anas
GRUPPO FS ITALIANE

Direzione Tecnica

S.S 685 "DELLE TRE VALLI UMBRE"

TRATTO SPOLETO - ACQUASPARTA

1° stralcio: Madonna di Baiano-Firenzuola

PROGETTO ESECUTIVO

COD. PG143

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PROTOCOLLO | DATA

11.SOTTOVIA

11.02 SOTTOPASSO KM 4+212

Relazione di calcolo muri

CODICE PROGETTO			NOME FILE	REVISIONE	SCALA:
PROGETTO	LIV. PROG.	ANNO			
DTPG143	E	23	CODICE ELAB. T00ST02STRRE02	A	-

REV.	DESCRIZIONE	DATA	REDATTO	VERIFICATO	APPROVATO
A	Emissione	Ago 2023	F.Brunori	F.Durastanti	N.Granieri

INDICE

1 INTRODUZIONE

1.1 Oggetto e scopo

La presente relazione ha per oggetto ha per oggetto il dimensionamento e le verifiche di resistenza secondo il metodo semiprobabilistico agli Stati Limite (S.L.) dei muri di imbocco relativi al sottopasso S02 km 4+200. L'opera stradale servita è denominata "Strada delle tre valli umbre" e si snoda fra lo svincolo di progetto della S.G.C. E45 in località Acquasparta e lo svincolo della nuova Flaminia (SS.3) in località Eggi per una lunghezza di 20+885 km. L'opera è ubicata nell'area del comune di Spoleto (PG) in prossimità della frazione Madonna di Baiano.

Si riportano le immagini del sito di ubicazione dell'opera e della planimetria di progetto:

Figura 1-1. Localizzazione geografica dell'opera

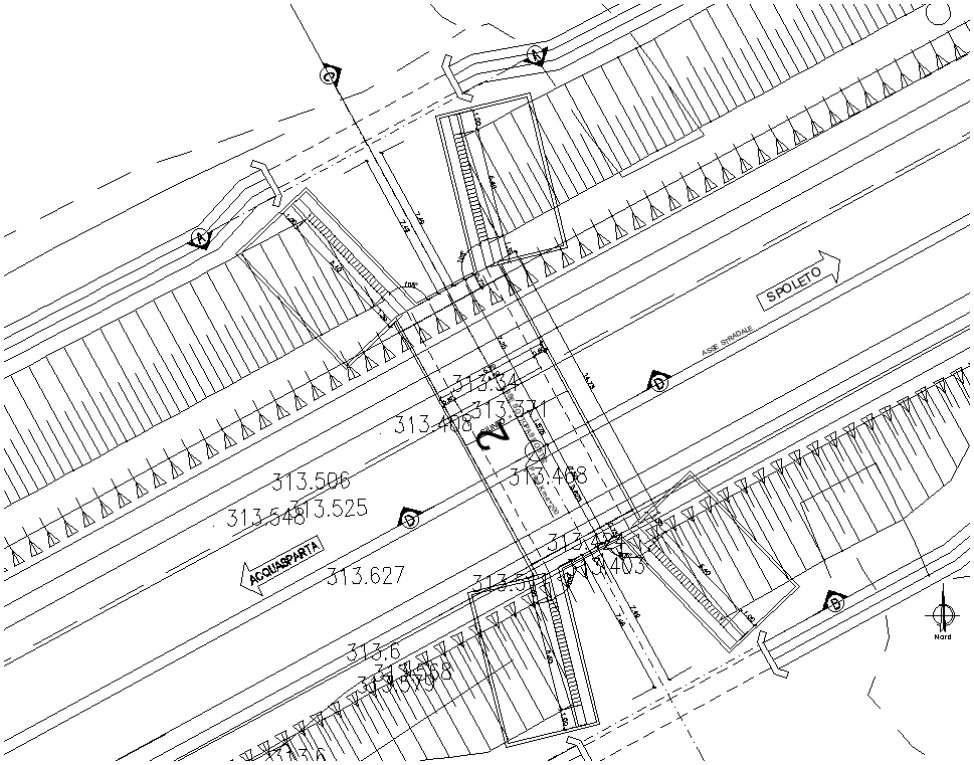


Figura 1-2. Planimetria dell'opera

Le analisi strutturali e le verifiche di sicurezza sono state effettuate secondo il DM 17 gennaio 2018.

1.2 Descrizione dell'opera

L'opera consiste in un muro di sostegno in c.a.

La sezione trasversale retta ha un'altezza del paramento è H_p=4.80 m, uno spessore in testa b_s=0.40 m, uno spessore all'incastro con la fondazione b_i=0.88 m, l'altezza della fondazione è H_f=0.90 m con una lunghezza a monte L_m=3.12 m e a valle L_v=0.50 m.

Nell'immagine seguente si riportano una sezione trasversale dell'opera.

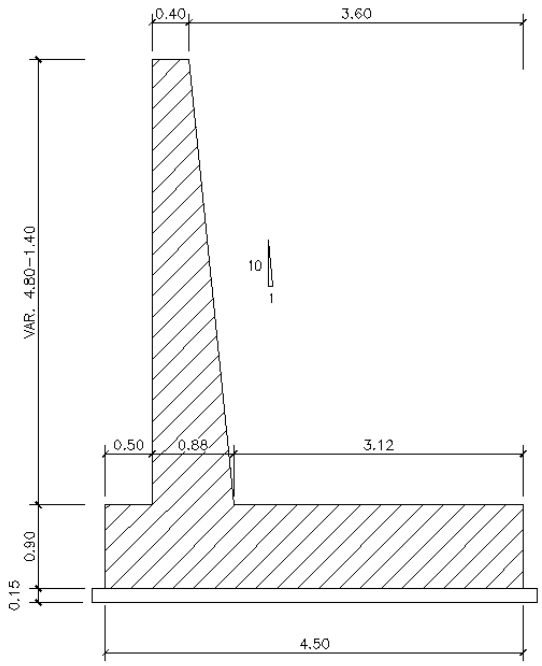


Figura 1-3. Sezione trasversale dell'opera

2 RIFERIMENTI NORMATIVI

La normativa cui viene fatto riferimento nelle fasi di calcolo e progettazione è la seguente:

- Norme Tecniche per le Costruzioni, DM del 17/01/2018;
- Legge 05/01/1971 n°1086: Norme per la disciplina delle opere di conglomerato cementizio armato, normale e precompresso, ed a struttura metallica;
- Legge 02/02/1974 n°64: Provvedimenti per le costruzioni con particolari prescrizioni per le zone sismiche;
- C.M. 21/01/2019 n.7: Istruzioni per l'applicazione delle "Norme tecniche per le costruzioni;
- UNI EN 1991-1-4:2005: Eurocodice 1 – Azioni sulle strutture – Parte 1-4: Azioni in generale – Azioni del vento;
- UNI EN 1992-1-1:2005: Eurocodice 2 – Progettazione delle strutture di calcestruzzo – Parte 1-1: Regole generali e regole per gli edifici;
- UNI EN 1992-2:2006: Eurocodice 2 – Progettazione delle strutture di calcestruzzo – Parte 2: Ponti;
- UNI EN 1993-1-1:2005: Eurocodice 3 – Progettazione delle strutture di acciaio – Parte 1-1: Regole generali e regole per gli edifici;
- UNI EN 1993-2:2007: Eurocodice 3 – Progettazione delle strutture di acciaio – Parte 2: Ponti;
- UNI EN 1998-1:2005: Eurocodice 8 – Progettazione delle strutture per la resistenza sismica – Parte 1: Regole generali, azioni sismiche e regole per gli edifici;
- UNI EN 1998-2:2006: Eurocodice 8 – Progettazione delle strutture per la resistenza sismica – Parte 2: Ponti;

3 MATERIALI

3.1 Calcestruzzo magrone

Conglomerato classe di resistenza *C12/15 – Rck 15MPa*

Resistenza caratteristica cubica:	Rck = 15 N/mm^2
Resistenza caratteristica cilindrica:	fck = 12 N/mm^2
Classe di esposizione:	X0
Classe di consistenza slump:	S3

3.2 Calcestruzzo elevazione muri

Conglomerato classe di resistenza *C32/40 – Rck 40MPa*

Resistenza caratteristica cubica:	Rck = 40 N/mm^2
Resistenza caratteristica cilindrica:	fck = 32 N/mm^2
Classe di esposizione:	XF2
Classe di consistenza slump:	S4
Copriferro armatura principale	50 mm

3.3 Calcestruzzo fondazione muri

Conglomerato classe di resistenza *C28/35 – Rck 35MPa*

Resistenza caratteristica cubica:	Rck = 35 N/mm^2
Resistenza caratteristica cilindrica:	fck = 28 N/mm^2
Classe di esposizione:	XC2
Classe di consistenza slump:	S4
Copriferro armatura principale	50 mm

3.4 Acciaio per armature

Tensione caratteristica di snervamento:	f_{yk} = 450 MPa;
Tensione di progetto:	$f_{yd} = f_{yk} / \gamma_m$
in cui γ_m = 1.15	f_{yd} = 450 / 1.15 = 391.3 MPa;
Modulo Elastico	E_s = 210'000 MPa.

4 SOFTWARE DI CALCOLO

L'analisi strutturale e le verifiche sono condotte con l'ausilio di un codice di calcolo automatico. La verifica della sicurezza degli elementi strutturali è stata valutata con i metodi della scienza delle costruzioni.
L'analisi strutturale sotto le azioni sismiche è condotta con il metodo dell'analisi statica equivalente secondo le disposizioni del capitolo 7 del DM 17/01/2018.
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 l'opera sarà soggetta.

4.1 Affidabilità dei codici di calcolo

Un attento esame preliminare della documentazione a corredo del software ha consentito di valutarne l'affidabilità. La documentazione fornita dal produttore del software contiene un'esauriente descrizione delle basi teoriche, degli algoritmi impiegati e l'individuazione dei campi d'impiego. La società produttrice Aztec Informatica srl ha verificato l'affidabilità e la robustezza del codice di calcolo attraverso un numero significativo di casi prova in cui i risultati dell'analisi numerica sono stati confrontati con soluzioni teoriche.

4.2 Modalità di presentazione dei risultati

La relazione di calcolo strutturale presenta i dati di calcolo tale da garantirne la leggibilità, la corretta interpretazione e la riproducibilità. La relazione di calcolo illustra in modo esaustivo i dati in ingresso ed i risultati delle analisi in forma tabellare.

4.3 Informazioni generali sull'elaborazione

Il software prevede una serie di controlli automatici che consentono l'individuazione di errori di modellazione, di non rispetto di limitazioni geometriche e di armatura e di presenza di elementi non verificati. Il codice di calcolo 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.

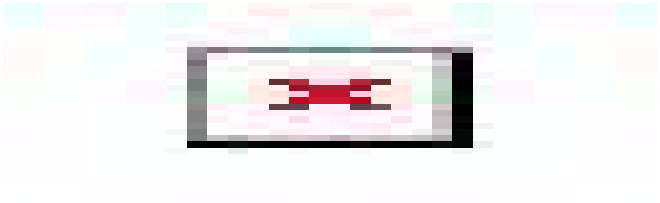
4.4 Giudizio motivato di accettabilità dei risultati

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 operate in sede di schematizzazione e di modellazione della struttura e delle azioni.
In base a quanto sopra, io sottoscritto asserisco che l'elaborazione è corretta ed idonea al caso specifico, pertanto i risultati di calcolo sono da ritenersi validi ed accettabili.

5 INQUADRAMENTO GEOTECNICO

5.1 Terreno di ricoprimento/rinterro

Per il terreno di ricoprimento/rinterro sono state assunte le seguenti caratteristiche geotecniche:



5.2 Terreno di fondazione

Si riportano di seguito i parametri geotecnici ell'unità geologica intercettata dall'opera:

Unità ALL:

γ_k = 18 - 19 kN/m^3

c_k' = 0 kPa

ϕ_k' = 38°-42°

E_k = 25 - 50 MPa

Ai fini delle verifiche si adotteranno i seguenti parametri:

γ = 18.5 kN/m^3 peso dell'unità di volume

ϕ' = 40° angolo di attrito

c' = 0 kPa coesione

E = 37.5 MPa modulo elastico

La falda si trova ad una profondità di circa 2.0 m dall'intradosso della fondazione. pertanto ininfluente ai fini del dimensionamento dello scatolare.

Dalle indagini condotte si evince una categoria stratigrafica di suolo pari a 'C'.

6 INQUADRAMENTO SISMICO

Nel seguente paragrafo è riportata la valutazione dei parametri di pericolosità sismica utili alla determinazione delle azioni sismiche di progetto dell'opera cui si riferisce il presente documento, in accordo a quanto specificato a riguardo dal D.M. 17gennaio 2018.

Sulla base delle indicazioni delle NTC2018 si assumono i seguenti valori per determinare l'azione sismica di riferimento.

L'ubicazione del sito in oggetto (Long: 12.67378; Lat: 42.73267):

- Classe d'uso: IV
- Coefficiente d'uso: Cu (IV) = 2.0
- Categoria topografica: T1
- Coefficiente di amplificazione topografica S_T=1
- Categoria di sottosuolo C
- Vita nominale: Vn = 50 anni
- Vita di riferimento: VR = VN x Cu = 100 anni
- Coefficiente di amplificazione stratigrafica Ss = 1.344


FASE 1. INDIVIDUAZIONE DELLA PERICOLOSITÁ DEL SITO
Ricerca per coordinate
LONGITUDINE
12.67378
LATITUDINE
42.73267
Ricerca per comune
REGIONE
Umbria
PROVINCIA
Perugia
COMUNE
Spoleto
Elaborazioni grafiche
Grafici spettri di risposta
Variabilità dei parametri
Elaborazioni numeriche
Tabella parametri
Nodi del reticolo intorno al sito
km7.5
24519
24520
24741
24742
-7.5
7.5
km
-7.5
Reticolo di riferimento
Controllo sul reticolo
Sito esterno al reticolo
Interpolazione su 3 nodi
Interpolazione corretta
Interpolazione
superficie rigata
La "Ricerca per comune" utilizza le coordinate ISTAT del comune per identificare il sito. Si sottolinea che all'interno del territorio comunale le azioni sismiche possono essere significativamente diverse da quelle così individuate e si consiglia, quindi, la "Ricerca per coordinate".
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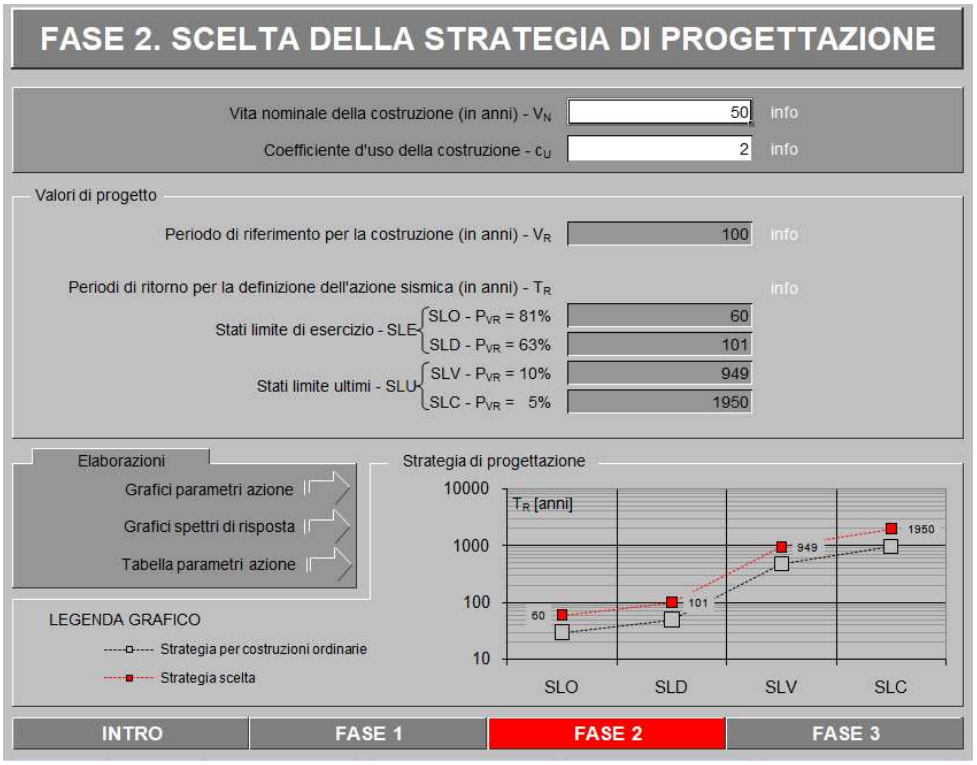
FASE 2
FASE 3


FASE 2. SCELTA DELLA STRATEGIA DI PROGETTAZIONE
Vita nominale della costruzione (in anni) - V_N
50
info
Coefficiente d'uso della costruzione - c_U
2
info
Valori di progetto
Periodo di riferimento per la costruzione (in anni) - V_R
100
info
Periodi di ritorno per la definizione dell'azione sismica (in anni) - T_R
info
Stati limite di esercizio - SLE
SLO - P_{VR} = 81%
60
SLD - P_{VR} = 63%
101
Stati limite ultimi - SLU
SLV - P_{VR} = 10%
949
SLC - P_{VR} = 5%
1950
Elaborazioni
Grafici parametri azione
Grafici spettri di risposta
Tabella parametri azione
Strategia di progettazione
10000
1000
100
10
T_R [anni]
60
101
949
1950
SLO
SLD
SLV
SLC
LEGENDA GRAFICO
Strategia per costruzioni ordinarie
Strategia scelta
INTRO
FASE 1
FASE 2
FASE 3

SLATO LIMITE	T_R [anni]	a_g [g]	F_o [-]	T_C^* [s]
SLO	60	0.087	2.451	0.283
SLD	101	0.108	2.431	0.293
SLV	949	0.241	2.460	0.330
SLC	1950	0.297	2.489	0.342

Parametri e punti dello spettro di risposta orizzontale per lo stato SLV

Parametri indipendenti

STATO LIMITE	SLV
a_g	0.241 g
F_o	2.460
T_C^*	0.330 s
S_S	1.344
C_C	1.514
S_T	1.000
q	1.500

Parametri dipendenti

S	1.344
η	0.667
T_B	0.166 s
T_C	0.499 s
T_D	2.566 s

Espressioni dei parametri dipendenti

$S = S_S \cdot S_T$ (NTC-08 Eq. 3.2.5)

$\eta = \sqrt{10/(5+\xi)} \geq 0{,}55;\ \eta = 1/q$ (NTC-08 Eq. 3.2.6; §. 3.2.3.5)

$T_B = T_C / 3$ (NTC-07 Eq. 3.2.8)

$T_C = C_C \cdot T_C^*$ (NTC-07 Eq. 3.2.7)

$T_D = 4{,}0 \cdot a_g / g + 1{,}6$ (NTC-07 Eq. 3.2.9)

Espressioni dello spettro di risposta (NTC-08 Eq. 3.2.4)

$$0 \leq T < T_B \quad S_e(T) = a_g \cdot S \cdot \eta \cdot F_o \cdot \left[\frac{T}{T_B} + \frac{1}{\eta \cdot F_o}\left(1 - \frac{T}{T_B}\right)\right]$$

$$T_B \leq T < T_C \quad S_e(T) = a_g \cdot S \cdot \eta \cdot F_o$$

$$T_C \leq T < T_D \quad S_e(T) = a_g \cdot S \cdot \eta \cdot F_o \cdot \left(\frac{T_C}{T}\right)$$

$$T_D \leq T \quad S_e(T) = a_g \cdot S \cdot \eta \cdot F_o \cdot \left(\frac{T_C T_D}{T^2}\right)$$

Lo spettro di progetto $S_d(T)$ per le verifiche agli Stati Limite Ultimi è ottenuto dalle espressioni dello spettro elastico $S_e(T)$ sostituendo η con $1/q$, dove q è il fattore di struttura. (NTC-08 § 3.2.3.5)

Punti dello spettro di risposta

T [s]	Se [g]	
0.000	0.324	
0.166	0.532	T_B
0.499	0.532	T_C
0.598	0.444	
0.696	0.382	
0.794	0.334	
0.893	0.297	
0.991	0.268	
1.090	0.244	
1.188	0.224	
1.286	0.206	
1.385	0.192	
1.483	0.179	
1.582	0.168	
1.680	0.158	
1.779	0.149	
1.877	0.142	
1.975	0.134	
2.074	0.128	
2.172	0.122	
2.271	0.117	
2.369	0.112	
2.467	0.108	
2.566	0.104	T_D
2.634	0.098	
2.702	0.093	
2.771	0.089	
2.839	0.085	
2.907	0.081	
2.976	0.077	
3.044	0.074	
3.112	0.070	
3.180	0.067	
3.249	0.065	
3.317	0.062	
3.385	0.059	
3.454	0.057	
3.522	0.055	
3.590	0.053	
3.659	0.051	
3.727	0.049	
3.795	0.048	
3.863	0.048	
3.932	0.048	
4.000	0.048	

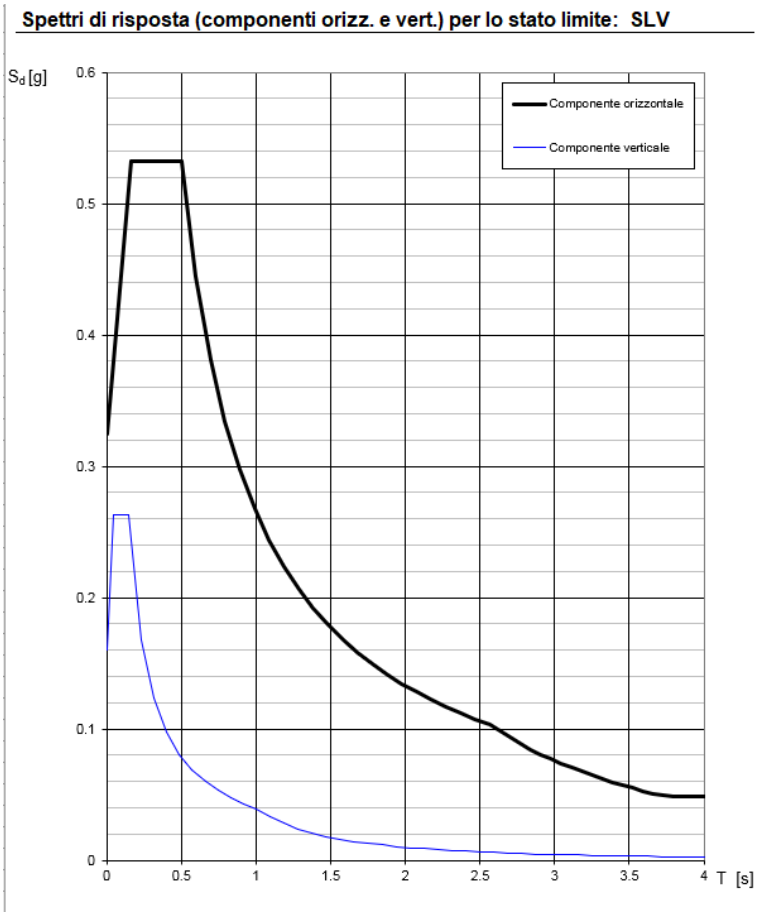


Figura 6.1. Spettro di Risposta SLV. Componenti orizzontali e orizzontali del sisma

7 DESCRIZIONE MODELLO DI CALCOLO

7.1 Schema statico e valori di calcolo delle azioni

Lo schema statico considerato è quello di muro a mensola incastrata sulla zattera.
Effettuando il calcolo tramite la normativa attualmente vigente 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 □. 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.

7.2 Calcolo delle spinte

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 rispetto all'orizzontale) e si con sidera 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.

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

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

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

dove

$$\theta = \text{arctg}(k_h/(1 \pm k_v))$$

essendo k_h il coefficiente sismico orizzontale e k_v il coefficiente sismico verticale, definito in funzione di kh.

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

Terreno a bassa permeabilità

Terreno a permeabilità elevata

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

dove il coefficiente A vale

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 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

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.

8 ANALISI DEI CARICHI

8.1 Peso proprio della struttura e carichi permanenti portati

Peso Proprio del cls 25.00 kN/m^3

Spinta del terreno: *Metodo di Culmann*

8.2 Sovraccarichi accidentali

Per la determinazione dell'incremento di spinta dovuto alla presenza di carico accidentale (eventuale viabilità stradale o di cantiere), si considerano i seguenti carichi a tergo:

q = 10 kN/m^2 (sovraccarico accidentale in condizioni statiche).

8.3 Azione sismica

Le azioni sismiche vengono valutate in base alle accelerazioni massime attese in superficie.

Si fanno le seguenti assunzioni:

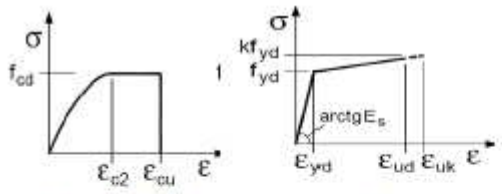
Coordinate area interesse opera	Lat: 42.73267 Long: 12.67378
Vita nominale opera	V_N = 50 anni
Classe d'uso opera	IV→ Cu=2
Vita di riferimento	V_R = VN x Cu = 100 anni
Categoria sottosuolo	C
Categoria topografica	T1

9 CRITERI DI VERIFICA

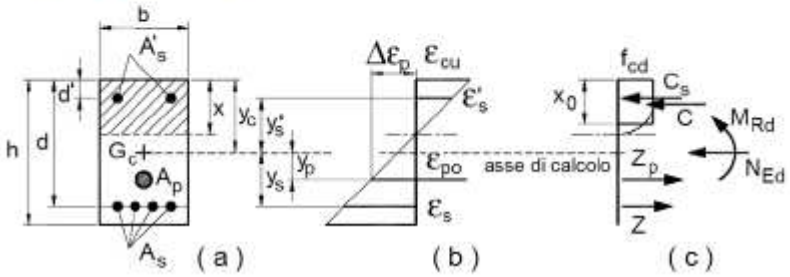
9.1 Criteri di verifica SLU

9.1.1 Verifiche STR a pressoflessione

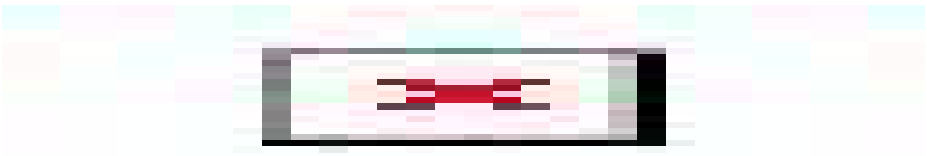
La determinazione della capacità resistente a flessione/pressoflessione della generica sezione viene effettuata con i criteri di cui al punto 4.1.2.1.2.4 delle NTC18, secondo quanto riportato schematicamente nelle figure seguito, tenendo conto dei valori delle resistenze e deformazioni di calcolo riportate al paragrafo dedicato alle caratteristiche dei materiali:



Legami costitutivi Calcestruzzo ed Acciaio -



Schema di riferimento per la valutazione della capacità resistente a pressoflessione generica sezione - La verifica consisterà nel controllare il soddisfacimento della seguente condizione



9.1.2 Verifiche STR a taglio

Per la verifica di resistenza allo SLU con riferimento alle sollecitazioni taglianti deve risultare:

$$V_{Rd} \geq V_{Ed}$$

Il taglio V_{Ed} è pari ai massimi valori del taglio sollecitante derivante dall'analisi per i vari elementi strutturali. Per tutti gli elementi strutturali il massimo taglio si riscontra in corrispondenza della sezione di attacco tra l'elemento stesso e quello ad esso ortogonale.
[NTC – 4.1.2.1.3.1] La resistenza a taglio in assenza di armatura specifica risulta pari a:

$$V_{Rd} = \left\{0.18 \cdot k \cdot \frac{(100 \cdot \rho_l \cdot f_{ck})^{1/3}}{\gamma_c} + 0.15\sigma_{cp}\right\} \cdot b_w \cdot d \geq (v_{min} + 0.15\sigma_{cp}) \cdot b_w \cdot d$$

dove:

- $v_{min} = 0.035 \cdot k^{3/2} \cdot f_{ck}^{1/2}$;
- $k = 1 + (200/d)^{1/2} \leq 2$;
- $\rho_l = A_{sl}/(b_w \cdot d) \leq 0.02$;
- $\sigma_{cp} = N_{Ed}/A_c \leq 0.02 f_{cd}$;
- d è l'altezza utile della sezione (in mm);
- b_w è la larghezza minima della sezione (in mm).

[NTC – 4.1.2.1.3.2] In presenza di armatura resistente a taglio, il taglio resistente V_{Rd} è il minimo tra la resistenza a taglio trazione V_{Rsd} e la resistenza a taglio compressione V_{Rcd}.

$$V_{Rsd} = 0.9 \cdot d \cdot \frac{A_{sw}}{s} \cdot f_{yd}(\operatorname{ctg}\alpha + \operatorname{ctg}\theta)\sin\alpha$$

$$V_{Rcd} = 0.9 \cdot d \cdot b_w \cdot f'_{cd}(\operatorname{ctg}\alpha + \operatorname{ctg}\theta)/(1 + ctg^2\theta)$$

in cui:

- d è l'altezza utile della sezione (in mm);
- b_w è la larghezza minima della sezione (in mm).
- A_{sw} è l'area dell'armatura trasversale;
- s è l'interasse tra due armature trasversali consecutive;
- f'_{cd} è la resistenza a compressione ridotta del calcestruzzo d'anima, pari a 0.5fcd;
- α è l'inclinazione dell'armatura resistente a taglio rispetto all'asse dell'elemento;
- θ è l'inclinazione della biella di calcestruzzo compressa.

9.1.3 Verifiche GEO 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 Mr) ed il momento risultante di tutte le forze che tendono a stabilizzare il muro (momento stabilizzante Ms) rispetto allo spigolo a valle della fondazione e verificare che il rapporto Ms/Mr sia maggiore di un determinato coefficiente di sicurezza η_r.
Eseguendo il calcolo mediante gli eurocodici si può impostare $\eta r \geq 1.0$.
Deve quindi essere verificata la seguente diseguaglianza

Il momento ribaltante Mr 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. 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.

9.1.4 Verifiche GEO 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 Fr e la risultante delle forze che tendono a fare scorrere il muro Fs risulta maggiore di un determinato coefficiente di sicurezza ηs
Eseguendo il calcolo mediante gli Eurocodici si può impostare $\eta s \geq 1.0$

Le forze che intervengono nella Fs 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 ƒl'angolo d'attrito terreno-fondazione, con ca l'adesione terreno-fondazione e con Br la larghezza della fondazione reagente, la forza resistente può esprimersi come:

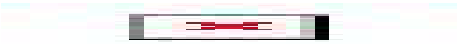
La Normativa consente di computare, nelle forze resistenti, una aliquota dell'eventuale spinta dovuta al terreno posto a valle del muro. In tal caso, però, il coefficiente di sicurezza deve essere aumentato opportunamente. L'aliquota di spinta passiva che si può considerare ai fini della verifica a scorrimento non può comunque superare il 50 percento.
Per quanto riguarda l'angolo d'attrito terra-fondazione, $\square_f$, diversi autori suggeriscono di assumere un valore di $\square_f$ pari all'angolo d'attrito del terreno di fondazione.

9.1.5 Verifiche GEO a 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 Qu, 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 $\eta_q \geq 1.0$
Si adotta per il calcolo del carico limite in fondazione il metodo di MEYERHOF.
L'espressione del carico ultimo è data dalla relazione:



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.

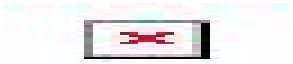
I vari fattori che compaiono nella formula sono dati da:

Indichiamo con K_p il coefficiente di spinta passiva espresso da:

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:

per $\phi = 0$



per $\phi > 0$

Fattori di Inclinazione:

per $\phi > 0$

per $\phi = 0$

9.1.6 Verifiche GEO 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 $\eta_g \geq 1.0$

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:

$$\eta = \frac{\Sigma_i \left(\frac{c_i b_i + (W_i - u_i b_i) tg\phi_i}{m} \right)}{\Sigma_i W_i sin\alpha_i}$$

dove il termine m è espresso da

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

In questa espressione n è il numero delle strisce considerate, bi e ai sono la larghezza e l'inclinazione della base della striscia iesima rispetto all'orizzontale, Wi è il peso della striscia i-esima , ci e fi sono le caratteristiche del terreno (coesione ed angolo di attrito) lungo la base della striscia ed ui 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 . Quindi essa viene risolta per successive approssimazioni assumendo un valore iniziale per da inserire nell'espressione di m ed iterare fin quando il valore calcolato coincide con il valore assunto.

9.2 Criteri di Verifica SLE

La verifica nei confronti degli Stati limite di esercizio, consiste nel controllare, con riferimento alle sollecitazioni di calcolo corrispondenti alle Combinazioni di Esercizio il tasso di Lavoro nei Materiali e l'ampiezza delle fessure attesa, secondo quanto di seguito specificato.

9.2.1 Verifiche alle tensioni

La verifica delle tensioni in esercizio consiste nel controllare il rispetto dei limiti tensionali previsti per il calcestruzzo e per l'acciaio per ciascuna delle combinazioni di carico caratteristiche "Rara" e "Quasi Permanente"; i valori tensionali nei materiali sono valutati secondo le note teorie di analisi delle sezioni in c.a. in campo elastico e con calcestruzzo "non reagente" adottando come limiti di riferimento quelli previsti dalle NTC2018 al §4.1.2.2.5.1:

$\sigma_{c,max} \leq 0{,}60\ f_{ck}$ per combinazione caratteristica [4.1.15]

$\sigma_{c,max} \leq 0{,}45\ f_{ck}$ per combinazione quasi permanente. [4.1.16]

9.2.2 Verifiche a fessurazione

La verifica di fessurazione consiste nel controllare l'ampiezza dell'apertura delle fessure sotto combinazione di carico frequente e combinazione quasi permanente. Le armature di acciaio ordinario sono ritenute poco sensibili [NTC – Tabella 4.1.IV]. In relazione all'aggressività ambientale e alla sensibilità dell'acciaio, l'apertura limite delle fessure è riportato nel prospetto seguente:

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	$\leq w_1$

Tabella 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

Risultando:

w_1= 0.2 mm
w_2= 0.3 mm
w_3= 0.4 mm

10 COMBINAZIONI DI CARICO

Si distinguono combinazioni di carico di tipo A1-M1 nelle quali vengono incrementati i carichi permanenti 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 lasciati inalterati i carichi.

Operando in tal modo si ottengono valori delle spinte (azioni) maggiorate e valori di resistenza ridotti e pertanto nelle verifiche globali è possibile fare riferimento a coefficienti di sicurezza unitari.

Norme Tecniche 2018

Simbologia adottata

γ_{G1sfav}	Coefficiente parziale sfavorevole sulle azioni permanenti
γ_{G1fav}	Coefficiente parziale favorevole sulle azioni permanenti
γ_{G2sfav}	Coefficiente parziale sfavorevole sulle azioni permanenti non strutturali
γ_{G2fav}	Coefficiente parziale favorevole sulle azioni permanenti non strutturali
γ_{Q}	Coefficiente parziale sulle azioni variabili
$\gamma_{tan\varphi'}$	Coefficiente parziale di riduzione dell'angolo di attrito drenato
$\gamma_{c'}$	Coefficiente parziale di riduzione della coesione drenata
γ_{cu}	Coefficiente parziale di riduzione della coesione non drenata
γ_{qu}	Coefficiente parziale di riduzione del carico ultimo

Coefficienti di partecipazione combinazioni statiche

Coefficienti parziali per le azioni o per l'effetto delle azioni:

Carichi	*Effetto*		*A1*	*A2*
Permanenti	Favorevole	γ_{G1fav}	1,00	1,00
Permanenti	Sfavorevole	γ_{G1sfav}	1,35	1,00
Permanenti non strutturali	Favorevole	γ_{G2fav}	0,00	0,00
Permanenti non strutturali	Sfavorevole	γ_{G2sfav}	1,50	1,30
Variabili	Favorevole	γ_{Qifav}	0,00	0,00
Variabili	Sfavorevole	γ_{Qisfav}	1,50	1,30
Variabili da traffico	Favorevole	γ_{Qfav}	0,00	0,00
Variabili da traffico	Sfavorevole	γ_{Qsfav}	1,35	1,15

Coefficienti parziali per i parametri geotecnici del terreno:

Parametri		*M1*	*M2*
Tangente dell'angolo di attrito	$\gamma_{tan\varphi'}$	1,00	1,25
Coesione efficace	$\gamma_{c'}$	1,00	1,25
Resistenza non drenata	γ_{cu}	1,00	1,40
Resistenza a compressione uniassiale	γ_{qu}	1,00	1,60
Peso dell'unità di volume	γ_{g}	1,00	1,00

Coefficienti di partecipazione combinazioni sismiche

Coefficienti parziali per le azioni o per l'effetto delle azioni:

Carichi	*Effetto*		*A1*	*A2*
Permanenti	Favorevole	γ_{G1fav}	1,00	1,00
Permanenti	Sfavorevole	γ_{G1sfav}	1,00	1,00
Permanenti	Favorevole	γ_{G2fav}	0,00	0,00
Permanenti	Sfavorevole	γ_{G2sfav}	1,00	1,00
Variabili	Favorevole	γ_{Qifav}	0,00	0,00
Variabili	Sfavorevole	γ_{Qisfav}	1,00	1,00
Variabili da traffico	Favorevole	γ_{Qfav}	0,00	0,00
Variabili da traffico	Sfavorevole	γ_{Qsfav}	1,00	1,00

Coefficienti parziali per i parametri geotecnici del terreno:

Parametri		*M1*	*M2*
Tangente dell'angolo di attrito	$\gamma_{tan\varphi'}$	1,00	1,00
Coesione efficace	$\gamma_{c'}$	1,00	1,00
Resistenza non drenata	γ_{cu}	1,00	1,00
Resistenza a compressione uniassiale	γ_{qu}	1,00	1,00
Peso dell'unità di volume	γ_{g}	1,00	1,00

11 ANALISI DELLA SEZIONE DI CALCOLO

11.1 Dati di input

Materiali

Simbologia adottata
n° Indice materiale
Descr Descrizione del materiale
Calcestruzzo armato
C Classe di resistenza del cls
A Classe di resistenza dell'acciaio
□ Peso specifico, espresso in [kN/mc]
R_{ck} Resistenza caratteristica a compressione, espressa in [kPa]
E Modulo elastico, espresso in [kPa]
□ Coeff. di Poisson
n Coeff. di omogenizzazione acciaio/cls
ntc Coeff. di omogenizzazione cls teso/compresso

Calcestruzzo armato

n°	Descr	C	A	□	R_{ck}	E	□	n	ntc
				[kN/mc]	[kPa]	[kPa]			
4	C28/35	C28/35	B450C	24.5170	35000	32587986	0.30	15.00	0.50
5	C32/40	C32/40	B450C	24.5170	40000	33642648	0.30	15.00	0.50

Acciai

Descr	f_{yk}	f_{uk}
	[kPa]	[kPa]
B450C	449936	539963

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	15.00	0.00	0.000

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

Geometria muro

Geometria paramento e fondazione

Lunghezza muro	7.80	[m]
Paramento		
Materiale	C32/40	
Altezza paramento	4.80	[m]
Altezza paramento libero	4.80	[m]
Spessore in sommità	0.40	[m]
Spessore all'attacco con la fondazione	0.88	[m]
Inclinazione paramento esterno	0.00	[°]
Inclinazione paramento interno	5.70	[°]

Fondazione

Materiale	C28/35	
Lunghezza mensola di valle	0.50	[m]
Lunghezza mensola di monte	3.12	[m]
Lunghezza totale	4.50	[m]
Inclinazione piano di posa	0.00	[°]
Spessore	0.90	[m]
Spessore magrone	0.00	[m]

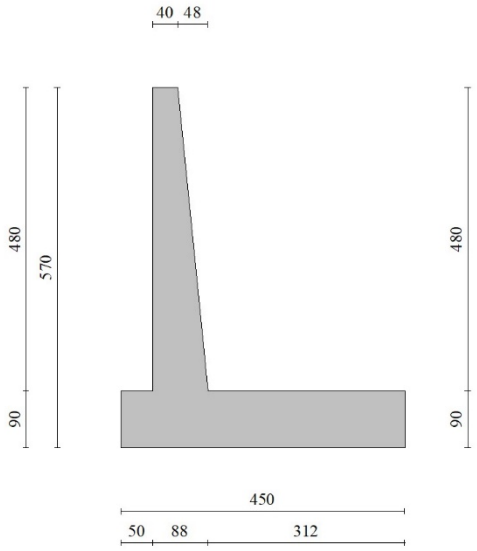


Fig. 1 - Sezione quotata del muro

Descrizione terreni

Parametri di resistenza

Simbologia adottata

n°	Indice del terreno
Descr	Descrizione terreno
□	Peso di volume del terreno espresso in [kN/mc]
□s	Peso di volume saturo del terreno espresso in [kN/mc]
□	Angolo d'attrito interno espresso in [°]
□	Angolo d'attrito terra-muro espresso in [°]
c	Coesione espressa in [kPa]
ca	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)
□l	Tensione tangenziale limite, espressa in [kPa]

n°	Descr	□ [kN/mc]	□sat [kN/mc]	□ [°]	□ [°]	c [kPa]	ca [kPa]	Cesp	□l [kPa]	
1	Rilevato	20.0000	20.0000	35.000	23.333	0	0	---	---	
2	Fondazione	18.5000	18.5000	40.000	26.670	0	0	---	---	

Stratigrafia

Simbologia adottata

n°	Indice dello strato
H	Spessore dello strato espresso in [m]
□	Inclinazione espressa in [°]
Terreno	Terreno dello strato

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')
Kst_{sta}, Kst_{sis} Coeff. di spinta statico e sismico

n°	H [m]	□ [°]	Terreno	Kw [Kg/cm³]	Ks	Cesp	Kst_{sta}	Kst_{sis}
1	5.70	0.000	Rilevato	---	---	---	---	---
2	5.00	0.000	Fondazione	---	---	---	---	---

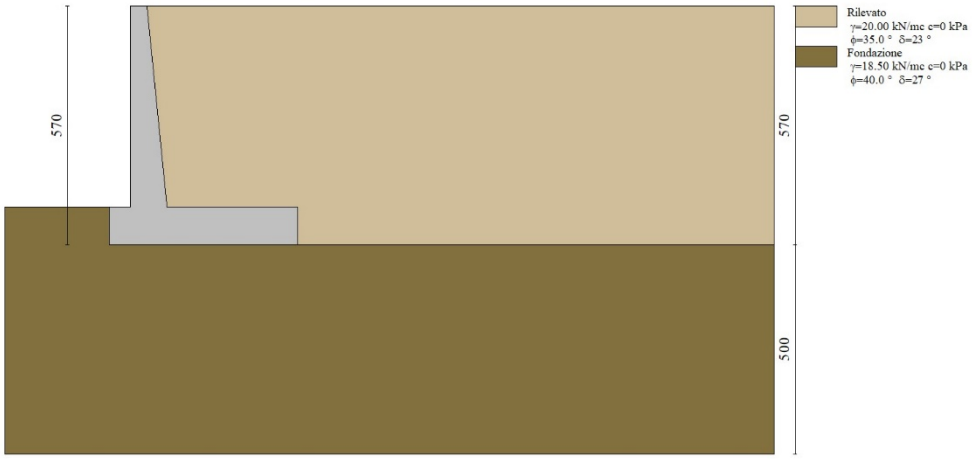


Fig. 2 - Stratigrafia

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 (Sovraccarico mobile su rilevato) - VARIABILE TF
Coeff. di combinazione □0=0.75 - □1=0.75 - □2=0.20

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	15.00	10.0000	10.0000

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	□G1,fav	0.90	1.00	1.00	1.00	1.00	1.00	1.00
Permanenti strutturali	Sfavorevoli	□G1,sfav	1.10	1.30	1.30	1.00	1.00	1.00	1.00

Carichi	Effetto		Combinazioni statiche					Combinazioni sismiche	
			UPL	EQU	A1	A2	EQU	A1	A2
Permanenti non strutturali	Favorevoli	$\gamma_{G2,fav}$	0.80	0.80	0.80	0.80	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	$\gamma_{tan(\varphi')}$	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):

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

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

$$G_1 + G_2 + Q_{k1} + \psi_{0,2} Q_{k2} + \psi_{0,3} Q_{k3} + ...$$

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

$$G_1 + G_2 + \psi_{1,1} Q_{k1} + \psi_{2,2} Q_{k2} + \psi_{2,3} Q_{k3} + ...$$

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

$$G_1 + G_2 + \psi_{2,1} Q_{k1} + \psi_{2,2} Q_{k2} + \psi_{2,3} Q_{k3} + ...$$

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

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

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	1.30	--	Sfavorevole

Combinazione n° 2 - STR (A1-M1-R3)

Condizione	□	□	Effetto
Peso muro	1.00	--	Favorevole
Peso terrapieno	1.00	--	Favorevole
Spinta terreno	1.30	--	Sfavorevole
Sovraccarico mobile su rilevato	1.35	1.00	Sfavorevole

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

Condizione	□	□	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	□	□	Effetto
Peso muro	1.00	--	Sfavorevole
Peso terrapieno	1.00	--	Sfavorevole
Spinta terreno	1.00	--	Sfavorevole

Combinazione n° 5 - STR (A1-M1-R3)

Condizione	□	□	Effetto
Peso muro	1.30	--	Sfavorevole
Peso terrapieno	1.30	--	Sfavorevole
Spinta terreno	1.30	--	Sfavorevole

Combinazione n° 6 - STR (A1-M1-R3)

Condizione	□	□	Effetto
Peso muro	1.00	--	Favorevole
Peso terrapieno	1.30	--	Sfavorevole
Spinta terreno	1.30	--	Sfavorevole

Combinazione n° 7 - STR (A1-M1-R3)

Condizione	□	□	Effetto
Peso muro	1.30	--	Sfavorevole
Peso terrapieno	1.00	--	Favorevole
Spinta terreno	1.30	--	Sfavorevole

Combinazione n° 8 - STR (A1-M1-R3)

Condizione	□	□	Effetto
Peso muro	1.30	--	Sfavorevole
Peso terrapieno	1.30	--	Sfavorevole
Spinta terreno	1.30	--	Sfavorevole
Sovraccarico mobile su rilevato	1.35	1.00	Sfavorevole

Combinazione n° 9 - STR (A1-M1-R3)

Condizione	□	□	Effetto
Peso muro	1.00	--	Favorevole
Peso terrapieno	1.30	--	Sfavorevole
Spinta terreno	1.30	--	Sfavorevole
Sovraccarico mobile su rilevato	1.35	1.00	Sfavorevole

Combinazione n° 10 - STR (A1-M1-R3)

Condizione	□	□	Effetto
Peso muro	1.30	--	Sfavorevole
Peso terrapieno	1.00	--	Favorevole
Spinta terreno	1.30	--	Sfavorevole
Sovraccarico mobile su rilevato	1.35	1.00	Sfavorevole

Combinazione n° 11 - GEO (A2-M2-R2)

Condizione	□	□	Effetto
Peso muro	1.00	--	Sfavorevole
Peso terrapieno	1.00	--	Sfavorevole
Spinta terreno	1.00	--	Sfavorevole

Combinazione n° 12 - GEO (A2-M2-R2)

Condizione	□	□	Effetto
Peso muro	1.00	--	Sfavorevole
Peso terrapieno	1.00	--	Sfavorevole

Condizione	□	□	Effetto
Spinta terreno	1.00	--	Sfavorevole
Sovraccarico mobile su rilevato	1.15	1.00	Sfavorevole

Combinazione n° 13 - GEO (A2-M2-R2) H + V

Condizione	□	□	Effetto
Peso muro	1.00	--	Sfavorevole
Peso terrapieno	1.00	--	Sfavorevole
Spinta terreno	1.00	--	Sfavorevole

Combinazione n° 14 - GEO (A2-M2-R2) H - V

Condizione	□	□	Effetto
Peso muro	1.00	--	Sfavorevole
Peso terrapieno	1.00	--	Sfavorevole
Spinta terreno	1.00	--	Sfavorevole

Combinazione n° 15 - EQU (A1-M1-R3)

Condizione	□	□	Effetto
Peso muro	1.00	--	Favorevole
Peso terrapieno	1.00	--	Favorevole
Spinta terreno	1.30	--	Sfavorevole

Combinazione n° 16 - EQU (A1-M1-R3)

Condizione	□	□	Effetto
Peso muro	1.00	--	Favorevole
Peso terrapieno	1.00	--	Favorevole
Spinta terreno	1.30	--	Sfavorevole
Sovraccarico mobile su rilevato	1.35	1.00	Sfavorevole

Combinazione n° 17 - EQU (A1-M1-R3) H + V

Condizione	□	□	Effetto
Peso muro	1.00	--	Favorevole
Peso terrapieno	1.00	--	Favorevole
Spinta terreno	1.00	--	Sfavorevole

Combinazione n° 18 - EQU (A1-M1-R3) H - V

Condizione	□	□	Effetto
Peso muro	1.00	--	Favorevole
Peso terrapieno	1.00	--	Favorevole
Spinta terreno	1.00	--	Sfavorevole

Combinazione n° 19 - SLER

Condizione	□	□	Effetto
Peso muro	1.00	--	Sfavorevole
Peso terrapieno	1.00	--	Sfavorevole
Spinta terreno	1.00	--	Sfavorevole

Combinazione n° 20 - SLEF

Condizione	□	□	Effetto
Peso muro	1.00	--	Sfavorevole
Peso terrapieno	1.00	--	Sfavorevole
Spinta terreno	1.00	--	Sfavorevole

Combinazione n° 21 - SLEQ

Condizione	□	□	Effetto
Peso muro	1.00	--	Sfavorevole
Peso terrapieno	1.00	--	Sfavorevole
Spinta terreno	1.00	--	Sfavorevole

Combinazione n° 22 - SLER

Condizione	□	□	Effetto
Peso muro	1.00	--	Sfavorevole
Peso terrapieno	1.00	--	Sfavorevole
Spinta terreno	1.00	--	Sfavorevole
Sovraccarico mobile su rilevato	1.00	0.75	Sfavorevole

Combinazione n° 23 - SLEF

Condizione	□	□	Effetto
Peso muro	1.00	--	Sfavorevole
Peso terrapieno	1.00	--	Sfavorevole
Spinta terreno	1.00	--	Sfavorevole
Sovraccarico mobile su rilevato	1.00	0.20	Sfavorevole

Combinazione n° 24 - SLEQ

Condizione	□	□	Effetto
Peso muro	1.00	--	Sfavorevole
Peso terrapieno	1.00	--	Sfavorevole
Spinta terreno	1.00	--	Sfavorevole
Sovraccarico mobile su rilevato	1.00	0.20	Sfavorevole

Combinazione n° 25 - SLEQ H + V

Condizione	□	□	Effetto
Peso muro	1.00	--	Sfavorevole
Peso terrapieno	1.00	--	Sfavorevole
Spinta terreno	1.00	--	Sfavorevole

Combinazione n° 26 - SLEQ H - V

Condizione	□	□	Effetto
Peso muro	1.00	--	Sfavorevole
Peso terrapieno	1.00	--	Sfavorevole
Spinta terreno	1.00	--	Sfavorevole

Dati sismici

Comune	
Provincia	
Regione	
Latitudine	42.737280
Longitudine	12.672780
Indice punti di interpolazione	24741 - 24519 - 24518 - 24740
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]		2.364	1.049
Accelerazione al suolo	a_g/g	[%]		0.241	0.107
Massimo fattore amplificazione spettro orizzontale	F0			2.461	2.433
Periodo inizio tratto spettro a velocità costante	Tc*			0.329	0.293
Tipo di sottosuolo - Coefficiente stratigrafico	Ss		C	1.344	1.500
Categoria topografica - Coefficiente amplificazione topografica	St		T1	1.000	

Stato limite ...	Coeff. di riduzione β_m	kh [%]	kv [%]
Ultimo	0.380	12.307	6.154
Ultimo - Ribaltamento	0.570	18.461	9.230
Esercizio	0.470	7.538	3.769

Forma diagramma incremento sismico **Stessa forma del diagramma statico**

11.2 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	Meyerhof
Criterio di riduzione per rottura locale (punzonamento)	Nessuna
Larghezza fondazione nel terzo termine della formula del carico limite (0.5B□N□)	Larghezza ridotta (B')
Fattori di forma e inclinazione del carico	Fattori di inclinazione e fattori di forma

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

Non è stato richiesto il calcolo degli spostamenti

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 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	Flessione
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}

11.3 Risultati per combinazione

11.3.1 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 [kN]	I [°]	C_X [kN]	C_Y [kN]	P_X [m]	P_Y [m]
1	Spinta statica	103.23	23.33	94.79	40.89	3.60	-3.80
	Peso/Inerzia muro			0.00	174.54/0.00	0.74	-4.15
	Peso/Inerzia terrapieno			0.00	322.52/0.00	1.92	-2.34
2	Spinta statica	122.04	23.33	112.06	48.34	3.60	-3.65
	Peso/Inerzia muro			0.00	174.54/0.00	0.74	-4.15
	Peso/Inerzia terrapieno			0.00	371.10/0.00	1.90	-2.34
3	Spinta statica	79.41	23.33	72.92	31.45	3.60	-3.80
	Incremento di spinta sismica		30.04	27.58	11.90	3.60	-3.80
	Peso/Inerzia muro			21.48	174.54/10.74	0.74	-4.15
	Peso/Inerzia terrapieno			39.69	322.52/19.85	1.92	-2.34
4	Spinta statica	79.41	23.33	72.92	31.45	3.60	-3.80
	Incremento di spinta sismica		20.73	19.04	8.21	3.60	-3.80
	Peso/Inerzia muro			21.48	174.54/-10.74	0.74	-4.15
	Peso/Inerzia terrapieno			39.69	322.52/-19.85	1.92	-2.34
5	Spinta statica	103.23	23.33	94.79	40.89	3.60	-3.80
	Peso/Inerzia muro			0.00	226.90/0.00	0.74	-4.15
	Peso/Inerzia terrapieno			0.00	419.27/0.00	1.92	-2.34
6	Spinta statica	103.23	23.33	94.79	40.89	3.60	-3.80
	Peso/Inerzia muro			0.00	174.54/0.00	0.74	-4.15
	Peso/Inerzia terrapieno			0.00	419.27/0.00	1.92	-2.34
7	Spinta statica	103.23	23.33	94.79	40.89	3.60	-3.80
	Peso/Inerzia muro			0.00	226.90/0.00	0.74	-4.15
	Peso/Inerzia terrapieno			0.00	322.52/0.00	1.92	-2.34
8	Spinta statica	122.04	23.33	112.06	48.34	3.60	-3.65
	Peso/Inerzia muro			0.00	226.90/0.00	0.74	-4.15
	Peso/Inerzia terrapieno			0.00	467.86/0.00	1.91	-2.34
9	Spinta statica	122.04	23.33	112.06	48.34	3.60	-3.65
	Peso/Inerzia muro			0.00	174.54/0.00	0.74	-4.15
	Peso/Inerzia terrapieno			0.00	467.86/0.00	1.91	-2.34
10	Spinta statica	122.04	23.33	112.06	48.34	3.60	-3.65
	Peso/Inerzia muro			0.00	226.90/0.00	0.74	-4.15
	Peso/Inerzia terrapieno			0.00	371.10/0.00	1.90	-2.34
19	Spinta statica	79.41	23.33	72.92	31.45	3.60	-3.80
	Peso/Inerzia muro			0.00	174.54/0.00	0.74	-4.15
	Peso/Inerzia terrapieno			0.00	322.52/0.00	1.92	-2.34
20	Spinta statica	79.41	23.33	72.92	31.45	3.60	-3.80
	Peso/Inerzia muro			0.00	174.54/0.00	0.74	-4.15
	Peso/Inerzia terrapieno			0.00	322.52/0.00	1.92	-2.34
21	Spinta statica	79.41	23.33	72.92	31.45	3.60	-3.80
	Peso/Inerzia muro			0.00	174.54/0.00	0.74	-4.15
	Peso/Inerzia terrapieno			0.00	322.52/0.00	1.92	-2.34
22	Spinta statica	89.86	23.33	82.51	35.59	3.60	-3.69
	Peso/Inerzia muro			0.00	174.54/0.00	0.74	-4.15
	Peso/Inerzia terrapieno			0.00	349.51/0.00	1.91	-2.34
23	Spinta statica	82.20	23.33	75.47	32.56	3.60	-3.77
	Peso/Inerzia muro			0.00	174.54/0.00	0.74	-4.15
	Peso/Inerzia terrapieno			0.00	329.72/0.00	1.91	-2.34
24	Spinta statica	82.20	23.33	75.47	32.56	3.60	-3.77
	Peso/Inerzia muro			0.00	174.54/0.00	0.74	-4.15
	Peso/Inerzia terrapieno			0.00	329.72/0.00	1.91	-2.34
25	Spinta statica	79.41	23.33	72.92	31.45	3.60	-3.80
	Incremento di spinta sismica		17.63	16.19	6.98	3.60	-3.80
	Peso/Inerzia muro			13.16	174.54/6.58	0.74	-4.15

Ic	A	V [kN]	I [°]	C_X [kN]	C_Y [kN]	P_X [m]	P_Y [m]
	Peso/Inerzia terrapieno			24.31	322.52/12.16	1.92	-2.34
26	Spinta statica	79.41	23.33	72.92	31.45	3.60	-3.80
	Incremento di spinta sismica		11.74	10.78	4.65	3.60	-3.80
	Peso/Inerzia muro			13.16	174.54/-6.58	0.74	-4.15
	Peso/Inerzia terrapieno			24.31	322.52/-12.16	1.92	-2.34

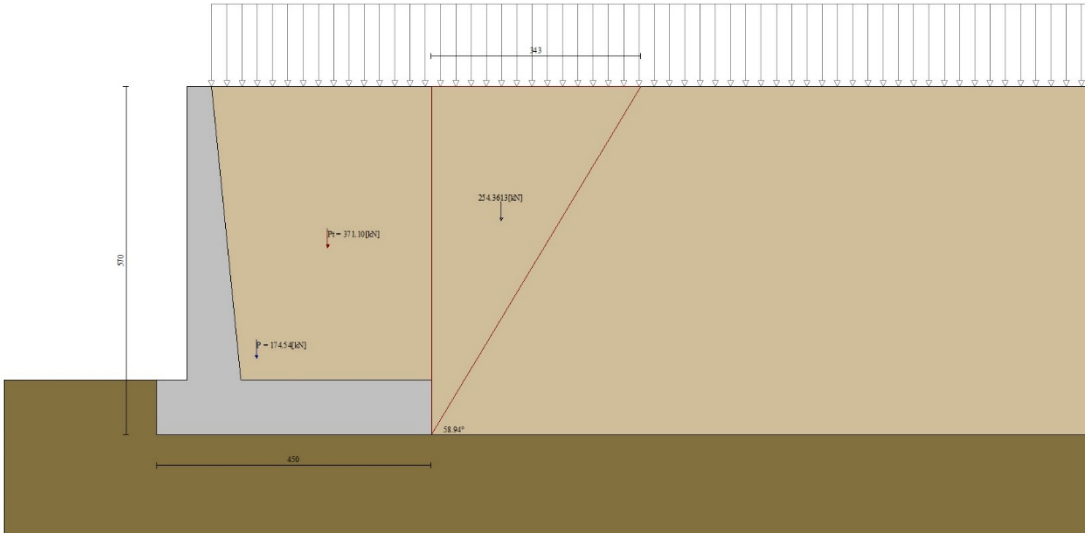


Fig. 3 - Cuneo di spinta (combinazione statica) (Combinazione n° 2)

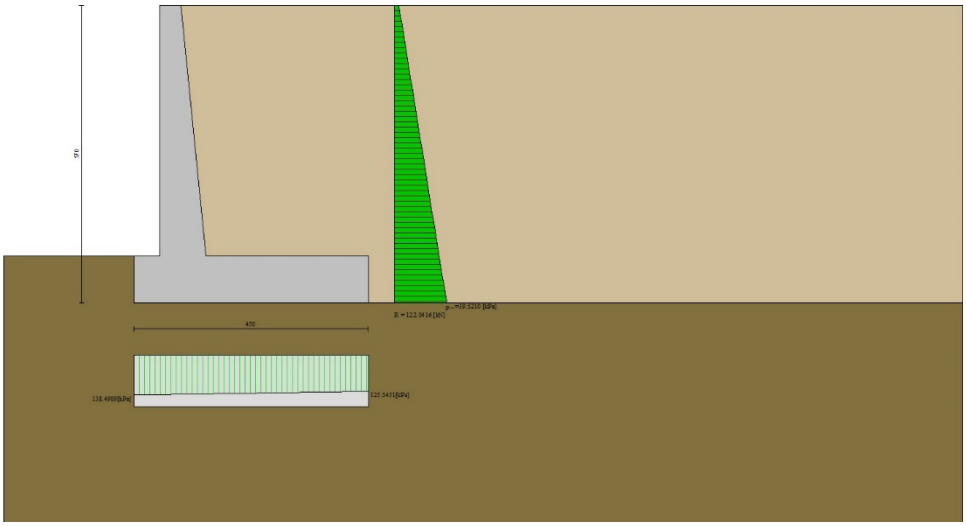


Fig. 4 - Diagramma delle pressioni (combinazione statica) (Combinazione n° 2)

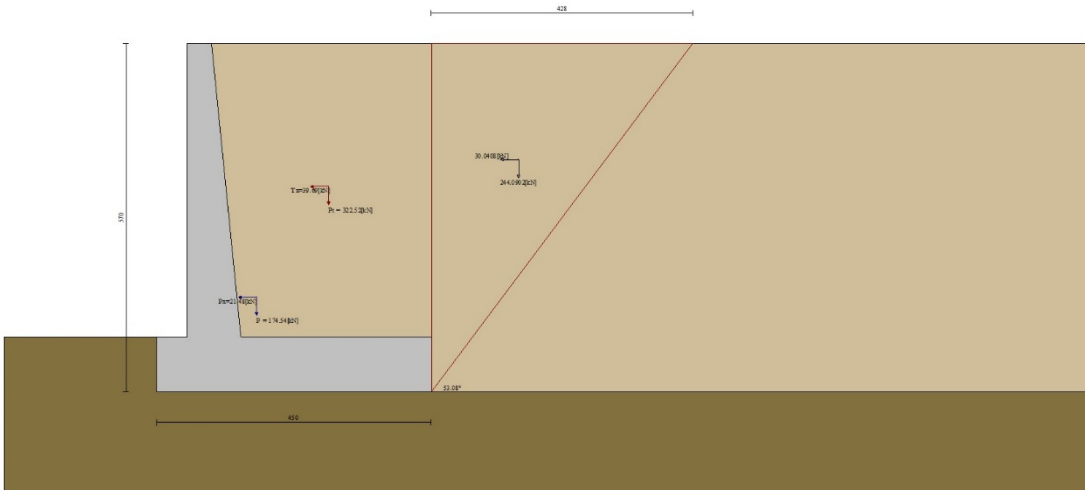


Fig. 5 - Cuneo di spinta (combinazione sismica) (Combinazione n° 3)

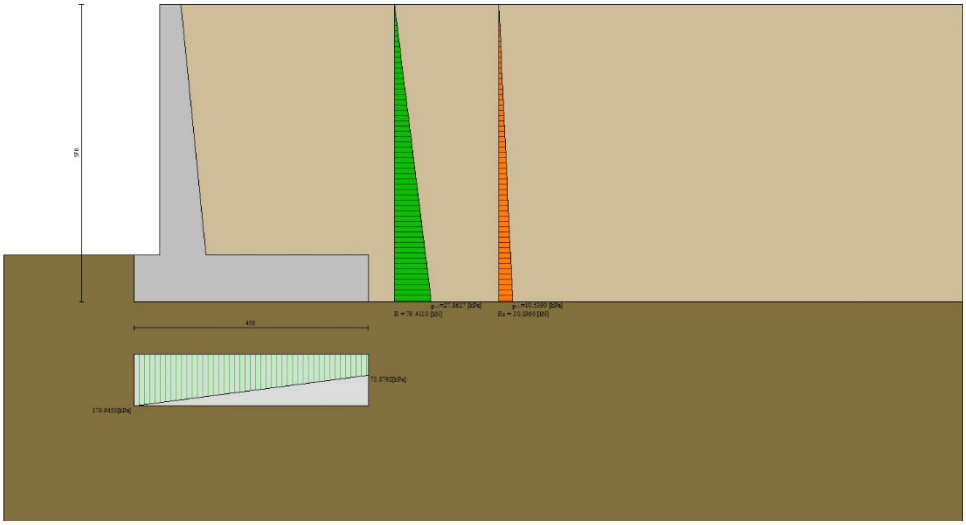


Fig. 6 - Diagramma delle pressioni (combinazione sismica) (Combinazione n° 3)

11.3.2 Risultanti globali

Simbologia adottata

Cmb	Indice/Tipo combinazione
N	Componente normale al piano di posa, espressa in [kN]
T	Componente parallela al piano di posa, espressa in [kN]
M_r	Momento ribaltante, espresso in [kNm]
M_s	Momento stabilizzante, espresso in [kNm]
ecc	Eccentricità risultante, espressa in [m]

Ic	N	T	M_r	M_s	ecc
	[kN]	[kN]	[kNm]	[kNm]	[m]
1 - STR (A1-M1-R3)	537.94	94.79	180.11	1378.47	0.022
2 - STR (A1-M1-R3)	593.98	112.06	229.33	1543.67	0.037
3 - STR (A1-M1-R3)	570.99	161.67	357.49	1463.05	0.313
4 - STR (A1-M1-R3)	506.13	153.13	414.77	1372.97	0.356
5 - STR (A1-M1-R3)	687.06	94.79	180.11	1736.83	-0.016
6 - STR (A1-M1-R3)	634.70	94.79	180.11	1650.98	-0.068
7 - STR (A1-M1-R3)	590.30	94.79	180.11	1464.32	0.074
8 - STR (A1-M1-R3)	743.10	112.06	229.33	1902.02	-0.001
9 - STR (A1-M1-R3)	690.74	112.06	229.33	1816.18	-0.048
10 - STR (A1-M1-R3)	646.34	112.06	229.33	1629.51	0.083
11 - GEO (A2-M2-R2)	529.52	94.09	178.77	1340.59	0.055
12 - GEO (A2-M2-R2)	577.46	113.07	232.87	1482.23	0.086
13 - GEO (A2-M2-R2)	570.99	161.67	357.49	1463.05	0.313
14 - GEO (A2-M2-R2)	506.13	153.13	414.77	1372.97	0.356
15 - EQU (A1-M1-R3)	537.94	94.79	180.11	1378.47	0.022
16 - EQU (A1-M1-R3)	593.98	112.06	229.33	1543.67	0.037
17 - EQU (A1-M1-R3)	593.25	208.40	471.44	1531.14	0.463
18 - EQU (A1-M1-R3)	496.41	196.63	559.33	1398.03	0.560
19 - SLER	528.51	72.92	138.55	1336.02	-0.016
20 - SLEF	528.51	72.92	138.55	1336.02	-0.016
21 - SLEQ	528.51	72.92	138.55	1336.02	-0.016
22 - SLER	559.64	82.51	165.89	1427.80	-0.005
23 - SLEF	536.81	75.47	145.84	1360.49	-0.013
24 - SLEQ	536.81	75.47	145.84	1360.49	-0.013
25 - SLEQ	554.22	126.57	271.31	1412.46	0.191
26 - SLEQ	514.42	121.16	306.06	1356.94	0.207

11.3.3 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)		2.851		29.215			
2 - STR (A1-M1-R3)		2.662		24.911			
3 - STR (A1-M1-R3)	H + V	1.774		15.513			
4 - STR (A1-M1-R3)	H - V	1.660		16.008			
5 - STR (A1-M1-R3)		3.641		25.884			
6 - STR (A1-M1-R3)		3.363		25.292			
7 - STR (A1-M1-R3)		3.128		26.143			
8 - STR (A1-M1-R3)		3.331		24.087			
9 - STR (A1-M1-R3)		3.096		22.876			
10 - STR (A1-M1-R3)		2.897		22.777			
11 - GEO (A2-M2-R2)					2.167		
12 - GEO (A2-M2-R2)					2.029		
13 - GEO (A2-M2-R2)	H + V				2.108		
14 - GEO (A2-M2-R2)	H - V				2.045		
15 - EQU (A1-M1-R3)			7.653				
16 - EQU (A1-M1-R3)			6.731				
17 - EQU (A1-M1-R3)	H + V		3.248				
18 - EQU (A1-M1-R3)	H - V		2.499				

Verifica a scorrimento fondazione

Simbologia adottata

n°	Indice combinazione
Rsa	Resistenza allo scorrimento per attrito, espresso in [kN]

