

S.S. n.626 della "Valle del Salso"

Lotti 7° e 8° e completamento della Tangenziale di Gela

Itinerario Gela – Agrigento – Castelvetro

PROGETTO DEFINITIVO

COD. PA83

PROGETTAZIONE: ANAS - DIREZIONE PROGETTAZIONE E REALIZZAZIONE LAVORI

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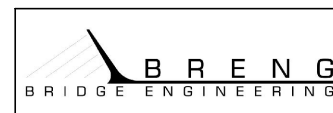
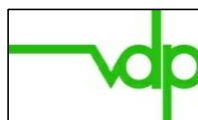


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VIADOTTI E PONTI

Relazione di calcolo – Muri andatori



| CODICE PROGETTO | | NOME FILE | | REVISIONE | SCALA: |
|-----------------|-----------------|-----------------------|----------------|------------|-----------|
| PROGETTO | LIV. PROG. ANNO | PA83_P00VI00STRRE01_A | | | |
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INDICE

| | | |
|------------|---|-----------|
| 1 | GENERALITA' | 4 |
| 1.1 | OGGETTO..... | 4 |
| 1.2 | VITA NOMINALE DI PROGETTO, CLASSE D'USO E PERIODO DI RIFERIMENTO DELL'OPERA..... | 4 |
| 1.2.1 | <i>Vita Nominale V_n</i> | 4 |
| 1.2.2 | <i>Classi d'Uso</i> | 4 |
| 1.2.3 | <i>Periodo di Riferimento per l'azione sismica</i> | 5 |
| 1.3 | DESCRIZIONE DELLE OPERE..... | 5 |
| 2 | NORMATIVE E RIFERIMENTI | 7 |
| 3 | NORME TECNICHE | 7 |
| 4 | CARATTERISTICHE DEI MATERIALI E RESISTENZE DI PROGETTO | 8 |
| 4.1 | CALCESTRUZZI | 8 |
| 4.1.1 | <i>Caratteristiche ai fini della durabilità</i> | 8 |
| 4.1.2 | <i>Copriferri nominali</i> | 9 |
| 4.1.3 | <i>Resistenze di progetto</i> | 11 |
| 4.1.4 | <i>Verifiche a fessurazione</i> | 11 |
| 5 | CRITERI DI CALCOLO | 13 |
| 5.1 | CALCOLO DELLA SPINTA | 13 |
| 5.1.1 | <i>Metodo di Culmann</i> | 13 |
| 5.1.2 | <i>Spinta in presenza di sisma</i> | 13 |
| 5.2 | DETERMINAZIONE DEGLI SCARICHI SUI PALI..... | 15 |
| 5.3 | VERIFICA A STABILITÀ GLOBALE..... | 15 |
| 5.4 | VERIFICHE IN CONDIZIONI STATICHE E SISMICHE (STR - GEO) | 16 |
| 5.4.1 | <i>Verifiche SLU di collasso per carico limite del palo singolo nei riguardi del carico assiale di compressione</i> | 18 |
| 5.4.2 | <i>Verifiche SLU di collasso per carico limite della palificata nei riguardi del carico assiale di compressione</i> | 21 |
| 5.4.3 | <i>Verifiche SLU di collasso per sfilamento del palo singolo nei riguardi del carico assiale di trazione</i> | 22 |

| | | |
|----------|--|-----------|
| 5.4.4 | Verifiche SLU di collasso per carico limite del palo singolo nei riguardi del carico trasversale | 22 |
| 5.4.5 | Verifiche SLU di collasso per carico limite della palificata nei riguardi del carico trasversale | 28 |
| 6 | AZIONI E COMBINAZIONI DI PROGETTO | 32 |
| 6.1 | ANALISI DEI CARICHI | 32 |
| 6.1.1 | Carichi permanenti | 32 |
| 6.1.2 | Azione sismica..... | 32 |
| 6.2 | COMBINAZIONI DI CARICO..... | 33 |
| 7 | SEZIONI DI ANALISI E RISULTATI..... | 34 |
| 7.1 | RIEPILOGO DELLE AZIONI IN TESTA AI PALI DI FONDAZIONE | 34 |
| 7.1.1 | Muri H6 | 34 |
| 7.1.2 | Muri H7 | 34 |
| 7.1.3 | Muri H8 | 34 |
| 7.1.4 | Muri H10 | 35 |
| 7.2 | CARATTERISTICHE DELLA SOLLECITAZIONE PER VERIFICHE PALI DI FONDAZIONE | 35 |
| 7.2.1 | Muri MA H6..... | 35 |
| 7.2.2 | Muri MA H7..... | 36 |
| 7.2.3 | Muri MA H8..... | 36 |
| 7.2.4 | Muri MA H10..... | 36 |
| 8 | VERIFICHE..... | 37 |
| 8.1 | VERIFICHE STRUTTURALI DEI PALI DI FONDAZIONE | 37 |
| 8.1.1 | Muri di tipo MA H6..... | 37 |
| 8.1.2 | Muri di tipo MA H7 | 41 |
| 8.1.3 | Muri di tipo MA H8..... | 45 |
| 8.1.4 | Muri di tipo MA H10..... | 49 |
| 8.2 | VERIFICHE GEOTECNICHE DEI PALI DI FONDAZIONE..... | 53 |
| 8.3 | VERIFICHE STRUTTURALI DEI MURI | 53 |
| 9 | DICHIARAZIONE ACCETTABILITÀ RISULTATI (PAR. 10.2 N.T.C. 2018) | 54 |
| 9.1 | TIPO DI ANALISI SVOLTE..... | 54 |
| 9.2 | ORIGINE E CARATTERISTICHE DEI CODICI DI CALCOLO..... | 54 |
| 9.3 | AFFIDABILITÀ DEI CODICI DI CALCOLO | 54 |

| | | |
|-----------|--|------------|
| 9.4 | MODALITÀ DI PRESENTAZIONE DEI RISULTATI | 54 |
| 9.5 | INFORMAZIONI GENERALI SULL'ELABORAZIONE..... | 55 |
| 9.6 | GIUDIZIO MOTIVATO DI ACCETTABILITÀ DEI RISULTATI | 55 |
| 10 | ALLEGATO 1 – TABULATI DI CALCOLO – VERIFICHE STRUTTURALI E GEOTECNICHE DEI MURI – MURO TIPO MA H10 (H=6 M) | 56 |
| 11 | ALLEGATO 2 – TABULATI DI CALCOLO – VERIFICHE STRUTTURALI E GEOTECNICHE DEI MURI - MURO TIPO MA H7 (H=7 M) | 108 |
| 12 | ALLEGATO 3 – TABULATI DI CALCOLO – VERIFICHE STRUTTURALI E GEOTECNICHE DEI MURI - MURO TIPO MA H8 (H=8 M) | 161 |
| 13 | ALLEGATO 4 – TABULATI DI CALCOLO – VERIFICHE STRUTTURALI E GEOTECNICHE DEI MURI - MURO TIPO MA H10 (H=10 M) | 215 |

1 GENERALITA'

1.1 Oggetto

La presente relazione illustra le analisi e le verifiche relative ai **Muri d'ala delle Spalla dei Viadotti** previsti nell'ambito dei lavori di realizzazione della "S.S. n.626 – Lotti 7° e 8° e completamento della Tangenziale di Gela tra la S.S. 117 bis e la S.S. 626 (Caltanissetta Gela)".

Nell'ambito dell'intervento, per le spalle con muro frontale di altezza maggiore di 4 m, sono previsti muri d'ala disposti in adiacenza alla spalla, fondati su pali, di altezza variabile tra quella delle spalle e quella dei muri di sottoscarpa, cui si raccordano.

Le analisi e le verifiche statiche sono condotte conformemente al livello di Progettazione Definitiva di cui trattasi e mirano al dimensionamento degli elementi principali per consentirne una piena definizione dal punto di vista prestazionale ed economico (§art. 26 e 29 D.P.R. 5/10/2010, n°207).

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

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

1.2.1 Vita Nominale V_N

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

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

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

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

Tabella 1.1 – Valori minimi della Vita nominale V_N di progetto per i diversi tipi di costruzioni

In accordo con la Committenza Anas è stato assunto:

- Vita Nominale di progetto: $V_N = 100$ anni (costruzioni con livelli di prestazione elevati).

1.2.2 Classi d'Uso

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

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

- Classe II:* Costruzioni il cui uso preveda normali affollamenti, senza contenuti pericolosi per l'ambiente e senza funzioni pubbliche e sociali essenziali. Industrie con attività non pericolose per l'ambiente. Ponti, opere infrastrutturali, reti viarie non ricadenti in Classe d'uso III o in Classe d'uso IV, reti ferroviarie la cui interruzione non provochi situazioni di emergenza. Dighe il cui collasso non provochi conseguenze rilevanti.
- Classe III:* Costruzioni il cui uso preveda affollamenti significativi. Industrie con attività pericolose per l'ambiente. Reti viarie extraurbane non ricadenti in Classe d'uso IV. Ponti e reti ferroviarie la cui interruzione provochi situazioni di emergenza. Dighe rilevanti per le conseguenze di un loro eventuale collasso.
- Classe IV:* Costruzioni con funzioni pubbliche o strategiche importanti, anche con riferimento alla gestione della protezione civile in caso di calamità. Industrie con attività particolarmente pericolose per l'ambiente. Reti viarie di tipo A o B, di cui al DM 5/11/2001, n. 6792, "Norme funzionali e geometriche per la costruzione delle strade", e di tipo C quando appartenenti ad itinerari di collegamento tra capoluoghi di provincia non altresì serviti da strade di tipo A o B. Ponti e reti ferroviarie di importanza critica per il mantenimento delle vie di comunicazione, particolarmente dopo un evento sismico. Dighe connesse al funzionamento di acquedotti e a impianti di produzione di energia elettrica.

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

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

1.2.3 Periodo di Riferimento per l'azione sismica

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

- Periodo di Riferimento: $V_R = V_N \times C_U = 100 \times 2.0 = 200$ anni.

1.3 Descrizione delle opere

Le opere analizzate nella presente relazione sono costituite da muri a mensola fondati su pali. Le fondazioni delle spalle sono di tipo indiretto, costituite da zattere di spessore pari a 1.50 m e palificate di pali trivellati di diametro $\phi 1200$.

Le tipologie esaminate sono le seguenti:

- **MA H6:** per altezze del paramento $H \leq 6.0$ m, con 6 pali di fondazione;
- **MA H7:** per altezze del paramento $6.0 \text{ m} < H \leq 7.0$ m, con 9 pali di fondazione;
- **MA H8:** per altezze del paramento $7.0 \text{ m} < H \leq 8.0$ m, con 9 pali di fondazione;
- **MA H10:** per altezze del paramento $8.0 \text{ m} < H \leq 10.0$ m con 11 pali di fondazione.

Le diverse tipologie sono state individuate con riferimento ad un'altezza del paramento frontale del muro d'ala corrispondente alla spinta media agente sul concio di muro analizzato. Dette, infatti, S_{MIN} e S_{MAX} le spinte corrispondenti all'altezza minima e massima si ha:

$$S_{MIN} = 0.5 \times KA \times \gamma \times H^2_{MIN}$$

$$S_{MAX} = 0.5 \times KA \times \gamma \times H^2_{MAX}$$

$$S_{MED} = (S_{MIN} + S_{MAX}) / 2$$

Cui corrisponde un'altezza media pari a:

$$H_{MED} = [(H^2_{MIN} + H^2_{MAX})/2]^{0.5}$$

| VI01 | SPALLA B | Concio Iniziale Concio Finale | | HMEDIA | |
|--------------|-----------------|----------------------------------|-------|--------|---------------|
| | | HMIN | HMAX | | |
| | | m | m | m | |
| | | 3.92 | 8.92 | 6.89 | MA H7 |
| | | 3.71 | 8.71 | 6.69 | MA H7 |
| VI02 | SPALLA A | 3.82 | 8.82 | 6.80 | MA H7 |
| | | 3.48 | 8.48 | 6.48 | MA H7 |
| VI03 | SPALLA A | 3.96 | 8.96 | 6.93 | MA H7 |
| | | 3.7 | 8.7 | 6.69 | MA H7 |
| | SPALLA B | 3.2 | 8.2 | 6.22 | MA H7 |
| | | 3.46 | 8.46 | 6.46 | MA H7 |
| | | 4.85 | 9.85 | 7.76 | MA H8 |
| | | 4.72 | 9.72 | 7.64 | MA H8 |
| VI06B | SPALLA A | 6.85 | 11.85 | 9.68 | MA H10 |
| | | 6.50 | 11.5 | 9.34 | MA H10 |
| VI07 | SPALLA B | 2.27 | 7.97 | 5.86 | MA H6 |
| VI08 | SPALLA A | 3.96 | 8.96 | 6.93 | MA H7 |
| | | 3.70 | 8.70 | 6.69 | MA H7 |
| | SPALLA B | 4.46 | 9.46 | 7.40 | MA H8 |
| | | 4.20 | 9.20 | 7.15 | MA H8 |
| VI09 | SPALLA A | 3.5 | 8.5 | 6.50 | MA H7 |
| | | 3.19 | 8.19 | 6.21 | MA H7 |
| | SPALLA B | 5.04 | 10.04 | 7.94 | MA H8 |
| | | 4.70 | 9.70 | 7.62 | MA H8 |
| SV01 | SPALLA A | 4.02 | 9.02 | 6.98 | MA H7 |
| | | 4.19 | 9.19 | 7.14 | MA H8 |

2 NORMATIVE E RIFERIMENTI

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

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

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

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

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

3 NORME TECNICHE

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

4 CARATTERISTICHE DEI MATERIALI E RESISTENZE DI PROGETTO

4.1 Calcestruzzi

4.1.1 Caratteristiche ai fini della durabilità

Al fine di valutare le caratteristiche vincolanti delle miscele di calcestruzzo nei confronti della durabilità viene fatto riferimento alle norme [D_3] e [D_4].

Relativamente alla scelta delle classi di esposizione tenuto conto che il tracciato si sviluppa oltre 2 km dalla linea di costa è stata esclusa l'applicazione della classe XS (Corrosione indotta dai cloruri contenuti nell'acqua di mare).

Analogamente, in accordo alla "Classificazione del livello di rischio di attacco del gelo per aree climatiche del territorio italiano" contenuta nell'appendice A alla norma [D_4], che attribuisce alla Sicilia un livello di rischio **Nulla**, è stata esclusa l'applicazione della classe XF (Attacco dei cicli gelo/disgelo con o senza disgelanti), e conseguentemente della classe XD (corrosione indotta da cloruri esclusi quelli provenienti dall'acqua di mare).

Relativamente all'applicazione della classe XA (Attacco chimico da parte del terreno naturale e delle acque contenute nel terreno), le analisi chimiche eseguite su campioni di terreno e su acqua di falda ai sensi della norma UNI EN 206, hanno evidenziato concentrazioni di solfati (SO_4^{2-}) nelle acque di falda, tali da rientrare nei range illustrati nel prospetto 2 della norma [D_3].

Di seguito il prospetto di sintesi riportato nel report "Documentazione indagini ambientali", prodotto da TECNOIN (§4.4 – Attacco chimico del calcestruzzo).

Classe di esposizione per le acque

| Denominazione | | Acqua | | | | | Classi di esposizione | | |
|---------------------------------------|----------|-------|------|------|------|------|-----------------------|-----------|-----------|
| | | S04 | S09 | S13 | S28 | S30 | XA1 | XA2 | XA3 |
| PARAMETRO | U. M. | | | | | | | | |
| Solfati (ione solfato) | mg/L | 2400 | 250 | 2600 | 3700 | 2010 | 200-600 | 600-3000 | 3000-6000 |
| pH | unità pH | 6,62 | 6,97 | 7 | 6,93 | 6,94 | 5,5-6,5 | 4,5-5,5 | 4,0-4,5 |
| Anidride carbonica (CO ₂) | mg/L | 11 | 4 | 10 | 8 | 7 | 15-40 | 40-100 | >100 |
| Ammoniaca (ione ammonio) | mg/L | <0,4 | <0,4 | <0,4 | <0,4 | <0,4 | 15-30 | 30-60 | 60-100 |
| Magnesio | mg/L | 65 | 57 | 61 | 59 | 58 | 300-1000 | 1000-3000 | >3000 |

Le concentrazioni di solfati rilevate in larga prevalenza permettono di definire per le membrature di fondazione una classe di esposizione XA2.

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

| CARATTERISTICHE DEI CALCESTRUZZI (UNI EN 206-1 / UNI 11104) | | | | | |
|---|--------|---------------|--------------------------------------|-------------------------------|---|
| CALCESTRUZZO PER | | Magrone | Sottofondazioni - Pali trivellati | Fondazioni – muri andatori | Elevazioni –muri andatori, coronamenti |
| Classe di resistenza (fck/Rck) (Mpa) | | C12/15 | C32/40 | C32/40 | C 32/40 |
| Classe di esposizione ambientale | | - | XC2-XA2 | XC2-XA2 | XC4 |
| φ max inerti (mm) | Dupper | - | 32 | 32 | 25 |
| | Dlower | - | 20 | 20 | 16 |
| Classe di consistenza | | - | S5 | S4 | S4 |
| Rapporto max acqua/cemento | | - | 0.50 | 0.50 | 0.5 |
| Tipo di cemento (secondo UNI EN 197-1) | | - | CEM IV | CEM IV | CEM IV |
| Contenuto minimo di cemento (kg/m ³) | | 150 | 340*** | 340**-.*** | 340 |

Tabella 3.1 – Caratteristiche dei Calcestruzzi

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

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

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

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

*** cemento tipo SR resistente ai solfati secondo EN 197/1.

4.1.2 Copriferrini nominali

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

Tabella C4.1.IV - Copriferrini minimi in mm

| C _{min} | C ₀ | ambiente | barre da c.a. elementi a piastra | | barre da c.a. altri elementi | | cavi da c.a.p. elementi a piastra | | cavi da c.a.p. altri elementi | |
|------------------|----------------|------------|-------------------------------------|---------------------------------------|---------------------------------|---------------------------------------|--------------------------------------|---------------------------------------|----------------------------------|---------------------------------------|
| | | | C ≥ C ₀ | C _{min} ≤ C < C ₀ | C ≥ C ₀ | C _{min} ≤ C < C ₀ | C ≥ C ₀ | C _{min} ≤ C < C ₀ | C ≥ C ₀ | C _{min} ≤ C < C ₀ |
| C25/30 | C35/45 | ordinario | 15 | 20 | 20 | 25 | 25 | 30 | 30 | 35 |
| C30/37 | C40/50 | aggressivo | 25 | 30 | 30 | 35 | 35 | 40 | 40 | 45 |
| C35/45 | C45/55 | molto ag. | 35 | 40 | 40 | 45 | 45 | 50 | 50 | 50 |

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

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

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

DETERMINAZIONE DEI COPRIFERRI NOMINALI SECONDO NTC2018

| Dati generali relativi all'opera | Var | unità | |
|---|----------------|-------|-----|
| Tipo di costruzione (1=temp. o provvisoria; 2 = prestazioni ordinarie; 3=prestazioni elevate) | TC | | 3 |
| Vita nominale dell'opera | V _N | anni | 100 |

Tabella C4.1.IV Copriferri minimi in mm

| ambiente | barre da c.a. | | | | | | cavi da c.a.p. | | | |
|------------|-----------------------------------|---|-------------------|-----------------------------------|---|-------------------|-----------------------------------|---|-------------------|----|
| | elementi a piastra | | | altri elementi | | | elementi a piastra | | altri elementi | |
| | R _{ck} ≥R _{ck0} | R _{ck} min≤R _{ck} ≤R _{ck0} | R _{ck} 0 | R _{ck} ≥R _{ck0} | R _{ck} min≤R _{ck} ≤R _{ck0} | R _{ck} 0 | R _{ck} ≥R _{ck0} | R _{ck} min≤R _{ck} ≤R _{ck0} | R _{ck} 0 | |
| ordinario | 30 | 45 | 15 | 20 | 20 | 25 | 25 | 30 | 30 | 35 |
| aggressivo | 37 | 50 | 25 | 30 | 30 | 35 | 35 | 40 | 40 | 45 |
| molto ag. | 45 | 55 | 35 | 40 | 40 | 45 | 5 | 50 | 50 | 50 |

| Elemento | Sottofondazioni - Pali trivellati e diaframmi | Fondazioni - Spalle, pile e muri andatori | Elevazioni - Spalle e muri andatori |
|---|---|---|-------------------------------------|
| Tipo di armatura (1=barre da c.a.; 2=cavi da c.a.p.) | 1 | 1 | 1 |
| Elemento a piastra | NO | SI | SI |
| Classe di esposizione | XC2 - XA2 | XC2 - XA2 | XC4 |
| Ambiente | aggressivo | aggressivo | aggressivo |
| R _{ck} Mpa | 40 | 40 | 40 |
| Check R _{ck} min | OK | OK | OK |
| copriferro minimo (Tab. C4.1.IV NTC) mm | 35 | 30 | 30 |
| incremento Per V _n =100 (tipo di costruzione 3) mm | 10 | 10 | 10 |
| elem. prefabbricato con ver. Copriferri* | NO | NO | NO |
| riduzione per produzioni con ver. Copriferri | 0 | 0 | 0 |
| Tolleranza di posa | 10 | 10 | 10 |
| copriferro nominale mm | 55 | 50 | 50 |
| <i>* Elemento prefabbricato prodotto con sistema sottoposto a controllo di qualità che comprenda la verifica dei copriferri</i> | | | |
| copriferro nominale di progetto mm | 75 | 50 | 50 |

Tabella 3.2 – Valori dei copriferri nominali in base alle NTC2018

I valori effettivamente adottati per i copriferri nominali di progetto tengono conto anche di criteri di uniformità e della volontà di garantire valori maggiori dei minimi di norma per superfici contro-terra e particolarmente per le opere di sottofondazione. In questo caso, si è fatto riferimento alla indicazione dell'EC2 (EN 1992-1-1), che fissa a 75 mm il valore da garantire per il copriferro di opere gettate direttamente contro il terreno.

4.1.3 Resistenze di progetto

Calcestruzzo C32/40:

| Caratteristiche Calcestruzzo | Var | C32/40 |
|---|---|--------|
| Resistenza a compressione caratteristica cubica | R_{ck} | 40 |
| Resistenza a compressione caratteristica cilindrica | $f_{ck} = 0.83 R_{ck}$ | 32 |
| Resistenza media a compressione cilindrica | $f_{cm} = f_{ck} + 8$ | 40.00 |
| Resistenza media a trazione semplice | f_{ctm} | 3.02 |
| Resistenza caratteristica a trazione semplice | $f_{ctk5\%} = 0.7 f_{ctm}$ | 2.12 |
| Resistenza caratteristica a trazione semplice | $f_{ctk95\%} = 1.3 f_{ctm}$ | 3.93 |
| Resistenza media a trazione per flessione | $f_{ctm} = 1.2 f_{ctm}$ | 3.63 |
| Modulo elastico | $E_{cm} = 22000 \times (f_{cm}/10)^{0.3}$ | 33346 |

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

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

| ANCORAGGIO DELLE BARRE | Var | |
|---|--|------|
| Tensione tan. ultima di ad. $\phi \leq 32$ mm - buona ad. | $f_{bd} = 2.25 \times 1.0 \times 1.0 \times f_{ctk} / g_c$ | 3.18 |
| Tensione tan. ultima di ad. $\phi \leq 32$ mm - non buona ad. | $f_{bd} = 2.25 \times 0.7 \times 1.0 \times f_{ctk} / g_c$ | 2.22 |

4.1.4 Verifiche a fessurazione

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

Tab. 4.1.III – Descrizione delle condizioni ambientali

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

Nel caso in esame si considerano:

- Condizioni **aggressive**: per le verifiche a fessurazione delle **elevazioni dei muri** (classe di esposizione **XC4**) e per le verifiche a fessurazione delle **fondazioni** e delle **sottofondazioni** (classe di esposizione **XA2**).

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

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

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

Pertanto, nel caso in esame si ha:

- Verifiche a fessurazione – condizioni ambientali **Aggressive** – Armatura poco sensibile:
 - o Combinazione di azioni frequente: $w_k \leq w_2 = 0.3$ mm
 - o Combinazione di azioni quasi permanente: $w_k \leq w_1 = 0.2$ mm

4.2 Acciaio in barre per cemento armato

4.2.1 Qualità dell'acciaio

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

4.2.2 Resistenze di progetto

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

5 CRITERI DI CALCOLO

Le analisi e le verifiche sono state condotte con l'ausilio del seguente programma di calcolo:

- MAX 15.0 – vers. 15.03.e, prodotto da Aztec Informatica.

5.1 Calcolo della spinta

5.1.1 Metodo di Culmann

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

I passi del procedimento risolutivo sono i seguenti:

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

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

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

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

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

5.1.2 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 parete pari a:

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

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

Avendo posto

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

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

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

Terreno a bassa permeabilità

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

Terreno a permeabilità elevata

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

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

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

dove il coefficiente A vale

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

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

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

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

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

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

5.2 Determinazione degli scarichi sui pali

Gli scarichi sui pali vengono determinati mediante il metodo delle rigidezze.

La piastra di fondazione viene considerata infinitamente rigida (3 gradi di libertà) ed i pali vengono considerati incastrati o incernierati (la scelta del vincolo viene fatta dall'Utente nella tabella CARATTERISTICHE del sottomenu PALI) a tale piastra.

Viene effettuata una prima analisi di ogni palo di ciascuna fila (i pali di ogni fila hanno le stesse caratteristiche) per costruire una curva carichi-spostamenti del palo. Questa curva viene costruita considerando il palo elastico. Si tratta, in definitiva, della matrice di rigidezza del palo K_e , costruita imponendo traslazioni e rotazioni unitarie per determinare le corrispondenti sollecitazioni in testa al palo.

Nota la matrice di rigidezza di ogni palo si assembla la matrice globale (di dimensioni 3x3) della palificata, K .

A questo punto, note le forze agenti in fondazione (N, T, M) si possono ricavare gli spostamenti della piastra (abbassamento, traslazione e rotazione) e le forze che si scaricano su ciascun palo. Infatti indicando con p il vettore dei carichi e con u il vettore degli spostamenti della piastra abbiamo:

$$- u = K^{-1}p$$

Noti gli spostamenti della piastra, e quindi della testa dei pali, abbiamo gli scarichi su ciascun palo. Allora per ciascun palo viene effettuata un'analisi elastoplastica incrementale (tramite il metodo degli elementi finiti) che, tenendo conto della plasticizzazione del terreno, calcola le sollecitazioni in tutte le sezioni del palo; le caratteristiche del terreno (rappresentate da K_h) sono tali che se non è possibile raggiungere l'equilibrio si ha collasso per rottura del terreno.

5.3 Verifica a stabilità globale

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

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

Viene usata la tecnica della suddivisione a strisce della superficie di scorrimento da analizzare. La superficie di scorrimento viene supposta circolare e determinata in modo tale da non avere intersezione con il profilo del muro o con i pali di fondazione. Si determina il minimo coefficiente di sicurezza su una maglia di centri di dimensioni 10x10 posta in prossimità della sommità del muro. Il numero di strisce è pari a 50.

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

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

dove il termine m è espresso da

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

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

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

5.4 Verifiche in condizioni statiche e sismiche (STR - GEO)

In accordo alle NTC2018 le verifiche SLU di tipo geotecnico (GEO) delle fondazioni dei muri su pali sono state effettuate con riferimento ai seguenti stati limite, accertando che la condizione $Ed \leq Rd$ sia soddisfatta per ogni stato limite considerato:

- Collasso per carico limite del palo singolo nei riguardi dei carichi assiali;
- Collasso per carico limite della palificata nei riguardi dei carichi assiali;
- Collasso per carico limite di sfilamento del palo singolo nei riguardi dei carichi assiali di trazione;
- Collasso per carico limite del palo singolo nei riguardi dei carichi trasversali;
- Collasso per carico limite della palificata nei riguardi dei carichi trasversali;
- Stabilità globale.

Le verifiche di stabilità globale vengono effettuate seguendo l'Approccio 1 con la combinazione dei coefficienti parziali (A2, M2, R2) definiti dalle tabelle 6.2.I, 6.2.II e 6.8.I delle NTC2018:

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

| | Effetto | Coefficiente Parziale γ_E (o $\gamma_{E'}$) | EQU | (A1) | (A2) |
|--------------------------------|-------------|--|-----|------|------|
| Carichi permanenti G_1 | Favorevole | γ_{G1} | 0,9 | 1,0 | 1,0 |
| | Sfavorevole | | 1,1 | 1,3 | 1,0 |
| Carichi permanenti $G_2^{(1)}$ | Favorevole | γ_{G2} | 0,8 | 0,8 | 0,8 |
| | Sfavorevole | | 1,5 | 1,5 | 1,3 |
| Azioni variabili Q | Favorevole | γ_{Q1} | 0,0 | 0,0 | 0,0 |
| | Sfavorevole | | 1,5 | 1,5 | 1,3 |

⁽¹⁾ Per i carichi permanenti G_2 si applica quanto indicato alla Tabella 2.6.I. Per la spinta delle terre si fa riferimento ai coefficienti γ_{Q1}

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

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

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

| COEFFICIENTE | R2 |
|--------------|-----|
| γ_R | 1,1 |

Le altre verifiche agli stati limite ultimi finalizzate al dimensionamento geotecnico (carico limite della palificata nei riguardi dei carichi assiali, trasversali e di sfilamento), sono state effettuate riferendosi all'Approccio 2 con i gruppi parziali A1, M1, R3 definiti dalle tabelle 6.2.I, 6.2.II, precedentemente illustrate, 6.4.II e 6.4.VI:

Tab. 6.4.II – Coefficienti parziali γ_R da applicare alle resistenze caratteristiche a carico verticale dei pali

| Resistenza | Simbolo | Pali infissi (R3) | Pali trivellati (R3) | Pali ad elica continua (R3) |
|--------------------------|---------------|-------------------|----------------------|-----------------------------|
| | γ_R | | | |
| Base | γ_b | 1,15 | 1,35 | 1,3 |
| Laterale in compressione | γ_s | 1,15 | 1,15 | 1,15 |
| Totale ⁽¹⁾ | γ | 1,15 | 1,30 | 1,25 |
| Laterale in trazione | γ_{st} | 1,25 | 1,25 | 1,25 |

⁽¹⁾ da applicare alle resistenze caratteristiche dedotte dai risultati di prove di carico di progetto.

Tab. 6.4.VI - Coefficiente parziale γ_T per le verifiche agli stati limite ultimi di pali soggetti a carichi trasversali

| Coefficiente parziale (R3) |
|----------------------------|
| $\gamma_T = 1,3$ |

Per quanto riguarda le verifiche agli SLU di tipo strutturale (STR), per le Verifiche di resistenza degli elementi strutturali si è utilizzato l'Approccio 2: A1+M1+R3.

In accordo con le nuove Norme Tecniche per le Costruzioni di cui al D.M. 17/01/2018 - capitolo 7.11 – sono state condotte anche le verifiche in condizioni sismiche applicando i coefficienti parziali dei parametri geotecnici ed alle resistenze, mentre i coefficienti parziali dei carichi sono stati posti pari ad 1.

Per quanto riguarda la stabilità globale si è utilizzato l'Approccio 1 Combinazione 2: M2+R2+kh±kv.

Per quanto riguarda le altre verifiche agli SLU di tipo geotecnico si è utilizzato l'Approccio 2: M1+R3+kh±kv.

Per quanto riguarda invece le verifiche agli SLU di tipo strutturale, per le Verifiche di resistenza degli elementi strutturali si è utilizzato l'Approccio 2: M1+R3+kh±kv.

5.4.1 Verifiche SLU di collasso per carico limite del palo singolo nei riguardi del carico assiale di compressione

Deve essere:

$$Fcd \leq Rcd$$

Dove:

Fcd è il carico assiale di compressione assunto in progetto nelle verifiche allo SLU agente sul palo singolo;

Rcd la Resistenza di progetto allo SLU per il palo singolo fornita dalla seguente espressione:

$$Rcd = Rbd + Rsd - Wp$$

Essendo:

$Rbd = Rbk / \gamma_b$ la resistenza alla base di progetto;

$Rsd = Rsk / \gamma_s$ la resistenza laterale di progetto;

Wp il peso del palo alleggerito;

γ_b, γ_s coefficienti di sicurezza parziali da applicare alle resistenze caratteristiche a carico verticale dei pali, forniti dalla Tab. 6.4.II delle NTC2018 precedentemente illustrata;

$Rbk = \text{Min} [(Rbc, cal)_{media} / \xi_3; (Rbc, cal)_{min} / \xi_4]$ la resistenza alla punta caratteristica;

$Rsk = \text{Min} [(Rsc, cal)_{media} / \xi_3; (Rsc, cal)_{min} / \xi_4]$ la resistenza laterale caratteristica;

ξ_3, ξ_4 coefficienti di riduzione che dipendono dal numero di verticali indagate, determinati in base alla Tab. 6.4.IV delle NTC2018:

Tab. 6.4.IV - Fattori di correlazione ξ per la determinazione della resistenza caratteristica in funzione del numero di verticali indagate

| Numero di verticali indagate | 1 | 2 | 3 | 4 | 5 | 7 | ≥ 10 |
|------------------------------|------|------|------|------|------|------|------|
| ξ_3 | 1,70 | 1,65 | 1,60 | 1,55 | 1,50 | 1,45 | 1,40 |
| ξ_4 | 1,70 | 1,55 | 1,48 | 1,42 | 1,34 | 1,28 | 1,21 |

Rb,cal ed *Rs,cal* rappresentano le resistenze alla base e laterale di calcolo del palo valutate con la seguenti espressioni:

$Rb, cal = qb Ap$ la resistenza alla punta e:

$Rs, cal = \sum^n q_s; Al_i$ la resistenza laterale

i è lo strato iesimo attraversato dal palo ed n il numero totale degli strati.

5.4.1.1 Unità a comportamento coesivo (Argille e limi)

La verifica è effettuata in termini di tensioni totali.

La resistenza unitaria alla base viene determinata attraverso la seguente espressione:

$$q_b = \sigma_v + 9 c_u$$

essendo σ_v la tensione verticale totale alla quota della base del palo e c_u la coesione non drenata del terreno di fondazione alla base.

Relativamente alla resistenza laterale, il valore di q_{s_i} viene determinato come:

$$q_{s_i} = \alpha_i c_{ui}$$

Essendo:

α un coefficiente riduttivo della coesione non drenata c_u , variabile secondo quanto suggerito da Viggiani per pali trivellati:

| Tipo di palo | Valori di c_u [kPa] | Valori di α |
|--------------|-----------------------|---------------------------|
| Trivellato | $c_u \leq 25$ | 0.70 |
| | $25 < c_u < 70$ | $0.70 - 0.008 (c_u - 25)$ |
| | $c_u \geq 70$ | 0.35 |

Tabella 5.1 – Valori di α (Viggiani, “Fondazioni”, Helevius Edizioni)

5.4.1.2 Unità a comportamento incoerente (Sabbie, Sabbie limose e Ghiaie)

La verifica è effettuata in termini di tensioni efficaci.

Per pali trivellati di grande diametro la resistenza unitaria alla base viene determinata attraverso la seguente espressione:

$$q_b = Nq^* \times \sigma_v'$$

Nq^* è il coefficiente di capacità portante corrispondente all'insorgere di un cedimento alla base del palo pari a $(0.06 - 0.1) D$ valutato secondo Berezantzev (1965), e σ_v' la tensione verticale alla base del palo in termini di tensioni efficaci.

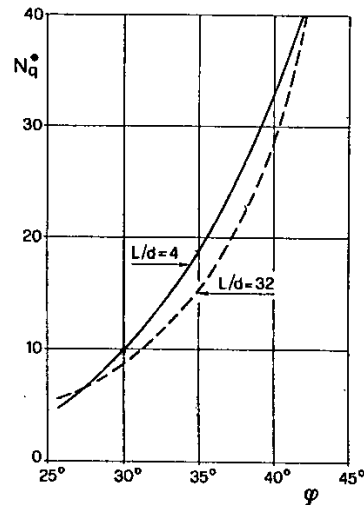


Figura 5.1 – Coefficienti Nq^* (Berezantzev, 1965), corrispondenti all'insorgere delle deformazioni plastiche alla base

In ogni caso è stato assunto per q_b un valore limite $q_{b,max}$ pari al minimo tra i valori forniti dalla seguente espressione [Gwizdala (1984), Reese&O'Neill (1988) e Matsui (1993)]:

$$q_{b,max1} = (Nspt)_m \times \alpha_N \text{ (kPa)}$$

Essendo:

α_N un coefficiente empirico pari a:

$$\alpha_N = 150 \text{ per ghiaie} \quad \alpha_N = 120 \text{ per sabbie} \quad \alpha_N = 85 \text{ per sabbie limose}$$

$(Nspt)_m$ Il valore di $Nspt$ medio su un tratto pari a 1.5 D al di sopra e al di sotto della base del palo.

e dalla seguente tabella:

$$q_{b,max2} = 7500 \text{ per ghiaie} \quad q_{b,max2} = 5800 \text{ per sabbie} \quad q_{b,max2} = 4300 \text{ per sabbie limose}$$

La resistenza unitaria laterale $q_{s,i}$ viene determinata in accordo alla seguente espressione:

$$q_{s,i} = \sigma'_m K_{s,i} \tan \delta_i \leq q_{s,max}$$

essendo:

σ'_m il valore della tensione verticale determinata alla quota media dello strato considerato;

$K_{s,i}$ è un coefficiente adimensionale che esprime il rapporto tra la tensione normale che agisce alla profondità di interesse sulla superficie laterale del palo e la tensione verticale alla stessa profondità. Per pali trivellati si assume $K_s = 1 - \sin \varphi$;

δ valore dell'angolo d'attrito tra superficie laterale del palo e terreno che per pali trivellati è assunto pari a φ ;

$q_{s,max}$ tensione tangenziale ultima consigliabile.

In accordo a Reese & Wright (1977) nel caso di pali trivellati a fango, il valore di $q_{s,max}$ è ricavabile dalle seguenti espressioni:

$$q_{s,max} = 3 \times N_{spt} \text{ (kPa)} \quad \text{per } N_{spt} \leq 53$$

$$q_{s,max} = 142 + 0,32 \times N_{spt} \text{ (kPa)} \quad \text{per } N_{spt} > 53$$

5.4.2 Verifiche SLU di collasso per carico limite della palificata nei riguardi del carico assiale di compressione

L'interasse tra i pali è fissato ad un valore non minore di tre volte il loro diametro.

La resistenza ai carichi verticali $R_{cd,gr}$ del gruppo di pali viene determinata in base alla seguente espressione:

$$R_{cd,gr} = \eta \ n \ R_{cd}$$

In cui:

η è l'efficienza del gruppo di pali;

n Il numero complessivo di pali del gruppo.

R_{cd} la Resistenza di progetto allo SLU per il palo singolo definito in accordo a quanto illustrato nel paragrafo 5.4.1.

Per palificate in terreni incoerenti e interassi usuali (non minori di tre volte il diametro dei pali), l'efficienza è sempre maggiore dell'unità e nel progetto viene assunta pari ad uno. In questi casi, la verifica di collasso per carico limite del palo singolo è certamente più gravosa di quella relativa al gruppo che, pertanto, viene omessa.

Per palificate in terreni coesivi, l'efficienza del gruppo di pali risulta minore dell'unità.

Il valore dell'efficienza è stato determinato attraverso la nota formula empirica di Converse-Labarre:

$$\eta = 1 - \frac{\arctan(d/i) (m - 1)n + (n - 1)m}{\pi/2 \ m \ n}$$

In cui:

d diametro dei pali;

i interasse tra i pali;

m numero di file di pali;

n numero di pali per ciascuna fila.

La verifica si ritiene soddisfatta se:

$$N_{max \ SLU} \leq R_{cd,gr}$$

Dove:

$N_{max \ SLU}$ è il massimo carico verticale agli SLU-STR o SLV agente sulla palificata.

5.4.3 Verifiche SLU di collasso per sfilamento del palo singolo nei riguardi del carico assiale di trazione

Deve essere:

$$F_{td} \leq R_{td}$$

Dove:

F_{td} è il carico assiale di trazione assunto in progetto nelle verifiche allo SLU agente sul palo singolo;

R_{td} la Resistenza di progetto allo SLU per il palo singolo fornita dalla seguente espressione:

$$R_{cd} = 0.7 R_{sd} + W_p$$

Essendo:

$R_{sd} = R_{sk} / \gamma_s$ la resistenza laterale di progetto;

W_p il peso del palo alleggerito;

γ_b, γ_s coefficienti di sicurezza parziali da applicare alle resistenze caratteristiche a carico verticale dei pali, forniti dalla Tab. 6.4.II delle NTC2018 precedentemente illustrata;

R_{sk} la resistenza laterale caratteristica, valutata secondo quanto illustrato al paragrafo 5.4.1.

Come è possibile evincere per le verifiche a carichi di trazione si assume una resistenza laterale pari al 70% della corrispondente valutata per pali in compressione.

5.4.4 Verifiche SLU di collasso per carico limite del palo singolo nei riguardi del carico trasversale

Deve essere:

$$F_{tr,d} \leq R_{tr,d}$$

Dove:

$F_{tr,d}$ è il carico orizzontale di progetto nelle verifiche allo SLU agente sul palo singolo;

$R_{tr,d}$ la Resistenza di progetto ai carichi orizzontali allo SLU per il palo singolo fornita dalla seguente espressione:

$R_{tr,d} = R_{tr,k} / \gamma_T$ la resistenza caratteristica ai carichi orizzontali;

γ_T coefficiente di sicurezza parziale per le verifiche agli stati limite ultimi di apli soggetti a carichi trasversali, fornito dalla Tab. 6.4.VI delle NTC2018, precedentemente illustrata;

$R_{tr,k} = \text{Min} [(R_{tr,cal})_{media} / \xi_3; (R_{tr,cal})_{min} / \xi_4]$ la resistenza laterale caratteristica ai carichi orizzontali allo SLU;

ξ_3, ξ_4

coefficienti di riduzione che dipendono dal numero di verticali indagate, determinati in base alla Tab. 6.4.IV delle NTC2018:

R_{tr,cal} rappresenta la resistenza di calcolo del palo ai carichi orizzontali H_{lim} valutata in accordo alla teoria proposta da Broms (1984).

Le ipotesi assunte da Broms sono le seguenti:

- Terreno omogeneo;
- Comportamento dell'interfaccia palo-terreno di tipo rigido-perfettamente plastico;
- la forma del palo è ininfluenza e l'interazione palo-terreno è determinata solo dalla dimensione caratteristica D della sezione del palo (il diametro per sezioni circolari, il lato per sezioni quadrate, etc.) misurata normalmente alla direzione del movimento;
- il palo ha comportamento rigido-perfettamente plastico, cioè si considerano trascurabili le deformazioni elastiche del palo.

Questa ultima ipotesi comporta che il palo abbia solo moti rigidi finché non si raggiunge il momento di plasticizzazione M_y del palo. A questo punto si ha la formazione di una cerniera plastica in cui la rotazione continua indefinitamente con momento costante.

In accordo alla condizione di vincolo dei pali nei plinti di fondazione, il palo è considerato impedito di ruotare in testa.

I meccanismi di rottura del complesso palo-terreno sono condizionati dalla lunghezza del palo, dal momento di plasticizzazione della sezione e dalla resistenza esercitata dal terreno. I possibili meccanismi di rottura sono riportati nella figura seguente e sono solitamente indicati come "palo corto", "intermedio" e "lungo".

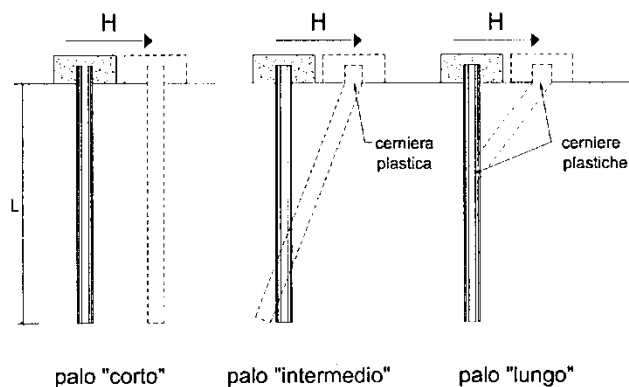


Figura 5.2 – meccanismi di rottura del complesso palo-terreno per pali impediti di ruotare alla testa soggetti a carichi orizzontali (Broms, 1984).

5.4.4.1 Unità a comportamento coesivo

Il diagramma di distribuzione della resistenza p offerta dal terreno lungo il fusto del palo è quello riportato nella figura seguente (a). Broms adotta al fine delle analisi una distribuzione semplificata (b) con reazione nulla fino a $1.5 D$ e costante con valore $9 c_u D$ per profondità maggiori.

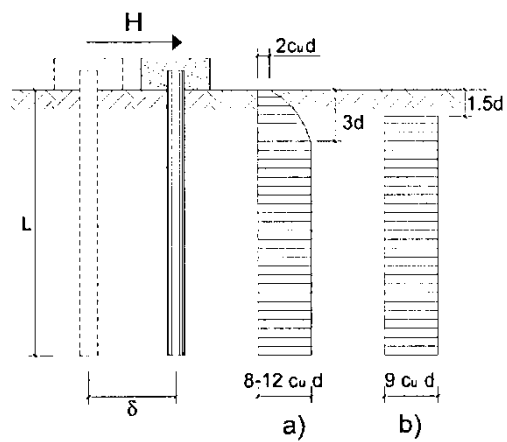


Figura 5.3 – distribuzione della resistenza offerta dal terreno a carichi orizzontali per pali impediti di ruotare alla testa (Broms, 1984).

Nella figura seguente si riportano gli schemi di calcolo per i tre meccanismi di rottura precedentemente illustrati:

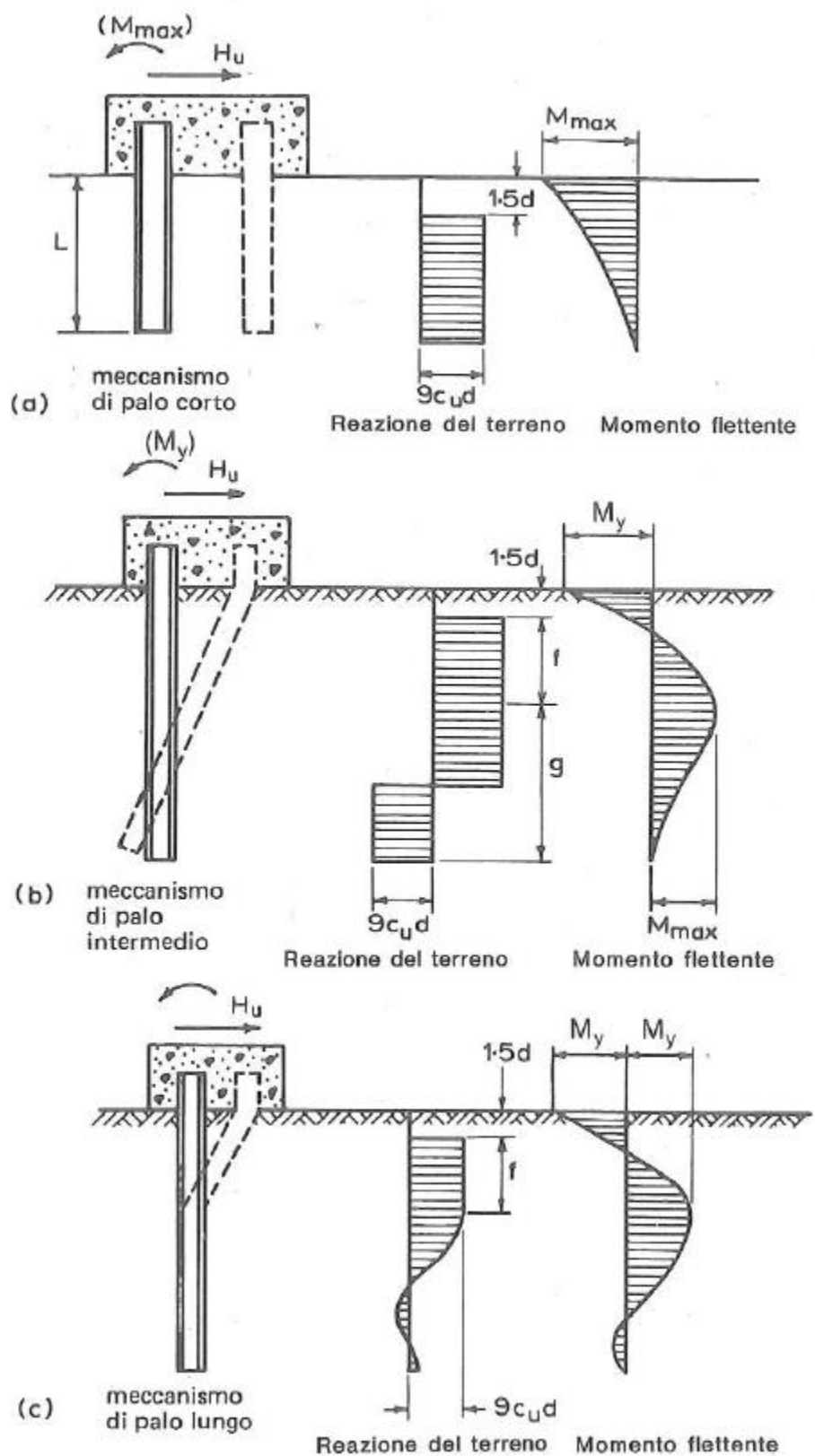


Figura 5.4 – Schemi di calcolo per pali impediti di ruotare in testa e soggetti ad azioni trasversali in terreni coesivi (Broms, 1984).

Facendo ricorso a semplici equazioni di equilibrio ed imponendo la formazione di una cerniera plastica nelle sezioni che raggiungono un momento pari a M_y , è possibile calcolare il carico limite orizzontale corrispondente ai tre meccanismi di rottura:

$$H \lim = 9c_u D^2 \left(\frac{L}{D} - 1.5 \right) \quad \text{palo corto}$$

$$H \lim = -9c_u D^2 \left(\frac{L}{D} - 1.5 \right) + 9c_u D^2 \sqrt{2 \left(\frac{L}{D} \right)^2 + \frac{4}{9} \frac{M_y}{c_u D^3} + 4.5} \quad \text{palo intermedio}$$

$$H \lim = -13.5c_u D^2 + c_u D^2 \sqrt{182.25 + 36 \frac{M_y}{c_u D^3}} \quad \text{palo lungo}$$

Nel caso di palo scalzato (ove presente) e per il caso di palo lungo, il valore di $H \lim$ si ottiene risolvendo le seguenti equazioni:

$$H \lim = 9c_u D \times (f - 1.5D)$$

$$H \lim \times (d_s + f) - 4.5c_u D (f - 1.5D)^2 - 2M_y = 0$$

Essendo:

f la profondità della cerniera plastica dal piano di campagna

d_s l'altezza della testa del palo rispetto al piano di campagna

5.4.4.2 Unità a comportamento incoerente

Per un terreno incoerente si assume che la resistenza opposta dal terreno alla traslazione del palo vari linearmente con la profondità con legge:

$$p = 3 k_p \gamma z D$$

essendo:

k_p il coefficiente di spinta passiva;

z la profondità da piano campagna;

γ il peso di volume del terreno, nel caso in cui il terreno sia sotto falda si assume γ' .

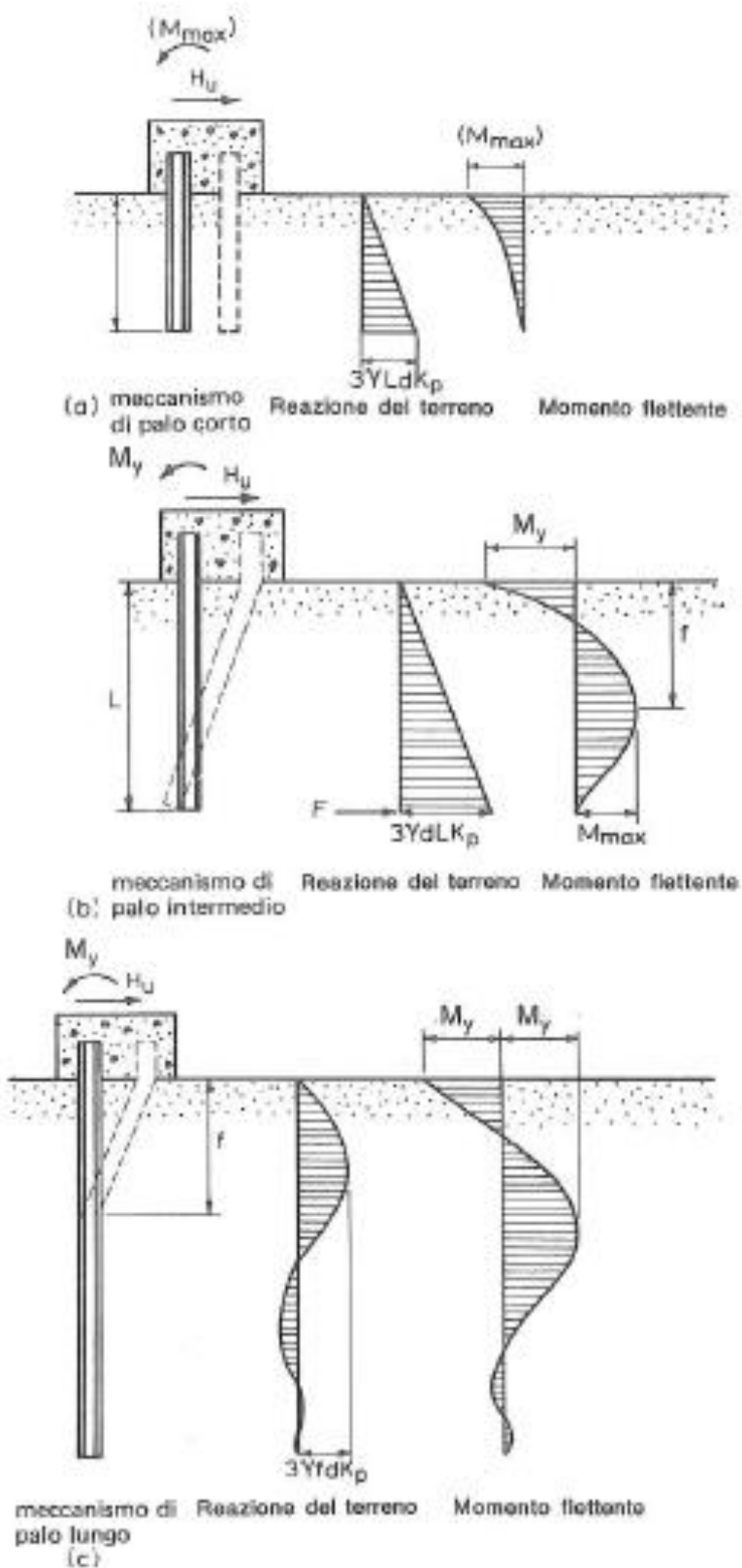


Figura 5.5 – Schemi di calcolo per pali impediti di ruotare in testa e soggetti ad azioni trasversali in terreni incoerenti (Broms, 1984).

I valori del carico limite corrispondenti ai diversi meccanismi di rottura sono di seguito riportati:

$$H \lim = 1.5k_p \gamma D^3 \left(\frac{L}{D} \right)^2 \quad \text{palo corto}$$

$$H \lim = \frac{1}{2} k_p \gamma D^3 \left(\frac{L}{D} \right)^2 + \frac{M_y}{L} \quad \text{palo intermedio}$$

$$H \lim = k_p \gamma D^3 \sqrt[3]{\left(3.676 \frac{M_y}{k_p \gamma D^4} \right)^2} \quad \text{palo lungo}$$

Nel caso di palo scalzato (ove presente) e per il caso di palo lungo, il valore di $H \lim$ si ottiene risolvendo le seguenti equazioni:

$$H \lim = 1.5k_p \gamma D f^2$$

$$f^3 + 1.5Df^2 - \left(\frac{2M_y}{\gamma k_p D} \right) = 0$$

Essendo:

f la profondità della cerniera plastica dal piano di campagna

d_s l'altezza della testa del palo rispetto al piano di campagna

5.4.5 Verifiche SLU di collasso per carico limite della palificata nei riguardi del carico trasversale

La resistenza ai carichi trasversali $R_{cd,gr}$ del gruppo di pali viene determinata in base alla seguente espressione:

$$R_{tr,dgr} = \eta n R_{tr,d1}$$

In cui:

η_{tr} è l'efficienza del gruppo di pali;

n Il numero complessivo di pali del gruppo.

$R_{tr,d1}$ la Resistenza di progetto allo SLU per il palo singolo definito in accordo a quanto illustrato nel paragrafo paragrafo 5.4.1, per un valore del momento di plasticizzazione corrispondente allo sforzo normale medio agente sui pali della palificata

Il carico limite orizzontale di un gruppo può essere notevolmente inferiore alla somma dei valori relativi ai singoli pali; l'efficienza di un gruppo di pali rispetto ai carichi orizzontali è sempre inferiore all'unità.

Dalle "raccomandazioni sui pali di fondazione" AGI, 1984, si riporta quanto segue:

“Sulla base dei risultati sperimentali disponibili sembra che l'efficienza tenda all'unità per un interasse fra i pali del gruppo pari a cinque volte il diametro dei pali; per interasse minore, l'efficienza diminuisce fino a 0.5.”

È possibile anche affermare che risulta più vantaggioso disporre il gruppo di pali normalmente alla direzione della forza orizzontale ovvero, a parità di numero di pali di un gruppo rettangolare resiste meglio se la forza orizzontale agisce parallelamente al lato corto.

Per il caso di interesse, relativo a pali disposti ad interasse non minore di 3 diametri si ritiene possibile considerare $\eta_{tr} = 80\%$.

Nel caso di gruppo di pali soggetti ad azioni orizzontali possono manifestarsi le due seguenti tipologie di interazione:

- interazione tra pali in linea, caricati in direzione parallela alla fila (Figura 5.6 – Schema A – Pali in linea);
- interazione tra pali affiancati, caricati in direzione perpendicolare alla fila (Figura 5.9 – Schema B – Pali affiancati).

L'interazione del primo tipo si esplica in una diminuzione delle caratteristiche meccaniche del terreno retrostante il palo di testa della fila, con conseguente incremento degli spostamenti dei pali retrostanti.



Figura 5.6 – Schema A – Pali in linea

Studi sperimentali condotti sull'argomento hanno mostrato che l'interazione dipende principalmente dalla posizione relativa dei pali. Molti autori (Dunnivant & O'Neill, 1986) raccomandano fattori di riduzione distinti per pali frontali e pali retrostanti. Tali fattori sono dati in funzione della spaziatura tra i pali nella direzione del carico.

I fattori di riduzione per pali frontali possono essere ricavati dalle indicazioni fornite in Figura 5.7.

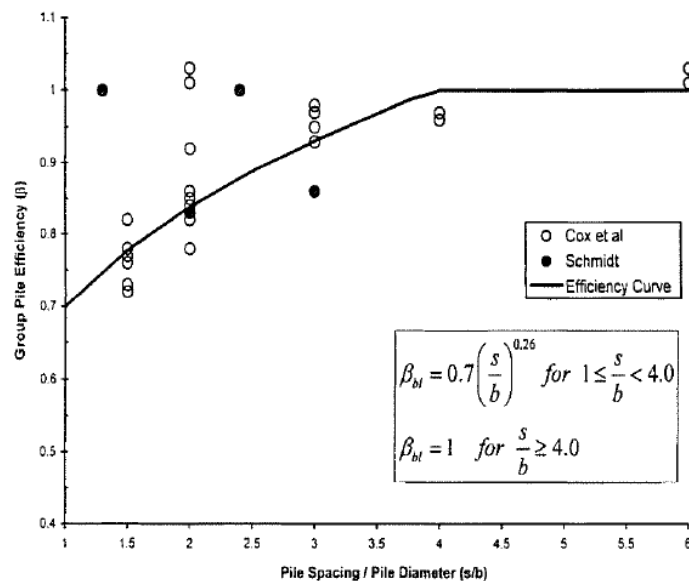


Figura 5.7 – Fattori di riduzione per pali disposti parallelamente alla direzione di carico – Pali frontali

I fattori di riduzione per pali retrostanti possono essere ricavati dalle indicazioni fornite in Figura 5.8.

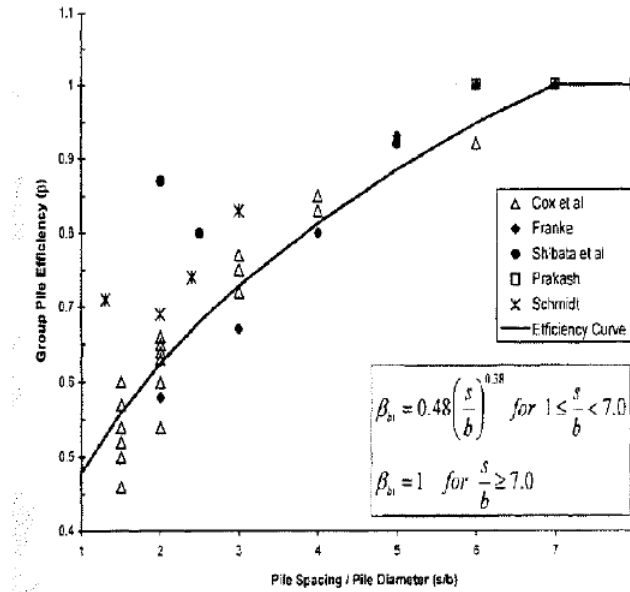


Figura 5.8 – Fattori di riduzione per pali disposti parallelamente alla direzione di carico – Pali retrostanti

L'interazione del secondo tipo si esplica invece con un incremento degli spostamenti del palo centrale per effetto della presenza dei pali laterali.

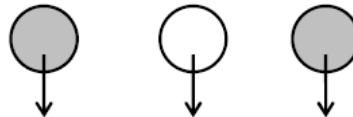


FIGURA 6-12: SCHEMA B – PALI AFFIANCATI

Figura 5.9 – Schema B – Pali affiancati

Tale riduzione di "p" in funzione del rapporto s/D (s = interasse dei pali, D = diametro del palo) può essere ricavata dalle indicazioni fornite in Figura 5.10.

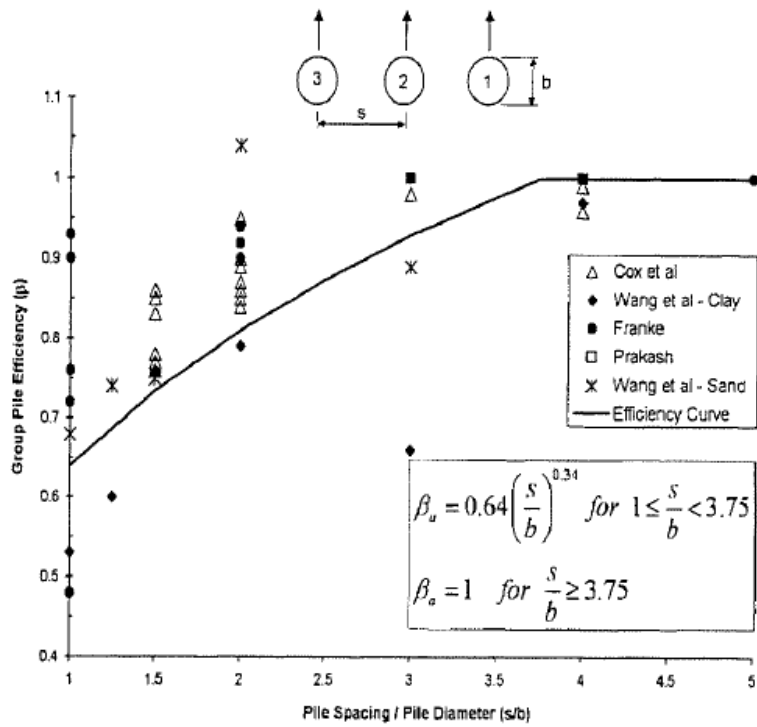


Figura 5.10 – Fattori di riduzione per pali disposti su file perpendicolari alla direzione del carico

Con riferimento alle geometrie maggiormente ricorrenti per i sistemi di fondazione profondi, gli incrementi medi delle sollecitazioni lungo i pali a causa degli effetti gruppo sono dell'ordine del 10-20%.

6 AZIONI E COMBINAZIONI DI PROGETTO

6.1 Analisi dei carichi

6.1.1 Carichi permanenti

6.1.1.1 Carichi permanenti strutturali

Il peso proprio degli elementi strutturali è automaticamente valutato dal programma di calcolo utilizzato per l'analisi. Esso è calcolato considerando per il calcestruzzo un peso per unità di volume pari a 25 kN/m^3 .

6.1.1.2 Spinta delle terre

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

6.1.1.3 Sovraccarico accidentale a tergo del muro

Si è considerato un sovraccarico accidentale sul rilevato pari a pari a 20 kN/m^2 .

6.1.2 Azione sismica

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

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

6.1.2.1 Coordinate di riferimento e parametri sismici fondamentali

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

È stata assunta la azione sismica agli SLV massima riscontrata per ognuna delle quattro tipologie, di seguito si riportano i parametri sismici fondamentali per il calcolo dell'azione sismica:

| | a_g/g | Cat. Sottosuolo | Cat. Stratigrafica | Coeff. Di sottosuolo S | Coeff. Sismico orizzontale K_h | Coeff. Sismico verticale K_v |
|-----------------|---------|--------------------|-----------------------|------------------------------|---|---|
| H = 10 m | 0.172 | B | T1 | 1.20 | 0.206 | 0.103 |
| H = 8 m | 0.200 | B | T1 | 1.20 | 0.240 | 0.120 |
| H = 7 m | 0.200 | B | T1 | 1.20 | 0.240 | 0.120 |
| H = 6 m | 0.179 | B | T1 | 1.20 | 0.215 | 0.107 |

Dove:

Coefficiente sismico orizzontale: $k_h = S \times a_g/g \times \beta_m$

Coefficiente sismico verticale: $k_v = k_h / 2$

Con il coefficiente di riduzione dell'accelerazione massima attesa al sito, determinato in accordo al par. 7.11.6.2.1 delle NTC2018, è pari a: $\beta_m = 1.00$.

6.2 Combinazioni di Carico

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

- Combinazione fondamentale, impiegata per gli stati limite ultimi (SLU):
 $\gamma_{G1} \cdot G_1 + \gamma_{G2} \cdot G_2 + \gamma_P \cdot P + \gamma_{Q1} \cdot Q_{k1} + \gamma_{Q2} \cdot Q_{k2} + \gamma_{Q3} \cdot Q_{k3} + \dots$
- Combinazione caratteristica, cosiddetta rara, impiegata per gli stati limite di esercizio (SLE) irreversibili:
 $G_1 + G_2 + P + Q_{k1} + \psi_{02} \cdot Q_{k2} + \psi_{03} \cdot Q_{k3} + \dots$
- Combinazione frequente, impiegata per gli stati limite di esercizio (SLE) reversibili:
 $G_1 + G_2 + P + \psi_{11} \cdot Q_{k1} + \psi_{22} \cdot Q_{k2} + \psi_{23} \cdot Q_{k3} + \dots$
- Combinazione quasi permanente (SLE), impiegata per gli effetti a lungo termine:
 $G_1 + G_2 + P + \psi_{21} \cdot Q_{k1} + \psi_{22} \cdot Q_{k2} + \psi_{23} \cdot Q_{k3} + \dots$
- Combinazione sismica, impiegata per gli stati limite ultimi e di esercizio connessi all'azione sismica E:
 $E + G_1 + G_2 + P + \psi_{21} \cdot Q_{k1} + \psi_{22} \cdot Q_{k2} + \dots$
- Combinazione eccezionale, impiegata per gli stati limite ultimi connessi alle azioni eccezionali A_d :
 $G_1 + G_2 + P + A_d + \psi_{21} \cdot Q_{k1} + \psi_{22} \cdot Q_{k2} + \dots$

Dove:

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

I valori dei coefficienti parziali delle azioni da assumere nell'analisi per la determinazione degli effetti delle azioni nelle verifiche SLU sono quelli già indicati al paragrafo 5.4.

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

7 SEZIONI DI ANALISI E RISULTATI

Di seguito si riportano il riepilogo delle azioni in testa ai pali di fondazione per le diverse tipologie.

Sono state esaminate le seguenti sezioni tipo:

- Muro MA H6: $H_{\text{paramento}} = 6.0$ m;
- Muro MA H7: $H_{\text{paramento}} = 7.0$ m;
- Muro MA H8: $H_{\text{paramento}} = 8.0$ m;
- Muro MA H10: $H_{\text{paramento}} = 10.0$ m.

Per i dettagli delle analisi effettuate si rimanda ai tabulati allegati.

7.1 Riepilogo delle azioni in testa ai pali di fondazione

7.1.1 Muri H6

PARAMENTO CON H = 6 m

| RIEPILOGO AZIONI IN TESTA AI PALI | | | SLU | SLV | SLE-CAR | SLE-FR | SLE-QP |
|---------------------------------------|------|------|------|------|---------|--------|--------|
| Azione assiale massima (compressione) | Nmax | 2434 | 1755 | 2434 | 1494 | 1358 | 1358 |
| Azione assiale minima | Nmin | 339 | 1215 | 339 | 1287 | 1285 | 1285 |
| Azione trasversale massima | Vmax | 636 | 378 | 636 | 278 | 217 | 217 |

| RIEPILOGO AZIONI VERTICALI AGLI SLU SULLA PALIFICATA | | SLU | SLV |
|--|--|------|------|
| Carico verticale massimo agente sulla palificata | | 8928 | 9096 |
| Carico verticale medio agente sui pali | | 1488 | 1516 |

7.1.2 Muri H7

PARAMENTO CON H = 7 m

| RIEPILOGO AZIONI IN TESTA AI PALI | | | SLU | SLV | SLE-CAR | SLE-FR | SLE-QP |
|---------------------------------------|------|------|------|------|---------|--------|--------|
| Azione assiale massima (compressione) | Nmax | 3140 | 2103 | 3140 | 1770 | 1608 | 1608 |
| Azione assiale minima | Nmin | 45 | 1237 | 45 | 1354 | 1371 | 1371 |
| Azione trasversale massima | Vmax | 835 | 470 | 835 | 333 | 278 | 278 |

| RIEPILOGO AZIONI VERTICALI AGLI SLU SULLA PALIFICATA | | SLU | SLV |
|--|--|-------|-------|
| Carico verticale massimo agente sulla palificata | | 15463 | 17124 |
| Carico verticale medio agente sui pali | | 1718 | 1903 |

7.1.3 Muri H8

PARAMENTO CON H = 8 m

| RIEPILOGO AZIONI IN TESTA AI PALI | | | SLU | SLV | SLE-CAR | SLE-FR | SLE-QP |
|---------------------------------------|------|------|------|------|---------|--------|--------|
| Azione assiale massima (compressione) | Nmax | 3741 | 2502 | 3741 | 1770 | 1608 | 1608 |
| Azione assiale minima | Nmin | -189 | 1214 | -189 | 1354 | 1371 | 1371 |
| Azione trasversale massima | Vmax | 995 | 573 | 995 | 333 | 278 | 278 |

| RIEPILOGO AZIONI VERTICALI AGLI SLU SULLA PALIFICATA | | SLU | SLV |
|--|--|-------|-------|
| Carico verticale massimo agente sulla palificata | | 17366 | 19441 |
| Carico verticale medio agente sui pali | | 1930 | 2160 |

7.1.4 Muri H10

PARAMENTO CON H = 10 m

| RIEPILOGO AZIONI IN TESTA AI PALI | | | SLU | SLV | SLE-CAR | SLE-FR | SLE-QP |
|--|------|------|-------|-------|---------|--------|--------|
| Azione assiale massima (compressione) | Nmax | 2730 | 2377 | 2730 | 2324 | 2160 | 2160 |
| Azione assiale minima | Nmin | 267 | 1955 | 267 | 2128 | 2076 | 2076 |
| Azione trasversale massima | Vmax | 957 | 517 | 957 | 372 | 325 | 325 |
| RIEPILOGO AZIONI VERTICALI AGLI SLU SULLA PALIFICATA | | | SLU | SLV | | | |
| Carico verticale massimo agente sulla palificata | | | 26776 | 29572 | | | |
| Carico verticale medio agente sui pali | | | 2434 | 2688 | | | |

7.2 Caratteristiche della sollecitazione per verifiche pali di fondazione

Il momento flettente massimo agente sui pali è stato determinato nell'ipotesi di comportamento elastico lineare del palo e del terreno di fondazione.

Nell'ipotesi di palo incastrato in sommità, il momento massimo viene attinto all'incastro con il plinto di fondazione e vale:

$$M_{\max} = V_i \times (L_0)/2$$

Essendo L_0 la lunghezza elastica del palo pari a:

$$L_0 = [4 \times E_p \times I_p / E_s]^{0.25}$$

E_p il modulo di elasticità del palo;

I_p il momento d'inerzia del palo;

E_s Modulo di reazione orizzontale del terreno costante con la profondità, relativo agli strati superficiali;

Di seguito si riporta:

- il calcolo della lunghezza libera d'inflessione dei pali di fondazione;
- Le caratteristiche della sollecitazione prese in conto per le verifiche dei pali di fondazione;

LUNGHEZZA LIBERA D'INFLESSIONE PALI DI FONDAZIONE

| | | | |
|--|-------|----------------|--------|
| Modulo di elasticità normale del calcestruzzo/malta | E_c | Mpa | 33346 |
| Modulo di elasticità normale dell'acciaio | E_a | Mpa | 210000 |
| Momento d'inerzia della sezione omogeneizzata al cls | I_p | m ⁴ | 0.1018 |
| Kt Costante di reazione orizzontale (Vesic) | kt | kN/mc | 10000 |
| Lunghezza libera d'inflessione | L_0 | m | 5.24 |

7.2.1 Muri MA H6

PARAMENTO CON H = 6 m

| CARATTERISTICHE DELLA SOLLECITAZIONI MASSIME SUI PALI | | | SLU | SLV | SLE-CAR | SLE-FR | SLE-QP |
|---|------|-----|------|------|---------|--------|--------|
| Sforzo normale massimo | Nmax | kN | 1755 | 2434 | 1494 | 1358 | 1358 |
| Sforzo normale minimo | Nmin | kN | 1215 | 339 | 1287 | 1285 | 1285 |
| Momento massimo in testa ai pali | Mmax | kNm | 990 | 1667 | 728 | 569 | 569 |
| Sforzo di taglio massimo | Vmax | kN | 378 | 636 | 278 | 217 | 217 |

7.2.2 Muri MA H7

PARAMENTO CON H = 7 m

| CARATTERISTICHE DELLA SOLLECITAZIONI MASSIME SUI PALI | | | SLU | SLV | SLE-CAR | SLE-FR | SLE-QP |
|---|------|-----|------|------|---------|--------|--------|
| Sforzo normale massimo | Nmax | kN | 2103 | 3140 | 1770 | 1608 | 1608 |
| Sforzo normale minimo | Nmin | kN | 1237 | 45 | 1354 | 1371 | 1371 |
| Momento massimo in testa ai pali | Mmax | kNm | 1233 | 2188 | 873 | 728 | 728 |
| Sforzo di taglio massimo | Vmax | kN | 470 | 835 | 333 | 278 | 278 |

7.2.3 Muri MA H8

PARAMENTO CON H = 8 m

| CARATTERISTICHE DELLA SOLLECITAZIONI MASSIME SUI PALI | | | SLU | SLV | SLE-CAR | SLE-FR | SLE-QP |
|---|------|-----|------|------|---------|--------|--------|
| Sforzo normale massimo | Nmax | kN | 2502 | 3741 | 1770 | 1608 | 1608 |
| Sforzo normale minimo | Nmin | kN | 1214 | -189 | 1354 | 1371 | 1371 |
| Momento massimo in testa ai pali | Mmax | kNm | 1501 | 2607 | 873 | 728 | 728 |
| Sforzo di taglio massimo | Vmax | kN | 573 | 995 | 333 | 278 | 278 |

7.2.4 Muri MA H10

PARAMENTO CON H = 10 m

| CARATTERISTICHE DELLA SOLLECITAZIONI MASSIME SUI PALI | | | SLU | SLV | SLE-CAR | SLE-FR | SLE-QP |
|---|------|-----|------|------|---------|--------|--------|
| Sforzo normale massimo | Nmax | kN | 2377 | 2730 | 2324 | 2160 | 2160 |
| Sforzo normale minimo | Nmin | kN | 1955 | 267 | 2128 | 2076 | 2076 |
| Momento massimo in testa ai pali | Mmax | kNm | 1355 | 2506 | 975 | 852 | 852 |
| Sforzo di taglio massimo | Vmax | kN | 517 | 957 | 372 | 325 | 325 |

8 VERIFICHE

8.1 Verifiche strutturali dei pali di fondazione

La verifiche a pressoflessione e taglio per le sezioni in c.a. sono state effettuate con il software RCSEC® prodotto da Geostru.

8.1.1 Muri di tipo MA H6

I pali di fondazione saranno armati come segue:

1° gabbia:

- Armature longitudinali: $24\phi 24 + 24\phi 24$ accoppiati (rinforzo solo per i primi 6.0 m);
- Armature trasversali: spirale $\phi 12/10$.

Di seguito si riportano le verifiche a pressoflessione e taglio relative alle prima gabbia. Nelle verifiche si considerano 24 barre di diametro equivalente pari a $d_{eq} = 24 \times 2^{0.5} = 33.94$ mm.

CARATTERISTICHE DOMINIO CONGLOMERATO

Forma del Dominio: Circolare
Classe Conglomerato: C32/40

Raggio circ.: 60.0 cm
X centro circ.: 0.0 cm
Y centro circ.: 0.0 cm

DATI GENERAZIONI CIRCOLARI DI BARRE

N°Gen. Numero assegnato alla singola generazione circolare di barre
Xcentro Ascissa [cm] del centro della circonf. lungo cui sono disposte le barre generate
Ycentro Ordinata [cm] del centro della circonf. lungo cui sono disposte le barre generate
Raggio Raggio [cm] della circonferenza lungo cui sono disposte le barre generate
N°Barre Numero di barre generate equidist. disposte lungo la circonferenza
Ø Diametro [mm] della singola barra generata

| N°Gen. | Xcentro | Ycentro | Raggio | N°Barre | Ø |
|--------|---------|---------|--------|---------|------|
| 1 | 0.0 | 0.0 | 49.6 | 24 | 33.9 |

ARMATURE A TAGLIO

Diametro staffe: 12 mm
Passo staffe: 13.4 cm
Staffe: Una sola staffa chiusa perimetrale

ST.LIM.ULTIMI - SFORZI PER OGNI COMBINAZIONE ASSEGNATA

N Sforzo normale [kN] applicato nel Baric. (+ se di compressione)
Mx Momento flettente [daNm] intorno all'asse x princ. d'inerzia con verso positivo se tale da comprimere il lembo sup. della sez.
My Momento flettente [daNm] intorno all'asse y princ. d'inerzia con verso positivo se tale da comprimere il lembo destro della sez.
Vy Componente del Taglio [kN] parallela all'asse princ.d'inerzia y
Vx Componente del Taglio [kN] parallela all'asse princ.d'inerzia x

| N°Comb. | N | Mx | My | Vy | Vx |
|---------|---------|---------|------|--------|------|
| 1 | 1755.00 | 990.00 | 0.00 | 378.00 | 0.00 |
| 2 | 1215.00 | 990.00 | 0.00 | 378.00 | 0.00 |
| 3 | 1488.00 | 990.00 | 0.00 | 378.00 | 0.00 |
| 4 | 2434.00 | 1667.00 | 0.00 | 636.00 | 0.00 |
| 5 | 339.00 | 1667.00 | 0.00 | 636.00 | 0.00 |
| 6 | 1516.00 | 1667.00 | 0.00 | 636.00 | 0.00 |

COMB. RARE (S.L.E.) - SFORZI PER OGNI COMBINAZIONE ASSEGNATA

N Sforzo normale [kN] applicato nel Baricentro (+ se di compressione)
 Mx Momento flettente [kNm] intorno all'asse x princ. d'inerzia (tra parentesi Mom.Fessurazione) con verso positivo se tale da comprimere il lembo superiore della sezione
 My Momento flettente [kNm] intorno all'asse y princ. d'inerzia (tra parentesi Mom.Fessurazione) con verso positivo se tale da comprimere il lembo destro della sezione

| N°Comb. | N | Mx | My |
|---------|---------|--------|------|
| 1 | 1494.00 | 728.00 | 0.00 |
| 2 | 1287.00 | 728.00 | 0.00 |

COMB. FREQUENTI (S.L.E.) - SFORZI PER OGNI COMBINAZIONE ASSEGNATA

N Sforzo normale [kN] applicato nel Baricentro (+ se di compressione)
 Mx Momento flettente [kNm] intorno all'asse x princ. d'inerzia (tra parentesi Mom.Fessurazione) con verso positivo se tale da comprimere il lembo superiore della sezione
 My Momento flettente [kNm] intorno all'asse y princ. d'inerzia (tra parentesi Mom.Fessurazione) con verso positivo se tale da comprimere il lembo destro della sezione

| N°Comb. | N | Mx | My |
|---------|---------|------------------|-------------|
| 1 | 1358.00 | 569.00 (1400.88) | 0.00 (0.00) |
| 2 | 1285.00 | 569.00 (1354.83) | 0.00 (0.00) |

COMB. QUASI PERMANENTI (S.L.E.) - SFORZI PER OGNI COMBINAZIONE ASSEGNATA

N Sforzo normale [kN] applicato nel Baricentro (+ se di compressione)
 Mx Momento flettente [kNm] intorno all'asse x princ. d'inerzia (tra parentesi Mom.Fessurazione) con verso positivo se tale da comprimere il lembo superiore della sezione
 My Momento flettente [kNm] intorno all'asse y princ. d'inerzia (tra parentesi Mom.Fessurazione) con verso positivo se tale da comprimere il lembo destro della sezione

| N°Comb. | N | Mx | My |
|---------|---------|------------------|-------------|
| 1 | 1358.00 | 569.00 (1400.88) | 0.00 (0.00) |
| 2 | 1285.00 | 569.00 (1354.83) | 0.00 (0.00) |

RISULTATI DEL CALCOLO

Sezione verificata per tutte le combinazioni assegnate

| | |
|--|--------|
| Copriferro netto minimo barre longitudinali: | 8.7 cm |
| Interferro netto minimo barre longitudinali: | 9.6 cm |
| Copriferro netto minimo staffe: | 7.5 cm |

METODO AGLI STATI LIMITE ULTIMI - RISULTATI PRESSO-TENSO FLESSIONE

Ver S = combinazione verificata / N = combin. non verificata
 N Sn Sforzo normale allo snervamento [kN] nel baricentro B sezione cls.(positivo se di compressione)
 Mx Sn Momento di snervamento [kNm] riferito all'asse x princ. d'inerzia
 My Sn Momento di snervamento [kNm] riferito all'asse y princ. d'inerzia
 N Ult Sforzo normale ultimo [kN] nel baricentro B sezione cls.(positivo se di compress.)

