paramento

Materiale	CLS 25/30	
Altezza paramento	10.00	[m]
Altezza paramento libero	10.00	[m]
Spessore in sommità	0.50	[m]
Spessore all'attacco con la fondazione	1.45	[m]
Inclinazione paramento esterno	0.00	[°]
Inclinazione paramento interno	5.40	[°]
Spessore rivestimento	0.20	[m]
Peso sp. rivestimento	20.0000	[kN/mc]

Mensola di marciapiede

Posizione rispetto alla testa del muro	0.00	[m]
Lunghezza	0.25	[m]
Spessore all'estremità libera	0.50	[m]
Spessore all'incastro	0.50	[m]

Fondazione

Materiale	CLS 25/30	
Lunghezza mensola di valle	1.45	[m]
Lunghezza mensola di monte	6.20	[m]
Lunghezza totale	9.10	[m]
Inclinazione piano di posa	0.00	[°]
Spessore	1.35	[m]
Spessore magrone	0.20	[m]

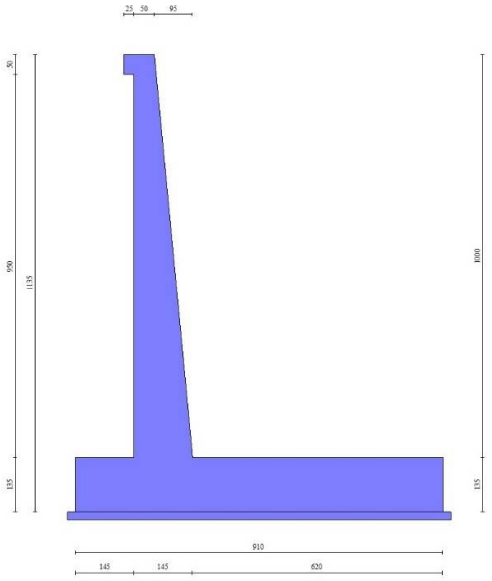

Fig. 1 - Sezione quotata del muro

Descrizione terreni

Parametri di resistenza

Simbologia adottata

n°	Indice del terreno
Descr	Descrizione terreno
γ	Peso di volume del terreno espresso in [kN/mc]
γ_s	Peso di volume saturo del terreno espresso in [kN/mc]
ϕ	Angolo d'attrito interno espresso in [°]
δ	Angolo d'attrito terra-muro espresso in [°]
c	Coesione espressa in [kPa]
c_a	Adesione terra-muro espressa in [kPa]

Per calcolo portanza con il metodo di Bustamante-Doix

Cesp Coeff. di espansione laterale (solo per il metodo di Bustamante-Doix)

τl Tensione tangenziale limite, espressa in [kPa]

n°	Descr	γ	γsat	ϕ	δ	c	ca	Cesp	τl
		[kN/mc]	[kN/mc]	[°]	[°]	[kPa]	[kPa]		[kPa]
1	Rilevato	19.0000	19.0000	35.000	23.330	0	0	---	---
2	LR	18.5000	18.5000	25.000	25.000	5	0	---	---

Stratigrafia

Simbologia adottata

n° Indice dello strato

H Spessore dello strato espresso in [m]

α Inclinazione espressa in [°]

Terreno Terreno dello strato

Kwn, Kwt Costante di Winkler normale e tangenziale alla superficie espressa in Kg/cm²/cm

Per calcolo pali (solo se presenti)

Kw Costante di Winkler orizzontale espressa in Kg/cm²/cm

Ks Coefficiente di spinta

Cesp Coefficiente di espansione laterale (per tutti i metodi tranne il metodo di Bustamante-Doix)

Per calcolo della spinta con coeff. di spinta definiti (usati solo se attiva l'opzione 'Usa coeff. di spinta da strato')

Kststa, Kstsis Coeff. di spinta statico e sismico

n°	H	α	Terreno	Kwn	Kwt	Kw	Ks	Cesp	Kststa	Kstsis
	[m]	[°]		[Kg/cm³]	[Kg/cm³]	[Kg/cm³]				
1	11.35	0.000	Rilevato	0.000	0.000	---	---	---	---	---
2	20.00	0.000	LR	2.400	1.200	---	---	---	---	---

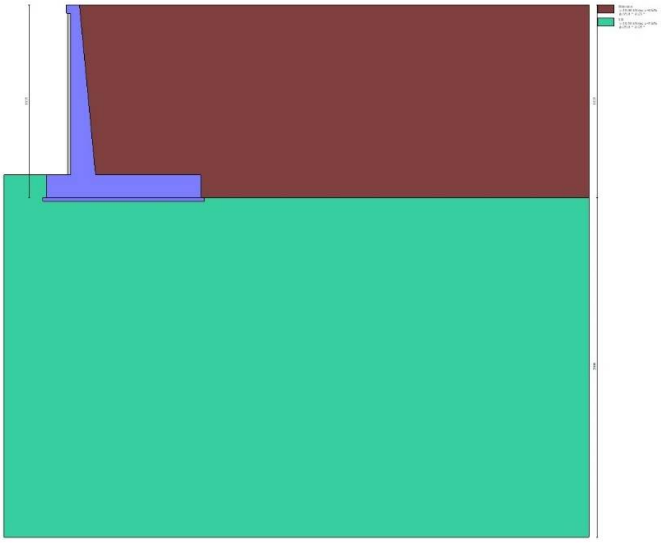

Fig. 2 - Stratigrafia

Condizioni di carico

Simbologia adottata

Carichi verticali positivi verso il basso.

Carichi orizzontali positivi verso sinistra.

Momento positivo senso antiorario.

X	Ascissa del punto di applicazione del carico concentrato espressa in [m]
F_x	Componente orizzontale del carico concentrato espressa in [kN]
F_y	Componente verticale del carico concentrato espressa in [kN]
M	Momento espresso in [kNm]
X_i	Ascissa del punto iniziale del carico ripartito espressa in [m]
X_f	Ascissa del punto finale del carico ripartito espressa in [m]
Q_i	Intensità del carico per $x=X_i$ espressa in [kN]
Q_f	Intensità del carico per $x=X_f$ espressa in [kN]

Condizione n° 1 (traffico-stradale) - VARIABILE TF

Coeff. di combinazione Ψ_0=0.75 - Ψ_1=0.75 - Ψ_2=0.00

Carichi sul terreno

n°	Tipo	X	Fx	Fy	M	Xi	Xf	Qi	Qf
		[m]	[kN]	[kN]	[kNm]	[m]	[m]	[kN]	[kN]
1	Distribuito					0.00	3.00	24.9000	24.9000
2	Distribuito					3.00	6.00	13.1000	13.1000
3	Distribuito					6.00	9.00	7.8000	7.8000
4	Distribuito					9.00	30.00	2.5000	2.5000

Condizione n° 2 (urto) - ECCEZIONALE

Carichi sul muro

n°	Tipo	Dest	X; Y	Fx	Fy	M	Xi	Xf	Qi	Qf
			[m]	[kN]	[kN]	[kNm]	[m]	[m]	[kN]	[kN]
1	Concentrato	Mensola marciappiede	-0.50; 0.00	11.1000	0.0000	11.1000				

Normativa

Normativa usata: **Norme Tecniche sulle Costruzioni 2018 (D.M. 17.01.2018) + Circolare C.S.LL.PP. 21/01/2019 n.7**

Coeff. parziali per le azioni o per l'effetto delle azioni

Carichi	Effetto		Combinazioni statiche					Combinazioni sismiche	
			UPL	EQU	A1	A2	EQU	A1	A2
Permanenti strutturali	Favorevoli	$\gamma_{G1,fav}$	0.90	0.90	1.00	1.00	1.00	1.00	1.00
Permanenti strutturali	Sfavorevoli	$\gamma_{G1,sfav}$	1.10	1.10	1.35	1.00	1.00	1.00	1.00
Permanenti non strutturali	Favorevoli	$\gamma_{G2,fav}$	0.80	0.00	0.00	0.00	0.00	0.00	0.00
Permanenti non strutturali	Sfavorevoli	$\gamma_{G2,sfav}$	1.50	1.50	1.50	1.30	1.00	1.00	1.00
Variabili	Favorevoli	$\gamma_{Q,fav}$	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Variabili	Sfavorevoli	$\gamma_{Q,sfav}$	1.50	1.50	1.50	1.30	1.00	1.00	1.00
Variabili da traffico	Favorevoli	$\gamma_{QT,fav}$	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Variabili da traffico	Sfavorevoli	$\gamma_{QT,sfav}$	1.50	1.35	1.35	1.15	1.00	1.00	1.00

Coeff. parziali per i parametri geotecnici del terreno

Parametro		Combinazioni statiche		Combinazioni sismiche	
		M1	M2	M1	M2
Tangente dell'angolo di attrito	$\gamma_{\tan(\phi')}$	1.00	1.25	1.00	1.00
Coesione efficace	$\gamma_{c'}$	1.00	1.25	1.00	1.00
Resistenza non drenata	γ_{cu}	1.00	1.40	1.00	1.00
Peso nell'unita di volume	γ_{γ}	1.00	1.00	1.00	1.00

Coeff. parziali γ_R per le verifiche agli stati limite ultimi STR e GEO

Verifica	Combinazioni statiche			Combinazioni sismiche		
	R1	R2	R3	R1	R2	R3
Capacità portante	--	--	1.40	--	--	1.20
Scorrimento	--	--	1.10	--	--	1.00
Resistenza terreno a valle	--	--	1.40	--	--	1.20
Ribaltameno	--	--	1.15	--	--	1.00
Stabilità fronte di scavo	--	1.10	--	--	1.20	--

Descrizione combinazioni di carico

Con riferimento alle azioni elementari prima determinate, si sono considerate le seguenti combinazioni di carico:

- Combinazione fondamentale, impiegata per gli stati limite ultimi (SLU):

$$\gamma_{G1} G_1 + \gamma_{G2} G_2 + \gamma_{Q1} Q_{k1} + \gamma_{Q2} Q_{k2} + \gamma_{Q3} Q_{k3} + \ldots$$

- Combinazione caratteristica, cosiddetta rara, impiegata per gli stati limite di esercizio (SLE) irreversibili:

$$G_1 + G_2 + Q_{k1} + \Psi_{0,2} Q_{k2} + \Psi_{0,3} Q_{k3} + \ldots$$

- Combinazione frequente, impiegata per gli stati limite di esercizio (SLE) reversibili:

$$G_1 + G_2 + \Psi_{1,1} Q_{k1} + \Psi_{2,2} Q_{k2} + \Psi_{2,3} Q_{k3} + \ldots$$

- Combinazione quasi permanente, impiegata per gli effetti di lungo periodo:

$$G_1 + G_2 + \Psi_{2,1} Q_{k1} + \Psi_{2,2} Q_{k2} + \Psi_{2,3} Q_{k3} + \ldots$$

- Combinazione sismica, impiegata per gli stati limite ultimi connessi all'azione sismica E:

$$E + G_1 + G_2 + \Psi_{2,1} Q_{k1} + \Psi_{2,2} Q_{k2} + \Psi_{2,3} Q_{k3} + \ldots$$

- Combinazione eccezzionale, impiegata per gli stati limite ultimi connessi alle azioni eccezionali Ad:

$$G_1 + G_2 + A_d + \Psi_{2,1} Q_{k1} + \Psi_{2,2} Q_{k2} + \Psi_{2,3} Q_{k3} + \ldots$$

I valori dei coeff. $\Psi_{0,j}$, $\Psi_{1,j}$, $\Psi_{2,j}$ sono definiti nelle singole condizioni variabili.

I valori dei coeff. γ_G e γ_Q, sono definiti nella tabella normativa.

In particolare si sono considerate le seguenti combinazioni:

Simbologia adottata

γ Coefficiente di partecipazione della condizione

Ψ Coefficiente di combinazione della condizione

Combinazione n° 1 - STR (A1-M1-R3)

Condizione	γ	Ψ	Effetto
Peso muro	1.00	--	Favorevole
Peso terrapieno	1.00	--	Favorevole
Spinta terreno	1.35	--	Sfavorevole

Combinazione n° 2 - STR (A1-M1-R3)

Condizione	γ	Ψ	Effetto
Peso muro	1.00	--	Favorevole
Peso terrapieno	1.00	--	Favorevole
Spinta terreno	1.35	--	Sfavorevole
traffico-stradale	1.35	1.00	Sfavorevole

Combinazione n° 3 - STR (A1-M1-R3) H + V

Condizione	γ	Ψ	Effetto
Peso muro	1.00	--	Favorevole
Peso terrapieno	1.00	--	Favorevole
Spinta terreno	1.00	--	Sfavorevole

Combinazione n° 4 - STR (A1-M1-R3) H - V

Condizione	γ	Ψ	Effetto
Peso muro	1.00	--	Sfavorevole
Peso terrapieno	1.00	--	Sfavorevole
Spinta terreno	1.00	--	Sfavorevole

Combinazione n° 5 - GEO (A2-M2-R2)

Condizione	γ	Ψ	Effetto
Peso muro	1.00	--	Sfavorevole
Peso terrapieno	1.00	--	Sfavorevole
Spinta terreno	1.00	--	Sfavorevole

Combinazione n° 6 - GEO (A2-M2-R2)

Condizione	γ	Ψ	Effetto
Peso muro	1.00	--	Sfavorevole
Peso terrapieno	1.00	--	Sfavorevole
Spinta terreno	1.00	--	Sfavorevole
traffico-stradale	1.15	1.00	Sfavorevole

Combinazione n° 7 - GEO (A2-M2-R2) H + V

Condizione	γ	Ψ	Effetto
Peso muro	1.00	--	Sfavorevole

Condizione	γ	Ψ	Effetto
Peso terrapieno	1.00	--	Sfavorevole
Spinta terreno	1.00	--	Sfavorevole

Combinazione n° 8 - GEO (A2-M2-R2) H - V

Condizione	γ	Ψ	Effetto
Peso muro	1.00	--	Sfavorevole
Peso terrapieno	1.00	--	Sfavorevole
Spinta terreno	1.00	--	Sfavorevole

Combinazione n° 9 - ECC

Condizione	γ	Ψ	Effetto
Peso muro	1.00	--	Sfavorevole
Peso terrapieno	1.00	--	Sfavorevole
Spinta terreno	1.00	--	Sfavorevole
urto	1.00	1.00	Sfavorevole

Combinazione n° 10 - SLER

Condizione	γ	Ψ	Effetto
Peso muro	1.00	--	Sfavorevole
Peso terrapieno	1.00	--	Sfavorevole
Spinta terreno	1.00	--	Sfavorevole
traffico-stradale	1.00	0.75	Sfavorevole

Combinazione n° 11 - SLEF

Condizione	γ	Ψ	Effetto
Peso muro	1.00	--	Sfavorevole
Peso terrapieno	1.00	--	Sfavorevole
Spinta terreno	1.00	--	Sfavorevole

Combinazione n° 12 - SLEQ

Condizione	γ	Ψ	Effetto
Peso muro	1.00	--	Sfavorevole
Peso terrapieno	1.00	--	Sfavorevole
Spinta terreno	1.00	--	Sfavorevole

Dati sismici

Comune	
Provincia	
Regione	
Latitudine	43.608157
Longitudine	13.471305
Indice punti di interpolazione	20979 - 20757 - 20756 - 20978

Vita nominale	50 anni
Classe d'uso	IV
Tipo costruzione	Normali affollamenti
Vita di riferimento	100 anni

	Simbolo	U.M.		SLU	SLE
Accelerazione al suolo	a_g	[m/s²]		2.260	0.873
Accelerazione al suolo	a_g/g	[%]		0.230	0.089
Massimo fattore amplificazione spettro orizzontale	F0			2.433	2.436
Periodo inizio tratto spettro a velocità costante	Tc*			0.307	0.282
Tipo di sottosuolo - Coefficiente stratigrafico	Ss		C	1.358	1.500
Categoria topografica - Coefficiente amplificazione topografica	St		T1	1.000	

Stato limite ...	Coeff. di riduzione β_m	kh [%]	kv [%]
Ultimo	0.380	12.099	6.049
Ultimo - Ribaltamento	0.570	18.148	9.074
Esercizio	0.470	6.275	3.138

Forma diagramma incremento sismico **Rettangolare**

Opzioni di calcolo

Spinta

Metodo di calcolo della spinta	Culmann
Tipo di spinta	Spinta attiva
Terreno a bassa permeabilità	NO
Superficie di spinta limitata	NO

Capacità portante

Metodo di calcolo della portanza	Meyerhof
Criterio di media calcolo del terreno equivalente (terreni stratificati)	Ponderata
Criterio di riduzione per eccentricità della portanza	Bowles
Criterio di riduzione per rottura locale (punzonamento)	Nessuna
Larghezza fondazione nel terzo termine della formula del carico limite ($0.5B\gamma N_\gamma$)	Larghezza effettiva (B)
Fattori di forma e inclinazione del carico	Solo i fattori di inclinazione

Se la fondazione ha larghezza superiore a 2.0 m viene applicato il fattore di riduzione per comportamento a piastra

Stabilità globale

Metodo di calcolo della stabilità globale	Bishop

Altro

Partecipazione spinta passiva terreno antistante	0.00
Partecipazione resistenza passiva dente di fondazione	50.00
Componente verticale della spinta nel calcolo delle sollecitazioni	NO
Considera terreno sulla fondazione di valle	NO
Considera spinta e peso acqua fondazione di valle	NO

Spostamenti

Modello a blocchi

Non è stato richiesto il calcolo degli spostamenti

Spostamento limite 2.00 [cm]

Cedimenti

Non è stato richiesto il calcolo dei cedimenti

Specifiche per le verifiche nelle combinazioni allo Stato Limite Ultimo (SLU)

	SLU	Eccezionale
Coefficiente di sicurezza calcestruzzo a compressione	1.50	1.00
Coefficiente di sicurezza acciaio	1.15	1.00
Fattore di riduzione da resistenza cubica a cilindrica	0.83	0.83
Fattore di riduzione per carichi di lungo periodo	0.85	0.85
Coefficiente di sicurezza per la sezione	1.00	1.00

Specifiche per le verifiche nelle combinazioni allo Stato Limite di Esercizio (SLE)

Paramento e fondazione muro

Verifiche strutturali nelle combinazioni SLD **non eseguite**. Struttura in classe d'uso III o IV

Condizioni ambientali Aggressive

Armatura ad aderenza migliorata SI

Verifica a fessurazione

Sensibilità armatura Poco sensibile

Metodo di calcolo aperture delle fessure NTC 2018 - CIRCOLARE 21 gennaio 2019, n. 7 C.S.LL.PP.

Calcolo momento fessurazione Apertura

Resistenza a trazione per Trazione

Valori limite aperture delle fessure: w_1=0.20

w_2=0.30

w_3=0.40

Verifica delle tensioni

Valori limite delle tensioni nei materiali:

Combinazione	Calcestruzzo	Acciaio
Rara	0.60 f_{ck}	0.80 f_{yk}
Frequente	1.00 f_{ck}	1.00 f_{yk}
Quasi permanente	0.45 f_{ck}	1.00 f_{yk}

Risultati per combinazione

Spinta e forze

Simbologia adottata

Ic	Indice della combinazione
A	Tipo azione
I	Inclinazione della spinta, espressa in [°]
V	Valore dell'azione, espressa in [kN]
C_X, C_Y	Componente in direzione X ed Y dell'azione, espressa in [kN]
P_X, P_Y	Coordinata X ed Y del punto di applicazione dell'azione, espressa in [m]

Ic	A	V	I	C_X	C_Y	P_X	P_Y
		[kN]	[°]	[kN]	[kN]	[m]	[m]
1	Spinta statica	403.80	23.33	370.79	159.92	7.15	-7.57
	Peso/Inerzia muro			0.00	553.25/0.00	1.45	-8.48
	Peso/Inerzia rivestimento			0.00	40.00	-0.60	-5.25
	Peso/Inerzia terrapieno			0.00	1267.80/0.00	3.80	-4.88
2	Spinta statica	418.58	23.33	384.35	165.77	7.15	-7.45
	Peso/Inerzia muro			0.00	553.25/0.00	1.45	-8.48
	Peso/Inerzia rivestimento			0.00	40.00	-0.60	-5.25
	Peso/Inerzia terrapieno			0.00	1433.76/0.00	3.76	-4.86
3	Spinta statica	299.11	23.33	274.66	118.46	7.15	-7.57
	Incremento di spinta sismica		111.01	101.93	43.96	7.15	-5.68
	Peso/Inerzia muro			66.94	553.25/33.47	1.45	-8.48
	Peso/Inerzia rivestimento			4.84	40.00	-0.60	-5.25
	Peso/Inerzia terrapieno			153.39	1267.80/76.69	3.80	-4.88
4	Spinta statica	299.11	23.33	274.66	118.46	7.15	-7.57
	Incremento di spinta sismica		76.49	70.24	30.29	7.15	-5.68
	Peso/Inerzia muro			66.94	553.25/-33.47	1.45	-8.48
	Peso/Inerzia rivestimento			4.84	40.00	-0.60	-5.25
	Peso/Inerzia terrapieno			153.39	1267.80/-76.69	3.80	-4.88
9	Spinta statica	299.11	23.33	274.66	118.46	7.15	-7.57
	Peso/Inerzia muro			0.00	553.25/0.00	1.45	-8.48
	Peso/Inerzia rivestimento			0.00	40.00	-0.60	-5.25
	Peso/Inerzia terrapieno			0.00	1267.80/0.00	3.80	-4.88
	Risultante forze sul muro			11.10	0.00	--	--
10	Spinta statica	307.32	23.33	282.19	121.71	7.15	-7.48
	Peso/Inerzia muro			0.00	553.25/0.00	1.45	-8.48
	Peso/Inerzia rivestimento			0.00	40.00	-0.60	-5.25
	Peso/Inerzia terrapieno			0.00	1360.00/0.00	3.78	-4.87
11	Spinta statica	299.11	23.33	274.66	118.46	7.15	-7.57
	Peso/Inerzia muro			0.00	553.25/0.00	1.45	-8.48
	Peso/Inerzia rivestimento			0.00	40.00	-0.60	-5.25
	Peso/Inerzia terrapieno			0.00	1267.80/0.00	3.80	-4.88
12	Spinta statica	299.11	23.33	274.66	118.46	7.15	-7.57
	Peso/Inerzia muro			0.00	553.25/0.00	1.45	-8.48
	Peso/Inerzia rivestimento			0.00	40.00	-0.60	-5.25
	Peso/Inerzia terrapieno			0.00	1267.80/0.00	3.80	-4.88

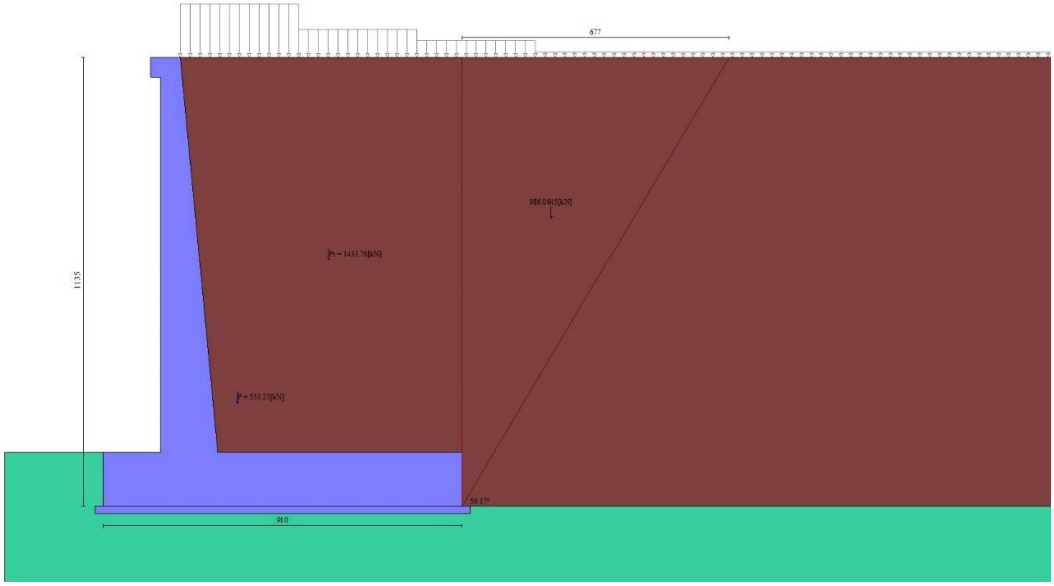

Fig. 3 - Cuneo di spinta (combinazione statica) (Combinazione n° 2)

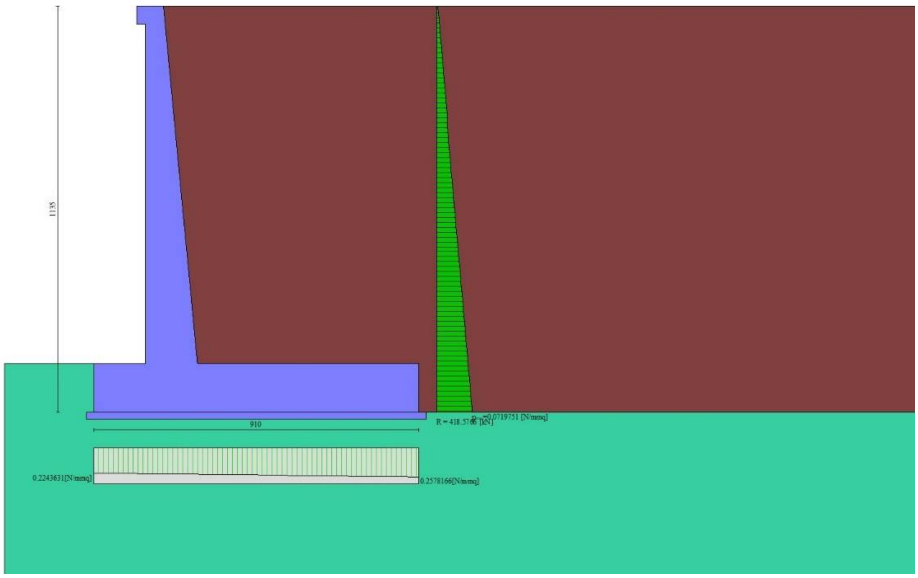

Fig. 4 - Diagramma delle pressioni (combinazione statica) (Combinazione n° 2)

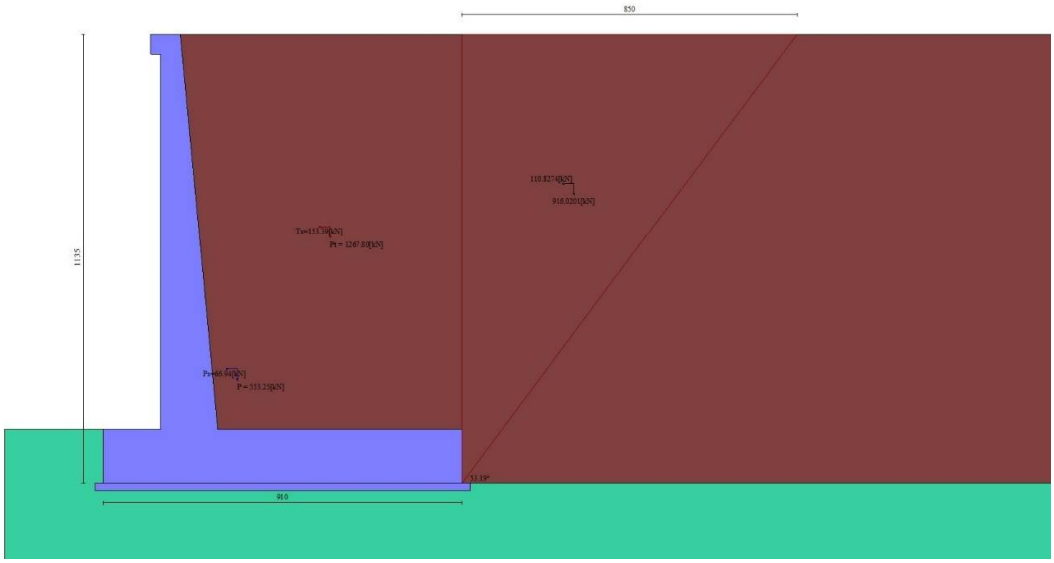

Fig. 5 - Cuneo di spinta (combinazione sismica) (Combinazione n° 3)

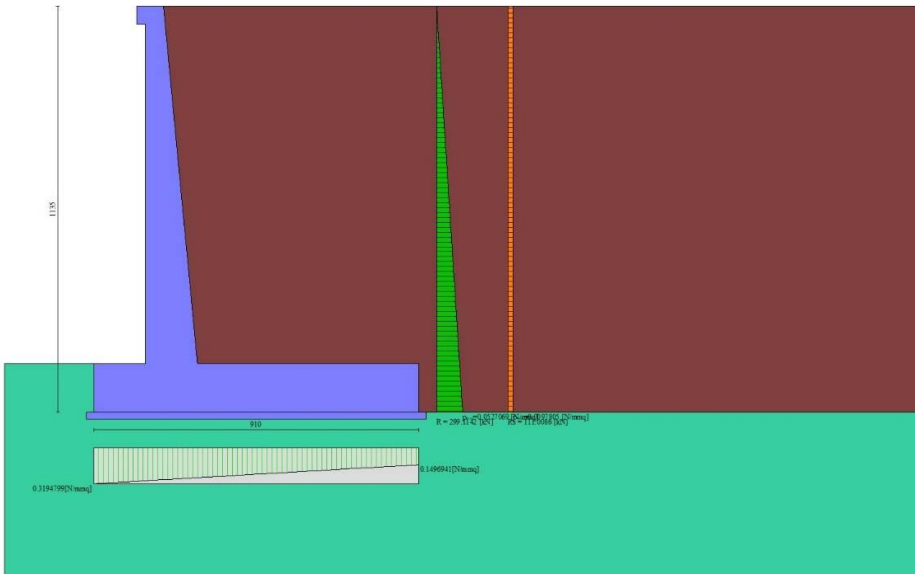

Fig. 6 - Diagramma delle pressioni (combinazione sismica) (Combinazione n° 3)

Verifiche geotecniche

Quadro riassuntivo coeff. di sicurezza calcolati

Simbologia adottata

Cmb	Indice/Tipo combinazione
S	Sisma (H: componente orizzontale, V: componente verticale)
FS_{SCO}	Coeff. di sicurezza allo scorrimento
FS_{RIB}	Coeff. di sicurezza al ribaltamento
FS_{QLIM}	Coeff. di sicurezza a carico limite
FS_{STAB}	Coeff. di sicurezza a stabilità globale
FS_{HYD}	Coeff. di sicurezza a sifonamento
FS_{UPL}	Coeff. di sicurezza a sollevamento

Cmb	Sismica	FS_{SCO}	FS_{RIB}	FS_{QLIM}	FS_{STAB}	FS_{HYD}	FS_{UPL}
1 - STR (A1-M1-R3)		2.542		2.068			
2 - STR (A1-M1-R3)		2.660		1.953			
3 - STR (A1-M1-R3)	H + V	1.653		1.207			
4 - STR (A1-M1-R3)	H - V	1.554		1.252			
5 - GEO (A2-M2-R2)					1.404		
6 - GEO (A2-M2-R2)					1.383		
7 - GEO (A2-M2-R2)	H + V				1.404		
8 - GEO (A2-M2-R2)	H - V				1.375		

Verifica stabilità globale muro + terreno

Simbologia adottata

Ic	Indice/Tipo combinazione
C	Centro superficie di scorrimento, espresso in [m]
R	Raggio, espresso in [m]
FS	Fattore di sicurezza

Ic	C	R	FS
	[m]	*[m]*	
5 - GEO (A2-M2-R2)	-2.36; 2.36	16.69	1.404
6 - GEO (A2-M2-R2)	-2.36; 2.36	16.69	1.383
7 - GEO (A2-M2-R2) H + V	-3.15; 7.08	21.12	1.404
8 - GEO (A2-M2-R2) H - V	-3.15; 7.08	21.12	1.375

Dettagli strisce verifiche stabilità

Simbologia adottata

Le ascisse X sono considerate positive verso monte

Le ordinate Y sono considerate positive verso l'alto

Origine in testa al muro (spigolo contro terra)

W	peso della striscia espresso in [kN]
Qy	carico sulla striscia espresso in [kN]
Qf	carico acqua sulla striscia espresso in [kN]
α	angolo fra la base della striscia e l'orizzontale espresso in [°] (positivo antiorario)
ϕ	angolo d'attrito del terreno lungo la base della striscia
c	coesione del terreno lungo la base della striscia espressa in [kPa]
b	larghezza della striscia espressa in [m]
u	pressione neutra lungo la base della striscia espressa in [kPa]
Tx; Ty	Resistenza al taglio fornita dai tiranti in direzione X ed Y espressa in [kPa]

Combinazione n° 5 - GEO (A2-M2-R2)

n°	W	Qy	Qf	b	α	ϕ	c	u	Tx; Ty
	[kN]	[kN]	[kN]	[m]	[°]	[°]	[kPa]	[kPa]	[kN]
1	42.44	0.00	0.00	14.18 - 1.11	74.564	29.256	0	0.0	
2	108.16	0.00	0.00	1.11	63.279	29.256	0	0.0	
3	148.59	0.00	0.00	1.11	55.655	29.256	0	0.0	
4	179.39	0.00	0.00	1.11	49.347	29.256	0	0.0	
5	204.27	0.00	0.00	1.11	43.779	29.256	0	0.0	
6	224.89	0.00	0.00	1.11	38.695	29.256	0	0.0	
7	248.11	0.00	0.00	1.11	33.953	20.458	4	0.0	
8	265.22	0.00	0.00	1.11	29.464	20.458	4	0.0	
9	277.03	0.00	0.00	1.11	25.168	20.458	4	0.0	
10	286.78	0.00	0.00	1.11	21.019	20.458	4	0.0	
11	294.64	0.00	0.00	1.11	16.983	20.458	4	0.0	
12	301.08	0.00	0.00	1.11	13.032	20.458	4	0.0	
13	349.12	0.00	0.00	1.11	9.144	20.458	4	0.0	
14	135.38	0.00	0.00	1.11	5.298	20.458	4	0.0	
15	94.13	0.00	0.00	1.11	1.477	20.458	4	0.0	
16	89.30	0.00	0.00	1.11	-2.339	20.458	4	0.0	
17	87.60	0.00	0.00	1.11	-6.165	20.458	4	0.0	
18	84.35	0.00	0.00	1.11	-10.018	20.458	4	0.0	
19	79.51	0.00	0.00	1.11	-13.919	20.458	4	0.0	
20	73.00	0.00	0.00	1.11	-17.886	20.458	4	0.0	
21	64.72	0.00	0.00	1.11	-21.945	20.458	4	0.0	
22	54.52	0.00	0.00	1.11	-26.124	20.458	4	0.0	
23	42.22	0.00	0.00	1.11	-30.460	20.458	4	0.0	
24	27.45	0.00	0.00	1.11	-34.999	20.458	4	0.0	
25	9.52	0.00	0.00	-13.59 - 1.11	-39.447	20.458	4	0.0	

Combinazione n° 6 - GEO (A2-M2-R2)

n°	W	Qy	Qf	b	α	ϕ	c	u	Tx; Ty
	[kN]	[kN]	[kN]	[m]	[°]	[°]	[kPa]	[kPa]	[kN]
1	42.44	3.19	0.00	14.18 - 1.11	74.564	29.256	0	0.0	
2	108.16	3.19	0.00	1.11	63.279	29.256	0	0.0	
3	148.59	3.19	0.00	1.11	55.655	29.256	0	0.0	
4	179.39	3.19	0.00	1.11	49.347	29.256	0	0.0	
5	204.27	5.50	0.00	1.11	43.779	29.256	0	0.0	
6	224.89	9.96	0.00	1.11	38.695	29.256	0	0.0	
7	248.11	9.96	0.00	1.11	33.953	20.458	4	0.0	
8	265.22	14.29	0.00	1.11	29.464	20.458	4	0.0	
9	277.03	16.73	0.00	1.11	25.168	20.458	4	0.0	
10	286.78	16.73	0.00	1.11	21.019	20.458	4	0.0	
11	294.64	30.88	0.00	1.11	16.983	20.458	4	0.0	
12	301.08	31.80	0.00	1.11	13.032	20.458	4	0.0	
13	349.12	24.25	0.00	1.11	9.144	20.458	4	0.0	
14	135.38	0.00	0.00	1.11	5.298	20.458	4	0.0	
15	94.13	0.00	0.00	1.11	1.477	20.458	4	0.0	
16	89.30	0.00	0.00	1.11	-2.339	20.458	4	0.0	
17	87.60	0.00	0.00	1.11	-6.165	20.458	4	0.0	
18	84.35	0.00	0.00	1.11	-10.018	20.458	4	0.0	
19	79.51	0.00	0.00	1.11	-13.919	20.458	4	0.0	
20	73.00	0.00	0.00	1.11	-17.886	20.458	4	0.0	
21	64.72	0.00	0.00	1.11	-21.945	20.458	4	0.0	
22	54.52	0.00	0.00	1.11	-26.124	20.458	4	0.0	
23	42.22	0.00	0.00	1.11	-30.460	20.458	4	0.0	
24	27.45	0.00	0.00	1.11	-34.999	20.458	4	0.0	
25	9.52	0.00	0.00	-13.59 - 1.11	-39.447	20.458	4	0.0	

Combinazione n° 7 - GEO (A2-M2-R2) H + V

n°	W	Qy	Qf	b	α	ϕ	c	u	Tx; Ty
	[kN]	[kN]	[kN]	[m]	[°]	[°]	[kPa]	[kPa]	[kN]
1	35.60	0.00	0.00	16.76 - 1.29	65.937	35.000	0	0.0	
2	97.09	0.00	0.00	1.29	58.454	35.000	0	0.0	
3	143.51	0.00	0.00	1.29	52.232	35.000	0	0.0	
4	180.95	0.00	0.00	1.29	46.801	35.000	0	0.0	
5	212.13	0.00	0.00	1.29	41.879	35.000	0	0.0	
6	238.50	0.00	0.00	1.29	37.315	35.000	0	0.0	
7	260.95	0.00	0.00	1.29	33.014	35.000	0	0.0	
8	285.93	0.00	0.00	1.29	28.916	25.000	5	0.0	
9	306.27	0.00	0.00	1.29	24.975	25.000	5	0.0	
10	319.47	0.00	0.00	1.29	21.156	25.000	5	0.0	
11	330.32	0.00	0.00	1.29	17.435	25.000	5	0.0	
12	338.98	0.00	0.00	1.29	13.788	25.000	5	0.0	
13	377.28	0.00	0.00	1.29	10.197	25.000	5	0.0	

n°	W [kN]	Qy [kN]	Qf [kN]	b [m]	α [°]	ϕ [°]	c [kPa]	u [kPa]	Tx; Ty [kN]
14	218.48	0.00	0.00	1.29	6.647	25.000	5	0.0	
15	101.40	0.00	0.00	1.29	3.122	25.000	5	0.0	
16	97.28	0.00	0.00	1.29	-0.390	25.000	5	0.0	
17	96.12	0.00	0.00	1.29	-3.905	25.000	5	0.0	
18	93.04	0.00	0.00	1.29	-7.434	25.000	5	0.0	
19	88.02	0.00	0.00	1.29	-10.992	25.000	5	0.0	
20	80.98	0.00	0.00	1.29	-14.593	25.000	5	0.0	
21	71.84	0.00	0.00	1.29	-18.255	25.000	5	0.0	
22	60.49	0.00	0.00	1.29	-21.996	25.000	5	0.0	
23	46.74	0.00	0.00	1.29	-25.839	25.000	5	0.0	
24	30.27	0.00	0.00	1.29	-29.812	25.000	5	0.0	
25	10.49	0.00	0.00	-15.58 - 1.29	-33.681	25.000	5	0.0	

Combinazione n° 8 - GEO (A2-M2-R2) H - V

n°	W [kN]	Qy [kN]	Qf [kN]	b [m]	α [°]	ϕ [°]	c [kPa]	u [kPa]	Tx; Ty [kN]
1	35.60	0.00	0.00	16.76 - 1.29	65.937	35.000	0	0.0	
2	97.09	0.00	0.00	1.29	58.454	35.000	0	0.0	
3	143.51	0.00	0.00	1.29	52.232	35.000	0	0.0	
4	180.95	0.00	0.00	1.29	46.801	35.000	0	0.0	
5	212.13	0.00	0.00	1.29	41.879	35.000	0	0.0	
6	238.50	0.00	0.00	1.29	37.315	35.000	0	0.0	
7	260.95	0.00	0.00	1.29	33.014	35.000	0	0.0	
8	285.93	0.00	0.00	1.29	28.916	25.000	5	0.0	
9	306.27	0.00	0.00	1.29	24.975	25.000	5	0.0	
10	319.47	0.00	0.00	1.29	21.156	25.000	5	0.0	
11	330.32	0.00	0.00	1.29	17.435	25.000	5	0.0	
12	338.98	0.00	0.00	1.29	13.788	25.000	5	0.0	
13	377.28	0.00	0.00	1.29	10.197	25.000	5	0.0	
14	218.48	0.00	0.00	1.29	6.647	25.000	5	0.0	
15	101.40	0.00	0.00	1.29	3.122	25.000	5	0.0	
16	97.28	0.00	0.00	1.29	-0.390	25.000	5	0.0	
17	96.12	0.00	0.00	1.29	-3.905	25.000	5	0.0	
18	93.04	0.00	0.00	1.29	-7.434	25.000	5	0.0	
19	88.02	0.00	0.00	1.29	-10.992	25.000	5	0.0	
20	80.98	0.00	0.00	1.29	-14.593	25.000	5	0.0	
21	71.84	0.00	0.00	1.29	-18.255	25.000	5	0.0	
22	60.49	0.00	0.00	1.29	-21.996	25.000	5	0.0	
23	46.74	0.00	0.00	1.29	-25.839	25.000	5	0.0	
24	30.27	0.00	0.00	1.29	-29.812	25.000	5	0.0	
25	10.49	0.00	0.00	-15.58 - 1.29	-33.681	25.000	5	0.0	

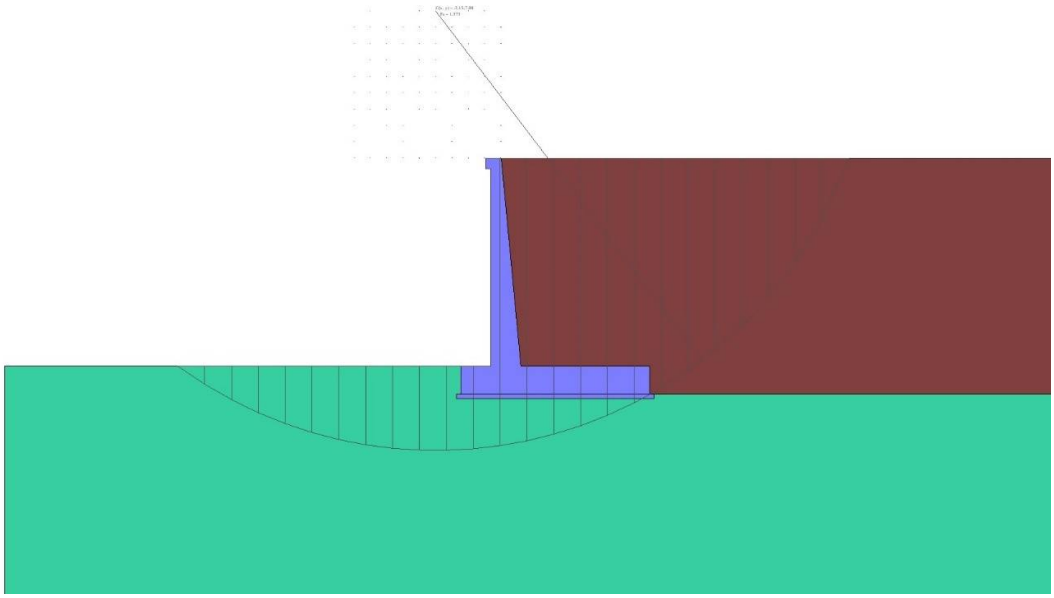

Fig. 7 - Stabilità fronte di scavo - Cerchio critico (Combinazione n° 8)

Spostamenti

Simbologia adottata

Cmb Tipo combinazione

Modello a blocchi

X Spostamento in direzione X (positivo verso monte), espresso in [cm]

Y Spostamento in direzione Y (positivo verso l'alto), espresso in [cm]

Phi Rotazione (positiva antioraria), espresso in [°]

Spostamenti ottenuti con il modello a blocchi

Cmb	X	Y	Phi
	[cm]	*[cm]*	*[°]*
1 - STR (A1-M1-R3)	-0.31323	-0.93080	-0.00662
2 - STR (A1-M1-R3)	-0.31421	-1.00638	-0.00895
3 - STR (A1-M1-R3) H + V	-0.78997	-1.08793	0.04544
4 - STR (A1-M1-R3) H - V	-0.75982	-0.97787	0.04507
9 - ECC	-0.22642	-0.90848	-0.00809
10 - SLER	-0.19002	-0.93985	-0.01469
11 - SLEF	-0.18950	-0.89787	-0.01339
12 - SLEQ	-0.18950	-0.89787	-0.01339

Sollecitazioni

Elementi calcolati a trave

Simbologia adottata

n° Indice della sezione

X Posizione della sezione, espresso in [m]

N Sforzo normale, espresso in [kN]. Positivo se di compressione.