Rpt Resistenza passiva terreno antistante, espresso in [kN]
Rps Resistenza passiva sperone, espresso in [kN]
Rp Resistenza a carichi orizzontali pali (solo per fondazione mista), espresso in [kN]
Rt Resistenza a carichi orizzontali tiranti (solo se presenti), espresso in [kN]
R Resistenza allo scorrimento (somma di Rsa+Rpt+Rps+Rp), espresso in [kN]
T Carico parallelo al piano di posa, espresso in [kN]
FS Fattore di sicurezza (rapporto R/T)

n°	Rsa [kN]	Rpt [kN]	Rps [kN]	Rp [kN]	Rt [kN]	R [kN]	T [kN]	FS
1 - STR (A1-M1-R3)	270.20	0.00	0.00	--	--	270.20	94.79	2.851
2 - STR (A1-M1-R3)	298.35	0.00	0.00	--	--	298.35	112.06	2.662
3 - STR (A1-M1-R3) H + V	286.80	0.00	0.00	--	--	286.80	161.67	1.774
4 - STR (A1-M1-R3) H - V	254.23	0.00	0.00	--	--	254.23	153.13	1.660
5 - STR (A1-M1-R3)	345.10	0.00	0.00	--	--	345.10	94.79	3.641
6 - STR (A1-M1-R3)	318.80	0.00	0.00	--	--	318.80	94.79	3.363
7 - STR (A1-M1-R3)	296.51	0.00	0.00	--	--	296.51	94.79	3.128
8 - STR (A1-M1-R3)	373.25	0.00	0.00	--	--	373.25	112.06	3.331
9 - STR (A1-M1-R3)	346.95	0.00	0.00	--	--	346.95	112.06	3.096
10 - STR (A1-M1-R3)	324.65	0.00	0.00	--	--	324.65	112.06	2.897

Verifica a carico limite

Simbologia adottata

n° Indice combinazione
N Carico normale totale al piano di posa, espresso in [kN]
Qu carico limite del terreno, espresso in [kN]
Qd Portanza di progetto, espresso in [kN]
FS Fattore di sicurezza (rapporto tra il carico limie e carico agente al piano di posa)

n°	N [kN]	Qu [kN]	Qd [kN]	FS
1 - STR (A1-M1-R3)	537.94	15716.08	11225.77	29.215
2 - STR (A1-M1-R3)	593.98	14796.85	10569.18	24.911
3 - STR (A1-M1-R3) H + V	570.99	8857.72	7381.44	15.513
4 - STR (A1-M1-R3) H - V	506.13	8101.98	6751.65	16.008
5 - STR (A1-M1-R3)	687.06	17783.81	12702.72	25.884
6 - STR (A1-M1-R3)	634.70	16052.99	11466.42	25.292
7 - STR (A1-M1-R3)	590.30	15432.26	11023.05	26.143
8 - STR (A1-M1-R3)	743.10	17898.81	12784.86	24.087
9 - STR (A1-M1-R3)	690.74	15801.41	11286.72	22.876
10 - STR (A1-M1-R3)	646.34	14721.64	10515.46	22.777

Dettagli calcolo portanza

Simbologia adottata

n° Indice combinazione
Nc, Nq, N□ Fattori di capacità portante
ic, iq, i□ Fattori di inclinazione del carico
dc, dq, d□ Fattori di profondità del piano di posa
gc, gq, g□ Fattori di inclinazione del profilo topografico
bc, bq, b□ Fattori di inclinazione del piano di posa
sc, sq, s□ Fattori di forma della fondazione
pc, pq, p□ Fattori di riduzione per punzonamento secondo Vesic
Re Fattore di riduzione capacità portante per eccentricità secondo Meyerhof
Ir, Irc Indici di rigidezza per punzonamento secondo Vesic
r□ Fattori per tener conto dell'effetto piastra. Per fondazioni che hanno larghezza maggiore di 2 m, il terzo termine della formula trinomia 0.5B □N□ viene moltiplicato per questo fattore
D Affondamento del piano di posa, espresso in [m]
B' Larghezza fondazione ridotta, espresso in [m]
H Altezza del cuneo di rottura, espresso in [m]
□ Peso di volume del terreno medio, espresso in [kN/mc]
□ Angolo di attrito del terreno medio, espresso in [°]
c Coesione del terreno medio, espresso in [kPa]
Per i coeff. che in tabella sono indicati con il simbolo '--' sono coeff. non presenti nel metodo scelto (Meyerhof).

n°	Nc Nq N□	ic iq i□	dc dq d□	gc gq g□	bc bq b□	sc sq s□	pc pq p□	Ir	Irc	Re	r□
1	75.313	0.790	1.086	--	--	1.531	--	--	--	0.930	0.912
	64.195	0.790	1.043	--	--	1.265	--				
	93.691	0.563	1.043	--	--	1.265	--				
2	75.313	0.777	1.086	--	--	1.531	--	--	--	0.910	0.912
	64.195	0.777	1.043	--	--	1.265	--				
	93.691	0.537	1.043	--	--	1.265	--				
3	75.313	0.680	1.086	--	--	1.531	--	--	--	0.736	0.912
	64.195	0.680	1.043	--	--	1.265	--				
	93.691	0.366	1.043	--	--	1.265	--				
4	75.313	0.661	1.086	--	--	1.531	--	--	--	0.719	0.912
	64.195	0.661	1.043	--	--	1.265	--				
	93.691	0.335	1.043	--	--	1.265	--				
5	75.313	0.833	1.086	--	--	1.531	--	--	--	0.940	0.912

n°	Nc Nq N□	ic iq i□	dc dq d□	gc gq g□	bc bq b□	sc sq s□	pc pq p□	Ir	Irc	Re	r□
	64.195 93.691	0.833 0.646	1.043 1.043	-- --	-- --	1.265 1.265	-- --				
6	75.313 64.195 93.691	0.820 0.820 0.620	1.086 1.043 1.043	-- -- --	-- -- --	1.531 1.265 1.265	-- -- --	--	--	0.877	0.912
7	75.313 64.195 93.691	0.808 0.808 0.596	1.086 1.043 1.043	-- -- --	-- -- --	1.531 1.265 1.265	-- -- --	--	--	0.872	0.912
8	75.313 64.195 93.691	0.819 0.819 0.617	1.086 1.043 1.043	-- -- --	-- -- --	1.531 1.265 1.265	-- -- --	--	--	0.982	0.912
9	75.313 64.195 93.691	0.806 0.806 0.592	1.086 1.043 1.043	-- -- --	-- -- --	1.531 1.265 1.265	-- -- --	--	--	0.897	0.912
10	75.313 64.195 93.691	0.793 0.793 0.569	1.086 1.043 1.043	-- -- --	-- -- --	1.531 1.265 1.265	-- -- --	--	--	0.864	0.912

n°	D [m]	B' [m]	H [m]	□ [°]	□ [kN/mc]	c [kPa]
1	0.90	4.50	4.82	18.50	40.00	0
2	0.90	4.50	4.82	18.50	40.00	0
3	0.90	4.50	4.82	18.50	40.00	0
4	0.90	4.50	4.82	18.50	40.00	0
5	0.90	4.50	4.82	18.50	40.00	0
6	0.90	4.50	4.82	18.50	40.00	0
7	0.90	4.50	4.82	18.50	40.00	0
8	0.90	4.50	4.82	18.50	40.00	0
9	0.90	4.50	4.82	18.50	40.00	0
10	0.90	4.50	4.82	18.50	40.00	0

Verifica a ribaltamento

Simbologia adottata

n° Indice combinazione
Ms Momento stabilizzante, espresso in [kNm]
Mr Momento ribaltante, espresso in [kNm]
FS Fattore di sicurezza (rapporto tra momento stabilizzante e momento ribaltante)
La verifica viene eseguita rispetto allo spigolo inferiore esterno della fondazione

n°	Ms [kNm]	Mr [kNm]	FS
15 - EQU (A1-M1-R3)	1378.47	180.11	7.653
16 - EQU (A1-M1-R3)	1543.67	229.33	6.731
17 - EQU (A1-M1-R3) H + V	1531.14	471.44	3.248
18 - EQU (A1-M1-R3) H - V	1398.03	559.33	2.499

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 [m]	R [m]	FS
11 - GEO (A2-M2-R2)	-0.50; 3.02	9.65	2.167
12 - GEO (A2-M2-R2)	-1.01; 3.02	9.87	2.029
13 - GEO (A2-M2-R2) H + V	-1.01; 4.53	11.23	2.108
14 - GEO (A2-M2-R2) H - V	-1.01; 4.53	11.23	2.045

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]
□ angolo fra la base della striscia e l'orizzontale espresso in [°] (positivo antiorario)
□ 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° 11 - GEO (A2-M2-R2)

n°	W [kN]	Qy [kN]	Qf [kN]	b [m]	□ [°]	□ [°]	c [kPa]	u [kPa]	Tx; Ty [kN]
1	8.26	0.00	0.00	8.67 - 0.59	66.896	29.256	0	0.0	
2	22.45	0.00	0.00	0.59	59.325	29.256	0	0.0	
3	33.06	0.00	0.00	0.59	52.943	29.256	0	0.0	
4	41.55	0.00	0.00	0.59	47.413	29.256	0	0.0	
5	48.61	0.00	0.00	0.59	42.420	29.256	0	0.0	
6	54.56	0.00	0.00	0.59	37.802	29.256	0	0.0	
7	59.62	0.00	0.00	0.59	33.458	29.256	0	0.0	
8	63.92	0.00	0.00	0.59	29.324	29.256	0	0.0	
9	63.97	0.00	0.00	0.59	25.352	29.256	0	0.0	
10	72.82	0.00	0.00	0.59	21.507	33.873	0	0.0	
11	75.15	0.00	0.00	0.59	17.762	33.873	0	0.0	
12	77.01	0.00	0.00	0.59	14.094	33.873	0	0.0	
13	78.43	0.00	0.00	0.59	10.485	33.873	0	0.0	
14	79.74	0.00	0.00	0.59	6.917	33.873	0	0.0	
15	89.93	0.00	0.00	0.59	3.376	33.873	0	0.0	
16	36.89	0.00	0.00	0.59	-0.152	33.873	0	0.0	
17	20.89	0.00	0.00	0.59	-3.680	33.873	0	0.0	
18	19.97	0.00	0.00	0.59	-7.223	33.873	0	0.0	
19	18.93	0.00	0.00	0.59	-10.794	33.873	0	0.0	
20	17.48	0.00	0.00	0.59	-14.407	33.873	0	0.0	
21	15.57	0.00	0.00	0.59	-18.081	33.873	0	0.0	
22	13.21	0.00	0.00	0.59	-21.834	33.873	0	0.0	
23	10.29	0.00	0.00	0.59	-25.688	33.873	0	0.0	
24	6.60	0.00	0.00	0.59	-29.673	33.873	0	0.0	
25	2.24	0.00	0.00	-6.17 - 0.59	-33.117	33.873	0	0.0	

Combinazione n° 12 - GEO (A2-M2-R2)

n°	W [kN]	Qy [kN]	Qf [kN]	b [m]	□ [°]	□ [°]	c [kPa]	u [kPa]	Tx; Ty [kN]
1	9.09	7.11	0.00	8.40 - 0.62	67.207	29.256	0	0.0	
2	24.64	7.11	0.00	0.62	59.409	29.256	0	0.0	
3	36.15	7.11	0.00	0.62	52.909	29.256	0	0.0	
4	45.33	7.11	0.00	0.62	47.290	29.256	0	0.0	
5	52.94	7.11	0.00	0.62	42.224	29.256	0	0.0	
6	59.34	7.11	0.00	0.62	37.540	29.256	0	0.0	
7	64.77	7.11	0.00	0.62	33.137	29.256	0	0.0	
8	64.92	7.11	0.00	0.62	28.946	29.256	0	0.0	
9	75.56	7.11	0.00	0.62	24.919	33.873	0	0.0	
10	78.56	7.11	0.00	0.62	21.020	33.873	0	0.0	
11	81.01	7.11	0.00	0.62	17.222	33.873	0	0.0	
12	82.95	7.11	0.00	0.62	13.500	33.873	0	0.0	
13	84.68	7.11	0.00	0.62	9.836	33.873	0	0.0	
14	95.72	4.25	0.00	0.62	6.212	33.873	0	0.0	
15	38.66	0.00	0.00	0.62	2.613	33.873	0	0.0	
16	24.35	0.00	0.00	0.62	-0.976	33.873	0	0.0	
17	23.88	0.00	0.00	0.62	-4.568	33.873	0	0.0	
18	23.09	0.00	0.00	0.62	-8.179	33.873	0	0.0	
19	21.84	0.00	0.00	0.62	-11.823	33.873	0	0.0	
20	20.12	0.00	0.00	0.62	-15.516	33.873	0	0.0	
21	17.90	0.00	0.00	0.62	-19.277	33.873	0	0.0	
22	15.16	0.00	0.00	0.62	-23.127	33.873	0	0.0	
23	11.83	0.00	0.00	0.62	-27.092	33.873	0	0.0	
24	7.63	0.00	0.00	0.62	-31.203	33.873	0	0.0	
25	2.60	0.00	0.00	-7.05 - 0.62	-34.866	33.873	0	0.0	

Combinazione n° 13 - GEO (A2-M2-R2) H + V

n°	W [kN]	Qy [kN]	Qf [kN]	b [m]	□ [°]	□ [°]	c [kPa]	u [kPa]	Tx; Ty [kN]
1	8.32	0.00	0.00	9.28 - 0.66	62.195	35.000	0	0.0	
2	23.12	0.00	0.00	0.66	55.958	35.000	0	0.0	
3	34.89	0.00	0.00	0.66	50.295	35.000	0	0.0	
4	44.60	0.00	0.00	0.66	45.251	35.000	0	0.0	
5	52.78	0.00	0.00	0.66	40.625	35.000	0	0.0	
6	59.77	0.00	0.00	0.66	36.303	35.000	0	0.0	
7	65.75	0.00	0.00	0.66	32.210	35.000	0	0.0	
8	70.87	0.00	0.00	0.66	28.295	35.000	0	0.0	
9	71.10	0.00	0.00	0.66	24.520	35.000	0	0.0	
10	81.34	0.00	0.00	0.66	20.856	40.000	0	0.0	
11	84.15	0.00	0.00	0.66	17.279	40.000	0	0.0	
12	86.40	0.00	0.00	0.66	13.771	40.000	0	0.0	
13	88.14	0.00	0.00	0.66	10.315	40.000	0	0.0	
14	94.35	0.00	0.00	0.66	6.896	40.000	0	0.0	
15	74.73	0.00	0.00	0.66	3.502	40.000	0	0.0	
16	25.10	0.00	0.00	0.66	0.121	40.000	0	0.0	

n°	W	Qy	Qf	b	□	□	c	u	Tx; Ty
	[kN]	[kN]	[kN]	[m]	[°]	[°]	[kPa]	[kPa]	[kN]
17	23.88	0.00	0.00	0.66	-3.260	40.000	0	0.0	
18	23.17	0.00	0.00	0.66	-6.653	40.000	0	0.0	
19	21.98	0.00	0.00	0.66	-10.069	40.000	0	0.0	
20	20.28	0.00	0.00	0.66	-13.522	40.000	0	0.0	
21	18.06	0.00	0.00	0.66	-17.026	40.000	0	0.0	
22	15.30	0.00	0.00	0.66	-20.597	40.000	0	0.0	
23	11.91	0.00	0.00	0.66	-24.255	40.000	0	0.0	
24	7.64	0.00	0.00	0.66	-28.021	40.000	0	0.0	
25	2.57	0.00	0.00	-7.27 - 0.66	-31.171	40.000	0	0.0	

Combinazione n° 14 - GEO (A2-M2-R2) H - V

n°	W	Qy	Qf	b	□	□	c	u	Tx; Ty
	[kN]	[kN]	[kN]	[m]	[°]	[°]	[kPa]	[kPa]	[kN]
1	8.32	0.00	0.00	9.28 - 0.66	62.195	35.000	0	0.0	
2	23.12	0.00	0.00	0.66	55.958	35.000	0	0.0	
3	34.89	0.00	0.00	0.66	50.295	35.000	0	0.0	
4	44.60	0.00	0.00	0.66	45.251	35.000	0	0.0	
5	52.78	0.00	0.00	0.66	40.625	35.000	0	0.0	
6	59.77	0.00	0.00	0.66	36.303	35.000	0	0.0	
7	65.75	0.00	0.00	0.66	32.210	35.000	0	0.0	
8	70.87	0.00	0.00	0.66	28.295	35.000	0	0.0	
9	71.10	0.00	0.00	0.66	24.520	35.000	0	0.0	
10	81.34	0.00	0.00	0.66	20.856	40.000	0	0.0	
11	84.15	0.00	0.00	0.66	17.279	40.000	0	0.0	
12	86.40	0.00	0.00	0.66	13.771	40.000	0	0.0	
13	88.14	0.00	0.00	0.66	10.315	40.000	0	0.0	
14	94.35	0.00	0.00	0.66	6.896	40.000	0	0.0	
15	74.73	0.00	0.00	0.66	3.502	40.000	0	0.0	
16	25.10	0.00	0.00	0.66	0.121	40.000	0	0.0	
17	23.88	0.00	0.00	0.66	-3.260	40.000	0	0.0	
18	23.17	0.00	0.00	0.66	-6.653	40.000	0	0.0	
19	21.98	0.00	0.00	0.66	-10.069	40.000	0	0.0	
20	20.28	0.00	0.00	0.66	-13.522	40.000	0	0.0	
21	18.06	0.00	0.00	0.66	-17.026	40.000	0	0.0	
22	15.30	0.00	0.00	0.66	-20.597	40.000	0	0.0	
23	11.91	0.00	0.00	0.66	-24.255	40.000	0	0.0	
24	7.64	0.00	0.00	0.66	-28.021	40.000	0	0.0	
25	2.57	0.00	0.00	-7.27 - 0.66	-31.171	40.000	0	0.0	

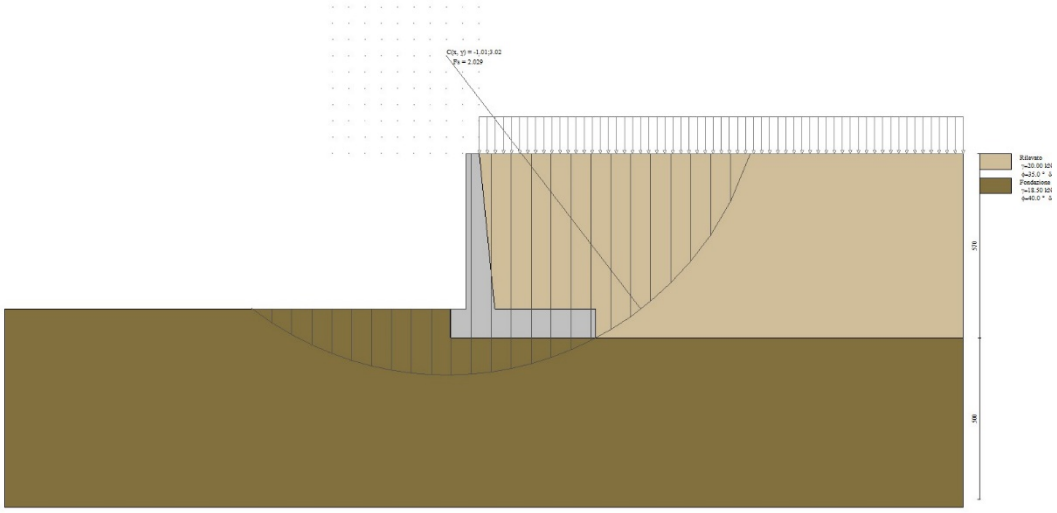


Fig. 7 - Stabilità fronte di scavo - Cerchio critico (Combinazione n° 12)

11.3.4 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 [m]	N [kN]	T [kN]	M [kNm]
1	0.00	0.00	0.00	0.00
2	-0.10	0.99	0.03	0.00
3	-0.20	2.01	0.13	0.02
4	-0.30	3.05	0.30	0.05
5	-0.40	4.12	0.52	0.11
6	-0.50	5.21	0.82	0.20
7	-0.60	6.32	1.17	0.33
8	-0.70	7.46	1.59	0.50
9	-0.80	8.63	2.08	0.72
10	-0.90	9.82	2.63	1.00
11	-1.00	11.03	3.25	1.35
12	-1.10	12.27	3.93	1.77
13	-1.20	13.53	4.68	2.26
14	-1.30	14.82	5.49	2.84
15	-1.40	16.13	6.37	3.51
16	-1.50	17.46	7.31	4.28
17	-1.60	18.82	8.32	5.15
18	-1.70	20.21	9.39	6.13
19	-1.80	21.62	10.53	7.23
20	-1.90	23.05	11.73	8.45
21	-2.00	24.51	12.99	9.81
22	-2.10	25.99	14.33	11.30
23	-2.20	27.50	15.72	12.93
24	-2.30	29.03	17.18	14.72
25	-2.40	30.58	18.71	16.66
26	-2.50	32.16	20.30	18.77
27	-2.60	33.77	21.96	21.05
28	-2.70	35.40	23.68	23.50
29	-2.80	37.05	25.47	26.14
30	-2.90	38.73	27.32	28.97
31	-3.00	40.43	29.23	31.99
32	-3.10	42.16	31.21	35.22
33	-3.20	43.91	33.26	38.66
34	-3.30	45.69	35.37	42.31
35	-3.40	47.49	37.55	46.19
36	-3.50	49.31	39.79	50.30
37	-3.60	51.16	42.09	54.64
38	-3.70	53.04	44.46	59.23
39	-3.80	54.93	46.90	64.07
40	-3.90	56.86	49.40	69.16
41	-4.00	58.80	51.97	74.52
42	-4.10	60.78	54.60	80.14
43	-4.20	62.77	57.29	86.04
44	-4.30	64.79	60.05	92.23
45	-4.40	66.84	62.88	98.70
46	-4.50	68.91	65.77	105.47
47	-4.60	71.00	68.73	112.55
48	-4.70	73.12	71.75	119.93
49	-4.80	75.26	74.83	127.63

Combinazione n° 2 - STR (A1-M1-R3)

n°	X [m]	N [kN]	T [kN]	M [kNm]
1	0.00	0.00	0.00	0.00
2	-0.10	0.99	0.37	0.02
3	-0.20	2.01	0.81	0.09
4	-0.30	3.05	1.31	0.20
5	-0.40	4.12	1.87	0.38
6	-0.50	5.21	2.50	0.62
7	-0.60	6.32	3.20	0.93
8	-0.70	7.46	3.96	1.33
9	-0.80	8.63	4.78	1.80
10	-0.90	9.82	5.67	2.37

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
11	-1.00	11.03	6.62	3.04
12	-1.10	12.27	7.64	3.81
13	-1.20	13.53	8.73	4.69
14	-1.30	14.82	9.88	5.69
15	-1.40	16.13	11.09	6.82
16	-1.50	17.46	12.37	8.07
17	-1.60	18.82	13.71	9.47
18	-1.70	20.21	15.12	11.00
19	-1.80	21.62	16.60	12.69
20	-1.90	23.05	18.14	14.54
21	-2.00	24.51	19.74	16.55
22	-2.10	25.99	21.41	18.74
23	-2.20	27.50	23.14	21.10
24	-2.30	29.03	24.94	23.64
25	-2.40	30.58	26.80	26.38
26	-2.50	32.16	28.73	29.31
27	-2.60	33.77	30.73	32.45
28	-2.70	35.40	32.79	35.79
29	-2.80	37.05	34.91	39.36
30	-2.90	38.73	37.10	43.15
31	-3.00	40.43	39.35	47.17
32	-3.10	42.16	41.67	51.42
33	-3.20	43.91	44.05	55.92
34	-3.30	45.69	46.50	60.67
35	-3.40	47.49	49.01	65.68
36	-3.50	49.31	51.59	70.95
37	-3.60	51.16	54.24	76.50
38	-3.70	53.04	56.94	82.31
39	-3.80	54.93	59.72	88.42
40	-3.90	56.86	62.55	94.81
41	-4.00	58.80	65.46	101.50
42	-4.10	60.78	68.43	108.49
43	-4.20	62.77	71.46	115.79
44	-4.30	64.79	74.56	123.41
45	-4.40	66.84	77.72	131.35
46	-4.50	68.91	80.95	139.62
47	-4.60	71.00	84.24	148.23
48	-4.70	73.12	87.60	157.18
49	-4.80	75.26	91.02	166.48

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

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	0.00	0.00	0.00	0.00
2	-0.10	1.05	0.16	0.01
3	-0.20	2.13	0.38	0.04
4	-0.30	3.24	0.68	0.11
5	-0.40	4.37	1.05	0.22
6	-0.50	5.53	1.49	0.37
7	-0.60	6.71	2.00	0.57
8	-0.70	7.92	2.58	0.84
9	-0.80	9.16	3.23	1.17
10	-0.90	10.42	3.95	1.57
11	-1.00	11.71	4.74	2.06
12	-1.10	13.02	5.60	2.64
13	-1.20	14.36	6.53	3.32
14	-1.30	15.73	7.54	4.09
15	-1.40	17.12	8.61	4.98
16	-1.50	18.54	9.75	5.99
17	-1.60	19.98	10.97	7.12
18	-1.70	21.45	12.25	8.38
19	-1.80	22.95	13.61	9.79
20	-1.90	24.47	15.04	11.34
21	-2.00	26.02	16.53	13.04
22	-2.10	27.59	18.10	14.91
23	-2.20	29.19	19.74	16.94
24	-2.30	30.81	21.45	19.15
25	-2.40	32.47	23.23	21.54
26	-2.50	34.14	25.08	24.12
27	-2.60	35.85	27.00	26.90
28	-2.70	37.58	28.99	29.88
29	-2.80	39.33	31.05	33.07
30	-2.90	41.11	33.18	36.48
31	-3.00	42.92	35.38	40.12
32	-3.10	44.75	37.66	43.99
33	-3.20	46.61	40.00	48.10
34	-3.30	48.50	42.42	52.46
35	-3.40	50.41	44.90	57.07
36	-3.50	52.35	47.46	61.95
37	-3.60	54.31	50.08	67.09
38	-3.70	56.30	52.78	72.51
39	-3.80	58.31	55.55	78.21

n°	X [m]	N [kN]	T [kN]	M [kNm]
40	-3.90	60.36	58.39	84.20
41	-4.00	62.42	61.30	90.49
42	-4.10	64.52	64.27	97.09
43	-4.20	66.63	67.32	103.99
44	-4.30	68.78	70.44	111.22
45	-4.40	70.95	73.64	118.77
46	-4.50	73.15	76.90	126.66
47	-4.60	75.37	80.23	134.88
48	-4.70	77.62	83.63	143.46
49	-4.80	79.89	87.11	152.39

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

n°	X [m]	N [kN]	T [kN]	M [kNm]
1	0.00	0.00	0.00	0.00
2	-0.10	0.93	0.15	0.01
3	-0.20	1.89	0.37	0.04
4	-0.30	2.86	0.66	0.10
5	-0.40	3.87	1.00	0.20
6	-0.50	4.89	1.41	0.35
7	-0.60	5.94	1.89	0.54
8	-0.70	7.00	2.43	0.79
9	-0.80	8.10	3.04	1.10
10	-0.90	9.21	3.71	1.48
11	-1.00	10.35	4.44	1.93
12	-1.10	11.51	5.24	2.47
13	-1.20	12.70	6.11	3.10
14	-1.30	13.90	7.04	3.82
15	-1.40	15.14	8.03	4.65
16	-1.50	16.39	9.09	5.58
17	-1.60	17.66	10.21	6.63
18	-1.70	18.96	11.40	7.80
19	-1.80	20.29	12.65	9.10
20	-1.90	21.63	13.97	10.54
21	-2.00	23.00	15.35	12.11
22	-2.10	24.39	16.80	13.84
23	-2.20	25.80	18.31	15.72
24	-2.30	27.24	19.89	17.76
25	-2.40	28.70	21.53	19.97
26	-2.50	30.19	23.23	22.35
27	-2.60	31.69	25.00	24.92
28	-2.70	33.22	26.84	27.67
29	-2.80	34.77	28.74	30.62
30	-2.90	36.35	30.70	33.77
31	-3.00	37.94	32.73	37.13
32	-3.10	39.57	34.82	40.70
33	-3.20	41.21	36.98	44.49
34	-3.30	42.88	39.20	48.51
35	-3.40	44.57	41.49	52.76
36	-3.50	46.28	43.84	57.25
37	-3.60	48.01	46.26	61.99
38	-3.70	49.77	48.74	66.98
39	-3.80	51.55	51.29	72.24
40	-3.90	53.36	53.90	77.76
41	-4.00	55.19	56.57	83.55
42	-4.10	57.04	59.31	89.63
43	-4.20	58.91	62.12	95.99
44	-4.30	60.81	64.99	102.64
45	-4.40	62.73	67.92	109.59
46	-4.50	64.67	70.92	116.85
47	-4.60	66.63	73.98	124.43
48	-4.70	68.62	77.11	132.32
49	-4.80	70.63	80.31	140.54

Combinazione n° 5 - STR (A1-M1-R3)

n°	X [m]	N [kN]	T [kN]	M [kNm]
1	0.00	0.00	0.00	0.00
2	-0.10	1.29	0.03	0.00
3	-0.20	2.61	0.13	0.02
4	-0.30	3.97	0.30	0.06
5	-0.40	5.35	0.52	0.12
6	-0.50	6.77	0.82	0.22
7	-0.60	8.22	1.17	0.36
8	-0.70	9.70	1.59	0.54
9	-0.80	11.22	2.08	0.77
10	-0.90	12.76	2.63	1.07
11	-1.00	14.34	3.25	1.43
12	-1.10	15.95	3.93	1.86
13	-1.20	17.59	4.68	2.38

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
14	-1.30	19.26	5.49	2.98
15	-1.40	20.97	6.37	3.67
16	-1.50	22.70	7.31	4.46
17	-1.60	24.47	8.32	5.36
18	-1.70	26.27	9.39	6.37
19	-1.80	28.10	10.53	7.50
20	-1.90	29.96	11.73	8.76
21	-2.00	31.86	12.99	10.15
22	-2.10	33.79	14.33	11.68
23	-2.20	35.75	15.72	13.36
24	-2.30	37.74	17.18	15.18
25	-2.40	39.76	18.71	17.17
26	-2.50	41.81	20.30	19.32
27	-2.60	43.90	21.96	21.65
28	-2.70	46.02	23.68	24.16
29	-2.80	48.17	25.47	26.85
30	-2.90	50.35	27.32	29.73
31	-3.00	52.56	29.23	32.82
32	-3.10	54.81	31.21	36.11
33	-3.20	57.08	33.26	39.61
34	-3.30	59.39	35.37	43.33
35	-3.40	61.73	37.55	47.28
36	-3.50	64.11	39.79	51.46
37	-3.60	66.51	42.09	55.88
38	-3.70	68.95	44.46	60.54
39	-3.80	71.41	46.90	65.46
40	-3.90	73.91	49.40	70.64
41	-4.00	76.45	51.97	76.08
42	-4.10	79.01	54.60	81.80
43	-4.20	81.60	57.29	87.79
44	-4.30	84.23	60.05	94.07
45	-4.40	86.89	62.88	100.64
46	-4.50	89.58	65.77	107.52
47	-4.60	92.30	68.73	114.70
48	-4.70	95.06	71.75	122.19
49	-4.80	97.84	74.83	130.00

Combinazione n° 6 - STR (A1-M1-R3)

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	0.00	0.00	0.00	0.00
2	-0.10	0.99	0.03	0.00
3	-0.20	2.01	0.13	0.02
4	-0.30	3.05	0.30	0.05
5	-0.40	4.12	0.52	0.11
6	-0.50	5.21	0.82	0.20
7	-0.60	6.32	1.17	0.33
8	-0.70	7.46	1.59	0.50
9	-0.80	8.63	2.08	0.72
10	-0.90	9.82	2.63	1.00
11	-1.00	11.03	3.25	1.35
12	-1.10	12.27	3.93	1.77
13	-1.20	13.53	4.68	2.26
14	-1.30	14.82	5.49	2.84
15	-1.40	16.13	6.37	3.51
16	-1.50	17.46	7.31	4.28
17	-1.60	18.82	8.32	5.15
18	-1.70	20.21	9.39	6.13
19	-1.80	21.62	10.53	7.23
20	-1.90	23.05	11.73	8.45
21	-2.00	24.51	12.99	9.81
22	-2.10	25.99	14.33	11.30
23	-2.20	27.50	15.72	12.93
24	-2.30	29.03	17.18	14.72
25	-2.40	30.58	18.71	16.66
26	-2.50	32.16	20.30	18.77
27	-2.60	33.77	21.96	21.05
28	-2.70	35.40	23.68	23.50
29	-2.80	37.05	25.47	26.14
30	-2.90	38.73	27.32	28.97
31	-3.00	40.43	29.23	31.99
32	-3.10	42.16	31.21	35.22
33	-3.20	43.91	33.26	38.66
34	-3.30	45.69	35.37	42.31
35	-3.40	47.49	37.55	46.19
36	-3.50	49.31	39.79	50.30
37	-3.60	51.16	42.09	54.64
38	-3.70	53.04	44.46	59.23
39	-3.80	54.93	46.90	64.07
40	-3.90	56.86	49.40	69.16
41	-4.00	58.80	51.97	74.52
42	-4.10	60.78	54.60	80.14

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
43	-4.20	62.77	57.29	86.04
44	-4.30	64.79	60.05	92.23
45	-4.40	66.84	62.88	98.70
46	-4.50	68.91	65.77	105.47
47	-4.60	71.00	68.73	112.55
48	-4.70	73.12	71.75	119.93
49	-4.80	75.26	74.83	127.63

Combinazione n° 7 - STR (A1-M1-R3)

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	0.00	0.00	0.00	0.00
2	-0.10	1.29	0.03	0.00
3	-0.20	2.61	0.13	0.02
4	-0.30	3.97	0.30	0.06
5	-0.40	5.35	0.52	0.12
6	-0.50	6.77	0.82	0.22
7	-0.60	8.22	1.17	0.36
8	-0.70	9.70	1.59	0.54
9	-0.80	11.22	2.08	0.77
10	-0.90	12.76	2.63	1.07
11	-1.00	14.34	3.25	1.43
12	-1.10	15.95	3.93	1.86
13	-1.20	17.59	4.68	2.38
14	-1.30	19.26	5.49	2.98
15	-1.40	20.97	6.37	3.67
16	-1.50	22.70	7.31	4.46
17	-1.60	24.47	8.32	5.36
18	-1.70	26.27	9.39	6.37
19	-1.80	28.10	10.53	7.50
20	-1.90	29.96	11.73	8.76
21	-2.00	31.86	12.99	10.15
22	-2.10	33.79	14.33	11.68
23	-2.20	35.75	15.72	13.36
24	-2.30	37.74	17.18	15.18
25	-2.40	39.76	18.71	17.17
26	-2.50	41.81	20.30	19.32
27	-2.60	43.90	21.96	21.65
28	-2.70	46.02	23.68	24.16
29	-2.80	48.17	25.47	26.85
30	-2.90	50.35	27.32	29.73
31	-3.00	52.56	29.23	32.82
32	-3.10	54.81	31.21	36.11
33	-3.20	57.08	33.26	39.61
34	-3.30	59.39	35.37	43.33
35	-3.40	61.73	37.55	47.28
36	-3.50	64.11	39.79	51.46
37	-3.60	66.51	42.09	55.88
38	-3.70	68.95	44.46	60.54
39	-3.80	71.41	46.90	65.46
40	-3.90	73.91	49.40	70.64
41	-4.00	76.45	51.97	76.08
42	-4.10	79.01	54.60	81.80
43	-4.20	81.60	57.29	87.79
44	-4.30	84.23	60.05	94.07
45	-4.40	86.89	62.88	100.64
46	-4.50	89.58	65.77	107.52
47	-4.60	92.30	68.73	114.70
48	-4.70	95.06	71.75	122.19
49	-4.80	97.84	74.83	130.00

Combinazione n° 8 - STR (A1-M1-R3)

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	0.00	0.00	0.00	0.00
2	-0.10	1.29	0.37	0.02
3	-0.20	2.61	0.81	0.09
4	-0.30	3.97	1.31	0.21
5	-0.40	5.35	1.87	0.39
6	-0.50	6.77	2.50	0.64
7	-0.60	8.22	3.20	0.96
8	-0.70	9.70	3.96	1.36
9	-0.80	11.22	4.78	1.85
10	-0.90	12.76	5.67	2.43
11	-1.00	14.34	6.62	3.12
12	-1.10	15.95	7.64	3.90
13	-1.20	17.59	8.73	4.81
14	-1.30	19.26	9.88	5.83
15	-1.40	20.97	11.09	6.98
16	-1.50	22.70	12.37	8.26

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
17	-1.60	24.47	13.71	9.68
18	-1.70	26.27	15.12	11.25
19	-1.80	28.10	16.60	12.97
20	-1.90	29.96	18.14	14.85
21	-2.00	31.86	19.74	16.90
22	-2.10	33.79	21.41	19.12
23	-2.20	35.75	23.14	21.52
24	-2.30	37.74	24.94	24.10
25	-2.40	39.76	26.80	26.88
26	-2.50	41.81	28.73	29.86
27	-2.60	43.90	30.73	33.05
28	-2.70	46.02	32.79	36.45
29	-2.80	48.17	34.91	40.07
30	-2.90	50.35	37.10	43.91
31	-3.00	52.56	39.35	47.99
32	-3.10	54.81	41.67	52.31
33	-3.20	57.08	44.05	56.88
34	-3.30	59.39	46.50	61.69
35	-3.40	61.73	49.01	66.77
36	-3.50	64.11	51.59	72.11
37	-3.60	66.51	54.24	77.73
38	-3.70	68.95	56.94	83.63
39	-3.80	71.41	59.72	89.81
40	-3.90	73.91	62.55	96.29
41	-4.00	76.45	65.46	103.06
42	-4.10	79.01	68.43	110.14
43	-4.20	81.60	71.46	117.54
44	-4.30	84.23	74.56	125.25
45	-4.40	86.89	77.72	133.29
46	-4.50	89.58	80.95	141.66
47	-4.60	92.30	84.24	150.38
48	-4.70	95.06	87.60	159.44
49	-4.80	97.84	91.02	168.85

Combinazione n° 9 - STR (A1-M1-R3)

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	0.00	0.00	0.00	0.00
2	-0.10	0.99	0.37	0.02
3	-0.20	2.01	0.81	0.09
4	-0.30	3.05	1.31	0.20
5	-0.40	4.12	1.87	0.38
6	-0.50	5.21	2.50	0.62
7	-0.60	6.32	3.20	0.93
8	-0.70	7.46	3.96	1.33
9	-0.80	8.63	4.78	1.80
10	-0.90	9.82	5.67	2.37
11	-1.00	11.03	6.62	3.04
12	-1.10	12.27	7.64	3.81
13	-1.20	13.53	8.73	4.69
14	-1.30	14.82	9.88	5.69
15	-1.40	16.13	11.09	6.82
16	-1.50	17.46	12.37	8.07
17	-1.60	18.82	13.71	9.47
18	-1.70	20.21	15.12	11.00
19	-1.80	21.62	16.60	12.69
20	-1.90	23.05	18.14	14.54
21	-2.00	24.51	19.74	16.55
22	-2.10	25.99	21.41	18.74
23	-2.20	27.50	23.14	21.10
24	-2.30	29.03	24.94	23.64
25	-2.40	30.58	26.80	26.38
26	-2.50	32.16	28.73	29.31
27	-2.60	33.77	30.73	32.45
28	-2.70	35.40	32.79	35.79
29	-2.80	37.05	34.91	39.36
30	-2.90	38.73	37.10	43.15
31	-3.00	40.43	39.35	47.17
32	-3.10	42.16	41.67	51.42
33	-3.20	43.91	44.05	55.92
34	-3.30	45.69	46.50	60.67
35	-3.40	47.49	49.01	65.68
36	-3.50	49.31	51.59	70.95
37	-3.60	51.16	54.24	76.50
38	-3.70	53.04	56.94	82.31
39	-3.80	54.93	59.72	88.42
40	-3.90	56.86	62.55	94.81
41	-4.00	58.80	65.46	101.50
42	-4.10	60.78	68.43	108.49
43	-4.20	62.77	71.46	115.79
44	-4.30	64.79	74.56	123.41
45	-4.40	66.84	77.72	131.35

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
46	-4.50	68.91	80.95	139.62
47	-4.60	71.00	84.24	148.23
48	-4.70	73.12	87.60	157.18
49	-4.80	75.26	91.02	166.48

Combinazione n° 10 - STR (A1-M1-R3)

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	0.00	0.00	0.00	0.00
2	-0.10	1.29	0.37	0.02
3	-0.20	2.61	0.81	0.09
4	-0.30	3.97	1.31	0.21
5	-0.40	5.35	1.87	0.39
6	-0.50	6.77	2.50	0.64
7	-0.60	8.22	3.20	0.96
8	-0.70	9.70	3.96	1.36
9	-0.80	11.22	4.78	1.85
10	-0.90	12.76	5.67	2.43
11	-1.00	14.34	6.62	3.12
12	-1.10	15.95	7.64	3.90
13	-1.20	17.59	8.73	4.81
14	-1.30	19.26	9.88	5.83
15	-1.40	20.97	11.09	6.98
16	-1.50	22.70	12.37	8.26
17	-1.60	24.47	13.71	9.68
18	-1.70	26.27	15.12	11.25
19	-1.80	28.10	16.60	12.97
20	-1.90	29.96	18.14	14.85
21	-2.00	31.86	19.74	16.90
22	-2.10	33.79	21.41	19.12
23	-2.20	35.75	23.14	21.52
24	-2.30	37.74	24.94	24.10
25	-2.40	39.76	26.80	26.88
26	-2.50	41.81	28.73	29.86
27	-2.60	43.90	30.73	33.05
28	-2.70	46.02	32.79	36.45
29	-2.80	48.17	34.91	40.07
30	-2.90	50.35	37.10	43.91
31	-3.00	52.56	39.35	47.99
32	-3.10	54.81	41.67	52.31
33	-3.20	57.08	44.05	56.88
34	-3.30	59.39	46.50	61.69
35	-3.40	61.73	49.01	66.77
36	-3.50	64.11	51.59	72.11
37	-3.60	66.51	54.24	77.73
38	-3.70	68.95	56.94	83.63
39	-3.80	71.41	59.72	89.81
40	-3.90	73.91	62.55	96.29
41	-4.00	76.45	65.46	103.06
42	-4.10	79.01	68.43	110.14
43	-4.20	81.60	71.46	117.54
44	-4.30	84.23	74.56	125.25
45	-4.40	86.89	77.72	133.29
46	-4.50	89.58	80.95	141.66
47	-4.60	92.30	84.24	150.38
48	-4.70	95.06	87.60	159.44
49	-4.80	97.84	91.02	168.85

Combinazione n° 19 - SLER

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	0.00	0.00	0.00	0.00
2	-0.10	0.99	0.03	0.00
3	-0.20	2.01	0.10	0.02
4	-0.30	3.05	0.23	0.05
5	-0.40	4.12	0.40	0.09
6	-0.50	5.21	0.63	0.17
7	-0.60	6.32	0.90	0.27
8	-0.70	7.46	1.23	0.41
9	-0.80	8.63	1.60	0.59
10	-0.90	9.82	2.03	0.82
11	-1.00	11.03	2.50	1.10
12	-1.10	12.27	3.03	1.43
13	-1.20	13.53	3.60	1.83
14	-1.30	14.82	4.22	2.29
15	-1.40	16.13	4.90	2.82
16	-1.50	17.46	5.62	3.43
17	-1.60	18.82	6.40	4.12
18	-1.70	20.21	7.22	4.90
19	-1.80	21.62	8.10	5.77

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
20	-1.90	23.05	9.02	6.74
21	-2.00	24.51	10.00	7.81
22	-2.10	25.99	11.02	8.98
23	-2.20	27.50	12.09	10.27
24	-2.30	29.03	13.22	11.68
25	-2.40	30.58	14.39	13.21
26	-2.50	32.16	15.62	14.86
27	-2.60	33.77	16.89	16.65
28	-2.70	35.40	18.21	18.58
29	-2.80	37.05	19.59	20.65
30	-2.90	38.73	21.01	22.87
31	-3.00	40.43	22.49	25.24
32	-3.10	42.16	24.01	27.77
33	-3.20	43.91	25.58	30.47
34	-3.30	45.69	27.21	33.33
35	-3.40	47.49	28.88	36.37
36	-3.50	49.31	30.61	39.58
37	-3.60	51.16	32.38	42.98
38	-3.70	53.04	34.20	46.57
39	-3.80	54.93	36.08	50.35
40	-3.90	56.86	38.00	54.34
41	-4.00	58.80	39.97	58.52
42	-4.10	60.78	42.00	62.92
43	-4.20	62.77	44.07	67.53
44	-4.30	64.79	46.20	72.36
45	-4.40	66.84	48.37	77.42
46	-4.50	68.91	50.59	82.71
47	-4.60	71.00	52.87	88.23
48	-4.70	73.12	55.19	93.99
49	-4.80	75.26	57.56	100.00

Combinazione n° 20 - SLEF

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	0.00	0.00	0.00	0.00
2	-0.10	0.99	0.03	0.00
3	-0.20	2.01	0.10	0.02
4	-0.30	3.05	0.23	0.05
5	-0.40	4.12	0.40	0.09
6	-0.50	5.21	0.63	0.17
7	-0.60	6.32	0.90	0.27
8	-0.70	7.46	1.23	0.41
9	-0.80	8.63	1.60	0.59
10	-0.90	9.82	2.03	0.82
11	-1.00	11.03	2.50	1.10
12	-1.10	12.27	3.03	1.43
13	-1.20	13.53	3.60	1.83
14	-1.30	14.82	4.22	2.29
15	-1.40	16.13	4.90	2.82
16	-1.50	17.46	5.62	3.43
17	-1.60	18.82	6.40	4.12
18	-1.70	20.21	7.22	4.90
19	-1.80	21.62	8.10	5.77
20	-1.90	23.05	9.02	6.74
21	-2.00	24.51	10.00	7.81
22	-2.10	25.99	11.02	8.98
23	-2.20	27.50	12.09	10.27
24	-2.30	29.03	13.22	11.68
25	-2.40	30.58	14.39	13.21
26	-2.50	32.16	15.62	14.86
27	-2.60	33.77	16.89	16.65
28	-2.70	35.40	18.21	18.58
29	-2.80	37.05	19.59	20.65
30	-2.90	38.73	21.01	22.87
31	-3.00	40.43	22.49	25.24
32	-3.10	42.16	24.01	27.77
33	-3.20	43.91	25.58	30.47
34	-3.30	45.69	27.21	33.33
35	-3.40	47.49	28.88	36.37
36	-3.50	49.31	30.61	39.58
37	-3.60	51.16	32.38	42.98
38	-3.70	53.04	34.20	46.57
39	-3.80	54.93	36.08	50.35
40	-3.90	56.86	38.00	54.34
41	-4.00	58.80	39.97	58.52
42	-4.10	60.78	42.00	62.92
43	-4.20	62.77	44.07	67.53
44	-4.30	64.79	46.20	72.36
45	-4.40	66.84	48.37	77.42
46	-4.50	68.91	50.59	82.71
47	-4.60	71.00	52.87	88.23
48	-4.70	73.12	55.19	93.99

n°	X [m]	N [kN]	T [kN]	M [kNm]
49	-4.80	75.26	57.56	100.00

Combinazione n° 21 - SLEQ

n°	X [m]	N [kN]	T [kN]	M [kNm]
1	0.00	0.00	0.00	0.00
2	-0.10	0.99	0.03	0.00
3	-0.20	2.01	0.10	0.02
4	-0.30	3.05	0.23	0.05
5	-0.40	4.12	0.40	0.09
6	-0.50	5.21	0.63	0.17
7	-0.60	6.32	0.90	0.27
8	-0.70	7.46	1.23	0.41
9	-0.80	8.63	1.60	0.59
10	-0.90	9.82	2.03	0.82
11	-1.00	11.03	2.50	1.10
12	-1.10	12.27	3.03	1.43
13	-1.20	13.53	3.60	1.83
14	-1.30	14.82	4.22	2.29
15	-1.40	16.13	4.90	2.82
16	-1.50	17.46	5.62	3.43
17	-1.60	18.82	6.40	4.12
18	-1.70	20.21	7.22	4.90
19	-1.80	21.62	8.10	5.77
20	-1.90	23.05	9.02	6.74
21	-2.00	24.51	10.00	7.81
22	-2.10	25.99	11.02	8.98
23	-2.20	27.50	12.09	10.27
24	-2.30	29.03	13.22	11.68
25	-2.40	30.58	14.39	13.21
26	-2.50	32.16	15.62	14.86
27	-2.60	33.77	16.89	16.65
28	-2.70	35.40	18.21	18.58
29	-2.80	37.05	19.59	20.65
30	-2.90	38.73	21.01	22.87
31	-3.00	40.43	22.49	25.24
32	-3.10	42.16	24.01	27.77
33	-3.20	43.91	25.58	30.47
34	-3.30	45.69	27.21	33.33
35	-3.40	47.49	28.88	36.37
36	-3.50	49.31	30.61	39.58
37	-3.60	51.16	32.38	42.98
38	-3.70	53.04	34.20	46.57
39	-3.80	54.93	36.08	50.35
40	-3.90	56.86	38.00	54.34
41	-4.00	58.80	39.97	58.52
42	-4.10	60.78	42.00	62.92
43	-4.20	62.77	44.07	67.53
44	-4.30	64.79	46.20	72.36
45	-4.40	66.84	48.37	77.42
46	-4.50	68.91	50.59	82.71
47	-4.60	71.00	52.87	88.23
48	-4.70	73.12	55.19	93.99
49	-4.80	75.26	57.56	100.00

Combinazione n° 22 - SLER

n°	X [m]	N [kN]	T [kN]	M [kNm]
1	0.00	0.00	0.00	0.00
2	-0.10	0.99	0.21	0.01
3	-0.20	2.01	0.48	0.05
4	-0.30	3.05	0.79	0.13
5	-0.40	4.12	1.15	0.24
6	-0.50	5.21	1.56	0.40
7	-0.60	6.32	2.03	0.61
8	-0.70	7.46	2.54	0.87
9	-0.80	8.63	3.10	1.19
10	-0.90	9.82	3.71	1.58
11	-1.00	11.03	4.37	2.04
12	-1.10	12.27	5.09	2.57
13	-1.20	13.53	5.85	3.18
14	-1.30	14.82	6.66	3.87
15	-1.40	16.13	7.52	4.66
16	-1.50	17.46	8.43	5.54
17	-1.60	18.82	9.40	6.52
18	-1.70	20.21	10.41	7.61
19	-1.80	21.62	11.47	8.81
20	-1.90	23.05	12.58	10.12
21	-2.00	24.51	13.74	11.56
22	-2.10	25.99	14.95	13.12

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
23	-2.20	27.50	16.22	14.81
24	-2.30	29.03	17.53	16.64
25	-2.40	30.58	18.89	18.60
26	-2.50	32.16	20.30	20.72
27	-2.60	33.77	21.76	22.99
28	-2.70	35.40	23.27	25.41
29	-2.80	37.05	24.84	28.00
30	-2.90	38.73	26.45	30.75
31	-3.00	40.43	28.11	33.67
32	-3.10	42.16	29.82	36.78
33	-3.20	43.91	31.58	40.06
34	-3.30	45.69	33.39	43.53
35	-3.40	47.49	35.25	47.20
36	-3.50	49.31	37.16	51.06
37	-3.60	51.16	39.13	55.12
38	-3.70	53.04	41.14	59.40
39	-3.80	54.93	43.20	63.88
40	-3.90	56.86	45.31	68.59
41	-4.00	58.80	47.47	73.51
42	-4.10	60.78	49.68	78.67
43	-4.20	62.77	51.94	84.06
44	-4.30	64.79	54.25	89.68
45	-4.40	66.84	56.61	95.56
46	-4.50	68.91	59.02	101.68
47	-4.60	71.00	61.48	108.05
48	-4.70	73.12	64.00	114.68
49	-4.80	75.26	66.56	121.58

Combinazione n° 23 - SLEF

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	0.00	0.00	0.00	0.00
2	-0.10	0.99	0.08	0.01
3	-0.20	2.01	0.20	0.03
4	-0.30	3.05	0.38	0.07
5	-0.40	4.12	0.60	0.13
6	-0.50	5.21	0.88	0.23
7	-0.60	6.32	1.20	0.36
8	-0.70	7.46	1.58	0.54
9	-0.80	8.63	2.00	0.75
10	-0.90	9.82	2.48	1.02
11	-1.00	11.03	3.00	1.35
12	-1.10	12.27	3.57	1.74
13	-1.20	13.53	4.20	2.19
14	-1.30	14.82	4.87	2.71
15	-1.40	16.13	5.60	3.31
16	-1.50	17.46	6.37	4.00
17	-1.60	18.82	7.20	4.76
18	-1.70	20.21	8.07	5.62
19	-1.80	21.62	9.00	6.58
20	-1.90	23.05	9.97	7.64
21	-2.00	24.51	10.99	8.81
22	-2.10	25.99	12.07	10.09
23	-2.20	27.50	13.19	11.48
24	-2.30	29.03	14.37	13.00
25	-2.40	30.58	15.59	14.65
26	-2.50	32.16	16.87	16.43
27	-2.60	33.77	18.19	18.34
28	-2.70	35.40	19.56	20.40
29	-2.80	37.05	20.99	22.61
30	-2.90	38.73	22.46	24.97
31	-3.00	40.43	23.99	27.49
32	-3.10	42.16	25.56	30.17
33	-3.20	43.91	27.18	33.03
34	-3.30	45.69	28.86	36.05
35	-3.40	47.49	30.58	39.26
36	-3.50	49.31	32.35	42.64
37	-3.60	51.16	34.18	46.22
38	-3.70	53.04	36.05	49.99
39	-3.80	54.93	37.98	53.96
40	-3.90	56.86	39.95	58.14
41	-4.00	58.80	41.97	62.52
42	-4.10	60.78	44.05	67.12
43	-4.20	62.77	46.17	71.94
44	-4.30	64.79	48.34	76.98
45	-4.40	66.84	50.57	82.26
46	-4.50	68.91	52.84	87.76
47	-4.60	71.00	55.16	93.51
48	-4.70	73.12	57.54	99.51
49	-4.80	75.26	59.96	105.75

Combinazione n° 24 - SLEQ

n°	X [m]	N [kN]	T [kN]	M [kNm]
1	0.00	0.00	0.00	0.00
2	-0.10	0.99	0.08	0.01
3	-0.20	2.01	0.20	0.03
4	-0.30	3.05	0.38	0.07
5	-0.40	4.12	0.60	0.13
6	-0.50	5.21	0.88	0.23
7	-0.60	6.32	1.20	0.36
8	-0.70	7.46	1.58	0.54
9	-0.80	8.63	2.00	0.75
10	-0.90	9.82	2.48	1.02
11	-1.00	11.03	3.00	1.35
12	-1.10	12.27	3.57	1.74
13	-1.20	13.53	4.20	2.19
14	-1.30	14.82	4.87	2.71
15	-1.40	16.13	5.60	3.31
16	-1.50	17.46	6.37	4.00
17	-1.60	18.82	7.20	4.76
18	-1.70	20.21	8.07	5.62
19	-1.80	21.62	9.00	6.58
20	-1.90	23.05	9.97	7.64
21	-2.00	24.51	10.99	8.81
22	-2.10	25.99	12.07	10.09
23	-2.20	27.50	13.19	11.48
24	-2.30	29.03	14.37	13.00
25	-2.40	30.58	15.59	14.65
26	-2.50	32.16	16.87	16.43
27	-2.60	33.77	18.19	18.34
28	-2.70	35.40	19.56	20.40
29	-2.80	37.05	20.99	22.61
30	-2.90	38.73	22.46	24.97
31	-3.00	40.43	23.99	27.49
32	-3.10	42.16	25.56	30.17
33	-3.20	43.91	27.18	33.03
34	-3.30	45.69	28.86	36.05
35	-3.40	47.49	30.58	39.26
36	-3.50	49.31	32.35	42.64
37	-3.60	51.16	34.18	46.22
38	-3.70	53.04	36.05	49.99
39	-3.80	54.93	37.98	53.96
40	-3.90	56.86	39.95	58.14
41	-4.00	58.80	41.97	62.52
42	-4.10	60.78	44.05	67.12
43	-4.20	62.77	46.17	71.94
44	-4.30	64.79	48.34	76.98
45	-4.40	66.84	50.57	82.26
46	-4.50	68.91	52.84	87.76
47	-4.60	71.00	55.16	93.51
48	-4.70	73.12	57.54	99.51
49	-4.80	75.26	59.96	105.75

Combinazione n° 25 - SLEQ_H + V

n°	X [m]	N [kN]	T [kN]	M [kNm]
1	0.00	0.00	0.00	0.00
2	-0.10	1.03	0.11	0.01
3	-0.20	2.09	0.27	0.03
4	-0.30	3.17	0.50	0.08
5	-0.40	4.27	0.80	0.17
6	-0.50	5.41	1.15	0.29
7	-0.60	6.56	1.56	0.45
8	-0.70	7.75	2.04	0.67
9	-0.80	8.95	2.58	0.94
10	-0.90	10.19	3.18	1.28
11	-1.00	11.45	3.85	1.68
12	-1.10	12.73	4.58	2.16
13	-1.20	14.04	5.36	2.73
14	-1.30	15.38	6.21	3.38
15	-1.40	16.74	7.13	4.13
16	-1.50	18.12	8.10	4.97
17	-1.60	19.53	9.14	5.93
18	-1.70	20.97	10.24	7.00
19	-1.80	22.43	11.40	8.19
20	-1.90	23.92	12.62	9.50
21	-2.00	25.43	13.91	10.95
22	-2.10	26.97	15.26	12.54
23	-2.20	28.53	16.67	14.28
24	-2.30	30.12	18.14	16.16
25	-2.40	31.74	19.67	18.21
26	-2.50	33.38	21.27	20.42

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
27	-2.60	35.04	22.93	22.80
28	-2.70	36.73	24.65	25.35
29	-2.80	38.45	26.43	28.09
30	-2.90	40.19	28.28	31.02
31	-3.00	41.96	30.18	34.15
32	-3.10	43.75	32.15	37.48
33	-3.20	45.57	34.18	41.02
34	-3.30	47.41	36.28	44.78
35	-3.40	49.28	38.43	48.75
36	-3.50	51.17	40.65	52.96
37	-3.60	53.09	42.93	57.40
38	-3.70	55.03	45.27	62.07
39	-3.80	57.00	47.68	67.00
40	-3.90	59.00	50.14	72.18
41	-4.00	61.02	52.67	77.62
42	-4.10	63.07	55.26	83.33
43	-4.20	65.14	57.91	89.31
44	-4.30	67.24	60.63	95.56
45	-4.40	69.36	63.41	102.10
46	-4.50	71.51	66.25	108.94
47	-4.60	73.68	69.15	116.07
48	-4.70	75.88	72.11	123.50
49	-4.80	78.10	75.14	131.25

Combinazione n° 26 - SLEQ_H - V

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	0.00	0.00	0.00	0.00
2	-0.10	0.96	0.10	0.01
3	-0.20	1.93	0.27	0.03
4	-0.30	2.94	0.49	0.08
5	-0.40	3.96	0.77	0.16
6	-0.50	5.01	1.10	0.28
7	-0.60	6.09	1.50	0.43
8	-0.70	7.18	1.95	0.64
9	-0.80	8.30	2.46	0.90
10	-0.90	9.45	3.03	1.22
11	-1.00	10.61	3.66	1.60
12	-1.10	11.81	4.35	2.06
13	-1.20	13.02	5.10	2.59
14	-1.30	14.26	5.90	3.21
15	-1.40	15.52	6.76	3.91
16	-1.50	16.80	7.68	4.72
17	-1.60	18.11	8.66	5.62
18	-1.70	19.45	9.70	6.63
19	-1.80	20.80	10.80	7.76
20	-1.90	22.18	11.95	9.00
21	-2.00	23.58	13.16	10.37
22	-2.10	25.01	14.43	11.87
23	-2.20	26.46	15.76	13.51
24	-2.30	27.93	17.15	15.29
25	-2.40	29.43	18.60	17.22
26	-2.50	30.95	20.10	19.31
27	-2.60	32.50	21.67	21.55
28	-2.70	34.06	23.29	23.97
29	-2.80	35.66	24.97	26.55
30	-2.90	37.27	26.71	29.32
31	-3.00	38.91	28.51	32.27
32	-3.10	40.57	30.36	35.41
33	-3.20	42.26	32.27	38.75
34	-3.30	43.96	34.25	42.29
35	-3.40	45.70	36.28	46.04
36	-3.50	47.45	38.37	50.00
37	-3.60	49.23	40.51	54.19
38	-3.70	51.04	42.72	58.60
39	-3.80	52.86	44.98	63.24
40	-3.90	54.71	47.31	68.12
41	-4.00	56.59	49.69	73.25
42	-4.10	58.49	52.13	78.63
43	-4.20	60.41	54.63	84.26
44	-4.30	62.35	57.18	90.16
45	-4.40	64.32	59.80	96.32
46	-4.50	66.31	62.47	102.76
47	-4.60	68.33	65.20	109.48
48	-4.70	70.36	67.99	116.49
49	-4.80	72.43	70.84	123.78

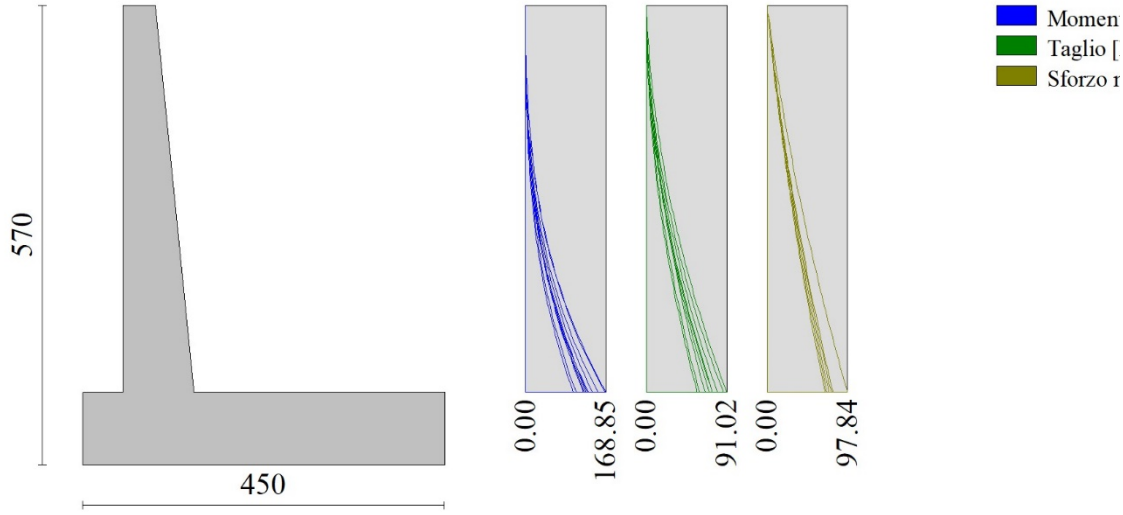


Fig. 8 - Paramento (Inviluppo)

Fondazione

Combinazione n° 1 - STR (A1-M1-R3)

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	-0.90	0.00	0.00	0.00
2	-0.80	0.00	10.09	0.50
3	-0.70	0.00	20.17	2.02
4	-0.60	0.00	30.23	4.54
5	-0.50	0.00	40.27	8.06
6	-0.40	0.00	50.30	12.59
7	0.48	0.00	-88.51	-142.00
8	0.58	0.00	-85.97	-133.49
9	0.67	0.00	-83.42	-125.24
10	0.77	0.00	-80.85	-117.23
11	0.87	0.00	-78.27	-109.47
12	0.97	0.00	-75.67	-101.96
13	1.06	0.00	-73.06	-94.71
14	1.16	0.00	-70.44	-87.72
15	1.26	0.00	-67.80	-80.98
16	1.36	0.00	-65.14	-74.50
17	1.45	0.00	-62.47	-68.28
18	1.55	0.00	-59.79	-62.32
19	1.65	0.00	-57.09	-56.62
20	1.75	0.00	-54.37	-51.18
21	1.84	0.00	-51.64	-46.02
22	1.94	0.00	-48.90	-41.11
23	2.04	0.00	-46.14	-36.48
24	2.14	0.00	-43.37	-32.12
25	2.23	0.00	-40.58	-28.02
26	2.33	0.00	-37.78	-24.20
27	2.43	0.00	-34.96	-20.66
28	2.53	0.00	-32.13	-17.39
29	2.62	0.00	-29.28	-14.39
30	2.72	0.00	-26.42	-11.68
31	2.82	0.00	-23.54	-9.24
32	2.92	0.00	-20.65	-7.09
33	3.01	0.00	-17.75	-5.22
34	3.11	0.00	-14.82	-3.63
35	3.21	0.00	-11.89	-2.33
36	3.31	0.00	-8.94	-1.31
37	3.40	0.00	-5.97	-0.58
38	3.50	0.00	-2.99	-0.15
39	3.60	0.00	0.00	0.00

Combinazione n° 2 - STR (A1-M1-R3)

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	-0.90	0.00	0.00	0.00
2	-0.80	0.00	11.63	0.58
3	-0.70	0.00	23.23	2.32
4	-0.60	0.00	34.80	5.23
5	-0.50	0.00	46.34	9.28
6	-0.40	0.00	57.86	14.49
7	0.48	0.00	-94.63	-154.90
8	0.58	0.00	-92.09	-145.80
9	0.67	0.00	-89.53	-136.95
10	0.77	0.00	-86.94	-128.34
11	0.87	0.00	-84.33	-119.99
12	0.97	0.00	-81.69	-111.90
13	1.06	0.00	-79.02	-104.06
14	1.16	0.00	-76.32	-96.49
15	1.26	0.00	-73.60	-89.18
16	1.36	0.00	-70.84	-82.14
17	1.45	0.00	-68.07	-75.37
18	1.55	0.00	-65.26	-68.87
19	1.65	0.00	-62.43	-62.64
20	1.75	0.00	-59.56	-56.70
21	1.84	0.00	-56.68	-51.03
22	1.94	0.00	-53.76	-45.65
23	2.04	0.00	-50.82	-40.55
24	2.14	0.00	-47.85	-35.74
25	2.23	0.00	-44.85	-31.22
26	2.33	0.00	-41.82	-26.99
27	2.43	0.00	-38.77	-23.06
28	2.53	0.00	-35.69	-19.43
29	2.62	0.00	-32.58	-16.11
30	2.72	0.00	-29.45	-13.08
31	2.82	0.00	-26.28	-10.36
32	2.92	0.00	-23.09	-7.96
33	3.01	0.00	-19.88	-5.86
34	3.11	0.00	-16.63	-4.08
35	3.21	0.00	-13.36	-2.62
36	3.31	0.00	-10.06	-1.48
37	3.40	0.00	-6.74	-0.66
38	3.50	0.00	-3.38	-0.17
39	3.60	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	-0.90	0.00	0.00	0.00
2	-0.80	0.00	15.67	0.79
3	-0.70	0.00	31.10	3.13
4	-0.60	0.00	46.30	7.00
5	-0.50	0.00	61.27	12.38
6	-0.40	0.00	75.99	19.24
7	0.48	0.00	-23.12	-95.73
8	0.58	0.00	-25.87	-93.34
9	0.67	0.00	-28.40	-90.69
10	0.77	0.00	-30.70	-87.81
11	0.87	0.00	-32.78	-84.71
12	0.97	0.00	-34.63	-81.43
13	1.06	0.00	-36.26	-77.97
14	1.16	0.00	-37.67	-74.36
15	1.26	0.00	-38.85	-70.63
16	1.36	0.00	-39.81	-66.79
17	1.45	0.00	-40.54	-62.87
18	1.55	0.00	-41.06	-58.89
19	1.65	0.00	-41.34	-54.87
20	1.75	0.00	-41.40	-50.84
21	1.84	0.00	-41.24	-46.81
22	1.94	0.00	-40.85	-42.80
23	2.04	0.00	-40.24	-38.85
24	2.14	0.00	-39.41	-34.96
25	2.23	0.00	-38.35	-31.17
26	2.33	0.00	-37.07	-27.49
27	2.43	0.00	-35.56	-23.95
28	2.53	0.00	-33.83	-20.57
29	2.62	0.00	-31.88	-17.36
30	2.72	0.00	-29.70	-14.36
31	2.82	0.00	-27.29	-11.58
32	2.92	0.00	-24.67	-9.04
33	3.01	0.00	-21.81	-6.77
34	3.11	0.00	-18.74	-4.80
35	3.21	0.00	-15.44	-3.13
36	3.31	0.00	-11.92	-1.79
37	3.40	0.00	-8.17	-0.81
38	3.50	0.00	-4.20	-0.21
39	3.60	0.00	0.00	0.00