Mx Ult Momento flettente ultimo [kNm] riferito all'asse x princ. d'inerzia
 My Ult Momento flettente ultimo [kNm] riferito all'asse y princ. d'inerzia
 Mis.Sic. Misura sicurezza = rapporto vettoriale tra (N Ult,Mx Ult,My Ult) e (N,Mx,My)
 Verifica positiva se tale rapporto risulta >=1.000
 As Tesa Area armature [cm²] in zona tesa (solo travi). Tra parentesi l'area minima di normativa

| N°Comb | Ver | N Sn | Mx Sn | My Sn | N Ult | Mx Ult | My Ult | Mis.Sic. | As Tesa |
|--------|-----|---------|---------|-------|---------|---------|--------|----------|---------|
| 1 | S | 1755.00 | 3048.90 | 0.00 | 1755.08 | 4063.02 | 0.00 | 4.104 | ----- |
| 2 | S | 1215.00 | 2891.27 | 0.00 | 1214.84 | 3923.28 | 0.00 | 3.963 | ----- |
| 3 | S | 1488.00 | 2971.54 | 0.00 | 1488.15 | 3994.56 | 0.00 | 4.035 | ----- |
| 4 | S | 2434.00 | 3240.68 | 0.00 | 2434.16 | 4208.53 | 0.00 | 2.525 | ----- |
| 5 | S | 339.00 | 2625.85 | 0.00 | 339.06 | 3679.53 | 0.00 | 2.207 | ----- |
| 6 | S | 1516.00 | 2979.58 | 0.00 | 1516.02 | 4001.77 | 0.00 | 2.401 | ----- |

METODO AGLI STATI LIMITE ULTIMI - DEFORMAZIONI UNITARIE ALLO STATO ULTIMO

ec max Deform. unit. massima del conglomerato a compressione
 ec 3/7 Deform. unit. del conglomerato nella fibra a 3/7 dell'altezza efficace
 Xc max Ascissa in cm della fibra corrisp. a ec max (sistema rif. X,Y,O sez.)
 Yc max Ordinata in cm della fibra corrisp. a ec max (sistema rif. X,Y,O sez.)
 es min Deform. unit. minima nell'acciaio (negativa se di trazione)
 Xs min Ascissa in cm della barra corrisp. a es min (sistema rif. X,Y,O sez.)
 Ys min Ordinata in cm della barra corrisp. a es min (sistema rif. X,Y,O sez.)
 es max Deform. unit. massima nell'acciaio (positiva se di compress.)
 Xs max Ascissa in cm della barra corrisp. a es max (sistema rif. X,Y,O sez.)
 Ys max Ordinata in cm della barra corrisp. a es max (sistema rif. X,Y,O sez.)

| N°Comb | ec max | ec 3/7 | Xc max | Yc max | es min | Xs min | Ys min | es max | Xs max | Ys max |
|--------|---------|----------|--------|--------|---------|--------|--------|----------|--------|--------|
| 1 | 0.00350 | -0.00115 | 0.0 | 60.0 | 0.00256 | 0.0 | 49.6 | -0.00642 | 0.0 | -49.6 |
| 2 | 0.00350 | -0.00142 | 0.0 | 60.0 | 0.00250 | 0.0 | 49.6 | -0.00699 | 0.0 | -49.6 |
| 3 | 0.00350 | -0.00128 | 0.0 | 60.0 | 0.00253 | 0.0 | 49.6 | -0.00670 | 0.0 | -49.6 |
| 4 | 0.00350 | -0.00088 | 0.0 | 60.0 | 0.00261 | 0.0 | 49.6 | -0.00584 | 0.0 | -49.6 |
| 5 | 0.00350 | -0.00188 | 0.0 | 60.0 | 0.00241 | 0.0 | 49.6 | -0.00796 | 0.0 | -49.6 |
| 6 | 0.00350 | -0.00127 | 0.0 | 60.0 | 0.00254 | 0.0 | 49.6 | -0.00667 | 0.0 | -49.6 |

POSIZIONE ASSE NEUTRO PER OGNI COMB. DI RESISTENZA

a, b, c Coeff. a, b, c nell'eq. dell'asse neutro $aX+bY+c=0$ nel rif. X,Y,O gen.
 x/d Rapp. di duttilità a rottura in presenza di sola fless.(travi)
 C.Rid. Coeff. di riduz. momenti per sola flessione in travi continue

| N°Comb | a | b | c | x/d | C.Rid. |
|--------|------------|-------------|--------------|------|--------|
| 1 | 0.00000000 | 0.000090490 | -0.001929415 | ---- | ---- |
| 2 | 0.00000000 | 0.000095743 | -0.002244600 | ---- | ---- |
| 3 | 0.00000000 | 0.000093034 | -0.002082052 | ---- | ---- |
| 4 | 0.00000000 | 0.000085261 | -0.001615647 | ---- | ---- |
| 5 | 0.00000000 | 0.000104541 | -0.002772455 | ---- | ---- |
| 6 | 0.00000000 | 0.000092760 | -0.002065627 | ---- | ---- |

METODO AGLI STATI LIMITE ULTIMI - VERIFICHE A TAGLIO

Passo staffe: 13.4 cm [Passo massimo di normativa = 25.0 cm]

Ver S = comb. verificata a taglio / N = comb. non verificata
 Vsdu Taglio di progetto [kN] = proiezz. di V_x e V_y sulla normale all'asse neutro
 Vcd Taglio resistente ultimo [kN] lato conglomerato compresso [(4.1.19) NTC]
 Vwd Taglio resistente [kN] assorbito dalle staffe [(4.1.18) NTC]
 Dmed Altezza utile media pesata [cm] valutata lungo strisce ortog. all'asse neutro.
 Vengono prese nella media le strisce con almeno un estremo compresso.
 I pesi della media sono costituiti dalle stesse lunghezze delle strisce.
 bw Larghezza media resistente a taglio [cm] misurate parallel. all'asse neutro
 E' data dal rapporto tra l'area delle sopradette strisce resistenti e Dmed.
 Teta Angolo [gradi sessadec.] di inclinazione dei puntoni di conglomerato

Acw Coefficiente maggiorativo della resistenza a taglio per compressione
 Ast Area staffe+legature strettam. necessarie a taglio per metro di pil.[cm²/m]
 A.Eff Area staffe+legature efficaci nella direzione del taglio di combinaz.[cm²/m]
 Tra parentesi è indicata la quota dell'area relativa alle sole legature.
 L'area della legatura è ridotta col fattore L/d_max con L=lungh.legat.proiettata sulla direz. del taglio e d_max= massima altezza utile nella direz.del taglio.

| N°Comb | Ver | Vsdu | Vcd | Vwd | Dmed | bw | Teta | Acw | Ast | A.Eff |
|--------|-----|--------|---------|---------|------|-------|--------|-------|-----|-----------|
| 1 | S | 378.00 | 3069.22 | 1424.95 | 93.7 | 107.2 | 21.80° | 1.086 | 4.6 | 17.3(0.0) |
| 2 | S | 378.00 | 2971.52 | 1432.24 | 94.2 | 105.9 | 21.80° | 1.059 | 4.6 | 17.3(0.0) |
| 3 | S | 378.00 | 3032.41 | 1424.95 | 93.7 | 107.2 | 21.80° | 1.073 | 4.6 | 17.3(0.0) |
| 4 | S | 636.00 | 3184.46 | 1418.03 | 93.3 | 108.5 | 21.80° | 1.119 | 7.7 | 17.3(0.0) |
| 5 | S | 636.00 | 2826.98 | 1439.75 | 94.7 | 104.4 | 21.80° | 1.017 | 7.6 | 17.3(0.0) |
| 6 | S | 636.00 | 3036.27 | 1424.95 | 93.7 | 107.2 | 21.80° | 1.074 | 7.7 | 17.3(0.0) |

COMBINAZIONI RARE IN ESERCIZIO - MASSIME TENSIONI NORMALI ED APERTURA FESSURE

Ver S = comb. verificata/ N = comb. non verificata
 Sc max Massima tensione (positiva se di compressione) nel conglomerato [Mpa]
 Xc max, Yc max Ascissa, Ordinata [cm] del punto corrisp. a Sc max (sistema rif. X,Y,O)
 Sf min Minima tensione (negativa se di trazione) nell'acciaio [Mpa]
 Xs min, Ys min Ascissa, Ordinata [cm] della barra corrisp. a Sf min (sistema rif. X,Y,O)
 Ac eff. Area di calcestruzzo [cm²] in zona tesa considerata aderente alle barre
 As eff. Area barre [cm²] in zona tesa considerate efficaci per l'apertura delle fessure
 D barre Distanza tra le barre tese [cm] ai fini del calcolo dell'apertura fessure
 Beta12 Prodotto dei coeff. di aderenza delle barre Beta1*Beta2

| N°Comb | Ver | Sc max | Xc max | Yc max | Sf min | Xs min | Ys min | Ac eff. | As eff. | D barre | Beta12 |
|--------|-----|--------|--------|--------|--------|--------|--------|---------|---------|---------|--------|
| 1 | S | 4.10 | 0.0 | 0.0 | -22.8 | 0.0 | -49.6 | ---- | ---- | ---- | ---- |
| 2 | S | 3.96 | 0.0 | 0.0 | -24.9 | 0.0 | -49.6 | ---- | ---- | ---- | ---- |

COMBINAZIONI FREQUENTI IN ESERCIZIO - MASSIME TENSIONI NORMALI ED APERTURA FESSURE

| N°Comb | Ver | Sc max | Xc max | Yc max | Sf min | Xs min | Ys min | Ac eff. | As eff. | D barre | Beta12 |
|--------|-----|--------|--------|--------|--------|--------|--------|---------|---------|---------|--------|
| 1 | S | 3.34 | 0.0 | 0.0 | -15.9 | 0.0 | -49.6 | ---- | ---- | ---- | ---- |
| 2 | S | 3.29 | 0.0 | 0.0 | -16.6 | 0.0 | -49.6 | ---- | ---- | ---- | ---- |

COMBINAZIONI FREQUENTI IN ESERCIZIO - APERTURA FESSURE [§B.6.6 DM96]

Ver. La sezione viene assunta come fessurata solo se la trazione nel calcestruzzo supera fctm in almeno una combinazione
 Esito della verifica
 S1 Massima tensione [Mpa] di trazione nel calcestruzzo valutata in sezione non fessurata
 S2 Minima tensione [Mpa] di trazione nel calcestruzzo valutata in sezione fessurata
 k2 = 0.4 per barre ad aderenza migliorata
 k3 = 0.125 per flessione e presso-flessione; $= (e1 + e2) / (2 * e1)$ per trazione eccentrica
 Ø Diametro [mm] medio delle barre tese comprese nell'area efficace Ac eff
 Cf Copriferro [mm] netto calcolato con riferimento alla barra più tesa
 Psi = $1 - Beta12 * (Ssr/Ss)^2 = 1 - Beta12 * (fctm/S2)^2 = 1 - Beta12 * (Mfess/M)^2$ [B.6.6 DM96]
 e sm Deformazione unitaria media tra le fessure [4.3.1.7.1.3 DM96]. Il valore limite = $0.4 * Ss/Es$ è tra parentesi
 srm Distanza media tra le fessure [mm]
 wk Valore caratteristico [mm] dell'apertura fessure = $1.7 * e * sm$. Valore limite tra parentesi
 MX fess. Componente momento di prima fessurazione intorno all'asse X [kNm]
 MY fess. Componente momento di prima fessurazione intorno all'asse Y [kNm]

| Comb. | Ver | S1 | S2 | k3 | Ø | Cf | Psi | e sm | srm | wk | Mx fess | My fess |
|-------|-----|------|----|------|------|------|------|------|------|------|---------|---------|
| 1 | S | -1.5 | 0 | ---- | ---- | ---- | ---- | ---- | ---- | ---- | 1400.88 | 0.00 |
| 2 | S | -1.5 | 0 | ---- | ---- | ---- | ---- | ---- | ---- | ---- | 1354.83 | 0.00 |

COMBINAZIONI QUASI PERMANENTI IN ESERCIZIO - MASSIME TENSIONI NORMALI ED APERTURA FESSURE

| N°Comb | Ver | Sc max | Xc max | Yc max | Sf min | Xs min | Ys min | Ac eff. | As eff. | D barre | Beta12 |
|--------|-----|--------|--------|--------|--------|--------|--------|---------|---------|---------|--------|
|--------|-----|--------|--------|--------|--------|--------|--------|---------|---------|---------|--------|

| | | | | | | | | | | | |
|---|---|------|-----|-----|-------|-----|-------|-----|-----|-----|-----|
| 1 | S | 3.34 | 0.0 | 0.0 | -15.9 | 0.0 | -49.6 | --- | --- | --- | --- |
| 2 | S | 3.29 | 0.0 | 0.0 | -16.6 | 0.0 | -49.6 | --- | --- | --- | --- |

COMBINAZIONI QUASI PERMANENTI IN ESERCIZIO - APERTURA FESSURE [§B.6.6 DM96]

| Comb. | Ver | S1 | S2 | k3 | Ø | Cf | Psi | e sm | srm | wk | Mx fess | My fess |
|-------|-----|------|----|-----|-----|-----|-----|------|-----|-----|---------|---------|
| 1 | S | -1.5 | 0 | --- | --- | --- | --- | --- | --- | --- | 1400.88 | 0.00 |
| 2 | S | -1.5 | 0 | --- | --- | --- | --- | --- | --- | --- | 1354.83 | 0.00 |

8.1.2 Muri di tipo MA H7

1° gabbia:

- Armature longitudinali: **24φ24+24φ24 accoppiati (rinforzo solo per i primi 6.0 m);**
- Armature trasversali: **spirale φ12/10.**

Di seguito si riportano le verifiche a pressoflessione e taglio relative alle prima gabbia. Nelle verifiche si considerano **24** barre di diametro equivalente pari a $deq = 24 \times 2^{0.5} = 33.94$ mm

CARATTERISTICHE DOMINIO CONGLOMERATO

Forma del Dominio: Circolare
Classe Conglomerato: C32/40

Raggio circ.: 60.0 cm
X centro circ.: 0.0 cm
Y centro circ.: 0.0 cm

DATI GENERAZIONI CIRCOLARI DI BARRE

N°Gen. Numero assegnato alla singola generazione circolare di barre
Xcentro Ascissa [cm] del centro della circonf. lungo cui sono disposte le barre generate
Ycentro Ordinata [cm] del centro della circonf. lungo cui sono disposte le barre generate
Raggio Raggio [cm] della circonferenza lungo cui sono disposte le barre generate
N°Barre Numero di barre generate equidist. disposte lungo la circonferenza
Ø Diametro [mm] della singola barra generata

| N°Gen. | Xcentro | Ycentro | Raggio | N°Barre | Ø |
|--------|---------|---------|--------|---------|------|
| 1 | 0.0 | 0.0 | 49.6 | 24 | 33.9 |

ARMATURE A TAGLIO

Diametro staffe: 12 mm
Passo staffe: 10.0 cm
Staffe: Una sola staffa chiusa perimetrale

ST.LIM.ULTIMI - SFORZI PER OGNI COMBINAZIONE ASSEGNATA

N Sforzo normale [kN] applicato nel Baric. (+ se di compressione)
Mx Momento flettente [daNm] intorno all'asse x princ. d'inerzia con verso positivo se tale da comprimere il lembo sup. della sez.
My Momento flettente [daNm] intorno all'asse y princ. d'inerzia con verso positivo se tale da comprimere il lembo destro della sez.
Vy Componente del Taglio [kN] parallela all'asse princ.d'inerzia y
Vx Componente del Taglio [kN] parallela all'asse princ.d'inerzia x

| N°Comb. | N | Mx | My | Vy | Vx |
|---------|---|----|----|----|----|
|---------|---|----|----|----|----|

| | | | | | |
|---|---------|---------|------|--------|------|
| 1 | 2103.00 | 1233.00 | 0.00 | 470.00 | 0.00 |
| 2 | 1237.00 | 1233.00 | 0.00 | 470.00 | 0.00 |
| 3 | 1718.00 | 1233.00 | 0.00 | 470.00 | 0.00 |
| 4 | 3140.00 | 2188.00 | 0.00 | 835.00 | 0.00 |
| 5 | 45.00 | 2188.00 | 0.00 | 835.00 | 0.00 |
| 6 | 1903.00 | 2188.00 | 0.00 | 835.00 | 0.00 |

COMB. RARE (S.L.E.) - SFORZI PER OGNI COMBINAZIONE ASSEGNATA

| | |
|----|--|
| N | Sforzo normale [kN] applicato nel Baricentro (+ se di compressione) |
| Mx | Momento flettente [kNm] intorno all'asse x princ. d'inerzia (tra parentesi Mom.Fessurazione) con verso positivo se tale da comprimere il lembo superiore della sezione |
| My | Momento flettente [kNm] intorno all'asse y princ. d'inerzia (tra parentesi Mom.Fessurazione) con verso positivo se tale da comprimere il lembo destro della sezione |

| N°Comb. | N | Mx | My |
|---------|---------|--------|------|
| 1 | 1770.00 | 873.00 | 0.00 |
| 2 | 1354.00 | 873.00 | 0.00 |

COMB. FREQUENTI (S.L.E.) - SFORZI PER OGNI COMBINAZIONE ASSEGNATA

| | |
|----|--|
| N | Sforzo normale [kN] applicato nel Baricentro (+ se di compressione) |
| Mx | Momento flettente [kNm] intorno all'asse x princ. d'inerzia (tra parentesi Mom.Fessurazione) con verso positivo se tale da comprimere il lembo superiore della sezione |
| My | Momento flettente [kNm] intorno all'asse y princ. d'inerzia (tra parentesi Mom.Fessurazione) con verso positivo se tale da comprimere il lembo destro della sezione |

| N°Comb. | N | Mx | My |
|---------|---------|------------------|-------------|
| 1 | 1608.00 | 728.00 (1337.85) | 0.00 (0.00) |
| 2 | 1371.00 | 728.00 (1236.04) | 0.00 (0.00) |

COMB. QUASI PERMANENTI (S.L.E.) - SFORZI PER OGNI COMBINAZIONE ASSEGNATA

| | |
|----|--|
| N | Sforzo normale [kN] applicato nel Baricentro (+ se di compressione) |
| Mx | Momento flettente [kNm] intorno all'asse x princ. d'inerzia (tra parentesi Mom.Fessurazione) con verso positivo se tale da comprimere il lembo superiore della sezione |
| My | Momento flettente [kNm] intorno all'asse y princ. d'inerzia (tra parentesi Mom.Fessurazione) con verso positivo se tale da comprimere il lembo destro della sezione |

| N°Comb. | N | Mx | My |
|---------|---------|------------------|-------------|
| 1 | 1608.00 | 728.00 (1337.85) | 0.00 (0.00) |
| 2 | 1371.00 | 728.00 (1236.04) | 0.00 (0.00) |

RISULTATI DEL CALCOLO

Sezione verificata per tutte le combinazioni assegnate

| | |
|--|--------|
| Copriferro netto minimo barre longitudinali: | 8.7 cm |
| Interferro netto minimo barre longitudinali: | 9.6 cm |
| Copriferro netto minimo staffe: | 7.5 cm |

METODO AGLI STATI LIMITE ULTIMI - RISULTATI PRESSO-TENSO FLESSIONE

| | |
|--------|---|
| Ver | S = combinazione verificata / N = combin. non verificata |
| N Sn | Sforzo normale allo snervamento [kN] nel baricentro B sezione cls.(positivo se di compressione) |
| Mx Sn | Momento di snervamento [kNm] riferito all'asse x princ. d'inerzia |
| My Sn | Momento di snervamento [kNm] riferito all'asse y princ. d'inerzia |
| N Ult | Sforzo normale ultimo [kN] nel baricentro B sezione cls.(positivo se di compress.) |
| Mx Ult | Momento flettente ultimo [kNm] riferito all'asse x princ. d'inerzia |
| My Ult | Momento flettente ultimo [kNm] riferito all'asse y princ. d'inerzia |

Mis.Sic. Misura sicurezza = rapporto vettoriale tra (N Ult,Mx Ult,My Ult) e (N,Mx,My)
Verifica positiva se tale rapporto risulta >=1.000
As Tesa Area armature [cm²] in zona tesa (solo travi). Tra parentesi l'area minima di normativa

| N°Comb | Ver | N Sn | Mx Sn | My Sn | N Ult | Mx Ult | My Ult | Mis.Sic. | As Tesa |
|--------|-----|---------|---------|-------|---------|---------|--------|----------|---------|
| 1 | S | 2103.00 | 3148.12 | 0.00 | 2103.14 | 4140.67 | 0.00 | 3.358 | ----- |
| 2 | S | 1237.00 | 2897.73 | 0.00 | 1237.13 | 3929.14 | 0.00 | 3.187 | ----- |
| 3 | S | 1718.00 | 3038.17 | 0.00 | 1718.07 | 4053.59 | 0.00 | 3.288 | ----- |
| 4 | S | 3140.00 | 3432.66 | 0.00 | 3140.17 | 4349.37 | 0.00 | 1.988 | ----- |
| 5 | S | 45.00 | 2534.15 | 0.00 | 45.00 | 3595.72 | 0.00 | 1.643 | ----- |
| 6 | S | 1903.00 | 3091.28 | 0.00 | 1902.85 | 4099.13 | 0.00 | 1.873 | ----- |

METODO AGLI STATI LIMITE ULTIMI - DEFORMAZIONI UNITARIE ALLO STATO ULTIMO

ec max Deform. unit. massima del conglomerato a compressione
ec 3/7 Deform. unit. del conglomerato nella fibra a 3/7 dell'altezza efficace
Xc max Ascissa in cm della fibra corrisp. a ec max (sistema rif. X,Y,O sez.)
Yc max Ordinata in cm della fibra corrisp. a ec max (sistema rif. X,Y,O sez.)
es min Deform. unit. minima nell'acciaio (negativa se di trazione)
Xs min Ascissa in cm della barra corrisp. a es min (sistema rif. X,Y,O sez.)
Ys min Ordinata in cm della barra corrisp. a es min (sistema rif. X,Y,O sez.)
es max Deform. unit. massima nell'acciaio (positiva se di compress.)
Xs max Ascissa in cm della barra corrisp. a es max (sistema rif. X,Y,O sez.)
Ys max Ordinata in cm della barra corrisp. a es max (sistema rif. X,Y,O sez.)

| N°Comb | ec max | ec 3/7 | Xc max | Yc max | es min | Xs min | Ys min | es max | Xs max | Ys max |
|--------|---------|----------|--------|--------|---------|--------|--------|----------|--------|--------|
| 1 | 0.00350 | -0.00101 | 0.0 | 60.0 | 0.00259 | 0.0 | 49.6 | -0.00611 | 0.0 | -49.6 |
| 2 | 0.00350 | -0.00141 | 0.0 | 60.0 | 0.00251 | 0.0 | 49.6 | -0.00697 | 0.0 | -49.6 |
| 3 | 0.00350 | -0.00117 | 0.0 | 60.0 | 0.00256 | 0.0 | 49.6 | -0.00646 | 0.0 | -49.6 |
| 4 | 0.00350 | -0.00063 | 0.0 | 60.0 | 0.00266 | 0.0 | 49.6 | -0.00531 | 0.0 | -49.6 |
| 5 | 0.00350 | -0.00204 | 0.0 | 60.0 | 0.00238 | 0.0 | 49.6 | -0.00830 | 0.0 | -49.6 |
| 6 | 0.00350 | -0.00109 | 0.0 | 60.0 | 0.00257 | 0.0 | 49.6 | -0.00627 | 0.0 | -49.6 |

POSIZIONE ASSE NEUTRO PER OGNI COMB. DI RESISTENZA

a, b, c Coeff. a, b, c nell'eq. dell'asse neutro $aX+bY+c=0$ nel rif. X,Y,O gen.
x/d Rapp. di duttilità a rottura in presenza di sola fless.(travi)
C.Rid. Coeff. di riduz. momenti per sola flessione in travi continue

| N°Comb | a | b | c | x/d | C.Rid. |
|--------|-------------|-------------|--------------|------|--------|
| 1 | 0.000000000 | 0.000087673 | -0.001760354 | ---- | ---- |
| 2 | 0.000000000 | 0.000095517 | -0.002231007 | ---- | ---- |
| 3 | 0.000000000 | 0.000090840 | -0.001950371 | ---- | ---- |
| 4 | 0.000000000 | 0.000080390 | -0.001323401 | ---- | ---- |
| 5 | 0.000000000 | 0.000107703 | -0.002962189 | ---- | ---- |
| 6 | 0.000000000 | 0.000089169 | -0.001850124 | ---- | ---- |

METODO AGLI STATI LIMITE ULTIMI - VERIFICHE A TAGLIO

Passo staffe: 10.0 cm [Passo massimo di normativa = 25.0 cm]

Ver S = comb. verificata a taglio / N = comb. non verificata
VsdU Taglio di progetto [kN] = proiezione di V_x e V_y sulla normale all'asse neutro
Vcd Taglio resistente ultimo [kN] lato conglomerato compresso [(4.1.19) NTC]
Vwd Taglio resistente [kN] assorbito dalle staffe [(4.1.18) NTC]
Dmed Altezza utile media pesata [cm] valutata lungo strisce ortog. all'asse neutro.
Vengono prese nella media le strisce con almeno un estremo compresso.
I pesi della media sono costituiti dalle stesse lunghezze delle strisce.
bw Larghezza media resistente a taglio [cm] misurate parallel. all'asse neutro
E' data dal rapporto tra l'area delle sopradette strisce resistenti e Dmed.
Teta Angolo [gradi sessadec.] di inclinazione dei puntoni di conglomerato
Acw Coefficiente maggiorativo della resistenza a taglio per compressione
Ast Area staffe+legature strettam. necessarie a taglio per metro di pil.[cm²/m]

A.Eff Area staffe+legature efficaci nella direzione del taglio di combinaz.[cm²/m]
Tra parentesi è indicata la quota dell'area relativa alle sole legature.
L'area della legatura è ridotta col fattore L/d_max con L=lungh.legat.proiettata sulla direz. del taglio e d_max= massima altezza utile nella direz.del taglio.

| N°Comb | Ver | Vsdu | Vcd | Vwd | Dmed | bw | Teta | Acw | Ast | A.Eff |
|--------|-----|--------|---------|---------|------|-------|--------|-------|------|-----------|
| 1 | S | 470.00 | 3138.51 | 1900.16 | 93.3 | 108.5 | 21.80° | 1.103 | 5.7 | 23.1(0.0) |
| 2 | S | 470.00 | 2974.53 | 1919.20 | 94.2 | 105.9 | 21.80° | 1.060 | 5.7 | 23.1(0.0) |
| 3 | S | 470.00 | 3064.12 | 1909.44 | 93.7 | 107.2 | 21.80° | 1.084 | 5.7 | 23.1(0.0) |
| 4 | S | 835.00 | 3301.25 | 1891.62 | 92.8 | 109.6 | 21.80° | 1.153 | 10.2 | 23.1(0.0) |
| 5 | S | 835.00 | 2760.64 | 1939.52 | 95.2 | 102.9 | 21.80° | 1.002 | 10.0 | 23.1(0.0) |
| 6 | S | 835.00 | 3089.63 | 1909.44 | 93.7 | 107.2 | 21.80° | 1.093 | 10.1 | 23.1(0.0) |

COMBINAZIONI RARE IN ESERCIZIO - MASSIME TENSIONI NORMALI ED APERTURA FESSURE

Ver S = comb. verificata/ N = comb. non verificata
Sc max Massima tensione (positiva se di compressione) nel conglomerato [Mpa]
Xc max, Yc max Ascissa, Ordinata [cm] del punto corrisp. a Sc max (sistema rif. X,Y,O)
Sf min Minima tensione (negativa se di trazione) nell'acciaio [Mpa]
Xs min, Ys min Ascissa, Ordinata [cm] della barra corrisp. a Sf min (sistema rif. X,Y,O)
Ac eff. Area di calcestruzzo [cm²] in zona tesa considerata aderente alle barre
As eff. Area barre [cm²] in zona tesa considerate efficaci per l'apertura delle fessure
D barre Distanza tra le barre tese [cm] ai fini del calcolo dell'apertura fessure
Beta12 Prodotto dei coeff. di aderenza delle barre Beta1*Beta2

| N°Comb | Ver | Sc max | Xc max | Yc max | Sf min | Xs min | Ys min | Ac eff. | As eff. | D barre | Beta12 |
|--------|-----|--------|--------|--------|--------|--------|--------|---------|---------|---------|--------|
| 1 | S | 4.91 | 0.0 | 0.0 | -27.6 | 0.0 | -49.6 | ---- | ---- | ---- | ---- |
| 2 | S | 4.62 | 0.0 | 0.0 | -31.8 | 0.0 | -49.6 | ---- | ---- | ---- | ---- |

COMBINAZIONI FREQUENTI IN ESERCIZIO - MASSIME TENSIONI NORMALI ED APERTURA FESSURE

| N°Comb | Ver | Sc max | Xc max | Yc max | Sf min | Xs min | Ys min | Ac eff. | As eff. | D barre | Beta12 |
|--------|-----|--------|--------|--------|--------|--------|--------|---------|---------|---------|--------|
| 1 | S | 4.18 | 0.0 | 0.0 | -21.6 | 0.0 | -49.6 | ---- | ---- | ---- | ---- |
| 2 | S | 4.02 | 0.0 | 0.0 | -24.1 | 0.0 | -49.6 | ---- | ---- | ---- | ---- |

COMBINAZIONI FREQUENTI IN ESERCIZIO - APERTURA FESSURE [§B.6.6 DM96]

La sezione viene assunta come fessurata solo se la trazione nel calcestruzzo supera fctm in almeno una combinazione

Ver. Esito della verifica
S1 Massima tensione [Mpa] di trazione nel calcestruzzo valutata in sezione non fessurata
S2 Minima tensione [Mpa] di trazione nel calcestruzzo valutata in sezione fessurata
k2 = 0.4 per barre ad aderenza migliorata
k3 = 0.125 per flessione e presso-flessione; $= (e1 + e2)/(2 * e1)$ per trazione eccentrica
Ø Diametro [mm] medio delle barre tese comprese nell'area efficace Ac eff
Cf Copriferro [mm] netto calcolato con riferimento alla barra più tesa
Psi $= 1 - \text{Beta}12 * (Ssr/Ss)^2 = 1 - \text{Beta}12 * (fctm/S2)^2 = 1 - \text{Beta}12 * (Mfess/M)^2$ [B.6.6 DM96]
e sm Deformazione unitaria media tra le fessure [4.3.1.7.1.3 DM96]. Il valore limite = $0.4 * Ss/Es$ è tra parentesi
srm Distanza media tra le fessure [mm]
wk Valore caratteristico [mm] dell'apertura fessure = $1.7 * e * srm$. Valore limite tra parentesi
MX fess. Componente momento di prima fessurazione intorno all'asse X [kNm]
MY fess. Componente momento di prima fessurazione intorno all'asse Y [kNm]

| Comb. | Ver | S1 | S2 | k3 | Ø | Cf | Psi | e sm | srm | wk | Mx fess | My fess |
|-------|-----|------|----|------|------|------|------|------|------|------|---------|---------|
| 1 | S | -2.0 | 0 | ---- | ---- | ---- | ---- | ---- | ---- | ---- | 1337.85 | 0.00 |
| 2 | S | -2.1 | 0 | ---- | ---- | ---- | ---- | ---- | ---- | ---- | 1236.04 | 0.00 |

COMBINAZIONI QUASI PERMANENTI IN ESERCIZIO - MASSIME TENSIONI NORMALI ED APERTURA FESSURE

| N°Comb | Ver | Sc max | Xc max | Yc max | Sf min | Xs min | Ys min | Ac eff. | As eff. | D barre | Beta12 |
|--------|-----|--------|--------|--------|--------|--------|--------|---------|---------|---------|--------|
| 1 | S | 4.18 | 0.0 | 0.0 | -21.6 | 0.0 | -49.6 | ---- | ---- | ---- | ---- |
| 2 | S | 4.02 | 0.0 | 0.0 | -24.1 | 0.0 | -49.6 | ---- | ---- | ---- | ---- |

COMBINAZIONI QUASI PERMANENTI IN ESERCIZIO - APERTURA FESSURE [§B.6.6 DM96]

| Comb. | Ver | S1 | S2 | k3 | Ø | Cf | Psi | e sm | srm | wk | Mx fess | My fess |
|-------|-----|------|----|-----|-----|-----|-----|------|-----|-----|---------|---------|
| 1 | S | -2.0 | 0 | --- | --- | --- | --- | --- | --- | --- | 1337.85 | 0.00 |
| 2 | S | -2.1 | 0 | --- | --- | --- | --- | --- | --- | --- | 1236.04 | 0.00 |

8.1.3 Muri di tipo MA H8

I pali di fondazione saranno armati come segue:

1° gabbia:

- Armature longitudinali: 24φ26+24φ26 accoppiati (rinforzo solo per i primi 6.0 m);
- Armature trasversali: spirale φ12/10.

Di seguito si riportano le verifiche a pressoflessione e taglio relative alle prima gabbia. Nelle verifiche si considerano 24 barre di diametro equivalente pari a $d_{eq} = 26 \times 2^{0.5} = 36.76$ mm

CARATTERISTICHE DOMINIO CONGLOMERATO

Forma del Dominio: Circolare
 Classe Conglomerato: C32/40

Raggio circ.: 60.0 cm
 X centro circ.: 0.0 cm
 Y centro circ.: 0.0 cm

DATI GENERAZIONI CIRCOLARI DI BARRE

N°Gen. Numero assegnato alla singola generazione circolare di barre
 Xcentro Ascissa [cm] del centro della circonferenza lungo cui sono disposte le barre generate
 Ycentro Ordinata [cm] del centro della circonferenza lungo cui sono disposte le barre generate
 Raggio Raggio [cm] della circonferenza lungo cui sono disposte le barre generate
 N°Barre Numero di barre generate equidist. disposte lungo la circonferenza
 Ø Diametro [mm] della singola barra generata

| N°Gen. | Xcentro | Ycentro | Raggio | N°Barre | Ø |
|--------|---------|---------|--------|---------|------|
| 1 | 0.0 | 0.0 | 49.5 | 24 | 36.8 |

ARMATURE A TAGLIO

Diametro staffe: 12 mm
 Passo staffe: 10.0 cm
 Staffe: Una sola staffa chiusa perimetrale

ST.LIM.ULTIMI - SFORZI PER OGNI COMBINAZIONE ASSEGNATA

N Sforzo normale [kN] applicato nel Baric. (+ se di compressione)
 Mx Momento flettente [daNm] intorno all'asse x princ. d'inerzia con verso positivo se tale da comprimere il lembo sup. della sez.
 My Momento flettente [daNm] intorno all'asse y princ. d'inerzia con verso positivo se tale da comprimere il lembo destro della sez.
 Vy Componente del Taglio [kN] parallela all'asse princ.d'inerzia y
 Vx Componente del Taglio [kN] parallela all'asse princ.d'inerzia x

| N°Comb. | N | Mx | My | Vy | Vx |
|---------|---------|---------|------|--------|------|
| 1 | 2502.00 | 1501.00 | 0.00 | 573.00 | 0.00 |

| | | | | | |
|---|---------|---------|------|--------|------|
| 2 | 1214.00 | 1501.00 | 0.00 | 573.00 | 0.00 |
| 3 | 1930.00 | 1501.00 | 0.00 | 573.00 | 0.00 |
| 4 | 3741.00 | 2607.00 | 0.00 | 995.00 | 0.00 |
| 5 | -189.00 | 2607.00 | 0.00 | 995.00 | 0.00 |
| 6 | 2160.00 | 2607.00 | 0.00 | 995.00 | 0.00 |

COMB. RARE (S.L.E.) - SFORZI PER OGNI COMBINAZIONE ASSEGNATA

| | | | |
|---------|---|--------|------|
| N | Sforzo normale [kN] applicato nel Baricentro (+ se di compressione) | | |
| Mx | Momento flettente [kNm] intorno all'asse x princ. d'inerzia (tra parentesi Mom.Fessurazione) con verso positivo se tale da comprimere il lembo superiore della sezione | | |
| My | Momento flettente [kNm] intorno all'asse y princ. d'inerzia (tra parentesi Mom.Fessurazione) con verso positivo se tale da comprimere il lembo destro della sezione | | |
| N°Comb. | N | Mx | My |
| 1 | 1770.00 | 873.00 | 0.00 |
| 2 | 1354.00 | 873.00 | 0.00 |

COMB. FREQUENTI (S.L.E.) - SFORZI PER OGNI COMBINAZIONE ASSEGNATA

| | | | |
|---------|---|------------------|-------------|
| N | Sforzo normale [kN] applicato nel Baricentro (+ se di compressione) | | |
| Mx | Momento flettente [kNm] intorno all'asse x princ. d'inerzia (tra parentesi Mom.Fessurazione) con verso positivo se tale da comprimere il lembo superiore della sezione | | |
| My | Momento flettente [kNm] intorno all'asse y princ. d'inerzia (tra parentesi Mom.Fessurazione) con verso positivo se tale da comprimere il lembo destro della sezione | | |
| N°Comb. | N | Mx | My |
| 1 | 1608.00 | 728.00 (1407.24) | 0.00 (0.00) |
| 2 | 1371.00 | 728.00 (1298.91) | 0.00 (0.00) |

COMB. QUASI PERMANENTI (S.L.E.) - SFORZI PER OGNI COMBINAZIONE ASSEGNATA

| | | | |
|---------|---|------------------|-------------|
| N | Sforzo normale [kN] applicato nel Baricentro (+ se di compressione) | | |
| Mx | Momento flettente [kNm] intorno all'asse x princ. d'inerzia (tra parentesi Mom.Fessurazione) con verso positivo se tale da comprimere il lembo superiore della sezione | | |
| My | Momento flettente [kNm] intorno all'asse y princ. d'inerzia (tra parentesi Mom.Fessurazione) con verso positivo se tale da comprimere il lembo destro della sezione | | |
| N°Comb. | N | Mx | My |
| 1 | 1608.00 | 728.00 (1407.24) | 0.00 (0.00) |
| 2 | 1371.00 | 728.00 (1298.91) | 0.00 (0.00) |

RISULTATI DEL CALCOLO

Sezione verificata per tutte le combinazioni assegnate

| | |
|--|--------|
| Copriferro netto minimo barre longitudinali: | 8.7 cm |
| Interferro netto minimo barre longitudinali: | 9.2 cm |
| Copriferro netto minimo staffe: | 7.5 cm |

METODO AGLI STATI LIMITE ULTIMI - RISULTATI PRESSO-TENSO FLESSIONE

| | |
|----------|---|
| Ver | S = combinazione verificata / N = combin. non verificata |
| N Sn | Sforzo normale allo snervamento [kN] nel baricentro B sezione cls.(positivo se di compressione) |
| Mx Sn | Momento di snervamento [kNm] riferito all'asse x princ. d'inerzia |
| My Sn | Momento di snervamento [kNm] riferito all'asse y princ. d'inerzia |
| N Ult | Sforzo normale ultimo [kN] nel baricentro B sezione cls.(positivo se di compress.) |
| Mx Ult | Momento flettente ultimo [kNm] riferito all'asse x princ. d'inerzia |
| My Ult | Momento flettente ultimo [kNm] riferito all'asse y princ. d'inerzia |
| Mis.Sic. | Misura sicurezza = rapporto vettoriale tra (N Ult,Mx Ult,My Ult) e (N,Mx,My) |

As Tesa Verifica positiva se tale rapporto risulta ≥ 1.000
Area armature [cm²] in zona tesa (solo travi). Tra parentesi l'area minima di normativa

| N°Comb | Ver | N Sn | Mx Sn | My Sn | N Ult | Mx Ult | My Ult | Mis.Sic. | As Tesa |
|--------|-----|---------|---------|-------|---------|---------|--------|----------|-------------|
| 1 | S | 2502.00 | 3626.69 | 0.00 | 2501.74 | 4698.74 | 0.00 | 3.130 | ----- |
| 2 | S | 1214.00 | 3266.57 | 0.00 | 1214.20 | 4430.91 | 0.00 | 2.952 | ----- |
| 3 | S | 1930.00 | 3469.51 | 0.00 | 1930.13 | 4586.08 | 0.00 | 3.055 | ----- |
| 4 | S | 3741.00 | 3951.54 | 0.00 | 3741.06 | 4931.09 | 0.00 | 1.891 | ----- |
| 5 | S | -189.00 | 2848.48 | 0.00 | -189.21 | 4052.68 | 0.00 | 1.555 | 159.3(23.7) |
| 6 | S | 2160.00 | 3533.27 | 0.00 | 2160.02 | 4631.74 | 0.00 | 1.777 | ----- |

METODO AGLI STATI LIMITE ULTIMI - DEFORMAZIONI UNITARIE ALLO STATO ULTIMO

ec max Deform. unit. massima del conglomerato a compressione
ec 3/7 Deform. unit. del conglomerato nella fibra a 3/7 dell'altezza efficace
Xc max Ascissa in cm della fibra corrisp. a ec max (sistema rif. X,Y,O sez.)
Yc max Ordinata in cm della fibra corrisp. a ec max (sistema rif. X,Y,O sez.)
es min Deform. unit. minima nell'acciaio (negativa se di trazione)
Xs min Ascissa in cm della barra corrisp. a es min (sistema rif. X,Y,O sez.)
Ys min Ordinata in cm della barra corrisp. a es min (sistema rif. X,Y,O sez.)
es max Deform. unit. massima nell'acciaio (positiva se di compress.)
Xs max Ascissa in cm della barra corrisp. a es max (sistema rif. X,Y,O sez.)
Ys max Ordinata in cm della barra corrisp. a es max (sistema rif. X,Y,O sez.)

| N°Comb | ec max | ec 3/7 | Xc max | Yc max | es min | Xs min | Ys min | es max | Xs max | Ys max |
|--------|---------|----------|--------|--------|---------|--------|--------|----------|--------|--------|
| 1 | 0.00350 | -0.00073 | 0.0 | 60.0 | 0.00263 | 0.0 | 49.5 | -0.00550 | 0.0 | -49.5 |
| 2 | 0.00350 | -0.00120 | 0.0 | 60.0 | 0.00254 | 0.0 | 49.5 | -0.00649 | 0.0 | -49.5 |
| 3 | 0.00350 | -0.00092 | 0.0 | 60.0 | 0.00259 | 0.0 | 49.5 | -0.00591 | 0.0 | -49.5 |
| 4 | 0.00350 | -0.00035 | 0.0 | 60.0 | 0.00271 | 0.0 | 49.5 | -0.00469 | 0.0 | -49.5 |
| 5 | 0.00350 | -0.00186 | 0.0 | 60.0 | 0.00240 | 0.0 | 49.5 | -0.00790 | 0.0 | -49.5 |
| 6 | 0.00350 | -0.00084 | 0.0 | 60.0 | 0.00261 | 0.0 | 49.5 | -0.00575 | 0.0 | -49.5 |

POSIZIONE ASSE NEUTRO PER OGNI COMB. DI RESISTENZA

a, b, c Coeff. a, b, c nell'eq. dell'asse neutro $aX+bY+c=0$ nel rif. X,Y,O gen.
x/d Rapp. di duttilità a rottura in presenza di sola fless. (travi)
C.Rid. Coeff. di riduz. momenti per sola flessione in travi continue

| N°Comb | a | b | c | x/d | C.Rid. |
|--------|-------------|-------------|--------------|------|--------|
| 1 | 0.000000000 | 0.000082261 | -0.001435646 | ---- | ---- |
| 2 | 0.000000000 | 0.000091307 | -0.001978402 | ---- | ---- |
| 3 | 0.000000000 | 0.000085990 | -0.001659384 | ---- | ---- |
| 4 | 0.000000000 | 0.000074824 | -0.000989446 | ---- | ---- |
| 5 | 0.000000000 | 0.000104190 | -0.002751419 | ---- | ---- |
| 6 | 0.000000000 | 0.000084468 | -0.001568074 | ---- | ---- |

METODO AGLI STATI LIMITE ULTIMI - VERIFICHE A TAGLIO

Passo staffe: 10.0 cm [Passo massimo di normativa = 25.0 cm]

Ver S = comb. verificata a taglio / N = comb. non verificata
Vsdu Taglio di progetto [kN] = proiezz. di V_x e V_y sulla normale all'asse neutro
Vcd Taglio resistente ultimo [kN] lato conglomerato compresso [(4.1.19) NTC]
Vwd Taglio resistente [kN] assorbito dalle staffe [(4.1.18) NTC]
Dmed Altezza utile media pesata [cm] valutata lungo strisce ortog. all'asse neutro.
Vengono prese nella media le strisce con almeno un estremo compresso.
I pesi della media sono costituiti dalle stesse lunghezze delle strisce.
bw Larghezza media resistente a taglio [cm] misurate parallel. all'asse neutro
E' data dal rapporto tra l'area delle sopradette strisce resistenti e Dmed.
Teta Angolo [gradi sessadec.] di inclinazione dei puntoni di conglomerato
Acw Coefficiente maggiorativo della resistenza a taglio per compressione
Ast Area staffe+legature strettam. necessarie a taglio per metro di pil.[cm²/m]
A.Eff Area staffe+legature efficaci nella direzione del taglio di combinaz.[cm²/m]

Tra parentesi è indicata la quota dell'area relativa alle sole legature.
L'area della legatura è ridotta col fattore L/d_max con L=lungh.legat.proiettata sulla direz. del taglio e d_max= massima altezza utile nella direz.del taglio.

| N°Comb | Ver | Vsdu | Vcd | Vwd | Dmed | bw | Teta | Acw | Ast | A.Eff |
|--------|-----|--------|---------|---------|------|-------|--------|-------|------|-----------|
| 1 | S | 573.00 | 3230.10 | 1924.51 | 94.3 | 108.5 | 21.80° | 1.122 | 6.9 | 23.2(0.0) |
| 2 | S | 573.00 | 3028.41 | 1933.80 | 94.8 | 107.2 | 21.80° | 1.059 | 6.9 | 23.2(0.0) |
| 3 | S | 573.00 | 3149.79 | 1924.51 | 94.3 | 108.5 | 21.80° | 1.094 | 6.9 | 23.2(0.0) |
| 4 | S | 995.00 | 3438.86 | 1908.65 | 93.5 | 110.5 | 21.80° | 1.182 | 12.1 | 23.2(0.0) |
| 5 | S | 995.00 | 2812.05 | 1953.66 | 95.7 | 104.4 | 21.80° | 1.000 | 11.8 | 23.2(0.0) |
| 6 | S | 995.00 | 3182.09 | 1924.51 | 94.3 | 108.5 | 21.80° | 1.105 | 12.0 | 23.2(0.0) |

COMBINAZIONI RARE IN ESERCIZIO - MASSIME TENSIONI NORMALI ED APERTURA FESSURE

| | |
|----------------|---|
| Ver | S = comb. verificata/ N = comb. non verificata |
| Sc max | Massima tensione (positiva se di compressione) nel conglomerato [Mpa] |
| Xc max, Yc max | Ascissa, Ordinata [cm] del punto corrisp. a Sc max (sistema rif. X,Y,O) |
| Sf min | Minima tensione (negativa se di trazione) nell'acciaio [Mpa] |
| Xs min, Ys min | Ascissa, Ordinata [cm] della barra corrisp. a Sf min (sistema rif. X,Y,O) |
| Ac eff. | Area di calcestruzzo [cm²] in zona tesa considerata aderente alle barre |
| As eff. | Area barre [cm²] in zona tesa considerate efficaci per l'apertura delle fessure |
| D barre | Distanza tra le barre tese [cm] ai fini del calcolo dell'apertura fessure |
| Beta12 | Prodotto dei coeff. di aderenza delle barre Beta1*Beta2 |

| N°Comb | Ver | Sc max | Xc max | Yc max | Sf min | Xs min | Ys min | Ac eff. | As eff. | D barre | Beta12 |
|--------|-----|--------|--------|--------|--------|--------|--------|---------|---------|---------|--------|
| 1 | S | 4.70 | 0.0 | 0.0 | -26.1 | 0.0 | -49.5 | --- | --- | --- | --- |
| 2 | S | 4.42 | 0.0 | 0.0 | -30.2 | 0.0 | -49.5 | --- | --- | --- | --- |

COMBINAZIONI FREQUENTI IN ESERCIZIO - MASSIME TENSIONI NORMALI ED APERTURA FESSURE

| N°Comb | Ver | Sc max | Xc max | Yc max | Sf min | Xs min | Ys min | Ac eff. | As eff. | D barre | Beta12 |
|--------|-----|--------|--------|--------|--------|--------|--------|---------|---------|---------|--------|
| 1 | S | 4.00 | 0.0 | 0.0 | -20.4 | 0.0 | -49.5 | --- | --- | --- | --- |
| 2 | S | 3.85 | 0.0 | 0.0 | -22.8 | 0.0 | -49.5 | --- | --- | --- | --- |

COMBINAZIONI FREQUENTI IN ESERCIZIO - APERTURA FESSURE [§B.6.6 DM96]

| | |
|----------|---|
| Ver. | La sezione viene assunta come fessurata solo se la trazione nel calcestruzzo supera fctm in almeno una combinazione Esito della verifica |
| S1 | Massima tensione [Mpa] di trazione nel calcestruzzo valutata in sezione non fessurata |
| S2 | Minima tensione [Mpa] di trazione nel calcestruzzo valutata in sezione fessurata |
| k2 | = 0.4 per barre ad aderenza migliorata |
| k3 | = 0.125 per flessione e presso-flessione; $= (e1 + e2)/(2*e1)$ per trazione eccentrica |
| Ø | Diametro [mm] medio delle barre tese comprese nell'area efficace Ac eff |
| Cf | Copriferro [mm] netto calcolato con riferimento alla barra più tesa |
| Psi | $= 1 - \text{Beta}12 * (\text{Ssr}/\text{Ss})^2 = 1 - \text{Beta}12 * (\text{fctm}/\text{S}2)^2 = 1 - \text{Beta}12 * (\text{Mfess}/\text{M})^2$ [B.6.6 DM96] |
| e sm | Deformazione unitaria media tra le fessure [4.3.1.7.1.3 DM96]. Il valore limite = $0.4 * \text{Ss}/\text{Es}$ è tra parentesi |
| srm | Distanza media tra le fessure [mm] |
| wk | Valore caratteristico [mm] dell'apertura fessure = $1.7 * e \text{ sm} * \text{srm}$. Valore limite tra parentesi |
| MX fess. | Componente momento di prima fessurazione intorno all'asse X [kNm] |
| MY fess. | Componente momento di prima fessurazione intorno all'asse Y [kNm] |

| Comb. | Ver | S1 | S2 | k3 | Ø | Cf | Psi | e sm | srm | wk | Mx fess | My fess |
|-------|-----|------|----|-----|-----|-----|-----|------|-----|-----|---------|---------|
| 1 | S | -1.9 | 0 | --- | --- | --- | --- | --- | --- | --- | 1407.24 | 0.00 |
| 2 | S | -2.0 | 0 | --- | --- | --- | --- | --- | --- | --- | 1298.91 | 0.00 |

COMBINAZIONI QUASI PERMANENTI IN ESERCIZIO - MASSIME TENSIONI NORMALI ED APERTURA FESSURE

| N°Comb | Ver | Sc max | Xc max | Yc max | Sf min | Xs min | Ys min | Ac eff. | As eff. | D barre | Beta12 |
|--------|-----|--------|--------|--------|--------|--------|--------|---------|---------|---------|--------|
| 1 | S | 4.00 | 0.0 | 0.0 | -20.4 | 0.0 | -49.5 | --- | --- | --- | --- |
| 2 | S | 3.85 | 0.0 | 0.0 | -22.8 | 0.0 | -49.5 | --- | --- | --- | --- |

COMBINAZIONI QUASI PERMANENTI IN ESERCIZIO - APERTURA FESSURE [§B.6.6 DM96]

| Comb. | Ver | S1 | S2 | k3 | Ø | Cf | Psi | e sm | srm | wk | Mx fess | My fess |
|-------|-----|------|----|-----|-----|-----|-----|------|-----|-----|---------|---------|
| 1 | S | -1.9 | 0 | --- | --- | --- | --- | --- | --- | --- | 1407.24 | 0.00 |
| 2 | S | -2.0 | 0 | --- | --- | --- | --- | --- | --- | --- | 1298.91 | 0.00 |

8.1.4 Muri di tipo MA H10

I pali di fondazione saranno armati come segue:

1° gabbia:

- Armature longitudinali: 24φ26+24φ26 accoppiati (rinforzo solo per i primi 6.0 m);
- Armature trasversali: spirale φ12/10.

Di seguito si riportano le verifiche a pressoflessione e taglio relative alle prima gabbia. Nelle verifiche si considerano 24 barre di diametro equivalente pari a $d_{eq} = 26 \times 2^{0.5} = 36.76$ mm

CARATTERISTICHE DOMINIO CONGLOMERATO

Forma del Dominio: Circolare
Classe Conglomerato: C32/40

Raggio circ.: 60.0 cm
X centro circ.: 0.0 cm
Y centro circ.: 0.0 cm

DATI GENERAZIONI CIRCOLARI DI BARRE

N°Gen. Numero assegnato alla singola generazione circolare di barre
Xcentro Ascissa [cm] del centro della circonf. lungo cui sono disposte le barre generate
Ycentro Ordinata [cm] del centro della circonf. lungo cui sono disposte le barre generate
Raggio Raggio [cm] della circonferenza lungo cui sono disposte le barre generate
N°Barre Numero di barre generate equidist. disposte lungo la circonferenza
Ø Diametro [mm] della singola barra generata

| N°Gen. | Xcentro | Ycentro | Raggio | N°Barre | Ø |
|--------|---------|---------|--------|---------|------|
| 1 | 0.0 | 0.0 | 49.5 | 24 | 36.8 |

ARMATURE A TAGLIO

Diametro staffe: 12 mm
Passo staffe: 10.0 cm
Staffe: Una sola staffa chiusa perimetrale

ST.LIM.ULTIMI - SFORZI PER OGNI COMBINAZIONE ASSEGNATA

| N°Comb. | N | Mx | My | Vy | Vx |
|---------|---------|---------|------|--------|------|
| 1 | 2377.00 | 1355.00 | 0.00 | 517.00 | 0.00 |

| | | | | | |
|---|---------|---------|------|--------|------|
| 2 | 1955.00 | 1355.00 | 0.00 | 517.00 | 0.00 |
| 3 | 2434.00 | 1355.00 | 0.00 | 517.00 | 0.00 |
| 4 | 2730.00 | 2506.00 | 0.00 | 957.00 | 0.00 |
| 5 | 267.00 | 2506.00 | 0.00 | 957.00 | 0.00 |
| 6 | 2688.00 | 2506.00 | 0.00 | 957.00 | 0.00 |

COMB. RARE (S.L.E.) - SFORZI PER OGNI COMBINAZIONE ASSEGNATA

| | |
|----|---|
| N | Sforzo normale [kN] applicato nel Baricentro (+ se di compressione) |
| Mx | Momento flettente [kNm] intorno all'asse x princ. d'inerzia (tra parentesi Mom.Fessurazione) con verso positivo se tale da comprimere il lembo superiore della sezione |
| My | Momento flettente [kNm] intorno all'asse y princ. d'inerzia (tra parentesi Mom.Fessurazione) con verso positivo se tale da comprimere il lembo destro della sezione |

| N°Comb. | N | Mx | My |
|---------|---------|--------|------|
| 1 | 2324.00 | 975.00 | 0.00 |
| 2 | 2128.00 | 975.00 | 0.00 |

COMB. FREQUENTI (S.L.E.) - SFORZI PER OGNI COMBINAZIONE ASSEGNATA

| | |
|----|---|
| N | Sforzo normale [kN] applicato nel Baricentro (+ se di compressione) |
| Mx | Momento flettente [kNm] intorno all'asse x princ. d'inerzia (tra parentesi Mom.Fessurazione) con verso positivo se tale da comprimere il lembo superiore della sezione |
| My | Momento flettente [kNm] intorno all'asse y princ. d'inerzia (tra parentesi Mom.Fessurazione) con verso positivo se tale da comprimere il lembo destro della sezione |

| N°Comb. | N | Mx | My |
|---------|---------|------------------|-------------|
| 1 | 2160.00 | 852.00 (1535.65) | 0.00 (0.00) |
| 2 | 2076.00 | 852.00 (1494.46) | 0.00 (0.00) |

COMB. QUASI PERMANENTI (S.L.E.) - SFORZI PER OGNI COMBINAZIONE ASSEGNATA

| | |
|----|---|
| N | Sforzo normale [kN] applicato nel Baricentro (+ se di compressione) |
| Mx | Momento flettente [kNm] intorno all'asse x princ. d'inerzia (tra parentesi Mom.Fessurazione) con verso positivo se tale da comprimere il lembo superiore della sezione |
| My | Momento flettente [kNm] intorno all'asse y princ. d'inerzia (tra parentesi Mom.Fessurazione) con verso positivo se tale da comprimere il lembo destro della sezione |

| N°Comb. | N | Mx | My |
|---------|---------|------------------|-------------|
| 1 | 2160.00 | 852.00 (1535.65) | 0.00 (0.00) |
| 2 | 2076.00 | 852.00 (1494.46) | 0.00 (0.00) |

RISULTATI DEL CALCOLO

Sezione verificata per tutte le combinazioni assegnate

| | |
|--|--------|
| Copriferro netto minimo barre longitudinali: | 8.7 cm |
| Interferro netto minimo barre longitudinali: | 9.2 cm |
| Copriferro netto minimo staffe: | 7.5 cm |

METODO AGLI STATI LIMITE ULTIMI - RISULTATI PRESSO-TENSO FLESSIONE

| | |
|----------|---|
| Ver | S = combinazione verificata / N = combin. non verificata |
| N Sn | Sforzo normale allo snervamento [kN] nel baricentro B sezione cls.(positivo se di compressione) |
| Mx Sn | Momento di snervamento [kNm] riferito all'asse x princ. d'inerzia |
| My Sn | Momento di snervamento [kNm] riferito all'asse y princ. d'inerzia |
| N Ult | Sforzo normale ultimo [kN] nel baricentro B sezione cls.(positivo se di compress.) |
| Mx Ult | Momento flettente ultimo [kNm] riferito all'asse x princ. d'inerzia |
| My Ult | Momento flettente ultimo [kNm] riferito all'asse y princ. d'inerzia |
| Mis.Sic. | Misura sicurezza = rapporto vettoriale tra (N Ult,Mx Ult,My Ult) e (N,Mx,My) |

As Tesa Verifica positiva se tale rapporto risulta ≥ 1.000
Area armature [cm²] in zona tesa (solo travi). Tra parentesi l'area minima di normativa

| N°Comb | Ver | N Sn | Mx Sn | My Sn | N Ult | Mx Ult | My Ult | Mis.Sic. | As Tesa |
|--------|-----|---------|---------|-------|---------|---------|--------|----------|---------|
| 1 | S | 2377.00 | 3592.76 | 0.00 | 2377.06 | 4674.42 | 0.00 | 3.450 | ----- |
| 2 | S | 1955.00 | 3476.46 | 0.00 | 1954.80 | 4591.00 | 0.00 | 3.388 | ----- |
| 3 | S | 2434.00 | 3608.20 | 0.00 | 2434.07 | 4685.56 | 0.00 | 3.458 | ----- |
| 4 | S | 2730.00 | 3688.06 | 0.00 | 2729.82 | 4742.84 | 0.00 | 1.893 | ----- |
| 5 | S | 267.00 | 2987.36 | 0.00 | 266.79 | 4179.53 | 0.00 | 1.668 | ----- |
| 6 | S | 2688.00 | 3676.84 | 0.00 | 2688.23 | 4734.83 | 0.00 | 1.889 | ----- |

METODO AGLI STATI LIMITE ULTIMI - DEFORMAZIONI UNITARIE ALLO STATO ULTIMO

ec max Deform. unit. massima del conglomerato a compressione
ec 3/7 Deform. unit. del conglomerato nella fibra a 3/7 dell'altezza efficace
Xc max Ascissa in cm della fibra corrisp. a ec max (sistema rif. X,Y,O sez.)
Yc max Ordinata in cm della fibra corrisp. a ec max (sistema rif. X,Y,O sez.)
es min Deform. unit. minima nell'acciaio (negativa se di trazione)
Xs min Ascissa in cm della barra corrisp. a es min (sistema rif. X,Y,O sez.)
Ys min Ordinata in cm della barra corrisp. a es min (sistema rif. X,Y,O sez.)
es max Deform. unit. massima nell'acciaio (positiva se di compress.)
Xs max Ascissa in cm della barra corrisp. a es max (sistema rif. X,Y,O sez.)
Ys max Ordinata in cm della barra corrisp. a es max (sistema rif. X,Y,O sez.)

| N°Comb | ec max | ec 3/7 | Xc max | Yc max | es min | Xs min | Ys min | es max | Xs max | Ys max |
|--------|---------|----------|--------|--------|---------|--------|--------|----------|--------|--------|
| 1 | 0.00350 | -0.00077 | 0.0 | 60.0 | 0.00262 | 0.0 | 49.5 | -0.00559 | 0.0 | -49.5 |
| 2 | 0.00350 | -0.00091 | 0.0 | 60.0 | 0.00260 | 0.0 | 49.5 | -0.00589 | 0.0 | -49.5 |
| 3 | 0.00350 | -0.00075 | 0.0 | 60.0 | 0.00263 | 0.0 | 49.5 | -0.00555 | 0.0 | -49.5 |
| 4 | 0.00350 | -0.00066 | 0.0 | 60.0 | 0.00265 | 0.0 | 49.5 | -0.00535 | 0.0 | -49.5 |
| 5 | 0.00350 | -0.00164 | 0.0 | 60.0 | 0.00245 | 0.0 | 49.5 | -0.00743 | 0.0 | -49.5 |
| 6 | 0.00350 | -0.00067 | 0.0 | 60.0 | 0.00265 | 0.0 | 49.5 | -0.00538 | 0.0 | -49.5 |

POSIZIONE ASSE NEUTRO PER OGNI COMB. DI RESISTENZA

a, b, c Coeff. a, b, c nell'eq. dell'asse neutro $aX+bY+c=0$ nel rif. X,Y,O gen.
x/d Rapp. di duttilità a rottura in presenza di sola fless. (travi)
C.Rid. Coeff. di riduz. momenti per sola flessione in travi continue

| N°Comb | a | b | c | x/d | C.Rid. |
|--------|-------------|-------------|--------------|------|--------|
| 1 | 0.000000000 | 0.000083057 | -0.001483428 | ---- | ---- |
| 2 | 0.000000000 | 0.000085824 | -0.001649459 | ---- | ---- |
| 3 | 0.000000000 | 0.000082691 | -0.001461451 | ---- | ---- |
| 4 | 0.000000000 | 0.000080824 | -0.001349440 | ---- | ---- |
| 5 | 0.000000000 | 0.000099880 | -0.002492802 | ---- | ---- |
| 6 | 0.000000000 | 0.000081084 | -0.001365037 | ---- | ---- |

METODO AGLI STATI LIMITE ULTIMI - VERIFICHE A TAGLIO

Passo staffe: 10.0 cm [Passo massimo di normativa = 25.0 cm]

Ver S = comb. verificata a taglio / N = comb. non verificata
Vsdu Taglio di progetto [kN] = proiez. di V_x e V_y sulla normale all'asse neutro
Vcd Taglio resistente ultimo [kN] lato conglomerato compresso [(4.1.19) NTC]
Vwd Taglio resistente [kN] assorbito dalle staffe [(4.1.18) NTC]
Dmed Altezza utile media pesata [cm] valutata lungo strisce ortog. all'asse neutro.
Vengono prese nella media le strisce con almeno un estremo compresso.
I pesi della media sono costituiti dalle stesse lunghezze delle strisce.
bw Larghezza media resistente a taglio [cm] misurate parallel. all'asse neutro
E' data dal rapporto tra l'area delle sopradette strisce resistenti e Dmed.
Teta Angolo [gradi sessadec.] di inclinazione dei puntoni di conglomerato
Acw Coefficiente maggiorativo della resistenza a taglio per compressione
Ast Area staffe+legature strettam. necessarie a taglio per metro di pil.[cm²/m]
A.Eff Area staffe+legature efficaci nella direzione del taglio di combinaz.[cm²/m]

Tra parentesi è indicata la quota dell'area relativa alle sole legature.
L'area della legatura è ridotta col fattore L/d_max con L=lungh.legat.proiettata sulla direz. del taglio e d_max= massima altezza utile nella direz.del taglio.

| N°Comb | Ver | Vsdu | Vcd | Vwd | Dmed | bw | Teta | Acw | Ast | A.Eff |
|--------|-----|--------|---------|---------|------|-------|--------|-------|------|-----------|
| 1 | S | 517.00 | 3212.55 | 1924.51 | 94.3 | 108.5 | 21.80° | 1.116 | 6.2 | 23.2(0.0) |
| 2 | S | 517.00 | 3153.30 | 1924.51 | 94.3 | 108.5 | 21.80° | 1.095 | 6.2 | 23.2(0.0) |
| 3 | S | 517.00 | 3220.56 | 1924.51 | 94.3 | 108.5 | 21.80° | 1.119 | 6.2 | 23.2(0.0) |
| 4 | S | 957.00 | 3280.94 | 1915.96 | 93.9 | 109.6 | 21.80° | 1.133 | 11.6 | 23.2(0.0) |
| 5 | S | 957.00 | 2873.71 | 1943.57 | 95.2 | 105.9 | 21.80° | 1.013 | 11.4 | 23.2(0.0) |
| 6 | S | 957.00 | 3275.01 | 1915.96 | 93.9 | 109.6 | 21.80° | 1.131 | 11.6 | 23.2(0.0) |

COMBINAZIONI RARE IN ESERCIZIO - MASSIME TENSIONI NORMALI ED APERTURA FESSURE

| | |
|----------------|---|
| Ver | S = comb. verificata/ N = comb. non verificata |
| Sc max | Massima tensione (positiva se di compressione) nel conglomerato [Mpa] |
| Xc max, Yc max | Ascissa, Ordinata [cm] del punto corrisp. a Sc max (sistema rif. X,Y,O) |
| Sf min | Minima tensione (negativa se di trazione) nell'acciaio [Mpa] |
| Xs min, Ys min | Ascissa, Ordinata [cm] della barra corrisp. a Sf min (sistema rif. X,Y,O) |
| Ac eff. | Area di calcestruzzo [cm²] in zona tesa considerata aderente alle barre |
| As eff. | Area barre [cm²] in zona tesa considerate efficaci per l'apertura delle fessure |
| D barre | Distanza tra le barre tese [cm] ai fini del calcolo dell'apertura fessure |
| Beta12 | Prodotto dei coeff. di aderenza delle barre Beta1*Beta2 |

| N°Comb | Ver | Sc max | Xc max | Yc max | Sf min | Xs min | Ys min | Ac eff. | As eff. | D barre | Beta12 |
|--------|-----|--------|--------|--------|--------|--------|--------|---------|---------|---------|--------|
| 1 | S | 5.47 | 0.0 | 0.0 | -25.7 | 0.0 | -49.5 | --- | --- | --- | --- |
| 2 | S | 5.34 | 0.0 | 0.0 | -27.6 | 0.0 | -49.5 | --- | --- | --- | --- |

COMBINAZIONI FREQUENTI IN ESERCIZIO - MASSIME TENSIONI NORMALI ED APERTURA FESSURE

| N°Comb | Ver | Sc max | Xc max | Yc max | Sf min | Xs min | Ys min | Ac eff. | As eff. | D barre | Beta12 |
|--------|-----|--------|--------|--------|--------|--------|--------|---------|---------|---------|--------|
| 1 | S | 4.87 | 0.0 | 0.0 | -21.1 | 0.0 | -49.5 | --- | --- | --- | --- |
| 2 | S | 4.81 | 0.0 | 0.0 | -22.0 | 0.0 | -49.5 | --- | --- | --- | --- |

COMBINAZIONI FREQUENTI IN ESERCIZIO - APERTURA FESSURE [§B.6.6 DM96]

| | |
|----------|---|
| Ver. | La sezione viene assunta come fessurata solo se la trazione nel calcestruzzo supera fctm in almeno una combinazione |
| S1 | Esito della verifica |
| S2 | Massima tensione [Mpa] di trazione nel calcestruzzo valutata in sezione non fessurata |
| k2 | Minima tensione [Mpa] di trazione nel calcestruzzo valutata in sezione fessurata |
| k3 | = 0.4 per barre ad aderenza migliorata |
| Ø | = 0.125 per flessione e presso-flessione; $=(e1 + e2)/(2*e1)$ per trazione eccentrica |
| Cf | Diametro [mm] medio delle barre tese comprese nell'area efficace Ac eff |
| Psi | Copriferro [mm] netto calcolato con riferimento alla barra più tesa |
| e sm | $= 1 - \text{Beta}12 * (\text{Ssr}/\text{Ss})^2 = 1 - \text{Beta}12 * (\text{fctm}/\text{S}2)^2 = 1 - \text{Beta}12 * (\text{Mfess}/\text{M})^2$ [B.6.6 DM96] |
| srm | Deformazione unitaria media tra le fessure [4.3.1.7.1.3 DM96]. Il valore limite = $0.4 * \text{Ss}/\text{Es}$ è tra parentesi |
| wk | Distanza media tra le fessure [mm] |
| MX fess. | Valore caratteristico [mm] dell'apertura fessure = $1.7 * e \text{ sm} * \text{srm}$. Valore limite tra parentesi |
| MY fess. | Componente momento di prima fessurazione intorno all'asse X [kNm] |
| | Componente momento di prima fessurazione intorno all'asse Y [kNm] |

| Comb. | Ver | S1 | S2 | k3 | Ø | Cf | Psi | e sm | srm | wk | Mx fess | My fess |
|-------|-----|------|----|-----|-----|-----|-----|------|-----|-----|---------|---------|
| 1 | S | -2.0 | 0 | --- | --- | --- | --- | --- | --- | --- | 1535.65 | 0.00 |
| 2 | S | -2.1 | 0 | --- | --- | --- | --- | --- | --- | --- | 1494.46 | 0.00 |

COMBINAZIONI QUASI PERMANENTI IN ESERCIZIO - MASSIME TENSIONI NORMALI ED APERTURA FESSURE

| N°Comb | Ver | Sc max | Xc max | Yc max | Sf min | Xs min | Ys min | Ac eff. | As eff. | D barre | Beta12 |
|--------|-----|--------|--------|--------|--------|--------|--------|---------|---------|---------|--------|
| 1 | S | 4.87 | 0.0 | 0.0 | -21.1 | 0.0 | -49.5 | --- | --- | --- | --- |
| 2 | S | 4.81 | 0.0 | 0.0 | -22.0 | 0.0 | -49.5 | --- | --- | --- | --- |

COMBINAZIONI QUASI PERMANENTI IN ESERCIZIO - APERTURA FESSURE [§B.6.6 DM96]

| Comb. | Ver | S1 | S2 | k3 | Ø | Cf | Psi | e sm | srm | wk | Mx fess | My fess |
|-------|-----|------|----|-----|-----|-----|-----|------|-----|-----|---------|---------|
| 1 | S | -2.0 | 0 | --- | --- | --- | --- | --- | --- | --- | 1535.65 | 0.00 |
| 2 | S | -2.1 | 0 | --- | --- | --- | --- | --- | --- | --- | 1494.46 | 0.00 |

8.2 Verifiche geotecniche dei pali di fondazione

Per le verifiche geotecniche dei pali si rimanda alle relazioni dei singoli viadotti nelle quali è esplicitata la stratigrafia di verifica e i risultati relativi al palo singolo e alla palificata.

8.3 Verifiche strutturali dei muri

Le verifiche strutturali del paramento frontale e della fondazione dei muri sono eseguite dal programma e sono riportate in allegato per ogni tipologia di muro e risultano soddisfatte.

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

9.1 Tipo di analisi svolte

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

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

- Calcolo della spinta del terreno
- Calcolo delle sollecitazioni sia del muro che della fondazione, progetto delle armature e relative verifiche dei materiali.
- Calcolo della portanza assiale e trasversale dei pali. Progetto e verifica delle armature dei pali inseriti.

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

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

9.2 Origine e caratteristiche dei codici di calcolo

ANALISI STRUTTURALE

Nome del Software: MAX – Analisi e Calcolo Muri di Sostegno – Versione 15.0

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

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

9.3 Affidabilità dei codici di calcolo

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

9.4 Modalità di presentazione dei risultati

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

9.5 Informazioni generali sull'elaborazione

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

9.6 Giudizio motivato di accettabilità dei risultati

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

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

10 ALLEGATO 1 – TABULATI DI CALCOLO – VERIFICHE STRUTTURALI E GEOTECNICHE DEI MURI – MURO TIPO MA H10 (H=6 M)

Dati

Materiali

Simbologia adottata

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

Calcestruzzo armato

| n° | Descr | C | A | γ | R _{ck} | E | ν | n | ntc |
|----|--------|--------|-------|----------|-----------------|----------|-------|-------|------|
| | | | | [kN/mc] | [kPa] | [kPa] | | | |
| 4 | C32/40 | C32/40 | B450C | 24.5170 | 40000 | 33346000 | 0.30 | 15.00 | 0.50 |

Acciai

| Descr | f _{yk} | f _{uk} |
|-------|-----------------|-----------------|
| | [kPa] | [kPa] |
| B450C | 449936 | 539963 |

Tipologie pali

Simbologia adottata

| | |
|--------|--|
| n° | Indice tipologia palo |
| Descr | Descrizione tipologia palo |
| P | Contributo portanza palo (laterale e/o punta) |
| T | Tecnologia costruttiva (trivellato, infisso o elica continua) |
| V | Vincolo palo-fondazione: Cerniera o Incastro (libero o impedito di ruotare in testa) |
| Imat | Indice materiale che lo costituisce |
| BD | usa metodo di Bustamante-Doix |
| PN | Portanza nota |
| Pp, PI | Portanza di punta e laterale caratteristica, espressa in [kN] |

| n° | Descr | P | T | V | Imat | BD | PN | Pp | PI |
|----|-------------|------------------|------------|----------|------|----|----|----|----|
| 1 | Tipologia 1 | Laterale + Punta | Trivellato | Incastro | 4 | NO | NO | -- | -- |

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 | 1.00 | 0.00 | 0.000 |
| 3 | 8.50 | 0.00 | 0.000 |
| 4 | 25.00 | 0.00 | 0.000 |

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

Falda

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 | -4.00 | -7.50 | 0.000 |
| 2 | 10.00 | -7.50 | 0.000 |

Geometria muro

Geometria paramento e fondazione

Paramento

| | | |
|--|---------|---------|
| Materiale | C32/40 | |
| Altezza paramento | 6.00 | [m] |
| Altezza paramento libero | 6.00 | [m] |
| Spessore in sommità | 0.40 | [m] |
| Spessore all'attacco con la fondazione | 1.00 | [m] |
| Inclinazione paramento esterno | 0.00 | [°] |
| Inclinazione paramento interno | 5.71 | [°] |
| Spessore rivestimento | 0.15 | [m] |
| Peso sp. rivestimento | 20.0000 | [kN/mc] |

Mensola di marciapiede

| | | |
|--|------|-----|
| Posizione rispetto alla testa del muro | 0.00 | [m] |
| Lunghezza | 0.35 | [m] |
| Spessore all'estremità libera | 0.50 | [m] |
| Spessore all'incastro | 0.50 | [m] |

Fondazione

| | | |
|----------------------------|--------|-----|
| Materiale | C32/40 | |
| Lunghezza mensola di valle | 2.00 | [m] |
| Lunghezza mensola di monte | 2.60 | [m] |
| Lunghezza totale | 5.60 | [m] |
| Inclinazione piano di posa | 0.00 | [°] |
| Spessore | 1.50 | [m] |
| Spessore magrone | 0.20 | [m] |

Descrizione pali di fondazione

Simbologia adottata

n° numero d'ordine della fila
X ascissa della fila misurata dallo spigolo di monte della fondazione espressa in [m]
I interasse tra i pali, espressa in [m]
f franco laterale (distanza minima dal bordo laterale), espressa in [m]
Np Numero di pali della fila
D diametro dei pali della fila espresso in [cm]
L lunghezza dei pali della fila espressa in [m]
 α inclinazione dei pali della fila rispetto alla verticale espressa in [°]
ALL allineamento dei pali della fila rispetto al baricentro della fondazione (CENTRATI o SFALSATI)

| n° | Tipologia | X | I | f | Np | D | L | α | ALL |
|----|-------------|------|------|------|----|--------|-------|----------|----------|
| | | [m] | [m] | [m] | | [cm] | [m] | [°] | |
| 1 | Tipologia 1 | 1.00 | 3.81 | 0.20 | 1 | 120.00 | 25.00 | 0.00 | Centrati |
| 2 | Tipologia 1 | 4.60 | 3.81 | 0.20 | 1 | 120.00 | 25.00 | 0.00 | Centrati |

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 (Q) - VARIABILE

Coeff. di combinazione $\Psi_0=0.75$ - $\Psi_1=0.75$ - $\Psi_2=0.00$

Carichi sul terreno

| n° | Tipo | X | F _x | F _y | M | X _i | X _f | Q _i | Q _f |
|----|-------------|-----|----------------|----------------|-------|----------------|----------------|----------------|----------------|
| | | [m] | [kN] | [kN] | [kNm] | [m] | [m] | [kN] | [kN] |
| 1 | Distribuito | | | | | 1.50 | 25.00 | 20.0000 | 20.0000 |

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

Coeff. parziali per i parametri geotecnici del terreno

| Parametro | | Combinazioni statiche | | Combinazioni sismiche | |
|---------------------------------|------------------------|-----------------------|------|-----------------------|------|
| | | M1 | M2 | M1 | M2 |
| Tangente dell'angolo di attrito | $\gamma_{\tan(\phi')}$ | 1.00 | 1.25 | 1.00 | 1.00 |
| Coesione efficace | γ_c | 1.00 | 1.25 | 1.00 | 1.00 |
| Resistenza non drenata | γ_{cu} | 1.00 | 1.40 | 1.00 | 1.00 |
| Peso nell'unità di volume | γ_r | 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 |
| Ribaltamento | -- | -- | 1.15 | -- | -- | 1.00 |
| Stabilità fronte di scavo | -- | 1.10 | -- | -- | 1.20 | -- |

Carichi verticali. Coeff. parziali γ_R da applicare alle resistenze caratteristiche

| Resistenza | | Pali infissi | | | Pali trivellati | | | Pali ad elica continua | | |
|------------|------------|--------------|----|------|-----------------|----|------|------------------------|----|------|
| | | R1 | R2 | R3 | R1 | R2 | R3 | R1 | R2 | R3 |
| Punta | γ_b | -- | -- | 1.15 | -- | -- | 1.35 | -- | -- | 1.30 |

| Resistenza | | Pali infissi | | | Pali trivellati | | | Pali ad elica continua | | |
|-----------------------|---------------|--------------|----|------|-----------------|----|------|------------------------|----|------|
| | | R1 | R2 | R3 | R1 | R2 | R3 | R1 | R2 | R3 |
| Laterale compressione | γ_s | -- | -- | 1.15 | -- | -- | 1.15 | -- | -- | 1.15 |
| Totale compressione | γ_t | -- | -- | 1.15 | -- | -- | 1.30 | -- | -- | 1.25 |
| Laterale trazione | γ_{st} | -- | -- | 1.25 | -- | -- | 1.25 | -- | -- | 1.25 |

Carichi trasversali. Coeff. parziali γ_R da applicare alle resistenze caratteristiche

| | | R1 | R2 | R3 |
|-------------|------------|----|----|------|
| Trasversale | γ_t | -- | -- | 1.30 |

Coefficienti di riduzione ζ per la determinazione della resistenza caratteristica dei pali

Numero di verticali indagate 1

$\zeta_3=1.70$ $\zeta_4=1.70$

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):

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

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

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

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

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

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

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

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

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

I valori dei coeff. $\Psi_{0,j}$, $\Psi_{1,j}$, $\Psi_{2,j}$ sono definiti nelle singole condizioni variabili. per 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 | γ | Ψ | Effetto |
|-----------------|----------|--------|-------------|
| Peso muro | 1.00 | -- | Favorevole |
| Peso terrapieno | 1.00 | -- | Favorevole |
| Spinta terreno | 1.30 | -- | Sfavorevole |
| Q | 1.50 | 1.00 | Sfavorevole |

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

| Condizione | γ | Ψ | Effetto |
|------------|----------|--------|------------|
| Peso muro | 1.00 | -- | Favorevole |

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

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

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

Combinazione n° 5 - GEO (A2-M2-R2)

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

Combinazione n° 6 - GEO (A2-M2-R2)

| Condizione | γ | Ψ | Effetto |
|-----------------|----------|--------|-------------|
| Peso muro | 1.00 | -- | Sfavorevole |
| Peso terrapieno | 1.00 | -- | Sfavorevole |
| Spinta terreno | 1.00 | -- | Sfavorevole |
| Q | 1.30 | 1.00 | Sfavorevole |

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

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

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

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

Combinazione n° 9 - SLER

| Condizione | γ | Ψ | Effetto |
|-----------------|----------|--------|-------------|
| Peso muro | 1.00 | -- | Sfavorevole |
| Peso terrapieno | 1.00 | -- | Sfavorevole |
| Spinta terreno | 1.00 | -- | Sfavorevole |
| Q | 1.00 | 0.75 | Sfavorevole |

Combinazione n° 10 - SLEF

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

Combinazione n° 11 - SLEQ

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

Dati sismici

| | Simbolo | U.M. | SLU | SLE |
|------------------------|---------|---------------------|-------|-------|
| Accelerazione al suolo | a_g | [m/s ²] | 1.756 | 0.000 |
| Accelerazione al suolo | a_g/g | [%] | 0.179 | 0.000 |

| | Simbolo | U.M. | | SLU | SLE |
|---|---------|------|----|-------|-------|
| Massimo fattore amplificazione spettro orizzontale | F0 | | | 2.511 | 0.000 |
| Periodo inizio tratto spettro a velocità costante | Tc* | | | 0.551 | 0.000 |
| Tipo di sottosuolo - Coefficiente stratigrafico | Ss | | B | 1.200 | 1.200 |
| Categoria topografica - Coefficiente amplificazione topografica | St | | T1 | 1.000 | |

| Stato limite ... | Coeff. di riduzione β_m | kh | kv |
|-----------------------|-------------------------------|--------|--------|
| Ultimo | 1.000 | 21.480 | 10.740 |
| Ultimo - Ribaltamento | 1.000 | 21.480 | 10.740 |
| Esercizio | 1.000 | 0.000 | 0.000 |

Forma diagramma incremento sismico **Rettangolare**

Opzioni di calcolo

Spinta

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

Stabilità globale

| | |
|---|--------|
| Metodo di calcolo della stabilità globale | Bishop |
|---|--------|

Altro

| | |
|--|-------|
| Partecipazione spinta passiva terreno antistante | 0.00 |
| Partecipazione resistenza passiva dente di fondazione | 50.00 |
| Componente verticale della spinta nel calcolo delle sollecitazioni | NO |
| Considera terreno sulla fondazione di valle | NO |
| Considera spinta e peso acqua fondazione di valle | NO |

Spostamenti

| | |
|--|-----------|
| Modello a blocchi | |
| Non è stato richiesto il calcolo degli spostamenti | |
| Spostamento limite | 1.00 [cm] |

Opzioni calcolo pali

Portanza verticale

| | |
|--|--|
| Metodo di calcolo della portanza alla punta | Hansen |
| Metodo di calcolo della portanza alla laterale | Integrazione delle tensioni tangenziali ($k_s \sigma_v \tan(\delta) + ca$) |
| Correzione angolo di attrito in funzione del tipo di palo (infilso/trivellato) | Non attiva |
| Andamento pressione verticale nel calcolo della portanza alla punta σ_v con la profondità | Pressione geostatica |
| Andamento pressione verticale nel calcolo della portanza laterale | Pressione geostatica |

Portanza trasversale

| | |
|-------------------------------|---|
| Criterio rottura palo-terreno | |
| - Spostamento limite | Non attivo |
| - Pressione limite | Pressione limite costante $pl=9.18$ [kPa] |
| - Palo infinitamente elastico | Non attivo |

Cedimenti

| | |
|-------------------------------|-----------------------------|
| Metodo di calcolo | Metodo agli elementi finiti |
| Spostamento limite alla punta | 1.00 [cm] |
| Spostamento limite laterale | 0.50 [cm] |

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

| | |
|---------------------------------|------------|
| 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.

Valori limite aperture delle fessure:

$$w_1=0.20$$

$$w_2=0.30$$

$$w_3=0.40$$

Verifica delle tensioni

Valori limite delle tensioni nei materiali:

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

Risultati per inviluppo

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 | 215.85 | 23.33 | 198.19 | 85.49 | 3.20 | -4.68 |
| | Peso/Inerzia muro | | | 0.00 | 313.20/0.00 | 0.25 | -5.57 |
| | Peso/Inerzia rivestimento | | | 0.00 | 18.00 | 0.00 | 0.00 |
| | Peso/Inerzia terrapieno | | | 0.00 | 364.19/0.00 | 1.77 | -2.91 |
| | Peso dell'acqua sulla fondazione di valle | | | | 0.00 | 0.00 | 0.00 |
| | Resistenza pali | | | -346.96 | | | |

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) | 708.11 | 147.70 | 369.26 | 2526.74 | -0.247 |
| 2 - STR (A1-M1-R3) | 780.89 | 198.19 | 558.62 | 2868.01 | -0.157 |
| 3 - STR (A1-M1-R3) | 795.82 | 333.50 | 1058.17 | 2869.63 | 0.524 |
| 4 - STR (A1-M1-R3) | 652.68 | 313.58 | 1211.88 | 2593.09 | 0.684 |

Sollecitazioni

Elementi calcolati a trave

Simbologia adottata

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)

Elementi calcolati a piastra

Simbologia adottata

M_x, M_y Momenti flettenti, espresso in [kNm]

Mxy Momento torcente, espresso in [kNm]. Positivo se diretto da monte verso valle
 Tx, Ty Tagli, espresso in [kN]. Positivo se tende le fibre contro terra (a monte)
 I momenti flettenti sono positivi se tendono le fibre inferiori (intradosso fondazione, paramento esterno)

Paramento

| n° | X | Nmin | Nmax | Tmin | Tmax | Mmin | Mmax |
|----|-------|--------|--------|-------|--------|--------|--------|
| | [m] | [kN] | [kN] | [kN] | [kN] | [kNm] | [kNm] |
| 1 | 0.00 | 4.29 | 4.75 | 0.00 | 0.00 | 0.75 | 0.83 |
| 2 | -0.10 | 5.28 | 5.74 | 0.02 | 1.14 | 0.75 | 0.89 |
| 3 | -0.20 | 6.30 | 6.76 | 0.09 | 2.33 | 0.77 | 1.07 |
| 4 | -0.30 | 7.34 | 7.80 | 0.20 | 3.57 | 0.79 | 1.38 |
| 5 | -0.40 | 8.41 | 8.87 | 0.36 | 4.86 | 0.84 | 1.82 |
| 6 | -0.50 | 9.50 | 9.96 | 0.56 | 6.19 | 0.91 | 2.39 |
| 7 | -0.60 | 10.62 | 11.08 | 0.81 | 7.58 | 1.01 | 3.11 |
| 8 | -0.70 | 11.76 | 12.22 | 1.10 | 9.02 | 1.14 | 3.97 |
| 9 | -0.80 | 12.92 | 13.38 | 1.44 | 10.51 | 1.30 | 4.99 |
| 10 | -0.90 | 14.11 | 14.57 | 1.82 | 12.05 | 1.51 | 6.16 |
| 11 | -1.00 | 15.32 | 15.78 | 2.25 | 13.64 | 1.77 | 7.50 |
| 12 | -1.10 | 16.56 | 17.02 | 2.72 | 15.28 | 2.07 | 9.00 |
| 13 | -1.20 | 17.82 | 18.28 | 3.24 | 16.97 | 2.44 | 10.68 |
| 14 | -1.30 | 19.11 | 19.57 | 3.80 | 18.71 | 2.86 | 12.54 |
| 15 | -1.40 | 20.42 | 20.88 | 4.41 | 20.50 | 3.35 | 14.57 |
| 16 | -1.50 | 21.76 | 22.22 | 5.06 | 22.35 | 3.90 | 16.80 |
| 17 | -1.60 | 23.12 | 23.58 | 5.76 | 24.24 | 4.54 | 19.22 |
| 18 | -1.70 | 24.50 | 24.97 | 6.50 | 26.18 | 5.25 | 21.84 |
| 19 | -1.80 | 25.91 | 26.37 | 7.29 | 28.17 | 6.04 | 24.66 |
| 20 | -1.90 | 27.35 | 27.81 | 8.12 | 30.21 | 6.92 | 27.69 |
| 21 | -2.00 | 28.81 | 29.27 | 9.00 | 32.31 | 7.90 | 30.93 |
| 22 | -2.10 | 30.29 | 30.75 | 9.92 | 34.45 | 8.97 | 34.40 |
| 23 | -2.20 | 31.80 | 32.26 | 10.89 | 36.64 | 10.14 | 38.08 |
| 24 | -2.30 | 33.33 | 33.79 | 11.90 | 38.88 | 11.42 | 42.00 |
| 25 | -2.40 | 34.89 | 35.35 | 12.96 | 41.18 | 12.81 | 46.15 |
| 26 | -2.50 | 36.47 | 36.93 | 14.06 | 43.52 | 14.32 | 50.54 |
| 27 | -2.60 | 38.07 | 38.53 | 15.20 | 45.92 | 15.95 | 55.18 |
| 28 | -2.70 | 39.70 | 40.17 | 16.40 | 48.36 | 17.70 | 60.07 |
| 29 | -2.80 | 41.36 | 41.82 | 17.63 | 50.85 | 19.58 | 65.21 |
| 30 | -2.90 | 43.04 | 43.50 | 18.91 | 53.40 | 21.60 | 70.61 |
| 31 | -3.00 | 44.74 | 45.20 | 20.24 | 55.99 | 23.75 | 76.28 |
| 32 | -3.10 | 46.47 | 46.93 | 21.61 | 58.64 | 26.05 | 82.22 |
| 33 | -3.20 | 48.22 | 48.68 | 23.03 | 61.33 | 28.50 | 88.43 |
| 34 | -3.30 | 50.00 | 50.46 | 24.49 | 64.08 | 31.10 | 94.92 |
| 35 | -3.40 | 51.80 | 52.26 | 26.00 | 66.87 | 33.86 | 101.70 |
| 36 | -3.50 | 53.63 | 54.09 | 27.55 | 69.72 | 36.78 | 108.77 |
| 37 | -3.60 | 55.48 | 55.94 | 29.15 | 72.62 | 39.86 | 116.14 |
| 38 | -3.70 | 57.36 | 57.82 | 30.79 | 75.56 | 43.12 | 123.81 |
| 39 | -3.80 | 59.26 | 59.72 | 32.47 | 78.56 | 46.55 | 131.79 |
| 40 | -3.90 | 61.18 | 61.64 | 34.21 | 81.61 | 50.16 | 140.08 |
| 41 | -4.00 | 63.13 | 63.59 | 35.98 | 84.70 | 53.96 | 148.68 |
| 42 | -4.10 | 65.10 | 65.56 | 37.80 | 87.85 | 57.95 | 157.61 |
| 43 | -4.20 | 67.10 | 67.56 | 39.67 | 91.05 | 62.13 | 166.86 |
| 44 | -4.30 | 69.12 | 69.58 | 41.58 | 94.30 | 66.52 | 176.45 |
| 45 | -4.40 | 71.17 | 71.63 | 43.54 | 97.60 | 71.10 | 186.37 |
| 46 | -4.50 | 73.24 | 73.70 | 45.54 | 100.95 | 75.89 | 196.64 |
| 47 | -4.60 | 75.34 | 75.80 | 47.59 | 104.34 | 80.90 | 207.25 |
| 48 | -4.70 | 77.46 | 77.92 | 49.68 | 107.79 | 86.12 | 218.22 |
| 49 | -4.80 | 79.60 | 80.06 | 51.81 | 111.29 | 91.57 | 229.54 |
| 50 | -4.90 | 81.77 | 82.23 | 54.00 | 114.84 | 97.24 | 241.23 |
| 51 | -5.00 | 83.97 | 84.43 | 56.22 | 118.44 | 103.14 | 253.29 |
| 52 | -5.10 | 86.19 | 86.65 | 58.49 | 122.09 | 109.28 | 265.72 |
| 53 | -5.20 | 88.43 | 88.89 | 60.81 | 125.79 | 115.66 | 278.53 |
| 54 | -5.30 | 90.70 | 91.16 | 63.17 | 129.54 | 122.29 | 291.72 |
| 55 | -5.40 | 92.99 | 93.45 | 65.58 | 133.34 | 129.16 | 305.30 |
| 56 | -5.50 | 95.31 | 95.77 | 68.03 | 137.19 | 136.29 | 319.27 |
| 57 | -5.60 | 97.65 | 98.11 | 70.52 | 141.09 | 143.68 | 333.65 |
| 58 | -5.70 | 100.01 | 100.47 | 73.07 | 145.05 | 151.33 | 348.43 |
| 59 | -5.80 | 102.40 | 102.86 | 75.65 | 149.05 | 159.25 | 363.62 |
| 60 | -5.90 | 104.82 | 105.28 | 78.28 | 153.10 | 167.44 | 379.22 |
| 61 | -6.00 | 107.26 | 107.72 | 80.96 | 157.20 | 175.91 | 395.24 |

Mensola valle

| n° | X [m] | N _{min} [kN] | N _{max} [kN] | T _{min} [kN] | T _{max} [kN] | M _{min} [kNm] | M _{max} [kNm] |
|----|----------|--------------------------|--------------------------|--------------------------|--------------------------|---------------------------|---------------------------|
| 1 | -0.75 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 2 | -0.66 | 0.00 | 0.00 | 1.07 | 1.19 | 0.05 | 0.05 |
| 3 | -0.57 | 0.00 | 0.00 | 2.15 | 2.38 | 0.19 | 0.21 |
| 4 | -0.49 | 0.00 | 0.00 | 3.22 | 3.56 | 0.42 | 0.47 |
| 5 | -0.40 | 0.00 | 0.00 | 4.29 | 4.75 | 0.75 | 0.83 |