T Taglio, espresso in [kN]. Positivo se diretto da monte verso valle

M Momento, espresso in [kNm]. Positivo se tende le fibre contro terra (a monte)

La posizione delle sezioni di verifica fanno riferimento al sistema di riferimento globale la cui origine è nello spigolo in alto a destra del paramento.

Paramento

Combinazione n° 1 - STR (A1-M1-R3)

n°	X	N	T	M
	[m]	*[kN]*	*[kN]*	*[kNm]*
1	0.00	3.13	0.00	0.39
2	-0.10	4.39	0.03	0.39
3	-0.20	5.67	0.13	0.41
4	-0.30	6.98	0.29	0.45
5	-0.40	8.31	0.51	0.51
6	-0.50	9.67	0.80	0.60
7	-0.60	11.05	1.15	0.73
8	-0.70	12.45	1.57	0.91
9	-0.80	13.88	2.04	1.14
10	-0.90	15.33	2.59	1.42
11	-1.00	16.81	3.19	1.77
12	-1.10	18.30	3.86	2.19
13	-1.20	19.83	4.59	2.69

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
14	-1.30	21.37	5.39	3.27
15	-1.40	22.94	6.25	3.94
16	-1.50	24.53	7.18	4.71
17	-1.60	26.15	8.17	5.58
18	-1.70	27.79	9.22	6.56
19	-1.80	29.45	10.33	7.66
20	-1.90	31.14	11.51	8.88
21	-2.00	32.85	12.76	10.23
22	-2.10	34.59	14.06	11.71
23	-2.20	36.34	15.43	13.34
24	-2.30	38.13	16.87	15.12
25	-2.40	39.93	18.37	17.05
26	-2.50	41.76	19.93	19.14
27	-2.60	43.61	21.56	21.40
28	-2.70	45.49	23.25	23.84
29	-2.80	47.39	25.00	26.45
30	-2.90	49.31	26.82	29.26
31	-3.00	51.26	28.70	32.25
32	-3.10	53.23	30.64	35.45
33	-3.20	55.22	32.65	38.86
34	-3.30	57.24	34.72	42.48
35	-3.40	59.28	36.86	46.32
36	-3.50	61.35	39.06	50.38
37	-3.60	63.44	41.32	54.68
38	-3.70	65.55	43.65	59.22
39	-3.80	67.69	46.04	64.00
40	-3.90	69.85	48.50	69.04
41	-4.00	72.03	51.01	74.34
42	-4.10	74.24	53.60	79.90
43	-4.20	76.47	56.24	85.73
44	-4.30	78.72	58.95	91.84
45	-4.40	81.00	61.73	98.24
46	-4.50	83.30	64.56	104.92
47	-4.60	85.63	67.47	111.91
48	-4.70	87.98	70.43	119.20
49	-4.80	90.35	73.46	126.80
50	-4.90	92.75	76.55	134.72
51	-5.00	95.16	79.71	142.96
52	-5.10	97.61	82.93	151.53
53	-5.20	100.08	86.21	160.44
54	-5.30	102.57	89.56	169.69
55	-5.40	105.08	92.97	179.30
56	-5.50	107.62	96.45	189.25
57	-5.60	110.18	99.99	199.58
58	-5.70	112.77	103.59	210.27
59	-5.80	115.37	107.26	221.33
60	-5.90	118.01	110.99	232.78
61	-6.00	120.66	114.78	244.62
62	-6.10	123.34	118.64	256.85
63	-6.20	126.05	122.56	269.48
64	-6.30	128.77	126.54	282.52
65	-6.40	131.52	130.59	295.98
66	-6.50	134.30	134.71	309.86
67	-6.60	137.10	138.88	324.16
68	-6.70	139.92	143.12	338.90
69	-6.80	142.76	147.43	354.08
70	-6.90	145.63	151.79	369.71
71	-7.00	148.52	156.23	385.79
72	-7.10	151.44	160.72	402.33
73	-7.20	154.38	165.28	419.34
74	-7.30	157.34	169.90	436.82
75	-7.40	160.33	174.59	454.78
76	-7.50	163.34	179.34	473.23
77	-7.60	166.37	184.16	492.17
78	-7.70	169.43	189.03	511.60
79	-7.80	172.51	193.97	531.55
80	-7.90	175.62	198.98	552.00
81	-8.00	178.75	204.05	572.98
82	-8.10	181.90	209.18	594.47
83	-8.20	185.08	214.38	616.50
84	-8.30	188.28	219.64	639.07
85	-8.40	191.50	224.96	662.18
86	-8.50	194.75	230.35	685.85
87	-8.60	198.02	235.80	710.07
88	-8.70	201.31	241.32	734.85
89	-8.80	204.63	246.90	760.21
90	-8.90	207.97	252.54	786.14
91	-9.00	211.33	258.25	812.66
92	-9.10	214.72	264.02	839.76
93	-9.20	218.14	269.85	867.46
94	-9.30	221.57	275.75	895.77
95	-9.40	225.03	281.71	924.68
96	-9.50	228.51	287.74	954.21
97	-9.60	232.02	293.83	984.36
98	-9.70	235.55	299.98	1015.14
99	-9.80	239.11	306.20	1046.56

n°	X [m]	N [kN]	T [kN]	M [kNm]
100	-9.90	242.68	312.48	1078.61
101	-10.00	246.28	318.83	1111.32

Combinazione n° 2 - STR (A1-M1-R3)

n°	X [m]	N [kN]	T [kN]	M [kNm]
1	0.00	3.13	0.00	0.39
2	-0.10	4.39	0.87	0.44
3	-0.20	5.67	1.80	0.58
4	-0.30	6.98	2.80	0.82
5	-0.40	8.31	3.86	1.18
6	-0.50	9.67	4.98	1.65
7	-0.60	11.05	6.16	2.24
8	-0.70	12.45	7.41	2.96
9	-0.80	13.88	8.73	3.81
10	-0.90	15.33	10.11	4.80
11	-1.00	16.81	11.55	5.95
12	-1.10	18.30	13.05	7.25
13	-1.20	19.83	14.62	8.70
14	-1.30	21.37	16.25	10.33
15	-1.40	22.94	17.95	12.13
16	-1.50	24.53	19.71	14.11
17	-1.60	26.15	21.54	16.28
18	-1.70	27.79	23.42	18.64
19	-1.80	29.45	25.37	21.20
20	-1.90	31.14	27.39	23.96
21	-2.00	32.85	29.47	26.94
22	-2.10	34.59	31.61	30.14
23	-2.20	36.34	33.82	33.56
24	-2.30	38.13	36.09	37.22
25	-2.40	39.93	38.42	41.11
26	-2.50	41.76	40.82	45.25
27	-2.60	43.61	43.28	49.65
28	-2.70	45.49	45.81	54.30
29	-2.80	47.39	48.40	59.21
30	-2.90	49.31	51.05	64.40
31	-3.00	51.26	53.77	69.86
32	-3.10	53.23	56.55	75.61
33	-3.20	55.22	59.39	81.64
34	-3.30	57.24	62.30	87.98
35	-3.40	59.28	65.27	94.62
36	-3.50	61.35	68.31	101.57
37	-3.60	63.44	71.41	108.83
38	-3.70	65.55	74.57	116.42
39	-3.80	67.69	77.80	124.34
40	-3.90	69.85	81.09	132.59
41	-4.00	72.03	84.44	141.19
42	-4.10	74.24	87.86	150.13
43	-4.20	76.47	91.34	159.43
44	-4.30	78.72	94.89	169.10
45	-4.40	81.00	98.50	179.13
46	-4.50	83.30	102.16	189.53
47	-4.60	85.63	105.87	200.32
48	-4.70	87.98	109.61	211.49
49	-4.80	90.35	113.35	223.04
50	-4.90	92.75	117.10	234.98
51	-5.00	95.16	120.84	247.31
52	-5.10	97.61	124.58	260.02
53	-5.20	100.08	128.33	273.12
54	-5.30	102.57	132.10	286.60
55	-5.40	105.08	135.93	300.48
56	-5.50	107.62	139.81	314.76
57	-5.60	110.18	143.76	329.43
58	-5.70	112.77	147.77	344.52
59	-5.80	115.37	151.85	360.03
60	-5.90	118.01	155.99	375.96
61	-6.00	120.66	160.20	392.31
62	-6.10	123.34	164.47	409.11
63	-6.20	126.05	168.81	426.35
64	-6.30	128.77	173.21	444.03
65	-6.40	131.52	177.68	462.18
66	-6.50	134.30	182.21	480.79
67	-6.60	137.10	186.81	499.86
68	-6.70	139.92	191.47	519.42
69	-6.80	142.76	196.20	539.45
70	-6.90	145.63	200.99	559.98
71	-7.00	148.52	205.84	581.00
72	-7.10	151.44	210.76	602.52
73	-7.20	154.38	215.75	624.56
74	-7.30	157.34	220.79	647.11
75	-7.40	160.33	225.91	670.18

n°	X [m]	N [kN]	T [kN]	M [kNm]
76	-7.50	163.34	231.08	693.77
77	-7.60	166.37	236.32	717.91
78	-7.70	169.43	241.63	742.58
79	-7.80	172.51	247.00	767.81
80	-7.90	175.62	252.43	793.59
81	-8.00	178.75	257.93	819.93
82	-8.10	181.90	263.49	846.84
83	-8.20	185.08	269.12	874.32
84	-8.30	188.28	274.81	902.38
85	-8.40	191.50	280.56	931.03
86	-8.50	194.75	286.38	960.28
87	-8.60	198.02	292.26	990.12
88	-8.70	201.31	298.21	1020.57
89	-8.80	204.63	304.22	1051.64
90	-8.90	207.97	310.29	1083.32
91	-9.00	211.33	316.43	1115.63
92	-9.10	214.72	322.63	1148.58
93	-9.20	218.14	328.90	1182.16
94	-9.30	221.57	335.23	1216.39
95	-9.40	225.03	341.62	1251.28
96	-9.50	228.51	348.07	1286.82
97	-9.60	232.02	354.56	1323.02
98	-9.70	235.55	361.08	1359.89
99	-9.80	239.11	367.62	1397.44
100	-9.90	242.68	374.18	1435.65
101	-10.00	246.28	380.76	1474.54

Combinazione n° 3 - STR (A1-M1-R3) H + V

n°	X [m]	N [kN]	T [kN]	M [kNm]
1	0.00	3.31	0.00	0.41
2	-0.10	4.65	1.00	0.47
3	-0.20	6.02	2.04	0.63
4	-0.30	7.40	3.14	0.90
5	-0.40	8.82	4.28	1.30
6	-0.50	10.26	5.48	1.81
7	-0.60	11.72	6.73	2.46
8	-0.70	13.21	8.02	3.24
9	-0.80	14.72	9.37	4.16
10	-0.90	16.26	10.76	5.22
11	-1.00	17.82	12.21	6.44
12	-1.10	19.41	13.71	7.80
13	-1.20	21.03	15.25	9.33
14	-1.30	22.66	16.85	11.02
15	-1.40	24.33	18.50	12.88
16	-1.50	26.02	20.19	14.92
17	-1.60	27.73	21.94	17.14
18	-1.70	29.47	23.74	19.54
19	-1.80	31.24	25.58	22.14
20	-1.90	33.02	27.48	24.92
21	-2.00	34.84	29.43	27.91
22	-2.10	36.68	31.42	31.11
23	-2.20	38.54	33.47	34.52
24	-2.30	40.43	35.57	38.14
25	-2.40	42.35	37.72	41.98
26	-2.50	44.29	39.91	46.05
27	-2.60	46.25	42.16	50.35
28	-2.70	48.24	44.46	54.89
29	-2.80	50.26	46.81	59.67
30	-2.90	52.30	49.20	64.70
31	-3.00	54.36	51.65	69.98
32	-3.10	56.45	54.15	75.51
33	-3.20	58.57	56.70	81.31
34	-3.30	60.71	59.30	87.38
35	-3.40	62.87	61.94	93.71
36	-3.50	65.06	64.64	100.33
37	-3.60	67.28	67.39	107.23
38	-3.70	69.52	70.19	114.41
39	-3.80	71.78	73.04	121.89
40	-3.90	74.07	75.94	129.67
41	-4.00	76.39	78.89	137.75
42	-4.10	78.73	81.89	146.14
43	-4.20	81.09	84.93	154.84
44	-4.30	83.48	88.03	163.86
45	-4.40	85.90	91.18	173.21
46	-4.50	88.34	94.38	182.88
47	-4.60	90.81	97.63	192.89
48	-4.70	93.30	100.93	203.24
49	-4.80	95.81	104.28	213.93
50	-4.90	98.36	107.68	224.97
51	-5.00	100.92	111.13	236.37

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
52	-5.10	103.51	114.63	248.12
53	-5.20	106.13	118.18	260.24
54	-5.30	108.77	121.78	272.73
55	-5.40	111.44	125.43	285.60
56	-5.50	114.13	129.13	298.84
57	-5.60	116.85	132.88	312.47
58	-5.70	119.59	136.68	326.49
59	-5.80	122.35	140.53	340.91
60	-5.90	125.15	144.43	355.73
61	-6.00	127.96	148.38	370.95
62	-6.10	130.80	152.38	386.58
63	-6.20	133.67	156.44	402.63
64	-6.30	136.56	160.54	419.10
65	-6.40	139.48	164.69	436.00
66	-6.50	142.42	168.89	453.33
67	-6.60	145.39	173.14	471.09
68	-6.70	148.38	177.44	489.30
69	-6.80	151.40	181.79	507.96
70	-6.90	154.44	186.19	527.06
71	-7.00	157.51	190.65	546.63
72	-7.10	160.60	195.15	566.65
73	-7.20	163.72	199.70	587.14
74	-7.30	166.86	204.30	608.11
75	-7.40	170.03	208.95	629.55
76	-7.50	173.22	213.66	651.48
77	-7.60	176.44	218.41	673.89
78	-7.70	179.68	223.21	696.80
79	-7.80	182.95	228.06	720.20
80	-7.90	186.24	232.97	744.11
81	-8.00	189.56	237.92	768.53
82	-8.10	192.90	242.92	793.46
83	-8.20	196.27	247.97	818.90
84	-8.30	199.66	253.08	844.88
85	-8.40	203.08	258.23	871.38
86	-8.50	206.53	263.43	898.41
87	-8.60	209.99	268.69	925.99
88	-8.70	213.49	273.99	954.10
89	-8.80	217.01	279.34	982.77
90	-8.90	220.55	284.75	1011.99
91	-9.00	224.12	290.20	1041.78
92	-9.10	227.71	295.70	1072.12
93	-9.20	231.33	301.26	1103.04
94	-9.30	234.98	306.86	1134.53
95	-9.40	238.64	312.51	1166.60
96	-9.50	242.34	318.22	1199.26
97	-9.60	246.06	323.97	1232.51
98	-9.70	249.80	329.78	1266.35
99	-9.80	253.57	335.63	1300.79
100	-9.90	257.36	341.53	1335.84
101	-10.00	261.18	347.49	1371.50

Combinazione n° 4 - STR (A1-M1-R3)_H - V

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	0.00	3.13	0.00	0.39
2	-0.10	4.31	0.72	0.43
3	-0.20	5.52	1.49	0.55
4	-0.30	6.75	2.31	0.75
5	-0.40	8.00	3.19	1.05
6	-0.50	9.27	4.11	1.44
7	-0.60	10.57	5.08	1.93
8	-0.70	11.89	6.10	2.52
9	-0.80	13.23	7.17	3.23
10	-0.90	14.59	8.29	4.06
11	-1.00	15.98	9.46	5.00
12	-1.10	17.39	10.69	6.07
13	-1.20	18.82	11.96	7.27
14	-1.30	20.27	13.28	8.61
15	-1.40	21.74	14.65	10.09
16	-1.50	23.24	16.07	11.72
17	-1.60	24.76	17.54	13.50
18	-1.70	26.30	19.07	15.44
19	-1.80	27.86	20.64	17.53
20	-1.90	29.45	22.26	19.80
21	-2.00	31.05	23.93	22.24
22	-2.10	32.68	25.66	24.85
23	-2.20	34.33	27.43	27.65
24	-2.30	36.01	29.25	30.64
25	-2.40	37.70	31.13	33.81
26	-2.50	39.42	33.05	37.19
27	-2.60	41.16	35.02	40.77

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
28	-2.70	42.93	37.04	44.55
29	-2.80	44.71	39.12	48.55
30	-2.90	46.52	41.24	52.77
31	-3.00	48.35	43.41	57.21
32	-3.10	50.20	45.64	61.88
33	-3.20	52.07	47.91	66.79
34	-3.30	53.97	50.23	71.93
35	-3.40	55.89	52.61	77.32
36	-3.50	57.83	55.03	82.95
37	-3.60	59.79	57.51	88.84
38	-3.70	61.77	60.03	94.99
39	-3.80	63.78	62.60	101.41
40	-3.90	65.81	65.23	108.09
41	-4.00	67.86	67.90	115.05
42	-4.10	69.94	70.63	122.28
43	-4.20	72.03	73.40	129.80
44	-4.30	74.15	76.23	137.62
45	-4.40	76.29	79.10	145.72
46	-4.50	78.45	82.03	154.13
47	-4.60	80.64	85.00	162.84
48	-4.70	82.84	88.03	171.86
49	-4.80	85.07	91.10	181.20
50	-4.90	87.32	94.23	190.86
51	-5.00	89.60	97.40	200.84
52	-5.10	91.89	100.63	211.16
53	-5.20	94.21	103.90	221.81
54	-5.30	96.55	107.23	232.80
55	-5.40	98.91	110.60	244.14
56	-5.50	101.30	114.03	255.83
57	-5.60	103.70	117.50	267.88
58	-5.70	106.13	121.03	280.28
59	-5.80	108.58	124.61	293.06
60	-5.90	111.06	128.23	306.20
61	-6.00	113.55	131.91	319.73
62	-6.10	116.07	135.64	333.63
63	-6.20	118.61	139.41	347.92
64	-6.30	121.17	143.24	362.61
65	-6.40	123.76	147.11	377.69
66	-6.50	126.36	151.04	393.17
67	-6.60	128.99	155.02	409.06
68	-6.70	131.64	159.04	425.37
69	-6.80	134.31	163.12	442.09
70	-6.90	137.01	167.25	459.23
71	-7.00	139.73	171.43	476.81
72	-7.10	142.47	175.65	494.81
73	-7.20	145.23	179.93	513.25
74	-7.30	148.01	184.26	532.14
75	-7.40	150.82	188.63	551.48
76	-7.50	153.65	193.06	571.27
77	-7.60	156.50	197.54	591.51
78	-7.70	159.37	202.07	612.23
79	-7.80	162.27	206.65	633.41
80	-7.90	165.18	211.27	655.06
81	-8.00	168.12	215.95	677.20
82	-8.10	171.08	220.68	699.81
83	-8.20	174.07	225.46	722.92
84	-8.30	177.07	230.29	746.52
85	-8.40	180.10	235.16	770.62
86	-8.50	183.15	240.09	795.23
87	-8.60	186.23	245.07	820.35
88	-8.70	189.32	250.10	845.98
89	-8.80	192.44	255.18	872.13
90	-8.90	195.58	260.31	898.80
91	-9.00	198.74	265.49	926.01
92	-9.10	201.92	270.72	953.75
93	-9.20	205.13	275.99	982.03
94	-9.30	208.36	281.32	1010.86
95	-9.40	211.61	286.70	1040.24
96	-9.50	214.88	292.13	1070.18
97	-9.60	218.17	297.61	1100.67
98	-9.70	221.49	303.14	1131.73
99	-9.80	224.83	308.72	1163.36
100	-9.90	228.19	314.35	1195.57
101	-10.00	231.58	320.03	1228.36

Combinazione n° 9 - ECC

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	0.00	3.13	11.10	11.49
2	-0.10	4.39	11.12	11.49
3	-0.20	5.67	11.20	11.51

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
4	-0.30	6.98	11.31	11.54
5	-0.40	8.31	11.48	11.59
6	-0.50	9.67	11.69	11.67
7	-0.60	11.05	11.95	11.77
8	-0.70	12.45	12.26	11.91
9	-0.80	13.88	12.61	12.09
10	-0.90	15.33	13.02	12.32
11	-1.00	16.81	13.46	12.59
12	-1.10	18.30	13.96	12.92
13	-1.20	19.83	14.50	13.31
14	-1.30	21.37	15.09	13.76
15	-1.40	22.94	15.73	14.28
16	-1.50	24.53	16.42	14.88
17	-1.60	26.15	17.15	15.55
18	-1.70	27.79	17.93	16.31
19	-1.80	29.45	18.75	17.15
20	-1.90	31.14	19.63	18.09
21	-2.00	32.85	20.55	19.12
22	-2.10	34.59	21.52	20.26
23	-2.20	36.34	22.53	21.51
24	-2.30	38.13	23.60	22.86
25	-2.40	39.93	24.71	24.34
26	-2.50	41.76	25.86	25.93
27	-2.60	43.61	27.07	27.66
28	-2.70	45.49	28.32	29.51
29	-2.80	47.39	29.62	31.50
30	-2.90	49.31	30.96	33.63
31	-3.00	51.26	32.36	35.91
32	-3.10	53.23	33.80	38.34
33	-3.20	55.22	35.29	40.93
34	-3.30	57.24	36.82	43.67
35	-3.40	59.28	38.40	46.59
36	-3.50	61.35	40.03	49.67
37	-3.60	63.44	41.71	52.92
38	-3.70	65.55	43.43	56.36
39	-3.80	67.69	45.20	59.98
40	-3.90	69.85	47.02	63.79
41	-4.00	72.03	48.89	67.80
42	-4.10	74.24	50.80	72.00
43	-4.20	76.47	52.76	76.41
44	-4.30	78.72	54.77	81.03
45	-4.40	81.00	56.82	85.86
46	-4.50	83.30	58.93	90.91
47	-4.60	85.63	61.07	96.19
48	-4.70	87.98	63.27	101.69
49	-4.80	90.35	65.51	107.43
50	-4.90	92.75	67.81	113.40
51	-5.00	95.16	70.14	119.62
52	-5.10	97.61	72.53	126.08
53	-5.20	100.08	74.96	132.80
54	-5.30	102.57	77.44	139.77
55	-5.40	105.08	79.97	147.01
56	-5.50	107.62	82.54	154.51
57	-5.60	110.18	85.16	162.28
58	-5.70	112.77	87.83	170.34
59	-5.80	115.37	90.55	178.67
60	-5.90	118.01	93.31	187.29
61	-6.00	120.66	96.12	196.20
62	-6.10	123.34	98.98	205.40
63	-6.20	126.05	101.88	214.91
64	-6.30	128.77	104.84	224.73
65	-6.40	131.52	107.84	234.85
66	-6.50	134.30	110.88	245.29
67	-6.60	137.10	113.98	256.05
68	-6.70	139.92	117.12	267.13
69	-6.80	142.76	120.30	278.54
70	-6.90	145.63	123.54	290.29
71	-7.00	148.52	126.82	302.38
72	-7.10	151.44	130.15	314.81
73	-7.20	154.38	133.53	327.60
74	-7.30	157.34	136.95	340.73
75	-7.40	160.33	140.43	354.23
76	-7.50	163.34	143.95	368.08
77	-7.60	166.37	147.51	382.31
78	-7.70	169.43	151.12	396.91
79	-7.80	172.51	154.79	411.89
80	-7.90	175.62	158.49	427.25
81	-8.00	178.75	162.25	443.00
82	-8.10	181.90	166.05	459.14
83	-8.20	185.08	169.90	475.68
84	-8.30	188.28	173.80	492.62
85	-8.40	191.50	177.74	509.97
86	-8.50	194.75	181.73	527.73
87	-8.60	198.02	185.77	545.91
88	-8.70	201.31	189.86	564.51
89	-8.80	204.63	193.99	583.54

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
90	-8.90	207.97	198.17	603.00
91	-9.00	211.33	202.40	622.89
92	-9.10	214.72	206.67	643.23
93	-9.20	218.14	210.99	664.01
94	-9.30	221.57	215.36	685.24
95	-9.40	225.03	219.78	706.92
96	-9.50	228.51	224.24	729.07
97	-9.60	232.02	228.75	751.69
98	-9.70	235.55	233.31	774.77
99	-9.80	239.11	237.92	798.33
100	-9.90	242.68	242.57	822.36
101	-10.00	246.28	247.27	846.89

Combinazione n° 10 - SLER

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	0.00	3.13	0.00	0.39
2	-0.10	4.39	0.49	0.42
3	-0.20	5.67	1.02	0.50
4	-0.30	6.98	1.61	0.65
5	-0.40	8.31	2.24	0.86
6	-0.50	9.67	2.91	1.15
7	-0.60	11.05	3.64	1.51
8	-0.70	12.45	4.41	1.95
9	-0.80	13.88	5.23	2.48
10	-0.90	15.33	6.09	3.10
11	-1.00	16.81	7.01	3.81
12	-1.10	18.30	7.97	4.63
13	-1.20	19.83	8.97	5.55
14	-1.30	21.37	10.03	6.59
15	-1.40	22.94	11.13	7.73
16	-1.50	24.53	12.28	9.00
17	-1.60	26.15	13.48	10.39
18	-1.70	27.79	14.72	11.92
19	-1.80	29.45	16.01	13.57
20	-1.90	31.14	17.35	15.37
21	-2.00	32.85	18.73	17.31
22	-2.10	34.59	20.17	19.40
23	-2.20	36.34	21.65	21.64
24	-2.30	38.13	23.17	24.04
25	-2.40	39.93	24.75	26.61
26	-2.50	41.76	26.37	29.34
27	-2.60	43.61	28.04	32.25
28	-2.70	45.49	29.75	35.33
29	-2.80	47.39	31.52	38.60
30	-2.90	49.31	33.33	42.06
31	-3.00	51.26	35.18	45.70
32	-3.10	53.23	37.09	49.55
33	-3.20	55.22	39.04	53.60
34	-3.30	57.24	41.04	57.85
35	-3.40	59.28	43.09	62.32
36	-3.50	61.35	45.18	67.00
37	-3.60	63.44	47.32	71.91
38	-3.70	65.55	49.51	77.04
39	-3.80	67.69	51.75	82.40
40	-3.90	69.85	54.03	88.00
41	-4.00	72.03	56.36	93.84
42	-4.10	74.24	58.74	99.92
43	-4.20	76.47	61.16	106.26
44	-4.30	78.72	63.63	112.85
45	-4.40	81.00	66.15	119.70
46	-4.50	83.30	68.71	126.82
47	-4.60	85.63	71.31	134.20
48	-4.70	87.98	73.92	141.86
49	-4.80	90.35	76.55	149.79
50	-4.90	92.75	79.19	158.00
51	-5.00	95.16	81.82	166.48
52	-5.10	97.61	84.47	175.23
53	-5.20	100.08	87.15	184.26
54	-5.30	102.57	89.86	193.58
55	-5.40	105.08	92.62	203.18
56	-5.50	107.62	95.42	213.07
57	-5.60	110.18	98.27	223.25
58	-5.70	112.77	101.17	233.74
59	-5.80	115.37	104.12	244.52
60	-5.90	118.01	107.12	255.62
61	-6.00	120.66	110.16	267.03
62	-6.10	123.34	113.25	278.77
63	-6.20	126.05	116.39	290.82
64	-6.30	128.77	119.57	303.21
65	-6.40	131.52	122.81	315.93

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
66	-6.50	134.30	126.09	328.98
67	-6.60	137.10	129.42	342.39
68	-6.70	139.92	132.80	356.14
69	-6.80	142.76	136.22	370.24
70	-6.90	145.63	139.69	384.70
71	-7.00	148.52	143.21	399.53
72	-7.10	151.44	146.78	414.72
73	-7.20	154.38	150.40	430.29
74	-7.30	157.34	154.06	446.23
75	-7.40	160.33	157.77	462.56
76	-7.50	163.34	161.52	479.27
77	-7.60	166.37	165.33	496.38
78	-7.70	169.43	169.18	513.88
79	-7.80	172.51	173.08	531.79
80	-7.90	175.62	177.03	550.10
81	-8.00	178.75	181.02	568.83
82	-8.10	181.90	185.06	587.97
83	-8.20	185.08	189.15	607.53
84	-8.30	188.28	193.29	627.52
85	-8.40	191.50	197.47	647.94
86	-8.50	194.75	201.70	668.80
87	-8.60	198.02	205.98	690.09
88	-8.70	201.31	210.31	711.84
89	-8.80	204.63	214.68	734.03
90	-8.90	207.97	219.10	756.68
91	-9.00	211.33	223.57	779.79
92	-9.10	214.72	228.09	803.36
93	-9.20	218.14	232.65	827.41
94	-9.30	221.57	237.26	851.93
95	-9.40	225.03	241.91	876.93
96	-9.50	228.51	246.60	902.41
97	-9.60	232.02	251.31	928.38
98	-9.70	235.55	256.05	954.84
99	-9.80	239.11	260.81	981.79
100	-9.90	242.68	265.60	1009.23
101	-10.00	246.28	270.41	1037.17

Combinazione n° 11 - SLEF

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	0.00	3.13	0.00	0.39
2	-0.10	4.39	0.02	0.39
3	-0.20	5.67	0.10	0.41
4	-0.30	6.98	0.21	0.44
5	-0.40	8.31	0.38	0.49
6	-0.50	9.67	0.59	0.57
7	-0.60	11.05	0.85	0.67
8	-0.70	12.45	1.16	0.81
9	-0.80	13.88	1.51	0.99
10	-0.90	15.33	1.92	1.22
11	-1.00	16.81	2.36	1.49
12	-1.10	18.30	2.86	1.82
13	-1.20	19.83	3.40	2.21
14	-1.30	21.37	3.99	2.66
15	-1.40	22.94	4.63	3.18
16	-1.50	24.53	5.32	3.78
17	-1.60	26.15	6.05	4.45
18	-1.70	27.79	6.83	5.21
19	-1.80	29.45	7.65	6.05
20	-1.90	31.14	8.53	6.99
21	-2.00	32.85	9.45	8.02
22	-2.10	34.59	10.42	9.16
23	-2.20	36.34	11.43	10.41
24	-2.30	38.13	12.50	11.76
25	-2.40	39.93	13.61	13.24
26	-2.50	41.76	14.76	14.83
27	-2.60	43.61	15.97	16.56
28	-2.70	45.49	17.22	18.41
29	-2.80	47.39	18.52	20.40
30	-2.90	49.31	19.86	22.53
31	-3.00	51.26	21.26	24.81
32	-3.10	53.23	22.70	27.24
33	-3.20	55.22	24.19	29.83
34	-3.30	57.24	25.72	32.57
35	-3.40	59.28	27.30	35.49
36	-3.50	61.35	28.93	38.57
37	-3.60	63.44	30.61	41.82
38	-3.70	65.55	32.33	45.26
39	-3.80	67.69	34.10	48.88
40	-3.90	69.85	35.92	52.69
41	-4.00	72.03	37.79	56.70

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
42	-4.10	74.24	39.70	60.90
43	-4.20	76.47	41.66	65.31
44	-4.30	78.72	43.67	69.93
45	-4.40	81.00	45.72	74.76
46	-4.50	83.30	47.83	79.81
47	-4.60	85.63	49.97	85.09
48	-4.70	87.98	52.17	90.59
49	-4.80	90.35	54.41	96.33
50	-4.90	92.75	56.71	102.30
51	-5.00	95.16	59.04	108.52
52	-5.10	97.61	61.43	114.98
53	-5.20	100.08	63.86	121.70
54	-5.30	102.57	66.34	128.67
55	-5.40	105.08	68.87	135.91
56	-5.50	107.62	71.44	143.41
57	-5.60	110.18	74.06	151.18
58	-5.70	112.77	76.73	159.24
59	-5.80	115.37	79.45	167.57
60	-5.90	118.01	82.21	176.19
61	-6.00	120.66	85.02	185.10
62	-6.10	123.34	87.88	194.30
63	-6.20	126.05	90.78	203.81
64	-6.30	128.77	93.74	213.63
65	-6.40	131.52	96.74	223.75
66	-6.50	134.30	99.78	234.19
67	-6.60	137.10	102.88	244.95
68	-6.70	139.92	106.02	256.03
69	-6.80	142.76	109.20	267.44
70	-6.90	145.63	112.44	279.19
71	-7.00	148.52	115.72	291.28
72	-7.10	151.44	119.05	303.71
73	-7.20	154.38	122.43	316.50
74	-7.30	157.34	125.85	329.63
75	-7.40	160.33	129.33	343.13
76	-7.50	163.34	132.85	356.98
77	-7.60	166.37	136.41	371.21
78	-7.70	169.43	140.02	385.81
79	-7.80	172.51	143.69	400.79
80	-7.90	175.62	147.39	416.15
81	-8.00	178.75	151.15	431.90
82	-8.10	181.90	154.95	448.04
83	-8.20	185.08	158.80	464.58
84	-8.30	188.28	162.70	481.52
85	-8.40	191.50	166.64	498.87
86	-8.50	194.75	170.63	516.63
87	-8.60	198.02	174.67	534.81
88	-8.70	201.31	178.76	553.41
89	-8.80	204.63	182.89	572.44
90	-8.90	207.97	187.07	591.90
91	-9.00	211.33	191.30	611.79
92	-9.10	214.72	195.57	632.13
93	-9.20	218.14	199.89	652.91
94	-9.30	221.57	204.26	674.14
95	-9.40	225.03	208.68	695.82
96	-9.50	228.51	213.14	717.97
97	-9.60	232.02	217.65	740.59
98	-9.70	235.55	222.21	763.67
99	-9.80	239.11	226.82	787.23
100	-9.90	242.68	231.47	811.26
101	-10.00	246.28	236.17	835.79

Combinazione n° 12 - SLEQ

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	0.00	3.13	0.00	0.39
2	-0.10	4.39	0.02	0.39
3	-0.20	5.67	0.10	0.41
4	-0.30	6.98	0.21	0.44
5	-0.40	8.31	0.38	0.49
6	-0.50	9.67	0.59	0.57
7	-0.60	11.05	0.85	0.67
8	-0.70	12.45	1.16	0.81
9	-0.80	13.88	1.51	0.99
10	-0.90	15.33	1.92	1.22
11	-1.00	16.81	2.36	1.49
12	-1.10	18.30	2.86	1.82
13	-1.20	19.83	3.40	2.21
14	-1.30	21.37	3.99	2.66
15	-1.40	22.94	4.63	3.18
16	-1.50	24.53	5.32	3.78
17	-1.60	26.15	6.05	4.45

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
18	-1.70	27.79	6.83	5.21
19	-1.80	29.45	7.65	6.05
20	-1.90	31.14	8.53	6.99
21	-2.00	32.85	9.45	8.02
22	-2.10	34.59	10.42	9.16
23	-2.20	36.34	11.43	10.41
24	-2.30	38.13	12.50	11.76
25	-2.40	39.93	13.61	13.24
26	-2.50	41.76	14.76	14.83
27	-2.60	43.61	15.97	16.56
28	-2.70	45.49	17.22	18.41
29	-2.80	47.39	18.52	20.40
30	-2.90	49.31	19.86	22.53
31	-3.00	51.26	21.26	24.81
32	-3.10	53.23	22.70	27.24
33	-3.20	55.22	24.19	29.83
34	-3.30	57.24	25.72	32.57
35	-3.40	59.28	27.30	35.49
36	-3.50	61.35	28.93	38.57
37	-3.60	63.44	30.61	41.82
38	-3.70	65.55	32.33	45.26
39	-3.80	67.69	34.10	48.88
40	-3.90	69.85	35.92	52.69
41	-4.00	72.03	37.79	56.70
42	-4.10	74.24	39.70	60.90
43	-4.20	76.47	41.66	65.31
44	-4.30	78.72	43.67	69.93
45	-4.40	81.00	45.72	74.76
46	-4.50	83.30	47.83	79.81
47	-4.60	85.63	49.97	85.09
48	-4.70	87.98	52.17	90.59
49	-4.80	90.35	54.41	96.33
50	-4.90	92.75	56.71	102.30
51	-5.00	95.16	59.04	108.52
52	-5.10	97.61	61.43	114.98
53	-5.20	100.08	63.86	121.70
54	-5.30	102.57	66.34	128.67
55	-5.40	105.08	68.87	135.91
56	-5.50	107.62	71.44	143.41
57	-5.60	110.18	74.06	151.18
58	-5.70	112.77	76.73	159.24
59	-5.80	115.37	79.45	167.57
60	-5.90	118.01	82.21	176.19
61	-6.00	120.66	85.02	185.10
62	-6.10	123.34	87.88	194.30
63	-6.20	126.05	90.78	203.81
64	-6.30	128.77	93.74	213.63
65	-6.40	131.52	96.74	223.75
66	-6.50	134.30	99.78	234.19
67	-6.60	137.10	102.88	244.95
68	-6.70	139.92	106.02	256.03
69	-6.80	142.76	109.20	267.44
70	-6.90	145.63	112.44	279.19
71	-7.00	148.52	115.72	291.28
72	-7.10	151.44	119.05	303.71
73	-7.20	154.38	122.43	316.50
74	-7.30	157.34	125.85	329.63
75	-7.40	160.33	129.33	343.13
76	-7.50	163.34	132.85	356.98
77	-7.60	166.37	136.41	371.21
78	-7.70	169.43	140.02	385.81
79	-7.80	172.51	143.69	400.79
80	-7.90	175.62	147.39	416.15
81	-8.00	178.75	151.15	431.90
82	-8.10	181.90	154.95	448.04
83	-8.20	185.08	158.80	464.58
84	-8.30	188.28	162.70	481.52
85	-8.40	191.50	166.64	498.87
86	-8.50	194.75	170.63	516.63
87	-8.60	198.02	174.67	534.81
88	-8.70	201.31	178.76	553.41
89	-8.80	204.63	182.89	572.44
90	-8.90	207.97	187.07	591.90
91	-9.00	211.33	191.30	611.79
92	-9.10	214.72	195.57	632.13
93	-9.20	218.14	199.89	652.91
94	-9.30	221.57	204.26	674.14
95	-9.40	225.03	208.68	695.82
96	-9.50	228.51	213.14	717.97
97	-9.60	232.02	217.65	740.59
98	-9.70	235.55	222.21	763.67
99	-9.80	239.11	226.82	787.23
100	-9.90	242.68	231.47	811.26
101	-10.00	246.28	236.17	835.79

Mensola valle

Combinazione n° 1 - STR (A1-M1-R3)

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	-0.75	0.00	0.00	0.00
2	-0.67	0.00	1.04	0.04
3	-0.58	0.00	2.08	0.17
4	-0.50	0.00	3.13	0.39
5	-0.50	0.00	3.13	0.39

Combinazione n° 2 - STR (A1-M1-R3)

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	-0.75	0.00	0.00	0.00
2	-0.67	0.00	1.04	0.04
3	-0.58	0.00	2.08	0.17
4	-0.50	0.00	3.13	0.39
5	-0.50	0.00	3.13	0.39

Combinazione n° 3 - STR (A1-M1-R3) H + V

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	-0.75	0.00	0.00	0.00
2	-0.67	0.00	1.10	0.05
3	-0.58	0.00	2.21	0.18
4	-0.50	0.00	3.31	0.41
5	-0.50	0.00	3.31	0.41

Combinazione n° 4 - STR (A1-M1-R3) H - V

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	-0.75	0.00	0.00	0.00
2	-0.67	0.00	1.04	0.04
3	-0.58	0.00	2.08	0.17
4	-0.50	0.00	3.13	0.39
5	-0.50	0.00	3.13	0.39

Combinazione n° 9 - ECC

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	-0.75	0.00	0.00	0.00
2	-0.67	0.00	1.04	0.04
3	-0.58	0.00	2.08	0.17
4	-0.50	0.00	3.13	0.39
5	-0.50	-11.10	3.13	11.49

Combinazione n° 10 - SLER

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	-0.75	0.00	0.00	0.00
2	-0.67	0.00	1.04	0.04
3	-0.58	0.00	2.08	0.17
4	-0.50	0.00	3.13	0.39
5	-0.50	0.00	3.13	0.39

Combinazione n° 11 - SLEF

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	-0.75	0.00	0.00	0.00
2	-0.67	0.00	1.04	0.04
3	-0.58	0.00	2.08	0.17
4	-0.50	0.00	3.13	0.39
5	-0.50	0.00	3.13	0.39

Combinazione n° 12 - SLEQ

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	-0.75	0.00	0.00	0.00
2	-0.67	0.00	1.04	0.04
3	-0.58	0.00	2.08	0.17
4	-0.50	0.00	3.13	0.39
5	-0.50	0.00	3.13	0.39

Fondazione

Combinazione n° 1 - STR (A1-M1-R3)