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

n°	X [m]	N [kN]	T [kN]	M [kNm]
1	-0.90	0.00	0.00	0.00
2	-0.80	0.00	14.27	0.72
3	-0.70	0.00	28.30	2.85
4	-0.60	0.00	42.10	6.37
5	-0.50	0.00	55.66	11.26
6	-0.40	0.00	68.98	17.49
7	0.48	0.00	-68.51	-167.02
8	0.58	0.00	-69.87	-160.28
9	0.67	0.00	-71.00	-153.41
10	0.77	0.00	-71.91	-146.44
11	0.87	0.00	-72.60	-139.39
12	0.97	0.00	-73.05	-132.29
13	1.06	0.00	-73.28	-125.15
14	1.16	0.00	-73.29	-118.01
15	1.26	0.00	-73.07	-110.87
16	1.36	0.00	-72.62	-103.76
17	1.45	0.00	-71.95	-96.71
18	1.55	0.00	-71.05	-89.74
19	1.65	0.00	-69.93	-82.87
20	1.75	0.00	-68.58	-76.11
21	1.84	0.00	-67.00	-69.50
22	1.94	0.00	-65.20	-63.05
23	2.04	0.00	-63.17	-56.79
24	2.14	0.00	-60.92	-50.74
25	2.23	0.00	-58.44	-44.92
26	2.33	0.00	-55.73	-39.35
27	2.43	0.00	-52.80	-34.06
28	2.53	0.00	-49.64	-29.07
29	2.62	0.00	-46.26	-24.39
30	2.72	0.00	-42.65	-20.05
31	2.82	0.00	-38.82	-16.08
32	2.92	0.00	-34.76	-12.49
33	3.01	0.00	-30.47	-9.31
34	3.11	0.00	-25.95	-6.56
35	3.21	0.00	-21.22	-4.25
36	3.31	0.00	-16.25	-2.43
37	3.40	0.00	-11.06	-1.09
38	3.50	0.00	-5.64	-0.28
39	3.60	0.00	0.00	0.00

Combinazione n° 5 - STR (A1-M1-R3)

n°	X [m]	N [kN]	T [kN]	M [kNm]
1	-0.90	0.00	0.00	0.00
2	-0.80	0.00	12.08	0.60
3	-0.70	0.00	24.17	2.42
4	-0.60	0.00	36.28	5.44
5	-0.50	0.00	48.41	9.67
6	-0.40	0.00	60.55	15.12
7	0.48	0.00	0.74	4.87
8	0.58	0.00	0.93	4.79
9	0.67	0.00	1.11	4.69
10	0.77	0.00	1.28	4.57
11	0.87	0.00	1.43	4.44
12	0.97	0.00	1.57	4.29
13	1.06	0.00	1.69	4.13
14	1.16	0.00	1.80	3.96
15	1.26	0.00	1.89	3.78
16	1.36	0.00	1.98	3.59
17	1.45	0.00	2.04	3.40
18	1.55	0.00	2.10	3.20
19	1.65	0.00	2.14	2.99
20	1.75	0.00	2.16	2.78
21	1.84	0.00	2.17	2.57
22	1.94	0.00	2.17	2.36
23	2.04	0.00	2.16	2.15
24	2.14	0.00	2.13	1.94
25	2.23	0.00	2.08	1.73
26	2.33	0.00	2.02	1.53
27	2.43	0.00	1.95	1.34
28	2.53	0.00	1.87	1.15
29	2.62	0.00	1.77	0.97
30	2.72	0.00	1.65	0.81
31	2.82	0.00	1.52	0.65
32	2.92	0.00	1.38	0.51
33	3.01	0.00	1.23	0.38
34	3.11	0.00	1.06	0.27
35	3.21	0.00	0.87	0.18

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
36	3.31	0.00	0.68	0.10
37	3.40	0.00	0.46	0.05
38	3.50	0.00	0.24	0.01
39	3.60	0.00	0.00	0.00

Combinazione n° 6 - STR (A1-M1-R3)

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	-0.90	0.00	0.00	0.00
2	-0.80	0.00	10.65	0.53
3	-0.70	0.00	21.36	2.13
4	-0.60	0.00	32.13	4.81
5	-0.50	0.00	42.95	8.56
6	-0.40	0.00	53.83	13.40
7	0.48	0.00	-5.86	5.22
8	0.58	0.00	-4.84	5.74
9	0.67	0.00	-3.88	6.17
10	0.77	0.00	-2.96	6.50
11	0.87	0.00	-2.11	6.75
12	0.97	0.00	-1.30	6.91
13	1.06	0.00	-0.55	7.00
14	1.16	0.00	0.14	7.02
15	1.26	0.00	0.78	6.98
16	1.36	0.00	1.37	6.87
17	1.45	0.00	1.91	6.71
18	1.55	0.00	2.39	6.50
19	1.65	0.00	2.81	6.25
20	1.75	0.00	3.18	5.96
21	1.84	0.00	3.50	5.63
22	1.94	0.00	3.77	5.28
23	2.04	0.00	3.98	4.90
24	2.14	0.00	4.13	4.50
25	2.23	0.00	4.23	4.09
26	2.33	0.00	4.28	3.68
27	2.43	0.00	4.28	3.26
28	2.53	0.00	4.22	2.85
29	2.62	0.00	4.10	2.44
30	2.72	0.00	3.94	2.05
31	2.82	0.00	3.72	1.67
32	2.92	0.00	3.44	1.32
33	3.01	0.00	3.11	1.00
34	3.11	0.00	2.73	0.72
35	3.21	0.00	2.29	0.47
36	3.31	0.00	1.80	0.27
37	3.40	0.00	1.25	0.13
38	3.50	0.00	0.65	0.03
39	3.60	0.00	0.00	0.00

Combinazione n° 7 - STR (A1-M1-R3)

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	-0.90	0.00	0.00	0.00
2	-0.80	0.00	11.52	0.58
3	-0.70	0.00	22.98	2.30
4	-0.60	0.00	34.38	5.17
5	-0.50	0.00	45.73	9.18
6	-0.40	0.00	57.02	14.31
7	0.48	0.00	-81.91	-142.35
8	0.58	0.00	-80.20	-134.45
9	0.67	0.00	-78.43	-126.72
10	0.77	0.00	-76.61	-119.16
11	0.87	0.00	-74.73	-111.78
12	0.97	0.00	-72.80	-104.59
13	1.06	0.00	-70.82	-97.58
14	1.16	0.00	-68.78	-90.78
15	1.26	0.00	-66.69	-84.17
16	1.36	0.00	-64.54	-77.78
17	1.45	0.00	-62.33	-71.59
18	1.55	0.00	-60.08	-65.62
19	1.65	0.00	-57.76	-59.88
20	1.75	0.00	-55.39	-54.36
21	1.84	0.00	-52.97	-49.08
22	1.94	0.00	-50.49	-44.03
23	2.04	0.00	-47.96	-39.23
24	2.14	0.00	-45.38	-34.68
25	2.23	0.00	-42.73	-30.39
26	2.33	0.00	-40.04	-26.35
27	2.43	0.00	-37.29	-22.58
28	2.53	0.00	-34.48	-19.08
29	2.62	0.00	-31.62	-15.86

n°	X [m]	N [kN]	T [kN]	M [kNm]
30	2.72	0.00	-28.70	-12.92
31	2.82	0.00	-25.73	-10.26
32	2.92	0.00	-22.71	-7.90
33	3.01	0.00	-19.63	-5.84
34	3.11	0.00	-16.49	-4.08
35	3.21	0.00	-13.30	-2.62
36	3.31	0.00	-10.06	-1.48
37	3.40	0.00	-6.76	-0.66
38	3.50	0.00	-3.41	-0.17
39	3.60	0.00	0.00	0.00

Combinazione n° 8 - STR (A1-M1-R3)

n°	X [m]	N [kN]	T [kN]	M [kNm]
1	-0.90	0.00	0.00	0.00
2	-0.80	0.00	13.62	0.68
3	-0.70	0.00	27.24	2.72
4	-0.60	0.00	40.86	6.13
5	-0.50	0.00	54.48	10.89
6	-0.40	0.00	68.10	17.02
7	0.48	0.00	-5.38	-8.03
8	0.58	0.00	-5.19	-7.52
9	0.67	0.00	-5.00	-7.02
10	0.77	0.00	-4.81	-6.54
11	0.87	0.00	-4.63	-6.08
12	0.97	0.00	-4.45	-5.64
13	1.06	0.00	-4.27	-5.22
14	1.16	0.00	-4.08	-4.81
15	1.26	0.00	-3.91	-4.42
16	1.36	0.00	-3.73	-4.05
17	1.45	0.00	-3.55	-3.69
18	1.55	0.00	-3.38	-3.36
19	1.65	0.00	-3.20	-3.04
20	1.75	0.00	-3.03	-2.73
21	1.84	0.00	-2.86	-2.44
22	1.94	0.00	-2.69	-2.17
23	2.04	0.00	-2.52	-1.92
24	2.14	0.00	-2.35	-1.68
25	2.23	0.00	-2.19	-1.46
26	2.33	0.00	-2.02	-1.26
27	2.43	0.00	-1.86	-1.07
28	2.53	0.00	-1.70	-0.89
29	2.62	0.00	-1.53	-0.74
30	2.72	0.00	-1.38	-0.60
31	2.82	0.00	-1.22	-0.47
32	2.92	0.00	-1.06	-0.36
33	3.01	0.00	-0.90	-0.26
34	3.11	0.00	-0.75	-0.18
35	3.21	0.00	-0.60	-0.12
36	3.31	0.00	-0.45	-0.07
37	3.40	0.00	-0.30	-0.03
38	3.50	0.00	-0.15	-0.01
39	3.60	0.00	0.00	0.00

Combinazione n° 9 - STR (A1-M1-R3)

n°	X [m]	N [kN]	T [kN]	M [kNm]
1	-0.90	0.00	0.00	0.00
2	-0.80	0.00	12.19	0.61
3	-0.70	0.00	24.42	2.44
4	-0.60	0.00	36.70	5.50
5	-0.50	0.00	49.02	9.78
6	-0.40	0.00	61.38	15.30
7	0.48	0.00	-11.98	-7.68
8	0.58	0.00	-10.96	-6.56
9	0.67	0.00	-9.99	-5.54
10	0.77	0.00	-9.06	-4.61
11	0.87	0.00	-8.17	-3.77
12	0.97	0.00	-7.32	-3.02
13	1.06	0.00	-6.51	-2.35
14	1.16	0.00	-5.74	-1.75
15	1.26	0.00	-5.02	-1.22
16	1.36	0.00	-4.33	-0.77
17	1.45	0.00	-3.69	-0.38
18	1.55	0.00	-3.09	-0.05
19	1.65	0.00	-2.53	0.22
20	1.75	0.00	-2.01	0.44
21	1.84	0.00	-1.53	0.62
22	1.94	0.00	-1.09	0.74
23	2.04	0.00	-0.70	0.83

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
24	2.14	0.00	-0.34	0.88
25	2.23	0.00	-0.03	0.90
26	2.33	0.00	0.24	0.89
27	2.43	0.00	0.47	0.85
28	2.53	0.00	0.66	0.80
29	2.62	0.00	0.80	0.73
30	2.72	0.00	0.91	0.64
31	2.82	0.00	0.97	0.55
32	2.92	0.00	1.00	0.46
33	3.01	0.00	0.98	0.36
34	3.11	0.00	0.92	0.27
35	3.21	0.00	0.82	0.18
36	3.31	0.00	0.68	0.11
37	3.40	0.00	0.49	0.05
38	3.50	0.00	0.27	0.01
39	3.60	0.00	0.00	0.00

Combinazione n° 10 - STR (A1-M1-R3)

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	-0.90	0.00	0.00	0.00
2	-0.80	0.00	13.06	0.65
3	-0.70	0.00	26.04	2.61
4	-0.60	0.00	38.96	5.86
5	-0.50	0.00	51.80	10.40
6	-0.40	0.00	64.57	16.22
7	0.48	0.00	-88.02	-155.26
8	0.58	0.00	-86.32	-146.76
9	0.67	0.00	-84.54	-138.43
10	0.77	0.00	-82.70	-130.27
11	0.87	0.00	-80.79	-122.30
12	0.97	0.00	-78.82	-114.52
13	1.06	0.00	-76.78	-106.94
14	1.16	0.00	-74.66	-99.55
15	1.26	0.00	-72.49	-92.38
16	1.36	0.00	-70.24	-85.42
17	1.45	0.00	-67.93	-78.68
18	1.55	0.00	-65.55	-72.18
19	1.65	0.00	-63.10	-65.90
20	1.75	0.00	-60.59	-59.87
21	1.84	0.00	-58.00	-54.09
22	1.94	0.00	-55.35	-48.56
23	2.04	0.00	-52.64	-43.30
24	2.14	0.00	-49.85	-38.30
25	2.23	0.00	-47.00	-33.58
26	2.33	0.00	-44.08	-29.14
27	2.43	0.00	-41.09	-24.99
28	2.53	0.00	-38.04	-21.13
29	2.62	0.00	-34.92	-17.57
30	2.72	0.00	-31.73	-14.32
31	2.82	0.00	-28.47	-11.39
32	2.92	0.00	-25.15	-8.77
33	3.01	0.00	-21.76	-6.48
34	3.11	0.00	-18.30	-4.53
35	3.21	0.00	-14.78	-2.92
36	3.31	0.00	-11.18	-1.65
37	3.40	0.00	-7.52	-0.74
38	3.50	0.00	-3.80	-0.19
39	3.60	0.00	0.00	0.00

Combinazione n° 19 - SLER

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	-0.90	0.00	0.00	0.00
2	-0.80	0.00	9.29	0.46
3	-0.70	0.00	18.60	1.86
4	-0.60	0.00	27.91	4.18
5	-0.50	0.00	37.24	7.44
6	-0.40	0.00	46.57	11.63
7	0.48	0.00	0.57	3.75
8	0.58	0.00	0.72	3.68
9	0.67	0.00	0.86	3.61
10	0.77	0.00	0.98	3.52
11	0.87	0.00	1.10	3.41
12	0.97	0.00	1.20	3.30
13	1.06	0.00	1.30	3.18
14	1.16	0.00	1.38	3.05
15	1.26	0.00	1.46	2.91
16	1.36	0.00	1.52	2.76
17	1.45	0.00	1.57	2.61

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
18	1.55	0.00	1.61	2.46
19	1.65	0.00	1.64	2.30
20	1.75	0.00	1.66	2.14
21	1.84	0.00	1.67	1.98
22	1.94	0.00	1.67	1.81
23	2.04	0.00	1.66	1.65
24	2.14	0.00	1.63	1.49
25	2.23	0.00	1.60	1.33
26	2.33	0.00	1.56	1.18
27	2.43	0.00	1.50	1.03
28	2.53	0.00	1.44	0.89
29	2.62	0.00	1.36	0.75
30	2.72	0.00	1.27	0.62
31	2.82	0.00	1.17	0.50
32	2.92	0.00	1.06	0.39
33	3.01	0.00	0.94	0.29
34	3.11	0.00	0.81	0.21
35	3.21	0.00	0.67	0.14
36	3.31	0.00	0.52	0.08
37	3.40	0.00	0.36	0.04
38	3.50	0.00	0.18	0.01
39	3.60	0.00	0.00	0.00

Combinazione n° 20 - SLEF

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	-0.90	0.00	0.00	0.00
2	-0.80	0.00	9.29	0.46
3	-0.70	0.00	18.60	1.86
4	-0.60	0.00	27.91	4.18
5	-0.50	0.00	37.24	7.44
6	-0.40	0.00	46.57	11.63
7	0.48	0.00	0.57	3.75
8	0.58	0.00	0.72	3.68
9	0.67	0.00	0.86	3.61
10	0.77	0.00	0.98	3.52
11	0.87	0.00	1.10	3.41
12	0.97	0.00	1.20	3.30
13	1.06	0.00	1.30	3.18
14	1.16	0.00	1.38	3.05
15	1.26	0.00	1.46	2.91
16	1.36	0.00	1.52	2.76
17	1.45	0.00	1.57	2.61
18	1.55	0.00	1.61	2.46
19	1.65	0.00	1.64	2.30
20	1.75	0.00	1.66	2.14
21	1.84	0.00	1.67	1.98
22	1.94	0.00	1.67	1.81
23	2.04	0.00	1.66	1.65
24	2.14	0.00	1.63	1.49
25	2.23	0.00	1.60	1.33
26	2.33	0.00	1.56	1.18
27	2.43	0.00	1.50	1.03
28	2.53	0.00	1.44	0.89
29	2.62	0.00	1.36	0.75
30	2.72	0.00	1.27	0.62
31	2.82	0.00	1.17	0.50
32	2.92	0.00	1.06	0.39
33	3.01	0.00	0.94	0.29
34	3.11	0.00	0.81	0.21
35	3.21	0.00	0.67	0.14
36	3.31	0.00	0.52	0.08
37	3.40	0.00	0.36	0.04
38	3.50	0.00	0.18	0.01
39	3.60	0.00	0.00	0.00

Combinazione n° 21 - SLEQ

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	-0.90	0.00	0.00	0.00
2	-0.80	0.00	9.29	0.46
3	-0.70	0.00	18.60	1.86
4	-0.60	0.00	27.91	4.18
5	-0.50	0.00	37.24	7.44
6	-0.40	0.00	46.57	11.63
7	0.48	0.00	0.57	3.75
8	0.58	0.00	0.72	3.68
9	0.67	0.00	0.86	3.61
10	0.77	0.00	0.98	3.52
11	0.87	0.00	1.10	3.41

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
12	0.97	0.00	1.20	3.30
13	1.06	0.00	1.30	3.18
14	1.16	0.00	1.38	3.05
15	1.26	0.00	1.46	2.91
16	1.36	0.00	1.52	2.76
17	1.45	0.00	1.57	2.61
18	1.55	0.00	1.61	2.46
19	1.65	0.00	1.64	2.30
20	1.75	0.00	1.66	2.14
21	1.84	0.00	1.67	1.98
22	1.94	0.00	1.67	1.81
23	2.04	0.00	1.66	1.65
24	2.14	0.00	1.63	1.49
25	2.23	0.00	1.60	1.33
26	2.33	0.00	1.56	1.18
27	2.43	0.00	1.50	1.03
28	2.53	0.00	1.44	0.89
29	2.62	0.00	1.36	0.75
30	2.72	0.00	1.27	0.62
31	2.82	0.00	1.17	0.50
32	2.92	0.00	1.06	0.39
33	3.01	0.00	0.94	0.29
34	3.11	0.00	0.81	0.21
35	3.21	0.00	0.67	0.14
36	3.31	0.00	0.52	0.08
37	3.40	0.00	0.36	0.04
38	3.50	0.00	0.18	0.01
39	3.60	0.00	0.00	0.00

Combinazione n° 22 - SLER

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	-0.90	0.00	0.00	0.00
2	-0.80	0.00	10.15	0.51
3	-0.70	0.00	20.30	2.03
4	-0.60	0.00	30.45	4.57
5	-0.50	0.00	40.61	8.12
6	-0.40	0.00	50.77	12.69
7	0.48	0.00	-2.83	-3.42
8	0.58	0.00	-2.68	-3.15
9	0.67	0.00	-2.54	-2.90
10	0.77	0.00	-2.40	-2.66
11	0.87	0.00	-2.27	-2.43
12	0.97	0.00	-2.14	-2.22
13	1.06	0.00	-2.01	-2.02
14	1.16	0.00	-1.88	-1.83
15	1.26	0.00	-1.76	-1.65
16	1.36	0.00	-1.65	-1.48
17	1.45	0.00	-1.54	-1.33
18	1.55	0.00	-1.43	-1.18
19	1.65	0.00	-1.32	-1.05
20	1.75	0.00	-1.22	-0.92
21	1.84	0.00	-1.12	-0.81
22	1.94	0.00	-1.03	-0.70
23	2.04	0.00	-0.94	-0.61
24	2.14	0.00	-0.85	-0.52
25	2.23	0.00	-0.77	-0.44
26	2.33	0.00	-0.69	-0.37
27	2.43	0.00	-0.61	-0.31
28	2.53	0.00	-0.54	-0.25
29	2.62	0.00	-0.48	-0.20
30	2.72	0.00	-0.41	-0.16
31	2.82	0.00	-0.35	-0.12
32	2.92	0.00	-0.29	-0.09
33	3.01	0.00	-0.24	-0.06
34	3.11	0.00	-0.19	-0.04
35	3.21	0.00	-0.15	-0.03
36	3.31	0.00	-0.10	-0.01
37	3.40	0.00	-0.07	-0.01
38	3.50	0.00	-0.03	0.00
39	3.60	0.00	0.00	0.00

Combinazione n° 23 - SLEF

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	-0.90	0.00	0.00	0.00
2	-0.80	0.00	9.52	0.48
3	-0.70	0.00	19.05	1.90
4	-0.60	0.00	28.59	4.29
5	-0.50	0.00	38.14	7.62

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
6	-0.40	0.00	47.69	11.91
7	0.48	0.00	-0.34	1.83
8	0.58	0.00	-0.19	1.86
9	0.67	0.00	-0.05	1.87
10	0.77	0.00	0.08	1.87
11	0.87	0.00	0.20	1.86
12	0.97	0.00	0.31	1.83
13	1.06	0.00	0.42	1.79
14	1.16	0.00	0.51	1.75
15	1.26	0.00	0.60	1.69
16	1.36	0.00	0.67	1.63
17	1.45	0.00	0.74	1.56
18	1.55	0.00	0.80	1.49
19	1.65	0.00	0.85	1.41
20	1.75	0.00	0.89	1.32
21	1.84	0.00	0.93	1.23
22	1.94	0.00	0.95	1.14
23	2.04	0.00	0.97	1.05
24	2.14	0.00	0.97	0.95
25	2.23	0.00	0.97	0.86
26	2.33	0.00	0.96	0.76
27	2.43	0.00	0.94	0.67
28	2.53	0.00	0.91	0.58
29	2.62	0.00	0.87	0.50
30	2.72	0.00	0.82	0.41
31	2.82	0.00	0.77	0.34
32	2.92	0.00	0.70	0.26
33	3.01	0.00	0.63	0.20
34	3.11	0.00	0.55	0.14
35	3.21	0.00	0.45	0.09
36	3.31	0.00	0.35	0.05
37	3.40	0.00	0.24	0.02
38	3.50	0.00	0.13	0.01
39	3.60	0.00	0.00	0.00

Combinazione n° 24 - SLEQ

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	-0.90	0.00	0.00	0.00
2	-0.80	0.00	9.52	0.48
3	-0.70	0.00	19.05	1.90
4	-0.60	0.00	28.59	4.29
5	-0.50	0.00	38.14	7.62
6	-0.40	0.00	47.69	11.91
7	0.48	0.00	-0.34	1.83
8	0.58	0.00	-0.19	1.86
9	0.67	0.00	-0.05	1.87
10	0.77	0.00	0.08	1.87
11	0.87	0.00	0.20	1.86
12	0.97	0.00	0.31	1.83
13	1.06	0.00	0.42	1.79
14	1.16	0.00	0.51	1.75
15	1.26	0.00	0.60	1.69
16	1.36	0.00	0.67	1.63
17	1.45	0.00	0.74	1.56
18	1.55	0.00	0.80	1.49
19	1.65	0.00	0.85	1.41
20	1.75	0.00	0.89	1.32
21	1.84	0.00	0.93	1.23
22	1.94	0.00	0.95	1.14
23	2.04	0.00	0.97	1.05
24	2.14	0.00	0.97	0.95
25	2.23	0.00	0.97	0.86
26	2.33	0.00	0.96	0.76
27	2.43	0.00	0.94	0.67
28	2.53	0.00	0.91	0.58
29	2.62	0.00	0.87	0.50
30	2.72	0.00	0.82	0.41
31	2.82	0.00	0.77	0.34
32	2.92	0.00	0.70	0.26
33	3.01	0.00	0.63	0.20
34	3.11	0.00	0.55	0.14
35	3.21	0.00	0.45	0.09
36	3.31	0.00	0.35	0.05
37	3.40	0.00	0.24	0.02
38	3.50	0.00	0.13	0.01
39	3.60	0.00	0.00	0.00

Combinazione n° 25 - SLEQ_H + V

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	-0.90	0.00	0.00	0.00
2	-0.80	0.00	13.17	0.66
3	-0.70	0.00	26.21	2.63
4	-0.60	0.00	39.10	5.90
5	-0.50	0.00	51.86	10.45
6	-0.40	0.00	64.47	16.26
7	0.48	0.00	-13.96	-57.00
8	0.58	0.00	-15.58	-55.56
9	0.67	0.00	-17.06	-53.97
10	0.77	0.00	-18.41	-52.24
11	0.87	0.00	-19.63	-50.39
12	0.97	0.00	-20.71	-48.42
13	1.06	0.00	-21.66	-46.35
14	1.16	0.00	-22.48	-44.20
15	1.26	0.00	-23.17	-41.97
16	1.36	0.00	-23.73	-39.68
17	1.45	0.00	-24.15	-37.35
18	1.55	0.00	-24.44	-34.98
19	1.65	0.00	-24.60	-32.59
20	1.75	0.00	-24.63	-30.19
21	1.84	0.00	-24.52	-27.79
22	1.94	0.00	-24.29	-25.41
23	2.04	0.00	-23.92	-23.06
24	2.14	0.00	-23.41	-20.75
25	2.23	0.00	-22.78	-18.50
26	2.33	0.00	-22.01	-16.31
27	2.43	0.00	-21.11	-14.21
28	2.53	0.00	-20.08	-12.20
29	2.62	0.00	-18.92	-10.30
30	2.72	0.00	-17.62	-8.51
31	2.82	0.00	-16.19	-6.86
32	2.92	0.00	-14.63	-5.36
33	3.01	0.00	-12.94	-4.02
34	3.11	0.00	-11.11	-2.84
35	3.21	0.00	-9.15	-1.85
36	3.31	0.00	-7.06	-1.06
37	3.40	0.00	-4.84	-0.48
38	3.50	0.00	-2.49	-0.12
39	3.60	0.00	0.00	0.00

Combinazione n° 26 - SLEQ H - V

n°	X	N	T	M
	[m]	[kN]	[kN]	[kNm]
1	-0.90	0.00	0.00	0.00
2	-0.80	0.00	12.31	0.62
3	-0.70	0.00	24.48	2.46
4	-0.60	0.00	36.51	5.51
5	-0.50	0.00	48.40	9.75
6	-0.40	0.00	60.15	15.18
7	0.48	0.00	-41.77	-100.63
8	0.58	0.00	-42.53	-96.52
9	0.67	0.00	-43.16	-92.34
10	0.77	0.00	-43.65	-88.11
11	0.87	0.00	-44.01	-83.83
12	0.97	0.00	-44.24	-79.53
13	1.06	0.00	-44.33	-75.21
14	1.16	0.00	-44.29	-70.89
15	1.26	0.00	-44.12	-66.58
16	1.36	0.00	-43.81	-62.29
17	1.45	0.00	-43.37	-58.04
18	1.55	0.00	-42.80	-53.84
19	1.65	0.00	-42.09	-49.70
20	1.75	0.00	-41.25	-45.63
21	1.84	0.00	-40.28	-41.66
22	1.94	0.00	-39.18	-37.78
23	2.04	0.00	-37.94	-34.02
24	2.14	0.00	-36.56	-30.39
25	2.23	0.00	-35.06	-26.90
26	2.33	0.00	-33.42	-23.56
27	2.43	0.00	-31.65	-20.39
28	2.53	0.00	-29.74	-17.39
29	2.62	0.00	-27.71	-14.59
30	2.72	0.00	-25.54	-11.99
31	2.82	0.00	-23.23	-9.61
32	2.92	0.00	-20.79	-7.47
33	3.01	0.00	-18.22	-5.56
34	3.11	0.00	-15.52	-3.92
35	3.21	0.00	-12.68	-2.54
36	3.31	0.00	-9.71	-1.45
37	3.40	0.00	-6.61	-0.65
38	3.50	0.00	-3.37	-0.17
39	3.60	0.00	0.00	0.00

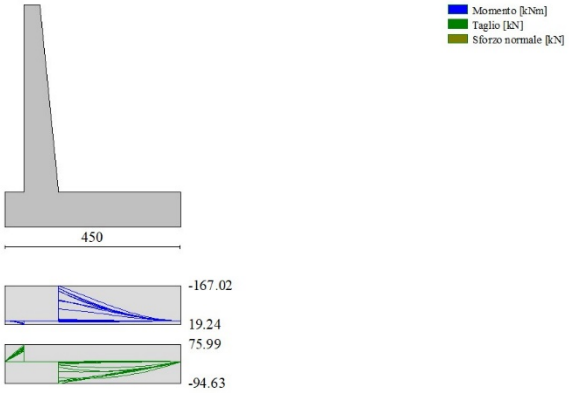


Fig. 9 - Fondazione (Inviluppo)

11.3.5 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 [m]	B [cm]	H [cm]	Afi [cmq]	Afs [cmq]	M [kNm]	N [kN]	Mrd [kNm]	Nrd [kN]	FS
1	0.00	100	40	15.71	15.71	0.00	0.00	0.00	0.00	100000.000
2	-0.10	100	41	15.71	15.71	0.00	0.99	0.00	0.00	100000.000
3	-0.20	100	42	15.71	15.71	0.02	2.01	210.84	2.01	11262.954
4	-0.30	100	43	15.71	15.71	0.05	3.05	216.92	3.05	4160.329
5	-0.40	100	44	15.71	15.71	0.11	4.12	223.02	4.12	2020.323
6	-0.50	100	45	15.71	15.71	0.20	5.21	229.14	5.21	1145.620
7	-0.60	100	46	15.71	15.71	0.33	6.32	235.28	6.32	718.149
8	-0.70	100	47	15.71	15.71	0.50	7.46	241.44	7.46	483.053
9	-0.80	100	48	15.71	15.71	0.72	8.63	247.63	8.63	342.381
10	-0.90	100	49	15.71	15.71	1.00	9.82	253.83	9.82	252.694
11	-1.00	100	50	15.71	15.71	1.35	11.03	260.06	11.03	192.607
12	-1.10	100	51	15.71	15.71	1.77	12.27	266.31	12.27	150.714
13	-1.20	100	52	15.71	15.71	2.26	13.53	272.59	13.53	120.534
14	-1.30	100	53	15.71	15.71	2.84	14.82	278.88	14.82	98.188
15	-1.40	100	54	15.71	15.71	3.51	16.13	285.20	16.13	81.254
16	-1.50	100	55	15.71	15.71	4.28	17.46	291.54	17.46	68.161
17	-1.60	100	56	15.71	15.71	5.15	18.82	297.90	18.82	57.861
18	-1.70	100	57	15.71	15.71	6.13	20.21	304.29	20.21	49.633
19	-1.80	100	58	15.71	15.71	7.23	21.62	310.69	21.62	42.971
20	-1.90	100	59	15.71	15.71	8.45	23.05	317.13	23.05	37.512

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
21	-2.00	100	60	15.71	15.71	9.81	24.51	323.58	24.51	32.991
22	-2.10	100	61	15.71	15.71	11.30	25.99	330.06	25.99	29.210
23	-2.20	100	62	15.71	15.71	12.93	27.50	336.56	27.50	26.020
24	-2.30	100	63	15.71	15.71	14.72	29.03	343.09	29.03	23.307
25	-2.40	100	64	15.71	15.71	16.66	30.58	349.64	30.58	20.982
26	-2.50	100	65	15.71	15.71	18.77	32.16	356.22	32.16	18.978
27	-2.60	100	66	15.71	15.71	21.05	33.77	362.82	33.77	17.238
28	-2.70	100	67	15.71	15.71	23.50	35.40	369.44	35.40	15.720
29	-2.80	100	68	15.71	15.71	26.14	37.05	376.09	37.05	14.388
30	-2.90	100	69	15.71	15.71	28.97	38.73	382.76	38.73	13.214
31	-3.00	100	70	15.71	15.71	31.99	40.43	389.46	40.43	12.174
32	-3.10	100	71	15.71	15.71	35.22	42.16	396.19	42.16	11.250
33	-3.20	100	72	15.71	15.71	38.66	43.91	402.94	43.91	10.424
34	-3.30	100	73	15.71	15.71	42.31	45.69	409.72	45.69	9.684
35	-3.40	100	74	15.71	15.71	46.19	47.49	416.52	47.49	9.018
36	-3.50	100	75	15.71	15.71	50.30	49.31	423.35	49.31	8.417
37	-3.60	100	76	15.71	15.71	54.64	51.16	430.21	51.16	7.873
38	-3.70	100	77	15.71	15.71	59.23	53.04	437.09	53.04	7.380
39	-3.80	100	78	15.71	15.71	64.07	54.93	444.01	54.93	6.931
40	-3.90	100	79	15.71	15.71	69.16	56.86	450.95	56.86	6.520
41	-4.00	100	80	15.71	15.71	74.52	58.80	457.91	58.80	6.145
42	-4.10	100	81	15.71	15.71	80.14	60.78	464.91	60.78	5.801
43	-4.20	100	82	15.71	15.71	86.04	62.77	471.93	62.77	5.485
44	-4.30	100	83	15.71	15.71	92.23	64.79	478.98	64.79	5.193
45	-4.40	100	84	15.71	15.71	98.70	66.84	486.06	66.84	4.925
46	-4.50	100	85	15.71	15.71	105.47	68.91	493.17	68.91	4.676
47	-4.60	100	86	15.71	15.71	112.55	71.00	500.31	71.00	4.445
48	-4.70	100	87	15.71	15.71	119.93	73.12	507.48	73.12	4.232
49	-4.79	100	88	15.71	15.71	127.63	75.26	514.05	75.26	4.028

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	40	15.71	15.71	0.00	0.00	0.00	0.00	100000.000
2	-0.10	100	41	15.71	15.71	0.02	0.99	204.77	0.99	10025.359
3	-0.20	100	42	15.71	15.71	0.09	2.01	210.84	2.01	2446.862
4	-0.30	100	43	15.71	15.71	0.20	3.05	216.92	3.05	1063.855
5	-0.40	100	44	15.71	15.71	0.38	4.12	223.02	4.12	586.606
6	-0.50	100	45	15.71	15.71	0.62	5.21	229.14	5.21	368.643
7	-0.60	100	46	15.71	15.71	0.93	6.32	235.28	6.32	251.725
8	-0.70	100	47	15.71	15.71	1.33	7.46	241.44	7.46	182.071
9	-0.80	100	48	15.71	15.71	1.80	8.63	247.63	8.63	137.383
10	-0.90	100	49	15.71	15.71	2.37	9.82	253.83	9.82	107.085
11	-1.00	100	50	15.71	15.71	3.04	11.03	260.06	11.03	85.645
12	-1.10	100	51	15.71	15.71	3.81	12.27	266.31	12.27	69.946
13	-1.20	100	52	15.71	15.71	4.69	13.53	272.59	13.53	58.124
14	-1.30	100	53	15.71	15.71	5.69	14.82	278.88	14.82	49.012
15	-1.40	100	54	15.71	15.71	6.82	16.13	285.20	16.13	41.848
16	-1.50	100	55	15.71	15.71	8.07	17.46	291.54	17.46	36.120
17	-1.60	100	56	15.71	15.71	9.47	18.82	297.90	18.82	31.472
18	-1.70	100	57	15.71	15.71	11.00	20.21	304.29	20.21	27.652
19	-1.80	100	58	15.71	15.71	12.69	21.62	310.69	21.62	24.476
20	-1.90	100	59	15.71	15.71	14.54	23.05	317.13	23.05	21.808
21	-2.00	100	60	15.71	15.71	16.55	24.51	323.58	24.51	19.548
22	-2.10	100	61	15.71	15.71	18.74	25.99	330.06	25.99	17.616
23	-2.20	100	62	15.71	15.71	21.10	27.50	336.56	27.50	15.953
24	-2.30	100	63	15.71	15.71	23.64	29.03	343.09	29.03	14.512
25	-2.40	100	64	15.71	15.71	26.38	30.58	349.64	30.58	13.256
26	-2.50	100	65	15.71	15.71	29.31	32.16	356.22	32.16	12.154
27	-2.60	100	66	15.71	15.71	32.45	33.77	362.82	33.77	11.182
28	-2.70	100	67	15.71	15.71	35.79	35.40	369.44	35.40	10.321
29	-2.80	100	68	15.71	15.71	39.36	37.05	376.09	37.05	9.555
30	-2.90	100	69	15.71	15.71	43.15	38.73	382.76	38.73	8.871
31	-3.00	100	70	15.71	15.71	47.17	40.43	389.46	40.43	8.257
32	-3.10	100	71	15.71	15.71	51.42	42.16	396.19	42.16	7.704
33	-3.20	100	72	15.71	15.71	55.92	43.91	402.94	43.91	7.205
34	-3.30	100	73	15.71	15.71	60.67	45.69	409.72	45.69	6.753
35	-3.40	100	74	15.71	15.71	65.68	47.49	416.52	47.49	6.341
36	-3.50	100	75	15.71	15.71	70.95	49.31	423.35	49.31	5.967
37	-3.60	100	76	15.71	15.71	76.50	51.16	430.21	51.16	5.624
38	-3.70	100	77	15.71	15.71	82.31	53.04	437.09	53.04	5.310
39	-3.80	100	78	15.71	15.71	88.42	54.93	444.01	54.93	5.022
40	-3.90	100	79	15.71	15.71	94.81	56.86	450.95	56.86	4.756
41	-4.00	100	80	15.71	15.71	101.50	58.80	457.91	58.80	4.512
42	-4.10	100	81	15.71	15.71	108.49	60.78	464.91	60.78	4.285
43	-4.20	100	82	15.71	15.71	115.79	62.77	471.93	62.77	4.076
44	-4.30	100	83	15.71	15.71	123.41	64.79	478.98	64.79	3.881
45	-4.40	100	84	15.71	15.71	131.35	66.84	486.06	66.84	3.701
46	-4.50	100	85	15.71	15.71	139.62	68.91	493.17	68.91	3.532
47	-4.60	100	86	15.71	15.71	148.23	71.00	500.31	71.00	3.375
48	-4.70	100	87	15.71	15.71	157.18	73.12	507.48	73.12	3.229
49	-4.79	100	88	15.71	15.71	166.48	75.26	514.05	75.26	3.088

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	0.00	100	40	15.71	15.71	0.00	0.00	0.00	0.00	100000.000
2	-0.10	100	41	15.71	15.71	0.01	1.05	204.78	1.05	20809.056
3	-0.20	100	42	15.71	15.71	0.04	2.13	210.86	2.13	4770.960
4	-0.30	100	43	15.71	15.71	0.11	3.24	216.95	3.24	1966.989
5	-0.40	100	44	15.71	15.71	0.22	4.37	223.06	4.37	1036.127
6	-0.50	100	45	15.71	15.71	0.37	5.53	229.20	5.53	625.706
7	-0.60	100	46	15.71	15.71	0.57	6.71	235.35	6.71	412.523
8	-0.70	100	47	15.71	15.71	0.84	7.92	241.53	7.92	289.213
9	-0.80	100	48	15.71	15.71	1.17	9.16	247.73	9.16	212.222
10	-0.90	100	49	15.71	15.71	1.57	10.42	253.96	10.42	161.315
11	-1.00	100	50	15.71	15.71	2.06	11.71	260.20	11.71	126.116
12	-1.10	100	51	15.71	15.71	2.64	13.02	266.47	13.02	100.888
13	-1.20	100	52	15.71	15.71	3.32	14.36	272.76	14.36	82.266
14	-1.30	100	53	15.71	15.71	4.09	15.73	279.08	15.73	68.176
15	-1.40	100	54	15.71	15.71	4.98	17.12	285.42	17.12	57.288
16	-1.50	100	55	15.71	15.71	5.99	18.54	291.78	18.54	48.723
17	-1.60	100	56	15.71	15.71	7.12	19.98	298.17	19.98	41.876
18	-1.70	100	57	15.71	15.71	8.38	21.45	304.58	21.45	36.329
19	-1.80	100	58	15.71	15.71	9.79	22.95	311.02	22.95	31.777
20	-1.90	100	59	15.71	15.71	11.34	24.47	317.48	24.47	28.003
21	-2.00	100	60	15.71	15.71	13.04	26.02	323.96	26.02	24.842
22	-2.10	100	61	15.71	15.71	14.91	27.59	330.47	27.59	22.170
23	-2.20	100	62	15.71	15.71	16.94	29.19	337.01	29.19	19.895
24	-2.30	100	63	15.71	15.71	19.15	30.81	343.57	30.81	17.943
25	-2.40	100	64	15.71	15.71	21.54	32.47	350.15	32.47	16.257
26	-2.50	100	65	15.71	15.71	24.12	34.14	356.76	34.14	14.792
27	-2.60	100	66	15.71	15.71	26.90	35.85	363.40	35.85	13.511
28	-2.70	100	67	15.71	15.71	29.88	37.58	370.06	37.58	12.385
29	-2.80	100	68	15.71	15.71	33.07	39.33	376.75	39.33	11.392
30	-2.90	100	69	15.71	15.71	36.48	41.11	383.47	41.11	10.511
31	-3.00	100	70	15.71	15.71	40.12	42.92	390.21	42.92	9.726
32	-3.10	100	71	15.71	15.71	43.99	44.75	396.98	44.75	9.024
33	-3.20	100	72	15.71	15.71	48.10	46.61	403.78	46.61	8.394
34	-3.30	100	73	15.71	15.71	52.46	48.50	410.60	48.50	7.827
35	-3.40	100	74	15.71	15.71	57.07	50.41	417.45	50.41	7.315
36	-3.50	100	75	15.71	15.71	61.95	52.35	424.33	52.35	6.850
37	-3.60	100	76	15.71	15.71	67.09	54.31	431.24	54.31	6.428
38	-3.70	100	77	15.71	15.71	72.51	56.30	438.18	56.30	6.043
39	-3.80	100	78	15.71	15.71	78.21	58.31	445.14	58.31	5.692
40	-3.90	100	79	15.71	15.71	84.20	60.36	452.14	60.36	5.370
41	-4.00	100	80	15.71	15.71	90.49	62.42	459.16	62.42	5.074
42	-4.10	100	81	15.71	15.71	97.09	64.52	466.22	64.52	4.802
43	-4.20	100	82	15.71	15.71	103.99	66.63	473.30	66.63	4.551
44	-4.30	100	83	15.71	15.71	111.22	68.78	480.42	68.78	4.320
45	-4.40	100	84	15.71	15.71	118.77	70.95	487.56	70.95	4.105
46	-4.50	100	85	15.71	15.71	126.66	73.15	494.74	73.15	3.906
47	-4.60	100	86	15.71	15.71	134.88	75.37	501.95	75.37	3.721
48	-4.70	100	87	15.71	15.71	143.46	77.62	509.19	77.62	3.549
49	-4.79	100	88	15.71	15.71	152.39	79.89	515.82	79.89	3.385

Combinazione n° 4 - 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	0.00	100	40	15.71	15.71	0.00	0.00	0.00	0.00	100000.000
2	-0.10	100	41	15.71	15.71	0.01	0.93	0.00	0.00	100000.000
3	-0.20	100	42	15.71	15.71	0.04	1.89	210.82	1.89	4997.509
4	-0.30	100	43	15.71	15.71	0.10	2.86	216.89	2.86	2068.314
5	-0.40	100	44	15.71	15.71	0.20	3.87	222.97	3.87	1092.954
6	-0.50	100	45	15.71	15.71	0.35	4.89	229.08	4.89	661.775
7	-0.60	100	46	15.71	15.71	0.54	5.94	235.21	5.94	437.281
8	-0.70	100	47	15.71	15.71	0.79	7.00	241.36	7.00	307.158
9	-0.80	100	48	15.71	15.71	1.10	8.10	247.52	8.10	225.762
10	-0.90	100	49	15.71	15.71	1.48	9.21	253.71	9.21	171.853
11	-1.00	100	50	15.71	15.71	1.93	10.35	259.92	10.35	134.522
12	-1.10	100	51	15.71	15.71	2.47	11.51	266.15	11.51	107.731
13	-1.20	100	52	15.71	15.71	3.10	12.70	272.41	12.70	87.931
14	-1.30	100	53	15.71	15.71	3.82	13.90	278.68	13.90	72.934
15	-1.40	100	54	15.71	15.71	4.65	15.14	284.98	15.14	61.334
16	-1.50	100	55	15.71	15.71	5.58	16.39	291.29	16.39	52.199
17	-1.60	100	56	15.71	15.71	6.63	17.66	297.63	17.66	44.892
18	-1.70	100	57	15.71	15.71	7.80	18.96	303.99	18.96	38.966
19	-1.80	100	58	15.71	15.71	9.10	20.29	310.37	20.29	34.101
20	-1.90	100	59	15.71	15.71	10.54	21.63	316.78	21.63	30.064
21	-2.00	100	60	15.71	15.71	12.11	23.00	323.20	23.00	26.681
22	-2.10	100	61	15.71	15.71	13.84	24.39	329.65	24.39	23.821
23	-2.20	100	62	15.71	15.71	15.72	25.80	336.12	25.80	21.383
24	-2.30	100	63	15.71	15.71	17.76	27.24	342.61	27.24	19.291
25	-2.40	100	64	15.71	15.71	19.97	28.70	349.13	28.70	17.482

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
26	-2.50	100	65	15.71	15.71	22.35	30.19	355.67	30.19	15.910
27	-2.60	100	66	15.71	15.71	24.92	31.69	362.23	31.69	14.536
28	-2.70	100	67	15.71	15.71	27.67	33.22	368.82	33.22	13.327
29	-2.80	100	68	15.71	15.71	30.62	34.77	375.43	34.77	12.260
30	-2.90	100	69	15.71	15.71	33.77	36.35	382.06	36.35	11.314
31	-3.00	100	70	15.71	15.71	37.13	37.94	388.72	37.94	10.470
32	-3.10	100	71	15.71	15.71	40.70	39.57	395.40	39.57	9.716
33	-3.20	100	72	15.71	15.71	44.49	41.21	402.11	41.21	9.039
34	-3.30	100	73	15.71	15.71	48.51	42.88	408.84	42.88	8.429
35	-3.40	100	74	15.71	15.71	52.76	44.57	415.59	44.57	7.877
36	-3.50	100	75	15.71	15.71	57.25	46.28	422.37	46.28	7.378
37	-3.60	100	76	15.71	15.71	61.99	48.01	429.18	48.01	6.923
38	-3.70	100	77	15.71	15.71	66.98	49.77	436.01	49.77	6.509
39	-3.80	100	78	15.71	15.71	72.24	51.55	442.87	51.55	6.131
40	-3.90	100	79	15.71	15.71	77.76	53.36	449.75	53.36	5.784
41	-4.00	100	80	15.71	15.71	83.55	55.19	456.66	55.19	5.466
42	-4.10	100	81	15.71	15.71	89.63	57.04	463.60	57.04	5.173
43	-4.20	100	82	15.71	15.71	95.99	58.91	470.56	58.91	4.902
44	-4.30	100	83	15.71	15.71	102.64	60.81	477.55	60.81	4.653
45	-4.40	100	84	15.71	15.71	109.59	62.73	484.56	62.73	4.421
46	-4.50	100	85	15.71	15.71	116.85	64.67	491.61	64.67	4.207
47	-4.60	100	86	15.71	15.71	124.43	66.63	498.68	66.63	4.008
48	-4.70	100	87	15.71	15.71	132.32	68.62	505.78	68.62	3.822
49	-4.79	100	88	15.71	15.71	140.54	70.63	512.27	70.63	3.645

Combinazione n° 5 - 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	40	15.71	15.71	0.00	0.00	0.00	0.00	100000.000
2	-0.10	100	41	15.71	15.71	0.00	1.29	0.00	0.00	100000.000
3	-0.20	100	42	15.71	15.71	0.02	2.61	210.94	2.61	9718.424
4	-0.30	100	43	15.71	15.71	0.06	3.97	217.08	3.97	3684.747
5	-0.40	100	44	15.71	15.71	0.12	5.35	223.24	5.35	1821.971
6	-0.50	100	45	15.71	15.71	0.22	6.77	229.42	6.77	1046.968
7	-0.60	100	46	15.71	15.71	0.36	8.22	235.63	8.22	663.067
8	-0.70	100	47	15.71	15.71	0.54	9.70	241.87	9.70	449.661
9	-0.80	100	48	15.71	15.71	0.77	11.22	248.13	11.22	320.850
10	-0.90	100	49	15.71	15.71	1.07	12.76	254.42	12.76	238.129
11	-1.00	100	50	15.71	15.71	1.43	14.34	260.74	14.34	182.369
12	-1.10	100	51	15.71	15.71	1.86	15.95	267.09	15.95	143.289
13	-1.20	100	52	15.71	15.71	2.38	17.59	273.46	17.59	115.007
14	-1.30	100	53	15.71	15.71	2.98	19.26	279.86	19.26	93.982
15	-1.40	100	54	15.71	15.71	3.67	20.97	286.28	20.97	77.993
16	-1.50	100	55	15.71	15.71	4.46	22.70	292.74	22.70	65.592
17	-1.60	100	56	15.71	15.71	5.36	24.47	299.22	24.47	55.809
18	-1.70	100	57	15.71	15.71	6.37	26.27	305.73	26.27	47.973
19	-1.80	100	58	15.71	15.71	7.50	28.10	312.27	28.10	41.615
20	-1.90	100	59	15.71	15.71	8.76	29.96	318.84	29.96	36.394
21	-2.00	100	60	15.71	15.71	10.15	31.86	325.44	31.86	32.061
22	-2.10	100	61	15.71	15.71	11.68	33.79	332.07	33.79	28.431
23	-2.20	100	62	15.71	15.71	13.36	35.75	338.73	35.75	25.363
24	-2.30	100	63	15.71	15.71	15.18	37.74	345.41	37.74	22.750
25	-2.40	100	64	15.71	15.71	17.17	39.76	352.13	39.76	20.508
26	-2.50	100	65	15.71	15.71	19.32	41.81	358.88	41.81	18.571
27	-2.60	100	66	15.71	15.71	21.65	43.90	365.66	43.90	16.889
28	-2.70	100	67	15.71	15.71	24.16	46.02	372.47	46.02	15.419
29	-2.80	100	68	15.71	15.71	26.85	48.17	379.32	48.17	14.128
30	-2.90	100	69	15.71	15.71	29.73	50.35	386.19	50.35	12.989
31	-3.00	100	70	15.71	15.71	32.82	52.56	393.10	52.56	11.979
32	-3.10	100	71	15.71	15.71	36.11	54.81	400.04	54.81	11.080
33	-3.20	100	72	15.71	15.71	39.61	57.08	407.01	57.08	10.276
34	-3.30	100	73	15.71	15.71	43.33	59.39	414.02	59.39	9.555
35	-3.40	100	74	15.71	15.71	47.28	61.73	421.06	61.73	8.906
36	-3.50	100	75	15.71	15.71	51.46	64.11	428.13	64.11	8.320
37	-3.60	100	76	15.71	15.71	55.88	66.51	435.24	66.51	7.789
38	-3.70	100	77	15.71	15.71	60.54	68.95	442.38	68.95	7.307
39	-3.80	100	78	15.71	15.71	65.46	71.41	449.56	71.41	6.868
40	-3.90	100	79	15.71	15.71	70.64	73.91	456.77	73.91	6.466
41	-4.00	100	80	15.71	15.71	76.08	76.45	464.02	76.45	6.099
42	-4.10	100	81	15.71	15.71	81.80	79.01	471.30	79.01	5.762
43	-4.20	100	82	15.71	15.71	87.79	81.60	478.62	81.60	5.452
44	-4.30	100	83	15.71	15.71	94.07	84.23	485.98	84.23	5.166
45	-4.40	100	84	15.71	15.71	100.64	86.89	493.38	86.89	4.902
46	-4.50	100	85	15.71	15.71	107.52	89.58	500.81	89.58	4.658
47	-4.60	100	86	15.71	15.71	114.70	92.30	508.28	92.30	4.432
48	-4.70	100	87	15.71	15.71	122.19	95.06	515.79	95.06	4.221
49	-4.79	100	88	15.71	15.71	130.00	97.84	522.68	97.84	4.021

Combinazione n° 6 - 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	40	15.71	15.71	0.00	0.00	0.00	0.00	100000.000
2	-0.10	100	41	15.71	15.71	0.00	0.99	0.00	0.00	100000.000
3	-0.20	100	42	15.71	15.71	0.02	2.01	210.84	2.01	11262.954
4	-0.30	100	43	15.71	15.71	0.05	3.05	216.92	3.05	4160.329
5	-0.40	100	44	15.71	15.71	0.11	4.12	223.02	4.12	2020.323
6	-0.50	100	45	15.71	15.71	0.20	5.21	229.14	5.21	1145.620
7	-0.60	100	46	15.71	15.71	0.33	6.32	235.28	6.32	718.149
8	-0.70	100	47	15.71	15.71	0.50	7.46	241.44	7.46	483.053
9	-0.80	100	48	15.71	15.71	0.72	8.63	247.63	8.63	342.381
10	-0.90	100	49	15.71	15.71	1.00	9.82	253.83	9.82	252.694
11	-1.00	100	50	15.71	15.71	1.35	11.03	260.06	11.03	192.607
12	-1.10	100	51	15.71	15.71	1.77	12.27	266.31	12.27	150.714
13	-1.20	100	52	15.71	15.71	2.26	13.53	272.59	13.53	120.534
14	-1.30	100	53	15.71	15.71	2.84	14.82	278.88	14.82	98.188
15	-1.40	100	54	15.71	15.71	3.51	16.13	285.20	16.13	81.254
16	-1.50	100	55	15.71	15.71	4.28	17.46	291.54	17.46	68.161
17	-1.60	100	56	15.71	15.71	5.15	18.82	297.90	18.82	57.861
18	-1.70	100	57	15.71	15.71	6.13	20.21	304.29	20.21	49.633
19	-1.80	100	58	15.71	15.71	7.23	21.62	310.69	21.62	42.971
20	-1.90	100	59	15.71	15.71	8.45	23.05	317.13	23.05	37.512
21	-2.00	100	60	15.71	15.71	9.81	24.51	323.58	24.51	32.991
22	-2.10	100	61	15.71	15.71	11.30	25.99	330.06	25.99	29.210
23	-2.20	100	62	15.71	15.71	12.93	27.50	336.56	27.50	26.020
24	-2.30	100	63	15.71	15.71	14.72	29.03	343.09	29.03	23.307
25	-2.40	100	64	15.71	15.71	16.66	30.58	349.64	30.58	20.982
26	-2.50	100	65	15.71	15.71	18.77	32.16	356.22	32.16	18.978
27	-2.60	100	66	15.71	15.71	21.05	33.77	362.82	33.77	17.238
28	-2.70	100	67	15.71	15.71	23.50	35.40	369.44	35.40	15.720
29	-2.80	100	68	15.71	15.71	26.14	37.05	376.09	37.05	14.388
30	-2.90	100	69	15.71	15.71	28.97	38.73	382.76	38.73	13.214
31	-3.00	100	70	15.71	15.71	31.99	40.43	389.46	40.43	12.174
32	-3.10	100	71	15.71	15.71	35.22	42.16	396.19	42.16	11.250
33	-3.20	100	72	15.71	15.71	38.66	43.91	402.94	43.91	10.424
34	-3.30	100	73	15.71	15.71	42.31	45.69	409.72	45.69	9.684
35	-3.40	100	74	15.71	15.71	46.19	47.49	416.52	47.49	9.018
36	-3.50	100	75	15.71	15.71	50.30	49.31	423.35	49.31	8.417
37	-3.60	100	76	15.71	15.71	54.64	51.16	430.21	51.16	7.873
38	-3.70	100	77	15.71	15.71	59.23	53.04	437.09	53.04	7.380
39	-3.80	100	78	15.71	15.71	64.07	54.93	444.01	54.93	6.931
40	-3.90	100	79	15.71	15.71	69.16	56.86	450.95	56.86	6.520
41	-4.00	100	80	15.71	15.71	74.52	58.80	457.91	58.80	6.145
42	-4.10	100	81	15.71	15.71	80.14	60.78	464.91	60.78	5.801
43	-4.20	100	82	15.71	15.71	86.04	62.77	471.93	62.77	5.485
44	-4.30	100	83	15.71	15.71	92.23	64.79	478.98	64.79	5.193
45	-4.40	100	84	15.71	15.71	98.70	66.84	486.06	66.84	4.925
46	-4.50	100	85	15.71	15.71	105.47	68.91	493.17	68.91	4.676
47	-4.60	100	86	15.71	15.71	112.55	71.00	500.31	71.00	4.445
48	-4.70	100	87	15.71	15.71	119.93	73.12	507.48	73.12	4.232
49	-4.79	100	88	15.71	15.71	127.63	75.26	514.05	75.26	4.028

Combinazione n° 7 - 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	40	15.71	15.71	0.00	0.00	0.00	0.00	100000.000
2	-0.10	100	41	15.71	15.71	0.00	1.29	0.00	0.00	100000.000
3	-0.20	100	42	15.71	15.71	0.02	2.61	210.94	2.61	9718.424
4	-0.30	100	43	15.71	15.71	0.06	3.97	217.08	3.97	3684.747
5	-0.40	100	44	15.71	15.71	0.12	5.35	223.24	5.35	1821.971
6	-0.50	100	45	15.71	15.71	0.22	6.77	229.42	6.77	1046.968
7	-0.60	100	46	15.71	15.71	0.36	8.22	235.63	8.22	663.067
8	-0.70	100	47	15.71	15.71	0.54	9.70	241.87	9.70	449.661
9	-0.80	100	48	15.71	15.71	0.77	11.22	248.13	11.22	320.850
10	-0.90	100	49	15.71	15.71	1.07	12.76	254.42	12.76	238.129
11	-1.00	100	50	15.71	15.71	1.43	14.34	260.74	14.34	182.369
12	-1.10	100	51	15.71	15.71	1.86	15.95	267.09	15.95	143.289
13	-1.20	100	52	15.71	15.71	2.38	17.59	273.46	17.59	115.007
14	-1.30	100	53	15.71	15.71	2.98	19.26	279.86	19.26	93.982
15	-1.40	100	54	15.71	15.71	3.67	20.97	286.28	20.97	77.993
16	-1.50	100	55	15.71	15.71	4.46	22.70	292.74	22.70	65.592
17	-1.60	100	56	15.71	15.71	5.36	24.47	299.22	24.47	55.809
18	-1.70	100	57	15.71	15.71	6.37	26.27	305.73	26.27	47.973
19	-1.80	100	58	15.71	15.71	7.50	28.10	312.27	28.10	41.615
20	-1.90	100	59	15.71	15.71	8.76	29.96	318.84	29.96	36.394
21	-2.00	100	60	15.71	15.71	10.15	31.86	325.44	31.86	32.061
22	-2.10	100	61	15.71	15.71	11.68	33.79	332.07	33.79	28.431
23	-2.20	100	62	15.71	15.71	13.36	35.75	338.73	35.75	25.363
24	-2.30	100	63	15.71	15.71	15.18	37.74	345.41	37.74	22.750
25	-2.40	100	64	15.71	15.71	17.17	39.76	352.13	39.76	20.508
26	-2.50	100	65	15.71	15.71	19.32	41.81	358.88	41.81	18.571
27	-2.60	100	66	15.71	15.71	21.65	43.90	365.66	43.90	16.889
28	-2.70	100	67	15.71	15.71	24.16	46.02	372.47	46.02	15.419
29	-2.80	100	68	15.71	15.71	26.85	48.17	379.32	48.17	14.128

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
30	-2.90	100	69	15.71	15.71	29.73	50.35	386.19	50.35	12.989
31	-3.00	100	70	15.71	15.71	32.82	52.56	393.10	52.56	11.979
32	-3.10	100	71	15.71	15.71	36.11	54.81	400.04	54.81	11.080
33	-3.20	100	72	15.71	15.71	39.61	57.08	407.01	57.08	10.276
34	-3.30	100	73	15.71	15.71	43.33	59.39	414.02	59.39	9.555
35	-3.40	100	74	15.71	15.71	47.28	61.73	421.06	61.73	8.906
36	-3.50	100	75	15.71	15.71	51.46	64.11	428.13	64.11	8.320
37	-3.60	100	76	15.71	15.71	55.88	66.51	435.24	66.51	7.789
38	-3.70	100	77	15.71	15.71	60.54	68.95	442.38	68.95	7.307
39	-3.80	100	78	15.71	15.71	65.46	71.41	449.56	71.41	6.868
40	-3.90	100	79	15.71	15.71	70.64	73.91	456.77	73.91	6.466
41	-4.00	100	80	15.71	15.71	76.08	76.45	464.02	76.45	6.099
42	-4.10	100	81	15.71	15.71	81.80	79.01	471.30	79.01	5.762
43	-4.20	100	82	15.71	15.71	87.79	81.60	478.62	81.60	5.452
44	-4.30	100	83	15.71	15.71	94.07	84.23	485.98	84.23	5.166
45	-4.40	100	84	15.71	15.71	100.64	86.89	493.38	86.89	4.902
46	-4.50	100	85	15.71	15.71	107.52	89.58	500.81	89.58	4.658
47	-4.60	100	86	15.71	15.71	114.70	92.30	508.28	92.30	4.432
48	-4.70	100	87	15.71	15.71	122.19	95.06	515.79	95.06	4.221
49	-4.79	100	88	15.71	15.71	130.00	97.84	522.68	97.84	4.021

Combinazione n° 8 - 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	40	15.71	15.71	0.00	0.00	0.00	0.00	100000.000
2	-0.10	100	41	15.71	15.71	0.02	1.29	204.81	1.29	9676.863
3	-0.20	100	42	15.71	15.71	0.09	2.61	210.94	2.61	2366.050
4	-0.30	100	43	15.71	15.71	0.21	3.97	217.08	3.97	1030.401
5	-0.40	100	44	15.71	15.71	0.39	5.35	223.24	5.35	569.014
6	-0.50	100	45	15.71	15.71	0.64	6.77	229.42	6.77	358.085
7	-0.60	100	46	15.71	15.71	0.96	8.22	235.63	8.22	244.834
8	-0.70	100	47	15.71	15.71	1.36	9.70	241.87	9.70	177.303
9	-0.80	100	48	15.71	15.71	1.85	11.22	248.13	11.22	133.940
10	-0.90	100	49	15.71	15.71	2.43	12.76	254.42	12.76	104.516
11	-1.00	100	50	15.71	15.71	3.12	14.34	260.74	14.34	83.677
12	-1.10	100	51	15.71	15.71	3.90	15.95	267.09	15.95	68.407
13	-1.20	100	52	15.71	15.71	4.81	17.59	273.46	17.59	56.899
14	-1.30	100	53	15.71	15.71	5.83	19.26	279.86	19.26	48.023
15	-1.40	100	54	15.71	15.71	6.98	20.97	286.28	20.97	41.040
16	-1.50	100	55	15.71	15.71	8.26	22.70	292.74	22.70	35.453
17	-1.60	100	56	15.71	15.71	9.68	24.47	299.22	24.47	30.916
18	-1.70	100	57	15.71	15.71	11.25	26.27	305.73	26.27	27.185
19	-1.80	100	58	15.71	15.71	12.97	28.10	312.27	28.10	24.081
20	-1.90	100	59	15.71	15.71	14.85	29.96	318.84	29.96	21.473
21	-2.00	100	60	15.71	15.71	16.90	31.86	325.44	31.86	19.262
22	-2.10	100	61	15.71	15.71	19.12	33.79	332.07	33.79	17.371
23	-2.20	100	62	15.71	15.71	21.52	35.75	338.73	35.75	15.742
24	-2.30	100	63	15.71	15.71	24.10	37.74	345.41	37.74	14.330
25	-2.40	100	64	15.71	15.71	26.88	39.76	352.13	39.76	13.098
26	-2.50	100	65	15.71	15.71	29.86	41.81	358.88	41.81	12.017
27	-2.60	100	66	15.71	15.71	33.05	43.90	365.66	43.90	11.064
28	-2.70	100	67	15.71	15.71	36.45	46.02	372.47	46.02	10.219
29	-2.80	100	68	15.71	15.71	40.07	48.17	379.32	48.17	9.467
30	-2.90	100	69	15.71	15.71	43.91	50.35	386.19	50.35	8.794
31	-3.00	100	70	15.71	15.71	47.99	52.56	393.10	52.56	8.191
32	-3.10	100	71	15.71	15.71	52.31	54.81	400.04	54.81	7.647
33	-3.20	100	72	15.71	15.71	56.88	57.08	407.01	57.08	7.156
34	-3.30	100	73	15.71	15.71	61.69	59.39	414.02	59.39	6.711
35	-3.40	100	74	15.71	15.71	66.77	61.73	421.06	61.73	6.306
36	-3.50	100	75	15.71	15.71	72.11	64.11	428.13	64.11	5.937
37	-3.60	100	76	15.71	15.71	77.73	66.51	435.24	66.51	5.599
38	-3.70	100	77	15.71	15.71	83.63	68.95	442.38	68.95	5.290
39	-3.80	100	78	15.71	15.71	89.81	71.41	449.56	71.41	5.006
40	-3.90	100	79	15.71	15.71	96.29	73.91	456.77	73.91	4.744
41	-4.00	100	80	15.71	15.71	103.06	76.45	464.02	76.45	4.502
42	-4.10	100	81	15.71	15.71	110.14	79.01	471.30	79.01	4.279
43	-4.20	100	82	15.71	15.71	117.54	81.60	478.62	81.60	4.072
44	-4.30	100	83	15.71	15.71	125.25	84.23	485.98	84.23	3.880
45	-4.40	100	84	15.71	15.71	133.29	86.89	493.38	86.89	3.701
46	-4.50	100	85	15.71	15.71	141.66	89.58	500.81	89.58	3.535
47	-4.60	100	86	15.71	15.71	150.38	92.30	508.28	92.30	3.380
48	-4.70	100	87	15.71	15.71	159.44	95.06	515.79	95.06	3.235
49	-4.79	100	88	15.71	15.71	168.85	97.84	522.68	97.84	3.096

Combinazione n° 9 - 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	40	15.71	15.71	0.00	0.00	0.00	0.00	100000.000
2	-0.10	100	41	15.71	15.71	0.02	0.99	204.77	0.99	10025.359
3	-0.20	100	42	15.71	15.71	0.09	2.01	210.84	2.01	2446.862

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
4	-0.30	100	43	15.71	15.71	0.20	3.05	216.92	3.05	1063.855
5	-0.40	100	44	15.71	15.71	0.38	4.12	223.02	4.12	586.606
6	-0.50	100	45	15.71	15.71	0.62	5.21	229.14	5.21	368.643
7	-0.60	100	46	15.71	15.71	0.93	6.32	235.28	6.32	251.725
8	-0.70	100	47	15.71	15.71	1.33	7.46	241.44	7.46	182.071
9	-0.80	100	48	15.71	15.71	1.80	8.63	247.63	8.63	137.383
10	-0.90	100	49	15.71	15.71	2.37	9.82	253.83	9.82	107.085
11	-1.00	100	50	15.71	15.71	3.04	11.03	260.06	11.03	85.645
12	-1.10	100	51	15.71	15.71	3.81	12.27	266.31	12.27	69.946
13	-1.20	100	52	15.71	15.71	4.69	13.53	272.59	13.53	58.124
14	-1.30	100	53	15.71	15.71	5.69	14.82	278.88	14.82	49.012
15	-1.40	100	54	15.71	15.71	6.82	16.13	285.20	16.13	41.848
16	-1.50	100	55	15.71	15.71	8.07	17.46	291.54	17.46	36.120
17	-1.60	100	56	15.71	15.71	9.47	18.82	297.90	18.82	31.472
18	-1.70	100	57	15.71	15.71	11.00	20.21	304.29	20.21	27.652
19	-1.80	100	58	15.71	15.71	12.69	21.62	310.69	21.62	24.476
20	-1.90	100	59	15.71	15.71	14.54	23.05	317.13	23.05	21.808
21	-2.00	100	60	15.71	15.71	16.55	24.51	323.58	24.51	19.548
22	-2.10	100	61	15.71	15.71	18.74	25.99	330.06	25.99	17.616
23	-2.20	100	62	15.71	15.71	21.10	27.50	336.56	27.50	15.953
24	-2.30	100	63	15.71	15.71	23.64	29.03	343.09	29.03	14.512
25	-2.40	100	64	15.71	15.71	26.38	30.58	349.64	30.58	13.256
26	-2.50	100	65	15.71	15.71	29.31	32.16	356.22	32.16	12.154
27	-2.60	100	66	15.71	15.71	32.45	33.77	362.82	33.77	11.182
28	-2.70	100	67	15.71	15.71	35.79	35.40	369.44	35.40	10.321
29	-2.80	100	68	15.71	15.71	39.36	37.05	376.09	37.05	9.555
30	-2.90	100	69	15.71	15.71	43.15	38.73	382.76	38.73	8.871
31	-3.00	100	70	15.71	15.71	47.17	40.43	389.46	40.43	8.257
32	-3.10	100	71	15.71	15.71	51.42	42.16	396.19	42.16	7.704
33	-3.20	100	72	15.71	15.71	55.92	43.91	402.94	43.91	7.205
34	-3.30	100	73	15.71	15.71	60.67	45.69	409.72	45.69	6.753
35	-3.40	100	74	15.71	15.71	65.68	47.49	416.52	47.49	6.341
36	-3.50	100	75	15.71	15.71	70.95	49.31	423.35	49.31	5.967
37	-3.60	100	76	15.71	15.71	76.50	51.16	430.21	51.16	5.624
38	-3.70	100	77	15.71	15.71	82.31	53.04	437.09	53.04	5.310
39	-3.80	100	78	15.71	15.71	88.42	54.93	444.01	54.93	5.022
40	-3.90	100	79	15.71	15.71	94.81	56.86	450.95	56.86	4.756
41	-4.00	100	80	15.71	15.71	101.50	58.80	457.91	58.80	4.512
42	-4.10	100	81	15.71	15.71	108.49	60.78	464.91	60.78	4.285
43	-4.20	100	82	15.71	15.71	115.79	62.77	471.93	62.77	4.076
44	-4.30	100	83	15.71	15.71	123.41	64.79	478.98	64.79	3.881
45	-4.40	100	84	15.71	15.71	131.35	66.84	486.06	66.84	3.701
46	-4.50	100	85	15.71	15.71	139.62	68.91	493.17	68.91	3.532
47	-4.60	100	86	15.71	15.71	148.23	71.00	500.31	71.00	3.375
48	-4.70	100	87	15.71	15.71	157.18	73.12	507.48	73.12	3.229
49	-4.79	100	88	15.71	15.71	166.48	75.26	514.05	75.26	3.088