Piastra fondazione

| In | M _x [kNm] | M _y [kNm] | M _{xy} [kNm] | T _x [kN] | T _y [kN] | |
|----|-------------------------|-------------------------|--------------------------|------------------------|------------------------|-----|
| 1 | 0.59 | 0.65 | 0.19 | -3.93 | 10.87 | MAX |
| | 0.25 | 0.27 | 0.14 | -8.09 | 7.22 | MIN |
| 2 | 2.32 | 0.41 | 0.03 | -2.94 | 1.94 | MAX |
| | 1.18 | 0.23 | -0.09 | -9.10 | -0.73 | MIN |
| 3 | -0.29 | -0.26 | 0.22 | 11.98 | 2.17 | MAX |
| | -0.87 | -0.86 | 0.09 | 5.82 | -3.53 | MIN |
| 4 | 0.17 | -0.40 | 0.49 | 5.22 | 14.33 | MAX |
| | 0.13 | -0.86 | 0.34 | 2.30 | 9.48 | MIN |
| 5 | 3.67 | 0.24 | -0.48 | 0.98 | 0.57 | MAX |
| | 1.18 | 0.12 | -1.04 | -8.45 | -2.43 | MIN |
| 6 | -3.23 | -1.58 | -0.83 | 28.42 | -1.10 | MAX |
| | -6.35 | -2.73 | -1.84 | 14.85 | -8.02 | MIN |
| 7 | -0.43 | 1.17 | 1.09 | 23.84 | -0.69 | MAX |
| | -1.08 | -1.42 | 0.68 | 13.47 | -13.99 | MIN |
| 8 | 0.10 | -0.19 | 0.99 | 11.12 | 15.57 | MAX |
| | 0.07 | -2.22 | 0.72 | 6.25 | 6.92 | MIN |
| 9 | -3.87 | -2.45 | -0.41 | 52.18 | -7.52 | MAX |
| | -7.40 | -4.68 | -1.55 | 29.61 | -24.38 | MIN |
| 10 | -0.56 | -0.36 | -2.05 | 7.25 | 1.22 | MAX |
| | -5.22 | -0.60 | -3.99 | -6.22 | -1.51 | MIN |
| 11 | -10.82 | -4.06 | -3.96 | 48.88 | -0.97 | MAX |
| | -19.83 | -7.05 | -7.65 | 26.47 | -7.71 | MIN |
| 12 | -10.99 | -7.53 | -4.89 | 85.80 | -9.32 | MAX |
| | -20.20 | -12.06 | -9.71 | 48.76 | -27.15 | MIN |
| 13 | 0.24 | 7.02 | 3.51 | 32.04 | -9.26 | MAX |
| | 0.18 | 0.44 | 2.26 | 18.00 | -33.44 | MIN |
| 14 | 0.51 | 4.11 | 1.94 | 14.91 | 8.24 | MAX |
| | 0.29 | -1.30 | 1.37 | 8.34 | -7.40 | MIN |
| 15 | -2.64 | 1.18 | 3.01 | 70.45 | -20.06 | MAX |
| | -5.07 | -4.27 | 1.60 | 39.68 | -50.90 | MIN |
| 16 | -8.65 | -9.36 | -1.52 | 117.56 | -25.52 | MAX |
| | -15.77 | -15.15 | -4.13 | 66.26 | -60.56 | MIN |
| 17 | -14.94 | -1.56 | -5.10 | 10.45 | 2.84 | MAX |
| | -27.99 | -2.80 | -9.63 | -6.83 | 0.90 | MIN |
| 18 | -24.93 | -7.52 | -9.93 | 69.46 | 1.15 | MAX |
| | -45.13 | -13.32 | -18.64 | 38.33 | -4.09 | MIN |
| 19 | -23.18 | -15.13 | -13.67 | 121.48 | -6.91 | MAX |
| | -41.87 | -25.78 | -25.79 | 69.06 | -23.01 | MIN |
| 20 | -18.79 | -21.76 | -9.91 | 172.97 | -25.87 | MAX |
| | -33.61 | -35.46 | -19.13 | 97.47 | -61.47 | MIN |
| 21 | 1.70 | 20.51 | 7.77 | 36.53 | -21.47 | MAX |
| | 1.04 | 6.26 | 4.74 | 20.54 | -59.53 | MIN |
| 22 | 0.75 | 14.95 | 3.62 | 16.65 | -0.51 | MAX |
| | 0.43 | 3.10 | 2.41 | 9.35 | -26.14 | MIN |
| 23 | -1.19 | 13.88 | 11.38 | 82.21 | -36.82 | MAX |
| | -2.25 | 1.77 | 6.93 | 46.24 | -86.33 | MIN |
| 24 | -6.54 | -3.96 | 8.66 | 141.48 | -48.49 | MAX |
| | -11.64 | -11.84 | 4.96 | 79.48 | -107.22 | MIN |
| 25 | -16.43 | -22.34 | -0.31 | 219.43 | -56.41 | MAX |
| | -28.95 | -33.70 | -3.34 | 123.12 | -121.73 | MIN |
| 26 | -41.16 | -3.21 | -9.73 | 9.48 | 4.06 | MAX |
| | -73.96 | -5.86 | -18.12 | -9.55 | 3.26 | MIN |
| 27 | -47.81 | -11.04 | -18.87 | 86.03 | 4.12 | MAX |
| | -86.19 | -19.69 | -35.02 | 47.99 | 1.19 | MIN |
| 28 | -41.59 | -23.44 | -27.62 | 152.70 | 0.15 | MAX |
| | -74.56 | -40.79 | -51.31 | 86.83 | -10.69 | MIN |
| 29 | -34.37 | -37.34 | -24.01 | 227.40 | -17.42 | MAX |
| | -60.91 | -63.57 | -44.85 | 128.16 | -47.02 | MIN |
| 30 | -32.42 | -44.64 | -11.81 | 324.07 | -57.69 | MAX |
| | -56.88 | -73.34 | -22.66 | 181.67 | -124.65 | MIN |
| 31 | 3.09 | 44.05 | 13.55 | 36.75 | -34.79 | MAX |
| | 1.73 | 17.47 | 8.01 | 20.79 | -88.79 | MIN |

| In | Mx [kNm] | My [kNm] | Mxy [kNm] | Tx [kN] | Ty [kN] | |
|----|--------------------|--------------------|--------------------|------------------|--------------------|------------|
| 32 | 0.58 0.36 | 34.50 12.28 | 6.03 3.82 | 16.20 9.20 | -9.19 -45.06 | MAX MIN |
| 33 | 0.30 -0.36 | 38.16 13.32 | 22.38 13.06 | 85.53 48.20 | -56.79 -127.71 | MAX MIN |
| 34 | -5.30 -8.93 | 19.35 1.30 | 24.55 14.23 | 152.19 85.42 | -76.94 -163.99 | MAX MIN |
| 35 | -16.93 -29.33 | -12.24 -22.45 | 19.33 11.07 | 245.17 137.21 | -97.27 -200.83 | MAX MIN |
| 36 | -38.73 -67.94 | -39.09 -58.93 | 5.45 1.22 | 394.63 220.45 | -120.24 -242.60 | MAX MIN |
| 37 | -80.21 -144.77 | -3.80 -6.96 | -14.35 -26.59 | 7.51 -11.36 | 3.85 3.37 | MAX MIN |
| 38 | -78.95 -142.20 | -10.04 -17.73 | -28.71 -53.03 | 94.95 53.47 | 6.96 6.04 | MAX MIN |
| 39 | -70.87 -126.91 | -28.07 -48.95 | -45.17 -83.46 | 170.32 96.85 | 10.28 6.66 | MAX MIN |
| 40 | -54.22 -95.59 | -48.54 -83.52 | -46.67 -86.38 | 270.76 152.74 | 7.98 -2.83 | MAX MIN |
| 41 | -57.50 -100.75 | -70.84 -120.44 | -29.27 -54.60 | 402.57 225.76 | -32.79 -81.16 | MAX MIN |
| 42 | -83.61 -147.99 | -77.63 -128.46 | -13.97 -26.80 | 500.77 279.54 | -150.24 -297.41 | MAX MIN |
| 43 | 4.88 2.59 | 79.04 34.51 | 20.59 11.88 | 32.34 18.54 | -47.84 -117.50 | MAX MIN |
| 44 | 0.36 0.22 | 64.07 26.77 | 9.16 5.60 | 13.43 7.81 | -14.74 -59.87 | MAX MIN |
| 45 | 3.81 1.39 | 74.84 31.77 | 34.69 19.78 | 78.95 44.72 | -77.47 -170.60 | MAX MIN |
| 46 | -3.43 -5.82 | 57.85 20.93 | 40.39 22.88 | 145.03 81.45 | -107.27 -224.46 | MAX MIN |
| 47 | -16.72 -28.03 | 29.27 3.02 | 38.07 21.57 | 237.73 132.84 | -142.10 -287.43 | MAX MIN |
| 48 | -44.16 -76.98 | -14.59 -29.70 | 24.69 13.76 | 370.98 206.73 | -190.30 -374.51 | MAX MIN |
| 49 | -95.09 -168.59 | -53.48 -79.85 | -2.99 -9.66 | 499.61 277.92 | -281.26 -538.67 | MAX MIN |
| 50 | -125.82 -227.70 | -1.42 -2.61 | -15.73 -29.06 | 5.88 -9.92 | 6.43 3.73 | MAX MIN |
| 51 | -113.11 -203.84 | 0.61 -0.35 | -32.33 -59.60 | 88.76 50.46 | 12.08 7.43 | MAX MIN |
| 52 | -107.49 -192.86 | -10.24 -15.67 | -57.87 -106.77 | 179.14 101.63 | 29.58 20.19 | MAX MIN |
| 53 | -104.59 -186.43 | -52.81 -90.50 | -73.32 -135.46 | 274.23 154.88 | 26.34 20.56 | MAX MIN |
| 54 | -63.89 -110.81 | -78.74 -133.70 | -76.76 -142.12 | 320.14 180.44 | -41.08 -98.13 | MAX MIN |
| 55 | -128.78 -228.67 | -109.74 -186.41 | -40.98 -76.38 | 413.61 230.83 | -194.44 -378.57 | MAX MIN |
| 56 | -174.28 -312.25 | -108.05 -179.41 | -57.04 -106.35 | 513.35 284.73 | -367.54 -695.34 | MAX MIN |
| 57 | 8.54 4.34 | 125.76 56.64 | 29.42 16.58 | 23.85 14.07 | -58.65 -142.16 | MAX MIN |
| 58 | 0.46 0.36 | 105.02 46.51 | 13.91 8.17 | 8.62 5.34 | -16.37 -66.73 | MAX MIN |
| 59 | 10.96 4.92 | 121.95 54.15 | 47.95 26.81 | 63.07 36.09 | -95.84 -209.60 | MAX MIN |
| 60 | 5.63 0.15 | 109.23 47.15 | 54.19 30.25 | 120.02 67.55 | -134.72 -280.07 | MAX MIN |
| 61 | -10.73 -16.88 | 89.26 35.16 | 51.04 28.59 | 196.74 109.84 | -182.47 -366.36 | MAX MIN |
| 62 | -35.05 -58.82 | 57.03 14.71 | 36.13 20.44 | 289.89 161.21 | -249.05 -486.52 | MAX MIN |
| 63 | -72.32 -125.79 | 3.83 -24.19 | -1.13 -8.29 | 393.57 218.39 | -352.34 -672.92 | MAX MIN |
| 64 | -89.04 -154.66 | -52.40 -83.87 | -36.36 -68.43 | 444.51 246.37 | -475.80 -896.38 | MAX MIN |
| 65 | -164.00 -297.18 | 6.86 3.74 | -10.70 -19.74 | 3.50 -5.54 | 12.30 6.53 | MAX MIN |
| 66 | -141.36 -254.84 | 32.17 16.93 | -22.70 -41.82 | 56.12 32.11 | 38.61 23.87 | MAX MIN |
| 67 | -144.46 -259.51 | 66.27 33.86 | -44.25 -81.62 | 140.81 79.60 | 52.03 30.66 | MAX MIN |
| 68 | -160.81 -288.23 | 92.97 45.98 | -82.39 -152.19 | 182.00 102.88 | -27.64 -73.15 | MAX MIN |
| 69 | -192.25 -345.03 | -84.62 -143.65 | -120.44 -222.64 | 122.24 70.10 | -145.38 -289.88 | MAX MIN |
| 70 | -156.70 -278.53 | -127.07 -217.76 | -283.45 -523.87 | 213.89 119.36 | -277.46 -531.58 | MAX MIN |

| In | Mx [kNm] | My [kNm] | Mxy [kNm] | Tx [kN] | Ty [kN] | |
|-----|--------------------|---------------------|--------------------|--------------------|---------------------|------------|
| 71 | -109.47 -190.69 | -145.04 -246.90 | -110.76 -205.05 | 338.99 187.28 | -450.68 -849.09 | MAX MIN |
| 72 | -98.75 -170.72 | -198.24 -341.49 | -62.37 -115.86 | 314.07 173.98 | -589.86 -1104.86 | MAX MIN |
| 73 | 16.81 8.28 | 182.21 83.25 | 43.30 23.62 | 13.56 8.55 | -65.71 -160.33 | MAX MIN |
| 74 | 6.20 3.37 | 165.54 76.21 | 21.82 12.26 | 3.83 2.55 | -13.48 -64.44 | MAX MIN |
| 75 | 24.93 11.84 | 172.65 78.00 | 61.69 33.80 | 41.37 24.10 | -108.50 -238.60 | MAX MIN |
| 76 | 26.58 11.42 | 169.84 76.45 | 64.95 35.79 | 82.12 46.39 | -154.85 -322.71 | MAX MIN |
| 77 | 12.12 1.30 | 162.98 72.79 | 59.43 33.00 | 134.70 75.18 | -211.95 -425.89 | MAX MIN |
| 78 | -12.49 -20.05 | 145.50 63.41 | 43.32 24.39 | 196.44 109.07 | -286.59 -560.57 | MAX MIN |
| 79 | -29.60 -45.67 | 107.70 38.99 | 12.74 4.14 | 250.10 138.54 | -383.84 -736.17 | MAX MIN |
| 80 | -40.52 -64.56 | 26.29 -19.74 | -12.61 -24.67 | 275.27 152.43 | -500.60 -947.30 | MAX MIN |
| 81 | -52.96 -86.26 | -74.64 -127.52 | -17.73 -33.54 | 209.06 115.85 | -618.64 -1161.03 | MAX MIN |
| 82 | -179.16 -324.78 | 12.14 6.62 | 0.00 0.00 | 0.00 0.00 | 15.22 8.03 | MAX MIN |
| 83 | -152.19 -274.39 | 51.01 27.15 | 0.00 0.00 | 0.00 0.00 | 61.75 37.47 | MAX MIN |
| 84 | -161.56 -290.28 | 119.01 62.24 | 0.00 0.00 | 0.00 0.00 | 58.39 32.46 | MAX MIN |
| 85 | -161.71 -289.06 | 365.61 193.37 | 0.00 0.00 | 0.00 0.00 | -90.01 -188.09 | MAX MIN |
| 86 | -98.85 -171.91 | 1237.21 662.90 | 0.00 0.00 | 0.00 0.00 | -354.11 -674.78 | MAX MIN |
| 87 | -167.16 -297.21 | -133.59 -229.55 | 0.00 0.00 | 0.00 0.00 | -586.14 -1101.59 | MAX MIN |
| 88 | -222.58 -399.01 | -904.61 -1649.58 | 0.00 0.00 | 0.00 0.00 | -640.22 -1199.54 | MAX MIN |
| 89 | -125.32 -219.03 | -365.54 -650.12 | 0.00 0.00 | 0.00 0.00 | -647.54 -1211.34 | MAX MIN |
| 90 | -61.55 -101.46 | -119.58 -192.98 | 0.00 0.00 | 0.00 0.00 | -670.58 -1255.16 | MAX MIN |
| 91 | 29.20 13.97 | 225.17 102.77 | 59.93 31.73 | 5.79 4.08 | -66.65 -167.80 | MAX MIN |
| 92 | 20.19 10.56 | 272.80 129.11 | 49.27 25.47 | 1.09 -0.28 | -9.22 -59.48 | MAX MIN |
| 93 | 54.41 25.75 | 225.48 102.60 | 74.76 40.21 | 19.35 11.53 | -113.09 -253.15 | MAX MIN |
| 94 | 57.03 26.34 | 235.52 108.04 | 72.38 39.51 | 38.61 21.93 | -164.74 -346.93 | MAX MIN |
| 95 | 51.34 22.77 | 244.56 113.14 | 65.11 35.94 | 65.38 36.49 | -227.37 -460.07 | MAX MIN |
| 96 | 40.77 16.05 | 244.90 113.63 | 50.50 28.23 | 95.85 53.13 | -304.74 -599.67 | MAX MIN |
| 97 | 28.04 7.91 | 224.71 103.05 | 28.44 15.23 | 120.52 66.64 | -398.24 -768.41 | MAX MIN |
| 98 | 18.16 1.85 | 181.11 75.95 | 8.14 1.58 | 121.23 66.99 | -492.21 -938.09 | MAX MIN |
| 99 | 9.90 -3.21 | 128.15 41.40 | -0.68 -4.35 | 78.99 43.65 | -583.19 -1102.32 | MAX MIN |
| 100 | 6.21 -5.75 | 102.79 24.07 | 0.00 0.00 | 0.00 0.00 | -626.93 -1181.22 | MAX MIN |
| 101 | -164.00 -297.18 | 6.86 3.74 | 19.74 10.70 | 5.54 -3.50 | 12.30 6.53 | MAX MIN |
| 102 | -141.36 -254.84 | 32.17 16.93 | 41.82 22.70 | -32.11 -56.12 | 38.61 23.87 | MAX MIN |
| 103 | -144.46 -259.51 | 66.27 33.86 | 81.62 44.25 | -79.60 -140.81 | 52.03 30.66 | MAX MIN |
| 104 | -160.81 -288.23 | 92.97 45.98 | 152.19 82.39 | -102.88 -182.00 | -27.64 -73.15 | MAX MIN |
| 105 | -192.25 -345.03 | -84.62 -143.65 | 222.64 120.44 | -70.10 -122.24 | -145.38 -289.88 | MAX MIN |
| 106 | -156.70 -278.53 | -127.07 -217.76 | 523.87 283.45 | -119.36 -213.89 | -277.46 -531.58 | MAX MIN |
| 107 | -109.47 -190.69 | -145.04 -246.90 | 205.05 110.76 | -187.28 -338.99 | -450.68 -849.09 | MAX MIN |
| 108 | -98.75 -170.72 | -198.24 -341.49 | 115.86 62.37 | -173.98 -314.07 | -589.86 -1104.86 | MAX MIN |
| 109 | -52.96 -86.26 | -74.64 -127.52 | 33.54 17.73 | -115.85 -209.06 | -618.64 -1161.03 | MAX MIN |

| In | Mx [kNm] | My [kNm] | Mxy [kNm] | Tx [kN] | Ty [kN] | |
|-----|--------------------|--------------------|------------------|--------------------|---------------------|------------|
| 110 | 9.90 -3.21 | 128.15 41.40 | 4.35 0.68 | -43.65 -78.99 | -583.19 -1102.32 | MAX MIN |
| 111 | 79.78 35.80 | 265.95 119.34 | 82.89 43.24 | 0.00 0.00 | -65.14 -168.01 | MAX MIN |
| 112 | 112.06 52.73 | 373.52 175.76 | 108.66 55.05 | 0.00 0.00 | -7.46 -57.85 | MAX MIN |
| 113 | 83.81 37.94 | 279.36 126.47 | 76.09 40.67 | 0.00 0.00 | -113.23 -256.52 | MAX MIN |
| 114 | 92.03 42.48 | 306.77 141.61 | 71.19 38.70 | 0.00 0.00 | -166.89 -353.95 | MAX MIN |
| 115 | 101.51 47.77 | 338.37 159.24 | 63.73 35.07 | 0.00 0.00 | -231.36 -470.43 | MAX MIN |
| 116 | 109.24 52.16 | 364.13 173.87 | 51.51 28.67 | 0.00 0.00 | -309.65 -611.66 | MAX MIN |
| 117 | 112.09 53.94 | 373.64 179.79 | 35.11 19.64 | 0.00 0.00 | -400.41 -775.39 | MAX MIN |
| 118 | 109.22 52.59 | 364.08 175.30 | 19.60 10.46 | 0.00 0.00 | -487.95 -933.32 | MAX MIN |
| 119 | 103.67 49.74 | 345.55 165.80 | 7.88 3.80 | 0.00 0.00 | -559.80 -1062.96 | MAX MIN |
| 120 | 100.84 48.27 | 336.14 160.91 | 0.00 0.00 | 0.00 0.00 | -588.10 -1114.03 | MAX MIN |
| 121 | 103.67 49.74 | 345.55 165.80 | -3.80 -7.88 | 0.00 0.00 | -559.80 -1062.96 | MAX MIN |
| 122 | -125.82 -227.70 | -1.42 -2.61 | 29.06 15.73 | 9.92 -5.88 | 6.43 3.73 | MAX MIN |
| 123 | -113.11 -203.84 | 0.61 -0.35 | 59.60 32.33 | -50.46 -88.76 | 12.08 7.43 | MAX MIN |
| 124 | -107.49 -192.86 | -10.24 -15.67 | 106.77 57.87 | -101.63 -179.14 | 29.58 20.19 | MAX MIN |
| 125 | -104.59 -186.43 | -52.81 -90.50 | 135.46 73.32 | -154.88 -274.23 | 26.34 20.56 | MAX MIN |
| 126 | -63.89 -110.81 | -78.74 -133.70 | 142.12 76.76 | -180.44 -320.14 | -41.08 -98.13 | MAX MIN |
| 127 | -128.78 -228.67 | -109.74 -186.41 | 76.38 40.98 | -230.83 -413.61 | -194.44 -378.57 | MAX MIN |
| 128 | -174.28 -312.25 | -108.05 -179.41 | 106.35 57.04 | -284.73 -513.35 | -367.54 -695.34 | MAX MIN |
| 129 | -89.04 -154.66 | -52.40 -83.87 | 68.43 36.36 | -246.37 -444.51 | -475.80 -896.38 | MAX MIN |
| 130 | -40.52 -64.56 | 26.29 -19.74 | 24.67 12.61 | -152.43 -275.27 | -500.60 -947.30 | MAX MIN |
| 131 | 18.16 1.85 | 181.11 75.95 | -1.58 -8.14 | -66.99 -121.23 | -492.21 -938.09 | MAX MIN |
| 132 | 109.22 52.59 | 364.08 175.30 | -10.46 -19.60 | 0.00 0.00 | -487.95 -933.32 | MAX MIN |
| 133 | 109.22 52.59 | 364.08 175.30 | -10.46 -19.60 | 0.00 0.00 | -487.95 -933.32 | MAX MIN |
| 134 | 109.22 52.59 | 364.08 175.30 | -10.46 -19.60 | 0.00 0.00 | -487.95 -933.32 | MAX MIN |
| 135 | 109.22 52.59 | 364.08 175.30 | -10.46 -19.60 | 0.00 0.00 | -487.95 -933.32 | MAX MIN |
| 136 | 109.22 52.59 | 364.08 175.30 | -10.46 -19.60 | 0.00 0.00 | -487.95 -933.32 | MAX MIN |
| 137 | 109.22 52.59 | 364.08 175.30 | -10.46 -19.60 | 0.00 0.00 | -487.95 -933.32 | MAX MIN |
| 138 | 109.22 52.59 | 364.08 175.30 | -10.46 -19.60 | 0.00 0.00 | -487.95 -933.32 | MAX MIN |
| 139 | 109.22 52.59 | 364.08 175.30 | -10.46 -19.60 | 0.00 0.00 | -487.95 -933.32 | MAX MIN |
| 140 | 109.22 52.59 | 364.08 175.30 | -10.46 -19.60 | 0.00 0.00 | -487.95 -933.32 | MAX MIN |
| 141 | 109.22 52.59 | 364.08 175.30 | -10.46 -19.60 | 0.00 0.00 | -487.95 -933.32 | MAX MIN |
| 142 | 109.22 52.59 | 364.08 175.30 | -10.46 -19.60 | 0.00 0.00 | -487.95 -933.32 | MAX MIN |
| 143 | 109.22 52.59 | 364.08 175.30 | -10.46 -19.60 | 0.00 0.00 | -487.95 -933.32 | MAX MIN |
| 144 | 109.22 52.59 | 364.08 175.30 | -10.46 -19.60 | 0.00 0.00 | -487.95 -933.32 | MAX MIN |
| 145 | -80.21 -144.77 | -3.80 -6.96 | 26.59 14.35 | 11.36 -7.51 | 3.85 3.37 | MAX MIN |
| 146 | -78.95 -142.20 | -10.04 -17.73 | 53.03 28.71 | -53.47 -94.95 | 6.96 6.04 | MAX MIN |
| 147 | -70.87 -126.91 | -28.07 -48.95 | 83.46 45.17 | -96.85 -170.32 | 10.28 6.66 | MAX MIN |
| 148 | -54.22 -95.59 | -48.54 -83.52 | 86.38 46.67 | -152.74 -270.76 | 7.98 -2.83 | MAX MIN |

| In | Mx [kNm] | My [kNm] | Mxy [kNm] | Tx [kN] | Ty [kN] | |
|-----|-------------------|-------------------|------------------|--------------------|--------------------|------------|
| 149 | -57.50 -100.75 | -70.84 -120.44 | 54.60 29.27 | -225.76 -402.57 | -32.79 -81.16 | MAX MIN |
| 150 | -83.61 -147.99 | -77.63 -128.46 | 26.80 13.97 | -279.54 -500.77 | -150.24 -297.41 | MAX MIN |
| 151 | -95.09 -168.59 | -53.48 -79.85 | 9.66 2.99 | -277.92 -499.61 | -281.26 -538.67 | MAX MIN |
| 152 | -72.32 -125.79 | 3.83 -24.19 | 8.29 1.13 | -218.39 -393.57 | -352.34 -672.92 | MAX MIN |
| 153 | -29.60 -45.67 | 107.70 38.99 | -4.14 -12.74 | -138.54 -250.10 | -383.84 -736.17 | MAX MIN |
| 154 | 28.04 7.91 | 224.71 103.05 | -15.23 -28.44 | -66.64 -120.52 | -398.24 -768.41 | MAX MIN |
| 155 | 112.09 53.94 | 373.64 179.79 | -19.64 -35.11 | 0.00 0.00 | -400.41 -775.39 | MAX MIN |
| 156 | 112.09 53.94 | 373.64 179.79 | -19.64 -35.11 | 0.00 0.00 | -400.41 -775.39 | MAX MIN |
| 157 | 112.09 53.94 | 373.64 179.79 | -19.64 -35.11 | 0.00 0.00 | -400.41 -775.39 | MAX MIN |
| 158 | 112.09 53.94 | 373.64 179.79 | -19.64 -35.11 | 0.00 0.00 | -400.41 -775.39 | MAX MIN |
| 159 | 112.09 53.94 | 373.64 179.79 | -19.64 -35.11 | 0.00 0.00 | -400.41 -775.39 | MAX MIN |
| 160 | 112.09 53.94 | 373.64 179.79 | -19.64 -35.11 | 0.00 0.00 | -400.41 -775.39 | MAX MIN |
| 161 | 112.09 53.94 | 373.64 179.79 | -19.64 -35.11 | 0.00 0.00 | -400.41 -775.39 | MAX MIN |
| 162 | 112.09 53.94 | 373.64 179.79 | -19.64 -35.11 | 0.00 0.00 | -400.41 -775.39 | MAX MIN |
| 163 | 112.09 53.94 | 373.64 179.79 | -19.64 -35.11 | 0.00 0.00 | -400.41 -775.39 | MAX MIN |
| 164 | 112.09 53.94 | 373.64 179.79 | -19.64 -35.11 | 0.00 0.00 | -400.41 -775.39 | MAX MIN |
| 165 | 112.09 53.94 | 373.64 179.79 | -19.64 -35.11 | 0.00 0.00 | -400.41 -775.39 | MAX MIN |
| 166 | 112.09 53.94 | 373.64 179.79 | -19.64 -35.11 | 0.00 0.00 | -400.41 -775.39 | MAX MIN |
| 167 | 112.09 53.94 | 373.64 179.79 | -19.64 -35.11 | 0.00 0.00 | -400.41 -775.39 | MAX MIN |
| 168 | 112.09 53.94 | 373.64 179.79 | -19.64 -35.11 | 0.00 0.00 | -400.41 -775.39 | MAX MIN |
| 169 | 112.09 53.94 | 373.64 179.79 | -19.64 -35.11 | 0.00 0.00 | -400.41 -775.39 | MAX MIN |
| 170 | -41.16 -73.96 | -3.21 -5.86 | 18.12 9.73 | 9.55 -9.48 | 4.06 3.26 | MAX MIN |
| 171 | -47.81 -86.19 | -11.04 -19.69 | 35.02 18.87 | -47.99 -86.03 | 4.12 1.19 | MAX MIN |
| 172 | -41.59 -74.56 | -23.44 -40.79 | 51.31 27.62 | -86.83 -152.70 | 0.15 -10.69 | MAX MIN |
| 173 | -34.37 -60.91 | -37.34 -63.57 | 44.85 24.01 | -128.16 -227.40 | -17.42 -47.02 | MAX MIN |
| 174 | -32.42 -56.88 | -44.64 -73.34 | 22.66 11.81 | -181.67 -324.07 | -57.69 -124.65 | MAX MIN |
| 175 | -38.73 -67.94 | -39.09 -58.93 | -1.22 -5.45 | -220.45 -394.63 | -120.24 -242.60 | MAX MIN |
| 176 | -44.16 -76.98 | -14.59 -29.70 | -13.76 -24.69 | -206.73 -370.98 | -190.30 -374.51 | MAX MIN |
| 177 | -35.05 -58.82 | 57.03 14.71 | -20.44 -36.13 | -161.21 -289.89 | -249.05 -486.52 | MAX MIN |
| 178 | -12.49 -20.05 | 145.50 63.41 | -24.39 -43.32 | -109.07 -196.44 | -286.59 -560.57 | MAX MIN |
| 179 | 40.77 16.05 | 244.90 113.63 | -28.23 -50.50 | -53.13 -95.85 | -304.74 -599.67 | MAX MIN |
| 180 | 109.24 52.16 | 364.13 173.87 | -28.67 -51.51 | 0.00 0.00 | -309.65 -611.66 | MAX MIN |
| 181 | 109.24 52.16 | 364.13 173.87 | -28.67 -51.51 | 0.00 0.00 | -309.65 -611.66 | MAX MIN |
| 182 | 109.24 52.16 | 364.13 173.87 | -28.67 -51.51 | 0.00 0.00 | -309.65 -611.66 | MAX MIN |
| 183 | 109.24 52.16 | 364.13 173.87 | -28.67 -51.51 | 0.00 0.00 | -309.65 -611.66 | MAX MIN |
| 184 | 109.24 52.16 | 364.13 173.87 | -28.67 -51.51 | 0.00 0.00 | -309.65 -611.66 | MAX MIN |
| 185 | 109.24 52.16 | 364.13 173.87 | -28.67 -51.51 | 0.00 0.00 | -309.65 -611.66 | MAX MIN |
| 186 | 109.24 52.16 | 364.13 173.87 | -28.67 -51.51 | 0.00 0.00 | -309.65 -611.66 | MAX MIN |
| 187 | 109.24 52.16 | 364.13 173.87 | -28.67 -51.51 | 0.00 0.00 | -309.65 -611.66 | MAX MIN |

| In | Mx [kNm] | My [kNm] | Mxy [kNm] | Tx [kN] | Ty [kN] | |
|-----|------------------|------------------|------------------|--------------------|--------------------|------------|
| 188 | 109.24 52.16 | 364.13 173.87 | -28.67 -51.51 | 0.00 0.00 | -309.65 -611.66 | MAX MIN |
| 189 | 109.24 52.16 | 364.13 173.87 | -28.67 -51.51 | 0.00 0.00 | -309.65 -611.66 | MAX MIN |
| 190 | 109.24 52.16 | 364.13 173.87 | -28.67 -51.51 | 0.00 0.00 | -309.65 -611.66 | MAX MIN |
| 191 | 109.24 52.16 | 364.13 173.87 | -28.67 -51.51 | 0.00 0.00 | -309.65 -611.66 | MAX MIN |
| 192 | 109.24 52.16 | 364.13 173.87 | -28.67 -51.51 | 0.00 0.00 | -309.65 -611.66 | MAX MIN |
| 193 | 109.24 52.16 | 364.13 173.87 | -28.67 -51.51 | 0.00 0.00 | -309.65 -611.66 | MAX MIN |
| 194 | 109.24 52.16 | 364.13 173.87 | -28.67 -51.51 | 0.00 0.00 | -309.65 -611.66 | MAX MIN |
| 195 | 109.24 52.16 | 364.13 173.87 | -28.67 -51.51 | 0.00 0.00 | -309.65 -611.66 | MAX MIN |
| 196 | 109.24 52.16 | 364.13 173.87 | -28.67 -51.51 | 0.00 0.00 | -309.65 -611.66 | MAX MIN |
| 197 | -14.94 -27.99 | -1.56 -2.80 | 9.63 5.10 | 6.83 -10.45 | 2.84 0.90 | MAX MIN |
| 198 | -24.93 -45.13 | -7.52 -13.32 | 18.64 9.93 | -38.33 -69.46 | 1.15 -4.09 | MAX MIN |
| 199 | -23.18 -41.87 | -15.13 -25.78 | 25.79 13.67 | -69.06 -121.48 | -6.91 -23.01 | MAX MIN |
| 200 | -18.79 -33.61 | -21.76 -35.46 | 19.13 9.91 | -97.47 -172.97 | -25.87 -61.47 | MAX MIN |
| 201 | -16.43 -28.95 | -22.34 -33.70 | 3.34 0.31 | -123.12 -219.43 | -56.41 -121.73 | MAX MIN |
| 202 | -16.93 -29.33 | -12.24 -22.45 | -11.07 -19.33 | -137.21 -245.17 | -97.27 -200.83 | MAX MIN |
| 203 | -16.72 -28.03 | 29.27 3.02 | -21.57 -38.07 | -132.84 -237.73 | -142.10 -287.43 | MAX MIN |
| 204 | -10.73 -16.88 | 89.26 35.16 | -28.59 -51.04 | -109.84 -196.74 | -182.47 -366.36 | MAX MIN |
| 205 | 12.12 1.30 | 162.98 72.79 | -33.00 -59.43 | -75.18 -134.70 | -211.95 -425.89 | MAX MIN |
| 206 | 51.34 22.77 | 244.56 113.14 | -35.94 -65.11 | -36.49 -65.38 | -227.37 -460.07 | MAX MIN |
| 207 | 101.51 47.77 | 338.37 159.24 | -35.07 -63.73 | 0.00 0.00 | -231.36 -470.43 | MAX MIN |
| 208 | 101.51 47.77 | 338.37 159.24 | -35.07 -63.73 | 0.00 0.00 | -231.36 -470.43 | MAX MIN |
| 209 | 101.51 47.77 | 338.37 159.24 | -35.07 -63.73 | 0.00 0.00 | -231.36 -470.43 | MAX MIN |
| 210 | 101.51 47.77 | 338.37 159.24 | -35.07 -63.73 | 0.00 0.00 | -231.36 -470.43 | MAX MIN |
| 211 | 101.51 47.77 | 338.37 159.24 | -35.07 -63.73 | 0.00 0.00 | -231.36 -470.43 | MAX MIN |
| 212 | 101.51 47.77 | 338.37 159.24 | -35.07 -63.73 | 0.00 0.00 | -231.36 -470.43 | MAX MIN |
| 213 | 101.51 47.77 | 338.37 159.24 | -35.07 -63.73 | 0.00 0.00 | -231.36 -470.43 | MAX MIN |
| 214 | 101.51 47.77 | 338.37 159.24 | -35.07 -63.73 | 0.00 0.00 | -231.36 -470.43 | MAX MIN |
| 215 | 101.51 47.77 | 338.37 159.24 | -35.07 -63.73 | 0.00 0.00 | -231.36 -470.43 | MAX MIN |
| 216 | 101.51 47.77 | 338.37 159.24 | -35.07 -63.73 | 0.00 0.00 | -231.36 -470.43 | MAX MIN |
| 217 | 101.51 47.77 | 338.37 159.24 | -35.07 -63.73 | 0.00 0.00 | -231.36 -470.43 | MAX MIN |
| 218 | 101.51 47.77 | 338.37 159.24 | -35.07 -63.73 | 0.00 0.00 | -231.36 -470.43 | MAX MIN |
| 219 | 101.51 47.77 | 338.37 159.24 | -35.07 -63.73 | 0.00 0.00 | -231.36 -470.43 | MAX MIN |
| 220 | 101.51 47.77 | 338.37 159.24 | -35.07 -63.73 | 0.00 0.00 | -231.36 -470.43 | MAX MIN |
| 221 | 101.51 47.77 | 338.37 159.24 | -35.07 -63.73 | 0.00 0.00 | -231.36 -470.43 | MAX MIN |
| 222 | 101.51 47.77 | 338.37 159.24 | -35.07 -63.73 | 0.00 0.00 | -231.36 -470.43 | MAX MIN |
| 223 | 101.51 47.77 | 338.37 159.24 | -35.07 -63.73 | 0.00 0.00 | -231.36 -470.43 | MAX MIN |
| 224 | 101.51 47.77 | 338.37 159.24 | -35.07 -63.73 | 0.00 0.00 | -231.36 -470.43 | MAX MIN |
| 225 | 101.51 47.77 | 338.37 159.24 | -35.07 -63.73 | 0.00 0.00 | -231.36 -470.43 | MAX MIN |
| 226 | -0.56 -5.22 | -0.36 -0.60 | 3.99 2.05 | 6.22 -7.25 | 1.22 -1.51 | MAX MIN |

| In | Mx [kNm] | My [kNm] | Mxy [kNm] | Tx [kN] | Ty [kN] | |
|-----|------------------|-------------------|------------------|-------------------|--------------------|------------|
| 227 | -10.82 -19.83 | -4.06 -7.05 | 7.65 3.96 | -26.47 -48.88 | -0.97 -7.71 | MAX MIN |
| 228 | -10.99 -20.20 | -7.53 -12.06 | 9.71 4.89 | -48.76 -85.80 | -9.32 -27.15 | MAX MIN |
| 229 | -8.65 -15.77 | -9.36 -15.15 | 4.13 1.52 | -66.26 -117.56 | -25.52 -60.56 | MAX MIN |
| 230 | -6.54 -11.64 | -3.96 -11.84 | -4.96 -8.66 | -79.48 -141.48 | -48.49 -107.22 | MAX MIN |
| 231 | -5.30 -8.93 | 19.35 1.30 | -14.23 -24.55 | -85.42 -152.19 | -76.94 -163.99 | MAX MIN |
| 232 | -3.43 -5.82 | 57.85 20.93 | -22.88 -40.39 | -81.45 -145.03 | -107.27 -224.46 | MAX MIN |
| 233 | 5.63 0.15 | 109.23 47.15 | -30.25 -54.19 | -67.55 -120.02 | -134.72 -280.07 | MAX MIN |
| 234 | 26.58 11.42 | 169.84 76.45 | -35.79 -64.95 | -46.39 -82.12 | -154.85 -322.71 | MAX MIN |
| 235 | 57.03 26.34 | 235.52 108.04 | -39.51 -72.38 | -21.93 -38.61 | -164.74 -346.93 | MAX MIN |
| 236 | 92.03 42.48 | 306.77 141.61 | -38.70 -71.19 | 0.00 0.00 | -166.89 -353.95 | MAX MIN |
| 237 | 92.03 42.48 | 306.77 141.61 | -38.70 -71.19 | 0.00 0.00 | -166.89 -353.95 | MAX MIN |
| 238 | 92.03 42.48 | 306.77 141.61 | -38.70 -71.19 | 0.00 0.00 | -166.89 -353.95 | MAX MIN |
| 239 | 92.03 42.48 | 306.77 141.61 | -38.70 -71.19 | 0.00 0.00 | -166.89 -353.95 | MAX MIN |
| 240 | 92.03 42.48 | 306.77 141.61 | -38.70 -71.19 | 0.00 0.00 | -166.89 -353.95 | MAX MIN |
| 241 | 36.98 -49.44 | 123.28 -164.82 | -4.46 -62.76 | 0.00 0.00 | -140.12 -280.03 | MAX MIN |
| 242 | 63.66 -45.92 | 212.21 -153.07 | 7.32 -79.85 | 0.00 0.00 | -215.77 -289.58 | MAX MIN |
| 243 | 39.66 -49.11 | 132.19 -163.71 | -11.78 -58.50 | 0.00 0.00 | -89.42 -272.11 | MAX MIN |
| 244 | 46.35 -46.49 | 154.50 -154.98 | -16.17 -55.47 | 0.00 0.00 | -49.54 -267.17 | MAX MIN |
| 245 | 54.78 -42.69 | 182.60 -142.29 | -18.50 -51.59 | 0.00 0.00 | -15.95 -265.65 | MAX MIN |
| 246 | 63.70 -38.07 | 212.33 -126.89 | -18.92 -45.90 | 0.00 0.00 | 13.07 -267.17 | MAX MIN |
| 247 | 72.29 -33.07 | 240.98 -110.24 | -17.10 -37.56 | 0.00 0.00 | 37.39 -270.72 | MAX MIN |
| 248 | 78.97 -28.86 | 263.22 -96.21 | -13.16 -27.14 | 0.00 0.00 | 54.64 -274.52 | MAX MIN |
| 249 | 83.53 -25.82 | 278.42 -86.05 | -7.20 -14.35 | 0.00 0.00 | 66.13 -277.51 | MAX MIN |
| 250 | 85.15 -24.70 | 283.85 -82.32 | 0.00 0.00 | 0.00 0.00 | 70.15 -278.65 | MAX MIN |
| 251 | 83.53 -25.82 | 278.42 -86.05 | 14.35 7.20 | 0.00 0.00 | 66.13 -277.51 | MAX MIN |
| 252 | 78.97 -28.86 | 263.22 -96.21 | 27.14 13.16 | 0.00 0.00 | 54.64 -274.52 | MAX MIN |
| 253 | 72.29 -33.07 | 240.98 -110.24 | 37.56 17.10 | 0.00 0.00 | 37.39 -270.72 | MAX MIN |
| 254 | 63.70 -38.07 | 212.33 -126.89 | 45.90 18.92 | 0.00 0.00 | 13.07 -267.17 | MAX MIN |
| 255 | 54.78 -42.69 | 182.60 -142.29 | 51.59 18.50 | 0.00 0.00 | -15.95 -265.65 | MAX MIN |
| 256 | 46.35 -46.49 | 154.50 -154.98 | 55.47 16.17 | 0.00 0.00 | -49.54 -267.17 | MAX MIN |
| 257 | 3.67 1.18 | 0.24 0.12 | 1.04 0.48 | 8.45 -0.98 | 0.57 -2.43 | MAX MIN |
| 258 | -3.23 -6.35 | -1.58 -2.73 | 1.84 0.83 | -14.85 -28.42 | -1.10 -8.02 | MAX MIN |
| 259 | -3.87 -7.40 | -2.45 -4.68 | 1.55 0.41 | -29.61 -52.18 | -7.52 -24.38 | MAX MIN |
| 260 | -2.64 -5.07 | 1.18 -4.27 | -1.60 -3.01 | -39.68 -70.45 | -20.06 -50.90 | MAX MIN |
| 261 | -1.19 -2.25 | 13.88 1.77 | -6.93 -11.38 | -46.24 -82.21 | -36.82 -86.33 | MAX MIN |
| 262 | 0.30 -0.36 | 38.16 13.32 | -13.06 -22.38 | -48.20 -85.53 | -56.79 -127.71 | MAX MIN |
| 263 | 3.81 1.39 | 74.84 31.77 | -19.78 -34.69 | -44.72 -78.95 | -77.47 -170.60 | MAX MIN |
| 264 | 10.96 4.92 | 121.95 54.15 | -26.81 -47.95 | -36.09 -63.07 | -95.84 -209.60 | MAX MIN |
| 265 | 24.93 11.84 | 172.65 78.00 | -33.80 -61.69 | -24.10 -41.37 | -108.50 -238.60 | MAX MIN |

| In | Mx [kNm] | My [kNm] | Mxy [kNm] | Tx [kN] | Ty [kN] | |
|-----|-----------------|-------------------|------------------|------------------|--------------------|------------|
| 266 | 54.41 25.75 | 225.48 102.60 | -40.21 -74.76 | -11.53 -19.35 | -113.09 -253.15 | MAX MIN |
| 267 | 83.81 37.94 | 279.36 126.47 | -40.67 -76.09 | 0.00 0.00 | -113.23 -256.52 | MAX MIN |
| 268 | 83.81 37.94 | 279.36 126.47 | -40.67 -76.09 | 0.00 0.00 | -113.23 -256.52 | MAX MIN |
| 269 | 83.81 37.94 | 279.36 126.47 | -40.67 -76.09 | 0.00 0.00 | -113.23 -256.52 | MAX MIN |
| 270 | 83.81 37.94 | 279.36 126.47 | -40.67 -76.09 | 0.00 0.00 | -113.23 -256.52 | MAX MIN |
| 271 | 83.81 37.94 | 279.36 126.47 | -40.67 -76.09 | 0.00 0.00 | -113.23 -256.52 | MAX MIN |
| 272 | 39.66 -49.11 | 132.19 -163.71 | 58.50 11.78 | 0.00 0.00 | -89.42 -272.11 | MAX MIN |
| 273 | 18.28 -9.60 | 146.58 -107.44 | -7.36 -46.72 | 2.09 -4.79 | -122.85 -263.17 | MAX MIN |
| 274 | 16.01 1.53 | 190.62 -90.12 | -1.68 -38.72 | 4.03 -3.15 | -201.20 -274.88 | MAX MIN |
| 275 | 35.66 -18.85 | 148.67 -108.35 | -14.37 -59.04 | -3.25 -8.76 | -73.30 -254.89 | MAX MIN |
| 276 | 40.91 -22.65 | 164.19 -101.38 | -18.99 -58.30 | -8.49 -13.99 | -34.54 -250.38 | MAX MIN |
| 277 | 44.23 -23.70 | 185.50 -89.40 | -21.72 -55.57 | -10.22 -17.95 | -1.72 -249.58 | MAX MIN |
| 278 | 46.18 -23.88 | 209.56 -73.80 | -22.66 -50.49 | -9.65 -19.43 | 26.78 -252.11 | MAX MIN |
| 279 | 46.80 -23.97 | 233.85 -56.05 | -21.07 -42.26 | -7.63 -18.15 | 50.76 -257.06 | MAX MIN |
| 280 | 45.91 -24.82 | 253.37 -40.55 | -16.64 -31.46 | -5.20 -14.13 | 68.00 -262.26 | MAX MIN |
| 281 | 45.01 -25.50 | 267.13 -29.00 | -9.28 -16.93 | -2.62 -7.76 | 79.65 -266.39 | MAX MIN |
| 282 | 44.61 -25.80 | 272.12 -24.69 | 0.00 0.00 | 0.00 0.00 | 83.70 -267.97 | MAX MIN |
| 283 | 45.01 -25.50 | 267.13 -29.00 | 16.93 9.28 | 7.76 2.62 | 79.65 -266.39 | MAX MIN |
| 284 | 45.91 -24.82 | 253.37 -40.55 | 31.46 16.64 | 14.13 5.20 | 68.00 -262.26 | MAX MIN |
| 285 | 46.80 -23.97 | 233.85 -56.05 | 42.26 21.07 | 18.15 7.63 | 50.76 -257.06 | MAX MIN |
| 286 | 46.18 -23.88 | 209.56 -73.80 | 50.49 22.66 | 19.43 9.65 | 26.78 -252.11 | MAX MIN |
| 287 | 44.23 -23.70 | 185.50 -89.40 | 55.57 21.72 | 17.95 10.22 | -1.72 -249.58 | MAX MIN |
| 288 | 40.91 -22.65 | 164.19 -101.38 | 58.30 18.99 | 13.99 8.49 | -34.54 -250.38 | MAX MIN |
| 289 | 35.66 -18.85 | 148.67 -108.35 | 59.04 14.37 | 8.76 3.25 | -73.30 -254.89 | MAX MIN |
| 290 | 2.32 1.18 | 0.41 0.23 | 0.09 -0.03 | 9.10 2.94 | 1.94 -0.73 | MAX MIN |
| 291 | -0.29 -0.87 | -0.26 -0.86 | -0.09 -0.22 | -5.82 -11.98 | 2.17 -3.53 | MAX MIN |
| 292 | -0.43 -1.08 | 1.17 -1.42 | -0.68 -1.09 | -13.47 -23.84 | -0.69 -13.99 | MAX MIN |
| 293 | 0.24 0.18 | 7.02 0.44 | -2.26 -3.51 | -18.00 -32.04 | -9.26 -33.44 | MAX MIN |
| 294 | 1.70 1.04 | 20.51 6.26 | -4.74 -7.77 | -20.54 -36.53 | -21.47 -59.53 | MAX MIN |
| 295 | 3.09 1.73 | 44.05 17.47 | -8.01 -13.55 | -20.79 -36.75 | -34.79 -88.79 | MAX MIN |
| 296 | 4.88 2.59 | 79.04 34.51 | -11.88 -20.59 | -18.54 -32.34 | -47.84 -117.50 | MAX MIN |
| 297 | 8.54 4.34 | 125.76 56.64 | -16.58 -29.42 | -14.07 -23.85 | -58.65 -142.16 | MAX MIN |
| 298 | 16.81 8.28 | 182.21 83.25 | -23.62 -43.30 | -8.55 -13.56 | -65.71 -160.33 | MAX MIN |
| 299 | 29.20 13.97 | 225.17 102.77 | -31.73 -59.93 | -4.08 -5.79 | -66.65 -167.80 | MAX MIN |
| 300 | 79.78 35.80 | 265.95 119.34 | -43.24 -82.89 | 0.00 0.00 | -65.14 -168.01 | MAX MIN |
| 301 | 79.78 35.80 | 265.95 119.34 | -43.24 -82.89 | 0.00 0.00 | -65.14 -168.01 | MAX MIN |
| 302 | 79.78 35.80 | 265.95 119.34 | -43.24 -82.89 | 0.00 0.00 | -65.14 -168.01 | MAX MIN |
| 303 | 79.78 35.80 | 265.95 119.34 | -43.24 -82.89 | 0.00 0.00 | -65.14 -168.01 | MAX MIN |
| 304 | 79.78 35.80 | 265.95 119.34 | -43.24 -82.89 | 0.00 0.00 | -65.14 -168.01 | MAX MIN |

| In | Mx [kNm] | My [kNm] | Mxy [kNm] | Tx [kN] | Ty [kN] | |
|-----|-----------------|-------------------|-------------------|-----------------|--------------------|------------|
| 305 | 36.98 -49.44 | 123.28 -164.82 | 62.76 4.46 | 0.00 0.00 | -140.12 -280.03 | MAX MIN |
| 306 | 18.28 -9.60 | 146.58 -107.44 | 46.72 7.36 | 4.79 -2.09 | -122.85 -263.17 | MAX MIN |
| 307 | 12.69 -2.69 | 158.36 -67.07 | -12.45 -37.30 | -1.74 -9.47 | -89.57 -228.99 | MAX MIN |
| 308 | 4.79 1.26 | 149.21 -54.27 | -10.49 -22.16 | 0.32 -6.62 | -166.33 -252.46 | MAX MIN |
| 309 | 22.41 -4.84 | 157.21 -65.51 | -19.08 -52.93 | -6.75 -14.70 | -41.68 -219.28 | MAX MIN |
| 310 | 30.89 -7.73 | 168.33 -57.93 | -22.73 -56.70 | -8.63 -22.04 | -5.19 -215.47 | MAX MIN |
| 311 | 33.10 -9.60 | 185.10 -45.16 | -25.78 -56.23 | -9.01 -27.63 | 26.06 -216.23 | MAX MIN |
| 312 | 31.23 -11.63 | 205.98 -27.43 | -27.90 -53.77 | -6.37 -30.12 | 53.57 -221.33 | MAX MIN |
| 313 | 26.53 -14.34 | 229.54 -5.23 | -27.52 -48.16 | -3.54 -28.55 | 77.12 -230.07 | MAX MIN |
| 314 | 20.20 -18.30 | 250.61 16.14 | -22.93 -37.49 | -1.39 -22.50 | 95.24 -239.34 | MAX MIN |
| 315 | 15.13 -21.44 | 266.79 33.30 | -13.29 -20.84 | -0.30 -12.46 | 107.64 -246.89 | MAX MIN |
| 316 | 13.16 -22.68 | 272.95 39.98 | 0.00 0.00 | 0.00 0.00 | 112.07 -249.81 | MAX MIN |
| 317 | 15.13 -21.44 | 266.79 33.30 | 20.84 13.29 | 12.46 0.30 | 107.64 -246.89 | MAX MIN |
| 318 | 20.20 -18.30 | 250.61 16.14 | 37.49 22.93 | 22.50 1.39 | 95.24 -239.34 | MAX MIN |
| 319 | 26.53 -14.34 | 229.54 -5.23 | 48.16 27.52 | 28.55 3.54 | 77.12 -230.07 | MAX MIN |
| 320 | 31.23 -11.63 | 205.98 -27.43 | 53.77 27.90 | 30.12 6.37 | 53.57 -221.33 | MAX MIN |
| 321 | 33.10 -9.60 | 185.10 -45.16 | 56.23 25.78 | 27.63 9.01 | 26.06 -216.23 | MAX MIN |
| 322 | 30.89 -7.73 | 168.33 -57.93 | 56.70 22.73 | 22.04 8.63 | -5.19 -215.47 | MAX MIN |
| 323 | 22.41 -4.84 | 157.21 -65.51 | 52.93 19.08 | 14.70 6.75 | -41.68 -219.28 | MAX MIN |
| 324 | 12.69 -2.69 | 158.36 -67.07 | 37.30 12.45 | 9.47 1.74 | -89.57 -228.99 | MAX MIN |
| 325 | 0.59 0.25 | 0.65 0.27 | -0.14 -0.19 | 8.09 3.93 | 10.87 7.22 | MAX MIN |
| 326 | 0.17 0.13 | -0.40 -0.86 | -0.34 -0.49 | -2.30 -5.22 | 14.33 9.48 | MAX MIN |
| 327 | 0.10 0.07 | -0.19 -2.22 | -0.72 -0.99 | -6.25 -11.12 | 15.57 6.92 | MAX MIN |
| 328 | 0.51 0.29 | 4.11 -1.30 | -1.37 -1.94 | -8.34 -14.91 | 8.24 -7.40 | MAX MIN |
| 329 | 0.75 0.43 | 14.95 3.10 | -2.41 -3.62 | -9.35 -16.65 | -0.51 -26.14 | MAX MIN |
| 330 | 0.58 0.36 | 34.50 12.28 | -3.82 -6.03 | -9.20 -16.20 | -9.19 -45.06 | MAX MIN |
| 331 | 0.36 0.22 | 64.07 26.77 | -5.60 -9.16 | -7.81 -13.43 | -14.74 -59.87 | MAX MIN |
| 332 | 0.46 0.36 | 105.02 46.51 | -8.17 -13.91 | -5.34 -8.62 | -16.37 -66.73 | MAX MIN |
| 333 | 6.20 3.37 | 165.54 76.21 | -12.26 -21.82 | -2.55 -3.83 | -13.48 -64.44 | MAX MIN |
| 334 | 20.19 10.56 | 272.80 129.11 | -25.47 -49.27 | 0.28 -1.09 | -9.22 -59.48 | MAX MIN |
| 335 | 112.06 52.73 | 373.52 175.76 | -55.05 -108.66 | 0.00 0.00 | -7.46 -57.85 | MAX MIN |
| 336 | 112.06 52.73 | 373.52 175.76 | -55.05 -108.66 | 0.00 0.00 | -7.46 -57.85 | MAX MIN |
| 337 | 112.06 52.73 | 373.52 175.76 | -55.05 -108.66 | 0.00 0.00 | -7.46 -57.85 | MAX MIN |
| 338 | 112.06 52.73 | 373.52 175.76 | -55.05 -108.66 | 0.00 0.00 | -7.46 -57.85 | MAX MIN |
| 339 | 112.06 52.73 | 373.52 175.76 | -55.05 -108.66 | 0.00 0.00 | -7.46 -57.85 | MAX MIN |
| 340 | 63.66 -45.92 | 212.21 -153.07 | 79.85 -7.32 | 0.00 0.00 | -215.77 -289.58 | MAX MIN |
| 341 | 16.01 1.53 | 190.62 -90.12 | 38.72 1.68 | 3.15 -4.03 | -201.20 -274.88 | MAX MIN |
| 342 | 4.79 1.26 | 149.21 -54.27 | 22.16 10.49 | 6.62 -0.32 | -166.33 -252.46 | MAX MIN |
| 343 | 7.88 0.60 | 151.30 -31.15 | -14.60 -29.34 | -4.63 -10.63 | -57.84 -194.32 | MAX MIN |

| In | Mx [kNm] | My [kNm] | Mxy [kNm] | Tx [kN] | Ty [kN] | |
|-----|-------------|-------------|--------------|------------|------------|-----|
| 344 | 0.83 | 132.57 | -10.59 | -2.59 | -124.73 | MAX |
| | -0.27 | -28.97 | -17.46 | -6.68 | -223.80 | MIN |
| 345 | 15.21 | 157.01 | -22.38 | -5.18 | -12.71 | MAX |
| | 1.20 | -29.42 | -46.92 | -18.98 | -182.47 | MIN |
| 346 | 21.33 | 164.37 | -27.01 | -3.48 | 21.80 | MAX |
| | 1.71 | -21.93 | -54.97 | -26.15 | -178.76 | MIN |
| 347 | 22.53 | 176.74 | -31.62 | 0.95 | 51.84 | MAX |
| | 1.41 | -9.26 | -59.32 | -32.24 | -180.78 | MIN |
| 348 | 17.64 | 194.25 | -36.55 | 6.04 | 79.00 | MAX |
| | -0.67 | 10.06 | -61.52 | -35.82 | -188.82 | MIN |
| 349 | 7.80 | 217.69 | -39.23 | 9.75 | 102.92 | MAX |
| | -8.15 | 37.94 | -59.51 | -35.82 | -203.05 | MIN |
| 350 | -1.33 | 242.81 | -35.37 | 10.33 | 123.97 | MAX |
| | -21.17 | 69.26 | -49.77 | -29.81 | -219.07 | MIN |
| 351 | -9.25 | 265.26 | -21.64 | 6.77 | 140.06 | MAX |
| | -31.72 | 97.78 | -29.13 | -17.07 | -232.65 | MIN |
| 352 | -12.47 | 274.56 | 0.00 | 0.00 | 146.21 | MAX |
| | -35.86 | 109.67 | 0.00 | 0.00 | -238.06 | MIN |
| 353 | -9.25 | 265.26 | 29.13 | 17.07 | 140.06 | MAX |
| | -31.72 | 97.78 | 21.64 | -6.77 | -232.65 | MIN |
| 354 | -1.33 | 242.81 | 49.77 | 29.81 | 123.97 | MAX |
| | -21.17 | 69.26 | 35.37 | -10.33 | -219.07 | MIN |
| 355 | 7.80 | 217.69 | 59.51 | 35.82 | 102.92 | MAX |
| | -8.15 | 37.94 | 39.23 | -9.75 | -203.05 | MIN |
| 356 | 17.64 | 194.25 | 61.52 | 35.82 | 79.00 | MAX |
| | -0.67 | 10.06 | 36.55 | -6.04 | -188.82 | MIN |
| 357 | 22.53 | 176.74 | 59.32 | 32.24 | 51.84 | MAX |
| | 1.41 | -9.26 | 31.62 | -0.95 | -180.78 | MIN |
| 358 | 21.33 | 164.37 | 54.97 | 26.15 | 21.80 | MAX |
| | 1.71 | -21.93 | 27.01 | 3.48 | -178.76 | MIN |
| 359 | 15.21 | 157.01 | 46.92 | 18.98 | -12.71 | MAX |
| | 1.20 | -29.42 | 22.38 | 5.18 | -182.47 | MIN |
| 360 | 7.88 | 151.30 | 29.34 | 10.63 | -57.84 | MAX |
| | 0.60 | -31.15 | 14.60 | 4.63 | -194.32 | MIN |
| 361 | 0.83 | 132.57 | 17.46 | 6.68 | -124.73 | MAX |
| | -0.27 | -28.97 | 10.59 | 2.59 | -223.80 | MIN |
| 362 | 5.40 | 139.24 | -14.52 | -2.33 | -27.70 | MAX |
| | 2.04 | -4.59 | -25.45 | -11.50 | -159.32 | MIN |
| 363 | 0.00 | 121.12 | -9.85 | -2.56 | -81.65 | MAX |
| | -1.09 | -8.82 | -14.33 | -6.76 | -188.85 | MIN |
| 364 | 10.62 | 146.79 | -23.60 | 0.59 | 12.15 | MAX |
| | 4.71 | -1.05 | -42.96 | -19.46 | -146.13 | MIN |
| 365 | 14.61 | 152.43 | -29.78 | 8.24 | 44.59 | MAX |
| | 7.89 | 5.76 | -53.86 | -25.66 | -141.76 | MIN |
| 366 | 18.66 | 160.38 | -36.68 | 18.12 | 74.15 | MAX |
| | 6.25 | 17.46 | -61.99 | -32.70 | -143.87 | MIN |
| 367 | 17.93 | 173.18 | -45.86 | 27.06 | 102.32 | MAX |
| | -2.62 | 36.36 | -69.41 | -40.62 | -153.62 | MIN |
| 368 | 10.25 | 195.76 | -55.34 | 33.40 | 128.51 | MAX |
| | -18.51 | 69.53 | -74.42 | -43.82 | -173.81 | MIN |
| 369 | -5.33 | 227.87 | -55.73 | 33.68 | 152.61 | MAX |
| | -39.72 | 116.90 | -68.90 | -38.07 | -200.62 | MIN |
| 370 | -19.66 | 264.37 | -35.31 | 22.21 | 181.91 | MAX |
| | -58.75 | 169.73 | -43.81 | -22.33 | -223.87 | MIN |
| 371 | -24.23 | 286.12 | 0.00 | 0.00 | 199.79 | MAX |
| | -66.18 | 195.23 | 0.00 | 0.00 | -232.40 | MIN |
| 372 | -19.66 | 264.37 | 43.81 | 22.33 | 181.91 | MAX |
| | -58.75 | 169.73 | 35.31 | -22.21 | -223.87 | MIN |
| 373 | -5.33 | 227.87 | 68.90 | 38.07 | 152.61 | MAX |
| | -39.72 | 116.90 | 55.73 | -33.68 | -200.62 | MIN |
| 374 | 10.25 | 195.76 | 74.42 | 43.82 | 128.51 | MAX |
| | -18.51 | 69.53 | 55.34 | -33.40 | -173.81 | MIN |
| 375 | 17.93 | 173.18 | 69.41 | 40.62 | 102.32 | MAX |
| | -2.62 | 36.36 | 45.86 | -27.06 | -153.62 | MIN |
| 376 | 18.66 | 160.38 | 61.99 | 32.70 | 74.15 | MAX |
| | 6.25 | 17.46 | 36.68 | -18.12 | -143.87 | MIN |
| 377 | 14.61 | 152.43 | 53.86 | 25.66 | 44.59 | MAX |
| | 7.89 | 5.76 | 29.78 | -8.24 | -141.76 | MIN |
| 378 | 10.62 | 146.79 | 42.96 | 19.46 | 12.15 | MAX |
| | 4.71 | -1.05 | 23.60 | -0.59 | -146.13 | MIN |
| 379 | 5.40 | 139.24 | 25.45 | 11.50 | -27.70 | MAX |
| | 2.04 | -4.59 | 14.52 | 2.33 | -159.32 | MIN |
| 380 | 0.00 | 121.12 | 14.33 | 6.76 | -81.65 | MAX |
| | -1.09 | -8.82 | 9.85 | 2.56 | -188.85 | MIN |
| 381 | 4.15 | 123.90 | -13.63 | 2.01 | -1.17 | MAX |
| | 2.72 | 14.12 | -22.16 | -9.96 | -124.27 | MIN |
| 382 | -0.39 | 108.04 | -8.69 | -0.47 | -43.08 | MAX |
| | -1.09 | 6.55 | -11.93 | -6.13 | -150.59 | MIN |

| In | Mx [kNm] | My [kNm] | Mxy [kNm] | Tx [kN] | Ty [kN] | |
|-----|-------------------|------------------|-------------------|------------------|-------------------|------------|
| 383 | 9.03 5.73 | 130.67 18.93 | -23.10 -38.79 | 11.07 -15.72 | 32.31 -111.17 | MAX MIN |
| 384 | 15.30 6.35 | 133.97 25.16 | -30.38 -50.82 | 25.80 -21.95 | 61.68 -105.88 | MAX MIN |
| 385 | 21.21 3.12 | 137.21 34.95 | -38.87 -61.32 | 42.79 -30.07 | 90.52 -106.74 | MAX MIN |
| 386 | 24.93 -5.78 | 143.95 51.69 | -52.27 -73.60 | 58.60 -40.23 | 121.26 -115.57 | MAX MIN |
| 387 | 16.73 -26.88 | 158.89 81.68 | -71.64 -88.23 | 69.20 -48.84 | 151.66 -138.58 | MAX MIN |
| 388 | -2.47 -57.56 | 214.54 147.68 | -75.74 -101.52 | 78.00 -44.86 | 182.48 -179.32 | MAX MIN |
| 389 | -23.59 -90.78 | 331.65 222.34 | -52.91 -76.38 | 64.98 -24.81 | 207.37 -229.88 | MAX MIN |
| 390 | -31.94 -106.13 | 401.29 263.36 | 0.00 0.00 | 0.00 0.00 | 215.36 -255.56 | MAX MIN |
| 391 | -23.59 -90.78 | 331.65 222.34 | 76.38 52.91 | 24.81 -64.98 | 207.37 -229.88 | MAX MIN |
| 392 | -2.47 -57.56 | 214.54 147.68 | 101.52 75.74 | 44.86 -78.00 | 182.48 -179.32 | MAX MIN |
| 393 | 16.73 -26.88 | 158.89 81.68 | 88.23 71.64 | 48.84 -69.20 | 151.66 -138.58 | MAX MIN |
| 394 | 24.93 -5.78 | 143.95 51.69 | 73.60 52.27 | 40.23 -58.60 | 121.26 -115.57 | MAX MIN |
| 395 | 21.21 3.12 | 137.21 34.95 | 61.32 38.87 | 30.07 -42.79 | 90.52 -106.74 | MAX MIN |
| 396 | 15.30 6.35 | 133.97 25.16 | 50.82 30.38 | 21.95 -25.80 | 61.68 -105.88 | MAX MIN |
| 397 | 9.03 5.73 | 130.67 18.93 | 38.79 23.10 | 15.72 -11.07 | 32.31 -111.17 | MAX MIN |
| 398 | 4.15 2.72 | 123.90 14.12 | 22.16 13.63 | 9.96 -2.01 | -1.17 -124.27 | MAX MIN |
| 399 | -0.39 -1.09 | 108.04 6.55 | 11.93 8.69 | 6.13 0.47 | -43.08 -150.59 | MAX MIN |
| 400 | 3.44 2.79 | 106.13 25.93 | -12.32 -19.03 | 8.63 -6.99 | 20.19 -90.42 | MAX MIN |
| 401 | -0.63 -0.89 | 92.52 16.77 | -7.41 -9.77 | 2.72 -4.34 | -10.84 -111.74 | MAX MIN |
| 402 | 7.78 3.74 | 111.23 31.40 | -21.58 -34.09 | 24.36 -11.11 | 46.75 -78.63 | MAX MIN |
| 403 | 13.08 2.23 | 111.87 36.96 | -29.05 -45.76 | 47.03 -14.11 | 71.58 -72.82 | MAX MIN |
| 404 | 19.10 -3.59 | 110.32 44.66 | -37.73 -56.57 | 74.95 -18.35 | 97.44 -72.02 | MAX MIN |
| 405 | 27.06 -15.38 | 108.87 56.90 | -51.54 -69.79 | 103.16 -26.64 | 128.57 -77.95 | MAX MIN |
| 406 | 40.08 -31.91 | 127.48 80.53 | -74.24 -93.19 | 126.88 -40.89 | 171.31 -96.40 | MAX MIN |
| 407 | 6.95 -79.95 | 167.80 95.67 | -91.88 -136.33 | 131.66 -51.50 | 201.44 -144.12 | MAX MIN |
| 408 | -38.10 -134.22 | 394.72 217.32 | -91.66 -151.76 | 88.54 -38.71 | 158.86 -261.12 | MAX MIN |
| 409 | -19.15 -134.36 | 685.11 368.74 | 0.00 0.00 | 0.00 0.00 | 100.98 -356.97 | MAX MIN |
| 410 | -38.10 -134.22 | 394.72 217.32 | 151.76 91.66 | 38.71 -88.54 | 158.86 -261.12 | MAX MIN |
| 411 | 6.95 -79.95 | 167.80 95.67 | 136.33 91.88 | 51.50 -131.66 | 201.44 -144.12 | MAX MIN |
| 412 | 40.08 -31.91 | 127.48 80.53 | 93.19 74.24 | 40.89 -126.88 | 171.31 -96.40 | MAX MIN |
| 413 | 27.06 -15.38 | 108.87 56.90 | 69.79 51.54 | 26.64 -103.16 | 128.57 -77.95 | MAX MIN |
| 414 | 19.10 -3.59 | 110.32 44.66 | 56.57 37.73 | 18.35 -74.95 | 97.44 -72.02 | MAX MIN |
| 415 | 13.08 2.23 | 111.87 36.96 | 45.76 29.05 | 14.11 -47.03 | 71.58 -72.82 | MAX MIN |
| 416 | 7.78 3.74 | 111.23 31.40 | 34.09 21.58 | 11.11 -24.36 | 46.75 -78.63 | MAX MIN |
| 417 | 3.44 2.79 | 106.13 25.93 | 19.03 12.32 | 6.99 -8.63 | 20.19 -90.42 | MAX MIN |
| 418 | -0.63 -0.89 | 92.52 16.77 | 9.77 7.41 | 4.34 -2.72 | -10.84 -111.74 | MAX MIN |
| 419 | 2.60 1.91 | 86.93 31.65 | -10.93 -15.96 | 15.42 -3.45 | 35.58 -59.21 | MAX MIN |
| 420 | -0.61 -0.96 | 75.22 21.84 | -6.15 -7.78 | 6.20 -2.68 | 14.47 -74.59 | MAX MIN |
| 421 | 4.93 0.66 | 90.47 37.36 | -19.70 -29.11 | 38.05 -3.20 | 54.85 -49.81 | MAX MIN |

| In | Mx [kNm] | My [kNm] | Mxy [kNm] | Tx [kN] | Ty [kN] | |
|-----|-------------------|-------------------|--------------------|-------------------|--------------------|------------|
| 422 | 7.53 -4.16 | 88.95 42.36 | -27.01 -39.58 | 69.04 -0.47 | 73.36 -44.51 | MAX MIN |
| 423 | 10.66 -14.36 | 83.49 48.18 | -34.64 -48.79 | 109.95 3.21 | 92.24 -43.24 | MAX MIN |
| 424 | 16.71 -31.24 | 87.17 49.70 | -46.63 -60.11 | 164.81 6.77 | 114.16 -47.99 | MAX MIN |
| 425 | 29.85 -56.89 | 98.07 40.98 | -60.47 -77.92 | 206.10 0.43 | 155.87 -61.72 | MAX MIN |
| 426 | 79.78 -64.24 | 140.33 51.99 | -98.68 -157.83 | 162.99 -43.82 | 158.57 -111.41 | MAX MIN |
| 427 | -90.26 -197.33 | 168.83 57.65 | -131.74 -231.11 | 60.40 -74.12 | 65.53 -258.51 | MAX MIN |
| 428 | 80.84 -99.12 | 1561.27 808.31 | 0.00 0.00 | 0.00 0.00 | -138.95 -591.20 | MAX MIN |
| 429 | -90.26 -197.33 | 168.83 57.65 | 231.11 131.74 | 74.12 -60.40 | 65.53 -258.51 | MAX MIN |
| 430 | 79.78 -64.24 | 140.33 51.99 | 157.83 98.68 | 43.82 -162.99 | 158.57 -111.41 | MAX MIN |
| 431 | 29.85 -56.89 | 98.07 40.98 | 77.92 60.47 | -0.43 -206.10 | 155.87 -61.72 | MAX MIN |
| 432 | 16.71 -31.24 | 87.17 49.70 | 60.11 46.63 | -6.77 -164.81 | 114.16 -47.99 | MAX MIN |
| 433 | 10.66 -14.36 | 83.49 48.18 | 48.79 34.64 | -3.21 -109.95 | 92.24 -43.24 | MAX MIN |
| 434 | 7.53 -4.16 | 88.95 42.36 | 39.58 27.01 | 0.47 -69.04 | 73.36 -44.51 | MAX MIN |
| 435 | 4.93 0.66 | 90.47 37.36 | 29.11 19.70 | 3.20 -38.05 | 54.85 -49.81 | MAX MIN |
| 436 | 2.60 1.91 | 86.93 31.65 | 15.96 10.93 | 3.45 -15.42 | 35.58 -59.21 | MAX MIN |
| 437 | -0.61 -0.96 | 75.22 21.84 | 7.78 6.15 | 2.68 -6.20 | 14.47 -74.59 | MAX MIN |
| 438 | 1.53 0.86 | 67.42 32.07 | -9.64 -13.08 | 21.79 1.59 | 44.91 -32.01 | MAX MIN |
| 439 | -0.55 -1.05 | 57.20 22.11 | -4.84 -5.98 | 9.48 -0.23 | 32.83 -40.97 | MAX MIN |
| 440 | 1.89 -2.89 | 69.91 37.77 | -18.07 -24.44 | 50.55 7.46 | 56.84 -25.84 | MAX MIN |
| 441 | 0.40 -11.95 | 67.32 42.38 | -25.55 -33.74 | 88.30 17.17 | 67.71 -22.35 | MAX MIN |
| 442 | -4.17 -28.66 | 69.74 42.93 | -33.18 -41.66 | 138.62 30.61 | 75.84 -22.95 | MAX MIN |
| 443 | -12.65 -56.18 | 71.35 31.08 | -39.86 -49.80 | 217.17 51.69 | 78.15 -31.33 | MAX MIN |
| 444 | -27.50 -105.70 | 68.51 9.05 | -50.51 -72.99 | 271.60 66.73 | 68.40 -55.85 | MAX MIN |
| 445 | -42.38 -154.72 | 66.17 -9.16 | -67.41 -109.81 | 223.35 55.17 | 36.55 -111.67 | MAX MIN |
| 446 | -51.83 -185.34 | 66.99 -17.33 | -297.33 -541.44 | 115.46 28.41 | -36.24 -239.41 | MAX MIN |
| 447 | -55.35 -196.75 | 67.19 -20.90 | 0.00 0.00 | 0.00 0.00 | -341.39 -779.71 | MAX MIN |
| 448 | -51.83 -185.34 | 66.99 -17.33 | 541.44 297.33 | -28.41 -115.46 | -36.24 -239.41 | MAX MIN |
| 449 | -42.38 -154.72 | 66.17 -9.16 | 109.81 67.41 | -55.17 -223.35 | 36.55 -111.67 | MAX MIN |
| 450 | -27.50 -105.70 | 68.51 9.05 | 72.99 50.51 | -66.73 -271.60 | 68.40 -55.85 | MAX MIN |
| 451 | -12.65 -56.18 | 71.35 31.08 | 49.80 39.86 | -51.69 -217.17 | 78.15 -31.33 | MAX MIN |
| 452 | -4.17 -28.66 | 69.74 42.93 | 41.66 33.18 | -30.61 -138.62 | 75.84 -22.95 | MAX MIN |
| 453 | 0.40 -11.95 | 67.32 42.38 | 33.74 25.55 | -17.17 -88.30 | 67.71 -22.35 | MAX MIN |
| 454 | 1.89 -2.89 | 69.91 37.77 | 24.44 18.07 | -7.46 -50.55 | 56.84 -25.84 | MAX MIN |
| 455 | 1.53 0.86 | 67.42 32.07 | 13.08 9.64 | -1.59 -21.79 | 44.91 -32.01 | MAX MIN |
| 456 | -0.55 -1.05 | 57.20 22.11 | 5.98 4.84 | 0.23 -9.48 | 32.83 -40.97 | MAX MIN |
| 457 | 0.87 -0.20 | 48.61 28.17 | -8.39 -10.47 | 27.70 7.83 | 48.47 -10.01 | MAX MIN |
| 458 | -0.53 -1.02 | 39.51 18.32 | -3.42 -4.36 | 12.56 2.88 | 44.49 -12.42 | MAX MIN |
| 459 | -1.02 -6.59 | 50.57 33.51 | -16.68 -20.41 | 61.68 20.03 | 53.68 -7.41 | MAX MIN |
| 460 | -6.91 -20.27 | 53.82 37.15 | -23.53 -29.38 | 103.67 36.48 | 57.06 -6.55 | MAX MIN |

| In | Mx [kNm] | My [kNm] | Mxy [kNm] | Tx [kN] | Ty [kN] | |
|-----|--------------------|---------------------|--------------------|--------------------|--------------------|------------|
| 461 | -19.37 -44.31 | 56.51 31.31 | -28.99 -38.95 | 156.75 57.83 | 53.80 -10.86 | MAX MIN |
| 462 | -42.53 -84.88 | 56.35 19.92 | -34.98 -53.32 | 228.05 87.69 | 34.58 -26.57 | MAX MIN |
| 463 | -82.15 -151.04 | 47.37 -1.33 | -45.54 -76.70 | 294.16 122.68 | -31.19 -69.48 | MAX MIN |
| 464 | -161.00 -253.81 | 3.20 -46.00 | -88.52 -158.11 | 305.57 157.51 | -100.32 -139.62 | MAX MIN |
| 465 | -11.86 -168.00 | -20.76 -75.47 | -127.52 -232.08 | 212.34 136.88 | -172.96 -290.27 | MAX MIN |
| 466 | -189.76 -311.13 | -828.21 -1417.68 | 0.00 0.00 | 0.00 0.00 | -359.22 -648.96 | MAX MIN |
| 467 | -11.86 -168.00 | -20.76 -75.47 | 232.08 127.52 | -136.88 -212.34 | -172.96 -290.27 | MAX MIN |
| 468 | -161.00 -253.81 | 3.20 -46.00 | 158.11 88.52 | -157.51 -305.57 | -100.32 -139.62 | MAX MIN |
| 469 | -82.15 -151.04 | 47.37 -1.33 | 76.70 45.54 | -122.68 -294.16 | -31.19 -69.48 | MAX MIN |
| 470 | -42.53 -84.88 | 56.35 19.92 | 53.32 34.98 | -87.69 -228.05 | 34.58 -26.57 | MAX MIN |
| 471 | -19.37 -44.31 | 56.51 31.31 | 38.95 28.99 | -57.83 -156.75 | 53.80 -10.86 | MAX MIN |
| 472 | -6.91 -20.27 | 53.82 37.15 | 29.38 23.53 | -36.48 -103.67 | 57.06 -6.55 | MAX MIN |
| 473 | -1.02 -6.59 | 50.57 33.51 | 20.41 16.68 | -20.03 -61.68 | 53.68 -7.41 | MAX MIN |
| 474 | 0.87 -0.20 | 48.61 28.17 | 10.47 8.39 | -7.83 -27.70 | 48.47 -10.01 | MAX MIN |
| 475 | -0.53 -1.02 | 39.51 18.32 | 4.36 3.42 | -2.88 -12.56 | 44.49 -12.42 | MAX MIN |
| 476 | 0.57 -1.05 | 31.61 21.17 | -6.31 -7.91 | 33.99 15.46 | 46.43 5.58 | MAX MIN |
| 477 | -0.40 -0.69 | 23.38 11.95 | -2.15 -2.84 | 15.97 6.79 | 49.39 9.44 | MAX MIN |
| 478 | -3.06 -9.72 | 35.63 25.64 | -13.12 -16.75 | 72.96 34.57 | 46.53 5.15 | MAX MIN |
| 479 | -11.83 -26.90 | 38.83 25.66 | -19.74 -27.59 | 117.26 56.72 | 44.49 3.76 | MAX MIN |
| 480 | -28.14 -55.63 | 41.64 21.96 | -26.04 -40.79 | 166.92 81.90 | 33.43 -3.95 | MAX MIN |
| 481 | -53.55 -99.05 | 42.38 14.33 | -33.59 -58.90 | 219.61 110.55 | 1.75 -25.94 | MAX MIN |
| 482 | -88.60 -156.36 | 30.56 -2.09 | -49.06 -91.73 | 272.58 142.99 | -71.12 -90.32 | MAX MIN |
| 483 | -79.88 -177.87 | 0.68 -32.25 | -72.67 -136.60 | 290.35 157.99 | -159.92 -203.81 | MAX MIN |
| 484 | -56.72 -192.16 | -166.91 -226.73 | -82.02 -152.76 | 199.53 110.93 | -268.23 -337.13 | MAX MIN |
| 485 | -84.52 -223.32 | -330.22 -517.68 | 0.00 0.00 | 0.00 0.00 | -321.29 -430.39 | MAX MIN |
| 486 | -56.72 -192.16 | -166.91 -226.73 | 152.76 82.02 | -110.93 -199.53 | -268.23 -337.13 | MAX MIN |
| 487 | -79.88 -177.87 | 0.68 -32.25 | 136.60 72.67 | -157.99 -290.35 | -159.92 -203.81 | MAX MIN |
| 488 | -88.60 -156.36 | 30.56 -2.09 | 91.73 49.06 | -142.99 -272.58 | -71.12 -90.32 | MAX MIN |
| 489 | -53.55 -99.05 | 42.38 14.33 | 58.90 33.59 | -110.55 -219.61 | 1.75 -25.94 | MAX MIN |
| 490 | -28.14 -55.63 | 41.64 21.96 | 40.79 26.04 | -81.90 -166.92 | 33.43 -3.95 | MAX MIN |
| 491 | -11.83 -26.90 | 38.83 25.66 | 27.59 19.74 | -56.72 -117.26 | 44.49 3.76 | MAX MIN |
| 492 | -3.06 -9.72 | 35.63 25.64 | 16.75 13.12 | -34.57 -72.96 | 46.53 5.15 | MAX MIN |
| 493 | 0.57 -1.05 | 31.61 21.17 | 7.91 6.31 | -15.46 -33.99 | 46.43 5.58 | MAX MIN |
| 494 | -0.40 -0.69 | 23.38 11.95 | 2.84 2.15 | -6.79 -15.97 | 49.39 9.44 | MAX MIN |
| 495 | 0.31 -1.76 | 17.58 12.75 | -4.01 -5.14 | 43.31 25.47 | 38.17 13.12 | MAX MIN |
| 496 | 0.01 -0.06 | 10.42 5.33 | -0.94 -1.37 | 20.90 12.10 | 46.34 22.12 | MAX MIN |
| 497 | -4.76 -12.31 | 20.75 15.45 | -9.57 -13.22 | 89.11 52.80 | 35.84 11.31 | MAX MIN |
| 498 | -14.78 -31.54 | 23.20 15.06 | -15.88 -24.16 | 135.68 80.47 | 31.84 9.30 | MAX MIN |
| 499 | -30.16 -60.38 | 25.92 13.16 | -22.62 -38.16 | 180.43 107.00 | 19.19 0.92 | MAX MIN |

| In | Mx [kNm] | My [kNm] | Mxy [kNm] | Tx [kN] | Ty [kN] | |
|-----|-------------------|--------------------|-------------------|--------------------|--------------------|------------|
| 500 | -49.49 -97.92 | 27.06 9.46 | -31.10 -57.38 | 218.99 130.44 | -11.00 -24.09 | MAX MIN |
| 501 | -62.74 -134.06 | 18.96 0.00 | -42.22 -81.86 | 239.70 143.59 | -66.38 -81.81 | MAX MIN |
| 502 | -61.72 -159.80 | -25.87 -35.99 | -51.31 -100.54 | 229.69 134.60 | -138.25 -178.81 | MAX MIN |
| 503 | -57.51 -181.55 | -92.99 -132.04 | -39.04 -76.32 | 156.73 87.47 | -221.91 -289.99 | MAX MIN |
| 504 | -57.27 -193.30 | -133.13 -198.30 | 0.00 0.00 | 0.00 0.00 | -261.92 -341.67 | MAX MIN |
| 505 | -57.51 -181.55 | -92.99 -132.04 | 76.32 39.04 | -87.47 -156.73 | -221.91 -289.99 | MAX MIN |
| 506 | -61.72 -159.80 | -25.87 -35.99 | 100.54 51.31 | -134.60 -229.69 | -138.25 -178.81 | MAX MIN |
| 507 | -62.74 -134.06 | 18.96 0.00 | 81.86 42.22 | -143.59 -239.70 | -66.38 -81.81 | MAX MIN |
| 508 | -49.49 -97.92 | 27.06 9.46 | 57.38 31.10 | -130.44 -218.99 | -11.00 -24.09 | MAX MIN |
| 509 | -30.16 -60.38 | 25.92 13.16 | 38.16 22.62 | -107.00 -180.43 | 19.19 0.92 | MAX MIN |
| 510 | -14.78 -31.54 | 23.20 15.06 | 24.16 15.88 | -80.47 -135.68 | 31.84 9.30 | MAX MIN |
| 511 | -4.76 -12.31 | 20.75 15.45 | 13.22 9.57 | -52.80 -89.11 | 35.84 11.31 | MAX MIN |
| 512 | 0.31 -1.76 | 17.58 12.75 | 5.14 4.01 | -25.47 -43.31 | 38.17 13.12 | MAX MIN |
| 513 | 0.01 -0.06 | 10.42 5.33 | 1.37 0.94 | -12.10 -20.90 | 46.34 22.12 | MAX MIN |
| 514 | -1.43 -3.38 | 6.84 5.36 | -1.83 -2.39 | 57.02 39.65 | 22.33 10.72 | MAX MIN |
| 515 | 0.20 0.07 | 2.24 0.79 | -0.16 -0.33 | 28.48 19.80 | 32.79 20.52 | MAX MIN |
| 516 | -9.14 -16.59 | 8.81 6.38 | -5.29 -7.55 | 112.57 78.03 | 20.63 9.71 | MAX MIN |
| 517 | -20.42 -37.69 | 10.36 6.32 | -9.66 -15.10 | 164.34 113.51 | 17.88 8.63 | MAX MIN |
| 518 | -33.05 -64.60 | 12.39 6.14 | -14.61 -25.08 | 208.95 144.10 | 9.76 3.21 | MAX MIN |
| 519 | -43.24 -94.10 | 13.99 5.58 | -20.44 -37.89 | 238.23 164.04 | -7.68 -14.72 | MAX MIN |
| 520 | -48.01 -123.32 | 7.56 0.75 | -26.38 -51.29 | 240.45 164.58 | -39.54 -49.78 | MAX MIN |
| 521 | -44.47 -144.72 | -12.26 -15.10 | -27.31 -54.53 | 203.12 137.44 | -78.51 -100.06 | MAX MIN |
| 522 | -39.57 -159.84 | -30.26 -47.09 | -18.36 -37.20 | 118.80 79.49 | -120.17 -160.45 | MAX MIN |
| 523 | -37.72 -165.60 | -39.46 -64.77 | 0.00 0.00 | 0.00 0.00 | -140.06 -192.71 | MAX MIN |
| 524 | -39.57 -159.84 | -30.26 -47.09 | 37.20 18.36 | -79.49 -118.80 | -120.17 -160.45 | MAX MIN |
| 525 | -44.47 -144.72 | -12.26 -15.10 | 54.53 27.31 | -137.44 -203.12 | -78.51 -100.06 | MAX MIN |
| 526 | -48.01 -123.32 | 7.56 0.75 | 51.29 26.38 | -164.58 -240.45 | -39.54 -49.78 | MAX MIN |
| 527 | -43.24 -94.10 | 13.99 5.58 | 37.89 20.44 | -164.04 -238.23 | -7.68 -14.72 | MAX MIN |
| 528 | -33.05 -64.60 | 12.39 6.14 | 25.08 14.61 | -144.10 -208.95 | 9.76 3.21 | MAX MIN |
| 529 | -20.42 -37.69 | 10.36 6.32 | 15.10 9.66 | -113.51 -164.34 | 17.88 8.63 | MAX MIN |
| 530 | -9.14 -16.59 | 8.81 6.38 | 7.55 5.29 | -78.03 -112.57 | 20.63 9.71 | MAX MIN |
| 531 | -1.43 -3.38 | 6.84 5.36 | 2.39 1.83 | -39.65 -57.02 | 22.33 10.72 | MAX MIN |
| 532 | 0.20 0.07 | 2.24 0.79 | 0.33 0.16 | -19.80 -28.48 | 32.79 20.52 | MAX MIN |
| 533 | -8.75 -10.69 | 0.75 0.56 | -1.52 -1.88 | 79.03 61.24 | 12.31 6.81 | MAX MIN |
| 534 | -1.72 -2.32 | -1.29 -1.86 | -0.41 -0.50 | 43.35 34.25 | 22.32 15.01 | MAX MIN |
| 535 | -23.95 -31.21 | 0.24 0.16 | -3.93 -5.18 | 147.82 113.31 | 11.66 6.72 | MAX MIN |
| 536 | -39.89 -56.15 | 0.10 -0.13 | -6.91 -9.89 | 212.28 162.99 | 10.48 6.35 | MAX MIN |
| 537 | -51.81 -81.54 | 1.57 0.50 | -10.13 -15.80 | 268.67 208.12 | 6.74 2.50 | MAX MIN |
| 538 | -53.41 -101.74 | 4.36 1.95 | -13.58 -22.96 | 304.49 238.26 | -3.36 -7.66 | MAX MIN |

| In | Mx [kNm] | My [kNm] | Mxy [kNm] | Tx [kN] | Ty [kN] | |
|-----|-------------------|----------------|------------------|--------------------|------------------|------------|
| 539 | -40.69 -116.10 | 5.68 2.76 | -16.26 -29.15 | 302.75 238.70 | -21.26 -26.94 | MAX MIN |
| 540 | -13.62 -120.39 | 2.64 1.54 | -15.70 -29.31 | 249.51 197.49 | -43.02 -54.79 | MAX MIN |
| 541 | 12.34 -122.13 | -1.34 -4.20 | -9.90 -18.98 | 142.71 113.08 | -64.20 -82.97 | MAX MIN |
| 542 | 23.34 -122.05 | -2.88 -7.96 | 0.00 0.00 | 0.00 0.00 | -73.16 -95.04 | MAX MIN |
| 543 | 12.34 -122.13 | -1.34 -4.20 | 18.98 9.90 | -113.08 -142.71 | -64.20 -82.97 | MAX MIN |
| 544 | -13.62 -120.39 | 2.64 1.54 | 29.31 15.70 | -197.49 -249.51 | -43.02 -54.79 | MAX MIN |
| 545 | -40.69 -116.10 | 5.68 2.76 | 29.15 16.26 | -238.70 -302.75 | -21.26 -26.94 | MAX MIN |
| 546 | -53.41 -101.74 | 4.36 1.95 | 22.96 13.58 | -238.26 -304.49 | -3.36 -7.66 | MAX MIN |
| 547 | -51.81 -81.54 | 1.57 0.50 | 15.80 10.13 | -208.12 -268.67 | 6.74 2.50 | MAX MIN |
| 548 | -39.89 -56.15 | 0.10 -0.13 | 9.89 6.91 | -162.99 -212.28 | 10.48 6.35 | MAX MIN |
| 549 | -23.95 -31.21 | 0.24 0.16 | 5.18 3.93 | -113.31 -147.82 | 11.66 6.72 | MAX MIN |
| 550 | -8.75 -10.69 | 0.75 0.56 | 1.88 1.52 | -61.24 -79.03 | 12.31 6.81 | MAX MIN |
| 551 | -1.72 -2.32 | -1.29 -1.86 | 0.50 0.41 | -34.25 -43.35 | 22.32 15.01 | MAX MIN |

Verifiche strutturali

Verifiche a flessione

Elementi calcolati a trave

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] |
| Mu | momento ultimi espresso in [kNm] |
| Nu | sforzo normale ultimo espressa in [kN] |
| FS | fattore di sicurezza (rapporto tra sollecitazione ultima e sollecitazione agente) |

Elementi calcolati a piastra

Simbologia adottata

| | |
|----------|---|
| n° | indice sezione |
| Y | ordinata sezione espressa in [m] |
| B | larghezza sezione espresso in [cm] |
| H | altezza sezione espressa in [cm] |
| Afi, Afs | area ferri inferiori e superiori, espresso in [cmq] |
| Mp, Mn | momento positivo e negativo agente espressa in [kNm] |
| Mu | momento ultimi espresso in [kNm] |
| FS | fattore di sicurezza (rapporto tra sollecitazione ultima e sollecitazione agente) |

Paramento

| n° | B [cm] | H [cm] | Afi [cmq] | Afs [cmq] | M [kNm] | N [kN] | Mu [kNm] | Nu [kN] | FS |
|----|-----------|-----------|--------------|--------------|------------|-----------|-------------|------------|---------|
| 1 | 100 | 40 | 15.71 | 22.62 | 0.83 | 4.75 | 586.90 | 3353.70 | 705.852 |
| 2 | 100 | 41 | 15.71 | 22.62 | 0.89 | 5.74 | 592.57 | 3822.69 | 665.485 |
| 3 | 100 | 42 | 15.71 | 22.62 | 1.07 | 6.76 | 619.11 | 3909.54 | 578.192 |
| 4 | 100 | 43 | 15.71 | 22.62 | 1.38 | 7.80 | 660.03 | 3738.68 | 479.095 |
| 5 | 100 | 44 | 15.71 | 22.62 | 1.82 | 8.87 | 701.51 | 3426.05 | 386.247 |
| 6 | 100 | 45 | 15.71 | 22.62 | 2.39 | 9.96 | 710.24 | 2958.22 | 296.977 |
| 7 | 100 | 46 | 15.71 | 22.62 | 3.11 | 11.08 | 704.21 | 2509.08 | 226.520 |
| 8 | 100 | 47 | 15.71 | 22.62 | 3.97 | 12.22 | 688.82 | 2117.98 | 173.369 |
| 9 | 100 | 48 | 15.71 | 22.62 | 4.99 | 13.38 | 670.77 | 1798.87 | 134.433 |
| 10 | 100 | 49 | 15.71 | 22.62 | 6.16 | 14.57 | 654.14 | 1546.36 | 106.131 |
| 11 | 100 | 50 | 15.71 | 22.62 | 7.50 | 15.78 | 635.44 | 1337.31 | 84.727 |
| 12 | 100 | 51 | 15.71 | 22.62 | 9.00 | 17.02 | 621.82 | 1175.55 | 69.061 |

| n° | B | H | Afi | Afs | M | N | Mu | Nu | FS |
|----|------|------|-------|-------|--------|--------|---------|---------|--------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kN] | [kNm] | [kN] | |
| 13 | 100 | 52 | 15.71 | 22.62 | 10.68 | 18.28 | 611.48 | 1046.81 | 57.251 |
| 14 | 100 | 53 | 15.71 | 22.62 | 12.54 | 19.57 | 602.87 | 941.26 | 48.093 |
| 15 | 100 | 54 | 15.71 | 22.62 | 14.57 | 20.88 | 597.86 | 856.73 | 41.025 |
| 16 | 100 | 55 | 15.71 | 22.62 | 16.80 | 22.22 | 595.52 | 787.66 | 35.449 |
| 17 | 100 | 56 | 15.71 | 22.62 | 19.22 | 23.58 | 595.20 | 730.28 | 30.970 |
| 18 | 100 | 57 | 15.71 | 22.62 | 21.84 | 24.97 | 596.46 | 681.91 | 27.315 |
| 19 | 100 | 58 | 15.71 | 22.62 | 24.66 | 26.37 | 598.96 | 640.65 | 24.290 |
| 20 | 100 | 59 | 15.71 | 22.62 | 27.69 | 27.81 | 602.45 | 605.07 | 21.758 |
| 21 | 100 | 60 | 15.71 | 22.62 | 30.93 | 29.27 | 606.77 | 574.10 | 19.616 |
| 22 | 100 | 61 | 15.71 | 22.62 | 34.40 | 30.75 | 611.76 | 546.92 | 17.785 |
| 23 | 100 | 62 | 15.71 | 22.62 | 38.08 | 32.26 | 617.32 | 522.89 | 16.209 |
| 24 | 100 | 63 | 15.71 | 22.62 | 42.00 | 33.79 | 623.35 | 501.50 | 14.841 |
| 25 | 100 | 64 | 15.71 | 22.62 | 46.15 | 35.35 | 629.79 | 482.35 | 13.646 |
| 26 | 100 | 65 | 15.71 | 22.62 | 50.54 | 36.93 | 636.59 | 465.11 | 12.595 |
| 27 | 100 | 66 | 15.71 | 22.62 | 55.18 | 38.53 | 643.69 | 449.51 | 11.665 |
| 28 | 100 | 67 | 15.71 | 22.62 | 60.07 | 40.17 | 651.06 | 435.35 | 10.839 |
| 29 | 100 | 68 | 15.71 | 22.62 | 65.21 | 41.82 | 658.67 | 422.42 | 10.101 |
| 30 | 100 | 69 | 15.71 | 22.62 | 70.61 | 43.50 | 665.95 | 410.26 | 9.431 |
| 31 | 100 | 70 | 15.71 | 22.62 | 76.28 | 45.20 | 673.16 | 398.93 | 8.825 |
| 32 | 100 | 71 | 15.71 | 22.62 | 82.22 | 46.93 | 680.54 | 388.48 | 8.277 |
| 33 | 100 | 72 | 15.71 | 22.62 | 88.43 | 48.68 | 688.06 | 378.81 | 7.781 |
| 34 | 100 | 73 | 15.71 | 67.86 | 94.92 | 50.46 | 1901.86 | 1011.05 | 20.036 |
| 35 | 100 | 74 | 15.71 | 67.86 | 101.70 | 52.26 | 1929.59 | 991.59 | 18.973 |
| 36 | 100 | 75 | 15.71 | 67.86 | 108.77 | 54.09 | 1957.59 | 973.45 | 17.997 |
| 37 | 100 | 76 | 15.71 | 67.86 | 116.14 | 55.94 | 1985.85 | 956.50 | 17.098 |
| 38 | 100 | 77 | 15.71 | 67.86 | 123.81 | 57.82 | 2014.35 | 940.65 | 16.269 |
| 39 | 100 | 78 | 15.71 | 67.86 | 131.79 | 59.72 | 2043.09 | 925.78 | 15.503 |
| 40 | 100 | 79 | 15.71 | 67.86 | 140.08 | 61.64 | 2072.05 | 911.82 | 14.792 |
| 41 | 100 | 80 | 15.71 | 67.86 | 148.68 | 63.59 | 2099.02 | 897.75 | 14.118 |
| 42 | 100 | 81 | 15.71 | 67.86 | 157.61 | 65.56 | 2125.60 | 884.24 | 13.487 |
| 43 | 100 | 82 | 15.71 | 67.86 | 166.86 | 67.56 | 2152.36 | 871.49 | 12.899 |
| 44 | 100 | 83 | 15.71 | 67.86 | 176.45 | 69.58 | 2179.27 | 859.43 | 12.351 |
| 45 | 100 | 84 | 15.71 | 67.86 | 186.37 | 71.63 | 2206.34 | 848.01 | 11.839 |
| 46 | 100 | 85 | 15.71 | 67.86 | 196.64 | 73.70 | 2233.55 | 837.18 | 11.359 |
| 47 | 100 | 86 | 15.71 | 67.86 | 207.25 | 75.80 | 2260.90 | 826.89 | 10.909 |
| 48 | 100 | 87 | 15.71 | 67.86 | 218.22 | 77.92 | 2288.38 | 817.12 | 10.487 |
| 49 | 100 | 88 | 15.71 | 67.86 | 229.54 | 80.06 | 2315.99 | 807.82 | 10.090 |
| 50 | 100 | 89 | 15.71 | 67.86 | 241.23 | 82.23 | 2343.72 | 798.97 | 9.716 |
| 51 | 100 | 90 | 15.71 | 67.86 | 253.29 | 84.43 | 2371.57 | 790.52 | 9.363 |
| 52 | 100 | 91 | 15.71 | 45.24 | 265.72 | 86.65 | 1644.18 | 536.15 | 6.188 |
| 53 | 100 | 92 | 31.42 | 45.24 | 278.53 | 88.89 | 1681.12 | 536.52 | 6.036 |
| 54 | 100 | 93 | 15.71 | 45.24 | 291.72 | 91.16 | 1679.29 | 524.75 | 5.757 |
| 55 | 100 | 94 | 15.71 | 45.24 | 305.30 | 93.45 | 1696.90 | 519.41 | 5.558 |
| 56 | 100 | 95 | 15.71 | 45.24 | 319.27 | 95.77 | 1714.55 | 514.28 | 5.370 |
| 57 | 100 | 96 | 15.71 | 45.24 | 333.65 | 98.11 | 1732.23 | 509.35 | 5.192 |
| 58 | 100 | 97 | 15.71 | 45.24 | 348.43 | 100.47 | 1750.25 | 504.71 | 5.023 |
| 59 | 100 | 98 | 15.71 | 45.24 | 363.62 | 102.86 | 1768.35 | 500.25 | 4.863 |
| 60 | 100 | 99 | 15.71 | 45.24 | 379.22 | 105.28 | 1786.50 | 495.97 | 4.711 |
| 61 | 100 | 100 | 15.71 | 45.24 | 395.24 | 107.72 | 1804.70 | 491.84 | 4.566 |