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	-1.95	0.00	0.00	0.00
2	-1.85	0.00	17.03	0.82
3	-1.76	0.00	34.09	3.29
4	-1.66	0.00	51.18	7.42
5	-1.56	0.00	68.29	13.19
6	-1.47	0.00	85.42	20.62
7	-1.37	0.00	102.59	29.71
8	-1.27	0.00	119.77	40.45
9	-1.18	0.00	136.98	52.86
10	-1.08	0.00	154.22	66.94
11	-0.98	0.00	171.48	82.68
12	-0.89	0.00	188.77	100.09
13	-0.79	0.00	206.09	119.18
14	-0.69	0.00	223.43	139.94
15	-0.60	0.00	240.79	162.37
16	-0.50	0.00	258.18	186.49
17	0.95	0.00	-397.50	-1178.26
18	1.04	0.00	-390.38	-1139.49
19	1.14	0.00	-383.28	-1101.42
20	1.24	0.00	-376.21	-1064.05
21	1.34	0.00	-369.16	-1027.37
22	1.44	0.00	-362.14	-991.39
23	1.54	0.00	-355.14	-956.09
24	1.63	0.00	-348.18	-921.49
25	1.73	0.00	-341.23	-887.56
26	1.83	0.00	-334.32	-854.32
27	1.93	0.00	-327.43	-821.76
28	2.03	0.00	-320.57	-789.87
29	2.13	0.00	-313.73	-758.66
30	2.22	0.00	-306.92	-728.12
31	2.32	0.00	-300.14	-698.25
32	2.42	0.00	-293.38	-669.05
33	2.52	0.00	-286.65	-640.51
34	2.62	0.00	-279.94	-612.63
35	2.72	0.00	-273.27	-585.41
36	2.82	0.00	-266.61	-558.84
37	2.91	0.00	-259.99	-532.93
38	3.01	0.00	-253.39	-507.67
39	3.11	0.00	-246.82	-483.06
40	3.21	0.00	-240.27	-459.09
41	3.31	0.00	-233.75	-435.76
42	3.41	0.00	-227.25	-413.08
43	3.50	0.00	-220.79	-391.03
44	3.60	0.00	-214.35	-369.62
45	3.70	0.00	-207.93	-348.84
46	3.80	0.00	-201.54	-328.69

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
47	3.90	0.00	-195.18	-309.17
48	4.00	0.00	-188.84	-290.28
49	4.09	0.00	-182.53	-272.00
50	4.19	0.00	-176.25	-254.35
51	4.29	0.00	-169.99	-237.31
52	4.39	0.00	-163.76	-220.89
53	4.49	0.00	-157.56	-205.08
54	4.59	0.00	-151.38	-189.88
55	4.68	0.00	-145.23	-175.28
56	4.78	0.00	-139.10	-161.29
57	4.88	0.00	-133.01	-147.90
58	4.98	0.00	-126.93	-135.11
59	5.08	0.00	-120.89	-122.92
60	5.18	0.00	-114.87	-111.32
61	5.28	0.00	-108.87	-100.31
62	5.37	0.00	-102.91	-89.89
63	5.47	0.00	-96.97	-80.05
64	5.57	0.00	-91.05	-70.80
65	5.67	0.00	-85.16	-62.13
66	5.77	0.00	-79.30	-54.04
67	5.87	0.00	-73.47	-46.52
68	5.96	0.00	-67.66	-39.58
69	6.06	0.00	-61.87	-33.20
70	6.16	0.00	-56.12	-27.40
71	6.26	0.00	-50.39	-22.16
72	6.36	0.00	-44.68	-17.48
73	6.46	0.00	-39.01	-13.36
74	6.55	0.00	-33.35	-9.80
75	6.65	0.00	-27.73	-6.80
76	6.75	0.00	-22.13	-4.34
77	6.85	0.00	-16.56	-2.44
78	6.95	0.00	-11.01	-1.08
79	7.05	0.00	-5.49	-0.27
80	7.15	0.00	0.00	0.00

Combinazione n° 2 - STR (A1-M1-R3)

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	-1.95	0.00	0.00	0.00
2	-1.85	0.00	18.44	0.89
3	-1.76	0.00	36.92	3.57
4	-1.66	0.00	55.43	8.03
5	-1.56	0.00	73.98	14.28
6	-1.47	0.00	92.56	22.33
7	-1.37	0.00	111.17	32.18
8	-1.27	0.00	129.82	43.83
9	-1.18	0.00	148.51	57.28
10	-1.08	0.00	167.23	72.54
11	-0.98	0.00	185.98	89.61
12	-0.89	0.00	204.76	108.50
13	-0.79	0.00	223.59	129.20
14	-0.69	0.00	242.44	151.73
15	-0.60	0.00	261.33	176.07
16	-0.50	0.00	280.26	202.25
17	0.95	0.00	-405.96	-1185.44
18	1.04	0.00	-397.24	-1142.27
19	1.14	0.00	-388.55	-1099.95
20	1.24	0.00	-379.89	-1058.48
21	1.34	0.00	-371.27	-1017.87
22	1.44	0.00	-362.69	-978.10
23	1.54	0.00	-354.14	-939.18
24	1.63	0.00	-345.63	-901.09
25	1.73	0.00	-337.15	-863.84
26	1.83	0.00	-328.71	-827.43
27	1.93	0.00	-320.30	-791.84
28	2.03	0.00	-311.93	-757.08
29	2.13	0.00	-303.60	-723.14
30	2.22	0.00	-295.30	-690.01
31	2.32	0.00	-287.04	-657.71
32	2.42	0.00	-278.81	-626.21
33	2.52	0.00	-270.62	-595.52
34	2.62	0.00	-262.46	-565.64
35	2.72	0.00	-254.34	-536.56
36	2.82	0.00	-246.25	-508.27
37	2.91	0.00	-238.20	-480.78
38	3.01	0.00	-230.38	-454.48
39	3.11	0.00	-223.97	-431.72
40	3.21	0.00	-217.60	-409.59
41	3.31	0.00	-211.26	-388.08
42	3.41	0.00	-204.95	-367.20
43	3.50	0.00	-198.68	-346.93

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
44	3.60	0.00	-192.45	-327.28
45	3.70	0.00	-186.25	-308.25
46	3.80	0.00	-180.09	-289.82
47	3.90	0.00	-173.97	-271.99
48	4.00	0.00	-167.88	-254.77
49	4.09	0.00	-161.82	-238.14
50	4.19	0.00	-155.80	-222.11
51	4.29	0.00	-149.82	-206.67
52	4.39	0.00	-143.87	-191.81
53	4.49	0.00	-137.96	-177.54
54	4.59	0.00	-132.09	-163.85
55	4.68	0.00	-126.24	-150.74
56	4.78	0.00	-120.44	-138.20
57	4.88	0.00	-114.67	-126.22
58	4.98	0.00	-108.94	-114.82
59	5.08	0.00	-103.24	-103.97
60	5.18	0.00	-97.58	-93.69
61	5.28	0.00	-91.95	-83.96
62	5.37	0.00	-86.36	-74.78
63	5.47	0.00	-80.80	-66.16
64	5.57	0.00	-75.28	-58.07
65	5.67	0.00	-69.80	-50.53
66	5.77	0.00	-64.35	-43.53
67	5.87	0.00	-58.94	-37.06
68	5.96	0.00	-53.56	-31.12
69	6.06	0.00	-48.66	-25.95
70	6.16	0.00	-44.06	-21.39
71	6.26	0.00	-39.50	-17.28
72	6.36	0.00	-34.97	-13.61
73	6.46	0.00	-30.47	-10.39
74	6.55	0.00	-26.01	-7.62
75	6.65	0.00	-21.59	-5.27
76	6.75	0.00	-17.20	-3.37
77	6.85	0.00	-12.84	-1.89
78	6.95	0.00	-8.53	-0.84
79	7.05	0.00	-4.25	-0.21
80	7.15	0.00	0.00	0.00

Combinazione n° 3 - STR (A1-M1-R3) H + V

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	-1.95	0.00	0.00	0.00
2	-1.85	0.00	27.53	1.33
3	-1.76	0.00	54.89	5.32
4	-1.66	0.00	82.08	11.94
5	-1.56	0.00	109.09	21.18
6	-1.47	0.00	135.92	33.02
7	-1.37	0.00	162.58	47.45
8	-1.27	0.00	189.07	64.45
9	-1.18	0.00	215.38	84.00
10	-1.08	0.00	241.52	106.09
11	-0.98	0.00	267.48	130.69
12	-0.89	0.00	293.27	157.79
13	-0.79	0.00	318.89	187.38
14	-0.69	0.00	344.33	219.44
15	-0.60	0.00	369.59	253.95
16	-0.50	0.00	394.68	290.89
17	0.95	0.00	-100.36	-681.86
18	1.04	0.00	-104.37	-671.78
19	1.14	0.00	-108.20	-661.32
20	1.24	0.00	-111.85	-650.49
21	1.34	0.00	-115.32	-639.31
22	1.44	0.00	-118.61	-627.80
23	1.54	0.00	-121.72	-615.97
24	1.63	0.00	-124.64	-603.85
25	1.73	0.00	-127.39	-591.45
26	1.83	0.00	-129.95	-578.78
27	1.93	0.00	-132.34	-565.87
28	2.03	0.00	-134.54	-552.74
29	2.13	0.00	-136.57	-539.40
30	2.22	0.00	-138.41	-525.87
31	2.32	0.00	-140.07	-512.16
32	2.42	0.00	-141.55	-498.30
33	2.52	0.00	-142.85	-484.31
34	2.62	0.00	-143.97	-470.19
35	2.72	0.00	-144.91	-455.98
36	2.82	0.00	-145.66	-441.68
37	2.91	0.00	-146.24	-427.31
38	3.01	0.00	-146.64	-412.90
39	3.11	0.00	-146.85	-398.46
40	3.21	0.00	-146.89	-384.00

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
41	3.31	0.00	-146.74	-369.55
42	3.41	0.00	-146.41	-355.13
43	3.50	0.00	-145.90	-340.74
44	3.60	0.00	-145.21	-326.41
45	3.70	0.00	-144.34	-312.16
46	3.80	0.00	-143.29	-298.01
47	3.90	0.00	-142.06	-283.97
48	4.00	0.00	-140.65	-270.05
49	4.09	0.00	-139.06	-256.29
50	4.19	0.00	-137.28	-242.69
51	4.29	0.00	-135.33	-229.27
52	4.39	0.00	-133.19	-216.06
53	4.49	0.00	-130.88	-203.06
54	4.59	0.00	-128.38	-190.31
55	4.68	0.00	-125.70	-177.80
56	4.78	0.00	-122.84	-165.57
57	4.88	0.00	-119.80	-153.63
58	4.98	0.00	-116.58	-142.00
59	5.08	0.00	-113.18	-130.69
60	5.18	0.00	-109.60	-119.72
61	5.28	0.00	-105.84	-109.12
62	5.37	0.00	-101.90	-98.90
63	5.47	0.00	-97.77	-89.07
64	5.57	0.00	-93.47	-79.66
65	5.67	0.00	-88.98	-70.68
66	5.77	0.00	-84.31	-62.15
67	5.87	0.00	-79.47	-54.09
68	5.96	0.00	-74.44	-46.52
69	6.06	0.00	-69.23	-39.45
70	6.16	0.00	-63.84	-32.90
71	6.26	0.00	-58.27	-26.89
72	6.36	0.00	-52.52	-21.43
73	6.46	0.00	-46.59	-16.56
74	6.55	0.00	-40.47	-12.27
75	6.65	0.00	-34.18	-8.59
76	6.75	0.00	-27.71	-5.55
77	6.85	0.00	-21.05	-3.15
78	6.95	0.00	-14.21	-1.41
79	7.05	0.00	-7.20	-0.36
80	7.15	0.00	0.00	0.00

Combinazione n° 4 - STR (A1-M1-R3) H - V

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	-1.95	0.00	0.00	0.00
2	-1.85	0.00	24.98	1.21
3	-1.76	0.00	49.79	4.82
4	-1.66	0.00	74.42	10.83
5	-1.56	0.00	98.88	19.21
6	-1.47	0.00	123.17	29.94
7	-1.37	0.00	147.28	43.01
8	-1.27	0.00	171.22	58.41
9	-1.18	0.00	194.99	76.11
10	-1.08	0.00	218.59	96.10
11	-0.98	0.00	242.01	118.37
12	-0.89	0.00	265.26	142.89
13	-0.79	0.00	288.34	169.64
14	-0.69	0.00	311.24	198.63
15	-0.60	0.00	333.97	229.81
16	-0.50	0.00	356.53	263.19
17	0.95	0.00	-258.49	-1169.02
18	1.04	0.00	-259.94	-1143.50
19	1.14	0.00	-261.22	-1117.86
20	1.24	0.00	-262.32	-1092.10
21	1.34	0.00	-263.24	-1066.23
22	1.44	0.00	-263.97	-1040.29
23	1.54	0.00	-264.53	-1014.28
24	1.63	0.00	-264.91	-988.23
25	1.73	0.00	-265.11	-962.15
26	1.83	0.00	-265.13	-936.05
27	1.93	0.00	-264.98	-909.97
28	2.03	0.00	-264.64	-883.91
29	2.13	0.00	-264.12	-857.89
30	2.22	0.00	-263.43	-831.93
31	2.32	0.00	-262.55	-806.04
32	2.42	0.00	-261.50	-780.26
33	2.52	0.00	-260.26	-754.58
34	2.62	0.00	-258.85	-729.04
35	2.72	0.00	-257.26	-703.64
36	2.82	0.00	-255.48	-678.41
37	2.91	0.00	-253.53	-653.36

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
38	3.01	0.00	-251.40	-628.51
39	3.11	0.00	-249.09	-603.88
40	3.21	0.00	-246.60	-579.49
41	3.31	0.00	-243.93	-555.35
42	3.41	0.00	-241.09	-531.48
43	3.50	0.00	-238.06	-507.90
44	3.60	0.00	-234.85	-484.63
45	3.70	0.00	-231.47	-461.69
46	3.80	0.00	-227.90	-439.08
47	3.90	0.00	-224.16	-416.83
48	4.00	0.00	-220.23	-394.97
49	4.09	0.00	-216.13	-373.49
50	4.19	0.00	-211.85	-352.43
51	4.29	0.00	-207.39	-331.80
52	4.39	0.00	-202.75	-311.62
53	4.49	0.00	-197.93	-291.90
54	4.59	0.00	-192.93	-272.67
55	4.68	0.00	-187.75	-253.94
56	4.78	0.00	-182.39	-235.72
57	4.88	0.00	-176.85	-218.04
58	4.98	0.00	-171.13	-200.92
59	5.08	0.00	-165.24	-184.36
60	5.18	0.00	-159.16	-168.40
61	5.28	0.00	-152.91	-153.04
62	5.37	0.00	-146.47	-138.31
63	5.47	0.00	-139.86	-124.22
64	5.57	0.00	-133.07	-110.79
65	5.67	0.00	-126.10	-98.03
66	5.77	0.00	-118.95	-85.98
67	5.87	0.00	-111.61	-74.63
68	5.96	0.00	-104.10	-64.01
69	6.06	0.00	-96.42	-54.14
70	6.16	0.00	-88.55	-45.04
71	6.26	0.00	-80.50	-36.72
72	6.36	0.00	-72.27	-29.20
73	6.46	0.00	-63.87	-22.50
74	6.55	0.00	-55.28	-16.64
75	6.65	0.00	-46.51	-11.63
76	6.75	0.00	-37.57	-7.49
77	6.85	0.00	-28.45	-4.24
78	6.95	0.00	-19.14	-1.90
79	7.05	0.00	-9.66	-0.48
80	7.15	0.00	0.00	0.00

Combinazione n° 9 - ECC

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	-1.95	0.00	0.00	0.00
2	-1.85	0.00	16.33	0.79
3	-1.76	0.00	32.69	3.16
4	-1.66	0.00	49.09	7.11
5	-1.56	0.00	65.51	12.65
6	-1.47	0.00	81.96	19.78
7	-1.37	0.00	98.45	28.50
8	-1.27	0.00	114.97	38.81
9	-1.18	0.00	131.52	50.72
10	-1.08	0.00	148.09	64.24
11	-0.98	0.00	164.70	79.36
12	-0.89	0.00	181.35	96.08
13	-0.79	0.00	198.02	114.42
14	-0.69	0.00	214.72	134.37
15	-0.60	0.00	231.46	155.93
16	-0.50	0.00	248.22	179.12
17	0.95	0.00	-8.04	41.07
18	1.04	0.00	-6.92	41.80
19	1.14	0.00	-5.83	42.43
20	1.24	0.00	-4.76	42.95
21	1.34	0.00	-3.74	43.37
22	1.44	0.00	-2.74	43.69
23	1.54	0.00	-1.77	43.91
24	1.63	0.00	-0.84	44.04
25	1.73	0.00	0.06	44.08
26	1.83	0.00	0.93	44.03
27	1.93	0.00	1.76	43.89
28	2.03	0.00	2.57	43.68
29	2.13	0.00	3.34	43.39
30	2.22	0.00	4.08	43.03
31	2.32	0.00	4.78	42.59
32	2.42	0.00	5.46	42.09
33	2.52	0.00	6.10	41.52
34	2.62	0.00	6.71	40.89

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
35	2.72	0.00	7.29	40.20
36	2.82	0.00	7.84	39.45
37	2.91	0.00	8.35	38.66
38	3.01	0.00	8.83	37.81
39	3.11	0.00	9.28	36.92
40	3.21	0.00	9.70	35.98
41	3.31	0.00	10.08	35.01
42	3.41	0.00	10.44	34.00
43	3.50	0.00	10.76	32.96
44	3.60	0.00	11.05	31.88
45	3.70	0.00	11.30	30.78
46	3.80	0.00	11.53	29.66
47	3.90	0.00	11.72	28.52
48	4.00	0.00	11.88	27.35
49	4.09	0.00	12.01	26.18
50	4.19	0.00	12.10	24.99
51	4.29	0.00	12.17	23.80
52	4.39	0.00	12.20	22.60
53	4.49	0.00	12.20	21.40
54	4.59	0.00	12.16	20.20
55	4.68	0.00	12.10	19.01
56	4.78	0.00	12.00	17.82
57	4.88	0.00	11.87	16.64
58	4.98	0.00	11.71	15.48
59	5.08	0.00	11.51	14.34
60	5.18	0.00	11.29	13.22
61	5.28	0.00	11.03	12.12
62	5.37	0.00	10.74	11.05
63	5.47	0.00	10.41	10.01
64	5.57	0.00	10.06	9.00
65	5.67	0.00	9.67	8.03
66	5.77	0.00	9.25	7.10
67	5.87	0.00	8.80	6.21
68	5.96	0.00	8.32	5.37
69	6.06	0.00	7.80	4.57
70	6.16	0.00	7.25	3.83
71	6.26	0.00	6.67	3.15
72	6.36	0.00	6.06	2.52
73	6.46	0.00	5.41	1.96
74	6.55	0.00	4.74	1.46
75	6.65	0.00	4.03	1.02
76	6.75	0.00	3.29	0.66
77	6.85	0.00	2.51	0.38
78	6.95	0.00	1.71	0.17
79	7.05	0.00	0.87	0.04
80	7.15	0.00	0.00	0.00

Combinazione n° 10 - SLER

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	-1.95	0.00	0.00	0.00
2	-1.85	0.00	16.17	0.78
3	-1.76	0.00	32.39	3.13
4	-1.66	0.00	48.67	7.04
5	-1.56	0.00	65.01	12.54
6	-1.47	0.00	81.40	19.61
7	-1.37	0.00	97.85	28.28
8	-1.27	0.00	114.35	38.53
9	-1.18	0.00	130.91	50.39
10	-1.08	0.00	147.53	63.84
11	-0.98	0.00	164.20	78.91
12	-0.89	0.00	180.93	95.59
13	-0.79	0.00	197.72	113.89
14	-0.69	0.00	214.56	133.82
15	-0.60	0.00	231.46	155.38
16	-0.50	0.00	248.42	178.57
17	0.95	0.00	6.79	140.87
18	1.04	0.00	9.15	142.11
19	1.14	0.00	11.45	143.13
20	1.24	0.00	13.69	143.92
21	1.34	0.00	15.87	144.49
22	1.44	0.00	18.00	144.86
23	1.54	0.00	20.06	145.01
24	1.63	0.00	22.07	144.97
25	1.73	0.00	24.02	144.73
26	1.83	0.00	25.91	144.30
27	1.93	0.00	27.74	143.69
28	2.03	0.00	29.52	142.90
29	2.13	0.00	31.23	141.94
30	2.22	0.00	32.89	140.81
31	2.32	0.00	34.49	139.53

n°	X [m]	N [kN]	T [kN]	M [kNm]
32	2.42	0.00	36.03	138.09
33	2.52	0.00	37.51	136.50
34	2.62	0.00	38.93	134.76
35	2.72	0.00	40.30	132.89
36	2.82	0.00	41.60	130.89
37	2.91	0.00	42.85	128.76
38	3.01	0.00	43.93	126.30
39	3.11	0.00	44.19	122.19
40	3.21	0.00	44.40	118.05
41	3.31	0.00	44.54	113.90
42	3.41	0.00	44.62	109.73
43	3.50	0.00	44.65	105.56
44	3.60	0.00	44.62	101.40
45	3.70	0.00	44.53	97.23
46	3.80	0.00	44.38	93.08
47	3.90	0.00	44.17	88.95
48	4.00	0.00	43.91	84.84
49	4.09	0.00	43.58	80.76
50	4.19	0.00	43.20	76.71
51	4.29	0.00	42.76	72.70
52	4.39	0.00	42.26	68.74
53	4.49	0.00	41.70	64.83
54	4.59	0.00	41.08	60.98
55	4.68	0.00	40.41	57.20
56	4.78	0.00	39.68	53.48
57	4.88	0.00	38.89	49.84
58	4.98	0.00	38.04	46.28
59	5.08	0.00	37.13	42.80
60	5.18	0.00	36.16	39.42
61	5.28	0.00	35.13	36.13
62	5.37	0.00	34.05	32.95
63	5.47	0.00	32.91	29.88
64	5.57	0.00	31.71	26.93
65	5.67	0.00	30.45	24.09
66	5.77	0.00	29.13	21.38
67	5.87	0.00	27.76	18.81
68	5.96	0.00	26.32	16.37
69	6.06	0.00	24.58	13.94
70	6.16	0.00	22.64	11.62
71	6.26	0.00	20.64	9.49
72	6.36	0.00	18.58	7.56
73	6.46	0.00	16.46	5.83
74	6.55	0.00	14.28	4.32
75	6.65	0.00	12.05	3.02
76	6.75	0.00	9.76	1.95
77	6.85	0.00	7.40	1.11
78	6.95	0.00	4.99	0.50
79	7.05	0.00	2.53	0.12
80	7.15	0.00	0.00	0.00

Combinazione n° 11 - SLEF

n°	X [m]	N [kN]	T [kN]	M [kNm]
1	-1.95	0.00	0.00	0.00
2	-1.85	0.00	15.38	0.74
3	-1.76	0.00	30.82	2.98
4	-1.66	0.00	46.31	6.70
5	-1.56	0.00	61.85	11.93
6	-1.47	0.00	77.44	18.66
7	-1.37	0.00	93.08	26.90
8	-1.27	0.00	108.77	36.66
9	-1.18	0.00	124.51	47.93
10	-1.08	0.00	140.31	60.73
11	-0.98	0.00	156.16	75.06
12	-0.89	0.00	172.06	90.93
13	-0.79	0.00	188.01	108.33
14	-0.69	0.00	204.01	127.27
15	-0.60	0.00	220.06	147.77
16	-0.50	0.00	236.16	169.82
17	0.95	0.00	11.48	144.80
18	1.04	0.00	12.95	143.60
19	1.14	0.00	14.37	142.26
20	1.24	0.00	15.73	140.78
21	1.34	0.00	17.04	139.16
22	1.44	0.00	18.29	137.42
23	1.54	0.00	19.49	135.56
24	1.63	0.00	20.64	133.59
25	1.73	0.00	21.74	131.50
26	1.83	0.00	22.78	129.31
27	1.93	0.00	23.77	127.02
28	2.03	0.00	24.71	124.63

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
29	2.13	0.00	25.59	122.16
30	2.22	0.00	26.42	119.60
31	2.32	0.00	27.20	116.96
32	2.42	0.00	27.92	114.25
33	2.52	0.00	28.59	111.47
34	2.62	0.00	29.21	108.62
35	2.72	0.00	29.77	105.72
36	2.82	0.00	30.28	102.76
37	2.91	0.00	30.74	99.76
38	3.01	0.00	31.14	96.72
39	3.11	0.00	31.49	93.63
40	3.21	0.00	31.79	90.52
41	3.31	0.00	32.03	87.38
42	3.41	0.00	32.22	84.22
43	3.50	0.00	32.36	81.04
44	3.60	0.00	32.44	77.85
45	3.70	0.00	32.47	74.65
46	3.80	0.00	32.45	71.46
47	3.90	0.00	32.38	68.27
48	4.00	0.00	32.25	65.09
49	4.09	0.00	32.07	61.92
50	4.19	0.00	31.83	58.78
51	4.29	0.00	31.54	55.66
52	4.39	0.00	31.20	52.57
53	4.49	0.00	30.80	49.52
54	4.59	0.00	30.36	46.51
55	4.68	0.00	29.85	43.55
56	4.78	0.00	29.30	40.64
57	4.88	0.00	28.69	37.78
58	4.98	0.00	28.03	34.99
59	5.08	0.00	27.31	32.27
60	5.18	0.00	26.55	29.62
61	5.28	0.00	25.72	27.05
62	5.37	0.00	24.85	24.56
63	5.47	0.00	23.92	22.16
64	5.57	0.00	22.94	19.85
65	5.67	0.00	21.91	17.64
66	5.77	0.00	20.82	15.54
67	5.87	0.00	19.68	13.55
68	5.96	0.00	18.48	11.67
69	6.06	0.00	17.24	9.91
70	6.16	0.00	15.94	8.28
71	6.26	0.00	14.58	6.78
72	6.36	0.00	13.17	5.41
73	6.46	0.00	11.71	4.18
74	6.55	0.00	10.20	3.11
75	6.65	0.00	8.63	2.18
76	6.75	0.00	7.01	1.41
77	6.85	0.00	5.34	0.80
78	6.95	0.00	3.61	0.36
79	7.05	0.00	1.83	0.09
80	7.15	0.00	0.00	0.00

Combinazione n° 12 - SLEQ

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	-1.95	0.00	0.00	0.00
2	-1.85	0.00	15.38	0.74
3	-1.76	0.00	30.82	2.98
4	-1.66	0.00	46.31	6.70
5	-1.56	0.00	61.85	11.93
6	-1.47	0.00	77.44	18.66
7	-1.37	0.00	93.08	26.90
8	-1.27	0.00	108.77	36.66
9	-1.18	0.00	124.51	47.93
10	-1.08	0.00	140.31	60.73
11	-0.98	0.00	156.16	75.06
12	-0.89	0.00	172.06	90.93
13	-0.79	0.00	188.01	108.33
14	-0.69	0.00	204.01	127.27
15	-0.60	0.00	220.06	147.77
16	-0.50	0.00	236.16	169.82
17	0.95	0.00	11.48	144.80
18	1.04	0.00	12.95	143.60
19	1.14	0.00	14.37	142.26
20	1.24	0.00	15.73	140.78
21	1.34	0.00	17.04	139.16
22	1.44	0.00	18.29	137.42
23	1.54	0.00	19.49	135.56
24	1.63	0.00	20.64	133.59
25	1.73	0.00	21.74	131.50

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
26	1.83	0.00	22.78	129.31
27	1.93	0.00	23.77	127.02
28	2.03	0.00	24.71	124.63
29	2.13	0.00	25.59	122.16
30	2.22	0.00	26.42	119.60
31	2.32	0.00	27.20	116.96
32	2.42	0.00	27.92	114.25
33	2.52	0.00	28.59	111.47
34	2.62	0.00	29.21	108.62
35	2.72	0.00	29.77	105.72
36	2.82	0.00	30.28	102.76
37	2.91	0.00	30.74	99.76
38	3.01	0.00	31.14	96.72
39	3.11	0.00	31.49	93.63
40	3.21	0.00	31.79	90.52
41	3.31	0.00	32.03	87.38
42	3.41	0.00	32.22	84.22
43	3.50	0.00	32.36	81.04
44	3.60	0.00	32.44	77.85
45	3.70	0.00	32.47	74.65
46	3.80	0.00	32.45	71.46
47	3.90	0.00	32.38	68.27
48	4.00	0.00	32.25	65.09
49	4.09	0.00	32.07	61.92
50	4.19	0.00	31.83	58.78
51	4.29	0.00	31.54	55.66
52	4.39	0.00	31.20	52.57
53	4.49	0.00	30.80	49.52
54	4.59	0.00	30.36	46.51
55	4.68	0.00	29.85	43.55
56	4.78	0.00	29.30	40.64
57	4.88	0.00	28.69	37.78
58	4.98	0.00	28.03	34.99
59	5.08	0.00	27.31	32.27
60	5.18	0.00	26.55	29.62
61	5.28	0.00	25.72	27.05
62	5.37	0.00	24.85	24.56
63	5.47	0.00	23.92	22.16
64	5.57	0.00	22.94	19.85
65	5.67	0.00	21.91	17.64
66	5.77	0.00	20.82	15.54
67	5.87	0.00	19.68	13.55
68	5.96	0.00	18.48	11.67
69	6.06	0.00	17.24	9.91
70	6.16	0.00	15.94	8.28
71	6.26	0.00	14.58	6.78
72	6.36	0.00	13.17	5.41
73	6.46	0.00	11.71	4.18
74	6.55	0.00	10.20	3.11
75	6.65	0.00	8.63	2.18
76	6.75	0.00	7.01	1.41
77	6.85	0.00	5.34	0.80
78	6.95	0.00	3.61	0.36
79	7.05	0.00	1.83	0.09
80	7.15	0.00	0.00	0.00

Verifiche strutturali

Verifiche a flessione

Elementi calcolati a trave

Simbologia adottata

n°	indice sezione
B	larghezza sezione espresso in [cm]
H	altezza sezione espressa in [cm]
Afi	area ferri inferiori espresso in [cmq]
Afs	area ferri superiori espressa in [cmq]

M momento agente espressa in [kNm]

N sforzo normale agente espressa in [kN]

Mrd momento resistente espresso in [kNm]

Nrd sforzo normale resistente espresso in [kN]

FS fattore di sicurezza (rapporto tra sollecitazione ultima e sollecitazione agente)

Paramento

Combinazione n° 1 - STR (A1-M1-R3)

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
1	0.00	100	50	15.71	31.42	0.39	3.13	579.36	4634.89	1483.163
2	-0.10	100	51	15.71	31.42	0.39	4.39	497.24	5526.88	1259.884
3	-0.20	100	52	15.71	31.42	0.41	5.67	442.94	6110.17	1077.201
4	-0.30	100	53	15.71	31.42	0.45	6.98	414.58	6478.79	928.014
5	-0.40	100	54	15.71	31.42	0.51	8.31	409.11	6699.13	805.759
6	-0.50	100	55	15.71	31.42	0.60	9.67	422.54	6803.41	703.529
7	-0.60	100	56	15.71	31.42	0.73	11.05	451.50	6817.74	616.969
8	-0.70	100	57	15.71	31.42	0.91	12.45	493.07	6763.90	543.111
9	-0.80	100	58	15.71	31.42	1.14	13.88	544.67	6659.99	479.784
10	-0.90	100	59	15.71	31.42	1.42	15.33	603.27	6511.70	424.710
11	-1.00	100	59	15.71	31.42	1.77	16.81	666.45	6328.44	376.545
12	-1.10	100	60	15.71	31.42	2.19	18.30	733.19	6127.66	334.758
13	-1.20	100	61	15.71	31.42	2.69	19.83	800.39	5904.17	297.792
14	-1.30	100	62	15.71	31.42	3.27	21.37	869.10	5681.79	265.854
15	-1.40	100	63	15.71	31.42	3.94	22.94	935.85	5448.12	237.485
16	-1.50	100	64	15.71	31.42	4.71	24.53	1002.66	5223.80	212.924
17	-1.60	100	65	15.71	31.42	5.58	26.15	1067.90	5004.09	191.362
18	-1.70	100	66	15.71	31.42	6.56	27.79	1131.61	4792.47	172.454
19	-1.80	100	67	15.71	31.42	7.66	29.45	1194.75	4594.35	155.987
20	-1.90	100	68	15.71	31.42	8.88	31.14	1252.68	4393.20	141.076
21	-2.00	100	69	15.71	31.42	10.23	32.85	1307.27	4198.51	127.803
22	-2.10	100	70	15.71	31.42	11.71	34.59	1360.92	4018.20	116.181
23	-2.20	100	71	15.71	31.42	13.34	36.34	1392.24	3792.79	104.358
24	-2.30	100	72	15.71	31.42	15.12	38.13	1412.89	3563.41	93.465
25	-2.40	100	73	15.71	31.42	17.05	39.93	1424.10	3335.65	83.535
26	-2.50	100	74	15.71	31.42	19.14	41.76	1435.13	3131.13	74.979
27	-2.60	100	75	15.71	31.42	21.40	43.61	1438.66	2931.80	67.224
28	-2.70	100	76	15.71	31.42	23.84	45.49	1441.60	2751.13	60.479
29	-2.80	100	76	15.71	31.42	26.45	47.39	1444.17	2587.16	54.594
30	-2.90	100	77	15.71	31.42	29.26	49.31	1440.46	2427.89	49.235
31	-3.00	100	78	15.71	31.42	32.25	51.26	1439.49	2287.64	44.629
32	-3.10	100	79	15.71	31.42	35.45	53.23	1440.84	2163.29	40.640
33	-3.20	100	80	15.71	31.42	38.86	55.22	1434.93	2039.26	36.927
34	-3.30	100	81	31.42	31.42	42.48	57.24	1526.16	2056.61	35.928
35	-3.40	100	82	31.42	31.42	46.32	59.28	1512.82	1936.35	32.662
36	-3.50	100	83	31.42	31.42	50.38	61.35	1502.99	1830.13	29.831
37	-3.60	100	84	31.42	31.42	54.68	63.44	1496.10	1735.69	27.360
38	-3.70	100	85	31.42	31.42	59.22	65.55	1484.69	1643.42	25.071
39	-3.80	100	86	31.42	31.42	64.00	67.69	1473.67	1558.48	23.025
40	-3.90	100	87	31.42	31.42	69.04	69.85	1464.98	1482.10	21.219
41	-4.00	100	88	31.42	31.42	74.34	72.03	1458.30	1413.07	19.618
42	-4.10	100	89	31.42	31.42	79.90	74.24	1453.36	1350.42	18.190
43	-4.20	100	90	31.42	31.42	85.73	76.47	1449.94	1293.30	16.913
44	-4.30	100	91	31.42	31.42	91.84	78.72	1447.85	1241.04	15.765
45	-4.40	100	92	31.42	62.83	98.24	81.00	2594.00	2138.86	26.405
46	-4.50	100	93	31.42	62.83	104.92	83.30	2615.50	2076.51	24.927
47	-4.60	100	93	31.42	62.83	111.91	85.63	2634.14	2015.50	23.538
48	-4.70	100	94	31.42	62.83	119.20	87.98	2651.15	1956.70	22.241
49	-4.80	100	95	31.42	62.83	126.80	90.35	2668.93	1901.69	21.048
50	-4.90	100	96	31.42	62.83	134.72	92.75	2687.40	1850.10	19.948
51	-5.00	100	97	31.42	62.83	142.96	95.16	2706.52	1801.66	18.932
52	-5.10	100	98	31.42	62.83	151.53	97.61	2726.23	1756.08	17.991
53	-5.20	100	99	31.42	62.83	160.44	100.08	2746.50	1713.13	17.118
54	-5.30	100	100	31.42	62.83	169.69	102.57	2767.28	1672.60	16.307
55	-5.40	100	101	31.42	62.83	179.30	105.08	2788.55	1634.29	15.553
56	-5.50	100	102	31.42	62.83	189.25	107.62	2809.13	1597.40	14.843
57	-5.60	100	103	31.42	62.83	199.58	110.18	2826.67	1560.52	14.163
58	-5.70	100	104	31.42	62.83	210.27	112.77	2844.68	1525.60	13.529
59	-5.80	100	105	31.42	62.83	221.33	115.37	2863.13	1492.47	12.936
60	-5.90	100	106	31.42	62.83	232.78	118.01	2881.99	1461.01	12.381
61	-6.00	100	107	31.42	62.83	244.62	120.66	2901.23	1431.10	11.860
62	-6.10	100	108	31.42	62.83	256.85	123.34	2920.84	1402.63	11.372
63	-6.20	100	109	31.42	62.83	269.48	126.05	2940.79	1375.50	10.913
64	-6.30	100	110	31.42	62.83	282.52	128.77	2961.06	1349.63	10.481
65	-6.40	100	110	31.42	62.83	295.98	131.52	2981.63	1324.93	10.074
66	-6.50	100	111	31.42	62.83	309.86	134.30	3002.48	1301.32	9.690

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
67	-6.60	100	112	31.42	62.83	324.16	137.10	3023.60	1278.74	9.327
68	-6.70	100	113	31.42	62.83	338.90	139.92	3044.98	1257.12	8.985
69	-6.80	100	114	31.42	62.83	354.08	142.76	3066.60	1236.41	8.661
70	-6.90	100	115	31.42	62.83	369.71	145.63	3088.46	1216.56	8.354
71	-7.00	100	116	31.42	62.83	385.79	148.52	3107.01	1196.14	8.054
72	-7.10	100	117	31.42	62.83	402.33	151.44	3125.30	1176.37	7.768
73	-7.20	100	118	31.42	62.83	419.34	154.38	3143.82	1157.39	7.497
74	-7.30	100	119	31.42	62.83	436.82	157.34	3162.53	1139.14	7.240
75	-7.40	100	120	31.42	62.83	454.78	160.33	3181.44	1121.59	6.996
76	-7.50	100	121	31.42	62.83	473.23	163.34	3200.53	1104.70	6.763
77	-7.60	100	122	31.42	62.83	492.17	166.37	3219.79	1088.43	6.542
78	-7.70	100	123	31.42	62.83	511.60	169.43	3239.22	1072.76	6.331
79	-7.80	100	124	31.42	62.83	531.55	172.51	3258.80	1057.64	6.131
80	-7.90	100	125	31.42	62.83	552.00	175.62	3278.53	1043.06	5.939
81	-8.00	100	126	31.42	62.83	572.98	178.75	3298.40	1028.98	5.757
82	-8.10	100	127	31.42	62.83	594.47	181.90	3318.40	1015.38	5.582
83	-8.20	100	128	31.42	62.83	616.50	185.08	3338.53	1002.23	5.415
84	-8.30	100	128	31.42	62.83	639.07	188.28	3358.78	989.52	5.256
85	-8.40	100	129	31.42	62.83	662.18	191.50	3379.14	977.22	5.103
86	-8.50	100	130	31.42	62.83	685.85	194.75	3399.61	965.31	4.957
87	-8.60	100	131	31.42	62.83	710.07	198.02	3420.19	953.78	4.817
88	-8.70	100	132	31.42	62.83	734.85	201.31	3440.87	942.61	4.682
89	-8.80	100	133	31.42	62.83	760.21	204.63	3461.64	931.78	4.554
90	-8.90	100	134	31.42	62.83	786.14	207.97	3482.50	921.28	4.430
91	-9.00	100	135	31.42	62.83	812.66	211.33	3503.45	911.09	4.311
92	-9.10	100	136	31.42	62.83	839.76	214.72	3524.49	901.20	4.197
93	-9.20	100	137	31.42	62.83	867.46	218.14	3545.60	891.59	4.087
94	-9.30	100	138	0.00	31.42	895.77	221.57	1804.38	446.32	2.014
95	-9.40	100	139	0.00	31.42	924.68	225.03	1815.79	441.89	1.964
96	-9.50	100	140	0.00	31.42	954.21	228.51	1827.24	437.59	1.915
97	-9.60	100	141	0.00	31.42	984.36	232.02	1838.75	433.41	1.868
98	-9.70	100	142	0.00	31.42	1015.14	235.55	1850.30	429.34	1.823
99	-9.80	100	143	0.00	31.42	1046.56	239.11	1861.89	425.38	1.779
100	-9.90	100	144	0.00	31.42	1078.61	242.68	1873.52	421.53	1.737
101	-9.99	100	144	0.00	31.42	1111.32	246.28	1883.63	417.44	1.695

Combinazione n° 2 - STR (A1-M1-R3)

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
1	0.00	100	50	15.71	31.42	0.39	3.13	579.36	4634.89	1483.163
2	-0.10	100	51	15.71	31.42	0.44	4.39	527.76	5304.52	1209.196
3	-0.20	100	52	15.71	31.42	0.58	5.67	548.27	5377.52	948.038
4	-0.30	100	53	15.71	31.42	0.82	6.98	606.96	5150.18	737.706
5	-0.40	100	54	15.71	31.42	1.18	8.31	680.36	4809.03	578.422
6	-0.50	100	55	15.71	31.42	1.65	9.67	755.19	4439.11	459.041
7	-0.60	100	56	15.71	31.42	2.24	11.05	826.57	4085.01	369.671
8	-0.70	100	57	15.71	31.42	2.96	12.45	894.47	3769.56	302.679
9	-0.80	100	58	15.71	31.42	3.81	13.88	953.61	3475.00	250.338
10	-0.90	100	59	15.71	31.42	4.80	15.33	1009.47	3221.22	210.097
11	-1.00	100	59	15.71	31.42	5.95	16.81	1031.39	2914.23	173.398
12	-1.10	100	60	15.71	31.42	7.25	18.30	1040.64	2628.92	143.619
13	-1.20	100	61	15.71	31.42	8.70	19.83	1046.46	2383.58	120.222
14	-1.30	100	62	15.71	31.42	10.33	21.37	1045.95	2163.91	101.250
15	-1.40	100	63	15.71	31.42	12.13	22.94	1046.37	1978.95	86.263
16	-1.50	100	64	15.71	31.42	14.11	24.53	1043.44	1814.28	73.951
17	-1.60	100	65	15.71	31.42	16.28	26.15	1043.98	1677.23	64.139
18	-1.70	100	66	15.71	31.42	18.64	27.79	1041.89	1553.58	55.905
19	-1.80	100	67	15.71	31.42	21.20	29.45	1040.60	1445.94	49.092
20	-1.90	100	68	15.71	31.42	23.96	31.14	1041.77	1353.82	43.474
21	-2.00	100	69	15.71	31.42	26.94	32.85	1044.92	1274.13	38.785
22	-2.10	100	70	15.71	31.42	30.14	34.59	1044.76	1198.88	34.664
23	-2.20	100	71	15.71	31.42	33.56	36.34	1044.87	1131.43	31.131
24	-2.30	100	72	15.71	31.42	37.22	38.13	1046.70	1072.18	28.122
25	-2.40	100	73	15.71	31.42	41.11	39.93	1049.96	1019.74	25.538
26	-2.50	100	74	15.71	31.42	45.25	41.76	1054.44	973.02	23.300
27	-2.60	100	75	15.71	31.42	49.65	43.61	1059.97	931.15	21.351
28	-2.70	100	76	15.71	31.42	54.30	45.49	1064.48	891.82	19.605
29	-2.80	100	76	15.71	31.42	59.21	47.39	1068.66	855.30	18.049
30	-2.90	100	77	15.71	31.42	64.40	49.31	1073.54	822.09	16.671
31	-3.00	100	78	15.71	31.42	69.86	51.26	1079.04	791.75	15.446
32	-3.10	100	79	15.71	31.42	75.61	53.23	1085.06	763.93	14.352
33	-3.20	100	80	15.71	31.42	81.64	55.22	1091.56	738.34	13.370
34	-3.30	100	81	31.42	31.42	87.98	57.24	1108.91	721.50	12.604
35	-3.40	100	82	31.42	31.42	94.62	59.28	1116.37	699.48	11.799
36	-3.50	100	83	31.42	31.42	101.57	61.35	1124.20	679.05	11.069
37	-3.60	100	84	31.42	31.42	108.83	63.44	1132.35	660.05	10.405
38	-3.70	100	85	31.42	31.42	116.42	65.55	1140.80	642.34	9.799
39	-3.80	100	86	31.42	31.42	124.34	67.69	1149.52	625.78	9.245
40	-3.90	100	87	31.42	31.42	132.59	69.85	1158.48	610.27	8.737
41	-4.00	100	88	31.42	31.42	141.19	72.03	1167.67	595.72	8.270
42	-4.10	100	89	31.42	31.42	150.13	74.24	1177.06	582.03	7.840