Combinazione n° 10 - 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	40	15.71	15.71	0.00	0.00	0.00	0.00	100000.000
2	-0.10	100	41	15.71	15.71	0.02	1.29	204.81	1.29	9676.863
3	-0.20	100	42	15.71	15.71	0.09	2.61	210.94	2.61	2366.050
4	-0.30	100	43	15.71	15.71	0.21	3.97	217.08	3.97	1030.401
5	-0.40	100	44	15.71	15.71	0.39	5.35	223.24	5.35	569.014
6	-0.50	100	45	15.71	15.71	0.64	6.77	229.42	6.77	358.085
7	-0.60	100	46	15.71	15.71	0.96	8.22	235.63	8.22	244.834
8	-0.70	100	47	15.71	15.71	1.36	9.70	241.87	9.70	177.303
9	-0.80	100	48	15.71	15.71	1.85	11.22	248.13	11.22	133.940
10	-0.90	100	49	15.71	15.71	2.43	12.76	254.42	12.76	104.516
11	-1.00	100	50	15.71	15.71	3.12	14.34	260.74	14.34	83.677
12	-1.10	100	51	15.71	15.71	3.90	15.95	267.09	15.95	68.407
13	-1.20	100	52	15.71	15.71	4.81	17.59	273.46	17.59	56.899
14	-1.30	100	53	15.71	15.71	5.83	19.26	279.86	19.26	48.023
15	-1.40	100	54	15.71	15.71	6.98	20.97	286.28	20.97	41.040
16	-1.50	100	55	15.71	15.71	8.26	22.70	292.74	22.70	35.453
17	-1.60	100	56	15.71	15.71	9.68	24.47	299.22	24.47	30.916
18	-1.70	100	57	15.71	15.71	11.25	26.27	305.73	26.27	27.185
19	-1.80	100	58	15.71	15.71	12.97	28.10	312.27	28.10	24.081
20	-1.90	100	59	15.71	15.71	14.85	29.96	318.84	29.96	21.473
21	-2.00	100	60	15.71	15.71	16.90	31.86	325.44	31.86	19.262
22	-2.10	100	61	15.71	15.71	19.12	33.79	332.07	33.79	17.371
23	-2.20	100	62	15.71	15.71	21.52	35.75	338.73	35.75	15.742
24	-2.30	100	63	15.71	15.71	24.10	37.74	345.41	37.74	14.330
25	-2.40	100	64	15.71	15.71	26.88	39.76	352.13	39.76	13.098
26	-2.50	100	65	15.71	15.71	29.86	41.81	358.88	41.81	12.017
27	-2.60	100	66	15.71	15.71	33.05	43.90	365.66	43.90	11.064
28	-2.70	100	67	15.71	15.71	36.45	46.02	372.47	46.02	10.219
29	-2.80	100	68	15.71	15.71	40.07	48.17	379.32	48.17	9.467
30	-2.90	100	69	15.71	15.71	43.91	50.35	386.19	50.35	8.794
31	-3.00	100	70	15.71	15.71	47.99	52.56	393.10	52.56	8.191
32	-3.10	100	71	15.71	15.71	52.31	54.81	400.04	54.81	7.647

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
33	-3.20	100	72	15.71	15.71	56.88	57.08	407.01	57.08	7.156
34	-3.30	100	73	15.71	15.71	61.69	59.39	414.02	59.39	6.711
35	-3.40	100	74	15.71	15.71	66.77	61.73	421.06	61.73	6.306
36	-3.50	100	75	15.71	15.71	72.11	64.11	428.13	64.11	5.937
37	-3.60	100	76	15.71	15.71	77.73	66.51	435.24	66.51	5.599
38	-3.70	100	77	15.71	15.71	83.63	68.95	442.38	68.95	5.290
39	-3.80	100	78	15.71	15.71	89.81	71.41	449.56	71.41	5.006
40	-3.90	100	79	15.71	15.71	96.29	73.91	456.77	73.91	4.744
41	-4.00	100	80	15.71	15.71	103.06	76.45	464.02	76.45	4.502
42	-4.10	100	81	15.71	15.71	110.14	79.01	471.30	79.01	4.279
43	-4.20	100	82	15.71	15.71	117.54	81.60	478.62	81.60	4.072
44	-4.30	100	83	15.71	15.71	125.25	84.23	485.98	84.23	3.880
45	-4.40	100	84	15.71	15.71	133.29	86.89	493.38	86.89	3.701
46	-4.50	100	85	15.71	15.71	141.66	89.58	500.81	89.58	3.535
47	-4.60	100	86	15.71	15.71	150.38	92.30	508.28	92.30	3.380
48	-4.70	100	87	15.71	15.71	159.44	95.06	515.79	95.06	3.235
49	-4.79	100	88	15.71	15.71	168.85	97.84	522.68	97.84	3.096

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	-0.90	100	90	15.71	15.71	0.00	0.00	0.00	0.00	100000.000
2	-0.80	100	90	15.71	15.71	0.50	0.00	497.08	0.00	984.909
3	-0.70	100	90	15.71	15.71	2.02	0.00	497.08	0.00	246.353
4	-0.60	100	90	15.71	15.71	4.54	0.00	497.08	0.00	109.547
5	-0.50	100	90	15.71	15.71	8.06	0.00	497.08	0.00	61.652
6	-0.40	100	90	15.71	15.71	12.59	0.00	497.08	0.00	39.477
7	0.48	100	90	15.71	15.71	-142.00	0.00	-497.08	0.00	3.501
8	0.58	100	90	15.71	15.71	-133.49	0.00	-497.08	0.00	3.724
9	0.67	100	90	15.71	15.71	-125.24	0.00	-497.08	0.00	3.969
10	0.77	100	90	15.71	15.71	-117.23	0.00	-497.08	0.00	4.240
11	0.87	100	90	15.71	15.71	-109.47	0.00	-497.08	0.00	4.541
12	0.97	100	90	15.71	15.71	-101.96	0.00	-497.08	0.00	4.875
13	1.06	100	90	15.71	15.71	-94.71	0.00	-497.08	0.00	5.248
14	1.16	100	90	15.71	15.71	-87.72	0.00	-497.08	0.00	5.667
15	1.26	100	90	15.71	15.71	-80.98	0.00	-497.08	0.00	6.138
16	1.36	100	90	15.71	15.71	-74.50	0.00	-497.08	0.00	6.672
17	1.45	100	90	15.71	15.71	-68.28	0.00	-497.08	0.00	7.280
18	1.55	100	90	15.71	15.71	-62.32	0.00	-497.08	0.00	7.977
19	1.65	100	90	15.71	15.71	-56.62	0.00	-497.08	0.00	8.779
20	1.75	100	90	15.71	15.71	-51.18	0.00	-497.08	0.00	9.711
21	1.84	100	90	15.71	15.71	-46.02	0.00	-497.08	0.00	10.802
22	1.94	100	90	15.71	15.71	-41.11	0.00	-497.08	0.00	12.090
23	2.04	100	90	15.71	15.71	-36.48	0.00	-497.08	0.00	13.626
24	2.14	100	90	15.71	15.71	-32.12	0.00	-497.08	0.00	15.477
25	2.23	100	90	15.71	15.71	-28.02	0.00	-497.08	0.00	17.737
26	2.33	100	90	15.71	15.71	-24.20	0.00	-497.08	0.00	20.536
27	2.43	100	90	15.71	15.71	-20.66	0.00	-497.08	0.00	24.062
28	2.53	100	90	15.71	15.71	-17.39	0.00	-497.08	0.00	28.587
29	2.62	100	90	15.71	15.71	-14.39	0.00	-497.08	0.00	34.533
30	2.72	100	90	15.71	15.71	-11.68	0.00	-497.08	0.00	42.563
31	2.82	100	90	15.71	15.71	-9.24	0.00	-497.08	0.00	53.779
32	2.92	100	90	15.71	15.71	-7.09	0.00	-497.08	0.00	70.126
33	3.01	100	90	15.71	15.71	-5.22	0.00	-497.08	0.00	95.291
34	3.11	100	90	15.71	15.71	-3.63	0.00	-497.08	0.00	136.993
35	3.21	100	90	15.71	15.71	-2.33	0.00	-497.08	0.00	213.698
36	3.31	100	90	15.71	15.71	-1.31	0.00	-497.08	0.00	379.283
37	3.40	100	90	15.71	15.71	-0.58	0.00	-497.08	0.00	851.984
38	3.50	100	90	15.71	15.71	-0.15	0.00	-497.08	0.00	3402.345
39	3.60	100	90	15.71	15.71	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	-0.90	100	90	15.71	15.71	0.00	0.00	0.00	0.00	100000.000
2	-0.80	100	90	15.71	15.71	0.58	0.00	497.08	0.00	854.547
3	-0.70	100	90	15.71	15.71	2.32	0.00	497.08	0.00	213.813
4	-0.60	100	90	15.71	15.71	5.23	0.00	497.08	0.00	95.107
5	-0.50	100	90	15.71	15.71	9.28	0.00	497.08	0.00	53.542
6	-0.40	100	90	15.71	15.71	14.49	0.00	497.08	0.00	34.295
7	0.48	100	90	15.71	15.71	-154.90	0.00	-497.08	0.00	3.209
8	0.58	100	90	15.71	15.71	-145.80	0.00	-497.08	0.00	3.409
9	0.67	100	90	15.71	15.71	-136.95	0.00	-497.08	0.00	3.630
10	0.77	100	90	15.71	15.71	-128.34	0.00	-497.08	0.00	3.873
11	0.87	100	90	15.71	15.71	-119.99	0.00	-497.08	0.00	4.143
12	0.97	100	90	15.71	15.71	-111.90	0.00	-497.08	0.00	4.442

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
13	1.06	100	90	15.71	15.71	-104.06	0.00	-497.08	0.00	4.777
14	1.16	100	90	15.71	15.71	-96.49	0.00	-497.08	0.00	5.152
15	1.26	100	90	15.71	15.71	-89.18	0.00	-497.08	0.00	5.574
16	1.36	100	90	15.71	15.71	-82.14	0.00	-497.08	0.00	6.052
17	1.45	100	90	15.71	15.71	-75.37	0.00	-497.08	0.00	6.595
18	1.55	100	90	15.71	15.71	-68.87	0.00	-497.08	0.00	7.218
19	1.65	100	90	15.71	15.71	-62.64	0.00	-497.08	0.00	7.935
20	1.75	100	90	15.71	15.71	-56.70	0.00	-497.08	0.00	8.767
21	1.84	100	90	15.71	15.71	-51.03	0.00	-497.08	0.00	9.741
22	1.94	100	90	15.71	15.71	-45.65	0.00	-497.08	0.00	10.890
23	2.04	100	90	15.71	15.71	-40.55	0.00	-497.08	0.00	12.259
24	2.14	100	90	15.71	15.71	-35.74	0.00	-497.08	0.00	13.909
25	2.23	100	90	15.71	15.71	-31.22	0.00	-497.08	0.00	15.923
26	2.33	100	90	15.71	15.71	-26.99	0.00	-497.08	0.00	18.415
27	2.43	100	90	15.71	15.71	-23.06	0.00	-497.08	0.00	21.552
28	2.53	100	90	15.71	15.71	-19.43	0.00	-497.08	0.00	25.578
29	2.62	100	90	15.71	15.71	-16.11	0.00	-497.08	0.00	30.864
30	2.72	100	90	15.71	15.71	-13.08	0.00	-497.08	0.00	37.998
31	2.82	100	90	15.71	15.71	-10.36	0.00	-497.08	0.00	47.959
32	2.92	100	90	15.71	15.71	-7.96	0.00	-497.08	0.00	62.469
33	3.01	100	90	15.71	15.71	-5.86	0.00	-497.08	0.00	84.796
34	3.11	100	90	15.71	15.71	-4.08	0.00	-497.08	0.00	121.773
35	3.21	100	90	15.71	15.71	-2.62	0.00	-497.08	0.00	189.753
36	3.31	100	90	15.71	15.71	-1.48	0.00	-497.08	0.00	336.425
37	3.40	100	90	15.71	15.71	-0.66	0.00	-497.08	0.00	754.912
38	3.50	100	90	15.71	15.71	-0.17	0.00	-497.08	0.00	3011.511
39	3.60	100	90	15.71	15.71	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	-0.90	100	90	15.71	15.71	0.00	0.00	0.00	0.00	100000.000
2	-0.80	100	90	15.71	15.71	0.79	0.00	497.08	0.00	632.844
3	-0.70	100	90	15.71	15.71	3.13	0.00	497.08	0.00	159.006
4	-0.60	100	90	15.71	15.71	7.00	0.00	497.08	0.00	71.027
5	-0.50	100	90	15.71	15.71	12.38	0.00	497.08	0.00	40.155
6	-0.40	100	90	15.71	15.71	19.24	0.00	497.08	0.00	25.831
7	0.48	100	90	15.71	15.71	-95.73	0.00	-497.08	0.00	5.193
8	0.58	100	90	15.71	15.71	-93.34	0.00	-497.08	0.00	5.326
9	0.67	100	90	15.71	15.71	-90.69	0.00	-497.08	0.00	5.481
10	0.77	100	90	15.71	15.71	-87.81	0.00	-497.08	0.00	5.661
11	0.87	100	90	15.71	15.71	-84.71	0.00	-497.08	0.00	5.868
12	0.97	100	90	15.71	15.71	-81.43	0.00	-497.08	0.00	6.105
13	1.06	100	90	15.71	15.71	-77.97	0.00	-497.08	0.00	6.376
14	1.16	100	90	15.71	15.71	-74.36	0.00	-497.08	0.00	6.685
15	1.26	100	90	15.71	15.71	-70.63	0.00	-497.08	0.00	7.038
16	1.36	100	90	15.71	15.71	-66.79	0.00	-497.08	0.00	7.442
17	1.45	100	90	15.71	15.71	-62.87	0.00	-497.08	0.00	7.906
18	1.55	100	90	15.71	15.71	-58.89	0.00	-497.08	0.00	8.440
19	1.65	100	90	15.71	15.71	-54.87	0.00	-497.08	0.00	9.058
20	1.75	100	90	15.71	15.71	-50.84	0.00	-497.08	0.00	9.778
21	1.84	100	90	15.71	15.71	-46.81	0.00	-497.08	0.00	10.619
22	1.94	100	90	15.71	15.71	-42.80	0.00	-497.08	0.00	11.613
23	2.04	100	90	15.71	15.71	-38.85	0.00	-497.08	0.00	12.795
24	2.14	100	90	15.71	15.71	-34.96	0.00	-497.08	0.00	14.217
25	2.23	100	90	15.71	15.71	-31.17	0.00	-497.08	0.00	15.947
26	2.33	100	90	15.71	15.71	-27.49	0.00	-497.08	0.00	18.080
27	2.43	100	90	15.71	15.71	-23.95	0.00	-497.08	0.00	20.755
28	2.53	100	90	15.71	15.71	-20.57	0.00	-497.08	0.00	24.171
29	2.62	100	90	15.71	15.71	-17.36	0.00	-497.08	0.00	28.633
30	2.72	100	90	15.71	15.71	-14.36	0.00	-497.08	0.00	34.623
31	2.82	100	90	15.71	15.71	-11.58	0.00	-497.08	0.00	42.937
32	2.92	100	90	15.71	15.71	-9.04	0.00	-497.08	0.00	54.975
33	3.01	100	90	15.71	15.71	-6.77	0.00	-497.08	0.00	73.379
34	3.11	100	90	15.71	15.71	-4.80	0.00	-497.08	0.00	103.659
35	3.21	100	90	15.71	15.71	-3.13	0.00	-497.08	0.00	158.950
36	3.31	100	90	15.71	15.71	-1.79	0.00	-497.08	0.00	277.408
37	3.40	100	90	15.71	15.71	-0.81	0.00	-497.08	0.00	612.957
38	3.50	100	90	15.71	15.71	-0.21	0.00	-497.08	0.00	2408.562
39	3.60	100	90	15.71	15.71	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	-0.90	100	90	15.71	15.71	0.00	0.00	0.00	0.00	100000.000
2	-0.80	100	90	15.71	15.71	0.72	0.00	497.08	0.00	694.714
3	-0.70	100	90	15.71	15.71	2.85	0.00	497.08	0.00	174.645
4	-0.60	100	90	15.71	15.71	6.37	0.00	497.08	0.00	78.055
5	-0.50	100	90	15.71	15.71	11.26	0.00	497.08	0.00	44.153
6	-0.40	100	90	15.71	15.71	17.49	0.00	497.08	0.00	28.418

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
7	0.48	100	90	15.71	15.71	-167.02	0.00	-497.08	0.00	2.976
8	0.58	100	90	15.71	15.71	-160.28	0.00	-497.08	0.00	3.101
9	0.67	100	90	15.71	15.71	-153.41	0.00	-497.08	0.00	3.240
10	0.77	100	90	15.71	15.71	-146.44	0.00	-497.08	0.00	3.394
11	0.87	100	90	15.71	15.71	-139.39	0.00	-497.08	0.00	3.566
12	0.97	100	90	15.71	15.71	-132.29	0.00	-497.08	0.00	3.758
13	1.06	100	90	15.71	15.71	-125.15	0.00	-497.08	0.00	3.972
14	1.16	100	90	15.71	15.71	-118.01	0.00	-497.08	0.00	4.212
15	1.26	100	90	15.71	15.71	-110.87	0.00	-497.08	0.00	4.483
16	1.36	100	90	15.71	15.71	-103.76	0.00	-497.08	0.00	4.790
17	1.45	100	90	15.71	15.71	-96.71	0.00	-497.08	0.00	5.140
18	1.55	100	90	15.71	15.71	-89.74	0.00	-497.08	0.00	5.539
19	1.65	100	90	15.71	15.71	-82.87	0.00	-497.08	0.00	5.999
20	1.75	100	90	15.71	15.71	-76.11	0.00	-497.08	0.00	6.531
21	1.84	100	90	15.71	15.71	-69.50	0.00	-497.08	0.00	7.152
22	1.94	100	90	15.71	15.71	-63.05	0.00	-497.08	0.00	7.883
23	2.04	100	90	15.71	15.71	-56.79	0.00	-497.08	0.00	8.752
24	2.14	100	90	15.71	15.71	-50.74	0.00	-497.08	0.00	9.796
25	2.23	100	90	15.71	15.71	-44.92	0.00	-497.08	0.00	11.065
26	2.33	100	90	15.71	15.71	-39.35	0.00	-497.08	0.00	12.631
27	2.43	100	90	15.71	15.71	-34.06	0.00	-497.08	0.00	14.594
28	2.53	100	90	15.71	15.71	-29.07	0.00	-497.08	0.00	17.102
29	2.62	100	90	15.71	15.71	-24.39	0.00	-497.08	0.00	20.382
30	2.72	100	90	15.71	15.71	-20.05	0.00	-497.08	0.00	24.790
31	2.82	100	90	15.71	15.71	-16.08	0.00	-497.08	0.00	30.916
32	2.92	100	90	15.71	15.71	-12.49	0.00	-497.08	0.00	39.799
33	3.01	100	90	15.71	15.71	-9.31	0.00	-497.08	0.00	53.401
34	3.11	100	90	15.71	15.71	-6.56	0.00	-497.08	0.00	75.821
35	3.21	100	90	15.71	15.71	-4.25	0.00	-497.08	0.00	116.835
36	3.31	100	90	15.71	15.71	-2.43	0.00	-497.08	0.00	204.878
37	3.40	100	90	15.71	15.71	-1.09	0.00	-497.08	0.00	454.782
38	3.50	100	90	15.71	15.71	-0.28	0.00	-497.08	0.00	1795.010
39	3.60	100	90	15.71	15.71	0.00	0.00	0.00	0.00	100000.000

Combinazione n° 5 - 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	-0.90	100	90	15.71	15.71	0.00	0.00	0.00	0.00	100000.000
2	-0.80	100	90	15.71	15.71	0.60	0.00	497.08	0.00	823.160
3	-0.70	100	90	15.71	15.71	2.42	0.00	497.08	0.00	205.707
4	-0.60	100	90	15.71	15.71	5.44	0.00	497.08	0.00	91.388
5	-0.50	100	90	15.71	15.71	9.67	0.00	497.08	0.00	51.385
6	-0.40	100	90	15.71	15.71	15.12	0.00	497.08	0.00	32.873
7	0.48	100	90	15.71	15.71	4.87	0.00	497.08	0.00	102.098
8	0.58	100	90	15.71	15.71	4.79	0.00	497.08	0.00	103.841
9	0.67	100	90	15.71	15.71	4.69	0.00	497.08	0.00	106.053
10	0.77	100	90	15.71	15.71	4.57	0.00	497.08	0.00	108.759
11	0.87	100	90	15.71	15.71	4.44	0.00	497.08	0.00	111.996
12	0.97	100	90	15.71	15.71	4.29	0.00	497.08	0.00	115.808
13	1.06	100	90	15.71	15.71	4.13	0.00	497.08	0.00	120.259
14	1.16	100	90	15.71	15.71	3.96	0.00	497.08	0.00	125.422
15	1.26	100	90	15.71	15.71	3.78	0.00	497.08	0.00	131.395
16	1.36	100	90	15.71	15.71	3.59	0.00	497.08	0.00	138.296
17	1.45	100	90	15.71	15.71	3.40	0.00	497.08	0.00	146.275
18	1.55	100	90	15.71	15.71	3.20	0.00	497.08	0.00	155.517
19	1.65	100	90	15.71	15.71	2.99	0.00	497.08	0.00	166.258
20	1.75	100	90	15.71	15.71	2.78	0.00	497.08	0.00	178.798
21	1.84	100	90	15.71	15.71	2.57	0.00	497.08	0.00	193.520
22	1.94	100	90	15.71	15.71	2.36	0.00	497.08	0.00	210.926
23	2.04	100	90	15.71	15.71	2.15	0.00	497.08	0.00	231.676
24	2.14	100	90	15.71	15.71	1.94	0.00	497.08	0.00	256.655
25	2.23	100	90	15.71	15.71	1.73	0.00	497.08	0.00	287.070
26	2.33	100	90	15.71	15.71	1.53	0.00	497.08	0.00	324.605
27	2.43	100	90	15.71	15.71	1.34	0.00	497.08	0.00	371.663
28	2.53	100	90	15.71	15.71	1.15	0.00	497.08	0.00	431.773
29	2.62	100	90	15.71	15.71	0.97	0.00	497.08	0.00	510.288
30	2.72	100	90	15.71	15.71	0.81	0.00	497.08	0.00	615.660
31	2.82	100	90	15.71	15.71	0.65	0.00	497.08	0.00	761.870
32	2.92	100	90	15.71	15.71	0.51	0.00	497.08	0.00	973.452
33	3.01	100	90	15.71	15.71	0.38	0.00	497.08	0.00	1296.772
34	3.11	100	90	15.71	15.71	0.27	0.00	497.08	0.00	1828.429
35	3.21	100	90	15.71	15.71	0.18	0.00	497.08	0.00	2798.587
36	3.31	100	90	15.71	15.71	0.10	0.00	497.08	0.00	4875.713
37	3.40	100	90	15.71	15.71	0.05	0.00	497.08	0.00	10755.150
38	3.50	100	90	15.71	15.71	0.01	0.00	497.08	0.00	42192.903
39	3.60	100	90	15.71	15.71	0.00	0.00	0.00	0.00	100000.000

Combinazione n° 6 - 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	-0.90	100	90	15.71	15.71	0.00	0.00	0.00	0.00	100000.000
2	-0.80	100	90	15.71	15.71	0.53	0.00	497.08	0.00	934.130
3	-0.70	100	90	15.71	15.71	2.13	0.00	497.08	0.00	233.118
4	-0.60	100	90	15.71	15.71	4.81	0.00	497.08	0.00	103.424
5	-0.50	100	90	15.71	15.71	8.56	0.00	497.08	0.00	58.073
6	-0.40	100	90	15.71	15.71	13.40	0.00	497.08	0.00	37.101
7	0.48	100	90	15.71	15.71	5.22	0.00	497.08	0.00	95.171
8	0.58	100	90	15.71	15.71	5.74	0.00	497.08	0.00	86.533
9	0.67	100	90	15.71	15.71	6.17	0.00	497.08	0.00	80.577
10	0.77	100	90	15.71	15.71	6.50	0.00	497.08	0.00	76.450
11	0.87	100	90	15.71	15.71	6.75	0.00	497.08	0.00	73.654
12	0.97	100	90	15.71	15.71	6.91	0.00	497.08	0.00	71.888
13	1.06	100	90	15.71	15.71	7.00	0.00	497.08	0.00	70.963
14	1.16	100	90	15.71	15.71	7.02	0.00	497.08	0.00	70.765
15	1.26	100	90	15.71	15.71	6.98	0.00	497.08	0.00	71.228
16	1.36	100	90	15.71	15.71	6.87	0.00	497.08	0.00	72.322
17	1.45	100	90	15.71	15.71	6.71	0.00	497.08	0.00	74.048
18	1.55	100	90	15.71	15.71	6.50	0.00	497.08	0.00	76.436
19	1.65	100	90	15.71	15.71	6.25	0.00	497.08	0.00	79.541
20	1.75	100	90	15.71	15.71	5.96	0.00	497.08	0.00	83.450
21	1.84	100	90	15.71	15.71	5.63	0.00	497.08	0.00	88.288
22	1.94	100	90	15.71	15.71	5.28	0.00	497.08	0.00	94.225
23	2.04	100	90	15.71	15.71	4.90	0.00	497.08	0.00	101.496
24	2.14	100	90	15.71	15.71	4.50	0.00	497.08	0.00	110.418
25	2.23	100	90	15.71	15.71	4.09	0.00	497.08	0.00	121.433
26	2.33	100	90	15.71	15.71	3.68	0.00	497.08	0.00	135.159
27	2.43	100	90	15.71	15.71	3.26	0.00	497.08	0.00	152.480
28	2.53	100	90	15.71	15.71	2.85	0.00	497.08	0.00	174.697
29	2.62	100	90	15.71	15.71	2.44	0.00	497.08	0.00	203.784
30	2.72	100	90	15.71	15.71	2.05	0.00	497.08	0.00	242.855
31	2.82	100	90	15.71	15.71	1.67	0.00	497.08	0.00	297.055
32	2.92	100	90	15.71	15.71	1.32	0.00	497.08	0.00	375.399
33	3.01	100	90	15.71	15.71	1.00	0.00	497.08	0.00	494.901
34	3.11	100	90	15.71	15.71	0.72	0.00	497.08	0.00	690.941
35	3.21	100	90	15.71	15.71	0.47	0.00	497.08	0.00	1047.670
36	3.31	100	90	15.71	15.71	0.27	0.00	497.08	0.00	1809.029
37	3.40	100	90	15.71	15.71	0.13	0.00	497.08	0.00	3956.672
38	3.50	100	90	15.71	15.71	0.03	0.00	497.08	0.00	15396.810
39	3.60	100	90	15.71	15.71	0.00	0.00	0.00	0.00	100000.000

Combinazione n° 7 - 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	-0.90	100	90	15.71	15.71	0.00	0.00	0.00	0.00	100000.000
2	-0.80	100	90	15.71	15.71	0.58	0.00	497.08	0.00	862.338
3	-0.70	100	90	15.71	15.71	2.30	0.00	497.08	0.00	215.944
4	-0.60	100	90	15.71	15.71	5.17	0.00	497.08	0.00	96.136
5	-0.50	100	90	15.71	15.71	9.18	0.00	497.08	0.00	54.167
6	-0.40	100	90	15.71	15.71	14.31	0.00	497.08	0.00	34.725
7	0.48	100	90	15.71	15.71	-142.35	0.00	-497.08	0.00	3.492
8	0.58	100	90	15.71	15.71	-134.45	0.00	-497.08	0.00	3.697
9	0.67	100	90	15.71	15.71	-126.72	0.00	-497.08	0.00	3.923
10	0.77	100	90	15.71	15.71	-119.16	0.00	-497.08	0.00	4.172
11	0.87	100	90	15.71	15.71	-111.78	0.00	-497.08	0.00	4.447
12	0.97	100	90	15.71	15.71	-104.59	0.00	-497.08	0.00	4.753
13	1.06	100	90	15.71	15.71	-97.58	0.00	-497.08	0.00	5.094
14	1.16	100	90	15.71	15.71	-90.78	0.00	-497.08	0.00	5.476
15	1.26	100	90	15.71	15.71	-84.17	0.00	-497.08	0.00	5.905
16	1.36	100	90	15.71	15.71	-77.78	0.00	-497.08	0.00	6.391
17	1.45	100	90	15.71	15.71	-71.59	0.00	-497.08	0.00	6.943
18	1.55	100	90	15.71	15.71	-65.62	0.00	-497.08	0.00	7.575
19	1.65	100	90	15.71	15.71	-59.88	0.00	-497.08	0.00	8.302
20	1.75	100	90	15.71	15.71	-54.36	0.00	-497.08	0.00	9.144
21	1.84	100	90	15.71	15.71	-49.08	0.00	-497.08	0.00	10.128
22	1.94	100	90	15.71	15.71	-44.03	0.00	-497.08	0.00	11.289
23	2.04	100	90	15.71	15.71	-39.23	0.00	-497.08	0.00	12.670
24	2.14	100	90	15.71	15.71	-34.68	0.00	-497.08	0.00	14.332
25	2.23	100	90	15.71	15.71	-30.39	0.00	-497.08	0.00	16.358
26	2.33	100	90	15.71	15.71	-26.35	0.00	-497.08	0.00	18.864
27	2.43	100	90	15.71	15.71	-22.58	0.00	-497.08	0.00	22.013
28	2.53	100	90	15.71	15.71	-19.08	0.00	-497.08	0.00	26.049
29	2.62	100	90	15.71	15.71	-15.86	0.00	-497.08	0.00	31.343
30	2.72	100	90	15.71	15.71	-12.92	0.00	-497.08	0.00	38.479
31	2.82	100	90	15.71	15.71	-10.26	0.00	-497.08	0.00	48.430
32	2.92	100	90	15.71	15.71	-7.90	0.00	-497.08	0.00	62.906
33	3.01	100	90	15.71	15.71	-5.84	0.00	-497.08	0.00	85.153
34	3.11	100	90	15.71	15.71	-4.08	0.00	-497.08	0.00	121.950
35	3.21	100	90	15.71	15.71	-2.62	0.00	-497.08	0.00	189.513
36	3.31	100	90	15.71	15.71	-1.48	0.00	-497.08	0.00	335.094
37	3.40	100	90	15.71	15.71	-0.66	0.00	-497.08	0.00	749.912
38	3.50	100	90	15.71	15.71	-0.17	0.00	-497.08	0.00	2983.625
39	3.60	100	90	15.71	15.71	0.00	0.00	0.00	0.00	100000.000

Combinazione n° 8 - STR (A1-M1-R3)

n°	Y [m]	B [cm]	H [cm]	Afi [cmq]	Afs [cmq]	M [kNm]	N [kN]	Mrd [kNm]	Nrd [kN]	FS
1	-0.90	100	90	15.71	15.71	0.00	0.00	0.00	0.00	100000.000
2	-0.80	100	90	15.71	15.71	0.68	0.00	497.08	0.00	730.077
3	-0.70	100	90	15.71	15.71	2.72	0.00	497.08	0.00	182.513
4	-0.60	100	90	15.71	15.71	6.13	0.00	497.08	0.00	81.114
5	-0.50	100	90	15.71	15.71	10.89	0.00	497.08	0.00	45.625
6	-0.40	100	90	15.71	15.71	17.02	0.00	497.08	0.00	29.199
7	0.48	100	90	15.71	15.71	-8.03	0.00	-497.08	0.00	61.865
8	0.58	100	90	15.71	15.71	-7.52	0.00	-497.08	0.00	66.102
9	0.67	100	90	15.71	15.71	-7.02	0.00	-497.08	0.00	70.776
10	0.77	100	90	15.71	15.71	-6.54	0.00	-497.08	0.00	75.951
11	0.87	100	90	15.71	15.71	-6.08	0.00	-497.08	0.00	81.699
12	0.97	100	90	15.71	15.71	-5.64	0.00	-497.08	0.00	88.107
13	1.06	100	90	15.71	15.71	-5.22	0.00	-497.08	0.00	95.280
14	1.16	100	90	15.71	15.71	-4.81	0.00	-497.08	0.00	103.343
15	1.26	100	90	15.71	15.71	-4.42	0.00	-497.08	0.00	112.448
16	1.36	100	90	15.71	15.71	-4.05	0.00	-497.08	0.00	122.783
17	1.45	100	90	15.71	15.71	-3.69	0.00	-497.08	0.00	134.577
18	1.55	100	90	15.71	15.71	-3.36	0.00	-497.08	0.00	148.117
19	1.65	100	90	15.71	15.71	-3.04	0.00	-497.08	0.00	163.762
20	1.75	100	90	15.71	15.71	-2.73	0.00	-497.08	0.00	181.970
21	1.84	100	90	15.71	15.71	-2.44	0.00	-497.08	0.00	203.328
22	1.94	100	90	15.71	15.71	-2.17	0.00	-497.08	0.00	228.605
23	2.04	100	90	15.71	15.71	-1.92	0.00	-497.08	0.00	258.814
24	2.14	100	90	15.71	15.71	-1.68	0.00	-497.08	0.00	295.319
25	2.23	100	90	15.71	15.71	-1.46	0.00	-497.08	0.00	339.992
26	2.33	100	90	15.71	15.71	-1.26	0.00	-497.08	0.00	395.451
27	2.43	100	90	15.71	15.71	-1.07	0.00	-497.08	0.00	465.453
28	2.53	100	90	15.71	15.71	-0.89	0.00	-497.08	0.00	555.539
29	2.62	100	90	15.71	15.71	-0.74	0.00	-497.08	0.00	674.164
30	2.72	100	90	15.71	15.71	-0.60	0.00	-497.08	0.00	834.737
31	2.82	100	90	15.71	15.71	-0.47	0.00	-497.08	0.00	1059.565
32	2.92	100	90	15.71	15.71	-0.36	0.00	-497.08	0.00	1387.995
33	3.01	100	90	15.71	15.71	-0.26	0.00	-497.08	0.00	1894.794
34	3.11	100	90	15.71	15.71	-0.18	0.00	-497.08	0.00	2736.583
35	3.21	100	90	15.71	15.71	-0.12	0.00	-497.08	0.00	4288.611
36	3.31	100	90	15.71	15.71	-0.07	0.00	-497.08	0.00	7646.909
37	3.40	100	90	15.71	15.71	-0.03	0.00	-497.08	0.00	17256.953
38	3.50	100	90	15.71	15.71	-0.01	0.00	0.00	0.00	100000.000
39	3.60	100	90	15.71	15.71	0.00	0.00	0.00	0.00	100000.000

Combinazione n° 9 - STR (A1-M1-R3)

n°	Y [m]	B [cm]	H [cm]	Afi [cmq]	Afs [cmq]	M [kNm]	N [kN]	Mrd [kNm]	Nrd [kN]	FS
1	-0.90	100	90	15.71	15.71	0.00	0.00	0.00	0.00	100000.000
2	-0.80	100	90	15.71	15.71	0.61	0.00	497.08	0.00	816.058
3	-0.70	100	90	15.71	15.71	2.44	0.00	497.08	0.00	203.772
4	-0.60	100	90	15.71	15.71	5.50	0.00	497.08	0.00	90.458
5	-0.50	100	90	15.71	15.71	9.78	0.00	497.08	0.00	50.822
6	-0.40	100	90	15.71	15.71	15.30	0.00	497.08	0.00	32.488
7	0.48	100	90	15.71	15.71	-7.68	0.00	-497.08	0.00	64.719
8	0.58	100	90	15.71	15.71	-6.56	0.00	-497.08	0.00	75.746
9	0.67	100	90	15.71	15.71	-5.54	0.00	-497.08	0.00	89.704
10	0.77	100	90	15.71	15.71	-4.61	0.00	-497.08	0.00	107.753
11	0.87	100	90	15.71	15.71	-3.77	0.00	-497.08	0.00	131.718
12	0.97	100	90	15.71	15.71	-3.02	0.00	-497.08	0.00	164.630
13	1.06	100	90	15.71	15.71	-2.35	0.00	-497.08	0.00	211.907
14	1.16	100	90	15.71	15.71	-1.75	0.00	-497.08	0.00	284.220
15	1.26	100	90	15.71	15.71	-1.22	0.00	-497.08	0.00	405.819
16	1.36	100	90	15.71	15.71	-0.77	0.00	-497.08	0.00	645.914
17	1.45	100	90	15.71	15.71	-0.38	0.00	-497.08	0.00	1311.620
18	1.55	100	90	15.71	15.71	-0.05	0.00	-497.08	0.00	10130.503
19	1.65	100	90	15.71	15.71	0.22	0.00	497.08	0.00	2217.164
20	1.75	100	90	15.71	15.71	0.44	0.00	497.08	0.00	1117.433
21	1.84	100	90	15.71	15.71	0.62	0.00	497.08	0.00	805.775
22	1.94	100	90	15.71	15.71	0.74	0.00	497.08	0.00	667.765
23	2.04	100	90	15.71	15.71	0.83	0.00	497.08	0.00	597.910
24	2.14	100	90	15.71	15.71	0.88	0.00	497.08	0.00	563.688
25	2.23	100	90	15.71	15.71	0.90	0.00	497.08	0.00	552.409
26	2.33	100	90	15.71	15.71	0.89	0.00	497.08	0.00	558.888
27	2.43	100	90	15.71	15.71	0.85	0.00	497.08	0.00	581.671
28	2.53	100	90	15.71	15.71	0.80	0.00	497.08	0.00	621.847
29	2.62	100	90	15.71	15.71	0.73	0.00	497.08	0.00	682.986
30	2.72	100	90	15.71	15.71	0.64	0.00	497.08	0.00	771.943
31	2.82	100	90	15.71	15.71	0.55	0.00	497.08	0.00	900.867
32	2.92	100	90	15.71	15.71	0.46	0.00	497.08	0.00	1091.591
33	3.01	100	90	15.71	15.71	0.36	0.00	497.08	0.00	1385.618
34	3.11	100	90	15.71	15.71	0.27	0.00	497.08	0.00	1869.280
35	3.21	100	90	15.71	15.71	0.18	0.00	497.08	0.00	2747.251

n°	Y	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
36	3.31	100	90	15.71	15.71	0.11	0.00	497.08	0.00	4610.149
37	3.40	100	90	15.71	15.71	0.05	0.00	497.08	0.00	9822.095
38	3.50	100	90	15.71	15.71	0.01	0.00	497.08	0.00	37307.557
39	3.60	100	90	15.71	15.71	0.00	0.00	0.00	0.00	100000.000

Combinazione n° 10 - 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	-0.90	100	90	15.71	15.71	0.00	0.00	0.00	0.00	100000.000
2	-0.80	100	90	15.71	15.71	0.65	0.00	497.08	0.00	760.730
3	-0.70	100	90	15.71	15.71	2.61	0.00	497.08	0.00	190.527
4	-0.60	100	90	15.71	15.71	5.86	0.00	497.08	0.00	84.832
5	-0.50	100	90	15.71	15.71	10.40	0.00	497.08	0.00	47.805
6	-0.40	100	90	15.71	15.71	16.22	0.00	497.08	0.00	30.651
7	0.48	100	90	15.71	15.71	-155.26	0.00	-497.08	0.00	3.202
8	0.58	100	90	15.71	15.71	-146.76	0.00	-497.08	0.00	3.387
9	0.67	100	90	15.71	15.71	-138.43	0.00	-497.08	0.00	3.591
10	0.77	100	90	15.71	15.71	-130.27	0.00	-497.08	0.00	3.816
11	0.87	100	90	15.71	15.71	-122.30	0.00	-497.08	0.00	4.064
12	0.97	100	90	15.71	15.71	-114.52	0.00	-497.08	0.00	4.341
13	1.06	100	90	15.71	15.71	-106.94	0.00	-497.08	0.00	4.648
14	1.16	100	90	15.71	15.71	-99.55	0.00	-497.08	0.00	4.993
15	1.26	100	90	15.71	15.71	-92.38	0.00	-497.08	0.00	5.381
16	1.36	100	90	15.71	15.71	-85.42	0.00	-497.08	0.00	5.819
17	1.45	100	90	15.71	15.71	-78.68	0.00	-497.08	0.00	6.317
18	1.55	100	90	15.71	15.71	-72.18	0.00	-497.08	0.00	6.887
19	1.65	100	90	15.71	15.71	-65.90	0.00	-497.08	0.00	7.543
20	1.75	100	90	15.71	15.71	-59.87	0.00	-497.08	0.00	8.302
21	1.84	100	90	15.71	15.71	-54.09	0.00	-497.08	0.00	9.190
22	1.94	100	90	15.71	15.71	-48.56	0.00	-497.08	0.00	10.235
23	2.04	100	90	15.71	15.71	-43.30	0.00	-497.08	0.00	11.480
24	2.14	100	90	15.71	15.71	-38.30	0.00	-497.08	0.00	12.978
25	2.23	100	90	15.71	15.71	-33.58	0.00	-497.08	0.00	14.803
26	2.33	100	90	15.71	15.71	-29.14	0.00	-497.08	0.00	17.059
27	2.43	100	90	15.71	15.71	-24.99	0.00	-497.08	0.00	19.894
28	2.53	100	90	15.71	15.71	-21.13	0.00	-497.08	0.00	23.527
29	2.62	100	90	15.71	15.71	-17.57	0.00	-497.08	0.00	28.290
30	2.72	100	90	15.71	15.71	-14.32	0.00	-497.08	0.00	34.710
31	2.82	100	90	15.71	15.71	-11.39	0.00	-497.08	0.00	43.659
32	2.92	100	90	15.71	15.71	-8.77	0.00	-497.08	0.00	56.675
33	3.01	100	90	15.71	15.71	-6.48	0.00	-497.08	0.00	76.672
34	3.11	100	90	15.71	15.71	-4.53	0.00	-497.08	0.00	109.741
35	3.21	100	90	15.71	15.71	-2.92	0.00	-497.08	0.00	170.440
36	3.31	100	90	15.71	15.71	-1.65	0.00	-497.08	0.00	301.195
37	3.40	100	90	15.71	15.71	-0.74	0.00	-497.08	0.00	673.665
38	3.50	100	90	15.71	15.71	-0.19	0.00	-497.08	0.00	2678.760
39	3.60	100	90	15.71	15.71	0.00	0.00	0.00	0.00	100000.000

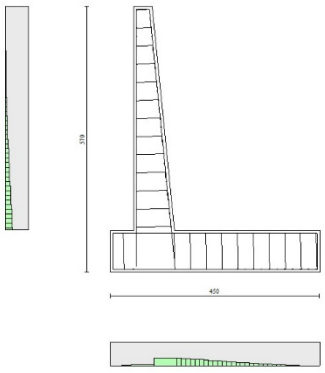


Fig. 10 - Paramento (Inviluppo)

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]
cotg□	inclinazione delle bielle compresse, □ 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 [m]	B [cm]	H [cm]	A_{sw} [cmq]	s [cm]	cot□	V_{Rcd} [kN]	V_{Rsd} [kN]	V_{Rd} [kN]	T [kN]	FS
1	0.00	100	40	0.00	0.00	--	0.00	0.00	230.30	0.00	100.000
2	-0.10	100	41	0.00	0.00	--	0.00	0.00	233.38	0.03	7097.525
3	-0.20	100	42	0.00	0.00	--	0.00	0.00	236.42	0.13	1797.562
4	-0.30	100	43	0.00	0.00	--	0.00	0.00	239.45	0.30	811.340
5	-0.40	100	44	0.00	0.00	--	0.00	0.00	242.44	0.52	463.672
6	-0.50	100	45	0.00	0.00	--	0.00	0.00	245.41	0.82	301.053
7	-0.60	100	46	0.00	0.00	--	0.00	0.00	248.35	1.17	211.829
8	-0.70	100	47	0.00	0.00	--	0.00	0.00	251.27	1.59	157.575
9	-0.80	100	48	0.00	0.00	--	0.00	0.00	254.17	2.08	122.092
10	-0.90	100	49	0.00	0.00	--	0.00	0.00	257.04	2.63	97.591
11	-1.00	100	50	0.00	0.00	--	0.00	0.00	259.90	3.25	79.945
12	-1.10	100	51	0.00	0.00	--	0.00	0.00	262.73	3.93	66.803
13	-1.20	100	52	0.00	0.00	--	0.00	0.00	265.55	4.68	56.742
14	-1.30	100	53	0.00	0.00	--	0.00	0.00	268.35	5.49	48.862
15	-1.40	100	54	0.00	0.00	--	0.00	0.00	271.12	6.37	42.571
16	-1.50	100	55	0.00	0.00	--	0.00	0.00	273.88	7.31	37.464
17	-1.60	100	56	0.00	0.00	--	0.00	0.00	276.63	8.32	33.259
18	-1.70	100	57	0.00	0.00	--	0.00	0.00	279.36	9.39	29.753
19	-1.80	100	58	0.00	0.00	--	0.00	0.00	282.07	10.53	26.798
20	-1.90	100	59	0.00	0.00	--	0.00	0.00	284.77	11.73	24.282
21	-2.00	100	60	0.00	0.00	--	0.00	0.00	287.45	12.99	22.122
22	-2.10	100	61	0.00	0.00	--	0.00	0.00	290.12	14.33	20.252
23	-2.20	100	62	0.00	0.00	--	0.00	0.00	292.78	15.72	18.622
24	-2.30	100	63	0.00	0.00	--	0.00	0.00	295.42	17.18	17.192
25	-2.40	100	64	0.00	0.00	--	0.00	0.00	298.05	18.71	15.930
26	-2.50	100	65	0.00	0.00	--	0.00	0.00	300.66	20.30	14.810
27	-2.60	100	66	0.00	0.00	--	0.00	0.00	303.27	21.96	13.811
28	-2.70	100	67	0.00	0.00	--	0.00	0.00	305.86	23.68	12.917
29	-2.80	100	68	0.00	0.00	--	0.00	0.00	308.45	25.47	12.112
30	-2.90	100	69	0.00	0.00	--	0.00	0.00	311.02	27.32	11.386
31	-3.00	100	70	0.00	0.00	--	0.00	0.00	313.58	29.23	10.727
32	-3.10	100	71	0.00	0.00	--	0.00	0.00	316.13	31.21	10.128
33	-3.20	100	72	0.00	0.00	--	0.00	0.00	318.67	33.26	9.581
34	-3.30	100	73	0.00	0.00	--	0.00	0.00	321.20	35.37	9.081
35	-3.40	100	74	0.00	0.00	--	0.00	0.00	323.72	37.55	8.622
36	-3.50	100	75	0.00	0.00	--	0.00	0.00	326.23	39.79	8.199
37	-3.60	100	76	0.00	0.00	--	0.00	0.00	328.74	42.09	7.810
38	-3.70	100	77	0.00	0.00	--	0.00	0.00	331.23	44.46	7.449
39	-3.80	100	78	0.00	0.00	--	0.00	0.00	333.72	46.90	7.116
40	-3.90	100	79	0.00	0.00	--	0.00	0.00	336.20	49.40	6.805
41	-4.00	100	80	0.00	0.00	--	0.00	0.00	338.67	51.97	6.517
42	-4.10	100	81	0.00	0.00	--	0.00	0.00	341.13	54.60	6.248
43	-4.20	100	82	0.00	0.00	--	0.00	0.00	343.59	57.29	5.997
44	-4.30	100	83	0.00	0.00	--	0.00	0.00	346.04	60.05	5.762
45	-4.40	100	84	0.00	0.00	--	0.00	0.00	348.48	62.88	5.542
46	-4.50	100	85	0.00	0.00	--	0.00	0.00	350.91	65.77	5.336
47	-4.60	100	86	0.00	0.00	--	0.00	0.00	353.34	68.73	5.141
48	-4.70	100	87	0.00	0.00	--	0.00	0.00	355.76	71.75	4.959
49	-4.79	100	88	0.00	0.00	--	0.00	0.00	357.97	74.83	4.784

Combinazione n° 2 - STR (A1-M1-R3)

n°	Y [m]	B [cm]	H [cm]	A_{sw} [cmq]	s [cm]	cot□	V_{Rcd} [kN]	V_{Rsd} [kN]	V_{Rd} [kN]	T [kN]	FS
1	0.00	100	40	0.00	0.00	--	0.00	0.00	230.30	0.00	100.000
2	-0.10	100	41	0.00	0.00	--	0.00	0.00	233.38	0.37	630.549
3	-0.20	100	42	0.00	0.00	--	0.00	0.00	236.42	0.81	293.326
4	-0.30	100	43	0.00	0.00	--	0.00	0.00	239.45	1.31	183.220
5	-0.40	100	44	0.00	0.00	--	0.00	0.00	242.44	1.87	129.516
6	-0.50	100	45	0.00	0.00	--	0.00	0.00	245.41	2.50	98.106

n°	Y	B	H	A_{sw}	s	cot□	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
7	-0.60	100	46	0.00	0.00	--	0.00	0.00	248.35	3.20	77.708
8	-0.70	100	47	0.00	0.00	--	0.00	0.00	251.27	3.96	63.526
9	-0.80	100	48	0.00	0.00	--	0.00	0.00	254.17	4.78	53.175
10	-0.90	100	49	0.00	0.00	--	0.00	0.00	257.04	5.67	45.340
11	-1.00	100	50	0.00	0.00	--	0.00	0.00	259.90	6.62	39.239
12	-1.10	100	51	0.00	0.00	--	0.00	0.00	262.73	7.64	34.376
13	-1.20	100	52	0.00	0.00	--	0.00	0.00	265.55	8.73	30.428
14	-1.30	100	53	0.00	0.00	--	0.00	0.00	268.35	9.88	27.171
15	-1.40	100	54	0.00	0.00	--	0.00	0.00	271.12	11.09	24.447
16	-1.50	100	55	0.00	0.00	--	0.00	0.00	273.88	12.37	22.142
17	-1.60	100	56	0.00	0.00	--	0.00	0.00	276.63	13.71	20.172
18	-1.70	100	57	0.00	0.00	--	0.00	0.00	279.36	15.12	18.473
19	-1.80	100	58	0.00	0.00	--	0.00	0.00	282.07	16.60	16.996
20	-1.90	100	59	0.00	0.00	--	0.00	0.00	284.77	18.14	15.702
21	-2.00	100	60	0.00	0.00	--	0.00	0.00	287.45	19.74	14.562
22	-2.10	100	61	0.00	0.00	--	0.00	0.00	290.12	21.41	13.552
23	-2.20	100	62	0.00	0.00	--	0.00	0.00	292.78	23.14	12.651
24	-2.30	100	63	0.00	0.00	--	0.00	0.00	295.42	24.94	11.845
25	-2.40	100	64	0.00	0.00	--	0.00	0.00	298.05	26.80	11.119
26	-2.50	100	65	0.00	0.00	--	0.00	0.00	300.66	28.73	10.464
27	-2.60	100	66	0.00	0.00	--	0.00	0.00	303.27	30.73	9.870
28	-2.70	100	67	0.00	0.00	--	0.00	0.00	305.86	32.79	9.329
29	-2.80	100	68	0.00	0.00	--	0.00	0.00	308.45	34.91	8.836
30	-2.90	100	69	0.00	0.00	--	0.00	0.00	311.02	37.10	8.384
31	-3.00	100	70	0.00	0.00	--	0.00	0.00	313.58	39.35	7.969
32	-3.10	100	71	0.00	0.00	--	0.00	0.00	316.13	41.67	7.587
33	-3.20	100	72	0.00	0.00	--	0.00	0.00	318.67	44.05	7.234
34	-3.30	100	73	0.00	0.00	--	0.00	0.00	321.20	46.50	6.907
35	-3.40	100	74	0.00	0.00	--	0.00	0.00	323.72	49.01	6.605
36	-3.50	100	75	0.00	0.00	--	0.00	0.00	326.23	51.59	6.323
37	-3.60	100	76	0.00	0.00	--	0.00	0.00	328.74	54.24	6.061
38	-3.70	100	77	0.00	0.00	--	0.00	0.00	331.23	56.94	5.817
39	-3.80	100	78	0.00	0.00	--	0.00	0.00	333.72	59.72	5.588
40	-3.90	100	79	0.00	0.00	--	0.00	0.00	336.20	62.55	5.375
41	-4.00	100	80	0.00	0.00	--	0.00	0.00	338.67	65.46	5.174
42	-4.10	100	81	0.00	0.00	--	0.00	0.00	341.13	68.43	4.985
43	-4.20	100	82	0.00	0.00	--	0.00	0.00	343.59	71.46	4.808
44	-4.30	100	83	0.00	0.00	--	0.00	0.00	346.04	74.56	4.641
45	-4.40	100	84	0.00	0.00	--	0.00	0.00	348.48	77.72	4.484
46	-4.50	100	85	0.00	0.00	--	0.00	0.00	350.91	80.95	4.335
47	-4.60	100	86	0.00	0.00	--	0.00	0.00	353.34	84.24	4.195
48	-4.70	100	87	0.00	0.00	--	0.00	0.00	355.76	87.60	4.061
49	-4.79	100	88	0.00	0.00	--	0.00	0.00	357.97	91.02	3.933

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

n°	Y	B	H	A_{sw}	s	cot□	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
1	0.00	100	40	0.00	0.00	--	0.00	0.00	230.30	0.00	100.000
2	-0.10	100	41	0.00	0.00	--	0.00	0.00	233.38	0.16	1493.211
3	-0.20	100	42	0.00	0.00	--	0.00	0.00	236.44	0.38	616.059
4	-0.30	100	43	0.00	0.00	--	0.00	0.00	239.47	0.68	351.193
5	-0.40	100	44	0.00	0.00	--	0.00	0.00	242.47	1.05	230.945
6	-0.50	100	45	0.00	0.00	--	0.00	0.00	245.45	1.49	164.928
7	-0.60	100	46	0.00	0.00	--	0.00	0.00	248.40	2.00	124.381
8	-0.70	100	47	0.00	0.00	--	0.00	0.00	251.33	2.58	97.545
9	-0.80	100	48	0.00	0.00	--	0.00	0.00	254.24	3.23	78.794
10	-0.90	100	49	0.00	0.00	--	0.00	0.00	257.13	3.95	65.140
11	-1.00	100	50	0.00	0.00	--	0.00	0.00	259.99	4.74	54.868
12	-1.10	100	51	0.00	0.00	--	0.00	0.00	262.84	5.60	46.932
13	-1.20	100	52	0.00	0.00	--	0.00	0.00	265.66	6.53	40.667
14	-1.30	100	53	0.00	0.00	--	0.00	0.00	268.47	7.54	35.627
15	-1.40	100	54	0.00	0.00	--	0.00	0.00	271.26	8.61	31.508
16	-1.50	100	55	0.00	0.00	--	0.00	0.00	274.03	9.75	28.096
17	-1.60	100	56	0.00	0.00	--	0.00	0.00	276.79	10.97	25.236
18	-1.70	100	57	0.00	0.00	--	0.00	0.00	279.53	12.25	22.812
19	-1.80	100	58	0.00	0.00	--	0.00	0.00	282.25	13.61	20.740
20	-1.90	100	59	0.00	0.00	--	0.00	0.00	284.96	15.04	18.952
21	-2.00	100	60	0.00	0.00	--	0.00	0.00	287.66	16.53	17.399
22	-2.10	100	61	0.00	0.00	--	0.00	0.00	290.34	18.10	16.041
23	-2.20	100	62	0.00	0.00	--	0.00	0.00	293.01	19.74	14.845
24	-2.30	100	63	0.00	0.00	--	0.00	0.00	295.66	21.45	13.786
25	-2.40	100	64	0.00	0.00	--	0.00	0.00	298.31	23.23	12.843
26	-2.50	100	65	0.00	0.00	--	0.00	0.00	300.94	25.08	12.001
27	-2.60	100	66	0.00	0.00	--	0.00	0.00	303.56	27.00	11.244
28	-2.70	100	67	0.00	0.00	--	0.00	0.00	306.17	28.99	10.562
29	-2.80	100	68	0.00	0.00	--	0.00	0.00	308.76	31.05	9.944
30	-2.90	100	69	0.00	0.00	--	0.00	0.00	311.35	33.18	9.383
31	-3.00	100	70	0.00	0.00	--	0.00	0.00	313.92	35.38	8.872
32	-3.10	100	71	0.00	0.00	--	0.00	0.00	316.49	37.66	8.404
33	-3.20	100	72	0.00	0.00	--	0.00	0.00	319.05	40.00	7.976
34	-3.30	100	73	0.00	0.00	--	0.00	0.00	321.59	42.42	7.582
35	-3.40	100	74	0.00	0.00	--	0.00	0.00	324.13	44.90	7.219

n°	Y	B	H	A_{sw}	s	cot□	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
36	-3.50	100	75	0.00	0.00	--	0.00	0.00	326.66	47.46	6.883
37	-3.60	100	76	0.00	0.00	--	0.00	0.00	329.18	50.08	6.573
38	-3.70	100	77	0.00	0.00	--	0.00	0.00	331.69	52.78	6.284
39	-3.80	100	78	0.00	0.00	--	0.00	0.00	334.20	55.55	6.016
40	-3.90	100	79	0.00	0.00	--	0.00	0.00	336.69	58.39	5.767
41	-4.00	100	80	0.00	0.00	--	0.00	0.00	339.18	61.30	5.534
42	-4.10	100	81	0.00	0.00	--	0.00	0.00	341.66	64.27	5.316
43	-4.20	100	82	0.00	0.00	--	0.00	0.00	344.13	67.32	5.112
44	-4.30	100	83	0.00	0.00	--	0.00	0.00	346.60	70.44	4.920
45	-4.40	100	84	0.00	0.00	--	0.00	0.00	349.06	73.64	4.740
46	-4.50	100	85	0.00	0.00	--	0.00	0.00	351.51	76.90	4.571
47	-4.60	100	86	0.00	0.00	--	0.00	0.00	353.96	80.23	4.412
48	-4.70	100	87	0.00	0.00	--	0.00	0.00	356.40	83.63	4.262
49	-4.79	100	88	0.00	0.00	--	0.00	0.00	358.62	87.11	4.117

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

n°	Y	B	H	A_{sw}	s	cot□	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
1	0.00	100	40	0.00	0.00	--	0.00	0.00	230.30	0.00	100.000
2	-0.10	100	41	0.00	0.00	--	0.00	0.00	233.37	0.15	1521.845
3	-0.20	100	42	0.00	0.00	--	0.00	0.00	236.41	0.37	635.522
4	-0.30	100	43	0.00	0.00	--	0.00	0.00	239.42	0.66	365.352
5	-0.40	100	44	0.00	0.00	--	0.00	0.00	242.41	1.00	241.754
6	-0.50	100	45	0.00	0.00	--	0.00	0.00	245.36	1.41	173.471
7	-0.60	100	46	0.00	0.00	--	0.00	0.00	248.30	1.89	131.315
8	-0.70	100	47	0.00	0.00	--	0.00	0.00	251.21	2.43	103.294
9	-0.80	100	48	0.00	0.00	--	0.00	0.00	254.10	3.04	83.646
10	-0.90	100	49	0.00	0.00	--	0.00	0.00	256.96	3.71	69.295
11	-1.00	100	50	0.00	0.00	--	0.00	0.00	259.81	4.44	58.471
12	-1.10	100	51	0.00	0.00	--	0.00	0.00	262.63	5.24	50.090
13	-1.20	100	52	0.00	0.00	--	0.00	0.00	265.44	6.11	43.459
14	-1.30	100	53	0.00	0.00	--	0.00	0.00	268.22	7.04	38.117
15	-1.40	100	54	0.00	0.00	--	0.00	0.00	270.99	8.03	33.744
16	-1.50	100	55	0.00	0.00	--	0.00	0.00	273.74	9.09	30.117
17	-1.60	100	56	0.00	0.00	--	0.00	0.00	276.47	10.21	27.072
18	-1.70	100	57	0.00	0.00	--	0.00	0.00	279.19	11.40	24.489
19	-1.80	100	58	0.00	0.00	--	0.00	0.00	281.89	12.65	22.278
20	-1.90	100	59	0.00	0.00	--	0.00	0.00	284.57	13.97	20.370
21	-2.00	100	60	0.00	0.00	--	0.00	0.00	287.24	15.35	18.710
22	-2.10	100	61	0.00	0.00	--	0.00	0.00	289.90	16.80	17.257
23	-2.20	100	62	0.00	0.00	--	0.00	0.00	292.54	18.31	15.977
24	-2.30	100	63	0.00	0.00	--	0.00	0.00	295.17	19.89	14.843
25	-2.40	100	64	0.00	0.00	--	0.00	0.00	297.79	21.53	13.833
26	-2.50	100	65	0.00	0.00	--	0.00	0.00	300.39	23.23	12.930
27	-2.60	100	66	0.00	0.00	--	0.00	0.00	302.98	25.00	12.118
28	-2.70	100	67	0.00	0.00	--	0.00	0.00	305.56	26.84	11.386
29	-2.80	100	68	0.00	0.00	--	0.00	0.00	308.13	28.74	10.723
30	-2.90	100	69	0.00	0.00	--	0.00	0.00	310.69	30.70	10.120
31	-3.00	100	70	0.00	0.00	--	0.00	0.00	313.23	32.73	9.571
32	-3.10	100	71	0.00	0.00	--	0.00	0.00	315.77	34.82	9.068
33	-3.20	100	72	0.00	0.00	--	0.00	0.00	318.29	36.98	8.607
34	-3.30	100	73	0.00	0.00	--	0.00	0.00	320.81	39.20	8.183
35	-3.40	100	74	0.00	0.00	--	0.00	0.00	323.31	41.49	7.792
36	-3.50	100	75	0.00	0.00	--	0.00	0.00	325.81	43.84	7.431
37	-3.60	100	76	0.00	0.00	--	0.00	0.00	328.30	46.26	7.097
38	-3.70	100	77	0.00	0.00	--	0.00	0.00	330.78	48.74	6.786
39	-3.80	100	78	0.00	0.00	--	0.00	0.00	333.25	51.29	6.498
40	-3.90	100	79	0.00	0.00	--	0.00	0.00	335.71	53.90	6.229
41	-4.00	100	80	0.00	0.00	--	0.00	0.00	338.16	56.57	5.977
42	-4.10	100	81	0.00	0.00	--	0.00	0.00	340.61	59.31	5.742
43	-4.20	100	82	0.00	0.00	--	0.00	0.00	343.05	62.12	5.522
44	-4.30	100	83	0.00	0.00	--	0.00	0.00	345.48	64.99	5.316
45	-4.40	100	84	0.00	0.00	--	0.00	0.00	347.90	67.92	5.122
46	-4.50	100	85	0.00	0.00	--	0.00	0.00	350.32	70.92	4.940
47	-4.60	100	86	0.00	0.00	--	0.00	0.00	352.73	73.98	4.768
48	-4.70	100	87	0.00	0.00	--	0.00	0.00	355.13	77.11	4.605
49	-4.79	100	88	0.00	0.00	--	0.00	0.00	357.31	80.31	4.449

Combinazione n° 5 - STR (A1-M1-R3)

n°	Y	B	H	A_{sw}	s	cot□	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
1	0.00	100	40	0.00	0.00	--	0.00	0.00	230.30	0.00	100.000
2	-0.10	100	41	0.00	0.00	--	0.00	0.00	233.41	0.03	7098.718
3	-0.20	100	42	0.00	0.00	--	0.00	0.00	236.50	0.13	1798.168
4	-0.30	100	43	0.00	0.00	--	0.00	0.00	239.57	0.30	811.751
5	-0.40	100	44	0.00	0.00	--	0.00	0.00	242.60	0.52	463.986
6	-0.50	100	45	0.00	0.00	--	0.00	0.00	245.62	0.82	301.309
7	-0.60	100	46	0.00	0.00	--	0.00	0.00	248.60	1.17	212.045
8	-0.70	100	47	0.00	0.00	--	0.00	0.00	251.57	1.59	157.763
9	-0.80	100	48	0.00	0.00	--	0.00	0.00	254.52	2.08	122.259

n°	Y	B	H	A_{sw}	s	cot□	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
10	-0.90	100	49	0.00	0.00	--	0.00	0.00	257.44	2.63	97.742
11	-1.00	100	50	0.00	0.00	--	0.00	0.00	260.35	3.25	80.083
12	-1.10	100	51	0.00	0.00	--	0.00	0.00	263.23	3.93	66.929
13	-1.20	100	52	0.00	0.00	--	0.00	0.00	266.10	4.68	56.859
14	-1.30	100	53	0.00	0.00	--	0.00	0.00	268.95	5.49	48.972
15	-1.40	100	54	0.00	0.00	--	0.00	0.00	271.78	6.37	42.674
16	-1.50	100	55	0.00	0.00	--	0.00	0.00	274.60	7.31	37.562
17	-1.60	100	56	0.00	0.00	--	0.00	0.00	277.40	8.32	33.352
18	-1.70	100	57	0.00	0.00	--	0.00	0.00	280.19	9.39	29.842
19	-1.80	100	58	0.00	0.00	--	0.00	0.00	282.96	10.53	26.882
20	-1.90	100	59	0.00	0.00	--	0.00	0.00	285.72	11.73	24.363
21	-2.00	100	60	0.00	0.00	--	0.00	0.00	288.46	12.99	22.199
22	-2.10	100	61	0.00	0.00	--	0.00	0.00	291.19	14.33	20.327
23	-2.20	100	62	0.00	0.00	--	0.00	0.00	293.91	15.72	18.694
24	-2.30	100	63	0.00	0.00	--	0.00	0.00	296.62	17.18	17.262
25	-2.40	100	64	0.00	0.00	--	0.00	0.00	299.32	18.71	15.998
26	-2.50	100	65	0.00	0.00	--	0.00	0.00	302.00	20.30	14.876
27	-2.60	100	66	0.00	0.00	--	0.00	0.00	304.67	21.96	13.875
28	-2.70	100	67	0.00	0.00	--	0.00	0.00	307.34	23.68	12.979
29	-2.80	100	68	0.00	0.00	--	0.00	0.00	309.99	25.47	12.173
30	-2.90	100	69	0.00	0.00	--	0.00	0.00	312.63	27.32	11.445
31	-3.00	100	70	0.00	0.00	--	0.00	0.00	315.27	29.23	10.785
32	-3.10	100	71	0.00	0.00	--	0.00	0.00	317.89	31.21	10.184
33	-3.20	100	72	0.00	0.00	--	0.00	0.00	320.51	33.26	9.636
34	-3.30	100	73	0.00	0.00	--	0.00	0.00	323.12	35.37	9.135
35	-3.40	100	74	0.00	0.00	--	0.00	0.00	325.71	37.55	8.675
36	-3.50	100	75	0.00	0.00	--	0.00	0.00	328.31	39.79	8.251
37	-3.60	100	76	0.00	0.00	--	0.00	0.00	330.89	42.09	7.861
38	-3.70	100	77	0.00	0.00	--	0.00	0.00	333.47	44.46	7.500
39	-3.80	100	78	0.00	0.00	--	0.00	0.00	336.03	46.90	7.165
40	-3.90	100	79	0.00	0.00	--	0.00	0.00	338.60	49.40	6.854
41	-4.00	100	80	0.00	0.00	--	0.00	0.00	341.15	51.97	6.565
42	-4.10	100	81	0.00	0.00	--	0.00	0.00	343.70	54.60	6.295
43	-4.20	100	82	0.00	0.00	--	0.00	0.00	346.24	57.29	6.043
44	-4.30	100	83	0.00	0.00	--	0.00	0.00	348.78	60.05	5.808
45	-4.40	100	84	0.00	0.00	--	0.00	0.00	351.31	62.88	5.587
46	-4.50	100	85	0.00	0.00	--	0.00	0.00	353.83	65.77	5.380
47	-4.60	100	86	0.00	0.00	--	0.00	0.00	356.35	68.73	5.185
48	-4.70	100	87	0.00	0.00	--	0.00	0.00	358.87	71.75	5.002
49	-4.79	100	88	0.00	0.00	--	0.00	0.00	361.16	74.83	4.826