Mensola valle

| n° | B | H | Afi | Afs | M | N | Mu | Nu | FS |
|----|------|------|-------|-------|-------|------|---------|------|----------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kN] | [kNm] | [kN] | |
| 1 | 100 | 50 | 8.04 | 8.04 | 0.00 | 0.00 | 0.00 | 0.00 | 1000.000 |
| 2 | 100 | 50 | 8.04 | 8.04 | 0.00 | 0.00 | 0.00 | 0.00 | 1000.000 |
| 3 | 100 | 50 | 8.04 | 8.04 | -0.21 | 0.00 | -139.00 | 0.00 | 668.669 |
| 4 | 100 | 50 | 8.04 | 8.04 | -0.47 | 0.00 | -139.00 | 0.00 | 297.186 |
| 5 | 100 | 50 | 8.04 | 8.04 | -0.83 | 0.00 | -139.00 | 0.00 | 167.167 |

Fondazione

| Is | Afi | Afs | Mp | Mn | Mu | FS |
|-------|-------|-------|-------|-------|--------|-------------|
| | [cmq] | [cmq] | [kNm] | [kNm] | [kNm] | |
| 1-1-P | 10.05 | 10.05 | 0.71 | -0.41 | 561.35 | 100.000 (1) |
| 1-2-P | 10.05 | 10.05 | 1.20 | -0.98 | 561.35 | 100.000 (1) |

| Is | Afi | Afs | Mp | Mn | Mu | FS |
|--------|-------|-------|-------|---------|---------|-------------|
| | [cmq] | [cmq] | [kNm] | [kNm] | [kNm] | |
| 1-3-P | 10.05 | 10.05 | 1.52 | -7.54 | -561.35 | 87.535 (3) |
| 1-4-P | 10.05 | 10.05 | 0.43 | -21.23 | -561.35 | 30.983 (3) |
| 1-5-P | 10.05 | 10.05 | 0.00 | -48.64 | -561.35 | 13.309 (3) |
| 1-6-P | 10.05 | 10.05 | 0.00 | -94.78 | -561.35 | 6.797 (3) |
| 1-7-P | 10.05 | 10.05 | 1.02 | -161.78 | -561.35 | 3.960 (3) |
| 1-8-P | 10.05 | 10.05 | 13.01 | -280.51 | -561.35 | 2.259 (3) |
| 1-9-P | 10.05 | 10.05 | 0.00 | -267.38 | -561.35 | 2.389 (3) |
| 1-10-P | 10.05 | 10.05 | 13.01 | -280.51 | -561.35 | 2.259 (3) |
| 1-11-P | 10.05 | 10.05 | 1.02 | -161.78 | -561.35 | 3.960 (3) |
| 1-12-P | 10.05 | 10.05 | 0.00 | -94.78 | -561.35 | 6.797 (3) |
| 1-13-P | 10.05 | 10.05 | 0.00 | -48.64 | -561.35 | 13.309 (3) |
| 1-14-P | 10.05 | 10.05 | 0.43 | -21.23 | -561.35 | 30.983 (3) |
| 1-15-P | 10.05 | 10.05 | 1.52 | -7.54 | -561.35 | 87.535 (3) |
| 1-16-P | 10.05 | 10.05 | 1.20 | -0.98 | 561.35 | 100.000 (1) |
| 1-17-P | 10.05 | 10.05 | 0.71 | -0.41 | 561.35 | 100.000 (1) |
| 2-1-P | 10.05 | 10.05 | 17.07 | -0.43 | 561.35 | 38.581 (3) |
| 2-2-P | 10.05 | 10.05 | 21.16 | -0.33 | 561.35 | 31.342 (3) |
| 2-3-P | 10.05 | 10.05 | 31.43 | -4.60 | 561.35 | 20.984 (3) |
| 2-4-P | 10.05 | 10.05 | 32.36 | -11.16 | 561.35 | 20.643 (3) |
| 2-5-P | 10.05 | 10.05 | 25.02 | -24.91 | -561.35 | 16.236 (3) |
| 2-6-P | 10.05 | 10.05 | 17.39 | -58.16 | -561.35 | 7.539 (3) |
| 2-7-P | 10.05 | 10.05 | 13.90 | -109.97 | -561.35 | 4.298 (3) |
| 2-8-P | 10.05 | 10.05 | 19.65 | -126.54 | -561.35 | 3.762 (3) |
| 2-9-P | 10.05 | 10.05 | 10.63 | -172.90 | -561.35 | 2.928 (3) |
| 2-10-P | 10.05 | 10.05 | 19.65 | -126.54 | -561.35 | 3.762 (3) |
| 2-11-P | 10.05 | 10.05 | 13.90 | -109.97 | -561.35 | 4.298 (3) |
| 2-12-P | 10.05 | 10.05 | 17.39 | -58.16 | -561.35 | 7.539 (3) |
| 2-13-P | 10.05 | 10.05 | 25.02 | -24.91 | -561.35 | 16.236 (3) |
| 2-14-P | 10.05 | 10.05 | 32.36 | -11.16 | 561.35 | 20.643 (3) |
| 2-15-P | 10.05 | 10.05 | 31.43 | -4.60 | 561.35 | 20.984 (3) |
| 2-16-P | 10.05 | 10.05 | 21.16 | -0.33 | 561.35 | 31.342 (3) |
| 2-17-P | 10.05 | 10.05 | 17.07 | -0.43 | 561.35 | 38.581 (3) |
| 4-1-P | 10.05 | 10.05 | 7.69 | -1.22 | -560.62 | 92.688 (2) |
| 4-2-P | 10.05 | 10.05 | 12.19 | -4.86 | -560.62 | 58.196 (2) |
| 4-3-P | 10.05 | 10.05 | 19.88 | -6.95 | -560.62 | 41.671 (2) |
| 4-4-P | 10.05 | 10.05 | 21.76 | -5.52 | -560.62 | 36.211 (2) |
| 4-5-P | 10.05 | 10.05 | 20.91 | -4.44 | -560.62 | 32.656 (2) |
| 4-6-P | 10.05 | 10.05 | 19.97 | -6.90 | -560.62 | 29.575 (2) |
| 4-7-P | 10.05 | 10.05 | 12.11 | -14.63 | -560.62 | 27.376 (1) |
| 4-8-P | 10.05 | 10.05 | 8.07 | -18.34 | -560.62 | 26.704 (1) |
| 4-9-P | 10.05 | 10.05 | 6.07 | -19.95 | -560.62 | 27.237 (1) |
| 4-10-P | 10.05 | 10.05 | 8.07 | -18.34 | -560.62 | 26.704 (1) |
| 4-11-P | 10.05 | 10.05 | 12.11 | -14.63 | -560.62 | 27.376 (1) |
| 4-12-P | 10.05 | 10.05 | 19.97 | -6.90 | -560.62 | 29.575 (2) |
| 4-13-P | 10.05 | 10.05 | 20.91 | -4.44 | -560.62 | 32.656 (2) |
| 4-14-P | 10.05 | 10.05 | 21.76 | -5.52 | -560.62 | 36.211 (2) |
| 4-15-P | 10.05 | 10.05 | 19.88 | -6.95 | -560.62 | 41.671 (2) |
| 4-16-P | 10.05 | 10.05 | 12.19 | -4.86 | -560.62 | 58.196 (2) |
| 4-17-P | 10.05 | 10.05 | 7.69 | -1.22 | -560.62 | 92.688 (2) |
| 5-1-P | 8.04 | 8.04 | 1.21 | -1.81 | 449.39 | 100.000 (1) |
| 5-2-P | 8.04 | 8.04 | 4.13 | -2.08 | 449.39 | 100.000 (1) |
| 5-3-P | 8.04 | 8.04 | 9.72 | -8.47 | 449.39 | 47.762 (1) |
| 5-4-P | 8.04 | 8.04 | 13.29 | -16.63 | 449.39 | 32.287 (1) |
| 5-5-P | 8.04 | 8.04 | 14.85 | -28.72 | 449.39 | 23.517 (1) |
| 5-6-P | 8.04 | 8.04 | 15.24 | -48.57 | 449.39 | 16.757 (1) |
| 5-7-P | 8.04 | 8.04 | 16.36 | -79.98 | 449.39 | 11.337 (1) |
| 5-8-P | 8.04 | 8.04 | 37.77 | -150.84 | -449.39 | 4.615 (2) |
| 5-9-P | 8.04 | 8.04 | 0.00 | -112.09 | -449.39 | 11.996 (1) |
| 5-10-P | 8.04 | 8.04 | 37.77 | -150.84 | -449.39 | 4.615 (2) |
| 5-11-P | 8.04 | 8.04 | 16.36 | -79.98 | 449.39 | 11.337 (1) |
| 5-12-P | 8.04 | 8.04 | 15.24 | -48.57 | 449.39 | 16.757 (1) |
| 5-13-P | 8.04 | 8.04 | 14.85 | -28.72 | 449.39 | 23.517 (1) |
| 5-14-P | 8.04 | 8.04 | 13.29 | -16.63 | 449.39 | 32.287 (1) |
| 5-15-P | 8.04 | 8.04 | 9.72 | -8.47 | 449.39 | 47.762 (1) |
| 5-16-P | 8.04 | 8.04 | 4.13 | -2.08 | 449.39 | 100.000 (1) |
| 5-17-P | 8.04 | 8.04 | 1.21 | -1.81 | 449.39 | 100.000 (1) |
| 6-1-P | 8.04 | 8.04 | 0.26 | -0.64 | 449.39 | 100.000 (1) |
| 6-2-P | 8.04 | 8.04 | 1.16 | -3.71 | 449.39 | 100.000 (1) |
| 6-3-P | 8.04 | 8.04 | 2.52 | -17.14 | -449.39 | 41.976 (2) |
| 6-4-P | 8.04 | 8.04 | 3.03 | -37.61 | -449.39 | 19.828 (2) |

| Is | Afi | Afs | Mp | Mn | Mu | FS |
|--------|-------|-------|--------|---------|----------|-------------|
| | [cmq] | [cmq] | [kNm] | [kNm] | [kNm] | |
| 6-5-P | 8.04 | 8.04 | 2.90 | -66.19 | -449.39 | 11.627 (2) |
| 6-6-P | 8.04 | 8.04 | 2.70 | -102.43 | -449.39 | 7.714 (2) |
| 6-7-P | 8.04 | 8.04 | 2.38 | -138.85 | -449.39 | 5.854 (2) |
| 6-8-P | 8.04 | 8.04 | 3.44 | -141.98 | -449.39 | 7.856 (2) |
| 6-9-P | 8.04 | 8.04 | 0.00 | -171.49 | -449.39 | 6.949 (2) |
| 6-10-P | 8.04 | 8.04 | 3.44 | -141.98 | -449.39 | 7.856 (2) |
| 6-11-P | 8.04 | 8.04 | 2.38 | -138.85 | -449.39 | 5.854 (2) |
| 6-12-P | 8.04 | 8.04 | 2.70 | -102.43 | -449.39 | 7.714 (2) |
| 6-13-P | 8.04 | 8.04 | 2.90 | -66.19 | -449.39 | 11.627 (2) |
| 6-14-P | 8.04 | 8.04 | 3.03 | -37.61 | -449.39 | 19.828 (2) |
| 6-15-P | 8.04 | 8.04 | 2.52 | -17.14 | -449.39 | 41.976 (2) |
| 6-16-P | 8.04 | 8.04 | 1.16 | -3.71 | 449.39 | 100.000 (1) |
| 6-17-P | 8.04 | 8.04 | 0.26 | -0.64 | 449.39 | 100.000 (1) |
| 7-1-S | 40.72 | 40.72 | 0.50 | -0.82 | 2243.82 | 100.000 (1) |
| 7-2-S | 40.72 | 40.72 | 0.00 | -4.30 | 2243.82 | 100.000 (1) |
| 7-3-S | 40.72 | 40.72 | 0.06 | -7.65 | 2243.82 | 100.000 (1) |
| 7-4-S | 40.72 | 40.72 | 1.91 | -8.03 | 2243.82 | 100.000 (1) |
| 7-5-S | 40.72 | 40.72 | 27.31 | -3.99 | 2243.82 | 86.698 (3) |
| 7-6-S | 40.72 | 40.72 | 73.03 | -2.66 | 2243.82 | 38.343 (3) |
| 7-7-S | 40.72 | 40.72 | 135.47 | -0.81 | 2243.82 | 20.139 (3) |
| 7-8-S | 40.72 | 40.72 | 210.09 | 0.00 | 2243.82 | 12.830 (3) |
| 7-9-S | 40.72 | 40.72 | 291.03 | 0.00 | 2243.82 | 9.204 (3) |
| 7-10-S | 40.72 | 40.72 | 0.00 | -148.96 | -2243.82 | 15.064 (4) |
| 7-11-S | 40.72 | 40.72 | 0.00 | -88.59 | -2243.82 | 25.328 (4) |
| 7-12-S | 40.72 | 40.72 | 102.73 | -0.74 | -2243.82 | 49.945 (2) |
| 7-13-S | 40.72 | 40.72 | 108.13 | -0.82 | 2243.82 | 100.000 (2) |
| 7-14-S | 40.72 | 40.72 | 103.70 | -1.02 | 2243.82 | 100.000 (2) |
| 7-15-S | 40.72 | 40.72 | 91.74 | -1.27 | 2243.82 | 70.988 (2) |
| 7-16-S | 40.72 | 40.72 | 75.35 | -1.63 | 2243.82 | 60.614 (2) |
| 7-17-S | 40.72 | 40.72 | 57.73 | -2.08 | 2243.82 | 61.681 (2) |
| 7-18-S | 40.72 | 40.72 | 43.03 | -2.26 | 2243.82 | 73.003 (3) |
| 7-19-S | 40.72 | 40.72 | 27.66 | -3.16 | 2243.82 | 100.000 (3) |
| 7-20-S | 40.72 | 40.72 | 8.61 | -1.69 | 2243.82 | 100.000 (1) |
| 7-21-S | 40.72 | 40.72 | 0.99 | -0.88 | 2243.82 | 100.000 (1) |
| 8-1-S | 40.72 | 40.72 | 1.79 | -2.26 | 2243.82 | 100.000 (1) |
| 8-2-S | 40.72 | 40.72 | 19.46 | -16.32 | 2243.82 | 82.965 (3) |
| 8-3-S | 40.72 | 40.72 | 45.76 | -41.92 | 2243.82 | 35.264 (3) |
| 8-4-S | 40.72 | 40.72 | 99.31 | -78.73 | 2243.82 | 11.714 (3) |
| 8-5-S | 40.72 | 40.72 | 17.89 | -160.97 | -2243.82 | 15.077 (3) |
| 8-6-S | 40.72 | 40.72 | 3.44 | -236.93 | -2243.82 | 10.156 (3) |
| 8-7-S | 40.72 | 40.72 | 36.95 | -91.39 | -2243.82 | 25.206 (3) |
| 8-8-S | 40.72 | 40.72 | 140.02 | -0.02 | 2243.82 | 20.657 (3) |
| 8-9-S | 40.72 | 40.72 | 341.21 | 0.00 | 2243.82 | 7.890 (3) |
| 8-10-S | 40.72 | 40.72 | 147.17 | 0.00 | -2243.82 | 22.603 (2) |
| 8-11-S | 40.72 | 40.72 | 163.59 | 0.00 | -2243.82 | 60.214 (2) |
| 8-12-S | 40.72 | 40.72 | 182.10 | -0.32 | 2243.82 | 69.946 (2) |
| 8-13-S | 40.72 | 40.72 | 194.14 | -1.63 | 2243.82 | 26.835 (2) |
| 8-14-S | 40.72 | 40.72 | 200.41 | -2.49 | 2243.82 | 16.636 (3) |
| 8-15-S | 40.72 | 40.72 | 235.55 | -6.15 | 2243.82 | 12.159 (3) |
| 8-16-S | 40.72 | 40.72 | 258.14 | -17.46 | 2243.82 | 10.208 (3) |
| 8-17-S | 40.72 | 40.72 | 87.03 | -73.17 | 2243.82 | 29.738 (3) |
| 8-18-S | 40.72 | 40.72 | 46.02 | -149.05 | -2243.82 | 16.496 (3) |
| 8-19-S | 40.72 | 40.72 | 28.77 | -84.56 | -2243.82 | 28.928 (3) |
| 8-20-S | 40.72 | 40.72 | 14.88 | -33.66 | -2243.82 | 70.247 (3) |
| 8-21-S | 40.72 | 40.72 | 3.29 | -2.48 | 2243.82 | 100.000 (1) |
| 9-1-S | 40.72 | 40.72 | 1.79 | -2.26 | 2243.82 | 100.000 (1) |
| 9-2-S | 40.72 | 40.72 | 19.46 | -16.32 | 2243.82 | 82.965 (3) |
| 9-3-S | 40.72 | 40.72 | 45.76 | -41.92 | 2243.82 | 35.264 (3) |
| 9-4-S | 40.72 | 40.72 | 99.31 | -78.73 | 2243.82 | 11.714 (3) |
| 9-5-S | 40.72 | 40.72 | 17.89 | -160.97 | -2243.82 | 15.077 (3) |
| 9-6-S | 40.72 | 40.72 | 3.44 | -236.93 | -2243.82 | 10.156 (3) |
| 9-7-S | 40.72 | 40.72 | 36.95 | -91.39 | -2243.82 | 25.206 (3) |
| 9-8-S | 40.72 | 40.72 | 140.02 | -0.02 | 2243.82 | 20.657 (3) |
| 9-9-S | 40.72 | 40.72 | 341.21 | 0.00 | 2243.82 | 7.890 (3) |
| 9-10-S | 40.72 | 40.72 | 147.17 | 0.00 | -2243.82 | 22.603 (2) |
| 9-11-S | 40.72 | 40.72 | 163.59 | 0.00 | -2243.82 | 60.214 (2) |
| 9-12-S | 40.72 | 40.72 | 182.10 | -0.32 | 2243.82 | 69.946 (2) |
| 9-13-S | 40.72 | 40.72 | 194.14 | -1.63 | 2243.82 | 26.835 (2) |
| 9-14-S | 40.72 | 40.72 | 200.41 | -2.49 | 2243.82 | 16.636 (3) |
| 9-15-S | 40.72 | 40.72 | 235.55 | -6.15 | 2243.82 | 12.159 (3) |

| Is | Afi | Afs | Mp | Mn | Mu | FS |
|---------|-------|-------|--------|---------|----------|-------------|
| | [cmq] | [cmq] | [kNm] | [kNm] | [kNm] | |
| 9-16-S | 40.72 | 40.72 | 258.14 | -17.46 | 2243.82 | 10.208 (3) |
| 9-17-S | 40.72 | 40.72 | 87.03 | -73.17 | 2243.82 | 29.738 (3) |
| 9-18-S | 40.72 | 40.72 | 46.02 | -149.05 | -2243.82 | 16.496 (3) |
| 9-19-S | 40.72 | 40.72 | 28.77 | -84.56 | -2243.82 | 28.928 (3) |
| 9-20-S | 40.72 | 40.72 | 14.88 | -33.66 | -2243.82 | 70.247 (3) |
| 9-21-S | 40.72 | 40.72 | 3.29 | -2.48 | 2243.82 | 100.000 (1) |
| 10-1-S | 40.72 | 40.72 | 0.50 | -0.82 | 2243.82 | 100.000 (1) |
| 10-2-S | 40.72 | 40.72 | 0.00 | -4.30 | 2243.82 | 100.000 (1) |
| 10-3-S | 40.72 | 40.72 | 0.06 | -7.65 | 2243.82 | 100.000 (1) |
| 10-4-S | 40.72 | 40.72 | 1.91 | -8.03 | 2243.82 | 100.000 (1) |
| 10-5-S | 40.72 | 40.72 | 27.31 | -3.99 | 2243.82 | 86.698 (3) |
| 10-6-S | 40.72 | 40.72 | 73.03 | -2.66 | 2243.82 | 38.343 (3) |
| 10-7-S | 40.72 | 40.72 | 135.47 | -0.81 | 2243.82 | 20.139 (3) |
| 10-8-S | 40.72 | 40.72 | 210.09 | 0.00 | 2243.82 | 12.830 (3) |
| 10-9-S | 40.72 | 40.72 | 291.03 | 0.00 | 2243.82 | 9.204 (3) |
| 10-10-S | 40.72 | 40.72 | 0.00 | -148.96 | -2243.82 | 15.064 (4) |
| 10-11-S | 40.72 | 40.72 | 0.00 | -88.59 | -2243.82 | 25.328 (4) |
| 10-12-S | 40.72 | 40.72 | 102.73 | -0.74 | -2243.82 | 49.945 (2) |
| 10-13-S | 40.72 | 40.72 | 108.13 | -0.82 | 2243.82 | 100.000 (2) |
| 10-14-S | 40.72 | 40.72 | 103.70 | -1.02 | 2243.82 | 100.000 (2) |
| 10-15-S | 40.72 | 40.72 | 91.74 | -1.27 | 2243.82 | 70.988 (2) |
| 10-16-S | 40.72 | 40.72 | 75.35 | -1.63 | 2243.82 | 60.614 (2) |
| 10-17-S | 40.72 | 40.72 | 57.73 | -2.08 | 2243.82 | 61.681 (2) |
| 10-18-S | 40.72 | 40.72 | 43.03 | -2.26 | 2243.82 | 73.003 (3) |
| 10-19-S | 40.72 | 40.72 | 27.66 | -3.16 | 2243.82 | 100.000 (3) |
| 10-20-S | 40.72 | 40.72 | 8.61 | -1.69 | 2243.82 | 100.000 (1) |
| 10-21-S | 40.72 | 40.72 | 0.99 | -0.88 | 2243.82 | 100.000 (1) |

Verifiche a taglio

Simbologia adottata

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

Paramento

| n° | B | H | A _{sw} | cotθ | V _{Rcd} | V _{Rsd} | V _{Rd} | T | FS |
|----|------|------|-----------------|------|------------------|------------------|-----------------|-------|---------|
| | [cm] | [cm] | [cmq] | | [kN] | [kN] | [kN] | [kN] | |
| 1 | 100 | 40 | 0.00 | -- | 0.00 | 0.00 | 248.23 | 0.00 | 100.000 |
| 2 | 100 | 41 | 0.00 | -- | 0.00 | 0.00 | 251.50 | 1.14 | 220.979 |
| 3 | 100 | 42 | 0.00 | -- | 0.00 | 0.00 | 254.74 | 2.33 | 109.470 |
| 4 | 100 | 43 | 0.00 | -- | 0.00 | 0.00 | 257.95 | 3.57 | 72.332 |
| 5 | 100 | 44 | 0.00 | -- | 0.00 | 0.00 | 261.14 | 4.86 | 53.786 |
| 6 | 100 | 45 | 0.00 | -- | 0.00 | 0.00 | 264.29 | 6.19 | 42.669 |
| 7 | 100 | 46 | 0.00 | -- | 0.00 | 0.00 | 267.42 | 7.58 | 35.266 |
| 8 | 100 | 47 | 0.00 | -- | 0.00 | 0.00 | 270.52 | 9.02 | 29.984 |
| 9 | 100 | 48 | 0.00 | -- | 0.00 | 0.00 | 273.60 | 10.51 | 26.028 |
| 10 | 100 | 49 | 0.00 | -- | 0.00 | 0.00 | 276.66 | 12.05 | 22.956 |
| 11 | 100 | 50 | 0.00 | -- | 0.00 | 0.00 | 279.69 | 13.64 | 20.503 |
| 12 | 100 | 51 | 0.00 | -- | 0.00 | 0.00 | 282.70 | 15.28 | 18.499 |
| 13 | 100 | 52 | 0.00 | -- | 0.00 | 0.00 | 285.69 | 16.97 | 16.833 |
| 14 | 100 | 53 | 0.00 | -- | 0.00 | 0.00 | 288.66 | 18.71 | 15.426 |
| 15 | 100 | 54 | 0.00 | -- | 0.00 | 0.00 | 291.62 | 20.50 | 14.222 |
| 16 | 100 | 55 | 0.00 | -- | 0.00 | 0.00 | 294.55 | 22.35 | 13.182 |
| 17 | 100 | 56 | 0.00 | -- | 0.00 | 0.00 | 297.46 | 24.24 | 12.273 |
| 18 | 100 | 57 | 0.00 | -- | 0.00 | 0.00 | 300.36 | 26.18 | 11.474 |
| 19 | 100 | 58 | 0.00 | -- | 0.00 | 0.00 | 303.24 | 28.17 | 10.765 |
| 20 | 100 | 59 | 0.00 | -- | 0.00 | 0.00 | 306.11 | 30.21 | 10.132 |
| 21 | 100 | 60 | 0.00 | -- | 0.00 | 0.00 | 308.96 | 32.31 | 9.564 |
| 22 | 100 | 61 | 0.00 | -- | 0.00 | 0.00 | 311.79 | 34.45 | 9.051 |

| n° | B [cm] | H [cm] | A _{sw} [cmq] | cotθ | V _{Rcd} [kN] | V _{Rsd} [kN] | V _{Rd} [kN] | T [kN] | FS |
|----|-----------|-----------|--------------------------|------|--------------------------|--------------------------|-------------------------|-----------|-------|
| 23 | 100 | 62 | 0.00 | -- | 0.00 | 0.00 | 314.61 | 36.64 | 8.586 |
| 24 | 100 | 63 | 0.00 | -- | 0.00 | 0.00 | 317.42 | 38.88 | 8.163 |
| 25 | 100 | 64 | 0.00 | -- | 0.00 | 0.00 | 320.21 | 41.18 | 7.776 |
| 26 | 100 | 65 | 0.00 | -- | 0.00 | 0.00 | 322.99 | 43.52 | 7.421 |
| 27 | 100 | 66 | 0.00 | -- | 0.00 | 0.00 | 325.75 | 45.92 | 7.095 |
| 28 | 100 | 67 | 0.00 | -- | 0.00 | 0.00 | 328.51 | 48.36 | 6.793 |
| 29 | 100 | 68 | 0.00 | -- | 0.00 | 0.00 | 331.25 | 50.85 | 6.514 |
| 30 | 100 | 69 | 0.00 | -- | 0.00 | 0.00 | 333.98 | 53.40 | 6.254 |
| 31 | 100 | 70 | 0.00 | -- | 0.00 | 0.00 | 336.70 | 55.99 | 6.013 |
| 32 | 100 | 71 | 0.00 | -- | 0.00 | 0.00 | 339.40 | 58.64 | 5.788 |
| 33 | 100 | 72 | 0.00 | -- | 0.00 | 0.00 | 342.10 | 61.33 | 5.578 |
| 34 | 100 | 73 | 0.00 | -- | 0.00 | 0.00 | 444.99 | 64.08 | 6.944 |
| 35 | 100 | 74 | 0.00 | -- | 0.00 | 0.00 | 448.39 | 66.87 | 6.705 |
| 36 | 100 | 75 | 0.00 | -- | 0.00 | 0.00 | 451.76 | 69.72 | 6.480 |
| 37 | 100 | 76 | 0.00 | -- | 0.00 | 0.00 | 455.13 | 72.62 | 6.267 |
| 38 | 100 | 77 | 0.00 | -- | 0.00 | 0.00 | 458.48 | 75.56 | 6.067 |
| 39 | 100 | 78 | 0.00 | -- | 0.00 | 0.00 | 461.82 | 78.56 | 5.878 |
| 40 | 100 | 79 | 0.00 | -- | 0.00 | 0.00 | 465.14 | 81.61 | 5.700 |
| 41 | 100 | 80 | 0.00 | -- | 0.00 | 0.00 | 468.46 | 84.70 | 5.530 |
| 42 | 100 | 81 | 0.00 | -- | 0.00 | 0.00 | 471.76 | 87.85 | 5.370 |
| 43 | 100 | 82 | 0.00 | -- | 0.00 | 0.00 | 475.05 | 91.05 | 5.217 |
| 44 | 100 | 83 | 0.00 | -- | 0.00 | 0.00 | 478.33 | 94.30 | 5.072 |
| 45 | 100 | 84 | 0.00 | -- | 0.00 | 0.00 | 481.60 | 97.60 | 4.935 |
| 46 | 100 | 85 | 0.00 | -- | 0.00 | 0.00 | 484.85 | 100.95 | 4.803 |
| 47 | 100 | 86 | 0.00 | -- | 0.00 | 0.00 | 488.10 | 104.34 | 4.678 |
| 48 | 100 | 87 | 0.00 | -- | 0.00 | 0.00 | 491.34 | 107.79 | 4.558 |
| 49 | 100 | 88 | 0.00 | -- | 0.00 | 0.00 | 494.56 | 111.29 | 4.444 |
| 50 | 100 | 89 | 0.00 | -- | 0.00 | 0.00 | 497.78 | 114.84 | 4.334 |
| 51 | 100 | 90 | 0.00 | -- | 0.00 | 0.00 | 500.98 | 118.44 | 4.230 |
| 52 | 100 | 91 | 0.00 | -- | 0.00 | 0.00 | 455.06 | 122.09 | 3.727 |
| 53 | 100 | 92 | 0.00 | -- | 0.00 | 0.00 | 493.34 | 125.79 | 3.922 |
| 54 | 100 | 93 | 0.00 | -- | 0.00 | 0.00 | 460.86 | 129.54 | 3.558 |
| 55 | 100 | 94 | 0.00 | -- | 0.00 | 0.00 | 463.74 | 133.34 | 3.478 |
| 56 | 100 | 95 | 0.00 | -- | 0.00 | 0.00 | 466.62 | 137.19 | 3.401 |
| 57 | 100 | 96 | 0.00 | -- | 0.00 | 0.00 | 469.50 | 141.09 | 3.328 |
| 58 | 100 | 97 | 0.00 | -- | 0.00 | 0.00 | 472.36 | 145.05 | 3.257 |
| 59 | 100 | 98 | 0.00 | -- | 0.00 | 0.00 | 475.22 | 149.05 | 3.188 |
| 60 | 100 | 99 | 0.00 | -- | 0.00 | 0.00 | 478.07 | 153.10 | 3.123 |
| 61 | 100 | 100 | 0.00 | -- | 0.00 | 0.00 | 480.92 | 157.20 | 3.059 |

Mensola valle

| n° | B [cm] | H [cm] | A _{sw} [cmq] | cotθ | V _{Rcd} [kN] | V _{Rsd} [kN] | V _{Rd} [kN] | T [kN] | FS |
|----|-----------|-----------|--------------------------|------|--------------------------|--------------------------|-------------------------|-----------|---------|
| 1 | 100 | 50 | 0.00 | -- | 0.00 | 0.00 | 207.84 | 0.00 | 100.000 |
| 2 | 100 | 50 | 0.00 | -- | 0.00 | 0.00 | 207.84 | 1.19 | 174.974 |
| 3 | 100 | 50 | 0.00 | -- | 0.00 | 0.00 | 207.84 | 2.38 | 87.487 |
| 4 | 100 | 50 | 0.00 | -- | 0.00 | 0.00 | 207.84 | 3.56 | 58.325 |
| 5 | 100 | 50 | 0.00 | -- | 0.00 | 0.00 | 207.84 | 4.75 | 43.744 |

Fondazione

| Is | B [cm] | H [cm] | A _{sw} [cmq] | cotg (θ) | V _{Rcd} [kN] | V _{Rsd} [kN] | V _{Rd} [kN] | T [kN] | FS |
|--------|-----------|-----------|--------------------------|----------|--------------------------|--------------------------|-------------------------|-----------|-------------|
| 1-1-P | 100 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 475.86 | 0.00 | 100.000 (1) |
| 1-2-P | 100 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 475.86 | 0.00 | 100.000 (1) |
| 1-3-P | 100 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 475.86 | 139.64 | 3.408 (1) |
| 1-4-P | 100 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 475.86 | 139.64 | 3.408 (1) |
| 1-5-P | 100 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 475.86 | 139.64 | 3.408 (1) |
| 1-6-P | 100 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 475.86 | 139.64 | 3.408 (1) |
| 1-7-P | 100 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 475.86 | 139.64 | 3.408 (1) |
| 1-8-P | 100 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 475.86 | 139.64 | 3.408 (1) |
| 1-9-P | 100 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 475.86 | 139.64 | 3.408 (1) |
| 1-10-P | 100 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 475.86 | 13.35 | 35.646 (1) |
| 1-11-P | 100 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 475.86 | 13.35 | 35.646 (1) |
| 1-12-P | 100 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 475.86 | 13.35 | 35.646 (1) |

| Is | B [cm] | H [cm] | A _{sw} [cmq] | cotg (θ) | V _{Rcd} [kN] | V _{Rsd} [kN] | V _{Rd} [kN] | T [kN] | FS |
|--------|-----------|-----------|--------------------------|----------|--------------------------|--------------------------|-------------------------|-----------|-------------|
| 1-13-P | 100 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 475.86 | 13.35 | 35.646 (1) |
| 1-14-P | 100 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 475.86 | 13.35 | 35.646 (1) |
| 1-15-P | 100 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 475.86 | 0.00 | 100.000 (1) |
| 1-16-P | 100 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 475.86 | 0.00 | 100.000 (1) |
| 1-17-P | 100 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 475.86 | 0.00 | 100.000 (1) |
| 2-1-P | 100 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 475.86 | 0.00 | 100.000 (1) |
| 2-2-P | 100 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 475.86 | 0.00 | 100.000 (1) |
| 2-3-P | 100 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 475.86 | 229.28 | 2.075 (1) |
| 2-4-P | 100 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 475.86 | 229.28 | 2.075 (1) |
| 2-5-P | 100 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 475.86 | 229.28 | 2.075 (1) |
| 2-6-P | 100 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 475.86 | 229.28 | 2.075 (1) |
| 2-7-P | 100 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 475.86 | 229.28 | 2.075 (1) |
| 2-8-P | 100 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 475.86 | 229.28 | 2.075 (1) |
| 2-9-P | 100 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 475.86 | 229.28 | 2.075 (1) |
| 2-10-P | 100 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 475.86 | 8.71 | 54.603 (1) |
| 2-11-P | 100 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 475.86 | 8.71 | 54.603 (1) |
| 2-12-P | 100 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 475.86 | 8.71 | 54.603 (1) |
| 2-13-P | 100 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 475.86 | 8.71 | 54.603 (1) |
| 2-14-P | 100 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 475.86 | 8.71 | 54.603 (1) |
| 2-15-P | 100 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 475.86 | 0.00 | 100.000 (1) |
| 2-16-P | 100 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 475.86 | 0.00 | 100.000 (1) |
| 2-17-P | 100 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 475.86 | 0.00 | 100.000 (1) |
| 4-1-P | 87 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 412.41 | 23.06 | 17.881 (1) |
| 4-2-P | 87 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 412.41 | 23.06 | 17.881 (1) |
| 4-3-P | 87 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 412.41 | 12.57 | 32.799 (1) |
| 4-4-P | 87 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 412.41 | 12.57 | 32.799 (1) |
| 4-5-P | 87 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 412.41 | 12.57 | 32.799 (1) |
| 4-6-P | 87 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 412.41 | 12.57 | 32.799 (1) |
| 4-7-P | 87 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 412.41 | 12.57 | 32.799 (1) |
| 4-8-P | 87 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 412.41 | 12.57 | 32.799 (1) |
| 4-9-P | 87 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 412.41 | 12.57 | 32.799 (1) |
| 4-10-P | 87 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 412.41 | 3.78 | 100.000 (1) |
| 4-11-P | 87 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 412.41 | 3.78 | 100.000 (1) |
| 4-12-P | 87 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 412.41 | 3.78 | 100.000 (1) |
| 4-13-P | 87 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 412.41 | 3.78 | 100.000 (1) |
| 4-14-P | 87 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 412.41 | 3.78 | 100.000 (1) |
| 4-15-P | 87 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 412.41 | 0.97 | 100.000 (1) |
| 4-16-P | 87 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 412.41 | 0.97 | 100.000 (1) |
| 4-17-P | 87 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 412.41 | 0.97 | 100.000 (1) |
| 5-1-P | 87 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 412.41 | 10.83 | 38.097 (1) |
| 5-2-P | 87 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 412.41 | 10.83 | 38.097 (1) |
| 5-3-P | 87 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 412.41 | 73.57 | 5.606 (1) |
| 5-4-P | 87 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 412.41 | 73.57 | 5.606 (1) |
| 5-5-P | 87 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 412.41 | 73.57 | 5.606 (1) |
| 5-6-P | 87 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 412.41 | 73.57 | 5.606 (1) |
| 5-7-P | 87 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 412.41 | 73.57 | 5.606 (1) |
| 5-8-P | 87 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 412.41 | 73.57 | 5.606 (1) |
| 5-9-P | 87 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 412.41 | 73.57 | 5.606 (1) |
| 5-10-P | 87 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 412.41 | 4.93 | 83.656 (1) |
| 5-11-P | 87 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 412.41 | 4.93 | 83.656 (1) |
| 5-12-P | 87 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 412.41 | 4.93 | 83.656 (1) |
| 5-13-P | 87 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 412.41 | 4.93 | 83.656 (1) |
| 5-14-P | 87 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 412.41 | 4.93 | 83.656 (1) |
| 5-15-P | 87 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 412.41 | 10.83 | 38.097 (1) |
| 5-16-P | 87 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 412.41 | 10.83 | 38.097 (1) |
| 5-17-P | 87 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 412.41 | 10.83 | 38.097 (1) |
| 6-1-P | 87 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 412.41 | 224.28 | 1.839 (1) |
| 6-2-P | 87 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 412.41 | 224.28 | 1.839 (1) |
| 6-3-P | 87 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 412.41 | 224.28 | 1.839 (1) |
| 6-4-P | 87 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 412.41 | 224.28 | 1.839 (1) |
| 6-5-P | 87 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 412.41 | 224.28 | 1.839 (1) |
| 6-6-P | 87 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 412.41 | 224.28 | 1.839 (1) |
| 6-7-P | 87 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 412.41 | 224.28 | 1.839 (1) |
| 6-8-P | 87 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 412.41 | 159.62 | 2.584 (1) |
| 6-9-P | 87 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 412.41 | 159.62 | 2.584 (1) |
| 6-10-P | 87 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 412.41 | 19.22 | 21.458 (1) |
| 6-11-P | 87 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 412.41 | 19.22 | 21.458 (1) |
| 6-12-P | 87 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 412.41 | 19.22 | 21.458 (1) |
| 6-13-P | 87 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 412.41 | 19.22 | 21.458 (1) |
| 6-14-P | 87 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 412.41 | 19.22 | 21.458 (1) |

| Is | B | H | A _{sw} | cotg (θ) | V _{Rcd} | V _{Rsd} | V _{Rd} | T | FS |
|--------|------|------|-----------------|----------|------------------|------------------|-----------------|--------|-------------|
| | [cm] | [cm] | [cmq] | | [kN] | [kN] | [kN] | [kN] | |
| 6-15-P | 87 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 412.41 | 19.22 | 21.458 (1) |
| 6-16-P | 87 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 412.41 | 19.22 | 21.458 (1) |
| 6-17-P | 87 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 412.41 | 19.22 | 21.458 (1) |
| 7-1-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 267.77 | 1.832 (1) |
| 7-2-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 267.77 | 1.832 (1) |
| 7-3-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 267.77 | 1.832 (1) |
| 7-4-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 267.77 | 1.832 (1) |
| 7-5-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 267.77 | 1.832 (1) |
| 7-6-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 267.77 | 1.832 (1) |
| 7-7-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 231.30 | 2.121 (1) |
| 7-8-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 231.30 | 2.121 (1) |
| 7-9-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 15.15 | 32.390 (1) |
| 7-10-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 15.15 | 32.390 (1) |
| 7-11-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 238.91 | 2.053 (1) |
| 7-12-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 238.91 | 2.053 (1) |
| 7-13-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 238.91 | 2.053 (1) |
| 7-14-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 10.98 | 44.687 (1) |
| 7-15-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 10.98 | 44.687 (1) |
| 7-16-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 10.98 | 44.687 (1) |
| 7-17-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 10.98 | 44.687 (1) |
| 7-18-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 3.16 | 100.000 (1) |
| 7-19-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 3.16 | 100.000 (1) |
| 7-20-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 10.98 | 44.687 (1) |
| 7-21-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 10.98 | 44.687 (1) |
| 8-1-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 76.61 | 6.403 (1) |
| 8-2-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 411.35 | 1.193 (1) |
| 8-3-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 411.35 | 1.193 (1) |
| 8-4-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 411.35 | 1.193 (1) |
| 8-5-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 411.35 | 1.193 (1) |
| 8-6-S | 95 | 150 | 10.05 | 2.500 | 4046.17 | 904.05 | 904.05 | 827.91 | 1.092 (1) |
| 8-7-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 10.59 | 46.319 (1) |
| 8-8-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 10.59 | 46.319 (1) |
| 8-9-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 10.59 | 46.319 (1) |
| 8-10-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 259.83 | 1.888 (1) |
| 8-11-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 259.83 | 1.888 (1) |
| 8-12-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 1.79 | 100.000 (1) |
| 8-13-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 1.79 | 100.000 (1) |
| 8-14-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 1.79 | 100.000 (1) |
| 8-15-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 1.79 | 100.000 (1) |
| 8-16-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 1.79 | 100.000 (1) |
| 8-17-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 180.24 | 2.722 (1) |
| 8-18-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 180.24 | 2.722 (1) |
| 8-19-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 180.24 | 2.722 (1) |
| 8-20-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 180.24 | 2.722 (1) |
| 8-21-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 180.24 | 2.722 (1) |
| 9-1-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 76.61 | 6.403 (1) |
| 9-2-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 411.35 | 1.193 (1) |
| 9-3-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 411.35 | 1.193 (1) |
| 9-4-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 411.35 | 1.193 (1) |
| 9-5-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 411.35 | 1.193 (1) |
| 9-6-S | 95 | 150 | 10.05 | 2.500 | 4046.17 | 904.05 | 904.05 | 827.91 | 1.092 (1) |
| 9-7-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 10.59 | 46.319 (1) |
| 9-8-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 10.59 | 46.319 (1) |
| 9-9-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 10.59 | 46.319 (1) |
| 9-10-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 259.83 | 1.888 (1) |
| 9-11-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 259.83 | 1.888 (1) |
| 9-12-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 1.79 | 100.000 (1) |
| 9-13-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 1.79 | 100.000 (1) |
| 9-14-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 1.79 | 100.000 (1) |
| 9-15-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 1.79 | 100.000 (1) |
| 9-16-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 1.79 | 100.000 (1) |
| 9-17-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 180.24 | 2.722 (1) |
| 9-18-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 180.24 | 2.722 (1) |
| 9-19-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 180.24 | 2.722 (1) |
| 9-20-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 180.24 | 2.722 (1) |
| 9-21-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 180.24 | 2.722 (1) |
| 10-1-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 267.77 | 1.832 (1) |
| 10-2-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 267.77 | 1.832 (1) |
| 10-3-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 267.77 | 1.832 (1) |
| 10-4-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 267.77 | 1.832 (1) |

| Is | B | H | A _{sw} | cotg (θ) | V _{Rcd} | V _{Rsd} | V _{Rd} | T | FS |
|---------|------|------|-----------------|----------|------------------|------------------|-----------------|--------|-------------|
| | [cm] | [cm] | [cmq] | | [kN] | [kN] | [kN] | [kN] | |
| 10-5-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 267.77 | 1.832 (1) |
| 10-6-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 267.77 | 1.832 (1) |
| 10-7-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 231.30 | 2.121 (1) |
| 10-8-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 231.30 | 2.121 (1) |
| 10-9-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 15.15 | 32.390 (1) |
| 10-10-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 15.15 | 32.390 (1) |
| 10-11-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 238.91 | 2.053 (1) |
| 10-12-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 238.91 | 2.053 (1) |
| 10-13-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 238.91 | 2.053 (1) |
| 10-14-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 10.98 | 44.687 (1) |
| 10-15-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 10.98 | 44.687 (1) |
| 10-16-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 10.98 | 44.687 (1) |
| 10-17-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 10.98 | 44.687 (1) |
| 10-18-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 3.16 | 100.000 (1) |
| 10-19-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 3.16 | 100.000 (1) |
| 10-20-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 10.98 | 44.687 (1) |
| 10-21-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 10.98 | 44.687 (1) |

Verifica a punzonamento

Simbologia adottata

| | |
|---------------------------------|--|
| OP | Oggetto che viene punzonato |
| P | Oggetto che punzona |
| C ₁ , C ₂ | Dimensioni pilastro nelle due direzioni, espressa in [mm] |
| d | Altezza utile della fondazione, espressa in [mm] |
| u ₀ | Lunghezza perimetro di verifica a faccia pilastro, espresso in [mm] |
| u ₁ | Lunghezza perimetro di verifica per effetto della diffusione, espresso in [mm] |
| p _y , p _z | Percentuali di armatura piastra in zona tesa |
| dpc, duc | distanza della prima e dell'ultima cucitura dalla faccia del pilastro |
| V _{Ed,i} | Tensione di taglio sul perimetro del pilastro, espressa in [kPa] |
| V _{Rd,max} | Valore di progetto del massimo taglio-punzonamento resistente, espressa in [kPa] |
| V _{Ed,f} | Tensione di taglio sul perimetro di verifica u ₁ , espresso in [kPa] |
| V _{Rd,cf} | Valore di progetto del taglio-punzonamento resistente senza armature sul perimetro di verifica u ₁ , espresso in [kPa] |
| V _{Rd,cs} | Valore di progetto del taglio-punzonamento resistente con armature, espresso in [kPa] |
| nsc | Numero di serie di cuciture |
| nc | Numero di cuciture |
| FS | Fattore di sicurezza (minore tra i rapporti V _{Rd,max} /V _{Ed,i} , V _{Rd,cf} /V _{Ed,f} e V _{Rd,cs} /V _{Ed,f}) |

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] |
| σc | tensione di compressione nel cls, espressa in [kPa] |
| σfi | tensione nei ferri inferiori, espressa in [kPa] |
| σfs | 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 | σc | σfi | σfs |
|----|------|------|-------|-------|-------|------|--------|---------|---------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kN] | [kPa] | [kPa] | [kPa] |
| 1 | 100 | 40 | 15.71 | 22.62 | 0.75 | 4.29 | 38 (9) | 313 (9) | 452 (9) |
| 2 | 100 | 41 | 15.71 | 22.62 | 0.75 | 5.28 | 37 (9) | 188 (9) | 459 (9) |
| 3 | 100 | 42 | 15.71 | 22.62 | 0.77 | 6.30 | 37 (9) | 103 (9) | 472 (9) |
| 4 | 100 | 43 | 15.71 | 22.62 | 0.79 | 7.34 | 38 (9) | 47 (9) | 492 (9) |
| 5 | 100 | 44 | 15.71 | 22.62 | 0.84 | 8.41 | 39 (9) | 11 (9) | 521 (9) |
| 6 | 100 | 45 | 15.71 | 22.62 | 0.91 | 9.50 | 42 (9) | 10 (9) | 558 (9) |

| n° | B | H | Afi | Afs | M | N | σ_c | σ_{fi} | σ_{fs} |
|----|------|------|-------|-------|--------|--------|------------|---------------|---------------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kN] | [kPa] | [kPa] | [kPa] |
| 7 | 100 | 46 | 15.71 | 22.62 | 1.01 | 10.62 | 45 (9) | 21 (9) | 603 (9) |
| 8 | 100 | 47 | 15.71 | 22.62 | 1.14 | 11.76 | 49 (9) | 22 (9) | 656 (9) |
| 9 | 100 | 48 | 15.71 | 22.62 | 1.30 | 12.92 | 53 (9) | 13 (9) | 717 (9) |
| 10 | 100 | 49 | 15.71 | 22.62 | 1.51 | 14.11 | 58 (9) | 7 (9) | 787 (9) |
| 11 | 100 | 50 | 15.71 | 22.62 | 1.77 | 15.32 | 64 (9) | 41 (9) | 867 (9) |
| 12 | 100 | 51 | 15.71 | 22.62 | 2.07 | 16.56 | 71 (9) | 92 (9) | 957 (9) |
| 13 | 100 | 52 | 15.71 | 22.62 | 2.44 | 17.82 | 79 (9) | 164 (9) | 1060 (9) |
| 14 | 100 | 53 | 15.71 | 22.62 | 2.86 | 19.11 | 88 (9) | 262 (9) | 1176 (9) |
| 15 | 100 | 54 | 15.71 | 22.62 | 3.35 | 20.42 | 98 (9) | 391 (9) | 1306 (9) |
| 16 | 100 | 55 | 15.71 | 22.62 | 3.90 | 21.76 | 110 (9) | 555 (9) | 1451 (9) |
| 17 | 100 | 56 | 15.71 | 22.62 | 4.54 | 23.12 | 122 (9) | 760 (9) | 1610 (9) |
| 18 | 100 | 57 | 15.71 | 22.62 | 5.25 | 24.50 | 136 (9) | 1010 (9) | 1785 (9) |
| 19 | 100 | 58 | 15.71 | 22.62 | 6.04 | 25.91 | 152 (9) | 1311 (9) | 1976 (9) |
| 20 | 100 | 59 | 15.71 | 22.62 | 6.94 | 27.35 | 169 (9) | 1668 (9) | 2183 (9) |
| 21 | 100 | 60 | 15.71 | 22.62 | 7.94 | 28.81 | 187 (9) | 2088 (9) | 2408 (9) |
| 22 | 100 | 61 | 15.71 | 22.62 | 9.06 | 30.29 | 207 (9) | 2578 (9) | 2653 (9) |
| 23 | 100 | 62 | 15.71 | 22.62 | 10.30 | 31.80 | 229 (9) | 3141 (9) | 2916 (9) |
| 24 | 100 | 63 | 15.71 | 22.62 | 11.68 | 33.33 | 252 (9) | 3782 (9) | 3199 (9) |
| 25 | 100 | 64 | 15.71 | 22.62 | 13.21 | 34.89 | 277 (9) | 4501 (9) | 3501 (9) |
| 26 | 100 | 65 | 15.71 | 22.62 | 14.88 | 36.47 | 304 (9) | 5298 (9) | 3821 (9) |
| 27 | 100 | 66 | 15.71 | 22.62 | 16.70 | 38.07 | 332 (9) | 6174 (9) | 4159 (9) |
| 28 | 100 | 67 | 15.71 | 22.62 | 18.67 | 39.70 | 361 (9) | 7129 (9) | 4514 (9) |
| 29 | 100 | 68 | 15.71 | 22.62 | 20.81 | 41.36 | 392 (9) | 8161 (9) | 4887 (9) |
| 30 | 100 | 69 | 15.71 | 22.62 | 23.12 | 43.04 | 424 (9) | 9270 (9) | 5275 (9) |
| 31 | 100 | 70 | 15.71 | 22.62 | 25.60 | 44.74 | 458 (9) | 10457 (9) | 5680 (9) |
| 32 | 100 | 71 | 15.71 | 22.62 | 28.26 | 46.47 | 493 (9) | 11720 (9) | 6100 (9) |
| 33 | 100 | 72 | 15.71 | 22.62 | 31.10 | 48.22 | 529 (9) | 13059 (9) | 6537 (9) |
| 34 | 100 | 73 | 15.71 | 67.86 | 34.12 | 50.00 | 430 (9) | 5581 (9) | 5661 (9) |
| 35 | 100 | 74 | 15.71 | 67.86 | 37.34 | 51.80 | 457 (9) | 6120 (9) | 6014 (9) |
| 36 | 100 | 75 | 15.71 | 67.86 | 40.75 | 53.63 | 485 (9) | 6686 (9) | 6378 (9) |
| 37 | 100 | 76 | 15.71 | 67.86 | 44.37 | 55.48 | 513 (9) | 7277 (9) | 6753 (9) |
| 38 | 100 | 77 | 15.71 | 67.86 | 48.19 | 57.36 | 542 (9) | 7894 (9) | 7137 (9) |
| 39 | 100 | 78 | 15.71 | 67.86 | 52.22 | 59.26 | 572 (9) | 8537 (9) | 7532 (9) |
| 40 | 100 | 79 | 15.71 | 67.86 | 56.47 | 61.18 | 603 (9) | 9206 (9) | 7936 (9) |
| 41 | 100 | 80 | 15.71 | 67.86 | 60.93 | 63.13 | 634 (9) | 9900 (9) | 8350 (9) |
| 42 | 100 | 81 | 15.71 | 67.86 | 65.63 | 65.10 | 666 (9) | 10620 (9) | 8773 (9) |
| 43 | 100 | 82 | 15.71 | 67.86 | 70.55 | 67.10 | 698 (9) | 11365 (9) | 9206 (9) |
| 44 | 100 | 83 | 15.71 | 67.86 | 75.71 | 69.12 | 731 (9) | 12136 (9) | 9648 (9) |
| 45 | 100 | 84 | 15.71 | 67.86 | 81.10 | 71.17 | 765 (9) | 12931 (9) | 10098 (9) |
| 46 | 100 | 85 | 15.71 | 67.86 | 86.75 | 73.24 | 800 (9) | 13752 (9) | 10557 (9) |
| 47 | 100 | 86 | 15.71 | 67.86 | 92.64 | 75.34 | 835 (9) | 14597 (9) | 11025 (9) |
| 48 | 100 | 87 | 15.71 | 67.86 | 98.78 | 77.46 | 870 (9) | 15468 (9) | 11501 (9) |
| 49 | 100 | 88 | 15.71 | 67.86 | 105.18 | 79.60 | 907 (9) | 16363 (9) | 11986 (9) |
| 50 | 100 | 89 | 15.71 | 67.86 | 111.85 | 81.77 | 943 (9) | 17283 (9) | 12478 (9) |
| 51 | 100 | 90 | 15.71 | 67.86 | 118.78 | 83.97 | 981 (9) | 18228 (9) | 12979 (9) |
| 52 | 100 | 91 | 15.71 | 45.24 | 125.98 | 86.19 | 1142 (9) | 27743 (9) | 14791 (9) |
| 53 | 100 | 92 | 31.42 | 45.24 | 133.47 | 88.43 | 1091 (9) | 28602 (9) | 14051 (9) |
| 54 | 100 | 93 | 15.71 | 45.24 | 141.23 | 90.70 | 1230 (9) | 30682 (9) | 15955 (9) |
| 55 | 100 | 94 | 15.71 | 45.24 | 149.28 | 92.99 | 1275 (9) | 32206 (9) | 16551 (9) |
| 56 | 100 | 95 | 15.71 | 45.24 | 157.62 | 95.31 | 1321 (9) | 33766 (9) | 17154 (9) |
| 57 | 100 | 96 | 15.71 | 45.24 | 166.26 | 97.65 | 1368 (9) | 35361 (9) | 17767 (9) |
| 58 | 100 | 97 | 15.71 | 45.24 | 175.19 | 100.01 | 1415 (9) | 36993 (9) | 18388 (9) |
| 59 | 100 | 98 | 15.71 | 45.24 | 184.43 | 102.40 | 1462 (9) | 38660 (9) | 19017 (9) |
| 60 | 100 | 99 | 15.71 | 45.24 | 193.98 | 104.82 | 1510 (9) | 40362 (9) | 19654 (9) |
| 61 | 100 | 100 | 15.71 | 45.24 | 203.85 | 107.26 | 1559 (9) | 42100 (9) | 20300 (9) |

Mensola valle

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

| n° | B | H | Afi | Afs | M | N | σ_c | σ_{fi} | σ_{fs} |
|----|------|------|-------|-------|-------|------|------------|---------------|---------------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kN] | [kPa] | [kPa] | [kPa] |
| 1 | 100 | 50 | 8.04 | 8.04 | 0.00 | 0.00 | 0 (9) | 0 (9) | 0 (9) |
| 2 | 100 | 50 | 8.04 | 8.04 | -0.05 | 0.00 | 2 (9) | 16 (9) | 138 (9) |
| 3 | 100 | 50 | 8.04 | 8.04 | -0.19 | 0.00 | 9 (9) | 65 (9) | 551 (9) |
| 4 | 100 | 50 | 8.04 | 8.04 | -0.42 | 0.00 | 20 (9) | 146 (9) | 1239 (9) |

| n° | B | H | Afi | Afs | M | N | σc | σfi | σfs |
|----|------|------|-------|-------|-------|------|--------|---------|----------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kN] | [kPa] | [kPa] | [kPa] |
| 5 | 100 | 50 | 8.04 | 8.04 | -0.75 | 0.00 | 35 (9) | 260 (9) | 2203 (9) |

Piastra fondazione

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

| Is | B | H | Afi | Afs | Mp | Mn | σc | σfi | σfs |
|--------|------|------|-------|-------|-------|---------|----------|------------|------------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kNm] | [kPa] | [kPa] | [kPa] |
| 1-1-P | 100 | 150 | 10.05 | 10.05 | 0.66 | -0.38 | 4 (9) | 440 (9) | 267 (9) |
| 1-2-P | 100 | 150 | 10.05 | 10.05 | 1.15 | -0.97 | 9 (9) | 949 (9) | 648 (9) |
| 1-3-P | 100 | 150 | 10.05 | 10.05 | 1.02 | -4.49 | 29 (9) | 1771 (9) | 3026 (9) |
| 1-4-P | 100 | 150 | 10.05 | 10.05 | 0.05 | -12.52 | 81 (9) | 915 (9) | 8327 (9) |
| 1-5-P | 100 | 150 | 10.05 | 10.05 | 0.00 | -29.49 | 188 (9) | 2136 (9) | 19429 (9) |
| 1-6-P | 100 | 150 | 10.05 | 10.05 | 0.00 | -57.78 | 368 (9) | 4170 (9) | 37926 (9) |
| 1-7-P | 100 | 150 | 10.05 | 10.05 | 0.59 | -98.86 | 625 (9) | 7094 (9) | 64521 (9) |
| 1-8-P | 100 | 150 | 10.05 | 10.05 | 7.84 | -171.86 | 1073 (9) | 12169 (9) | 110689 (9) |
| 1-9-P | 100 | 150 | 10.05 | 10.05 | 0.00 | -163.79 | 1033 (9) | 11720 (9) | 106599 (9) |
| 1-10-P | 100 | 150 | 10.05 | 10.05 | 7.84 | -171.86 | 1073 (9) | 12169 (9) | 110689 (9) |
| 1-11-P | 100 | 150 | 10.05 | 10.05 | 0.59 | -98.86 | 625 (9) | 7094 (9) | 64521 (9) |
| 1-12-P | 100 | 150 | 10.05 | 10.05 | 0.00 | -57.78 | 368 (9) | 4170 (9) | 37926 (9) |
| 1-13-P | 100 | 150 | 10.05 | 10.05 | 0.00 | -29.49 | 188 (9) | 2136 (9) | 19429 (9) |
| 1-14-P | 100 | 150 | 10.05 | 10.05 | 0.05 | -12.52 | 81 (9) | 915 (9) | 8327 (9) |
| 1-15-P | 100 | 150 | 10.05 | 10.05 | 1.02 | -4.49 | 29 (9) | 1771 (9) | 3026 (9) |
| 1-16-P | 100 | 150 | 10.05 | 10.05 | 1.15 | -0.97 | 9 (9) | 949 (9) | 648 (9) |
| 1-17-P | 100 | 150 | 10.05 | 10.05 | 0.66 | -0.38 | 4 (9) | 440 (9) | 267 (9) |
| 2-1-P | 100 | 150 | 10.05 | 10.05 | 9.50 | -0.39 | 59 (9) | 6119 (9) | 673 (9) |
| 2-2-P | 100 | 150 | 10.05 | 10.05 | 11.63 | -0.66 | 73 (9) | 7495 (9) | 953 (9) |
| 2-3-P | 100 | 150 | 10.05 | 10.05 | 17.74 | -4.09 | 112 (9) | 11520 (9) | 4076 (9) |
| 2-4-P | 100 | 150 | 10.05 | 10.05 | 17.75 | -8.34 | 112 (9) | 11583 (9) | 8165 (9) |
| 2-5-P | 100 | 150 | 10.05 | 10.05 | 12.93 | -17.02 | 149 (9) | 9888 (9) | 15338 (9) |
| 2-6-P | 100 | 150 | 10.05 | 10.05 | 8.55 | -38.13 | 310 (9) | 9034 (9) | 32039 (9) |
| 2-7-P | 100 | 150 | 10.05 | 10.05 | 6.60 | -70.38 | 574 (9) | 8994 (9) | 59215 (9) |
| 2-8-P | 100 | 150 | 10.05 | 10.05 | 10.11 | -80.46 | 621 (9) | 14501 (9) | 64037 (9) |
| 2-9-P | 100 | 150 | 10.05 | 10.05 | 4.94 | -109.50 | 844 (9) | 13585 (9) | 87117 (9) |
| 2-10-P | 100 | 150 | 10.05 | 10.05 | 10.11 | -80.46 | 621 (9) | 14501 (9) | 64037 (9) |
| 2-11-P | 100 | 150 | 10.05 | 10.05 | 6.60 | -70.38 | 574 (9) | 8994 (9) | 59215 (9) |
| 2-12-P | 100 | 150 | 10.05 | 10.05 | 8.55 | -38.13 | 310 (9) | 9034 (9) | 32039 (9) |
| 2-13-P | 100 | 150 | 10.05 | 10.05 | 12.93 | -17.02 | 149 (9) | 9888 (9) | 15338 (9) |
| 2-14-P | 100 | 150 | 10.05 | 10.05 | 17.75 | -8.34 | 112 (9) | 11583 (9) | 8165 (9) |
| 2-15-P | 100 | 150 | 10.05 | 10.05 | 17.74 | -4.09 | 112 (9) | 11520 (9) | 4076 (9) |
| 2-16-P | 100 | 150 | 10.05 | 10.05 | 11.63 | -0.66 | 73 (9) | 7495 (9) | 953 (9) |
| 2-17-P | 100 | 150 | 10.05 | 10.05 | 9.50 | -0.39 | 59 (9) | 6119 (9) | 673 (9) |
| 4-1-P | 87 | 150 | 10.05 | 10.05 | 10.91 | -0.80 | 75 (9) | 7199 (9) | 1413 (9) |
| 4-2-P | 87 | 150 | 10.05 | 10.05 | 13.03 | 0.00 | 87 (9) | 8359 (9) | 1005 (9) |
| 4-3-P | 87 | 150 | 10.05 | 10.05 | 21.45 | -0.17 | 145 (9) | 13964 (9) | 1679 (9) |
| 4-4-P | 87 | 150 | 10.05 | 10.05 | 26.70 | -0.53 | 179 (9) | 17193 (9) | 2067 (9) |
| 4-5-P | 87 | 150 | 10.05 | 10.05 | 28.55 | -1.41 | 191 (9) | 18322 (9) | 4063 (9) |
| 4-6-P | 87 | 150 | 10.05 | 10.05 | 24.86 | -4.92 | 185 (10) | 17763 (10) | 8783 (10) |
| 4-7-P | 87 | 150 | 10.05 | 10.05 | 22.07 | -8.83 | 164 (10) | 15774 (10) | 14718 (10) |
| 4-8-P | 87 | 150 | 10.05 | 10.05 | 18.47 | -12.72 | 198 (10) | 13198 (10) | 19088 (10) |
| 4-9-P | 87 | 150 | 10.05 | 10.05 | 16.68 | -14.49 | 226 (10) | 11918 (10) | 21747 (10) |
| 4-10-P | 87 | 150 | 10.05 | 10.05 | 18.47 | -12.72 | 198 (10) | 13198 (10) | 19088 (10) |
| 4-11-P | 87 | 150 | 10.05 | 10.05 | 22.07 | -8.83 | 164 (10) | 15774 (10) | 14718 (10) |
| 4-12-P | 87 | 150 | 10.05 | 10.05 | 24.86 | -4.92 | 185 (10) | 17763 (10) | 8783 (10) |
| 4-13-P | 87 | 150 | 10.05 | 10.05 | 28.55 | -1.41 | 191 (9) | 18322 (9) | 4063 (9) |
| 4-14-P | 87 | 150 | 10.05 | 10.05 | 26.70 | -0.53 | 179 (9) | 17193 (9) | 2067 (9) |
| 4-15-P | 87 | 150 | 10.05 | 10.05 | 21.45 | -0.17 | 145 (9) | 13964 (9) | 1679 (9) |
| 4-16-P | 87 | 150 | 10.05 | 10.05 | 13.03 | 0.00 | 87 (9) | 8359 (9) | 1005 (9) |
| 4-17-P | 87 | 150 | 10.05 | 10.05 | 10.91 | -0.80 | 75 (9) | 7199 (9) | 1413 (9) |
| 5-1-P | 87 | 150 | 8.04 | 8.04 | 0.63 | -1.27 | 10 (10) | 562 (10) | 1127 (10) |
| 5-2-P | 87 | 150 | 8.04 | 8.04 | 2.77 | -0.56 | 23 (9) | 2459 (9) | 693 (9) |
| 5-3-P | 87 | 150 | 8.04 | 8.04 | 7.36 | -6.30 | 61 (10) | 6546 (10) | 5606 (10) |
| 5-4-P | 87 | 150 | 8.04 | 8.04 | 10.76 | -14.66 | 122 (10) | 9579 (10) | 13048 (10) |
| 5-5-P | 87 | 150 | 8.04 | 8.04 | 12.35 | -27.67 | 229 (10) | 10991 (10) | 24625 (10) |
| 5-6-P | 87 | 150 | 8.04 | 8.04 | 12.51 | -48.98 | 406 (10) | 11136 (10) | 43595 (10) |
| 5-7-P | 87 | 150 | 8.04 | 8.04 | 12.65 | -81.43 | 675 (10) | 11256 (10) | 72478 (10) |

| Is | B | H | Afi | Afs | Mp | Mn | σ_c | σ_{fi} | σ_{fs} |
|--------|------|------|-------|-------|--------|---------|------------|---------------|---------------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kNm] | [kPa] | [kPa] | [kPa] |
| 5-8-P | 87 | 150 | 8.04 | 8.04 | 24.54 | -141.91 | 1140 (9) | 17164 (9) | 122328 (9) |
| 5-9-P | 87 | 150 | 8.04 | 8.04 | 0.00 | -118.89 | 986 (10) | 11057 (10) | 105814 (10) |
| 5-10-P | 87 | 150 | 8.04 | 8.04 | 24.54 | -141.91 | 1140 (9) | 17164 (9) | 122328 (9) |
| 5-11-P | 87 | 150 | 8.04 | 8.04 | 12.65 | -81.43 | 675 (10) | 11256 (10) | 72478 (10) |
| 5-12-P | 87 | 150 | 8.04 | 8.04 | 12.51 | -48.98 | 406 (10) | 11136 (10) | 43595 (10) |
| 5-13-P | 87 | 150 | 8.04 | 8.04 | 12.35 | -27.67 | 229 (10) | 10991 (10) | 24625 (10) |
| 5-14-P | 87 | 150 | 8.04 | 8.04 | 10.76 | -14.66 | 122 (10) | 9579 (10) | 13048 (10) |
| 5-15-P | 87 | 150 | 8.04 | 8.04 | 7.36 | -6.30 | 61 (10) | 6546 (10) | 5606 (10) |
| 5-16-P | 87 | 150 | 8.04 | 8.04 | 2.77 | -0.56 | 23 (9) | 2459 (9) | 693 (9) |
| 5-17-P | 87 | 150 | 8.04 | 8.04 | 0.63 | -1.27 | 10 (10) | 562 (10) | 1127 (10) |
| 6-1-P | 87 | 150 | 8.04 | 8.04 | 0.12 | -0.46 | 4 (10) | 108 (10) | 406 (10) |
| 6-2-P | 87 | 150 | 8.04 | 8.04 | 0.81 | -3.90 | 31 (9) | 719 (9) | 3292 (9) |
| 6-3-P | 87 | 150 | 8.04 | 8.04 | 1.83 | -16.44 | 129 (9) | 1526 (9) | 13896 (9) |
| 6-4-P | 87 | 150 | 8.04 | 8.04 | 2.10 | -36.36 | 287 (9) | 3223 (9) | 30844 (9) |
| 6-5-P | 87 | 150 | 8.04 | 8.04 | 1.80 | -64.40 | 511 (9) | 5736 (9) | 54893 (9) |
| 6-6-P | 87 | 150 | 8.04 | 8.04 | 1.38 | -100.26 | 800 (9) | 8976 (9) | 85902 (9) |
| 6-7-P | 87 | 150 | 8.04 | 8.04 | 0.62 | -137.37 | 1104 (9) | 12379 (9) | 118469 (9) |
| 6-8-P | 87 | 150 | 8.04 | 8.04 | 0.92 | -147.85 | 1210 (9) | 13573 (9) | 129890 (9) |
| 6-9-P | 87 | 150 | 8.04 | 8.04 | 0.00 | -176.43 | 1439 (9) | 16139 (9) | 154444 (9) |
| 6-10-P | 87 | 150 | 8.04 | 8.04 | 0.92 | -147.85 | 1210 (9) | 13573 (9) | 129890 (9) |
| 6-11-P | 87 | 150 | 8.04 | 8.04 | 0.62 | -137.37 | 1104 (9) | 12379 (9) | 118469 (9) |
| 6-12-P | 87 | 150 | 8.04 | 8.04 | 1.38 | -100.26 | 800 (9) | 8976 (9) | 85902 (9) |
| 6-13-P | 87 | 150 | 8.04 | 8.04 | 1.80 | -64.40 | 511 (9) | 5736 (9) | 54893 (9) |
| 6-14-P | 87 | 150 | 8.04 | 8.04 | 2.10 | -36.36 | 287 (9) | 3223 (9) | 30844 (9) |
| 6-15-P | 87 | 150 | 8.04 | 8.04 | 1.83 | -16.44 | 129 (9) | 1526 (9) | 13896 (9) |
| 6-16-P | 87 | 150 | 8.04 | 8.04 | 0.81 | -3.90 | 31 (9) | 719 (9) | 3292 (9) |
| 6-17-P | 87 | 150 | 8.04 | 8.04 | 0.12 | -0.46 | 4 (10) | 108 (10) | 406 (10) |
| 7-1-S | 95 | 150 | 40.72 | 40.72 | 0.40 | -0.71 | 3 (9) | 51 (9) | 168 (9) |
| 7-2-S | 95 | 150 | 40.72 | 40.72 | 0.00 | -3.98 | 12 (9) | 157 (9) | 623 (9) |
| 7-3-S | 95 | 150 | 40.72 | 40.72 | 0.18 | -6.88 | 21 (9) | 272 (9) | 1081 (9) |
| 7-4-S | 95 | 150 | 40.72 | 40.72 | 2.60 | -7.08 | 22 (9) | 759 (9) | 1119 (9) |
| 7-5-S | 95 | 150 | 40.72 | 40.72 | 11.71 | -4.51 | 48 (9) | 2441 (9) | 722 (9) |
| 7-6-S | 95 | 150 | 40.72 | 40.72 | 34.71 | -2.56 | 111 (9) | 5687 (9) | 1432 (9) |
| 7-7-S | 95 | 150 | 40.72 | 40.72 | 67.92 | -1.03 | 214 (9) | 11016 (9) | 2775 (9) |
| 7-8-S | 95 | 150 | 40.72 | 40.72 | 107.74 | 0.00 | 338 (9) | 17381 (9) | 4378 (9) |
| 7-9-S | 95 | 150 | 40.72 | 40.72 | 150.58 | 0.00 | 470 (9) | 24177 (9) | 6090 (9) |
| 7-10-S | 95 | 150 | 40.72 | 40.72 | 147.26 | 0.00 | 457 (9) | 23470 (9) | 5912 (9) |
| 7-11-S | 95 | 150 | 40.72 | 40.72 | 156.35 | 0.00 | 492 (9) | 25271 (9) | 6366 (9) |
| 7-12-S | 95 | 150 | 40.72 | 40.72 | 154.87 | 0.00 | 489 (9) | 25152 (9) | 6336 (9) |
| 7-13-S | 95 | 150 | 40.72 | 40.72 | 144.76 | -0.06 | 459 (9) | 23566 (9) | 5936 (9) |
| 7-14-S | 95 | 150 | 40.72 | 40.72 | 127.61 | -0.45 | 404 (9) | 20740 (9) | 5224 (9) |
| 7-15-S | 95 | 150 | 40.72 | 40.72 | 105.45 | -0.83 | 332 (9) | 17063 (9) | 4298 (9) |
| 7-16-S | 95 | 150 | 40.72 | 40.72 | 81.53 | -1.23 | 255 (9) | 13104 (9) | 3301 (9) |
| 7-17-S | 95 | 150 | 40.72 | 40.72 | 58.94 | -1.61 | 183 (9) | 9406 (9) | 2369 (9) |
| 7-18-S | 95 | 150 | 40.72 | 40.72 | 39.09 | -1.93 | 121 (9) | 6201 (9) | 1562 (9) |
| 7-19-S | 95 | 150 | 40.72 | 40.72 | 22.42 | -2.14 | 69 (9) | 3546 (9) | 893 (9) |
| 7-20-S | 95 | 150 | 40.72 | 40.72 | 9.25 | -1.43 | 28 (9) | 1462 (9) | 368 (9) |
| 7-21-S | 95 | 150 | 40.72 | 40.72 | 0.95 | -0.79 | 4 (9) | 185 (9) | 127 (9) |
| 8-1-S | 95 | 150 | 40.72 | 40.72 | 1.79 | -2.23 | 12 (9) | 595 (9) | 351 (9) |
| 8-2-S | 95 | 150 | 40.72 | 40.72 | 11.85 | -10.35 | 57 (9) | 2920 (9) | 1631 (9) |
| 8-3-S | 95 | 150 | 40.72 | 40.72 | 27.71 | -26.96 | 143 (9) | 7356 (9) | 4289 (9) |
| 8-4-S | 95 | 150 | 40.72 | 40.72 | 60.50 | -51.48 | 424 (9) | 21775 (9) | 8248 (9) |
| 8-5-S | 95 | 150 | 40.72 | 40.72 | 10.51 | -105.98 | 330 (9) | 6574 (9) | 16970 (9) |
| 8-6-S | 95 | 150 | 40.72 | 40.72 | 0.70 | -156.69 | 483 (9) | 6259 (9) | 24849 (9) |
| 8-7-S | 95 | 150 | 40.72 | 40.72 | 14.65 | -65.36 | 198 (9) | 5159 (9) | 10194 (9) |
| 8-8-S | 95 | 150 | 40.72 | 40.72 | 63.28 | -0.09 | 207 (9) | 10638 (9) | 2680 (9) |
| 8-9-S | 95 | 150 | 40.72 | 40.72 | 180.25 | 0.00 | 574 (9) | 29511 (9) | 7434 (9) |
| 8-10-S | 95 | 150 | 40.72 | 40.72 | 237.54 | 0.00 | 761 (9) | 39105 (9) | 9850 (9) |
| 8-11-S | 95 | 150 | 40.72 | 40.72 | 229.81 | 0.00 | 734 (9) | 37709 (9) | 9499 (9) |
| 8-12-S | 95 | 150 | 40.72 | 40.72 | 225.53 | 0.00 | 717 (9) | 36833 (9) | 9278 (9) |
| 8-13-S | 95 | 150 | 40.72 | 40.72 | 215.42 | -0.77 | 679 (9) | 34896 (9) | 8790 (9) |
| 8-14-S | 95 | 150 | 40.72 | 40.72 | 199.11 | -2.99 | 618 (9) | 31754 (9) | 7999 (9) |
| 8-15-S | 95 | 150 | 40.72 | 40.72 | 180.10 | -7.73 | 546 (9) | 28049 (9) | 7065 (9) |
| 8-16-S | 95 | 150 | 40.72 | 40.72 | 160.32 | -17.87 | 474 (9) | 24337 (9) | 6130 (9) |
| 8-17-S | 95 | 150 | 40.72 | 40.72 | 37.68 | -55.12 | 182 (9) | 6387 (9) | 9350 (9) |
| 8-18-S | 95 | 150 | 40.72 | 40.72 | 12.95 | -103.37 | 332 (9) | 4300 (9) | 17069 (9) |
| 8-19-S | 95 | 150 | 40.72 | 40.72 | 9.21 | -59.69 | 191 (9) | 2511 (9) | 9829 (9) |
| 8-20-S | 95 | 150 | 40.72 | 40.72 | 4.53 | -20.85 | 66 (9) | 1603 (9) | 3409 (9) |
| 8-21-S | 95 | 150 | 40.72 | 40.72 | 3.01 | -2.18 | 11 (9) | 561 (9) | 313 (9) |
| 9-1-S | 95 | 150 | 40.72 | 40.72 | 1.79 | -2.23 | 12 (9) | 595 (9) | 351 (9) |

| Is | B | H | Afi | Afs | Mp | Mn | σ_c | σ_{fi} | σ_{fs} |
|---------|------|------|-------|-------|--------|---------|------------|---------------|---------------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kNm] | [kPa] | [kPa] | [kPa] |
| 9-2-S | 95 | 150 | 40.72 | 40.72 | 11.85 | -10.35 | 57 (9) | 2920 (9) | 1631 (9) |
| 9-3-S | 95 | 150 | 40.72 | 40.72 | 27.71 | -26.96 | 143 (9) | 7356 (9) | 4289 (9) |
| 9-4-S | 95 | 150 | 40.72 | 40.72 | 60.50 | -51.48 | 424 (9) | 21775 (9) | 8248 (9) |
| 9-5-S | 95 | 150 | 40.72 | 40.72 | 10.51 | -105.98 | 330 (9) | 6574 (9) | 16970 (9) |
| 9-6-S | 95 | 150 | 40.72 | 40.72 | 0.70 | -156.69 | 483 (9) | 6259 (9) | 24849 (9) |
| 9-7-S | 95 | 150 | 40.72 | 40.72 | 14.65 | -65.36 | 198 (9) | 5159 (9) | 10194 (9) |
| 9-8-S | 95 | 150 | 40.72 | 40.72 | 63.28 | -0.09 | 207 (9) | 10638 (9) | 2680 (9) |
| 9-9-S | 95 | 150 | 40.72 | 40.72 | 180.25 | 0.00 | 574 (9) | 29511 (9) | 7434 (9) |
| 9-10-S | 95 | 150 | 40.72 | 40.72 | 237.54 | 0.00 | 761 (9) | 39105 (9) | 9850 (9) |
| 9-11-S | 95 | 150 | 40.72 | 40.72 | 229.81 | 0.00 | 734 (9) | 37709 (9) | 9499 (9) |
| 9-12-S | 95 | 150 | 40.72 | 40.72 | 225.53 | 0.00 | 717 (9) | 36833 (9) | 9278 (9) |
| 9-13-S | 95 | 150 | 40.72 | 40.72 | 215.42 | -0.77 | 679 (9) | 34896 (9) | 8790 (9) |
| 9-14-S | 95 | 150 | 40.72 | 40.72 | 199.11 | -2.99 | 618 (9) | 31754 (9) | 7999 (9) |
| 9-15-S | 95 | 150 | 40.72 | 40.72 | 180.10 | -7.73 | 546 (9) | 28049 (9) | 7065 (9) |
| 9-16-S | 95 | 150 | 40.72 | 40.72 | 160.32 | -17.87 | 474 (9) | 24337 (9) | 6130 (9) |
| 9-17-S | 95 | 150 | 40.72 | 40.72 | 37.68 | -55.12 | 182 (9) | 6387 (9) | 9350 (9) |
| 9-18-S | 95 | 150 | 40.72 | 40.72 | 12.95 | -103.37 | 332 (9) | 4300 (9) | 17069 (9) |
| 9-19-S | 95 | 150 | 40.72 | 40.72 | 9.21 | -59.69 | 191 (9) | 2511 (9) | 9829 (9) |
| 9-20-S | 95 | 150 | 40.72 | 40.72 | 4.53 | -20.85 | 66 (9) | 1603 (9) | 3409 (9) |
| 9-21-S | 95 | 150 | 40.72 | 40.72 | 3.01 | -2.18 | 11 (9) | 561 (9) | 313 (9) |
| 10-1-S | 95 | 150 | 40.72 | 40.72 | 0.40 | -0.71 | 3 (9) | 51 (9) | 168 (9) |
| 10-2-S | 95 | 150 | 40.72 | 40.72 | 0.00 | -3.98 | 12 (9) | 157 (9) | 623 (9) |
| 10-3-S | 95 | 150 | 40.72 | 40.72 | 0.18 | -6.88 | 21 (9) | 272 (9) | 1081 (9) |
| 10-4-S | 95 | 150 | 40.72 | 40.72 | 2.60 | -7.08 | 22 (9) | 759 (9) | 1119 (9) |
| 10-5-S | 95 | 150 | 40.72 | 40.72 | 11.71 | -4.51 | 48 (9) | 2441 (9) | 722 (9) |
| 10-6-S | 95 | 150 | 40.72 | 40.72 | 34.71 | -2.56 | 111 (9) | 5687 (9) | 1432 (9) |
| 10-7-S | 95 | 150 | 40.72 | 40.72 | 67.92 | -1.03 | 214 (9) | 11016 (9) | 2775 (9) |
| 10-8-S | 95 | 150 | 40.72 | 40.72 | 107.74 | 0.00 | 338 (9) | 17381 (9) | 4378 (9) |
| 10-9-S | 95 | 150 | 40.72 | 40.72 | 150.58 | 0.00 | 470 (9) | 24177 (9) | 6090 (9) |
| 10-10-S | 95 | 150 | 40.72 | 40.72 | 147.26 | 0.00 | 457 (9) | 23470 (9) | 5912 (9) |
| 10-11-S | 95 | 150 | 40.72 | 40.72 | 156.35 | 0.00 | 492 (9) | 25271 (9) | 6366 (9) |
| 10-12-S | 95 | 150 | 40.72 | 40.72 | 154.87 | 0.00 | 489 (9) | 25152 (9) | 6336 (9) |
| 10-13-S | 95 | 150 | 40.72 | 40.72 | 144.76 | -0.06 | 459 (9) | 23566 (9) | 5936 (9) |
| 10-14-S | 95 | 150 | 40.72 | 40.72 | 127.61 | -0.45 | 404 (9) | 20740 (9) | 5224 (9) |
| 10-15-S | 95 | 150 | 40.72 | 40.72 | 105.45 | -0.83 | 332 (9) | 17063 (9) | 4298 (9) |
| 10-16-S | 95 | 150 | 40.72 | 40.72 | 81.53 | -1.23 | 255 (9) | 13104 (9) | 3301 (9) |
| 10-17-S | 95 | 150 | 40.72 | 40.72 | 58.94 | -1.61 | 183 (9) | 9406 (9) | 2369 (9) |
| 10-18-S | 95 | 150 | 40.72 | 40.72 | 39.09 | -1.93 | 121 (9) | 6201 (9) | 1562 (9) |
| 10-19-S | 95 | 150 | 40.72 | 40.72 | 22.42 | -2.14 | 69 (9) | 3546 (9) | 893 (9) |
| 10-20-S | 95 | 150 | 40.72 | 40.72 | 9.25 | -1.43 | 28 (9) | 1462 (9) | 368 (9) |
| 10-21-S | 95 | 150 | 40.72 | 40.72 | 0.95 | -0.79 | 4 (9) | 185 (9) | 127 (9) |

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 | σ_c | σ_{fi} | σ_{fs} |
|----|------|------|-------|-------|-------|-------|------------|---------------|---------------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kN] | [kPa] | [kPa] | [kPa] |
| 1 | 100 | 40 | 15.71 | 22.62 | 0.75 | 4.29 | 38 (10) | 313 (10) | 452 (10) |
| 2 | 100 | 41 | 15.71 | 22.62 | 0.75 | 5.28 | 37 (10) | 188 (10) | 459 (10) |
| 3 | 100 | 42 | 15.71 | 22.62 | 0.77 | 6.30 | 37 (10) | 103 (10) | 472 (10) |
| 4 | 100 | 43 | 15.71 | 22.62 | 0.79 | 7.34 | 38 (10) | 47 (10) | 492 (10) |
| 5 | 100 | 44 | 15.71 | 22.62 | 0.84 | 8.41 | 39 (10) | 11 (10) | 521 (10) |
| 6 | 100 | 45 | 15.71 | 22.62 | 0.91 | 9.50 | 42 (10) | 10 (10) | 558 (10) |
| 7 | 100 | 46 | 15.71 | 22.62 | 1.01 | 10.62 | 45 (10) | 21 (10) | 603 (10) |
| 8 | 100 | 47 | 15.71 | 22.62 | 1.14 | 11.76 | 49 (10) | 22 (10) | 656 (10) |
| 9 | 100 | 48 | 15.71 | 22.62 | 1.30 | 12.92 | 53 (10) | 13 (10) | 717 (10) |
| 10 | 100 | 49 | 15.71 | 22.62 | 1.51 | 14.11 | 58 (10) | 7 (10) | 787 (10) |
| 11 | 100 | 50 | 15.71 | 22.62 | 1.77 | 15.32 | 64 (10) | 41 (10) | 867 (10) |
| 12 | 100 | 51 | 15.71 | 22.62 | 2.07 | 16.56 | 71 (10) | 92 (10) | 957 (10) |
| 13 | 100 | 52 | 15.71 | 22.62 | 2.44 | 17.82 | 79 (10) | 164 (10) | 1060 (10) |
| 14 | 100 | 53 | 15.71 | 22.62 | 2.86 | 19.11 | 88 (10) | 262 (10) | 1176 (10) |

| n° | B | H | Afi | Afs | M | N | σc | σfi | σfs |
|----|------|------|-------|-------|--------|--------|-----------|------------|------------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kN] | [kPa] | [kPa] | [kPa] |
| 15 | 100 | 54 | 15.71 | 22.62 | 3.35 | 20.42 | 98 (10) | 391 (10) | 1306 (10) |
| 16 | 100 | 55 | 15.71 | 22.62 | 3.90 | 21.76 | 110 (10) | 555 (10) | 1451 (10) |
| 17 | 100 | 56 | 15.71 | 22.62 | 4.54 | 23.12 | 122 (10) | 760 (10) | 1610 (10) |
| 18 | 100 | 57 | 15.71 | 22.62 | 5.25 | 24.50 | 136 (10) | 1010 (10) | 1785 (10) |
| 19 | 100 | 58 | 15.71 | 22.62 | 6.04 | 25.91 | 152 (10) | 1308 (10) | 1974 (10) |
| 20 | 100 | 59 | 15.71 | 22.62 | 6.92 | 27.35 | 168 (10) | 1657 (10) | 2178 (10) |
| 21 | 100 | 60 | 15.71 | 22.62 | 7.90 | 28.81 | 186 (10) | 2059 (10) | 2397 (10) |
| 22 | 100 | 61 | 15.71 | 22.62 | 8.97 | 30.29 | 205 (10) | 2515 (10) | 2629 (10) |
| 23 | 100 | 62 | 15.71 | 22.62 | 10.14 | 31.80 | 225 (10) | 3027 (10) | 2876 (10) |
| 24 | 100 | 63 | 15.71 | 22.62 | 11.42 | 33.33 | 246 (10) | 3594 (10) | 3135 (10) |
| 25 | 100 | 64 | 15.71 | 22.62 | 12.81 | 34.89 | 269 (10) | 4218 (10) | 3408 (10) |
| 26 | 100 | 65 | 15.71 | 22.62 | 14.32 | 36.47 | 292 (10) | 4900 (10) | 3694 (10) |
| 27 | 100 | 66 | 15.71 | 22.62 | 15.95 | 38.07 | 317 (10) | 5638 (10) | 3992 (10) |
| 28 | 100 | 67 | 15.71 | 22.62 | 17.70 | 39.70 | 342 (10) | 6434 (10) | 4303 (10) |
| 29 | 100 | 68 | 15.71 | 22.62 | 19.58 | 41.36 | 369 (10) | 7289 (10) | 4627 (10) |
| 30 | 100 | 69 | 15.71 | 22.62 | 21.60 | 43.04 | 397 (10) | 8201 (10) | 4963 (10) |
| 31 | 100 | 70 | 15.71 | 22.62 | 23.75 | 44.74 | 425 (10) | 9172 (10) | 5312 (10) |
| 32 | 100 | 71 | 15.71 | 22.62 | 26.05 | 46.47 | 455 (10) | 10202 (10) | 5673 (10) |
| 33 | 100 | 72 | 15.71 | 22.62 | 28.50 | 48.22 | 486 (10) | 11291 (10) | 6046 (10) |
| 34 | 100 | 73 | 15.71 | 67.86 | 31.10 | 50.00 | 397 (10) | 4866 (10) | 5242 (10) |
| 35 | 100 | 74 | 15.71 | 67.86 | 33.86 | 51.80 | 420 (10) | 5307 (10) | 5543 (10) |
| 36 | 100 | 75 | 15.71 | 67.86 | 36.78 | 53.63 | 443 (10) | 5768 (10) | 5852 (10) |
| 37 | 100 | 76 | 15.71 | 67.86 | 39.86 | 55.48 | 467 (10) | 6250 (10) | 6170 (10) |
| 38 | 100 | 77 | 15.71 | 67.86 | 43.12 | 57.36 | 491 (10) | 6754 (10) | 6496 (10) |
| 39 | 100 | 78 | 15.71 | 67.86 | 46.55 | 59.26 | 517 (10) | 7278 (10) | 6830 (10) |
| 40 | 100 | 79 | 15.71 | 67.86 | 50.16 | 61.18 | 542 (10) | 7823 (10) | 7172 (10) |
| 41 | 100 | 80 | 15.71 | 67.86 | 53.96 | 63.13 | 569 (10) | 8389 (10) | 7522 (10) |
| 42 | 100 | 81 | 15.71 | 67.86 | 57.95 | 65.10 | 596 (10) | 8977 (10) | 7881 (10) |
| 43 | 100 | 82 | 15.71 | 67.86 | 62.13 | 67.10 | 623 (10) | 9585 (10) | 8247 (10) |
| 44 | 100 | 83 | 15.71 | 67.86 | 66.52 | 69.12 | 651 (10) | 10215 (10) | 8621 (10) |
| 45 | 100 | 84 | 15.71 | 67.86 | 71.10 | 71.17 | 680 (10) | 10867 (10) | 9003 (10) |
| 46 | 100 | 85 | 15.71 | 67.86 | 75.89 | 73.24 | 709 (10) | 11539 (10) | 9392 (10) |
| 47 | 100 | 86 | 15.71 | 67.86 | 80.90 | 75.34 | 738 (10) | 12234 (10) | 9789 (10) |
| 48 | 100 | 87 | 15.71 | 67.86 | 86.12 | 77.46 | 769 (10) | 12949 (10) | 10194 (10) |
| 49 | 100 | 88 | 15.71 | 67.86 | 91.57 | 79.60 | 799 (10) | 13686 (10) | 10606 (10) |
| 50 | 100 | 89 | 15.71 | 67.86 | 97.24 | 81.77 | 831 (10) | 14445 (10) | 11025 (10) |
| 51 | 100 | 90 | 15.71 | 67.86 | 103.14 | 83.97 | 862 (10) | 15225 (10) | 11452 (10) |
| 52 | 100 | 91 | 15.71 | 45.24 | 109.28 | 86.19 | 999 (10) | 23079 (10) | 13009 (10) |
| 53 | 100 | 92 | 31.42 | 45.24 | 115.66 | 88.43 | 954 (10) | 23737 (10) | 12355 (10) |
| 54 | 100 | 93 | 15.71 | 45.24 | 122.29 | 90.70 | 1075 (10) | 25512 (10) | 14003 (10) |
| 55 | 100 | 94 | 15.71 | 45.24 | 129.16 | 92.99 | 1113 (10) | 26776 (10) | 14512 (10) |
| 56 | 100 | 95 | 15.71 | 45.24 | 136.29 | 95.31 | 1152 (10) | 28073 (10) | 15030 (10) |
| 57 | 100 | 96 | 15.71 | 45.24 | 143.68 | 97.65 | 1192 (10) | 29401 (10) | 15555 (10) |
| 58 | 100 | 97 | 15.71 | 45.24 | 151.33 | 100.01 | 1232 (10) | 30762 (10) | 16089 (10) |
| 59 | 100 | 98 | 15.71 | 45.24 | 159.25 | 102.40 | 1273 (10) | 32155 (10) | 16630 (10) |
| 60 | 100 | 99 | 15.71 | 45.24 | 167.44 | 104.82 | 1314 (10) | 33580 (10) | 17179 (10) |
| 61 | 100 | 100 | 15.71 | 45.24 | 175.91 | 107.26 | 1356 (10) | 35037 (10) | 17735 (10) |