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
43	-4.20	100	90	31.42	31.42	159.43	76.47	1186.64	569.14	7.443
44	-4.30	100	91	31.42	31.42	169.10	78.72	1196.39	556.98	7.075
45	-4.40	100	92	31.42	62.83	179.13	81.00	2314.76	1046.72	12.922
46	-4.50	100	93	31.42	62.83	189.53	83.30	2336.51	1026.92	12.328
47	-4.60	100	93	31.42	62.83	200.32	85.63	2358.57	1008.18	11.774
48	-4.70	100	94	31.42	62.83	211.49	87.98	2380.93	990.43	11.258
49	-4.80	100	95	31.42	62.83	223.04	90.35	2403.58	973.62	10.776
50	-4.90	100	96	31.42	62.83	234.98	92.75	2426.50	957.71	10.326
51	-5.00	100	97	31.42	62.83	247.31	95.16	2449.70	942.64	9.905
52	-5.10	100	98	31.42	62.83	260.02	97.61	2473.17	928.39	9.511
53	-5.20	100	99	31.42	62.83	273.12	100.08	2496.89	914.90	9.142
54	-5.30	100	100	31.42	62.83	286.60	102.57	2520.85	902.13	8.796
55	-5.40	100	101	31.42	62.83	300.48	105.08	2542.75	889.22	8.462
56	-5.50	100	102	31.42	62.83	314.76	107.62	2564.01	876.66	8.146
57	-5.60	100	103	31.42	62.83	329.43	110.18	2585.38	864.68	7.848
58	-5.70	100	104	31.42	62.83	344.52	112.77	2606.88	853.25	7.567
59	-5.80	100	105	31.42	62.83	360.03	115.37	2628.51	842.33	7.301
60	-5.90	100	106	31.42	62.83	375.96	118.01	2650.25	831.87	7.049
61	-6.00	100	107	31.42	62.83	392.31	120.66	2672.10	821.85	6.811
62	-6.10	100	108	31.42	62.83	409.11	123.34	2694.04	812.23	6.585
63	-6.20	100	109	31.42	62.83	426.35	126.05	2716.08	802.98	6.371
64	-6.30	100	110	31.42	62.83	444.03	128.77	2738.19	794.09	6.167
65	-6.40	100	110	31.42	62.83	462.18	131.52	2760.39	785.53	5.973
66	-6.50	100	111	31.42	62.83	480.79	134.30	2782.65	777.27	5.788
67	-6.60	100	112	31.42	62.83	499.86	137.10	2804.98	769.31	5.611
68	-6.70	100	113	31.42	62.83	519.42	139.92	2827.38	761.62	5.443
69	-6.80	100	114	31.42	62.83	539.45	142.76	2849.83	754.18	5.283
70	-6.90	100	115	31.42	62.83	559.98	145.63	2872.34	746.99	5.129
71	-7.00	100	116	31.42	62.83	581.00	148.52	2894.90	740.03	4.983
72	-7.10	100	117	31.42	62.83	602.52	151.44	2917.50	733.29	4.842
73	-7.20	100	118	31.42	62.83	624.56	154.38	2940.15	726.75	4.708
74	-7.30	100	119	31.42	62.83	647.11	157.34	2962.85	720.41	4.579
75	-7.40	100	120	31.42	62.83	670.18	160.33	2985.58	714.25	4.455
76	-7.50	100	121	31.42	62.83	693.77	163.34	3008.35	708.28	4.336
77	-7.60	100	122	31.42	62.83	717.91	166.37	3031.16	702.47	4.222
78	-7.70	100	123	31.42	62.83	742.58	169.43	3054.00	696.82	4.113
79	-7.80	100	124	31.42	62.83	767.81	172.51	3076.87	691.32	4.007
80	-7.90	100	125	31.42	62.83	793.59	175.62	3099.77	685.97	3.906
81	-8.00	100	126	31.42	62.83	819.93	178.75	3122.70	680.76	3.809
82	-8.10	100	127	31.42	62.83	846.84	181.90	3145.66	675.69	3.715
83	-8.20	100	128	31.42	62.83	874.32	185.08	3168.65	670.74	3.624
84	-8.30	100	128	31.42	62.83	902.38	188.28	3191.66	665.92	3.537
85	-8.40	100	129	31.42	62.83	931.03	191.50	3214.69	661.21	3.453
86	-8.50	100	130	31.42	62.83	960.28	194.75	3237.75	656.62	3.372
87	-8.60	100	131	31.42	62.83	990.12	198.02	3260.82	652.14	3.293
88	-8.70	100	132	31.42	62.83	1020.57	201.31	3283.92	647.76	3.218
89	-8.80	100	133	31.42	62.83	1051.64	204.63	3307.04	643.49	3.145
90	-8.90	100	134	31.42	62.83	1083.32	207.97	3330.18	639.31	3.074
91	-9.00	100	135	31.42	62.83	1115.63	211.33	3353.33	635.22	3.006
92	-9.10	100	136	31.42	62.83	1148.58	214.72	3376.51	631.23	2.940
93	-9.20	100	137	31.42	62.83	1182.16	218.14	3399.70	627.32	2.876
94	-9.30	100	138	0.00	31.42	1216.39	221.57	1734.83	316.01	1.426
95	-9.40	100	139	0.00	31.42	1251.28	225.03	1747.12	314.20	1.396
96	-9.50	100	140	0.00	31.42	1286.82	228.51	1758.76	312.32	1.367
97	-9.60	100	141	0.00	31.42	1323.02	232.02	1770.41	310.48	1.338
98	-9.70	100	142	0.00	31.42	1359.89	235.55	1782.06	308.68	1.310
99	-9.80	100	143	0.00	31.42	1397.44	239.11	1793.73	306.91	1.284
100	-9.90	100	144	0.00	31.42	1435.65	242.68	1805.40	305.19	1.258
101	-9.99	100	144	0.00	31.42	1474.54	246.28	1815.67	303.26	1.231

Combinazione n° 3 - STR (A1-M1-R3) H + V

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
1	0.00	100	50	15.71	31.42	0.41	3.31	579.36	4634.89	1398.559
2	-0.10	100	51	15.71	31.42	0.47	4.65	530.30	5285.41	1136.112
3	-0.20	100	52	15.71	31.42	0.63	6.02	555.29	5321.05	884.571
4	-0.30	100	53	15.71	31.42	0.90	7.40	617.54	5066.66	684.344
5	-0.40	100	54	15.71	31.42	1.30	8.82	691.96	4708.50	534.024
6	-0.50	100	55	15.71	31.42	1.81	10.26	766.91	4338.29	423.025
7	-0.60	100	56	15.71	31.42	2.46	11.72	837.01	3988.89	340.382
8	-0.70	100	57	15.71	31.42	3.24	13.21	902.60	3680.24	278.650
9	-0.80	100	58	15.71	31.42	4.16	14.72	960.34	3399.54	230.932
10	-0.90	100	59	15.71	31.42	5.22	16.26	1013.86	3156.69	194.143
11	-1.00	100	59	15.71	31.42	6.44	17.82	1029.26	2850.64	159.939
12	-1.10	100	60	15.71	31.42	7.80	19.41	1037.40	2580.82	132.949
13	-1.20	100	61	15.71	31.42	9.33	21.03	1043.08	2350.59	111.795
14	-1.30	100	62	15.71	31.42	11.02	22.66	1044.20	2147.12	94.734
15	-1.40	100	63	15.71	31.42	12.88	24.33	1045.75	1974.58	81.163
16	-1.50	100	64	15.71	31.42	14.92	26.02	1044.40	1821.01	69.991
17	-1.60	100	65	15.71	31.42	17.14	27.73	1046.22	1692.81	61.042
18	-1.70	100	66	15.71	31.42	19.54	29.47	1046.33	1577.95	53.543

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
19	-1.80	100	67	15.71	31.42	22.14	31.24	1046.22	1476.32	47.265
20	-1.90	100	68	15.71	31.42	24.92	33.02	1048.38	1389.10	42.063
21	-2.00	100	69	15.71	31.42	27.91	34.84	1052.39	1313.48	37.702
22	-2.10	100	70	15.71	31.42	31.11	36.68	1055.91	1244.93	33.942
23	-2.20	100	71	15.71	31.42	34.52	38.54	1056.78	1180.08	30.618
24	-2.30	100	72	15.71	31.42	38.14	40.43	1059.27	1123.00	27.775
25	-2.40	100	73	15.71	31.42	41.98	42.35	1063.13	1072.38	25.324
26	-2.50	100	74	15.71	31.42	46.05	44.29	1068.14	1027.20	23.195
27	-2.60	100	75	15.71	31.42	50.35	46.25	1074.15	986.64	21.332
28	-2.70	100	76	15.71	31.42	54.89	48.24	1081.02	950.05	19.694
29	-2.80	100	76	15.71	31.42	59.67	50.26	1086.65	915.19	18.211
30	-2.90	100	77	15.71	31.42	64.70	52.30	1091.99	882.66	16.878
31	-3.00	100	78	15.71	31.42	69.98	54.36	1097.91	852.90	15.690
32	-3.10	100	79	15.71	31.42	75.51	56.45	1104.34	825.57	14.625
33	-3.20	100	80	15.71	31.42	81.31	58.57	1111.22	800.38	13.666
34	-3.30	100	81	31.42	31.42	87.38	60.71	1129.64	784.83	12.929
35	-3.40	100	82	31.42	31.42	93.71	62.87	1137.45	763.09	12.138
36	-3.50	100	83	31.42	31.42	100.33	65.06	1145.61	742.90	11.419
37	-3.60	100	84	31.42	31.42	107.23	67.28	1154.09	724.09	10.763
38	-3.70	100	85	31.42	31.42	114.41	69.52	1162.86	706.54	10.164
39	-3.80	100	86	31.42	31.42	121.89	71.78	1171.88	690.11	9.614
40	-3.90	100	87	31.42	31.42	129.67	74.07	1181.14	674.71	9.109
41	-4.00	100	88	31.42	31.42	137.75	76.39	1190.61	660.24	8.643
42	-4.10	100	89	31.42	31.42	146.14	78.73	1200.28	646.61	8.213
43	-4.20	100	90	31.42	31.42	154.84	81.09	1210.14	633.77	7.815
44	-4.30	100	91	31.42	31.42	163.86	83.48	1220.16	621.64	7.446
45	-4.40	100	92	31.42	62.83	173.21	85.90	2351.46	1166.17	13.576
46	-4.50	100	93	31.42	62.83	182.88	88.34	2373.54	1146.54	12.978
47	-4.60	100	93	31.42	62.83	192.89	90.81	2395.93	1127.94	12.421
48	-4.70	100	94	31.42	62.83	203.24	93.30	2418.61	1110.29	11.900
49	-4.80	100	95	31.42	62.83	213.93	95.81	2441.55	1093.52	11.413
50	-4.90	100	96	31.42	62.83	224.97	98.36	2464.76	1077.58	10.956
51	-5.00	100	97	31.42	62.83	236.37	100.92	2488.20	1062.40	10.527
52	-5.10	100	98	31.42	62.83	248.12	103.51	2511.88	1047.93	10.124
53	-5.20	100	99	31.42	62.83	260.24	106.13	2535.78	1034.12	9.744
54	-5.30	100	100	31.42	62.83	272.73	108.77	2559.90	1020.94	9.386
55	-5.40	100	101	31.42	62.83	285.60	111.44	2584.21	1008.34	9.049
56	-5.50	100	102	31.42	62.83	298.84	114.13	2608.34	996.14	8.728
57	-5.60	100	103	31.42	62.83	312.47	116.85	2632.51	984.40	8.425
58	-5.70	100	104	31.42	62.83	326.49	119.59	2656.46	973.00	8.136
59	-5.80	100	105	31.42	62.83	340.91	122.35	2678.19	961.21	7.856
60	-5.90	100	106	31.42	62.83	355.73	125.15	2700.03	949.88	7.590
61	-6.00	100	107	31.42	62.83	370.95	127.96	2721.96	938.96	7.338
62	-6.10	100	108	31.42	62.83	386.58	130.80	2743.98	928.45	7.098
63	-6.20	100	109	31.42	62.83	402.63	133.67	2766.08	918.32	6.870
64	-6.30	100	110	31.42	62.83	419.10	136.56	2788.26	908.54	6.653
65	-6.40	100	110	31.42	62.83	436.00	139.48	2810.52	899.11	6.446
66	-6.50	100	111	31.42	62.83	453.33	142.42	2832.85	889.99	6.249
67	-6.60	100	112	31.42	62.83	471.09	145.39	2855.25	881.18	6.061
68	-6.70	100	113	31.42	62.83	489.30	148.38	2877.71	872.67	5.881
69	-6.80	100	114	31.42	62.83	507.96	151.40	2900.23	864.42	5.710
70	-6.90	100	115	31.42	62.83	527.06	154.44	2922.81	856.45	5.545
71	-7.00	100	116	31.42	62.83	546.63	157.51	2945.44	848.72	5.388
72	-7.10	100	117	31.42	62.83	566.65	160.60	2968.12	841.23	5.238
73	-7.20	100	118	31.42	62.83	587.14	163.72	2990.86	833.97	5.094
74	-7.30	100	119	31.42	62.83	608.11	166.86	3013.64	826.92	4.956
75	-7.40	100	120	31.42	62.83	629.55	170.03	3036.46	820.08	4.823
76	-7.50	100	121	31.42	62.83	651.48	173.22	3059.33	813.44	4.696
77	-7.60	100	122	31.42	62.83	673.89	176.44	3082.24	807.00	4.574
78	-7.70	100	123	31.42	62.83	696.80	179.68	3105.19	800.73	4.456
79	-7.80	100	124	31.42	62.83	720.20	182.95	3128.18	794.64	4.343
80	-7.90	100	125	31.42	62.83	744.11	186.24	3151.20	788.71	4.235
81	-8.00	100	126	31.42	62.83	768.53	189.56	3174.26	782.95	4.130
82	-8.10	100	127	31.42	62.83	793.46	192.90	3197.35	777.33	4.030
83	-8.20	100	128	31.42	62.83	818.90	196.27	3220.47	771.87	3.933
84	-8.30	100	128	31.42	62.83	844.88	199.66	3243.63	766.55	3.839
85	-8.40	100	129	31.42	62.83	871.38	203.08	3266.81	761.36	3.749
86	-8.50	100	130	31.42	62.83	898.41	206.53	3290.02	756.31	3.662
87	-8.60	100	131	31.42	62.83	925.99	209.99	3313.26	751.38	3.578
88	-8.70	100	132	31.42	62.83	954.10	213.49	3336.52	746.57	3.497
89	-8.80	100	133	31.42	62.83	982.77	217.01	3359.81	741.88	3.419
90	-8.90	100	134	31.42	62.83	1011.99	220.55	3383.12	737.30	3.343
91	-9.00	100	135	31.42	62.83	1041.78	224.12	3406.45	732.84	3.270
92	-9.10	100	136	31.42	62.83	1072.12	227.71	3429.81	728.47	3.199
93	-9.20	100	137	31.42	62.83	1103.04	231.33	3453.19	724.21	3.131
94	-9.30	100	138	0.00	31.42	1134.53	234.98	1760.81	364.68	1.552
95	-9.40	100	139	0.00	31.42	1166.60	238.64	1773.25	362.74	1.520
96	-9.50	100	140	0.00	31.42	1199.26	242.34	1785.72	360.85	1.489
97	-9.60	100	141	0.00	31.42	1232.51	246.06	1798.21	358.99	1.459
98	-9.70	100	142	0.00	31.42	1266.35	249.80	1810.72	357.18	1.430
99	-9.80	100	143	0.00	31.42	1300.79	253.57	1823.24	355.41	1.402
100	-9.90	100	144	0.00	31.42	1335.84	257.36	1835.03	353.54	1.374
101	-9.99	100	144	0.00	31.42	1371.50	261.18	1845.36	351.42	1.345

Combinazione n° 4 - STR (A1-M1-R3) H - V

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
1	0.00	100	50	15.71	31.42	0.39	3.13	579.36	4634.89	1483.163
2	-0.10	100	51	15.71	31.42	0.43	4.31	527.89	5303.55	1230.385
3	-0.20	100	52	15.71	31.42	0.55	5.52	539.82	5438.15	985.498
4	-0.30	100	53	15.71	31.42	0.75	6.75	589.36	5289.19	783.810
5	-0.40	100	54	15.71	31.42	1.05	8.00	655.79	5012.88	626.598
6	-0.50	100	55	15.71	31.42	1.44	9.27	726.11	4686.84	505.350
7	-0.60	100	56	15.71	31.42	1.93	10.57	796.12	4365.43	412.965
8	-0.70	100	57	15.71	31.42	2.52	11.89	862.32	4061.18	341.573
9	-0.80	100	58	15.71	31.42	3.23	13.23	925.62	3788.85	286.371
10	-0.90	100	59	15.71	31.42	4.06	14.59	981.64	3532.04	242.026
11	-1.00	100	59	15.71	31.42	5.00	15.98	1035.25	3307.92	207.017
12	-1.10	100	60	15.71	31.42	6.07	17.39	1061.51	3039.57	174.824
13	-1.20	100	61	15.71	31.42	7.27	18.82	1075.00	2780.64	147.779
14	-1.30	100	62	15.71	31.42	8.61	20.27	1083.34	2549.20	125.774
15	-1.40	100	63	15.71	31.42	10.09	21.74	1086.61	2340.55	107.650
16	-1.50	100	64	15.71	31.42	11.72	23.24	1090.01	2161.07	92.995
17	-1.60	100	65	15.71	31.42	13.50	24.76	1090.37	1999.52	80.766
18	-1.70	100	66	15.71	31.42	15.44	26.30	1090.39	1857.62	70.638
19	-1.80	100	67	15.71	31.42	17.53	27.86	1093.12	1736.86	62.341
20	-1.90	100	68	15.71	31.42	19.80	29.45	1092.53	1624.78	55.179
21	-2.00	100	69	15.71	31.42	22.24	31.05	1092.69	1525.87	49.138
22	-2.10	100	70	15.71	31.42	24.85	32.68	1094.94	1439.92	44.058
23	-2.20	100	71	15.71	31.42	27.65	34.33	1098.90	1364.56	39.743
24	-2.30	100	72	15.71	31.42	30.64	36.01	1101.86	1295.12	35.967
25	-2.40	100	73	15.71	31.42	33.81	37.70	1102.37	1229.24	32.602
26	-2.50	100	74	15.71	31.42	37.19	39.42	1104.46	1170.81	29.699
27	-2.60	100	75	15.71	31.42	40.77	41.16	1107.89	1118.65	27.176
28	-2.70	100	76	15.71	31.42	44.55	42.93	1112.47	1071.82	24.969
29	-2.80	100	76	15.71	31.42	48.55	44.71	1118.05	1029.56	23.027
30	-2.90	100	77	15.71	31.42	52.77	46.52	1124.50	991.24	21.309
31	-3.00	100	78	15.71	31.42	57.21	48.35	1129.17	954.18	19.736
32	-3.10	100	79	15.71	31.42	61.88	50.20	1133.79	919.70	18.321
33	-3.20	100	80	15.71	31.42	66.79	52.07	1139.01	888.05	17.054
34	-3.30	100	81	31.42	31.42	71.93	53.97	1156.86	867.98	16.083
35	-3.40	100	82	31.42	31.42	77.32	55.89	1163.20	840.79	15.044
36	-3.50	100	83	31.42	31.42	82.95	57.83	1170.01	815.62	14.104
37	-3.60	100	84	31.42	31.42	88.84	59.79	1177.23	792.26	13.251
38	-3.70	100	85	31.42	31.42	94.99	61.77	1184.83	770.51	12.473
39	-3.80	100	86	31.42	31.42	101.41	63.78	1192.77	750.23	11.762
40	-3.90	100	87	31.42	31.42	108.09	65.81	1201.02	731.26	11.111
41	-4.00	100	88	31.42	31.42	115.05	67.86	1209.54	713.48	10.514
42	-4.10	100	89	31.42	31.42	122.28	69.94	1218.32	696.78	9.963
43	-4.20	100	90	31.42	31.42	129.80	72.03	1227.34	681.08	9.455
44	-4.30	100	91	31.42	31.42	137.62	74.15	1236.57	666.28	8.986
45	-4.40	100	92	31.42	62.83	145.72	76.29	2375.21	1243.49	16.300
46	-4.50	100	93	31.42	62.83	154.13	78.45	2396.18	1219.66	15.547
47	-4.60	100	93	31.42	62.83	162.84	80.64	2417.52	1197.12	14.846
48	-4.70	100	94	31.42	62.83	171.86	82.84	2439.19	1175.76	14.193
49	-4.80	100	95	31.42	62.83	181.20	85.07	2461.19	1155.50	13.583
50	-4.90	100	96	31.42	62.83	190.86	87.32	2483.48	1136.26	13.012
51	-5.00	100	97	31.42	62.83	200.84	89.60	2506.07	1117.96	12.478
52	-5.10	100	98	31.42	62.83	211.16	91.89	2528.92	1100.54	11.976
53	-5.20	100	99	31.42	62.83	221.81	94.21	2552.04	1083.94	11.505
54	-5.30	100	100	31.42	62.83	232.80	96.55	2575.39	1068.09	11.063
55	-5.40	100	101	31.42	62.83	244.14	98.91	2598.99	1052.97	10.645
56	-5.50	100	102	31.42	62.83	255.83	101.30	2622.44	1038.36	10.251
57	-5.60	100	103	31.42	62.83	267.88	103.70	2645.97	1024.34	9.878
58	-5.70	100	104	31.42	62.83	280.28	106.13	2669.64	1010.89	9.525
59	-5.80	100	105	31.42	62.83	293.06	108.58	2693.45	997.98	9.191
60	-5.90	100	106	31.42	62.83	306.20	111.06	2714.67	984.58	8.866
61	-6.00	100	107	31.42	62.83	319.73	113.55	2735.88	971.66	8.557
62	-6.10	100	108	31.42	62.83	333.63	116.07	2757.20	959.23	8.264
63	-6.20	100	109	31.42	62.83	347.92	118.61	2778.63	947.26	7.986
64	-6.30	100	110	31.42	62.83	362.61	121.17	2800.16	935.72	7.722
65	-6.40	100	110	31.42	62.83	377.69	123.76	2821.78	924.60	7.471
66	-6.50	100	111	31.42	62.83	393.17	126.36	2843.49	913.87	7.232
67	-6.60	100	112	31.42	62.83	409.06	128.99	2865.28	903.52	7.005
68	-6.70	100	113	31.42	62.83	425.37	131.64	2887.16	893.51	6.787
69	-6.80	100	114	31.42	62.83	442.09	134.31	2909.11	883.84	6.580
70	-6.90	100	115	31.42	62.83	459.23	137.01	2931.13	874.49	6.383
71	-7.00	100	116	31.42	62.83	476.81	139.73	2953.21	865.44	6.194
72	-7.10	100	117	31.42	62.83	494.81	142.47	2975.37	856.68	6.013
73	-7.20	100	118	31.42	62.83	513.25	145.23	2997.58	848.19	5.840
74	-7.30	100	119	31.42	62.83	532.14	148.01	3019.86	839.96	5.675
75	-7.40	100	120	31.42	62.83	551.48	150.82	3042.19	831.98	5.516
76	-7.50	100	121	31.42	62.83	571.27	153.65	3064.57	824.25	5.365
77	-7.60	100	122	31.42	62.83	591.51	156.50	3087.00	816.74	5.219
78	-7.70	100	123	31.42	62.83	612.23	159.37	3109.49	809.44	5.079
79	-7.80	100	124	31.42	62.83	633.41	162.27	3132.02	802.36	4.945
80	-7.90	100	125	31.42	62.83	655.06	165.18	3154.59	795.48	4.816
81	-8.00	100	126	31.42	62.83	677.20	168.12	3177.21	788.79	4.692
82	-8.10	100	127	31.42	62.83	699.81	171.08	3199.87	782.28	4.572

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
83	-8.20	100	128	31.42	62.83	722.92	174.07	3222.56	775.95	4.458
84	-8.30	100	128	31.42	62.83	746.52	177.07	3245.30	769.78	4.347
85	-8.40	100	129	31.42	62.83	770.62	180.10	3268.07	763.78	4.241
86	-8.50	100	130	31.42	62.83	795.23	183.15	3290.87	757.94	4.138
87	-8.60	100	131	31.42	62.83	820.35	186.23	3313.71	752.24	4.039
88	-8.70	100	132	31.42	62.83	845.98	189.32	3336.58	746.69	3.944
89	-8.80	100	133	31.42	62.83	872.13	192.44	3359.49	741.28	3.852
90	-8.90	100	134	31.42	62.83	898.80	195.58	3382.42	736.01	3.763
91	-9.00	100	135	31.42	62.83	926.01	198.74	3405.38	730.86	3.677
92	-9.10	100	136	31.42	62.83	953.75	201.92	3428.37	725.83	3.595
93	-9.20	100	137	31.42	62.83	982.03	205.13	3451.38	720.93	3.515
94	-9.30	100	138	0.00	31.42	1010.86	208.36	1759.76	362.72	1.741
95	-9.40	100	139	0.00	31.42	1040.24	211.61	1772.03	360.47	1.703
96	-9.50	100	140	0.00	31.42	1070.18	214.88	1784.33	358.27	1.667
97	-9.60	100	141	0.00	31.42	1100.67	218.17	1796.65	356.13	1.632
98	-9.70	100	142	0.00	31.42	1131.73	221.49	1809.00	354.04	1.598
99	-9.80	100	143	0.00	31.42	1163.36	224.83	1821.13	351.95	1.565
100	-9.90	100	144	0.00	31.42	1195.57	228.19	1832.74	349.80	1.533
101	-9.99	100	144	0.00	31.42	1228.36	231.58	1842.90	347.43	1.500

Combinazione n° 9 - ECC

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
1	0.00	100	50	15.71	31.42	11.49	3.13	602.52	163.86	52.436
2	-0.10	100	51	15.71	31.42	11.49	4.39	631.01	240.82	54.897
3	-0.20	100	52	15.71	31.42	11.51	5.67	661.77	326.16	57.501
4	-0.30	100	53	15.71	31.42	11.54	6.98	695.03	420.50	60.232
5	-0.40	100	54	15.71	31.42	11.59	8.31	731.01	524.39	63.073
6	-0.50	100	55	15.71	31.42	11.67	9.67	769.91	638.22	65.997
7	-0.60	100	56	15.71	31.42	11.77	11.05	811.89	762.12	68.968
8	-0.70	100	57	15.71	31.42	11.91	12.45	856.42	895.31	71.890
9	-0.80	100	58	15.71	31.42	12.09	13.88	902.25	1035.61	74.605
10	-0.90	100	59	15.71	31.42	12.32	15.33	950.54	1183.04	77.161
11	-1.00	100	59	15.71	31.42	12.59	16.81	1001.02	1335.88	79.485
12	-1.10	100	60	15.71	31.42	12.92	18.30	1053.25	1491.90	81.503
13	-1.20	100	61	15.71	31.42	13.31	19.83	1106.69	1648.41	83.142
14	-1.30	100	62	15.71	31.42	13.76	21.37	1157.87	1798.01	84.130
15	-1.40	100	63	15.71	31.42	14.28	22.94	1205.50	1936.15	84.397
16	-1.50	100	64	15.71	31.42	14.88	24.53	1252.05	2064.61	84.155
17	-1.60	100	65	15.71	31.42	15.55	26.15	1297.05	2181.08	83.407
18	-1.70	100	66	15.71	31.42	16.31	27.79	1340.09	2283.74	82.179
19	-1.80	100	67	15.71	31.42	17.15	29.45	1380.87	2371.35	80.512
20	-1.90	100	68	15.71	31.42	18.09	31.14	1419.03	2443.00	78.451
21	-2.00	100	69	15.71	31.42	19.12	32.85	1454.40	2498.50	76.055
22	-2.10	100	70	15.71	31.42	20.26	34.59	1487.22	2538.76	73.404
23	-2.20	100	71	15.71	31.42	21.51	36.34	1517.54	2564.60	70.565
24	-2.30	100	72	15.71	31.42	22.86	38.13	1545.48	2577.22	67.598
25	-2.40	100	73	15.71	31.42	24.34	39.93	1571.22	2577.98	64.561
26	-2.50	100	74	15.71	31.42	25.93	41.76	1594.99	2568.38	61.503
27	-2.60	100	75	15.71	31.42	27.66	43.61	1617.01	2549.93	58.468
28	-2.70	100	76	15.71	31.42	29.51	45.49	1637.52	2524.09	55.488
29	-2.80	100	76	15.71	31.42	31.50	47.39	1656.76	2492.25	52.592
30	-2.90	100	77	15.71	31.42	33.63	49.31	1674.03	2454.31	49.771
31	-3.00	100	78	15.71	31.42	35.91	51.26	1683.71	2403.18	46.883
32	-3.10	100	79	15.71	31.42	38.34	53.23	1692.51	2349.66	44.142
33	-3.20	100	80	15.71	31.42	40.93	55.22	1700.67	2294.73	41.553
34	-3.30	100	81	31.42	31.42	43.67	57.24	1767.15	2316.17	40.462
35	-3.40	100	82	31.42	31.42	46.59	59.28	1768.83	2251.01	37.970
36	-3.50	100	83	31.42	31.42	49.67	61.35	1770.23	2186.62	35.642
37	-3.60	100	84	31.42	31.42	52.92	63.44	1771.57	2123.54	33.474
38	-3.70	100	85	31.42	31.42	56.36	65.55	1772.98	2062.09	31.458
39	-3.80	100	86	31.42	31.42	59.98	67.69	1774.55	2002.50	29.585
40	-3.90	100	87	31.42	31.42	63.79	69.85	1776.37	1944.94	27.846
41	-4.00	100	88	31.42	31.42	67.80	72.03	1778.49	1889.49	26.232
42	-4.10	100	89	31.42	31.42	72.00	74.24	1780.95	1836.20	24.734
43	-4.20	100	90	31.42	31.42	76.41	76.47	1783.79	1785.08	23.344
44	-4.30	100	91	31.42	31.42	81.03	78.72	1787.02	1736.11	22.053
45	-4.40	100	92	31.42	62.83	85.86	81.00	3244.49	3060.75	37.787
46	-4.50	100	93	31.42	62.83	90.91	83.30	3268.83	2995.15	35.955
47	-4.60	100	93	31.42	62.83	96.19	85.63	3293.57	2931.97	34.241
48	-4.70	100	94	31.42	62.83	101.69	87.98	3318.71	2871.15	32.635
49	-4.80	100	95	31.42	62.83	107.43	90.35	3344.26	2812.64	31.131
50	-4.90	100	96	31.42	62.83	113.40	92.75	3370.22	2756.38	29.720
51	-5.00	100	97	31.42	62.83	119.62	95.16	3396.59	2702.28	28.396
52	-5.10	100	98	31.42	62.83	126.08	97.61	3420.06	2647.74	27.126
53	-5.20	100	99	31.42	62.83	132.80	100.08	3437.82	2590.74	25.888
54	-5.30	100	100	31.42	62.83	139.77	102.57	3456.20	2536.22	24.728
55	-5.40	100	101	31.42	62.83	147.01	105.08	3475.16	2484.05	23.640
56	-5.50	100	102	31.42	62.83	154.51	107.62	3494.69	2434.11	22.618
57	-5.60	100	103	31.42	62.83	162.28	110.18	3514.77	2386.29	21.658
58	-5.70	100	104	31.42	62.83	170.34	112.77	3535.37	2340.48	20.755

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
59	-5.80	100	105	31.42	62.83	178.67	115.37	3556.48	2296.57	19.905
60	-5.90	100	106	31.42	62.83	187.29	118.01	3578.07	2254.47	19.105
61	-6.00	100	107	31.42	62.83	196.20	120.66	3600.13	2214.09	18.349
62	-6.10	100	108	31.42	62.83	205.40	123.34	3622.64	2175.34	17.637
63	-6.20	100	109	31.42	62.83	214.91	126.05	3645.58	2138.13	16.963
64	-6.30	100	110	31.42	62.83	224.73	128.77	3668.93	2102.38	16.326
65	-6.40	100	110	31.42	62.83	234.85	131.52	3692.69	2068.03	15.724
66	-6.50	100	111	31.42	62.83	245.29	134.30	3716.83	2035.00	15.153
67	-6.60	100	112	31.42	62.83	256.05	137.10	3740.13	2002.58	14.607
68	-6.70	100	113	31.42	62.83	267.13	139.92	3759.35	1969.06	14.073
69	-6.80	100	114	31.42	62.83	278.54	142.76	3778.85	1936.77	13.566
70	-6.90	100	115	31.42	62.83	290.29	145.63	3798.63	1905.65	13.086
71	-7.00	100	116	31.42	62.83	302.38	148.52	3818.68	1875.65	12.629
72	-7.10	100	117	31.42	62.83	314.81	151.44	3838.98	1846.72	12.194
73	-7.20	100	118	31.42	62.83	327.60	154.38	3859.53	1818.80	11.781
74	-7.30	100	119	31.42	62.83	340.73	157.34	3880.31	1791.84	11.388
75	-7.40	100	120	31.42	62.83	354.23	160.33	3901.31	1765.81	11.014
76	-7.50	100	121	31.42	62.83	368.08	163.34	3922.53	1740.65	10.657
77	-7.60	100	122	31.42	62.83	382.31	166.37	3943.95	1716.33	10.316
78	-7.70	100	123	31.42	62.83	396.91	169.43	3965.56	1692.80	9.991
79	-7.80	100	124	31.42	62.83	411.89	172.51	3987.37	1670.04	9.681
80	-7.90	100	125	31.42	62.83	427.25	175.62	4009.35	1648.02	9.384
81	-8.00	100	126	31.42	62.83	443.00	178.75	4031.51	1626.68	9.100
82	-8.10	100	127	31.42	62.83	459.14	181.90	4053.83	1606.02	8.829
83	-8.20	100	128	31.42	62.83	475.68	185.08	4076.32	1585.99	8.569
84	-8.30	100	128	31.42	62.83	492.62	188.28	4099.03	1566.60	8.321
85	-8.40	100	129	31.42	62.83	509.97	191.50	4122.10	1547.88	8.083
86	-8.50	100	130	31.42	62.83	527.73	194.75	4145.34	1529.72	7.855
87	-8.60	100	131	31.42	62.83	545.91	198.02	4168.74	1512.11	7.636
88	-8.70	100	132	31.42	62.83	564.51	201.31	4192.30	1495.01	7.426
89	-8.80	100	133	31.42	62.83	583.54	204.63	4216.00	1478.42	7.225
90	-8.90	100	134	31.42	62.83	603.00	207.97	4239.86	1462.30	7.031
91	-9.00	100	135	31.42	62.83	622.89	211.33	4263.85	1446.64	6.845
92	-9.10	100	136	31.42	62.83	643.23	214.72	4287.98	1431.43	6.666
93	-9.20	100	137	31.42	62.83	664.01	218.14	4312.25	1416.64	6.494
94	-9.30	100	138	0.00	31.42	685.24	221.57	2221.91	718.46	3.243
95	-9.40	100	139	0.00	31.42	706.92	225.03	2233.68	711.03	3.160
96	-9.50	100	140	0.00	31.42	729.07	228.51	2245.50	703.81	3.080
97	-9.60	100	141	0.00	31.42	751.69	232.02	2257.37	696.78	3.003
98	-9.70	100	142	0.00	31.42	774.77	235.55	2269.30	689.93	2.929
99	-9.80	100	143	0.00	31.42	798.33	239.11	2281.28	683.26	2.858
100	-9.90	100	144	0.00	31.42	822.36	242.68	2293.32	676.77	2.789
101	-9.99	100	144	0.00	31.42	846.89	246.28	2303.44	669.87	2.720

Mensola valle

Combinazione n° 1 - STR (A1-M1-R3)

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
1	-0.75	100	50	12.57	15.71	0.00	0.00	0.00	0.00	100000.000
2	-0.67	100	50	12.57	15.71	-0.04	0.00	-254.16	0.00	5855.812
3	-0.58	100	50	12.57	15.71	-0.17	0.00	-254.16	0.00	1463.953
4	-0.50	100	50	12.57	15.71	-0.39	0.00	-254.16	0.00	650.646
5	-0.50	100	50	12.57	15.71	-0.39	0.00	-254.16	0.00	650.646

Combinazione n° 2 - STR (A1-M1-R3)

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
1	-0.75	100	50	12.57	15.71	0.00	0.00	0.00	0.00	100000.000
2	-0.67	100	50	12.57	15.71	-0.04	0.00	-254.16	0.00	5855.812
3	-0.58	100	50	12.57	15.71	-0.17	0.00	-254.16	0.00	1463.953
4	-0.50	100	50	12.57	15.71	-0.39	0.00	-254.16	0.00	650.646
5	-0.50	100	50	12.57	15.71	-0.39	0.00	-254.16	0.00	650.646

Combinazione n° 3 - STR (A1-M1-R3) H + V

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
1	-0.75	100	50	12.57	15.71	0.00	0.00	0.00	0.00	100000.000
2	-0.67	100	50	12.57	15.71	-0.05	0.00	-254.16	0.00	5521.778

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
3	-0.58	100	50	12.57	15.71	-0.18	0.00	-254.16	0.00	1380.444
4	-0.50	100	50	12.57	15.71	-0.41	0.00	-254.16	0.00	613.531
5	-0.50	100	50	12.57	15.71	-0.41	0.00	-254.16	0.00	613.531

Combinazione n° 4 - STR (A1-M1-R3) H - V

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
1	-0.75	100	50	12.57	15.71	0.00	0.00	0.00	0.00	100000.000
2	-0.67	100	50	12.57	15.71	-0.04	0.00	-254.16	0.00	5855.812
3	-0.58	100	50	12.57	15.71	-0.17	0.00	-254.16	0.00	1463.953
4	-0.50	100	50	12.57	15.71	-0.39	0.00	-254.16	0.00	650.646
5	-0.50	100	50	12.57	15.71	-0.39	0.00	-254.16	0.00	650.646

Combinazione n° 9 - ECC

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
1	-0.75	100	50	12.57	15.71	0.00	0.00	0.00	0.00	100000.000
2	-0.67	100	50	12.57	15.71	-0.04	0.00	-296.20	0.00	6824.491
3	-0.58	100	50	12.57	15.71	-0.17	0.00	-296.20	0.00	1706.123
4	-0.50	100	50	12.57	15.71	-0.39	0.00	-296.20	0.00	758.277
5	-0.50	100	50	12.57	15.71	-11.49	-11.10	-245.72	-237.36	21.384

Fondazione

Combinazione n° 1 - STR (A1-M1-R3)

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
1	-1.95	100	135	27.14	27.14	0.00	0.00	0.00	0.00	100000.000
2	-1.85	100	135	27.14	27.14	0.82	0.00	1316.13	0.00	1598.970
3	-1.76	100	135	27.14	27.14	3.29	0.00	1316.13	0.00	399.544
4	-1.66	100	135	27.14	27.14	7.42	0.00	1316.13	0.00	177.487
5	-1.56	100	135	27.14	27.14	13.19	0.00	1316.13	0.00	99.787
6	-1.47	100	135	27.14	27.14	20.62	0.00	1316.13	0.00	63.832
7	-1.37	100	135	27.14	27.14	29.71	0.00	1316.13	0.00	44.306
8	-1.27	100	135	27.14	27.14	40.45	0.00	1316.13	0.00	32.535
9	-1.18	100	135	27.14	27.14	52.86	0.00	1316.13	0.00	24.897
10	-1.08	100	135	27.14	27.14	66.94	0.00	1316.13	0.00	19.662
11	-0.98	100	135	27.14	27.14	82.68	0.00	1316.13	0.00	15.918
12	-0.89	100	135	27.14	27.14	100.09	0.00	1316.13	0.00	13.149
13	-0.79	100	135	27.14	27.14	119.18	0.00	1316.13	0.00	11.044
14	-0.69	100	135	27.14	27.14	139.94	0.00	1316.13	0.00	9.405
15	-0.60	100	135	27.14	27.14	162.37	0.00	1316.13	0.00	8.106
16	-0.50	100	135	27.14	27.14	186.49	0.00	1316.13	0.00	7.057
17	0.95	100	135	27.14	27.14	-1178.26	0.00	-1316.13	0.00	1.117
18	1.04	100	135	27.14	27.14	-1139.49	0.00	-1316.13	0.00	1.155
19	1.14	100	135	27.14	27.14	-1101.42	0.00	-1316.13	0.00	1.195
20	1.24	100	135	27.14	27.14	-1064.05	0.00	-1316.13	0.00	1.237
21	1.34	100	135	27.14	27.14	-1027.37	0.00	-1316.13	0.00	1.281
22	1.44	100	135	27.14	27.14	-991.39	0.00	-1316.13	0.00	1.328
23	1.54	100	135	27.14	27.14	-956.09	0.00	-1316.13	0.00	1.377
24	1.63	100	135	27.14	27.14	-921.49	0.00	-1316.13	0.00	1.428
25	1.73	100	135	27.14	27.14	-887.56	0.00	-1316.13	0.00	1.483
26	1.83	100	135	27.14	27.14	-854.32	0.00	-1316.13	0.00	1.541
27	1.93	100	135	27.14	27.14	-821.76	0.00	-1316.13	0.00	1.602
28	2.03	100	135	27.14	27.14	-789.87	0.00	-1316.13	0.00	1.666
29	2.13	100	135	27.14	27.14	-758.66	0.00	-1316.13	0.00	1.735
30	2.22	100	135	27.14	27.14	-728.12	0.00	-1316.13	0.00	1.808
31	2.32	100	135	27.14	27.14	-698.25	0.00	-1316.13	0.00	1.885
32	2.42	100	135	27.14	27.14	-669.05	0.00	-1316.13	0.00	1.967
33	2.52	100	135	27.14	27.14	-640.51	0.00	-1316.13	0.00	2.055
34	2.62	100	135	27.14	27.14	-612.63	0.00	-1316.13	0.00	2.148
35	2.72	100	135	27.14	27.14	-585.41	0.00	-1316.13	0.00	2.248
36	2.82	100	135	27.14	27.14	-558.84	0.00	-1316.13	0.00	2.355
37	2.91	100	135	27.14	27.14	-532.93	0.00	-1316.13	0.00	2.470
38	3.01	100	135	27.14	27.14	-507.67	0.00	-1316.13	0.00	2.592
39	3.11	100	135	27.14	27.14	-483.06	0.00	-1316.13	0.00	2.725
40	3.21	100	135	27.14	27.14	-459.09	0.00	-1316.13	0.00	2.867
41	3.31	100	135	27.14	27.14	-435.76	0.00	-1316.13	0.00	3.020
42	3.41	100	135	27.14	27.14	-413.08	0.00	-1316.13	0.00	3.186