Combinazione n° 6 - STR (A1-M1-R3)

n°	Y	B	H	A_{sw}	s	cot□	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
1	0.00	100	40	0.00	0.00	--	0.00	0.00	230.30	0.00	100.000
2	-0.10	100	41	0.00	0.00	--	0.00	0.00	233.38	0.03	7097.525
3	-0.20	100	42	0.00	0.00	--	0.00	0.00	236.42	0.13	1797.562
4	-0.30	100	43	0.00	0.00	--	0.00	0.00	239.45	0.30	811.340
5	-0.40	100	44	0.00	0.00	--	0.00	0.00	242.44	0.52	463.672
6	-0.50	100	45	0.00	0.00	--	0.00	0.00	245.41	0.82	301.053
7	-0.60	100	46	0.00	0.00	--	0.00	0.00	248.35	1.17	211.829
8	-0.70	100	47	0.00	0.00	--	0.00	0.00	251.27	1.59	157.575
9	-0.80	100	48	0.00	0.00	--	0.00	0.00	254.17	2.08	122.092
10	-0.90	100	49	0.00	0.00	--	0.00	0.00	257.04	2.63	97.591
11	-1.00	100	50	0.00	0.00	--	0.00	0.00	259.90	3.25	79.945
12	-1.10	100	51	0.00	0.00	--	0.00	0.00	262.73	3.93	66.803
13	-1.20	100	52	0.00	0.00	--	0.00	0.00	265.55	4.68	56.742
14	-1.30	100	53	0.00	0.00	--	0.00	0.00	268.35	5.49	48.862
15	-1.40	100	54	0.00	0.00	--	0.00	0.00	271.12	6.37	42.571
16	-1.50	100	55	0.00	0.00	--	0.00	0.00	273.88	7.31	37.464
17	-1.60	100	56	0.00	0.00	--	0.00	0.00	276.63	8.32	33.259
18	-1.70	100	57	0.00	0.00	--	0.00	0.00	279.36	9.39	29.753
19	-1.80	100	58	0.00	0.00	--	0.00	0.00	282.07	10.53	26.798
20	-1.90	100	59	0.00	0.00	--	0.00	0.00	284.77	11.73	24.282
21	-2.00	100	60	0.00	0.00	--	0.00	0.00	287.45	12.99	22.122
22	-2.10	100	61	0.00	0.00	--	0.00	0.00	290.12	14.33	20.252
23	-2.20	100	62	0.00	0.00	--	0.00	0.00	292.78	15.72	18.622
24	-2.30	100	63	0.00	0.00	--	0.00	0.00	295.42	17.18	17.192
25	-2.40	100	64	0.00	0.00	--	0.00	0.00	298.05	18.71	15.930
26	-2.50	100	65	0.00	0.00	--	0.00	0.00	300.66	20.30	14.810
27	-2.60	100	66	0.00	0.00	--	0.00	0.00	303.27	21.96	13.811
28	-2.70	100	67	0.00	0.00	--	0.00	0.00	305.86	23.68	12.917
29	-2.80	100	68	0.00	0.00	--	0.00	0.00	308.45	25.47	12.112
30	-2.90	100	69	0.00	0.00	--	0.00	0.00	311.02	27.32	11.386
31	-3.00	100	70	0.00	0.00	--	0.00	0.00	313.58	29.23	10.727
32	-3.10	100	71	0.00	0.00	--	0.00	0.00	316.13	31.21	10.128
33	-3.20	100	72	0.00	0.00	--	0.00	0.00	318.67	33.26	9.581
34	-3.30	100	73	0.00	0.00	--	0.00	0.00	321.20	35.37	9.081
35	-3.40	100	74	0.00	0.00	--	0.00	0.00	323.72	37.55	8.622
36	-3.50	100	75	0.00	0.00	--	0.00	0.00	326.23	39.79	8.199
37	-3.60	100	76	0.00	0.00	--	0.00	0.00	328.74	42.09	7.810
38	-3.70	100	77	0.00	0.00	--	0.00	0.00	331.23	44.46	7.449

n°	Y	B	H	A_{sw}	s	cot□	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
39	-3.80	100	78	0.00	0.00	--	0.00	0.00	333.72	46.90	7.116
40	-3.90	100	79	0.00	0.00	--	0.00	0.00	336.20	49.40	6.805
41	-4.00	100	80	0.00	0.00	--	0.00	0.00	338.67	51.97	6.517
42	-4.10	100	81	0.00	0.00	--	0.00	0.00	341.13	54.60	6.248
43	-4.20	100	82	0.00	0.00	--	0.00	0.00	343.59	57.29	5.997
44	-4.30	100	83	0.00	0.00	--	0.00	0.00	346.04	60.05	5.762
45	-4.40	100	84	0.00	0.00	--	0.00	0.00	348.48	62.88	5.542
46	-4.50	100	85	0.00	0.00	--	0.00	0.00	350.91	65.77	5.336
47	-4.60	100	86	0.00	0.00	--	0.00	0.00	353.34	68.73	5.141
48	-4.70	100	87	0.00	0.00	--	0.00	0.00	355.76	71.75	4.959
49	-4.79	100	88	0.00	0.00	--	0.00	0.00	357.97	74.83	4.784

Combinazione n° 7 - STR (A1-M1-R3)

n°	Y	B	H	A_{sw}	s	cot□	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
1	0.00	100	40	0.00	0.00	--	0.00	0.00	230.30	0.00	100.000
2	-0.10	100	41	0.00	0.00	--	0.00	0.00	233.41	0.03	7098.718
3	-0.20	100	42	0.00	0.00	--	0.00	0.00	236.50	0.13	1798.168
4	-0.30	100	43	0.00	0.00	--	0.00	0.00	239.57	0.30	811.751
5	-0.40	100	44	0.00	0.00	--	0.00	0.00	242.60	0.52	463.986
6	-0.50	100	45	0.00	0.00	--	0.00	0.00	245.62	0.82	301.309
7	-0.60	100	46	0.00	0.00	--	0.00	0.00	248.60	1.17	212.045
8	-0.70	100	47	0.00	0.00	--	0.00	0.00	251.57	1.59	157.763
9	-0.80	100	48	0.00	0.00	--	0.00	0.00	254.52	2.08	122.259
10	-0.90	100	49	0.00	0.00	--	0.00	0.00	257.44	2.63	97.742
11	-1.00	100	50	0.00	0.00	--	0.00	0.00	260.35	3.25	80.083
12	-1.10	100	51	0.00	0.00	--	0.00	0.00	263.23	3.93	66.929
13	-1.20	100	52	0.00	0.00	--	0.00	0.00	266.10	4.68	56.859
14	-1.30	100	53	0.00	0.00	--	0.00	0.00	268.95	5.49	48.972
15	-1.40	100	54	0.00	0.00	--	0.00	0.00	271.78	6.37	42.674
16	-1.50	100	55	0.00	0.00	--	0.00	0.00	274.60	7.31	37.562
17	-1.60	100	56	0.00	0.00	--	0.00	0.00	277.40	8.32	33.352
18	-1.70	100	57	0.00	0.00	--	0.00	0.00	280.19	9.39	29.842
19	-1.80	100	58	0.00	0.00	--	0.00	0.00	282.96	10.53	26.882
20	-1.90	100	59	0.00	0.00	--	0.00	0.00	285.72	11.73	24.363
21	-2.00	100	60	0.00	0.00	--	0.00	0.00	288.46	12.99	22.199
22	-2.10	100	61	0.00	0.00	--	0.00	0.00	291.19	14.33	20.327
23	-2.20	100	62	0.00	0.00	--	0.00	0.00	293.91	15.72	18.694
24	-2.30	100	63	0.00	0.00	--	0.00	0.00	296.62	17.18	17.262
25	-2.40	100	64	0.00	0.00	--	0.00	0.00	299.32	18.71	15.998
26	-2.50	100	65	0.00	0.00	--	0.00	0.00	302.00	20.30	14.876
27	-2.60	100	66	0.00	0.00	--	0.00	0.00	304.67	21.96	13.875
28	-2.70	100	67	0.00	0.00	--	0.00	0.00	307.34	23.68	12.979
29	-2.80	100	68	0.00	0.00	--	0.00	0.00	309.99	25.47	12.173
30	-2.90	100	69	0.00	0.00	--	0.00	0.00	312.63	27.32	11.445
31	-3.00	100	70	0.00	0.00	--	0.00	0.00	315.27	29.23	10.785
32	-3.10	100	71	0.00	0.00	--	0.00	0.00	317.89	31.21	10.184
33	-3.20	100	72	0.00	0.00	--	0.00	0.00	320.51	33.26	9.636
34	-3.30	100	73	0.00	0.00	--	0.00	0.00	323.12	35.37	9.135
35	-3.40	100	74	0.00	0.00	--	0.00	0.00	325.71	37.55	8.675
36	-3.50	100	75	0.00	0.00	--	0.00	0.00	328.31	39.79	8.251
37	-3.60	100	76	0.00	0.00	--	0.00	0.00	330.89	42.09	7.861
38	-3.70	100	77	0.00	0.00	--	0.00	0.00	333.47	44.46	7.500
39	-3.80	100	78	0.00	0.00	--	0.00	0.00	336.03	46.90	7.165
40	-3.90	100	79	0.00	0.00	--	0.00	0.00	338.60	49.40	6.854
41	-4.00	100	80	0.00	0.00	--	0.00	0.00	341.15	51.97	6.565
42	-4.10	100	81	0.00	0.00	--	0.00	0.00	343.70	54.60	6.295
43	-4.20	100	82	0.00	0.00	--	0.00	0.00	346.24	57.29	6.043
44	-4.30	100	83	0.00	0.00	--	0.00	0.00	348.78	60.05	5.808
45	-4.40	100	84	0.00	0.00	--	0.00	0.00	351.31	62.88	5.587
46	-4.50	100	85	0.00	0.00	--	0.00	0.00	353.83	65.77	5.380
47	-4.60	100	86	0.00	0.00	--	0.00	0.00	356.35	68.73	5.185
48	-4.70	100	87	0.00	0.00	--	0.00	0.00	358.87	71.75	5.002
49	-4.79	100	88	0.00	0.00	--	0.00	0.00	361.16	74.83	4.826

Combinazione n° 8 - STR (A1-M1-R3)

n°	Y	B	H	A_{sw}	s	cot□	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
1	0.00	100	40	0.00	0.00	--	0.00	0.00	230.30	0.00	100.000
2	-0.10	100	41	0.00	0.00	--	0.00	0.00	233.41	0.37	630.655
3	-0.20	100	42	0.00	0.00	--	0.00	0.00	236.50	0.81	293.425
4	-0.30	100	43	0.00	0.00	--	0.00	0.00	239.57	1.31	183.313
5	-0.40	100	44	0.00	0.00	--	0.00	0.00	242.60	1.87	129.604
6	-0.50	100	45	0.00	0.00	--	0.00	0.00	245.62	2.50	98.190
7	-0.60	100	46	0.00	0.00	--	0.00	0.00	248.60	3.20	77.787
8	-0.70	100	47	0.00	0.00	--	0.00	0.00	251.57	3.96	63.602
9	-0.80	100	48	0.00	0.00	--	0.00	0.00	254.52	4.78	53.248
10	-0.90	100	49	0.00	0.00	--	0.00	0.00	257.44	5.67	45.410
11	-1.00	100	50	0.00	0.00	--	0.00	0.00	260.35	6.62	39.306
12	-1.10	100	51	0.00	0.00	--	0.00	0.00	263.23	7.64	34.442

n°	Y	B	H	A_{sw}	s	cot□	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
13	-1.20	100	52	0.00	0.00	--	0.00	0.00	266.10	8.73	30.491
14	-1.30	100	53	0.00	0.00	--	0.00	0.00	268.95	9.88	27.232
15	-1.40	100	54	0.00	0.00	--	0.00	0.00	271.78	11.09	24.506
16	-1.50	100	55	0.00	0.00	--	0.00	0.00	274.60	12.37	22.200
17	-1.60	100	56	0.00	0.00	--	0.00	0.00	277.40	13.71	20.228
18	-1.70	100	57	0.00	0.00	--	0.00	0.00	280.19	15.12	18.528
19	-1.80	100	58	0.00	0.00	--	0.00	0.00	282.96	16.60	17.049
20	-1.90	100	59	0.00	0.00	--	0.00	0.00	285.72	18.14	15.755
21	-2.00	100	60	0.00	0.00	--	0.00	0.00	288.46	19.74	14.614
22	-2.10	100	61	0.00	0.00	--	0.00	0.00	291.19	21.41	13.602
23	-2.20	100	62	0.00	0.00	--	0.00	0.00	293.91	23.14	12.700
24	-2.30	100	63	0.00	0.00	--	0.00	0.00	296.62	24.94	11.893
25	-2.40	100	64	0.00	0.00	--	0.00	0.00	299.32	26.80	11.167
26	-2.50	100	65	0.00	0.00	--	0.00	0.00	302.00	28.73	10.511
27	-2.60	100	66	0.00	0.00	--	0.00	0.00	304.67	30.73	9.916
28	-2.70	100	67	0.00	0.00	--	0.00	0.00	307.34	32.79	9.374
29	-2.80	100	68	0.00	0.00	--	0.00	0.00	309.99	34.91	8.880
30	-2.90	100	69	0.00	0.00	--	0.00	0.00	312.63	37.10	8.427
31	-3.00	100	70	0.00	0.00	--	0.00	0.00	315.27	39.35	8.012
32	-3.10	100	71	0.00	0.00	--	0.00	0.00	317.89	41.67	7.629
33	-3.20	100	72	0.00	0.00	--	0.00	0.00	320.51	44.05	7.276
34	-3.30	100	73	0.00	0.00	--	0.00	0.00	323.12	46.50	6.949
35	-3.40	100	74	0.00	0.00	--	0.00	0.00	325.71	49.01	6.645
36	-3.50	100	75	0.00	0.00	--	0.00	0.00	328.31	51.59	6.363
37	-3.60	100	76	0.00	0.00	--	0.00	0.00	330.89	54.24	6.101
38	-3.70	100	77	0.00	0.00	--	0.00	0.00	333.47	56.94	5.856
39	-3.80	100	78	0.00	0.00	--	0.00	0.00	336.03	59.72	5.627
40	-3.90	100	79	0.00	0.00	--	0.00	0.00	338.60	62.55	5.413
41	-4.00	100	80	0.00	0.00	--	0.00	0.00	341.15	65.46	5.212
42	-4.10	100	81	0.00	0.00	--	0.00	0.00	343.70	68.43	5.023
43	-4.20	100	82	0.00	0.00	--	0.00	0.00	346.24	71.46	4.845
44	-4.30	100	83	0.00	0.00	--	0.00	0.00	348.78	74.56	4.678
45	-4.40	100	84	0.00	0.00	--	0.00	0.00	351.31	77.72	4.520
46	-4.50	100	85	0.00	0.00	--	0.00	0.00	353.83	80.95	4.371
47	-4.60	100	86	0.00	0.00	--	0.00	0.00	356.35	84.24	4.230
48	-4.70	100	87	0.00	0.00	--	0.00	0.00	358.87	87.60	4.097
49	-4.79	100	88	0.00	0.00	--	0.00	0.00	361.16	91.02	3.968

Combinazione n° 9 - STR (A1-M1-R3)

n°	Y	B	H	A_{sw}	s	cot□	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
1	0.00	100	40	0.00	0.00	--	0.00	0.00	230.30	0.00	100.000
2	-0.10	100	41	0.00	0.00	--	0.00	0.00	233.38	0.37	630.549
3	-0.20	100	42	0.00	0.00	--	0.00	0.00	236.42	0.81	293.326
4	-0.30	100	43	0.00	0.00	--	0.00	0.00	239.45	1.31	183.220
5	-0.40	100	44	0.00	0.00	--	0.00	0.00	242.44	1.87	129.516
6	-0.50	100	45	0.00	0.00	--	0.00	0.00	245.41	2.50	98.106
7	-0.60	100	46	0.00	0.00	--	0.00	0.00	248.35	3.20	77.708
8	-0.70	100	47	0.00	0.00	--	0.00	0.00	251.27	3.96	63.526
9	-0.80	100	48	0.00	0.00	--	0.00	0.00	254.17	4.78	53.175
10	-0.90	100	49	0.00	0.00	--	0.00	0.00	257.04	5.67	45.340
11	-1.00	100	50	0.00	0.00	--	0.00	0.00	259.90	6.62	39.239
12	-1.10	100	51	0.00	0.00	--	0.00	0.00	262.73	7.64	34.376
13	-1.20	100	52	0.00	0.00	--	0.00	0.00	265.55	8.73	30.428
14	-1.30	100	53	0.00	0.00	--	0.00	0.00	268.35	9.88	27.171
15	-1.40	100	54	0.00	0.00	--	0.00	0.00	271.12	11.09	24.447
16	-1.50	100	55	0.00	0.00	--	0.00	0.00	273.88	12.37	22.142
17	-1.60	100	56	0.00	0.00	--	0.00	0.00	276.63	13.71	20.172
18	-1.70	100	57	0.00	0.00	--	0.00	0.00	279.36	15.12	18.473
19	-1.80	100	58	0.00	0.00	--	0.00	0.00	282.07	16.60	16.996
20	-1.90	100	59	0.00	0.00	--	0.00	0.00	284.77	18.14	15.702
21	-2.00	100	60	0.00	0.00	--	0.00	0.00	287.45	19.74	14.562
22	-2.10	100	61	0.00	0.00	--	0.00	0.00	290.12	21.41	13.552
23	-2.20	100	62	0.00	0.00	--	0.00	0.00	292.78	23.14	12.651
24	-2.30	100	63	0.00	0.00	--	0.00	0.00	295.42	24.94	11.845
25	-2.40	100	64	0.00	0.00	--	0.00	0.00	298.05	26.80	11.119
26	-2.50	100	65	0.00	0.00	--	0.00	0.00	300.66	28.73	10.464
27	-2.60	100	66	0.00	0.00	--	0.00	0.00	303.27	30.73	9.870
28	-2.70	100	67	0.00	0.00	--	0.00	0.00	305.86	32.79	9.329
29	-2.80	100	68	0.00	0.00	--	0.00	0.00	308.45	34.91	8.836
30	-2.90	100	69	0.00	0.00	--	0.00	0.00	311.02	37.10	8.384
31	-3.00	100	70	0.00	0.00	--	0.00	0.00	313.58	39.35	7.969
32	-3.10	100	71	0.00	0.00	--	0.00	0.00	316.13	41.67	7.587
33	-3.20	100	72	0.00	0.00	--	0.00	0.00	318.67	44.05	7.234
34	-3.30	100	73	0.00	0.00	--	0.00	0.00	321.20	46.50	6.907
35	-3.40	100	74	0.00	0.00	--	0.00	0.00	323.72	49.01	6.605
36	-3.50	100	75	0.00	0.00	--	0.00	0.00	326.23	51.59	6.323
37	-3.60	100	76	0.00	0.00	--	0.00	0.00	328.74	54.24	6.061
38	-3.70	100	77	0.00	0.00	--	0.00	0.00	331.23	56.94	5.817
39	-3.80	100	78	0.00	0.00	--	0.00	0.00	333.72	59.72	5.588
40	-3.90	100	79	0.00	0.00	--	0.00	0.00	336.20	62.55	5.375
41	-4.00	100	80	0.00	0.00	--	0.00	0.00	338.67	65.46	5.174

n°	Y	B	H	A_{sw}	s	cot□	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
42	-4.10	100	81	0.00	0.00	--	0.00	0.00	341.13	68.43	4.985
43	-4.20	100	82	0.00	0.00	--	0.00	0.00	343.59	71.46	4.808
44	-4.30	100	83	0.00	0.00	--	0.00	0.00	346.04	74.56	4.641
45	-4.40	100	84	0.00	0.00	--	0.00	0.00	348.48	77.72	4.484
46	-4.50	100	85	0.00	0.00	--	0.00	0.00	350.91	80.95	4.335
47	-4.60	100	86	0.00	0.00	--	0.00	0.00	353.34	84.24	4.195
48	-4.70	100	87	0.00	0.00	--	0.00	0.00	355.76	87.60	4.061
49	-4.79	100	88	0.00	0.00	--	0.00	0.00	357.97	91.02	3.933

Combinazione n° 10 - STR (A1-M1-R3)

n°	Y	B	H	A_{sw}	s	cot□	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
1	0.00	100	40	0.00	0.00	--	0.00	0.00	230.30	0.00	100.000
2	-0.10	100	41	0.00	0.00	--	0.00	0.00	233.41	0.37	630.655
3	-0.20	100	42	0.00	0.00	--	0.00	0.00	236.50	0.81	293.425
4	-0.30	100	43	0.00	0.00	--	0.00	0.00	239.57	1.31	183.313
5	-0.40	100	44	0.00	0.00	--	0.00	0.00	242.60	1.87	129.604
6	-0.50	100	45	0.00	0.00	--	0.00	0.00	245.62	2.50	98.190
7	-0.60	100	46	0.00	0.00	--	0.00	0.00	248.60	3.20	77.787
8	-0.70	100	47	0.00	0.00	--	0.00	0.00	251.57	3.96	63.602
9	-0.80	100	48	0.00	0.00	--	0.00	0.00	254.52	4.78	53.248
10	-0.90	100	49	0.00	0.00	--	0.00	0.00	257.44	5.67	45.410
11	-1.00	100	50	0.00	0.00	--	0.00	0.00	260.35	6.62	39.306
12	-1.10	100	51	0.00	0.00	--	0.00	0.00	263.23	7.64	34.442
13	-1.20	100	52	0.00	0.00	--	0.00	0.00	266.10	8.73	30.491
14	-1.30	100	53	0.00	0.00	--	0.00	0.00	268.95	9.88	27.232
15	-1.40	100	54	0.00	0.00	--	0.00	0.00	271.78	11.09	24.506
16	-1.50	100	55	0.00	0.00	--	0.00	0.00	274.60	12.37	22.200
17	-1.60	100	56	0.00	0.00	--	0.00	0.00	277.40	13.71	20.228
18	-1.70	100	57	0.00	0.00	--	0.00	0.00	280.19	15.12	18.528
19	-1.80	100	58	0.00	0.00	--	0.00	0.00	282.96	16.60	17.049
20	-1.90	100	59	0.00	0.00	--	0.00	0.00	285.72	18.14	15.755
21	-2.00	100	60	0.00	0.00	--	0.00	0.00	288.46	19.74	14.614
22	-2.10	100	61	0.00	0.00	--	0.00	0.00	291.19	21.41	13.602
23	-2.20	100	62	0.00	0.00	--	0.00	0.00	293.91	23.14	12.700
24	-2.30	100	63	0.00	0.00	--	0.00	0.00	296.62	24.94	11.893
25	-2.40	100	64	0.00	0.00	--	0.00	0.00	299.32	26.80	11.167
26	-2.50	100	65	0.00	0.00	--	0.00	0.00	302.00	28.73	10.511
27	-2.60	100	66	0.00	0.00	--	0.00	0.00	304.67	30.73	9.916
28	-2.70	100	67	0.00	0.00	--	0.00	0.00	307.34	32.79	9.374
29	-2.80	100	68	0.00	0.00	--	0.00	0.00	309.99	34.91	8.880
30	-2.90	100	69	0.00	0.00	--	0.00	0.00	312.63	37.10	8.427
31	-3.00	100	70	0.00	0.00	--	0.00	0.00	315.27	39.35	8.012
32	-3.10	100	71	0.00	0.00	--	0.00	0.00	317.89	41.67	7.629
33	-3.20	100	72	0.00	0.00	--	0.00	0.00	320.51	44.05	7.276
34	-3.30	100	73	0.00	0.00	--	0.00	0.00	323.12	46.50	6.949
35	-3.40	100	74	0.00	0.00	--	0.00	0.00	325.71	49.01	6.645
36	-3.50	100	75	0.00	0.00	--	0.00	0.00	328.31	51.59	6.363
37	-3.60	100	76	0.00	0.00	--	0.00	0.00	330.89	54.24	6.101
38	-3.70	100	77	0.00	0.00	--	0.00	0.00	333.47	56.94	5.856
39	-3.80	100	78	0.00	0.00	--	0.00	0.00	336.03	59.72	5.627
40	-3.90	100	79	0.00	0.00	--	0.00	0.00	338.60	62.55	5.413
41	-4.00	100	80	0.00	0.00	--	0.00	0.00	341.15	65.46	5.212
42	-4.10	100	81	0.00	0.00	--	0.00	0.00	343.70	68.43	5.023
43	-4.20	100	82	0.00	0.00	--	0.00	0.00	346.24	71.46	4.845
44	-4.30	100	83	0.00	0.00	--	0.00	0.00	348.78	74.56	4.678
45	-4.40	100	84	0.00	0.00	--	0.00	0.00	351.31	77.72	4.520
46	-4.50	100	85	0.00	0.00	--	0.00	0.00	353.83	80.95	4.371
47	-4.60	100	86	0.00	0.00	--	0.00	0.00	356.35	84.24	4.230
48	-4.70	100	87	0.00	0.00	--	0.00	0.00	358.87	87.60	4.097
49	-4.79	100	88	0.00	0.00	--	0.00	0.00	361.16	91.02	3.968

Fondazione

Combinazione n° 1 - STR (A1-M1-R3)

n°	Y	B	H	A_{sw}	s	cot□	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
1	-0.90	100	90	0.00	0.00	--	0.00	0.00	336.59	0.00	100.000
2	-0.80	100	90	0.00	0.00	--	0.00	0.00	336.59	-10.09	33.354
3	-0.70	100	90	0.00	0.00	--	0.00	0.00	336.59	-20.17	16.690
4	-0.60	100	90	0.00	0.00	--	0.00	0.00	336.59	-30.23	11.135
5	-0.50	100	90	0.00	0.00	--	0.00	0.00	336.59	-40.27	8.358
6	-0.40	100	90	0.00	0.00	--	0.00	0.00	336.59	-50.30	6.691
7	0.48	100	90	0.00	0.00	--	0.00	0.00	336.59	-88.51	3.803
8	0.58	100	90	0.00	0.00	--	0.00	0.00	336.59	-85.97	3.915
9	0.67	100	90	0.00	0.00	--	0.00	0.00	336.59	-83.42	4.035
10	0.77	100	90	0.00	0.00	--	0.00	0.00	336.59	-80.85	4.163
11	0.87	100	90	0.00	0.00	--	0.00	0.00	336.59	-78.27	4.300

n°	Y	B	H	A_{sw}	s	cot□	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
12	0.97	100	90	0.00	0.00	--	0.00	0.00	336.59	-75.67	4.448
13	1.06	100	90	0.00	0.00	--	0.00	0.00	336.59	-73.06	4.607
14	1.16	100	90	0.00	0.00	--	0.00	0.00	336.59	-70.44	4.779
15	1.26	100	90	0.00	0.00	--	0.00	0.00	336.59	-67.80	4.965
16	1.36	100	90	0.00	0.00	--	0.00	0.00	336.59	-65.14	5.167
17	1.45	100	90	0.00	0.00	--	0.00	0.00	336.59	-62.47	5.388
18	1.55	100	90	0.00	0.00	--	0.00	0.00	336.59	-59.79	5.630
19	1.65	100	90	0.00	0.00	--	0.00	0.00	336.59	-57.09	5.896
20	1.75	100	90	0.00	0.00	--	0.00	0.00	336.59	-54.37	6.190
21	1.84	100	90	0.00	0.00	--	0.00	0.00	336.59	-51.64	6.517
22	1.94	100	90	0.00	0.00	--	0.00	0.00	336.59	-48.90	6.883
23	2.04	100	90	0.00	0.00	--	0.00	0.00	336.59	-46.14	7.295
24	2.14	100	90	0.00	0.00	--	0.00	0.00	336.59	-43.37	7.761
25	2.23	100	90	0.00	0.00	--	0.00	0.00	336.59	-40.58	8.294
26	2.33	100	90	0.00	0.00	--	0.00	0.00	336.59	-37.78	8.910
27	2.43	100	90	0.00	0.00	--	0.00	0.00	336.59	-34.96	9.628
28	2.53	100	90	0.00	0.00	--	0.00	0.00	336.59	-32.13	10.476
29	2.62	100	90	0.00	0.00	--	0.00	0.00	336.59	-29.28	11.495
30	2.72	100	90	0.00	0.00	--	0.00	0.00	336.59	-26.42	12.740
31	2.82	100	90	0.00	0.00	--	0.00	0.00	336.59	-23.54	14.297
32	2.92	100	90	0.00	0.00	--	0.00	0.00	336.59	-20.65	16.298
33	3.01	100	90	0.00	0.00	--	0.00	0.00	336.59	-17.75	18.968
34	3.11	100	90	0.00	0.00	--	0.00	0.00	336.59	-14.82	22.704
35	3.21	100	90	0.00	0.00	--	0.00	0.00	336.59	-11.89	28.310
36	3.31	100	90	0.00	0.00	--	0.00	0.00	336.59	-8.94	37.653
37	3.40	100	90	0.00	0.00	--	0.00	0.00	336.59	-5.97	56.341
38	3.50	100	90	0.00	0.00	--	0.00	0.00	336.59	-2.99	112.404
39	3.60	100	90	0.00	0.00	--	0.00	0.00	336.59	0.00	100.000

Combinazione n° 2 - STR (A1-M1-R3)

n°	Y	B	H	A_{sw}	s	cot□	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
1	-0.90	100	90	0.00	0.00	--	0.00	0.00	336.59	0.00	100.000
2	-0.80	100	90	0.00	0.00	--	0.00	0.00	336.59	-11.63	28.944
3	-0.70	100	90	0.00	0.00	--	0.00	0.00	336.59	-23.23	14.490
4	-0.60	100	90	0.00	0.00	--	0.00	0.00	336.59	-34.80	9.672
5	-0.50	100	90	0.00	0.00	--	0.00	0.00	336.59	-46.34	7.263
6	-0.40	100	90	0.00	0.00	--	0.00	0.00	336.59	-57.86	5.818
7	0.48	100	90	0.00	0.00	--	0.00	0.00	336.59	-94.63	3.557
8	0.58	100	90	0.00	0.00	--	0.00	0.00	336.59	-92.09	3.655
9	0.67	100	90	0.00	0.00	--	0.00	0.00	336.59	-89.53	3.759
10	0.77	100	90	0.00	0.00	--	0.00	0.00	336.59	-86.94	3.871
11	0.87	100	90	0.00	0.00	--	0.00	0.00	336.59	-84.33	3.991
12	0.97	100	90	0.00	0.00	--	0.00	0.00	336.59	-81.69	4.120
13	1.06	100	90	0.00	0.00	--	0.00	0.00	336.59	-79.02	4.260
14	1.16	100	90	0.00	0.00	--	0.00	0.00	336.59	-76.32	4.410
15	1.26	100	90	0.00	0.00	--	0.00	0.00	336.59	-73.60	4.573
16	1.36	100	90	0.00	0.00	--	0.00	0.00	336.59	-70.84	4.751
17	1.45	100	90	0.00	0.00	--	0.00	0.00	336.59	-68.07	4.945
18	1.55	100	90	0.00	0.00	--	0.00	0.00	336.59	-65.26	5.158
19	1.65	100	90	0.00	0.00	--	0.00	0.00	336.59	-62.43	5.392
20	1.75	100	90	0.00	0.00	--	0.00	0.00	336.59	-59.56	5.651
21	1.84	100	90	0.00	0.00	--	0.00	0.00	336.59	-56.68	5.939
22	1.94	100	90	0.00	0.00	--	0.00	0.00	336.59	-53.76	6.261
23	2.04	100	90	0.00	0.00	--	0.00	0.00	336.59	-50.82	6.624
24	2.14	100	90	0.00	0.00	--	0.00	0.00	336.59	-47.85	7.035
25	2.23	100	90	0.00	0.00	--	0.00	0.00	336.59	-44.85	7.505
26	2.33	100	90	0.00	0.00	--	0.00	0.00	336.59	-41.82	8.048
27	2.43	100	90	0.00	0.00	--	0.00	0.00	336.59	-38.77	8.682
28	2.53	100	90	0.00	0.00	--	0.00	0.00	336.59	-35.69	9.431
29	2.62	100	90	0.00	0.00	--	0.00	0.00	336.59	-32.58	10.331
30	2.72	100	90	0.00	0.00	--	0.00	0.00	336.59	-29.45	11.431
31	2.82	100	90	0.00	0.00	--	0.00	0.00	336.59	-26.28	12.806
32	2.92	100	90	0.00	0.00	--	0.00	0.00	336.59	-23.09	14.575
33	3.01	100	90	0.00	0.00	--	0.00	0.00	336.59	-19.88	16.933
34	3.11	100	90	0.00	0.00	--	0.00	0.00	336.59	-16.63	20.237
35	3.21	100	90	0.00	0.00	--	0.00	0.00	336.59	-13.36	25.192
36	3.31	100	90	0.00	0.00	--	0.00	0.00	336.59	-10.06	33.452
37	3.40	100	90	0.00	0.00	--	0.00	0.00	336.59	-6.74	49.974
38	3.50	100	90	0.00	0.00	--	0.00	0.00	336.59	-3.38	99.544
39	3.60	100	90	0.00	0.00	--	0.00	0.00	336.59	0.00	100.000

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

n°	Y	B	H	A_{sw}	s	cot□	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
1	-0.90	100	90	0.00	0.00	--	0.00	0.00	336.59	0.00	100.000
2	-0.80	100	90	0.00	0.00	--	0.00	0.00	336.59	-15.67	21.480
3	-0.70	100	90	0.00	0.00	--	0.00	0.00	336.59	-31.10	10.821
4	-0.60	100	90	0.00	0.00	--	0.00	0.00	336.59	-46.30	7.269
5	-0.50	100	90	0.00	0.00	--	0.00	0.00	336.59	-61.27	5.494

n°	Y	B	H	A_{sw}	s	cot□	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
6	-0.40	100	90	0.00	0.00	--	0.00	0.00	336.59	-75.99	4.429
7	0.48	100	90	0.00	0.00	--	0.00	0.00	336.59	-23.12	14.560
8	0.58	100	90	0.00	0.00	--	0.00	0.00	336.59	-25.87	13.012
9	0.67	100	90	0.00	0.00	--	0.00	0.00	336.59	-28.40	11.854
10	0.77	100	90	0.00	0.00	--	0.00	0.00	336.59	-30.70	10.964
11	0.87	100	90	0.00	0.00	--	0.00	0.00	336.59	-32.78	10.269
12	0.97	100	90	0.00	0.00	--	0.00	0.00	336.59	-34.63	9.719
13	1.06	100	90	0.00	0.00	--	0.00	0.00	336.59	-36.26	9.282
14	1.16	100	90	0.00	0.00	--	0.00	0.00	336.59	-37.67	8.935
15	1.26	100	90	0.00	0.00	--	0.00	0.00	336.59	-38.85	8.663
16	1.36	100	90	0.00	0.00	--	0.00	0.00	336.59	-39.81	8.455
17	1.45	100	90	0.00	0.00	--	0.00	0.00	336.59	-40.54	8.302
18	1.55	100	90	0.00	0.00	--	0.00	0.00	336.59	-41.06	8.198
19	1.65	100	90	0.00	0.00	--	0.00	0.00	336.59	-41.34	8.142
20	1.75	100	90	0.00	0.00	--	0.00	0.00	336.59	-41.40	8.130
21	1.84	100	90	0.00	0.00	--	0.00	0.00	336.59	-41.24	8.161
22	1.94	100	90	0.00	0.00	--	0.00	0.00	336.59	-40.85	8.239
23	2.04	100	90	0.00	0.00	--	0.00	0.00	336.59	-40.24	8.364
24	2.14	100	90	0.00	0.00	--	0.00	0.00	336.59	-39.41	8.541
25	2.23	100	90	0.00	0.00	--	0.00	0.00	336.59	-38.35	8.776
26	2.33	100	90	0.00	0.00	--	0.00	0.00	336.59	-37.07	9.080
27	2.43	100	90	0.00	0.00	--	0.00	0.00	336.59	-35.56	9.465
28	2.53	100	90	0.00	0.00	--	0.00	0.00	336.59	-33.83	9.949
29	2.62	100	90	0.00	0.00	--	0.00	0.00	336.59	-31.88	10.559
30	2.72	100	90	0.00	0.00	--	0.00	0.00	336.59	-29.70	11.334
31	2.82	100	90	0.00	0.00	--	0.00	0.00	336.59	-27.29	12.332
32	2.92	100	90	0.00	0.00	--	0.00	0.00	336.59	-24.67	13.646
33	3.01	100	90	0.00	0.00	--	0.00	0.00	336.59	-21.81	15.429
34	3.11	100	90	0.00	0.00	--	0.00	0.00	336.59	-18.74	17.962
35	3.21	100	90	0.00	0.00	--	0.00	0.00	336.59	-15.44	21.800
36	3.31	100	90	0.00	0.00	--	0.00	0.00	336.59	-11.92	28.247
37	3.40	100	90	0.00	0.00	--	0.00	0.00	336.59	-8.17	41.208
38	3.50	100	90	0.00	0.00	--	0.00	0.00	336.59	-4.20	80.215
39	3.60	100	90	0.00	0.00	--	0.00	0.00	336.59	0.00	100.000

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

n°	Y	B	H	A_{sw}	s	cot□	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
1	-0.90	100	90	0.00	0.00	--	0.00	0.00	336.59	0.00	100.000
2	-0.80	100	90	0.00	0.00	--	0.00	0.00	336.59	-14.27	23.586
3	-0.70	100	90	0.00	0.00	--	0.00	0.00	336.59	-28.30	11.892
4	-0.60	100	90	0.00	0.00	--	0.00	0.00	336.59	-42.10	7.995
5	-0.50	100	90	0.00	0.00	--	0.00	0.00	336.59	-55.66	6.048
6	-0.40	100	90	0.00	0.00	--	0.00	0.00	336.59	-68.98	4.880
7	0.48	100	90	0.00	0.00	--	0.00	0.00	336.59	-68.51	4.913
8	0.58	100	90	0.00	0.00	--	0.00	0.00	336.59	-69.87	4.817
9	0.67	100	90	0.00	0.00	--	0.00	0.00	336.59	-71.00	4.740
10	0.77	100	90	0.00	0.00	--	0.00	0.00	336.59	-71.91	4.681
11	0.87	100	90	0.00	0.00	--	0.00	0.00	336.59	-72.60	4.636
12	0.97	100	90	0.00	0.00	--	0.00	0.00	336.59	-73.05	4.607
13	1.06	100	90	0.00	0.00	--	0.00	0.00	336.59	-73.28	4.593
14	1.16	100	90	0.00	0.00	--	0.00	0.00	336.59	-73.29	4.593
15	1.26	100	90	0.00	0.00	--	0.00	0.00	336.59	-73.07	4.606
16	1.36	100	90	0.00	0.00	--	0.00	0.00	336.59	-72.62	4.635
17	1.45	100	90	0.00	0.00	--	0.00	0.00	336.59	-71.95	4.678
18	1.55	100	90	0.00	0.00	--	0.00	0.00	336.59	-71.05	4.737
19	1.65	100	90	0.00	0.00	--	0.00	0.00	336.59	-69.93	4.813
20	1.75	100	90	0.00	0.00	--	0.00	0.00	336.59	-68.58	4.908
21	1.84	100	90	0.00	0.00	--	0.00	0.00	336.59	-67.00	5.023
22	1.94	100	90	0.00	0.00	--	0.00	0.00	336.59	-65.20	5.162
23	2.04	100	90	0.00	0.00	--	0.00	0.00	336.59	-63.17	5.328
24	2.14	100	90	0.00	0.00	--	0.00	0.00	336.59	-60.92	5.525
25	2.23	100	90	0.00	0.00	--	0.00	0.00	336.59	-58.44	5.760
26	2.33	100	90	0.00	0.00	--	0.00	0.00	336.59	-55.73	6.039
27	2.43	100	90	0.00	0.00	--	0.00	0.00	336.59	-52.80	6.375
28	2.53	100	90	0.00	0.00	--	0.00	0.00	336.59	-49.64	6.780
29	2.62	100	90	0.00	0.00	--	0.00	0.00	336.59	-46.26	7.276
30	2.72	100	90	0.00	0.00	--	0.00	0.00	336.59	-42.65	7.892
31	2.82	100	90	0.00	0.00	--	0.00	0.00	336.59	-38.82	8.671
32	2.92	100	90	0.00	0.00	--	0.00	0.00	336.59	-34.76	9.685
33	3.01	100	90	0.00	0.00	--	0.00	0.00	336.59	-30.47	11.047
34	3.11	100	90	0.00	0.00	--	0.00	0.00	336.59	-25.95	12.968
35	3.21	100	90	0.00	0.00	--	0.00	0.00	336.59	-21.22	15.865
36	3.31	100	90	0.00	0.00	--	0.00	0.00	336.59	-16.25	20.712
37	3.40	100	90	0.00	0.00	--	0.00	0.00	336.59	-11.06	30.434
38	3.50	100	90	0.00	0.00	--	0.00	0.00	336.59	-5.64	59.649
39	3.60	100	90	0.00	0.00	--	0.00	0.00	336.59	0.00	100.000

Combinazione n° 5 - STR (A1-M1-R3)

n°	Y	B	H	A_{sw}	s	cot□	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
1	-0.90	100	90	0.00	0.00	--	0.00	0.00	336.59	0.00	100.000
2	-0.80	100	90	0.00	0.00	--	0.00	0.00	336.59	-12.08	27.864
3	-0.70	100	90	0.00	0.00	--	0.00	0.00	336.59	-24.17	13.923
4	-0.60	100	90	0.00	0.00	--	0.00	0.00	336.59	-36.28	9.277
5	-0.50	100	90	0.00	0.00	--	0.00	0.00	336.59	-48.41	6.953
6	-0.40	100	90	0.00	0.00	--	0.00	0.00	336.59	-60.55	5.559
7	0.48	100	90	0.00	0.00	--	0.00	0.00	336.59	0.74	454.607
8	0.58	100	90	0.00	0.00	--	0.00	0.00	336.59	0.93	360.582
9	0.67	100	90	0.00	0.00	--	0.00	0.00	336.59	1.11	302.531
10	0.77	100	90	0.00	0.00	--	0.00	0.00	336.59	1.28	263.424
11	0.87	100	90	0.00	0.00	--	0.00	0.00	336.59	1.43	235.547
12	0.97	100	90	0.00	0.00	--	0.00	0.00	336.59	1.57	214.903
13	1.06	100	90	0.00	0.00	--	0.00	0.00	336.59	1.69	199.217
14	1.16	100	90	0.00	0.00	--	0.00	0.00	336.59	1.80	187.105
15	1.26	100	90	0.00	0.00	--	0.00	0.00	336.59	1.89	177.680
16	1.36	100	90	0.00	0.00	--	0.00	0.00	336.59	1.98	170.353
17	1.45	100	90	0.00	0.00	--	0.00	0.00	336.59	2.04	164.723
18	1.55	100	90	0.00	0.00	--	0.00	0.00	336.59	2.10	160.514
19	1.65	100	90	0.00	0.00	--	0.00	0.00	336.59	2.14	157.537
20	1.75	100	90	0.00	0.00	--	0.00	0.00	336.59	2.16	155.666
21	1.84	100	90	0.00	0.00	--	0.00	0.00	336.59	2.17	154.825
22	1.94	100	90	0.00	0.00	--	0.00	0.00	336.59	2.17	154.983
23	2.04	100	90	0.00	0.00	--	0.00	0.00	336.59	2.16	156.145
24	2.14	100	90	0.00	0.00	--	0.00	0.00	336.59	2.13	158.357
25	2.23	100	90	0.00	0.00	--	0.00	0.00	336.59	2.08	161.710
26	2.33	100	90	0.00	0.00	--	0.00	0.00	336.59	2.02	166.345
27	2.43	100	90	0.00	0.00	--	0.00	0.00	336.59	1.95	172.479
28	2.53	100	90	0.00	0.00	--	0.00	0.00	336.59	1.87	180.422
29	2.62	100	90	0.00	0.00	--	0.00	0.00	336.59	1.77	190.625
30	2.72	100	90	0.00	0.00	--	0.00	0.00	336.59	1.65	203.757
31	2.82	100	90	0.00	0.00	--	0.00	0.00	336.59	1.52	220.836
32	2.92	100	90	0.00	0.00	--	0.00	0.00	336.59	1.38	243.471
33	3.01	100	90	0.00	0.00	--	0.00	0.00	336.59	1.23	274.361
34	3.11	100	90	0.00	0.00	--	0.00	0.00	336.59	1.06	318.373
35	3.21	100	90	0.00	0.00	--	0.00	0.00	336.59	0.87	385.259
36	3.31	100	90	0.00	0.00	--	0.00	0.00	336.59	0.68	497.784
37	3.40	100	90	0.00	0.00	--	0.00	0.00	336.59	0.46	724.265
38	3.50	100	90	0.00	0.00	--	0.00	0.00	336.59	0.24	1406.321
39	3.60	100	90	0.00	0.00	--	0.00	0.00	336.59	0.00	100.000

Combinazione n° 6 - STR (A1-M1-R3)

n°	Y	B	H	A_{sw}	s	cot□	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
1	-0.90	100	90	0.00	0.00	--	0.00	0.00	336.59	0.00	100.000
2	-0.80	100	90	0.00	0.00	--	0.00	0.00	336.59	-10.65	31.598
3	-0.70	100	90	0.00	0.00	--	0.00	0.00	336.59	-21.36	15.757
4	-0.60	100	90	0.00	0.00	--	0.00	0.00	336.59	-32.13	10.477
5	-0.50	100	90	0.00	0.00	--	0.00	0.00	336.59	-42.95	7.837
6	-0.40	100	90	0.00	0.00	--	0.00	0.00	336.59	-53.83	6.253
7	0.48	100	90	0.00	0.00	--	0.00	0.00	336.59	-5.86	57.422
8	0.58	100	90	0.00	0.00	--	0.00	0.00	336.59	-4.84	69.514
9	0.67	100	90	0.00	0.00	--	0.00	0.00	336.59	-3.88	86.831
10	0.77	100	90	0.00	0.00	--	0.00	0.00	336.59	-2.96	113.532
11	0.87	100	90	0.00	0.00	--	0.00	0.00	336.59	-2.11	159.749
12	0.97	100	90	0.00	0.00	--	0.00	0.00	336.59	-1.30	258.273
13	1.06	100	90	0.00	0.00	--	0.00	0.00	336.59	-0.55	608.177
14	1.16	100	90	0.00	0.00	--	0.00	0.00	336.59	0.14	2363.857
15	1.26	100	90	0.00	0.00	--	0.00	0.00	336.59	0.78	429.183
16	1.36	100	90	0.00	0.00	--	0.00	0.00	336.59	1.37	245.299
17	1.45	100	90	0.00	0.00	--	0.00	0.00	336.59	1.91	176.586
18	1.55	100	90	0.00	0.00	--	0.00	0.00	336.59	2.39	141.064
19	1.65	100	90	0.00	0.00	--	0.00	0.00	336.59	2.81	119.694
20	1.75	100	90	0.00	0.00	--	0.00	0.00	336.59	3.18	105.708
21	1.84	100	90	0.00	0.00	--	0.00	0.00	336.59	3.50	96.107
22	1.94	100	90	0.00	0.00	--	0.00	0.00	336.59	3.77	89.368
23	2.04	100	90	0.00	0.00	--	0.00	0.00	336.59	3.98	84.645
24	2.14	100	90	0.00	0.00	--	0.00	0.00	336.59	4.13	81.446
25	2.23	100	90	0.00	0.00	--	0.00	0.00	336.59	4.23	79.479
26	2.33	100	90	0.00	0.00	--	0.00	0.00	336.59	4.28	78.584
27	2.43	100	90	0.00	0.00	--	0.00	0.00	336.59	4.28	78.688
28	2.53	100	90	0.00	0.00	--	0.00	0.00	336.59	4.22	79.801
29	2.62	100	90	0.00	0.00	--	0.00	0.00	336.59	4.10	82.011
30	2.72	100	90	0.00	0.00	--	0.00	0.00	336.59	3.94	85.502
31	2.82	100	90	0.00	0.00	--	0.00	0.00	336.59	3.72	90.601
32	2.92	100	90	0.00	0.00	--	0.00	0.00	336.59	3.44	97.858
33	3.01	100	90	0.00	0.00	--	0.00	0.00	336.59	3.11	108.225
34	3.11	100	90	0.00	0.00	--	0.00	0.00	336.59	2.73	123.444
35	3.21	100	90	0.00	0.00	--	0.00	0.00	336.59	2.29	147.031
36	3.31	100	90	0.00	0.00	--	0.00	0.00	336.59	1.80	187.214
37	3.40	100	90	0.00	0.00	--	0.00	0.00	336.59	1.25	268.723
38	3.50	100	90	0.00	0.00	--	0.00	0.00	336.59	0.65	515.248
39	3.60	100	90	0.00	0.00	--	0.00	0.00	336.59	0.00	100.000

Combinazione n° 7 - STR (A1-M1-R3)

n°	Y [m]	B [cm]	H [cm]	A_{sw} [cmq]	s [cm]	cot□	V_{Rcd} [kN]	V_{Rsd} [kN]	V_{Rd} [kN]	T [kN]	FS
1	-0.90	100	90	0.00	0.00	--	0.00	0.00	336.59	0.00	100.000
2	-0.80	100	90	0.00	0.00	--	0.00	0.00	336.59	-11.52	29.220
3	-0.70	100	90	0.00	0.00	--	0.00	0.00	336.59	-22.98	14.647
4	-0.60	100	90	0.00	0.00	--	0.00	0.00	336.59	-34.38	9.789
5	-0.50	100	90	0.00	0.00	--	0.00	0.00	336.59	-45.73	7.360
6	-0.40	100	90	0.00	0.00	--	0.00	0.00	336.59	-57.02	5.903
7	0.48	100	90	0.00	0.00	--	0.00	0.00	336.59	-81.91	4.109
8	0.58	100	90	0.00	0.00	--	0.00	0.00	336.59	-80.20	4.197
9	0.67	100	90	0.00	0.00	--	0.00	0.00	336.59	-78.43	4.292
10	0.77	100	90	0.00	0.00	--	0.00	0.00	336.59	-76.61	4.394
11	0.87	100	90	0.00	0.00	--	0.00	0.00	336.59	-74.73	4.504
12	0.97	100	90	0.00	0.00	--	0.00	0.00	336.59	-72.80	4.623
13	1.06	100	90	0.00	0.00	--	0.00	0.00	336.59	-70.82	4.753
14	1.16	100	90	0.00	0.00	--	0.00	0.00	336.59	-68.78	4.894
15	1.26	100	90	0.00	0.00	--	0.00	0.00	336.59	-66.69	5.047
16	1.36	100	90	0.00	0.00	--	0.00	0.00	336.59	-64.54	5.215
17	1.45	100	90	0.00	0.00	--	0.00	0.00	336.59	-62.33	5.400
18	1.55	100	90	0.00	0.00	--	0.00	0.00	336.59	-60.08	5.603
19	1.65	100	90	0.00	0.00	--	0.00	0.00	336.59	-57.76	5.827
20	1.75	100	90	0.00	0.00	--	0.00	0.00	336.59	-55.39	6.076
21	1.84	100	90	0.00	0.00	--	0.00	0.00	336.59	-52.97	6.354
22	1.94	100	90	0.00	0.00	--	0.00	0.00	336.59	-50.49	6.666
23	2.04	100	90	0.00	0.00	--	0.00	0.00	336.59	-47.96	7.018
24	2.14	100	90	0.00	0.00	--	0.00	0.00	336.59	-45.38	7.418
25	2.23	100	90	0.00	0.00	--	0.00	0.00	336.59	-42.73	7.876
26	2.33	100	90	0.00	0.00	--	0.00	0.00	336.59	-40.04	8.407
27	2.43	100	90	0.00	0.00	--	0.00	0.00	336.59	-37.29	9.027
28	2.53	100	90	0.00	0.00	--	0.00	0.00	336.59	-34.48	9.762
29	2.62	100	90	0.00	0.00	--	0.00	0.00	336.59	-31.62	10.645
30	2.72	100	90	0.00	0.00	--	0.00	0.00	336.59	-28.70	11.726
31	2.82	100	90	0.00	0.00	--	0.00	0.00	336.59	-25.73	13.080
32	2.92	100	90	0.00	0.00	--	0.00	0.00	336.59	-22.71	14.822
33	3.01	100	90	0.00	0.00	--	0.00	0.00	336.59	-19.63	17.148
34	3.11	100	90	0.00	0.00	--	0.00	0.00	336.59	-16.49	20.406
35	3.21	100	90	0.00	0.00	--	0.00	0.00	336.59	-13.30	25.298
36	3.31	100	90	0.00	0.00	--	0.00	0.00	336.59	-10.06	33.455
37	3.40	100	90	0.00	0.00	--	0.00	0.00	336.59	-6.76	49.777
38	3.50	100	90	0.00	0.00	--	0.00	0.00	336.59	-3.41	98.754
39	3.60	100	90	0.00	0.00	--	0.00	0.00	336.59	0.00	100.000

Combinazione n° 8 - STR (A1-M1-R3)

n°	Y [m]	B [cm]	H [cm]	A_{sw} [cmq]	s [cm]	cot□	V_{Rcd} [kN]	V_{Rsd} [kN]	V_{Rd} [kN]	T [kN]	FS
1	-0.90	100	90	0.00	0.00	--	0.00	0.00	336.59	0.00	100.000
2	-0.80	100	90	0.00	0.00	--	0.00	0.00	336.59	-13.62	24.717
3	-0.70	100	90	0.00	0.00	--	0.00	0.00	336.59	-27.24	12.358
4	-0.60	100	90	0.00	0.00	--	0.00	0.00	336.59	-40.86	8.238
5	-0.50	100	90	0.00	0.00	--	0.00	0.00	336.59	-54.48	6.178
6	-0.40	100	90	0.00	0.00	--	0.00	0.00	336.59	-68.10	4.942
7	0.48	100	90	0.00	0.00	--	0.00	0.00	336.59	-5.38	62.603
8	0.58	100	90	0.00	0.00	--	0.00	0.00	336.59	-5.19	64.878
9	0.67	100	90	0.00	0.00	--	0.00	0.00	336.59	-5.00	67.306
10	0.77	100	90	0.00	0.00	--	0.00	0.00	336.59	-4.81	69.905
11	0.87	100	90	0.00	0.00	--	0.00	0.00	336.59	-4.63	72.691
12	0.97	100	90	0.00	0.00	--	0.00	0.00	336.59	-4.45	75.687
13	1.06	100	90	0.00	0.00	--	0.00	0.00	336.59	-4.27	78.915
14	1.16	100	90	0.00	0.00	--	0.00	0.00	336.59	-4.08	82.404
15	1.26	100	90	0.00	0.00	--	0.00	0.00	336.59	-3.91	86.187
16	1.36	100	90	0.00	0.00	--	0.00	0.00	336.59	-3.73	90.301
17	1.45	100	90	0.00	0.00	--	0.00	0.00	336.59	-3.55	94.793
18	1.55	100	90	0.00	0.00	--	0.00	0.00	336.59	-3.38	99.716
19	1.65	100	90	0.00	0.00	--	0.00	0.00	336.59	-3.20	105.135
20	1.75	100	90	0.00	0.00	--	0.00	0.00	336.59	-3.03	111.128
21	1.84	100	90	0.00	0.00	--	0.00	0.00	336.59	-2.86	117.791
22	1.94	100	90	0.00	0.00	--	0.00	0.00	336.59	-2.69	125.242
23	2.04	100	90	0.00	0.00	--	0.00	0.00	336.59	-2.52	133.630
24	2.14	100	90	0.00	0.00	--	0.00	0.00	336.59	-2.35	143.140
25	2.23	100	90	0.00	0.00	--	0.00	0.00	336.59	-2.19	154.015
26	2.33	100	90	0.00	0.00	--	0.00	0.00	336.59	-2.02	166.569
27	2.43	100	90	0.00	0.00	--	0.00	0.00	336.59	-1.86	181.221
28	2.53	100	90	0.00	0.00	--	0.00	0.00	336.59	-1.70	198.545
29	2.62	100	90	0.00	0.00	--	0.00	0.00	336.59	-1.53	219.342
30	2.72	100	90	0.00	0.00	--	0.00	0.00	336.59	-1.38	244.769
31	2.82	100	90	0.00	0.00	--	0.00	0.00	336.59	-1.22	276.564
32	2.92	100	90	0.00	0.00	--	0.00	0.00	336.59	-1.06	317.454
33	3.01	100	90	0.00	0.00	--	0.00	0.00	336.59	-0.90	371.989
34	3.11	100	90	0.00	0.00	--	0.00	0.00	336.59	-0.75	448.355
35	3.21	100	90	0.00	0.00	--	0.00	0.00	336.59	-0.60	562.926

n°	Y	B	H	A_{sw}	s	cot□	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
36	3.31	100	90	0.00	0.00	--	0.00	0.00	336.59	-0.45	753.907
37	3.40	100	90	0.00	0.00	--	0.00	0.00	336.59	-0.30	1135.914
38	3.50	100	90	0.00	0.00	--	0.00	0.00	336.59	-0.15	2282.025
39	3.60	100	90	0.00	0.00	--	0.00	0.00	336.59	0.00	100.000

Combinazione n° 9 - STR (A1-M1-R3)

n°	Y	B	H	A_{sw}	s	cot□	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
1	-0.90	100	90	0.00	0.00	--	0.00	0.00	336.59	0.00	100.000
2	-0.80	100	90	0.00	0.00	--	0.00	0.00	336.59	-12.19	27.612
3	-0.70	100	90	0.00	0.00	--	0.00	0.00	336.59	-24.42	13.782
4	-0.60	100	90	0.00	0.00	--	0.00	0.00	336.59	-36.70	9.171
5	-0.50	100	90	0.00	0.00	--	0.00	0.00	336.59	-49.02	6.866
6	-0.40	100	90	0.00	0.00	--	0.00	0.00	336.59	-61.38	5.483
7	0.48	100	90	0.00	0.00	--	0.00	0.00	336.59	-11.98	28.099
8	0.58	100	90	0.00	0.00	--	0.00	0.00	336.59	-10.96	30.701
9	0.67	100	90	0.00	0.00	--	0.00	0.00	336.59	-9.99	33.693
10	0.77	100	90	0.00	0.00	--	0.00	0.00	336.59	-9.06	37.162
11	0.87	100	90	0.00	0.00	--	0.00	0.00	336.59	-8.17	41.217
12	0.97	100	90	0.00	0.00	--	0.00	0.00	336.59	-7.32	46.003
13	1.06	100	90	0.00	0.00	--	0.00	0.00	336.59	-6.51	51.718
14	1.16	100	90	0.00	0.00	--	0.00	0.00	336.59	-5.74	58.627
15	1.26	100	90	0.00	0.00	--	0.00	0.00	336.59	-5.02	67.110
16	1.36	100	90	0.00	0.00	--	0.00	0.00	336.59	-4.33	77.715
17	1.45	100	90	0.00	0.00	--	0.00	0.00	336.59	-3.69	91.265
18	1.55	100	90	0.00	0.00	--	0.00	0.00	336.59	-3.09	109.058
19	1.65	100	90	0.00	0.00	--	0.00	0.00	336.59	-2.53	133.251
20	1.75	100	90	0.00	0.00	--	0.00	0.00	336.59	-2.01	167.711
21	1.84	100	90	0.00	0.00	--	0.00	0.00	336.59	-1.53	220.096
22	1.94	100	90	0.00	0.00	--	0.00	0.00	336.59	-1.09	307.966
23	2.04	100	90	0.00	0.00	--	0.00	0.00	336.59	-0.70	482.260
24	2.14	100	90	0.00	0.00	--	0.00	0.00	336.59	-0.34	977.669
25	2.23	100	90	0.00	0.00	--	0.00	0.00	336.59	-0.03	10533.885
26	2.33	100	90	0.00	0.00	--	0.00	0.00	336.59	0.24	1408.132
27	2.43	100	90	0.00	0.00	--	0.00	0.00	336.59	0.47	718.166
28	2.53	100	90	0.00	0.00	--	0.00	0.00	336.59	0.66	512.323
29	2.62	100	90	0.00	0.00	--	0.00	0.00	336.59	0.80	418.667
30	2.72	100	90	0.00	0.00	--	0.00	0.00	336.59	0.91	370.047
31	2.82	100	90	0.00	0.00	--	0.00	0.00	336.59	0.97	345.618
32	2.92	100	90	0.00	0.00	--	0.00	0.00	336.59	1.00	337.660
33	3.01	100	90	0.00	0.00	--	0.00	0.00	336.59	0.98	344.006
34	3.11	100	90	0.00	0.00	--	0.00	0.00	336.59	0.92	366.370
35	3.21	100	90	0.00	0.00	--	0.00	0.00	336.59	0.82	411.655
36	3.31	100	90	0.00	0.00	--	0.00	0.00	336.59	0.68	498.470
37	3.40	100	90	0.00	0.00	--	0.00	0.00	336.59	0.49	684.817
38	3.50	100	90	0.00	0.00	--	0.00	0.00	336.59	0.27	1263.375
39	3.60	100	90	0.00	0.00	--	0.00	0.00	336.59	0.00	100.000

Combinazione n° 10 - STR (A1-M1-R3)

n°	Y	B	H	A_{sw}	s	cot□	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
1	-0.90	100	90	0.00	0.00	--	0.00	0.00	336.59	0.00	100.000
2	-0.80	100	90	0.00	0.00	--	0.00	0.00	336.59	-13.06	25.779
3	-0.70	100	90	0.00	0.00	--	0.00	0.00	336.59	-26.04	12.925
4	-0.60	100	90	0.00	0.00	--	0.00	0.00	336.59	-38.96	8.640
5	-0.50	100	90	0.00	0.00	--	0.00	0.00	336.59	-51.80	6.498
6	-0.40	100	90	0.00	0.00	--	0.00	0.00	336.59	-64.57	5.212
7	0.48	100	90	0.00	0.00	--	0.00	0.00	336.59	-88.02	3.824
8	0.58	100	90	0.00	0.00	--	0.00	0.00	336.59	-86.32	3.899
9	0.67	100	90	0.00	0.00	--	0.00	0.00	336.59	-84.54	3.981
10	0.77	100	90	0.00	0.00	--	0.00	0.00	336.59	-82.70	4.070
11	0.87	100	90	0.00	0.00	--	0.00	0.00	336.59	-80.79	4.166
12	0.97	100	90	0.00	0.00	--	0.00	0.00	336.59	-78.82	4.270
13	1.06	100	90	0.00	0.00	--	0.00	0.00	336.59	-76.78	4.384
14	1.16	100	90	0.00	0.00	--	0.00	0.00	336.59	-74.66	4.508
15	1.26	100	90	0.00	0.00	--	0.00	0.00	336.59	-72.49	4.643
16	1.36	100	90	0.00	0.00	--	0.00	0.00	336.59	-70.24	4.792
17	1.45	100	90	0.00	0.00	--	0.00	0.00	336.59	-67.93	4.955
18	1.55	100	90	0.00	0.00	--	0.00	0.00	336.59	-65.55	5.135
19	1.65	100	90	0.00	0.00	--	0.00	0.00	336.59	-63.10	5.334
20	1.75	100	90	0.00	0.00	--	0.00	0.00	336.59	-60.59	5.556
21	1.84	100	90	0.00	0.00	--	0.00	0.00	336.59	-58.00	5.803
22	1.94	100	90	0.00	0.00	--	0.00	0.00	336.59	-55.35	6.081
23	2.04	100	90	0.00	0.00	--	0.00	0.00	336.59	-52.64	6.395
24	2.14	100	90	0.00	0.00	--	0.00	0.00	336.59	-49.85	6.752
25	2.23	100	90	0.00	0.00	--	0.00	0.00	336.59	-47.00	7.161
26	2.33	100	90	0.00	0.00	--	0.00	0.00	336.59	-44.08	7.636
27	2.43	100	90	0.00	0.00	--	0.00	0.00	336.59	-41.09	8.190
28	2.53	100	90	0.00	0.00	--	0.00	0.00	336.59	-38.04	8.848
29	2.62	100	90	0.00	0.00	--	0.00	0.00	336.59	-34.92	9.639

n°	Y	B	H	A_{sw}	s	cot□	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[m]	[cm]	[cm]	[cmq]	[cm]		[kN]	[kN]	[kN]	[kN]	
30	2.72	100	90	0.00	0.00	--	0.00	0.00	336.59	-31.73	10.608
31	2.82	100	90	0.00	0.00	--	0.00	0.00	336.59	-28.47	11.821
32	2.92	100	90	0.00	0.00	--	0.00	0.00	336.59	-25.15	13.383
33	3.01	100	90	0.00	0.00	--	0.00	0.00	336.59	-21.76	15.468
34	3.11	100	90	0.00	0.00	--	0.00	0.00	336.59	-18.30	18.391
35	3.21	100	90	0.00	0.00	--	0.00	0.00	336.59	-14.78	22.779
36	3.31	100	90	0.00	0.00	--	0.00	0.00	336.59	-11.18	30.097
37	3.40	100	90	0.00	0.00	--	0.00	0.00	336.59	-7.52	44.741
38	3.50	100	90	0.00	0.00	--	0.00	0.00	336.59	-3.80	88.688
39	3.60	100	90	0.00	0.00	--	0.00	0.00	336.59	0.00	100.000

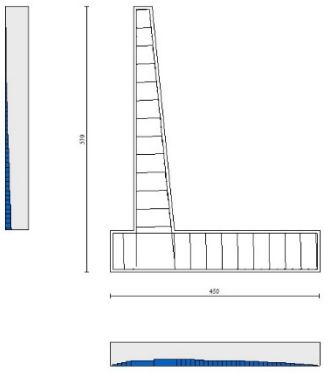


Fig. 11 - Paramento (Inviluppo)

Verifica delle tensioni

Simbologia adottata

n°	indice sezione
Y	ordinata sezione, espressa in [m]
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]
□c	tensione di compressione nel cls, espressa in [kPa]
□fi	tensione nei ferri inferiori, espressa in [kPa]
□fs	tensione nei ferri superiori, espressa in [kPa]

Combinazioni SLER

Paramento

Combinazione n° 19 - SLER

Tensione massima di compressione nel calcestruzzo	19920	[kPa]
Tensione massima di trazione dell'acciaio	359949	[kPa]

n°	Y	B	H	Afi	Afs	M	N	□c	□fi	□fs
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kPa]	[kPa]	[kPa]
1	0.00	100	40	15.71	15.71	0.00	0.00	0	0	0
2	-0.10	100	41	15.71	15.71	0.00	0.99	2	32	34
3	-0.20	100	42	15.71	15.71	0.02	2.01	5	59	70

n°	Y	B	H	Afi	Afs	M	N	□c	□fi	□fs
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kPa]	[kPa]	[kPa]
4	-0.30	100	43	15.71	15.71	0.05	3.05	8	82	110
5	-0.40	100	44	15.71	15.71	0.09	4.12	11	100	154
6	-0.50	100	45	15.71	15.71	0.17	5.21	15	110	204
7	-0.60	100	46	15.71	15.71	0.27	6.32	19	114	261
8	-0.70	100	47	15.71	15.71	0.41	7.46	24	109	324
9	-0.80	100	48	15.71	15.71	0.59	8.63	30	96	395
10	-0.90	100	49	15.71	15.71	0.82	9.82	36	74	474
11	-1.00	100	50	15.71	15.71	1.10	11.03	43	40	563
12	-1.10	100	51	15.71	15.71	1.43	12.27	51	20	665
13	-1.20	100	52	15.71	15.71	1.83	13.53	61	117	783
14	-1.30	100	53	15.71	15.71	2.29	14.82	73	262	919
15	-1.40	100	54	15.71	15.71	2.82	16.13	86	469	1073
16	-1.50	100	55	15.71	15.71	3.43	17.46	102	749	1246
17	-1.60	100	56	15.71	15.71	4.12	18.82	119	1111	1436
18	-1.70	100	57	15.71	15.71	4.90	20.21	138	1558	1643
19	-1.80	100	58	15.71	15.71	5.77	21.62	159	2093	1866
20	-1.90	100	59	15.71	15.71	6.74	23.05	181	2719	2104
21	-2.00	100	60	15.71	15.71	7.81	24.51	205	3434	2356
22	-2.10	100	61	15.71	15.71	8.98	25.99	231	4239	2623
23	-2.20	100	62	15.71	15.71	10.27	27.50	258	5134	2903
24	-2.30	100	63	15.71	15.71	11.68	29.03	286	6120	3197
25	-2.40	100	64	15.71	15.71	13.21	30.58	316	7195	3505
26	-2.50	100	65	15.71	15.71	14.86	32.16	347	8361	3827
27	-2.60	100	66	15.71	15.71	16.65	33.77	380	9619	4163
28	-2.70	100	67	15.71	15.71	18.58	35.40	414	10967	4513
29	-2.80	100	68	15.71	15.71	20.65	37.05	449	12408	4877
30	-2.90	100	69	15.71	15.71	22.87	38.73	485	13941	5255
31	-3.00	100	70	15.71	15.71	25.24	40.43	523	15567	5647
32	-3.10	100	71	15.71	15.71	27.77	42.16	562	17286	6053
33	-3.20	100	72	15.71	15.71	30.47	43.91	602	19098	6473
34	-3.30	100	73	15.71	15.71	33.33	45.69	644	21005	6906
35	-3.40	100	74	15.71	15.71	36.37	47.49	686	23006	7354
36	-3.50	100	75	15.71	15.71	39.58	49.31	730	25102	7816
37	-3.60	100	76	15.71	15.71	42.98	51.16	775	27294	8291
38	-3.70	100	77	15.71	15.71	46.57	53.04	822	29581	8780
39	-3.80	100	78	15.71	15.71	50.35	54.93	869	31964	9284
40	-3.90	100	79	15.71	15.71	54.34	56.86	918	34444	9801
41	-4.00	100	80	15.71	15.71	58.52	58.80	968	37020	10331
42	-4.10	100	81	15.71	15.71	62.92	60.78	1019	39693	10876
43	-4.20	100	82	15.71	15.71	67.53	62.77	1071	42464	11433
44	-4.30	100	83	15.71	15.71	72.36	64.79	1124	45332	12005
45	-4.40	100	84	15.71	15.71	77.42	66.84	1178	48298	12590
46	-4.50	100	85	15.71	15.71	82.71	68.91	1233	51362	13189
47	-4.60	100	86	15.71	15.71	88.23	71.00	1290	54524	13800
48	-4.70	100	87	15.71	15.71	93.99	73.12	1347	57785	14426
49	-4.79	100	88	15.71	15.71	100.00	75.26	1409	61249	15086