Mensola valle

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

| n° | B | H | Afi | Afs | M | N | σc | σfi | σfs |
|----|------|------|-------|-------|-------|------|---------|----------|-----------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kN] | [kPa] | [kPa] | [kPa] |
| 1 | 100 | 50 | 8.04 | 8.04 | 0.00 | 0.00 | 0 (10) | 0 (10) | 0 (10) |
| 2 | 100 | 50 | 8.04 | 8.04 | -0.05 | 0.00 | 2 (10) | 16 (10) | 138 (10) |
| 3 | 100 | 50 | 8.04 | 8.04 | -0.19 | 0.00 | 9 (10) | 65 (10) | 551 (10) |
| 4 | 100 | 50 | 8.04 | 8.04 | -0.42 | 0.00 | 20 (10) | 146 (10) | 1239 (10) |
| 5 | 100 | 50 | 8.04 | 8.04 | -0.75 | 0.00 | 35 (10) | 260 (10) | 2203 (10) |

Piastra fondazione

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

| Is | B | H | Afi | Afs | Mp | Mn | σc | σfi | σfs |
|--------|------|------|-------|-------|-------|---------|----------|------------|-------------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kNm] | [kPa] | [kPa] | [kPa] |
| 1-1-P | 100 | 150 | 10.05 | 10.05 | 0.66 | -0.38 | 4 (9) | 440 (9) | 267 (9) |
| 1-2-P | 100 | 150 | 10.05 | 10.05 | 1.15 | -0.97 | 9 (9) | 949 (9) | 648 (9) |
| 1-3-P | 100 | 150 | 10.05 | 10.05 | 1.02 | -4.49 | 29 (9) | 1771 (9) | 3026 (9) |
| 1-4-P | 100 | 150 | 10.05 | 10.05 | 0.05 | -12.52 | 81 (9) | 915 (9) | 8327 (9) |
| 1-5-P | 100 | 150 | 10.05 | 10.05 | 0.00 | -29.49 | 188 (9) | 2136 (9) | 19429 (9) |
| 1-6-P | 100 | 150 | 10.05 | 10.05 | 0.00 | -57.78 | 368 (9) | 4170 (9) | 37926 (9) |
| 1-7-P | 100 | 150 | 10.05 | 10.05 | 0.59 | -98.86 | 625 (9) | 7094 (9) | 64521 (9) |
| 1-8-P | 100 | 150 | 10.05 | 10.05 | 7.84 | -171.86 | 1073 (9) | 12169 (9) | 110689 (9) |
| 1-9-P | 100 | 150 | 10.05 | 10.05 | 0.00 | -163.79 | 1033 (9) | 11720 (9) | 106599 (9) |
| 1-10-P | 100 | 150 | 10.05 | 10.05 | 7.84 | -171.86 | 1073 (9) | 12169 (9) | 110689 (9) |
| 1-11-P | 100 | 150 | 10.05 | 10.05 | 0.59 | -98.86 | 625 (9) | 7094 (9) | 64521 (9) |
| 1-12-P | 100 | 150 | 10.05 | 10.05 | 0.00 | -57.78 | 368 (9) | 4170 (9) | 37926 (9) |
| 1-13-P | 100 | 150 | 10.05 | 10.05 | 0.00 | -29.49 | 188 (9) | 2136 (9) | 19429 (9) |
| 1-14-P | 100 | 150 | 10.05 | 10.05 | 0.05 | -12.52 | 81 (9) | 915 (9) | 8327 (9) |
| 1-15-P | 100 | 150 | 10.05 | 10.05 | 1.02 | -4.49 | 29 (9) | 1771 (9) | 3026 (9) |
| 1-16-P | 100 | 150 | 10.05 | 10.05 | 1.15 | -0.97 | 9 (9) | 949 (9) | 648 (9) |
| 1-17-P | 100 | 150 | 10.05 | 10.05 | 0.66 | -0.38 | 4 (9) | 440 (9) | 267 (9) |
| 2-1-P | 100 | 150 | 10.05 | 10.05 | 9.50 | -0.39 | 59 (9) | 6119 (9) | 673 (9) |
| 2-2-P | 100 | 150 | 10.05 | 10.05 | 11.63 | -0.66 | 73 (9) | 7495 (9) | 953 (9) |
| 2-3-P | 100 | 150 | 10.05 | 10.05 | 17.74 | -4.09 | 112 (9) | 11520 (9) | 4076 (9) |
| 2-4-P | 100 | 150 | 10.05 | 10.05 | 17.75 | -8.34 | 112 (9) | 11583 (9) | 8165 (9) |
| 2-5-P | 100 | 150 | 10.05 | 10.05 | 12.93 | -17.02 | 149 (9) | 9888 (9) | 15338 (9) |
| 2-6-P | 100 | 150 | 10.05 | 10.05 | 8.55 | -38.13 | 310 (9) | 9034 (9) | 32039 (9) |
| 2-7-P | 100 | 150 | 10.05 | 10.05 | 6.60 | -70.38 | 574 (9) | 8994 (9) | 59215 (9) |
| 2-8-P | 100 | 150 | 10.05 | 10.05 | 10.11 | -80.46 | 621 (9) | 14501 (9) | 64037 (9) |
| 2-9-P | 100 | 150 | 10.05 | 10.05 | 4.94 | -109.50 | 844 (9) | 13585 (9) | 87117 (9) |
| 2-10-P | 100 | 150 | 10.05 | 10.05 | 10.11 | -80.46 | 621 (9) | 14501 (9) | 64037 (9) |
| 2-11-P | 100 | 150 | 10.05 | 10.05 | 6.60 | -70.38 | 574 (9) | 8994 (9) | 59215 (9) |
| 2-12-P | 100 | 150 | 10.05 | 10.05 | 8.55 | -38.13 | 310 (9) | 9034 (9) | 32039 (9) |
| 2-13-P | 100 | 150 | 10.05 | 10.05 | 12.93 | -17.02 | 149 (9) | 9888 (9) | 15338 (9) |
| 2-14-P | 100 | 150 | 10.05 | 10.05 | 17.75 | -8.34 | 112 (9) | 11583 (9) | 8165 (9) |
| 2-15-P | 100 | 150 | 10.05 | 10.05 | 17.74 | -4.09 | 112 (9) | 11520 (9) | 4076 (9) |
| 2-16-P | 100 | 150 | 10.05 | 10.05 | 11.63 | -0.66 | 73 (9) | 7495 (9) | 953 (9) |
| 2-17-P | 100 | 150 | 10.05 | 10.05 | 9.50 | -0.39 | 59 (9) | 6119 (9) | 673 (9) |
| 4-1-P | 87 | 150 | 10.05 | 10.05 | 10.91 | -0.80 | 75 (9) | 7199 (9) | 1413 (9) |
| 4-2-P | 87 | 150 | 10.05 | 10.05 | 13.03 | 0.00 | 87 (9) | 8359 (9) | 1005 (9) |
| 4-3-P | 87 | 150 | 10.05 | 10.05 | 21.45 | -0.17 | 145 (9) | 13964 (9) | 1679 (9) |
| 4-4-P | 87 | 150 | 10.05 | 10.05 | 26.70 | -0.53 | 179 (9) | 17193 (9) | 2067 (9) |
| 4-5-P | 87 | 150 | 10.05 | 10.05 | 28.55 | -1.41 | 191 (9) | 18322 (9) | 4063 (9) |
| 4-6-P | 87 | 150 | 10.05 | 10.05 | 24.86 | -4.92 | 185 (10) | 17763 (10) | 8783 (10) |
| 4-7-P | 87 | 150 | 10.05 | 10.05 | 22.07 | -8.83 | 164 (10) | 15774 (10) | 14718 (10) |
| 4-8-P | 87 | 150 | 10.05 | 10.05 | 18.47 | -12.72 | 198 (10) | 13198 (10) | 19088 (10) |
| 4-9-P | 87 | 150 | 10.05 | 10.05 | 16.68 | -14.49 | 226 (10) | 11918 (10) | 21747 (10) |
| 4-10-P | 87 | 150 | 10.05 | 10.05 | 18.47 | -12.72 | 198 (10) | 13198 (10) | 19088 (10) |
| 4-11-P | 87 | 150 | 10.05 | 10.05 | 22.07 | -8.83 | 164 (10) | 15774 (10) | 14718 (10) |
| 4-12-P | 87 | 150 | 10.05 | 10.05 | 24.86 | -4.92 | 185 (10) | 17763 (10) | 8783 (10) |
| 4-13-P | 87 | 150 | 10.05 | 10.05 | 28.55 | -1.41 | 191 (9) | 18322 (9) | 4063 (9) |
| 4-14-P | 87 | 150 | 10.05 | 10.05 | 26.70 | -0.53 | 179 (9) | 17193 (9) | 2067 (9) |
| 4-15-P | 87 | 150 | 10.05 | 10.05 | 21.45 | -0.17 | 145 (9) | 13964 (9) | 1679 (9) |
| 4-16-P | 87 | 150 | 10.05 | 10.05 | 13.03 | 0.00 | 87 (9) | 8359 (9) | 1005 (9) |
| 4-17-P | 87 | 150 | 10.05 | 10.05 | 10.91 | -0.80 | 75 (9) | 7199 (9) | 1413 (9) |
| 5-1-P | 87 | 150 | 8.04 | 8.04 | 0.63 | -1.27 | 10 (10) | 562 (10) | 1127 (10) |
| 5-2-P | 87 | 150 | 8.04 | 8.04 | 2.77 | -0.56 | 23 (9) | 2459 (9) | 693 (9) |
| 5-3-P | 87 | 150 | 8.04 | 8.04 | 7.36 | -6.30 | 61 (10) | 6546 (10) | 5606 (10) |
| 5-4-P | 87 | 150 | 8.04 | 8.04 | 10.76 | -14.66 | 122 (10) | 9579 (10) | 13048 (10) |
| 5-5-P | 87 | 150 | 8.04 | 8.04 | 12.35 | -27.67 | 229 (10) | 10991 (10) | 24625 (10) |
| 5-6-P | 87 | 150 | 8.04 | 8.04 | 12.51 | -48.98 | 406 (10) | 11136 (10) | 43595 (10) |
| 5-7-P | 87 | 150 | 8.04 | 8.04 | 12.65 | -81.43 | 675 (10) | 11256 (10) | 72478 (10) |
| 5-8-P | 87 | 150 | 8.04 | 8.04 | 24.54 | -141.91 | 1140 (9) | 17164 (9) | 122328 (9) |
| 5-9-P | 87 | 150 | 8.04 | 8.04 | 0.00 | -118.89 | 986 (10) | 11057 (10) | 105814 (10) |
| 5-10-P | 87 | 150 | 8.04 | 8.04 | 24.54 | -141.91 | 1140 (9) | 17164 (9) | 122328 (9) |
| 5-11-P | 87 | 150 | 8.04 | 8.04 | 12.65 | -81.43 | 675 (10) | 11256 (10) | 72478 (10) |
| 5-12-P | 87 | 150 | 8.04 | 8.04 | 12.51 | -48.98 | 406 (10) | 11136 (10) | 43595 (10) |
| 5-13-P | 87 | 150 | 8.04 | 8.04 | 12.35 | -27.67 | 229 (10) | 10991 (10) | 24625 (10) |
| 5-14-P | 87 | 150 | 8.04 | 8.04 | 10.76 | -14.66 | 122 (10) | 9579 (10) | 13048 (10) |
| 5-15-P | 87 | 150 | 8.04 | 8.04 | 7.36 | -6.30 | 61 (10) | 6546 (10) | 5606 (10) |
| 5-16-P | 87 | 150 | 8.04 | 8.04 | 2.77 | -0.56 | 23 (9) | 2459 (9) | 693 (9) |

| Is | B | H | Afi | Afs | Mp | Mn | σ_c | σ_{fi} | σ_{fs} |
|--------|------|------|-------|-------|--------|---------|------------|---------------|---------------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kNm] | [kPa] | [kPa] | [kPa] |
| 5-17-P | 87 | 150 | 8.04 | 8.04 | 0.63 | -1.27 | 10 (10) | 562 (10) | 1127 (10) |
| 6-1-P | 87 | 150 | 8.04 | 8.04 | 0.12 | -0.46 | 4 (10) | 108 (10) | 406 (10) |
| 6-2-P | 87 | 150 | 8.04 | 8.04 | 0.81 | -3.90 | 31 (9) | 719 (9) | 3292 (9) |
| 6-3-P | 87 | 150 | 8.04 | 8.04 | 1.83 | -16.44 | 129 (9) | 1526 (9) | 13896 (9) |
| 6-4-P | 87 | 150 | 8.04 | 8.04 | 2.10 | -36.36 | 287 (9) | 3223 (9) | 30844 (9) |
| 6-5-P | 87 | 150 | 8.04 | 8.04 | 1.80 | -64.40 | 511 (9) | 5736 (9) | 54893 (9) |
| 6-6-P | 87 | 150 | 8.04 | 8.04 | 1.38 | -100.26 | 800 (9) | 8976 (9) | 85902 (9) |
| 6-7-P | 87 | 150 | 8.04 | 8.04 | 0.62 | -137.37 | 1104 (9) | 12379 (9) | 118469 (9) |
| 6-8-P | 87 | 150 | 8.04 | 8.04 | 0.92 | -147.85 | 1210 (9) | 13573 (9) | 129890 (9) |
| 6-9-P | 87 | 150 | 8.04 | 8.04 | 0.00 | -176.43 | 1439 (9) | 16139 (9) | 154444 (9) |
| 6-10-P | 87 | 150 | 8.04 | 8.04 | 0.92 | -147.85 | 1210 (9) | 13573 (9) | 129890 (9) |
| 6-11-P | 87 | 150 | 8.04 | 8.04 | 0.62 | -137.37 | 1104 (9) | 12379 (9) | 118469 (9) |
| 6-12-P | 87 | 150 | 8.04 | 8.04 | 1.38 | -100.26 | 800 (9) | 8976 (9) | 85902 (9) |
| 6-13-P | 87 | 150 | 8.04 | 8.04 | 1.80 | -64.40 | 511 (9) | 5736 (9) | 54893 (9) |
| 6-14-P | 87 | 150 | 8.04 | 8.04 | 2.10 | -36.36 | 287 (9) | 3223 (9) | 30844 (9) |
| 6-15-P | 87 | 150 | 8.04 | 8.04 | 1.83 | -16.44 | 129 (9) | 1526 (9) | 13896 (9) |
| 6-16-P | 87 | 150 | 8.04 | 8.04 | 0.81 | -3.90 | 31 (9) | 719 (9) | 3292 (9) |
| 6-17-P | 87 | 150 | 8.04 | 8.04 | 0.12 | -0.46 | 4 (10) | 108 (10) | 406 (10) |
| 7-1-S | 95 | 150 | 40.72 | 40.72 | 0.40 | -0.71 | 3 (9) | 51 (9) | 168 (9) |
| 7-2-S | 95 | 150 | 40.72 | 40.72 | 0.00 | -3.98 | 12 (9) | 157 (9) | 623 (9) |
| 7-3-S | 95 | 150 | 40.72 | 40.72 | 0.18 | -6.88 | 21 (9) | 272 (9) | 1081 (9) |
| 7-4-S | 95 | 150 | 40.72 | 40.72 | 2.60 | -7.08 | 22 (9) | 759 (9) | 1119 (9) |
| 7-5-S | 95 | 150 | 40.72 | 40.72 | 11.71 | -4.51 | 48 (9) | 2441 (9) | 722 (9) |
| 7-6-S | 95 | 150 | 40.72 | 40.72 | 34.71 | -2.56 | 111 (9) | 5687 (9) | 1432 (9) |
| 7-7-S | 95 | 150 | 40.72 | 40.72 | 67.92 | -1.03 | 214 (9) | 11016 (9) | 2775 (9) |
| 7-8-S | 95 | 150 | 40.72 | 40.72 | 107.74 | 0.00 | 338 (9) | 17381 (9) | 4378 (9) |
| 7-9-S | 95 | 150 | 40.72 | 40.72 | 150.58 | 0.00 | 470 (9) | 24177 (9) | 6090 (9) |
| 7-10-S | 95 | 150 | 40.72 | 40.72 | 147.26 | 0.00 | 457 (9) | 23470 (9) | 5912 (9) |
| 7-11-S | 95 | 150 | 40.72 | 40.72 | 156.35 | 0.00 | 492 (9) | 25271 (9) | 6366 (9) |
| 7-12-S | 95 | 150 | 40.72 | 40.72 | 154.87 | 0.00 | 489 (9) | 25152 (9) | 6336 (9) |
| 7-13-S | 95 | 150 | 40.72 | 40.72 | 144.76 | -0.06 | 459 (9) | 23566 (9) | 5936 (9) |
| 7-14-S | 95 | 150 | 40.72 | 40.72 | 127.61 | -0.45 | 404 (9) | 20740 (9) | 5224 (9) |
| 7-15-S | 95 | 150 | 40.72 | 40.72 | 105.45 | -0.83 | 332 (9) | 17063 (9) | 4298 (9) |
| 7-16-S | 95 | 150 | 40.72 | 40.72 | 81.53 | -1.23 | 255 (9) | 13104 (9) | 3301 (9) |
| 7-17-S | 95 | 150 | 40.72 | 40.72 | 58.94 | -1.61 | 183 (9) | 9406 (9) | 2369 (9) |
| 7-18-S | 95 | 150 | 40.72 | 40.72 | 39.09 | -1.93 | 121 (9) | 6201 (9) | 1562 (9) |
| 7-19-S | 95 | 150 | 40.72 | 40.72 | 22.42 | -2.14 | 69 (9) | 3546 (9) | 893 (9) |
| 7-20-S | 95 | 150 | 40.72 | 40.72 | 9.25 | -1.43 | 28 (9) | 1462 (9) | 368 (9) |
| 7-21-S | 95 | 150 | 40.72 | 40.72 | 0.95 | -0.79 | 4 (9) | 185 (9) | 127 (9) |
| 8-1-S | 95 | 150 | 40.72 | 40.72 | 1.79 | -2.23 | 12 (9) | 595 (9) | 351 (9) |
| 8-2-S | 95 | 150 | 40.72 | 40.72 | 11.85 | -10.35 | 57 (9) | 2920 (9) | 1631 (9) |
| 8-3-S | 95 | 150 | 40.72 | 40.72 | 27.71 | -26.96 | 143 (9) | 7356 (9) | 4289 (9) |
| 8-4-S | 95 | 150 | 40.72 | 40.72 | 60.50 | -51.48 | 424 (9) | 21775 (9) | 8248 (9) |
| 8-5-S | 95 | 150 | 40.72 | 40.72 | 10.51 | -105.98 | 330 (9) | 6574 (9) | 16970 (9) |
| 8-6-S | 95 | 150 | 40.72 | 40.72 | 0.70 | -156.69 | 483 (9) | 6259 (9) | 24849 (9) |
| 8-7-S | 95 | 150 | 40.72 | 40.72 | 14.65 | -65.36 | 198 (9) | 5159 (9) | 10194 (9) |
| 8-8-S | 95 | 150 | 40.72 | 40.72 | 63.28 | -0.09 | 207 (9) | 10638 (9) | 2680 (9) |
| 8-9-S | 95 | 150 | 40.72 | 40.72 | 180.25 | 0.00 | 574 (9) | 29511 (9) | 7434 (9) |
| 8-10-S | 95 | 150 | 40.72 | 40.72 | 237.54 | 0.00 | 761 (9) | 39105 (9) | 9850 (9) |
| 8-11-S | 95 | 150 | 40.72 | 40.72 | 229.81 | 0.00 | 734 (9) | 37709 (9) | 9499 (9) |
| 8-12-S | 95 | 150 | 40.72 | 40.72 | 225.53 | 0.00 | 717 (9) | 36833 (9) | 9278 (9) |
| 8-13-S | 95 | 150 | 40.72 | 40.72 | 215.42 | -0.77 | 679 (9) | 34896 (9) | 8790 (9) |
| 8-14-S | 95 | 150 | 40.72 | 40.72 | 199.11 | -2.99 | 618 (9) | 31754 (9) | 7999 (9) |
| 8-15-S | 95 | 150 | 40.72 | 40.72 | 180.10 | -7.73 | 546 (9) | 28049 (9) | 7065 (9) |
| 8-16-S | 95 | 150 | 40.72 | 40.72 | 160.32 | -17.87 | 474 (9) | 24337 (9) | 6130 (9) |
| 8-17-S | 95 | 150 | 40.72 | 40.72 | 37.68 | -55.12 | 182 (9) | 6387 (9) | 9350 (9) |
| 8-18-S | 95 | 150 | 40.72 | 40.72 | 12.95 | -103.37 | 332 (9) | 4300 (9) | 17069 (9) |
| 8-19-S | 95 | 150 | 40.72 | 40.72 | 9.21 | -59.69 | 191 (9) | 2511 (9) | 9829 (9) |
| 8-20-S | 95 | 150 | 40.72 | 40.72 | 4.53 | -20.85 | 66 (9) | 1603 (9) | 3409 (9) |
| 8-21-S | 95 | 150 | 40.72 | 40.72 | 3.01 | -2.18 | 11 (9) | 561 (9) | 313 (9) |
| 9-1-S | 95 | 150 | 40.72 | 40.72 | 1.79 | -2.23 | 12 (9) | 595 (9) | 351 (9) |
| 9-2-S | 95 | 150 | 40.72 | 40.72 | 11.85 | -10.35 | 57 (9) | 2920 (9) | 1631 (9) |
| 9-3-S | 95 | 150 | 40.72 | 40.72 | 27.71 | -26.96 | 143 (9) | 7356 (9) | 4289 (9) |
| 9-4-S | 95 | 150 | 40.72 | 40.72 | 60.50 | -51.48 | 424 (9) | 21775 (9) | 8248 (9) |
| 9-5-S | 95 | 150 | 40.72 | 40.72 | 10.51 | -105.98 | 330 (9) | 6574 (9) | 16970 (9) |
| 9-6-S | 95 | 150 | 40.72 | 40.72 | 0.70 | -156.69 | 483 (9) | 6259 (9) | 24849 (9) |
| 9-7-S | 95 | 150 | 40.72 | 40.72 | 14.65 | -65.36 | 198 (9) | 5159 (9) | 10194 (9) |
| 9-8-S | 95 | 150 | 40.72 | 40.72 | 63.28 | -0.09 | 207 (9) | 10638 (9) | 2680 (9) |
| 9-9-S | 95 | 150 | 40.72 | 40.72 | 180.25 | 0.00 | 574 (9) | 29511 (9) | 7434 (9) |
| 9-10-S | 95 | 150 | 40.72 | 40.72 | 237.54 | 0.00 | 761 (9) | 39105 (9) | 9850 (9) |

| Is | B | H | Afi | Afs | Mp | Mn | σ_c | σ_{fi} | σ_{fs} |
|---------|------|------|-------|-------|--------|---------|------------|---------------|---------------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kNm] | [kPa] | [kPa] | [kPa] |
| 9-11-S | 95 | 150 | 40.72 | 40.72 | 229.81 | 0.00 | 734 (9) | 37709 (9) | 9499 (9) |
| 9-12-S | 95 | 150 | 40.72 | 40.72 | 225.53 | 0.00 | 717 (9) | 36833 (9) | 9278 (9) |
| 9-13-S | 95 | 150 | 40.72 | 40.72 | 215.42 | -0.77 | 679 (9) | 34896 (9) | 8790 (9) |
| 9-14-S | 95 | 150 | 40.72 | 40.72 | 199.11 | -2.99 | 618 (9) | 31754 (9) | 7999 (9) |
| 9-15-S | 95 | 150 | 40.72 | 40.72 | 180.10 | -7.73 | 546 (9) | 28049 (9) | 7065 (9) |
| 9-16-S | 95 | 150 | 40.72 | 40.72 | 160.32 | -17.87 | 474 (9) | 24337 (9) | 6130 (9) |
| 9-17-S | 95 | 150 | 40.72 | 40.72 | 37.68 | -55.12 | 182 (9) | 6387 (9) | 9350 (9) |
| 9-18-S | 95 | 150 | 40.72 | 40.72 | 12.95 | -103.37 | 332 (9) | 4300 (9) | 17069 (9) |
| 9-19-S | 95 | 150 | 40.72 | 40.72 | 9.21 | -59.69 | 191 (9) | 2511 (9) | 9829 (9) |
| 9-20-S | 95 | 150 | 40.72 | 40.72 | 4.53 | -20.85 | 66 (9) | 1603 (9) | 3409 (9) |
| 9-21-S | 95 | 150 | 40.72 | 40.72 | 3.01 | -2.18 | 11 (9) | 561 (9) | 313 (9) |
| 10-1-S | 95 | 150 | 40.72 | 40.72 | 0.40 | -0.71 | 3 (9) | 51 (9) | 168 (9) |
| 10-2-S | 95 | 150 | 40.72 | 40.72 | 0.00 | -3.98 | 12 (9) | 157 (9) | 623 (9) |
| 10-3-S | 95 | 150 | 40.72 | 40.72 | 0.18 | -6.88 | 21 (9) | 272 (9) | 1081 (9) |
| 10-4-S | 95 | 150 | 40.72 | 40.72 | 2.60 | -7.08 | 22 (9) | 759 (9) | 1119 (9) |
| 10-5-S | 95 | 150 | 40.72 | 40.72 | 11.71 | -4.51 | 48 (9) | 2441 (9) | 722 (9) |
| 10-6-S | 95 | 150 | 40.72 | 40.72 | 34.71 | -2.56 | 111 (9) | 5687 (9) | 1432 (9) |
| 10-7-S | 95 | 150 | 40.72 | 40.72 | 67.92 | -1.03 | 214 (9) | 11016 (9) | 2775 (9) |
| 10-8-S | 95 | 150 | 40.72 | 40.72 | 107.74 | 0.00 | 338 (9) | 17381 (9) | 4378 (9) |
| 10-9-S | 95 | 150 | 40.72 | 40.72 | 150.58 | 0.00 | 470 (9) | 24177 (9) | 6090 (9) |
| 10-10-S | 95 | 150 | 40.72 | 40.72 | 147.26 | 0.00 | 457 (9) | 23470 (9) | 5912 (9) |
| 10-11-S | 95 | 150 | 40.72 | 40.72 | 156.35 | 0.00 | 492 (9) | 25271 (9) | 6366 (9) |
| 10-12-S | 95 | 150 | 40.72 | 40.72 | 154.87 | 0.00 | 489 (9) | 25152 (9) | 6336 (9) |
| 10-13-S | 95 | 150 | 40.72 | 40.72 | 144.76 | -0.06 | 459 (9) | 23566 (9) | 5936 (9) |
| 10-14-S | 95 | 150 | 40.72 | 40.72 | 127.61 | -0.45 | 404 (9) | 20740 (9) | 5224 (9) |
| 10-15-S | 95 | 150 | 40.72 | 40.72 | 105.45 | -0.83 | 332 (9) | 17063 (9) | 4298 (9) |
| 10-16-S | 95 | 150 | 40.72 | 40.72 | 81.53 | -1.23 | 255 (9) | 13104 (9) | 3301 (9) |
| 10-17-S | 95 | 150 | 40.72 | 40.72 | 58.94 | -1.61 | 183 (9) | 9406 (9) | 2369 (9) |
| 10-18-S | 95 | 150 | 40.72 | 40.72 | 39.09 | -1.93 | 121 (9) | 6201 (9) | 1562 (9) |
| 10-19-S | 95 | 150 | 40.72 | 40.72 | 22.42 | -2.14 | 69 (9) | 3546 (9) | 893 (9) |
| 10-20-S | 95 | 150 | 40.72 | 40.72 | 9.25 | -1.43 | 28 (9) | 1462 (9) | 368 (9) |
| 10-21-S | 95 | 150 | 40.72 | 40.72 | 0.95 | -0.79 | 4 (9) | 185 (9) | 127 (9) |

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 | σ_c | σ_{fi} | σ_{fs} |
|----|------|------|-------|-------|-------|-------|------------|---------------|---------------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kN] | [kPa] | [kPa] | [kPa] |
| 1 | 100 | 40 | 15.71 | 22.62 | 0.75 | 4.29 | 38 (11) | 313 (11) | 452 (11) |
| 2 | 100 | 41 | 15.71 | 22.62 | 0.75 | 5.28 | 37 (11) | 188 (11) | 459 (11) |
| 3 | 100 | 42 | 15.71 | 22.62 | 0.77 | 6.30 | 37 (11) | 103 (11) | 472 (11) |
| 4 | 100 | 43 | 15.71 | 22.62 | 0.79 | 7.34 | 38 (11) | 47 (11) | 492 (11) |
| 5 | 100 | 44 | 15.71 | 22.62 | 0.84 | 8.41 | 39 (11) | 11 (11) | 521 (11) |
| 6 | 100 | 45 | 15.71 | 22.62 | 0.91 | 9.50 | 42 (11) | 10 (11) | 558 (11) |
| 7 | 100 | 46 | 15.71 | 22.62 | 1.01 | 10.62 | 45 (11) | 21 (11) | 603 (11) |
| 8 | 100 | 47 | 15.71 | 22.62 | 1.14 | 11.76 | 49 (11) | 22 (11) | 656 (11) |
| 9 | 100 | 48 | 15.71 | 22.62 | 1.30 | 12.92 | 53 (11) | 13 (11) | 717 (11) |
| 10 | 100 | 49 | 15.71 | 22.62 | 1.51 | 14.11 | 58 (11) | 7 (11) | 787 (11) |
| 11 | 100 | 50 | 15.71 | 22.62 | 1.77 | 15.32 | 64 (11) | 41 (11) | 867 (11) |
| 12 | 100 | 51 | 15.71 | 22.62 | 2.07 | 16.56 | 71 (11) | 92 (11) | 957 (11) |
| 13 | 100 | 52 | 15.71 | 22.62 | 2.44 | 17.82 | 79 (11) | 164 (11) | 1060 (11) |
| 14 | 100 | 53 | 15.71 | 22.62 | 2.86 | 19.11 | 88 (11) | 262 (11) | 1176 (11) |
| 15 | 100 | 54 | 15.71 | 22.62 | 3.35 | 20.42 | 98 (11) | 391 (11) | 1306 (11) |
| 16 | 100 | 55 | 15.71 | 22.62 | 3.90 | 21.76 | 110 (11) | 555 (11) | 1451 (11) |
| 17 | 100 | 56 | 15.71 | 22.62 | 4.54 | 23.12 | 122 (11) | 760 (11) | 1610 (11) |
| 18 | 100 | 57 | 15.71 | 22.62 | 5.25 | 24.50 | 136 (11) | 1010 (11) | 1785 (11) |
| 19 | 100 | 58 | 15.71 | 22.62 | 6.04 | 25.91 | 152 (11) | 1308 (11) | 1974 (11) |
| 20 | 100 | 59 | 15.71 | 22.62 | 6.92 | 27.35 | 168 (11) | 1657 (11) | 2178 (11) |
| 21 | 100 | 60 | 15.71 | 22.62 | 7.90 | 28.81 | 186 (11) | 2059 (11) | 2397 (11) |
| 22 | 100 | 61 | 15.71 | 22.62 | 8.97 | 30.29 | 205 (11) | 2515 (11) | 2629 (11) |
| 23 | 100 | 62 | 15.71 | 22.62 | 10.14 | 31.80 | 225 (11) | 3027 (11) | 2876 (11) |

| n° | B | H | Afi | Afs | M | N | σc | σfi | σfs |
|----|------|------|-------|-------|--------|--------|-----------|------------|------------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kN] | [kPa] | [kPa] | [kPa] |
| 24 | 100 | 63 | 15.71 | 22.62 | 11.42 | 33.33 | 246 (11) | 3594 (11) | 3135 (11) |
| 25 | 100 | 64 | 15.71 | 22.62 | 12.81 | 34.89 | 269 (11) | 4218 (11) | 3408 (11) |
| 26 | 100 | 65 | 15.71 | 22.62 | 14.32 | 36.47 | 292 (11) | 4900 (11) | 3694 (11) |
| 27 | 100 | 66 | 15.71 | 22.62 | 15.95 | 38.07 | 317 (11) | 5638 (11) | 3992 (11) |
| 28 | 100 | 67 | 15.71 | 22.62 | 17.70 | 39.70 | 342 (11) | 6434 (11) | 4303 (11) |
| 29 | 100 | 68 | 15.71 | 22.62 | 19.58 | 41.36 | 369 (11) | 7289 (11) | 4627 (11) |
| 30 | 100 | 69 | 15.71 | 22.62 | 21.60 | 43.04 | 397 (11) | 8201 (11) | 4963 (11) |
| 31 | 100 | 70 | 15.71 | 22.62 | 23.75 | 44.74 | 425 (11) | 9172 (11) | 5312 (11) |
| 32 | 100 | 71 | 15.71 | 22.62 | 26.05 | 46.47 | 455 (11) | 10202 (11) | 5673 (11) |
| 33 | 100 | 72 | 15.71 | 22.62 | 28.50 | 48.22 | 486 (11) | 11291 (11) | 6046 (11) |
| 34 | 100 | 73 | 15.71 | 67.86 | 31.10 | 50.00 | 397 (11) | 4866 (11) | 5242 (11) |
| 35 | 100 | 74 | 15.71 | 67.86 | 33.86 | 51.80 | 420 (11) | 5307 (11) | 5543 (11) |
| 36 | 100 | 75 | 15.71 | 67.86 | 36.78 | 53.63 | 443 (11) | 5768 (11) | 5852 (11) |
| 37 | 100 | 76 | 15.71 | 67.86 | 39.86 | 55.48 | 467 (11) | 6250 (11) | 6170 (11) |
| 38 | 100 | 77 | 15.71 | 67.86 | 43.12 | 57.36 | 491 (11) | 6754 (11) | 6496 (11) |
| 39 | 100 | 78 | 15.71 | 67.86 | 46.55 | 59.26 | 517 (11) | 7278 (11) | 6830 (11) |
| 40 | 100 | 79 | 15.71 | 67.86 | 50.16 | 61.18 | 542 (11) | 7823 (11) | 7172 (11) |
| 41 | 100 | 80 | 15.71 | 67.86 | 53.96 | 63.13 | 569 (11) | 8389 (11) | 7522 (11) |
| 42 | 100 | 81 | 15.71 | 67.86 | 57.95 | 65.10 | 596 (11) | 8977 (11) | 7881 (11) |
| 43 | 100 | 82 | 15.71 | 67.86 | 62.13 | 67.10 | 623 (11) | 9585 (11) | 8247 (11) |
| 44 | 100 | 83 | 15.71 | 67.86 | 66.52 | 69.12 | 651 (11) | 10215 (11) | 8621 (11) |
| 45 | 100 | 84 | 15.71 | 67.86 | 71.10 | 71.17 | 680 (11) | 10867 (11) | 9003 (11) |
| 46 | 100 | 85 | 15.71 | 67.86 | 75.89 | 73.24 | 709 (11) | 11539 (11) | 9392 (11) |
| 47 | 100 | 86 | 15.71 | 67.86 | 80.90 | 75.34 | 738 (11) | 12234 (11) | 9789 (11) |
| 48 | 100 | 87 | 15.71 | 67.86 | 86.12 | 77.46 | 769 (11) | 12949 (11) | 10194 (11) |
| 49 | 100 | 88 | 15.71 | 67.86 | 91.57 | 79.60 | 799 (11) | 13686 (11) | 10606 (11) |
| 50 | 100 | 89 | 15.71 | 67.86 | 97.24 | 81.77 | 831 (11) | 14445 (11) | 11025 (11) |
| 51 | 100 | 90 | 15.71 | 67.86 | 103.14 | 83.97 | 862 (11) | 15225 (11) | 11452 (11) |
| 52 | 100 | 91 | 15.71 | 45.24 | 109.28 | 86.19 | 999 (11) | 23079 (11) | 13009 (11) |
| 53 | 100 | 92 | 31.42 | 45.24 | 115.66 | 88.43 | 954 (11) | 23737 (11) | 12355 (11) |
| 54 | 100 | 93 | 15.71 | 45.24 | 122.29 | 90.70 | 1075 (11) | 25512 (11) | 14003 (11) |
| 55 | 100 | 94 | 15.71 | 45.24 | 129.16 | 92.99 | 1113 (11) | 26776 (11) | 14512 (11) |
| 56 | 100 | 95 | 15.71 | 45.24 | 136.29 | 95.31 | 1152 (11) | 28073 (11) | 15030 (11) |
| 57 | 100 | 96 | 15.71 | 45.24 | 143.68 | 97.65 | 1192 (11) | 29401 (11) | 15555 (11) |
| 58 | 100 | 97 | 15.71 | 45.24 | 151.33 | 100.01 | 1232 (11) | 30762 (11) | 16089 (11) |
| 59 | 100 | 98 | 15.71 | 45.24 | 159.25 | 102.40 | 1273 (11) | 32155 (11) | 16630 (11) |
| 60 | 100 | 99 | 15.71 | 45.24 | 167.44 | 104.82 | 1314 (11) | 33580 (11) | 17179 (11) |
| 61 | 100 | 100 | 15.71 | 45.24 | 175.91 | 107.26 | 1356 (11) | 35037 (11) | 17735 (11) |

Mensola valle

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

| n° | B | H | Afi | Afs | M | N | σc | σfi | σfs |
|----|------|------|-------|-------|-------|------|---------|----------|-----------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kN] | [kPa] | [kPa] | [kPa] |
| 1 | 100 | 50 | 8.04 | 8.04 | 0.00 | 0.00 | 0 (11) | 0 (11) | 0 (11) |
| 2 | 100 | 50 | 8.04 | 8.04 | -0.05 | 0.00 | 2 (11) | 16 (11) | 138 (11) |
| 3 | 100 | 50 | 8.04 | 8.04 | -0.19 | 0.00 | 9 (11) | 65 (11) | 551 (11) |
| 4 | 100 | 50 | 8.04 | 8.04 | -0.42 | 0.00 | 20 (11) | 146 (11) | 1239 (11) |
| 5 | 100 | 50 | 8.04 | 8.04 | -0.75 | 0.00 | 35 (11) | 260 (11) | 2203 (11) |

Piastra fondazione

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

| Is | B | H | Afi | Afs | Mp | Mn | σc | σfi | σfs |
|-------|------|------|-------|-------|-------|--------|---------|----------|-----------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kNm] | [kPa] | [kPa] | [kPa] |
| 1-1-P | 100 | 150 | 10.05 | 10.05 | 0.66 | -0.38 | 4 (9) | 440 (9) | 267 (9) |
| 1-2-P | 100 | 150 | 10.05 | 10.05 | 1.15 | -0.97 | 9 (9) | 949 (9) | 648 (9) |
| 1-3-P | 100 | 150 | 10.05 | 10.05 | 1.02 | -4.49 | 29 (9) | 1771 (9) | 3026 (9) |
| 1-4-P | 100 | 150 | 10.05 | 10.05 | 0.05 | -12.52 | 81 (9) | 915 (9) | 8327 (9) |
| 1-5-P | 100 | 150 | 10.05 | 10.05 | 0.00 | -29.49 | 188 (9) | 2136 (9) | 19429 (9) |

| Is | B | H | Afi | Afs | Mp | Mn | σc | σfi | σfs |
|--------|------|------|-------|-------|-------|---------|----------|------------|-------------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kNm] | [kPa] | [kPa] | [kPa] |
| 1-6-P | 100 | 150 | 10.05 | 10.05 | 0.00 | -57.78 | 368 (9) | 4170 (9) | 37926 (9) |
| 1-7-P | 100 | 150 | 10.05 | 10.05 | 0.59 | -98.86 | 625 (9) | 7094 (9) | 64521 (9) |
| 1-8-P | 100 | 150 | 10.05 | 10.05 | 7.84 | -171.86 | 1073 (9) | 12169 (9) | 110689 (9) |
| 1-9-P | 100 | 150 | 10.05 | 10.05 | 0.00 | -163.79 | 1033 (9) | 11720 (9) | 106599 (9) |
| 1-10-P | 100 | 150 | 10.05 | 10.05 | 7.84 | -171.86 | 1073 (9) | 12169 (9) | 110689 (9) |
| 1-11-P | 100 | 150 | 10.05 | 10.05 | 0.59 | -98.86 | 625 (9) | 7094 (9) | 64521 (9) |
| 1-12-P | 100 | 150 | 10.05 | 10.05 | 0.00 | -57.78 | 368 (9) | 4170 (9) | 37926 (9) |
| 1-13-P | 100 | 150 | 10.05 | 10.05 | 0.00 | -29.49 | 188 (9) | 2136 (9) | 19429 (9) |
| 1-14-P | 100 | 150 | 10.05 | 10.05 | 0.05 | -12.52 | 81 (9) | 915 (9) | 8327 (9) |
| 1-15-P | 100 | 150 | 10.05 | 10.05 | 1.02 | -4.49 | 29 (9) | 1771 (9) | 3026 (9) |
| 1-16-P | 100 | 150 | 10.05 | 10.05 | 1.15 | -0.97 | 9 (9) | 949 (9) | 648 (9) |
| 1-17-P | 100 | 150 | 10.05 | 10.05 | 0.66 | -0.38 | 4 (9) | 440 (9) | 267 (9) |
| 2-1-P | 100 | 150 | 10.05 | 10.05 | 9.50 | -0.39 | 59 (9) | 6119 (9) | 673 (9) |
| 2-2-P | 100 | 150 | 10.05 | 10.05 | 11.63 | -0.66 | 73 (9) | 7495 (9) | 953 (9) |
| 2-3-P | 100 | 150 | 10.05 | 10.05 | 17.74 | -4.09 | 112 (9) | 11520 (9) | 4076 (9) |
| 2-4-P | 100 | 150 | 10.05 | 10.05 | 17.75 | -8.34 | 112 (9) | 11583 (9) | 8165 (9) |
| 2-5-P | 100 | 150 | 10.05 | 10.05 | 12.93 | -17.02 | 149 (9) | 9888 (9) | 15338 (9) |
| 2-6-P | 100 | 150 | 10.05 | 10.05 | 8.55 | -38.13 | 310 (9) | 9034 (9) | 32039 (9) |
| 2-7-P | 100 | 150 | 10.05 | 10.05 | 6.60 | -70.38 | 574 (9) | 8994 (9) | 59215 (9) |
| 2-8-P | 100 | 150 | 10.05 | 10.05 | 10.11 | -80.46 | 621 (9) | 14501 (9) | 64037 (9) |
| 2-9-P | 100 | 150 | 10.05 | 10.05 | 4.94 | -109.50 | 844 (9) | 13585 (9) | 87117 (9) |
| 2-10-P | 100 | 150 | 10.05 | 10.05 | 10.11 | -80.46 | 621 (9) | 14501 (9) | 64037 (9) |
| 2-11-P | 100 | 150 | 10.05 | 10.05 | 6.60 | -70.38 | 574 (9) | 8994 (9) | 59215 (9) |
| 2-12-P | 100 | 150 | 10.05 | 10.05 | 8.55 | -38.13 | 310 (9) | 9034 (9) | 32039 (9) |
| 2-13-P | 100 | 150 | 10.05 | 10.05 | 12.93 | -17.02 | 149 (9) | 9888 (9) | 15338 (9) |
| 2-14-P | 100 | 150 | 10.05 | 10.05 | 17.75 | -8.34 | 112 (9) | 11583 (9) | 8165 (9) |
| 2-15-P | 100 | 150 | 10.05 | 10.05 | 17.74 | -4.09 | 112 (9) | 11520 (9) | 4076 (9) |
| 2-16-P | 100 | 150 | 10.05 | 10.05 | 11.63 | -0.66 | 73 (9) | 7495 (9) | 953 (9) |
| 2-17-P | 100 | 150 | 10.05 | 10.05 | 9.50 | -0.39 | 59 (9) | 6119 (9) | 673 (9) |
| 4-1-P | 87 | 150 | 10.05 | 10.05 | 10.91 | -0.80 | 75 (9) | 7199 (9) | 1413 (9) |
| 4-2-P | 87 | 150 | 10.05 | 10.05 | 13.03 | 0.00 | 87 (9) | 8359 (9) | 1005 (9) |
| 4-3-P | 87 | 150 | 10.05 | 10.05 | 21.45 | -0.17 | 145 (9) | 13964 (9) | 1679 (9) |
| 4-4-P | 87 | 150 | 10.05 | 10.05 | 26.70 | -0.53 | 179 (9) | 17193 (9) | 2067 (9) |
| 4-5-P | 87 | 150 | 10.05 | 10.05 | 28.55 | -1.41 | 191 (9) | 18322 (9) | 4063 (9) |
| 4-6-P | 87 | 150 | 10.05 | 10.05 | 24.86 | -4.92 | 185 (10) | 17763 (10) | 8783 (10) |
| 4-7-P | 87 | 150 | 10.05 | 10.05 | 22.07 | -8.83 | 164 (10) | 15774 (10) | 14718 (10) |
| 4-8-P | 87 | 150 | 10.05 | 10.05 | 18.47 | -12.72 | 198 (10) | 13198 (10) | 19088 (10) |
| 4-9-P | 87 | 150 | 10.05 | 10.05 | 16.68 | -14.49 | 226 (10) | 11918 (10) | 21747 (10) |
| 4-10-P | 87 | 150 | 10.05 | 10.05 | 18.47 | -12.72 | 198 (10) | 13198 (10) | 19088 (10) |
| 4-11-P | 87 | 150 | 10.05 | 10.05 | 22.07 | -8.83 | 164 (10) | 15774 (10) | 14718 (10) |
| 4-12-P | 87 | 150 | 10.05 | 10.05 | 24.86 | -4.92 | 185 (10) | 17763 (10) | 8783 (10) |
| 4-13-P | 87 | 150 | 10.05 | 10.05 | 28.55 | -1.41 | 191 (9) | 18322 (9) | 4063 (9) |
| 4-14-P | 87 | 150 | 10.05 | 10.05 | 26.70 | -0.53 | 179 (9) | 17193 (9) | 2067 (9) |
| 4-15-P | 87 | 150 | 10.05 | 10.05 | 21.45 | -0.17 | 145 (9) | 13964 (9) | 1679 (9) |
| 4-16-P | 87 | 150 | 10.05 | 10.05 | 13.03 | 0.00 | 87 (9) | 8359 (9) | 1005 (9) |
| 4-17-P | 87 | 150 | 10.05 | 10.05 | 10.91 | -0.80 | 75 (9) | 7199 (9) | 1413 (9) |
| 5-1-P | 87 | 150 | 8.04 | 8.04 | 0.63 | -1.27 | 10 (10) | 562 (10) | 1127 (10) |
| 5-2-P | 87 | 150 | 8.04 | 8.04 | 2.77 | -0.56 | 23 (9) | 2459 (9) | 693 (9) |
| 5-3-P | 87 | 150 | 8.04 | 8.04 | 7.36 | -6.30 | 61 (10) | 6546 (10) | 5606 (10) |
| 5-4-P | 87 | 150 | 8.04 | 8.04 | 10.76 | -14.66 | 122 (10) | 9579 (10) | 13048 (10) |
| 5-5-P | 87 | 150 | 8.04 | 8.04 | 12.35 | -27.67 | 229 (10) | 10991 (10) | 24625 (10) |
| 5-6-P | 87 | 150 | 8.04 | 8.04 | 12.51 | -48.98 | 406 (10) | 11136 (10) | 43595 (10) |
| 5-7-P | 87 | 150 | 8.04 | 8.04 | 12.65 | -81.43 | 675 (10) | 11256 (10) | 72478 (10) |
| 5-8-P | 87 | 150 | 8.04 | 8.04 | 24.54 | -141.91 | 1140 (9) | 17164 (9) | 122328 (9) |
| 5-9-P | 87 | 150 | 8.04 | 8.04 | 0.00 | -118.89 | 986 (10) | 11057 (10) | 105814 (10) |
| 5-10-P | 87 | 150 | 8.04 | 8.04 | 24.54 | -141.91 | 1140 (9) | 17164 (9) | 122328 (9) |
| 5-11-P | 87 | 150 | 8.04 | 8.04 | 12.65 | -81.43 | 675 (10) | 11256 (10) | 72478 (10) |
| 5-12-P | 87 | 150 | 8.04 | 8.04 | 12.51 | -48.98 | 406 (10) | 11136 (10) | 43595 (10) |
| 5-13-P | 87 | 150 | 8.04 | 8.04 | 12.35 | -27.67 | 229 (10) | 10991 (10) | 24625 (10) |
| 5-14-P | 87 | 150 | 8.04 | 8.04 | 10.76 | -14.66 | 122 (10) | 9579 (10) | 13048 (10) |
| 5-15-P | 87 | 150 | 8.04 | 8.04 | 7.36 | -6.30 | 61 (10) | 6546 (10) | 5606 (10) |
| 5-16-P | 87 | 150 | 8.04 | 8.04 | 2.77 | -0.56 | 23 (9) | 2459 (9) | 693 (9) |
| 5-17-P | 87 | 150 | 8.04 | 8.04 | 0.63 | -1.27 | 10 (10) | 562 (10) | 1127 (10) |
| 6-1-P | 87 | 150 | 8.04 | 8.04 | 0.12 | -0.46 | 4 (10) | 108 (10) | 406 (10) |
| 6-2-P | 87 | 150 | 8.04 | 8.04 | 0.81 | -3.90 | 31 (9) | 719 (9) | 3292 (9) |
| 6-3-P | 87 | 150 | 8.04 | 8.04 | 1.83 | -16.44 | 129 (9) | 1526 (9) | 13896 (9) |
| 6-4-P | 87 | 150 | 8.04 | 8.04 | 2.10 | -36.36 | 287 (9) | 3223 (9) | 30844 (9) |
| 6-5-P | 87 | 150 | 8.04 | 8.04 | 1.80 | -64.40 | 511 (9) | 5736 (9) | 54893 (9) |
| 6-6-P | 87 | 150 | 8.04 | 8.04 | 1.38 | -100.26 | 800 (9) | 8976 (9) | 85902 (9) |
| 6-7-P | 87 | 150 | 8.04 | 8.04 | 0.62 | -137.37 | 1104 (9) | 12379 (9) | 118469 (9) |

| Is | B | H | Afi | Afs | Mp | Mn | σc | σfi | σfs |
|--------|------|------|-------|-------|--------|---------|----------|-----------|------------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kNm] | [kPa] | [kPa] | [kPa] |
| 6-8-P | 87 | 150 | 8.04 | 8.04 | 0.92 | -147.85 | 1210 (9) | 13573 (9) | 129890 (9) |
| 6-9-P | 87 | 150 | 8.04 | 8.04 | 0.00 | -176.43 | 1439 (9) | 16139 (9) | 154444 (9) |
| 6-10-P | 87 | 150 | 8.04 | 8.04 | 0.92 | -147.85 | 1210 (9) | 13573 (9) | 129890 (9) |
| 6-11-P | 87 | 150 | 8.04 | 8.04 | 0.62 | -137.37 | 1104 (9) | 12379 (9) | 118469 (9) |
| 6-12-P | 87 | 150 | 8.04 | 8.04 | 1.38 | -100.26 | 800 (9) | 8976 (9) | 85902 (9) |
| 6-13-P | 87 | 150 | 8.04 | 8.04 | 1.80 | -64.40 | 511 (9) | 5736 (9) | 54893 (9) |
| 6-14-P | 87 | 150 | 8.04 | 8.04 | 2.10 | -36.36 | 287 (9) | 3223 (9) | 30844 (9) |
| 6-15-P | 87 | 150 | 8.04 | 8.04 | 1.83 | -16.44 | 129 (9) | 1526 (9) | 13896 (9) |
| 6-16-P | 87 | 150 | 8.04 | 8.04 | 0.81 | -3.90 | 31 (9) | 719 (9) | 3292 (9) |
| 6-17-P | 87 | 150 | 8.04 | 8.04 | 0.12 | -0.46 | 4 (10) | 108 (10) | 406 (10) |
| 7-1-S | 95 | 150 | 40.72 | 40.72 | 0.40 | -0.71 | 3 (9) | 51 (9) | 168 (9) |
| 7-2-S | 95 | 150 | 40.72 | 40.72 | 0.00 | -3.98 | 12 (9) | 157 (9) | 623 (9) |
| 7-3-S | 95 | 150 | 40.72 | 40.72 | 0.18 | -6.88 | 21 (9) | 272 (9) | 1081 (9) |
| 7-4-S | 95 | 150 | 40.72 | 40.72 | 2.60 | -7.08 | 22 (9) | 759 (9) | 1119 (9) |
| 7-5-S | 95 | 150 | 40.72 | 40.72 | 11.71 | -4.51 | 48 (9) | 2441 (9) | 722 (9) |
| 7-6-S | 95 | 150 | 40.72 | 40.72 | 34.71 | -2.56 | 111 (9) | 5687 (9) | 1432 (9) |
| 7-7-S | 95 | 150 | 40.72 | 40.72 | 67.92 | -1.03 | 214 (9) | 11016 (9) | 2775 (9) |
| 7-8-S | 95 | 150 | 40.72 | 40.72 | 107.74 | 0.00 | 338 (9) | 17381 (9) | 4378 (9) |
| 7-9-S | 95 | 150 | 40.72 | 40.72 | 150.58 | 0.00 | 470 (9) | 24177 (9) | 6090 (9) |
| 7-10-S | 95 | 150 | 40.72 | 40.72 | 147.26 | 0.00 | 457 (9) | 23470 (9) | 5912 (9) |
| 7-11-S | 95 | 150 | 40.72 | 40.72 | 156.35 | 0.00 | 492 (9) | 25271 (9) | 6366 (9) |
| 7-12-S | 95 | 150 | 40.72 | 40.72 | 154.87 | 0.00 | 489 (9) | 25152 (9) | 6336 (9) |
| 7-13-S | 95 | 150 | 40.72 | 40.72 | 144.76 | -0.06 | 459 (9) | 23566 (9) | 5936 (9) |
| 7-14-S | 95 | 150 | 40.72 | 40.72 | 127.61 | -0.45 | 404 (9) | 20740 (9) | 5224 (9) |
| 7-15-S | 95 | 150 | 40.72 | 40.72 | 105.45 | -0.83 | 332 (9) | 17063 (9) | 4298 (9) |
| 7-16-S | 95 | 150 | 40.72 | 40.72 | 81.53 | -1.23 | 255 (9) | 13104 (9) | 3301 (9) |
| 7-17-S | 95 | 150 | 40.72 | 40.72 | 58.94 | -1.61 | 183 (9) | 9406 (9) | 2369 (9) |
| 7-18-S | 95 | 150 | 40.72 | 40.72 | 39.09 | -1.93 | 121 (9) | 6201 (9) | 1562 (9) |
| 7-19-S | 95 | 150 | 40.72 | 40.72 | 22.42 | -2.14 | 69 (9) | 3546 (9) | 893 (9) |
| 7-20-S | 95 | 150 | 40.72 | 40.72 | 9.25 | -1.43 | 28 (9) | 1462 (9) | 368 (9) |
| 7-21-S | 95 | 150 | 40.72 | 40.72 | 0.95 | -0.79 | 4 (9) | 185 (9) | 127 (9) |
| 8-1-S | 95 | 150 | 40.72 | 40.72 | 1.79 | -2.23 | 12 (9) | 595 (9) | 351 (9) |
| 8-2-S | 95 | 150 | 40.72 | 40.72 | 11.85 | -10.35 | 57 (9) | 2920 (9) | 1631 (9) |
| 8-3-S | 95 | 150 | 40.72 | 40.72 | 27.71 | -26.96 | 143 (9) | 7356 (9) | 4289 (9) |
| 8-4-S | 95 | 150 | 40.72 | 40.72 | 60.50 | -51.48 | 424 (9) | 21775 (9) | 8248 (9) |
| 8-5-S | 95 | 150 | 40.72 | 40.72 | 10.51 | -105.98 | 330 (9) | 6574 (9) | 16970 (9) |
| 8-6-S | 95 | 150 | 40.72 | 40.72 | 0.70 | -156.69 | 483 (9) | 6259 (9) | 24849 (9) |
| 8-7-S | 95 | 150 | 40.72 | 40.72 | 14.65 | -65.36 | 198 (9) | 5159 (9) | 10194 (9) |
| 8-8-S | 95 | 150 | 40.72 | 40.72 | 63.28 | -0.09 | 207 (9) | 10638 (9) | 2680 (9) |
| 8-9-S | 95 | 150 | 40.72 | 40.72 | 180.25 | 0.00 | 574 (9) | 29511 (9) | 7434 (9) |
| 8-10-S | 95 | 150 | 40.72 | 40.72 | 237.54 | 0.00 | 761 (9) | 39105 (9) | 9850 (9) |
| 8-11-S | 95 | 150 | 40.72 | 40.72 | 229.81 | 0.00 | 734 (9) | 37709 (9) | 9499 (9) |
| 8-12-S | 95 | 150 | 40.72 | 40.72 | 225.53 | 0.00 | 717 (9) | 36833 (9) | 9278 (9) |
| 8-13-S | 95 | 150 | 40.72 | 40.72 | 215.42 | -0.77 | 679 (9) | 34896 (9) | 8790 (9) |
| 8-14-S | 95 | 150 | 40.72 | 40.72 | 199.11 | -2.99 | 618 (9) | 31754 (9) | 7999 (9) |
| 8-15-S | 95 | 150 | 40.72 | 40.72 | 180.10 | -7.73 | 546 (9) | 28049 (9) | 7065 (9) |
| 8-16-S | 95 | 150 | 40.72 | 40.72 | 160.32 | -17.87 | 474 (9) | 24337 (9) | 6130 (9) |
| 8-17-S | 95 | 150 | 40.72 | 40.72 | 37.68 | -55.12 | 182 (9) | 6387 (9) | 9350 (9) |
| 8-18-S | 95 | 150 | 40.72 | 40.72 | 12.95 | -103.37 | 332 (9) | 4300 (9) | 17069 (9) |
| 8-19-S | 95 | 150 | 40.72 | 40.72 | 9.21 | -59.69 | 191 (9) | 2511 (9) | 9829 (9) |
| 8-20-S | 95 | 150 | 40.72 | 40.72 | 4.53 | -20.85 | 66 (9) | 1603 (9) | 3409 (9) |
| 8-21-S | 95 | 150 | 40.72 | 40.72 | 3.01 | -2.18 | 11 (9) | 561 (9) | 313 (9) |
| 9-1-S | 95 | 150 | 40.72 | 40.72 | 1.79 | -2.23 | 12 (9) | 595 (9) | 351 (9) |
| 9-2-S | 95 | 150 | 40.72 | 40.72 | 11.85 | -10.35 | 57 (9) | 2920 (9) | 1631 (9) |
| 9-3-S | 95 | 150 | 40.72 | 40.72 | 27.71 | -26.96 | 143 (9) | 7356 (9) | 4289 (9) |
| 9-4-S | 95 | 150 | 40.72 | 40.72 | 60.50 | -51.48 | 424 (9) | 21775 (9) | 8248 (9) |
| 9-5-S | 95 | 150 | 40.72 | 40.72 | 10.51 | -105.98 | 330 (9) | 6574 (9) | 16970 (9) |
| 9-6-S | 95 | 150 | 40.72 | 40.72 | 0.70 | -156.69 | 483 (9) | 6259 (9) | 24849 (9) |
| 9-7-S | 95 | 150 | 40.72 | 40.72 | 14.65 | -65.36 | 198 (9) | 5159 (9) | 10194 (9) |
| 9-8-S | 95 | 150 | 40.72 | 40.72 | 63.28 | -0.09 | 207 (9) | 10638 (9) | 2680 (9) |
| 9-9-S | 95 | 150 | 40.72 | 40.72 | 180.25 | 0.00 | 574 (9) | 29511 (9) | 7434 (9) |
| 9-10-S | 95 | 150 | 40.72 | 40.72 | 237.54 | 0.00 | 761 (9) | 39105 (9) | 9850 (9) |
| 9-11-S | 95 | 150 | 40.72 | 40.72 | 229.81 | 0.00 | 734 (9) | 37709 (9) | 9499 (9) |
| 9-12-S | 95 | 150 | 40.72 | 40.72 | 225.53 | 0.00 | 717 (9) | 36833 (9) | 9278 (9) |
| 9-13-S | 95 | 150 | 40.72 | 40.72 | 215.42 | -0.77 | 679 (9) | 34896 (9) | 8790 (9) |
| 9-14-S | 95 | 150 | 40.72 | 40.72 | 199.11 | -2.99 | 618 (9) | 31754 (9) | 7999 (9) |
| 9-15-S | 95 | 150 | 40.72 | 40.72 | 180.10 | -7.73 | 546 (9) | 28049 (9) | 7065 (9) |
| 9-16-S | 95 | 150 | 40.72 | 40.72 | 160.32 | -17.87 | 474 (9) | 24337 (9) | 6130 (9) |
| 9-17-S | 95 | 150 | 40.72 | 40.72 | 37.68 | -55.12 | 182 (9) | 6387 (9) | 9350 (9) |
| 9-18-S | 95 | 150 | 40.72 | 40.72 | 12.95 | -103.37 | 332 (9) | 4300 (9) | 17069 (9) |

| Is | B | H | Afi | Afs | Mp | Mn | σ_c | σ_{fi} | σ_{fs} |
|---------|------|------|-------|-------|--------|--------|------------|---------------|---------------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kNm] | [kPa] | [kPa] | [kPa] |
| 9-19-S | 95 | 150 | 40.72 | 40.72 | 9.21 | -59.69 | 191 (9) | 2511 (9) | 9829 (9) |
| 9-20-S | 95 | 150 | 40.72 | 40.72 | 4.53 | -20.85 | 66 (9) | 1603 (9) | 3409 (9) |
| 9-21-S | 95 | 150 | 40.72 | 40.72 | 3.01 | -2.18 | 11 (9) | 561 (9) | 313 (9) |
| 10-1-S | 95 | 150 | 40.72 | 40.72 | 0.40 | -0.71 | 3 (9) | 51 (9) | 168 (9) |
| 10-2-S | 95 | 150 | 40.72 | 40.72 | 0.00 | -3.98 | 12 (9) | 157 (9) | 623 (9) |
| 10-3-S | 95 | 150 | 40.72 | 40.72 | 0.18 | -6.88 | 21 (9) | 272 (9) | 1081 (9) |
| 10-4-S | 95 | 150 | 40.72 | 40.72 | 2.60 | -7.08 | 22 (9) | 759 (9) | 1119 (9) |
| 10-5-S | 95 | 150 | 40.72 | 40.72 | 11.71 | -4.51 | 48 (9) | 2441 (9) | 722 (9) |
| 10-6-S | 95 | 150 | 40.72 | 40.72 | 34.71 | -2.56 | 111 (9) | 5687 (9) | 1432 (9) |
| 10-7-S | 95 | 150 | 40.72 | 40.72 | 67.92 | -1.03 | 214 (9) | 11016 (9) | 2775 (9) |
| 10-8-S | 95 | 150 | 40.72 | 40.72 | 107.74 | 0.00 | 338 (9) | 17381 (9) | 4378 (9) |
| 10-9-S | 95 | 150 | 40.72 | 40.72 | 150.58 | 0.00 | 470 (9) | 24177 (9) | 6090 (9) |
| 10-10-S | 95 | 150 | 40.72 | 40.72 | 147.26 | 0.00 | 457 (9) | 23470 (9) | 5912 (9) |
| 10-11-S | 95 | 150 | 40.72 | 40.72 | 156.35 | 0.00 | 492 (9) | 25271 (9) | 6366 (9) |
| 10-12-S | 95 | 150 | 40.72 | 40.72 | 154.87 | 0.00 | 489 (9) | 25152 (9) | 6336 (9) |
| 10-13-S | 95 | 150 | 40.72 | 40.72 | 144.76 | -0.06 | 459 (9) | 23566 (9) | 5936 (9) |
| 10-14-S | 95 | 150 | 40.72 | 40.72 | 127.61 | -0.45 | 404 (9) | 20740 (9) | 5224 (9) |
| 10-15-S | 95 | 150 | 40.72 | 40.72 | 105.45 | -0.83 | 332 (9) | 17063 (9) | 4298 (9) |
| 10-16-S | 95 | 150 | 40.72 | 40.72 | 81.53 | -1.23 | 255 (9) | 13104 (9) | 3301 (9) |
| 10-17-S | 95 | 150 | 40.72 | 40.72 | 58.94 | -1.61 | 183 (9) | 9406 (9) | 2369 (9) |
| 10-18-S | 95 | 150 | 40.72 | 40.72 | 39.09 | -1.93 | 121 (9) | 6201 (9) | 1562 (9) |
| 10-19-S | 95 | 150 | 40.72 | 40.72 | 22.42 | -2.14 | 69 (9) | 3546 (9) | 893 (9) |
| 10-20-S | 95 | 150 | 40.72 | 40.72 | 9.25 | -1.43 | 28 (9) | 1462 (9) | 368 (9) |
| 10-21-S | 95 | 150 | 40.72 | 40.72 | 0.95 | -0.79 | 4 (9) | 185 (9) | 127 (9) |

Verifica a fessurazione

Simbologia adottata

| | |
|---------------|---|
| n° | indice sezione |
| Y | ordinata sezione espressa in [m] |
| B | larghezza sezione espressa in [cm] |
| H | altezza sezione espressa in [cm] |
| Af | area ferri zona tesa espressa in [cmq] |
| Aeff | area efficace espressa in [cmq] |
| M | momento agente espressa in [kNm] |
| Mpf | momento di prima fessurazione espressa in [kNm] |
| ε | deformazione espressa 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 | ε | Sm | w |
|----|------|------|-------|---------|-------|---------|---------------|------|------------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kNm] | [%] | [mm] | [mm] |
| 1 | 100 | 40 | 22.62 | 1125.00 | 0.75 | 179.94 | 0.0000 | 0.00 | 0.000 (10) |
| 2 | 100 | 41 | 22.62 | 1125.00 | 0.75 | 229.17 | 0.0000 | 0.00 | 0.000 (10) |
| 3 | 100 | 42 | 22.62 | 1125.00 | 0.77 | 304.56 | 0.0000 | 0.00 | 0.000 (10) |
| 4 | 100 | 43 | 22.62 | 1125.00 | 0.79 | 422.24 | 0.0000 | 0.00 | 0.000 (10) |
| 5 | 100 | 44 | 22.62 | 1125.00 | 0.84 | 601.18 | 0.0000 | 0.00 | 0.000 (10) |
| 6 | 100 | 45 | 0.00 | 0.00 | 0.91 | 839.02 | 0.0000 | 0.00 | 0.000 (10) |
| 7 | 100 | 46 | 0.00 | 0.00 | 1.01 | 1056.41 | 0.0000 | 0.00 | 0.000 (10) |
| 8 | 100 | 47 | 0.00 | 0.00 | 1.14 | 1120.34 | 0.0000 | 0.00 | 0.000 (10) |
| 9 | 100 | 48 | 0.00 | 0.00 | 1.30 | 1021.56 | 0.0000 | 0.00 | 0.000 (10) |
| 10 | 100 | 49 | 22.62 | 1125.00 | 1.51 | 867.53 | 0.0000 | 0.00 | 0.000 (10) |
| 11 | 100 | 50 | 22.62 | 1125.00 | 1.77 | 730.35 | 0.0000 | 0.00 | 0.000 (10) |
| 12 | 100 | 51 | 22.62 | 1125.00 | 2.07 | 626.66 | 0.0000 | 0.00 | 0.000 (10) |
| 13 | 100 | 52 | 22.62 | 1125.00 | 2.44 | 552.04 | 0.0000 | 0.00 | 0.000 (10) |
| 14 | 100 | 53 | 22.62 | 1125.00 | 2.86 | 498.81 | 0.0000 | 0.00 | 0.000 (10) |
| 15 | 100 | 54 | 22.62 | 1125.00 | 3.35 | 460.68 | 0.0000 | 0.00 | 0.000 (10) |
| 16 | 100 | 55 | 22.62 | 1125.00 | 3.90 | 433.24 | 0.0000 | 0.00 | 0.000 (10) |
| 17 | 100 | 56 | 22.62 | 1125.00 | 4.54 | 413.45 | 0.0000 | 0.00 | 0.000 (10) |
| 18 | 100 | 57 | 22.62 | 1125.00 | 5.25 | 399.26 | 0.0000 | 0.00 | 0.000 (10) |
| 19 | 100 | 58 | 22.62 | 1125.00 | 6.04 | 389.26 | 0.0000 | 0.00 | 0.000 (10) |

| n° | B | H | Af | Aeff | M | Mpf | ε | Sm | w |
|----|------|------|-------|---------|--------|--------|--------|------|------------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kNm] | [%] | [mm] | [mm] |
| 20 | 100 | 59 | 22.62 | 1125.00 | 6.92 | 382.44 | 0.0000 | 0.00 | 0.000 (10) |
| 21 | 100 | 60 | 22.62 | 1125.00 | 7.90 | 378.10 | 0.0000 | 0.00 | 0.000 (10) |
| 22 | 100 | 61 | 22.62 | 1125.00 | 8.97 | 375.73 | 0.0000 | 0.00 | 0.000 (10) |
| 23 | 100 | 62 | 22.62 | 1125.00 | 10.14 | 374.94 | 0.0000 | 0.00 | 0.000 (10) |
| 24 | 100 | 63 | 22.62 | 1125.00 | 11.42 | 375.44 | 0.0000 | 0.00 | 0.000 (10) |
| 25 | 100 | 64 | 22.62 | 1125.00 | 12.81 | 377.02 | 0.0000 | 0.00 | 0.000 (10) |
| 26 | 100 | 65 | 22.62 | 1125.00 | 14.32 | 379.49 | 0.0000 | 0.00 | 0.000 (10) |
| 27 | 100 | 66 | 22.62 | 1125.00 | 15.95 | 382.74 | 0.0000 | 0.00 | 0.000 (10) |
| 28 | 100 | 67 | 22.62 | 1125.00 | 17.70 | 386.65 | 0.0000 | 0.00 | 0.000 (10) |
| 29 | 100 | 68 | 22.62 | 1125.00 | 19.58 | 391.13 | 0.0000 | 0.00 | 0.000 (10) |
| 30 | 100 | 69 | 22.62 | 1125.00 | 21.60 | 396.13 | 0.0000 | 0.00 | 0.000 (10) |
| 31 | 100 | 70 | 22.62 | 1125.00 | 23.75 | 401.57 | 0.0000 | 0.00 | 0.000 (10) |
| 32 | 100 | 71 | 22.62 | 1125.00 | 26.05 | 407.42 | 0.0000 | 0.00 | 0.000 (10) |
| 33 | 100 | 72 | 22.62 | 1125.00 | 28.50 | 413.63 | 0.0000 | 0.00 | 0.000 (10) |
| 34 | 100 | 73 | 67.86 | 1125.00 | 31.10 | 519.94 | 0.0000 | 0.00 | 0.000 (10) |
| 35 | 100 | 74 | 67.86 | 1125.00 | 33.86 | 527.87 | 0.0000 | 0.00 | 0.000 (10) |
| 36 | 100 | 75 | 67.86 | 1125.00 | 36.78 | 536.11 | 0.0000 | 0.00 | 0.000 (10) |
| 37 | 100 | 76 | 67.86 | 1125.00 | 39.86 | 544.64 | 0.0000 | 0.00 | 0.000 (10) |
| 38 | 100 | 77 | 67.86 | 1125.00 | 43.12 | 553.44 | 0.0000 | 0.00 | 0.000 (10) |
| 39 | 100 | 78 | 67.86 | 1125.00 | 46.55 | 562.49 | 0.0000 | 0.00 | 0.000 (10) |
| 40 | 100 | 79 | 67.86 | 1125.00 | 50.16 | 571.77 | 0.0000 | 0.00 | 0.000 (10) |
| 41 | 100 | 80 | 67.86 | 1125.00 | 53.96 | 581.28 | 0.0000 | 0.00 | 0.000 (10) |
| 42 | 100 | 81 | 67.86 | 1125.00 | 57.95 | 591.00 | 0.0000 | 0.00 | 0.000 (10) |
| 43 | 100 | 82 | 67.86 | 1125.00 | 62.13 | 600.93 | 0.0000 | 0.00 | 0.000 (10) |
| 44 | 100 | 83 | 67.86 | 1125.00 | 66.52 | 611.05 | 0.0000 | 0.00 | 0.000 (10) |
| 45 | 100 | 84 | 67.86 | 1125.00 | 71.10 | 621.36 | 0.0000 | 0.00 | 0.000 (10) |
| 46 | 100 | 85 | 67.86 | 1125.00 | 75.89 | 631.85 | 0.0000 | 0.00 | 0.000 (10) |
| 47 | 100 | 86 | 67.86 | 1125.00 | 80.90 | 642.51 | 0.0000 | 0.00 | 0.000 (10) |
| 48 | 100 | 87 | 67.86 | 1125.00 | 86.12 | 653.34 | 0.0000 | 0.00 | 0.000 (10) |
| 49 | 100 | 88 | 67.86 | 1125.00 | 91.57 | 664.33 | 0.0000 | 0.00 | 0.000 (10) |
| 50 | 100 | 89 | 67.86 | 1125.00 | 97.24 | 675.49 | 0.0000 | 0.00 | 0.000 (10) |
| 51 | 100 | 90 | 67.86 | 1125.00 | 103.14 | 686.80 | 0.0000 | 0.00 | 0.000 (10) |
| 52 | 100 | 91 | 45.24 | 1125.00 | 109.28 | 637.66 | 0.0000 | 0.00 | 0.000 (10) |
| 53 | 100 | 92 | 45.24 | 1125.00 | 115.66 | 675.16 | 0.0000 | 0.00 | 0.000 (10) |
| 54 | 100 | 93 | 45.24 | 1125.00 | 122.29 | 659.68 | 0.0000 | 0.00 | 0.000 (10) |
| 55 | 100 | 94 | 45.24 | 1125.00 | 129.16 | 670.91 | 0.0000 | 0.00 | 0.000 (10) |
| 56 | 100 | 95 | 45.24 | 1125.00 | 136.29 | 682.27 | 0.0000 | 0.00 | 0.000 (10) |
| 57 | 100 | 96 | 45.24 | 1125.00 | 143.68 | 693.77 | 0.0000 | 0.00 | 0.000 (10) |
| 58 | 100 | 97 | 45.24 | 1125.00 | 151.33 | 705.40 | 0.0000 | 0.00 | 0.000 (10) |
| 59 | 100 | 98 | 45.24 | 1125.00 | 159.25 | 717.17 | 0.0000 | 0.00 | 0.000 (10) |
| 60 | 100 | 99 | 45.24 | 1125.00 | 167.44 | 729.07 | 0.0000 | 0.00 | 0.000 (10) |
| 61 | 100 | 100 | 45.24 | 1125.00 | 175.91 | 741.09 | 0.0000 | 0.00 | 0.000 (10) |

Mensola valle

Apertura limite fessure $w_{lim}=0.30$

| n° | B | H | Af | Aeff | M | Mpf | ε | Sm | w |
|----|------|------|-------|---------|-------|---------|--------|------|------------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kNm] | [%] | [mm] | [mm] |
| 1 | 100 | 50 | 0.00 | 0.00 | 0.00 | 0.00 | 0.0000 | 0.00 | 0.000 (10) |
| 2 | 100 | 50 | 0.00 | 0.00 | -0.05 | 0.00 | 0.0000 | 0.00 | 0.000 (10) |
| 3 | 100 | 50 | 8.04 | 1125.00 | -0.19 | -143.03 | 0.0000 | 0.00 | 0.000 (10) |
| 4 | 100 | 50 | 8.04 | 1125.00 | -0.42 | -143.03 | 0.0000 | 0.00 | 0.000 (10) |
| 5 | 100 | 50 | 8.04 | 1125.00 | -0.75 | -143.03 | 0.0000 | 0.00 | 0.000 (10) |

Piastra fondazione

Apertura limite fessure $w_{lim}=0.30$

| Is | B | H | Af | Aeff | M | Mpf | ε | Sm | w |
|-------|------|------|-------|---------|--------|----------|--------|------|-------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kNm] | [%] | [mm] | [mm] |
| 1-1-P | 100 | 150 | 10.05 | 1125.00 | 0.62 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 1-2-P | 100 | 150 | 10.05 | 1125.00 | 1.06 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 1-3-P | 100 | 150 | 10.05 | 1125.00 | -4.24 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 1-4-P | 100 | 150 | 10.05 | 1125.00 | -11.68 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 1-5-P | 100 | 150 | 10.05 | 1125.00 | -27.25 | -1235.64 | 0.0000 | 0.00 | 0.000 |

| Is | B | H | Af | Aeff | M | Mpf | ε | Sm | w |
|--------|------|------|-------|---------|---------|----------|--------|------|-------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kNm] | [%] | [mm] | [mm] |
| 1-6-P | 100 | 150 | 10.05 | 1125.00 | -53.20 | -1235.64 | 0.0000 | 0.00 | 0.000 |
| 1-7-P | 100 | 150 | 10.05 | 1125.00 | -90.50 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 1-8-P | 100 | 150 | 10.05 | 1125.00 | -155.26 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 1-9-P | 100 | 150 | 10.05 | 1125.00 | -149.52 | -1235.64 | 0.0000 | 0.00 | 0.000 |
| 1-10-P | 100 | 150 | 10.05 | 1125.00 | -155.26 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 1-11-P | 100 | 150 | 10.05 | 1125.00 | -90.50 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 1-12-P | 100 | 150 | 10.05 | 1125.00 | -53.20 | -1235.64 | 0.0000 | 0.00 | 0.000 |
| 1-13-P | 100 | 150 | 10.05 | 1125.00 | -27.25 | -1235.64 | 0.0000 | 0.00 | 0.000 |
| 1-14-P | 100 | 150 | 10.05 | 1125.00 | -11.68 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 1-15-P | 100 | 150 | 10.05 | 1125.00 | -4.24 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 1-16-P | 100 | 150 | 10.05 | 1125.00 | 1.06 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 1-17-P | 100 | 150 | 10.05 | 1125.00 | 0.62 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 2-1-P | 100 | 150 | 10.05 | 1125.00 | 8.58 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 2-2-P | 100 | 150 | 10.05 | 1125.00 | 10.51 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 2-3-P | 100 | 150 | 10.05 | 1125.00 | 16.16 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 2-4-P | 100 | 150 | 10.05 | 1125.00 | 16.25 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 2-5-P | 100 | 150 | 10.05 | 1125.00 | -15.37 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 2-6-P | 100 | 150 | 10.05 | 1125.00 | -34.24 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 2-7-P | 100 | 150 | 10.05 | 1125.00 | -63.28 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 2-8-P | 100 | 150 | 10.05 | 1125.00 | -72.71 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 2-9-P | 100 | 150 | 10.05 | 1125.00 | -98.92 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 2-10-P | 100 | 150 | 10.05 | 1125.00 | -72.71 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 2-11-P | 100 | 150 | 10.05 | 1125.00 | -63.28 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 2-12-P | 100 | 150 | 10.05 | 1125.00 | -34.24 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 2-13-P | 100 | 150 | 10.05 | 1125.00 | -15.37 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 2-14-P | 100 | 150 | 10.05 | 1125.00 | 16.25 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 2-15-P | 100 | 150 | 10.05 | 1125.00 | 16.16 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 2-16-P | 100 | 150 | 10.05 | 1125.00 | 10.51 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 2-17-P | 100 | 150 | 10.05 | 1125.00 | 8.58 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 4-1-P | 87 | 150 | 10.05 | 975.00 | 10.07 | 1079.23 | 0.0000 | 0.00 | 0.000 |
| 4-2-P | 87 | 150 | 10.05 | 975.00 | 11.70 | 1079.23 | 0.0000 | 0.00 | 0.000 |
| 4-3-P | 87 | 150 | 10.05 | 975.00 | 19.54 | 1079.23 | 0.0000 | 0.00 | 0.000 |
| 4-4-P | 87 | 150 | 10.05 | 975.00 | 24.06 | 1079.23 | 0.0000 | 0.00 | 0.000 |
| 4-5-P | 87 | 150 | 10.05 | 975.00 | 25.64 | 1079.23 | 0.0000 | 0.00 | 0.000 |
| 4-6-P | 87 | 150 | 10.05 | 975.00 | 24.86 | 1079.23 | 0.0000 | 0.00 | 0.000 |
| 4-7-P | 87 | 150 | 10.05 | 975.00 | 22.07 | 1079.23 | 0.0000 | 0.00 | 0.000 |
| 4-8-P | 87 | 150 | 10.05 | 975.00 | 18.47 | 1079.23 | 0.0000 | 0.00 | 0.000 |
| 4-9-P | 87 | 150 | 10.05 | 975.00 | 16.68 | 1079.23 | 0.0000 | 0.00 | 0.000 |
| 4-10-P | 87 | 150 | 10.05 | 975.00 | 18.47 | 1079.23 | 0.0000 | 0.00 | 0.000 |
| 4-11-P | 87 | 150 | 10.05 | 975.00 | 22.07 | 1079.23 | 0.0000 | 0.00 | 0.000 |
| 4-12-P | 87 | 150 | 10.05 | 975.00 | 24.86 | 1079.23 | 0.0000 | 0.00 | 0.000 |
| 4-13-P | 87 | 150 | 10.05 | 975.00 | 25.64 | 1079.23 | 0.0000 | 0.00 | 0.000 |
| 4-14-P | 87 | 150 | 10.05 | 975.00 | 24.06 | 1079.23 | 0.0000 | 0.00 | 0.000 |
| 4-15-P | 87 | 150 | 10.05 | 975.00 | 19.54 | 1079.23 | 0.0000 | 0.00 | 0.000 |
| 4-16-P | 87 | 150 | 10.05 | 975.00 | 11.70 | 1079.23 | 0.0000 | 0.00 | 0.000 |
| 4-17-P | 87 | 150 | 10.05 | 975.00 | 10.07 | 1079.23 | 0.0000 | 0.00 | 0.000 |
| 5-1-P | 87 | 150 | 8.04 | 975.00 | -1.27 | 1066.72 | 0.0000 | 0.00 | 0.000 |
| 5-2-P | 87 | 150 | 8.04 | 975.00 | 2.76 | 1066.72 | 0.0000 | 0.00 | 0.000 |
| 5-3-P | 87 | 150 | 8.04 | 975.00 | 7.36 | 1066.72 | 0.0000 | 0.00 | 0.000 |
| 5-4-P | 87 | 150 | 8.04 | 975.00 | -14.66 | 1066.72 | 0.0000 | 0.00 | 0.000 |
| 5-5-P | 87 | 150 | 8.04 | 975.00 | -27.67 | 1066.72 | 0.0000 | 0.00 | 0.000 |
| 5-6-P | 87 | 150 | 8.04 | 975.00 | -48.98 | 1066.72 | 0.0000 | 0.00 | 0.000 |
| 5-7-P | 87 | 150 | 8.04 | 975.00 | -81.43 | 1066.72 | 0.0000 | 0.00 | 0.000 |
| 5-8-P | 87 | 150 | 8.04 | 975.00 | -137.44 | 1066.72 | 0.0000 | 0.00 | 0.000 |
| 5-9-P | 87 | 150 | 8.04 | 975.00 | -118.89 | -1066.72 | 0.0000 | 0.00 | 0.000 |
| 5-10-P | 87 | 150 | 8.04 | 975.00 | -137.44 | 1066.72 | 0.0000 | 0.00 | 0.000 |
| 5-11-P | 87 | 150 | 8.04 | 975.00 | -81.43 | 1066.72 | 0.0000 | 0.00 | 0.000 |
| 5-12-P | 87 | 150 | 8.04 | 975.00 | -48.98 | 1066.72 | 0.0000 | 0.00 | 0.000 |
| 5-13-P | 87 | 150 | 8.04 | 975.00 | -27.67 | 1066.72 | 0.0000 | 0.00 | 0.000 |
| 5-14-P | 87 | 150 | 8.04 | 975.00 | -14.66 | 1066.72 | 0.0000 | 0.00 | 0.000 |
| 5-15-P | 87 | 150 | 8.04 | 975.00 | 7.36 | 1066.72 | 0.0000 | 0.00 | 0.000 |
| 5-16-P | 87 | 150 | 8.04 | 975.00 | 2.76 | 1066.72 | 0.0000 | 0.00 | 0.000 |
| 5-17-P | 87 | 150 | 8.04 | 975.00 | -1.27 | 1066.72 | 0.0000 | 0.00 | 0.000 |
| 6-1-P | 87 | 150 | 8.04 | 975.00 | -0.46 | 1066.72 | 0.0000 | 0.00 | 0.000 |
| 6-2-P | 87 | 150 | 8.04 | 975.00 | -3.70 | 1066.72 | 0.0000 | 0.00 | 0.000 |
| 6-3-P | 87 | 150 | 8.04 | 975.00 | -15.61 | 1066.72 | 0.0000 | 0.00 | 0.000 |
| 6-4-P | 87 | 150 | 8.04 | 975.00 | -34.66 | 1066.72 | 0.0000 | 0.00 | 0.000 |
| 6-5-P | 87 | 150 | 8.04 | 975.00 | -61.68 | 1066.72 | 0.0000 | 0.00 | 0.000 |
| 6-6-P | 87 | 150 | 8.04 | 975.00 | -96.52 | 1066.72 | 0.0000 | 0.00 | 0.000 |
| 6-7-P | 87 | 150 | 8.04 | 975.00 | -133.11 | 1066.72 | 0.0000 | 0.00 | 0.000 |

| Is | B | H | Af | Aeff | M | Mpf | ε | Sm | w |
|--------|------|------|-------|---------|---------|----------|--------|------|-------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kNm] | [%] | [mm] | [mm] |
| 6-8-P | 87 | 150 | 8.04 | 975.00 | -145.94 | 1066.72 | 0.0000 | 0.00 | 0.000 |
| 6-9-P | 87 | 150 | 8.04 | 975.00 | -173.53 | -1066.72 | 0.0000 | 0.00 | 0.000 |
| 6-10-P | 87 | 150 | 8.04 | 975.00 | -145.94 | 1066.72 | 0.0000 | 0.00 | 0.000 |
| 6-11-P | 87 | 150 | 8.04 | 975.00 | -133.11 | 1066.72 | 0.0000 | 0.00 | 0.000 |
| 6-12-P | 87 | 150 | 8.04 | 975.00 | -96.52 | 1066.72 | 0.0000 | 0.00 | 0.000 |
| 6-13-P | 87 | 150 | 8.04 | 975.00 | -61.68 | 1066.72 | 0.0000 | 0.00 | 0.000 |
| 6-14-P | 87 | 150 | 8.04 | 975.00 | -34.66 | 1066.72 | 0.0000 | 0.00 | 0.000 |
| 6-15-P | 87 | 150 | 8.04 | 975.00 | -15.61 | 1066.72 | 0.0000 | 0.00 | 0.000 |
| 6-16-P | 87 | 150 | 8.04 | 975.00 | -3.70 | 1066.72 | 0.0000 | 0.00 | 0.000 |
| 6-17-P | 87 | 150 | 8.04 | 975.00 | -0.46 | 1066.72 | 0.0000 | 0.00 | 0.000 |
| 7-1-S | 95 | 150 | 40.72 | 1071.56 | -0.56 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 7-2-S | 95 | 150 | 0.00 | 0.00 | -3.46 | 0.00 | 0.0000 | 0.00 | 0.000 |
| 7-3-S | 95 | 150 | 40.72 | 1071.56 | -5.99 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 7-4-S | 95 | 150 | 40.72 | 1071.56 | -6.21 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 7-5-S | 95 | 150 | 40.72 | 1071.56 | 10.83 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 7-6-S | 95 | 150 | 40.72 | 1071.56 | 31.53 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 7-7-S | 95 | 150 | 40.72 | 1071.56 | 61.08 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 7-8-S | 95 | 150 | 40.72 | 1071.56 | 96.36 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 7-9-S | 95 | 150 | 40.72 | 1071.56 | 134.04 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 7-10-S | 95 | 150 | 40.72 | 1071.56 | 130.12 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 7-11-S | 95 | 150 | 40.72 | 1071.56 | 140.11 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 7-12-S | 95 | 150 | 40.72 | 1071.56 | 139.45 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 7-13-S | 95 | 150 | 40.72 | 1071.56 | 130.66 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 7-14-S | 95 | 150 | 40.72 | 1071.56 | 114.98 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 7-15-S | 95 | 150 | 40.72 | 1071.56 | 94.60 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 7-16-S | 95 | 150 | 40.72 | 1071.56 | 72.65 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 7-17-S | 95 | 150 | 40.72 | 1071.56 | 52.15 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 7-18-S | 95 | 150 | 40.72 | 1071.56 | 34.38 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 7-19-S | 95 | 150 | 40.72 | 1071.56 | 19.66 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 7-20-S | 95 | 150 | 40.72 | 1071.56 | 8.11 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 7-21-S | 95 | 150 | 40.72 | 1071.56 | 0.82 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 8-1-S | 95 | 150 | 40.72 | 1071.56 | -1.95 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 8-2-S | 95 | 150 | 40.72 | 1071.56 | 10.02 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 8-3-S | 95 | 150 | 40.72 | 1071.56 | -23.78 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 8-4-S | 95 | 150 | 40.72 | 1071.56 | 51.74 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 8-5-S | 95 | 150 | 40.72 | 1071.56 | -94.09 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 8-6-S | 95 | 150 | 40.72 | 1071.56 | -137.76 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 8-7-S | 95 | 150 | 40.72 | 1071.56 | -56.51 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 8-8-S | 95 | 150 | 40.72 | 1071.56 | 58.98 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 8-9-S | 95 | 150 | 40.72 | 1071.56 | 163.61 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 8-10-S | 95 | 150 | 40.72 | 1071.56 | 216.81 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 8-11-S | 95 | 150 | 40.72 | 1071.56 | 209.07 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 8-12-S | 95 | 150 | 40.72 | 1071.56 | 204.21 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 8-13-S | 95 | 150 | 40.72 | 1071.56 | 193.47 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 8-14-S | 95 | 150 | 40.72 | 1071.56 | 176.05 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 8-15-S | 95 | 150 | 40.72 | 1071.56 | 155.51 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 8-16-S | 95 | 150 | 40.72 | 1071.56 | 134.93 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 8-17-S | 95 | 150 | 40.72 | 1071.56 | -51.84 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 8-18-S | 95 | 150 | 40.72 | 1071.56 | -94.63 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 8-19-S | 95 | 150 | 40.72 | 1071.56 | -54.49 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 8-20-S | 95 | 150 | 40.72 | 1071.56 | -18.90 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 8-21-S | 95 | 150 | 40.72 | 1071.56 | 2.49 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 9-1-S | 95 | 150 | 40.72 | 1071.56 | -1.95 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 9-2-S | 95 | 150 | 40.72 | 1071.56 | 10.02 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 9-3-S | 95 | 150 | 40.72 | 1071.56 | -23.78 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 9-4-S | 95 | 150 | 40.72 | 1071.56 | 51.74 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 9-5-S | 95 | 150 | 40.72 | 1071.56 | -94.09 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 9-6-S | 95 | 150 | 40.72 | 1071.56 | -137.76 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 9-7-S | 95 | 150 | 40.72 | 1071.56 | -56.51 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 9-8-S | 95 | 150 | 40.72 | 1071.56 | 58.98 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 9-9-S | 95 | 150 | 40.72 | 1071.56 | 163.61 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 9-10-S | 95 | 150 | 40.72 | 1071.56 | 216.81 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 9-11-S | 95 | 150 | 40.72 | 1071.56 | 209.07 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 9-12-S | 95 | 150 | 40.72 | 1071.56 | 204.21 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 9-13-S | 95 | 150 | 40.72 | 1071.56 | 193.47 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 9-14-S | 95 | 150 | 40.72 | 1071.56 | 176.05 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 9-15-S | 95 | 150 | 40.72 | 1071.56 | 155.51 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 9-16-S | 95 | 150 | 40.72 | 1071.56 | 134.93 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 9-17-S | 95 | 150 | 40.72 | 1071.56 | -51.84 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 9-18-S | 95 | 150 | 40.72 | 1071.56 | -94.63 | 1370.62 | 0.0000 | 0.00 | 0.000 |

| Is | B | H | Af | Aeff | M | Mpf | ε | Sm | w |
|---------|------|------|-------|---------|--------|---------|--------|------|-------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kNm] | [%] | [mm] | [mm] |
| 9-19-S | 95 | 150 | 40.72 | 1071.56 | -54.49 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 9-20-S | 95 | 150 | 40.72 | 1071.56 | -18.90 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 9-21-S | 95 | 150 | 40.72 | 1071.56 | 2.49 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 10-1-S | 95 | 150 | 40.72 | 1071.56 | -0.56 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 10-2-S | 95 | 150 | 0.00 | 0.00 | -3.46 | 0.00 | 0.0000 | 0.00 | 0.000 |
| 10-3-S | 95 | 150 | 40.72 | 1071.56 | -5.99 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 10-4-S | 95 | 150 | 40.72 | 1071.56 | -6.21 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 10-5-S | 95 | 150 | 40.72 | 1071.56 | 10.83 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 10-6-S | 95 | 150 | 40.72 | 1071.56 | 31.53 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 10-7-S | 95 | 150 | 40.72 | 1071.56 | 61.08 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 10-8-S | 95 | 150 | 40.72 | 1071.56 | 96.36 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 10-9-S | 95 | 150 | 40.72 | 1071.56 | 134.04 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 10-10-S | 95 | 150 | 40.72 | 1071.56 | 130.12 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 10-11-S | 95 | 150 | 40.72 | 1071.56 | 140.11 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 10-12-S | 95 | 150 | 40.72 | 1071.56 | 139.45 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 10-13-S | 95 | 150 | 40.72 | 1071.56 | 130.66 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 10-14-S | 95 | 150 | 40.72 | 1071.56 | 114.98 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 10-15-S | 95 | 150 | 40.72 | 1071.56 | 94.60 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 10-16-S | 95 | 150 | 40.72 | 1071.56 | 72.65 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 10-17-S | 95 | 150 | 40.72 | 1071.56 | 52.15 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 10-18-S | 95 | 150 | 40.72 | 1071.56 | 34.38 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 10-19-S | 95 | 150 | 40.72 | 1071.56 | 19.66 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 10-20-S | 95 | 150 | 40.72 | 1071.56 | 8.11 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 10-21-S | 95 | 150 | 40.72 | 1071.56 | 0.82 | 1370.62 | 0.0000 | 0.00 | 0.000 |