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
43	3.50	100	135	27.14	27.14	-391.03	0.00	-1316.13	0.00	3.366
44	3.60	100	135	27.14	27.14	-369.62	0.00	-1316.13	0.00	3.561
45	3.70	100	135	27.14	27.14	-348.84	0.00	-1316.13	0.00	3.773
46	3.80	100	135	27.14	27.14	-328.69	0.00	-1316.13	0.00	4.004
47	3.90	100	135	27.14	27.14	-309.17	0.00	-1316.13	0.00	4.257
48	4.00	100	135	27.14	27.14	-290.28	0.00	-1316.13	0.00	4.534
49	4.09	100	135	27.14	27.14	-272.00	0.00	-1316.13	0.00	4.839
50	4.19	100	135	27.14	27.14	-254.35	0.00	-1316.13	0.00	5.175
51	4.29	100	135	27.14	27.14	-237.31	0.00	-1316.13	0.00	5.546
52	4.39	100	135	27.14	27.14	-220.89	0.00	-1316.13	0.00	5.958
53	4.49	100	135	27.14	27.14	-205.08	0.00	-1316.13	0.00	6.418
54	4.59	100	135	27.14	27.14	-189.88	0.00	-1316.13	0.00	6.932
55	4.68	100	135	27.14	27.14	-175.28	0.00	-1316.13	0.00	7.509
56	4.78	100	135	27.14	27.14	-161.29	0.00	-1316.13	0.00	8.160
57	4.88	100	135	27.14	27.14	-147.90	0.00	-1316.13	0.00	8.899
58	4.98	100	135	27.14	27.14	-135.11	0.00	-1316.13	0.00	9.741
59	5.08	100	135	27.14	27.14	-122.92	0.00	-1316.13	0.00	10.708
60	5.18	100	135	27.14	27.14	-111.32	0.00	-1316.13	0.00	11.823
61	5.28	100	135	27.14	27.14	-100.31	0.00	-1316.13	0.00	13.121
62	5.37	100	135	27.14	27.14	-89.89	0.00	-1316.13	0.00	14.642
63	5.47	100	135	27.14	27.14	-80.05	0.00	-1316.13	0.00	16.441
64	5.57	100	135	27.14	27.14	-70.80	0.00	-1316.13	0.00	18.589
65	5.67	100	135	27.14	27.14	-62.13	0.00	-1316.13	0.00	21.184
66	5.77	100	135	27.14	27.14	-54.04	0.00	-1316.13	0.00	24.356
67	5.87	100	135	27.14	27.14	-46.52	0.00	-1316.13	0.00	28.292
68	5.96	100	135	27.14	27.14	-39.58	0.00	-1316.13	0.00	33.256
69	6.06	100	135	27.14	27.14	-33.20	0.00	-1316.13	0.00	39.639
70	6.16	100	135	27.14	27.14	-27.40	0.00	-1316.13	0.00	48.039
71	6.26	100	135	27.14	27.14	-22.16	0.00	-1316.13	0.00	59.401
72	6.36	100	135	27.14	27.14	-17.48	0.00	-1316.13	0.00	75.298
73	6.46	100	135	27.14	27.14	-13.36	0.00	-1316.13	0.00	98.505
74	6.55	100	135	27.14	27.14	-9.80	0.00	-1316.13	0.00	134.289
75	6.65	100	135	27.14	27.14	-6.80	0.00	-1316.13	0.00	193.683
76	6.75	100	135	27.14	27.14	-4.34	0.00	-1316.13	0.00	303.112
77	6.85	100	135	27.14	27.14	-2.44	0.00	-1316.13	0.00	539.724
78	6.95	100	135	27.14	27.14	-1.08	0.00	-1316.13	0.00	1216.319
79	7.05	100	135	27.14	27.14	-0.27	0.00	-1316.13	0.00	4873.057
80	7.15	100	135	0.00	0.00	0.00	0.00	0.00	0.00	100000.000

Combinazione n° 2 - STR (A1-M1-R3)

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
1	-1.95	100	135	27.14	27.14	0.00	0.00	0.00	0.00	100000.000
2	-1.85	100	135	27.14	27.14	0.89	0.00	1316.13	0.00	1476.905
3	-1.76	100	135	27.14	27.14	3.57	0.00	1316.13	0.00	368.997
4	-1.66	100	135	27.14	27.14	8.03	0.00	1316.13	0.00	163.897
5	-1.56	100	135	27.14	27.14	14.28	0.00	1316.13	0.00	92.135
6	-1.47	100	135	27.14	27.14	22.33	0.00	1316.13	0.00	58.930
7	-1.37	100	135	27.14	27.14	32.18	0.00	1316.13	0.00	40.898
8	-1.27	100	135	27.14	27.14	43.83	0.00	1316.13	0.00	30.029
9	-1.18	100	135	27.14	27.14	57.28	0.00	1316.13	0.00	22.977
10	-1.08	100	135	27.14	27.14	72.54	0.00	1316.13	0.00	18.143
11	-0.98	100	135	27.14	27.14	89.61	0.00	1316.13	0.00	14.687
12	-0.89	100	135	27.14	27.14	108.50	0.00	1316.13	0.00	12.130
13	-0.79	100	135	27.14	27.14	129.20	0.00	1316.13	0.00	10.187
14	-0.69	100	135	27.14	27.14	151.73	0.00	1316.13	0.00	8.674
15	-0.60	100	135	27.14	27.14	176.07	0.00	1316.13	0.00	7.475
16	-0.50	100	135	27.14	27.14	202.25	0.00	1316.13	0.00	6.507
17	0.95	100	135	27.14	27.14	-1185.44	0.00	-1316.13	0.00	1.110
18	1.04	100	135	27.14	27.14	-1142.27	0.00	-1316.13	0.00	1.152
19	1.14	100	135	27.14	27.14	-1099.95	0.00	-1316.13	0.00	1.197
20	1.24	100	135	27.14	27.14	-1058.48	0.00	-1316.13	0.00	1.243
21	1.34	100	135	27.14	27.14	-1017.87	0.00	-1316.13	0.00	1.293
22	1.44	100	135	27.14	27.14	-978.10	0.00	-1316.13	0.00	1.346
23	1.54	100	135	27.14	27.14	-939.18	0.00	-1316.13	0.00	1.401
24	1.63	100	135	27.14	27.14	-901.09	0.00	-1316.13	0.00	1.461
25	1.73	100	135	27.14	27.14	-863.84	0.00	-1316.13	0.00	1.524
26	1.83	100	135	27.14	27.14	-827.43	0.00	-1316.13	0.00	1.591
27	1.93	100	135	27.14	27.14	-791.84	0.00	-1316.13	0.00	1.662
28	2.03	100	135	27.14	27.14	-757.08	0.00	-1316.13	0.00	1.738
29	2.13	100	135	27.14	27.14	-723.14	0.00	-1316.13	0.00	1.820
30	2.22	100	135	27.14	27.14	-690.01	0.00	-1316.13	0.00	1.907
31	2.32	100	135	27.14	27.14	-657.71	0.00	-1316.13	0.00	2.001
32	2.42	100	135	27.14	27.14	-626.21	0.00	-1316.13	0.00	2.102
33	2.52	100	135	27.14	27.14	-595.52	0.00	-1316.13	0.00	2.210
34	2.62	100	135	27.14	27.14	-565.64	0.00	-1316.13	0.00	2.327
35	2.72	100	135	27.14	27.14	-536.56	0.00	-1316.13	0.00	2.453
36	2.82	100	135	27.14	27.14	-508.27	0.00	-1316.13	0.00	2.589
37	2.91	100	135	27.14	27.14	-480.78	0.00	-1316.13	0.00	2.737
38	3.01	100	135	27.14	27.14	-454.48	0.00	-1316.13	0.00	2.896
39	3.11	100	135	27.14	27.14	-431.72	0.00	-1316.13	0.00	3.049

n°	Y [m]	B [cm]	H [cm]	Afi [cmq]	Afs [cmq]	M [kNm]	N [kN]	Mrd [kNm]	Nrd [kN]	FS
40	3.21	100	135	27.14	27.14	-409.59	0.00	-1316.13	0.00	3.213
41	3.31	100	135	27.14	27.14	-388.08	0.00	-1316.13	0.00	3.391
42	3.41	100	135	27.14	27.14	-367.20	0.00	-1316.13	0.00	3.584
43	3.50	100	135	27.14	27.14	-346.93	0.00	-1316.13	0.00	3.794
44	3.60	100	135	27.14	27.14	-327.28	0.00	-1316.13	0.00	4.021
45	3.70	100	135	27.14	27.14	-308.25	0.00	-1316.13	0.00	4.270
46	3.80	100	135	27.14	27.14	-289.82	0.00	-1316.13	0.00	4.541
47	3.90	100	135	27.14	27.14	-271.99	0.00	-1316.13	0.00	4.839
48	4.00	100	135	27.14	27.14	-254.77	0.00	-1316.13	0.00	5.166
49	4.09	100	135	27.14	27.14	-238.14	0.00	-1316.13	0.00	5.527
50	4.19	100	135	27.14	27.14	-222.11	0.00	-1316.13	0.00	5.926
51	4.29	100	135	27.14	27.14	-206.67	0.00	-1316.13	0.00	6.368
52	4.39	100	135	27.14	27.14	-191.81	0.00	-1316.13	0.00	6.862
53	4.49	100	135	27.14	27.14	-177.54	0.00	-1316.13	0.00	7.413
54	4.59	100	135	27.14	27.14	-163.85	0.00	-1316.13	0.00	8.032
55	4.68	100	135	27.14	27.14	-150.74	0.00	-1316.13	0.00	8.731
56	4.78	100	135	27.14	27.14	-138.20	0.00	-1316.13	0.00	9.524
57	4.88	100	135	27.14	27.14	-126.22	0.00	-1316.13	0.00	10.427
58	4.98	100	135	27.14	27.14	-114.82	0.00	-1316.13	0.00	11.463
59	5.08	100	135	27.14	27.14	-103.97	0.00	-1316.13	0.00	12.658
60	5.18	100	135	27.14	27.14	-93.69	0.00	-1316.13	0.00	14.048
61	5.28	100	135	27.14	27.14	-83.96	0.00	-1316.13	0.00	15.675
62	5.37	100	135	27.14	27.14	-74.78	0.00	-1316.13	0.00	17.599
63	5.47	100	135	27.14	27.14	-66.16	0.00	-1316.13	0.00	19.894
64	5.57	100	135	27.14	27.14	-58.07	0.00	-1316.13	0.00	22.663
65	5.67	100	135	27.14	27.14	-50.53	0.00	-1316.13	0.00	26.046
66	5.77	100	135	27.14	27.14	-43.53	0.00	-1316.13	0.00	30.237
67	5.87	100	135	27.14	27.14	-37.06	0.00	-1316.13	0.00	35.515
68	5.96	100	135	27.14	27.14	-31.12	0.00	-1316.13	0.00	42.292
69	6.06	100	135	27.14	27.14	-25.95	0.00	-1316.13	0.00	50.714
70	6.16	100	135	27.14	27.14	-21.39	0.00	-1316.13	0.00	61.532
71	6.26	100	135	27.14	27.14	-17.28	0.00	-1316.13	0.00	76.173
72	6.36	100	135	27.14	27.14	-13.61	0.00	-1316.13	0.00	96.671
73	6.46	100	135	27.14	27.14	-10.39	0.00	-1316.13	0.00	126.612
74	6.55	100	135	27.14	27.14	-7.62	0.00	-1316.13	0.00	172.810
75	6.65	100	135	27.14	27.14	-5.27	0.00	-1316.13	0.00	249.535
76	6.75	100	135	27.14	27.14	-3.37	0.00	-1316.13	0.00	390.981
77	6.85	100	135	27.14	27.14	-1.89	0.00	-1316.13	0.00	697.013
78	6.95	100	135	27.14	27.14	-0.84	0.00	-1316.13	0.00	1572.660
79	7.05	100	135	27.14	27.14	-0.21	0.00	-1316.13	0.00	6308.255
80	7.15	100	135	0.00	0.00	0.00	0.00	0.00	0.00	100000.000

Combinazione n° 3 - STR (A1-M1-R3) H + V

n°	Y [m]	B [cm]	H [cm]	Afi [cmq]	Afs [cmq]	M [kNm]	N [kN]	Mrd [kNm]	Nrd [kN]	FS
1	-1.95	100	135	27.14	27.14	0.00	0.00	0.00	0.00	100000.000
2	-1.85	100	135	27.14	27.14	1.33	0.00	1316.13	0.00	987.949
3	-1.76	100	135	27.14	27.14	5.32	0.00	1316.13	0.00	247.509
4	-1.66	100	135	27.14	27.14	11.94	0.00	1316.13	0.00	110.237
5	-1.56	100	135	27.14	27.14	21.18	0.00	1316.13	0.00	62.140
6	-1.47	100	135	27.14	27.14	33.02	0.00	1316.13	0.00	39.854
7	-1.37	100	135	27.14	27.14	47.45	0.00	1316.13	0.00	27.736
8	-1.27	100	135	27.14	27.14	64.45	0.00	1316.13	0.00	20.421
9	-1.18	100	135	27.14	27.14	84.00	0.00	1316.13	0.00	15.668
10	-1.08	100	135	27.14	27.14	106.09	0.00	1316.13	0.00	12.406
11	-0.98	100	135	27.14	27.14	130.69	0.00	1316.13	0.00	10.071
12	-0.89	100	135	27.14	27.14	157.79	0.00	1316.13	0.00	8.341
13	-0.79	100	135	27.14	27.14	187.38	0.00	1316.13	0.00	7.024
14	-0.69	100	135	27.14	27.14	219.44	0.00	1316.13	0.00	5.998
15	-0.60	100	135	27.14	27.14	253.95	0.00	1316.13	0.00	5.183
16	-0.50	100	135	27.14	27.14	290.89	0.00	1316.13	0.00	4.525
17	0.95	100	135	27.14	27.14	-681.86	0.00	-1316.13	0.00	1.930
18	1.04	100	135	27.14	27.14	-671.78	0.00	-1316.13	0.00	1.959
19	1.14	100	135	27.14	27.14	-661.32	0.00	-1316.13	0.00	1.990
20	1.24	100	135	27.14	27.14	-650.49	0.00	-1316.13	0.00	2.023
21	1.34	100	135	27.14	27.14	-639.31	0.00	-1316.13	0.00	2.059
22	1.44	100	135	27.14	27.14	-627.80	0.00	-1316.13	0.00	2.096
23	1.54	100	135	27.14	27.14	-615.97	0.00	-1316.13	0.00	2.137
24	1.63	100	135	27.14	27.14	-603.85	0.00	-1316.13	0.00	2.180
25	1.73	100	135	27.14	27.14	-591.45	0.00	-1316.13	0.00	2.225
26	1.83	100	135	27.14	27.14	-578.78	0.00	-1316.13	0.00	2.274
27	1.93	100	135	27.14	27.14	-565.87	0.00	-1316.13	0.00	2.326
28	2.03	100	135	27.14	27.14	-552.74	0.00	-1316.13	0.00	2.381
29	2.13	100	135	27.14	27.14	-539.40	0.00	-1316.13	0.00	2.440
30	2.22	100	135	27.14	27.14	-525.87	0.00	-1316.13	0.00	2.503
31	2.32	100	135	27.14	27.14	-512.16	0.00	-1316.13	0.00	2.570
32	2.42	100	135	27.14	27.14	-498.30	0.00	-1316.13	0.00	2.641
33	2.52	100	135	27.14	27.14	-484.31	0.00	-1316.13	0.00	2.718
34	2.62	100	135	27.14	27.14	-470.19	0.00	-1316.13	0.00	2.799
35	2.72	100	135	27.14	27.14	-455.98	0.00	-1316.13	0.00	2.886
36	2.82	100	135	27.14	27.14	-441.68	0.00	-1316.13	0.00	2.980

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
37	2.91	100	135	27.14	27.14	-427.31	0.00	-1316.13	0.00	3.080
38	3.01	100	135	27.14	27.14	-412.90	0.00	-1316.13	0.00	3.188
39	3.11	100	135	27.14	27.14	-398.46	0.00	-1316.13	0.00	3.303
40	3.21	100	135	27.14	27.14	-384.00	0.00	-1316.13	0.00	3.427
41	3.31	100	135	27.14	27.14	-369.55	0.00	-1316.13	0.00	3.561
42	3.41	100	135	27.14	27.14	-355.13	0.00	-1316.13	0.00	3.706
43	3.50	100	135	27.14	27.14	-340.74	0.00	-1316.13	0.00	3.863
44	3.60	100	135	27.14	27.14	-326.41	0.00	-1316.13	0.00	4.032
45	3.70	100	135	27.14	27.14	-312.16	0.00	-1316.13	0.00	4.216
46	3.80	100	135	27.14	27.14	-298.01	0.00	-1316.13	0.00	4.416
47	3.90	100	135	27.14	27.14	-283.97	0.00	-1316.13	0.00	4.635
48	4.00	100	135	27.14	27.14	-270.05	0.00	-1316.13	0.00	4.874
49	4.09	100	135	27.14	27.14	-256.29	0.00	-1316.13	0.00	5.135
50	4.19	100	135	27.14	27.14	-242.69	0.00	-1316.13	0.00	5.423
51	4.29	100	135	27.14	27.14	-229.27	0.00	-1316.13	0.00	5.740
52	4.39	100	135	27.14	27.14	-216.06	0.00	-1316.13	0.00	6.092
53	4.49	100	135	27.14	27.14	-203.06	0.00	-1316.13	0.00	6.481
54	4.59	100	135	27.14	27.14	-190.31	0.00	-1316.13	0.00	6.916
55	4.68	100	135	27.14	27.14	-177.80	0.00	-1316.13	0.00	7.402
56	4.78	100	135	27.14	27.14	-165.57	0.00	-1316.13	0.00	7.949
57	4.88	100	135	27.14	27.14	-153.63	0.00	-1316.13	0.00	8.567
58	4.98	100	135	27.14	27.14	-142.00	0.00	-1316.13	0.00	9.269
59	5.08	100	135	27.14	27.14	-130.69	0.00	-1316.13	0.00	10.071
60	5.18	100	135	27.14	27.14	-119.72	0.00	-1316.13	0.00	10.993
61	5.28	100	135	27.14	27.14	-109.12	0.00	-1316.13	0.00	12.061
62	5.37	100	135	27.14	27.14	-98.90	0.00	-1316.13	0.00	13.308
63	5.47	100	135	27.14	27.14	-89.07	0.00	-1316.13	0.00	14.776
64	5.57	100	135	27.14	27.14	-79.66	0.00	-1316.13	0.00	16.522
65	5.67	100	135	27.14	27.14	-70.68	0.00	-1316.13	0.00	18.621
66	5.77	100	135	27.14	27.14	-62.15	0.00	-1316.13	0.00	21.176
67	5.87	100	135	27.14	27.14	-54.09	0.00	-1316.13	0.00	24.332
68	5.96	100	135	27.14	27.14	-46.52	0.00	-1316.13	0.00	28.294
69	6.06	100	135	27.14	27.14	-39.45	0.00	-1316.13	0.00	33.366
70	6.16	100	135	27.14	27.14	-32.90	0.00	-1316.13	0.00	40.008
71	6.26	100	135	27.14	27.14	-26.89	0.00	-1316.13	0.00	48.952
72	6.36	100	135	27.14	27.14	-21.43	0.00	-1316.13	0.00	61.406
73	6.46	100	135	27.14	27.14	-16.56	0.00	-1316.13	0.00	79.500
74	6.55	100	135	27.14	27.14	-12.27	0.00	-1316.13	0.00	107.267
75	6.65	100	135	27.14	27.14	-8.59	0.00	-1316.13	0.00	153.131
76	6.75	100	135	27.14	27.14	-5.55	0.00	-1316.13	0.00	237.222
77	6.85	100	135	27.14	27.14	-3.15	0.00	-1316.13	0.00	418.151
78	6.95	100	135	27.14	27.14	-1.41	0.00	-1316.13	0.00	932.930
79	7.05	100	135	27.14	27.14	-0.36	0.00	-1316.13	0.00	3700.605
80	7.15	100	135	0.00	0.00	0.00	0.00	0.00	0.00	100000.000

Combinazione n° 4 - STR (A1-M1-R3) H - V

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
1	-1.95	100	135	27.14	27.14	0.00	0.00	0.00	0.00	100000.000
2	-1.85	100	135	27.14	27.14	1.21	0.00	1316.13	0.00	1088.840
3	-1.76	100	135	27.14	27.14	4.82	0.00	1316.13	0.00	272.839
4	-1.66	100	135	27.14	27.14	10.83	0.00	1316.13	0.00	121.543
5	-1.56	100	135	27.14	27.14	19.21	0.00	1316.13	0.00	68.527
6	-1.47	100	135	27.14	27.14	29.94	0.00	1316.13	0.00	43.959
7	-1.37	100	135	27.14	27.14	43.01	0.00	1316.13	0.00	30.598
8	-1.27	100	135	27.14	27.14	58.41	0.00	1316.13	0.00	22.533
9	-1.18	100	135	27.14	27.14	76.11	0.00	1316.13	0.00	17.292
10	-1.08	100	135	27.14	27.14	96.10	0.00	1316.13	0.00	13.695
11	-0.98	100	135	27.14	27.14	118.37	0.00	1316.13	0.00	11.119
12	-0.89	100	135	27.14	27.14	142.89	0.00	1316.13	0.00	9.211
13	-0.79	100	135	27.14	27.14	169.64	0.00	1316.13	0.00	7.758
14	-0.69	100	135	27.14	27.14	198.63	0.00	1316.13	0.00	6.626
15	-0.60	100	135	27.14	27.14	229.81	0.00	1316.13	0.00	5.727
16	-0.50	100	135	27.14	27.14	263.19	0.00	1316.13	0.00	5.001
17	0.95	100	135	27.14	27.14	-1169.02	0.00	-1316.13	0.00	1.126
18	1.04	100	135	27.14	27.14	-1143.50	0.00	-1316.13	0.00	1.151
19	1.14	100	135	27.14	27.14	-1117.86	0.00	-1316.13	0.00	1.177
20	1.24	100	135	27.14	27.14	-1092.10	0.00	-1316.13	0.00	1.205
21	1.34	100	135	27.14	27.14	-1066.23	0.00	-1316.13	0.00	1.234
22	1.44	100	135	27.14	27.14	-1040.29	0.00	-1316.13	0.00	1.265
23	1.54	100	135	27.14	27.14	-1014.28	0.00	-1316.13	0.00	1.298
24	1.63	100	135	27.14	27.14	-988.23	0.00	-1316.13	0.00	1.332
25	1.73	100	135	27.14	27.14	-962.15	0.00	-1316.13	0.00	1.368
26	1.83	100	135	27.14	27.14	-936.05	0.00	-1316.13	0.00	1.406
27	1.93	100	135	27.14	27.14	-909.97	0.00	-1316.13	0.00	1.446
28	2.03	100	135	27.14	27.14	-883.91	0.00	-1316.13	0.00	1.489
29	2.13	100	135	27.14	27.14	-857.89	0.00	-1316.13	0.00	1.534
30	2.22	100	135	27.14	27.14	-831.93	0.00	-1316.13	0.00	1.582
31	2.32	100	135	27.14	27.14	-806.04	0.00	-1316.13	0.00	1.633
32	2.42	100	135	27.14	27.14	-780.26	0.00	-1316.13	0.00	1.687
33	2.52	100	135	27.14	27.14	-754.58	0.00	-1316.13	0.00	1.744

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
34	2.62	100	135	27.14	27.14	-729.04	0.00	-1316.13	0.00	1.805
35	2.72	100	135	27.14	27.14	-703.64	0.00	-1316.13	0.00	1.870
36	2.82	100	135	27.14	27.14	-678.41	0.00	-1316.13	0.00	1.940
37	2.91	100	135	27.14	27.14	-653.36	0.00	-1316.13	0.00	2.014
38	3.01	100	135	27.14	27.14	-628.51	0.00	-1316.13	0.00	2.094
39	3.11	100	135	27.14	27.14	-603.88	0.00	-1316.13	0.00	2.179
40	3.21	100	135	27.14	27.14	-579.49	0.00	-1316.13	0.00	2.271
41	3.31	100	135	27.14	27.14	-555.35	0.00	-1316.13	0.00	2.370
42	3.41	100	135	27.14	27.14	-531.48	0.00	-1316.13	0.00	2.476
43	3.50	100	135	27.14	27.14	-507.90	0.00	-1316.13	0.00	2.591
44	3.60	100	135	27.14	27.14	-484.63	0.00	-1316.13	0.00	2.716
45	3.70	100	135	27.14	27.14	-461.69	0.00	-1316.13	0.00	2.851
46	3.80	100	135	27.14	27.14	-439.08	0.00	-1316.13	0.00	2.997
47	3.90	100	135	27.14	27.14	-416.83	0.00	-1316.13	0.00	3.157
48	4.00	100	135	27.14	27.14	-394.97	0.00	-1316.13	0.00	3.332
49	4.09	100	135	27.14	27.14	-373.49	0.00	-1316.13	0.00	3.524
50	4.19	100	135	27.14	27.14	-352.43	0.00	-1316.13	0.00	3.734
51	4.29	100	135	27.14	27.14	-331.80	0.00	-1316.13	0.00	3.967
52	4.39	100	135	27.14	27.14	-311.62	0.00	-1316.13	0.00	4.224
53	4.49	100	135	27.14	27.14	-291.90	0.00	-1316.13	0.00	4.509
54	4.59	100	135	27.14	27.14	-272.67	0.00	-1316.13	0.00	4.827
55	4.68	100	135	27.14	27.14	-253.94	0.00	-1316.13	0.00	5.183
56	4.78	100	135	27.14	27.14	-235.72	0.00	-1316.13	0.00	5.583
57	4.88	100	135	27.14	27.14	-218.04	0.00	-1316.13	0.00	6.036
58	4.98	100	135	27.14	27.14	-200.92	0.00	-1316.13	0.00	6.551
59	5.08	100	135	27.14	27.14	-184.36	0.00	-1316.13	0.00	7.139
60	5.18	100	135	27.14	27.14	-168.40	0.00	-1316.13	0.00	7.815
61	5.28	100	135	27.14	27.14	-153.04	0.00	-1316.13	0.00	8.600
62	5.37	100	135	27.14	27.14	-138.31	0.00	-1316.13	0.00	9.516
63	5.47	100	135	27.14	27.14	-124.22	0.00	-1316.13	0.00	10.595
64	5.57	100	135	27.14	27.14	-110.79	0.00	-1316.13	0.00	11.880
65	5.67	100	135	27.14	27.14	-98.03	0.00	-1316.13	0.00	13.425
66	5.77	100	135	27.14	27.14	-85.98	0.00	-1316.13	0.00	15.308
67	5.87	100	135	27.14	27.14	-74.63	0.00	-1316.13	0.00	17.636
68	5.96	100	135	27.14	27.14	-64.01	0.00	-1316.13	0.00	20.561
69	6.06	100	135	27.14	27.14	-54.14	0.00	-1316.13	0.00	24.308
70	6.16	100	135	27.14	27.14	-45.04	0.00	-1316.13	0.00	29.221
71	6.26	100	135	27.14	27.14	-36.72	0.00	-1316.13	0.00	35.841
72	6.36	100	135	27.14	27.14	-29.20	0.00	-1316.13	0.00	45.068
73	6.46	100	135	27.14	27.14	-22.50	0.00	-1316.13	0.00	58.488
74	6.55	100	135	27.14	27.14	-16.64	0.00	-1316.13	0.00	79.102
75	6.65	100	135	27.14	27.14	-11.63	0.00	-1316.13	0.00	113.187
76	6.75	100	135	27.14	27.14	-7.49	0.00	-1316.13	0.00	175.743
77	6.85	100	135	27.14	27.14	-4.24	0.00	-1316.13	0.00	310.481
78	6.95	100	135	27.14	27.14	-1.90	0.00	-1316.13	0.00	694.247
79	7.05	100	135	27.14	27.14	-0.48	0.00	-1316.13	0.00	2759.862
80	7.15	100	135	0.00	0.00	0.00	0.00	0.00	0.00	100000.000

Combinazione n° 9 - ECC

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
1	-1.95	100	135	27.14	27.14	0.00	0.00	0.00	0.00	100000.000
2	-1.85	100	135	27.14	27.14	0.79	0.00	1519.05	0.00	1925.124
3	-1.76	100	135	27.14	27.14	3.16	0.00	1519.05	0.00	480.976
4	-1.66	100	135	27.14	27.14	7.11	0.00	1519.05	0.00	213.632
5	-1.56	100	135	27.14	27.14	12.65	0.00	1519.05	0.00	120.092
6	-1.47	100	135	27.14	27.14	19.78	0.00	1519.05	0.00	76.810
7	-1.37	100	135	27.14	27.14	28.50	0.00	1519.05	0.00	53.307
8	-1.27	100	135	27.14	27.14	38.81	0.00	1519.05	0.00	39.139
9	-1.18	100	135	27.14	27.14	50.72	0.00	1519.05	0.00	29.947
10	-1.08	100	135	27.14	27.14	64.24	0.00	1519.05	0.00	23.647
11	-0.98	100	135	27.14	27.14	79.36	0.00	1519.05	0.00	19.142
12	-0.89	100	135	27.14	27.14	96.08	0.00	1519.05	0.00	15.810
13	-0.79	100	135	27.14	27.14	114.42	0.00	1519.05	0.00	13.276
14	-0.69	100	135	27.14	27.14	134.37	0.00	1519.05	0.00	11.305
15	-0.60	100	135	27.14	27.14	155.93	0.00	1519.05	0.00	9.742
16	-0.50	100	135	27.14	27.14	179.12	0.00	1519.05	0.00	8.481
17	0.95	100	135	27.14	27.14	41.07	0.00	1519.05	0.00	36.989
18	1.04	100	135	27.14	27.14	41.80	0.00	1519.05	0.00	36.338
19	1.14	100	135	27.14	27.14	42.43	0.00	1519.05	0.00	35.801
20	1.24	100	135	27.14	27.14	42.95	0.00	1519.05	0.00	35.367
21	1.34	100	135	27.14	27.14	43.37	0.00	1519.05	0.00	35.026
22	1.44	100	135	27.14	27.14	43.69	0.00	1519.05	0.00	34.771
23	1.54	100	135	27.14	27.14	43.91	0.00	1519.05	0.00	34.595
24	1.63	100	135	27.14	27.14	44.04	0.00	1519.05	0.00	34.494
25	1.73	100	135	27.14	27.14	44.08	0.00	1519.05	0.00	34.464
26	1.83	100	135	27.14	27.14	44.03	0.00	1519.05	0.00	34.502
27	1.93	100	135	27.14	27.14	43.89	0.00	1519.05	0.00	34.607
28	2.03	100	135	27.14	27.14	43.68	0.00	1519.05	0.00	34.776
29	2.13	100	135	27.14	27.14	43.39	0.00	1519.05	0.00	35.009
30	2.22	100	135	27.14	27.14	43.03	0.00	1519.05	0.00	35.306

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
31	2.32	100	135	27.14	27.14	42.59	0.00	1519.05	0.00	35.667
32	2.42	100	135	27.14	27.14	42.09	0.00	1519.05	0.00	36.095
33	2.52	100	135	27.14	27.14	41.52	0.00	1519.05	0.00	36.589
34	2.62	100	135	27.14	27.14	40.89	0.00	1519.05	0.00	37.154
35	2.72	100	135	27.14	27.14	40.20	0.00	1519.05	0.00	37.791
36	2.82	100	135	27.14	27.14	39.45	0.00	1519.05	0.00	38.504
37	2.91	100	135	27.14	27.14	38.66	0.00	1519.05	0.00	39.298
38	3.01	100	135	27.14	27.14	37.81	0.00	1519.05	0.00	40.177
39	3.11	100	135	27.14	27.14	36.92	0.00	1519.05	0.00	41.147
40	3.21	100	135	27.14	27.14	35.98	0.00	1519.05	0.00	42.215
41	3.31	100	135	27.14	27.14	35.01	0.00	1519.05	0.00	43.389
42	3.41	100	135	27.14	27.14	34.00	0.00	1519.05	0.00	44.678
43	3.50	100	135	27.14	27.14	32.96	0.00	1519.05	0.00	46.092
44	3.60	100	135	27.14	27.14	31.88	0.00	1519.05	0.00	47.644
45	3.70	100	135	27.14	27.14	30.78	0.00	1519.05	0.00	49.346
46	3.80	100	135	27.14	27.14	29.66	0.00	1519.05	0.00	51.216
47	3.90	100	135	27.14	27.14	28.52	0.00	1519.05	0.00	53.270
48	4.00	100	135	27.14	27.14	27.35	0.00	1519.05	0.00	55.532
49	4.09	100	135	27.14	27.14	26.18	0.00	1519.05	0.00	58.026
50	4.19	100	135	27.14	27.14	24.99	0.00	1519.05	0.00	60.781
51	4.29	100	135	27.14	27.14	23.80	0.00	1519.05	0.00	63.831
52	4.39	100	135	27.14	27.14	22.60	0.00	1519.05	0.00	67.218
53	4.49	100	135	27.14	27.14	21.40	0.00	1519.05	0.00	70.989
54	4.59	100	135	27.14	27.14	20.20	0.00	1519.05	0.00	75.202
55	4.68	100	135	27.14	27.14	19.01	0.00	1519.05	0.00	79.927
56	4.78	100	135	27.14	27.14	17.82	0.00	1519.05	0.00	85.246
57	4.88	100	135	27.14	27.14	16.64	0.00	1519.05	0.00	91.262
58	4.98	100	135	27.14	27.14	15.48	0.00	1519.05	0.00	98.102
59	5.08	100	135	27.14	27.14	14.34	0.00	1519.05	0.00	105.919
60	5.18	100	135	27.14	27.14	13.22	0.00	1519.05	0.00	114.910
61	5.28	100	135	27.14	27.14	12.12	0.00	1519.05	0.00	125.323
62	5.37	100	135	27.14	27.14	11.05	0.00	1519.05	0.00	137.473
63	5.47	100	135	27.14	27.14	10.01	0.00	1519.05	0.00	151.772
64	5.57	100	135	27.14	27.14	9.00	0.00	1519.05	0.00	168.764
65	5.67	100	135	27.14	27.14	8.03	0.00	1519.05	0.00	189.175
66	5.77	100	135	27.14	27.14	7.10	0.00	1519.05	0.00	214.000
67	5.87	100	135	27.14	27.14	6.21	0.00	1519.05	0.00	244.623
68	5.96	100	135	27.14	27.14	5.37	0.00	1519.05	0.00	283.026
69	6.06	100	135	27.14	27.14	4.57	0.00	1519.05	0.00	332.119
70	6.16	100	135	27.14	27.14	3.83	0.00	1519.05	0.00	396.329
71	6.26	100	135	27.14	27.14	3.15	0.00	1519.05	0.00	482.647
72	6.36	100	135	27.14	27.14	2.52	0.00	1519.05	0.00	602.662
73	6.46	100	135	27.14	27.14	1.96	0.00	1519.05	0.00	776.738
74	6.55	100	135	27.14	27.14	1.46	0.00	1519.05	0.00	1043.424
75	6.65	100	135	27.14	27.14	1.02	0.00	1519.05	0.00	1483.168
76	6.75	100	135	27.14	27.14	0.66	0.00	1519.05	0.00	2287.966
77	6.85	100	135	27.14	27.14	0.38	0.00	1519.05	0.00	4016.394
78	6.95	100	135	27.14	27.14	0.17	0.00	1519.05	0.00	8924.766
79	7.05	100	135	27.14	27.14	0.04	0.00	1519.05	0.00	35261.567
80	7.15	100	135	0.00	0.00	0.00	0.00	0.00	0.00	100000.000

Verifiche a taglio

Simbologia adottata

n° (o Is)	indice sezione
Y	ordinata sezione espressa in [m]
B	larghezza sezione espresso in [cm]
H	altezza sezione espressa in [cm]
A_{sw}	area ferri a taglio espresso in [cmq]
cotgθ	inclinazione delle bielle compresse, θ inclinazione dei puntoni di calcestruzzo
V_{Rcd}	resistenza di progetto a 'taglio compressione' espressa in [kN]
V_{Rsd}	resistenza di progetto a 'taglio trazione' espressa in [kN]
V_{Rd}	resistenza di progetto a taglio espresso in [kN]. Per elementi con armature trasversali resistenti al taglio (A_{sw}>0.0) $V_{Rd}=\min(V_{Rcd}, V_{Rsd})$.
T	taglio agente espressa in [kN]
FS	fattore di sicurezza (rapporto tra sollecitazione resistente e sollecitazione agente)

Paramento

Combinazione n° 1 - STR (A1-M1-R3)

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
1	0.00	100	50	0.00	0.00	--	0.00	0.00	269.23	0.00	100.000
2	-0.10	100	51	0.00	0.00	--	0.00	0.00	272.03	0.03	8427.353
3	-0.20	100	52	0.00	0.00	--	0.00	0.00	274.80	0.13	2128.352
4	-0.30	100	53	0.00	0.00	--	0.00	0.00	277.56	0.29	958.053
5	-0.40	100	54	0.00	0.00	--	0.00	0.00	280.31	0.51	546.102
6	-0.50	100	55	0.00	0.00	--	0.00	0.00	283.04	0.80	353.694
7	-0.60	100	56	0.00	0.00	--	0.00	0.00	285.75	1.15	248.275
8	-0.70	100	57	0.00	0.00	--	0.00	0.00	288.45	1.57	184.263
9	-0.80	100	58	0.00	0.00	--	0.00	0.00	291.13	2.04	142.456
10	-0.90	100	59	0.00	0.00	--	0.00	0.00	293.80	2.59	113.626
11	-1.00	100	59	0.00	0.00	--	0.00	0.00	296.45	3.19	92.891
12	-1.10	100	60	0.00	0.00	--	0.00	0.00	299.09	3.86	77.467
13	-1.20	100	61	0.00	0.00	--	0.00	0.00	301.72	4.59	65.674
14	-1.30	100	62	0.00	0.00	--	0.00	0.00	304.34	5.39	56.450
15	-1.40	100	63	0.00	0.00	--	0.00	0.00	306.94	6.25	49.095
16	-1.50	100	64	0.00	0.00	--	0.00	0.00	309.54	7.18	43.131
17	-1.60	100	65	0.00	0.00	--	0.00	0.00	312.12	8.17	38.226
18	-1.70	100	66	0.00	0.00	--	0.00	0.00	314.69	9.22	34.142
19	-1.80	100	67	0.00	0.00	--	0.00	0.00	317.25	10.33	30.702
20	-1.90	100	68	0.00	0.00	--	0.00	0.00	319.80	11.51	27.778
21	-2.00	100	69	0.00	0.00	--	0.00	0.00	322.34	12.76	25.269
22	-2.10	100	70	0.00	0.00	--	0.00	0.00	324.87	14.06	23.101
23	-2.20	100	71	0.00	0.00	--	0.00	0.00	327.39	15.43	21.212
24	-2.30	100	72	0.00	0.00	--	0.00	0.00	329.90	16.87	19.557
25	-2.40	100	73	0.00	0.00	--	0.00	0.00	332.40	18.37	18.098
26	-2.50	100	74	0.00	0.00	--	0.00	0.00	334.90	19.93	16.804
27	-2.60	100	75	0.00	0.00	--	0.00	0.00	337.38	21.56	15.652
28	-2.70	100	76	0.00	0.00	--	0.00	0.00	339.86	23.25	14.621
29	-2.80	100	76	0.00	0.00	--	0.00	0.00	342.33	25.00	13.694
30	-2.90	100	77	0.00	0.00	--	0.00	0.00	344.79	26.82	12.858
31	-3.00	100	78	0.00	0.00	--	0.00	0.00	347.25	28.70	12.100
32	-3.10	100	79	0.00	0.00	--	0.00	0.00	349.70	30.64	11.412
33	-3.20	100	80	0.00	0.00	--	0.00	0.00	352.14	32.65	10.785
34	-3.30	100	81	0.00	0.00	--	0.00	0.00	389.44	34.72	11.216
35	-3.40	100	82	0.00	0.00	--	0.00	0.00	392.08	36.86	10.637
36	-3.50	100	83	0.00	0.00	--	0.00	0.00	394.72	39.06	10.106
37	-3.60	100	84	0.00	0.00	--	0.00	0.00	397.34	41.32	9.616
38	-3.70	100	85	0.00	0.00	--	0.00	0.00	399.96	43.65	9.163
39	-3.80	100	86	0.00	0.00	--	0.00	0.00	402.57	46.04	8.744
40	-3.90	100	87	0.00	0.00	--	0.00	0.00	405.18	48.50	8.355
41	-4.00	100	88	0.00	0.00	--	0.00	0.00	407.78	51.01	7.993
42	-4.10	100	89	0.00	0.00	--	0.00	0.00	410.37	53.60	7.657
43	-4.20	100	90	0.00	0.00	--	0.00	0.00	412.95	56.24	7.342
44	-4.30	100	91	0.00	0.00	--	0.00	0.00	415.53	58.95	7.048
45	-4.40	100	92	0.00	0.00	--	0.00	0.00	476.95	61.73	7.727
46	-4.50	100	93	0.00	0.00	--	0.00	0.00	479.84	64.56	7.432
47	-4.60	100	93	0.00	0.00	--	0.00	0.00	482.72	67.47	7.155
48	-4.70	100	94	0.00	0.00	--	0.00	0.00	485.60	70.43	6.895
49	-4.80	100	95	0.00	0.00	--	0.00	0.00	488.47	73.46	6.649
50	-4.90	100	96	0.00	0.00	--	0.00	0.00	491.33	76.55	6.418
51	-5.00	100	97	0.00	0.00	--	0.00	0.00	494.19	79.71	6.200
52	-5.10	100	98	0.00	0.00	--	0.00	0.00	497.04	82.93	5.994
53	-5.20	100	99	0.00	0.00	--	0.00	0.00	499.89	86.21	5.798
54	-5.30	100	100	0.00	0.00	--	0.00	0.00	502.73	89.56	5.613
55	-5.40	100	101	0.00	0.00	--	0.00	0.00	505.56	92.97	5.438
56	-5.50	100	102	0.00	0.00	--	0.00	0.00	508.39	96.45	5.271
57	-5.60	100	103	0.00	0.00	--	0.00	0.00	511.21	99.99	5.113
58	-5.70	100	104	0.00	0.00	--	0.00	0.00	514.02	103.59	4.962
59	-5.80	100	105	0.00	0.00	--	0.00	0.00	516.83	107.26	4.819
60	-5.90	100	106	0.00	0.00	--	0.00	0.00	519.64	110.99	4.682
61	-6.00	100	107	0.00	0.00	--	0.00	0.00	522.44	114.78	4.552
62	-6.10	100	108	0.00	0.00	--	0.00	0.00	525.23	118.64	4.427
63	-6.20	100	109	0.00	0.00	--	0.00	0.00	528.02	122.56	4.308
64	-6.30	100	110	0.00	0.00	--	0.00	0.00	530.81	126.54	4.195
65	-6.40	100	110	0.00	0.00	--	0.00	0.00	533.59	130.59	4.086
66	-6.50	100	111	0.00	0.00	--	0.00	0.00	536.37	134.71	3.982
67	-6.60	100	112	0.00	0.00	--	0.00	0.00	539.14	138.88	3.882
68	-6.70	100	113	0.00	0.00	--	0.00	0.00	541.91	143.12	3.786
69	-6.80	100	114	0.00	0.00	--	0.00	0.00	544.67	147.43	3.695
70	-6.90	100	115	0.00	0.00	--	0.00	0.00	547.43	151.79	3.606
71	-7.00	100	116	0.00	0.00	--	0.00	0.00	550.18	156.23	3.522
72	-7.10	100	117	0.00	0.00	--	0.00	0.00	552.93	160.72	3.440
73	-7.20	100	118	0.00	0.00	--	0.00	0.00	555.68	165.28	3.362
74	-7.30	100	119	0.00	0.00	--	0.00	0.00	558.43	169.90	3.287
75	-7.40	100	120	0.00	0.00	--	0.00	0.00	561.16	174.59	3.214
76	-7.50	100	121	0.00	0.00	--	0.00	0.00	563.90	179.34	3.144
77	-7.60	100	122	0.00	0.00	--	0.00	0.00	566.63	184.16	3.077