Combinazione n° 22 - SLER

Tensione massima di compressione nel calcestruzzo	19920	[kPa]
Tensione massima di trazione dell'acciaio	359949	[kPa]

n°	Y	B	H	Afi	Afs	M	N	□c	□fi	□fs
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kPa]	[kPa]	[kPa]
1	0.00	100	40	15.71	15.71	0.00	0.00	0	0	0
2	-0.10	100	41	15.71	15.71	0.01	0.99	3	28	37
3	-0.20	100	42	15.71	15.71	0.05	2.01	6	48	81
4	-0.30	100	43	15.71	15.71	0.13	3.05	10	57	135
5	-0.40	100	44	15.71	15.71	0.24	4.12	15	56	197
6	-0.50	100	45	15.71	15.71	0.40	5.21	21	45	270
7	-0.60	100	46	15.71	15.71	0.61	6.32	27	18	353
8	-0.70	100	47	15.71	15.71	0.87	7.46	36	41	453
9	-0.80	100	48	15.71	15.71	1.19	8.63	46	147	570
10	-0.90	100	49	15.71	15.71	1.58	9.82	58	314	707
11	-1.00	100	50	15.71	15.71	2.04	11.03	73	556	863
12	-1.10	100	51	15.71	15.71	2.57	12.27	89	882	1037
13	-1.20	100	52	15.71	15.71	3.18	13.53	107	1294	1228
14	-1.30	100	53	15.71	15.71	3.87	14.82	127	1796	1435
15	-1.40	100	54	15.71	15.71	4.66	16.13	149	2387	1656
16	-1.50	100	55	15.71	15.71	5.54	17.46	172	3069	1894
17	-1.60	100	56	15.71	15.71	6.52	18.82	198	3842	2146
18	-1.70	100	57	15.71	15.71	7.61	20.21	224	4705	2413
19	-1.80	100	58	15.71	15.71	8.81	21.62	252	5660	2695
20	-1.90	100	59	15.71	15.71	10.12	23.05	282	6707	2991
21	-2.00	100	60	15.71	15.71	11.56	24.51	313	7846	3303
22	-2.10	100	61	15.71	15.71	13.12	25.99	346	9078	3629
23	-2.20	100	62	15.71	15.71	14.81	27.50	380	10404	3971
24	-2.30	100	63	15.71	15.71	16.64	29.03	415	11824	4327
25	-2.40	100	64	15.71	15.71	18.60	30.58	452	13338	4698
26	-2.50	100	65	15.71	15.71	20.72	32.16	490	14947	5084
27	-2.60	100	66	15.71	15.71	22.99	33.77	530	16652	5485

n°	Y	B	H	Afi	Afs	M	N	□c	□fi	□fs
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kPa]	[kPa]	[kPa]
28	-2.70	100	67	15.71	15.71	25.41	35.40	571	18453	5901
29	-2.80	100	68	15.71	15.71	28.00	37.05	613	20350	6332
30	-2.90	100	69	15.71	15.71	30.75	38.73	656	22343	6777
31	-3.00	100	70	15.71	15.71	33.67	40.43	701	24434	7237
32	-3.10	100	71	15.71	15.71	36.78	42.16	747	26622	7711
33	-3.20	100	72	15.71	15.71	40.06	43.91	794	28908	8200
34	-3.30	100	73	15.71	15.71	43.53	45.69	843	31292	8704
35	-3.40	100	74	15.71	15.71	47.20	47.49	892	33775	9222
36	-3.50	100	75	15.71	15.71	51.06	49.31	943	36356	9754
37	-3.60	100	76	15.71	15.71	55.12	51.16	995	39036	10301
38	-3.70	100	77	15.71	15.71	59.40	53.04	1049	41815	10862
39	-3.80	100	78	15.71	15.71	63.88	54.93	1103	44694	11437
40	-3.90	100	79	15.71	15.71	68.59	56.86	1159	47672	12026
41	-4.00	100	80	15.71	15.71	73.51	58.80	1215	50750	12629
42	-4.10	100	81	15.71	15.71	78.67	60.78	1273	53928	13245
43	-4.20	100	82	15.71	15.71	84.06	62.77	1332	57206	13876
44	-4.30	100	83	15.71	15.71	89.68	64.79	1392	60585	14520
45	-4.40	100	84	15.71	15.71	95.56	66.84	1453	64064	15178
46	-4.50	100	85	15.71	15.71	101.68	68.91	1515	67644	15849
47	-4.60	100	86	15.71	15.71	108.05	71.00	1578	71324	16534
48	-4.70	100	87	15.71	15.71	114.68	73.12	1642	75106	17233
49	-4.79	100	88	15.71	15.71	121.58	75.26	1710	79115	17971

Fondazione

Combinazione n° 19 - SLER

Tensione massima di compressione nel calcestruzzo 17430 [kPa]
Tensione massima di trazione dell'acciaio 359949 [kPa]

n°	Y	B	H	Afi	Afs	M	N	□c	□fi	□fs
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kPa]	[kPa]	[kPa]
1	-0.90	100	90	15.71	15.71	0.00	0.00	0	0	0
2	-0.80	100	90	15.71	15.71	0.46	0.00	6	377	58
3	-0.70	100	90	15.71	15.71	1.86	0.00	24	1508	232
4	-0.60	100	90	15.71	15.71	4.18	0.00	55	3395	523
5	-0.50	100	90	15.71	15.71	7.44	0.00	98	6039	930
6	-0.40	100	90	15.71	15.71	11.63	0.00	153	9439	1454
7	0.48	100	90	15.71	15.71	3.75	0.00	49	3039	468
8	0.58	100	90	15.71	15.71	3.68	0.00	48	2988	460
9	0.67	100	90	15.71	15.71	3.61	0.00	47	2926	451
10	0.77	100	90	15.71	15.71	3.52	0.00	46	2853	440
11	0.87	100	90	15.71	15.71	3.41	0.00	45	2771	427
12	0.97	100	90	15.71	15.71	3.30	0.00	43	2679	413
13	1.06	100	90	15.71	15.71	3.18	0.00	42	2580	398
14	1.16	100	90	15.71	15.71	3.05	0.00	40	2474	381
15	1.26	100	90	15.71	15.71	2.91	0.00	38	2362	364
16	1.36	100	90	15.71	15.71	2.76	0.00	36	2244	346
17	1.45	100	90	15.71	15.71	2.61	0.00	34	2121	327
18	1.55	100	90	15.71	15.71	2.46	0.00	32	1995	307
19	1.65	100	90	15.71	15.71	2.30	0.00	30	1866	288
20	1.75	100	90	15.71	15.71	2.14	0.00	28	1735	267
21	1.84	100	90	15.71	15.71	1.98	0.00	26	1603	247
22	1.94	100	90	15.71	15.71	1.81	0.00	24	1471	227
23	2.04	100	90	15.71	15.71	1.65	0.00	22	1339	206
24	2.14	100	90	15.71	15.71	1.49	0.00	20	1209	186
25	2.23	100	90	15.71	15.71	1.33	0.00	18	1081	167
26	2.33	100	90	15.71	15.71	1.18	0.00	15	956	147
27	2.43	100	90	15.71	15.71	1.03	0.00	14	835	129
28	2.53	100	90	15.71	15.71	0.89	0.00	12	719	111
29	2.62	100	90	15.71	15.71	0.75	0.00	10	608	94
30	2.72	100	90	15.71	15.71	0.62	0.00	8	504	78
31	2.82	100	90	15.71	15.71	0.50	0.00	7	407	63
32	2.92	100	90	15.71	15.71	0.39	0.00	5	319	49
33	3.01	100	90	15.71	15.71	0.29	0.00	4	239	37
34	3.11	100	90	15.71	15.71	0.21	0.00	3	170	26
35	3.21	100	90	15.71	15.71	0.14	0.00	2	111	17
36	3.31	100	90	15.71	15.71	0.08	0.00	1	64	10
37	3.40	100	90	15.71	15.71	0.04	0.00	0	29	4
38	3.50	100	90	15.71	15.71	0.01	0.00	0	7	1
39	3.60	100	90	15.71	15.71	0.00	0.00	0	0	0

Combinazione n° 22 - SLER

Tensione massima di compressione nel calcestruzzo 17430 [kPa]
Tensione massima di trazione dell'acciaio 359949 [kPa]

n°	Y	B	H	Afi	Afs	M	N	□c	□fi	□fs
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kPa]	[kPa]	[kPa]
1	-0.90	100	90	15.71	15.71	0.00	0.00	0	0	0
2	-0.80	100	90	15.71	15.71	0.51	0.00	7	412	63
3	-0.70	100	90	15.71	15.71	2.03	0.00	27	1647	254
4	-0.60	100	90	15.71	15.71	4.57	0.00	60	3706	571
5	-0.50	100	90	15.71	15.71	8.12	0.00	107	6589	1015
6	-0.40	100	90	15.71	15.71	12.69	0.00	167	10297	1587
7	0.48	100	90	15.71	15.71	-3.42	0.00	45	428	2778
8	0.58	100	90	15.71	15.71	-3.15	0.00	41	394	2560
9	0.67	100	90	15.71	15.71	-2.90	0.00	38	363	2354
10	0.77	100	90	15.71	15.71	-2.66	0.00	35	333	2158
11	0.87	100	90	15.71	15.71	-2.43	0.00	32	304	1973
12	0.97	100	90	15.71	15.71	-2.22	0.00	29	277	1799
13	1.06	100	90	15.71	15.71	-2.02	0.00	26	252	1635
14	1.16	100	90	15.71	15.71	-1.83	0.00	24	228	1481
15	1.26	100	90	15.71	15.71	-1.65	0.00	22	206	1337
16	1.36	100	90	15.71	15.71	-1.48	0.00	19	185	1202
17	1.45	100	90	15.71	15.71	-1.33	0.00	17	166	1076
18	1.55	100	90	15.71	15.71	-1.18	0.00	16	148	959
19	1.65	100	90	15.71	15.71	-1.05	0.00	14	131	850
20	1.75	100	90	15.71	15.71	-0.92	0.00	12	115	749
21	1.84	100	90	15.71	15.71	-0.81	0.00	11	101	657
22	1.94	100	90	15.71	15.71	-0.70	0.00	9	88	572
23	2.04	100	90	15.71	15.71	-0.61	0.00	8	76	494
24	2.14	100	90	15.71	15.71	-0.52	0.00	7	65	423
25	2.23	100	90	15.71	15.71	-0.44	0.00	6	55	359
26	2.33	100	90	15.71	15.71	-0.37	0.00	5	46	301
27	2.43	100	90	15.71	15.71	-0.31	0.00	4	38	250
28	2.53	100	90	15.71	15.71	-0.25	0.00	3	31	204
29	2.62	100	90	15.71	15.71	-0.20	0.00	3	25	164
30	2.72	100	90	15.71	15.71	-0.16	0.00	2	20	128
31	2.82	100	90	15.71	15.71	-0.12	0.00	2	15	98
32	2.92	100	90	15.71	15.71	-0.09	0.00	1	11	73
33	3.01	100	90	15.71	15.71	-0.06	0.00	1	8	52
34	3.11	100	90	15.71	15.71	-0.04	0.00	1	5	35
35	3.21	100	90	15.71	15.71	-0.03	0.00	0	3	21
36	3.31	100	90	15.71	15.71	-0.01	0.00	0	2	12
37	3.40	100	90	15.71	15.71	-0.01	0.00	0	1	5
38	3.50	100	90	15.71	15.71	0.00	0.00	0	0	1
39	3.60	100	90	15.71	15.71	0.00	0.00	0	0	0

Combinazioni SLEF

Paramento

Combinazione n° 20 - SLEF

Tensione massima di compressione nel calcestruzzo	33200	[kPa]
Tensione massima di trazione dell'acciaio	449936	[kPa]

n°	Y	B	H	Afi	Afs	M	N	□c	□fi	□fs
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kPa]	[kPa]	[kPa]
1	0.00	100	40	15.71	15.71	0.00	0.00	0	0	0
2	-0.10	100	41	15.71	15.71	0.00	0.99	2	32	34
3	-0.20	100	42	15.71	15.71	0.02	2.01	5	59	70
4	-0.30	100	43	15.71	15.71	0.05	3.05	8	82	110
5	-0.40	100	44	15.71	15.71	0.09	4.12	11	100	154
6	-0.50	100	45	15.71	15.71	0.17	5.21	15	110	204
7	-0.60	100	46	15.71	15.71	0.27	6.32	19	114	261
8	-0.70	100	47	15.71	15.71	0.41	7.46	24	109	324
9	-0.80	100	48	15.71	15.71	0.59	8.63	30	96	395
10	-0.90	100	49	15.71	15.71	0.82	9.82	36	74	474
11	-1.00	100	50	15.71	15.71	1.10	11.03	43	40	563
12	-1.10	100	51	15.71	15.71	1.43	12.27	51	20	665
13	-1.20	100	52	15.71	15.71	1.83	13.53	61	117	783
14	-1.30	100	53	15.71	15.71	2.29	14.82	73	262	919
15	-1.40	100	54	15.71	15.71	2.82	16.13	86	469	1073
16	-1.50	100	55	15.71	15.71	3.43	17.46	102	749	1246
17	-1.60	100	56	15.71	15.71	4.12	18.82	119	1111	1436
18	-1.70	100	57	15.71	15.71	4.90	20.21	138	1558	1643
19	-1.80	100	58	15.71	15.71	5.77	21.62	159	2093	1866
20	-1.90	100	59	15.71	15.71	6.74	23.05	181	2719	2104
21	-2.00	100	60	15.71	15.71	7.81	24.51	205	3434	2356
22	-2.10	100	61	15.71	15.71	8.98	25.99	231	4239	2623
23	-2.20	100	62	15.71	15.71	10.27	27.50	258	5134	2903
24	-2.30	100	63	15.71	15.71	11.68	29.03	286	6120	3197

n°	Y	B	H	Afi	Afs	M	N	□c	□fi	□fs
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kPa]	[kPa]	[kPa]
25	-2.40	100	64	15.71	15.71	13.21	30.58	316	7195	3505
26	-2.50	100	65	15.71	15.71	14.86	32.16	347	8361	3827
27	-2.60	100	66	15.71	15.71	16.65	33.77	380	9619	4163
28	-2.70	100	67	15.71	15.71	18.58	35.40	414	10967	4513
29	-2.80	100	68	15.71	15.71	20.65	37.05	449	12408	4877
30	-2.90	100	69	15.71	15.71	22.87	38.73	485	13941	5255
31	-3.00	100	70	15.71	15.71	25.24	40.43	523	15567	5647
32	-3.10	100	71	15.71	15.71	27.77	42.16	562	17286	6053
33	-3.20	100	72	15.71	15.71	30.47	43.91	602	19098	6473
34	-3.30	100	73	15.71	15.71	33.33	45.69	644	21005	6906
35	-3.40	100	74	15.71	15.71	36.37	47.49	686	23006	7354
36	-3.50	100	75	15.71	15.71	39.58	49.31	730	25102	7816
37	-3.60	100	76	15.71	15.71	42.98	51.16	775	27294	8291
38	-3.70	100	77	15.71	15.71	46.57	53.04	822	29581	8780
39	-3.80	100	78	15.71	15.71	50.35	54.93	869	31964	9284
40	-3.90	100	79	15.71	15.71	54.34	56.86	918	34444	9801
41	-4.00	100	80	15.71	15.71	58.52	58.80	968	37020	10331
42	-4.10	100	81	15.71	15.71	62.92	60.78	1019	39693	10876
43	-4.20	100	82	15.71	15.71	67.53	62.77	1071	42464	11433
44	-4.30	100	83	15.71	15.71	72.36	64.79	1124	45332	12005
45	-4.40	100	84	15.71	15.71	77.42	66.84	1178	48298	12590
46	-4.50	100	85	15.71	15.71	82.71	68.91	1233	51362	13189
47	-4.60	100	86	15.71	15.71	88.23	71.00	1290	54524	13800
48	-4.70	100	87	15.71	15.71	93.99	73.12	1347	57785	14426
49	-4.79	100	88	15.71	15.71	100.00	75.26	1409	61249	15086

Combinazione n° 23 - SLEF

Tensione massima di compressione nel calcestruzzo	33200	[kPa]
Tensione massima di trazione dell'acciaio	449936	[kPa]

n°	Y	B	H	Afi	Afs	M	N	□c	□fi	□fs
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kPa]	[kPa]	[kPa]
1	0.00	100	40	15.71	15.71	0.00	0.00	0	0	0
2	-0.10	100	41	15.71	15.71	0.01	0.99	2	31	34
3	-0.20	100	42	15.71	15.71	0.03	2.01	5	56	73
4	-0.30	100	43	15.71	15.71	0.07	3.05	8	76	116
5	-0.40	100	44	15.71	15.71	0.13	4.12	12	88	166
6	-0.50	100	45	15.71	15.71	0.23	5.21	16	93	222
7	-0.60	100	46	15.71	15.71	0.36	6.32	21	89	285
8	-0.70	100	47	15.71	15.71	0.54	7.46	27	77	356
9	-0.80	100	48	15.71	15.71	0.75	8.63	33	56	435
10	-0.90	100	49	15.71	15.71	1.02	9.82	41	16	526
11	-1.00	100	50	15.71	15.71	1.35	11.03	49	53	632
12	-1.10	100	51	15.71	15.71	1.74	12.27	60	165	754
13	-1.20	100	52	15.71	15.71	2.19	13.53	72	331	895
14	-1.30	100	53	15.71	15.71	2.71	14.82	86	565	1053
15	-1.40	100	54	15.71	15.71	3.31	16.13	102	876	1230
16	-1.50	100	55	15.71	15.71	4.00	17.46	120	1270	1424
17	-1.60	100	56	15.71	15.71	4.76	18.82	140	1751	1633
18	-1.70	100	57	15.71	15.71	5.62	20.21	161	2320	1858
19	-1.80	100	58	15.71	15.71	6.58	21.62	184	2977	2098
20	-1.90	100	59	15.71	15.71	7.64	23.05	209	3724	2351
21	-2.00	100	60	15.71	15.71	8.81	24.51	235	4560	2620
22	-2.10	100	61	15.71	15.71	10.09	25.99	262	5485	2902
23	-2.20	100	62	15.71	15.71	11.48	27.50	291	6500	3198
24	-2.30	100	63	15.71	15.71	13.00	29.03	321	7606	3509
25	-2.40	100	64	15.71	15.71	14.65	30.58	353	8802	3833
26	-2.50	100	65	15.71	15.71	16.43	32.16	386	10090	4172
27	-2.60	100	66	15.71	15.71	18.34	33.77	420	11469	4525
28	-2.70	100	67	15.71	15.71	20.40	35.40	456	12941	4892
29	-2.80	100	68	15.71	15.71	22.61	37.05	493	14505	5273
30	-2.90	100	69	15.71	15.71	24.97	38.73	531	16162	5669
31	-3.00	100	70	15.71	15.71	27.49	40.43	571	17914	6078
32	-3.10	100	71	15.71	15.71	30.17	42.16	612	19759	6502
33	-3.20	100	72	15.71	15.71	33.03	43.91	654	21699	6940
34	-3.30	100	73	15.71	15.71	36.05	45.69	697	23734	7392
35	-3.40	100	74	15.71	15.71	39.26	47.49	742	25865	7858
36	-3.50	100	75	15.71	15.71	42.64	49.31	787	28091	8338
37	-3.60	100	76	15.71	15.71	46.22	51.16	834	30413	8833
38	-3.70	100	77	15.71	15.71	49.99	53.04	883	32832	9341
39	-3.80	100	78	15.71	15.71	53.96	54.93	932	35348	9863
40	-3.90	100	79	15.71	15.71	58.14	56.86	982	37961	10399
41	-4.00	100	80	15.71	15.71	62.52	58.80	1034	40672	10949
42	-4.10	100	81	15.71	15.71	67.12	60.78	1087	43480	11512
43	-4.20	100	82	15.71	15.71	71.94	62.77	1140	46386	12089
44	-4.30	100	83	15.71	15.71	76.98	64.79	1195	49391	12680
45	-4.40	100	84	15.71	15.71	82.26	66.84	1251	52494	13284
46	-4.50	100	85	15.71	15.71	87.76	68.91	1309	55696	13902
47	-4.60	100	86	15.71	15.71	93.51	71.00	1367	58997	14533
48	-4.70	100	87	15.71	15.71	99.51	73.12	1426	62397	15178

n°	Y	B	H	Afi	Afs	M	N	□c	□fi	□fs
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kPa]	[kPa]	[kPa]
49	-4.79	100	88	15.71	15.71	105.75	75.26	1489	66006	15859

Fondazione

Combinazione n° 20 - SLEF

Tensione massima di compressione nel calcestruzzo 29050 [kPa]
Tensione massima di trazione dell'acciaio 449936 [kPa]

n°	Y	B	H	Afi	Afs	M	N	□c	□fi	□fs
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kPa]	[kPa]	[kPa]
1	-0.90	100	90	15.71	15.71	0.00	0.00	0	0	0
2	-0.80	100	90	15.71	15.71	0.46	0.00	6	377	58
3	-0.70	100	90	15.71	15.71	1.86	0.00	24	1508	232
4	-0.60	100	90	15.71	15.71	4.18	0.00	55	3395	523
5	-0.50	100	90	15.71	15.71	7.44	0.00	98	6039	930
6	-0.40	100	90	15.71	15.71	11.63	0.00	153	9439	1454
7	0.48	100	90	15.71	15.71	3.75	0.00	49	3039	468
8	0.58	100	90	15.71	15.71	3.68	0.00	48	2988	460
9	0.67	100	90	15.71	15.71	3.61	0.00	47	2926	451
10	0.77	100	90	15.71	15.71	3.52	0.00	46	2853	440
11	0.87	100	90	15.71	15.71	3.41	0.00	45	2771	427
12	0.97	100	90	15.71	15.71	3.30	0.00	43	2679	413
13	1.06	100	90	15.71	15.71	3.18	0.00	42	2580	398
14	1.16	100	90	15.71	15.71	3.05	0.00	40	2474	381
15	1.26	100	90	15.71	15.71	2.91	0.00	38	2362	364
16	1.36	100	90	15.71	15.71	2.76	0.00	36	2244	346
17	1.45	100	90	15.71	15.71	2.61	0.00	34	2121	327
18	1.55	100	90	15.71	15.71	2.46	0.00	32	1995	307
19	1.65	100	90	15.71	15.71	2.30	0.00	30	1866	288
20	1.75	100	90	15.71	15.71	2.14	0.00	28	1735	267
21	1.84	100	90	15.71	15.71	1.98	0.00	26	1603	247
22	1.94	100	90	15.71	15.71	1.81	0.00	24	1471	227
23	2.04	100	90	15.71	15.71	1.65	0.00	22	1339	206
24	2.14	100	90	15.71	15.71	1.49	0.00	20	1209	186
25	2.23	100	90	15.71	15.71	1.33	0.00	18	1081	167
26	2.33	100	90	15.71	15.71	1.18	0.00	15	956	147
27	2.43	100	90	15.71	15.71	1.03	0.00	14	835	129
28	2.53	100	90	15.71	15.71	0.89	0.00	12	719	111
29	2.62	100	90	15.71	15.71	0.75	0.00	10	608	94
30	2.72	100	90	15.71	15.71	0.62	0.00	8	504	78
31	2.82	100	90	15.71	15.71	0.50	0.00	7	407	63
32	2.92	100	90	15.71	15.71	0.39	0.00	5	319	49
33	3.01	100	90	15.71	15.71	0.29	0.00	4	239	37
34	3.11	100	90	15.71	15.71	0.21	0.00	3	170	26
35	3.21	100	90	15.71	15.71	0.14	0.00	2	111	17
36	3.31	100	90	15.71	15.71	0.08	0.00	1	64	10
37	3.40	100	90	15.71	15.71	0.04	0.00	0	29	4
38	3.50	100	90	15.71	15.71	0.01	0.00	0	7	1
39	3.60	100	90	15.71	15.71	0.00	0.00	0	0	0

Combinazione n° 23 - SLEF

Tensione massima di compressione nel calcestruzzo 29050 [kPa]
Tensione massima di trazione dell'acciaio 449936 [kPa]

n°	Y	B	H	Afi	Afs	M	N	□c	□fi	□fs
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kPa]	[kPa]	[kPa]
1	-0.90	100	90	15.71	15.71	0.00	0.00	0	0	0
2	-0.80	100	90	15.71	15.71	0.48	0.00	6	386	60
3	-0.70	100	90	15.71	15.71	1.90	0.00	25	1545	238
4	-0.60	100	90	15.71	15.71	4.29	0.00	56	3478	536
5	-0.50	100	90	15.71	15.71	7.62	0.00	100	6186	953
6	-0.40	100	90	15.71	15.71	11.91	0.00	157	9668	1490
7	0.48	100	90	15.71	15.71	1.83	0.00	24	1488	229
8	0.58	100	90	15.71	15.71	1.86	0.00	24	1509	232
9	0.67	100	90	15.71	15.71	1.87	0.00	25	1518	234
10	0.77	100	90	15.71	15.71	1.87	0.00	25	1517	234
11	0.87	100	90	15.71	15.71	1.86	0.00	24	1506	232
12	0.97	100	90	15.71	15.71	1.83	0.00	24	1485	229
13	1.06	100	90	15.71	15.71	1.79	0.00	24	1456	224
14	1.16	100	90	15.71	15.71	1.75	0.00	23	1419	219
15	1.26	100	90	15.71	15.71	1.69	0.00	22	1375	212
16	1.36	100	90	15.71	15.71	1.63	0.00	21	1325	204
17	1.45	100	90	15.71	15.71	1.56	0.00	21	1269	195
18	1.55	100	90	15.71	15.71	1.49	0.00	20	1208	186

n°	Y	B	H	Afi	Afs	M	N	□c	□fi	□fs
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kPa]	[kPa]	[kPa]
19	1.65	100	90	15.71	15.71	1.41	0.00	18	1142	176
20	1.75	100	90	15.71	15.71	1.32	0.00	17	1073	165
21	1.84	100	90	15.71	15.71	1.23	0.00	16	1001	154
22	1.94	100	90	15.71	15.71	1.14	0.00	15	926	143
23	2.04	100	90	15.71	15.71	1.05	0.00	14	851	131
24	2.14	100	90	15.71	15.71	0.95	0.00	13	774	119
25	2.23	100	90	15.71	15.71	0.86	0.00	11	697	107
26	2.33	100	90	15.71	15.71	0.76	0.00	10	621	96
27	2.43	100	90	15.71	15.71	0.67	0.00	9	546	84
28	2.53	100	90	15.71	15.71	0.58	0.00	8	473	73
29	2.62	100	90	15.71	15.71	0.50	0.00	7	402	62
30	2.72	100	90	15.71	15.71	0.41	0.00	5	335	52
31	2.82	100	90	15.71	15.71	0.34	0.00	4	272	42
32	2.92	100	90	15.71	15.71	0.26	0.00	3	214	33
33	3.01	100	90	15.71	15.71	0.20	0.00	3	162	25
34	3.11	100	90	15.71	15.71	0.14	0.00	2	115	18
35	3.21	100	90	15.71	15.71	0.09	0.00	1	76	12
36	3.31	100	90	15.71	15.71	0.05	0.00	1	44	7
37	3.40	100	90	15.71	15.71	0.02	0.00	0	20	3
38	3.50	100	90	15.71	15.71	0.01	0.00	0	5	1
39	3.60	100	90	15.71	15.71	0.00	0.00	0	0	0

Combinazioni SLEQ

Paramento

Combinazione n° 21 - SLEQ

Tensione massima di compressione nel calcestruzzo	14940	[kPa]
Tensione massima di trazione dell'acciaio	449936	[kPa]

n°	Y	B	H	Afi	Afs	M	N	□c	□fi	□fs
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kPa]	[kPa]	[kPa]
1	0.00	100	40	15.71	15.71	0.00	0.00	0	0	0
2	-0.10	100	41	15.71	15.71	0.00	0.99	2	32	34
3	-0.20	100	42	15.71	15.71	0.02	2.01	5	59	70
4	-0.30	100	43	15.71	15.71	0.05	3.05	8	82	110
5	-0.40	100	44	15.71	15.71	0.09	4.12	11	100	154
6	-0.50	100	45	15.71	15.71	0.17	5.21	15	110	204
7	-0.60	100	46	15.71	15.71	0.27	6.32	19	114	261
8	-0.70	100	47	15.71	15.71	0.41	7.46	24	109	324
9	-0.80	100	48	15.71	15.71	0.59	8.63	30	96	395
10	-0.90	100	49	15.71	15.71	0.82	9.82	36	74	474
11	-1.00	100	50	15.71	15.71	1.10	11.03	43	40	563
12	-1.10	100	51	15.71	15.71	1.43	12.27	51	20	665
13	-1.20	100	52	15.71	15.71	1.83	13.53	61	117	783
14	-1.30	100	53	15.71	15.71	2.29	14.82	73	262	919
15	-1.40	100	54	15.71	15.71	2.82	16.13	86	469	1073
16	-1.50	100	55	15.71	15.71	3.43	17.46	102	749	1246
17	-1.60	100	56	15.71	15.71	4.12	18.82	119	1111	1436
18	-1.70	100	57	15.71	15.71	4.90	20.21	138	1558	1643
19	-1.80	100	58	15.71	15.71	5.77	21.62	159	2093	1866
20	-1.90	100	59	15.71	15.71	6.74	23.05	181	2719	2104
21	-2.00	100	60	15.71	15.71	7.81	24.51	205	3434	2356
22	-2.10	100	61	15.71	15.71	8.98	25.99	231	4239	2623
23	-2.20	100	62	15.71	15.71	10.27	27.50	258	5134	2903
24	-2.30	100	63	15.71	15.71	11.68	29.03	286	6120	3197
25	-2.40	100	64	15.71	15.71	13.21	30.58	316	7195	3505
26	-2.50	100	65	15.71	15.71	14.86	32.16	347	8361	3827
27	-2.60	100	66	15.71	15.71	16.65	33.77	380	9619	4163
28	-2.70	100	67	15.71	15.71	18.58	35.40	414	10967	4513
29	-2.80	100	68	15.71	15.71	20.65	37.05	449	12408	4877
30	-2.90	100	69	15.71	15.71	22.87	38.73	485	13941	5255
31	-3.00	100	70	15.71	15.71	25.24	40.43	523	15567	5647
32	-3.10	100	71	15.71	15.71	27.77	42.16	562	17286	6053
33	-3.20	100	72	15.71	15.71	30.47	43.91	602	19098	6473
34	-3.30	100	73	15.71	15.71	33.33	45.69	644	21005	6906
35	-3.40	100	74	15.71	15.71	36.37	47.49	686	23006	7354
36	-3.50	100	75	15.71	15.71	39.58	49.31	730	25102	7816
37	-3.60	100	76	15.71	15.71	42.98	51.16	775	27294	8291
38	-3.70	100	77	15.71	15.71	46.57	53.04	822	29581	8780
39	-3.80	100	78	15.71	15.71	50.35	54.93	869	31964	9284
40	-3.90	100	79	15.71	15.71	54.34	56.86	918	34444	9801
41	-4.00	100	80	15.71	15.71	58.52	58.80	968	37020	10331
42	-4.10	100	81	15.71	15.71	62.92	60.78	1019	39693	10876
43	-4.20	100	82	15.71	15.71	67.53	62.77	1071	42464	11433
44	-4.30	100	83	15.71	15.71	72.36	64.79	1124	45332	12005

n°	Y	B	H	Afi	Afs	M	N	□c	□fi	□fs
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kPa]	[kPa]	[kPa]
45	-4.40	100	84	15.71	15.71	77.42	66.84	1178	48298	12590
46	-4.50	100	85	15.71	15.71	82.71	68.91	1233	51362	13189
47	-4.60	100	86	15.71	15.71	88.23	71.00	1290	54524	13800
48	-4.70	100	87	15.71	15.71	93.99	73.12	1347	57785	14426
49	-4.79	100	88	15.71	15.71	100.00	75.26	1409	61249	15086

Combinazione n° 24 - SLEQ

Tensione massima di compressione nel calcestruzzo 14940 [kPa]
Tensione massima di trazione dell'acciaio 449936 [kPa]

n°	Y	B	H	Afi	Afs	M	N	□c	□fi	□fs
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kPa]	[kPa]	[kPa]
1	0.00	100	40	15.71	15.71	0.00	0.00	0	0	0
2	-0.10	100	41	15.71	15.71	0.01	0.99	2	31	34
3	-0.20	100	42	15.71	15.71	0.03	2.01	5	56	73
4	-0.30	100	43	15.71	15.71	0.07	3.05	8	76	116
5	-0.40	100	44	15.71	15.71	0.13	4.12	12	88	166
6	-0.50	100	45	15.71	15.71	0.23	5.21	16	93	222
7	-0.60	100	46	15.71	15.71	0.36	6.32	21	89	285
8	-0.70	100	47	15.71	15.71	0.54	7.46	27	77	356
9	-0.80	100	48	15.71	15.71	0.75	8.63	33	56	435
10	-0.90	100	49	15.71	15.71	1.02	9.82	41	16	526
11	-1.00	100	50	15.71	15.71	1.35	11.03	49	53	632
12	-1.10	100	51	15.71	15.71	1.74	12.27	60	165	754
13	-1.20	100	52	15.71	15.71	2.19	13.53	72	331	895
14	-1.30	100	53	15.71	15.71	2.71	14.82	86	565	1053
15	-1.40	100	54	15.71	15.71	3.31	16.13	102	876	1230
16	-1.50	100	55	15.71	15.71	4.00	17.46	120	1270	1424
17	-1.60	100	56	15.71	15.71	4.76	18.82	140	1751	1633
18	-1.70	100	57	15.71	15.71	5.62	20.21	161	2320	1858
19	-1.80	100	58	15.71	15.71	6.58	21.62	184	2977	2098
20	-1.90	100	59	15.71	15.71	7.64	23.05	209	3724	2351
21	-2.00	100	60	15.71	15.71	8.81	24.51	235	4560	2620
22	-2.10	100	61	15.71	15.71	10.09	25.99	262	5485	2902
23	-2.20	100	62	15.71	15.71	11.48	27.50	291	6500	3198
24	-2.30	100	63	15.71	15.71	13.00	29.03	321	7606	3509
25	-2.40	100	64	15.71	15.71	14.65	30.58	353	8802	3833
26	-2.50	100	65	15.71	15.71	16.43	32.16	386	10090	4172
27	-2.60	100	66	15.71	15.71	18.34	33.77	420	11469	4525
28	-2.70	100	67	15.71	15.71	20.40	35.40	456	12941	4892
29	-2.80	100	68	15.71	15.71	22.61	37.05	493	14505	5273
30	-2.90	100	69	15.71	15.71	24.97	38.73	531	16162	5669
31	-3.00	100	70	15.71	15.71	27.49	40.43	571	17914	6078
32	-3.10	100	71	15.71	15.71	30.17	42.16	612	19759	6502
33	-3.20	100	72	15.71	15.71	33.03	43.91	654	21699	6940
34	-3.30	100	73	15.71	15.71	36.05	45.69	697	23734	7392
35	-3.40	100	74	15.71	15.71	39.26	47.49	742	25865	7858
36	-3.50	100	75	15.71	15.71	42.64	49.31	787	28091	8338
37	-3.60	100	76	15.71	15.71	46.22	51.16	834	30413	8833
38	-3.70	100	77	15.71	15.71	49.99	53.04	883	32832	9341
39	-3.80	100	78	15.71	15.71	53.96	54.93	932	35348	9863
40	-3.90	100	79	15.71	15.71	58.14	56.86	982	37961	10399
41	-4.00	100	80	15.71	15.71	62.52	58.80	1034	40672	10949
42	-4.10	100	81	15.71	15.71	67.12	60.78	1087	43480	11512
43	-4.20	100	82	15.71	15.71	71.94	62.77	1140	46386	12089
44	-4.30	100	83	15.71	15.71	76.98	64.79	1195	49391	12680
45	-4.40	100	84	15.71	15.71	82.26	66.84	1251	52494	13284
46	-4.50	100	85	15.71	15.71	87.76	68.91	1309	55696	13902
47	-4.60	100	86	15.71	15.71	93.51	71.00	1367	58997	14533
48	-4.70	100	87	15.71	15.71	99.51	73.12	1426	62397	15178
49	-4.79	100	88	15.71	15.71	105.75	75.26	1489	66006	15859

Combinazione n° 25 - SLEQ H + V

Tensione massima di compressione nel calcestruzzo 14940 [kPa]
Tensione massima di trazione dell'acciaio 449936 [kPa]

n°	Y	B	H	Afi	Afs	M	N	□c	□fi	□fs
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kPa]	[kPa]	[kPa]
1	0.00	100	40	15.71	15.71	0.00	0.00	0	0	0
2	-0.10	100	41	15.71	15.71	0.01	1.03	2	31	36
3	-0.20	100	42	15.71	15.71	0.03	2.09	5	57	77
4	-0.30	100	43	15.71	15.71	0.08	3.17	9	74	125
5	-0.40	100	44	15.71	15.71	0.17	4.27	13	83	180
6	-0.50	100	45	15.71	15.71	0.29	5.41	18	83	244
7	-0.60	100	46	15.71	15.71	0.45	6.56	24	72	316
8	-0.70	100	47	15.71	15.71	0.67	7.75	31	50	399

n°	Y	B	H	Afi	Afs	M	N	□c	□fi	□fs
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kPa]	[kPa]	[kPa]
9	-0.80	100	48	15.71	15.71	0.94	8.95	38	6	495
10	-0.90	100	49	15.71	15.71	1.28	10.19	48	76	610
11	-1.00	100	50	15.71	15.71	1.68	11.45	60	214	745
12	-1.10	100	51	15.71	15.71	2.16	12.73	74	426	902
13	-1.20	100	52	15.71	15.71	2.73	14.04	90	726	1081
14	-1.30	100	53	15.71	15.71	3.38	15.38	109	1124	1280
15	-1.40	100	54	15.71	15.71	4.13	16.74	130	1625	1498
16	-1.50	100	55	15.71	15.71	4.97	18.12	153	2233	1734
17	-1.60	100	56	15.71	15.71	5.93	19.53	177	2946	1988
18	-1.70	100	57	15.71	15.71	7.00	20.97	204	3767	2259
19	-1.80	100	58	15.71	15.71	8.19	22.43	233	4696	2547
20	-1.90	100	59	15.71	15.71	9.50	23.92	263	5732	2853
21	-2.00	100	60	15.71	15.71	10.95	25.43	296	6878	3175
22	-2.10	100	61	15.71	15.71	12.54	26.97	330	8134	3515
23	-2.20	100	62	15.71	15.71	14.28	28.53	365	9500	3872
24	-2.30	100	63	15.71	15.71	16.16	30.12	403	10978	4247
25	-2.40	100	64	15.71	15.71	18.21	31.74	442	12569	4639
26	-2.50	100	65	15.71	15.71	20.42	33.38	483	14272	5049
27	-2.60	100	66	15.71	15.71	22.80	35.04	525	16090	5477
28	-2.70	100	67	15.71	15.71	25.35	36.73	569	18022	5922
29	-2.80	100	68	15.71	15.71	28.09	38.45	615	20071	6384
30	-2.90	100	69	15.71	15.71	31.02	40.19	662	22235	6865
31	-3.00	100	70	15.71	15.71	34.15	41.96	711	24516	7363
32	-3.10	100	71	15.71	15.71	37.48	43.75	761	26915	7879
33	-3.20	100	72	15.71	15.71	41.02	45.57	813	29433	8412
34	-3.30	100	73	15.71	15.71	44.78	47.41	867	32069	8963
35	-3.40	100	74	15.71	15.71	48.75	49.28	922	34824	9532
36	-3.50	100	75	15.71	15.71	52.96	51.17	978	37700	10118
37	-3.60	100	76	15.71	15.71	57.40	53.09	1036	40696	10721
38	-3.70	100	77	15.71	15.71	62.07	55.03	1096	43812	11342
39	-3.80	100	78	15.71	15.71	67.00	57.00	1157	47050	11980
40	-3.90	100	79	15.71	15.71	72.18	59.00	1219	50410	12635
41	-4.00	100	80	15.71	15.71	77.62	61.02	1283	53891	13308
42	-4.10	100	81	15.71	15.71	83.33	63.07	1348	57495	13997
43	-4.20	100	82	15.71	15.71	89.31	65.14	1415	61222	14703
44	-4.30	100	83	15.71	15.71	95.56	67.24	1482	65072	15427
45	-4.40	100	84	15.71	15.71	102.10	69.36	1552	69046	16167
46	-4.50	100	85	15.71	15.71	108.94	71.51	1622	73143	16924
47	-4.60	100	86	15.71	15.71	116.07	73.68	1694	77364	17698
48	-4.70	100	87	15.71	15.71	123.50	75.88	1768	81709	18488
49	-4.79	100	88	15.71	15.71	131.25	78.10	1846	86316	19323

Combinazione n° 26 - SLEQ H - V

Tensione massima di compressione nel calcestruzzo 14940 [kPa]
Tensione massima di trazione dell'acciaio 449936 [kPa]

n°	Y	B	H	Afi	Afs	M	N	□c	□fi	□fs
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kPa]	[kPa]	[kPa]
1	0.00	100	40	15.71	15.71	0.00	0.00	0	0	0
2	-0.10	100	41	15.71	15.71	0.01	0.96	2	29	34
3	-0.20	100	42	15.71	15.71	0.03	1.93	5	52	72
4	-0.30	100	43	15.71	15.71	0.08	2.94	8	68	117
5	-0.40	100	44	15.71	15.71	0.16	3.96	12	76	169
6	-0.50	100	45	15.71	15.71	0.28	5.01	17	74	228
7	-0.60	100	46	15.71	15.71	0.43	6.09	23	63	297
8	-0.70	100	47	15.71	15.71	0.64	7.18	29	42	375
9	-0.80	100	48	15.71	15.71	0.90	8.30	36	4	467
10	-0.90	100	49	15.71	15.71	1.22	9.45	46	87	576
11	-1.00	100	50	15.71	15.71	1.60	10.61	57	226	705
12	-1.10	100	51	15.71	15.71	2.06	11.81	70	437	854
13	-1.20	100	52	15.71	15.71	2.59	13.02	86	733	1023
14	-1.30	100	53	15.71	15.71	3.21	14.26	104	1122	1211
15	-1.40	100	54	15.71	15.71	3.91	15.52	123	1609	1417
16	-1.50	100	55	15.71	15.71	4.72	16.80	145	2195	1640
17	-1.60	100	56	15.71	15.71	5.62	18.11	169	2881	1879
18	-1.70	100	57	15.71	15.71	6.63	19.45	194	3667	2134
19	-1.80	100	58	15.71	15.71	7.76	20.80	221	4555	2406
20	-1.90	100	59	15.71	15.71	9.00	22.18	250	5544	2693
21	-2.00	100	60	15.71	15.71	10.37	23.58	280	6636	2997
22	-2.10	100	61	15.71	15.71	11.87	25.01	312	7831	3317
23	-2.20	100	62	15.71	15.71	13.51	26.46	346	9130	3653
24	-2.30	100	63	15.71	15.71	15.29	27.93	381	10534	4005
25	-2.40	100	64	15.71	15.71	17.22	29.43	418	12044	4375
26	-2.50	100	65	15.71	15.71	19.31	30.95	457	13660	4760
27	-2.60	100	66	15.71	15.71	21.55	32.50	497	15384	5163
28	-2.70	100	67	15.71	15.71	23.97	34.06	538	17216	5582
29	-2.80	100	68	15.71	15.71	26.55	35.66	581	19156	6017
30	-2.90	100	69	15.71	15.71	29.32	37.27	626	21206	6470
31	-3.00	100	70	15.71	15.71	32.27	38.91	672	23367	6939
32	-3.10	100	71	15.71	15.71	35.41	40.57	719	25637	7424

n°	Y	B	H	Afi	Afs	M	N	□c	□fi	□fs
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kPa]	[kPa]	[kPa]
33	-3.20	100	72	15.71	15.71	38.75	42.26	768	28020	7926
34	-3.30	100	73	15.71	15.71	42.29	43.96	819	30514	8445
35	-3.40	100	74	15.71	15.71	46.04	45.70	871	33120	8980
36	-3.50	100	75	15.71	15.71	50.00	47.45	924	35839	9531
37	-3.60	100	76	15.71	15.71	54.19	49.23	978	38672	10099
38	-3.70	100	77	15.71	15.71	58.60	51.04	1034	41618	10683
39	-3.80	100	78	15.71	15.71	63.24	52.86	1092	44678	11284
40	-3.90	100	79	15.71	15.71	68.12	54.71	1150	47853	11900
41	-4.00	100	80	15.71	15.71	73.25	56.59	1211	51142	12533
42	-4.10	100	81	15.71	15.71	78.63	58.49	1272	54547	13182
43	-4.20	100	82	15.71	15.71	84.26	60.41	1335	58067	13847
44	-4.30	100	83	15.71	15.71	90.16	62.35	1398	61704	14527
45	-4.40	100	84	15.71	15.71	96.32	64.32	1464	65456	15224
46	-4.50	100	85	15.71	15.71	102.76	66.31	1530	69325	15936
47	-4.60	100	86	15.71	15.71	109.48	68.33	1598	73310	16664
48	-4.70	100	87	15.71	15.71	116.49	70.36	1667	77412	17408
49	-4.79	100	88	15.71	15.71	123.78	72.43	1740	81761	18193

Fondazione

Combinazione n° 21 - SLEQ

Tensione massima di compressione nel calcestruzzo 13073 [kPa]
Tensione massima di trazione dell'acciaio 449936 [kPa]

n°	Y	B	H	Afi	Afs	M	N	□c	□fi	□fs
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kPa]	[kPa]	[kPa]
1	-0.90	100	90	15.71	15.71	0.00	0.00	0	0	0
2	-0.80	100	90	15.71	15.71	0.46	0.00	6	377	58
3	-0.70	100	90	15.71	15.71	1.86	0.00	24	1508	232
4	-0.60	100	90	15.71	15.71	4.18	0.00	55	3395	523
5	-0.50	100	90	15.71	15.71	7.44	0.00	98	6039	930
6	-0.40	100	90	15.71	15.71	11.63	0.00	153	9439	1454
7	0.48	100	90	15.71	15.71	3.75	0.00	49	3039	468
8	0.58	100	90	15.71	15.71	3.68	0.00	48	2988	460
9	0.67	100	90	15.71	15.71	3.61	0.00	47	2926	451
10	0.77	100	90	15.71	15.71	3.52	0.00	46	2853	440
11	0.87	100	90	15.71	15.71	3.41	0.00	45	2771	427
12	0.97	100	90	15.71	15.71	3.30	0.00	43	2679	413
13	1.06	100	90	15.71	15.71	3.18	0.00	42	2580	398
14	1.16	100	90	15.71	15.71	3.05	0.00	40	2474	381
15	1.26	100	90	15.71	15.71	2.91	0.00	38	2362	364
16	1.36	100	90	15.71	15.71	2.76	0.00	36	2244	346
17	1.45	100	90	15.71	15.71	2.61	0.00	34	2121	327
18	1.55	100	90	15.71	15.71	2.46	0.00	32	1995	307
19	1.65	100	90	15.71	15.71	2.30	0.00	30	1866	288
20	1.75	100	90	15.71	15.71	2.14	0.00	28	1735	267
21	1.84	100	90	15.71	15.71	1.98	0.00	26	1603	247
22	1.94	100	90	15.71	15.71	1.81	0.00	24	1471	227
23	2.04	100	90	15.71	15.71	1.65	0.00	22	1339	206
24	2.14	100	90	15.71	15.71	1.49	0.00	20	1209	186
25	2.23	100	90	15.71	15.71	1.33	0.00	18	1081	167
26	2.33	100	90	15.71	15.71	1.18	0.00	15	956	147
27	2.43	100	90	15.71	15.71	1.03	0.00	14	835	129
28	2.53	100	90	15.71	15.71	0.89	0.00	12	719	111
29	2.62	100	90	15.71	15.71	0.75	0.00	10	608	94
30	2.72	100	90	15.71	15.71	0.62	0.00	8	504	78
31	2.82	100	90	15.71	15.71	0.50	0.00	7	407	63
32	2.92	100	90	15.71	15.71	0.39	0.00	5	319	49
33	3.01	100	90	15.71	15.71	0.29	0.00	4	239	37
34	3.11	100	90	15.71	15.71	0.21	0.00	3	170	26
35	3.21	100	90	15.71	15.71	0.14	0.00	2	111	17
36	3.31	100	90	15.71	15.71	0.08	0.00	1	64	10
37	3.40	100	90	15.71	15.71	0.04	0.00	0	29	4
38	3.50	100	90	15.71	15.71	0.01	0.00	0	7	1
39	3.60	100	90	15.71	15.71	0.00	0.00	0	0	0

Combinazione n° 24 - SLEQ

Tensione massima di compressione nel calcestruzzo 13073 [kPa]
Tensione massima di trazione dell'acciaio 449936 [kPa]

n°	Y	B	H	Afi	Afs	M	N	□c	□fi	□fs
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kPa]	[kPa]	[kPa]
1	-0.90	100	90	15.71	15.71	0.00	0.00	0	0	0
2	-0.80	100	90	15.71	15.71	0.48	0.00	6	386	60

n°	Y	B	H	Afi	Afs	M	N	□c	□fi	□fs
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kPa]	[kPa]	[kPa]
3	-0.70	100	90	15.71	15.71	1.90	0.00	25	1545	238
4	-0.60	100	90	15.71	15.71	4.29	0.00	56	3478	536
5	-0.50	100	90	15.71	15.71	7.62	0.00	100	6186	953
6	-0.40	100	90	15.71	15.71	11.91	0.00	157	9668	1490
7	0.48	100	90	15.71	15.71	1.83	0.00	24	1488	229
8	0.58	100	90	15.71	15.71	1.86	0.00	24	1509	232
9	0.67	100	90	15.71	15.71	1.87	0.00	25	1518	234
10	0.77	100	90	15.71	15.71	1.87	0.00	25	1517	234
11	0.87	100	90	15.71	15.71	1.86	0.00	24	1506	232
12	0.97	100	90	15.71	15.71	1.83	0.00	24	1485	229
13	1.06	100	90	15.71	15.71	1.79	0.00	24	1456	224
14	1.16	100	90	15.71	15.71	1.75	0.00	23	1419	219
15	1.26	100	90	15.71	15.71	1.69	0.00	22	1375	212
16	1.36	100	90	15.71	15.71	1.63	0.00	21	1325	204
17	1.45	100	90	15.71	15.71	1.56	0.00	21	1269	195
18	1.55	100	90	15.71	15.71	1.49	0.00	20	1208	186
19	1.65	100	90	15.71	15.71	1.41	0.00	18	1142	176
20	1.75	100	90	15.71	15.71	1.32	0.00	17	1073	165
21	1.84	100	90	15.71	15.71	1.23	0.00	16	1001	154
22	1.94	100	90	15.71	15.71	1.14	0.00	15	926	143
23	2.04	100	90	15.71	15.71	1.05	0.00	14	851	131
24	2.14	100	90	15.71	15.71	0.95	0.00	13	774	119
25	2.23	100	90	15.71	15.71	0.86	0.00	11	697	107
26	2.33	100	90	15.71	15.71	0.76	0.00	10	621	96
27	2.43	100	90	15.71	15.71	0.67	0.00	9	546	84
28	2.53	100	90	15.71	15.71	0.58	0.00	8	473	73
29	2.62	100	90	15.71	15.71	0.50	0.00	7	402	62
30	2.72	100	90	15.71	15.71	0.41	0.00	5	335	52
31	2.82	100	90	15.71	15.71	0.34	0.00	4	272	42
32	2.92	100	90	15.71	15.71	0.26	0.00	3	214	33
33	3.01	100	90	15.71	15.71	0.20	0.00	3	162	25
34	3.11	100	90	15.71	15.71	0.14	0.00	2	115	18
35	3.21	100	90	15.71	15.71	0.09	0.00	1	76	12
36	3.31	100	90	15.71	15.71	0.05	0.00	1	44	7
37	3.40	100	90	15.71	15.71	0.02	0.00	0	20	3
38	3.50	100	90	15.71	15.71	0.01	0.00	0	5	1
39	3.60	100	90	15.71	15.71	0.00	0.00	0	0	0

Combinazione n° 25 - SLEQ H + V

Tensione massima di compressione nel calcestruzzo	13073	[kPa]
Tensione massima di trazione dell'acciaio	449936	[kPa]

n°	Y	B	H	Afi	Afs	M	N	□c	□fi	□fs
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kPa]	[kPa]	[kPa]
1	-0.90	100	90	15.71	15.71	0.00	0.00	0	0	0
2	-0.80	100	90	15.71	15.71	0.66	0.00	9	535	83
3	-0.70	100	90	15.71	15.71	2.63	0.00	35	2134	329
4	-0.60	100	90	15.71	15.71	5.90	0.00	77	4785	737
5	-0.50	100	90	15.71	15.71	10.45	0.00	137	8477	1306
6	-0.40	100	90	15.71	15.71	16.26	0.00	214	13198	2034
7	0.48	100	90	15.71	15.71	-57.00	0.00	749	7128	46261
8	0.58	100	90	15.71	15.71	-55.56	0.00	730	6948	45091
9	0.67	100	90	15.71	15.71	-53.97	0.00	709	6749	43799
10	0.77	100	90	15.71	15.71	-52.24	0.00	686	6532	42395
11	0.87	100	90	15.71	15.71	-50.39	0.00	662	6300	40889
12	0.97	100	90	15.71	15.71	-48.42	0.00	636	6054	39293
13	1.06	100	90	15.71	15.71	-46.35	0.00	609	5796	37615
14	1.16	100	90	15.71	15.71	-44.20	0.00	581	5527	35868
15	1.26	100	90	15.71	15.71	-41.97	0.00	551	5248	34061
16	1.36	100	90	15.71	15.71	-39.68	0.00	521	4962	32204
17	1.45	100	90	15.71	15.71	-37.35	0.00	491	4670	30309
18	1.55	100	90	15.71	15.71	-34.98	0.00	460	4374	28386
19	1.65	100	90	15.71	15.71	-32.59	0.00	428	4075	26444
20	1.75	100	90	15.71	15.71	-30.19	0.00	397	3774	24496
21	1.84	100	90	15.71	15.71	-27.79	0.00	365	3475	22550
22	1.94	100	90	15.71	15.71	-25.41	0.00	334	3177	20619
23	2.04	100	90	15.71	15.71	-23.06	0.00	303	2883	18711
24	2.14	100	90	15.71	15.71	-20.75	0.00	273	2594	16838
25	2.23	100	90	15.71	15.71	-18.50	0.00	243	2313	15009
26	2.33	100	90	15.71	15.71	-16.31	0.00	214	2040	13237
27	2.43	100	90	15.71	15.71	-14.21	0.00	187	1777	11530
28	2.53	100	90	15.71	15.71	-12.20	0.00	160	1525	9899
29	2.62	100	90	15.71	15.71	-10.30	0.00	135	1287	8356
30	2.72	100	90	15.71	15.71	-8.51	0.00	112	1065	6909
31	2.82	100	90	15.71	15.71	-6.86	0.00	90	858	5571
32	2.92	100	90	15.71	15.71	-5.36	0.00	70	670	4351
33	3.01	100	90	15.71	15.71	-4.02	0.00	53	502	3259
34	3.11	100	90	15.71	15.71	-2.84	0.00	37	355	2307
35	3.21	100	90	15.71	15.71	-1.85	0.00	24	232	1504
36	3.31	100	90	15.71	15.71	-1.06	0.00	14	133	862

n°	Y	B	H	Afi	Afs	M	N	□c	□fi	□fs
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kPa]	[kPa]	[kPa]
37	3.40	100	90	15.71	15.71	-0.48	0.00	6	60	390
38	3.50	100	90	15.71	15.71	-0.12	0.00	2	15	99
39	3.60	100	90	15.71	15.71	0.00	0.00	0	0	0

Combinazione n° 26 - SLEQ_H - V

Tensione massima di compressione nel calcestruzzo 13073 [kPa]
Tensione massima di trazione dell'acciaio 449936 [kPa]

n°	Y	B	H	Afi	Afs	M	N	□c	□fi	□fs
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kPa]	[kPa]	[kPa]
1	-0.90	100	90	15.71	15.71	0.00	0.00	0	0	0
2	-0.80	100	90	15.71	15.71	0.62	0.00	8	500	77
3	-0.70	100	90	15.71	15.71	2.46	0.00	32	1994	307
4	-0.60	100	90	15.71	15.71	5.51	0.00	72	4470	689
5	-0.50	100	90	15.71	15.71	9.75	0.00	128	7916	1220
6	-0.40	100	90	15.71	15.71	15.18	0.00	199	12321	1898
7	0.48	100	90	15.71	15.71	-100.63	0.00	1322	12583	81664
8	0.58	100	90	15.71	15.71	-96.52	0.00	1268	12069	78328
9	0.67	100	90	15.71	15.71	-92.34	0.00	1213	11547	74937
10	0.77	100	90	15.71	15.71	-88.11	0.00	1158	11017	71501
11	0.87	100	90	15.71	15.71	-83.83	0.00	1101	10483	68032
12	0.97	100	90	15.71	15.71	-79.53	0.00	1045	9945	64540
13	1.06	100	90	15.71	15.71	-75.21	0.00	988	9405	61036
14	1.16	100	90	15.71	15.71	-70.89	0.00	931	8864	57529
15	1.26	100	90	15.71	15.71	-66.58	0.00	875	8325	54030
16	1.36	100	90	15.71	15.71	-62.29	0.00	818	7789	50551
17	1.45	100	90	15.71	15.71	-58.04	0.00	763	7258	47101
18	1.55	100	90	15.71	15.71	-53.84	0.00	707	6732	43691
19	1.65	100	90	15.71	15.71	-49.70	0.00	653	6214	40332
20	1.75	100	90	15.71	15.71	-45.63	0.00	600	5706	37033
21	1.84	100	90	15.71	15.71	-41.66	0.00	547	5209	33807
22	1.94	100	90	15.71	15.71	-37.78	0.00	496	4725	30663
23	2.04	100	90	15.71	15.71	-34.02	0.00	447	4254	27611
24	2.14	100	90	15.71	15.71	-30.39	0.00	399	3800	24663
25	2.23	100	90	15.71	15.71	-26.90	0.00	353	3363	21828
26	2.33	100	90	15.71	15.71	-23.56	0.00	310	2946	19118
27	2.43	100	90	15.71	15.71	-20.39	0.00	268	2549	16543
28	2.53	100	90	15.71	15.71	-17.39	0.00	229	2175	14113
29	2.62	100	90	15.71	15.71	-14.59	0.00	192	1824	11839
30	2.72	100	90	15.71	15.71	-11.99	0.00	158	1500	9732
31	2.82	100	90	15.71	15.71	-9.61	0.00	126	1202	7802
32	2.92	100	90	15.71	15.71	-7.47	0.00	98	934	6060
33	3.01	100	90	15.71	15.71	-5.56	0.00	73	696	4515
34	3.11	100	90	15.71	15.71	-3.92	0.00	51	490	3179
35	3.21	100	90	15.71	15.71	-2.54	0.00	33	318	2063
36	3.31	100	90	15.71	15.71	-1.45	0.00	19	181	1176
37	3.40	100	90	15.71	15.71	-0.65	0.00	9	82	530
38	3.50	100	90	15.71	15.71	-0.17	0.00	2	21	134
39	3.60	100	90	15.71	15.71	0.00	0.00	0	0	0

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]
□	deformazione espresso in %
Sm	spaziatura tra le fessure espressa in [mm]
w	apertura delle fessure espressa in [mm]

Combinazioni SLEF

Paramento

Combinazione n° 20 - SLEF

Apertura limite fessure w_{lim}=0.30

n°	Y [m]	B [cm]	H [cm]	Af [cmq]	Aeff [cmq]	M [kNm]	Mpf [kNm]	□ [%]	Sm [mm]	w [mm]
1	0.00	100	40	0.00	0.00	0.00	0.00	---	---	0.000
2	-0.10	100	41	15.71	1034.12	0.00	122.22	0.000000	0.00	0.000
3	-0.20	100	42	15.71	1061.73	0.02	128.23	0.000000	0.00	0.000
4	-0.30	100	43	15.71	1089.38	0.05	134.38	0.000000	0.00	0.000
5	-0.40	100	44	15.71	1117.07	0.09	140.66	0.000000	0.00	0.000
6	-0.50	100	45	15.71	1144.81	0.17	147.06	0.000000	0.00	0.000
7	-0.60	100	46	15.71	1172.59	0.27	153.61	0.000000	0.00	0.000
8	-0.70	100	47	15.71	1200.41	0.41	160.28	0.000000	0.00	0.000
9	-0.80	100	48	15.71	1228.27	0.59	167.09	0.000000	0.00	0.000
10	-0.90	100	49	15.71	1256.16	0.82	174.02	0.000000	0.00	0.000
11	-1.00	100	50	15.71	1284.09	1.10	181.10	0.000000	0.00	0.000
12	-1.10	100	51	15.71	1312.06	1.43	188.30	0.000000	0.00	0.000
13	-1.20	100	52	15.71	1340.05	1.83	195.63	0.000000	0.00	0.000
14	-1.30	100	53	15.71	1368.09	2.29	203.10	0.000000	0.00	0.000
15	-1.40	100	54	15.71	1396.15	2.82	210.70	0.000000	0.00	0.000
16	-1.50	100	55	15.71	1424.25	3.43	218.44	0.000000	0.00	0.000
17	-1.60	100	56	15.71	1452.37	4.12	226.29	0.000000	0.00	0.000
18	-1.70	100	57	15.71	1480.53	4.90	234.29	0.000000	0.00	0.000
19	-1.80	100	58	15.71	1500.00	5.77	242.42	0.000000	0.00	0.000
20	-1.90	100	59	15.71	1500.00	6.74	250.68	0.000000	0.00	0.000
21	-2.00	100	60	15.71	1500.00	7.81	259.07	0.000000	0.00	0.000
22	-2.10	100	61	15.71	1500.00	8.98	267.60	0.000000	0.00	0.000
23	-2.20	100	62	15.71	1500.00	10.27	276.25	0.000000	0.00	0.000
24	-2.30	100	63	15.71	1500.00	11.68	285.04	0.000000	0.00	0.000
25	-2.40	100	64	15.71	1500.00	13.21	293.97	0.000000	0.00	0.000
26	-2.50	100	65	15.71	1500.00	14.86	303.02	0.000000	0.00	0.000
27	-2.60	100	66	15.71	1500.00	16.65	312.22	0.000000	0.00	0.000
28	-2.70	100	67	15.71	1500.00	18.58	321.54	0.000000	0.00	0.000
29	-2.80	100	68	15.71	1500.00	20.65	330.98	0.000000	0.00	0.000
30	-2.90	100	69	15.71	1500.00	22.87	340.58	0.000000	0.00	0.000
31	-3.00	100	70	15.71	1500.00	25.24	350.30	0.000000	0.00	0.000
32	-3.10	100	71	15.71	1500.00	27.77	360.15	0.000000	0.00	0.000
33	-3.20	100	72	15.71	1500.00	30.47	370.14	0.000000	0.00	0.000
34	-3.30	100	73	15.71	1500.00	33.33	380.27	0.000000	0.00	0.000
35	-3.40	100	74	15.71	1500.00	36.37	390.50	0.000000	0.00	0.000
36	-3.50	100	75	15.71	1500.00	39.58	400.90	0.000000	0.00	0.000
37	-3.60	100	76	15.71	1500.00	42.98	411.43	0.000000	0.00	0.000
38	-3.70	100	77	15.71	1500.00	46.57	422.06	0.000000	0.00	0.000
39	-3.80	100	78	15.71	1500.00	50.35	432.86	0.000000	0.00	0.000
40	-3.90	100	79	15.71	1500.00	54.34	443.77	0.000000	0.00	0.000
41	-4.00	100	80	15.71	1500.00	58.52	454.84	0.000000	0.00	0.000
42	-4.10	100	81	15.71	1500.00	62.92	466.03	0.000000	0.00	0.000
43	-4.20	100	82	15.71	1500.00	67.53	477.35	0.000000	0.00	0.000
44	-4.30	100	83	15.71	1500.00	72.36	488.81	0.000000	0.00	0.000
45	-4.40	100	84	15.71	1500.00	77.42	500.41	0.000000	0.00	0.000
46	-4.50	100	85	15.71	1500.00	82.71	512.14	0.000000	0.00	0.000
47	-4.60	100	86	15.71	1500.00	88.23	524.02	0.000000	0.00	0.000
48	-4.70	100	87	15.71	1500.00	93.99	536.00	0.000000	0.00	0.000
49	-4.79	100	88	15.71	1500.00	100.00	546.95	0.000000	0.00	0.000