Combinazioni SLEQ

Paramento

Apertura limite fessure $w_{lim}=0.20$

| n° | B | H | Af | Aeff | M | Mpf | ε | Sm | w |
|----|------|------|-------|---------|-------|---------|--------|------|------------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kNm] | [%] | [mm] | [mm] |
| 1 | 100 | 40 | 22.62 | 1125.00 | 0.75 | 179.94 | 0.0000 | 0.00 | 0.000 (11) |
| 2 | 100 | 41 | 22.62 | 1125.00 | 0.75 | 229.17 | 0.0000 | 0.00 | 0.000 (11) |
| 3 | 100 | 42 | 22.62 | 1125.00 | 0.77 | 304.56 | 0.0000 | 0.00 | 0.000 (11) |
| 4 | 100 | 43 | 22.62 | 1125.00 | 0.79 | 422.24 | 0.0000 | 0.00 | 0.000 (11) |
| 5 | 100 | 44 | 22.62 | 1125.00 | 0.84 | 601.18 | 0.0000 | 0.00 | 0.000 (11) |
| 6 | 100 | 45 | 0.00 | 0.00 | 0.91 | 839.02 | 0.0000 | 0.00 | 0.000 (11) |
| 7 | 100 | 46 | 0.00 | 0.00 | 1.01 | 1056.41 | 0.0000 | 0.00 | 0.000 (11) |
| 8 | 100 | 47 | 0.00 | 0.00 | 1.14 | 1120.34 | 0.0000 | 0.00 | 0.000 (11) |
| 9 | 100 | 48 | 0.00 | 0.00 | 1.30 | 1021.56 | 0.0000 | 0.00 | 0.000 (11) |
| 10 | 100 | 49 | 22.62 | 1125.00 | 1.51 | 867.53 | 0.0000 | 0.00 | 0.000 (11) |
| 11 | 100 | 50 | 22.62 | 1125.00 | 1.77 | 730.35 | 0.0000 | 0.00 | 0.000 (11) |
| 12 | 100 | 51 | 22.62 | 1125.00 | 2.07 | 626.66 | 0.0000 | 0.00 | 0.000 (11) |
| 13 | 100 | 52 | 22.62 | 1125.00 | 2.44 | 552.04 | 0.0000 | 0.00 | 0.000 (11) |
| 14 | 100 | 53 | 22.62 | 1125.00 | 2.86 | 498.81 | 0.0000 | 0.00 | 0.000 (11) |
| 15 | 100 | 54 | 22.62 | 1125.00 | 3.35 | 460.68 | 0.0000 | 0.00 | 0.000 (11) |
| 16 | 100 | 55 | 22.62 | 1125.00 | 3.90 | 433.24 | 0.0000 | 0.00 | 0.000 (11) |
| 17 | 100 | 56 | 22.62 | 1125.00 | 4.54 | 413.45 | 0.0000 | 0.00 | 0.000 (11) |
| 18 | 100 | 57 | 22.62 | 1125.00 | 5.25 | 399.26 | 0.0000 | 0.00 | 0.000 (11) |
| 19 | 100 | 58 | 22.62 | 1125.00 | 6.04 | 389.26 | 0.0000 | 0.00 | 0.000 (11) |
| 20 | 100 | 59 | 22.62 | 1125.00 | 6.92 | 382.44 | 0.0000 | 0.00 | 0.000 (11) |
| 21 | 100 | 60 | 22.62 | 1125.00 | 7.90 | 378.10 | 0.0000 | 0.00 | 0.000 (11) |
| 22 | 100 | 61 | 22.62 | 1125.00 | 8.97 | 375.73 | 0.0000 | 0.00 | 0.000 (11) |
| 23 | 100 | 62 | 22.62 | 1125.00 | 10.14 | 374.94 | 0.0000 | 0.00 | 0.000 (11) |
| 24 | 100 | 63 | 22.62 | 1125.00 | 11.42 | 375.44 | 0.0000 | 0.00 | 0.000 (11) |
| 25 | 100 | 64 | 22.62 | 1125.00 | 12.81 | 377.02 | 0.0000 | 0.00 | 0.000 (11) |
| 26 | 100 | 65 | 22.62 | 1125.00 | 14.32 | 379.49 | 0.0000 | 0.00 | 0.000 (11) |
| 27 | 100 | 66 | 22.62 | 1125.00 | 15.95 | 382.74 | 0.0000 | 0.00 | 0.000 (11) |
| 28 | 100 | 67 | 22.62 | 1125.00 | 17.70 | 386.65 | 0.0000 | 0.00 | 0.000 (11) |
| 29 | 100 | 68 | 22.62 | 1125.00 | 19.58 | 391.13 | 0.0000 | 0.00 | 0.000 (11) |
| 30 | 100 | 69 | 22.62 | 1125.00 | 21.60 | 396.13 | 0.0000 | 0.00 | 0.000 (11) |
| 31 | 100 | 70 | 22.62 | 1125.00 | 23.75 | 401.57 | 0.0000 | 0.00 | 0.000 (11) |
| 32 | 100 | 71 | 22.62 | 1125.00 | 26.05 | 407.42 | 0.0000 | 0.00 | 0.000 (11) |
| 33 | 100 | 72 | 22.62 | 1125.00 | 28.50 | 413.63 | 0.0000 | 0.00 | 0.000 (11) |
| 34 | 100 | 73 | 67.86 | 1125.00 | 31.10 | 519.94 | 0.0000 | 0.00 | 0.000 (11) |

| n° | B | H | Af | Aeff | M | Mpf | ε | Sm | w |
|----|------|------|-------|---------|--------|--------|--------|------|------------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kNm] | [%] | [mm] | [mm] |
| 35 | 100 | 74 | 67.86 | 1125.00 | 33.86 | 527.87 | 0.0000 | 0.00 | 0.000 (11) |
| 36 | 100 | 75 | 67.86 | 1125.00 | 36.78 | 536.11 | 0.0000 | 0.00 | 0.000 (11) |
| 37 | 100 | 76 | 67.86 | 1125.00 | 39.86 | 544.64 | 0.0000 | 0.00 | 0.000 (11) |
| 38 | 100 | 77 | 67.86 | 1125.00 | 43.12 | 553.44 | 0.0000 | 0.00 | 0.000 (11) |
| 39 | 100 | 78 | 67.86 | 1125.00 | 46.55 | 562.49 | 0.0000 | 0.00 | 0.000 (11) |
| 40 | 100 | 79 | 67.86 | 1125.00 | 50.16 | 571.77 | 0.0000 | 0.00 | 0.000 (11) |
| 41 | 100 | 80 | 67.86 | 1125.00 | 53.96 | 581.28 | 0.0000 | 0.00 | 0.000 (11) |
| 42 | 100 | 81 | 67.86 | 1125.00 | 57.95 | 591.00 | 0.0000 | 0.00 | 0.000 (11) |
| 43 | 100 | 82 | 67.86 | 1125.00 | 62.13 | 600.93 | 0.0000 | 0.00 | 0.000 (11) |
| 44 | 100 | 83 | 67.86 | 1125.00 | 66.52 | 611.05 | 0.0000 | 0.00 | 0.000 (11) |
| 45 | 100 | 84 | 67.86 | 1125.00 | 71.10 | 621.36 | 0.0000 | 0.00 | 0.000 (11) |
| 46 | 100 | 85 | 67.86 | 1125.00 | 75.89 | 631.85 | 0.0000 | 0.00 | 0.000 (11) |
| 47 | 100 | 86 | 67.86 | 1125.00 | 80.90 | 642.51 | 0.0000 | 0.00 | 0.000 (11) |
| 48 | 100 | 87 | 67.86 | 1125.00 | 86.12 | 653.34 | 0.0000 | 0.00 | 0.000 (11) |
| 49 | 100 | 88 | 67.86 | 1125.00 | 91.57 | 664.33 | 0.0000 | 0.00 | 0.000 (11) |
| 50 | 100 | 89 | 67.86 | 1125.00 | 97.24 | 675.49 | 0.0000 | 0.00 | 0.000 (11) |
| 51 | 100 | 90 | 67.86 | 1125.00 | 103.14 | 686.80 | 0.0000 | 0.00 | 0.000 (11) |
| 52 | 100 | 91 | 45.24 | 1125.00 | 109.28 | 637.66 | 0.0000 | 0.00 | 0.000 (11) |
| 53 | 100 | 92 | 45.24 | 1125.00 | 115.66 | 675.16 | 0.0000 | 0.00 | 0.000 (11) |
| 54 | 100 | 93 | 45.24 | 1125.00 | 122.29 | 659.68 | 0.0000 | 0.00 | 0.000 (11) |
| 55 | 100 | 94 | 45.24 | 1125.00 | 129.16 | 670.91 | 0.0000 | 0.00 | 0.000 (11) |
| 56 | 100 | 95 | 45.24 | 1125.00 | 136.29 | 682.27 | 0.0000 | 0.00 | 0.000 (11) |
| 57 | 100 | 96 | 45.24 | 1125.00 | 143.68 | 693.77 | 0.0000 | 0.00 | 0.000 (11) |
| 58 | 100 | 97 | 45.24 | 1125.00 | 151.33 | 705.40 | 0.0000 | 0.00 | 0.000 (11) |
| 59 | 100 | 98 | 45.24 | 1125.00 | 159.25 | 717.17 | 0.0000 | 0.00 | 0.000 (11) |
| 60 | 100 | 99 | 45.24 | 1125.00 | 167.44 | 729.07 | 0.0000 | 0.00 | 0.000 (11) |
| 61 | 100 | 100 | 45.24 | 1125.00 | 175.91 | 741.09 | 0.0000 | 0.00 | 0.000 (11) |

Mensola valle

Apertura limite fessure $w_{lim}=0.20$

| n° | B | H | Af | Aeff | M | Mpf | ε | Sm | w |
|----|------|------|-------|---------|-------|---------|--------|------|------------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kNm] | [%] | [mm] | [mm] |
| 1 | 100 | 50 | 0.00 | 0.00 | 0.00 | 0.00 | 0.0000 | 0.00 | 0.000 (11) |
| 2 | 100 | 50 | 0.00 | 0.00 | -0.05 | 0.00 | 0.0000 | 0.00 | 0.000 (11) |
| 3 | 100 | 50 | 8.04 | 1125.00 | -0.19 | -143.03 | 0.0000 | 0.00 | 0.000 (11) |
| 4 | 100 | 50 | 8.04 | 1125.00 | -0.42 | -143.03 | 0.0000 | 0.00 | 0.000 (11) |
| 5 | 100 | 50 | 8.04 | 1125.00 | -0.75 | -143.03 | 0.0000 | 0.00 | 0.000 (11) |

Piastra fondazione

Apertura limite fessure $w_{lim}=0.20$

| Is | B | H | Af | Aeff | M | Mpf | ε | Sm | w |
|--------|------|------|-------|---------|---------|----------|--------|------|-------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kNm] | [%] | [mm] | [mm] |
| 1-1-P | 100 | 150 | 10.05 | 1125.00 | 0.62 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 1-2-P | 100 | 150 | 10.05 | 1125.00 | 1.06 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 1-3-P | 100 | 150 | 10.05 | 1125.00 | -4.24 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 1-4-P | 100 | 150 | 10.05 | 1125.00 | -11.68 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 1-5-P | 100 | 150 | 10.05 | 1125.00 | -27.25 | -1235.64 | 0.0000 | 0.00 | 0.000 |
| 1-6-P | 100 | 150 | 10.05 | 1125.00 | -53.20 | -1235.64 | 0.0000 | 0.00 | 0.000 |
| 1-7-P | 100 | 150 | 10.05 | 1125.00 | -90.50 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 1-8-P | 100 | 150 | 10.05 | 1125.00 | -155.26 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 1-9-P | 100 | 150 | 10.05 | 1125.00 | -149.52 | -1235.64 | 0.0000 | 0.00 | 0.000 |
| 1-10-P | 100 | 150 | 10.05 | 1125.00 | -155.26 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 1-11-P | 100 | 150 | 10.05 | 1125.00 | -90.50 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 1-12-P | 100 | 150 | 10.05 | 1125.00 | -53.20 | -1235.64 | 0.0000 | 0.00 | 0.000 |
| 1-13-P | 100 | 150 | 10.05 | 1125.00 | -27.25 | -1235.64 | 0.0000 | 0.00 | 0.000 |
| 1-14-P | 100 | 150 | 10.05 | 1125.00 | -11.68 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 1-15-P | 100 | 150 | 10.05 | 1125.00 | -4.24 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 1-16-P | 100 | 150 | 10.05 | 1125.00 | 1.06 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 1-17-P | 100 | 150 | 10.05 | 1125.00 | 0.62 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 2-1-P | 100 | 150 | 10.05 | 1125.00 | 8.58 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 2-2-P | 100 | 150 | 10.05 | 1125.00 | 10.51 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 2-3-P | 100 | 150 | 10.05 | 1125.00 | 16.16 | 1235.64 | 0.0000 | 0.00 | 0.000 |

| Is | B | H | Af | Aeff | M | Mpf | ε | Sm | w |
|--------|------|------|-------|---------|---------|----------|--------|------|-------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kNm] | [%] | [mm] | [mm] |
| 2-4-P | 100 | 150 | 10.05 | 1125.00 | 16.25 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 2-5-P | 100 | 150 | 10.05 | 1125.00 | -15.37 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 2-6-P | 100 | 150 | 10.05 | 1125.00 | -34.24 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 2-7-P | 100 | 150 | 10.05 | 1125.00 | -63.28 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 2-8-P | 100 | 150 | 10.05 | 1125.00 | -72.71 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 2-9-P | 100 | 150 | 10.05 | 1125.00 | -98.92 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 2-10-P | 100 | 150 | 10.05 | 1125.00 | -72.71 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 2-11-P | 100 | 150 | 10.05 | 1125.00 | -63.28 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 2-12-P | 100 | 150 | 10.05 | 1125.00 | -34.24 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 2-13-P | 100 | 150 | 10.05 | 1125.00 | -15.37 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 2-14-P | 100 | 150 | 10.05 | 1125.00 | 16.25 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 2-15-P | 100 | 150 | 10.05 | 1125.00 | 16.16 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 2-16-P | 100 | 150 | 10.05 | 1125.00 | 10.51 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 2-17-P | 100 | 150 | 10.05 | 1125.00 | 8.58 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 4-1-P | 87 | 150 | 10.05 | 975.00 | 10.07 | 1079.23 | 0.0000 | 0.00 | 0.000 |
| 4-2-P | 87 | 150 | 10.05 | 975.00 | 11.70 | 1079.23 | 0.0000 | 0.00 | 0.000 |
| 4-3-P | 87 | 150 | 10.05 | 975.00 | 19.54 | 1079.23 | 0.0000 | 0.00 | 0.000 |
| 4-4-P | 87 | 150 | 10.05 | 975.00 | 24.06 | 1079.23 | 0.0000 | 0.00 | 0.000 |
| 4-5-P | 87 | 150 | 10.05 | 975.00 | 25.64 | 1079.23 | 0.0000 | 0.00 | 0.000 |
| 4-6-P | 87 | 150 | 10.05 | 975.00 | 24.86 | 1079.23 | 0.0000 | 0.00 | 0.000 |
| 4-7-P | 87 | 150 | 10.05 | 975.00 | 22.07 | 1079.23 | 0.0000 | 0.00 | 0.000 |
| 4-8-P | 87 | 150 | 10.05 | 975.00 | 18.47 | 1079.23 | 0.0000 | 0.00 | 0.000 |
| 4-9-P | 87 | 150 | 10.05 | 975.00 | 16.68 | 1079.23 | 0.0000 | 0.00 | 0.000 |
| 4-10-P | 87 | 150 | 10.05 | 975.00 | 18.47 | 1079.23 | 0.0000 | 0.00 | 0.000 |
| 4-11-P | 87 | 150 | 10.05 | 975.00 | 22.07 | 1079.23 | 0.0000 | 0.00 | 0.000 |
| 4-12-P | 87 | 150 | 10.05 | 975.00 | 24.86 | 1079.23 | 0.0000 | 0.00 | 0.000 |
| 4-13-P | 87 | 150 | 10.05 | 975.00 | 25.64 | 1079.23 | 0.0000 | 0.00 | 0.000 |
| 4-14-P | 87 | 150 | 10.05 | 975.00 | 24.06 | 1079.23 | 0.0000 | 0.00 | 0.000 |
| 4-15-P | 87 | 150 | 10.05 | 975.00 | 19.54 | 1079.23 | 0.0000 | 0.00 | 0.000 |
| 4-16-P | 87 | 150 | 10.05 | 975.00 | 11.70 | 1079.23 | 0.0000 | 0.00 | 0.000 |
| 4-17-P | 87 | 150 | 10.05 | 975.00 | 10.07 | 1079.23 | 0.0000 | 0.00 | 0.000 |
| 5-1-P | 87 | 150 | 8.04 | 975.00 | -1.27 | 1066.72 | 0.0000 | 0.00 | 0.000 |
| 5-2-P | 87 | 150 | 8.04 | 975.00 | 2.76 | 1066.72 | 0.0000 | 0.00 | 0.000 |
| 5-3-P | 87 | 150 | 8.04 | 975.00 | 7.36 | 1066.72 | 0.0000 | 0.00 | 0.000 |
| 5-4-P | 87 | 150 | 8.04 | 975.00 | -14.66 | 1066.72 | 0.0000 | 0.00 | 0.000 |
| 5-5-P | 87 | 150 | 8.04 | 975.00 | -27.67 | 1066.72 | 0.0000 | 0.00 | 0.000 |
| 5-6-P | 87 | 150 | 8.04 | 975.00 | -48.98 | 1066.72 | 0.0000 | 0.00 | 0.000 |
| 5-7-P | 87 | 150 | 8.04 | 975.00 | -81.43 | 1066.72 | 0.0000 | 0.00 | 0.000 |
| 5-8-P | 87 | 150 | 8.04 | 975.00 | -137.44 | 1066.72 | 0.0000 | 0.00 | 0.000 |
| 5-9-P | 87 | 150 | 8.04 | 975.00 | -118.89 | -1066.72 | 0.0000 | 0.00 | 0.000 |
| 5-10-P | 87 | 150 | 8.04 | 975.00 | -137.44 | 1066.72 | 0.0000 | 0.00 | 0.000 |
| 5-11-P | 87 | 150 | 8.04 | 975.00 | -81.43 | 1066.72 | 0.0000 | 0.00 | 0.000 |
| 5-12-P | 87 | 150 | 8.04 | 975.00 | -48.98 | 1066.72 | 0.0000 | 0.00 | 0.000 |
| 5-13-P | 87 | 150 | 8.04 | 975.00 | -27.67 | 1066.72 | 0.0000 | 0.00 | 0.000 |
| 5-14-P | 87 | 150 | 8.04 | 975.00 | -14.66 | 1066.72 | 0.0000 | 0.00 | 0.000 |
| 5-15-P | 87 | 150 | 8.04 | 975.00 | 7.36 | 1066.72 | 0.0000 | 0.00 | 0.000 |
| 5-16-P | 87 | 150 | 8.04 | 975.00 | 2.76 | 1066.72 | 0.0000 | 0.00 | 0.000 |
| 5-17-P | 87 | 150 | 8.04 | 975.00 | -1.27 | 1066.72 | 0.0000 | 0.00 | 0.000 |
| 6-1-P | 87 | 150 | 8.04 | 975.00 | -0.46 | 1066.72 | 0.0000 | 0.00 | 0.000 |
| 6-2-P | 87 | 150 | 8.04 | 975.00 | -3.70 | 1066.72 | 0.0000 | 0.00 | 0.000 |
| 6-3-P | 87 | 150 | 8.04 | 975.00 | -15.61 | 1066.72 | 0.0000 | 0.00 | 0.000 |
| 6-4-P | 87 | 150 | 8.04 | 975.00 | -34.66 | 1066.72 | 0.0000 | 0.00 | 0.000 |
| 6-5-P | 87 | 150 | 8.04 | 975.00 | -61.68 | 1066.72 | 0.0000 | 0.00 | 0.000 |
| 6-6-P | 87 | 150 | 8.04 | 975.00 | -96.52 | 1066.72 | 0.0000 | 0.00 | 0.000 |
| 6-7-P | 87 | 150 | 8.04 | 975.00 | -133.11 | 1066.72 | 0.0000 | 0.00 | 0.000 |
| 6-8-P | 87 | 150 | 8.04 | 975.00 | -145.94 | 1066.72 | 0.0000 | 0.00 | 0.000 |
| 6-9-P | 87 | 150 | 8.04 | 975.00 | -173.53 | -1066.72 | 0.0000 | 0.00 | 0.000 |
| 6-10-P | 87 | 150 | 8.04 | 975.00 | -145.94 | 1066.72 | 0.0000 | 0.00 | 0.000 |
| 6-11-P | 87 | 150 | 8.04 | 975.00 | -133.11 | 1066.72 | 0.0000 | 0.00 | 0.000 |
| 6-12-P | 87 | 150 | 8.04 | 975.00 | -96.52 | 1066.72 | 0.0000 | 0.00 | 0.000 |
| 6-13-P | 87 | 150 | 8.04 | 975.00 | -61.68 | 1066.72 | 0.0000 | 0.00 | 0.000 |
| 6-14-P | 87 | 150 | 8.04 | 975.00 | -34.66 | 1066.72 | 0.0000 | 0.00 | 0.000 |
| 6-15-P | 87 | 150 | 8.04 | 975.00 | -15.61 | 1066.72 | 0.0000 | 0.00 | 0.000 |
| 6-16-P | 87 | 150 | 8.04 | 975.00 | -3.70 | 1066.72 | 0.0000 | 0.00 | 0.000 |
| 6-17-P | 87 | 150 | 8.04 | 975.00 | -0.46 | 1066.72 | 0.0000 | 0.00 | 0.000 |
| 7-1-S | 95 | 150 | 40.72 | 1071.56 | -0.56 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 7-2-S | 95 | 150 | 0.00 | 0.00 | -3.46 | 0.00 | 0.0000 | 0.00 | 0.000 |
| 7-3-S | 95 | 150 | 40.72 | 1071.56 | -5.99 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 7-4-S | 95 | 150 | 40.72 | 1071.56 | -6.21 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 7-5-S | 95 | 150 | 40.72 | 1071.56 | 10.83 | 1370.62 | 0.0000 | 0.00 | 0.000 |

| Is | B | H | Af | Aeff | M | Mpf | ε | Sm | w |
|---------|------|------|-------|---------|---------|---------|--------|------|-------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kNm] | [%] | [mm] | [mm] |
| 7-6-S | 95 | 150 | 40.72 | 1071.56 | 31.53 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 7-7-S | 95 | 150 | 40.72 | 1071.56 | 61.08 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 7-8-S | 95 | 150 | 40.72 | 1071.56 | 96.36 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 7-9-S | 95 | 150 | 40.72 | 1071.56 | 134.04 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 7-10-S | 95 | 150 | 40.72 | 1071.56 | 130.12 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 7-11-S | 95 | 150 | 40.72 | 1071.56 | 140.11 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 7-12-S | 95 | 150 | 40.72 | 1071.56 | 139.45 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 7-13-S | 95 | 150 | 40.72 | 1071.56 | 130.66 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 7-14-S | 95 | 150 | 40.72 | 1071.56 | 114.98 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 7-15-S | 95 | 150 | 40.72 | 1071.56 | 94.60 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 7-16-S | 95 | 150 | 40.72 | 1071.56 | 72.65 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 7-17-S | 95 | 150 | 40.72 | 1071.56 | 52.15 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 7-18-S | 95 | 150 | 40.72 | 1071.56 | 34.38 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 7-19-S | 95 | 150 | 40.72 | 1071.56 | 19.66 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 7-20-S | 95 | 150 | 40.72 | 1071.56 | 8.11 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 7-21-S | 95 | 150 | 40.72 | 1071.56 | 0.82 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 8-1-S | 95 | 150 | 40.72 | 1071.56 | -1.95 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 8-2-S | 95 | 150 | 40.72 | 1071.56 | 10.02 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 8-3-S | 95 | 150 | 40.72 | 1071.56 | -23.78 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 8-4-S | 95 | 150 | 40.72 | 1071.56 | 51.74 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 8-5-S | 95 | 150 | 40.72 | 1071.56 | -94.09 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 8-6-S | 95 | 150 | 40.72 | 1071.56 | -137.76 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 8-7-S | 95 | 150 | 40.72 | 1071.56 | -56.51 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 8-8-S | 95 | 150 | 40.72 | 1071.56 | 58.98 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 8-9-S | 95 | 150 | 40.72 | 1071.56 | 163.61 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 8-10-S | 95 | 150 | 40.72 | 1071.56 | 216.81 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 8-11-S | 95 | 150 | 40.72 | 1071.56 | 209.07 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 8-12-S | 95 | 150 | 40.72 | 1071.56 | 204.21 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 8-13-S | 95 | 150 | 40.72 | 1071.56 | 193.47 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 8-14-S | 95 | 150 | 40.72 | 1071.56 | 176.05 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 8-15-S | 95 | 150 | 40.72 | 1071.56 | 155.51 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 8-16-S | 95 | 150 | 40.72 | 1071.56 | 134.93 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 8-17-S | 95 | 150 | 40.72 | 1071.56 | -51.84 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 8-18-S | 95 | 150 | 40.72 | 1071.56 | -94.63 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 8-19-S | 95 | 150 | 40.72 | 1071.56 | -54.49 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 8-20-S | 95 | 150 | 40.72 | 1071.56 | -18.90 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 8-21-S | 95 | 150 | 40.72 | 1071.56 | 2.49 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 9-1-S | 95 | 150 | 40.72 | 1071.56 | -1.95 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 9-2-S | 95 | 150 | 40.72 | 1071.56 | 10.02 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 9-3-S | 95 | 150 | 40.72 | 1071.56 | -23.78 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 9-4-S | 95 | 150 | 40.72 | 1071.56 | 51.74 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 9-5-S | 95 | 150 | 40.72 | 1071.56 | -94.09 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 9-6-S | 95 | 150 | 40.72 | 1071.56 | -137.76 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 9-7-S | 95 | 150 | 40.72 | 1071.56 | -56.51 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 9-8-S | 95 | 150 | 40.72 | 1071.56 | 58.98 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 9-9-S | 95 | 150 | 40.72 | 1071.56 | 163.61 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 9-10-S | 95 | 150 | 40.72 | 1071.56 | 216.81 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 9-11-S | 95 | 150 | 40.72 | 1071.56 | 209.07 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 9-12-S | 95 | 150 | 40.72 | 1071.56 | 204.21 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 9-13-S | 95 | 150 | 40.72 | 1071.56 | 193.47 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 9-14-S | 95 | 150 | 40.72 | 1071.56 | 176.05 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 9-15-S | 95 | 150 | 40.72 | 1071.56 | 155.51 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 9-16-S | 95 | 150 | 40.72 | 1071.56 | 134.93 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 9-17-S | 95 | 150 | 40.72 | 1071.56 | -51.84 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 9-18-S | 95 | 150 | 40.72 | 1071.56 | -94.63 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 9-19-S | 95 | 150 | 40.72 | 1071.56 | -54.49 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 9-20-S | 95 | 150 | 40.72 | 1071.56 | -18.90 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 9-21-S | 95 | 150 | 40.72 | 1071.56 | 2.49 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 10-1-S | 95 | 150 | 40.72 | 1071.56 | -0.56 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 10-2-S | 95 | 150 | 0.00 | 0.00 | -3.46 | 0.00 | 0.0000 | 0.00 | 0.000 |
| 10-3-S | 95 | 150 | 40.72 | 1071.56 | -5.99 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 10-4-S | 95 | 150 | 40.72 | 1071.56 | -6.21 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 10-5-S | 95 | 150 | 40.72 | 1071.56 | 10.83 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 10-6-S | 95 | 150 | 40.72 | 1071.56 | 31.53 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 10-7-S | 95 | 150 | 40.72 | 1071.56 | 61.08 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 10-8-S | 95 | 150 | 40.72 | 1071.56 | 96.36 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 10-9-S | 95 | 150 | 40.72 | 1071.56 | 134.04 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 10-10-S | 95 | 150 | 40.72 | 1071.56 | 130.12 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 10-11-S | 95 | 150 | 40.72 | 1071.56 | 140.11 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 10-12-S | 95 | 150 | 40.72 | 1071.56 | 139.45 | 1370.62 | 0.0000 | 0.00 | 0.000 |

| Is | B | H | Af | Aeff | M | Mpf | ε | Sm | w |
|-----------|----------|----------|-----------|-------------|----------|------------|----------|-----------|----------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kNm] | [%] | [mm] | [mm] |
| 10-13-S | 95 | 150 | 40.72 | 1071.56 | 130.66 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 10-14-S | 95 | 150 | 40.72 | 1071.56 | 114.98 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 10-15-S | 95 | 150 | 40.72 | 1071.56 | 94.60 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 10-16-S | 95 | 150 | 40.72 | 1071.56 | 72.65 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 10-17-S | 95 | 150 | 40.72 | 1071.56 | 52.15 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 10-18-S | 95 | 150 | 40.72 | 1071.56 | 34.38 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 10-19-S | 95 | 150 | 40.72 | 1071.56 | 19.66 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 10-20-S | 95 | 150 | 40.72 | 1071.56 | 8.11 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 10-21-S | 95 | 150 | 40.72 | 1071.56 | 0.82 | 1370.62 | 0.0000 | 0.00 | 0.000 |

Elenco ferri

Simbologia adottata

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

Paramento

| n° | Tipo | nf | D [mm] | L [m] | P _f [kN] | P _{gr} [kN] | V _{cls} [mc] |
|------------------------|-------------------|----|-----------|----------|------------------------|-------------------------|--------------------------|
| 1 | Diritto inferiore | 5 | 20.00 | 3.04 | 0.0736 | 0.3682 | |
| 2 | Diritto superiore | 10 | 24.00 | 4.69 | 0.1634 | 1.6336 | |
| 3 | Diritto inferiore | 5 | 20.00 | 6.75 | 0.1631 | 0.8156 | |
| 4 | Diritto superiore | 5 | 24.00 | 6.93 | 0.2413 | 1.2064 | |
| 5 | Ripartitore | 53 | 10.00 | 1.00 | 0.0060 | 0.3205 | |
| Totale al metro | | | | | | 4.6647 | 4.37 |
| Totale | | | | | | 1749.13 | 16.67 |

Mensola valle

| n° | Tipo | nf | D [mm] | L [m] | P _f [kN] | P _{gr} [kN] | V _{cls} [mc] |
|------------------------|-------------------|----|-----------|----------|------------------------|-------------------------|--------------------------|
| 1 | Diritto inferiore | 4 | 16.00 | 1.63 | 0.0252 | 0.1009 | |
| 2 | Diritto superiore | 4 | 16.00 | 1.63 | 0.0252 | 0.1009 | |
| 3 | Ripartitore | 2 | 10.00 | 1.00 | 0.0060 | 0.0121 | |
| Totale al metro | | | | | | 4.6647 | 4.37 |
| Totale | | | | | | 1749.13 | 16.67 |

Piastra fondazione

| n° | Tipo | nf | D [mm] | L [m] | P _f [kN] | P _{gr} [kN] | V _{cls} [mc] |
|---------------|-----------------------------------|----|-----------|----------|------------------------|-------------------------|--------------------------|
| 1 | Sagomato superiore Verticale | 10 | 16.00 | 4.56 | 0.0706 | 0.7064 | |
| 2 | Diritto inferiore Orizzontale [M] | 23 | 16.00 | 6.54 | 0.1012 | 2.3283 | |
| 3 | Diritto superiore Orizzontale [M] | 23 | 16.00 | 6.54 | 0.1012 | 2.3283 | |
| 4 | Diritto inferiore Verticale | 36 | 24.00 | 8.33 | 0.2901 | 10.4437 | |
| 5 | Diritto superiore Verticale | 36 | 24.00 | 8.33 | 0.2901 | 10.4437 | |
| Totale | | | | | | 26.2503 | 32.00 |

11 ALLEGATO 2 – TABULATI DI CALCOLO – VERIFICHE STRUTTURALI E GEOTECNICHE DEI MURI - MURO TIPO MA H7 (H=7 M)

Dati

Materiali

Simbologia adottata

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

Calcestruzzo armato

| n° | Descr | C | A | γ | R _{ck} | E | ν | n | ntc |
|----|--------|--------|-------|----------|-----------------|----------|-------|-------|------|
| | | | | [kN/mc] | [kPa] | [kPa] | | | |
| 4 | C32/40 | C32/40 | B450C | 24.5170 | 40000 | 33346000 | 0.30 | 15.00 | 0.50 |

Acciai

| Descr | f _{yk} | f _{uk} |
|-------|-----------------|-----------------|
| | [kPa] | [kPa] |
| B450C | 449936 | 539963 |

Tipologie pali

Simbologia adottata

| | |
|--------|--|
| n° | Indice tipologia palo |
| Descr | Descrizione tipologia palo |
| P | Contributo portanza palo (laterale e/o punta) |
| T | Tecnologia costruttiva (trivellato, infisso o elica continua) |
| V | Vincolo palo-fondazione: Cerniera o Incastro (libero o impedito di ruotare in testa) |
| Imat | Indice materiale che lo costituisce |
| BD | usa metodo di Bustamante-Doix |
| PN | Portanza nota |
| Pp, PI | Portanza di punta e laterale caratteristica, espressa in [kN] |

| n° | Descr | P | T | V | Imat | BD | PN | Pp | PI |
|----|-------------|------------------|------------|----------|------|----|----|----|----|
| 1 | Tipologia 1 | Laterale + Punta | Trivellato | Incastro | 4 | NO | NO | -- | -- |

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 | 1.00 | 0.00 | 0.000 |
| 3 | 8.50 | 0.00 | 0.000 |

| n° | X | Y | A |
|----|-------|------|-------|
| | [m] | [m] | [°] |
| 4 | 25.00 | 0.00 | 0.000 |

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

Falda

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 | -4.00 | -8.50 | 0.000 |
| 2 | 10.00 | -8.50 | 0.000 |

Geometria muro

Geometria paramento e fondazione

Paramento

| | | |
|--|---------|---------|
| Materiale | C32/40 | |
| Altezza paramento | 7.00 | [m] |
| Altezza paramento libero | 7.00 | [m] |
| Spessore in sommità | 0.40 | [m] |
| Spessore all'attacco con la fondazione | 1.10 | [m] |
| Inclinazione paramento esterno | 0.00 | [°] |
| Inclinazione paramento interno | 5.71 | [°] |
| Spessore rivestimento | 0.15 | [m] |
| Peso sp. rivestimento | 20.0000 | [kN/mc] |

Mensola di marciapiede

| | | |
|--|------|-----|
| Posizione rispetto alla testa del muro | 0.00 | [m] |
| Lunghezza | 0.35 | [m] |
| Spessore all'estremità libera | 0.50 | [m] |
| Spessore all'incastro | 0.50 | [m] |

Fondazione

| | | |
|----------------------------|--------|-----|
| Materiale | C32/40 | |
| Lunghezza mensola di valle | 2.00 | [m] |
| Lunghezza mensola di monte | 2.50 | [m] |
| Lunghezza totale | 5.60 | [m] |
| Inclinazione piano di posa | 0.00 | [°] |
| Spessore | 1.50 | [m] |
| Spessore magrone | 0.20 | [m] |

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 (Q) - VARIABILE

Coeff. di combinazione $\Psi_0=0.75 - \Psi_1=0.75 - \Psi_2=0.00$

Carichi sul terreno

| n° | Tipo | X | F _x | F _y | M | X _i | X _f | Q _i | Q _f |
|----|-------------|-----|----------------|----------------|-------|----------------|----------------|----------------|----------------|
| | | [m] | [kN] | [kN] | [kNm] | [m] | [m] | [kN] | [kN] |
| 1 | Distribuito | | | | | 1.50 | 25.00 | 20.0000 | 20.0000 |

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

Coeff. parziali per i parametri geotecnici del terreno

| Parametro | | Combinazioni statiche | | Combinazioni sismiche | |
|---------------------------------|------------------------|-----------------------|------|-----------------------|------|
| | | M1 | M2 | M1 | M2 |
| Tangente dell'angolo di attrito | $\gamma_{\tan(\phi')}$ | 1.00 | 1.25 | 1.00 | 1.00 |
| Coesione efficace | γ_c | 1.00 | 1.25 | 1.00 | 1.00 |
| Resistenza non drenata | γ_{cu} | 1.00 | 1.40 | 1.00 | 1.00 |
| Peso nell'unità 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 |
| Ribaltamento | -- | -- | 1.15 | -- | -- | 1.00 |
| Stabilità fronte di scavo | -- | 1.10 | -- | -- | 1.20 | -- |

Carichi verticali. Coeff. parziali γ_R da applicare alle resistenze caratteristiche

| Resistenza | | Pali infissi | | | Pali trivellati | | | Pali ad elica continua | | |
|-----------------------|---------------|--------------|----|------|-----------------|----|------|------------------------|----|------|
| | | R1 | R2 | R3 | R1 | R2 | R3 | R1 | R2 | R3 |
| Punta | γ_b | -- | -- | 1.15 | -- | -- | 1.35 | -- | -- | 1.30 |
| Laterale compressione | γ_s | -- | -- | 1.15 | -- | -- | 1.15 | -- | -- | 1.15 |
| Totale compressione | γ_t | -- | -- | 1.15 | -- | -- | 1.30 | -- | -- | 1.25 |
| Laterale trazione | γ_{st} | -- | -- | 1.25 | -- | -- | 1.25 | -- | -- | 1.25 |

Carichi trasversali. Coeff. parziali γ_R da applicare alle resistenze caratteristiche

| | | R1 | R2 | R3 |
|-------------|------------|----|----|------|
| Trasversale | γ_t | -- | -- | 1.30 |

Coefficienti di riduzione ζ per la determinazione della resistenza caratteristica dei pali

Numero di verticali indagate 1

$\zeta_3=1.70$ $\zeta_4=1.70$

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):

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

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

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

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

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

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

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

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

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

I valori dei coeff. $\Psi_{0,j}$, $\Psi_{1,j}$, $\Psi_{2,j}$ sono definiti nelle singole condizioni variabili. per 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 | γ | Ψ | Effetto |
|-----------------|----------|--------|-------------|
| Peso muro | 1.00 | -- | Favorevole |
| Peso terrapieno | 1.00 | -- | Favorevole |
| Spinta terreno | 1.30 | -- | Sfavorevole |
| Q | 1.50 | 1.00 | Sfavorevole |

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

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

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

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

Combinazione n° 5 - GEO (A2-M2-R2)

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

Combinazione n° 6 - GEO (A2-M2-R2)

| Condizione | γ | Ψ | Effetto |
|-----------------|----------|--------|-------------|
| Peso muro | 1.00 | -- | Sfavorevole |
| Peso terrapieno | 1.00 | -- | Sfavorevole |
| Spinta terreno | 1.00 | -- | Sfavorevole |
| Q | 1.30 | 1.00 | Sfavorevole |

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

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

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

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

Combinazione n° 9 - SLER

| Condizione | γ | Ψ | Effetto |
|-----------------|----------|--------|-------------|
| Peso muro | 1.00 | -- | Sfavorevole |
| Peso terrapieno | 1.00 | -- | Sfavorevole |
| Spinta terreno | 1.00 | -- | Sfavorevole |
| Q | 1.00 | 0.75 | Sfavorevole |

Combinazione n° 10 - SLEF

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

Combinazione n° 11 - SLEQ

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

Dati sismici

| | Simbolo | U.M. | SLU | SLE |
|---|---------|---------------------|-------|-------|
| Accelerazione al suolo | a_g | [m/s ²] | 1.962 | 0.000 |
| Accelerazione al suolo | a_g/g | [%] | 0.200 | 0.000 |
| Massimo fattore amplificazione spettro orizzontale | F0 | | 2.496 | 0.000 |
| Periodo inizio tratto spettro a velocità costante | Tc* | | 0.540 | 0.000 |
| Tipo di sottosuolo - Coefficiente stratigrafico | Ss | | B | 1.200 |
| Categoria topografica - Coefficiente amplificazione topografica | St | | T1 | 1.000 |

| Stato limite ... | Coeff. di riduzione β_m | kh | kv |
|-----------------------|-------------------------------|--------|--------|
| Ultimo | 1.000 | 24.000 | 12.000 |
| Ultimo - Ribaltamento | 1.000 | 24.000 | 12.000 |
| Esercizio | 1.000 | 0.000 | 0.000 |

Forma diagramma incremento sismico **Rettangolare**

Opzioni di calcolo

Spinta

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

Stabilità globale

| | |
|---|--------|
| Metodo di calcolo della stabilità globale | Bishop |
|---|--------|

Altro

| | |
|--|-------|
| Partecipazione spinta passiva terreno antistante | 0.00 |
| Partecipazione resistenza passiva dente di fondazione | 50.00 |
| Componente verticale della spinta nel calcolo delle sollecitazioni | NO |
| Considera terreno sulla fondazione di valle | NO |
| Considera spinta e peso acqua fondazione di valle | NO |

Spostamenti

| | |
|--|-----------|
| Modello a blocchi | |
| Non è stato richiesto il calcolo degli spostamenti | |
| Spostamento limite | 1.00 [cm] |

Opzioni calcolo pali

Portanza verticale

| | |
|--|---|
| Metodo di calcolo della portanza alla punta | Hansen |
| Metodo di calcolo della portanza alla laterale | Integrazione delle tensioni tangenziali ($k_s \sigma_v \tan(\delta) + c_a$) |
| Correzione angolo di attrito in funzione del tipo di palo (infisso/trivellato) | Non attiva |
| Andamento pressione verticale nel calcolo della portanza alla punta σ_v con la profondità | Pressione geostatica |
| Andamento pressione verticale nel calcolo della portanza laterale | Pressione geostatica |

Portanza trasversale

| | |
|-------------------------------|--|
| Criterio rottura palo-terreno | |
| - Spostamento limite | Non attivo |
| - Pressione limite | Pressione limite costante $p_l = 9.18$ [kPa] |
| - Palo infinitamente elastico | Non attivo |

Cedimenti

| | |
|-------------------------------|-----------------------------|
| Metodo di calcolo | Metodo agli elementi finiti |
| Spostamento limite alla punta | 1.00 [cm] |
| Spostamento limite laterale | 0.50 [cm] |

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

| | |
|---------------------------------|------------|
| 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. |

Valori limite aperture delle fessure:

$$w_1 = 0.20$$

$$w_2 = 0.30$$

$$w_3 = 0.40$$

Verifica delle tensioni

Valori limite delle tensioni nei materiali:

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

Risultati per inviluppo

Spinta e forze

Simbologia adottata

| | |
|---------------------------------|--|
| Ic | Indice della combinazione |
| A | Tipo azione |
| I | Inclinazione della spinta, espressa in [°] |
| V | Valore dell'azione, espressa in [kN] |
| C _x , C _y | Componente in direzione X ed Y dell'azione, espressa in [kN] |
| P _x , P _y | Coordinata X ed Y del punto di applicazione dell'azione, espressa in [m] |

| Ic | A | V | I | C _x | C _y | P _x | P _y |
|----|---|--------|--------|----------------|----------------|----------------|----------------|
| | | [kN] | [°] | [kN] | [kN] | [m] | [m] |
| 3 | Spinta statica | 158.93 | 23.33 | 145.93 | 62.95 | 3.20 | -5.67 |
| | Incremento di spinta sismica | | 130.29 | 119.63 | 51.60 | 3.20 | -4.25 |
| | Peso/Inerzia muro | | | 81.35 | 338.94/40.67 | 0.24 | -6.25 |
| | Peso/Inerzia rivestimento | | | 5.04 | 21.00 | 0.00 | 0.00 |
| | Peso/Inerzia terrapieno | | | 86.18 | 359.10/43.09 | 1.77 | -3.36 |
| | Peso dell'acqua sulla fondazione di valle | | | | 0.00 | 0.00 | 0.00 |
| | Resistenza pali | | | -519.36 | | | |

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) | 800.87 | 189.71 | 537.53 | 2898.93 | -0.149 |
| 2 - STR (A1-M1-R3) | 876.55 | 246.94 | 780.74 | 3259.00 | -0.027 |
| 3 - STR (A1-M1-R3) | 917.35 | 438.13 | 1591.22 | 3368.99 | 0.862 |
| 4 - STR (A1-M1-R3) | 738.43 | 411.73 | 1765.82 | 3018.37 | 1.104 |

Sollecitazioni

Elementi calcolati a trave

Simbologia adottata

| | |
|---|---|
| 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) |

Elementi calcolati a piastra

Simbologia adottata

| | |
|---------------------------------|---|
| M _x , M _y | Momenti flettenti, espresso in [kNm] |
| M _{xy} | Momento torcente, espresso in [kNm]. Positivo se diretto da monte verso valle |
| T _x , T _y | Tagli, espresso in [kN]. Positivo se tende le fibre contro terra (a monte) |

I momenti flettenti sono positivi se tendono le fibre inferiori (intradosso fondazione, paramento esterno)

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 | 4.29 | 4.81 | 0.00 | 0.00 | 0.75 | 0.84 |
| 2 | -0.10 | 5.28 | 5.80 | 0.02 | 1.46 | 0.75 | 0.92 |
| 3 | -0.20 | 6.30 | 6.82 | 0.09 | 2.98 | 0.77 | 1.15 |
| 4 | -0.30 | 7.34 | 7.86 | 0.20 | 4.55 | 0.79 | 1.53 |
| 5 | -0.40 | 8.41 | 8.92 | 0.36 | 6.17 | 0.84 | 2.09 |
| 6 | -0.50 | 9.50 | 10.02 | 0.56 | 7.83 | 0.91 | 2.81 |
| 7 | -0.60 | 10.62 | 11.13 | 0.81 | 9.55 | 1.01 | 3.71 |
| 8 | -0.70 | 11.76 | 12.27 | 1.10 | 11.32 | 1.14 | 4.79 |

| n° | X | N _{min} | N _{max} | T _{min} | T _{max} | M _{min} | M _{max} |
|----|-------|------------------|------------------|------------------|------------------|------------------|------------------|
| | [m] | [kN] | [kN] | [kN] | [kN] | [kNm] | [kNm] |
| 9 | -0.80 | 12.92 | 13.44 | 1.44 | 13.14 | 1.30 | 6.05 |
| 10 | -0.90 | 14.11 | 14.62 | 1.82 | 15.01 | 1.51 | 7.50 |
| 11 | -1.00 | 15.32 | 15.84 | 2.25 | 16.94 | 1.77 | 9.15 |
| 12 | -1.10 | 16.56 | 17.08 | 2.72 | 18.91 | 2.07 | 11.00 |
| 13 | -1.20 | 17.82 | 18.34 | 3.24 | 20.93 | 2.44 | 13.06 |
| 14 | -1.30 | 19.11 | 19.63 | 3.80 | 23.01 | 2.86 | 15.32 |
| 15 | -1.40 | 20.42 | 20.94 | 4.41 | 25.13 | 3.35 | 17.81 |
| 16 | -1.50 | 21.76 | 22.27 | 5.06 | 27.31 | 3.90 | 20.51 |
| 17 | -1.60 | 23.12 | 23.63 | 5.76 | 29.54 | 4.54 | 23.45 |
| 18 | -1.70 | 24.50 | 25.02 | 6.50 | 31.81 | 5.25 | 26.61 |
| 19 | -1.80 | 25.91 | 26.43 | 7.29 | 34.14 | 6.04 | 30.01 |
| 20 | -1.90 | 27.35 | 27.86 | 8.12 | 36.52 | 6.92 | 33.66 |
| 21 | -2.00 | 28.81 | 29.32 | 9.00 | 38.95 | 7.90 | 37.55 |
| 22 | -2.10 | 30.29 | 30.81 | 9.92 | 41.44 | 8.97 | 41.70 |
| 23 | -2.20 | 31.80 | 32.31 | 10.89 | 43.97 | 10.14 | 46.10 |
| 24 | -2.30 | 33.33 | 33.85 | 11.90 | 46.55 | 11.42 | 50.77 |
| 25 | -2.40 | 34.89 | 35.40 | 12.96 | 49.19 | 12.81 | 55.70 |
| 26 | -2.50 | 36.47 | 36.98 | 14.06 | 51.87 | 14.32 | 60.91 |
| 27 | -2.60 | 38.07 | 38.59 | 15.20 | 54.61 | 15.95 | 66.40 |
| 28 | -2.70 | 39.70 | 40.22 | 16.40 | 57.39 | 17.70 | 72.17 |
| 29 | -2.80 | 41.36 | 41.87 | 17.63 | 60.23 | 19.58 | 78.23 |
| 30 | -2.90 | 43.04 | 43.55 | 18.91 | 63.12 | 21.60 | 84.59 |
| 31 | -3.00 | 44.74 | 45.26 | 20.24 | 66.06 | 23.75 | 91.25 |
| 32 | -3.10 | 46.47 | 46.99 | 21.61 | 69.05 | 26.05 | 98.21 |
| 33 | -3.20 | 48.22 | 48.74 | 23.03 | 72.09 | 28.50 | 105.48 |
| 34 | -3.30 | 50.00 | 50.52 | 24.49 | 75.18 | 31.10 | 113.07 |
| 35 | -3.40 | 51.80 | 52.32 | 26.00 | 78.33 | 33.86 | 120.98 |
| 36 | -3.50 | 53.63 | 54.14 | 27.55 | 81.52 | 36.78 | 129.21 |
| 37 | -3.60 | 55.48 | 56.00 | 29.15 | 84.76 | 39.86 | 137.77 |
| 38 | -3.70 | 57.36 | 57.87 | 30.79 | 88.06 | 43.12 | 146.68 |
| 39 | -3.80 | 59.26 | 59.77 | 32.47 | 91.40 | 46.55 | 155.92 |
| 40 | -3.90 | 61.18 | 61.70 | 34.21 | 94.80 | 50.16 | 165.51 |
| 41 | -4.00 | 63.13 | 63.64 | 35.98 | 98.25 | 53.96 | 175.45 |
| 42 | -4.10 | 65.10 | 65.62 | 37.80 | 101.75 | 57.95 | 185.75 |
| 43 | -4.20 | 67.10 | 67.62 | 39.67 | 105.30 | 62.13 | 196.41 |
| 44 | -4.30 | 69.12 | 69.64 | 41.58 | 108.90 | 66.52 | 207.44 |
| 45 | -4.40 | 71.17 | 71.69 | 43.54 | 112.55 | 71.10 | 218.84 |
| 46 | -4.50 | 73.24 | 73.76 | 45.54 | 116.25 | 75.89 | 230.62 |
| 47 | -4.60 | 75.34 | 75.85 | 47.59 | 120.01 | 80.90 | 242.78 |
| 48 | -4.70 | 77.46 | 77.97 | 49.68 | 123.81 | 86.12 | 255.33 |
| 49 | -4.80 | 79.60 | 80.12 | 51.81 | 127.66 | 91.57 | 268.28 |
| 50 | -4.90 | 81.77 | 82.29 | 54.00 | 131.57 | 97.24 | 281.62 |
| 51 | -5.00 | 83.97 | 84.48 | 56.22 | 135.53 | 103.14 | 295.37 |
| 52 | -5.10 | 86.19 | 86.70 | 58.49 | 139.53 | 109.28 | 309.52 |
| 53 | -5.20 | 88.43 | 88.94 | 60.81 | 143.59 | 115.66 | 324.09 |
| 54 | -5.30 | 90.70 | 91.21 | 63.17 | 147.70 | 122.29 | 339.08 |
| 55 | -5.40 | 92.99 | 93.50 | 65.58 | 151.86 | 129.16 | 354.50 |
| 56 | -5.50 | 95.31 | 95.82 | 68.03 | 156.07 | 136.29 | 370.35 |
| 57 | -5.60 | 97.65 | 98.16 | 70.52 | 160.33 | 143.68 | 386.63 |
| 58 | -5.70 | 100.01 | 100.53 | 73.07 | 164.65 | 151.33 | 403.35 |
| 59 | -5.80 | 102.40 | 102.92 | 75.65 | 169.01 | 159.25 | 420.51 |
| 60 | -5.90 | 104.82 | 105.33 | 78.28 | 173.42 | 167.44 | 438.13 |
| 61 | -6.00 | 107.26 | 107.77 | 80.96 | 177.89 | 175.91 | 456.21 |
| 62 | -6.10 | 109.72 | 110.24 | 83.68 | 182.41 | 184.67 | 474.74 |
| 63 | -6.20 | 112.21 | 112.72 | 86.45 | 186.97 | 193.71 | 493.74 |
| 64 | -6.30 | 114.72 | 115.24 | 89.26 | 191.59 | 203.04 | 513.22 |
| 65 | -6.40 | 117.26 | 117.77 | 92.11 | 196.26 | 212.66 | 533.17 |
| 66 | -6.50 | 119.82 | 120.34 | 95.01 | 200.98 | 222.59 | 553.60 |
| 67 | -6.60 | 122.41 | 122.92 | 97.96 | 205.75 | 232.82 | 574.52 |
| 68 | -6.70 | 125.02 | 125.53 | 100.95 | 210.57 | 243.37 | 595.93 |
| 69 | -6.80 | 127.65 | 128.17 | 103.99 | 215.44 | 254.22 | 617.84 |
| 70 | -6.90 | 130.31 | 130.83 | 107.07 | 220.36 | 265.40 | 640.26 |
| 71 | -7.00 | 133.00 | 133.51 | 110.19 | 225.34 | 276.90 | 663.18 |

| n° | X | N _{min} | N _{max} | T _{min} | T _{max} | M _{min} | M _{max} |
|----|-------|------------------|------------------|------------------|------------------|------------------|------------------|
| | [m] | [kN] | [kN] | [kN] | [kN] | [kNm] | [kNm] |
| 1 | -0.75 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 2 | -0.66 | 0.00 | 0.00 | 1.07 | 1.20 | 0.05 | 0.05 |
| 3 | -0.57 | 0.00 | 0.00 | 2.15 | 2.40 | 0.19 | 0.21 |
| 4 | -0.49 | 0.00 | 0.00 | 3.22 | 3.60 | 0.42 | 0.47 |
| 5 | -0.40 | 0.00 | 0.00 | 4.29 | 4.81 | 0.75 | 0.84 |

Piastra fondazione

| In | Mx | My | Mxy | Tx | Ty | |
|----|---------|--------|--------|--------|---------|-----|
| | [kNm] | [kNm] | [kNm] | [kN] | [kN] | |
| 1 | 0.60 | 0.74 | 0.24 | -4.56 | 11.02 | MAX |
| | 0.32 | 0.36 | 0.15 | -8.29 | 7.75 | MIN |
| 2 | 2.46 | 0.56 | 0.12 | -0.65 | 1.10 | MAX |
| | 1.40 | 0.28 | -0.07 | -8.57 | -4.13 | MIN |
| 3 | -0.45 | 0.60 | 0.39 | 19.56 | 0.59 | MAX |
| | -1.51 | -0.68 | 0.13 | 7.45 | -10.61 | MIN |
| 4 | 0.17 | 0.20 | 0.53 | 8.85 | 13.67 | MAX |
| | 0.14 | -0.70 | 0.37 | 3.12 | 6.41 | MIN |
| 5 | 3.47 | 0.34 | -0.59 | 12.02 | -0.25 | MAX |
| | 0.34 | 0.14 | -1.10 | -6.15 | -6.14 | MIN |
| 6 | -4.08 | -1.78 | -1.04 | 44.45 | -2.92 | MAX |
| | -9.53 | -2.83 | -1.85 | 18.38 | -15.97 | MIN |
| 7 | -0.59 | 4.54 | 1.60 | 33.00 | -4.22 | MAX |
| | -1.60 | -0.52 | 0.81 | 15.96 | -29.12 | MIN |
| 8 | 0.10 | 2.44 | 1.11 | 15.47 | 12.55 | MAX |
| | 0.06 | -1.54 | 0.78 | 7.42 | -4.64 | MIN |
| 9 | -4.71 | -0.27 | -0.60 | 71.77 | -12.18 | MAX |
| | -10.34 | -4.23 | -1.64 | 35.02 | -41.76 | MIN |
| 10 | -2.23 | -0.41 | -2.47 | 26.28 | 0.41 | MAX |
| | -11.38 | -0.71 | -4.28 | -2.06 | -4.95 | MIN |
| 11 | -12.99 | -4.70 | -4.76 | 74.01 | -2.75 | MAX |
| | -28.09 | -7.59 | -8.55 | 32.46 | -15.50 | MIN |
| 12 | -13.19 | -8.46 | -5.93 | 117.28 | -14.06 | MAX |
| | -27.82 | -12.40 | -10.50 | 57.61 | -45.16 | MIN |
| 13 | 0.22 | 15.16 | 4.75 | 42.14 | -15.70 | MAX |
| | 0.11 | 2.22 | 2.58 | 21.30 | -57.87 | MIN |
| 14 | 0.54 | 10.77 | 2.30 | 19.59 | 4.16 | MAX |
| | 0.33 | 0.15 | 1.50 | 9.88 | -26.60 | MIN |
| 15 | -3.22 | 8.34 | 4.83 | 92.73 | -27.52 | MAX |
| | -7.00 | -2.30 | 2.07 | 46.90 | -79.66 | MIN |
| 16 | -10.34 | -9.22 | -1.97 | 154.81 | -33.96 | MAX |
| | -21.52 | -15.05 | -4.36 | 78.30 | -92.03 | MIN |
| 17 | -18.51 | -1.84 | -6.10 | 34.78 | 2.14 | MAX |
| | -41.91 | -3.37 | -10.90 | -1.47 | -1.66 | MIN |
| 18 | -29.74 | -8.81 | -11.86 | 103.26 | -0.19 | MAX |
| | -61.79 | -15.30 | -21.57 | 46.78 | -10.47 | MIN |
| 19 | -27.63 | -17.46 | -16.35 | 165.41 | -11.20 | MAX |
| | -57.09 | -28.51 | -29.59 | 81.57 | -39.29 | MIN |
| 20 | -22.32 | -24.70 | -11.91 | 227.98 | -34.41 | MAX |
| | -45.85 | -37.09 | -20.97 | 115.20 | -92.83 | MIN |
| 21 | 2.21 | 36.27 | 10.24 | 46.70 | -30.63 | MAX |
| | 1.19 | 10.09 | 5.46 | 24.25 | -94.00 | MIN |
| 22 | 0.79 | 28.09 | 4.44 | 21.18 | -7.60 | MAX |
| | 0.50 | 6.28 | 2.69 | 11.04 | -52.81 | MIN |
| 23 | -1.43 | 28.72 | 15.57 | 105.65 | -48.64 | MAX |
| | -2.86 | 4.90 | 8.01 | 54.59 | -128.19 | MIN |
| 24 | -7.73 | 6.79 | 13.07 | 182.59 | -62.46 | MAX |
| | -15.18 | -9.20 | 5.91 | 93.91 | -155.30 | MIN |
| 25 | -19.38 | -24.49 | 0.89 | 284.13 | -71.91 | MAX |
| | -38.20 | -35.01 | -3.07 | 145.56 | -174.00 | MIN |
| 26 | -48.96 | -3.81 | -11.59 | 36.60 | 3.83 | MAX |
| | -100.83 | -7.01 | -20.99 | -3.81 | 2.16 | MIN |
| 27 | -56.86 | -12.98 | -22.47 | 126.40 | 3.34 | MAX |
| | -115.23 | -23.19 | -41.13 | 58.42 | -2.40 | MIN |
| 28 | -49.41 | -27.31 | -32.90 | 207.67 | -2.71 | MAX |
| | -100.74 | -47.32 | -60.12 | 102.54 | -21.59 | MIN |
| 29 | -40.71 | -43.15 | -28.63 | 300.46 | -24.51 | MAX |
| | -83.17 | -72.43 | -51.86 | 151.50 | -72.60 | MIN |
| 30 | -38.21 | -50.91 | -14.15 | 420.82 | -73.53 | MAX |
| | -75.93 | -80.24 | -24.25 | 214.88 | -176.77 | MIN |

| In | Mx [kNm] | My [kNm] | Mxy [kNm] | Tx [kN] | Ty [kN] | |
|----|--------------------|--------------------|--------------------|------------------|---------------------|------------|
| 31 | 4.25 2.05 | 70.80 24.49 | 17.74 9.31 | 45.89 24.46 | -47.65 -133.29 | MAX MIN |
| 32 | 0.61 0.41 | 56.91 18.18 | 7.56 4.34 | 20.00 10.80 | -17.85 -77.99 | MAX MIN |
| 33 | 1.18 -0.13 | 64.47 20.13 | 29.79 15.27 | 107.94 56.80 | -73.59 -183.63 | MAX MIN |
| 34 | -6.10 -10.14 | 41.45 5.95 | 33.45 16.70 | 193.58 100.86 | -97.51 -230.92 | MAX MIN |
| 35 | -19.76 -35.97 | 2.13 -19.29 | 27.69 13.28 | 313.49 162.22 | -121.68 -278.70 | MAX MIN |
| 36 | -45.47 -85.52 | -43.18 -60.46 | 11.08 2.72 | 506.45 260.86 | -148.99 -331.96 | MAX MIN |
| 37 | -95.31 -189.80 | -4.51 -8.29 | -17.08 -31.15 | 33.62 -5.97 | 4.54 3.51 | MAX MIN |
| 38 | -93.77 -187.12 | -11.77 -21.26 | -34.15 -62.71 | 137.88 64.97 | 7.19 6.09 | MAX MIN |
| 39 | -84.07 -168.79 | -32.78 -58.30 | -53.73 -98.59 | 231.64 114.37 | 9.46 5.02 | MAX MIN |
| 40 | -64.12 -130.94 | -56.41 -98.59 | -55.53 -101.45 | 359.40 180.55 | 5.41 -11.41 | MAX MIN |
| 41 | -67.78 -135.77 | -81.94 -140.41 | -34.86 -62.55 | 524.92 267.08 | -44.18 -117.39 | MAX MIN |
| 42 | -98.53 -188.70 | -88.85 -144.24 | -16.70 -27.68 | 643.74 330.89 | -184.66 -400.04 | MAX MIN |
| 43 | 6.95 3.14 | 120.46 45.28 | 27.04 13.93 | 39.28 21.68 | -64.30 -171.12 | MAX MIN |
| 44 | 0.32 0.07 | 98.79 35.79 | 11.72 6.44 | 15.88 9.07 | -25.47 -96.66 | MAX MIN |
| 45 | 6.69 2.01 | 116.52 42.32 | 45.99 23.30 | 97.84 52.56 | -99.42 -240.42 | MAX MIN |
| 46 | -2.88 -5.69 | 95.93 31.15 | 54.13 27.03 | 182.06 96.07 | -134.82 -310.64 | MAX MIN |
| 47 | -19.21 -31.21 | 60.67 9.80 | 51.95 25.51 | 300.65 157.02 | -176.19 -392.12 | MAX MIN |
| 48 | -51.57 -92.14 | 6.35 -24.82 | 36.10 16.78 | 471.14 244.65 | -233.40 -503.73 | MAX MIN |
| 49 | -111.84 -206.91 | -58.84 -82.81 | -2.06 -9.40 | 634.85 329.11 | -341.26 -712.54 | MAX MIN |
| 50 | -149.44 -292.63 | -1.68 -3.06 | -18.71 -34.24 | 27.03 -5.55 | 10.10 4.64 | MAX MIN |
| 51 | -134.27 -265.27 | 0.58 -0.45 | -38.44 -70.70 | 127.28 60.57 | 18.40 8.99 | MAX MIN |
| 52 | -127.47 -252.64 | -11.54 -20.44 | -68.81 -126.36 | 242.16 120.06 | 41.71 23.33 | MAX MIN |
| 53 | -123.80 -245.64 | -61.40 -110.15 | -87.20 -159.50 | 365.74 183.07 | 34.43 22.38 | MAX MIN |
| 54 | -75.71 -156.87 | -91.22 -161.00 | -91.31 -166.01 | 424.00 213.32 | -54.22 -131.98 | MAX MIN |
| 55 | -151.95 -292.86 | -126.91 -217.45 | -48.79 -87.12 | 531.89 273.26 | -237.20 -498.14 | MAX MIN |
| 56 | -205.72 -384.32 | -123.62 -196.23 | -67.89 -120.78 | 648.18 337.36 | -443.64 -907.72 | MAX MIN |
| 57 | 12.26 5.35 | 185.71 73.20 | 39.01 19.61 | 27.71 16.26 | -78.27 -203.32 | MAX MIN |
| 58 | 0.44 0.27 | 155.59 60.53 | 18.19 9.52 | 9.27 6.05 | -28.22 -104.05 | MAX MIN |
| 59 | 17.12 6.56 | 182.21 70.45 | 63.89 31.80 | 76.40 42.21 | -122.54 -291.90 | MAX MIN |
| 60 | 12.46 1.70 | 167.05 62.16 | 72.59 35.90 | 148.55 79.54 | -168.78 -383.60 | MAX MIN |
| 61 | -11.64 -17.14 | 143.16 49.19 | 69.24 33.92 | 246.02 129.78 | -225.49 -494.93 | MAX MIN |
| 62 | -40.28 -65.62 | 104.36 26.03 | 51.43 24.34 | 364.14 190.78 | -304.47 -648.70 | MAX MIN |
| 63 | -84.34 -148.86 | 40.45 -14.26 | 3.45 -7.30 | 495.19 258.66 | -426.93 -885.54 | MAX MIN |
| 64 | -103.99 -188.81 | -52.19 -83.46 | -43.32 -74.69 | 559.55 291.92 | -573.35 -1166.23 | MAX MIN |
| 65 | -194.75 -378.41 | 8.31 4.45 | -12.72 -23.34 | 15.79 -2.99 | 19.81 8.54 | MAX MIN |
| 66 | -167.76 -329.72 | 37.06 20.30 | -26.99 -49.69 | 79.73 38.18 | 56.62 27.63 | MAX MIN |
| 67 | -171.28 -337.08 | 74.15 40.94 | -52.62 -96.60 | 188.54 94.08 | 79.16 37.30 | MAX MIN |
| 68 | -190.47 -372.82 | 102.01 56.17 | -97.98 -179.13 | 243.51 121.60 | -37.38 -78.24 | MAX MIN |
| 69 | -227.56 -439.25 | -98.13 -176.08 | -143.23 -261.25 | 170.01 82.68 | -178.18 -361.37 | MAX MIN |

| In | Mx [kNm] | My [kNm] | Mxy [kNm] | Tx [kN] | Ty [kN] | |
|-----|--------------------|----------------------|--------------------|--------------------|---------------------|------------|
| 70 | -184.98 -357.27 | -147.46 -256.79 | -337.08 -615.00 | 275.03 141.30 | -335.90 -679.86 | MAX MIN |
| 71 | -128.47 -247.48 | -167.53 -278.68 | -131.73 -239.12 | 423.36 222.03 | -542.54 -1088.41 | MAX MIN |
| 72 | -115.34 -213.91 | -229.36 -371.16 | -74.20 -133.29 | 395.37 206.19 | -708.80 -1420.09 | MAX MIN |
| 73 | 23.95 10.32 | 264.07 106.83 | 58.27 28.27 | 14.38 9.63 | -87.87 -227.29 | MAX MIN |
| 74 | 8.33 4.04 | 238.86 97.47 | 29.15 14.51 | 3.73 2.15 | -25.37 -98.99 | MAX MIN |
| 75 | 36.75 14.99 | 252.23 100.60 | 82.91 40.38 | 48.58 27.98 | -138.96 -330.40 | MAX MIN |
| 76 | 41.68 15.35 | 250.05 98.80 | 87.42 42.68 | 99.93 54.50 | -194.10 -439.66 | MAX MIN |
| 77 | 25.39 4.11 | 243.35 94.47 | 80.72 39.28 | 166.29 88.77 | -261.89 -572.40 | MAX MIN |
| 78 | -8.01 -19.08 | 224.15 83.33 | 61.13 28.97 | 244.16 129.06 | -350.41 -744.44 | MAX MIN |
| 79 | -33.00 -46.24 | 180.70 57.82 | 23.84 7.03 | 311.94 164.09 | -465.73 -967.12 | MAX MIN |
| 80 | -45.82 -71.82 | 85.47 -4.56 | -15.06 -26.02 | 344.86 180.61 | -604.18 -1233.00 | MAX MIN |
| 81 | -60.47 -101.42 | -74.77 -126.93 | -21.13 -35.75 | 263.18 137.28 | -744.17 -1500.85 | MAX MIN |
| 82 | -212.75 -412.41 | 14.66 7.87 | 0.00 0.00 | 0.00 0.00 | 24.49 10.42 | MAX MIN |
| 83 | -180.59 -354.43 | 59.34 32.44 | 0.00 0.00 | 0.00 0.00 | 88.23 44.04 | MAX MIN |
| 84 | -191.54 -376.26 | 135.00 74.72 | 0.00 0.00 | 0.00 0.00 | 91.52 40.76 | MAX MIN |
| 85 | -191.46 -376.83 | 421.20 231.46 | 0.00 0.00 | 0.00 0.00 | -111.52 -214.57 | MAX MIN |
| 86 | -116.44 -237.68 | 1447.92 790.77 | 0.00 0.00 | 0.00 0.00 | -426.34 -816.77 | MAX MIN |
| 87 | -197.35 -381.41 | -155.19 -271.61 | 0.00 0.00 | 0.00 0.00 | -702.95 -1351.17 | MAX MIN |
| 88 | -262.91 -494.55 | -1070.72 -1929.96 | 0.00 0.00 | 0.00 0.00 | -767.96 -1499.51 | MAX MIN |
| 89 | -146.86 -273.37 | -428.26 -735.68 | 0.00 0.00 | 0.00 0.00 | -777.39 -1545.75 | MAX MIN |
| 90 | -70.63 -121.59 | -134.20 -202.69 | 0.00 0.00 | 0.00 0.00 | -805.77 -1618.39 | MAX MIN |
| 91 | 41.47 17.59 | 323.41 131.83 | 81.69 38.39 | 6.00 4.41 | -90.28 -237.84 | MAX MIN |
| 92 | 27.67 12.84 | 386.87 163.18 | 67.81 31.10 | 0.69 -1.99 | -20.86 -91.18 | MAX MIN |
| 93 | 77.93 32.57 | 324.85 131.80 | 101.36 48.37 | 21.86 13.26 | -145.83 -350.45 | MAX MIN |
| 94 | 83.43 33.68 | 339.59 138.36 | 97.96 47.28 | 45.84 25.68 | -207.28 -472.11 | MAX MIN |
| 95 | 77.85 29.67 | 353.74 144.47 | 88.74 42.87 | 79.40 43.04 | -281.62 -617.43 | MAX MIN |
| 96 | 65.64 22.58 | 357.80 145.05 | 70.55 33.59 | 117.66 62.85 | -373.38 -795.55 | MAX MIN |
| 97 | 50.05 13.35 | 337.50 132.45 | 43.00 18.79 | 148.88 78.92 | -484.23 -1009.72 | MAX MIN |
| 98 | 37.13 6.12 | 288.81 104.69 | 16.81 3.93 | 150.43 79.38 | -595.63 -1224.25 | MAX MIN |
| 99 | 26.00 0.20 | 228.44 64.22 | 1.56 -3.86 | 98.27 51.73 | -703.49 -1431.96 | MAX MIN |
| 100 | 21.03 -2.45 | 199.42 44.60 | 0.00 0.00 | 0.00 0.00 | -755.33 -1531.95 | MAX MIN |
| 101 | -194.75 -378.41 | 8.31 4.45 | 23.34 12.72 | 2.99 -15.79 | 19.81 8.54 | MAX MIN |
| 102 | -167.76 -329.72 | 37.06 20.30 | 49.69 26.99 | -38.18 -79.73 | 56.62 27.63 | MAX MIN |
| 103 | -171.28 -337.08 | 74.15 40.94 | 96.60 52.62 | -94.08 -188.54 | 79.16 37.30 | MAX MIN |
| 104 | -190.47 -372.82 | 102.01 56.17 | 179.13 97.98 | -121.60 -243.51 | -37.38 -78.24 | MAX MIN |
| 105 | -227.56 -439.25 | -98.13 -176.08 | 261.25 143.23 | -82.68 -170.01 | -178.18 -361.37 | MAX MIN |
| 106 | -184.98 -357.27 | -147.46 -256.79 | 615.00 337.08 | -141.30 -275.03 | -335.90 -679.86 | MAX MIN |
| 107 | -128.47 -247.48 | -167.53 -278.68 | 239.12 131.73 | -222.03 -423.36 | -542.54 -1088.41 | MAX MIN |
| 108 | -115.34 -213.91 | -229.36 -371.16 | 133.29 74.20 | -206.19 -395.37 | -708.80 -1420.09 | MAX MIN |

| In | Mx [kNm] | My [kNm] | Mxy [kNm] | Tx [kN] | Ty [kN] | |
|-----|--------------------|--------------------|------------------|--------------------|---------------------|------------|
| 109 | -60.47 -101.42 | -74.77 -126.93 | 35.75 21.13 | -137.28 -263.18 | -744.17 -1500.85 | MAX MIN |
| 110 | 26.00 0.20 | 228.44 64.22 | 3.86 -1.56 | -51.73 -98.27 | -703.49 -1431.96 | MAX MIN |
| 111 | 114.33 46.22 | 381.11 154.06 | 113.59 52.62 | 0.00 0.00 | -89.16 -238.67 | MAX MIN |
| 112 | 158.44 66.77 | 528.12 222.57 | 150.47 67.74 | 0.00 0.00 | -19.10 -88.80 | MAX MIN |
| 113 | 119.87 48.80 | 399.56 162.68 | 103.41 49.04 | 0.00 0.00 | -146.71 -355.53 | MAX MIN |
| 114 | 130.99 54.22 | 436.63 180.73 | 96.48 46.38 | 0.00 0.00 | -210.54 -481.87 | MAX MIN |
| 115 | 143.93 60.51 | 479.77 201.69 | 86.77 41.88 | 0.00 0.00 | -287.07 -631.39 | MAX MIN |
| 116 | 154.95 65.71 | 516.51 219.03 | 71.27 34.14 | 0.00 0.00 | -379.91 -811.54 | MAX MIN |
| 117 | 160.25 67.79 | 534.16 225.98 | 50.30 23.54 | 0.00 0.00 | -487.51 -1019.53 | MAX MIN |
| 118 | 158.51 66.17 | 528.36 220.55 | 29.79 12.91 | 0.00 0.00 | -591.27 -1219.71 | MAX MIN |
| 119 | 153.20 62.76 | 510.65 209.19 | 12.94 4.91 | 0.00 0.00 | -676.44 -1383.92 | MAX MIN |
| 120 | 150.34 61.00 | 501.14 203.34 | 0.00 0.00 | 0.00 0.00 | -709.99 -1448.58 | MAX MIN |
| 121 | 153.20 62.76 | 510.65 209.19 | -4.91 -12.94 | 0.00 0.00 | -676.44 -1383.92 | MAX MIN |
| 122 | -149.44 -292.63 | -1.68 -3.06 | 34.24 18.71 | 5.55 -27.03 | 10.10 4.64 | MAX MIN |
| 123 | -134.27 -265.27 | 0.58 -0.45 | 70.70 38.44 | -60.57 -127.28 | 18.40 8.99 | MAX MIN |
| 124 | -127.47 -252.64 | -11.54 -20.44 | 126.36 68.81 | -120.06 -242.16 | 41.71 23.33 | MAX MIN |
| 125 | -123.80 -245.64 | -61.40 -110.15 | 159.50 87.20 | -183.07 -365.74 | 34.43 22.38 | MAX MIN |
| 126 | -75.71 -156.87 | -91.22 -161.00 | 166.01 91.31 | -213.32 -424.00 | -54.22 -131.98 | MAX MIN |
| 127 | -151.95 -292.86 | -126.91 -217.45 | 87.12 48.79 | -273.26 -531.89 | -237.20 -498.14 | MAX MIN |
| 128 | -205.72 -384.32 | -123.62 -196.23 | 120.78 67.89 | -337.36 -648.18 | -443.64 -907.72 | MAX MIN |
| 129 | -103.99 -188.81 | -52.19 -83.46 | 74.69 43.32 | -291.92 -559.55 | -573.35 -1166.23 | MAX MIN |
| 130 | -45.82 -71.82 | 85.47 -4.56 | 26.02 15.06 | -180.61 -344.86 | -604.18 -1233.00 | MAX MIN |
| 131 | 37.13 6.12 | 288.81 104.69 | -3.93 -16.81 | -79.38 -150.43 | -595.63 -1224.25 | MAX MIN |
| 132 | 158.51 66.17 | 528.36 220.55 | -12.91 -29.79 | 0.00 0.00 | -591.27 -1219.71 | MAX MIN |
| 133 | 158.51 66.17 | 528.36 220.55 | -12.91 -29.79 | 0.00 0.00 | -591.27 -1219.71 | MAX MIN |
| 134 | 158.51 66.17 | 528.36 220.55 | -12.91 -29.79 | 0.00 0.00 | -591.27 -1219.71 | MAX MIN |
| 135 | 158.51 66.17 | 528.36 220.55 | -12.91 -29.79 | 0.00 0.00 | -591.27 -1219.71 | MAX MIN |
| 136 | 158.51 66.17 | 528.36 220.55 | -12.91 -29.79 | 0.00 0.00 | -591.27 -1219.71 | MAX MIN |
| 137 | 158.51 66.17 | 528.36 220.55 | -12.91 -29.79 | 0.00 0.00 | -591.27 -1219.71 | MAX MIN |
| 138 | 158.51 66.17 | 528.36 220.55 | -12.91 -29.79 | 0.00 0.00 | -591.27 -1219.71 | MAX MIN |
| 139 | 158.51 66.17 | 528.36 220.55 | -12.91 -29.79 | 0.00 0.00 | -591.27 -1219.71 | MAX MIN |
| 140 | 158.51 66.17 | 528.36 220.55 | -12.91 -29.79 | 0.00 0.00 | -591.27 -1219.71 | MAX MIN |
| 141 | 158.51 66.17 | 528.36 220.55 | -12.91 -29.79 | 0.00 0.00 | -591.27 -1219.71 | MAX MIN |
| 142 | 158.51 66.17 | 528.36 220.55 | -12.91 -29.79 | 0.00 0.00 | -591.27 -1219.71 | MAX MIN |
| 143 | 158.51 66.17 | 528.36 220.55 | -12.91 -29.79 | 0.00 0.00 | -591.27 -1219.71 | MAX MIN |
| 144 | 158.51 66.17 | 528.36 220.55 | -12.91 -29.79 | 0.00 0.00 | -591.27 -1219.71 | MAX MIN |
| 145 | -95.31 -189.80 | -4.51 -8.29 | 31.15 17.08 | 5.97 -33.62 | 4.54 3.51 | MAX MIN |
| 146 | -93.77 -187.12 | -11.77 -21.26 | 62.71 34.15 | -64.97 -137.88 | 7.19 6.09 | MAX MIN |
| 147 | -84.07 -168.79 | -32.78 -58.30 | 98.59 53.73 | -114.37 -231.64 | 9.46 5.02 | MAX MIN |

| In | Mx [kNm] | My [kNm] | Mxy [kNm] | Tx [kN] | Ty [kN] | |
|-----|-------------|-------------|--------------|------------|------------|-----|
| 148 | -64.12 | -56.41 | 101.45 | -180.55 | 5.41 | MAX |
| | -130.94 | -98.59 | 55.53 | -359.40 | -11.41 | MIN |
| 149 | -67.78 | -81.94 | 62.55 | -267.08 | -44.18 | MAX |
| | -135.77 | -140.41 | 34.86 | -524.92 | -117.39 | MIN |
| 150 | -98.53 | -88.85 | 27.68 | -330.89 | -184.66 | MAX |
| | -188.70 | -144.24 | 16.70 | -643.74 | -400.04 | MIN |
| 151 | -111.84 | -58.84 | 9.40 | -329.11 | -341.26 | MAX |
| | -206.91 | -82.81 | 2.06 | -634.85 | -712.54 | MIN |
| 152 | -84.34 | 40.45 | 7.30 | -258.66 | -426.93 | MAX |
| | -148.86 | -14.26 | -3.45 | -495.19 | -885.54 | MIN |
| 153 | -33.00 | 180.70 | -7.03 | -164.09 | -465.73 | MAX |
| | -46.24 | 57.82 | -23.84 | -311.94 | -967.12 | MIN |
| 154 | 50.05 | 337.50 | -18.79 | -78.92 | -484.23 | MAX |
| | 13.35 | 132.45 | -43.00 | -148.88 | -1009.72 | MIN |
| 155 | 160.25 | 534.16 | -23.54 | 0.00 | -487.51 | MAX |
| | 67.79 | 225.98 | -50.30 | 0.00 | -1019.53 | MIN |
| 156 | 160.25 | 534.16 | -23.54 | 0.00 | -487.51 | MAX |
| | 67.79 | 225.98 | -50.30 | 0.00 | -1019.53 | MIN |
| 157 | 160.25 | 534.16 | -23.54 | 0.00 | -487.51 | MAX |
| | 67.79 | 225.98 | -50.30 | 0.00 | -1019.53 | MIN |
| 158 | 160.25 | 534.16 | -23.54 | 0.00 | -487.51 | MAX |
| | 67.79 | 225.98 | -50.30 | 0.00 | -1019.53 | MIN |
| 159 | 160.25 | 534.16 | -23.54 | 0.00 | -487.51 | MAX |
| | 67.79 | 225.98 | -50.30 | 0.00 | -1019.53 | MIN |
| 160 | 160.25 | 534.16 | -23.54 | 0.00 | -487.51 | MAX |
| | 67.79 | 225.98 | -50.30 | 0.00 | -1019.53 | MIN |
| 161 | 160.25 | 534.16 | -23.54 | 0.00 | -487.51 | MAX |
| | 67.79 | 225.98 | -50.30 | 0.00 | -1019.53 | MIN |
| 162 | 160.25 | 534.16 | -23.54 | 0.00 | -487.51 | MAX |
| | 67.79 | 225.98 | -50.30 | 0.00 | -1019.53 | MIN |
| 163 | 160.25 | 534.16 | -23.54 | 0.00 | -487.51 | MAX |
| | 67.79 | 225.98 | -50.30 | 0.00 | -1019.53 | MIN |
| 164 | 160.25 | 534.16 | -23.54 | 0.00 | -487.51 | MAX |
| | 67.79 | 225.98 | -50.30 | 0.00 | -1019.53 | MIN |
| 165 | 160.25 | 534.16 | -23.54 | 0.00 | -487.51 | MAX |
| | 67.79 | 225.98 | -50.30 | 0.00 | -1019.53 | MIN |
| 166 | 160.25 | 534.16 | -23.54 | 0.00 | -487.51 | MAX |
| | 67.79 | 225.98 | -50.30 | 0.00 | -1019.53 | MIN |
| 167 | 160.25 | 534.16 | -23.54 | 0.00 | -487.51 | MAX |
| | 67.79 | 225.98 | -50.30 | 0.00 | -1019.53 | MIN |
| 168 | 160.25 | 534.16 | -23.54 | 0.00 | -487.51 | MAX |
| | 67.79 | 225.98 | -50.30 | 0.00 | -1019.53 | MIN |
| 169 | 160.25 | 534.16 | -23.54 | 0.00 | -487.51 | MAX |
| | 67.79 | 225.98 | -50.30 | 0.00 | -1019.53 | MIN |
| 170 | -48.96 | -3.81 | 20.99 | 3.81 | 3.83 | MAX |
| | -100.83 | -7.01 | 11.59 | -36.60 | 2.16 | MIN |
| 171 | -56.86 | -12.98 | 41.13 | -58.42 | 3.34 | MAX |
| | -115.23 | -23.19 | 22.47 | -126.40 | -2.40 | MIN |
| 172 | -49.41 | -27.31 | 60.12 | -102.54 | -2.71 | MAX |
| | -100.74 | -47.32 | 32.90 | -207.67 | -21.59 | MIN |
| 173 | -40.71 | -43.15 | 51.86 | -151.50 | -24.51 | MAX |
| | -83.17 | -72.43 | 28.63 | -300.46 | -72.60 | MIN |
| 174 | -38.21 | -50.91 | 24.25 | -214.88 | -73.53 | MAX |
| | -75.93 | -80.24 | 14.15 | -420.82 | -176.77 | MIN |
| 175 | -45.47 | -43.18 | -2.72 | -260.86 | -148.99 | MAX |
| | -85.52 | -60.46 | -11.08 | -506.45 | -331.96 | MIN |
| 176 | -51.57 | 6.35 | -16.78 | -244.65 | -233.40 | MAX |
| | -92.14 | -24.82 | -36.10 | -471.14 | -503.73 | MIN |
| 177 | -40.28 | 104.36 | -24.34 | -190.78 | -304.47 | MAX |
| | -65.62 | 26.03 | -51.43 | -364.14 | -648.70 | MIN |
| 178 | -8.01 | 224.15 | -28.97 | -129.06 | -350.41 | MAX |
| | -19.08 | 83.33 | -61.13 | -244.16 | -744.44 | MIN |
| 179 | 65.64 | 357.80 | -33.59 | -62.85 | -373.38 | MAX |
| | 22.58 | 145.05 | -70.55 | -117.66 | -795.55 | MIN |
| 180 | 154.95 | 516.51 | -34.14 | 0.00 | -379.91 | MAX |
| | 65.71 | 219.03 | -71.27 | 0.00 | -811.54 | MIN |
| 181 | 154.95 | 516.51 | -34.14 | 0.00 | -379.91 | MAX |
| | 65.71 | 219.03 | -71.27 | 0.00 | -811.54 | MIN |
| 182 | 154.95 | 516.51 | -34.14 | 0.00 | -379.91 | MAX |
| | 65.71 | 219.03 | -71.27 | 0.00 | -811.54 | MIN |
| 183 | 154.95 | 516.51 | -34.14 | 0.00 | -379.91 | MAX |
| | 65.71 | 219.03 | -71.27 | 0.00 | -811.54 | MIN |
| 184 | 154.95 | 516.51 | -34.14 | 0.00 | -379.91 | MAX |
| | 65.71 | 219.03 | -71.27 | 0.00 | -811.54 | MIN |
| 185 | 154.95 | 516.51 | -34.14 | 0.00 | -379.91 | MAX |
| | 65.71 | 219.03 | -71.27 | 0.00 | -811.54 | MIN |
| 186 | 154.95 | 516.51 | -34.14 | 0.00 | -379.91 | MAX |
| | 65.71 | 219.03 | -71.27 | 0.00 | -811.54 | MIN |