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
78	-7.70	100	123	0.00	0.00	--	0.00	0.00	569.36	189.03	3.012
79	-7.80	100	124	0.00	0.00	--	0.00	0.00	572.09	193.97	2.949
80	-7.90	100	125	0.00	0.00	--	0.00	0.00	574.81	198.98	2.889
81	-8.00	100	126	0.00	0.00	--	0.00	0.00	577.53	204.05	2.830
82	-8.10	100	127	0.00	0.00	--	0.00	0.00	580.25	209.18	2.774
83	-8.20	100	128	0.00	0.00	--	0.00	0.00	582.96	214.38	2.719
84	-8.30	100	128	0.00	0.00	--	0.00	0.00	585.67	219.64	2.666
85	-8.40	100	129	0.00	0.00	--	0.00	0.00	588.37	224.96	2.615
86	-8.50	100	130	0.00	0.00	--	0.00	0.00	591.08	230.35	2.566
87	-8.60	100	131	0.00	0.00	--	0.00	0.00	593.78	235.80	2.518
88	-8.70	100	132	0.00	0.00	--	0.00	0.00	596.48	241.32	2.472
89	-8.80	100	133	0.00	0.00	--	0.00	0.00	599.17	246.90	2.427
90	-8.90	100	134	0.00	0.00	--	0.00	0.00	601.87	252.54	2.383
91	-9.00	100	135	0.00	0.00	--	0.00	0.00	604.56	258.25	2.341
92	-9.10	100	136	0.00	0.00	--	0.00	0.00	607.25	264.02	2.300
93	-9.20	100	137	0.00	0.00	--	0.00	0.00	609.93	269.85	2.260
94	-9.30	100	138	0.00	0.00	--	0.00	0.00	434.59	275.75	1.576
95	-9.40	100	139	0.00	0.00	--	0.00	0.00	436.60	281.71	1.550
96	-9.50	100	140	0.00	0.00	--	0.00	0.00	438.62	287.74	1.524
97	-9.60	100	141	0.00	0.00	--	0.00	0.00	440.63	293.83	1.500
98	-9.70	100	142	0.00	0.00	--	0.00	0.00	442.64	299.98	1.476
99	-9.80	100	143	0.00	0.00	--	0.00	0.00	444.66	306.20	1.452
100	-9.90	100	144	0.00	0.00	--	0.00	0.00	446.67	312.48	1.429
101	-9.99	100	144	0.00	0.00	--	0.00	0.00	448.53	318.83	1.407

Combinazione n° 2 - STR (A1-M1-R3)

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
1	0.00	100	50	0.00	0.00	--	0.00	0.00	269.23	0.00	100.000
2	-0.10	100	51	0.00	0.00	--	0.00	0.00	272.03	0.87	313.431
3	-0.20	100	52	0.00	0.00	--	0.00	0.00	274.80	1.80	152.637
4	-0.30	100	53	0.00	0.00	--	0.00	0.00	277.56	2.80	99.250
5	-0.40	100	54	0.00	0.00	--	0.00	0.00	280.31	3.86	72.697
6	-0.50	100	55	0.00	0.00	--	0.00	0.00	283.04	4.98	56.852
7	-0.60	100	56	0.00	0.00	--	0.00	0.00	285.75	6.16	46.352
8	-0.70	100	57	0.00	0.00	--	0.00	0.00	288.45	7.41	38.901
9	-0.80	100	58	0.00	0.00	--	0.00	0.00	291.13	8.73	33.353
10	-0.90	100	59	0.00	0.00	--	0.00	0.00	293.80	10.11	29.070
11	-1.00	100	59	0.00	0.00	--	0.00	0.00	296.45	11.55	25.672
12	-1.10	100	60	0.00	0.00	--	0.00	0.00	299.09	13.05	22.914
13	-1.20	100	61	0.00	0.00	--	0.00	0.00	301.72	14.62	20.635
14	-1.30	100	62	0.00	0.00	--	0.00	0.00	304.34	16.25	18.723
15	-1.40	100	63	0.00	0.00	--	0.00	0.00	306.94	17.95	17.099
16	-1.50	100	64	0.00	0.00	--	0.00	0.00	309.54	19.71	15.703
17	-1.60	100	65	0.00	0.00	--	0.00	0.00	312.12	21.54	14.493
18	-1.70	100	66	0.00	0.00	--	0.00	0.00	314.69	23.42	13.435
19	-1.80	100	67	0.00	0.00	--	0.00	0.00	317.25	25.37	12.503
20	-1.90	100	68	0.00	0.00	--	0.00	0.00	319.80	27.39	11.676
21	-2.00	100	69	0.00	0.00	--	0.00	0.00	322.34	29.47	10.938
22	-2.10	100	70	0.00	0.00	--	0.00	0.00	324.87	31.61	10.277
23	-2.20	100	71	0.00	0.00	--	0.00	0.00	327.39	33.82	9.681
24	-2.30	100	72	0.00	0.00	--	0.00	0.00	329.90	36.09	9.141
25	-2.40	100	73	0.00	0.00	--	0.00	0.00	332.40	38.42	8.651
26	-2.50	100	74	0.00	0.00	--	0.00	0.00	334.90	40.82	8.204
27	-2.60	100	75	0.00	0.00	--	0.00	0.00	337.38	43.28	7.795
28	-2.70	100	76	0.00	0.00	--	0.00	0.00	339.86	45.81	7.419
29	-2.80	100	76	0.00	0.00	--	0.00	0.00	342.33	48.40	7.073
30	-2.90	100	77	0.00	0.00	--	0.00	0.00	344.79	51.05	6.754
31	-3.00	100	78	0.00	0.00	--	0.00	0.00	347.25	53.77	6.458
32	-3.10	100	79	0.00	0.00	--	0.00	0.00	349.70	56.55	6.184
33	-3.20	100	80	0.00	0.00	--	0.00	0.00	352.14	59.39	5.929
34	-3.30	100	81	0.00	0.00	--	0.00	0.00	389.44	62.30	6.251
35	-3.40	100	82	0.00	0.00	--	0.00	0.00	392.08	65.27	6.007
36	-3.50	100	83	0.00	0.00	--	0.00	0.00	394.72	68.31	5.779
37	-3.60	100	84	0.00	0.00	--	0.00	0.00	397.34	71.41	5.565
38	-3.70	100	85	0.00	0.00	--	0.00	0.00	399.96	74.57	5.364
39	-3.80	100	86	0.00	0.00	--	0.00	0.00	402.57	77.80	5.175
40	-3.90	100	87	0.00	0.00	--	0.00	0.00	405.18	81.09	4.997
41	-4.00	100	88	0.00	0.00	--	0.00	0.00	407.78	84.44	4.829
42	-4.10	100	89	0.00	0.00	--	0.00	0.00	410.37	87.86	4.671
43	-4.20	100	90	0.00	0.00	--	0.00	0.00	412.95	91.34	4.521
44	-4.30	100	91	0.00	0.00	--	0.00	0.00	415.53	94.89	4.379
45	-4.40	100	92	0.00	0.00	--	0.00	0.00	476.95	98.50	4.842
46	-4.50	100	93	0.00	0.00	--	0.00	0.00	479.84	102.16	4.697
47	-4.60	100	93	0.00	0.00	--	0.00	0.00	482.72	105.87	4.560
48	-4.70	100	94	0.00	0.00	--	0.00	0.00	485.60	109.61	4.430
49	-4.80	100	95	0.00	0.00	--	0.00	0.00	488.47	113.35	4.309
50	-4.90	100	96	0.00	0.00	--	0.00	0.00	491.33	117.10	4.196
51	-5.00	100	97	0.00	0.00	--	0.00	0.00	494.19	120.84	4.090
52	-5.10	100	98	0.00	0.00	--	0.00	0.00	497.04	124.58	3.990
53	-5.20	100	99	0.00	0.00	--	0.00	0.00	499.89	128.33	3.895

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
54	-5.30	100	100	0.00	0.00	--	0.00	0.00	502.73	132.10	3.806
55	-5.40	100	101	0.00	0.00	--	0.00	0.00	505.56	135.93	3.719
56	-5.50	100	102	0.00	0.00	--	0.00	0.00	508.39	139.81	3.636
57	-5.60	100	103	0.00	0.00	--	0.00	0.00	511.21	143.76	3.556
58	-5.70	100	104	0.00	0.00	--	0.00	0.00	514.02	147.77	3.479
59	-5.80	100	105	0.00	0.00	--	0.00	0.00	516.83	151.85	3.404
60	-5.90	100	106	0.00	0.00	--	0.00	0.00	519.64	155.99	3.331
61	-6.00	100	107	0.00	0.00	--	0.00	0.00	522.44	160.20	3.261
62	-6.10	100	108	0.00	0.00	--	0.00	0.00	525.23	164.47	3.193
63	-6.20	100	109	0.00	0.00	--	0.00	0.00	528.02	168.81	3.128
64	-6.30	100	110	0.00	0.00	--	0.00	0.00	530.81	173.21	3.064
65	-6.40	100	110	0.00	0.00	--	0.00	0.00	533.59	177.68	3.003
66	-6.50	100	111	0.00	0.00	--	0.00	0.00	536.37	182.21	2.944
67	-6.60	100	112	0.00	0.00	--	0.00	0.00	539.14	186.81	2.886
68	-6.70	100	113	0.00	0.00	--	0.00	0.00	541.91	191.47	2.830
69	-6.80	100	114	0.00	0.00	--	0.00	0.00	544.67	196.20	2.776
70	-6.90	100	115	0.00	0.00	--	0.00	0.00	547.43	200.99	2.724
71	-7.00	100	116	0.00	0.00	--	0.00	0.00	550.18	205.84	2.673
72	-7.10	100	117	0.00	0.00	--	0.00	0.00	552.93	210.76	2.624
73	-7.20	100	118	0.00	0.00	--	0.00	0.00	555.68	215.75	2.576
74	-7.30	100	119	0.00	0.00	--	0.00	0.00	558.43	220.79	2.529
75	-7.40	100	120	0.00	0.00	--	0.00	0.00	561.16	225.91	2.484
76	-7.50	100	121	0.00	0.00	--	0.00	0.00	563.90	231.08	2.440
77	-7.60	100	122	0.00	0.00	--	0.00	0.00	566.63	236.32	2.398
78	-7.70	100	123	0.00	0.00	--	0.00	0.00	569.36	241.63	2.356
79	-7.80	100	124	0.00	0.00	--	0.00	0.00	572.09	247.00	2.316
80	-7.90	100	125	0.00	0.00	--	0.00	0.00	574.81	252.43	2.277
81	-8.00	100	126	0.00	0.00	--	0.00	0.00	577.53	257.93	2.239
82	-8.10	100	127	0.00	0.00	--	0.00	0.00	580.25	263.49	2.202
83	-8.20	100	128	0.00	0.00	--	0.00	0.00	582.96	269.12	2.166
84	-8.30	100	128	0.00	0.00	--	0.00	0.00	585.67	274.81	2.131
85	-8.40	100	129	0.00	0.00	--	0.00	0.00	588.37	280.56	2.097
86	-8.50	100	130	0.00	0.00	--	0.00	0.00	591.08	286.38	2.064
87	-8.60	100	131	0.00	0.00	--	0.00	0.00	593.78	292.26	2.032
88	-8.70	100	132	0.00	0.00	--	0.00	0.00	596.48	298.21	2.000
89	-8.80	100	133	0.00	0.00	--	0.00	0.00	599.17	304.22	1.970
90	-8.90	100	134	0.00	0.00	--	0.00	0.00	601.87	310.29	1.940
91	-9.00	100	135	0.00	0.00	--	0.00	0.00	604.56	316.43	1.911
92	-9.10	100	136	0.00	0.00	--	0.00	0.00	607.25	322.63	1.882
93	-9.20	100	137	0.00	0.00	--	0.00	0.00	609.93	328.90	1.854
94	-9.30	100	138	0.00	0.00	--	0.00	0.00	434.59	335.23	1.296
95	-9.40	100	139	0.00	0.00	--	0.00	0.00	436.60	341.62	1.278
96	-9.50	100	140	0.00	0.00	--	0.00	0.00	438.62	348.07	1.260
97	-9.60	100	141	0.00	0.00	--	0.00	0.00	440.63	354.56	1.243
98	-9.70	100	142	0.00	0.00	--	0.00	0.00	442.64	361.08	1.226
99	-9.80	100	143	0.00	0.00	--	0.00	0.00	444.66	367.62	1.210
100	-9.90	100	144	0.00	0.00	--	0.00	0.00	446.67	374.18	1.194
101	-9.99	100	144	0.00	0.00	--	0.00	0.00	448.53	380.76	1.178

Combinazione n° 3 - STR (A1-M1-R3) H + V

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
1	0.00	100	50	0.00	0.00	--	0.00	0.00	269.26	0.00	100.000
2	-0.10	100	51	0.00	0.00	--	0.00	0.00	272.06	1.00	273.265
3	-0.20	100	52	0.00	0.00	--	0.00	0.00	274.85	2.04	134.607
4	-0.30	100	53	0.00	0.00	--	0.00	0.00	277.62	3.14	88.464
5	-0.40	100	54	0.00	0.00	--	0.00	0.00	280.38	4.28	65.446
6	-0.50	100	55	0.00	0.00	--	0.00	0.00	283.12	5.48	51.665
7	-0.60	100	56	0.00	0.00	--	0.00	0.00	285.84	6.73	42.501
8	-0.70	100	57	0.00	0.00	--	0.00	0.00	288.55	8.02	35.972
9	-0.80	100	58	0.00	0.00	--	0.00	0.00	291.24	9.37	31.091
10	-0.90	100	59	0.00	0.00	--	0.00	0.00	293.92	10.76	27.308
11	-1.00	100	59	0.00	0.00	--	0.00	0.00	296.59	12.21	24.292
12	-1.10	100	60	0.00	0.00	--	0.00	0.00	299.25	13.71	21.834
13	-1.20	100	61	0.00	0.00	--	0.00	0.00	301.89	15.25	19.793
14	-1.30	100	62	0.00	0.00	--	0.00	0.00	304.52	16.85	18.074
15	-1.40	100	63	0.00	0.00	--	0.00	0.00	307.14	18.50	16.606
16	-1.50	100	64	0.00	0.00	--	0.00	0.00	309.74	20.19	15.340
17	-1.60	100	65	0.00	0.00	--	0.00	0.00	312.34	21.94	14.237
18	-1.70	100	66	0.00	0.00	--	0.00	0.00	314.92	23.74	13.268
19	-1.80	100	67	0.00	0.00	--	0.00	0.00	317.50	25.58	12.411
20	-1.90	100	68	0.00	0.00	--	0.00	0.00	320.06	27.48	11.648
21	-2.00	100	69	0.00	0.00	--	0.00	0.00	322.62	29.43	10.964
22	-2.10	100	70	0.00	0.00	--	0.00	0.00	325.16	31.42	10.348
23	-2.20	100	71	0.00	0.00	--	0.00	0.00	327.70	33.47	9.791
24	-2.30	100	72	0.00	0.00	--	0.00	0.00	330.22	35.57	9.284
25	-2.40	100	73	0.00	0.00	--	0.00	0.00	332.74	37.72	8.823
26	-2.50	100	74	0.00	0.00	--	0.00	0.00	335.25	39.91	8.400
27	-2.60	100	75	0.00	0.00	--	0.00	0.00	337.75	42.16	8.011
28	-2.70	100	76	0.00	0.00	--	0.00	0.00	340.25	44.46	7.653
29	-2.80	100	76	0.00	0.00	--	0.00	0.00	342.73	46.81	7.322

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
30	-2.90	100	77	0.00	0.00	--	0.00	0.00	345.21	49.20	7.016
31	-3.00	100	78	0.00	0.00	--	0.00	0.00	347.68	51.65	6.731
32	-3.10	100	79	0.00	0.00	--	0.00	0.00	350.15	54.15	6.466
33	-3.20	100	80	0.00	0.00	--	0.00	0.00	352.60	56.70	6.219
34	-3.30	100	81	0.00	0.00	--	0.00	0.00	389.93	59.30	6.576
35	-3.40	100	82	0.00	0.00	--	0.00	0.00	392.59	61.94	6.338
36	-3.50	100	83	0.00	0.00	--	0.00	0.00	395.24	64.64	6.114
37	-3.60	100	84	0.00	0.00	--	0.00	0.00	397.88	67.39	5.904
38	-3.70	100	85	0.00	0.00	--	0.00	0.00	400.52	70.19	5.706
39	-3.80	100	86	0.00	0.00	--	0.00	0.00	403.15	73.04	5.520
40	-3.90	100	87	0.00	0.00	--	0.00	0.00	405.77	75.94	5.344
41	-4.00	100	88	0.00	0.00	--	0.00	0.00	408.39	78.89	5.177
42	-4.10	100	89	0.00	0.00	--	0.00	0.00	411.00	81.89	5.019
43	-4.20	100	90	0.00	0.00	--	0.00	0.00	413.61	84.93	4.870
44	-4.30	100	91	0.00	0.00	--	0.00	0.00	416.21	88.03	4.728
45	-4.40	100	92	0.00	0.00	--	0.00	0.00	477.64	91.18	5.238
46	-4.50	100	93	0.00	0.00	--	0.00	0.00	480.56	94.38	5.092
47	-4.60	100	93	0.00	0.00	--	0.00	0.00	483.46	97.63	4.952
48	-4.70	100	94	0.00	0.00	--	0.00	0.00	486.36	100.93	4.819
49	-4.80	100	95	0.00	0.00	--	0.00	0.00	489.25	104.28	4.692
50	-4.90	100	96	0.00	0.00	--	0.00	0.00	492.13	107.68	4.570
51	-5.00	100	97	0.00	0.00	--	0.00	0.00	495.01	111.13	4.454
52	-5.10	100	98	0.00	0.00	--	0.00	0.00	497.88	114.63	4.343
53	-5.20	100	99	0.00	0.00	--	0.00	0.00	500.75	118.18	4.237
54	-5.30	100	100	0.00	0.00	--	0.00	0.00	503.61	121.78	4.135
55	-5.40	100	101	0.00	0.00	--	0.00	0.00	506.46	125.43	4.038
56	-5.50	100	102	0.00	0.00	--	0.00	0.00	509.31	129.13	3.944
57	-5.60	100	103	0.00	0.00	--	0.00	0.00	512.16	132.88	3.854
58	-5.70	100	104	0.00	0.00	--	0.00	0.00	515.00	136.68	3.768
59	-5.80	100	105	0.00	0.00	--	0.00	0.00	517.83	140.53	3.685
60	-5.90	100	106	0.00	0.00	--	0.00	0.00	520.66	144.43	3.605
61	-6.00	100	107	0.00	0.00	--	0.00	0.00	523.48	148.38	3.528
62	-6.10	100	108	0.00	0.00	--	0.00	0.00	526.30	152.38	3.454
63	-6.20	100	109	0.00	0.00	--	0.00	0.00	529.12	156.44	3.382
64	-6.30	100	110	0.00	0.00	--	0.00	0.00	531.92	160.54	3.313
65	-6.40	100	110	0.00	0.00	--	0.00	0.00	534.73	164.69	3.247
66	-6.50	100	111	0.00	0.00	--	0.00	0.00	537.53	168.89	3.183
67	-6.60	100	112	0.00	0.00	--	0.00	0.00	540.33	173.14	3.121
68	-6.70	100	113	0.00	0.00	--	0.00	0.00	543.12	177.44	3.061
69	-6.80	100	114	0.00	0.00	--	0.00	0.00	545.91	181.79	3.003
70	-6.90	100	115	0.00	0.00	--	0.00	0.00	548.69	186.19	2.947
71	-7.00	100	116	0.00	0.00	--	0.00	0.00	551.47	190.65	2.893
72	-7.10	100	117	0.00	0.00	--	0.00	0.00	554.25	195.15	2.840
73	-7.20	100	118	0.00	0.00	--	0.00	0.00	557.02	199.70	2.789
74	-7.30	100	119	0.00	0.00	--	0.00	0.00	559.79	204.30	2.740
75	-7.40	100	120	0.00	0.00	--	0.00	0.00	562.56	208.95	2.692
76	-7.50	100	121	0.00	0.00	--	0.00	0.00	565.32	213.66	2.646
77	-7.60	100	122	0.00	0.00	--	0.00	0.00	568.08	218.41	2.601
78	-7.70	100	123	0.00	0.00	--	0.00	0.00	570.84	223.21	2.557
79	-7.80	100	124	0.00	0.00	--	0.00	0.00	573.59	228.06	2.515
80	-7.90	100	125	0.00	0.00	--	0.00	0.00	576.34	232.97	2.474
81	-8.00	100	126	0.00	0.00	--	0.00	0.00	579.09	237.92	2.434
82	-8.10	100	127	0.00	0.00	--	0.00	0.00	581.83	242.92	2.395
83	-8.20	100	128	0.00	0.00	--	0.00	0.00	584.57	247.97	2.357
84	-8.30	100	128	0.00	0.00	--	0.00	0.00	587.31	253.08	2.321
85	-8.40	100	129	0.00	0.00	--	0.00	0.00	590.05	258.23	2.285
86	-8.50	100	130	0.00	0.00	--	0.00	0.00	592.78	263.43	2.250
87	-8.60	100	131	0.00	0.00	--	0.00	0.00	595.51	268.69	2.216
88	-8.70	100	132	0.00	0.00	--	0.00	0.00	598.24	273.99	2.183
89	-8.80	100	133	0.00	0.00	--	0.00	0.00	600.96	279.34	2.151
90	-8.90	100	134	0.00	0.00	--	0.00	0.00	603.68	284.75	2.120
91	-9.00	100	135	0.00	0.00	--	0.00	0.00	606.41	290.20	2.090
92	-9.10	100	136	0.00	0.00	--	0.00	0.00	609.12	295.70	2.060
93	-9.20	100	137	0.00	0.00	--	0.00	0.00	611.84	301.26	2.031
94	-9.30	100	138	0.00	0.00	--	0.00	0.00	436.52	306.86	1.423
95	-9.40	100	139	0.00	0.00	--	0.00	0.00	438.57	312.51	1.403
96	-9.50	100	140	0.00	0.00	--	0.00	0.00	440.62	318.22	1.385
97	-9.60	100	141	0.00	0.00	--	0.00	0.00	442.66	323.97	1.366
98	-9.70	100	142	0.00	0.00	--	0.00	0.00	444.71	329.78	1.349
99	-9.80	100	143	0.00	0.00	--	0.00	0.00	446.75	335.63	1.331
100	-9.90	100	144	0.00	0.00	--	0.00	0.00	448.80	341.53	1.314
101	-9.99	100	144	0.00	0.00	--	0.00	0.00	450.69	347.49	1.297

Combinazione n° 4 - STR (A1-M1-R3) H - V

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
1	0.00	100	50	0.00	0.00	--	0.00	0.00	269.23	0.00	100.000
2	-0.10	100	51	0.00	0.00	--	0.00	0.00	272.02	0.72	377.267
3	-0.20	100	52	0.00	0.00	--	0.00	0.00	274.78	1.49	184.083
4	-0.30	100	53	0.00	0.00	--	0.00	0.00	277.53	2.31	119.910
5	-0.40	100	54	0.00	0.00	--	0.00	0.00	280.27	3.19	87.974

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
6	-0.50	100	55	0.00	0.00	--	0.00	0.00	282.98	4.11	68.904
7	-0.60	100	56	0.00	0.00	--	0.00	0.00	285.68	5.08	56.258
8	-0.70	100	57	0.00	0.00	--	0.00	0.00	288.37	6.10	47.279
9	-0.80	100	58	0.00	0.00	--	0.00	0.00	291.04	7.17	40.587
10	-0.90	100	59	0.00	0.00	--	0.00	0.00	293.70	8.29	35.418
11	-1.00	100	59	0.00	0.00	--	0.00	0.00	296.34	9.46	31.313
12	-1.10	100	60	0.00	0.00	--	0.00	0.00	298.97	10.69	27.979
13	-1.20	100	61	0.00	0.00	--	0.00	0.00	301.58	11.96	25.222
14	-1.30	100	62	0.00	0.00	--	0.00	0.00	304.19	13.28	22.907
15	-1.40	100	63	0.00	0.00	--	0.00	0.00	306.78	14.65	20.939
16	-1.50	100	64	0.00	0.00	--	0.00	0.00	309.36	16.07	19.247
17	-1.60	100	65	0.00	0.00	--	0.00	0.00	311.93	17.54	17.779
18	-1.70	100	66	0.00	0.00	--	0.00	0.00	314.48	19.07	16.493
19	-1.80	100	67	0.00	0.00	--	0.00	0.00	317.03	20.64	15.360
20	-1.90	100	68	0.00	0.00	--	0.00	0.00	319.56	22.26	14.355
21	-2.00	100	69	0.00	0.00	--	0.00	0.00	322.09	23.93	13.457
22	-2.10	100	70	0.00	0.00	--	0.00	0.00	324.60	25.66	12.652
23	-2.20	100	71	0.00	0.00	--	0.00	0.00	327.11	27.43	11.925
24	-2.30	100	72	0.00	0.00	--	0.00	0.00	329.61	29.25	11.268
25	-2.40	100	73	0.00	0.00	--	0.00	0.00	332.09	31.13	10.670
26	-2.50	100	74	0.00	0.00	--	0.00	0.00	334.57	33.05	10.124
27	-2.60	100	75	0.00	0.00	--	0.00	0.00	337.04	35.02	9.624
28	-2.70	100	76	0.00	0.00	--	0.00	0.00	339.50	37.04	9.165
29	-2.80	100	76	0.00	0.00	--	0.00	0.00	341.96	39.12	8.742
30	-2.90	100	77	0.00	0.00	--	0.00	0.00	344.40	41.24	8.351
31	-3.00	100	78	0.00	0.00	--	0.00	0.00	346.84	43.41	7.989
32	-3.10	100	79	0.00	0.00	--	0.00	0.00	349.27	45.64	7.653
33	-3.20	100	80	0.00	0.00	--	0.00	0.00	351.69	47.91	7.340
34	-3.30	100	81	0.00	0.00	--	0.00	0.00	388.98	50.23	7.743
35	-3.40	100	82	0.00	0.00	--	0.00	0.00	391.60	52.61	7.444
36	-3.50	100	83	0.00	0.00	--	0.00	0.00	394.22	55.03	7.163
37	-3.60	100	84	0.00	0.00	--	0.00	0.00	396.83	57.51	6.901
38	-3.70	100	85	0.00	0.00	--	0.00	0.00	399.43	60.03	6.654
39	-3.80	100	86	0.00	0.00	--	0.00	0.00	402.02	62.60	6.422
40	-3.90	100	87	0.00	0.00	--	0.00	0.00	404.61	65.23	6.203
41	-4.00	100	88	0.00	0.00	--	0.00	0.00	407.19	67.90	5.997
42	-4.10	100	89	0.00	0.00	--	0.00	0.00	409.76	70.63	5.802
43	-4.20	100	90	0.00	0.00	--	0.00	0.00	412.32	73.40	5.617
44	-4.30	100	91	0.00	0.00	--	0.00	0.00	414.88	76.23	5.443
45	-4.40	100	92	0.00	0.00	--	0.00	0.00	476.28	79.10	6.021
46	-4.50	100	93	0.00	0.00	--	0.00	0.00	479.15	82.03	5.841
47	-4.60	100	93	0.00	0.00	--	0.00	0.00	482.02	85.00	5.671
48	-4.70	100	94	0.00	0.00	--	0.00	0.00	484.87	88.03	5.508
49	-4.80	100	95	0.00	0.00	--	0.00	0.00	487.72	91.10	5.354
50	-4.90	100	96	0.00	0.00	--	0.00	0.00	490.56	94.23	5.206
51	-5.00	100	97	0.00	0.00	--	0.00	0.00	493.40	97.40	5.066
52	-5.10	100	98	0.00	0.00	--	0.00	0.00	496.23	100.63	4.931
53	-5.20	100	99	0.00	0.00	--	0.00	0.00	499.05	103.90	4.803
54	-5.30	100	100	0.00	0.00	--	0.00	0.00	501.87	107.23	4.680
55	-5.40	100	101	0.00	0.00	--	0.00	0.00	504.68	110.60	4.563
56	-5.50	100	102	0.00	0.00	--	0.00	0.00	507.48	114.03	4.450
57	-5.60	100	103	0.00	0.00	--	0.00	0.00	510.28	117.50	4.343
58	-5.70	100	104	0.00	0.00	--	0.00	0.00	513.08	121.03	4.239
59	-5.80	100	105	0.00	0.00	--	0.00	0.00	515.86	124.61	4.140
60	-5.90	100	106	0.00	0.00	--	0.00	0.00	518.65	128.23	4.045
61	-6.00	100	107	0.00	0.00	--	0.00	0.00	521.42	131.91	3.953
62	-6.10	100	108	0.00	0.00	--	0.00	0.00	524.19	135.64	3.865
63	-6.20	100	109	0.00	0.00	--	0.00	0.00	526.96	139.41	3.780
64	-6.30	100	110	0.00	0.00	--	0.00	0.00	529.72	143.24	3.698
65	-6.40	100	110	0.00	0.00	--	0.00	0.00	532.48	147.11	3.619
66	-6.50	100	111	0.00	0.00	--	0.00	0.00	535.23	151.04	3.544
67	-6.60	100	112	0.00	0.00	--	0.00	0.00	537.98	155.02	3.470
68	-6.70	100	113	0.00	0.00	--	0.00	0.00	540.72	159.04	3.400
69	-6.80	100	114	0.00	0.00	--	0.00	0.00	543.46	163.12	3.332
70	-6.90	100	115	0.00	0.00	--	0.00	0.00	546.19	167.25	3.266
71	-7.00	100	116	0.00	0.00	--	0.00	0.00	548.92	171.43	3.202
72	-7.10	100	117	0.00	0.00	--	0.00	0.00	551.65	175.65	3.141
73	-7.20	100	118	0.00	0.00	--	0.00	0.00	554.37	179.93	3.081
74	-7.30	100	119	0.00	0.00	--	0.00	0.00	557.08	184.26	3.023
75	-7.40	100	120	0.00	0.00	--	0.00	0.00	559.80	188.63	2.968
76	-7.50	100	121	0.00	0.00	--	0.00	0.00	562.51	193.06	2.914
77	-7.60	100	122	0.00	0.00	--	0.00	0.00	565.21	197.54	2.861
78	-7.70	100	123	0.00	0.00	--	0.00	0.00	567.91	202.07	2.811
79	-7.80	100	124	0.00	0.00	--	0.00	0.00	570.61	206.65	2.761
80	-7.90	100	125	0.00	0.00	--	0.00	0.00	573.31	211.27	2.714
81	-8.00	100	126	0.00	0.00	--	0.00	0.00	576.00	215.95	2.667
82	-8.10	100	127	0.00	0.00	--	0.00	0.00	578.69	220.68	2.622
83	-8.20	100	128	0.00	0.00	--	0.00	0.00	581.37	225.46	2.579
84	-8.30	100	128	0.00	0.00	--	0.00	0.00	584.05	230.29	2.536
85	-8.40	100	129	0.00	0.00	--	0.00	0.00	586.73	235.16	2.495
86	-8.50	100	130	0.00	0.00	--	0.00	0.00	589.41	240.09	2.455
87	-8.60	100	131	0.00	0.00	--	0.00	0.00	592.08	245.07	2.416
88	-8.70	100	132	0.00	0.00	--	0.00	0.00	594.75	250.10	2.378
89	-8.80	100	133	0.00	0.00	--	0.00	0.00	597.41	255.18	2.341
90	-8.90	100	134	0.00	0.00	--	0.00	0.00	600.08	260.31	2.305
91	-9.00	100	135	0.00	0.00	--	0.00	0.00	602.74	265.49	2.270

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
92	-9.10	100	136	0.00	0.00	--	0.00	0.00	605.40	270.72	2.236
93	-9.20	100	137	0.00	0.00	--	0.00	0.00	608.05	275.99	2.203
94	-9.30	100	138	0.00	0.00	--	0.00	0.00	432.68	281.32	1.538
95	-9.40	100	139	0.00	0.00	--	0.00	0.00	434.66	286.70	1.516
96	-9.50	100	140	0.00	0.00	--	0.00	0.00	436.64	292.13	1.495
97	-9.60	100	141	0.00	0.00	--	0.00	0.00	438.63	297.61	1.474
98	-9.70	100	142	0.00	0.00	--	0.00	0.00	440.61	303.14	1.453
99	-9.80	100	143	0.00	0.00	--	0.00	0.00	442.59	308.72	1.434
100	-9.90	100	144	0.00	0.00	--	0.00	0.00	444.57	314.35	1.414
101	-9.99	100	144	0.00	0.00	--	0.00	0.00	446.40	320.03	1.395

Combinazione n° 9 - ECC

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
1	0.00	100	50	0.00	0.00	--	0.00	0.00	269.23	11.10	24.255
2	-0.10	100	51	0.00	0.00	--	0.00	0.00	272.03	11.12	24.454
3	-0.20	100	52	0.00	0.00	--	0.00	0.00	274.80	11.20	24.546
4	-0.30	100	53	0.00	0.00	--	0.00	0.00	277.56	11.31	24.532
5	-0.40	100	54	0.00	0.00	--	0.00	0.00	280.31	11.48	24.417
6	-0.50	100	55	0.00	0.00	--	0.00	0.00	283.04	11.69	24.206
7	-0.60	100	56	0.00	0.00	--	0.00	0.00	285.75	11.95	23.907
8	-0.70	100	57	0.00	0.00	--	0.00	0.00	288.45	12.26	23.528
9	-0.80	100	58	0.00	0.00	--	0.00	0.00	291.13	12.61	23.080
10	-0.90	100	59	0.00	0.00	--	0.00	0.00	293.80	13.02	22.573
11	-1.00	100	59	0.00	0.00	--	0.00	0.00	296.45	13.46	22.018
12	-1.10	100	60	0.00	0.00	--	0.00	0.00	299.09	13.96	21.425
13	-1.20	100	61	0.00	0.00	--	0.00	0.00	301.72	14.50	20.804
14	-1.30	100	62	0.00	0.00	--	0.00	0.00	304.34	15.09	20.164
15	-1.40	100	63	0.00	0.00	--	0.00	0.00	306.94	15.73	19.512
16	-1.50	100	64	0.00	0.00	--	0.00	0.00	309.54	16.42	18.856
17	-1.60	100	65	0.00	0.00	--	0.00	0.00	312.12	17.15	18.201
18	-1.70	100	66	0.00	0.00	--	0.00	0.00	314.69	17.93	17.553
19	-1.80	100	67	0.00	0.00	--	0.00	0.00	317.25	18.75	16.916
20	-1.90	100	68	0.00	0.00	--	0.00	0.00	319.80	19.63	16.293
21	-2.00	100	69	0.00	0.00	--	0.00	0.00	322.34	20.55	15.686
22	-2.10	100	70	0.00	0.00	--	0.00	0.00	324.87	21.52	15.098
23	-2.20	100	71	0.00	0.00	--	0.00	0.00	327.39	22.53	14.530
24	-2.30	100	72	0.00	0.00	--	0.00	0.00	329.90	23.60	13.982
25	-2.40	100	73	0.00	0.00	--	0.00	0.00	332.40	24.71	13.455
26	-2.50	100	74	0.00	0.00	--	0.00	0.00	334.90	25.86	12.949
27	-2.60	100	75	0.00	0.00	--	0.00	0.00	337.38	27.07	12.465
28	-2.70	100	76	0.00	0.00	--	0.00	0.00	339.86	28.32	12.001
29	-2.80	100	76	0.00	0.00	--	0.00	0.00	342.33	29.62	11.558
30	-2.90	100	77	0.00	0.00	--	0.00	0.00	344.79	30.96	11.135
31	-3.00	100	78	0.00	0.00	--	0.00	0.00	347.25	32.36	10.732
32	-3.10	100	79	0.00	0.00	--	0.00	0.00	349.70	33.80	10.347
33	-3.20	100	80	0.00	0.00	--	0.00	0.00	352.14	35.29	9.980
34	-3.30	100	81	0.00	0.00	--	0.00	0.00	389.44	36.82	10.577
35	-3.40	100	82	0.00	0.00	--	0.00	0.00	392.08	38.40	10.210
36	-3.50	100	83	0.00	0.00	--	0.00	0.00	394.72	40.03	9.860
37	-3.60	100	84	0.00	0.00	--	0.00	0.00	397.34	41.71	9.526
38	-3.70	100	85	0.00	0.00	--	0.00	0.00	399.96	43.43	9.209
39	-3.80	100	86	0.00	0.00	--	0.00	0.00	402.57	45.20	8.906
40	-3.90	100	87	0.00	0.00	--	0.00	0.00	405.18	47.02	8.617
41	-4.00	100	88	0.00	0.00	--	0.00	0.00	407.78	48.89	8.341
42	-4.10	100	89	0.00	0.00	--	0.00	0.00	410.37	50.80	8.078
43	-4.20	100	90	0.00	0.00	--	0.00	0.00	412.95	52.76	7.827
44	-4.30	100	91	0.00	0.00	--	0.00	0.00	415.53	54.77	7.587
45	-4.40	100	92	0.00	0.00	--	0.00	0.00	476.95	56.82	8.393
46	-4.50	100	93	0.00	0.00	--	0.00	0.00	479.84	58.93	8.143
47	-4.60	100	93	0.00	0.00	--	0.00	0.00	482.72	61.07	7.904
48	-4.70	100	94	0.00	0.00	--	0.00	0.00	485.60	63.27	7.675
49	-4.80	100	95	0.00	0.00	--	0.00	0.00	488.47	65.51	7.456
50	-4.90	100	96	0.00	0.00	--	0.00	0.00	491.33	67.81	7.246
51	-5.00	100	97	0.00	0.00	--	0.00	0.00	494.19	70.14	7.045
52	-5.10	100	98	0.00	0.00	--	0.00	0.00	497.04	72.53	6.853
53	-5.20	100	99	0.00	0.00	--	0.00	0.00	499.89	74.96	6.669
54	-5.30	100	100	0.00	0.00	--	0.00	0.00	502.73	77.44	6.492
55	-5.40	100	101	0.00	0.00	--	0.00	0.00	505.56	79.97	6.322
56	-5.50	100	102	0.00	0.00	--	0.00	0.00	508.39	82.54	6.159
57	-5.60	100	103	0.00	0.00	--	0.00	0.00	511.21	85.16	6.003
58	-5.70	100	104	0.00	0.00	--	0.00	0.00	514.02	87.83	5.852
59	-5.80	100	105	0.00	0.00	--	0.00	0.00	516.83	90.55	5.708
60	-5.90	100	106	0.00	0.00	--	0.00	0.00	519.64	93.31	5.569
61	-6.00	100	107	0.00	0.00	--	0.00	0.00	522.44	96.12	5.435
62	-6.10	100	108	0.00	0.00	--	0.00	0.00	525.23	98.98	5.307
63	-6.20	100	109	0.00	0.00	--	0.00	0.00	528.02	101.88	5.183
64	-6.30	100	110	0.00	0.00	--	0.00	0.00	530.81	104.84	5.063
65	-6.40	100	110	0.00	0.00	--	0.00	0.00	533.59	107.84	4.948
66	-6.50	100	111	0.00	0.00	--	0.00	0.00	536.37	110.88	4.837
67	-6.60	100	112	0.00	0.00	--	0.00	0.00	539.14	113.98	4.730