Combinazione n° 23 - SLEF

Apertura limite fessure w_{lim}=0.30

n°	Y	B	H	Af	Aeff	M	Mpf	□	Sm	w
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kNm]	[%]	[mm]	[mm]
1	0.00	100	40	0.00	0.00	0.00	0.00	---	---	0.000
2	-0.10	100	41	15.71	1034.12	0.01	122.22	0.000000	0.00	0.000
3	-0.20	100	42	15.71	1061.73	0.03	128.23	0.000000	0.00	0.000
4	-0.30	100	43	15.71	1089.38	0.07	134.38	0.000000	0.00	0.000
5	-0.40	100	44	15.71	1117.07	0.13	140.66	0.000000	0.00	0.000
6	-0.50	100	45	15.71	1144.81	0.23	147.06	0.000000	0.00	0.000
7	-0.60	100	46	15.71	1172.59	0.36	153.60	0.000000	0.00	0.000
8	-0.70	100	47	15.71	1200.41	0.54	160.28	0.000000	0.00	0.000
9	-0.80	100	48	15.71	1228.27	0.75	167.09	0.000000	0.00	0.000
10	-0.90	100	49	15.71	1256.16	1.02	174.02	0.000000	0.00	0.000
11	-1.00	100	50	15.71	1284.09	1.35	181.10	0.000000	0.00	0.000
12	-1.10	100	51	15.71	1312.06	1.74	188.30	0.000000	0.00	0.000
13	-1.20	100	52	15.71	1340.05	2.19	195.63	0.000000	0.00	0.000
14	-1.30	100	53	15.71	1368.09	2.71	203.10	0.000000	0.00	0.000
15	-1.40	100	54	15.71	1396.15	3.31	210.70	0.000000	0.00	0.000
16	-1.50	100	55	15.71	1424.25	4.00	218.43	0.000000	0.00	0.000
17	-1.60	100	56	15.71	1452.37	4.76	226.30	0.000000	0.00	0.000
18	-1.70	100	57	15.71	1480.53	5.62	234.29	0.000000	0.00	0.000
19	-1.80	100	58	15.71	1500.00	6.58	242.42	0.000000	0.00	0.000
20	-1.90	100	59	15.71	1500.00	7.64	250.68	0.000000	0.00	0.000
21	-2.00	100	60	15.71	1500.00	8.81	259.07	0.000000	0.00	0.000
22	-2.10	100	61	15.71	1500.00	10.09	267.59	0.000000	0.00	0.000
23	-2.20	100	62	15.71	1500.00	11.48	276.26	0.000000	0.00	0.000
24	-2.30	100	63	15.71	1500.00	13.00	285.04	0.000000	0.00	0.000
25	-2.40	100	64	15.71	1500.00	14.65	293.97	0.000000	0.00	0.000
26	-2.50	100	65	15.71	1500.00	16.43	303.03	0.000000	0.00	0.000
27	-2.60	100	66	15.71	1500.00	18.34	312.21	0.000000	0.00	0.000
28	-2.70	100	67	15.71	1500.00	20.40	321.54	0.000000	0.00	0.000
29	-2.80	100	68	15.71	1500.00	22.61	330.99	0.000000	0.00	0.000
30	-2.90	100	69	15.71	1500.00	24.97	340.57	0.000000	0.00	0.000
31	-3.00	100	70	15.71	1500.00	27.49	350.29	0.000000	0.00	0.000
32	-3.10	100	71	15.71	1500.00	30.17	360.16	0.000000	0.00	0.000
33	-3.20	100	72	15.71	1500.00	33.03	370.13	0.000000	0.00	0.000
34	-3.30	100	73	15.71	1500.00	36.05	380.25	0.000000	0.00	0.000
35	-3.40	100	74	15.71	1500.00	39.26	390.52	0.000000	0.00	0.000
36	-3.50	100	75	15.71	1500.00	42.64	400.90	0.000000	0.00	0.000
37	-3.60	100	76	15.71	1500.00	46.22	411.41	0.000000	0.00	0.000
38	-3.70	100	77	15.71	1500.00	49.99	422.08	0.000000	0.00	0.000
39	-3.80	100	78	15.71	1500.00	53.96	432.86	0.000000	0.00	0.000
40	-3.90	100	79	15.71	1500.00	58.14	443.78	0.000000	0.00	0.000
41	-4.00	100	80	15.71	1500.00	62.52	454.83	0.000000	0.00	0.000
42	-4.10	100	81	15.71	1500.00	67.12	466.04	0.000000	0.00	0.000
43	-4.20	100	82	15.71	1500.00	71.94	477.35	0.000000	0.00	0.000
44	-4.30	100	83	15.71	1500.00	76.98	488.83	0.000000	0.00	0.000
45	-4.40	100	84	15.71	1500.00	82.26	500.42	0.000000	0.00	0.000
46	-4.50	100	85	15.71	1500.00	87.76	512.14	0.000000	0.00	0.000
47	-4.60	100	86	15.71	1500.00	93.51	524.02	0.000000	0.00	0.000
48	-4.70	100	87	15.71	1500.00	99.51	536.01	0.000000	0.00	0.000
49	-4.79	100	88	15.71	1500.00	105.75	546.94	0.000000	0.00	0.000

Fondazione

Combinazione n° 20 - SLEF

Apertura limite fessure w_{lim}=0.40

n°	Y	B	H	Af	Aeff	M	Mpf	□	Sm	w
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kNm]	[%]	[mm]	[mm]
1	-0.90	100	90	0.00	0.00	0.00	0.00	---	---	0.000
2	-0.80	100	90	15.71	1500.00	0.46	513.45	0.000000	0.00	0.000
3	-0.70	100	90	15.71	1500.00	1.86	513.45	0.000000	0.00	0.000
4	-0.60	100	90	15.71	1500.00	4.18	513.45	0.000000	0.00	0.000
5	-0.50	100	90	15.71	1500.00	7.44	513.45	0.000000	0.00	0.000
6	-0.40	100	90	15.71	1500.00	11.63	513.45	0.000000	0.00	0.000
7	0.48	100	90	15.71	1500.00	3.75	513.45	0.000000	0.00	0.000
8	0.58	100	90	15.71	1500.00	3.68	513.45	0.000000	0.00	0.000
9	0.67	100	90	15.71	1500.00	3.61	513.45	0.000000	0.00	0.000
10	0.77	100	90	15.71	1500.00	3.52	513.45	0.000000	0.00	0.000
11	0.87	100	90	15.71	1500.00	3.41	513.45	0.000000	0.00	0.000
12	0.97	100	90	15.71	1500.00	3.30	513.45	0.000000	0.00	0.000
13	1.06	100	90	15.71	1500.00	3.18	513.45	0.000000	0.00	0.000
14	1.16	100	90	15.71	1500.00	3.05	513.45	0.000000	0.00	0.000
15	1.26	100	90	15.71	1500.00	2.91	513.45	0.000000	0.00	0.000
16	1.36	100	90	15.71	1500.00	2.76	513.45	0.000000	0.00	0.000
17	1.45	100	90	15.71	1500.00	2.61	513.45	0.000000	0.00	0.000
18	1.55	100	90	15.71	1500.00	2.46	513.45	0.000000	0.00	0.000
19	1.65	100	90	15.71	1500.00	2.30	513.45	0.000000	0.00	0.000
20	1.75	100	90	15.71	1500.00	2.14	513.45	0.000000	0.00	0.000
21	1.84	100	90	15.71	1500.00	1.98	513.45	0.000000	0.00	0.000
22	1.94	100	90	15.71	1500.00	1.81	513.45	0.000000	0.00	0.000

n°	Y	B	H	Af	Aeff	M	Mpf	□	Sm	w
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kNm]	[%]	[mm]	[mm]
23	2.04	100	90	15.71	1500.00	1.65	513.45	0.000000	0.00	0.000
24	2.14	100	90	15.71	1500.00	1.49	513.45	0.000000	0.00	0.000
25	2.23	100	90	15.71	1500.00	1.33	513.45	0.000000	0.00	0.000
26	2.33	100	90	15.71	1500.00	1.18	513.45	0.000000	0.00	0.000
27	2.43	100	90	15.71	1500.00	1.03	513.45	0.000000	0.00	0.000
28	2.53	100	90	15.71	1500.00	0.89	513.45	0.000000	0.00	0.000
29	2.62	100	90	15.71	1500.00	0.75	513.45	0.000000	0.00	0.000
30	2.72	100	90	15.71	1500.00	0.62	513.45	0.000000	0.00	0.000
31	2.82	100	90	15.71	1500.00	0.50	513.45	0.000000	0.00	0.000
32	2.92	100	90	15.71	1500.00	0.39	513.45	0.000000	0.00	0.000
33	3.01	100	90	15.71	1500.00	0.29	513.45	0.000000	0.00	0.000
34	3.11	100	90	15.71	1500.00	0.21	513.45	0.000000	0.00	0.000
35	3.21	100	90	15.71	1500.00	0.14	513.45	0.000000	0.00	0.000
36	3.31	100	90	15.71	1500.00	0.08	513.45	0.000000	0.00	0.000
37	3.40	100	90	15.71	1500.00	0.04	513.45	0.000000	0.00	0.000
38	3.50	100	90	15.71	1500.00	0.01	513.45	0.000000	0.00	0.000
39	3.60	100	90	0.00	0.00	0.00	0.00	---	---	0.000

Combinazione n° 23 - SLEF

Apertura limite fessure w_{lim}=0.40

n°	Y	B	H	Af	Aeff	M	Mpf	□	Sm	w
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kNm]	[%]	[mm]	[mm]
1	-0.90	100	90	0.00	0.00	0.00	0.00	---	---	0.000
2	-0.80	100	90	15.71	1500.00	0.48	513.45	0.000000	0.00	0.000
3	-0.70	100	90	15.71	1500.00	1.90	513.45	0.000000	0.00	0.000
4	-0.60	100	90	15.71	1500.00	4.29	513.45	0.000000	0.00	0.000
5	-0.50	100	90	15.71	1500.00	7.62	513.45	0.000000	0.00	0.000
6	-0.40	100	90	15.71	1500.00	11.91	513.45	0.000000	0.00	0.000
7	0.48	100	90	15.71	1500.00	1.83	513.45	0.000000	0.00	0.000
8	0.58	100	90	15.71	1500.00	1.86	513.45	0.000000	0.00	0.000
9	0.67	100	90	15.71	1500.00	1.87	513.45	0.000000	0.00	0.000
10	0.77	100	90	15.71	1500.00	1.87	513.45	0.000000	0.00	0.000
11	0.87	100	90	15.71	1500.00	1.86	513.45	0.000000	0.00	0.000
12	0.97	100	90	15.71	1500.00	1.83	513.45	0.000000	0.00	0.000
13	1.06	100	90	15.71	1500.00	1.79	513.45	0.000000	0.00	0.000
14	1.16	100	90	15.71	1500.00	1.75	513.45	0.000000	0.00	0.000
15	1.26	100	90	15.71	1500.00	1.69	513.45	0.000000	0.00	0.000
16	1.36	100	90	15.71	1500.00	1.63	513.45	0.000000	0.00	0.000
17	1.45	100	90	15.71	1500.00	1.56	513.45	0.000000	0.00	0.000
18	1.55	100	90	15.71	1500.00	1.49	513.45	0.000000	0.00	0.000
19	1.65	100	90	15.71	1500.00	1.41	513.45	0.000000	0.00	0.000
20	1.75	100	90	15.71	1500.00	1.32	513.45	0.000000	0.00	0.000
21	1.84	100	90	15.71	1500.00	1.23	513.45	0.000000	0.00	0.000
22	1.94	100	90	15.71	1500.00	1.14	513.45	0.000000	0.00	0.000
23	2.04	100	90	15.71	1500.00	1.05	513.45	0.000000	0.00	0.000
24	2.14	100	90	15.71	1500.00	0.95	513.45	0.000000	0.00	0.000
25	2.23	100	90	15.71	1500.00	0.86	513.45	0.000000	0.00	0.000
26	2.33	100	90	15.71	1500.00	0.76	513.45	0.000000	0.00	0.000
27	2.43	100	90	15.71	1500.00	0.67	513.45	0.000000	0.00	0.000
28	2.53	100	90	15.71	1500.00	0.58	513.45	0.000000	0.00	0.000
29	2.62	100	90	15.71	1500.00	0.50	513.45	0.000000	0.00	0.000
30	2.72	100	90	15.71	1500.00	0.41	513.45	0.000000	0.00	0.000
31	2.82	100	90	15.71	1500.00	0.34	513.45	0.000000	0.00	0.000
32	2.92	100	90	15.71	1500.00	0.26	513.45	0.000000	0.00	0.000
33	3.01	100	90	15.71	1500.00	0.20	513.45	0.000000	0.00	0.000
34	3.11	100	90	15.71	1500.00	0.14	513.45	0.000000	0.00	0.000
35	3.21	100	90	15.71	1500.00	0.09	513.45	0.000000	0.00	0.000
36	3.31	100	90	15.71	1500.00	0.05	513.45	0.000000	0.00	0.000
37	3.40	100	90	15.71	1500.00	0.02	513.45	0.000000	0.00	0.000
38	3.50	100	90	15.71	1500.00	0.01	513.45	0.000000	0.00	0.000
39	3.60	100	90	0.00	0.00	0.00	0.00	---	---	0.000

Combinazioni SLEQ

Paramento

Combinazione n° 21 - SLEQ

Apertura limite fessure w_{lim}=0.20

n°	Y	B	H	Af	Aeff	M	Mpf	□	Sm	w
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kNm]	[%]	[mm]	[mm]
1	0.00	100	40	0.00	0.00	0.00	0.00	---	---	0.000
2	-0.10	100	41	15.71	1034.12	0.00	122.22	0.000000	0.00	0.000
3	-0.20	100	42	15.71	1061.73	0.02	128.23	0.000000	0.00	0.000

n°	Y	B	H	Af	Aeff	M	Mpf	□	Sm	w
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kNm]	[%]	[mm]	[mm]
4	-0.30	100	43	15.71	1089.38	0.05	134.38	0.000000	0.00	0.000
5	-0.40	100	44	15.71	1117.07	0.09	140.66	0.000000	0.00	0.000
6	-0.50	100	45	15.71	1144.81	0.17	147.06	0.000000	0.00	0.000
7	-0.60	100	46	15.71	1172.59	0.27	153.61	0.000000	0.00	0.000
8	-0.70	100	47	15.71	1200.41	0.41	160.28	0.000000	0.00	0.000
9	-0.80	100	48	15.71	1228.27	0.59	167.09	0.000000	0.00	0.000
10	-0.90	100	49	15.71	1256.16	0.82	174.02	0.000000	0.00	0.000
11	-1.00	100	50	15.71	1284.09	1.10	181.10	0.000000	0.00	0.000
12	-1.10	100	51	15.71	1312.06	1.43	188.30	0.000000	0.00	0.000
13	-1.20	100	52	15.71	1340.05	1.83	195.63	0.000000	0.00	0.000
14	-1.30	100	53	15.71	1368.09	2.29	203.10	0.000000	0.00	0.000
15	-1.40	100	54	15.71	1396.15	2.82	210.70	0.000000	0.00	0.000
16	-1.50	100	55	15.71	1424.25	3.43	218.44	0.000000	0.00	0.000
17	-1.60	100	56	15.71	1452.37	4.12	226.29	0.000000	0.00	0.000
18	-1.70	100	57	15.71	1480.53	4.90	234.29	0.000000	0.00	0.000
19	-1.80	100	58	15.71	1500.00	5.77	242.42	0.000000	0.00	0.000
20	-1.90	100	59	15.71	1500.00	6.74	250.68	0.000000	0.00	0.000
21	-2.00	100	60	15.71	1500.00	7.81	259.07	0.000000	0.00	0.000
22	-2.10	100	61	15.71	1500.00	8.98	267.60	0.000000	0.00	0.000
23	-2.20	100	62	15.71	1500.00	10.27	276.25	0.000000	0.00	0.000
24	-2.30	100	63	15.71	1500.00	11.68	285.04	0.000000	0.00	0.000
25	-2.40	100	64	15.71	1500.00	13.21	293.97	0.000000	0.00	0.000
26	-2.50	100	65	15.71	1500.00	14.86	303.02	0.000000	0.00	0.000
27	-2.60	100	66	15.71	1500.00	16.65	312.22	0.000000	0.00	0.000
28	-2.70	100	67	15.71	1500.00	18.58	321.54	0.000000	0.00	0.000
29	-2.80	100	68	15.71	1500.00	20.65	330.98	0.000000	0.00	0.000
30	-2.90	100	69	15.71	1500.00	22.87	340.58	0.000000	0.00	0.000
31	-3.00	100	70	15.71	1500.00	25.24	350.30	0.000000	0.00	0.000
32	-3.10	100	71	15.71	1500.00	27.77	360.15	0.000000	0.00	0.000
33	-3.20	100	72	15.71	1500.00	30.47	370.14	0.000000	0.00	0.000
34	-3.30	100	73	15.71	1500.00	33.33	380.27	0.000000	0.00	0.000
35	-3.40	100	74	15.71	1500.00	36.37	390.50	0.000000	0.00	0.000
36	-3.50	100	75	15.71	1500.00	39.58	400.90	0.000000	0.00	0.000
37	-3.60	100	76	15.71	1500.00	42.98	411.43	0.000000	0.00	0.000
38	-3.70	100	77	15.71	1500.00	46.57	422.06	0.000000	0.00	0.000
39	-3.80	100	78	15.71	1500.00	50.35	432.86	0.000000	0.00	0.000
40	-3.90	100	79	15.71	1500.00	54.34	443.77	0.000000	0.00	0.000
41	-4.00	100	80	15.71	1500.00	58.52	454.84	0.000000	0.00	0.000
42	-4.10	100	81	15.71	1500.00	62.92	466.03	0.000000	0.00	0.000
43	-4.20	100	82	15.71	1500.00	67.53	477.35	0.000000	0.00	0.000
44	-4.30	100	83	15.71	1500.00	72.36	488.81	0.000000	0.00	0.000
45	-4.40	100	84	15.71	1500.00	77.42	500.41	0.000000	0.00	0.000
46	-4.50	100	85	15.71	1500.00	82.71	512.14	0.000000	0.00	0.000
47	-4.60	100	86	15.71	1500.00	88.23	524.02	0.000000	0.00	0.000
48	-4.70	100	87	15.71	1500.00	93.99	536.00	0.000000	0.00	0.000
49	-4.79	100	88	15.71	1500.00	100.00	546.95	0.000000	0.00	0.000

Combinazione n° 24 - SLEQ

Apertura limite fessure w_{lim}=0.20

n°	Y	B	H	Af	Aeff	M	Mpf	□	Sm	w
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kNm]	[%]	[mm]	[mm]
1	0.00	100	40	0.00	0.00	0.00	0.00	---	---	0.000
2	-0.10	100	41	15.71	1034.12	0.01	122.22	0.000000	0.00	0.000
3	-0.20	100	42	15.71	1061.73	0.03	128.23	0.000000	0.00	0.000
4	-0.30	100	43	15.71	1089.38	0.07	134.38	0.000000	0.00	0.000
5	-0.40	100	44	15.71	1117.07	0.13	140.66	0.000000	0.00	0.000
6	-0.50	100	45	15.71	1144.81	0.23	147.06	0.000000	0.00	0.000
7	-0.60	100	46	15.71	1172.59	0.36	153.60	0.000000	0.00	0.000
8	-0.70	100	47	15.71	1200.41	0.54	160.28	0.000000	0.00	0.000
9	-0.80	100	48	15.71	1228.27	0.75	167.09	0.000000	0.00	0.000
10	-0.90	100	49	15.71	1256.16	1.02	174.02	0.000000	0.00	0.000
11	-1.00	100	50	15.71	1284.09	1.35	181.10	0.000000	0.00	0.000
12	-1.10	100	51	15.71	1312.06	1.74	188.30	0.000000	0.00	0.000
13	-1.20	100	52	15.71	1340.05	2.19	195.63	0.000000	0.00	0.000
14	-1.30	100	53	15.71	1368.09	2.71	203.10	0.000000	0.00	0.000
15	-1.40	100	54	15.71	1396.15	3.31	210.70	0.000000	0.00	0.000
16	-1.50	100	55	15.71	1424.25	4.00	218.43	0.000000	0.00	0.000
17	-1.60	100	56	15.71	1452.37	4.76	226.30	0.000000	0.00	0.000
18	-1.70	100	57	15.71	1480.53	5.62	234.29	0.000000	0.00	0.000
19	-1.80	100	58	15.71	1500.00	6.58	242.42	0.000000	0.00	0.000
20	-1.90	100	59	15.71	1500.00	7.64	250.68	0.000000	0.00	0.000
21	-2.00	100	60	15.71	1500.00	8.81	259.07	0.000000	0.00	0.000
22	-2.10	100	61	15.71	1500.00	10.09	267.59	0.000000	0.00	0.000
23	-2.20	100	62	15.71	1500.00	11.48	276.26	0.000000	0.00	0.000
24	-2.30	100	63	15.71	1500.00	13.00	285.04	0.000000	0.00	0.000
25	-2.40	100	64	15.71	1500.00	14.65	293.97	0.000000	0.00	0.000
26	-2.50	100	65	15.71	1500.00	16.43	303.03	0.000000	0.00	0.000
27	-2.60	100	66	15.71	1500.00	18.34	312.21	0.000000	0.00	0.000
28	-2.70	100	67	15.71	1500.00	20.40	321.54	0.000000	0.00	0.000
29	-2.80	100	68	15.71	1500.00	22.61	330.99	0.000000	0.00	0.000

n°	Y	B	H	Af	Aeff	M	Mpf	□	Sm	w
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kNm]	[%]	[mm]	[mm]
30	-2.90	100	69	15.71	1500.00	24.97	340.57	0.000000	0.00	0.000
31	-3.00	100	70	15.71	1500.00	27.49	350.29	0.000000	0.00	0.000
32	-3.10	100	71	15.71	1500.00	30.17	360.16	0.000000	0.00	0.000
33	-3.20	100	72	15.71	1500.00	33.03	370.13	0.000000	0.00	0.000
34	-3.30	100	73	15.71	1500.00	36.05	380.25	0.000000	0.00	0.000
35	-3.40	100	74	15.71	1500.00	39.26	390.52	0.000000	0.00	0.000
36	-3.50	100	75	15.71	1500.00	42.64	400.90	0.000000	0.00	0.000
37	-3.60	100	76	15.71	1500.00	46.22	411.41	0.000000	0.00	0.000
38	-3.70	100	77	15.71	1500.00	49.99	422.08	0.000000	0.00	0.000
39	-3.80	100	78	15.71	1500.00	53.96	432.86	0.000000	0.00	0.000
40	-3.90	100	79	15.71	1500.00	58.14	443.78	0.000000	0.00	0.000
41	-4.00	100	80	15.71	1500.00	62.52	454.83	0.000000	0.00	0.000
42	-4.10	100	81	15.71	1500.00	67.12	466.04	0.000000	0.00	0.000
43	-4.20	100	82	15.71	1500.00	71.94	477.35	0.000000	0.00	0.000
44	-4.30	100	83	15.71	1500.00	76.98	488.83	0.000000	0.00	0.000
45	-4.40	100	84	15.71	1500.00	82.26	500.42	0.000000	0.00	0.000
46	-4.50	100	85	15.71	1500.00	87.76	512.14	0.000000	0.00	0.000
47	-4.60	100	86	15.71	1500.00	93.51	524.02	0.000000	0.00	0.000
48	-4.70	100	87	15.71	1500.00	99.51	536.01	0.000000	0.00	0.000
49	-4.79	100	88	15.71	1500.00	105.75	546.94	0.000000	0.00	0.000

Combinazione n° 25 - SLEQ H + V

Apertura limite fessure w_{lim}=0.20

n°	Y	B	H	Af	Aeff	M	Mpf	□	Sm	w
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kNm]	[%]	[mm]	[mm]
1	0.00	100	40	0.00	0.00	0.00	0.00	---	---	0.000
2	-0.10	100	41	15.71	1034.11	0.01	122.22	0.000000	0.00	0.000
3	-0.20	100	42	15.71	1061.70	0.03	128.24	0.000000	0.00	0.000
4	-0.30	100	43	15.71	1089.34	0.08	134.38	0.000000	0.00	0.000
5	-0.40	100	44	15.71	1117.02	0.17	140.66	0.000000	0.00	0.000
6	-0.50	100	45	15.71	1144.74	0.29	147.08	0.000000	0.00	0.000
7	-0.60	100	46	15.71	1172.51	0.45	153.63	0.000000	0.00	0.000
8	-0.70	100	47	15.71	1200.31	0.67	160.30	0.000000	0.00	0.000
9	-0.80	100	48	15.71	1228.15	0.94	167.11	0.000000	0.00	0.000
10	-0.90	100	49	15.71	1256.03	1.28	174.06	0.000000	0.00	0.000
11	-1.00	100	50	15.71	1283.94	1.68	181.14	0.000000	0.00	0.000
12	-1.10	100	51	15.71	1311.89	2.16	188.34	0.000000	0.00	0.000
13	-1.20	100	52	15.71	1339.87	2.73	195.68	0.000000	0.00	0.000
14	-1.30	100	53	15.71	1367.89	3.38	203.15	0.000000	0.00	0.000
15	-1.40	100	54	15.71	1395.93	4.13	210.76	0.000000	0.00	0.000
16	-1.50	100	55	15.71	1424.01	4.97	218.50	0.000000	0.00	0.000
17	-1.60	100	56	15.71	1452.12	5.93	226.37	0.000000	0.00	0.000
18	-1.70	100	57	15.71	1480.26	7.00	234.36	0.000000	0.00	0.000
19	-1.80	100	58	15.71	1500.00	8.19	242.50	0.000000	0.00	0.000
20	-1.90	100	59	15.71	1500.00	9.50	250.77	0.000000	0.00	0.000
21	-2.00	100	60	15.71	1500.00	10.95	259.17	0.000000	0.00	0.000
22	-2.10	100	61	15.71	1500.00	12.54	267.70	0.000000	0.00	0.000
23	-2.20	100	62	15.71	1500.00	14.28	276.37	0.000000	0.00	0.000
24	-2.30	100	63	15.71	1500.00	16.16	285.17	0.000000	0.00	0.000
25	-2.40	100	64	15.71	1500.00	18.21	294.10	0.000000	0.00	0.000
26	-2.50	100	65	15.71	1500.00	20.42	303.17	0.000000	0.00	0.000
27	-2.60	100	66	15.71	1500.00	22.80	312.36	0.000000	0.00	0.000
28	-2.70	100	67	15.71	1500.00	25.35	321.69	0.000000	0.00	0.000
29	-2.80	100	68	15.71	1500.00	28.09	331.16	0.000000	0.00	0.000
30	-2.90	100	69	15.71	1500.00	31.02	340.75	0.000000	0.00	0.000
31	-3.00	100	70	15.71	1500.00	34.15	350.48	0.000000	0.00	0.000
32	-3.10	100	71	15.71	1500.00	37.48	360.34	0.000000	0.00	0.000
33	-3.20	100	72	15.71	1500.00	41.02	370.35	0.000000	0.00	0.000
34	-3.30	100	73	15.71	1500.00	44.78	380.49	0.000000	0.00	0.000
35	-3.40	100	74	15.71	1500.00	48.75	390.75	0.000000	0.00	0.000
36	-3.50	100	75	15.71	1500.00	52.96	401.14	0.000000	0.00	0.000
37	-3.60	100	76	15.71	1500.00	57.40	411.69	0.000000	0.00	0.000
38	-3.70	100	77	15.71	1500.00	62.07	422.34	0.000000	0.00	0.000
39	-3.80	100	78	15.71	1500.00	67.00	433.15	0.000000	0.00	0.000
40	-3.90	100	79	15.71	1500.00	72.18	444.09	0.000000	0.00	0.000
41	-4.00	100	80	15.71	1500.00	77.62	455.16	0.000000	0.00	0.000
42	-4.10	100	81	15.71	1500.00	83.33	466.37	0.000000	0.00	0.000
43	-4.20	100	82	15.71	1500.00	89.31	477.71	0.000000	0.00	0.000
44	-4.30	100	83	15.71	1500.00	95.56	489.18	0.000000	0.00	0.000
45	-4.40	100	84	15.71	1500.00	102.10	500.79	0.000000	0.00	0.000
46	-4.50	100	85	15.71	1500.00	108.94	512.53	0.000000	0.00	0.000
47	-4.60	100	86	15.71	1500.00	116.07	524.41	0.000000	0.00	0.000
48	-4.70	100	87	15.71	1500.00	123.50	536.42	0.000000	0.00	0.000
49	-4.79	100	88	15.71	1500.00	131.25	547.39	0.000000	0.00	0.000

Combinazione n° 26 - SLEQ H - V

Apertura limite fessure w_{lim}=0.20

n°	Y	B	H	Af	Aeff	M	Mpf	□	Sm	w
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kNm]	[%]	[mm]	[mm]
1	0.00	100	40	0.00	0.00	0.00	0.00	---	---	0.000
2	-0.10	100	41	15.71	1034.13	0.01	122.22	0.000000	0.00	0.000
3	-0.20	100	42	15.71	1061.75	0.03	128.22	0.000000	0.00	0.000
4	-0.30	100	43	15.71	1089.42	0.08	134.37	0.000000	0.00	0.000
5	-0.40	100	44	15.71	1117.13	0.16	140.64	0.000000	0.00	0.000
6	-0.50	100	45	15.71	1144.88	0.28	147.05	0.000000	0.00	0.000
7	-0.60	100	46	15.71	1172.67	0.43	153.59	0.000000	0.00	0.000
8	-0.70	100	47	15.71	1200.51	0.64	160.26	0.000000	0.00	0.000
9	-0.80	100	48	15.71	1228.38	0.90	167.06	0.000000	0.00	0.000
10	-0.90	100	49	15.71	1256.29	1.22	173.99	0.000000	0.00	0.000
11	-1.00	100	50	15.71	1284.24	1.60	181.06	0.000000	0.00	0.000
12	-1.10	100	51	15.71	1312.22	2.06	188.26	0.000000	0.00	0.000
13	-1.20	100	52	15.71	1340.23	2.59	195.58	0.000000	0.00	0.000
14	-1.30	100	53	15.71	1368.28	3.21	203.05	0.000000	0.00	0.000
15	-1.40	100	54	15.71	1396.37	3.91	210.64	0.000000	0.00	0.000
16	-1.50	100	55	15.71	1424.48	4.72	218.37	0.000000	0.00	0.000
17	-1.60	100	56	15.71	1452.62	5.62	226.23	0.000000	0.00	0.000
18	-1.70	100	57	15.71	1480.80	6.63	234.22	0.000000	0.00	0.000
19	-1.80	100	58	15.71	1500.00	7.76	242.33	0.000000	0.00	0.000
20	-1.90	100	59	15.71	1500.00	9.00	250.59	0.000000	0.00	0.000
21	-2.00	100	60	15.71	1500.00	10.37	258.97	0.000000	0.00	0.000
22	-2.10	100	61	15.71	1500.00	11.87	267.49	0.000000	0.00	0.000
23	-2.20	100	62	15.71	1500.00	13.51	276.15	0.000000	0.00	0.000
24	-2.30	100	63	15.71	1500.00	15.29	284.92	0.000000	0.00	0.000
25	-2.40	100	64	15.71	1500.00	17.22	293.84	0.000000	0.00	0.000
26	-2.50	100	65	15.71	1500.00	19.31	302.88	0.000000	0.00	0.000
27	-2.60	100	66	15.71	1500.00	21.55	312.06	0.000000	0.00	0.000
28	-2.70	100	67	15.71	1500.00	23.97	321.37	0.000000	0.00	0.000
29	-2.80	100	68	15.71	1500.00	26.55	330.81	0.000000	0.00	0.000
30	-2.90	100	69	15.71	1500.00	29.32	340.40	0.000000	0.00	0.000
31	-3.00	100	70	15.71	1500.00	32.27	350.11	0.000000	0.00	0.000
32	-3.10	100	71	15.71	1500.00	35.41	359.95	0.000000	0.00	0.000
33	-3.20	100	72	15.71	1500.00	38.75	369.92	0.000000	0.00	0.000
34	-3.30	100	73	15.71	1500.00	42.29	380.03	0.000000	0.00	0.000
35	-3.40	100	74	15.71	1500.00	46.04	390.27	0.000000	0.00	0.000
36	-3.50	100	75	15.71	1500.00	50.00	400.65	0.000000	0.00	0.000
37	-3.60	100	76	15.71	1500.00	54.19	411.16	0.000000	0.00	0.000
38	-3.70	100	77	15.71	1500.00	58.60	421.79	0.000000	0.00	0.000
39	-3.80	100	78	15.71	1500.00	63.24	432.57	0.000000	0.00	0.000
40	-3.90	100	79	15.71	1500.00	68.12	443.48	0.000000	0.00	0.000
41	-4.00	100	80	15.71	1500.00	73.25	454.53	0.000000	0.00	0.000
42	-4.10	100	81	15.71	1500.00	78.63	465.71	0.000000	0.00	0.000
43	-4.20	100	82	15.71	1500.00	84.26	477.01	0.000000	0.00	0.000
44	-4.30	100	83	15.71	1500.00	90.16	488.46	0.000000	0.00	0.000
45	-4.40	100	84	15.71	1500.00	96.32	500.05	0.000000	0.00	0.000
46	-4.50	100	85	15.71	1500.00	102.76	511.76	0.000000	0.00	0.000
47	-4.60	100	86	15.71	1500.00	109.48	523.59	0.000000	0.00	0.000
48	-4.70	100	87	15.71	1500.00	116.49	535.57	0.000000	0.00	0.000
49	-4.79	100	88	15.71	1500.00	123.78	546.51	0.000000	0.00	0.000

Fondazione

Combinazione n° 21 - SLEQ

Apertura limite fessure w_{lim}=0.30

n°	Y	B	H	Af	Aeff	M	Mpf	□	Sm	w
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kNm]	[%]	[mm]	[mm]
1	-0.90	100	90	0.00	0.00	0.00	0.00	---	---	0.000
2	-0.80	100	90	15.71	1500.00	0.46	513.45	0.000000	0.00	0.000
3	-0.70	100	90	15.71	1500.00	1.86	513.45	0.000000	0.00	0.000
4	-0.60	100	90	15.71	1500.00	4.18	513.45	0.000000	0.00	0.000
5	-0.50	100	90	15.71	1500.00	7.44	513.45	0.000000	0.00	0.000
6	-0.40	100	90	15.71	1500.00	11.63	513.45	0.000000	0.00	0.000
7	0.48	100	90	15.71	1500.00	3.75	513.45	0.000000	0.00	0.000
8	0.58	100	90	15.71	1500.00	3.68	513.45	0.000000	0.00	0.000
9	0.67	100	90	15.71	1500.00	3.61	513.45	0.000000	0.00	0.000
10	0.77	100	90	15.71	1500.00	3.52	513.45	0.000000	0.00	0.000
11	0.87	100	90	15.71	1500.00	3.41	513.45	0.000000	0.00	0.000
12	0.97	100	90	15.71	1500.00	3.30	513.45	0.000000	0.00	0.000
13	1.06	100	90	15.71	1500.00	3.18	513.45	0.000000	0.00	0.000
14	1.16	100	90	15.71	1500.00	3.05	513.45	0.000000	0.00	0.000
15	1.26	100	90	15.71	1500.00	2.91	513.45	0.000000	0.00	0.000
16	1.36	100	90	15.71	1500.00	2.76	513.45	0.000000	0.00	0.000
17	1.45	100	90	15.71	1500.00	2.61	513.45	0.000000	0.00	0.000
18	1.55	100	90	15.71	1500.00	2.46	513.45	0.000000	0.00	0.000
19	1.65	100	90	15.71	1500.00	2.30	513.45	0.000000	0.00	0.000
20	1.75	100	90	15.71	1500.00	2.14	513.45	0.000000	0.00	0.000
21	1.84	100	90	15.71	1500.00	1.98	513.45	0.000000	0.00	0.000
22	1.94	100	90	15.71	1500.00	1.81	513.45	0.000000	0.00	0.000

n°	Y	B	H	Af	Aeff	M	Mpf	□	Sm	w
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kNm]	[%]	[mm]	[mm]
23	2.04	100	90	15.71	1500.00	1.65	513.45	0.000000	0.00	0.000
24	2.14	100	90	15.71	1500.00	1.49	513.45	0.000000	0.00	0.000
25	2.23	100	90	15.71	1500.00	1.33	513.45	0.000000	0.00	0.000
26	2.33	100	90	15.71	1500.00	1.18	513.45	0.000000	0.00	0.000
27	2.43	100	90	15.71	1500.00	1.03	513.45	0.000000	0.00	0.000
28	2.53	100	90	15.71	1500.00	0.89	513.45	0.000000	0.00	0.000
29	2.62	100	90	15.71	1500.00	0.75	513.45	0.000000	0.00	0.000
30	2.72	100	90	15.71	1500.00	0.62	513.45	0.000000	0.00	0.000
31	2.82	100	90	15.71	1500.00	0.50	513.45	0.000000	0.00	0.000
32	2.92	100	90	15.71	1500.00	0.39	513.45	0.000000	0.00	0.000
33	3.01	100	90	15.71	1500.00	0.29	513.45	0.000000	0.00	0.000
34	3.11	100	90	15.71	1500.00	0.21	513.45	0.000000	0.00	0.000
35	3.21	100	90	15.71	1500.00	0.14	513.45	0.000000	0.00	0.000
36	3.31	100	90	15.71	1500.00	0.08	513.45	0.000000	0.00	0.000
37	3.40	100	90	15.71	1500.00	0.04	513.45	0.000000	0.00	0.000
38	3.50	100	90	15.71	1500.00	0.01	513.45	0.000000	0.00	0.000
39	3.60	100	90	0.00	0.00	0.00	0.00	---	---	0.000

Combinazione n° 24 - SLEQ

Apertura limite fessure w_{lim}=0.30

n°	Y	B	H	Af	Aeff	M	Mpf	□	Sm	w
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kNm]	[%]	[mm]	[mm]
1	-0.90	100	90	0.00	0.00	0.00	0.00	---	---	0.000
2	-0.80	100	90	15.71	1500.00	0.48	513.45	0.000000	0.00	0.000
3	-0.70	100	90	15.71	1500.00	1.90	513.45	0.000000	0.00	0.000
4	-0.60	100	90	15.71	1500.00	4.29	513.45	0.000000	0.00	0.000
5	-0.50	100	90	15.71	1500.00	7.62	513.45	0.000000	0.00	0.000
6	-0.40	100	90	15.71	1500.00	11.91	513.45	0.000000	0.00	0.000
7	0.48	100	90	15.71	1500.00	1.83	513.45	0.000000	0.00	0.000
8	0.58	100	90	15.71	1500.00	1.86	513.45	0.000000	0.00	0.000
9	0.67	100	90	15.71	1500.00	1.87	513.45	0.000000	0.00	0.000
10	0.77	100	90	15.71	1500.00	1.87	513.45	0.000000	0.00	0.000
11	0.87	100	90	15.71	1500.00	1.86	513.45	0.000000	0.00	0.000
12	0.97	100	90	15.71	1500.00	1.83	513.45	0.000000	0.00	0.000
13	1.06	100	90	15.71	1500.00	1.79	513.45	0.000000	0.00	0.000
14	1.16	100	90	15.71	1500.00	1.75	513.45	0.000000	0.00	0.000
15	1.26	100	90	15.71	1500.00	1.69	513.45	0.000000	0.00	0.000
16	1.36	100	90	15.71	1500.00	1.63	513.45	0.000000	0.00	0.000
17	1.45	100	90	15.71	1500.00	1.56	513.45	0.000000	0.00	0.000
18	1.55	100	90	15.71	1500.00	1.49	513.45	0.000000	0.00	0.000
19	1.65	100	90	15.71	1500.00	1.41	513.45	0.000000	0.00	0.000
20	1.75	100	90	15.71	1500.00	1.32	513.45	0.000000	0.00	0.000
21	1.84	100	90	15.71	1500.00	1.23	513.45	0.000000	0.00	0.000
22	1.94	100	90	15.71	1500.00	1.14	513.45	0.000000	0.00	0.000
23	2.04	100	90	15.71	1500.00	1.05	513.45	0.000000	0.00	0.000
24	2.14	100	90	15.71	1500.00	0.95	513.45	0.000000	0.00	0.000
25	2.23	100	90	15.71	1500.00	0.86	513.45	0.000000	0.00	0.000
26	2.33	100	90	15.71	1500.00	0.76	513.45	0.000000	0.00	0.000
27	2.43	100	90	15.71	1500.00	0.67	513.45	0.000000	0.00	0.000
28	2.53	100	90	15.71	1500.00	0.58	513.45	0.000000	0.00	0.000
29	2.62	100	90	15.71	1500.00	0.50	513.45	0.000000	0.00	0.000
30	2.72	100	90	15.71	1500.00	0.41	513.45	0.000000	0.00	0.000
31	2.82	100	90	15.71	1500.00	0.34	513.45	0.000000	0.00	0.000
32	2.92	100	90	15.71	1500.00	0.26	513.45	0.000000	0.00	0.000
33	3.01	100	90	15.71	1500.00	0.20	513.45	0.000000	0.00	0.000
34	3.11	100	90	15.71	1500.00	0.14	513.45	0.000000	0.00	0.000
35	3.21	100	90	15.71	1500.00	0.09	513.45	0.000000	0.00	0.000
36	3.31	100	90	15.71	1500.00	0.05	513.45	0.000000	0.00	0.000
37	3.40	100	90	15.71	1500.00	0.02	513.45	0.000000	0.00	0.000
38	3.50	100	90	15.71	1500.00	0.01	513.45	0.000000	0.00	0.000
39	3.60	100	90	0.00	0.00	0.00	0.00	---	---	0.000

Combinazione n° 25 - SLEQ_H + V

Apertura limite fessure w_{lim}=0.30

n°	Y	B	H	Af	Aeff	M	Mpf	□	Sm	w
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kNm]	[%]	[mm]	[mm]
1	-0.90	100	90	0.00	0.00	0.00	0.00	---	---	0.000
2	-0.80	100	90	15.71	1500.00	0.66	513.45	0.000000	0.00	0.000
3	-0.70	100	90	15.71	1500.00	2.63	513.45	0.000000	0.00	0.000
4	-0.60	100	90	15.71	1500.00	5.90	513.45	0.000000	0.00	0.000
5	-0.50	100	90	15.71	1500.00	10.45	513.45	0.000000	0.00	0.000
6	-0.40	100	90	15.71	1500.00	16.26	513.45	0.000000	0.00	0.000
7	0.48	100	90	15.71	1500.00	-57.00	-513.45	0.000000	0.00	0.000
8	0.58	100	90	15.71	1500.00	-55.56	-513.45	0.000000	0.00	0.000
9	0.67	100	90	15.71	1500.00	-53.97	-513.45	0.000000	0.00	0.000
10	0.77	100	90	15.71	1500.00	-52.24	-513.45	0.000000	0.00	0.000
11	0.87	100	90	15.71	1500.00	-50.39	-513.45	0.000000	0.00	0.000

n°	Y	B	H	Af	Aeff	M	Mpf	□	Sm	w
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kNm]	[%]	[mm]	[mm]
12	0.97	100	90	15.71	1500.00	-48.42	-513.45	0.000000	0.00	0.000
13	1.06	100	90	15.71	1500.00	-46.35	-513.45	0.000000	0.00	0.000
14	1.16	100	90	15.71	1500.00	-44.20	-513.45	0.000000	0.00	0.000
15	1.26	100	90	15.71	1500.00	-41.97	-513.45	0.000000	0.00	0.000
16	1.36	100	90	15.71	1500.00	-39.68	-513.45	0.000000	0.00	0.000
17	1.45	100	90	15.71	1500.00	-37.35	-513.45	0.000000	0.00	0.000
18	1.55	100	90	15.71	1500.00	-34.98	-513.45	0.000000	0.00	0.000
19	1.65	100	90	15.71	1500.00	-32.59	-513.45	0.000000	0.00	0.000
20	1.75	100	90	15.71	1500.00	-30.19	-513.45	0.000000	0.00	0.000
21	1.84	100	90	15.71	1500.00	-27.79	-513.45	0.000000	0.00	0.000
22	1.94	100	90	15.71	1500.00	-25.41	-513.45	0.000000	0.00	0.000
23	2.04	100	90	15.71	1500.00	-23.06	-513.45	0.000000	0.00	0.000
24	2.14	100	90	15.71	1500.00	-20.75	-513.45	0.000000	0.00	0.000
25	2.23	100	90	15.71	1500.00	-18.50	-513.45	0.000000	0.00	0.000
26	2.33	100	90	15.71	1500.00	-16.31	-513.45	0.000000	0.00	0.000
27	2.43	100	90	15.71	1500.00	-14.21	-513.45	0.000000	0.00	0.000
28	2.53	100	90	15.71	1500.00	-12.20	-513.45	0.000000	0.00	0.000
29	2.62	100	90	15.71	1500.00	-10.30	-513.45	0.000000	0.00	0.000
30	2.72	100	90	15.71	1500.00	-8.51	-513.45	0.000000	0.00	0.000
31	2.82	100	90	15.71	1500.00	-6.86	-513.45	0.000000	0.00	0.000
32	2.92	100	90	15.71	1500.00	-5.36	-513.45	0.000000	0.00	0.000
33	3.01	100	90	15.71	1500.00	-4.02	-513.45	0.000000	0.00	0.000
34	3.11	100	90	15.71	1500.00	-2.84	-513.45	0.000000	0.00	0.000
35	3.21	100	90	15.71	1500.00	-1.85	-513.45	0.000000	0.00	0.000
36	3.31	100	90	15.71	1500.00	-1.06	-513.45	0.000000	0.00	0.000
37	3.40	100	90	15.71	1500.00	-0.48	-513.45	0.000000	0.00	0.000
38	3.50	100	90	15.71	1500.00	-0.12	-513.45	0.000000	0.00	0.000
39	3.60	100	90	0.00	0.00	0.00	0.00	---	---	0.000

Combinazione n° 26 - SLEQ H - V

Apertura limite fessure w_{lim}=0.30

n°	Y	B	H	Af	Aeff	M	Mpf	□	Sm	w
	[m]	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kNm]	[%]	[mm]	[mm]
1	-0.90	100	90	0.00	0.00	0.00	0.00	---	---	0.000
2	-0.80	100	90	15.71	1500.00	0.62	513.45	0.000000	0.00	0.000
3	-0.70	100	90	15.71	1500.00	2.46	513.45	0.000000	0.00	0.000
4	-0.60	100	90	15.71	1500.00	5.51	513.45	0.000000	0.00	0.000
5	-0.50	100	90	15.71	1500.00	9.75	513.45	0.000000	0.00	0.000
6	-0.40	100	90	15.71	1500.00	15.18	513.45	0.000000	0.00	0.000
7	0.48	100	90	15.71	1500.00	-100.63	-513.45	0.000000	0.00	0.000
8	0.58	100	90	15.71	1500.00	-96.52	-513.45	0.000000	0.00	0.000
9	0.67	100	90	15.71	1500.00	-92.34	-513.45	0.000000	0.00	0.000
10	0.77	100	90	15.71	1500.00	-88.11	-513.45	0.000000	0.00	0.000
11	0.87	100	90	15.71	1500.00	-83.83	-513.45	0.000000	0.00	0.000
12	0.97	100	90	15.71	1500.00	-79.53	-513.45	0.000000	0.00	0.000
13	1.06	100	90	15.71	1500.00	-75.21	-513.45	0.000000	0.00	0.000
14	1.16	100	90	15.71	1500.00	-70.89	-513.45	0.000000	0.00	0.000
15	1.26	100	90	15.71	1500.00	-66.58	-513.45	0.000000	0.00	0.000
16	1.36	100	90	15.71	1500.00	-62.29	-513.45	0.000000	0.00	0.000
17	1.45	100	90	15.71	1500.00	-58.04	-513.45	0.000000	0.00	0.000
18	1.55	100	90	15.71	1500.00	-53.84	-513.45	0.000000	0.00	0.000
19	1.65	100	90	15.71	1500.00	-49.70	-513.45	0.000000	0.00	0.000
20	1.75	100	90	15.71	1500.00	-45.63	-513.45	0.000000	0.00	0.000
21	1.84	100	90	15.71	1500.00	-41.66	-513.45	0.000000	0.00	0.000
22	1.94	100	90	15.71	1500.00	-37.78	-513.45	0.000000	0.00	0.000
23	2.04	100	90	15.71	1500.00	-34.02	-513.45	0.000000	0.00	0.000
24	2.14	100	90	15.71	1500.00	-30.39	-513.45	0.000000	0.00	0.000
25	2.23	100	90	15.71	1500.00	-26.90	-513.45	0.000000	0.00	0.000
26	2.33	100	90	15.71	1500.00	-23.56	-513.45	0.000000	0.00	0.000
27	2.43	100	90	15.71	1500.00	-20.39	-513.45	0.000000	0.00	0.000
28	2.53	100	90	15.71	1500.00	-17.39	-513.45	0.000000	0.00	0.000
29	2.62	100	90	15.71	1500.00	-14.59	-513.45	0.000000	0.00	0.000
30	2.72	100	90	15.71	1500.00	-11.99	-513.45	0.000000	0.00	0.000
31	2.82	100	90	15.71	1500.00	-9.61	-513.45	0.000000	0.00	0.000
32	2.92	100	90	15.71	1500.00	-7.47	-513.45	0.000000	0.00	0.000
33	3.01	100	90	15.71	1500.00	-5.56	-513.45	0.000000	0.00	0.000
34	3.11	100	90	15.71	1500.00	-3.92	-513.45	0.000000	0.00	0.000
35	3.21	100	90	15.71	1500.00	-2.54	-513.45	0.000000	0.00	0.000
36	3.31	100	90	15.71	1500.00	-1.45	-513.45	0.000000	0.00	0.000
37	3.40	100	90	15.71	1500.00	-0.65	-513.45	0.000000	0.00	0.000
38	3.50	100	90	15.71	1500.00	-0.17	-513.45	0.000000	0.00	0.000
39	3.60	100	90	0.00	0.00	0.00	0.00	---	---	0.000

11.4 Risultati per inviluppo

11.4.1 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 [kN]	I [°]	C_X [kN]	C_Y [kN]	P_X [m]	P_Y [m]
2	Spinta statica	122.04	23.33	112.06	48.34	3.60	-3.65
	Peso/Inerzia muro			0.00	174.54/0.00	0.74	-4.15
	Peso/Inerzia terrapieno			0.00	371.10/0.00	1.90	-2.34

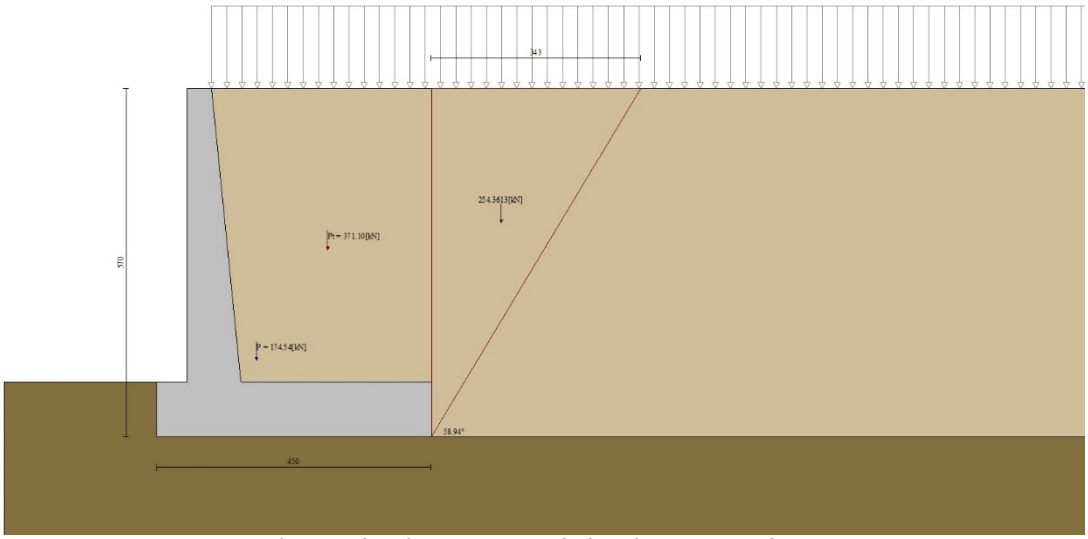


Fig. 12 - Cuneo di spinta (combinazione statica) (Combinazione n° 2)

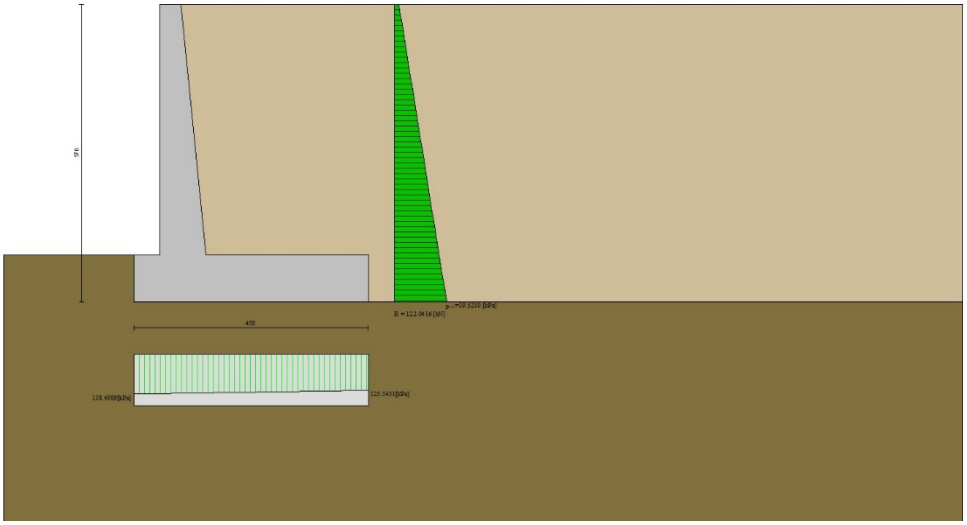


Fig. 13 - Diagramma delle pressioni (combinazione statica) (Combinazione n° 2)

11.4.2 Risultanti globali

Simbologia adottata

Cmb	Indice/Tipo combinazione
N	Componente normale al piano di posa, espressa in [kN]
T	Componente parallela al piano di posa, espressa in [kN]
M_r	Momento ribaltante, espresso in [kNm]
M_s	Momento stabilizzante, espresso in [kNm]
ecc	Eccentricità risultante, espressa in [m]

Ic	N [kN]	T [kN]	M_r [kNm]	M_s [kNm]	ecc [m]
1 - STR (A1-M1-R3)	537.94	94.79	180.11	1378.47	0.022
2 - STR (A1-M1-R3)	593.98	112.06	229.33	1543.67	0.037
3 - STR (A1-M1-R3)	570.99	161.67	357.49	1463.05	0.313
4 - STR (A1-M1-R3)	506.13	153.13	414.77	1372.97	0.356
5 - STR (A1-M1-R3)	687.06	94.79	180.11	1736.83	-0.016
6 - STR (A1-M1-R3)	634.70	94.79	180.11	1650.98	-0.068
7 - STR (A1-M1-R3)	590.30	94.79	180.11	1464.32	0.074
8 - STR (A1-M1-R3)	743.10	112.06	229.33	1902.02	-0.001
9 - STR (A1-M1-R3)	690.74	112.06	229.33	1816.18	-0.048
10 - STR (A1-M1-R3)	646.34	112.06	229.33	1629.51	0.083
11 - GEO (A2-M2-R2)	529.52	94.09	178.77	1340.59	0.055
12 - GEO (A2-M2-R2)	577.46	113.07	232.87	1482.23	0.086
13 - GEO (A2-M2-R2)	570.99	161.67	357.49	1463.05	0.313
14 - GEO (A2-M2-R2)	506.13	153.13	414.77	1372.97	0.356
15 - EQU (A1-M1-R3)	537.94	94.79	180.11	1378.47	0.022
16 - EQU (A1-M1-R3)	593.98	112.06	229.33	1543.67	0.037
17 - EQU (A1-M1-R3)	593.25	208.40	471.44	1531.14	0.463
18 - EQU (A1-M1-R3)	496.41	196.63	559.33	1398.03	0.560
19 - SLER	528.51	72.92	138.55	1336.02	-0.016
20 - SLEF	528.51	72.92	138.55	1336.02	-0.016
21 - SLEQ	528.51	72.92	138.55	1336.02	-0.016
22 - SLER	559.64	82.51	165.89	1427.80	-0.005
23 - SLEF	536.81	75.47	145.84	1360.49	-0.013
24 - SLEQ	536.81	75.47	145.84	1360.49	-0.013
25 - SLEQ	554.22	126.57	271.31	1412.46	0.191
26 - SLEQ	514.42	121.16	306.06	1356.94	0.207

11.4.3 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)		2.851		29.215			
2 - STR (A1-M1-R3)		2.662		24.911			
3 - STR (A1-M1-R3)	H + V	1.774		15.513			
4 - STR (A1-M1-R3)	H - V	1.660		16.008			
5 - STR (A1-M1-R3)		3.641		25.884			
6 - STR (A1-M1-R3)		3.363		25.292			
7 - STR (A1-M1-R3)		3.128		26.143			
8 - STR (A1-M1-R3)		3.331		24.087			
9 - STR (A1-M1-R3)		3.096		22.876			
10 - STR (A1-M1-R3)		2.897		22.777			
11 - GEO (A2-M2-R2)					2.167		
12 - GEO (A2-M2-R2)					2.029		
13 - GEO (A2-M2-R2)	H + V				2.108		
14 - GEO (A2-M2-R2)	H - V				2.045		
15 - EQU (A1-M1-R3)			7.653				
16 - EQU (A1-M1-R3)			6.731				
17 - EQU (A1-M1-R3)	H + V		3.248				
18 - EQU (A1-M1-R3)	H - V		2.499				

Verifica a scorrimento fondazione

Simbologia adottata

n°	Indice combinazione
Rsa	Resistenza allo scorrimento per attrito, espresso in [kN]
Rpt	Resistenza passiva terreno antistante, espresso in [kN]
Rps	Resistenza passiva sperone, espresso in [kN]
Rp	Resistenza a carichi orizzontali pali (solo per fondazione mista), espresso in [kN]
Rt	Resistenza a carichi orizzontali tiranti (solo se presenti), espresso in [kN]
R	Resistenza allo scorrimento (somma di Rsa+Rpt+Rps+Rp), espresso in [kN]
T	Carico parallelo al piano di posa, espresso in [kN]
FS	Fattore di sicurezza (rapporto R/T)

n°	Rsa	Rpt	Rps	Rp	Rt	R	T	FS
	[kN]	[kN]	[kN]	[kN]	[kN]	[kN]	[kN]	
4 - STR (A1-M1-R3) H - V	254.23	0.00	0.00	--	--	254.23	153.13	1.660

Verifica a carico limite

Simbologia adottata

n°	Indice combinazione
N	Carico normale totale al piano di posa, espresso in [kN]
Qu	carico limite del terreno, espresso in [kN]
Qd	Portanza di progetto, espresso in [kN]
FS	Fattore di sicurezza (rapporto tra il carico limie e carico agente al piano di posa)

n°	N	Qu	Qd	FS
	[kN]	[kN]	[kN]	
3 - STR (A1-M1-R3) H + V	570.99	8857.72	7381.44	15.513

Dettagli calcolo portanza

Simbologia adottata

n°	Indice combinazione
Nc, Nq, N□	Fattori di capacità portante
ic, iq, i□	Fattori di inclinazione del carico
dc, dq, d□	Fattori di profondità del piano di posa
gc, gq, g□	Fattori di inclinazione del profilo topografico
bc, bq, b□	Fattori di inclinazione del piano di posa
sc, sq, s□	Fattori di forma della fondazione
pc, pq, p□	Fattori di riduzione per punzonamento secondo Vesic
Re	Fattore di riduzione capacità portante per eccentricità secondo Meyerhof

Ir, Irc Indici di rigidezza per punzonamento secondo Vesic
r□ Fattori per tener conto dell'effetto piastra. Per fondazioni che hanno larghezza maggiore di 2 m, il terzo termine della formula trinomia 0.5B □N□ viene moltiplicato per questo fattore
D Affondamento del piano di posa, espresso in [m]
B' Larghezza fondazione ridotta, espresso in [m]
H Altezza del cuneo di rottura, espresso in [m]
□ Peso di volume del terreno medio, espresso in [kN/mc]
□ Angolo di attrito del terreno medio, espresso in [°]
c Coesione del terreno medio, espresso in [kPa]
Per i coeff. che in tabella sono indicati con il simbolo '--' sono coeff. non presenti nel metodo scelto (Meyerhof).

n°	Nc Nq N□	ic iq i□	dc dq d□	gc gq g□	bc bq b□	sc sq s□	pc pq p□	Ir	Irc	Re	r□
3	75.313 64.195 93.691	0.680 0.680 0.366	1.086 1.043 1.043	-- -- --	-- -- --	1.531 1.265 1.265	-- -- --	--	--	0.736	0.912

n°	D [m]	B' [m]	H [m]	□ [°]	□ [kN/mc]	c [kPa]
3	0.90	4.50	4.82	18.50	40.00	0

Verifica a ribaltamento

Simbologia adottata
n° Indice combinazione
Ms Momento stabilizzante, espresso in [kNm]
Mr Momento ribaltante, espresso in [kNm]
FS Fattore di sicurezza (rapporto tra momento stabilizzante e momento ribaltante)
La verifica viene eseguita rispetto allo spigolo inferiore esterno della fondazione

n°	Ms [kNm]	Mr [kNm]	FS
18 - EQU (A1-M1-R3) H - V	1398.03	559.33	2.499

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 [m]	R [m]	FS
12 - GEO (A2-M2-R2)	-1.01; 3.02	9.87	2.029

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]
□ angolo fra la base della striscia e l'orizzontale espresso in [°] (positivo antiorario)
□ 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]

n°	W [kN]	Qy [kN]	Qf [kN]	b [m]	□ [°]	□ [°]	c [kPa]	u [kPa]	Tx; Ty [kN]
1	9.09	7.11	0.00	8.40 - 0.62	67.207	29.256	0	0.0	
2	24.64	7.11	0.00	0.62	59.409	29.256	0	0.0	
3	36.15	7.11	0.00	0.62	52.909	29.256	0	0.0	
4	45.33	7.11	0.00	0.62	47.290	29.256	0	0.0	
5	52.94	7.11	0.00	0.62	42.224	29.256	0	0.0	
6	59.34	7.11	0.00	0.62	37.540	29.256	0	0.0	
7	64.77	7.11	0.00	0.62	33.137	29.256	0	0.0	
8	64.92	7.11	0.00	0.62	28.946	29.256	0	0.0	
9	75.56	7.11	0.00	0.62	24.919	33.873	0	0.0	
10	78.56	7.11	0.00	0.62	21.020	33.873	0	0.0	
11	81.01	7.11	0.00	0.62	17.222	33.873	0	0.0	
12	82.95	7.11	0.00	0.62	13.500	33.873	0	0.0	
13	84.68	7.11	0.00	0.62	9.836	33.873	0	0.0	

n°	W	Qy	Qf	b	□	□	c	u	Tx; Ty
	[kN]	[kN]	[kN]	[m]	[°]	[°]	[kPa]	[kPa]	[kN]
14	95.72	4.25	0.00	0.62	6.212	33.873	0	0.0	
15	38.66	0.00	0.00	0.62	2.613	33.873	0	0.0	
16	24.35	0.00	0.00	0.62	-0.976	33.873	0	0.0	
17	23.88	0.00	0.00	0.62	-4.568	33.873	0	0.0	
18	23.09	0.00	0.00	0.62	-8.179	33.873	0	0.0	
19	21.84	0.00	0.00	0.62	-11.823	33.873	0	0.0	
20	20.12	0.00	0.00	0.62	-15.516	33.873	0	0.0	
21	17.90	0.00	0.00	0.62	-19.277	33.873	0	0.0	
22	15.16	0.00	0.00	0.62	-23.127	33.873	0	0.0	
23	11.83	0.00	0.00	0.62	-27.092	33.873	0	0.0	
24	7.63	0.00	0.00	0.62	-31.203	33.873	0	0.0	
25	2.60	0.00	0.00	-7.05 - 0.62	-34.866	33.873	0	0.0	

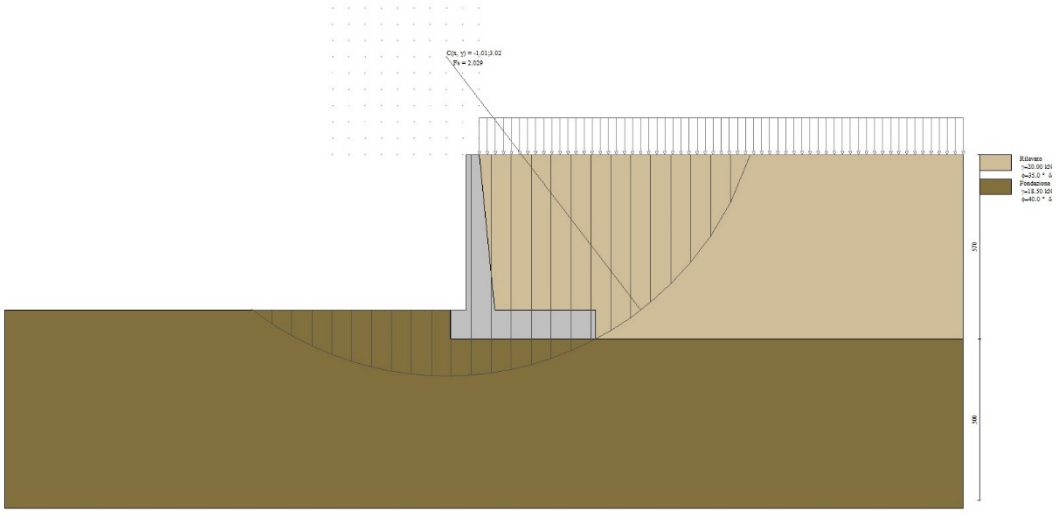


Fig. 14 - Stabilità fronte di scavo - Cerchio critico (Combinazione n° 12)

11.4.4 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

n°	X	N_{min}	N_{max}	T_{min}	T_{max}	M_{min}	M_{max}
	[m]	[kN]	[kN]	[kN]	[kN]	[kNm]	[kNm]
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	-0.10	0.93	1.29	0.03	0.37	0.00	0.02
3	-0.20	1.89	2.61	0.10	0.81	0.02	0.09
4	-0.30	2.86	3.97	0.23	1.31	0.05	0.21
5	-0.40	3.87	5.35	0.40	1.87	0.09	0.39
6	-0.50	4.89	6.77	0.63	2.50	0.17	0.64
7	-0.60	5.94	8.22	0.90	3.20	0.27	0.96
8	-0.70	7.00	9.70	1.23	3.96	0.41	1.36
9	-0.80	8.10	11.22	1.60	4.78	0.59	1.85
10	-0.90	9.21	12.76	2.03	5.67	0.82	2.43
11	-1.00	10.35	14.34	2.50	6.62	1.10	3.12
12	-1.10	11.51	15.95	3.03	7.64	1.43	3.90
13	-1.20	12.70	17.59	3.60	8.73	1.83	4.81
14	-1.30	13.90	19.26	4.22	9.88	2.29	5.83

n°	X	N_{min}	N_{max}	T_{min}	T_{max}	M_{min}	M_{max}
	[m]	[kN]	[kN]	[kN]	[kN]	[kNm]	[kNm]
15	-1.40	15.14	20.97	4.90	11.09	2.82	6.98
16	-1.50	16.39	22.70	5.62	12.37	3.43	8.26
17	-1.60	17.66	24.47	6.40	13.71	4.12	9.68
18	-1.70	18.96	26.27	7.22	15.12	4.90	11.25
19	-1.80	20.29	28.10	8.10	16.60	5.77	12.97
20	-1.90	21.63	29.96	9.02	18.14	6.74	14.85
21	-2.00	23.00	31.86	10.00	19.74	7.81	16.90
22	-2.10	24.39	33.79	11.02	21.41	8.98	19.12
23	-2.20	25.80	35.75	12.09	23.14	10.27	21.52
24	-2.30	27.24	37.74	13.22	24.94	11.68	24.10
25	-2.40	28.70	39.76	14.39	26.80	13.21	26.88
26	-2.50	30.19	41.81	15.62	28.73	14.86	29.86
27	-2.60	31.69	43.90	16.89	30.73	16.65	33.05
28	-2.70	33.22	46.02	18.21	32.79	18.58	36.45
29	-2.80	34.77	48.17	19.59	34.91	20.65	40.07
30	-2.90	36.35	50.35	21.01	37.10	22.87	43.91
31	-3.00	37.94	52.56	22.49	39.35	25.24	47.99
32	-3.10	39.57	54.81	24.01	41.67	27.77	52.31
33	-3.20	41.21	57.08	25.58	44.05	30.47	56.88
34	-3.30	42.88	59.39	27.21	46.50	33.33	61.69
35	-3.40	44.57	61.73	28.88	49.01	36.37	66.77
36	-3.50	46.28	64.11	30.61	51.59	39.58	72.11
37	-3.60	48.01	66.51	32.38	54.24	42.98	77.73
38	-3.70	49.77	68.95	34.20	56.94	46.57	83.63
39	-3.80	51.55	71.41	36.08	59.72	50.35	89.81
40	-3.90	53.36	73.91	38.00	62.55	54.34	96.29
41	-4.00	55.19	76.45	39.97	65.46	58.52	103.06
42	-4.10	57.04	79.01	42.00	68.43	62.92	110.14
43	-4.20	58.91	81.60	44.07	71.46	67.53	117.54
44	-4.30	60.81	84.23	46.20	74.56	72.36	125.25
45	-4.40	62.73	86.89	48.37	77.72	77.42	133.29
46	-4.50	64.67	89.58	50.59	80.95	82.71	141.66
47	-4.60	66.63	92.30	52.87	84.24	88.23	150.38
48	-4.70	68.62	95.06	55.19	87.60	93.99	159.44
49	-4.80	70.63	97.84	57.56	91.02	100.00	168.85