| In | Mx [kNm] | My [kNm] | Mxy [kNm] | Tx [kN] | Ty [kN] | |
|-----|------------------|------------------|------------------|--------------------|--------------------|------------|
| 187 | 154.95 65.71 | 516.51 219.03 | -34.14 -71.27 | 0.00 0.00 | -379.91 -811.54 | MAX MIN |
| 188 | 154.95 65.71 | 516.51 219.03 | -34.14 -71.27 | 0.00 0.00 | -379.91 -811.54 | MAX MIN |
| 189 | 154.95 65.71 | 516.51 219.03 | -34.14 -71.27 | 0.00 0.00 | -379.91 -811.54 | MAX MIN |
| 190 | 154.95 65.71 | 516.51 219.03 | -34.14 -71.27 | 0.00 0.00 | -379.91 -811.54 | MAX MIN |
| 191 | 154.95 65.71 | 516.51 219.03 | -34.14 -71.27 | 0.00 0.00 | -379.91 -811.54 | MAX MIN |
| 192 | 154.95 65.71 | 516.51 219.03 | -34.14 -71.27 | 0.00 0.00 | -379.91 -811.54 | MAX MIN |
| 193 | 154.95 65.71 | 516.51 219.03 | -34.14 -71.27 | 0.00 0.00 | -379.91 -811.54 | MAX MIN |
| 194 | 154.95 65.71 | 516.51 219.03 | -34.14 -71.27 | 0.00 0.00 | -379.91 -811.54 | MAX MIN |
| 195 | 154.95 65.71 | 516.51 219.03 | -34.14 -71.27 | 0.00 0.00 | -379.91 -811.54 | MAX MIN |
| 196 | 154.95 65.71 | 516.51 219.03 | -34.14 -71.27 | 0.00 0.00 | -379.91 -811.54 | MAX MIN |
| 197 | -18.51 -41.91 | -1.84 -3.37 | 10.90 6.10 | 1.47 -34.78 | 2.14 -1.66 | MAX MIN |
| 198 | -29.74 -61.79 | -8.81 -15.30 | 21.57 11.86 | -46.78 -103.26 | -0.19 -10.47 | MAX MIN |
| 199 | -27.63 -57.09 | -17.46 -28.51 | 29.59 16.35 | -81.57 -165.41 | -11.20 -39.29 | MAX MIN |
| 200 | -22.32 -45.85 | -24.70 -37.09 | 20.97 11.91 | -115.20 -227.98 | -34.41 -92.83 | MAX MIN |
| 201 | -19.38 -38.20 | -24.49 -35.01 | 3.07 -0.89 | -145.56 -284.13 | -71.91 -174.00 | MAX MIN |
| 202 | -19.76 -35.97 | 2.13 -19.29 | -13.28 -27.69 | -162.22 -313.49 | -121.68 -278.70 | MAX MIN |
| 203 | -19.21 -31.21 | 60.67 9.80 | -25.51 -51.95 | -157.02 -300.65 | -176.19 -392.12 | MAX MIN |
| 204 | -11.64 -17.14 | 143.16 49.19 | -33.92 -69.24 | -129.78 -246.02 | -225.49 -494.93 | MAX MIN |
| 205 | 25.39 4.11 | 243.35 94.47 | -39.28 -80.72 | -88.77 -166.29 | -261.89 -572.40 | MAX MIN |
| 206 | 77.85 29.67 | 353.74 144.47 | -42.87 -88.74 | -43.04 -79.40 | -281.62 -617.43 | MAX MIN |
| 207 | 143.93 60.51 | 479.77 201.69 | -41.88 -86.77 | 0.00 0.00 | -287.07 -631.39 | MAX MIN |
| 208 | 143.93 60.51 | 479.77 201.69 | -41.88 -86.77 | 0.00 0.00 | -287.07 -631.39 | MAX MIN |
| 209 | 143.93 60.51 | 479.77 201.69 | -41.88 -86.77 | 0.00 0.00 | -287.07 -631.39 | MAX MIN |
| 210 | 143.93 60.51 | 479.77 201.69 | -41.88 -86.77 | 0.00 0.00 | -287.07 -631.39 | MAX MIN |
| 211 | 143.93 60.51 | 479.77 201.69 | -41.88 -86.77 | 0.00 0.00 | -287.07 -631.39 | MAX MIN |
| 212 | 143.93 60.51 | 479.77 201.69 | -41.88 -86.77 | 0.00 0.00 | -287.07 -631.39 | MAX MIN |
| 213 | 143.93 60.51 | 479.77 201.69 | -41.88 -86.77 | 0.00 0.00 | -287.07 -631.39 | MAX MIN |
| 214 | 143.93 60.51 | 479.77 201.69 | -41.88 -86.77 | 0.00 0.00 | -287.07 -631.39 | MAX MIN |
| 215 | 143.93 60.51 | 479.77 201.69 | -41.88 -86.77 | 0.00 0.00 | -287.07 -631.39 | MAX MIN |
| 216 | 143.93 60.51 | 479.77 201.69 | -41.88 -86.77 | 0.00 0.00 | -287.07 -631.39 | MAX MIN |
| 217 | 143.93 60.51 | 479.77 201.69 | -41.88 -86.77 | 0.00 0.00 | -287.07 -631.39 | MAX MIN |
| 218 | 143.93 60.51 | 479.77 201.69 | -41.88 -86.77 | 0.00 0.00 | -287.07 -631.39 | MAX MIN |
| 219 | 143.93 60.51 | 479.77 201.69 | -41.88 -86.77 | 0.00 0.00 | -287.07 -631.39 | MAX MIN |
| 220 | 143.93 60.51 | 479.77 201.69 | -41.88 -86.77 | 0.00 0.00 | -287.07 -631.39 | MAX MIN |
| 221 | 143.93 60.51 | 479.77 201.69 | -41.88 -86.77 | 0.00 0.00 | -287.07 -631.39 | MAX MIN |
| 222 | 143.93 60.51 | 479.77 201.69 | -41.88 -86.77 | 0.00 0.00 | -287.07 -631.39 | MAX MIN |
| 223 | 143.93 60.51 | 479.77 201.69 | -41.88 -86.77 | 0.00 0.00 | -287.07 -631.39 | MAX MIN |
| 224 | 143.93 60.51 | 479.77 201.69 | -41.88 -86.77 | 0.00 0.00 | -287.07 -631.39 | MAX MIN |
| 225 | 143.93 60.51 | 479.77 201.69 | -41.88 -86.77 | 0.00 0.00 | -287.07 -631.39 | MAX MIN |

| In | Mx [kNm] | My [kNm] | Mxy [kNm] | Tx [kN] | Ty [kN] | |
|-----|------------------|-------------------|------------------|--------------------|--------------------|------------|
| 226 | -2.23 -11.38 | -0.41 -0.71 | 4.28 2.47 | 2.06 -26.28 | 0.41 -4.95 | MAX MIN |
| 227 | -12.99 -28.09 | -4.70 -7.59 | 8.55 4.76 | -32.46 -74.01 | -2.75 -15.50 | MAX MIN |
| 228 | -13.19 -27.82 | -8.46 -12.40 | 10.50 5.93 | -57.61 -117.28 | -14.06 -45.16 | MAX MIN |
| 229 | -10.34 -21.52 | -9.22 -15.05 | 4.36 1.97 | -78.30 -154.81 | -33.96 -92.03 | MAX MIN |
| 230 | -7.73 -15.18 | 6.79 -9.20 | -5.91 -13.07 | -93.91 -182.59 | -62.46 -155.30 | MAX MIN |
| 231 | -6.10 -10.14 | 41.45 5.95 | -16.70 -33.45 | -100.86 -193.58 | -97.51 -230.92 | MAX MIN |
| 232 | -2.88 -5.69 | 95.93 31.15 | -27.03 -54.13 | -96.07 -182.06 | -134.82 -310.64 | MAX MIN |
| 233 | 12.46 1.70 | 167.05 62.16 | -35.90 -72.59 | -79.54 -148.55 | -168.78 -383.60 | MAX MIN |
| 234 | 41.68 15.35 | 250.05 98.80 | -42.68 -87.42 | -54.50 -99.93 | -194.10 -439.66 | MAX MIN |
| 235 | 83.43 33.68 | 339.59 138.36 | -47.28 -97.96 | -25.68 -45.84 | -207.28 -472.11 | MAX MIN |
| 236 | 130.99 54.22 | 436.63 180.73 | -46.38 -96.48 | 0.00 0.00 | -210.54 -481.87 | MAX MIN |
| 237 | 130.99 54.22 | 436.63 180.73 | -46.38 -96.48 | 0.00 0.00 | -210.54 -481.87 | MAX MIN |
| 238 | 130.99 54.22 | 436.63 180.73 | -46.38 -96.48 | 0.00 0.00 | -210.54 -481.87 | MAX MIN |
| 239 | 130.99 54.22 | 436.63 180.73 | -46.38 -96.48 | 0.00 0.00 | -210.54 -481.87 | MAX MIN |
| 240 | 130.99 54.22 | 436.63 180.73 | -46.38 -96.48 | 0.00 0.00 | -210.54 -481.87 | MAX MIN |
| 241 | 32.74 -80.41 | 109.13 -268.04 | 11.90 -65.72 | 0.00 0.00 | -156.49 -344.93 | MAX MIN |
| 242 | 58.03 -82.89 | 193.44 -276.30 | 31.29 -80.18 | 0.00 0.00 | -236.94 -328.30 | MAX MIN |
| 243 | 35.61 -80.49 | 118.70 -268.30 | 0.87 -62.27 | 0.00 0.00 | -103.59 -350.30 | MAX MIN |
| 244 | 43.15 -78.71 | 143.85 -262.38 | -6.21 -60.09 | 0.00 0.00 | -60.56 -357.03 | MAX MIN |
| 245 | 52.81 -75.66 | 176.05 -252.19 | -11.01 -56.99 | 0.00 0.00 | -22.99 -367.18 | MAX MIN |
| 246 | 63.39 -71.34 | 211.30 -237.80 | -13.83 -51.77 | 0.00 0.00 | 10.58 -380.79 | MAX MIN |
| 247 | 73.98 -66.06 | 246.60 -220.21 | -14.18 -43.24 | 0.00 0.00 | 39.57 -396.32 | MAX MIN |
| 248 | 82.50 -61.21 | 274.98 -204.04 | -11.76 -31.75 | 0.00 0.00 | 60.62 -409.74 | MAX MIN |
| 249 | 88.47 -57.50 | 294.90 -191.68 | -6.72 -16.91 | 0.00 0.00 | 74.34 -419.44 | MAX MIN |
| 250 | 90.63 -56.11 | 302.10 -187.02 | 0.00 0.00 | 0.00 0.00 | 79.12 -422.99 | MAX MIN |
| 251 | 88.47 -57.50 | 294.90 -191.68 | 16.91 6.72 | 0.00 0.00 | 74.34 -419.44 | MAX MIN |
| 252 | 82.50 -61.21 | 274.98 -204.04 | 31.75 11.76 | 0.00 0.00 | 60.62 -409.74 | MAX MIN |
| 253 | 73.98 -66.06 | 246.60 -220.21 | 43.24 14.18 | 0.00 0.00 | 39.57 -396.32 | MAX MIN |
| 254 | 63.39 -71.34 | 211.30 -237.80 | 51.77 13.83 | 0.00 0.00 | 10.58 -380.79 | MAX MIN |
| 255 | 52.81 -75.66 | 176.05 -252.19 | 56.99 11.01 | 0.00 0.00 | -22.99 -367.18 | MAX MIN |
| 256 | 43.15 -78.71 | 143.85 -262.38 | 60.09 6.21 | 0.00 0.00 | -60.56 -357.03 | MAX MIN |
| 257 | 3.47 0.34 | 0.34 0.14 | 1.10 0.59 | 6.15 -12.02 | -0.25 -6.14 | MAX MIN |
| 258 | -4.08 -9.53 | -1.78 -2.83 | 1.85 1.04 | -18.38 -44.45 | -2.92 -15.97 | MAX MIN |
| 259 | -4.71 -10.34 | -0.27 -4.23 | 1.64 0.60 | -35.02 -71.77 | -12.18 -41.76 | MAX MIN |
| 260 | -3.22 -7.00 | 8.34 -2.30 | -2.07 -4.83 | -46.90 -92.73 | -27.52 -79.66 | MAX MIN |
| 261 | -1.43 -2.86 | 28.72 4.90 | -8.01 -15.57 | -54.59 -105.65 | -48.64 -128.19 | MAX MIN |
| 262 | 1.18 -0.13 | 64.47 20.13 | -15.27 -29.79 | -56.80 -107.94 | -73.59 -183.63 | MAX MIN |
| 263 | 6.69 2.01 | 116.52 42.32 | -23.30 -45.99 | -52.56 -97.84 | -99.42 -240.42 | MAX MIN |
| 264 | 17.12 6.56 | 182.21 70.45 | -31.80 -63.89 | -42.21 -76.40 | -122.54 -291.90 | MAX MIN |

| In | Mx [kNm] | My [kNm] | Mxy [kNm] | Tx [kN] | Ty [kN] | |
|-----|-----------------|-------------------|-------------------|------------------|--------------------|------------|
| 265 | 36.75 14.99 | 252.23 100.60 | -40.38 -82.91 | -27.98 -48.58 | -138.96 -330.40 | MAX MIN |
| 266 | 77.93 32.57 | 324.85 131.80 | -48.37 -101.36 | -13.26 -21.86 | -145.83 -350.45 | MAX MIN |
| 267 | 119.87 48.80 | 399.56 162.68 | -49.04 -103.41 | 0.00 0.00 | -146.71 -355.53 | MAX MIN |
| 268 | 119.87 48.80 | 399.56 162.68 | -49.04 -103.41 | 0.00 0.00 | -146.71 -355.53 | MAX MIN |
| 269 | 119.87 48.80 | 399.56 162.68 | -49.04 -103.41 | 0.00 0.00 | -146.71 -355.53 | MAX MIN |
| 270 | 119.87 48.80 | 399.56 162.68 | -49.04 -103.41 | 0.00 0.00 | -146.71 -355.53 | MAX MIN |
| 271 | 119.87 48.80 | 399.56 162.68 | -49.04 -103.41 | 0.00 0.00 | -146.71 -355.53 | MAX MIN |
| 272 | 35.61 -80.49 | 118.70 -268.30 | 62.27 -0.87 | 0.00 0.00 | -103.59 -350.30 | MAX MIN |
| 273 | 17.08 -15.20 | 137.87 -186.18 | 2.41 -47.57 | 3.46 -5.52 | -135.14 -323.54 | MAX MIN |
| 274 | 14.07 0.15 | 177.65 -175.38 | 6.90 -36.76 | 6.07 -3.50 | -218.06 -316.41 | MAX MIN |
| 275 | 34.32 -32.35 | 140.56 -187.46 | -3.17 -62.87 | -3.78 -10.22 | -83.49 -327.72 | MAX MIN |
| 276 | 39.98 -38.97 | 157.36 -181.72 | -9.89 -63.86 | -10.66 -18.23 | -41.77 -334.58 | MAX MIN |
| 277 | 43.17 -41.12 | 181.15 -170.14 | -15.18 -62.48 | -12.77 -25.01 | -5.09 -345.49 | MAX MIN |
| 278 | 44.36 -41.83 | 209.17 -153.15 | -19.06 -58.46 | -11.52 -28.64 | 27.89 -360.70 | MAX MIN |
| 279 | 43.63 -42.32 | 239.07 -131.51 | -20.23 -50.46 | -9.12 -28.01 | 56.59 -378.89 | MAX MIN |
| 280 | 41.01 -43.85 | 264.46 -110.91 | -17.39 -38.41 | -6.19 -22.52 | 77.64 -395.35 | MAX MIN |
| 281 | 38.70 -45.08 | 283.15 -94.63 | -10.21 -21.10 | -3.10 -12.61 | 91.51 -407.68 | MAX MIN |
| 282 | 37.74 -45.60 | 290.09 -88.36 | 0.00 0.00 | 0.00 0.00 | 96.39 -412.29 | MAX MIN |
| 283 | 38.70 -45.08 | 283.15 -94.63 | 21.10 10.21 | 12.61 3.10 | 91.51 -407.68 | MAX MIN |
| 284 | 41.01 -43.85 | 264.46 -110.91 | 38.41 17.39 | 22.52 6.19 | 77.64 -395.35 | MAX MIN |
| 285 | 43.63 -42.32 | 239.07 -131.51 | 50.46 20.23 | 28.01 9.12 | 56.59 -378.89 | MAX MIN |
| 286 | 44.36 -41.83 | 209.17 -153.15 | 58.46 19.06 | 28.64 11.52 | 27.89 -360.70 | MAX MIN |
| 287 | 43.17 -41.12 | 181.15 -170.14 | 62.48 15.18 | 25.01 12.77 | -5.09 -345.49 | MAX MIN |
| 288 | 39.98 -38.97 | 157.36 -181.72 | 63.86 9.89 | 18.23 10.66 | -41.77 -334.58 | MAX MIN |
| 289 | 34.32 -32.35 | 140.56 -187.46 | 62.87 3.17 | 10.22 3.78 | -83.49 -327.72 | MAX MIN |
| 290 | 2.46 1.40 | 0.56 0.28 | 0.07 -0.12 | 8.57 0.65 | 1.10 -4.13 | MAX MIN |
| 291 | -0.45 -1.51 | 0.60 -0.68 | -0.13 -0.39 | -7.45 -19.56 | 0.59 -10.61 | MAX MIN |
| 292 | -0.59 -1.60 | 4.54 -0.52 | -0.81 -1.60 | -15.96 -33.00 | -4.22 -29.12 | MAX MIN |
| 293 | 0.22 0.11 | 15.16 2.22 | -2.58 -4.75 | -21.30 -42.14 | -15.70 -57.87 | MAX MIN |
| 294 | 2.21 1.19 | 36.27 10.09 | -5.46 -10.24 | -24.25 -46.70 | -30.63 -94.00 | MAX MIN |
| 295 | 4.25 2.05 | 70.80 24.49 | -9.31 -17.74 | -24.46 -45.89 | -47.65 -133.29 | MAX MIN |
| 296 | 6.95 3.14 | 120.46 45.28 | -13.93 -27.04 | -21.68 -39.28 | -64.30 -171.12 | MAX MIN |
| 297 | 12.26 5.35 | 185.71 73.20 | -19.61 -39.01 | -16.26 -27.71 | -78.27 -203.32 | MAX MIN |
| 298 | 23.95 10.32 | 264.07 106.83 | -28.27 -58.27 | -9.63 -14.38 | -87.87 -227.29 | MAX MIN |
| 299 | 41.47 17.59 | 323.41 131.83 | -38.39 -81.69 | -4.41 -6.00 | -90.28 -237.84 | MAX MIN |
| 300 | 114.33 46.22 | 381.11 154.06 | -52.62 -113.59 | 0.00 0.00 | -89.16 -238.67 | MAX MIN |
| 301 | 114.33 46.22 | 381.11 154.06 | -52.62 -113.59 | 0.00 0.00 | -89.16 -238.67 | MAX MIN |
| 302 | 114.33 46.22 | 381.11 154.06 | -52.62 -113.59 | 0.00 0.00 | -89.16 -238.67 | MAX MIN |
| 303 | 114.33 46.22 | 381.11 154.06 | -52.62 -113.59 | 0.00 0.00 | -89.16 -238.67 | MAX MIN |

| In | Mx [kNm] | My [kNm] | Mxy [kNm] | Tx [kN] | Ty [kN] | |
|-----|-----------------|-------------------|-------------------|------------------|--------------------|------------|
| 304 | 114.33 46.22 | 381.11 154.06 | -52.62 -113.59 | 0.00 0.00 | -89.16 -238.67 | MAX MIN |
| 305 | 32.74 -80.41 | 109.13 -268.04 | 65.72 -11.90 | 0.00 0.00 | -156.49 -344.93 | MAX MIN |
| 306 | 17.08 -15.20 | 137.87 -186.18 | 47.57 -2.41 | 5.52 -3.46 | -135.14 -323.54 | MAX MIN |
| 307 | 11.86 -5.18 | 149.19 -128.14 | -7.22 -37.61 | -1.92 -10.17 | -94.33 -279.42 | MAX MIN |
| 308 | 3.75 0.51 | 136.50 -110.82 | -8.45 -21.73 | 0.83 -7.15 | -173.48 -289.90 | MAX MIN |
| 309 | 21.25 -8.76 | 149.74 -125.14 | -11.95 -55.61 | -7.73 -18.33 | -44.78 -280.40 | MAX MIN |
| 310 | 29.94 -13.37 | 161.29 -117.19 | -16.12 -61.79 | -9.42 -29.91 | -5.65 -287.03 | MAX MIN |
| 311 | 31.86 -15.28 | 179.16 -103.32 | -21.61 -63.62 | -7.59 -40.25 | 29.33 -299.35 | MAX MIN |
| 312 | 28.25 -16.86 | 202.91 -82.07 | -27.68 -63.41 | -3.94 -46.85 | 61.43 -318.35 | MAX MIN |
| 313 | 20.15 -19.54 | 232.48 -51.87 | -31.62 -60.39 | -0.32 -46.96 | 89.96 -343.85 | MAX MIN |
| 314 | 9.37 -24.63 | 262.19 -18.88 | -29.36 -49.77 | 1.84 -39.15 | 112.38 -369.57 | MAX MIN |
| 315 | 0.58 -28.91 | 287.39 10.28 | -18.17 -28.80 | 1.81 -22.54 | 128.41 -390.48 | MAX MIN |
| 316 | -2.88 -30.66 | 297.50 22.19 | 0.00 0.00 | 0.00 0.00 | 134.17 -398.65 | MAX MIN |
| 317 | 0.58 -28.91 | 287.39 10.28 | 28.80 18.17 | 22.54 -1.81 | 128.41 -390.48 | MAX MIN |
| 318 | 9.37 -24.63 | 262.19 -18.88 | 49.77 29.36 | 39.15 -1.84 | 112.38 -369.57 | MAX MIN |
| 319 | 20.15 -19.54 | 232.48 -51.87 | 60.39 31.62 | 46.96 0.32 | 89.96 -343.85 | MAX MIN |
| 320 | 28.25 -16.86 | 202.91 -82.07 | 63.41 27.68 | 46.85 3.94 | 61.43 -318.35 | MAX MIN |
| 321 | 31.86 -15.28 | 179.16 -103.32 | 63.62 21.61 | 40.25 7.59 | 29.33 -299.35 | MAX MIN |
| 322 | 29.94 -13.37 | 161.29 -117.19 | 61.79 16.12 | 29.91 9.42 | -5.65 -287.03 | MAX MIN |
| 323 | 21.25 -8.76 | 149.74 -125.14 | 55.61 11.95 | 18.33 7.73 | -44.78 -280.40 | MAX MIN |
| 324 | 11.86 -5.18 | 149.19 -128.14 | 37.61 7.22 | 10.17 1.92 | -94.33 -279.42 | MAX MIN |
| 325 | 0.60 0.32 | 0.74 0.36 | -0.15 -0.24 | 8.29 4.56 | 11.02 7.75 | MAX MIN |
| 326 | 0.17 0.14 | 0.20 -0.70 | -0.37 -0.53 | -3.12 -8.85 | 13.67 6.41 | MAX MIN |
| 327 | 0.10 0.06 | 2.44 -1.54 | -0.78 -1.11 | -7.42 -15.47 | 12.55 -4.64 | MAX MIN |
| 328 | 0.54 0.33 | 10.77 0.15 | -1.50 -2.30 | -9.88 -19.59 | 4.16 -26.60 | MAX MIN |
| 329 | 0.79 0.50 | 28.09 6.28 | -2.69 -4.44 | -11.04 -21.18 | -7.60 -52.81 | MAX MIN |
| 330 | 0.61 0.41 | 56.91 18.18 | -4.34 -7.56 | -10.80 -20.00 | -17.85 -77.99 | MAX MIN |
| 331 | 0.32 0.07 | 98.79 35.79 | -6.44 -11.72 | -9.07 -15.88 | -25.47 -96.66 | MAX MIN |
| 332 | 0.44 0.27 | 155.59 60.53 | -9.52 -18.19 | -6.05 -9.27 | -28.22 -104.05 | MAX MIN |
| 333 | 8.33 4.04 | 238.86 97.47 | -14.51 -29.15 | -2.15 -3.73 | -25.37 -98.99 | MAX MIN |
| 334 | 27.67 12.84 | 386.87 163.18 | -31.10 -67.81 | 1.99 -0.69 | -20.86 -91.18 | MAX MIN |
| 335 | 158.44 66.77 | 528.12 222.57 | -67.74 -150.47 | 0.00 0.00 | -19.10 -88.80 | MAX MIN |
| 336 | 158.44 66.77 | 528.12 222.57 | -67.74 -150.47 | 0.00 0.00 | -19.10 -88.80 | MAX MIN |
| 337 | 158.44 66.77 | 528.12 222.57 | -67.74 -150.47 | 0.00 0.00 | -19.10 -88.80 | MAX MIN |
| 338 | 158.44 66.77 | 528.12 222.57 | -67.74 -150.47 | 0.00 0.00 | -19.10 -88.80 | MAX MIN |
| 339 | 158.44 66.77 | 528.12 222.57 | -67.74 -150.47 | 0.00 0.00 | -19.10 -88.80 | MAX MIN |
| 340 | 58.03 -82.89 | 193.44 -276.30 | 80.18 -31.29 | 0.00 0.00 | -236.94 -328.30 | MAX MIN |
| 341 | 14.07 0.15 | 177.65 -175.38 | 36.76 -6.90 | 3.50 -6.07 | -218.06 -316.41 | MAX MIN |
| 342 | 3.75 0.51 | 136.50 -110.82 | 21.73 8.45 | 7.15 -0.83 | -173.48 -289.90 | MAX MIN |

| In | Mx [kNm] | My [kNm] | Mxy [kNm] | Tx [kN] | Ty [kN] | |
|-----|-------------------|------------------|-------------------|-----------------|--------------------|------------|
| 343 | 7.49 0.15 | 140.11 -73.68 | -11.60 -29.29 | -4.49 -12.60 | -56.54 -233.69 | MAX MIN |
| 344 | 1.08 -0.67 | 119.98 -69.27 | -9.36 -17.24 | -3.35 -6.72 | -121.82 -254.62 | MAX MIN |
| 345 | 14.63 0.92 | 147.13 -72.03 | -17.60 -48.44 | -3.82 -24.27 | -10.62 -230.45 | MAX MIN |
| 346 | 20.62 2.66 | 154.22 -63.53 | -22.28 -58.82 | 1.54 -36.28 | 25.73 -235.68 | MAX MIN |
| 347 | 21.62 5.09 | 165.98 -49.12 | -29.29 -66.05 | 9.70 -48.62 | 59.54 -248.28 | MAX MIN |
| 348 | 18.59 2.82 | 183.70 -26.29 | -39.75 -73.40 | 17.51 -62.13 | 92.07 -270.54 | MAX MIN |
| 349 | 13.24 -12.75 | 212.22 12.42 | -51.06 -78.27 | 23.78 -68.07 | 122.26 -305.85 | MAX MIN |
| 350 | 0.06 -33.93 | 250.30 66.15 | -25.07 -72.03 | 25.05 -60.20 | 146.66 -348.08 | MAX MIN |
| 351 | -12.44 -52.49 | 292.15 124.80 | -35.89 -45.52 | 16.51 -35.89 | 174.72 -387.10 | MAX MIN |
| 352 | -17.07 -59.52 | 312.51 152.67 | 0.00 0.00 | 0.00 0.00 | 191.48 -403.57 | MAX MIN |
| 353 | -12.44 -52.49 | 292.15 124.80 | 45.52 35.89 | 35.89 -16.51 | 174.72 -387.10 | MAX MIN |
| 354 | 0.06 -33.93 | 250.30 66.15 | 72.03 53.07 | 60.20 -25.05 | 146.66 -348.08 | MAX MIN |
| 355 | 13.24 -12.75 | 212.22 12.42 | 78.27 51.06 | 68.07 -23.78 | 122.26 -305.85 | MAX MIN |
| 356 | 18.59 2.82 | 183.70 -26.29 | 73.40 39.75 | 62.13 -17.51 | 92.07 -270.54 | MAX MIN |
| 357 | 21.62 5.09 | 165.98 -49.12 | 66.05 29.29 | 48.62 -9.70 | 59.54 -248.28 | MAX MIN |
| 358 | 20.62 2.66 | 154.22 -63.53 | 58.82 22.28 | 36.28 -1.54 | 25.73 -235.68 | MAX MIN |
| 359 | 14.63 0.92 | 147.13 -72.03 | 48.44 17.60 | 24.27 3.82 | -10.62 -230.45 | MAX MIN |
| 360 | 7.49 0.15 | 140.11 -73.68 | 29.29 11.60 | 12.60 4.49 | -56.54 -233.69 | MAX MIN |
| 361 | 1.08 -0.67 | 119.98 -69.27 | 17.24 9.36 | 6.72 3.35 | -121.82 -254.62 | MAX MIN |
| 362 | 5.40 2.26 | 125.80 -33.48 | -12.16 -25.11 | -0.25 -13.61 | -21.98 -188.43 | MAX MIN |
| 363 | 0.08 -1.03 | 107.27 -37.11 | -8.96 -14.06 | -1.80 -7.69 | -72.91 -211.13 | MAX MIN |
| 364 | 10.30 6.01 | 133.33 -29.63 | -19.71 -43.08 | 7.40 -24.50 | 17.00 -181.95 | MAX MIN |
| 365 | 17.62 10.11 | 137.66 -21.71 | -25.58 -55.47 | 21.58 -37.32 | 50.02 -184.73 | MAX MIN |
| 366 | 26.42 8.23 | 142.92 -8.30 | -34.12 -66.39 | 38.28 -54.42 | 81.63 -195.51 | MAX MIN |
| 367 | 34.38 0.41 | 152.87 13.83 | -49.57 -79.93 | 53.93 -73.83 | 116.38 -217.77 | MAX MIN |
| 368 | 29.86 -20.93 | 172.34 51.57 | -73.16 -96.83 | 64.80 -89.23 | 150.98 -259.45 | MAX MIN |
| 369 | 11.54 -54.46 | 219.96 130.59 | -86.53 -110.99 | 75.10 -86.68 | 181.43 -324.42 | MAX MIN |
| 370 | -6.69 -90.37 | 351.23 255.33 | -60.81 -84.99 | 64.14 -55.04 | 203.28 -400.76 | MAX MIN |
| 371 | -13.00 -106.72 | 434.05 304.66 | 0.00 0.00 | 0.00 0.00 | 208.95 -438.07 | MAX MIN |
| 372 | -6.69 -90.37 | 351.23 255.33 | 84.99 60.81 | 55.04 -64.14 | 203.28 -400.76 | MAX MIN |
| 373 | 11.54 -54.46 | 219.96 130.59 | 110.99 86.53 | 86.68 -75.10 | 181.43 -324.42 | MAX MIN |
| 374 | 29.86 -20.93 | 172.34 51.57 | 96.83 73.16 | 89.23 -64.80 | 150.98 -259.45 | MAX MIN |
| 375 | 34.38 0.41 | 152.87 13.83 | 79.93 49.57 | 73.83 -53.93 | 116.38 -217.77 | MAX MIN |
| 376 | 26.42 8.23 | 142.92 -8.30 | 66.39 34.12 | 54.42 -38.28 | 81.63 -195.51 | MAX MIN |
| 377 | 17.62 10.11 | 137.66 -21.71 | 55.47 25.58 | 37.32 -21.58 | 50.02 -184.73 | MAX MIN |
| 378 | 10.30 6.01 | 133.33 -29.63 | 43.08 19.71 | 24.50 -7.40 | 17.00 -181.95 | MAX MIN |
| 379 | 5.40 2.26 | 125.80 -33.48 | 25.11 12.16 | 13.61 0.25 | -21.98 -188.43 | MAX MIN |
| 380 | 0.08 -1.03 | 107.27 -37.11 | 14.06 8.96 | 7.69 1.80 | -72.91 -211.13 | MAX MIN |
| 381 | 4.22 2.79 | 108.65 -8.24 | -11.54 -21.29 | 6.68 -11.77 | 5.21 -145.54 | MAX MIN |

| In | Mx [kNm] | My [kNm] | Mxy [kNm] | Tx [kN] | Ty [kN] | |
|-----|-------------------|-------------------|--------------------|-------------------|--------------------|------------|
| 382 | -0.49 -1.07 | 92.15 -16.02 | -7.85 -11.31 | 1.45 -6.81 | -32.49 -165.64 | MAX MIN |
| 383 | 9.30 5.84 | 115.09 -2.61 | -19.53 -37.72 | 21.68 -22.29 | 36.39 -137.96 | MAX MIN |
| 384 | 16.92 5.77 | 116.81 5.05 | -25.95 -50.05 | 44.54 -33.90 | 64.53 -138.24 | MAX MIN |
| 385 | 26.98 1.26 | 116.66 16.74 | -34.58 -61.54 | 73.15 -49.09 | 92.96 -145.73 | MAX MIN |
| 386 | 40.45 -9.45 | 117.24 34.89 | -50.22 -76.21 | 102.06 -69.90 | 126.24 -164.23 | MAX MIN |
| 387 | 63.01 -24.93 | 127.11 69.59 | -84.23 -102.81 | 126.09 -97.31 | 173.71 -204.08 | MAX MIN |
| 388 | 33.24 -77.49 | 176.45 111.24 | -106.49 -153.53 | 130.92 -113.47 | 203.94 -279.48 | MAX MIN |
| 389 | -10.69 -137.74 | 448.75 259.11 | -107.53 -174.97 | 87.98 -81.90 | 150.35 -425.30 | MAX MIN |
| 390 | 15.22 -136.15 | 792.72 440.31 | 0.00 0.00 | 0.00 0.00 | 82.13 -537.32 | MAX MIN |
| 391 | -10.69 -137.74 | 448.75 259.11 | 174.97 107.53 | 81.90 -87.98 | 150.35 -425.30 | MAX MIN |
| 392 | 33.24 -77.49 | 176.45 111.24 | 153.53 106.49 | 113.47 -130.92 | 203.94 -279.48 | MAX MIN |
| 393 | 63.01 -24.93 | 127.11 69.59 | 102.81 84.23 | 97.31 -126.09 | 173.71 -204.08 | MAX MIN |
| 394 | 40.45 -9.45 | 117.24 34.89 | 76.21 50.22 | 69.90 -102.06 | 126.24 -164.23 | MAX MIN |
| 395 | 26.98 1.26 | 116.66 16.74 | 61.54 34.58 | 49.09 -73.15 | 92.96 -145.73 | MAX MIN |
| 396 | 16.92 5.77 | 116.81 5.05 | 50.05 25.95 | 33.90 -44.54 | 64.53 -138.24 | MAX MIN |
| 397 | 9.30 5.84 | 115.09 -2.61 | 37.72 19.53 | 22.29 -21.68 | 36.39 -137.96 | MAX MIN |
| 398 | 4.22 2.79 | 108.65 -8.24 | 21.29 11.54 | 11.77 -6.68 | 5.21 -145.54 | MAX MIN |
| 399 | -0.49 -1.07 | 92.15 -16.02 | 11.31 7.85 | 6.81 -1.45 | -32.49 -165.64 | MAX MIN |
| 400 | 3.12 2.52 | 90.13 8.57 | -10.63 -17.87 | 14.28 -9.46 | 25.17 -105.51 | MAX MIN |
| 401 | -0.81 -1.11 | 75.99 -1.11 | -6.68 -9.05 | 5.35 -5.52 | -0.85 -120.85 | MAX MIN |
| 402 | 6.72 2.17 | 94.97 15.27 | -18.76 -32.33 | 36.93 -16.37 | 48.13 -98.55 | MAX MIN |
| 403 | 11.25 -1.76 | 94.36 22.84 | -25.50 -43.60 | 69.04 -22.79 | 69.44 -97.28 | MAX MIN |
| 404 | 18.56 -11.25 | 89.82 33.05 | -33.22 -53.53 | 111.96 -31.26 | 90.46 -101.76 | MAX MIN |
| 405 | 32.05 -27.58 | 85.21 47.77 | -46.84 -66.18 | 169.79 -44.50 | 113.85 -115.61 | MAX MIN |
| 406 | 58.17 -52.61 | 105.03 49.00 | -69.32 -85.05 | 212.86 -66.78 | 158.13 -148.61 | MAX MIN |
| 407 | 128.66 -55.59 | 161.87 66.00 | -115.40 -180.69 | 164.70 -113.24 | 160.93 -218.30 | MAX MIN |
| 408 | -62.02 -204.68 | 200.26 74.81 | -155.66 -269.40 | 55.77 -121.13 | 51.72 -388.84 | MAX MIN |
| 409 | 141.38 -91.59 | 1840.07 968.09 | 0.00 0.00 | 0.00 0.00 | -190.24 -776.75 | MAX MIN |
| 410 | -62.02 -204.68 | 200.26 74.81 | 269.40 155.66 | 121.13 -55.77 | 51.72 -388.84 | MAX MIN |
| 411 | 128.66 -55.59 | 161.87 66.00 | 180.69 115.40 | 113.24 -164.70 | 160.93 -218.30 | MAX MIN |
| 412 | 58.17 -52.61 | 105.03 49.00 | 85.05 69.32 | 66.78 -212.86 | 158.13 -148.61 | MAX MIN |
| 413 | 32.05 -27.58 | 85.21 47.77 | 66.18 46.84 | 44.50 -169.79 | 113.85 -115.61 | MAX MIN |
| 414 | 18.56 -11.25 | 89.82 33.05 | 53.53 33.22 | 31.26 -111.96 | 90.46 -101.76 | MAX MIN |
| 415 | 11.25 -1.76 | 94.36 22.84 | 43.60 25.50 | 22.79 -69.04 | 69.44 -97.28 | MAX MIN |
| 416 | 6.72 2.17 | 94.97 15.27 | 32.33 18.76 | 16.37 -36.93 | 48.13 -98.55 | MAX MIN |
| 417 | 3.12 2.52 | 90.13 8.57 | 17.87 10.63 | 9.46 -14.28 | 25.17 -105.51 | MAX MIN |
| 418 | -0.81 -1.11 | 75.99 -1.11 | 9.05 6.68 | 5.52 -5.35 | -0.85 -120.85 | MAX MIN |
| 419 | 1.91 1.33 | 70.76 17.70 | -9.78 -14.74 | 21.58 -4.88 | 38.48 -68.95 | MAX MIN |
| 420 | -0.73 -1.27 | 58.44 7.11 | -5.58 -7.01 | 9.13 -3.39 | 23.04 -78.38 | MAX MIN |

| In | Mx [kNm] | My [kNm] | Mxy [kNm] | Tx [kN] | Ty [kN] | |
|-----|-------------|-------------|--------------|------------|------------|-----|
| 421 | 3.55 | 74.39 | -18.14 | 51.24 | 53.10 | MAX |
| | -1.99 | 24.83 | -27.35 | -6.19 | -63.93 | MIN |
| 422 | 4.39 | 72.53 | -25.67 | 91.07 | 66.06 | MAX |
| | -10.84 | 32.20 | -37.57 | -5.25 | -62.54 | MIN |
| 423 | 3.49 | 68.79 | -33.96 | 144.69 | 75.59 | MAX |
| | -27.92 | 41.30 | -46.33 | -3.39 | -66.01 | MIN |
| 424 | 0.73 | 76.29 | -45.38 | 228.78 | 78.22 | MAX |
| | -56.67 | 36.67 | -55.61 | -0.32 | -78.42 | MIN |
| 425 | -3.55 | 81.66 | -58.66 | 287.39 | 66.79 | MAX |
| | -109.01 | 15.05 | -81.84 | 2.40 | -109.36 | MIN |
| 426 | -8.07 | 86.14 | -79.10 | 236.58 | 32.39 | MAX |
| | -160.86 | -2.80 | -126.22 | 2.34 | -176.34 | MIN |
| 427 | -11.11 | 90.83 | -352.98 | 122.27 | -54.18 | MAX |
| | -193.26 | -11.46 | -635.52 | 1.04 | -327.10 | MIN |
| 428 | -12.23 | 92.48 | 0.00 | 0.00 | -417.04 | MAX |
| | -205.33 | -15.03 | 0.00 | 0.00 | -961.76 | MIN |
| 429 | -11.11 | 90.83 | 635.52 | -1.04 | -54.18 | MAX |
| | -193.26 | -11.46 | 352.98 | -122.27 | -327.10 | MIN |
| 430 | -8.07 | 86.14 | 126.22 | -2.34 | 32.39 | MAX |
| | -160.86 | -2.80 | 79.10 | -236.58 | -176.34 | MIN |
| 431 | -3.55 | 81.66 | 81.84 | -2.40 | 66.79 | MAX |
| | -109.01 | 15.05 | 58.66 | -287.39 | -109.36 | MIN |
| 432 | 0.73 | 76.29 | 55.61 | 0.32 | 78.22 | MAX |
| | -56.67 | 36.67 | 45.38 | -228.78 | -78.42 | MIN |
| 433 | 3.49 | 68.79 | 46.33 | 3.39 | 75.59 | MAX |
| | -27.92 | 41.30 | 33.96 | -144.69 | -66.01 | MIN |
| 434 | 4.39 | 72.53 | 37.57 | 5.25 | 66.06 | MAX |
| | -10.84 | 32.20 | 25.67 | -91.07 | -62.54 | MIN |
| 435 | 3.55 | 74.39 | 27.35 | 6.19 | 53.10 | MAX |
| | -1.99 | 24.83 | 18.14 | -51.24 | -63.93 | MIN |
| 436 | 1.91 | 70.76 | 14.74 | 4.88 | 38.48 | MAX |
| | 1.33 | 17.70 | 9.78 | -21.58 | -68.95 | MIN |
| 437 | -0.73 | 58.44 | 7.01 | 3.39 | 23.04 | MAX |
| | -1.27 | 7.11 | 5.58 | -9.13 | -78.38 | MIN |
| 438 | 1.34 | 51.60 | -8.86 | 28.29 | 45.25 | MAX |
| | 0.14 | 20.18 | -11.87 | 1.62 | -37.65 | MIN |
| 439 | -0.68 | 40.68 | -4.09 | 12.68 | 39.31 | MAX |
| | -1.24 | 9.27 | -5.17 | -0.22 | -40.55 | MIN |
| 440 | 0.86 | 54.50 | -17.66 | 63.69 | 52.23 | MAX |
| | -6.09 | 27.04 | -23.05 | 7.29 | -35.35 | MIN |
| 441 | -2.80 | 53.27 | -26.93 | 107.98 | 56.93 | MAX |
| | -20.03 | 33.85 | -33.14 | 16.24 | -35.09 | MIN |
| 442 | -12.21 | 59.66 | -33.77 | 164.35 | 54.13 | MAX |
| | -45.18 | 35.96 | -43.27 | 28.34 | -39.94 | MIN |
| 443 | -31.47 | 64.29 | -41.08 | 240.29 | 33.72 | MAX |
| | -87.28 | 24.97 | -60.67 | 46.25 | -55.41 | MIN |
| 444 | -65.94 | 60.36 | -53.84 | 311.82 | -37.22 | MAX |
| | -156.54 | 3.13 | -88.82 | 73.11 | -93.39 | MIN |
| 445 | -145.53 | 15.00 | -105.00 | 320.41 | -113.93 | MAX |
| | -268.56 | -46.52 | -184.96 | 120.36 | -167.42 | MIN |
| 446 | 38.69 | -8.43 | -151.44 | 227.18 | -201.77 | MAX |
| | -172.71 | -79.23 | -272.39 | 125.01 | -347.85 | MIN |
| 447 | -166.98 | -974.71 | 0.00 | 0.00 | -424.44 | MAX |
| | -328.46 | -1650.93 | 0.00 | 0.00 | -772.76 | MIN |
| 448 | 38.69 | -8.43 | 272.39 | -125.01 | -201.77 | MAX |
| | -172.71 | -79.23 | 151.44 | -227.18 | -347.85 | MIN |
| 449 | -145.53 | 15.00 | 184.96 | -120.36 | -113.93 | MAX |
| | -268.56 | -46.52 | 105.00 | -320.41 | -167.42 | MIN |
| 450 | -65.94 | 60.36 | 88.82 | -73.11 | -37.22 | MAX |
| | -156.54 | 3.13 | 53.84 | -311.82 | -93.39 | MIN |
| 451 | -31.47 | 64.29 | 60.67 | -46.25 | 33.72 | MAX |
| | -87.28 | 24.97 | 41.08 | -240.29 | -55.41 | MIN |
| 452 | -12.21 | 59.66 | 43.27 | -28.34 | 54.13 | MAX |
| | -45.18 | 35.96 | 33.77 | -164.35 | -39.94 | MIN |
| 453 | -2.80 | 53.27 | 33.14 | -16.24 | 56.93 | MAX |
| | -20.03 | 33.85 | 26.93 | -107.98 | -35.09 | MIN |
| 454 | 0.86 | 54.50 | 23.05 | -7.29 | 52.23 | MAX |
| | -6.09 | 27.04 | 17.66 | -63.69 | -35.35 | MIN |
| 455 | 1.34 | 51.60 | 11.87 | -1.62 | 45.25 | MAX |
| | 0.14 | 20.18 | 8.86 | -28.29 | -37.65 | MIN |
| 456 | -0.68 | 40.68 | 5.17 | 0.22 | 39.31 | MAX |
| | -1.24 | 9.27 | 4.09 | -12.68 | -40.55 | MIN |
| 457 | 1.23 | 33.66 | -7.36 | 35.36 | 45.57 | MAX |
| | -0.78 | 17.44 | -9.02 | 10.11 | -13.38 | MIN |
| 458 | -0.49 | 24.11 | -2.60 | 16.47 | 47.76 | MAX |
| | -0.82 | 7.01 | -3.40 | 4.07 | -9.71 | MIN |
| 459 | -0.88 | 36.23 | -15.31 | 76.08 | 46.66 | MAX |
| | -9.58 | 23.19 | -19.05 | 23.88 | -13.64 | MIN |

| In | Mx [kNm] | My [kNm] | Mxy [kNm] | Tx [kN] | Ty [kN] | |
|-----|-------------------|--------------------|-------------------|--------------------|--------------------|------------|
| 460 | -7.34 -27.45 | 40.40 28.85 | -23.12 -31.08 | 122.46 40.31 | 45.28 -14.71 | MAX MIN |
| 461 | -20.66 -57.40 | 46.01 25.85 | -30.74 -46.82 | 174.71 59.29 | 33.90 -21.71 | MAX MIN |
| 462 | -42.31 -102.11 | 50.09 18.32 | -40.02 -68.83 | 229.95 82.34 | -0.13 -41.83 | MAX MIN |
| 463 | -73.20 -162.82 | 39.90 0.52 | -58.70 -108.21 | 285.57 111.00 | -79.20 -101.68 | MAX MIN |
| 464 | -52.04 -186.78 | 9.16 -32.76 | -86.79 -161.22 | 305.66 126.87 | -170.13 -225.13 | MAX MIN |
| 465 | -14.83 -200.32 | -191.19 -253.47 | -97.73 -179.99 | 210.63 90.77 | -303.21 -375.80 | MAX MIN |
| 466 | -43.33 -233.60 | -384.43 -593.71 | 0.00 0.00 | 0.00 0.00 | -366.75 -483.41 | MAX MIN |
| 467 | -14.83 -200.32 | -191.19 -253.47 | 179.99 97.73 | -90.77 -210.63 | -303.21 -375.80 | MAX MIN |
| 468 | -52.04 -186.78 | 9.16 -32.76 | 161.22 86.79 | -126.87 -305.66 | -170.13 -225.13 | MAX MIN |
| 469 | -73.20 -162.82 | 39.90 0.52 | 108.21 58.70 | -111.00 -285.57 | -79.20 -101.68 | MAX MIN |
| 470 | -42.31 -102.11 | 50.09 18.32 | 68.83 40.02 | -82.34 -229.95 | -0.13 -41.83 | MAX MIN |
| 471 | -20.66 -57.40 | 46.01 25.85 | 46.82 30.74 | -59.29 -174.71 | 33.90 -21.71 | MAX MIN |
| 472 | -7.34 -27.45 | 40.40 28.85 | 31.08 23.12 | -40.31 -122.46 | 45.28 -14.71 | MAX MIN |
| 473 | -0.88 -9.58 | 36.23 23.19 | 19.05 15.31 | -23.88 -76.08 | 46.66 -13.64 | MAX MIN |
| 474 | 1.23 -0.78 | 33.66 17.44 | 9.02 7.36 | -10.11 -35.36 | 45.57 -13.38 | MAX MIN |
| 475 | -0.49 -0.82 | 24.11 7.01 | 3.40 2.60 | -4.07 -16.47 | 47.76 -9.71 | MAX MIN |
| 476 | 1.11 -1.56 | 18.28 11.50 | -4.68 -5.86 | 45.13 21.50 | 38.68 1.76 | MAX MIN |
| 477 | 0.03 -0.06 | 10.66 3.05 | -1.18 -1.65 | 21.66 10.05 | 47.05 11.03 | MAX MIN |
| 478 | -2.34 -12.46 | 21.36 15.46 | -11.20 -14.91 | 93.26 45.03 | 36.81 0.32 | MAX MIN |
| 479 | -9.84 -32.59 | 25.04 17.30 | -18.69 -27.63 | 142.53 68.88 | 33.09 -1.01 | MAX MIN |
| 480 | -21.70 -62.81 | 29.50 15.70 | -26.84 -44.36 | 190.11 91.79 | 19.77 -8.43 | MAX MIN |
| 481 | -36.39 -101.90 | 32.43 12.04 | -37.21 -67.61 | 231.40 112.42 | -12.94 -29.27 | MAX MIN |
| 482 | -42.50 -140.73 | 24.78 1.66 | -50.72 -97.13 | 253.91 124.42 | -73.44 -91.39 | MAX MIN |
| 483 | -32.43 -166.73 | -26.13 -39.34 | -61.63 -119.45 | 243.20 114.79 | -144.65 -196.80 | MAX MIN |
| 484 | -19.25 -188.90 | -107.04 -148.77 | -46.85 -90.63 | 165.40 71.77 | -228.20 -317.94 | MAX MIN |
| 485 | -14.98 -201.41 | -154.08 -225.18 | 0.00 0.00 | 0.00 0.00 | -268.73 -374.44 | MAX MIN |
| 486 | -19.25 -188.90 | -107.04 -148.77 | 90.63 46.85 | -71.77 -165.40 | -228.20 -317.94 | MAX MIN |
| 487 | -32.43 -166.73 | -26.13 -39.34 | 119.45 61.63 | -114.79 -243.20 | -144.65 -196.80 | MAX MIN |
| 488 | -42.50 -140.73 | 24.78 1.66 | 97.13 50.72 | -124.42 -253.91 | -73.44 -91.39 | MAX MIN |
| 489 | -36.39 -101.90 | 32.43 12.04 | 67.61 37.21 | -112.42 -231.40 | -12.94 -29.27 | MAX MIN |
| 490 | -21.70 -62.81 | 29.50 15.70 | 44.36 26.84 | -91.79 -190.11 | 19.77 -8.43 | MAX MIN |
| 491 | -9.84 -32.59 | 25.04 17.30 | 27.63 18.69 | -68.88 -142.53 | 33.09 -1.01 | MAX MIN |
| 492 | -2.34 -12.46 | 21.36 15.46 | 14.91 11.20 | -45.03 -93.26 | 36.81 0.32 | MAX MIN |
| 493 | 1.11 -1.56 | 18.28 11.50 | 5.86 4.68 | -21.50 -45.13 | 38.68 1.76 | MAX MIN |
| 494 | 0.03 -0.06 | 10.66 3.05 | 1.65 1.18 | -10.05 -21.66 | 47.05 11.03 | MAX MIN |
| 495 | -0.79 -3.42 | 7.20 5.27 | -2.13 -2.68 | 60.63 37.50 | 23.06 5.60 | MAX MIN |
| 496 | 0.26 0.11 | 2.19 0.07 | -0.22 -0.41 | 30.22 18.69 | 32.67 15.92 | MAX MIN |
| 497 | -7.10 -17.14 | 9.47 7.29 | -6.17 -8.54 | 119.96 73.85 | 21.58 4.93 | MAX MIN |
| 498 | -15.81 -38.98 | 11.61 7.38 | -11.36 -17.33 | 175.54 107.50 | 18.95 4.41 | MAX MIN |

| In | Mx [kNm] | My [kNm] | Mxy [kNm] | Tx [kN] | Ty [kN] | |
|-----|-------------------|------------------|------------------|--------------------|--------------------|------------|
| 499 | -24.38 -67.25 | 14.45 7.38 | -17.33 -29.21 | 223.67 136.60 | 10.34 -0.30 | MAX MIN |
| 500 | -28.51 -98.49 | 16.85 6.94 | -24.42 -44.66 | 255.46 155.57 | -9.48 -16.64 | MAX MIN |
| 501 | -25.37 -128.46 | 9.79 1.43 | -31.68 -60.88 | 258.05 155.67 | -42.88 -55.30 | MAX MIN |
| 502 | -13.21 -149.98 | -13.45 -16.75 | -32.89 -64.98 | 217.94 129.17 | -82.37 -110.23 | MAX MIN |
| 503 | -1.28 -166.03 | -35.21 -53.98 | -22.15 -44.42 | 127.39 74.22 | -122.06 -175.42 | MAX MIN |
| 504 | 3.25 -172.17 | -46.20 -74.91 | 0.00 0.00 | 0.00 0.00 | -139.69 -209.87 | MAX MIN |
| 505 | -1.28 -166.03 | -35.21 -53.98 | 44.42 22.15 | -74.22 -127.39 | -122.06 -175.42 | MAX MIN |
| 506 | -13.21 -149.98 | -13.45 -16.75 | 64.98 32.89 | -129.17 -217.94 | -82.37 -110.23 | MAX MIN |
| 507 | -25.37 -128.46 | 9.79 1.43 | 60.88 31.68 | -155.67 -258.05 | -42.88 -55.30 | MAX MIN |
| 508 | -28.51 -98.49 | 16.85 6.94 | 44.66 24.42 | -155.57 -255.46 | -9.48 -16.64 | MAX MIN |
| 509 | -24.38 -67.25 | 14.45 7.38 | 29.21 17.33 | -136.60 -223.67 | 10.34 -0.30 | MAX MIN |
| 510 | -15.81 -38.98 | 11.61 7.38 | 17.33 11.36 | -107.50 -175.54 | 18.95 4.41 | MAX MIN |
| 511 | -7.10 -17.14 | 9.47 7.29 | 8.54 6.17 | -73.85 -119.96 | 21.58 4.93 | MAX MIN |
| 512 | -0.79 -3.42 | 7.20 5.27 | 2.68 2.13 | -37.50 -60.63 | 23.06 5.60 | MAX MIN |
| 513 | 0.26 0.11 | 2.19 0.07 | 0.41 0.22 | -18.69 -30.22 | 32.67 15.92 | MAX MIN |
| 514 | -9.07 -11.64 | 0.81 0.54 | -1.66 -2.07 | 85.05 61.27 | 12.85 4.45 | MAX MIN |
| 515 | -2.00 -2.62 | -1.53 -2.17 | -0.45 -0.56 | 46.63 34.48 | 21.71 13.43 | MAX MIN |
| 516 | -23.92 -33.58 | 0.26 0.12 | -4.50 -5.70 | 159.40 113.18 | 12.36 4.63 | MAX MIN |
| 517 | -38.17 -59.78 | 0.14 -0.13 | -7.99 -11.09 | 229.65 163.43 | 10.95 4.65 | MAX MIN |
| 518 | -46.22 -85.68 | 1.93 0.63 | -11.81 -18.03 | 291.65 210.02 | 6.16 2.12 | MAX MIN |
| 519 | -40.73 -105.78 | 5.24 2.36 | -15.99 -26.61 | 331.50 241.91 | -4.21 -8.54 | MAX MIN |
| 520 | -17.54 -120.47 | 6.77 3.31 | -19.27 -34.12 | 330.30 243.42 | -22.90 -29.87 | MAX MIN |
| 521 | 21.69 -124.20 | 3.05 1.79 | -18.71 -34.55 | 272.55 201.86 | -45.03 -60.34 | MAX MIN |
| 522 | 57.77 -123.60 | -1.76 -5.30 | -11.84 -22.46 | 155.97 115.67 | -66.17 -91.04 | MAX MIN |
| 523 | 72.78 -122.50 | -3.68 -9.89 | 0.00 0.00 | 0.00 0.00 | -75.07 -104.17 | MAX MIN |
| 524 | 57.77 -123.60 | -1.76 -5.30 | 22.46 11.84 | -115.67 -155.97 | -66.17 -91.04 | MAX MIN |
| 525 | 21.69 -124.20 | 3.05 1.79 | 34.55 18.71 | -201.86 -272.55 | -45.03 -60.34 | MAX MIN |
| 526 | -17.54 -120.47 | 6.77 3.31 | 34.12 19.27 | -243.42 -330.30 | -22.90 -29.87 | MAX MIN |
| 527 | -40.73 -105.78 | 5.24 2.36 | 26.61 15.99 | -241.91 -331.50 | -4.21 -8.54 | MAX MIN |
| 528 | -46.22 -85.68 | 1.93 0.63 | 18.03 11.81 | -210.02 -291.65 | 6.16 2.12 | MAX MIN |
| 529 | -38.17 -59.78 | 0.14 -0.13 | 11.09 7.99 | -163.43 -229.65 | 10.95 4.65 | MAX MIN |
| 530 | -23.92 -33.58 | 0.26 0.12 | 5.70 4.50 | -113.18 -159.40 | 12.36 4.63 | MAX MIN |
| 531 | -9.07 -11.64 | 0.81 0.54 | 2.07 1.66 | -61.27 -85.05 | 12.85 4.45 | MAX MIN |
| 532 | -2.00 -2.62 | -1.53 -2.17 | 0.56 0.45 | -34.48 -46.63 | 21.71 13.43 | MAX MIN |

Verifiche strutturali

Verifiche a flessione

Elementi calcolati a trave

Simbologia adottata

| | |
|-----|---|
| n° | indice sezione |
| Y | ordinata sezione espressa in [m] |
| B | larghezza sezione espressa in [cm] |
| H | altezza sezione espressa in [cm] |
| Afi | area ferri inferiori espressa in [cmq] |
| Afs | area ferri superiori espressa in [cmq] |
| M | momento agente espressa in [kNm] |
| N | sforzo normale agente espressa in [kN] |
| Mu | momento ultimi espresso in [kNm] |
| Nu | sforzo normale ultimo espressa in [kN] |
| FS | fattore di sicurezza (rapporto tra sollecitazione ultima e sollecitazione agente) |

Elementi calcolati a piastra

Simbologia adottata

| | |
|----------|---|
| n° | indice sezione |
| Y | ordinata sezione espressa in [m] |
| B | larghezza sezione espressa in [cm] |
| H | altezza sezione espressa in [cm] |
| Afi, Afs | area ferri inferiori e superiori, espresso in [cmq] |
| Mp, Mn | momento positivo e negativo agente espressa in [kNm] |
| Mu | momento ultimi espresso in [kNm] |
| FS | fattore di sicurezza (rapporto tra sollecitazione ultima e sollecitazione agente) |

Paramento

| n° | B [cm] | H [cm] | Afi [cmq] | Afs [cmq] | M [kNm] | N [kN] | Mu [kNm] | Nu [kN] | FS |
|----|-----------|-----------|--------------|--------------|------------|-----------|-------------|------------|---------|
| 1 | 100 | 40 | 15.71 | 22.62 | 0.84 | 4.81 | 586.90 | 3353.70 | 697.911 |
| 2 | 100 | 41 | 15.71 | 22.62 | 0.92 | 5.80 | 595.47 | 3768.47 | 649.929 |
| 3 | 100 | 42 | 15.71 | 22.62 | 1.15 | 6.82 | 628.32 | 3738.31 | 548.482 |
| 4 | 100 | 43 | 15.71 | 22.62 | 1.53 | 7.86 | 675.18 | 3458.01 | 440.079 |
| 5 | 100 | 44 | 15.71 | 22.62 | 2.09 | 8.92 | 685.61 | 2931.21 | 328.457 |
| 6 | 100 | 45 | 15.71 | 22.62 | 2.81 | 10.02 | 675.16 | 2406.23 | 240.258 |
| 7 | 100 | 46 | 15.71 | 22.62 | 3.71 | 11.13 | 653.56 | 1961.98 | 176.267 |
| 8 | 100 | 47 | 15.71 | 22.62 | 4.79 | 12.27 | 629.11 | 1613.14 | 131.463 |
| 9 | 100 | 48 | 15.71 | 22.62 | 6.05 | 13.44 | 607.63 | 1349.71 | 100.461 |
| 10 | 100 | 49 | 15.71 | 22.62 | 7.50 | 14.62 | 587.55 | 1145.38 | 78.320 |
| 11 | 100 | 50 | 15.71 | 22.62 | 9.15 | 15.84 | 574.27 | 993.90 | 62.755 |
| 12 | 100 | 51 | 15.71 | 22.62 | 11.00 | 17.08 | 563.58 | 874.80 | 51.230 |
| 13 | 100 | 52 | 15.71 | 22.62 | 13.06 | 18.34 | 557.49 | 782.99 | 42.696 |
| 14 | 100 | 53 | 15.71 | 22.62 | 15.32 | 19.63 | 554.64 | 710.31 | 36.193 |
| 15 | 100 | 54 | 15.71 | 22.62 | 17.81 | 20.94 | 554.15 | 651.51 | 31.117 |
| 16 | 100 | 55 | 15.71 | 22.62 | 20.51 | 22.27 | 555.43 | 603.07 | 27.076 |
| 17 | 100 | 56 | 15.71 | 22.62 | 23.45 | 23.63 | 558.08 | 562.54 | 23.802 |
| 18 | 100 | 57 | 15.71 | 22.62 | 26.61 | 25.02 | 561.80 | 528.19 | 21.111 |
| 19 | 100 | 58 | 15.71 | 22.62 | 30.01 | 26.43 | 566.37 | 498.73 | 18.871 |
| 20 | 100 | 59 | 15.71 | 22.62 | 33.66 | 27.86 | 571.63 | 473.22 | 16.984 |
| 21 | 100 | 60 | 15.71 | 22.62 | 37.55 | 29.32 | 577.47 | 450.93 | 15.378 |
| 22 | 100 | 61 | 15.71 | 22.62 | 41.70 | 30.81 | 583.78 | 431.30 | 14.001 |
| 23 | 100 | 62 | 15.71 | 22.62 | 46.10 | 32.31 | 590.49 | 413.90 | 12.809 |
| 24 | 100 | 63 | 15.71 | 22.62 | 50.77 | 33.85 | 597.54 | 398.37 | 11.771 |
| 25 | 100 | 64 | 15.71 | 22.62 | 55.70 | 35.40 | 604.89 | 384.45 | 10.860 |
| 26 | 100 | 65 | 15.71 | 22.62 | 60.91 | 36.98 | 612.50 | 371.89 | 10.056 |
| 27 | 100 | 66 | 15.71 | 22.62 | 66.40 | 38.59 | 619.93 | 360.28 | 9.336 |
| 28 | 100 | 67 | 15.71 | 22.62 | 72.17 | 40.22 | 627.24 | 349.54 | 8.691 |
| 29 | 100 | 68 | 15.71 | 22.62 | 78.23 | 41.87 | 634.72 | 339.73 | 8.113 |
| 30 | 100 | 69 | 15.71 | 22.62 | 84.59 | 43.55 | 642.34 | 330.73 | 7.594 |
| 31 | 100 | 70 | 15.71 | 22.62 | 91.25 | 45.26 | 650.11 | 322.44 | 7.125 |
| 32 | 100 | 71 | 15.71 | 22.62 | 98.21 | 46.99 | 657.98 | 314.80 | 6.700 |
| 33 | 100 | 72 | 15.71 | 22.62 | 105.48 | 48.74 | 665.97 | 307.72 | 6.314 |
| 34 | 100 | 73 | 15.71 | 22.62 | 113.07 | 50.52 | 674.05 | 301.15 | 5.961 |
| 35 | 100 | 74 | 15.71 | 22.62 | 120.98 | 52.32 | 682.21 | 295.03 | 5.639 |
| 36 | 100 | 75 | 15.71 | 22.62 | 129.21 | 54.14 | 690.46 | 289.33 | 5.344 |
| 37 | 100 | 76 | 15.71 | 22.62 | 137.77 | 56.00 | 698.77 | 284.00 | 5.072 |
| 38 | 100 | 77 | 15.71 | 22.62 | 146.68 | 57.87 | 707.14 | 279.00 | 4.821 |
| 39 | 100 | 78 | 15.71 | 22.62 | 155.92 | 59.77 | 715.57 | 274.31 | 4.589 |
| 40 | 100 | 79 | 15.71 | 22.62 | 165.51 | 61.70 | 724.06 | 269.90 | 4.375 |
| 41 | 100 | 80 | 15.71 | 22.62 | 175.45 | 63.64 | 732.59 | 265.75 | 4.176 |
| 42 | 100 | 81 | 31.42 | 22.62 | 185.75 | 65.62 | 741.78 | 262.04 | 3.993 |
| 43 | 100 | 82 | 31.42 | 22.62 | 196.41 | 67.62 | 750.43 | 258.34 | 3.821 |
| 44 | 100 | 83 | 31.42 | 22.62 | 207.44 | 69.64 | 759.12 | 254.84 | 3.659 |
| 45 | 100 | 84 | 31.42 | 22.62 | 218.84 | 71.69 | 767.84 | 251.52 | 3.509 |

| n° | B | H | Afi | Afs | M | N | Mu | Nu | FS |
|----|------|------|-------|-------|--------|--------|---------|--------|-------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kN] | [kNm] | [kN] | |
| 46 | 100 | 85 | 31.42 | 22.62 | 230.62 | 73.76 | 776.60 | 248.37 | 3.367 |
| 47 | 100 | 86 | 31.42 | 22.62 | 242.78 | 75.85 | 785.38 | 245.38 | 3.235 |
| 48 | 100 | 87 | 31.42 | 22.62 | 255.33 | 77.97 | 794.20 | 242.53 | 3.110 |
| 49 | 100 | 88 | 31.42 | 67.86 | 268.28 | 80.12 | 2326.82 | 694.89 | 8.673 |
| 50 | 100 | 89 | 31.42 | 67.86 | 281.62 | 82.29 | 2353.20 | 687.60 | 8.356 |
| 51 | 100 | 90 | 31.42 | 67.86 | 295.37 | 84.48 | 2379.64 | 680.64 | 8.057 |
| 52 | 100 | 91 | 31.42 | 67.86 | 309.52 | 86.70 | 2406.13 | 673.99 | 7.774 |
| 53 | 100 | 92 | 31.42 | 67.86 | 324.09 | 88.94 | 2432.68 | 667.62 | 7.506 |
| 54 | 100 | 93 | 31.42 | 67.86 | 339.08 | 91.21 | 2459.27 | 661.53 | 7.253 |
| 55 | 100 | 94 | 31.42 | 67.86 | 354.50 | 93.50 | 2485.91 | 655.69 | 7.012 |
| 56 | 100 | 95 | 31.42 | 67.86 | 370.35 | 95.82 | 2512.60 | 650.09 | 6.784 |
| 57 | 100 | 96 | 31.42 | 67.86 | 386.63 | 98.16 | 2539.32 | 644.72 | 6.568 |
| 58 | 100 | 97 | 31.42 | 67.86 | 403.35 | 100.53 | 2566.09 | 639.56 | 6.362 |
| 59 | 100 | 98 | 31.42 | 67.86 | 420.51 | 102.92 | 2592.88 | 634.59 | 6.166 |
| 60 | 100 | 99 | 31.42 | 67.86 | 438.13 | 105.33 | 2619.72 | 629.82 | 5.979 |
| 61 | 100 | 100 | 31.42 | 67.86 | 456.21 | 107.77 | 2646.58 | 625.22 | 5.801 |
| 62 | 100 | 101 | 31.42 | 45.24 | 474.74 | 110.24 | 1816.31 | 421.75 | 3.826 |
| 63 | 100 | 102 | 31.42 | 45.24 | 493.74 | 112.72 | 1834.39 | 418.80 | 3.715 |
| 64 | 100 | 103 | 15.71 | 45.24 | 513.22 | 115.24 | 1831.20 | 411.18 | 3.568 |
| 65 | 100 | 104 | 15.71 | 45.24 | 533.17 | 117.77 | 1849.71 | 408.59 | 3.469 |
| 66 | 100 | 105 | 15.71 | 45.24 | 553.60 | 120.34 | 1868.25 | 406.10 | 3.375 |
| 67 | 100 | 106 | 15.71 | 45.24 | 574.52 | 122.92 | 1886.83 | 403.70 | 3.284 |
| 68 | 100 | 107 | 15.71 | 45.24 | 595.93 | 125.53 | 1905.45 | 401.38 | 3.197 |
| 69 | 100 | 108 | 15.71 | 45.24 | 617.84 | 128.17 | 1924.10 | 399.15 | 3.114 |
| 70 | 100 | 109 | 15.71 | 45.24 | 640.26 | 130.83 | 1942.79 | 396.99 | 3.034 |
| 71 | 100 | 110 | 15.71 | 45.24 | 663.18 | 133.51 | 1961.50 | 394.90 | 2.958 |

Mensola valle

| n° | B | H | Afi | Afs | M | N | Mu | Nu | FS |
|----|------|------|-------|-------|-------|------|---------|------|----------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kN] | [kNm] | [kN] | |
| 1 | 100 | 50 | 8.04 | 8.04 | 0.00 | 0.00 | 0.00 | 0.00 | 1000.000 |
| 2 | 100 | 50 | 8.04 | 8.04 | 0.00 | 0.00 | 0.00 | 0.00 | 1000.000 |
| 3 | 100 | 50 | 8.04 | 8.04 | -0.21 | 0.00 | -139.00 | 0.00 | 661.147 |
| 4 | 100 | 50 | 8.04 | 8.04 | -0.47 | 0.00 | -139.00 | 0.00 | 293.843 |
| 5 | 100 | 50 | 8.04 | 8.04 | -0.84 | 0.00 | -139.00 | 0.00 | 165.287 |

Fondazione

| Is | Afi | Afs | Mp | Mn | Mu | FS |
|--------|-------|-------|-------|---------|---------|-------------|
| | [cmq] | [cmq] | [kNm] | [kNm] | [kNm] | |
| 1-1-P | 10.05 | 10.05 | 0.71 | -0.36 | 561.35 | 100.000 (1) |
| 1-2-P | 10.05 | 10.05 | 1.27 | -1.07 | 561.35 | 100.000 (1) |
| 1-3-P | 10.05 | 10.05 | 1.94 | -10.56 | -561.35 | 61.714 (3) |
| 1-4-P | 10.05 | 10.05 | 0.88 | -29.43 | -561.35 | 22.089 (3) |
| 1-5-P | 10.05 | 10.05 | 0.00 | -65.54 | -561.35 | 9.839 (3) |
| 1-6-P | 10.05 | 10.05 | 0.00 | -126.23 | -561.35 | 5.090 (3) |
| 1-7-P | 10.05 | 10.05 | 0.70 | -212.73 | -561.35 | 3.009 (3) |
| 1-8-P | 10.05 | 10.05 | 12.66 | -357.82 | -561.35 | 1.773 (3) |
| 1-9-P | 10.05 | 10.05 | 0.00 | -348.49 | -561.35 | 1.832 (3) |
| 1-10-P | 10.05 | 10.05 | 12.66 | -357.82 | -561.35 | 1.773 (3) |
| 1-11-P | 10.05 | 10.05 | 0.70 | -212.73 | -561.35 | 3.009 (3) |
| 1-12-P | 10.05 | 10.05 | 0.00 | -126.23 | -561.35 | 5.090 (3) |
| 1-13-P | 10.05 | 10.05 | 0.00 | -65.54 | -561.35 | 9.839 (3) |
| 1-14-P | 10.05 | 10.05 | 0.88 | -29.43 | -561.35 | 22.089 (3) |
| 1-15-P | 10.05 | 10.05 | 1.94 | -10.56 | -561.35 | 61.714 (3) |
| 1-16-P | 10.05 | 10.05 | 1.27 | -1.07 | 561.35 | 100.000 (1) |
| 1-17-P | 10.05 | 10.05 | 0.71 | -0.36 | 561.35 | 100.000 (1) |
| 2-1-P | 10.05 | 10.05 | 23.66 | -0.53 | 561.35 | 27.617 (3) |
| 2-2-P | 10.05 | 10.05 | 29.90 | -0.10 | 561.35 | 22.009 (3) |
| 2-3-P | 10.05 | 10.05 | 43.97 | -4.33 | 561.35 | 14.907 (3) |
| 2-4-P | 10.05 | 10.05 | 46.34 | -11.98 | 561.35 | 14.240 (3) |
| 2-5-P | 10.05 | 10.05 | 37.75 | -28.64 | -561.35 | 13.229 (3) |
| 2-6-P | 10.05 | 10.05 | 27.08 | -68.72 | -561.35 | 6.424 (3) |
| 2-7-P | 10.05 | 10.05 | 21.97 | -133.42 | -561.35 | 3.338 (3) |
| 2-8-P | 10.05 | 10.05 | 27.04 | -156.21 | -561.35 | 3.058 (3) |

| Is | Afi | Afs | Mp | Mn | Mu | FS |
|--------|-------|-------|--------|---------|----------|-------------|
| | [cmq] | [cmq] | [kNm] | [kNm] | [kNm] | |
| 2-9-P | 10.05 | 10.05 | 17.43 | -214.20 | -561.35 | 2.233 (3) |
| 2-10-P | 10.05 | 10.05 | 27.04 | -156.21 | -561.35 | 3.058 (3) |
| 2-11-P | 10.05 | 10.05 | 21.97 | -133.42 | -561.35 | 3.338 (3) |
| 2-12-P | 10.05 | 10.05 | 27.08 | -68.72 | -561.35 | 6.424 (3) |
| 2-13-P | 10.05 | 10.05 | 37.75 | -28.64 | -561.35 | 13.229 (3) |
| 2-14-P | 10.05 | 10.05 | 46.34 | -11.98 | 561.35 | 14.240 (3) |
| 2-15-P | 10.05 | 10.05 | 43.97 | -4.33 | 561.35 | 14.907 (3) |
| 2-16-P | 10.05 | 10.05 | 29.90 | -0.10 | 561.35 | 22.009 (3) |
| 2-17-P | 10.05 | 10.05 | 23.66 | -0.53 | 561.35 | 27.617 (3) |
| 5-1-P | 8.04 | 8.04 | 0.81 | -9.72 | -449.24 | 46.216 (4) |
| 5-2-P | 8.04 | 8.04 | 0.60 | -14.46 | -449.24 | 31.068 (4) |
| 5-3-P | 8.04 | 8.04 | 22.19 | -11.13 | -449.24 | 22.897 (2) |
| 5-4-P | 8.04 | 8.04 | 24.84 | -10.41 | -449.24 | 20.203 (2) |
| 5-5-P | 8.04 | 8.04 | 24.01 | -9.04 | -449.24 | 18.721 (2) |
| 5-6-P | 8.04 | 8.04 | 7.82 | -26.52 | -449.24 | 16.938 (4) |
| 5-7-P | 8.04 | 8.04 | 7.79 | -29.38 | -449.24 | 15.293 (4) |
| 5-8-P | 8.04 | 8.04 | 8.47 | -21.59 | -449.24 | 15.090 (1) |
| 5-9-P | 8.04 | 8.04 | 5.65 | -23.48 | -449.24 | 15.887 (1) |
| 5-10-P | 8.04 | 8.04 | 8.47 | -21.59 | -449.24 | 15.090 (1) |
| 5-11-P | 8.04 | 8.04 | 7.79 | -29.38 | -449.24 | 15.293 (4) |
| 5-12-P | 8.04 | 8.04 | 7.82 | -26.52 | -449.24 | 16.938 (4) |
| 5-13-P | 8.04 | 8.04 | 24.01 | -9.04 | -449.24 | 18.721 (2) |
| 5-14-P | 8.04 | 8.04 | 24.84 | -10.41 | -449.24 | 20.203 (2) |
| 5-15-P | 8.04 | 8.04 | 22.19 | -11.13 | -449.24 | 22.897 (2) |
| 5-16-P | 8.04 | 8.04 | 0.60 | -14.46 | -449.24 | 31.068 (4) |
| 5-17-P | 8.04 | 8.04 | 0.81 | -9.72 | -449.24 | 46.216 (4) |
| 6-1-P | 8.04 | 8.04 | 1.51 | -2.18 | 449.24 | 100.000 (1) |
| 6-2-P | 8.04 | 8.04 | 5.12 | -2.98 | 449.24 | 87.715 (4) |
| 6-3-P | 8.04 | 8.04 | 10.99 | -8.97 | 449.24 | 43.394 (1) |
| 6-4-P | 8.04 | 8.04 | 14.85 | -17.11 | 449.24 | 28.479 (1) |
| 6-5-P | 8.04 | 8.04 | 16.66 | -29.40 | 449.24 | 19.507 (1) |
| 6-6-P | 8.04 | 8.04 | 17.66 | -50.20 | 449.24 | 12.931 (1) |
| 6-7-P | 8.04 | 8.04 | 20.29 | -84.98 | 449.24 | 8.332 (1) |
| 6-8-P | 8.04 | 8.04 | 48.37 | -161.46 | -449.24 | 4.660 (2) |
| 6-9-P | 8.04 | 8.04 | 0.00 | -115.07 | 449.24 | 12.357 (1) |
| 6-10-P | 8.04 | 8.04 | 48.37 | -161.46 | -449.24 | 4.660 (2) |
| 6-11-P | 8.04 | 8.04 | 20.29 | -84.98 | 449.24 | 8.332 (1) |
| 6-12-P | 8.04 | 8.04 | 17.66 | -50.20 | 449.24 | 12.931 (1) |
| 6-13-P | 8.04 | 8.04 | 16.66 | -29.40 | 449.24 | 19.507 (1) |
| 6-14-P | 8.04 | 8.04 | 14.85 | -17.11 | 449.24 | 28.479 (1) |
| 6-15-P | 8.04 | 8.04 | 10.99 | -8.97 | 449.24 | 43.394 (1) |
| 6-16-P | 8.04 | 8.04 | 5.12 | -2.98 | 449.24 | 87.715 (4) |
| 6-17-P | 8.04 | 8.04 | 1.51 | -2.18 | 449.24 | 100.000 (1) |
| 7-1-P | 8.04 | 8.04 | 0.33 | -0.74 | 449.24 | 100.000 (1) |
| 7-2-P | 8.04 | 8.04 | 1.33 | -3.86 | 449.24 | 100.000 (1) |
| 7-3-P | 8.04 | 8.04 | 2.89 | -17.33 | -449.24 | 47.569 (2) |
| 7-4-P | 8.04 | 8.04 | 3.52 | -37.85 | -449.24 | 23.095 (2) |
| 7-5-P | 8.04 | 8.04 | 3.53 | -66.32 | -449.24 | 13.817 (2) |
| 7-6-P | 8.04 | 8.04 | 3.58 | -101.83 | -449.24 | 9.309 (2) |
| 7-7-P | 8.04 | 8.04 | 3.59 | -135.28 | -449.24 | 7.243 (2) |
| 7-8-P | 8.04 | 8.04 | 1.40 | -135.86 | -449.24 | 10.156 (1) |
| 7-9-P | 8.04 | 8.04 | 0.00 | -163.52 | -449.24 | 13.509 (2) |
| 7-10-P | 8.04 | 8.04 | 1.40 | -135.86 | -449.24 | 10.156 (1) |
| 7-11-P | 8.04 | 8.04 | 3.59 | -135.28 | -449.24 | 7.243 (2) |
| 7-12-P | 8.04 | 8.04 | 3.58 | -101.83 | -449.24 | 9.309 (2) |
| 7-13-P | 8.04 | 8.04 | 3.53 | -66.32 | -449.24 | 13.817 (2) |
| 7-14-P | 8.04 | 8.04 | 3.52 | -37.85 | -449.24 | 23.095 (2) |
| 7-15-P | 8.04 | 8.04 | 2.89 | -17.33 | -449.24 | 47.569 (2) |
| 7-16-P | 8.04 | 8.04 | 1.33 | -3.86 | 449.24 | 100.000 (1) |
| 7-17-P | 8.04 | 8.04 | 0.33 | -0.74 | 449.24 | 100.000 (1) |
| 8-1-S | 40.72 | 40.72 | 0.59 | -0.95 | 2243.82 | 100.000 (1) |
| 8-2-S | 40.72 | 40.72 | 0.00 | -4.85 | 2243.82 | 100.000 (1) |
| 8-3-S | 40.72 | 40.72 | 0.20 | -8.22 | 2243.82 | 100.000 (1) |
| 8-4-S | 40.72 | 40.72 | 3.26 | -8.28 | 2243.82 | 100.000 (1) |
| 8-5-S | 40.72 | 40.72 | 48.32 | -3.49 | 2243.82 | 58.330 (3) |
| 8-6-S | 40.72 | 40.72 | 113.57 | -2.47 | 2243.82 | 23.875 (3) |
| 8-7-S | 40.72 | 40.72 | 200.38 | -0.50 | 2243.82 | 13.325 (3) |
| 8-8-S | 40.72 | 40.72 | 303.21 | 0.00 | 2243.82 | 8.739 (3) |
| 8-9-S | 40.72 | 40.72 | 414.48 | 0.00 | 2243.82 | 6.367 (3) |
| 8-10-S | 40.72 | 40.72 | 0.00 | -251.78 | -2243.82 | 8.912 (4) |

| Is | Afi [cmq] | Afs [cmq] | Mp [kNm] | Mn [kNm] | Mu [kNm] | FS |
|---------|--------------|--------------|-------------|-------------|-------------|-------------|
| 8-11-S | 40.72 | 40.72 | 0.00 | -165.70 | -2243.82 | 13.541 (4) |
| 8-12-S | 40.72 | 40.72 | 0.00 | -101.22 | -2243.82 | 22.167 (4) |
| 8-13-S | 40.72 | 40.72 | 93.94 | -1.57 | -2243.82 | 43.962 (2) |
| 8-14-S | 40.72 | 40.72 | 90.21 | -1.58 | 2243.82 | 100.000 (2) |
| 8-15-S | 40.72 | 40.72 | 78.30 | -1.84 | 2243.82 | 100.000 (2) |
| 8-16-S | 40.72 | 40.72 | 62.67 | -2.32 | 2243.82 | 82.951 (2) |
| 8-17-S | 40.72 | 40.72 | 45.55 | -2.93 | 2243.82 | 78.643 (2) |
| 8-18-S | 40.72 | 40.72 | 30.72 | -3.63 | 2243.82 | 99.158 (3) |
| 8-19-S | 40.72 | 40.72 | 10.68 | -2.19 | 2243.82 | 100.000 (1) |
| 8-20-S | 40.72 | 40.72 | 1.20 | -1.07 | 2243.82 | 100.000 (1) |
| 9-1-S | 45.24 | 45.24 | 2.21 | -2.75 | 2491.09 | 100.000 (1) |
| 9-2-S | 45.24 | 45.24 | 21.65 | -18.70 | 2491.09 | 77.222 (3) |
| 9-3-S | 45.24 | 45.24 | 50.67 | -48.20 | 2491.09 | 30.426 (3) |
| 9-4-S | 45.24 | 45.24 | 113.27 | -90.45 | 2491.09 | 10.299 (3) |
| 9-5-S | 45.24 | 45.24 | 19.77 | -183.26 | -2491.09 | 14.762 (3) |
| 9-6-S | 45.24 | 45.24 | 9.41 | -263.78 | -2491.09 | 10.192 (3) |
| 9-7-S | 45.24 | 45.24 | 67.86 | -90.12 | -2491.09 | 28.560 (3) |
| 9-8-S | 45.24 | 45.24 | 230.20 | 0.00 | 2491.09 | 13.276 (3) |
| 9-9-S | 45.24 | 45.24 | 493.78 | 0.00 | 2491.09 | 5.953 (3) |
| 9-10-S | 45.24 | 45.24 | 0.00 | -202.38 | -2491.09 | 12.309 (4) |
| 9-11-S | 45.24 | 45.24 | 158.38 | -0.26 | -2491.09 | 23.476 (2) |
| 9-12-S | 45.24 | 45.24 | 185.79 | -1.20 | -2491.09 | 84.400 (2) |
| 9-13-S | 45.24 | 45.24 | 204.43 | -3.47 | 2491.09 | 28.825 (2) |
| 9-14-S | 45.24 | 45.24 | 231.27 | -4.56 | 2491.09 | 15.067 (3) |
| 9-15-S | 45.24 | 45.24 | 297.18 | -11.51 | 2491.09 | 10.164 (3) |
| 9-16-S | 45.24 | 45.24 | 142.07 | -62.09 | 2491.09 | 20.628 (3) |
| 9-17-S | 45.24 | 45.24 | 63.09 | -186.95 | -2491.09 | 14.718 (3) |
| 9-18-S | 45.24 | 45.24 | 39.55 | -106.33 | -2491.09 | 25.755 (3) |
| 9-19-S | 45.24 | 45.24 | 21.45 | -44.17 | -2491.09 | 59.910 (3) |
| 9-20-S | 45.24 | 45.24 | 4.20 | -3.30 | 2491.09 | 100.000 (1) |
| 10-1-S | 45.24 | 45.24 | 2.21 | -2.75 | 2491.09 | 100.000 (1) |
| 10-2-S | 45.24 | 45.24 | 21.65 | -18.70 | 2491.09 | 77.222 (3) |
| 10-3-S | 45.24 | 45.24 | 50.67 | -48.20 | 2491.09 | 30.426 (3) |
| 10-4-S | 45.24 | 45.24 | 113.27 | -90.45 | 2491.09 | 10.299 (3) |
| 10-5-S | 45.24 | 45.24 | 19.77 | -183.26 | -2491.09 | 14.762 (3) |
| 10-6-S | 45.24 | 45.24 | 9.41 | -263.78 | -2491.09 | 10.192 (3) |
| 10-7-S | 45.24 | 45.24 | 67.86 | -90.12 | -2491.09 | 28.560 (3) |
| 10-8-S | 45.24 | 45.24 | 230.20 | 0.00 | 2491.09 | 13.276 (3) |
| 10-9-S | 45.24 | 45.24 | 493.78 | 0.00 | 2491.09 | 5.953 (3) |
| 10-10-S | 45.24 | 45.24 | 0.00 | -202.38 | -2491.09 | 12.309 (4) |
| 10-11-S | 45.24 | 45.24 | 158.38 | -0.26 | -2491.09 | 23.476 (2) |
| 10-12-S | 45.24 | 45.24 | 185.79 | -1.20 | -2491.09 | 84.400 (2) |
| 10-13-S | 45.24 | 45.24 | 204.43 | -3.47 | 2491.09 | 28.825 (2) |
| 10-14-S | 45.24 | 45.24 | 231.27 | -4.56 | 2491.09 | 15.067 (3) |
| 10-15-S | 45.24 | 45.24 | 297.18 | -11.51 | 2491.09 | 10.164 (3) |
| 10-16-S | 45.24 | 45.24 | 142.07 | -62.09 | 2491.09 | 20.628 (3) |
| 10-17-S | 45.24 | 45.24 | 63.09 | -186.95 | -2491.09 | 14.718 (3) |
| 10-18-S | 45.24 | 45.24 | 39.55 | -106.33 | -2491.09 | 25.755 (3) |
| 10-19-S | 45.24 | 45.24 | 21.45 | -44.17 | -2491.09 | 59.910 (3) |
| 10-20-S | 45.24 | 45.24 | 4.20 | -3.30 | 2491.09 | 100.000 (1) |
| 11-1-S | 40.72 | 40.72 | 0.59 | -0.95 | 2243.82 | 100.000 (1) |
| 11-2-S | 40.72 | 40.72 | 0.00 | -4.85 | 2243.82 | 100.000 (1) |
| 11-3-S | 40.72 | 40.72 | 0.20 | -8.22 | 2243.82 | 100.000 (1) |
| 11-4-S | 40.72 | 40.72 | 3.26 | -8.28 | 2243.82 | 100.000 (1) |
| 11-5-S | 40.72 | 40.72 | 48.32 | -3.49 | 2243.82 | 58.330 (3) |
| 11-6-S | 40.72 | 40.72 | 113.57 | -2.47 | 2243.82 | 23.875 (3) |
| 11-7-S | 40.72 | 40.72 | 200.38 | -0.50 | 2243.82 | 13.325 (3) |
| 11-8-S | 40.72 | 40.72 | 303.21 | 0.00 | 2243.82 | 8.739 (3) |
| 11-9-S | 40.72 | 40.72 | 414.48 | 0.00 | 2243.82 | 6.367 (3) |
| 11-10-S | 40.72 | 40.72 | 0.00 | -251.78 | -2243.82 | 8.912 (4) |
| 11-11-S | 40.72 | 40.72 | 0.00 | -165.70 | -2243.82 | 13.541 (4) |
| 11-12-S | 40.72 | 40.72 | 0.00 | -101.22 | -2243.82 | 22.167 (4) |
| 11-13-S | 40.72 | 40.72 | 93.94 | -1.57 | -2243.82 | 43.962 (2) |
| 11-14-S | 40.72 | 40.72 | 90.21 | -1.58 | 2243.82 | 100.000 (2) |
| 11-15-S | 40.72 | 40.72 | 78.30 | -1.84 | 2243.82 | 100.000 (2) |
| 11-16-S | 40.72 | 40.72 | 62.67 | -2.32 | 2243.82 | 82.951 (2) |
| 11-17-S | 40.72 | 40.72 | 45.55 | -2.93 | 2243.82 | 78.643 (2) |
| 11-18-S | 40.72 | 40.72 | 30.72 | -3.63 | 2243.82 | 99.158 (3) |
| 11-19-S | 40.72 | 40.72 | 10.68 | -2.19 | 2243.82 | 100.000 (1) |
| 11-20-S | 40.72 | 40.72 | 1.20 | -1.07 | 2243.82 | 100.000 (1) |