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
68	-6.70	100	113	0.00	0.00	--	0.00	0.00	541.91	117.12	4.627
69	-6.80	100	114	0.00	0.00	--	0.00	0.00	544.67	120.30	4.527
70	-6.90	100	115	0.00	0.00	--	0.00	0.00	547.43	123.54	4.431
71	-7.00	100	116	0.00	0.00	--	0.00	0.00	550.18	126.82	4.338
72	-7.10	100	117	0.00	0.00	--	0.00	0.00	552.93	130.15	4.248
73	-7.20	100	118	0.00	0.00	--	0.00	0.00	555.68	133.53	4.161
74	-7.30	100	119	0.00	0.00	--	0.00	0.00	558.43	136.95	4.077
75	-7.40	100	120	0.00	0.00	--	0.00	0.00	561.16	140.43	3.996
76	-7.50	100	121	0.00	0.00	--	0.00	0.00	563.90	143.95	3.917
77	-7.60	100	122	0.00	0.00	--	0.00	0.00	566.63	147.51	3.841
78	-7.70	100	123	0.00	0.00	--	0.00	0.00	569.36	151.12	3.768
79	-7.80	100	124	0.00	0.00	--	0.00	0.00	572.09	154.79	3.696
80	-7.90	100	125	0.00	0.00	--	0.00	0.00	574.81	158.49	3.627
81	-8.00	100	126	0.00	0.00	--	0.00	0.00	577.53	162.25	3.560
82	-8.10	100	127	0.00	0.00	--	0.00	0.00	580.25	166.05	3.494
83	-8.20	100	128	0.00	0.00	--	0.00	0.00	582.96	169.90	3.431
84	-8.30	100	128	0.00	0.00	--	0.00	0.00	585.67	173.80	3.370
85	-8.40	100	129	0.00	0.00	--	0.00	0.00	588.37	177.74	3.310
86	-8.50	100	130	0.00	0.00	--	0.00	0.00	591.08	181.73	3.252
87	-8.60	100	131	0.00	0.00	--	0.00	0.00	593.78	185.77	3.196
88	-8.70	100	132	0.00	0.00	--	0.00	0.00	596.48	189.86	3.142
89	-8.80	100	133	0.00	0.00	--	0.00	0.00	599.17	193.99	3.089
90	-8.90	100	134	0.00	0.00	--	0.00	0.00	601.87	198.17	3.037
91	-9.00	100	135	0.00	0.00	--	0.00	0.00	604.56	202.40	2.987
92	-9.10	100	136	0.00	0.00	--	0.00	0.00	607.25	206.67	2.938
93	-9.20	100	137	0.00	0.00	--	0.00	0.00	609.93	210.99	2.891
94	-9.30	100	138	0.00	0.00	--	0.00	0.00	434.59	215.36	2.018
95	-9.40	100	139	0.00	0.00	--	0.00	0.00	436.60	219.78	1.987
96	-9.50	100	140	0.00	0.00	--	0.00	0.00	438.62	224.24	1.956
97	-9.60	100	141	0.00	0.00	--	0.00	0.00	440.63	228.75	1.926
98	-9.70	100	142	0.00	0.00	--	0.00	0.00	442.64	233.31	1.897
99	-9.80	100	143	0.00	0.00	--	0.00	0.00	444.66	237.92	1.869
100	-9.90	100	144	0.00	0.00	--	0.00	0.00	446.67	242.57	1.841
101	-9.99	100	144	0.00	0.00	--	0.00	0.00	448.53	247.27	1.814

Mensola valle

Combinazione n° 1 - STR (A1-M1-R3)

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
1	-0.75	100	50	0.00	0.00	--	0.00	0.00	226.72	0.00	100.000
2	-0.67	100	50	0.00	0.00	--	0.00	0.00	226.72	1.04	217.654
3	-0.58	100	50	0.00	0.00	--	0.00	0.00	226.72	2.08	108.827
4	-0.50	100	50	0.00	0.00	--	0.00	0.00	226.72	3.13	72.551
5	-0.50	100	50	0.00	0.00	--	0.00	0.00	226.72	3.13	72.551

Combinazione n° 2 - STR (A1-M1-R3)

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
1	-0.75	100	50	0.00	0.00	--	0.00	0.00	226.72	0.00	100.000
2	-0.67	100	50	0.00	0.00	--	0.00	0.00	226.72	1.04	217.654
3	-0.58	100	50	0.00	0.00	--	0.00	0.00	226.72	2.08	108.827
4	-0.50	100	50	0.00	0.00	--	0.00	0.00	226.72	3.13	72.551
5	-0.50	100	50	0.00	0.00	--	0.00	0.00	226.72	3.13	72.551

Combinazione n° 3 - STR (A1-M1-R3) H + V

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
1	-0.75	100	50	0.00	0.00	--	0.00	0.00	226.72	0.00	100.000
2	-0.67	100	50	0.00	0.00	--	0.00	0.00	226.72	1.10	205.238
3	-0.58	100	50	0.00	0.00	--	0.00	0.00	226.72	2.21	102.619
4	-0.50	100	50	0.00	0.00	--	0.00	0.00	226.72	3.31	68.413
5	-0.50	100	50	0.00	0.00	--	0.00	0.00	226.72	3.31	68.413

Combinazione n° 4 - STR (A1-M1-R3) H - V

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
1	-0.75	100	50	0.00	0.00	--	0.00	0.00	226.72	0.00	100.000
2	-0.67	100	50	0.00	0.00	--	0.00	0.00	226.72	1.04	217.654
3	-0.58	100	50	0.00	0.00	--	0.00	0.00	226.72	2.08	108.827
4	-0.50	100	50	0.00	0.00	--	0.00	0.00	226.72	3.13	72.551
5	-0.50	100	50	0.00	0.00	--	0.00	0.00	226.72	3.13	72.551

Combinazione n° 9 - ECC

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
1	-0.75	100	50	0.00	0.00	--	0.00	0.00	226.72	0.00	100.000
2	-0.67	100	50	0.00	0.00	--	0.00	0.00	226.72	1.04	217.654
3	-0.58	100	50	0.00	0.00	--	0.00	0.00	226.72	2.08	108.827
4	-0.50	100	50	0.00	0.00	--	0.00	0.00	226.72	3.13	72.551
5	-0.50	100	50	0.00	0.00	--	0.00	0.00	225.22	3.13	72.072

Fondazione

Combinazione n° 1 - STR (A1-M1-R3)

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
1	-1.95	100	135	0.00	0.00	--	0.00	0.00	477.47	0.00	100.000
2	-1.85	100	135	0.00	0.00	--	0.00	0.00	477.47	-17.03	28.030
3	-1.76	100	135	0.00	0.00	--	0.00	0.00	477.47	-34.09	14.005
4	-1.66	100	135	0.00	0.00	--	0.00	0.00	477.47	-51.18	9.329
5	-1.56	100	135	0.00	0.00	--	0.00	0.00	477.47	-68.29	6.992
6	-1.47	100	135	0.00	0.00	--	0.00	0.00	477.47	-85.42	5.589
7	-1.37	100	135	0.00	0.00	--	0.00	0.00	477.47	-102.59	4.654
8	-1.27	100	135	0.00	0.00	--	0.00	0.00	477.47	-119.77	3.986
9	-1.18	100	135	0.00	0.00	--	0.00	0.00	477.47	-136.98	3.486
10	-1.08	100	135	0.00	0.00	--	0.00	0.00	477.47	-154.22	3.096
11	-0.98	100	135	0.00	0.00	--	0.00	0.00	477.47	-171.48	2.784
12	-0.89	100	135	0.00	0.00	--	0.00	0.00	477.47	-188.77	2.529
13	-0.79	100	135	0.00	0.00	--	0.00	0.00	477.47	-206.09	2.317
14	-0.69	100	135	0.00	0.00	--	0.00	0.00	477.47	-223.43	2.137
15	-0.60	100	135	0.00	0.00	--	0.00	0.00	477.47	-240.79	1.983
16	-0.50	100	135	0.00	0.00	--	0.00	0.00	477.47	-258.18	1.849
17	0.95	100	135	0.00	0.00	--	0.00	0.00	477.47	-397.50	1.201
18	1.04	100	135	0.00	0.00	--	0.00	0.00	477.47	-390.38	1.223
19	1.14	100	135	0.00	0.00	--	0.00	0.00	477.47	-383.28	1.246
20	1.24	100	135	0.00	0.00	--	0.00	0.00	477.47	-376.21	1.269
21	1.34	100	135	0.00	0.00	--	0.00	0.00	477.47	-369.16	1.293
22	1.44	100	135	0.00	0.00	--	0.00	0.00	477.47	-362.14	1.318
23	1.54	100	135	0.00	0.00	--	0.00	0.00	477.47	-355.14	1.344
24	1.63	100	135	0.00	0.00	--	0.00	0.00	477.47	-348.18	1.371
25	1.73	100	135	0.00	0.00	--	0.00	0.00	477.47	-341.23	1.399
26	1.83	100	135	0.00	0.00	--	0.00	0.00	477.47	-334.32	1.428
27	1.93	100	135	0.00	0.00	--	0.00	0.00	477.47	-327.43	1.458
28	2.03	100	135	0.00	0.00	--	0.00	0.00	477.47	-320.57	1.489
29	2.13	100	135	0.00	0.00	--	0.00	0.00	477.47	-313.73	1.522
30	2.22	100	135	0.00	0.00	--	0.00	0.00	477.47	-306.92	1.556
31	2.32	100	135	0.00	0.00	--	0.00	0.00	477.47	-300.14	1.591
32	2.42	100	135	0.00	0.00	--	0.00	0.00	477.47	-293.38	1.627
33	2.52	100	135	0.00	0.00	--	0.00	0.00	477.47	-286.65	1.666
34	2.62	100	135	0.00	0.00	--	0.00	0.00	477.47	-279.94	1.706
35	2.72	100	135	0.00	0.00	--	0.00	0.00	477.47	-273.27	1.747
36	2.82	100	135	0.00	0.00	--	0.00	0.00	477.47	-266.61	1.791
37	2.91	100	135	0.00	0.00	--	0.00	0.00	477.47	-259.99	1.837
38	3.01	100	135	0.00	0.00	--	0.00	0.00	477.47	-253.39	1.884
39	3.11	100	135	0.00	0.00	--	0.00	0.00	477.47	-246.82	1.935
40	3.21	100	135	0.00	0.00	--	0.00	0.00	477.47	-240.27	1.987
41	3.31	100	135	0.00	0.00	--	0.00	0.00	477.47	-233.75	2.043
42	3.41	100	135	0.00	0.00	--	0.00	0.00	477.47	-227.25	2.101
43	3.50	100	135	0.00	0.00	--	0.00	0.00	477.47	-220.79	2.163
44	3.60	100	135	0.00	0.00	--	0.00	0.00	477.47	-214.35	2.228
45	3.70	100	135	0.00	0.00	--	0.00	0.00	477.47	-207.93	2.296
46	3.80	100	135	0.00	0.00	--	0.00	0.00	477.47	-201.54	2.369
47	3.90	100	135	0.00	0.00	--	0.00	0.00	477.47	-195.18	2.446
48	4.00	100	135	0.00	0.00	--	0.00	0.00	477.47	-188.84	2.528
49	4.09	100	135	0.00	0.00	--	0.00	0.00	477.47	-182.53	2.616
50	4.19	100	135	0.00	0.00	--	0.00	0.00	477.47	-176.25	2.709
51	4.29	100	135	0.00	0.00	--	0.00	0.00	477.47	-169.99	2.809
52	4.39	100	135	0.00	0.00	--	0.00	0.00	477.47	-163.76	2.916
53	4.49	100	135	0.00	0.00	--	0.00	0.00	477.47	-157.56	3.030

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
54	4.59	100	135	0.00	0.00	--	0.00	0.00	477.47	-151.38	3.154
55	4.68	100	135	0.00	0.00	--	0.00	0.00	477.47	-145.23	3.288
56	4.78	100	135	0.00	0.00	--	0.00	0.00	477.47	-139.10	3.432
57	4.88	100	135	0.00	0.00	--	0.00	0.00	477.47	-133.01	3.590
58	4.98	100	135	0.00	0.00	--	0.00	0.00	477.47	-126.93	3.762
59	5.08	100	135	0.00	0.00	--	0.00	0.00	477.47	-120.89	3.950
60	5.18	100	135	0.00	0.00	--	0.00	0.00	477.47	-114.87	4.157
61	5.28	100	135	0.00	0.00	--	0.00	0.00	477.47	-108.87	4.386
62	5.37	100	135	0.00	0.00	--	0.00	0.00	477.47	-102.91	4.640
63	5.47	100	135	0.00	0.00	--	0.00	0.00	477.47	-96.97	4.924
64	5.57	100	135	0.00	0.00	--	0.00	0.00	477.47	-91.05	5.244
65	5.67	100	135	0.00	0.00	--	0.00	0.00	477.47	-85.16	5.607
66	5.77	100	135	0.00	0.00	--	0.00	0.00	477.47	-79.30	6.021
67	5.87	100	135	0.00	0.00	--	0.00	0.00	477.47	-73.47	6.499
68	5.96	100	135	0.00	0.00	--	0.00	0.00	477.47	-67.66	7.057
69	6.06	100	135	0.00	0.00	--	0.00	0.00	477.47	-61.87	7.717
70	6.16	100	135	0.00	0.00	--	0.00	0.00	477.47	-56.12	8.508
71	6.26	100	135	0.00	0.00	--	0.00	0.00	477.47	-50.39	9.476
72	6.36	100	135	0.00	0.00	--	0.00	0.00	477.47	-44.68	10.686
73	6.46	100	135	0.00	0.00	--	0.00	0.00	477.47	-39.01	12.241
74	6.55	100	135	0.00	0.00	--	0.00	0.00	477.47	-33.35	14.315
75	6.65	100	135	0.00	0.00	--	0.00	0.00	477.47	-27.73	17.219
76	6.75	100	135	0.00	0.00	--	0.00	0.00	477.47	-22.13	21.575
77	6.85	100	135	0.00	0.00	--	0.00	0.00	477.47	-16.56	28.835
78	6.95	100	135	0.00	0.00	--	0.00	0.00	477.47	-11.01	43.356
79	7.05	100	135	0.00	0.00	--	0.00	0.00	477.47	-5.49	86.920
80	7.15	100	135	0.00	0.00	--	0.00	0.00	376.89	0.00	100.000

Combinazione n° 2 - STR (A1-M1-R3)

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
1	-1.95	100	135	0.00	0.00	--	0.00	0.00	477.47	0.00	100.000
2	-1.85	100	135	0.00	0.00	--	0.00	0.00	477.47	-18.44	25.889
3	-1.76	100	135	0.00	0.00	--	0.00	0.00	477.47	-36.92	12.932
4	-1.66	100	135	0.00	0.00	--	0.00	0.00	477.47	-55.43	8.614
5	-1.56	100	135	0.00	0.00	--	0.00	0.00	477.47	-73.98	6.454
6	-1.47	100	135	0.00	0.00	--	0.00	0.00	477.47	-92.56	5.159
7	-1.37	100	135	0.00	0.00	--	0.00	0.00	477.47	-111.17	4.295
8	-1.27	100	135	0.00	0.00	--	0.00	0.00	477.47	-129.82	3.678
9	-1.18	100	135	0.00	0.00	--	0.00	0.00	477.47	-148.51	3.215
10	-1.08	100	135	0.00	0.00	--	0.00	0.00	477.47	-167.23	2.855
11	-0.98	100	135	0.00	0.00	--	0.00	0.00	477.47	-185.98	2.567
12	-0.89	100	135	0.00	0.00	--	0.00	0.00	477.47	-204.76	2.332
13	-0.79	100	135	0.00	0.00	--	0.00	0.00	477.47	-223.59	2.136
14	-0.69	100	135	0.00	0.00	--	0.00	0.00	477.47	-242.44	1.969
15	-0.60	100	135	0.00	0.00	--	0.00	0.00	477.47	-261.33	1.827
16	-0.50	100	135	0.00	0.00	--	0.00	0.00	477.47	-280.26	1.704
17	0.95	100	135	0.00	0.00	--	0.00	0.00	477.47	-405.96	1.176
18	1.04	100	135	0.00	0.00	--	0.00	0.00	477.47	-397.24	1.202
19	1.14	100	135	0.00	0.00	--	0.00	0.00	477.47	-388.55	1.229
20	1.24	100	135	0.00	0.00	--	0.00	0.00	477.47	-379.89	1.257
21	1.34	100	135	0.00	0.00	--	0.00	0.00	477.47	-371.27	1.286
22	1.44	100	135	0.00	0.00	--	0.00	0.00	477.47	-362.69	1.316
23	1.54	100	135	0.00	0.00	--	0.00	0.00	477.47	-354.14	1.348
24	1.63	100	135	0.00	0.00	--	0.00	0.00	477.47	-345.63	1.381
25	1.73	100	135	0.00	0.00	--	0.00	0.00	477.47	-337.15	1.416
26	1.83	100	135	0.00	0.00	--	0.00	0.00	477.47	-328.71	1.453
27	1.93	100	135	0.00	0.00	--	0.00	0.00	477.47	-320.30	1.491
28	2.03	100	135	0.00	0.00	--	0.00	0.00	477.47	-311.93	1.531
29	2.13	100	135	0.00	0.00	--	0.00	0.00	477.47	-303.60	1.573
30	2.22	100	135	0.00	0.00	--	0.00	0.00	477.47	-295.30	1.617
31	2.32	100	135	0.00	0.00	--	0.00	0.00	477.47	-287.04	1.663
32	2.42	100	135	0.00	0.00	--	0.00	0.00	477.47	-278.81	1.713
33	2.52	100	135	0.00	0.00	--	0.00	0.00	477.47	-270.62	1.764
34	2.62	100	135	0.00	0.00	--	0.00	0.00	477.47	-262.46	1.819
35	2.72	100	135	0.00	0.00	--	0.00	0.00	477.47	-254.34	1.877
36	2.82	100	135	0.00	0.00	--	0.00	0.00	477.47	-246.25	1.939
37	2.91	100	135	0.00	0.00	--	0.00	0.00	477.47	-238.20	2.004
38	3.01	100	135	0.00	0.00	--	0.00	0.00	477.47	-230.38	2.073
39	3.11	100	135	0.00	0.00	--	0.00	0.00	477.47	-223.97	2.132
40	3.21	100	135	0.00	0.00	--	0.00	0.00	477.47	-217.60	2.194
41	3.31	100	135	0.00	0.00	--	0.00	0.00	477.47	-211.26	2.260
42	3.41	100	135	0.00	0.00	--	0.00	0.00	477.47	-204.95	2.330
43	3.50	100	135	0.00	0.00	--	0.00	0.00	477.47	-198.68	2.403
44	3.60	100	135	0.00	0.00	--	0.00	0.00	477.47	-192.45	2.481
45	3.70	100	135	0.00	0.00	--	0.00	0.00	477.47	-186.25	2.564
46	3.80	100	135	0.00	0.00	--	0.00	0.00	477.47	-180.09	2.651
47	3.90	100	135	0.00	0.00	--	0.00	0.00	477.47	-173.97	2.745
48	4.00	100	135	0.00	0.00	--	0.00	0.00	477.47	-167.88	2.844
49	4.09	100	135	0.00	0.00	--	0.00	0.00	477.47	-161.82	2.951
50	4.19	100	135	0.00	0.00	--	0.00	0.00	477.47	-155.80	3.065

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
51	4.29	100	135	0.00	0.00	--	0.00	0.00	477.47	-149.82	3.187
52	4.39	100	135	0.00	0.00	--	0.00	0.00	477.47	-143.87	3.319
53	4.49	100	135	0.00	0.00	--	0.00	0.00	477.47	-137.96	3.461
54	4.59	100	135	0.00	0.00	--	0.00	0.00	477.47	-132.09	3.615
55	4.68	100	135	0.00	0.00	--	0.00	0.00	477.47	-126.24	3.782
56	4.78	100	135	0.00	0.00	--	0.00	0.00	477.47	-120.44	3.964
57	4.88	100	135	0.00	0.00	--	0.00	0.00	477.47	-114.67	4.164
58	4.98	100	135	0.00	0.00	--	0.00	0.00	477.47	-108.94	4.383
59	5.08	100	135	0.00	0.00	--	0.00	0.00	477.47	-103.24	4.625
60	5.18	100	135	0.00	0.00	--	0.00	0.00	477.47	-97.58	4.893
61	5.28	100	135	0.00	0.00	--	0.00	0.00	477.47	-91.95	5.193
62	5.37	100	135	0.00	0.00	--	0.00	0.00	477.47	-86.36	5.529
63	5.47	100	135	0.00	0.00	--	0.00	0.00	477.47	-80.80	5.909
64	5.57	100	135	0.00	0.00	--	0.00	0.00	477.47	-75.28	6.342
65	5.67	100	135	0.00	0.00	--	0.00	0.00	477.47	-69.80	6.841
66	5.77	100	135	0.00	0.00	--	0.00	0.00	477.47	-64.35	7.420
67	5.87	100	135	0.00	0.00	--	0.00	0.00	477.47	-58.94	8.102
68	5.96	100	135	0.00	0.00	--	0.00	0.00	477.47	-53.56	8.915
69	6.06	100	135	0.00	0.00	--	0.00	0.00	477.47	-48.66	9.811
70	6.16	100	135	0.00	0.00	--	0.00	0.00	477.47	-44.06	10.836
71	6.26	100	135	0.00	0.00	--	0.00	0.00	477.47	-39.50	12.089
72	6.36	100	135	0.00	0.00	--	0.00	0.00	477.47	-34.97	13.656
73	6.46	100	135	0.00	0.00	--	0.00	0.00	477.47	-30.47	15.670
74	6.55	100	135	0.00	0.00	--	0.00	0.00	477.47	-26.01	18.357
75	6.65	100	135	0.00	0.00	--	0.00	0.00	477.47	-21.59	22.119
76	6.75	100	135	0.00	0.00	--	0.00	0.00	477.47	-17.20	27.764
77	6.85	100	135	0.00	0.00	--	0.00	0.00	477.47	-12.84	37.172
78	6.95	100	135	0.00	0.00	--	0.00	0.00	477.47	-8.53	55.991
79	7.05	100	135	0.00	0.00	--	0.00	0.00	477.47	-4.25	112.453
80	7.15	100	135	0.00	0.00	--	0.00	0.00	376.89	0.00	100.000

Combinazione n° 3 - STR (A1-M1-R3) H + V

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
1	-1.95	100	135	0.00	0.00	--	0.00	0.00	477.47	0.00	100.000
2	-1.85	100	135	0.00	0.00	--	0.00	0.00	477.47	-27.53	17.341
3	-1.76	100	135	0.00	0.00	--	0.00	0.00	477.47	-54.89	8.698
4	-1.66	100	135	0.00	0.00	--	0.00	0.00	477.47	-82.08	5.817
5	-1.56	100	135	0.00	0.00	--	0.00	0.00	477.47	-109.09	4.377
6	-1.47	100	135	0.00	0.00	--	0.00	0.00	477.47	-135.92	3.513
7	-1.37	100	135	0.00	0.00	--	0.00	0.00	477.47	-162.58	2.937
8	-1.27	100	135	0.00	0.00	--	0.00	0.00	477.47	-189.07	2.525
9	-1.18	100	135	0.00	0.00	--	0.00	0.00	477.47	-215.38	2.217
10	-1.08	100	135	0.00	0.00	--	0.00	0.00	477.47	-241.52	1.977
11	-0.98	100	135	0.00	0.00	--	0.00	0.00	477.47	-267.48	1.785
12	-0.89	100	135	0.00	0.00	--	0.00	0.00	477.47	-293.27	1.628
13	-0.79	100	135	0.00	0.00	--	0.00	0.00	477.47	-318.89	1.497
14	-0.69	100	135	0.00	0.00	--	0.00	0.00	477.47	-344.33	1.387
15	-0.60	100	135	0.00	0.00	--	0.00	0.00	477.47	-369.59	1.292
16	-0.50	100	135	0.00	0.00	--	0.00	0.00	477.47	-394.68	1.210
17	0.95	100	135	0.00	0.00	--	0.00	0.00	477.47	-100.36	4.758
18	1.04	100	135	0.00	0.00	--	0.00	0.00	477.47	-104.37	4.575
19	1.14	100	135	0.00	0.00	--	0.00	0.00	477.47	-108.20	4.413
20	1.24	100	135	0.00	0.00	--	0.00	0.00	477.47	-111.85	4.269
21	1.34	100	135	0.00	0.00	--	0.00	0.00	477.47	-115.32	4.140
22	1.44	100	135	0.00	0.00	--	0.00	0.00	477.47	-118.61	4.026
23	1.54	100	135	0.00	0.00	--	0.00	0.00	477.47	-121.72	3.923
24	1.63	100	135	0.00	0.00	--	0.00	0.00	477.47	-124.64	3.831
25	1.73	100	135	0.00	0.00	--	0.00	0.00	477.47	-127.39	3.748
26	1.83	100	135	0.00	0.00	--	0.00	0.00	477.47	-129.95	3.674
27	1.93	100	135	0.00	0.00	--	0.00	0.00	477.47	-132.34	3.608
28	2.03	100	135	0.00	0.00	--	0.00	0.00	477.47	-134.54	3.549
29	2.13	100	135	0.00	0.00	--	0.00	0.00	477.47	-136.57	3.496
30	2.22	100	135	0.00	0.00	--	0.00	0.00	477.47	-138.41	3.450
31	2.32	100	135	0.00	0.00	--	0.00	0.00	477.47	-140.07	3.409
32	2.42	100	135	0.00	0.00	--	0.00	0.00	477.47	-141.55	3.373
33	2.52	100	135	0.00	0.00	--	0.00	0.00	477.47	-142.85	3.342
34	2.62	100	135	0.00	0.00	--	0.00	0.00	477.47	-143.97	3.316
35	2.72	100	135	0.00	0.00	--	0.00	0.00	477.47	-144.91	3.295
36	2.82	100	135	0.00	0.00	--	0.00	0.00	477.47	-145.66	3.278
37	2.91	100	135	0.00	0.00	--	0.00	0.00	477.47	-146.24	3.265
38	3.01	100	135	0.00	0.00	--	0.00	0.00	477.47	-146.64	3.256
39	3.11	100	135	0.00	0.00	--	0.00	0.00	477.47	-146.85	3.251
40	3.21	100	135	0.00	0.00	--	0.00	0.00	477.47	-146.89	3.251
41	3.31	100	135	0.00	0.00	--	0.00	0.00	477.47	-146.74	3.254
42	3.41	100	135	0.00	0.00	--	0.00	0.00	477.47	-146.41	3.261
43	3.50	100	135	0.00	0.00	--	0.00	0.00	477.47	-145.90	3.273
44	3.60	100	135	0.00	0.00	--	0.00	0.00	477.47	-145.21	3.288
45	3.70	100	135	0.00	0.00	--	0.00	0.00	477.47	-144.34	3.308
46	3.80	100	135	0.00	0.00	--	0.00	0.00	477.47	-143.29	3.332
47	3.90	100	135	0.00	0.00	--	0.00	0.00	477.47	-142.06	3.361

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
48	4.00	100	135	0.00	0.00	--	0.00	0.00	477.47	-140.65	3.395
49	4.09	100	135	0.00	0.00	--	0.00	0.00	477.47	-139.06	3.434
50	4.19	100	135	0.00	0.00	--	0.00	0.00	477.47	-137.28	3.478
51	4.29	100	135	0.00	0.00	--	0.00	0.00	477.47	-135.33	3.528
52	4.39	100	135	0.00	0.00	--	0.00	0.00	477.47	-133.19	3.585
53	4.49	100	135	0.00	0.00	--	0.00	0.00	477.47	-130.88	3.648
54	4.59	100	135	0.00	0.00	--	0.00	0.00	477.47	-128.38	3.719
55	4.68	100	135	0.00	0.00	--	0.00	0.00	477.47	-125.70	3.798
56	4.78	100	135	0.00	0.00	--	0.00	0.00	477.47	-122.84	3.887
57	4.88	100	135	0.00	0.00	--	0.00	0.00	477.47	-119.80	3.985
58	4.98	100	135	0.00	0.00	--	0.00	0.00	477.47	-116.58	4.095
59	5.08	100	135	0.00	0.00	--	0.00	0.00	477.47	-113.18	4.219
60	5.18	100	135	0.00	0.00	--	0.00	0.00	477.47	-109.60	4.356
61	5.28	100	135	0.00	0.00	--	0.00	0.00	477.47	-105.84	4.511
62	5.37	100	135	0.00	0.00	--	0.00	0.00	477.47	-101.90	4.686
63	5.47	100	135	0.00	0.00	--	0.00	0.00	477.47	-97.77	4.884
64	5.57	100	135	0.00	0.00	--	0.00	0.00	477.47	-93.47	5.108
65	5.67	100	135	0.00	0.00	--	0.00	0.00	477.47	-88.98	5.366
66	5.77	100	135	0.00	0.00	--	0.00	0.00	477.47	-84.31	5.663
67	5.87	100	135	0.00	0.00	--	0.00	0.00	477.47	-79.47	6.008
68	5.96	100	135	0.00	0.00	--	0.00	0.00	477.47	-74.44	6.414
69	6.06	100	135	0.00	0.00	--	0.00	0.00	477.47	-69.23	6.897
70	6.16	100	135	0.00	0.00	--	0.00	0.00	477.47	-63.84	7.479
71	6.26	100	135	0.00	0.00	--	0.00	0.00	477.47	-58.27	8.194
72	6.36	100	135	0.00	0.00	--	0.00	0.00	477.47	-52.52	9.091
73	6.46	100	135	0.00	0.00	--	0.00	0.00	477.47	-46.59	10.249
74	6.55	100	135	0.00	0.00	--	0.00	0.00	477.47	-40.47	11.797
75	6.65	100	135	0.00	0.00	--	0.00	0.00	477.47	-34.18	13.969
76	6.75	100	135	0.00	0.00	--	0.00	0.00	477.47	-27.71	17.234
77	6.85	100	135	0.00	0.00	--	0.00	0.00	477.47	-21.05	22.682
78	6.95	100	135	0.00	0.00	--	0.00	0.00	477.47	-14.21	33.590
79	7.05	100	135	0.00	0.00	--	0.00	0.00	477.47	-7.20	66.337
80	7.15	100	135	0.00	0.00	--	0.00	0.00	376.89	0.00	100.000

Combinazione n° 4 - STR (A1-M1-R3) H - V

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
1	-1.95	100	135	0.00	0.00	--	0.00	0.00	477.47	0.00	100.000
2	-1.85	100	135	0.00	0.00	--	0.00	0.00	477.47	-24.98	19.114
3	-1.76	100	135	0.00	0.00	--	0.00	0.00	477.47	-49.79	9.590
4	-1.66	100	135	0.00	0.00	--	0.00	0.00	477.47	-74.42	6.416
5	-1.56	100	135	0.00	0.00	--	0.00	0.00	477.47	-98.88	4.829
6	-1.47	100	135	0.00	0.00	--	0.00	0.00	477.47	-123.17	3.877
7	-1.37	100	135	0.00	0.00	--	0.00	0.00	477.47	-147.28	3.242
8	-1.27	100	135	0.00	0.00	--	0.00	0.00	477.47	-171.22	2.789
9	-1.18	100	135	0.00	0.00	--	0.00	0.00	477.47	-194.99	2.449
10	-1.08	100	135	0.00	0.00	--	0.00	0.00	477.47	-218.59	2.184
11	-0.98	100	135	0.00	0.00	--	0.00	0.00	477.47	-242.01	1.973
12	-0.89	100	135	0.00	0.00	--	0.00	0.00	477.47	-265.26	1.800
13	-0.79	100	135	0.00	0.00	--	0.00	0.00	477.47	-288.34	1.656
14	-0.69	100	135	0.00	0.00	--	0.00	0.00	477.47	-311.24	1.534
15	-0.60	100	135	0.00	0.00	--	0.00	0.00	477.47	-333.97	1.430
16	-0.50	100	135	0.00	0.00	--	0.00	0.00	477.47	-356.53	1.339
17	0.95	100	135	0.00	0.00	--	0.00	0.00	477.47	-258.49	1.847
18	1.04	100	135	0.00	0.00	--	0.00	0.00	477.47	-259.94	1.837
19	1.14	100	135	0.00	0.00	--	0.00	0.00	477.47	-261.22	1.828
20	1.24	100	135	0.00	0.00	--	0.00	0.00	477.47	-262.32	1.820
21	1.34	100	135	0.00	0.00	--	0.00	0.00	477.47	-263.24	1.814
22	1.44	100	135	0.00	0.00	--	0.00	0.00	477.47	-263.97	1.809
23	1.54	100	135	0.00	0.00	--	0.00	0.00	477.47	-264.53	1.805
24	1.63	100	135	0.00	0.00	--	0.00	0.00	477.47	-264.91	1.802
25	1.73	100	135	0.00	0.00	--	0.00	0.00	477.47	-265.11	1.801
26	1.83	100	135	0.00	0.00	--	0.00	0.00	477.47	-265.13	1.801
27	1.93	100	135	0.00	0.00	--	0.00	0.00	477.47	-264.98	1.802
28	2.03	100	135	0.00	0.00	--	0.00	0.00	477.47	-264.64	1.804
29	2.13	100	135	0.00	0.00	--	0.00	0.00	477.47	-264.12	1.808
30	2.22	100	135	0.00	0.00	--	0.00	0.00	477.47	-263.43	1.813
31	2.32	100	135	0.00	0.00	--	0.00	0.00	477.47	-262.55	1.819
32	2.42	100	135	0.00	0.00	--	0.00	0.00	477.47	-261.50	1.826
33	2.52	100	135	0.00	0.00	--	0.00	0.00	477.47	-260.26	1.835
34	2.62	100	135	0.00	0.00	--	0.00	0.00	477.47	-258.85	1.845
35	2.72	100	135	0.00	0.00	--	0.00	0.00	477.47	-257.26	1.856
36	2.82	100	135	0.00	0.00	--	0.00	0.00	477.47	-255.48	1.869
37	2.91	100	135	0.00	0.00	--	0.00	0.00	477.47	-253.53	1.883
38	3.01	100	135	0.00	0.00	--	0.00	0.00	477.47	-251.40	1.899
39	3.11	100	135	0.00	0.00	--	0.00	0.00	477.47	-249.09	1.917
40	3.21	100	135	0.00	0.00	--	0.00	0.00	477.47	-246.60	1.936
41	3.31	100	135	0.00	0.00	--	0.00	0.00	477.47	-243.93	1.957
42	3.41	100	135	0.00	0.00	--	0.00	0.00	477.47	-241.09	1.980
43	3.50	100	135	0.00	0.00	--	0.00	0.00	477.47	-238.06	2.006
44	3.60	100	135	0.00	0.00	--	0.00	0.00	477.47	-234.85	2.033

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
45	3.70	100	135	0.00	0.00	--	0.00	0.00	477.47	-231.47	2.063
46	3.80	100	135	0.00	0.00	--	0.00	0.00	477.47	-227.90	2.095
47	3.90	100	135	0.00	0.00	--	0.00	0.00	477.47	-224.16	2.130
48	4.00	100	135	0.00	0.00	--	0.00	0.00	477.47	-220.23	2.168
49	4.09	100	135	0.00	0.00	--	0.00	0.00	477.47	-216.13	2.209
50	4.19	100	135	0.00	0.00	--	0.00	0.00	477.47	-211.85	2.254
51	4.29	100	135	0.00	0.00	--	0.00	0.00	477.47	-207.39	2.302
52	4.39	100	135	0.00	0.00	--	0.00	0.00	477.47	-202.75	2.355
53	4.49	100	135	0.00	0.00	--	0.00	0.00	477.47	-197.93	2.412
54	4.59	100	135	0.00	0.00	--	0.00	0.00	477.47	-192.93	2.475
55	4.68	100	135	0.00	0.00	--	0.00	0.00	477.47	-187.75	2.543
56	4.78	100	135	0.00	0.00	--	0.00	0.00	477.47	-182.39	2.618
57	4.88	100	135	0.00	0.00	--	0.00	0.00	477.47	-176.85	2.700
58	4.98	100	135	0.00	0.00	--	0.00	0.00	477.47	-171.13	2.790
59	5.08	100	135	0.00	0.00	--	0.00	0.00	477.47	-165.24	2.890
60	5.18	100	135	0.00	0.00	--	0.00	0.00	477.47	-159.16	3.000
61	5.28	100	135	0.00	0.00	--	0.00	0.00	477.47	-152.91	3.123
62	5.37	100	135	0.00	0.00	--	0.00	0.00	477.47	-146.47	3.260
63	5.47	100	135	0.00	0.00	--	0.00	0.00	477.47	-139.86	3.414
64	5.57	100	135	0.00	0.00	--	0.00	0.00	477.47	-133.07	3.588
65	5.67	100	135	0.00	0.00	--	0.00	0.00	477.47	-126.10	3.787
66	5.77	100	135	0.00	0.00	--	0.00	0.00	477.47	-118.95	4.014
67	5.87	100	135	0.00	0.00	--	0.00	0.00	477.47	-111.61	4.278
68	5.96	100	135	0.00	0.00	--	0.00	0.00	477.47	-104.10	4.586
69	6.06	100	135	0.00	0.00	--	0.00	0.00	477.47	-96.42	4.952
70	6.16	100	135	0.00	0.00	--	0.00	0.00	477.47	-88.55	5.392
71	6.26	100	135	0.00	0.00	--	0.00	0.00	477.47	-80.50	5.931
72	6.36	100	135	0.00	0.00	--	0.00	0.00	477.47	-72.27	6.607
73	6.46	100	135	0.00	0.00	--	0.00	0.00	477.47	-63.87	7.476
74	6.55	100	135	0.00	0.00	--	0.00	0.00	477.47	-55.28	8.637
75	6.65	100	135	0.00	0.00	--	0.00	0.00	477.47	-46.51	10.265
76	6.75	100	135	0.00	0.00	--	0.00	0.00	477.47	-37.57	12.709
77	6.85	100	135	0.00	0.00	--	0.00	0.00	477.47	-28.45	16.785
78	6.95	100	135	0.00	0.00	--	0.00	0.00	477.47	-19.14	24.941
79	7.05	100	135	0.00	0.00	--	0.00	0.00	477.47	-9.66	49.419
80	7.15	100	135	0.00	0.00	--	0.00	0.00	376.89	0.00	100.000

Combinazione n° 9 - ECC

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
1	-1.95	100	135	0.00	0.00	--	0.00	0.00	477.47	0.00	100.000
2	-1.85	100	135	0.00	0.00	--	0.00	0.00	477.47	-16.33	29.238
3	-1.76	100	135	0.00	0.00	--	0.00	0.00	477.47	-32.69	14.605
4	-1.66	100	135	0.00	0.00	--	0.00	0.00	477.47	-49.09	9.727
5	-1.56	100	135	0.00	0.00	--	0.00	0.00	477.47	-65.51	7.289
6	-1.47	100	135	0.00	0.00	--	0.00	0.00	477.47	-81.96	5.825
7	-1.37	100	135	0.00	0.00	--	0.00	0.00	477.47	-98.45	4.850
8	-1.27	100	135	0.00	0.00	--	0.00	0.00	477.47	-114.97	4.153
9	-1.18	100	135	0.00	0.00	--	0.00	0.00	477.47	-131.52	3.631
10	-1.08	100	135	0.00	0.00	--	0.00	0.00	477.47	-148.09	3.224
11	-0.98	100	135	0.00	0.00	--	0.00	0.00	477.47	-164.70	2.899
12	-0.89	100	135	0.00	0.00	--	0.00	0.00	477.47	-181.35	2.633
13	-0.79	100	135	0.00	0.00	--	0.00	0.00	477.47	-198.02	2.411
14	-0.69	100	135	0.00	0.00	--	0.00	0.00	477.47	-214.72	2.224
15	-0.60	100	135	0.00	0.00	--	0.00	0.00	477.47	-231.46	2.063
16	-0.50	100	135	0.00	0.00	--	0.00	0.00	477.47	-248.22	1.924
17	0.95	100	135	0.00	0.00	--	0.00	0.00	477.47	-8.04	59.353
18	1.04	100	135	0.00	0.00	--	0.00	0.00	477.47	-6.92	69.008
19	1.14	100	135	0.00	0.00	--	0.00	0.00	477.47	-5.83	81.959
20	1.24	100	135	0.00	0.00	--	0.00	0.00	477.47	-4.76	100.213
21	1.34	100	135	0.00	0.00	--	0.00	0.00	477.47	-3.74	127.815
22	1.44	100	135	0.00	0.00	--	0.00	0.00	477.47	-2.74	174.331
23	1.54	100	135	0.00	0.00	--	0.00	0.00	477.47	-1.77	269.103
24	1.63	100	135	0.00	0.00	--	0.00	0.00	477.47	-0.84	567.120
25	1.73	100	135	0.00	0.00	--	0.00	0.00	477.47	0.06	8193.674
26	1.83	100	135	0.00	0.00	--	0.00	0.00	477.47	0.93	515.471
27	1.93	100	135	0.00	0.00	--	0.00	0.00	477.47	1.76	270.967
28	2.03	100	135	0.00	0.00	--	0.00	0.00	477.47	2.57	186.095
29	2.13	100	135	0.00	0.00	--	0.00	0.00	477.47	3.34	143.076
30	2.22	100	135	0.00	0.00	--	0.00	0.00	477.47	4.08	117.130
31	2.32	100	135	0.00	0.00	--	0.00	0.00	477.47	4.78	99.816
32	2.42	100	135	0.00	0.00	--	0.00	0.00	477.47	5.46	87.475
33	2.52	100	135	0.00	0.00	--	0.00	0.00	477.47	6.10	78.260
34	2.62	100	135	0.00	0.00	--	0.00	0.00	477.47	6.71	71.141
35	2.72	100	135	0.00	0.00	--	0.00	0.00	477.47	7.29	65.498
36	2.82	100	135	0.00	0.00	--	0.00	0.00	477.47	7.84	60.933
37	2.91	100	135	0.00	0.00	--	0.00	0.00	477.47	8.35	57.182
38	3.01	100	135	0.00	0.00	--	0.00	0.00	477.47	8.83	54.063
39	3.11	100	135	0.00	0.00	--	0.00	0.00	477.47	9.28	51.444
40	3.21	100	135	0.00	0.00	--	0.00	0.00	477.47	9.70	49.231
41	3.31	100	135	0.00	0.00	--	0.00	0.00	477.47	10.08	47.350

n°	Y	B	H	A_{sw}	s	cotθ	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
42	3.41	100	135	0.00	0.00	--	0.00	0.00	477.47	10.44	45.748
43	3.50	100	135	0.00	0.00	--	0.00	0.00	477.47	10.76	44.384
44	3.60	100	135	0.00	0.00	--	0.00	0.00	477.47	11.05	43.224
45	3.70	100	135	0.00	0.00	--	0.00	0.00	477.47	11.30	42.244
46	3.80	100	135	0.00	0.00	--	0.00	0.00	477.47	11.53	41.422
47	3.90	100	135	0.00	0.00	--	0.00	0.00	477.47	11.72	40.743
48	4.00	100	135	0.00	0.00	--	0.00	0.00	477.47	11.88	40.195
49	4.09	100	135	0.00	0.00	--	0.00	0.00	477.47	12.01	39.767
50	4.19	100	135	0.00	0.00	--	0.00	0.00	477.47	12.10	39.453
51	4.29	100	135	0.00	0.00	--	0.00	0.00	477.47	12.17	39.248
52	4.39	100	135	0.00	0.00	--	0.00	0.00	477.47	12.20	39.148
53	4.49	100	135	0.00	0.00	--	0.00	0.00	477.47	12.20	39.151
54	4.59	100	135	0.00	0.00	--	0.00	0.00	477.47	12.16	39.258
55	4.68	100	135	0.00	0.00	--	0.00	0.00	477.47	12.10	39.471
56	4.78	100	135	0.00	0.00	--	0.00	0.00	477.47	12.00	39.792
57	4.88	100	135	0.00	0.00	--	0.00	0.00	477.47	11.87	40.227
58	4.98	100	135	0.00	0.00	--	0.00	0.00	477.47	11.71	40.784
59	5.08	100	135	0.00	0.00	--	0.00	0.00	477.47	11.51	41.471
60	5.18	100	135	0.00	0.00	--	0.00	0.00	477.47	11.29	42.303
61	5.28	100	135	0.00	0.00	--	0.00	0.00	477.47	11.03	43.295
62	5.37	100	135	0.00	0.00	--	0.00	0.00	477.47	10.74	44.467
63	5.47	100	135	0.00	0.00	--	0.00	0.00	477.47	10.41	45.846
64	5.57	100	135	0.00	0.00	--	0.00	0.00	477.47	10.06	47.465
65	5.67	100	135	0.00	0.00	--	0.00	0.00	477.47	9.67	49.365
66	5.77	100	135	0.00	0.00	--	0.00	0.00	477.47	9.25	51.603
67	5.87	100	135	0.00	0.00	--	0.00	0.00	477.47	8.80	54.252
68	5.96	100	135	0.00	0.00	--	0.00	0.00	477.47	8.32	57.408
69	6.06	100	135	0.00	0.00	--	0.00	0.00	477.47	7.80	61.206
70	6.16	100	135	0.00	0.00	--	0.00	0.00	477.47	7.25	65.832
71	6.26	100	135	0.00	0.00	--	0.00	0.00	477.47	6.67	71.559
72	6.36	100	135	0.00	0.00	--	0.00	0.00	477.47	6.06	78.794
73	6.46	100	135	0.00	0.00	--	0.00	0.00	477.47	5.41	88.177
74	6.55	100	135	0.00	0.00	--	0.00	0.00	477.47	4.74	100.776
75	6.65	100	135	0.00	0.00	--	0.00	0.00	477.47	4.03	118.516
76	6.75	100	135	0.00	0.00	--	0.00	0.00	477.47	3.29	145.244
77	6.85	100	135	0.00	0.00	--	0.00	0.00	477.47	2.51	189.939
78	6.95	100	135	0.00	0.00	--	0.00	0.00	477.47	1.71	279.539
79	7.05	100	135	0.00	0.00	--	0.00	0.00	477.47	0.87	548.738
80	7.15	100	135	0.00	0.00	--	0.00	0.00	376.89	0.00	100.000