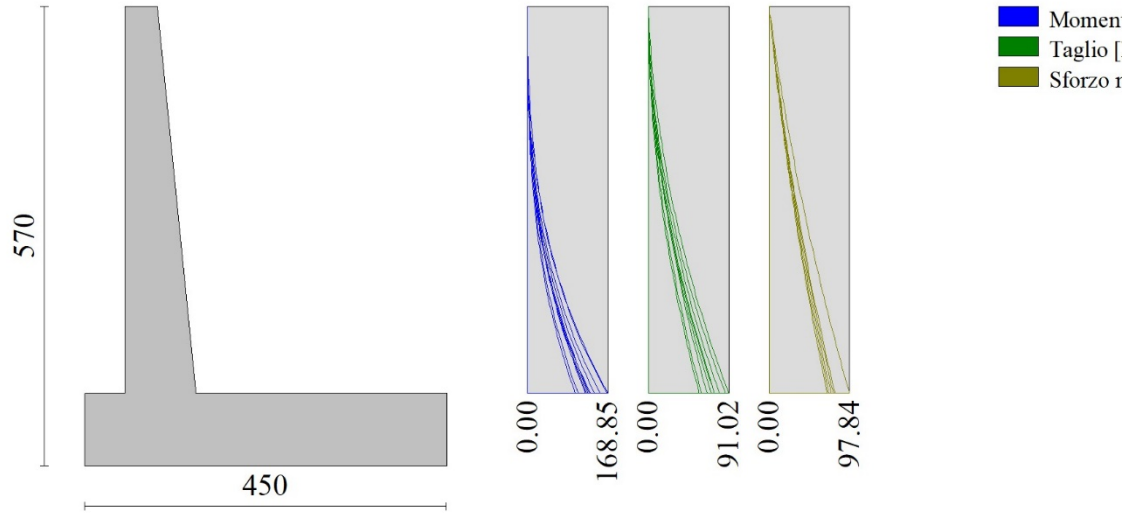


Fig. 15 - Paramento

Fondazione

n°	X	N_{min}	N_{max}	T_{min}	T_{max}	M_{min}	M_{max}
	[m]	[kN]	[kN]	[kN]	[kN]	[kNm]	[kNm]
1	-0.90	0.00	0.00	0.00	0.00	0.00	0.00
2	-0.80	0.00	0.00	9.29	15.67	0.46	0.79
3	-0.70	0.00	0.00	18.60	31.10	1.86	3.13
4	-0.60	0.00	0.00	27.91	46.30	4.18	7.00
5	-0.50	0.00	0.00	37.24	61.27	7.44	12.38
6	-0.40	0.00	0.00	46.57	75.99	11.63	19.24
7	0.48	0.00	0.00	-94.63	0.74	-167.02	5.22

n°	X	N_{min}	N_{max}	T_{min}	T_{max}	M_{min}	M_{max}
	[m]	[kN]	[kN]	[kN]	[kN]	[kNm]	[kNm]
8	0.58	0.00	0.00	-92.09	0.93	-160.28	5.74
9	0.67	0.00	0.00	-89.53	1.11	-153.41	6.17
10	0.77	0.00	0.00	-86.94	1.28	-146.44	6.50
11	0.87	0.00	0.00	-84.33	1.43	-139.39	6.75
12	0.97	0.00	0.00	-81.69	1.57	-132.29	6.91
13	1.06	0.00	0.00	-79.02	1.69	-125.15	7.00
14	1.16	0.00	0.00	-76.32	1.80	-118.01	7.02
15	1.26	0.00	0.00	-73.60	1.89	-110.87	6.98
16	1.36	0.00	0.00	-72.62	1.98	-103.76	6.87
17	1.45	0.00	0.00	-71.95	2.04	-96.71	6.71
18	1.55	0.00	0.00	-71.05	2.39	-89.74	6.50
19	1.65	0.00	0.00	-69.93	2.81	-82.87	6.25
20	1.75	0.00	0.00	-68.58	3.18	-76.11	5.96
21	1.84	0.00	0.00	-67.00	3.50	-69.50	5.63
22	1.94	0.00	0.00	-65.20	3.77	-63.05	5.28
23	2.04	0.00	0.00	-63.17	3.98	-56.79	4.90
24	2.14	0.00	0.00	-60.92	4.13	-50.74	4.50
25	2.23	0.00	0.00	-58.44	4.23	-44.92	4.09
26	2.33	0.00	0.00	-55.73	4.28	-39.35	3.68
27	2.43	0.00	0.00	-52.80	4.28	-34.06	3.26
28	2.53	0.00	0.00	-49.64	4.22	-29.07	2.85
29	2.62	0.00	0.00	-46.26	4.10	-24.39	2.44
30	2.72	0.00	0.00	-42.65	3.94	-20.05	2.05
31	2.82	0.00	0.00	-38.82	3.72	-16.08	1.67
32	2.92	0.00	0.00	-34.76	3.44	-12.49	1.32
33	3.01	0.00	0.00	-30.47	3.11	-9.31	1.00
34	3.11	0.00	0.00	-25.95	2.73	-6.56	0.72
35	3.21	0.00	0.00	-21.22	2.29	-4.25	0.47
36	3.31	0.00	0.00	-16.25	1.80	-2.43	0.27
37	3.40	0.00	0.00	-11.06	1.25	-1.09	0.13
38	3.50	0.00	0.00	-5.64	0.65	-0.28	0.03
39	3.60	0.00	0.00	0.00	0.00	0.00	0.00

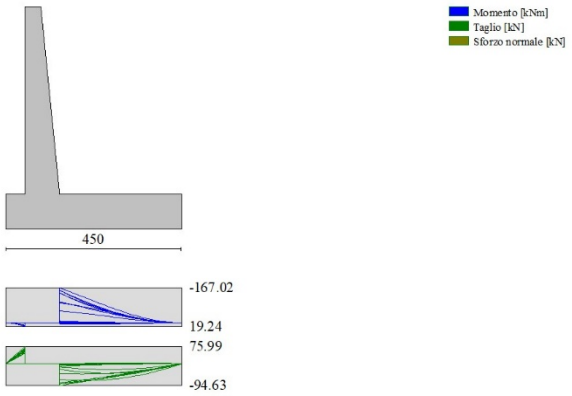


Fig. 16 - Fondazione

11.4.5 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

n°	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
1	100	40	15.71	15.71	0.00	0.00	0.00	0.00	100000.000
2	100	41	15.71	15.71	0.02	1.29	204.81	1.29	9676.863
3	100	42	15.71	15.71	0.09	2.61	210.94	2.61	2366.050
4	100	43	15.71	15.71	0.21	3.97	217.08	3.97	1030.401
5	100	44	15.71	15.71	0.39	5.35	223.24	5.35	569.014
6	100	45	15.71	15.71	0.64	6.77	229.42	6.77	358.085
7	100	46	15.71	15.71	0.96	8.22	235.63	8.22	244.834
8	100	47	15.71	15.71	1.36	9.70	241.87	9.70	177.303
9	100	48	15.71	15.71	1.85	11.22	248.13	11.22	133.940
10	100	49	15.71	15.71	2.43	12.76	254.42	12.76	104.516
11	100	50	15.71	15.71	3.12	14.34	260.74	14.34	83.677
12	100	51	15.71	15.71	3.90	15.95	267.09	15.95	68.407
13	100	52	15.71	15.71	4.81	17.59	273.46	17.59	56.899
14	100	53	15.71	15.71	5.83	19.26	279.86	19.26	48.023
15	100	54	15.71	15.71	6.98	20.97	286.28	20.97	41.040
16	100	55	15.71	15.71	8.26	22.70	292.74	22.70	35.453
17	100	56	15.71	15.71	9.68	24.47	299.22	24.47	30.916
18	100	57	15.71	15.71	11.25	26.27	305.73	26.27	27.185
19	100	58	15.71	15.71	12.97	28.10	312.27	28.10	24.081
20	100	59	15.71	15.71	14.85	29.96	318.84	29.96	21.473
21	100	60	15.71	15.71	16.90	31.86	325.44	31.86	19.262
22	100	61	15.71	15.71	19.12	33.79	332.07	33.79	17.371
23	100	62	15.71	15.71	21.52	35.75	338.73	35.75	15.742
24	100	63	15.71	15.71	24.10	37.74	345.41	37.74	14.330
25	100	64	15.71	15.71	26.88	39.76	352.13	39.76	13.098
26	100	65	15.71	15.71	29.86	41.81	358.88	41.81	12.017
27	100	66	15.71	15.71	33.05	43.90	365.66	43.90	11.064
28	100	67	15.71	15.71	36.45	46.02	372.47	46.02	10.219
29	100	68	15.71	15.71	40.07	48.17	379.32	48.17	9.467
30	100	69	15.71	15.71	43.91	50.35	386.19	50.35	8.794
31	100	70	15.71	15.71	47.99	52.56	393.10	52.56	8.191
32	100	71	15.71	15.71	52.31	54.81	400.04	54.81	7.647
33	100	72	15.71	15.71	56.88	57.08	407.01	57.08	7.156
34	100	73	15.71	15.71	61.69	59.39	414.02	59.39	6.711
35	100	74	15.71	15.71	66.77	61.73	421.06	61.73	6.306
36	100	75	15.71	15.71	72.11	64.11	428.13	64.11	5.937
37	100	76	15.71	15.71	77.73	66.51	435.24	66.51	5.599
38	100	77	15.71	15.71	83.63	68.95	442.38	68.95	5.290
39	100	78	15.71	15.71	89.81	71.41	449.56	71.41	5.006
40	100	79	15.71	15.71	96.29	73.91	456.77	73.91	4.744
41	100	80	15.71	15.71	103.06	76.45	464.02	76.45	4.502
42	100	81	15.71	15.71	110.14	79.01	471.30	79.01	4.279
43	100	82	15.71	15.71	117.54	81.60	478.62	81.60	4.072
44	100	83	15.71	15.71	125.25	84.23	485.98	84.23	3.880
45	100	84	15.71	15.71	131.35	66.84	486.06	66.84	3.701
46	100	85	15.71	15.71	139.62	68.91	493.17	68.91	3.532
47	100	86	15.71	15.71	148.23	71.00	500.31	71.00	3.375
48	100	87	15.71	15.71	157.18	73.12	507.48	73.12	3.229
49	100	88	15.71	15.71	166.48	75.26	514.05	75.26	3.088

Fondazione

n°	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
1	100	90	15.71	15.71	0.00	0.00	0.00	0.00	100000.000
2	100	90	15.71	15.71	0.79	0.00	497.08	0.00	632.844

n°	B	H	Afi	Afs	M	N	Mrd	Nrd	FS
	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kNm]	[kN]	
3	100	90	15.71	15.71	3.13	0.00	497.08	0.00	159.006
4	100	90	15.71	15.71	7.00	0.00	497.08	0.00	71.027
5	100	90	15.71	15.71	12.38	0.00	497.08	0.00	40.155
6	100	90	15.71	15.71	19.24	0.00	497.08	0.00	25.831
7	100	90	15.71	15.71	-167.02	0.00	-497.08	0.00	2.976
8	100	90	15.71	15.71	-160.28	0.00	-497.08	0.00	3.101
9	100	90	15.71	15.71	-153.41	0.00	-497.08	0.00	3.240
10	100	90	15.71	15.71	-146.44	0.00	-497.08	0.00	3.394
11	100	90	15.71	15.71	-139.39	0.00	-497.08	0.00	3.566
12	100	90	15.71	15.71	-132.29	0.00	-497.08	0.00	3.758
13	100	90	15.71	15.71	-125.15	0.00	-497.08	0.00	3.972
14	100	90	15.71	15.71	-118.01	0.00	-497.08	0.00	4.212
15	100	90	15.71	15.71	-110.87	0.00	-497.08	0.00	4.483
16	100	90	15.71	15.71	-103.76	0.00	-497.08	0.00	4.790
17	100	90	15.71	15.71	-96.71	0.00	-497.08	0.00	5.140
18	100	90	15.71	15.71	-89.74	0.00	-497.08	0.00	5.539
19	100	90	15.71	15.71	-82.87	0.00	-497.08	0.00	5.999
20	100	90	15.71	15.71	-76.11	0.00	-497.08	0.00	6.531
21	100	90	15.71	15.71	-69.50	0.00	-497.08	0.00	7.152
22	100	90	15.71	15.71	-63.05	0.00	-497.08	0.00	7.883
23	100	90	15.71	15.71	-56.79	0.00	-497.08	0.00	8.752
24	100	90	15.71	15.71	-50.74	0.00	-497.08	0.00	9.796
25	100	90	15.71	15.71	-44.92	0.00	-497.08	0.00	11.065
26	100	90	15.71	15.71	-39.35	0.00	-497.08	0.00	12.631
27	100	90	15.71	15.71	-34.06	0.00	-497.08	0.00	14.594
28	100	90	15.71	15.71	-29.07	0.00	-497.08	0.00	17.102
29	100	90	15.71	15.71	-24.39	0.00	-497.08	0.00	20.382
30	100	90	15.71	15.71	-20.05	0.00	-497.08	0.00	24.790
31	100	90	15.71	15.71	-16.08	0.00	-497.08	0.00	30.916
32	100	90	15.71	15.71	-12.49	0.00	-497.08	0.00	39.799
33	100	90	15.71	15.71	-9.31	0.00	-497.08	0.00	53.401
34	100	90	15.71	15.71	-6.56	0.00	-497.08	0.00	75.821
35	100	90	15.71	15.71	-4.25	0.00	-497.08	0.00	116.835
36	100	90	15.71	15.71	-2.43	0.00	-497.08	0.00	204.878
37	100	90	15.71	15.71	-1.09	0.00	-497.08	0.00	454.782
38	100	90	15.71	15.71	-0.28	0.00	-497.08	0.00	1795.010
39	100	90	15.71	15.71	0.00	0.00	0.00	0.00	100000.000

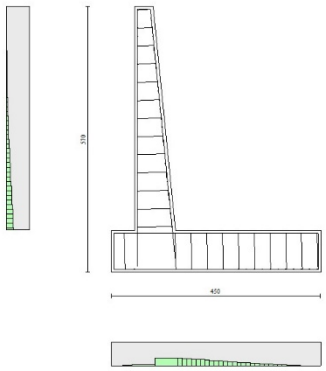


Fig. 17 - Paramento (Inviluppo)

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]
cotg□	inclinazione delle bielle compresse, □ 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

n°	B [cm]	H [cm]	A_{sw} [cmq]	cot□	V_{Rcd} [kN]	V_{Rsd} [kN]	V_{Rd} [kN]	T [kN]	FS
1	100	40	0.00	--	0.00	0.00	230.30	0.00	100.000
2	100	41	0.00	--	0.00	0.00	233.38	0.37	630.549
3	100	42	0.00	--	0.00	0.00	236.42	0.81	293.326
4	100	43	0.00	--	0.00	0.00	239.45	1.31	183.220
5	100	44	0.00	--	0.00	0.00	242.44	1.87	129.516
6	100	45	0.00	--	0.00	0.00	245.41	2.50	98.106
7	100	46	0.00	--	0.00	0.00	248.35	3.20	77.708
8	100	47	0.00	--	0.00	0.00	251.27	3.96	63.526
9	100	48	0.00	--	0.00	0.00	254.17	4.78	53.175
10	100	49	0.00	--	0.00	0.00	257.04	5.67	45.340
11	100	50	0.00	--	0.00	0.00	259.90	6.62	39.239
12	100	51	0.00	--	0.00	0.00	262.73	7.64	34.376
13	100	52	0.00	--	0.00	0.00	265.55	8.73	30.428
14	100	53	0.00	--	0.00	0.00	268.35	9.88	27.171
15	100	54	0.00	--	0.00	0.00	271.12	11.09	24.447
16	100	55	0.00	--	0.00	0.00	273.88	12.37	22.142
17	100	56	0.00	--	0.00	0.00	276.63	13.71	20.172
18	100	57	0.00	--	0.00	0.00	279.36	15.12	18.473
19	100	58	0.00	--	0.00	0.00	282.07	16.60	16.996
20	100	59	0.00	--	0.00	0.00	284.77	18.14	15.702
21	100	60	0.00	--	0.00	0.00	287.45	19.74	14.562
22	100	61	0.00	--	0.00	0.00	290.12	21.41	13.552
23	100	62	0.00	--	0.00	0.00	292.78	23.14	12.651
24	100	63	0.00	--	0.00	0.00	295.42	24.94	11.845
25	100	64	0.00	--	0.00	0.00	298.05	26.80	11.119
26	100	65	0.00	--	0.00	0.00	300.66	28.73	10.464
27	100	66	0.00	--	0.00	0.00	303.27	30.73	9.870
28	100	67	0.00	--	0.00	0.00	305.86	32.79	9.329
29	100	68	0.00	--	0.00	0.00	308.45	34.91	8.836
30	100	69	0.00	--	0.00	0.00	311.02	37.10	8.384
31	100	70	0.00	--	0.00	0.00	313.58	39.35	7.969
32	100	71	0.00	--	0.00	0.00	316.13	41.67	7.587
33	100	72	0.00	--	0.00	0.00	318.67	44.05	7.234
34	100	73	0.00	--	0.00	0.00	321.20	46.50	6.907
35	100	74	0.00	--	0.00	0.00	323.72	49.01	6.605
36	100	75	0.00	--	0.00	0.00	326.23	51.59	6.323
37	100	76	0.00	--	0.00	0.00	328.74	54.24	6.061
38	100	77	0.00	--	0.00	0.00	331.23	56.94	5.817
39	100	78	0.00	--	0.00	0.00	333.72	59.72	5.588
40	100	79	0.00	--	0.00	0.00	336.20	62.55	5.375
41	100	80	0.00	--	0.00	0.00	338.67	65.46	5.174
42	100	81	0.00	--	0.00	0.00	341.13	68.43	4.985
43	100	82	0.00	--	0.00	0.00	343.59	71.46	4.808
44	100	83	0.00	--	0.00	0.00	346.04	74.56	4.641
45	100	84	0.00	--	0.00	0.00	348.48	77.72	4.484
46	100	85	0.00	--	0.00	0.00	350.91	80.95	4.335
47	100	86	0.00	--	0.00	0.00	353.34	84.24	4.195
48	100	87	0.00	--	0.00	0.00	355.76	87.60	4.061
49	100	88	0.00	--	0.00	0.00	357.97	91.02	3.933

Fondazione

n°	B [cm]	H [cm]	A_{sw} [cmq]	cot□	V_{Rcd} [kN]	V_{Rsd} [kN]	V_{Rd} [kN]	T [kN]	FS
1	100	90	0.00	--	0.00	0.00	336.59	0.00	100.000
2	100	90	0.00	--	0.00	0.00	336.59	-15.67	21.480
3	100	90	0.00	--	0.00	0.00	336.59	-31.10	10.821
4	100	90	0.00	--	0.00	0.00	336.59	-46.30	7.269
5	100	90	0.00	--	0.00	0.00	336.59	-61.27	5.494
6	100	90	0.00	--	0.00	0.00	336.59	-75.99	4.429
7	100	90	0.00	--	0.00	0.00	336.59	-94.63	3.557
8	100	90	0.00	--	0.00	0.00	336.59	-92.09	3.655
9	100	90	0.00	--	0.00	0.00	336.59	-89.53	3.759
10	100	90	0.00	--	0.00	0.00	336.59	-86.94	3.871
11	100	90	0.00	--	0.00	0.00	336.59	-84.33	3.991
12	100	90	0.00	--	0.00	0.00	336.59	-81.69	4.120
13	100	90	0.00	--	0.00	0.00	336.59	-79.02	4.260
14	100	90	0.00	--	0.00	0.00	336.59	-76.32	4.410
15	100	90	0.00	--	0.00	0.00	336.59	-73.60	4.573
16	100	90	0.00	--	0.00	0.00	336.59	-72.62	4.635
17	100	90	0.00	--	0.00	0.00	336.59	-71.95	4.678

n°	B	H	A_{sw}	cot□	V_{Rcd}	V_{Rsd}	V_{Rd}	T	FS
	[cm]	[cm]	[cmq]		[kN]	[kN]	[kN]	[kN]	
18	100	90	0.00	--	0.00	0.00	336.59	-71.05	4.737
19	100	90	0.00	--	0.00	0.00	336.59	-69.93	4.813
20	100	90	0.00	--	0.00	0.00	336.59	-68.58	4.908
21	100	90	0.00	--	0.00	0.00	336.59	-67.00	5.023
22	100	90	0.00	--	0.00	0.00	336.59	-65.20	5.162
23	100	90	0.00	--	0.00	0.00	336.59	-63.17	5.328
24	100	90	0.00	--	0.00	0.00	336.59	-60.92	5.525
25	100	90	0.00	--	0.00	0.00	336.59	-58.44	5.760
26	100	90	0.00	--	0.00	0.00	336.59	-55.73	6.039
27	100	90	0.00	--	0.00	0.00	336.59	-52.80	6.375
28	100	90	0.00	--	0.00	0.00	336.59	-49.64	6.780
29	100	90	0.00	--	0.00	0.00	336.59	-46.26	7.276
30	100	90	0.00	--	0.00	0.00	336.59	-42.65	7.892
31	100	90	0.00	--	0.00	0.00	336.59	-38.82	8.671
32	100	90	0.00	--	0.00	0.00	336.59	-34.76	9.685
33	100	90	0.00	--	0.00	0.00	336.59	-30.47	11.047
34	100	90	0.00	--	0.00	0.00	336.59	-25.95	12.968
35	100	90	0.00	--	0.00	0.00	336.59	-21.22	15.865
36	100	90	0.00	--	0.00	0.00	336.59	-16.25	20.712
37	100	90	0.00	--	0.00	0.00	336.59	-11.06	30.434
38	100	90	0.00	--	0.00	0.00	336.59	-5.64	59.649
39	100	90	0.00	--	0.00	0.00	336.59	0.00	100.000

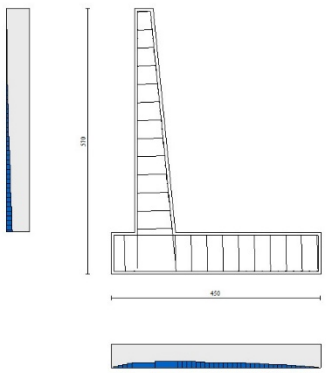


Fig. 18 - Paramento (Inviluppo)

Verifica delle tensioni

Simbologia adottata

n°	indice sezione
Y	ordinata sezione, espressa in [m]
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]
□c	tensione di compressione nel cls, espressa in [kPa]
□fi	tensione nei ferri inferiori, espressa in [kPa]
□fs	tensione nei ferri superiori, espressa in [kPa]

Combinazioni SLER

Paramento

Tensione massima di compressione nel calcestruzzo 19920 [kPa]
Tensione massima di trazione dell'acciaio 359949 [kPa]

n°	B	H	Afi	Afs	M	N	□c	□fi	□fs
	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kPa]	[kPa]	[kPa]
1	100	40	15.71	15.71	0.00	0.00	0 (19)	0 (19)	0 (19)
2	100	41	15.71	15.71	0.01	0.99	3 (22)	32 (19)	37 (22)
3	100	42	15.71	15.71	0.05	2.01	6 (22)	59 (19)	81 (22)
4	100	43	15.71	15.71	0.13	3.05	10 (22)	82 (19)	135 (22)
5	100	44	15.71	15.71	0.24	4.12	15 (22)	100 (19)	197 (22)
6	100	45	15.71	15.71	0.40	5.21	21 (22)	110 (19)	270 (22)
7	100	46	15.71	15.71	0.61	6.32	27 (22)	114 (19)	353 (22)
8	100	47	15.71	15.71	0.87	7.46	36 (22)	109 (19)	453 (22)
9	100	48	15.71	15.71	1.19	8.63	46 (22)	147 (22)	570 (22)
10	100	49	15.71	15.71	1.58	9.82	58 (22)	314 (22)	707 (22)
11	100	50	15.71	15.71	2.04	11.03	73 (22)	556 (22)	863 (22)
12	100	51	15.71	15.71	2.57	12.27	89 (22)	882 (22)	1037 (22)
13	100	52	15.71	15.71	3.18	13.53	107 (22)	1294 (22)	1228 (22)
14	100	53	15.71	15.71	3.87	14.82	127 (22)	1796 (22)	1435 (22)
15	100	54	15.71	15.71	4.66	16.13	149 (22)	2387 (22)	1656 (22)
16	100	55	15.71	15.71	5.54	17.46	172 (22)	3069 (22)	1894 (22)
17	100	56	15.71	15.71	6.52	18.82	198 (22)	3842 (22)	2146 (22)
18	100	57	15.71	15.71	7.61	20.21	224 (22)	4705 (22)	2413 (22)
19	100	58	15.71	15.71	8.81	21.62	252 (22)	5660 (22)	2695 (22)
20	100	59	15.71	15.71	10.12	23.05	282 (22)	6707 (22)	2991 (22)
21	100	60	15.71	15.71	11.56	24.51	313 (22)	7846 (22)	3303 (22)
22	100	61	15.71	15.71	13.12	25.99	346 (22)	9078 (22)	3629 (22)
23	100	62	15.71	15.71	14.81	27.50	380 (22)	10404 (22)	3971 (22)
24	100	63	15.71	15.71	16.64	29.03	415 (22)	11824 (22)	4327 (22)
25	100	64	15.71	15.71	18.60	30.58	452 (22)	13338 (22)	4698 (22)
26	100	65	15.71	15.71	20.72	32.16	490 (22)	14947 (22)	5084 (22)
27	100	66	15.71	15.71	22.99	33.77	530 (22)	16652 (22)	5485 (22)
28	100	67	15.71	15.71	25.41	35.40	571 (22)	18453 (22)	5901 (22)
29	100	68	15.71	15.71	28.00	37.05	613 (22)	20350 (22)	6332 (22)
30	100	69	15.71	15.71	30.75	38.73	656 (22)	22343 (22)	6777 (22)
31	100	70	15.71	15.71	33.67	40.43	701 (22)	24434 (22)	7237 (22)
32	100	71	15.71	15.71	36.78	42.16	747 (22)	26622 (22)	7711 (22)
33	100	72	15.71	15.71	40.06	43.91	794 (22)	28908 (22)	8200 (22)
34	100	73	15.71	15.71	43.53	45.69	843 (22)	31292 (22)	8704 (22)
35	100	74	15.71	15.71	47.20	47.49	892 (22)	33775 (22)	9222 (22)
36	100	75	15.71	15.71	51.06	49.31	943 (22)	36356 (22)	9754 (22)
37	100	76	15.71	15.71	55.12	51.16	995 (22)	39036 (22)	10301 (22)
38	100	77	15.71	15.71	59.40	53.04	1049 (22)	41815 (22)	10862 (22)
39	100	78	15.71	15.71	63.88	54.93	1103 (22)	44694 (22)	11437 (22)
40	100	79	15.71	15.71	68.59	56.86	1159 (22)	47672 (22)	12026 (22)
41	100	80	15.71	15.71	73.51	58.80	1215 (22)	50750 (22)	12629 (22)
42	100	81	15.71	15.71	78.67	60.78	1273 (22)	53928 (22)	13245 (22)
43	100	82	15.71	15.71	84.06	62.77	1332 (22)	57206 (22)	13876 (22)
44	100	83	15.71	15.71	89.68	64.79	1392 (22)	60585 (22)	14520 (22)
45	100	84	15.71	15.71	95.56	66.84	1453 (22)	64064 (22)	15178 (22)
46	100	85	15.71	15.71	101.68	68.91	1515 (22)	67644 (22)	15849 (22)
47	100	86	15.71	15.71	108.05	71.00	1578 (22)	71324 (22)	16534 (22)
48	100	87	15.71	15.71	114.68	73.12	1642 (22)	75106 (22)	17233 (22)
49	100	88	15.71	15.71	121.58	75.26	1710 (22)	79115 (22)	17971 (22)

Fondazione

Tensione massima di compressione nel calcestruzzo 17430 [kPa]
Tensione massima di trazione dell'acciaio 359949 [kPa]

n°	B	H	Afi	Afs	M	N	□c	□fi	□fs
	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kPa]	[kPa]	[kPa]
1	100	90	15.71	15.71	0.00	0.00	0 (19)	0 (19)	0 (19)
2	100	90	15.71	15.71	0.51	0.00	7 (22)	412 (22)	63 (22)
3	100	90	15.71	15.71	2.03	0.00	27 (22)	1647 (22)	254 (22)
4	100	90	15.71	15.71	4.57	0.00	60 (22)	3706 (22)	571 (22)
5	100	90	15.71	15.71	8.12	0.00	107 (22)	6589 (22)	1015 (22)
6	100	90	15.71	15.71	12.69	0.00	167 (22)	10297 (22)	1587 (22)
7	100	90	15.71	15.71	-3.42	0.00	49 (19)	3039 (19)	2778 (22)
8	100	90	15.71	15.71	-3.15	0.00	48 (19)	2988 (19)	2560 (22)
9	100	90	15.71	15.71	-2.90	0.00	47 (19)	2926 (19)	2354 (22)
10	100	90	15.71	15.71	-2.66	0.00	46 (19)	2853 (19)	2158 (22)
11	100	90	15.71	15.71	-2.43	0.00	45 (19)	2771 (19)	1973 (22)
12	100	90	15.71	15.71	-2.22	0.00	43 (19)	2679 (19)	1799 (22)
13	100	90	15.71	15.71	-2.02	0.00	42 (19)	2580 (19)	1635 (22)
14	100	90	15.71	15.71	-1.83	0.00	40 (19)	2474 (19)	1481 (22)
15	100	90	15.71	15.71	-1.65	0.00	38 (19)	2362 (19)	1337 (22)
16	100	90	15.71	15.71	-1.48	0.00	36 (19)	2244 (19)	1202 (22)
17	100	90	15.71	15.71	-1.33	0.00	34 (19)	2121 (19)	1076 (22)

n°	B	H	Afi	Afs	M	N	□c	□fi	□fs
	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kPa]	[kPa]	[kPa]
18	100	90	15.71	15.71	-1.18	0.00	32 (19)	1995 (19)	959 (22)
19	100	90	15.71	15.71	-1.05	0.00	30 (19)	1866 (19)	850 (22)
20	100	90	15.71	15.71	-0.92	0.00	28 (19)	1735 (19)	749 (22)
21	100	90	15.71	15.71	-0.81	0.00	26 (19)	1603 (19)	657 (22)
22	100	90	15.71	15.71	-0.70	0.00	24 (19)	1471 (19)	572 (22)
23	100	90	15.71	15.71	-0.61	0.00	22 (19)	1339 (19)	494 (22)
24	100	90	15.71	15.71	-0.52	0.00	20 (19)	1209 (19)	423 (22)
25	100	90	15.71	15.71	-0.44	0.00	18 (19)	1081 (19)	359 (22)
26	100	90	15.71	15.71	-0.37	0.00	15 (19)	956 (19)	301 (22)
27	100	90	15.71	15.71	-0.31	0.00	14 (19)	835 (19)	250 (22)
28	100	90	15.71	15.71	-0.25	0.00	12 (19)	719 (19)	204 (22)
29	100	90	15.71	15.71	-0.20	0.00	10 (19)	608 (19)	164 (22)
30	100	90	15.71	15.71	-0.16	0.00	8 (19)	504 (19)	128 (22)
31	100	90	15.71	15.71	-0.12	0.00	7 (19)	407 (19)	98 (22)
32	100	90	15.71	15.71	-0.09	0.00	5 (19)	319 (19)	73 (22)
33	100	90	15.71	15.71	-0.06	0.00	4 (19)	239 (19)	52 (22)
34	100	90	15.71	15.71	-0.04	0.00	3 (19)	170 (19)	35 (22)
35	100	90	15.71	15.71	-0.03	0.00	2 (19)	111 (19)	21 (22)
36	100	90	15.71	15.71	-0.01	0.00	1 (19)	64 (19)	12 (22)
37	100	90	15.71	15.71	-0.01	0.00	0 (19)	29 (19)	5 (22)
38	100	90	15.71	15.71	0.01	0.00	0 (1)	7 (19)	0 (1)
39	100	90	15.71	15.71	0.00	0.00	0 (19)	0 (19)	0 (19)

Combinazioni SLEF

Paramento

Tensione massima di compressione nel calcestruzzo	33200	[kPa]
Tensione massima di trazione dell'acciaio	449936	[kPa]

n°	B	H	Afi	Afs	M	N	□c	□fi	□fs
	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kPa]	[kPa]	[kPa]
1	100	40	15.71	15.71	0.00	0.00	0 (20)	0 (20)	0 (20)
2	100	41	15.71	15.71	0.01	0.99	2 (23)	32 (20)	34 (23)
3	100	42	15.71	15.71	0.03	2.01	5 (23)	59 (20)	73 (23)
4	100	43	15.71	15.71	0.07	3.05	8 (23)	82 (20)	116 (23)
5	100	44	15.71	15.71	0.13	4.12	12 (23)	100 (20)	166 (23)
6	100	45	15.71	15.71	0.23	5.21	16 (23)	110 (20)	222 (23)
7	100	46	15.71	15.71	0.36	6.32	21 (23)	114 (20)	285 (23)
8	100	47	15.71	15.71	0.54	7.46	27 (23)	109 (20)	356 (23)
9	100	48	15.71	15.71	0.75	8.63	33 (23)	96 (20)	435 (23)
10	100	49	15.71	15.71	1.02	9.82	41 (23)	74 (20)	526 (23)
11	100	50	15.71	15.71	1.35	11.03	49 (23)	53 (23)	632 (23)
12	100	51	15.71	15.71	1.74	12.27	60 (23)	165 (23)	754 (23)
13	100	52	15.71	15.71	2.19	13.53	72 (23)	331 (23)	895 (23)
14	100	53	15.71	15.71	2.71	14.82	86 (23)	565 (23)	1053 (23)
15	100	54	15.71	15.71	3.31	16.13	102 (23)	876 (23)	1230 (23)
16	100	55	15.71	15.71	4.00	17.46	120 (23)	1270 (23)	1424 (23)
17	100	56	15.71	15.71	4.76	18.82	140 (23)	1751 (23)	1633 (23)
18	100	57	15.71	15.71	5.62	20.21	161 (23)	2320 (23)	1858 (23)
19	100	58	15.71	15.71	6.58	21.62	184 (23)	2977 (23)	2098 (23)
20	100	59	15.71	15.71	7.64	23.05	209 (23)	3724 (23)	2351 (23)
21	100	60	15.71	15.71	8.81	24.51	235 (23)	4560 (23)	2620 (23)
22	100	61	15.71	15.71	10.09	25.99	262 (23)	5485 (23)	2902 (23)
23	100	62	15.71	15.71	11.48	27.50	291 (23)	6500 (23)	3198 (23)
24	100	63	15.71	15.71	13.00	29.03	321 (23)	7606 (23)	3509 (23)
25	100	64	15.71	15.71	14.65	30.58	353 (23)	8802 (23)	3833 (23)
26	100	65	15.71	15.71	16.43	32.16	386 (23)	10090 (23)	4172 (23)
27	100	66	15.71	15.71	18.34	33.77	420 (23)	11469 (23)	4525 (23)
28	100	67	15.71	15.71	20.40	35.40	456 (23)	12941 (23)	4892 (23)
29	100	68	15.71	15.71	22.61	37.05	493 (23)	14505 (23)	5273 (23)
30	100	69	15.71	15.71	24.97	38.73	531 (23)	16162 (23)	5669 (23)
31	100	70	15.71	15.71	27.49	40.43	571 (23)	17914 (23)	6078 (23)
32	100	71	15.71	15.71	30.17	42.16	612 (23)	19759 (23)	6502 (23)
33	100	72	15.71	15.71	33.03	43.91	654 (23)	21699 (23)	6940 (23)
34	100	73	15.71	15.71	36.05	45.69	697 (23)	23734 (23)	7392 (23)
35	100	74	15.71	15.71	39.26	47.49	742 (23)	25865 (23)	7858 (23)
36	100	75	15.71	15.71	42.64	49.31	787 (23)	28091 (23)	8338 (23)
37	100	76	15.71	15.71	46.22	51.16	834 (23)	30413 (23)	8833 (23)
38	100	77	15.71	15.71	49.99	53.04	883 (23)	32832 (23)	9341 (23)
39	100	78	15.71	15.71	53.96	54.93	932 (23)	35348 (23)	9863 (23)
40	100	79	15.71	15.71	58.14	56.86	982 (23)	37961 (23)	10399 (23)
41	100	80	15.71	15.71	62.52	58.80	1034 (23)	40672 (23)	10949 (23)
42	100	81	15.71	15.71	67.12	60.78	1087 (23)	43480 (23)	11512 (23)
43	100	82	15.71	15.71	71.94	62.77	1140 (23)	46386 (23)	12089 (23)
44	100	83	15.71	15.71	76.98	64.79	1195 (23)	49391 (23)	12680 (23)
45	100	84	15.71	15.71	82.26	66.84	1251 (23)	52494 (23)	13284 (23)

n°	B	H	Afi	Afs	M	N	□c	□fi	□fs
	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kPa]	[kPa]	[kPa]
46	100	85	15.71	15.71	87.76	68.91	1309 (23)	55696 (23)	13902 (23)
47	100	86	15.71	15.71	93.51	71.00	1367 (23)	58997 (23)	14533 (23)
48	100	87	15.71	15.71	99.51	73.12	1426 (23)	62397 (23)	15178 (23)
49	100	88	15.71	15.71	105.75	75.26	1489 (23)	66006 (23)	15859 (23)

Fondazione

Tensione massima di compressione nel calcestruzzo 29050 [kPa]
Tensione massima di trazione dell'acciaio 449936 [kPa]

n°	B	H	Afi	Afs	M	N	□c	□fi	□fs
	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kPa]	[kPa]	[kPa]
1	100	90	15.71	15.71	0.00	0.00	0 (20)	0 (20)	0 (20)
2	100	90	15.71	15.71	0.48	0.00	6 (23)	386 (23)	60 (23)
3	100	90	15.71	15.71	1.90	0.00	25 (23)	1545 (23)	238 (23)
4	100	90	15.71	15.71	4.29	0.00	56 (23)	3478 (23)	536 (23)
5	100	90	15.71	15.71	7.62	0.00	100 (23)	6186 (23)	953 (23)
6	100	90	15.71	15.71	11.91	0.00	157 (23)	9668 (23)	1490 (23)
7	100	90	15.71	15.71	3.75	0.00	49 (20)	3039 (20)	468 (20)
8	100	90	15.71	15.71	3.68	0.00	48 (20)	2988 (20)	460 (20)
9	100	90	15.71	15.71	3.61	0.00	47 (20)	2926 (20)	451 (20)
10	100	90	15.71	15.71	3.52	0.00	46 (20)	2853 (20)	440 (20)
11	100	90	15.71	15.71	3.41	0.00	45 (20)	2771 (20)	427 (20)
12	100	90	15.71	15.71	3.30	0.00	43 (20)	2679 (20)	413 (20)
13	100	90	15.71	15.71	3.18	0.00	42 (20)	2580 (20)	398 (20)
14	100	90	15.71	15.71	3.05	0.00	40 (20)	2474 (20)	381 (20)
15	100	90	15.71	15.71	2.91	0.00	38 (20)	2362 (20)	364 (20)
16	100	90	15.71	15.71	2.76	0.00	36 (20)	2244 (20)	346 (20)
17	100	90	15.71	15.71	2.61	0.00	34 (20)	2121 (20)	327 (20)
18	100	90	15.71	15.71	2.46	0.00	32 (20)	1995 (20)	307 (20)
19	100	90	15.71	15.71	2.30	0.00	30 (20)	1866 (20)	288 (20)
20	100	90	15.71	15.71	2.14	0.00	28 (20)	1735 (20)	267 (20)
21	100	90	15.71	15.71	1.98	0.00	26 (20)	1603 (20)	247 (20)
22	100	90	15.71	15.71	1.81	0.00	24 (20)	1471 (20)	227 (20)
23	100	90	15.71	15.71	1.65	0.00	22 (20)	1339 (20)	206 (20)
24	100	90	15.71	15.71	1.49	0.00	20 (20)	1209 (20)	186 (20)
25	100	90	15.71	15.71	1.33	0.00	18 (20)	1081 (20)	167 (20)
26	100	90	15.71	15.71	1.18	0.00	15 (20)	956 (20)	147 (20)
27	100	90	15.71	15.71	1.03	0.00	14 (20)	835 (20)	129 (20)
28	100	90	15.71	15.71	0.89	0.00	12 (20)	719 (20)	111 (20)
29	100	90	15.71	15.71	0.75	0.00	10 (20)	608 (20)	94 (20)
30	100	90	15.71	15.71	0.62	0.00	8 (20)	504 (20)	78 (20)
31	100	90	15.71	15.71	0.50	0.00	7 (20)	407 (20)	63 (20)
32	100	90	15.71	15.71	0.39	0.00	5 (20)	319 (20)	49 (20)
33	100	90	15.71	15.71	0.29	0.00	4 (20)	239 (20)	37 (20)
34	100	90	15.71	15.71	0.21	0.00	3 (20)	170 (20)	26 (20)
35	100	90	15.71	15.71	0.14	0.00	2 (20)	111 (20)	17 (20)
36	100	90	15.71	15.71	0.08	0.00	1 (20)	64 (20)	10 (20)
37	100	90	15.71	15.71	0.04	0.00	0 (20)	29 (20)	0 (1)
38	100	90	15.71	15.71	0.01	0.00	0 (1)	7 (20)	0 (1)
39	100	90	15.71	15.71	0.00	0.00	0 (20)	0 (20)	0 (20)

Combinazioni SLEQ

Paramento

Tensione massima di compressione nel calcestruzzo 14940 [kPa]
Tensione massima di trazione dell'acciaio 449936 [kPa]

n°	B	H	Afi	Afs	M	N	□c	□fi	□fs
	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kPa]	[kPa]	[kPa]
1	100	40	15.71	15.71	0.00	0.00	0 (21)	0 (21)	0 (21)
2	100	41	15.71	15.71	0.01	1.03	2 (25)	32 (21)	36 (25)
3	100	42	15.71	15.71	0.03	2.09	5 (25)	59 (21)	77 (25)
4	100	43	15.71	15.71	0.08	3.17	9 (25)	82 (21)	125 (25)
5	100	44	15.71	15.71	0.17	4.27	13 (25)	100 (21)	180 (25)
6	100	45	15.71	15.71	0.29	5.41	18 (25)	110 (21)	244 (25)
7	100	46	15.71	15.71	0.45	6.56	24 (25)	114 (21)	316 (25)
8	100	47	15.71	15.71	0.67	7.75	31 (25)	109 (21)	399 (25)
9	100	48	15.71	15.71	0.94	8.95	38 (25)	96 (21)	495 (25)
10	100	49	15.71	15.71	1.22	9.45	48 (25)	87 (26)	610 (25)
11	100	50	15.71	15.71	1.60	10.61	60 (25)	226 (26)	745 (25)
12	100	51	15.71	15.71	2.06	11.81	74 (25)	437 (26)	902 (25)

n°	B	H	Afi	Afs	M	N	□c	□fi	□fs
	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kPa]	[kPa]	[kPa]
13	100	52	15.71	15.71	2.59	13.02	90 (25)	733 (26)	1081 (25)
14	100	53	15.71	15.71	3.38	15.38	109 (25)	1124 (25)	1280 (25)
15	100	54	15.71	15.71	4.13	16.74	130 (25)	1625 (25)	1498 (25)
16	100	55	15.71	15.71	4.97	18.12	153 (25)	2233 (25)	1734 (25)
17	100	56	15.71	15.71	5.93	19.53	177 (25)	2946 (25)	1988 (25)
18	100	57	15.71	15.71	7.00	20.97	204 (25)	3767 (25)	2259 (25)
19	100	58	15.71	15.71	8.19	22.43	233 (25)	4696 (25)	2547 (25)
20	100	59	15.71	15.71	9.50	23.92	263 (25)	5732 (25)	2853 (25)
21	100	60	15.71	15.71	10.95	25.43	296 (25)	6878 (25)	3175 (25)
22	100	61	15.71	15.71	12.54	26.97	330 (25)	8134 (25)	3515 (25)
23	100	62	15.71	15.71	14.28	28.53	365 (25)	9500 (25)	3872 (25)
24	100	63	15.71	15.71	16.16	30.12	403 (25)	10978 (25)	4247 (25)
25	100	64	15.71	15.71	18.21	31.74	442 (25)	12569 (25)	4639 (25)
26	100	65	15.71	15.71	20.42	33.38	483 (25)	14272 (25)	5049 (25)
27	100	66	15.71	15.71	22.80	35.04	525 (25)	16090 (25)	5477 (25)
28	100	67	15.71	15.71	25.35	36.73	569 (25)	18022 (25)	5922 (25)
29	100	68	15.71	15.71	28.09	38.45	615 (25)	20071 (25)	6384 (25)
30	100	69	15.71	15.71	31.02	40.19	662 (25)	22235 (25)	6865 (25)
31	100	70	15.71	15.71	34.15	41.96	711 (25)	24516 (25)	7363 (25)
32	100	71	15.71	15.71	37.48	43.75	761 (25)	26915 (25)	7879 (25)
33	100	72	15.71	15.71	41.02	45.57	813 (25)	29433 (25)	8412 (25)
34	100	73	15.71	15.71	44.78	47.41	867 (25)	32069 (25)	8963 (25)
35	100	74	15.71	15.71	48.75	49.28	922 (25)	34824 (25)	9532 (25)
36	100	75	15.71	15.71	52.96	51.17	978 (25)	37700 (25)	10118 (25)
37	100	76	15.71	15.71	57.40	53.09	1036 (25)	40696 (25)	10721 (25)
38	100	77	15.71	15.71	62.07	55.03	1096 (25)	43812 (25)	11342 (25)
39	100	78	15.71	15.71	67.00	57.00	1157 (25)	47050 (25)	11980 (25)
40	100	79	15.71	15.71	72.18	59.00	1219 (25)	50410 (25)	12635 (25)
41	100	80	15.71	15.71	77.62	61.02	1283 (25)	53891 (25)	13308 (25)
42	100	81	15.71	15.71	83.33	63.07	1348 (25)	57495 (25)	13997 (25)
43	100	82	15.71	15.71	89.31	65.14	1415 (25)	61222 (25)	14703 (25)
44	100	83	15.71	15.71	95.56	67.24	1482 (25)	65072 (25)	15427 (25)
45	100	84	15.71	15.71	102.10	69.36	1552 (25)	69046 (25)	16167 (25)
46	100	85	15.71	15.71	108.94	71.51	1622 (25)	73143 (25)	16924 (25)
47	100	86	15.71	15.71	116.07	73.68	1694 (25)	77364 (25)	17698 (25)
48	100	87	15.71	15.71	123.50	75.88	1768 (25)	81709 (25)	18488 (25)
49	100	88	15.71	15.71	131.25	78.10	1846 (25)	86316 (25)	19323 (25)

Fondazione

Tensione massima di compressione nel calcestruzzo	13073	[kPa]
Tensione massima di trazione dell'acciaio	449936	[kPa]

n°	B	H	Afi	Afs	M	N	□c	□fi	□fs
	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kPa]	[kPa]	[kPa]
1	100	90	15.71	15.71	0.00	0.00	0 (21)	0 (21)	0 (21)
2	100	90	15.71	15.71	0.66	0.00	9 (25)	535 (25)	83 (25)
3	100	90	15.71	15.71	2.63	0.00	35 (25)	2134 (25)	329 (25)
4	100	90	15.71	15.71	5.90	0.00	77 (25)	4785 (25)	737 (25)
5	100	90	15.71	15.71	10.45	0.00	137 (25)	8477 (25)	1306 (25)
6	100	90	15.71	15.71	16.26	0.00	214 (25)	13198 (25)	2034 (25)
7	100	90	15.71	15.71	-100.63	0.00	1322 (26)	12583 (26)	81664 (26)
8	100	90	15.71	15.71	-96.52	0.00	1268 (26)	12069 (26)	78328 (26)
9	100	90	15.71	15.71	-92.34	0.00	1213 (26)	11547 (26)	74937 (26)
10	100	90	15.71	15.71	-88.11	0.00	1158 (26)	11017 (26)	71501 (26)
11	100	90	15.71	15.71	-83.83	0.00	1101 (26)	10483 (26)	68032 (26)
12	100	90	15.71	15.71	-79.53	0.00	1045 (26)	9945 (26)	64540 (26)
13	100	90	15.71	15.71	-75.21	0.00	988 (26)	9405 (26)	61036 (26)
14	100	90	15.71	15.71	-70.89	0.00	931 (26)	8864 (26)	57529 (26)
15	100	90	15.71	15.71	-66.58	0.00	875 (26)	8325 (26)	54030 (26)
16	100	90	15.71	15.71	-62.29	0.00	818 (26)	7789 (26)	50551 (26)
17	100	90	15.71	15.71	-58.04	0.00	763 (26)	7258 (26)	47101 (26)
18	100	90	15.71	15.71	-53.84	0.00	707 (26)	6732 (26)	43691 (26)
19	100	90	15.71	15.71	-49.70	0.00	653 (26)	6214 (26)	40332 (26)
20	100	90	15.71	15.71	-45.63	0.00	600 (26)	5706 (26)	37033 (26)
21	100	90	15.71	15.71	-41.66	0.00	547 (26)	5209 (26)	33807 (26)
22	100	90	15.71	15.71	-37.78	0.00	496 (26)	4725 (26)	30663 (26)
23	100	90	15.71	15.71	-34.02	0.00	447 (26)	4254 (26)	27611 (26)
24	100	90	15.71	15.71	-30.39	0.00	399 (26)	3800 (26)	24663 (26)
25	100	90	15.71	15.71	-26.90	0.00	353 (26)	3363 (26)	21828 (26)
26	100	90	15.71	15.71	-23.56	0.00	310 (26)	2946 (26)	19118 (26)
27	100	90	15.71	15.71	-20.39	0.00	268 (26)	2549 (26)	16543 (26)
28	100	90	15.71	15.71	-17.39	0.00	229 (26)	2175 (26)	14113 (26)
29	100	90	15.71	15.71	-14.59	0.00	192 (26)	1824 (26)	11839 (26)
30	100	90	15.71	15.71	-11.99	0.00	158 (26)	1500 (26)	9732 (26)
31	100	90	15.71	15.71	-9.61	0.00	126 (26)	1202 (26)	7802 (26)
32	100	90	15.71	15.71	-7.47	0.00	98 (26)	934 (26)	6060 (26)
33	100	90	15.71	15.71	-5.56	0.00	73 (26)	696 (26)	4515 (26)
34	100	90	15.71	15.71	-3.92	0.00	51 (26)	490 (26)	3179 (26)

n°	B	H	Afi	Afs	M	N	□c	□fi	□fs
	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kN]	[kPa]	[kPa]	[kPa]
35	100	90	15.71	15.71	-2.54	0.00	33 (26)	318 (26)	2063 (26)
36	100	90	15.71	15.71	-1.45	0.00	19 (26)	181 (26)	1176 (26)
37	100	90	15.71	15.71	-0.65	0.00	9 (26)	82 (26)	530 (26)
38	100	90	15.71	15.71	-0.17	0.00	2 (26)	21 (26)	134 (26)
39	100	90	15.71	15.71	0.00	0.00	0 (21)	0 (21)	0 (21)

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]
□	deformazione espresso in %
Sm	spaziatura tra le fessure espressa in [mm]
w	apertura delle fessure espressa in [mm]

Combinazioni SLEF

Paramento

Apertura limite fessure w_{lim}=0.30

n°	B	H	Af	Aeff	M	Mpf	□	Sm	w
	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kNm]	[%]	[mm]	[mm]
1	100	40	0.00	0.00	0.00	0.00	---	---	0.000 (20)
2	100	41	15.71	1034.12	0.00	122.22	0.000000	0.00	0.000 (20)
3	100	42	15.71	1061.73	0.02	128.23	0.000000	0.00	0.000 (20)
4	100	43	15.71	1089.38	0.05	134.38	0.000000	0.00	0.000 (20)
5	100	44	15.71	1117.07	0.09	140.66	0.000000	0.00	0.000 (20)
6	100	45	15.71	1144.81	0.17	147.06	0.000000	0.00	0.000 (20)
7	100	46	15.71	1172.59	0.27	153.61	0.000000	0.00	0.000 (20)
8	100	47	15.71	1200.41	0.41	160.28	0.000000	0.00	0.000 (20)
9	100	48	15.71	1228.27	0.59	167.09	0.000000	0.00	0.000 (20)
10	100	49	15.71	1256.16	0.82	174.02	0.000000	0.00	0.000 (20)
11	100	50	15.71	1284.09	1.10	181.10	0.000000	0.00	0.000 (20)
12	100	51	15.71	1312.06	1.43	188.30	0.000000	0.00	0.000 (20)
13	100	52	15.71	1340.05	1.83	195.63	0.000000	0.00	0.000 (20)
14	100	53	15.71	1368.09	2.29	203.10	0.000000	0.00	0.000 (20)
15	100	54	15.71	1396.15	2.82	210.70	0.000000	0.00	0.000 (20)
16	100	55	15.71	1424.25	3.43	218.44	0.000000	0.00	0.000 (20)
17	100	56	15.71	1452.37	4.12	226.29	0.000000	0.00	0.000 (20)
18	100	57	15.71	1480.53	4.90	234.29	0.000000	0.00	0.000 (20)
19	100	58	15.71	1500.00	5.77	242.42	0.000000	0.00	0.000 (20)
20	100	59	15.71	1500.00	6.74	250.68	0.000000	0.00	0.000 (20)
21	100	60	15.71	1500.00	7.81	259.07	0.000000	0.00	0.000 (20)
22	100	61	15.71	1500.00	8.98	267.60	0.000000	0.00	0.000 (20)
23	100	62	15.71	1500.00	10.27	276.25	0.000000	0.00	0.000 (20)
24	100	63	15.71	1500.00	11.68	285.04	0.000000	0.00	0.000 (20)
25	100	64	15.71	1500.00	13.21	293.97	0.000000	0.00	0.000 (20)
26	100	65	15.71	1500.00	14.86	303.02	0.000000	0.00	0.000 (20)
27	100	66	15.71	1500.00	16.65	312.22	0.000000	0.00	0.000 (20)
28	100	67	15.71	1500.00	18.58	321.54	0.000000	0.00	0.000 (20)
29	100	68	15.71	1500.00	20.65	330.98	0.000000	0.00	0.000 (20)
30	100	69	15.71	1500.00	22.87	340.58	0.000000	0.00	0.000 (20)
31	100	70	15.71	1500.00	25.24	350.30	0.000000	0.00	0.000 (20)
32	100	71	15.71	1500.00	27.77	360.15	0.000000	0.00	0.000 (20)
33	100	72	15.71	1500.00	30.47	370.14	0.000000	0.00	0.000 (20)
34	100	73	15.71	1500.00	33.33	380.27	0.000000	0.00	0.000 (20)
35	100	74	15.71	1500.00	36.37	390.50	0.000000	0.00	0.000 (20)
36	100	75	15.71	1500.00	39.58	400.90	0.000000	0.00	0.000 (20)
37	100	76	15.71	1500.00	42.98	411.43	0.000000	0.00	0.000 (20)
38	100	77	15.71	1500.00	46.57	422.06	0.000000	0.00	0.000 (20)
39	100	78	15.71	1500.00	50.35	432.86	0.000000	0.00	0.000 (20)
40	100	79	15.71	1500.00	54.34	443.77	0.000000	0.00	0.000 (20)
41	100	80	15.71	1500.00	58.52	454.84	0.000000	0.00	0.000 (20)
42	100	81	15.71	1500.00	62.92	466.03	0.000000	0.00	0.000 (20)
43	100	82	15.71	1500.00	67.53	477.35	0.000000	0.00	0.000 (20)
44	100	83	15.71	1500.00	72.36	488.81	0.000000	0.00	0.000 (20)
45	100	84	15.71	1500.00	77.42	500.41	0.000000	0.00	0.000 (20)
46	100	85	15.71	1500.00	82.71	512.14	0.000000	0.00	0.000 (20)
47	100	86	15.71	1500.00	88.23	524.02	0.000000	0.00	0.000 (20)

n°	B	H	Af	Aeff	M	Mpf	□	Sm	w
	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kNm]	[%]	[mm]	[mm]
48	100	87	15.71	1500.00	93.99	536.00	0.000000	0.00	0.000 (20)
49	100	88	15.71	1500.00	100.00	546.95	0.000000	0.00	0.000 (20)

Fondazione

Apertura limite fessure w_{lim}=0.40

n°	B	H	Af	Aeff	M	Mpf	□	Sm	w
	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kNm]	[%]	[mm]	[mm]
1	100	90	0.00	0.00	0.00	0.00	---	---	0.000 (20)
2	100	90	15.71	1500.00	0.46	513.45	0.000000	0.00	0.000 (20)
3	100	90	15.71	1500.00	1.86	513.45	0.000000	0.00	0.000 (20)
4	100	90	15.71	1500.00	4.18	513.45	0.000000	0.00	0.000 (20)
5	100	90	15.71	1500.00	7.44	513.45	0.000000	0.00	0.000 (20)
6	100	90	15.71	1500.00	11.63	513.45	0.000000	0.00	0.000 (20)
7	100	90	15.71	1500.00	3.75	513.45	0.000000	0.00	0.000 (20)
8	100	90	15.71	1500.00	3.68	513.45	0.000000	0.00	0.000 (20)
9	100	90	15.71	1500.00	3.61	513.45	0.000000	0.00	0.000 (20)
10	100	90	15.71	1500.00	3.52	513.45	0.000000	0.00	0.000 (20)
11	100	90	15.71	1500.00	3.41	513.45	0.000000	0.00	0.000 (20)
12	100	90	15.71	1500.00	3.30	513.45	0.000000	0.00	0.000 (20)
13	100	90	15.71	1500.00	3.18	513.45	0.000000	0.00	0.000 (20)
14	100	90	15.71	1500.00	3.05	513.45	0.000000	0.00	0.000 (20)
15	100	90	15.71	1500.00	2.91	513.45	0.000000	0.00	0.000 (20)
16	100	90	15.71	1500.00	2.76	513.45	0.000000	0.00	0.000 (20)
17	100	90	15.71	1500.00	2.61	513.45	0.000000	0.00	0.000 (20)
18	100	90	15.71	1500.00	2.46	513.45	0.000000	0.00	0.000 (20)
19	100	90	15.71	1500.00	2.30	513.45	0.000000	0.00	0.000 (20)
20	100	90	15.71	1500.00	2.14	513.45	0.000000	0.00	0.000 (20)
21	100	90	15.71	1500.00	1.98	513.45	0.000000	0.00	0.000 (20)
22	100	90	15.71	1500.00	1.81	513.45	0.000000	0.00	0.000 (20)
23	100	90	15.71	1500.00	1.65	513.45	0.000000	0.00	0.000 (20)
24	100	90	15.71	1500.00	1.49	513.45	0.000000	0.00	0.000 (20)
25	100	90	15.71	1500.00	1.33	513.45	0.000000	0.00	0.000 (20)
26	100	90	15.71	1500.00	1.18	513.45	0.000000	0.00	0.000 (20)
27	100	90	15.71	1500.00	1.03	513.45	0.000000	0.00	0.000 (20)
28	100	90	15.71	1500.00	0.89	513.45	0.000000	0.00	0.000 (20)
29	100	90	15.71	1500.00	0.75	513.45	0.000000	0.00	0.000 (20)
30	100	90	15.71	1500.00	0.62	513.45	0.000000	0.00	0.000 (20)
31	100	90	15.71	1500.00	0.50	513.45	0.000000	0.00	0.000 (20)
32	100	90	15.71	1500.00	0.39	513.45	0.000000	0.00	0.000 (20)
33	100	90	15.71	1500.00	0.29	513.45	0.000000	0.00	0.000 (20)
34	100	90	15.71	1500.00	0.21	513.45	0.000000	0.00	0.000 (20)
35	100	90	15.71	1500.00	0.14	513.45	0.000000	0.00	0.000 (20)
36	100	90	15.71	1500.00	0.08	513.45	0.000000	0.00	0.000 (20)
37	100	90	15.71	1500.00	0.04	513.45	0.000000	0.00	0.000 (20)
38	100	90	15.71	1500.00	0.01	513.45	0.000000	0.00	0.000 (20)
39	100	90	0.00	0.00	0.00	0.00	---	---	0.000 (20)

Combinazioni SLEQ

Paramento

Apertura limite fessure w_{lim}=0.20

n°	B	H	Af	Aeff	M	Mpf	□	Sm	w
	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kNm]	[%]	[mm]	[mm]
1	100	40	0.00	0.00	0.00	0.00	---	---	0.000 (21)
2	100	41	15.71	1034.12	0.00	122.22	0.000000	0.00	0.000 (21)
3	100	42	15.71	1061.73	0.02	128.23	0.000000	0.00	0.000 (21)
4	100	43	15.71	1089.38	0.05	134.38	0.000000	0.00	0.000 (21)
5	100	44	15.71	1117.07	0.09	140.66	0.000000	0.00	0.000 (21)
6	100	45	15.71	1144.81	0.17	147.06	0.000000	0.00	0.000 (21)
7	100	46	15.71	1172.59	0.27	153.61	0.000000	0.00	0.000 (21)
8	100	47	15.71	1200.41	0.41	160.28	0.000000	0.00	0.000 (21)
9	100	48	15.71	1228.27	0.59	167.09	0.000000	0.00	0.000 (21)
10	100	49	15.71	1256.16	0.82	174.02	0.000000	0.00	0.000 (21)
11	100	50	15.71	1284.09	1.10	181.10	0.000000	0.00	0.000 (21)
12	100	51	15.71	1312.06	1.43	188.30	0.000000	0.00	0.000 (21)
13	100	52	15.71	1340.05	1.83	195.63	0.000000	0.00	0.000 (21)
14	100	53	15.71	1368.09	2.29	203.10	0.000000	0.00	0.000 (21)
15	100	54	15.71	1396.15	2.82	210.70	0.000000	0.00	0.000 (21)
16	100	55	15.71	1424.25	3.43	218.44	0.000000	0.00	0.000 (21)
17	100	56	15.71	1452.37	4.12	226.29	0.000000	0.00	0.000 (21)
18	100	57	15.71	1480.53	4.90	234.29	0.000000	0.00	0.000 (21)
19	100	58	15.71	1500.00	5.77	242.42	0.000000	0.00	0.000 (21)

n°	B	H	Af	Aeff	M	Mpf	□	Sm	w
	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kNm]	[%]	[mm]	[mm]
20	100	59	15.71	1500.00	6.74	250.68	0.000000	0.00	0.000 (21)
21	100	60	15.71	1500.00	7.81	259.07	0.000000	0.00	0.000 (21)
22	100	61	15.71	1500.00	8.98	267.60	0.000000	0.00	0.000 (21)
23	100	62	15.71	1500.00	10.27	276.25	0.000000	0.00	0.000 (21)
24	100	63	15.71	1500.00	11.68	285.04	0.000000	0.00	0.000 (21)
25	100	64	15.71	1500.00	13.21	293.97	0.000000	0.00	0.000 (21)
26	100	65	15.71	1500.00	14.86	303.02	0.000000	0.00	0.000 (21)
27	100	66	15.71	1500.00	16.65	312.22	0.000000	0.00	0.000 (21)
28	100	67	15.71	1500.00	18.58	321.54	0.000000	0.00	0.000 (21)
29	100	68	15.71	1500.00	20.65	330.98	0.000000	0.00	0.000 (21)
30	100	69	15.71	1500.00	22.87	340.58	0.000000	0.00	0.000 (21)
31	100	70	15.71	1500.00	25.24	350.30	0.000000	0.00	0.000 (21)
32	100	71	15.71	1500.00	27.77	360.15	0.000000	0.00	0.000 (21)
33	100	72	15.71	1500.00	30.47	370.14	0.000000	0.00	0.000 (21)
34	100	73	15.71	1500.00	33.33	380.27	0.000000	0.00	0.000 (21)
35	100	74	15.71	1500.00	36.37	390.50	0.000000	0.00	0.000 (21)
36	100	75	15.71	1500.00	39.58	400.90	0.000000	0.00	0.000 (21)
37	100	76	15.71	1500.00	42.98	411.43	0.000000	0.00	0.000 (21)
38	100	77	15.71	1500.00	46.57	422.06	0.000000	0.00	0.000 (21)
39	100	78	15.71	1500.00	50.35	432.86	0.000000	0.00	0.000 (21)
40	100	79	15.71	1500.00	54.34	443.77	0.000000	0.00	0.000 (21)
41	100	80	15.71	1500.00	58.52	454.84	0.000000	0.00	0.000 (21)
42	100	81	15.71	1500.00	62.92	466.03	0.000000	0.00	0.000 (21)
43	100	82	15.71	1500.00	67.53	477.35	0.000000	0.00	0.000 (21)
44	100	83	15.71	1500.00	72.36	488.81	0.000000	0.00	0.000 (21)
45	100	84	15.71	1500.00	77.42	500.41	0.000000	0.00	0.000 (21)
46	100	85	15.71	1500.00	82.71	512.14	0.000000	0.00	0.000 (21)
47	100	86	15.71	1500.00	88.23	524.02	0.000000	0.00	0.000 (21)
48	100	87	15.71	1500.00	93.99	536.00	0.000000	0.00	0.000 (21)
49	100	88	15.71	1500.00	100.00	546.95	0.000000	0.00	0.000 (21)

Fondazione

Apertura limite fessure w_{lim}=0.30

n°	B	H	Af	Aeff	M	Mpf	□	Sm	w
	[cm]	[cm]	[cmq]	[cmq]	[kNm]	[kNm]	[%]	[mm]	[mm]
1	100	90	0.00	0.00	0.00	0.00	---	---	0.000 (21)
2	100	90	15.71	1500.00	0.46	513.45	0.000000	0.00	0.000 (21)
3	100	90	15.71	1500.00	1.86	513.45	0.000000	0.00	0.000 (21)
4	100	90	15.71	1500.00	4.18	513.45	0.000000	0.00	0.000 (21)
5	100	90	15.71	1500.00	7.44	513.45	0.000000	0.00	0.000 (21)
6	100	90	15.71	1500.00	11.63	513.45	0.000000	0.00	0.000 (21)
7	100	90	15.71	1500.00	3.75	513.45	0.000000	0.00	0.000 (21)
8	100	90	15.71	1500.00	3.68	513.45	0.000000	0.00	0.000 (21)
9	100	90	15.71	1500.00	3.61	513.45	0.000000	0.00	0.000 (21)
10	100	90	15.71	1500.00	3.52	513.45	0.000000	0.00	0.000 (21)
11	100	90	15.71	1500.00	3.41	513.45	0.000000	0.00	0.000 (21)
12	100	90	15.71	1500.00	3.30	513.45	0.000000	0.00	0.000 (21)
13	100	90	15.71	1500.00	3.18	513.45	0.000000	0.00	0.000 (21)
14	100	90	15.71	1500.00	3.05	513.45	0.000000	0.00	0.000 (21)
15	100	90	15.71	1500.00	2.91	513.45	0.000000	0.00	0.000 (21)
16	100	90	15.71	1500.00	2.76	513.45	0.000000	0.00	0.000 (21)
17	100	90	15.71	1500.00	2.61	513.45	0.000000	0.00	0.000 (21)
18	100	90	15.71	1500.00	2.46	513.45	0.000000	0.00	0.000 (21)
19	100	90	15.71	1500.00	2.30	513.45	0.000000	0.00	0.000 (21)
20	100	90	15.71	1500.00	2.14	513.45	0.000000	0.00	0.000 (21)
21	100	90	15.71	1500.00	1.98	513.45	0.000000	0.00	0.000 (21)
22	100	90	15.71	1500.00	1.81	513.45	0.000000	0.00	0.000 (21)
23	100	90	15.71	1500.00	1.65	513.45	0.000000	0.00	0.000 (21)
24	100	90	15.71	1500.00	1.49	513.45	0.000000	0.00	0.000 (21)
25	100	90	15.71	1500.00	1.33	513.45	0.000000	0.00	0.000 (21)
26	100	90	15.71	1500.00	1.18	513.45	0.000000	0.00	0.000 (21)
27	100	90	15.71	1500.00	1.03	513.45	0.000000	0.00	0.000 (21)
28	100	90	15.71	1500.00	0.89	513.45	0.000000	0.00	0.000 (21)
29	100	90	15.71	1500.00	0.75	513.45	0.000000	0.00	0.000 (21)
30	100	90	15.71	1500.00	0.62	513.45	0.000000	0.00	0.000 (21)
31	100	90	15.71	1500.00	0.50	513.45	0.000000	0.00	0.000 (21)
32	100	90	15.71	1500.00	0.39	513.45	0.000000	0.00	0.000 (21)
33	100	90	15.71	1500.00	0.29	513.45	0.000000	0.00	0.000 (21)
34	100	90	15.71	1500.00	0.21	513.45	0.000000	0.00	0.000 (21)
35	100	90	15.71	1500.00	0.14	513.45	0.000000	0.00	0.000 (21)
36	100	90	15.71	1500.00	0.08	513.45	0.000000	0.00	0.000 (21)
37	100	90	15.71	1500.00	0.04	513.45	0.000000	0.00	0.000 (21)
38	100	90	15.71	1500.00	0.01	513.45	0.000000	0.00	0.000 (21)
39	100	90	0.00	0.00	0.00	0.00	---	---	0.000 (21)

11.5 Armatura di progetto

PARAMENTO:

- ARMATURA LONGITUDINALE: **ϕ20/20 lato terra + ϕ20/20 lato scavo**
- ARMATURA TRASVERSALE: **9ϕ8/m²**

FONDAZIONE:

- ARMATURA LONGITUDINALE: **ϕ20/20 superiori + ϕ20/20 inferiori**
- ARMATURA TRASVERSALE: **NON PREVISTA**