Verifica a fessurazione

Simbologia adottata

n°	indice sezione
Y	ordinata sezione espressa in [m]
B	larghezza sezione espresso in [cm]
H	altezza sezione espressa in [cm]
Af	area ferri zona tesa espresso in [cmq]
Aeff	area efficace espressa in [cmq]
M	momento agente espressa in [kNm]
Mpf	momento di formazione/apertura fessure espressa in [kNm]
ε	deformazione espresso in %
Sm	spaziatura tra le fessure espressa in [mm]
w	apertura delle fessure espressa in [mm]

Combinazioni SLEF

Paramento

Combinazione n° 11 - SLEF

Apertura limite fessure w_{lim}=0.30

n°	Y	B	H	Af	Aeff	M	Mpf	ε	Sm	w
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kNm]	[%]	[mm]	[mm]
1	0.00	100	50	31.42	1160.41	0.39	136.89	0.000000	0.00	0.000
2	-0.10	100	51	31.42	1184.52	0.39	141.99	0.000000	0.00	0.000
3	-0.20	100	52	31.42	1208.67	0.41	147.17	0.000000	0.00	0.000
4	-0.30	100	53	31.42	1232.86	0.44	152.43	0.000000	0.00	0.000
5	-0.40	100	54	31.42	1257.09	0.49	157.78	0.000000	0.00	0.000
6	-0.50	100	55	31.42	1281.36	0.57	163.21	0.000000	0.00	0.000
7	-0.60	100	56	31.42	1305.67	0.67	168.73	0.000000	0.00	0.000
8	-0.70	100	57	31.42	1330.01	0.81	174.33	0.000000	0.00	0.000
9	-0.80	100	58	31.42	1354.39	0.99	180.02	0.000000	0.00	0.000
10	-0.90	100	59	31.42	1378.79	1.22	185.79	0.000000	0.00	0.000
11	-1.00	100	59	31.42	1403.23	1.49	191.63	0.000000	0.00	0.000
12	-1.10	100	60	31.42	1427.71	1.82	197.58	0.000000	0.00	0.000
13	-1.20	100	61	31.42	1452.22	2.21	203.60	0.000000	0.00	0.000
14	-1.30	100	62	31.42	1476.75	2.66	209.72	0.000000	0.00	0.000
15	-1.40	100	63	31.42	1500.00	3.18	215.91	0.000000	0.00	0.000
16	-1.50	100	64	31.42	1500.00	3.78	222.19	0.000000	0.00	0.000
17	-1.60	100	65	31.42	1500.00	4.45	228.55	0.000000	0.00	0.000
18	-1.70	100	66	31.42	1500.00	5.21	235.00	0.000000	0.00	0.000
19	-1.80	100	67	31.42	1500.00	6.05	241.53	0.000000	0.00	0.000
20	-1.90	100	68	31.42	1500.00	6.99	248.16	0.000000	0.00	0.000
21	-2.00	100	69	31.42	1500.00	8.02	254.86	0.000000	0.00	0.000
22	-2.10	100	70	31.42	1500.00	9.16	261.65	0.000000	0.00	0.000
23	-2.20	100	71	31.42	1500.00	10.41	268.52	0.000000	0.00	0.000
24	-2.30	100	72	31.42	1500.00	11.76	275.47	0.000000	0.00	0.000
25	-2.40	100	73	31.42	1500.00	13.24	282.52	0.000000	0.00	0.000
26	-2.50	100	74	31.42	1500.00	14.83	289.65	0.000000	0.00	0.000
27	-2.60	100	75	31.42	1500.00	16.56	296.87	0.000000	0.00	0.000
28	-2.70	100	76	31.42	1500.00	18.41	304.19	0.000000	0.00	0.000
29	-2.80	100	76	31.42	1500.00	20.40	311.58	0.000000	0.00	0.000
30	-2.90	100	77	31.42	1500.00	22.53	319.04	0.000000	0.00	0.000
31	-3.00	100	78	31.42	1500.00	24.81	326.60	0.000000	0.00	0.000
32	-3.10	100	79	31.42	1500.00	27.24	334.26	0.000000	0.00	0.000
33	-3.20	100	80	31.42	1500.00	29.83	342.00	0.000000	0.00	0.000
34	-3.30	100	81	31.42	1500.00	32.57	360.85	0.000000	0.00	0.000
35	-3.40	100	82	31.42	1500.00	35.49	368.96	0.000000	0.00	0.000
36	-3.50	100	83	31.42	1500.00	38.57	377.17	0.000000	0.00	0.000
37	-3.60	100	84	31.42	1500.00	41.82	385.45	0.000000	0.00	0.000
38	-3.70	100	85	31.42	1500.00	45.26	393.82	0.000000	0.00	0.000
39	-3.80	100	86	31.42	1500.00	48.88	402.27	0.000000	0.00	0.000
40	-3.90	100	87	31.42	1500.00	52.69	410.83	0.000000	0.00	0.000
41	-4.00	100	88	31.42	1500.00	56.70	419.46	0.000000	0.00	0.000
42	-4.10	100	89	31.42	1500.00	60.90	428.16	0.000000	0.00	0.000
43	-4.20	100	90	31.42	1500.00	65.31	436.98	0.000000	0.00	0.000
44	-4.30	100	91	31.42	1500.00	69.93	445.88	0.000000	0.00	0.000
45	-4.40	100	92	62.83	1500.00	74.76	513.81	0.000000	0.00	0.000
46	-4.50	100	93	62.83	1500.00	79.81	523.65	0.000000	0.00	0.000
47	-4.60	100	93	62.83	1500.00	85.09	533.56	0.000000	0.00	0.000
48	-4.70	100	94	62.83	1500.00	90.59	543.58	0.000000	0.00	0.000
49	-4.80	100	95	62.83	1500.00	96.33	553.68	0.000000	0.00	0.000
50	-4.90	100	96	62.83	1500.00	102.30	563.87	0.000000	0.00	0.000
51	-5.00	100	97	62.83	1500.00	108.52	574.15	0.000000	0.00	0.000
52	-5.10	100	98	62.83	1500.00	114.98	584.52	0.000000	0.00	0.000
53	-5.20	100	99	62.83	1500.00	121.70	594.95	0.000000	0.00	0.000
54	-5.30	100	100	62.83	1500.00	128.67	605.53	0.000000	0.00	0.000
55	-5.40	100	101	62.83	1500.00	135.91	616.13	0.000000	0.00	0.000
56	-5.50	100	102	62.83	1500.00	143.41	626.85	0.000000	0.00	0.000
57	-5.60	100	103	62.83	1500.00	151.18	637.69	0.000000	0.00	0.000
58	-5.70	100	104	62.83	1500.00	159.24	648.58	0.000000	0.00	0.000
59	-5.80	100	105	62.83	1500.00	167.57	659.59	0.000000	0.00	0.000
60	-5.90	100	106	62.83	1500.00	176.19	670.67	0.000000	0.00	0.000
61	-6.00	100	107	62.83	1500.00	185.10	681.84	0.000000	0.00	0.000
62	-6.10	100	108	62.83	1500.00	194.30	693.07	0.000000	0.00	0.000
63	-6.20	100	109	62.83	1500.00	203.81	704.42	0.000000	0.00	0.000
64	-6.30	100	110	62.83	1500.00	213.63	715.88	0.000000	0.00	0.000
65	-6.40	100	110	62.83	1500.00	223.75	727.42	0.000000	0.00	0.000
66	-6.50	100	111	62.83	1500.00	234.19	739.01	0.000000	0.00	0.000
67	-6.60	100	112	62.83	1500.00	244.95	750.76	0.000000	0.00	0.000
68	-6.70	100	113	62.83	1500.00	256.03	762.54	0.000000	0.00	0.000
69	-6.80	100	114	62.83	1500.00	267.44	774.45	0.000000	0.00	0.000
70	-6.90	100	115	62.83	1500.00	279.19	786.43	0.000000	0.00	0.000
71	-7.00	100	116	62.83	1500.00	291.28	798.48	0.000000	0.00	0.000
72	-7.10	100	117	62.83	1500.00	303.71	810.68	0.000000	0.00	0.000
73	-7.20	100	118	62.83	1500.00	316.50	822.93	0.000000	0.00	0.000
74	-7.30	100	119	62.83	1500.00	329.63	835.29	0.000000	0.00	0.000
75	-7.40	100	120	62.83	1500.00	343.13	847.72	0.000000	0.00	0.000
76	-7.50	100	121	62.83	1500.00	356.98	860.23	0.000000	0.00	0.000
77	-7.60	100	122	62.83	1500.00	371.21	872.85	0.000000	0.00	0.000
78	-7.70	100	123	62.83	1500.00	385.81	885.58	0.000000	0.00	0.000

n°	Y [m]	B [cm]	H [cm]	Af [cmq]	Aeff [cmq]	M [kNm]	Mpf [kNm]	ε [%]	Sm [mm]	w [mm]
79	-7.80	100	124	62.83	1500.00	400.79	898.37	0.000000	0.00	0.000
80	-7.90	100	125	62.83	1500.00	416.15	911.24	0.000000	0.00	0.000
81	-8.00	100	126	62.83	1500.00	431.90	924.23	0.000000	0.00	0.000
82	-8.10	100	127	62.83	1500.00	448.04	937.31	0.000000	0.00	0.000
83	-8.20	100	128	62.83	1500.00	464.58	950.48	0.000000	0.00	0.000
84	-8.30	100	128	62.83	1500.00	481.52	963.74	0.000000	0.00	0.000
85	-8.40	100	129	62.83	1500.00	498.87	977.11	0.000000	0.00	0.000
86	-8.50	100	130	62.83	1500.00	516.63	990.58	0.000000	0.00	0.000
87	-8.60	100	131	62.83	1500.00	534.81	1004.08	0.000000	0.00	0.000
88	-8.70	100	132	62.83	1500.00	553.41	1017.70	0.000000	0.00	0.000
89	-8.80	100	133	62.83	1500.00	572.44	1031.44	0.000000	0.00	0.000
90	-8.90	100	134	62.83	1500.00	591.90	1045.31	0.000000	0.00	0.000
91	-9.00	100	135	62.83	1500.00	611.79	1059.23	0.000000	0.00	0.000
92	-9.10	100	136	62.83	1500.00	632.13	1073.20	0.000000	0.00	0.000
93	-9.20	100	137	62.83	1500.00	652.91	1087.32	0.000000	0.00	0.000
94	-9.30	100	138	31.42	1500.00	674.14	955.55	0.000000	0.00	0.000
95	-9.40	100	139	31.42	1500.00	695.82	968.61	0.000000	0.00	0.000
96	-9.50	100	140	31.42	1500.00	717.97	981.76	0.000000	0.00	0.000
97	-9.60	100	141	31.42	1500.00	740.59	995.03	0.000000	0.00	0.000
98	-9.70	100	142	31.42	1500.00	763.67	1008.30	0.000000	0.00	0.000
99	-9.80	100	143	31.42	1500.00	787.23	1021.75	0.000000	0.00	0.000
100	-9.90	100	144	31.42	1500.00	811.26	1035.29	0.000000	0.00	0.000
101	-9.99	100	144	31.42	1500.00	835.79	1047.63	0.000000	0.00	0.000

Mensola valle

Combinazione n° 11 - SLEF

Apertura limite fessure w_{lim}=0.30

n°	Y [m]	B [cm]	H [cm]	Af [cmq]	Aeff [cmq]	M [kNm]	Mpf [kNm]	ε [%]	Sm [mm]	w [mm]
1	-0.75	100	50	0.00	0.00	0.00	0.00	---	---	0.000
2	-0.67	100	50	15.71	1283.16	-0.04	-123.05	0.000000	0.00	0.000
3	-0.58	100	50	15.71	1283.16	-0.17	-123.05	0.000000	0.00	0.000
4	-0.50	100	50	15.71	1283.16	-0.39	-123.05	0.000000	0.00	0.000
5	-0.50	100	50	15.71	1283.16	-0.39	-123.05	0.000000	0.00	0.000

Fondazione

Combinazione n° 11 - SLEF

Apertura limite fessure w_{lim}=0.30

n°	Y [m]	B [cm]	H [cm]	Af [cmq]	Aeff [cmq]	M [kNm]	Mpf [kNm]	ε [%]	Sm [mm]	w [mm]
1	-1.95	100	135	0.00	0.00	0.00	0.00	---	---	0.000
2	-1.85	100	135	27.14	1550.00	0.74	892.98	0.000000	0.00	0.000
3	-1.76	100	135	27.14	1550.00	2.98	892.98	0.000000	0.00	0.000
4	-1.66	100	135	27.14	1550.00	6.70	892.98	0.000000	0.00	0.000
5	-1.56	100	135	27.14	1550.00	11.93	892.98	0.000000	0.00	0.000
6	-1.47	100	135	27.14	1550.00	18.66	892.98	0.000000	0.00	0.000
7	-1.37	100	135	27.14	1550.00	26.90	892.98	0.000000	0.00	0.000
8	-1.27	100	135	27.14	1550.00	36.66	892.98	0.000000	0.00	0.000
9	-1.18	100	135	27.14	1550.00	47.93	892.98	0.000000	0.00	0.000
10	-1.08	100	135	27.14	1550.00	60.73	892.98	0.000000	0.00	0.000
11	-0.98	100	135	27.14	1550.00	75.06	892.98	0.000000	0.00	0.000
12	-0.89	100	135	27.14	1550.00	90.93	892.98	0.000000	0.00	0.000
13	-0.79	100	135	27.14	1550.00	108.33	892.98	0.000000	0.00	0.000
14	-0.69	100	135	27.14	1550.00	127.27	892.98	0.000000	0.00	0.000
15	-0.60	100	135	27.14	1550.00	147.77	892.98	0.000000	0.00	0.000
16	-0.50	100	135	27.14	1550.00	169.82	892.98	0.000000	0.00	0.000
17	0.95	100	135	27.14	1550.00	144.80	892.98	0.000000	0.00	0.000
18	1.04	100	135	27.14	1550.00	143.60	892.98	0.000000	0.00	0.000
19	1.14	100	135	27.14	1550.00	142.26	892.98	0.000000	0.00	0.000
20	1.24	100	135	27.14	1550.00	140.78	892.98	0.000000	0.00	0.000
21	1.34	100	135	27.14	1550.00	139.16	892.98	0.000000	0.00	0.000

n°	Y [m]	B [cm]	H [cm]	Af [cmq]	Aeff [cmq]	M [kNm]	Mpf [kNm]	ε [%]	Sm [mm]	w [mm]
22	1.44	100	135	27.14	1550.00	137.42	892.98	0.000000	0.00	0.000
23	1.54	100	135	27.14	1550.00	135.56	892.98	0.000000	0.00	0.000
24	1.63	100	135	27.14	1550.00	133.59	892.98	0.000000	0.00	0.000
25	1.73	100	135	27.14	1550.00	131.50	892.98	0.000000	0.00	0.000
26	1.83	100	135	27.14	1550.00	129.31	892.98	0.000000	0.00	0.000
27	1.93	100	135	27.14	1550.00	127.02	892.98	0.000000	0.00	0.000
28	2.03	100	135	27.14	1550.00	124.63	892.98	0.000000	0.00	0.000
29	2.13	100	135	27.14	1550.00	122.16	892.98	0.000000	0.00	0.000
30	2.22	100	135	27.14	1550.00	119.60	892.98	0.000000	0.00	0.000
31	2.32	100	135	27.14	1550.00	116.96	892.98	0.000000	0.00	0.000
32	2.42	100	135	27.14	1550.00	114.25	892.98	0.000000	0.00	0.000
33	2.52	100	135	27.14	1550.00	111.47	892.98	0.000000	0.00	0.000
34	2.62	100	135	27.14	1550.00	108.62	892.98	0.000000	0.00	0.000
35	2.72	100	135	27.14	1550.00	105.72	892.98	0.000000	0.00	0.000
36	2.82	100	135	27.14	1550.00	102.76	892.98	0.000000	0.00	0.000
37	2.91	100	135	27.14	1550.00	99.76	892.98	0.000000	0.00	0.000
38	3.01	100	135	27.14	1550.00	96.72	892.98	0.000000	0.00	0.000
39	3.11	100	135	27.14	1550.00	93.63	892.98	0.000000	0.00	0.000
40	3.21	100	135	27.14	1550.00	90.52	892.98	0.000000	0.00	0.000
41	3.31	100	135	27.14	1550.00	87.38	892.98	0.000000	0.00	0.000
42	3.41	100	135	27.14	1550.00	84.22	892.98	0.000000	0.00	0.000
43	3.50	100	135	27.14	1550.00	81.04	892.98	0.000000	0.00	0.000
44	3.60	100	135	27.14	1550.00	77.85	892.98	0.000000	0.00	0.000
45	3.70	100	135	27.14	1550.00	74.65	892.98	0.000000	0.00	0.000
46	3.80	100	135	27.14	1550.00	71.46	892.98	0.000000	0.00	0.000
47	3.90	100	135	27.14	1550.00	68.27	892.98	0.000000	0.00	0.000
48	4.00	100	135	27.14	1550.00	65.09	892.98	0.000000	0.00	0.000
49	4.09	100	135	27.14	1550.00	61.92	892.98	0.000000	0.00	0.000
50	4.19	100	135	27.14	1550.00	58.78	892.98	0.000000	0.00	0.000
51	4.29	100	135	27.14	1550.00	55.66	892.98	0.000000	0.00	0.000
52	4.39	100	135	27.14	1550.00	52.57	892.98	0.000000	0.00	0.000
53	4.49	100	135	27.14	1550.00	49.52	892.98	0.000000	0.00	0.000
54	4.59	100	135	27.14	1550.00	46.51	892.98	0.000000	0.00	0.000
55	4.68	100	135	27.14	1550.00	43.55	892.98	0.000000	0.00	0.000
56	4.78	100	135	27.14	1550.00	40.64	892.98	0.000000	0.00	0.000
57	4.88	100	135	27.14	1550.00	37.78	892.98	0.000000	0.00	0.000
58	4.98	100	135	27.14	1550.00	34.99	892.98	0.000000	0.00	0.000
59	5.08	100	135	27.14	1550.00	32.27	892.98	0.000000	0.00	0.000
60	5.18	100	135	27.14	1550.00	29.62	892.98	0.000000	0.00	0.000
61	5.28	100	135	27.14	1550.00	27.05	892.98	0.000000	0.00	0.000
62	5.37	100	135	27.14	1550.00	24.56	892.98	0.000000	0.00	0.000
63	5.47	100	135	27.14	1550.00	22.16	892.98	0.000000	0.00	0.000
64	5.57	100	135	27.14	1550.00	19.85	892.98	0.000000	0.00	0.000
65	5.67	100	135	27.14	1550.00	17.64	892.98	0.000000	0.00	0.000
66	5.77	100	135	27.14	1550.00	15.54	892.98	0.000000	0.00	0.000
67	5.87	100	135	27.14	1550.00	13.55	892.98	0.000000	0.00	0.000
68	5.96	100	135	27.14	1550.00	11.67	892.98	0.000000	0.00	0.000
69	6.06	100	135	27.14	1550.00	9.91	892.98	0.000000	0.00	0.000
70	6.16	100	135	27.14	1550.00	8.28	892.98	0.000000	0.00	0.000
71	6.26	100	135	27.14	1550.00	6.78	892.98	0.000000	0.00	0.000
72	6.36	100	135	27.14	1550.00	5.41	892.98	0.000000	0.00	0.000
73	6.46	100	135	27.14	1550.00	4.18	892.98	0.000000	0.00	0.000
74	6.55	100	135	27.14	1550.00	3.11	892.98	0.000000	0.00	0.000
75	6.65	100	135	27.14	1550.00	2.18	892.98	0.000000	0.00	0.000
76	6.75	100	135	27.14	1550.00	1.41	892.98	0.000000	0.00	0.000
77	6.85	100	135	27.14	1550.00	0.80	892.98	0.000000	0.00	0.000
78	6.95	100	135	27.14	1550.00	0.36	892.98	0.000000	0.00	0.000
79	7.05	100	135	27.14	1550.00	0.09	892.98	0.000000	0.00	0.000
80	7.15	100	135	0.00	0.00	0.00	0.00	0.000000	0.00	0.000

Combinazioni SLEQ

Paramento

Combinazione n° 12 - SLEQ

Apertura limite fessure w_{lim}=0.20

n°	Y [m]	B [cm]	H [cm]	Af [cmq]	Aeff [cmq]	M [kNm]	Mpf [kNm]	ε [%]	Sm [mm]	w [mm]
1	0.00	100	50	31.42	1160.41	0.39	136.89	0.000000	0.00	0.000
2	-0.10	100	51	31.42	1184.52	0.39	141.99	0.000000	0.00	0.000
3	-0.20	100	52	31.42	1208.67	0.41	147.17	0.000000	0.00	0.000

n°	Y	B	H	Af	Aeff	M	Mpf	ε	Sm	w
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kNm]	[%]	[mm]	[mm]
4	-0.30	100	53	31.42	1232.86	0.44	152.43	0.000000	0.00	0.000
5	-0.40	100	54	31.42	1257.09	0.49	157.78	0.000000	0.00	0.000
6	-0.50	100	55	31.42	1281.36	0.57	163.21	0.000000	0.00	0.000
7	-0.60	100	56	31.42	1305.67	0.67	168.73	0.000000	0.00	0.000
8	-0.70	100	57	31.42	1330.01	0.81	174.33	0.000000	0.00	0.000
9	-0.80	100	58	31.42	1354.39	0.99	180.02	0.000000	0.00	0.000
10	-0.90	100	59	31.42	1378.79	1.22	185.79	0.000000	0.00	0.000
11	-1.00	100	59	31.42	1403.23	1.49	191.63	0.000000	0.00	0.000
12	-1.10	100	60	31.42	1427.71	1.82	197.58	0.000000	0.00	0.000
13	-1.20	100	61	31.42	1452.22	2.21	203.60	0.000000	0.00	0.000
14	-1.30	100	62	31.42	1476.75	2.66	209.72	0.000000	0.00	0.000
15	-1.40	100	63	31.42	1500.00	3.18	215.91	0.000000	0.00	0.000
16	-1.50	100	64	31.42	1500.00	3.78	222.19	0.000000	0.00	0.000
17	-1.60	100	65	31.42	1500.00	4.45	228.55	0.000000	0.00	0.000
18	-1.70	100	66	31.42	1500.00	5.21	235.00	0.000000	0.00	0.000
19	-1.80	100	67	31.42	1500.00	6.05	241.53	0.000000	0.00	0.000
20	-1.90	100	68	31.42	1500.00	6.99	248.16	0.000000	0.00	0.000
21	-2.00	100	69	31.42	1500.00	8.02	254.86	0.000000	0.00	0.000
22	-2.10	100	70	31.42	1500.00	9.16	261.65	0.000000	0.00	0.000
23	-2.20	100	71	31.42	1500.00	10.41	268.52	0.000000	0.00	0.000
24	-2.30	100	72	31.42	1500.00	11.76	275.47	0.000000	0.00	0.000
25	-2.40	100	73	31.42	1500.00	13.24	282.52	0.000000	0.00	0.000
26	-2.50	100	74	31.42	1500.00	14.83	289.65	0.000000	0.00	0.000
27	-2.60	100	75	31.42	1500.00	16.56	296.87	0.000000	0.00	0.000
28	-2.70	100	76	31.42	1500.00	18.41	304.19	0.000000	0.00	0.000
29	-2.80	100	76	31.42	1500.00	20.40	311.58	0.000000	0.00	0.000
30	-2.90	100	77	31.42	1500.00	22.53	319.04	0.000000	0.00	0.000
31	-3.00	100	78	31.42	1500.00	24.81	326.60	0.000000	0.00	0.000
32	-3.10	100	79	31.42	1500.00	27.24	334.26	0.000000	0.00	0.000
33	-3.20	100	80	31.42	1500.00	29.83	342.00	0.000000	0.00	0.000
34	-3.30	100	81	31.42	1500.00	32.57	360.85	0.000000	0.00	0.000
35	-3.40	100	82	31.42	1500.00	35.49	368.96	0.000000	0.00	0.000
36	-3.50	100	83	31.42	1500.00	38.57	377.17	0.000000	0.00	0.000
37	-3.60	100	84	31.42	1500.00	41.82	385.45	0.000000	0.00	0.000
38	-3.70	100	85	31.42	1500.00	45.26	393.82	0.000000	0.00	0.000
39	-3.80	100	86	31.42	1500.00	48.88	402.27	0.000000	0.00	0.000
40	-3.90	100	87	31.42	1500.00	52.69	410.83	0.000000	0.00	0.000
41	-4.00	100	88	31.42	1500.00	56.70	419.46	0.000000	0.00	0.000
42	-4.10	100	89	31.42	1500.00	60.90	428.16	0.000000	0.00	0.000
43	-4.20	100	90	31.42	1500.00	65.31	436.98	0.000000	0.00	0.000
44	-4.30	100	91	31.42	1500.00	69.93	445.88	0.000000	0.00	0.000
45	-4.40	100	92	62.83	1500.00	74.76	513.81	0.000000	0.00	0.000
46	-4.50	100	93	62.83	1500.00	79.81	523.65	0.000000	0.00	0.000
47	-4.60	100	93	62.83	1500.00	85.09	533.56	0.000000	0.00	0.000
48	-4.70	100	94	62.83	1500.00	90.59	543.58	0.000000	0.00	0.000
49	-4.80	100	95	62.83	1500.00	96.33	553.68	0.000000	0.00	0.000
50	-4.90	100	96	62.83	1500.00	102.30	563.87	0.000000	0.00	0.000
51	-5.00	100	97	62.83	1500.00	108.52	574.15	0.000000	0.00	0.000
52	-5.10	100	98	62.83	1500.00	114.98	584.52	0.000000	0.00	0.000
53	-5.20	100	99	62.83	1500.00	121.70	594.95	0.000000	0.00	0.000
54	-5.30	100	100	62.83	1500.00	128.67	605.53	0.000000	0.00	0.000
55	-5.40	100	101	62.83	1500.00	135.91	616.13	0.000000	0.00	0.000
56	-5.50	100	102	62.83	1500.00	143.41	626.85	0.000000	0.00	0.000
57	-5.60	100	103	62.83	1500.00	151.18	637.69	0.000000	0.00	0.000
58	-5.70	100	104	62.83	1500.00	159.24	648.58	0.000000	0.00	0.000
59	-5.80	100	105	62.83	1500.00	167.57	659.59	0.000000	0.00	0.000
60	-5.90	100	106	62.83	1500.00	176.19	670.67	0.000000	0.00	0.000
61	-6.00	100	107	62.83	1500.00	185.10	681.84	0.000000	0.00	0.000
62	-6.10	100	108	62.83	1500.00	194.30	693.07	0.000000	0.00	0.000
63	-6.20	100	109	62.83	1500.00	203.81	704.42	0.000000	0.00	0.000
64	-6.30	100	110	62.83	1500.00	213.63	715.88	0.000000	0.00	0.000
65	-6.40	100	110	62.83	1500.00	223.75	727.42	0.000000	0.00	0.000
66	-6.50	100	111	62.83	1500.00	234.19	739.01	0.000000	0.00	0.000
67	-6.60	100	112	62.83	1500.00	244.95	750.76	0.000000	0.00	0.000
68	-6.70	100	113	62.83	1500.00	256.03	762.54	0.000000	0.00	0.000
69	-6.80	100	114	62.83	1500.00	267.44	774.45	0.000000	0.00	0.000
70	-6.90	100	115	62.83	1500.00	279.19	786.43	0.000000	0.00	0.000
71	-7.00	100	116	62.83	1500.00	291.28	798.48	0.000000	0.00	0.000
72	-7.10	100	117	62.83	1500.00	303.71	810.68	0.000000	0.00	0.000
73	-7.20	100	118	62.83	1500.00	316.50	822.93	0.000000	0.00	0.000
74	-7.30	100	119	62.83	1500.00	329.63	835.29	0.000000	0.00	0.000
75	-7.40	100	120	62.83	1500.00	343.13	847.72	0.000000	0.00	0.000
76	-7.50	100	121	62.83	1500.00	356.98	860.23	0.000000	0.00	0.000
77	-7.60	100	122	62.83	1500.00	371.21	872.85	0.000000	0.00	0.000
78	-7.70	100	123	62.83	1500.00	385.81	885.58	0.000000	0.00	0.000
79	-7.80	100	124	62.83	1500.00	400.79	898.37	0.000000	0.00	0.000
80	-7.90	100	125	62.83	1500.00	416.15	911.24	0.000000	0.00	0.000
81	-8.00	100	126	62.83	1500.00	431.90	924.23	0.000000	0.00	0.000
82	-8.10	100	127	62.83	1500.00	448.04	937.31	0.000000	0.00	0.000
83	-8.20	100	128	62.83	1500.00	464.58	950.48	0.000000	0.00	0.000
84	-8.30	100	128	62.83	1500.00	481.52	963.74	0.000000	0.00	0.000
85	-8.40	100	129	62.83	1500.00	498.87	977.11	0.000000	0.00	0.000
86	-8.50	100	130	62.83	1500.00	516.63	990.58	0.000000	0.00	0.000
87	-8.60	100	131	62.83	1500.00	534.81	1004.08	0.000000	0.00	0.000
88	-8.70	100	132	62.83	1500.00	553.41	1017.70	0.000000	0.00	0.000
89	-8.80	100	133	62.83	1500.00	572.44	1031.44	0.000000	0.00	0.000

n°	Y	B	H	Af	Aeff	M	Mpf	ε	Sm	w
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kNm]	[%]	[mm]	[mm]
90	-8.90	100	134	62.83	1500.00	591.90	1045.31	0.000000	0.00	0.000
91	-9.00	100	135	62.83	1500.00	611.79	1059.23	0.000000	0.00	0.000
92	-9.10	100	136	62.83	1500.00	632.13	1073.20	0.000000	0.00	0.000
93	-9.20	100	137	62.83	1500.00	652.91	1087.32	0.000000	0.00	0.000
94	-9.30	100	138	31.42	1500.00	674.14	955.55	0.000000	0.00	0.000
95	-9.40	100	139	31.42	1500.00	695.82	968.61	0.000000	0.00	0.000
96	-9.50	100	140	31.42	1500.00	717.97	981.76	0.000000	0.00	0.000
97	-9.60	100	141	31.42	1500.00	740.59	995.03	0.000000	0.00	0.000
98	-9.70	100	142	31.42	1500.00	763.67	1008.30	0.000000	0.00	0.000
99	-9.80	100	143	31.42	1500.00	787.23	1021.75	0.000000	0.00	0.000
100	-9.90	100	144	31.42	1500.00	811.26	1035.29	0.000000	0.00	0.000
101	-9.99	100	144	31.42	1500.00	835.79	1047.63	0.000000	0.00	0.000

Mensola valle

Combinazione n° 12 - SLEQ

Apertura limite fessure w_{lim}=0.20

n°	Y	B	H	Af	Aeff	M	Mpf	ε	Sm	w
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kNm]	[%]	[mm]	[mm]
1	-0.75	100	50	0.00	0.00	0.00	0.00	---	---	0.000
2	-0.67	100	50	15.71	1283.16	-0.04	-123.05	0.000000	0.00	0.000
3	-0.58	100	50	15.71	1283.16	-0.17	-123.05	0.000000	0.00	0.000
4	-0.50	100	50	15.71	1283.16	-0.39	-123.05	0.000000	0.00	0.000
5	-0.50	100	50	15.71	1283.16	-0.39	-123.05	0.000000	0.00	0.000

Fondazione

Combinazione n° 12 - SLEQ

Apertura limite fessure w_{lim}=0.20

n°	Y	B	H	Af	Aeff	M	Mpf	ε	Sm	w
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kNm]	[%]	[mm]	[mm]
1	-1.95	100	135	0.00	0.00	0.00	0.00	---	---	0.000
2	-1.85	100	135	27.14	1550.00	0.74	892.98	0.000000	0.00	0.000
3	-1.76	100	135	27.14	1550.00	2.98	892.98	0.000000	0.00	0.000
4	-1.66	100	135	27.14	1550.00	6.70	892.98	0.000000	0.00	0.000
5	-1.56	100	135	27.14	1550.00	11.93	892.98	0.000000	0.00	0.000
6	-1.47	100	135	27.14	1550.00	18.66	892.98	0.000000	0.00	0.000
7	-1.37	100	135	27.14	1550.00	26.90	892.98	0.000000	0.00	0.000
8	-1.27	100	135	27.14	1550.00	36.66	892.98	0.000000	0.00	0.000
9	-1.18	100	135	27.14	1550.00	47.93	892.98	0.000000	0.00	0.000
10	-1.08	100	135	27.14	1550.00	60.73	892.98	0.000000	0.00	0.000
11	-0.98	100	135	27.14	1550.00	75.06	892.98	0.000000	0.00	0.000
12	-0.89	100	135	27.14	1550.00	90.93	892.98	0.000000	0.00	0.000
13	-0.79	100	135	27.14	1550.00	108.33	892.98	0.000000	0.00	0.000
14	-0.69	100	135	27.14	1550.00	127.27	892.98	0.000000	0.00	0.000
15	-0.60	100	135	27.14	1550.00	147.77	892.98	0.000000	0.00	0.000
16	-0.50	100	135	27.14	1550.00	169.82	892.98	0.000000	0.00	0.000
17	0.95	100	135	27.14	1550.00	144.80	892.98	0.000000	0.00	0.000
18	1.04	100	135	27.14	1550.00	143.60	892.98	0.000000	0.00	0.000
19	1.14	100	135	27.14	1550.00	142.26	892.98	0.000000	0.00	0.000
20	1.24	100	135	27.14	1550.00	140.78	892.98	0.000000	0.00	0.000
21	1.34	100	135	27.14	1550.00	139.16	892.98	0.000000	0.00	0.000
22	1.44	100	135	27.14	1550.00	137.42	892.98	0.000000	0.00	0.000
23	1.54	100	135	27.14	1550.00	135.56	892.98	0.000000	0.00	0.000
24	1.63	100	135	27.14	1550.00	133.59	892.98	0.000000	0.00	0.000
25	1.73	100	135	27.14	1550.00	131.50	892.98	0.000000	0.00	0.000
26	1.83	100	135	27.14	1550.00	129.31	892.98	0.000000	0.00	0.000
27	1.93	100	135	27.14	1550.00	127.02	892.98	0.000000	0.00	0.000
28	2.03	100	135	27.14	1550.00	124.63	892.98	0.000000	0.00	0.000
29	2.13	100	135	27.14	1550.00	122.16	892.98	0.000000	0.00	0.000
30	2.22	100	135	27.14	1550.00	119.60	892.98	0.000000	0.00	0.000
31	2.32	100	135	27.14	1550.00	116.96	892.98	0.000000	0.00	0.000
32	2.42	100	135	27.14	1550.00	114.25	892.98	0.000000	0.00	0.000

n°	Y	B	H	Af	Aeff	M	Mpf	ε	Sm	w
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kNm]	[%]	[mm]	[mm]
33	2.52	100	135	27.14	1550.00	111.47	892.98	0.000000	0.00	0.000
34	2.62	100	135	27.14	1550.00	108.62	892.98	0.000000	0.00	0.000
35	2.72	100	135	27.14	1550.00	105.72	892.98	0.000000	0.00	0.000
36	2.82	100	135	27.14	1550.00	102.76	892.98	0.000000	0.00	0.000
37	2.91	100	135	27.14	1550.00	99.76	892.98	0.000000	0.00	0.000
38	3.01	100	135	27.14	1550.00	96.72	892.98	0.000000	0.00	0.000
39	3.11	100	135	27.14	1550.00	93.63	892.98	0.000000	0.00	0.000
40	3.21	100	135	27.14	1550.00	90.52	892.98	0.000000	0.00	0.000
41	3.31	100	135	27.14	1550.00	87.38	892.98	0.000000	0.00	0.000
42	3.41	100	135	27.14	1550.00	84.22	892.98	0.000000	0.00	0.000
43	3.50	100	135	27.14	1550.00	81.04	892.98	0.000000	0.00	0.000
44	3.60	100	135	27.14	1550.00	77.85	892.98	0.000000	0.00	0.000
45	3.70	100	135	27.14	1550.00	74.65	892.98	0.000000	0.00	0.000
46	3.80	100	135	27.14	1550.00	71.46	892.98	0.000000	0.00	0.000
47	3.90	100	135	27.14	1550.00	68.27	892.98	0.000000	0.00	0.000
48	4.00	100	135	27.14	1550.00	65.09	892.98	0.000000	0.00	0.000
49	4.09	100	135	27.14	1550.00	61.92	892.98	0.000000	0.00	0.000
50	4.19	100	135	27.14	1550.00	58.78	892.98	0.000000	0.00	0.000
51	4.29	100	135	27.14	1550.00	55.66	892.98	0.000000	0.00	0.000
52	4.39	100	135	27.14	1550.00	52.57	892.98	0.000000	0.00	0.000
53	4.49	100	135	27.14	1550.00	49.52	892.98	0.000000	0.00	0.000
54	4.59	100	135	27.14	1550.00	46.51	892.98	0.000000	0.00	0.000
55	4.68	100	135	27.14	1550.00	43.55	892.98	0.000000	0.00	0.000
56	4.78	100	135	27.14	1550.00	40.64	892.98	0.000000	0.00	0.000
57	4.88	100	135	27.14	1550.00	37.78	892.98	0.000000	0.00	0.000
58	4.98	100	135	27.14	1550.00	34.99	892.98	0.000000	0.00	0.000
59	5.08	100	135	27.14	1550.00	32.27	892.98	0.000000	0.00	0.000
60	5.18	100	135	27.14	1550.00	29.62	892.98	0.000000	0.00	0.000
61	5.28	100	135	27.14	1550.00	27.05	892.98	0.000000	0.00	0.000
62	5.37	100	135	27.14	1550.00	24.56	892.98	0.000000	0.00	0.000
63	5.47	100	135	27.14	1550.00	22.16	892.98	0.000000	0.00	0.000
64	5.57	100	135	27.14	1550.00	19.85	892.98	0.000000	0.00	0.000
65	5.67	100	135	27.14	1550.00	17.64	892.98	0.000000	0.00	0.000
66	5.77	100	135	27.14	1550.00	15.54	892.98	0.000000	0.00	0.000
67	5.87	100	135	27.14	1550.00	13.55	892.98	0.000000	0.00	0.000
68	5.96	100	135	27.14	1550.00	11.67	892.98	0.000000	0.00	0.000
69	6.06	100	135	27.14	1550.00	9.91	892.98	0.000000	0.00	0.000
70	6.16	100	135	27.14	1550.00	8.28	892.98	0.000000	0.00	0.000
71	6.26	100	135	27.14	1550.00	6.78	892.98	0.000000	0.00	0.000
72	6.36	100	135	27.14	1550.00	5.41	892.98	0.000000	0.00	0.000
73	6.46	100	135	27.14	1550.00	4.18	892.98	0.000000	0.00	0.000
74	6.55	100	135	27.14	1550.00	3.11	892.98	0.000000	0.00	0.000
75	6.65	100	135	27.14	1550.00	2.18	892.98	0.000000	0.00	0.000
76	6.75	100	135	27.14	1550.00	1.41	892.98	0.000000	0.00	0.000
77	6.85	100	135	27.14	1550.00	0.80	892.98	0.000000	0.00	0.000
78	6.95	100	135	27.14	1550.00	0.36	892.98	0.000000	0.00	0.000
79	7.05	100	135	27.14	1550.00	0.09	892.98	0.000000	0.00	0.000
80	7.15	100	135	0.00	0.00	0.00	0.00	0.000000	0.00	0.000

Elenco ferri

Simbologia adottata

n°	Indice del ferro
nf	numero ferri
D	diametro ferro espresso in [mm]
L	Lunghezza ferro espresso in [m]
P_{ferro}	Peso ferro espresso in [kN]

Paramento

n°	Tipo	nf	D	L	P_f	P_{gf}	V_{cls}
			[mm]	*[m]*	*[kN]*	*[kN]*	*[mc]*
1	Diritto inferiore	5	20.00	10.74	0.2597	1.2987	
2	Diritto superiore	10	20.00	10.78	0.2607	2.6073	
3	Diritto superiore	10	20.00	7.72	0.1867	1.8673	
4	Diritto inferiore	5	20.00	7.50	0.1814	0.9069	
5	Ripartitore	60	20.00	1.00	0.0242	1.4511	
6	Gancio	60	20.00	1.23	0.0298	1.7882	
	Totale al metro					**9.9196**	**9.85**
	Totale					**119.0352**	**118.22**

Fondazione

n°	Tipo	nf	D	L	P_f	P_{gf}	V_{cls}
			[mm]	*[m]*	*[kN]*	*[kN]*	*[mc]*
1	Diritto superiore	6	24.00	10.89	0.3793	2.2758	
2	Diritto inferiore	6	24.00	10.89	0.3793	2.2758	
3	Ripartitore	32	20.00	1.00	0.0242	0.7739	
4	Gancio	48	20.00	1.07	0.0258	1.2398	
	Totale al metro					**6.5654**	**12.28**
	Totale					**66.7024**	**147.34**

Mensola valle

n°	Tipo	nf	D	L	P_f	P_{gf}	V_{cls}
			[mm]	*[m]*	*[kN]*	*[kN]*	*[mc]*
1	Diritto inferiore	4	20.00	1.85	0.0447	0.1790	
2	Diritto superiore	5	20.00	1.85	0.0447	0.2237	
3	Ripartitore	4	20.00	1.00	0.0242	0.0967	
4	Gancio	4	20.00	0.76	0.0184	0.0735	
	Totale al metro					**0.5729**	**0.13**
	Totale					**5.8538**	**1.50**