Verifiche a taglio

Simbologia adottata

| | |
|------------------|---|
| Is | indice sezione |
| Y | ordinata sezione espressa in [m] |
| B | larghezza sezione espressa in [cm] |
| H | altezza sezione espressa in [cm] |
| A _{sw} | area ferri a taglio espressa in [cm ²] |
| cotθ | inclinazione delle bielle compresse, θ inclinazione dei puntoni di calcestruzzo |
| V _{Rcd} | resistenza di progetto a 'taglio compressione' espressa in [kN] |
| V _{Rsd} | resistenza di progetto a 'taglio trazione' espressa in [kN] |
| V _{Rd} | resistenza di progetto a taglio espressa 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} [cm ²] | cotθ | V _{Rcd} [kN] | V _{Rsd} [kN] | V _{Rd} [kN] | T [kN] | FS |
|----|-----------|-----------|---------------------------------------|------|--------------------------|--------------------------|-------------------------|-----------|---------|
| 1 | 100 | 40 | 0.00 | -- | 0.00 | 0.00 | 248.23 | 0.00 | 100.000 |
| 2 | 100 | 41 | 0.00 | -- | 0.00 | 0.00 | 251.50 | 1.46 | 171.708 |
| 3 | 100 | 42 | 0.00 | -- | 0.00 | 0.00 | 254.74 | 2.98 | 85.460 |
| 4 | 100 | 43 | 0.00 | -- | 0.00 | 0.00 | 257.95 | 4.55 | 56.720 |
| 5 | 100 | 44 | 0.00 | -- | 0.00 | 0.00 | 261.14 | 6.17 | 42.357 |
| 6 | 100 | 45 | 0.00 | -- | 0.00 | 0.00 | 264.29 | 7.83 | 33.741 |
| 7 | 100 | 46 | 0.00 | -- | 0.00 | 0.00 | 267.42 | 9.55 | 27.997 |
| 8 | 100 | 47 | 0.00 | -- | 0.00 | 0.00 | 270.52 | 11.32 | 23.895 |
| 9 | 100 | 48 | 0.00 | -- | 0.00 | 0.00 | 273.60 | 13.14 | 20.819 |
| 10 | 100 | 49 | 0.00 | -- | 0.00 | 0.00 | 276.66 | 15.01 | 18.428 |
| 11 | 100 | 50 | 0.00 | -- | 0.00 | 0.00 | 279.69 | 16.94 | 16.515 |
| 12 | 100 | 51 | 0.00 | -- | 0.00 | 0.00 | 282.70 | 18.91 | 14.951 |
| 13 | 100 | 52 | 0.00 | -- | 0.00 | 0.00 | 285.69 | 20.93 | 13.648 |
| 14 | 100 | 53 | 0.00 | -- | 0.00 | 0.00 | 288.66 | 23.01 | 12.547 |
| 15 | 100 | 54 | 0.00 | -- | 0.00 | 0.00 | 291.62 | 25.13 | 11.603 |
| 16 | 100 | 55 | 0.00 | -- | 0.00 | 0.00 | 294.55 | 27.31 | 10.786 |
| 17 | 100 | 56 | 0.00 | -- | 0.00 | 0.00 | 297.46 | 29.54 | 10.071 |
| 18 | 100 | 57 | 0.00 | -- | 0.00 | 0.00 | 300.36 | 31.81 | 9.441 |
| 19 | 100 | 58 | 0.00 | -- | 0.00 | 0.00 | 303.24 | 34.14 | 8.881 |
| 20 | 100 | 59 | 0.00 | -- | 0.00 | 0.00 | 306.11 | 36.52 | 8.381 |
| 21 | 100 | 60 | 0.00 | -- | 0.00 | 0.00 | 308.96 | 38.95 | 7.931 |
| 22 | 100 | 61 | 0.00 | -- | 0.00 | 0.00 | 311.79 | 41.44 | 7.525 |
| 23 | 100 | 62 | 0.00 | -- | 0.00 | 0.00 | 314.61 | 43.97 | 7.155 |
| 24 | 100 | 63 | 0.00 | -- | 0.00 | 0.00 | 317.42 | 46.55 | 6.819 |
| 25 | 100 | 64 | 0.00 | -- | 0.00 | 0.00 | 320.21 | 49.19 | 6.510 |
| 26 | 100 | 65 | 0.00 | -- | 0.00 | 0.00 | 322.99 | 51.87 | 6.227 |
| 27 | 100 | 66 | 0.00 | -- | 0.00 | 0.00 | 325.75 | 54.61 | 5.965 |
| 28 | 100 | 67 | 0.00 | -- | 0.00 | 0.00 | 328.51 | 57.39 | 5.724 |
| 29 | 100 | 68 | 0.00 | -- | 0.00 | 0.00 | 331.25 | 60.23 | 5.500 |
| 30 | 100 | 69 | 0.00 | -- | 0.00 | 0.00 | 333.98 | 63.12 | 5.291 |
| 31 | 100 | 70 | 0.00 | -- | 0.00 | 0.00 | 336.70 | 66.06 | 5.097 |
| 32 | 100 | 71 | 0.00 | -- | 0.00 | 0.00 | 339.40 | 69.05 | 4.915 |
| 33 | 100 | 72 | 0.00 | -- | 0.00 | 0.00 | 342.10 | 72.09 | 4.745 |
| 34 | 100 | 73 | 0.00 | -- | 0.00 | 0.00 | 344.78 | 75.18 | 4.586 |
| 35 | 100 | 74 | 0.00 | -- | 0.00 | 0.00 | 347.46 | 78.33 | 4.436 |
| 36 | 100 | 75 | 0.00 | -- | 0.00 | 0.00 | 350.12 | 81.52 | 4.295 |
| 37 | 100 | 76 | 0.00 | -- | 0.00 | 0.00 | 352.78 | 84.76 | 4.162 |
| 38 | 100 | 77 | 0.00 | -- | 0.00 | 0.00 | 355.43 | 88.06 | 4.036 |
| 39 | 100 | 78 | 0.00 | -- | 0.00 | 0.00 | 358.06 | 91.40 | 3.917 |
| 40 | 100 | 79 | 0.00 | -- | 0.00 | 0.00 | 360.69 | 94.80 | 3.805 |
| 41 | 100 | 80 | 0.00 | -- | 0.00 | 0.00 | 363.31 | 98.25 | 3.698 |
| 42 | 100 | 81 | 0.00 | -- | 0.00 | 0.00 | 409.19 | 101.75 | 4.022 |
| 43 | 100 | 82 | 0.00 | -- | 0.00 | 0.00 | 412.08 | 105.30 | 3.913 |
| 44 | 100 | 83 | 0.00 | -- | 0.00 | 0.00 | 414.95 | 108.90 | 3.810 |
| 45 | 100 | 84 | 0.00 | -- | 0.00 | 0.00 | 417.82 | 112.55 | 3.712 |
| 46 | 100 | 85 | 0.00 | -- | 0.00 | 0.00 | 420.68 | 116.25 | 3.619 |
| 47 | 100 | 86 | 0.00 | -- | 0.00 | 0.00 | 423.52 | 120.01 | 3.529 |
| 48 | 100 | 87 | 0.00 | -- | 0.00 | 0.00 | 426.36 | 123.81 | 3.444 |
| 49 | 100 | 88 | 0.00 | -- | 0.00 | 0.00 | 523.12 | 127.66 | 4.098 |
| 50 | 100 | 89 | 0.00 | -- | 0.00 | 0.00 | 526.51 | 131.57 | 4.002 |
| 51 | 100 | 90 | 0.00 | -- | 0.00 | 0.00 | 529.88 | 135.53 | 3.910 |

| n° | B [cm] | H [cm] | A _{sw} [cmq] | cotθ | V _{Rcd} [kN] | V _{Rsd} [kN] | V _{Rd} [kN] | T [kN] | FS |
|----|-----------|-----------|--------------------------|------|--------------------------|--------------------------|-------------------------|-----------|-------|
| 52 | 100 | 91 | 0.00 | -- | 0.00 | 0.00 | 533.25 | 139.53 | 3.822 |
| 53 | 100 | 92 | 0.00 | -- | 0.00 | 0.00 | 536.61 | 143.59 | 3.737 |
| 54 | 100 | 93 | 0.00 | -- | 0.00 | 0.00 | 539.96 | 147.70 | 3.656 |
| 55 | 100 | 94 | 0.00 | -- | 0.00 | 0.00 | 543.29 | 151.86 | 3.578 |
| 56 | 100 | 95 | 0.00 | -- | 0.00 | 0.00 | 546.62 | 156.07 | 3.502 |
| 57 | 100 | 96 | 0.00 | -- | 0.00 | 0.00 | 549.94 | 160.33 | 3.430 |
| 58 | 100 | 97 | 0.00 | -- | 0.00 | 0.00 | 553.25 | 164.65 | 3.360 |
| 59 | 100 | 98 | 0.00 | -- | 0.00 | 0.00 | 556.56 | 169.01 | 3.293 |
| 60 | 100 | 99 | 0.00 | -- | 0.00 | 0.00 | 559.85 | 173.42 | 3.228 |
| 61 | 100 | 100 | 0.00 | -- | 0.00 | 0.00 | 563.14 | 177.89 | 3.166 |
| 62 | 100 | 101 | 0.00 | -- | 0.00 | 0.00 | 520.94 | 182.41 | 2.856 |
| 63 | 100 | 102 | 0.00 | -- | 0.00 | 0.00 | 523.97 | 186.97 | 2.802 |
| 64 | 100 | 103 | 0.00 | -- | 0.00 | 0.00 | 489.42 | 191.59 | 2.555 |
| 65 | 100 | 104 | 0.00 | -- | 0.00 | 0.00 | 492.24 | 196.26 | 2.508 |
| 66 | 100 | 105 | 0.00 | -- | 0.00 | 0.00 | 495.06 | 200.98 | 2.463 |
| 67 | 100 | 106 | 0.00 | -- | 0.00 | 0.00 | 497.87 | 205.75 | 2.420 |
| 68 | 100 | 107 | 0.00 | -- | 0.00 | 0.00 | 500.67 | 210.57 | 2.378 |
| 69 | 100 | 108 | 0.00 | -- | 0.00 | 0.00 | 503.47 | 215.44 | 2.337 |
| 70 | 100 | 109 | 0.00 | -- | 0.00 | 0.00 | 506.27 | 220.36 | 2.297 |
| 71 | 100 | 110 | 0.00 | -- | 0.00 | 0.00 | 509.06 | 225.34 | 2.259 |

Mensola valle

| n° | B [cm] | H [cm] | A _{sw} [cmq] | cotθ | V _{Rcd} [kN] | V _{Rsd} [kN] | V _{Rd} [kN] | T [kN] | FS |
|----|-----------|-----------|--------------------------|------|--------------------------|--------------------------|-------------------------|-----------|---------|
| 1 | 100 | 50 | 0.00 | -- | 0.00 | 0.00 | 207.84 | 0.00 | 100.000 |
| 2 | 100 | 50 | 0.00 | -- | 0.00 | 0.00 | 207.84 | 1.20 | 173.006 |
| 3 | 100 | 50 | 0.00 | -- | 0.00 | 0.00 | 207.84 | 2.40 | 86.503 |
| 4 | 100 | 50 | 0.00 | -- | 0.00 | 0.00 | 207.84 | 3.60 | 57.669 |
| 5 | 100 | 50 | 0.00 | -- | 0.00 | 0.00 | 207.84 | 4.81 | 43.251 |

Fondazione

| Is | B [cm] | H [cm] | A _{sw} [cmq] | cotg (θ) | V _{Rcd} [kN] | V _{Rsd} [kN] | V _{Rd} [kN] | T [kN] | FS |
|--------|-----------|-----------|--------------------------|----------|--------------------------|--------------------------|-------------------------|-----------|-------------|
| 1-1-P | 100 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 475.86 | 0.00 | 100.000 (1) |
| 1-2-P | 100 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 475.86 | 0.00 | 100.000 (1) |
| 1-3-P | 100 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 475.86 | 188.87 | 2.520 (1) |
| 1-4-P | 100 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 475.86 | 188.87 | 2.520 (1) |
| 1-5-P | 100 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 475.86 | 188.87 | 2.520 (1) |
| 1-6-P | 100 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 475.86 | 188.87 | 2.520 (1) |
| 1-7-P | 100 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 475.86 | 188.87 | 2.520 (1) |
| 1-8-P | 100 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 475.86 | 188.87 | 2.520 (1) |
| 1-9-P | 100 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 475.86 | 188.87 | 2.520 (1) |
| 1-10-P | 100 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 475.86 | 14.50 | 32.817 (1) |
| 1-11-P | 100 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 475.86 | 14.50 | 32.817 (1) |
| 1-12-P | 100 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 475.86 | 14.50 | 32.817 (1) |
| 1-13-P | 100 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 475.86 | 14.50 | 32.817 (1) |
| 1-14-P | 100 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 475.86 | 14.50 | 32.817 (1) |
| 1-15-P | 100 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 475.86 | 0.00 | 100.000 (1) |
| 1-16-P | 100 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 475.86 | 0.00 | 100.000 (1) |
| 1-17-P | 100 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 475.86 | 0.00 | 100.000 (1) |
| 2-1-P | 100 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 475.86 | 0.00 | 100.000 (1) |
| 2-2-P | 100 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 475.86 | 0.00 | 100.000 (1) |
| 2-3-P | 100 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 475.86 | 288.50 | 1.649 (1) |
| 2-4-P | 100 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 475.86 | 288.50 | 1.649 (1) |
| 2-5-P | 100 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 475.86 | 288.50 | 1.649 (1) |
| 2-6-P | 100 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 475.86 | 288.50 | 1.649 (1) |
| 2-7-P | 100 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 475.86 | 288.50 | 1.649 (1) |
| 2-8-P | 100 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 475.86 | 288.50 | 1.649 (1) |
| 2-9-P | 100 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 475.86 | 288.50 | 1.649 (1) |
| 2-10-P | 100 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 475.86 | 10.29 | 46.232 (1) |
| 2-11-P | 100 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 475.86 | 10.29 | 46.232 (1) |
| 2-12-P | 100 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 475.86 | 10.29 | 46.232 (1) |
| 2-13-P | 100 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 475.86 | 10.29 | 46.232 (1) |
| 2-14-P | 100 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 475.86 | 10.29 | 46.232 (1) |

| Is | B | H | A _{sw} | cotg (θ) | V _{Rcd} | V _{Rsd} | V _{Rd} | T | FS |
|--------|------|------|-----------------|----------|------------------|------------------|-----------------|--------|-------------|
| | [cm] | [cm] | [cmq] | | [kN] | [kN] | [kN] | [kN] | |
| 2-15-P | 100 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 475.86 | 0.00 | 100.000 (1) |
| 2-16-P | 100 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 475.86 | 0.00 | 100.000 (1) |
| 2-17-P | 100 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 475.86 | 0.00 | 100.000 (1) |
| 5-1-P | 83 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 396.55 | 34.47 | 11.504 (1) |
| 5-2-P | 83 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 396.55 | 34.47 | 11.504 (1) |
| 5-3-P | 83 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 396.55 | 20.98 | 18.905 (1) |
| 5-4-P | 83 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 396.55 | 20.98 | 18.905 (1) |
| 5-5-P | 83 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 396.55 | 20.98 | 18.905 (1) |
| 5-6-P | 83 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 396.55 | 20.98 | 18.905 (1) |
| 5-7-P | 83 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 396.55 | 20.98 | 18.905 (1) |
| 5-8-P | 83 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 396.55 | 20.98 | 18.905 (1) |
| 5-9-P | 83 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 396.55 | 20.98 | 18.905 (1) |
| 5-10-P | 83 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 396.55 | 4.24 | 93.517 (1) |
| 5-11-P | 83 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 396.55 | 4.24 | 93.517 (1) |
| 5-12-P | 83 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 396.55 | 4.24 | 93.517 (1) |
| 5-13-P | 83 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 396.55 | 4.24 | 93.517 (1) |
| 5-14-P | 83 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 396.55 | 4.24 | 93.517 (1) |
| 5-15-P | 83 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 396.55 | 0.52 | 100.000 (1) |
| 5-16-P | 83 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 396.55 | 0.52 | 100.000 (1) |
| 5-17-P | 83 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 396.55 | 0.52 | 100.000 (1) |
| 6-1-P | 83 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 396.55 | 127.59 | 3.108 (1) |
| 6-2-P | 83 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 396.55 | 127.59 | 3.108 (1) |
| 6-3-P | 83 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 396.55 | 63.44 | 6.251 (1) |
| 6-4-P | 83 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 396.55 | 63.44 | 6.251 (1) |
| 6-5-P | 83 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 396.55 | 63.44 | 6.251 (1) |
| 6-6-P | 83 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 396.55 | 63.44 | 6.251 (1) |
| 6-7-P | 83 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 396.55 | 63.44 | 6.251 (1) |
| 6-8-P | 83 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 396.55 | 63.44 | 6.251 (1) |
| 6-9-P | 83 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 396.55 | 63.44 | 6.251 (1) |
| 6-10-P | 83 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 396.55 | 4.65 | 85.357 (1) |
| 6-11-P | 83 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 396.55 | 4.65 | 85.357 (1) |
| 6-12-P | 83 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 396.55 | 4.65 | 85.357 (1) |
| 6-13-P | 83 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 396.55 | 4.65 | 85.357 (1) |
| 6-14-P | 83 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 396.55 | 4.65 | 85.357 (1) |
| 6-15-P | 83 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 396.55 | 28.59 | 13.871 (1) |
| 6-16-P | 83 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 396.55 | 28.59 | 13.871 (1) |
| 6-17-P | 83 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 396.55 | 28.59 | 13.871 (1) |
| 7-1-P | 83 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 396.55 | 226.64 | 1.750 (1) |
| 7-2-P | 83 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 396.55 | 226.64 | 1.750 (1) |
| 7-3-P | 83 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 396.55 | 226.64 | 1.750 (1) |
| 7-4-P | 83 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 396.55 | 226.64 | 1.750 (1) |
| 7-5-P | 83 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 396.55 | 226.64 | 1.750 (1) |
| 7-6-P | 83 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 396.55 | 226.64 | 1.750 (1) |
| 7-7-P | 83 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 396.55 | 226.64 | 1.750 (1) |
| 7-8-P | 83 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 396.55 | 161.27 | 2.459 (1) |
| 7-9-P | 83 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 396.55 | 161.27 | 2.459 (1) |
| 7-10-P | 83 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 396.55 | 19.61 | 20.217 (1) |
| 7-11-P | 83 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 396.55 | 19.61 | 20.217 (1) |
| 7-12-P | 83 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 396.55 | 19.61 | 20.217 (1) |
| 7-13-P | 83 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 396.55 | 19.61 | 20.217 (1) |
| 7-14-P | 83 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 396.55 | 19.61 | 20.217 (1) |
| 7-15-P | 83 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 396.55 | 19.61 | 20.217 (1) |
| 7-16-P | 83 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 396.55 | 19.61 | 20.217 (1) |
| 7-17-P | 83 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 396.55 | 19.61 | 20.217 (1) |
| 8-1-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 367.25 | 1.336 (1) |
| 8-2-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 367.25 | 1.336 (1) |
| 8-3-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 367.25 | 1.336 (1) |
| 8-4-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 367.25 | 1.336 (1) |
| 8-5-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 367.25 | 1.336 (1) |
| 8-6-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 367.25 | 1.336 (1) |
| 8-7-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 367.25 | 1.336 (1) |
| 8-8-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 356.01 | 1.378 (1) |
| 8-9-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 356.01 | 1.378 (1) |
| 8-10-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 356.01 | 1.378 (1) |
| 8-11-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 310.34 | 1.581 (1) |
| 8-12-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 310.34 | 1.581 (1) |
| 8-13-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 10.21 | 48.052 (1) |
| 8-14-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 10.21 | 48.052 (1) |
| 8-15-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 10.21 | 48.052 (1) |
| 8-16-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 10.21 | 48.052 (1) |

| Is | B | H | A _{sw} | cotg (θ) | V _{Rcd} | V _{Rsd} | V _{Rd} | T | FS |
|---------|------|------|-----------------|----------|------------------|------------------|-----------------|---------|-------------|
| | [cm] | [cm] | [cmq] | | [kN] | [kN] | [kN] | [kN] | |
| 8-17-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 10.21 | 48.052 (1) |
| 8-18-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 7.26 | 67.560 (1) |
| 8-19-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 7.26 | 67.560 (1) |
| 8-20-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 10.21 | 48.052 (1) |
| 9-1-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 508.12 | 63.09 | 8.053 (1) |
| 9-2-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 508.12 | 198.53 | 2.559 (1) |
| 9-3-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 508.12 | 198.53 | 2.559 (1) |
| 9-4-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 508.12 | 198.53 | 2.559 (1) |
| 9-5-S | 95 | 150 | 12.06 | 2.500 | 4046.17 | 1084.86 | 1084.86 | 1082.53 | 1.002 (1) |
| 9-6-S | 95 | 150 | 12.06 | 2.500 | 4046.17 | 1084.86 | 1084.86 | 1082.53 | 1.002 (1) |
| 9-7-S | 95 | 150 | 12.06 | 2.500 | 4046.17 | 1084.86 | 1084.86 | 1082.53 | 1.002 (1) |
| 9-8-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 508.12 | 0.00 | 100.000 (1) |
| 9-9-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 508.12 | 0.00 | 100.000 (1) |
| 9-10-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 508.12 | 8.24 | 61.676 (1) |
| 9-11-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 508.12 | 8.24 | 61.676 (1) |
| 9-12-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 508.12 | 8.24 | 61.676 (1) |
| 9-13-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 508.12 | 8.24 | 61.676 (1) |
| 9-14-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 508.12 | 8.24 | 61.676 (1) |
| 9-15-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 508.12 | 8.24 | 61.676 (1) |
| 9-16-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 508.12 | 8.24 | 61.676 (1) |
| 9-17-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 508.12 | 199.48 | 2.547 (1) |
| 9-18-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 508.12 | 199.48 | 2.547 (1) |
| 9-19-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 508.12 | 199.48 | 2.547 (1) |
| 9-20-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 508.12 | 199.48 | 2.547 (1) |
| 10-1-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 508.12 | 63.09 | 8.053 (1) |
| 10-2-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 508.12 | 198.53 | 2.559 (1) |
| 10-3-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 508.12 | 198.53 | 2.559 (1) |
| 10-4-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 508.12 | 198.53 | 2.559 (1) |
| 10-5-S | 95 | 150 | 12.06 | 2.500 | 4046.17 | 1084.86 | 1084.86 | 1082.53 | 1.002 (1) |
| 10-6-S | 95 | 150 | 12.06 | 2.500 | 4046.17 | 1084.86 | 1084.86 | 1082.53 | 1.002 (1) |
| 10-7-S | 95 | 150 | 12.06 | 2.500 | 4046.17 | 1084.86 | 1084.86 | 1082.53 | 1.002 (1) |
| 10-8-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 508.12 | 0.00 | 100.000 (1) |
| 10-9-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 508.12 | 0.00 | 100.000 (1) |
| 10-10-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 508.12 | 8.24 | 61.676 (1) |
| 10-11-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 508.12 | 8.24 | 61.676 (1) |
| 10-12-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 508.12 | 8.24 | 61.676 (1) |
| 10-13-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 508.12 | 8.24 | 61.676 (1) |
| 10-14-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 508.12 | 8.24 | 61.676 (1) |
| 10-15-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 508.12 | 8.24 | 61.676 (1) |
| 10-16-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 508.12 | 8.24 | 61.676 (1) |
| 10-17-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 508.12 | 199.48 | 2.547 (1) |
| 10-18-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 508.12 | 199.48 | 2.547 (1) |
| 10-19-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 508.12 | 199.48 | 2.547 (1) |
| 10-20-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 508.12 | 199.48 | 2.547 (1) |
| 11-1-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 367.25 | 1.336 (1) |
| 11-2-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 367.25 | 1.336 (1) |
| 11-3-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 367.25 | 1.336 (1) |
| 11-4-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 367.25 | 1.336 (1) |
| 11-5-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 367.25 | 1.336 (1) |
| 11-6-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 367.25 | 1.336 (1) |
| 11-7-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 367.25 | 1.336 (1) |
| 11-8-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 356.01 | 1.378 (1) |
| 11-9-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 356.01 | 1.378 (1) |
| 11-10-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 356.01 | 1.378 (1) |
| 11-11-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 310.34 | 1.581 (1) |
| 11-12-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 310.34 | 1.581 (1) |
| 11-13-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 10.21 | 48.052 (1) |
| 11-14-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 10.21 | 48.052 (1) |
| 11-15-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 10.21 | 48.052 (1) |
| 11-16-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 10.21 | 48.052 (1) |
| 11-17-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 10.21 | 48.052 (1) |
| 11-18-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 7.26 | 67.560 (1) |
| 11-19-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 7.26 | 67.560 (1) |
| 11-20-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 10.21 | 48.052 (1) |

Verifica a punzonamento

Simbologia adottata

| | |
|-----------------------------------|--|
| OP | Oggetto che viene punzonato |
| P | Oggetto che punziona |
| C ₁ , C ₂ | Dimensioni pilastro nelle due direzioni, espressa in [mm] |
| d | Altezza utile della fondazione, espressa in [mm] |
| u ₀ | Lunghezza perimetro di verifica a faccia pilastro, espresso in [mm] |
| u ₁ | Lunghezza perimetro di verifica per effetto della diffusione, espresso in [mm] |
| ρ _y , ρ _z | Percentuali di armatura piastra in zona tesa |
| d _{pC} , d _{uc} | distanza della prima e dell'ultima cucitura dalla faccia del pilastro |
| V _{Ed,i} | Tensione di taglio sul perimetro del pilastro, espressa in [kPa] |
| V _{Rd,max} | Valore di progetto del massimo taglio-punzonamento resistente, espressa in [kPa] |
| V _{Ed,f} | Tensione di taglio sul perimetro di verifica u ₁ , espresso in [kPa] |
| V _{Rd,cf} | Valore di progetto del taglio-punzonamento resistente senza armature sul perimetro di verifica u ₁ , espresso in [kPa] |
| V _{Rd,cs} | Valore di progetto del taglio-punzonamento resistente con armature, espresso in [kPa] |
| n _{sc} | Numero di serie di cuciture |
| n _c | Numero di cuciture |
| FS | Fattore di sicurezza (minore tra i rapporti V _{Rd,max} /V _{Ed,i} , V _{Rd,cf} /V _{Ed,f} e V _{Rd,cs} /V _{Ed,f}) |

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] |
| A _{fi} | area ferri inferiori, espresso in [cmq] |
| A _{fs} | area ferri superiori, espressa in [cmq] |
| M | momento agente, espressa in [kNm] |
| N | sforzo normale agente, espressa in [kN] |
| σ _c | tensione di compressione nel cls, espressa in [kPa] |
| σ _{fi} | tensione nei ferri inferiori, espressa in [kPa] |
| σ _{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 | A _{fi} | A _{fs} | M | N | σ _c | σ _{fi} | σ _{fs} |
|----|------|------|-----------------|-----------------|-------|-------|----------------|-----------------|-----------------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kN] | [kPa] | [kPa] | [kPa] |
| 1 | 100 | 40 | 15.71 | 22.62 | 0.75 | 4.29 | 38 (9) | 313 (9) | 452 (9) |
| 2 | 100 | 41 | 15.71 | 22.62 | 0.75 | 5.28 | 37 (9) | 188 (9) | 459 (9) |
| 3 | 100 | 42 | 15.71 | 22.62 | 0.77 | 6.30 | 37 (9) | 103 (9) | 472 (9) |
| 4 | 100 | 43 | 15.71 | 22.62 | 0.79 | 7.34 | 38 (9) | 47 (9) | 492 (9) |
| 5 | 100 | 44 | 15.71 | 22.62 | 0.84 | 8.41 | 39 (9) | 11 (9) | 521 (9) |
| 6 | 100 | 45 | 15.71 | 22.62 | 0.91 | 9.50 | 42 (9) | 10 (9) | 558 (9) |
| 7 | 100 | 46 | 15.71 | 22.62 | 1.01 | 10.62 | 45 (9) | 21 (9) | 603 (9) |
| 8 | 100 | 47 | 15.71 | 22.62 | 1.14 | 11.76 | 49 (9) | 22 (9) | 656 (9) |
| 9 | 100 | 48 | 15.71 | 22.62 | 1.30 | 12.92 | 53 (9) | 13 (9) | 717 (9) |
| 10 | 100 | 49 | 15.71 | 22.62 | 1.51 | 14.11 | 58 (9) | 7 (9) | 787 (9) |
| 11 | 100 | 50 | 15.71 | 22.62 | 1.77 | 15.32 | 64 (9) | 41 (9) | 867 (9) |
| 12 | 100 | 51 | 15.71 | 22.62 | 2.07 | 16.56 | 71 (9) | 92 (9) | 957 (9) |
| 13 | 100 | 52 | 15.71 | 22.62 | 2.44 | 17.82 | 79 (9) | 164 (9) | 1060 (9) |
| 14 | 100 | 53 | 15.71 | 22.62 | 2.86 | 19.11 | 88 (9) | 262 (9) | 1176 (9) |
| 15 | 100 | 54 | 15.71 | 22.62 | 3.35 | 20.42 | 98 (9) | 391 (9) | 1306 (9) |
| 16 | 100 | 55 | 15.71 | 22.62 | 3.90 | 21.76 | 110 (9) | 555 (9) | 1451 (9) |
| 17 | 100 | 56 | 15.71 | 22.62 | 4.54 | 23.12 | 122 (9) | 760 (9) | 1610 (9) |
| 18 | 100 | 57 | 15.71 | 22.62 | 5.25 | 24.50 | 136 (9) | 1010 (9) | 1785 (9) |
| 19 | 100 | 58 | 15.71 | 22.62 | 6.04 | 25.91 | 152 (9) | 1311 (9) | 1976 (9) |
| 20 | 100 | 59 | 15.71 | 22.62 | 6.94 | 27.35 | 169 (9) | 1668 (9) | 2183 (9) |
| 21 | 100 | 60 | 15.71 | 22.62 | 7.94 | 28.81 | 187 (9) | 2088 (9) | 2408 (9) |
| 22 | 100 | 61 | 15.71 | 22.62 | 9.06 | 30.29 | 207 (9) | 2578 (9) | 2653 (9) |
| 23 | 100 | 62 | 15.71 | 22.62 | 10.30 | 31.80 | 229 (9) | 3141 (9) | 2916 (9) |
| 24 | 100 | 63 | 15.71 | 22.62 | 11.68 | 33.33 | 252 (9) | 3782 (9) | 3199 (9) |
| 25 | 100 | 64 | 15.71 | 22.62 | 13.21 | 34.89 | 277 (9) | 4501 (9) | 3501 (9) |
| 26 | 100 | 65 | 15.71 | 22.62 | 14.88 | 36.47 | 304 (9) | 5298 (9) | 3821 (9) |
| 27 | 100 | 66 | 15.71 | 22.62 | 16.70 | 38.07 | 332 (9) | 6174 (9) | 4159 (9) |
| 28 | 100 | 67 | 15.71 | 22.62 | 18.67 | 39.70 | 361 (9) | 7129 (9) | 4514 (9) |

| n° | B | H | Afi | Afs | M | N | σ_c | σ_{fi} | σ_{fs} |
|----|------|------|-------|-------|--------|--------|------------|---------------|---------------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kN] | [kPa] | [kPa] | [kPa] |
| 29 | 100 | 68 | 15.71 | 22.62 | 20.81 | 41.36 | 392 (9) | 8161 (9) | 4887 (9) |
| 30 | 100 | 69 | 15.71 | 22.62 | 23.12 | 43.04 | 424 (9) | 9270 (9) | 5275 (9) |
| 31 | 100 | 70 | 15.71 | 22.62 | 25.60 | 44.74 | 458 (9) | 10457 (9) | 5680 (9) |
| 32 | 100 | 71 | 15.71 | 22.62 | 28.26 | 46.47 | 493 (9) | 11720 (9) | 6100 (9) |
| 33 | 100 | 72 | 15.71 | 22.62 | 31.10 | 48.22 | 529 (9) | 13059 (9) | 6537 (9) |
| 34 | 100 | 73 | 15.71 | 22.62 | 34.12 | 50.00 | 566 (9) | 14474 (9) | 6988 (9) |
| 35 | 100 | 74 | 15.71 | 22.62 | 37.34 | 51.80 | 605 (9) | 15965 (9) | 7455 (9) |
| 36 | 100 | 75 | 15.71 | 22.62 | 40.75 | 53.63 | 645 (9) | 17530 (9) | 7936 (9) |
| 37 | 100 | 76 | 15.71 | 22.62 | 44.37 | 55.48 | 686 (9) | 19171 (9) | 8432 (9) |
| 38 | 100 | 77 | 15.71 | 22.62 | 48.19 | 57.36 | 728 (9) | 20885 (9) | 8942 (9) |
| 39 | 100 | 78 | 15.71 | 22.62 | 52.22 | 59.26 | 771 (9) | 22674 (9) | 9467 (9) |
| 40 | 100 | 79 | 15.71 | 22.62 | 56.47 | 61.18 | 815 (9) | 24536 (9) | 10005 (9) |
| 41 | 100 | 80 | 15.71 | 22.62 | 60.93 | 63.13 | 860 (9) | 26472 (9) | 10557 (9) |
| 42 | 100 | 81 | 31.42 | 22.62 | 65.63 | 65.10 | 824 (9) | 27887 (9) | 9993 (9) |
| 43 | 100 | 82 | 31.42 | 22.62 | 70.55 | 67.10 | 867 (9) | 29945 (9) | 10516 (9) |
| 44 | 100 | 83 | 31.42 | 22.62 | 75.71 | 69.12 | 912 (9) | 32075 (9) | 11052 (9) |
| 45 | 100 | 84 | 31.42 | 22.62 | 81.10 | 71.17 | 957 (9) | 34277 (9) | 11600 (9) |
| 46 | 100 | 85 | 31.42 | 22.62 | 86.75 | 73.24 | 1003 (9) | 36550 (9) | 12161 (9) |
| 47 | 100 | 86 | 31.42 | 22.62 | 92.64 | 75.34 | 1050 (9) | 38895 (9) | 12733 (9) |
| 48 | 100 | 87 | 31.42 | 22.62 | 98.78 | 77.46 | 1098 (9) | 41311 (9) | 13316 (9) |
| 49 | 100 | 88 | 31.42 | 67.86 | 105.18 | 79.60 | 836 (9) | 15971 (9) | 11000 (9) |
| 50 | 100 | 89 | 31.42 | 67.86 | 111.85 | 81.77 | 870 (9) | 16877 (9) | 11458 (9) |
| 51 | 100 | 90 | 31.42 | 67.86 | 118.78 | 83.97 | 905 (9) | 17808 (9) | 11923 (9) |
| 52 | 100 | 91 | 31.42 | 67.86 | 125.98 | 86.19 | 940 (9) | 18762 (9) | 12397 (9) |
| 53 | 100 | 92 | 31.42 | 67.86 | 133.47 | 88.43 | 976 (9) | 19742 (9) | 12878 (9) |
| 54 | 100 | 93 | 31.42 | 67.86 | 141.23 | 90.70 | 1013 (9) | 20745 (9) | 13366 (9) |
| 55 | 100 | 94 | 31.42 | 67.86 | 149.28 | 92.99 | 1050 (9) | 21773 (9) | 13862 (9) |
| 56 | 100 | 95 | 31.42 | 67.86 | 157.62 | 95.31 | 1087 (9) | 22825 (9) | 14365 (9) |
| 57 | 100 | 96 | 31.42 | 67.86 | 166.26 | 97.65 | 1125 (9) | 23901 (9) | 14875 (9) |
| 58 | 100 | 97 | 31.42 | 67.86 | 175.19 | 100.01 | 1164 (9) | 25001 (9) | 15392 (9) |
| 59 | 100 | 98 | 31.42 | 67.86 | 184.43 | 102.40 | 1203 (9) | 26125 (9) | 15916 (9) |
| 60 | 100 | 99 | 31.42 | 67.86 | 193.98 | 104.82 | 1242 (9) | 27274 (9) | 16447 (9) |
| 61 | 100 | 100 | 31.42 | 67.86 | 203.85 | 107.26 | 1282 (9) | 28446 (9) | 16985 (9) |
| 62 | 100 | 101 | 31.42 | 45.24 | 214.03 | 109.72 | 1485 (9) | 43095 (9) | 19233 (9) |
| 63 | 100 | 102 | 31.42 | 45.24 | 224.54 | 112.21 | 1532 (9) | 44882 (9) | 19849 (9) |
| 64 | 100 | 103 | 15.71 | 45.24 | 235.38 | 114.72 | 1708 (9) | 47527 (9) | 22284 (9) |
| 65 | 100 | 104 | 15.71 | 45.24 | 246.55 | 117.26 | 1759 (9) | 49407 (9) | 22962 (9) |
| 66 | 100 | 105 | 15.71 | 45.24 | 258.05 | 119.82 | 1811 (9) | 51322 (9) | 23646 (9) |
| 67 | 100 | 106 | 15.71 | 45.24 | 269.90 | 122.41 | 1863 (9) | 53272 (9) | 24338 (9) |
| 68 | 100 | 107 | 15.71 | 45.24 | 282.10 | 125.02 | 1915 (9) | 55257 (9) | 25038 (9) |
| 69 | 100 | 108 | 15.71 | 45.24 | 294.64 | 127.65 | 1968 (9) | 57277 (9) | 25745 (9) |
| 70 | 100 | 109 | 15.71 | 45.24 | 307.55 | 130.31 | 2021 (9) | 59332 (9) | 26459 (9) |
| 71 | 100 | 110 | 15.71 | 45.24 | 320.81 | 133.00 | 2075 (9) | 61422 (9) | 27181 (9) |

Mensola valle

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

| n° | B | H | Afi | Afs | M | N | σ_c | σ_{fi} | σ_{fs} |
|----|------|------|-------|-------|-------|------|------------|---------------|---------------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kN] | [kPa] | [kPa] | [kPa] |
| 1 | 100 | 50 | 8.04 | 8.04 | 0.00 | 0.00 | 0 (9) | 0 (9) | 0 (9) |
| 2 | 100 | 50 | 8.04 | 8.04 | -0.05 | 0.00 | 2 (9) | 16 (9) | 138 (9) |
| 3 | 100 | 50 | 8.04 | 8.04 | -0.19 | 0.00 | 9 (9) | 65 (9) | 551 (9) |
| 4 | 100 | 50 | 8.04 | 8.04 | -0.42 | 0.00 | 20 (9) | 146 (9) | 1239 (9) |
| 5 | 100 | 50 | 8.04 | 8.04 | -0.75 | 0.00 | 35 (9) | 260 (9) | 2203 (9) |

Piastra fondazione

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

| Is | B | H | Afi | Afs | Mp | Mn | σ_c | σ_{fi} | σ_{fs} |
|----|------|------|-------|-------|-------|-------|------------|---------------|---------------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kNm] | [kPa] | [kPa] | [kPa] |

| Is | B | H | Afi | Afs | Mp | Mn | σc | σfi | σfs |
|--------|------|------|-------|-------|-------|---------|-----------|------------|-------------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kNm] | [kPa] | [kPa] | [kPa] |
| 1-1-P | 100 | 150 | 10.05 | 10.05 | 0.62 | -0.34 | 4 (10) | 439 (10) | 239 (10) |
| 1-2-P | 100 | 150 | 10.05 | 10.05 | 1.17 | -1.03 | 10 (9) | 989 (9) | 695 (9) |
| 1-3-P | 100 | 150 | 10.05 | 10.05 | 1.20 | -5.48 | 35 (9) | 2020 (9) | 3603 (9) |
| 1-4-P | 100 | 150 | 10.05 | 10.05 | 0.23 | -15.26 | 97 (9) | 1097 (9) | 9974 (9) |
| 1-5-P | 100 | 150 | 10.05 | 10.05 | 0.00 | -35.32 | 223 (9) | 2533 (9) | 23042 (9) |
| 1-6-P | 100 | 150 | 10.05 | 10.05 | 0.00 | -68.94 | 435 (9) | 4938 (9) | 44917 (9) |
| 1-7-P | 100 | 150 | 10.05 | 10.05 | 0.67 | -117.65 | 741 (9) | 8406 (9) | 76459 (9) |
| 1-8-P | 100 | 150 | 10.05 | 10.05 | 8.98 | -203.37 | 1273 (9) | 14437 (9) | 131314 (9) |
| 1-9-P | 100 | 150 | 10.05 | 10.05 | 0.00 | -194.47 | 1223 (9) | 13877 (9) | 126222 (9) |
| 1-10-P | 100 | 150 | 10.05 | 10.05 | 8.98 | -203.37 | 1273 (9) | 14437 (9) | 131314 (9) |
| 1-11-P | 100 | 150 | 10.05 | 10.05 | 0.67 | -117.65 | 741 (9) | 8406 (9) | 76459 (9) |
| 1-12-P | 100 | 150 | 10.05 | 10.05 | 0.00 | -68.94 | 435 (9) | 4938 (9) | 44917 (9) |
| 1-13-P | 100 | 150 | 10.05 | 10.05 | 0.00 | -35.32 | 223 (9) | 2533 (9) | 23042 (9) |
| 1-14-P | 100 | 150 | 10.05 | 10.05 | 0.23 | -15.26 | 97 (9) | 1097 (9) | 9974 (9) |
| 1-15-P | 100 | 150 | 10.05 | 10.05 | 1.20 | -5.48 | 35 (9) | 2020 (9) | 3603 (9) |
| 1-16-P | 100 | 150 | 10.05 | 10.05 | 1.17 | -1.03 | 10 (9) | 989 (9) | 695 (9) |
| 1-17-P | 100 | 150 | 10.05 | 10.05 | 0.62 | -0.34 | 4 (10) | 439 (10) | 239 (10) |
| 2-1-P | 100 | 150 | 10.05 | 10.05 | 11.78 | -0.39 | 73 (9) | 7539 (9) | 829 (9) |
| 2-2-P | 100 | 150 | 10.05 | 10.05 | 14.48 | -0.48 | 90 (9) | 9261 (9) | 1018 (9) |
| 2-3-P | 100 | 150 | 10.05 | 10.05 | 21.88 | -4.12 | 136 (9) | 14076 (9) | 4513 (9) |
| 2-4-P | 100 | 150 | 10.05 | 10.05 | 22.24 | -9.00 | 139 (9) | 14297 (9) | 8928 (9) |
| 2-5-P | 100 | 150 | 10.05 | 10.05 | 16.69 | -19.06 | 169 (9) | 11833 (9) | 17403 (9) |
| 2-6-P | 100 | 150 | 10.05 | 10.05 | 11.33 | -43.55 | 383 (9) | 10815 (9) | 39484 (9) |
| 2-7-P | 100 | 150 | 10.05 | 10.05 | 8.92 | -81.43 | 670 (9) | 11855 (9) | 69121 (9) |
| 2-8-P | 100 | 150 | 10.05 | 10.05 | 12.81 | -93.44 | 725 (9) | 16746 (9) | 74815 (9) |
| 2-9-P | 100 | 150 | 10.05 | 10.05 | 6.78 | -127.53 | 989 (9) | 18056 (9) | 102028 (9) |
| 2-10-P | 100 | 150 | 10.05 | 10.05 | 12.81 | -93.44 | 725 (9) | 16746 (9) | 74815 (9) |
| 2-11-P | 100 | 150 | 10.05 | 10.05 | 8.92 | -81.43 | 670 (9) | 11855 (9) | 69121 (9) |
| 2-12-P | 100 | 150 | 10.05 | 10.05 | 11.33 | -43.55 | 383 (9) | 10815 (9) | 39484 (9) |
| 2-13-P | 100 | 150 | 10.05 | 10.05 | 16.69 | -19.06 | 169 (9) | 11833 (9) | 17403 (9) |
| 2-14-P | 100 | 150 | 10.05 | 10.05 | 22.24 | -9.00 | 139 (9) | 14297 (9) | 8928 (9) |
| 2-15-P | 100 | 150 | 10.05 | 10.05 | 21.88 | -4.12 | 136 (9) | 14076 (9) | 4513 (9) |
| 2-16-P | 100 | 150 | 10.05 | 10.05 | 14.48 | -0.48 | 90 (9) | 9261 (9) | 1018 (9) |
| 2-17-P | 100 | 150 | 10.05 | 10.05 | 11.78 | -0.39 | 73 (9) | 7539 (9) | 829 (9) |
| 5-1-P | 83 | 150 | 8.04 | 8.04 | 10.53 | -0.70 | 89 (10) | 9382 (10) | 1458 (10) |
| 5-2-P | 83 | 150 | 8.04 | 8.04 | 12.52 | -0.48 | 106 (10) | 11153 (10) | 1499 (10) |
| 5-3-P | 83 | 150 | 8.04 | 8.04 | 21.61 | -0.32 | 174 (9) | 18339 (9) | 1965 (9) |
| 5-4-P | 83 | 150 | 8.04 | 8.04 | 25.50 | -1.20 | 216 (10) | 22709 (10) | 3195 (10) |
| 5-5-P | 83 | 150 | 8.04 | 8.04 | 27.41 | -2.47 | 232 (10) | 24409 (10) | 5773 (10) |
| 5-6-P | 83 | 150 | 8.04 | 8.04 | 26.68 | -5.47 | 226 (10) | 23763 (10) | 12185 (10) |
| 5-7-P | 83 | 150 | 8.04 | 8.04 | 23.35 | -10.25 | 217 (10) | 20795 (10) | 22822 (10) |
| 5-8-P | 83 | 150 | 8.04 | 8.04 | 19.10 | -15.40 | 274 (10) | 17008 (10) | 28796 (10) |
| 5-9-P | 83 | 150 | 8.04 | 8.04 | 18.39 | -16.13 | 284 (9) | 14842 (9) | 29930 (9) |
| 5-10-P | 83 | 150 | 8.04 | 8.04 | 19.10 | -15.40 | 274 (10) | 17008 (10) | 28796 (10) |
| 5-11-P | 83 | 150 | 8.04 | 8.04 | 23.35 | -10.25 | 217 (10) | 20795 (10) | 22822 (10) |
| 5-12-P | 83 | 150 | 8.04 | 8.04 | 26.68 | -5.47 | 226 (10) | 23763 (10) | 12185 (10) |
| 5-13-P | 83 | 150 | 8.04 | 8.04 | 27.41 | -2.47 | 232 (10) | 24409 (10) | 5773 (10) |
| 5-14-P | 83 | 150 | 8.04 | 8.04 | 25.50 | -1.20 | 216 (10) | 22709 (10) | 3195 (10) |
| 5-15-P | 83 | 150 | 8.04 | 8.04 | 21.61 | -0.32 | 174 (9) | 18339 (9) | 1965 (9) |
| 5-16-P | 83 | 150 | 8.04 | 8.04 | 12.52 | -0.48 | 106 (10) | 11153 (10) | 1499 (10) |
| 5-17-P | 83 | 150 | 8.04 | 8.04 | 10.53 | -0.70 | 89 (10) | 9382 (10) | 1458 (10) |
| 6-1-P | 83 | 150 | 8.04 | 8.04 | 0.77 | -1.47 | 12 (10) | 681 (10) | 1313 (10) |
| 6-2-P | 83 | 150 | 8.04 | 8.04 | 3.20 | -0.81 | 27 (10) | 2850 (10) | 719 (10) |
| 6-3-P | 83 | 150 | 8.04 | 8.04 | 8.34 | -6.54 | 71 (10) | 7431 (10) | 5822 (10) |
| 6-4-P | 83 | 150 | 8.04 | 8.04 | 12.08 | -15.05 | 127 (10) | 10761 (10) | 13400 (10) |
| 6-5-P | 83 | 150 | 8.04 | 8.04 | 13.87 | -28.49 | 241 (10) | 12349 (10) | 25368 (10) |
| 6-6-P | 83 | 150 | 8.04 | 8.04 | 14.38 | -51.08 | 432 (10) | 12806 (10) | 45493 (10) |
| 6-7-P | 83 | 150 | 8.04 | 8.04 | 15.45 | -87.05 | 736 (10) | 13759 (10) | 77523 (10) |
| 6-8-P | 83 | 150 | 8.04 | 8.04 | 31.79 | -153.06 | 1264 (9) | 22997 (9) | 133108 (9) |
| 6-9-P | 83 | 150 | 8.04 | 8.04 | 0.00 | -124.57 | 1054 (10) | 11885 (10) | 110936 (10) |
| 6-10-P | 83 | 150 | 8.04 | 8.04 | 31.79 | -153.06 | 1264 (9) | 22997 (9) | 133108 (9) |
| 6-11-P | 83 | 150 | 8.04 | 8.04 | 15.45 | -87.05 | 736 (10) | 13759 (10) | 77523 (10) |
| 6-12-P | 83 | 150 | 8.04 | 8.04 | 14.38 | -51.08 | 432 (10) | 12806 (10) | 45493 (10) |
| 6-13-P | 83 | 150 | 8.04 | 8.04 | 13.87 | -28.49 | 241 (10) | 12349 (10) | 25368 (10) |
| 6-14-P | 83 | 150 | 8.04 | 8.04 | 12.08 | -15.05 | 127 (10) | 10761 (10) | 13400 (10) |
| 6-15-P | 83 | 150 | 8.04 | 8.04 | 8.34 | -6.54 | 71 (10) | 7431 (10) | 5822 (10) |
| 6-16-P | 83 | 150 | 8.04 | 8.04 | 3.20 | -0.81 | 27 (10) | 2850 (10) | 719 (10) |
| 6-17-P | 83 | 150 | 8.04 | 8.04 | 0.77 | -1.47 | 12 (10) | 681 (10) | 1313 (10) |
| 7-1-P | 83 | 150 | 8.04 | 8.04 | 0.15 | -0.52 | 6 (10) | 134 (10) | 580 (10) |
| 7-2-P | 83 | 150 | 8.04 | 8.04 | 0.94 | -3.99 | 32 (9) | 827 (9) | 3421 (9) |

| Is | B | H | Afi | Afs | Mp | Mn | σc | σfi | σfs |
|---------|------|------|-------|-------|--------|---------|-----------|------------|-------------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kNm] | [kPa] | [kPa] | [kPa] |
| 7-3-P | 83 | 150 | 8.04 | 8.04 | 2.10 | -16.88 | 138 (9) | 1756 (9) | 14479 (9) |
| 7-4-P | 83 | 150 | 8.04 | 8.04 | 2.44 | -37.25 | 305 (9) | 3435 (9) | 32064 (9) |
| 7-5-P | 83 | 150 | 8.04 | 8.04 | 2.20 | -65.76 | 540 (9) | 6094 (9) | 56884 (9) |
| 7-6-P | 83 | 150 | 8.04 | 8.04 | 1.86 | -101.74 | 840 (9) | 9478 (9) | 88462 (9) |
| 7-7-P | 83 | 150 | 8.04 | 8.04 | 1.17 | -137.20 | 1141 (9) | 12870 (9) | 120126 (9) |
| 7-8-P | 83 | 150 | 8.04 | 8.04 | 0.00 | -146.66 | 1241 (10) | 13994 (10) | 130614 (10) |
| 7-9-P | 83 | 150 | 8.04 | 8.04 | 0.00 | -174.43 | 1475 (9) | 16636 (9) | 155281 (9) |
| 7-10-P | 83 | 150 | 8.04 | 8.04 | 0.00 | -146.66 | 1241 (10) | 13994 (10) | 130614 (10) |
| 7-11-P | 83 | 150 | 8.04 | 8.04 | 1.17 | -137.20 | 1141 (9) | 12870 (9) | 120126 (9) |
| 7-12-P | 83 | 150 | 8.04 | 8.04 | 1.86 | -101.74 | 840 (9) | 9478 (9) | 88462 (9) |
| 7-13-P | 83 | 150 | 8.04 | 8.04 | 2.20 | -65.76 | 540 (9) | 6094 (9) | 56884 (9) |
| 7-14-P | 83 | 150 | 8.04 | 8.04 | 2.44 | -37.25 | 305 (9) | 3435 (9) | 32064 (9) |
| 7-15-P | 83 | 150 | 8.04 | 8.04 | 2.10 | -16.88 | 138 (9) | 1756 (9) | 14479 (9) |
| 7-16-P | 83 | 150 | 8.04 | 8.04 | 0.94 | -3.99 | 32 (9) | 827 (9) | 3421 (9) |
| 7-17-P | 83 | 150 | 8.04 | 8.04 | 0.15 | -0.52 | 6 (10) | 134 (10) | 580 (10) |
| 8-1-S | 95 | 150 | 40.72 | 40.72 | 0.44 | -0.79 | 4 (9) | 63 (9) | 201 (9) |
| 8-2-S | 95 | 150 | 40.72 | 40.72 | 0.01 | -4.35 | 14 (9) | 178 (9) | 705 (9) |
| 8-3-S | 95 | 150 | 40.72 | 40.72 | 0.48 | -7.20 | 23 (9) | 297 (9) | 1178 (9) |
| 8-4-S | 95 | 150 | 40.72 | 40.72 | 4.25 | -7.03 | 23 (9) | 1129 (9) | 1167 (9) |
| 8-5-S | 95 | 150 | 40.72 | 40.72 | 16.67 | -3.95 | 65 (9) | 3332 (9) | 839 (9) |
| 8-6-S | 95 | 150 | 40.72 | 40.72 | 46.84 | -2.46 | 146 (9) | 7494 (9) | 1888 (9) |
| 8-7-S | 95 | 150 | 40.72 | 40.72 | 88.87 | -0.89 | 277 (9) | 14223 (9) | 3583 (9) |
| 8-8-S | 95 | 150 | 40.72 | 40.72 | 139.10 | 0.00 | 433 (9) | 22256 (9) | 5606 (9) |
| 8-9-S | 95 | 150 | 40.72 | 40.72 | 193.31 | 0.00 | 601 (9) | 30884 (9) | 7780 (9) |
| 8-10-S | 95 | 150 | 40.72 | 40.72 | 136.18 | -0.12 | 444 (9) | 22836 (9) | 5752 (9) |
| 8-11-S | 95 | 150 | 40.72 | 40.72 | 148.90 | 0.00 | 488 (9) | 25074 (9) | 6316 (9) |
| 8-12-S | 95 | 150 | 40.72 | 40.72 | 147.47 | 0.00 | 483 (9) | 24810 (9) | 6249 (9) |
| 8-13-S | 95 | 150 | 40.72 | 40.72 | 136.05 | -0.29 | 444 (9) | 22838 (9) | 5753 (9) |
| 8-14-S | 95 | 150 | 40.72 | 40.72 | 116.69 | -0.75 | 379 (9) | 19482 (9) | 4907 (9) |
| 8-15-S | 95 | 150 | 40.72 | 40.72 | 92.56 | -1.24 | 298 (9) | 15333 (9) | 3862 (9) |
| 8-16-S | 95 | 150 | 40.72 | 40.72 | 68.07 | -1.74 | 217 (9) | 11174 (9) | 2815 (9) |
| 8-17-S | 95 | 150 | 40.72 | 40.72 | 45.93 | -2.21 | 146 (9) | 7485 (9) | 1885 (9) |
| 8-18-S | 95 | 150 | 40.72 | 40.72 | 26.82 | -2.56 | 85 (9) | 4351 (9) | 1096 (9) |
| 8-19-S | 95 | 150 | 40.72 | 40.72 | 11.30 | -1.83 | 36 (9) | 1827 (9) | 460 (9) |
| 8-20-S | 95 | 150 | 40.72 | 40.72 | 1.12 | -0.95 | 4 (9) | 224 (9) | 154 (9) |
| 9-1-S | 95 | 150 | 45.24 | 45.24 | 2.09 | -2.59 | 13 (9) | 637 (9) | 376 (9) |
| 9-2-S | 95 | 150 | 45.24 | 45.24 | 13.78 | -11.91 | 65 (9) | 3172 (9) | 1732 (9) |
| 9-3-S | 95 | 150 | 45.24 | 45.24 | 32.26 | -30.92 | 164 (9) | 8019 (9) | 4519 (9) |
| 9-4-S | 95 | 150 | 45.24 | 45.24 | 70.59 | -58.72 | 482 (9) | 23594 (9) | 8624 (9) |
| 9-5-S | 95 | 150 | 45.24 | 45.24 | 12.36 | -120.52 | 362 (9) | 7290 (9) | 17706 (9) |
| 9-6-S | 95 | 150 | 45.24 | 45.24 | 1.61 | -177.19 | 529 (9) | 6895 (9) | 25918 (9) |
| 9-7-S | 95 | 150 | 45.24 | 45.24 | 21.81 | -70.67 | 211 (9) | 6578 (9) | 10323 (9) |
| 9-8-S | 95 | 150 | 45.24 | 45.24 | 88.37 | -0.04 | 262 (9) | 12832 (9) | 3414 (9) |
| 9-9-S | 95 | 150 | 45.24 | 45.24 | 230.16 | 0.00 | 685 (9) | 33513 (9) | 8915 (9) |
| 9-10-S | 95 | 150 | 45.24 | 45.24 | 245.70 | 0.00 | 774 (9) | 37868 (9) | 10074 (9) |
| 9-11-S | 95 | 150 | 45.24 | 45.24 | 238.08 | 0.00 | 743 (9) | 36360 (9) | 9673 (9) |
| 9-12-S | 95 | 150 | 45.24 | 45.24 | 234.84 | -0.08 | 725 (9) | 35495 (9) | 9443 (9) |
| 9-13-S | 95 | 150 | 45.24 | 45.24 | 224.25 | -1.90 | 682 (9) | 33390 (9) | 8883 (9) |
| 9-14-S | 95 | 150 | 45.24 | 45.24 | 208.31 | -6.16 | 620 (9) | 30332 (9) | 8069 (9) |
| 9-15-S | 95 | 150 | 45.24 | 45.24 | 199.33 | -15.38 | 579 (9) | 28325 (9) | 7535 (9) |
| 9-16-S | 95 | 150 | 45.24 | 45.24 | 70.12 | -48.63 | 187 (9) | 9177 (9) | 7373 (9) |
| 9-17-S | 95 | 150 | 45.24 | 45.24 | 19.01 | -127.95 | 388 (9) | 5055 (9) | 19002 (9) |
| 9-18-S | 95 | 150 | 45.24 | 45.24 | 12.61 | -74.42 | 228 (9) | 2973 (9) | 11174 (9) |
| 9-19-S | 95 | 150 | 45.24 | 45.24 | 4.85 | -24.15 | 80 (10) | 1970 (10) | 3927 (10) |
| 9-20-S | 95 | 150 | 45.24 | 45.24 | 3.71 | -2.79 | 13 (9) | 635 (9) | 371 (9) |
| 10-1-S | 95 | 150 | 45.24 | 45.24 | 2.09 | -2.59 | 13 (9) | 637 (9) | 376 (9) |
| 10-2-S | 95 | 150 | 45.24 | 45.24 | 13.78 | -11.91 | 65 (9) | 3172 (9) | 1732 (9) |
| 10-3-S | 95 | 150 | 45.24 | 45.24 | 32.26 | -30.92 | 164 (9) | 8019 (9) | 4519 (9) |
| 10-4-S | 95 | 150 | 45.24 | 45.24 | 70.59 | -58.72 | 482 (9) | 23594 (9) | 8624 (9) |
| 10-5-S | 95 | 150 | 45.24 | 45.24 | 12.36 | -120.52 | 362 (9) | 7290 (9) | 17706 (9) |
| 10-6-S | 95 | 150 | 45.24 | 45.24 | 1.61 | -177.19 | 529 (9) | 6895 (9) | 25918 (9) |
| 10-7-S | 95 | 150 | 45.24 | 45.24 | 21.81 | -70.67 | 211 (9) | 6578 (9) | 10323 (9) |
| 10-8-S | 95 | 150 | 45.24 | 45.24 | 88.37 | -0.04 | 262 (9) | 12832 (9) | 3414 (9) |
| 10-9-S | 95 | 150 | 45.24 | 45.24 | 230.16 | 0.00 | 685 (9) | 33513 (9) | 8915 (9) |
| 10-10-S | 95 | 150 | 45.24 | 45.24 | 245.70 | 0.00 | 774 (9) | 37868 (9) | 10074 (9) |
| 10-11-S | 95 | 150 | 45.24 | 45.24 | 238.08 | 0.00 | 743 (9) | 36360 (9) | 9673 (9) |
| 10-12-S | 95 | 150 | 45.24 | 45.24 | 234.84 | -0.08 | 725 (9) | 35495 (9) | 9443 (9) |
| 10-13-S | 95 | 150 | 45.24 | 45.24 | 224.25 | -1.90 | 682 (9) | 33390 (9) | 8883 (9) |
| 10-14-S | 95 | 150 | 45.24 | 45.24 | 208.31 | -6.16 | 620 (9) | 30332 (9) | 8069 (9) |
| 10-15-S | 95 | 150 | 45.24 | 45.24 | 199.33 | -15.38 | 579 (9) | 28325 (9) | 7535 (9) |

| Is | B | H | Afi | Afs | Mp | Mn | σc | σfi | σfs |
|---------|------|------|-------|-------|--------|---------|---------|-----------|-----------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kNm] | [kPa] | [kPa] | [kPa] |
| 10-16-S | 95 | 150 | 45.24 | 45.24 | 70.12 | -48.63 | 187 (9) | 9177 (9) | 7373 (9) |
| 10-17-S | 95 | 150 | 45.24 | 45.24 | 19.01 | -127.95 | 388 (9) | 5055 (9) | 19002 (9) |
| 10-18-S | 95 | 150 | 45.24 | 45.24 | 12.61 | -74.42 | 228 (9) | 2973 (9) | 11174 (9) |
| 10-19-S | 95 | 150 | 45.24 | 45.24 | 4.85 | -24.15 | 80 (10) | 1970 (10) | 3927 (10) |
| 10-20-S | 95 | 150 | 45.24 | 45.24 | 3.71 | -2.79 | 13 (9) | 635 (9) | 371 (9) |
| 11-1-S | 95 | 150 | 40.72 | 40.72 | 0.44 | -0.79 | 4 (9) | 63 (9) | 201 (9) |
| 11-2-S | 95 | 150 | 40.72 | 40.72 | 0.01 | -4.35 | 14 (9) | 178 (9) | 705 (9) |
| 11-3-S | 95 | 150 | 40.72 | 40.72 | 0.48 | -7.20 | 23 (9) | 297 (9) | 1178 (9) |
| 11-4-S | 95 | 150 | 40.72 | 40.72 | 4.25 | -7.03 | 23 (9) | 1129 (9) | 1167 (9) |
| 11-5-S | 95 | 150 | 40.72 | 40.72 | 16.67 | -3.95 | 65 (9) | 3332 (9) | 839 (9) |
| 11-6-S | 95 | 150 | 40.72 | 40.72 | 46.84 | -2.46 | 146 (9) | 7494 (9) | 1888 (9) |
| 11-7-S | 95 | 150 | 40.72 | 40.72 | 88.87 | -0.89 | 277 (9) | 14223 (9) | 3583 (9) |
| 11-8-S | 95 | 150 | 40.72 | 40.72 | 139.10 | 0.00 | 433 (9) | 22256 (9) | 5606 (9) |
| 11-9-S | 95 | 150 | 40.72 | 40.72 | 193.31 | 0.00 | 601 (9) | 30884 (9) | 7780 (9) |
| 11-10-S | 95 | 150 | 40.72 | 40.72 | 136.18 | -0.12 | 444 (9) | 22836 (9) | 5752 (9) |
| 11-11-S | 95 | 150 | 40.72 | 40.72 | 148.90 | 0.00 | 488 (9) | 25074 (9) | 6316 (9) |
| 11-12-S | 95 | 150 | 40.72 | 40.72 | 147.47 | 0.00 | 483 (9) | 24810 (9) | 6249 (9) |
| 11-13-S | 95 | 150 | 40.72 | 40.72 | 136.05 | -0.29 | 444 (9) | 22838 (9) | 5753 (9) |
| 11-14-S | 95 | 150 | 40.72 | 40.72 | 116.69 | -0.75 | 379 (9) | 19482 (9) | 4907 (9) |
| 11-15-S | 95 | 150 | 40.72 | 40.72 | 92.56 | -1.24 | 298 (9) | 15333 (9) | 3862 (9) |
| 11-16-S | 95 | 150 | 40.72 | 40.72 | 68.07 | -1.74 | 217 (9) | 11174 (9) | 2815 (9) |
| 11-17-S | 95 | 150 | 40.72 | 40.72 | 45.93 | -2.21 | 146 (9) | 7485 (9) | 1885 (9) |
| 11-18-S | 95 | 150 | 40.72 | 40.72 | 26.82 | -2.56 | 85 (9) | 4351 (9) | 1096 (9) |
| 11-19-S | 95 | 150 | 40.72 | 40.72 | 11.30 | -1.83 | 36 (9) | 1827 (9) | 460 (9) |
| 11-20-S | 95 | 150 | 40.72 | 40.72 | 1.12 | -0.95 | 4 (9) | 224 (9) | 154 (9) |

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 | σc | σfi | σfs |
|----|------|------|-------|-------|-------|-------|----------|-----------|-----------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kN] | [kPa] | [kPa] | [kPa] |
| 1 | 100 | 40 | 15.71 | 22.62 | 0.75 | 4.29 | 38 (10) | 313 (10) | 452 (10) |
| 2 | 100 | 41 | 15.71 | 22.62 | 0.75 | 5.28 | 37 (10) | 188 (10) | 459 (10) |
| 3 | 100 | 42 | 15.71 | 22.62 | 0.77 | 6.30 | 37 (10) | 103 (10) | 472 (10) |
| 4 | 100 | 43 | 15.71 | 22.62 | 0.79 | 7.34 | 38 (10) | 47 (10) | 492 (10) |
| 5 | 100 | 44 | 15.71 | 22.62 | 0.84 | 8.41 | 39 (10) | 11 (10) | 521 (10) |
| 6 | 100 | 45 | 15.71 | 22.62 | 0.91 | 9.50 | 42 (10) | 10 (10) | 558 (10) |
| 7 | 100 | 46 | 15.71 | 22.62 | 1.01 | 10.62 | 45 (10) | 21 (10) | 603 (10) |
| 8 | 100 | 47 | 15.71 | 22.62 | 1.14 | 11.76 | 49 (10) | 22 (10) | 656 (10) |
| 9 | 100 | 48 | 15.71 | 22.62 | 1.30 | 12.92 | 53 (10) | 13 (10) | 717 (10) |
| 10 | 100 | 49 | 15.71 | 22.62 | 1.51 | 14.11 | 58 (10) | 7 (10) | 787 (10) |
| 11 | 100 | 50 | 15.71 | 22.62 | 1.77 | 15.32 | 64 (10) | 41 (10) | 867 (10) |
| 12 | 100 | 51 | 15.71 | 22.62 | 2.07 | 16.56 | 71 (10) | 92 (10) | 957 (10) |
| 13 | 100 | 52 | 15.71 | 22.62 | 2.44 | 17.82 | 79 (10) | 164 (10) | 1060 (10) |
| 14 | 100 | 53 | 15.71 | 22.62 | 2.86 | 19.11 | 88 (10) | 262 (10) | 1176 (10) |
| 15 | 100 | 54 | 15.71 | 22.62 | 3.35 | 20.42 | 98 (10) | 391 (10) | 1306 (10) |
| 16 | 100 | 55 | 15.71 | 22.62 | 3.90 | 21.76 | 110 (10) | 555 (10) | 1451 (10) |
| 17 | 100 | 56 | 15.71 | 22.62 | 4.54 | 23.12 | 122 (10) | 760 (10) | 1610 (10) |
| 18 | 100 | 57 | 15.71 | 22.62 | 5.25 | 24.50 | 136 (10) | 1010 (10) | 1785 (10) |
| 19 | 100 | 58 | 15.71 | 22.62 | 6.04 | 25.91 | 152 (10) | 1308 (10) | 1974 (10) |
| 20 | 100 | 59 | 15.71 | 22.62 | 6.92 | 27.35 | 168 (10) | 1657 (10) | 2178 (10) |
| 21 | 100 | 60 | 15.71 | 22.62 | 7.90 | 28.81 | 186 (10) | 2059 (10) | 2397 (10) |
| 22 | 100 | 61 | 15.71 | 22.62 | 8.97 | 30.29 | 205 (10) | 2515 (10) | 2629 (10) |
| 23 | 100 | 62 | 15.71 | 22.62 | 10.14 | 31.80 | 225 (10) | 3027 (10) | 2876 (10) |
| 24 | 100 | 63 | 15.71 | 22.62 | 11.42 | 33.33 | 246 (10) | 3594 (10) | 3135 (10) |
| 25 | 100 | 64 | 15.71 | 22.62 | 12.81 | 34.89 | 269 (10) | 4218 (10) | 3408 (10) |
| 26 | 100 | 65 | 15.71 | 22.62 | 14.32 | 36.47 | 292 (10) | 4900 (10) | 3694 (10) |
| 27 | 100 | 66 | 15.71 | 22.62 | 15.95 | 38.07 | 317 (10) | 5638 (10) | 3992 (10) |
| 28 | 100 | 67 | 15.71 | 22.62 | 17.70 | 39.70 | 342 (10) | 6434 (10) | 4303 (10) |
| 29 | 100 | 68 | 15.71 | 22.62 | 19.58 | 41.36 | 369 (10) | 7289 (10) | 4627 (10) |
| 30 | 100 | 69 | 15.71 | 22.62 | 21.60 | 43.04 | 397 (10) | 8201 (10) | 4963 (10) |

| n° | B | H | Afi | Afs | M | N | σc | σfi | σfs |
|----|------|------|-------|-------|--------|--------|-----------|------------|------------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kN] | [kPa] | [kPa] | [kPa] |
| 31 | 100 | 70 | 15.71 | 22.62 | 23.75 | 44.74 | 425 (10) | 9172 (10) | 5312 (10) |
| 32 | 100 | 71 | 15.71 | 22.62 | 26.05 | 46.47 | 455 (10) | 10202 (10) | 5673 (10) |
| 33 | 100 | 72 | 15.71 | 22.62 | 28.50 | 48.22 | 486 (10) | 11291 (10) | 6046 (10) |
| 34 | 100 | 73 | 15.71 | 22.62 | 31.10 | 50.00 | 517 (10) | 12438 (10) | 6431 (10) |
| 35 | 100 | 74 | 15.71 | 22.62 | 33.86 | 51.80 | 550 (10) | 13646 (10) | 6828 (10) |
| 36 | 100 | 75 | 15.71 | 22.62 | 36.78 | 53.63 | 583 (10) | 14913 (10) | 7237 (10) |
| 37 | 100 | 76 | 15.71 | 22.62 | 39.86 | 55.48 | 618 (10) | 16240 (10) | 7658 (10) |
| 38 | 100 | 77 | 15.71 | 22.62 | 43.12 | 57.36 | 653 (10) | 17626 (10) | 8091 (10) |
| 39 | 100 | 78 | 15.71 | 22.62 | 46.55 | 59.26 | 689 (10) | 19074 (10) | 8535 (10) |
| 40 | 100 | 79 | 15.71 | 22.62 | 50.16 | 61.18 | 726 (10) | 20581 (10) | 8991 (10) |
| 41 | 100 | 80 | 15.71 | 22.62 | 53.96 | 63.13 | 764 (10) | 22149 (10) | 9459 (10) |
| 42 | 100 | 81 | 31.42 | 22.62 | 57.95 | 65.10 | 730 (10) | 23214 (10) | 8942 (10) |
| 43 | 100 | 82 | 31.42 | 22.62 | 62.13 | 67.10 | 767 (10) | 24883 (10) | 9387 (10) |
| 44 | 100 | 83 | 31.42 | 22.62 | 66.52 | 69.12 | 804 (10) | 26612 (10) | 9842 (10) |
| 45 | 100 | 84 | 31.42 | 22.62 | 71.10 | 71.17 | 842 (10) | 28402 (10) | 10308 (10) |
| 46 | 100 | 85 | 31.42 | 22.62 | 75.89 | 73.24 | 881 (10) | 30254 (10) | 10785 (10) |
| 47 | 100 | 86 | 31.42 | 22.62 | 80.90 | 75.34 | 921 (10) | 32166 (10) | 11271 (10) |
| 48 | 100 | 87 | 31.42 | 22.62 | 86.12 | 77.46 | 961 (10) | 34139 (10) | 11768 (10) |
| 49 | 100 | 88 | 31.42 | 67.86 | 91.57 | 79.60 | 737 (10) | 13328 (10) | 9739 (10) |
| 50 | 100 | 89 | 31.42 | 67.86 | 97.24 | 81.77 | 766 (10) | 14074 (10) | 10129 (10) |
| 51 | 100 | 90 | 31.42 | 67.86 | 103.14 | 83.97 | 796 (10) | 14842 (10) | 10526 (10) |
| 52 | 100 | 91 | 31.42 | 67.86 | 109.28 | 86.19 | 826 (10) | 15631 (10) | 10931 (10) |
| 53 | 100 | 92 | 31.42 | 67.86 | 115.66 | 88.43 | 857 (10) | 16442 (10) | 11342 (10) |
| 54 | 100 | 93 | 31.42 | 67.86 | 122.29 | 90.70 | 888 (10) | 17274 (10) | 11760 (10) |
| 55 | 100 | 94 | 31.42 | 67.86 | 129.16 | 92.99 | 919 (10) | 18128 (10) | 12184 (10) |
| 56 | 100 | 95 | 31.42 | 67.86 | 136.29 | 95.31 | 951 (10) | 19003 (10) | 12616 (10) |
| 57 | 100 | 96 | 31.42 | 67.86 | 143.68 | 97.65 | 984 (10) | 19900 (10) | 13054 (10) |
| 58 | 100 | 97 | 31.42 | 67.86 | 151.33 | 100.01 | 1017 (10) | 20818 (10) | 13499 (10) |
| 59 | 100 | 98 | 31.42 | 67.86 | 159.25 | 102.40 | 1050 (10) | 21758 (10) | 13950 (10) |
| 60 | 100 | 99 | 31.42 | 67.86 | 167.44 | 104.82 | 1084 (10) | 22720 (10) | 14408 (10) |
| 61 | 100 | 100 | 31.42 | 67.86 | 175.91 | 107.26 | 1119 (10) | 23704 (10) | 14872 (10) |
| 62 | 100 | 101 | 31.42 | 45.24 | 184.67 | 109.72 | 1292 (10) | 35821 (10) | 16812 (10) |
| 63 | 100 | 102 | 31.42 | 45.24 | 193.71 | 112.21 | 1333 (10) | 37323 (10) | 17344 (10) |
| 64 | 100 | 103 | 15.71 | 45.24 | 203.04 | 114.72 | 1485 (10) | 39602 (10) | 19451 (10) |
| 65 | 100 | 104 | 15.71 | 45.24 | 212.66 | 117.26 | 1529 (10) | 41188 (10) | 20038 (10) |
| 66 | 100 | 105 | 15.71 | 45.24 | 222.59 | 119.82 | 1574 (10) | 42807 (10) | 20633 (10) |
| 67 | 100 | 106 | 15.71 | 45.24 | 232.82 | 122.41 | 1619 (10) | 44458 (10) | 21234 (10) |
| 68 | 100 | 107 | 15.71 | 45.24 | 243.37 | 125.02 | 1664 (10) | 46142 (10) | 21843 (10) |
| 69 | 100 | 108 | 15.71 | 45.24 | 254.22 | 127.65 | 1710 (10) | 47858 (10) | 22459 (10) |
| 70 | 100 | 109 | 15.71 | 45.24 | 265.40 | 130.31 | 1757 (10) | 49607 (10) | 23083 (10) |
| 71 | 100 | 110 | 15.71 | 45.24 | 276.90 | 133.00 | 1804 (10) | 51388 (10) | 23713 (10) |

Mensola valle

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

| n° | B | H | Afi | Afs | M | N | σc | σfi | σfs |
|----|------|------|-------|-------|-------|------|---------|----------|-----------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kN] | [kPa] | [kPa] | [kPa] |
| 1 | 100 | 50 | 8.04 | 8.04 | 0.00 | 0.00 | 0 (10) | 0 (10) | 0 (10) |
| 2 | 100 | 50 | 8.04 | 8.04 | -0.05 | 0.00 | 2 (10) | 16 (10) | 138 (10) |
| 3 | 100 | 50 | 8.04 | 8.04 | -0.19 | 0.00 | 9 (10) | 65 (10) | 551 (10) |
| 4 | 100 | 50 | 8.04 | 8.04 | -0.42 | 0.00 | 20 (10) | 146 (10) | 1239 (10) |
| 5 | 100 | 50 | 8.04 | 8.04 | -0.75 | 0.00 | 35 (10) | 260 (10) | 2203 (10) |

Piastra fondazione

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

| Is | B | H | Afi | Afs | Mp | Mn | σc | σfi | σfs |
|-------|------|------|-------|-------|-------|-------|--------|----------|----------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kNm] | [kPa] | [kPa] | [kPa] |
| 1-1-P | 100 | 150 | 10.05 | 10.05 | 0.62 | -0.34 | 4 (10) | 439 (10) | 239 (10) |
| 1-2-P | 100 | 150 | 10.05 | 10.05 | 1.17 | -1.03 | 10 (9) | 989 (9) | 695 (9) |

| Is | B | H | Afi | Afs | Mp | Mn | σc | σfi | σfs |
|--------|------|------|-------|-------|-------|---------|-----------|------------|-------------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kNm] | [kPa] | [kPa] | [kPa] |
| 1-3-P | 100 | 150 | 10.05 | 10.05 | 1.20 | -5.48 | 35 (9) | 2020 (9) | 3603 (9) |
| 1-4-P | 100 | 150 | 10.05 | 10.05 | 0.23 | -15.26 | 97 (9) | 1097 (9) | 9974 (9) |
| 1-5-P | 100 | 150 | 10.05 | 10.05 | 0.00 | -35.32 | 223 (9) | 2533 (9) | 23042 (9) |
| 1-6-P | 100 | 150 | 10.05 | 10.05 | 0.00 | -68.94 | 435 (9) | 4938 (9) | 44917 (9) |
| 1-7-P | 100 | 150 | 10.05 | 10.05 | 0.67 | -117.65 | 741 (9) | 8406 (9) | 76459 (9) |
| 1-8-P | 100 | 150 | 10.05 | 10.05 | 8.98 | -203.37 | 1273 (9) | 14437 (9) | 131314 (9) |
| 1-9-P | 100 | 150 | 10.05 | 10.05 | 0.00 | -194.47 | 1223 (9) | 13877 (9) | 126222 (9) |
| 1-10-P | 100 | 150 | 10.05 | 10.05 | 8.98 | -203.37 | 1273 (9) | 14437 (9) | 131314 (9) |
| 1-11-P | 100 | 150 | 10.05 | 10.05 | 0.67 | -117.65 | 741 (9) | 8406 (9) | 76459 (9) |
| 1-12-P | 100 | 150 | 10.05 | 10.05 | 0.00 | -68.94 | 435 (9) | 4938 (9) | 44917 (9) |
| 1-13-P | 100 | 150 | 10.05 | 10.05 | 0.00 | -35.32 | 223 (9) | 2533 (9) | 23042 (9) |
| 1-14-P | 100 | 150 | 10.05 | 10.05 | 0.23 | -15.26 | 97 (9) | 1097 (9) | 9974 (9) |
| 1-15-P | 100 | 150 | 10.05 | 10.05 | 1.20 | -5.48 | 35 (9) | 2020 (9) | 3603 (9) |
| 1-16-P | 100 | 150 | 10.05 | 10.05 | 1.17 | -1.03 | 10 (9) | 989 (9) | 695 (9) |
| 1-17-P | 100 | 150 | 10.05 | 10.05 | 0.62 | -0.34 | 4 (10) | 439 (10) | 239 (10) |
| 2-1-P | 100 | 150 | 10.05 | 10.05 | 11.78 | -0.39 | 73 (9) | 7539 (9) | 829 (9) |
| 2-2-P | 100 | 150 | 10.05 | 10.05 | 14.48 | -0.48 | 90 (9) | 9261 (9) | 1018 (9) |
| 2-3-P | 100 | 150 | 10.05 | 10.05 | 21.88 | -4.12 | 136 (9) | 14076 (9) | 4513 (9) |
| 2-4-P | 100 | 150 | 10.05 | 10.05 | 22.24 | -9.00 | 139 (9) | 14297 (9) | 8928 (9) |
| 2-5-P | 100 | 150 | 10.05 | 10.05 | 16.69 | -19.06 | 169 (9) | 11833 (9) | 17403 (9) |
| 2-6-P | 100 | 150 | 10.05 | 10.05 | 11.33 | -43.55 | 383 (9) | 10815 (9) | 39484 (9) |
| 2-7-P | 100 | 150 | 10.05 | 10.05 | 8.92 | -81.43 | 670 (9) | 11855 (9) | 69121 (9) |
| 2-8-P | 100 | 150 | 10.05 | 10.05 | 12.81 | -93.44 | 725 (9) | 16746 (9) | 74815 (9) |
| 2-9-P | 100 | 150 | 10.05 | 10.05 | 6.78 | -127.53 | 989 (9) | 18056 (9) | 102028 (9) |
| 2-10-P | 100 | 150 | 10.05 | 10.05 | 12.81 | -93.44 | 725 (9) | 16746 (9) | 74815 (9) |
| 2-11-P | 100 | 150 | 10.05 | 10.05 | 8.92 | -81.43 | 670 (9) | 11855 (9) | 69121 (9) |
| 2-12-P | 100 | 150 | 10.05 | 10.05 | 11.33 | -43.55 | 383 (9) | 10815 (9) | 39484 (9) |
| 2-13-P | 100 | 150 | 10.05 | 10.05 | 16.69 | -19.06 | 169 (9) | 11833 (9) | 17403 (9) |
| 2-14-P | 100 | 150 | 10.05 | 10.05 | 22.24 | -9.00 | 139 (9) | 14297 (9) | 8928 (9) |
| 2-15-P | 100 | 150 | 10.05 | 10.05 | 21.88 | -4.12 | 136 (9) | 14076 (9) | 4513 (9) |
| 2-16-P | 100 | 150 | 10.05 | 10.05 | 14.48 | -0.48 | 90 (9) | 9261 (9) | 1018 (9) |
| 2-17-P | 100 | 150 | 10.05 | 10.05 | 11.78 | -0.39 | 73 (9) | 7539 (9) | 829 (9) |
| 5-1-P | 83 | 150 | 8.04 | 8.04 | 10.53 | -0.70 | 89 (10) | 9382 (10) | 1458 (10) |
| 5-2-P | 83 | 150 | 8.04 | 8.04 | 12.52 | -0.48 | 106 (10) | 11153 (10) | 1499 (10) |
| 5-3-P | 83 | 150 | 8.04 | 8.04 | 21.61 | -0.32 | 174 (9) | 18339 (9) | 1965 (9) |
| 5-4-P | 83 | 150 | 8.04 | 8.04 | 25.50 | -1.20 | 216 (10) | 22709 (10) | 3195 (10) |
| 5-5-P | 83 | 150 | 8.04 | 8.04 | 27.41 | -2.47 | 232 (10) | 24409 (10) | 5773 (10) |
| 5-6-P | 83 | 150 | 8.04 | 8.04 | 26.68 | -5.47 | 226 (10) | 23763 (10) | 12185 (10) |
| 5-7-P | 83 | 150 | 8.04 | 8.04 | 23.35 | -10.25 | 217 (10) | 20795 (10) | 22822 (10) |
| 5-8-P | 83 | 150 | 8.04 | 8.04 | 19.10 | -15.40 | 274 (10) | 17008 (10) | 28796 (10) |
| 5-9-P | 83 | 150 | 8.04 | 8.04 | 18.39 | -16.13 | 284 (9) | 14842 (9) | 29930 (9) |
| 5-10-P | 83 | 150 | 8.04 | 8.04 | 19.10 | -15.40 | 274 (10) | 17008 (10) | 28796 (10) |
| 5-11-P | 83 | 150 | 8.04 | 8.04 | 23.35 | -10.25 | 217 (10) | 20795 (10) | 22822 (10) |
| 5-12-P | 83 | 150 | 8.04 | 8.04 | 26.68 | -5.47 | 226 (10) | 23763 (10) | 12185 (10) |
| 5-13-P | 83 | 150 | 8.04 | 8.04 | 27.41 | -2.47 | 232 (10) | 24409 (10) | 5773 (10) |
| 5-14-P | 83 | 150 | 8.04 | 8.04 | 25.50 | -1.20 | 216 (10) | 22709 (10) | 3195 (10) |
| 5-15-P | 83 | 150 | 8.04 | 8.04 | 21.61 | -0.32 | 174 (9) | 18339 (9) | 1965 (9) |
| 5-16-P | 83 | 150 | 8.04 | 8.04 | 12.52 | -0.48 | 106 (10) | 11153 (10) | 1499 (10) |
| 5-17-P | 83 | 150 | 8.04 | 8.04 | 10.53 | -0.70 | 89 (10) | 9382 (10) | 1458 (10) |
| 6-1-P | 83 | 150 | 8.04 | 8.04 | 0.77 | -1.47 | 12 (10) | 681 (10) | 1313 (10) |
| 6-2-P | 83 | 150 | 8.04 | 8.04 | 3.20 | -0.81 | 27 (10) | 2850 (10) | 719 (10) |
| 6-3-P | 83 | 150 | 8.04 | 8.04 | 8.34 | -6.54 | 71 (10) | 7431 (10) | 5822 (10) |
| 6-4-P | 83 | 150 | 8.04 | 8.04 | 12.08 | -15.05 | 127 (10) | 10761 (10) | 13400 (10) |
| 6-5-P | 83 | 150 | 8.04 | 8.04 | 13.87 | -28.49 | 241 (10) | 12349 (10) | 25368 (10) |
| 6-6-P | 83 | 150 | 8.04 | 8.04 | 14.38 | -51.08 | 432 (10) | 12806 (10) | 45493 (10) |
| 6-7-P | 83 | 150 | 8.04 | 8.04 | 15.45 | -87.05 | 736 (10) | 13759 (10) | 77523 (10) |
| 6-8-P | 83 | 150 | 8.04 | 8.04 | 31.79 | -153.06 | 1264 (9) | 22997 (9) | 133108 (9) |
| 6-9-P | 83 | 150 | 8.04 | 8.04 | 0.00 | -124.57 | 1054 (10) | 11885 (10) | 110936 (10) |
| 6-10-P | 83 | 150 | 8.04 | 8.04 | 31.79 | -153.06 | 1264 (9) | 22997 (9) | 133108 (9) |
| 6-11-P | 83 | 150 | 8.04 | 8.04 | 15.45 | -87.05 | 736 (10) | 13759 (10) | 77523 (10) |
| 6-12-P | 83 | 150 | 8.04 | 8.04 | 14.38 | -51.08 | 432 (10) | 12806 (10) | 45493 (10) |
| 6-13-P | 83 | 150 | 8.04 | 8.04 | 13.87 | -28.49 | 241 (10) | 12349 (10) | 25368 (10) |
| 6-14-P | 83 | 150 | 8.04 | 8.04 | 12.08 | -15.05 | 127 (10) | 10761 (10) | 13400 (10) |
| 6-15-P | 83 | 150 | 8.04 | 8.04 | 8.34 | -6.54 | 71 (10) | 7431 (10) | 5822 (10) |
| 6-16-P | 83 | 150 | 8.04 | 8.04 | 3.20 | -0.81 | 27 (10) | 2850 (10) | 719 (10) |
| 6-17-P | 83 | 150 | 8.04 | 8.04 | 0.77 | -1.47 | 12 (10) | 681 (10) | 1313 (10) |
| 7-1-P | 83 | 150 | 8.04 | 8.04 | 0.15 | -0.52 | 6 (10) | 134 (10) | 580 (10) |
| 7-2-P | 83 | 150 | 8.04 | 8.04 | 0.94 | -3.99 | 32 (9) | 827 (9) | 3421 (9) |
| 7-3-P | 83 | 150 | 8.04 | 8.04 | 2.10 | -16.88 | 138 (9) | 1756 (9) | 14479 (9) |
| 7-4-P | 83 | 150 | 8.04 | 8.04 | 2.44 | -37.25 | 305 (9) | 3435 (9) | 32064 (9) |

| Is | B | H | Afi | Afs | Mp | Mn | σc | σfi | σfs |
|---------|------|------|-------|-------|--------|---------|-----------|------------|-------------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kNm] | [kPa] | [kPa] | [kPa] |
| 7-5-P | 83 | 150 | 8.04 | 8.04 | 2.20 | -65.76 | 540 (9) | 6094 (9) | 56884 (9) |
| 7-6-P | 83 | 150 | 8.04 | 8.04 | 1.86 | -101.74 | 840 (9) | 9478 (9) | 88462 (9) |
| 7-7-P | 83 | 150 | 8.04 | 8.04 | 1.17 | -137.20 | 1141 (9) | 12870 (9) | 120126 (9) |
| 7-8-P | 83 | 150 | 8.04 | 8.04 | 0.00 | -146.66 | 1241 (10) | 13994 (10) | 130614 (10) |
| 7-9-P | 83 | 150 | 8.04 | 8.04 | 0.00 | -174.43 | 1475 (9) | 16636 (9) | 155281 (9) |
| 7-10-P | 83 | 150 | 8.04 | 8.04 | 0.00 | -146.66 | 1241 (10) | 13994 (10) | 130614 (10) |
| 7-11-P | 83 | 150 | 8.04 | 8.04 | 1.17 | -137.20 | 1141 (9) | 12870 (9) | 120126 (9) |
| 7-12-P | 83 | 150 | 8.04 | 8.04 | 1.86 | -101.74 | 840 (9) | 9478 (9) | 88462 (9) |
| 7-13-P | 83 | 150 | 8.04 | 8.04 | 2.20 | -65.76 | 540 (9) | 6094 (9) | 56884 (9) |
| 7-14-P | 83 | 150 | 8.04 | 8.04 | 2.44 | -37.25 | 305 (9) | 3435 (9) | 32064 (9) |
| 7-15-P | 83 | 150 | 8.04 | 8.04 | 2.10 | -16.88 | 138 (9) | 1756 (9) | 14479 (9) |
| 7-16-P | 83 | 150 | 8.04 | 8.04 | 0.94 | -3.99 | 32 (9) | 827 (9) | 3421 (9) |
| 7-17-P | 83 | 150 | 8.04 | 8.04 | 0.15 | -0.52 | 6 (10) | 134 (10) | 580 (10) |
| 8-1-S | 95 | 150 | 40.72 | 40.72 | 0.44 | -0.79 | 4 (9) | 63 (9) | 201 (9) |
| 8-2-S | 95 | 150 | 40.72 | 40.72 | 0.01 | -4.35 | 14 (9) | 178 (9) | 705 (9) |
| 8-3-S | 95 | 150 | 40.72 | 40.72 | 0.48 | -7.20 | 23 (9) | 297 (9) | 1178 (9) |
| 8-4-S | 95 | 150 | 40.72 | 40.72 | 4.25 | -7.03 | 23 (9) | 1129 (9) | 1167 (9) |
| 8-5-S | 95 | 150 | 40.72 | 40.72 | 16.67 | -3.95 | 65 (9) | 3332 (9) | 839 (9) |
| 8-6-S | 95 | 150 | 40.72 | 40.72 | 46.84 | -2.46 | 146 (9) | 7494 (9) | 1888 (9) |
| 8-7-S | 95 | 150 | 40.72 | 40.72 | 88.87 | -0.89 | 277 (9) | 14223 (9) | 3583 (9) |
| 8-8-S | 95 | 150 | 40.72 | 40.72 | 139.10 | 0.00 | 433 (9) | 22256 (9) | 5606 (9) |
| 8-9-S | 95 | 150 | 40.72 | 40.72 | 193.31 | 0.00 | 601 (9) | 30884 (9) | 7780 (9) |
| 8-10-S | 95 | 150 | 40.72 | 40.72 | 136.18 | -0.12 | 444 (9) | 22836 (9) | 5752 (9) |
| 8-11-S | 95 | 150 | 40.72 | 40.72 | 148.90 | 0.00 | 488 (9) | 25074 (9) | 6316 (9) |
| 8-12-S | 95 | 150 | 40.72 | 40.72 | 147.47 | 0.00 | 483 (9) | 24810 (9) | 6249 (9) |
| 8-13-S | 95 | 150 | 40.72 | 40.72 | 136.05 | -0.29 | 444 (9) | 22838 (9) | 5753 (9) |
| 8-14-S | 95 | 150 | 40.72 | 40.72 | 116.69 | -0.75 | 379 (9) | 19482 (9) | 4907 (9) |
| 8-15-S | 95 | 150 | 40.72 | 40.72 | 92.56 | -1.24 | 298 (9) | 15333 (9) | 3862 (9) |
| 8-16-S | 95 | 150 | 40.72 | 40.72 | 68.07 | -1.74 | 217 (9) | 11174 (9) | 2815 (9) |
| 8-17-S | 95 | 150 | 40.72 | 40.72 | 45.93 | -2.21 | 146 (9) | 7485 (9) | 1885 (9) |
| 8-18-S | 95 | 150 | 40.72 | 40.72 | 26.82 | -2.56 | 85 (9) | 4351 (9) | 1096 (9) |
| 8-19-S | 95 | 150 | 40.72 | 40.72 | 11.30 | -1.83 | 36 (9) | 1827 (9) | 460 (9) |
| 8-20-S | 95 | 150 | 40.72 | 40.72 | 1.12 | -0.95 | 4 (9) | 224 (9) | 154 (9) |
| 9-1-S | 95 | 150 | 45.24 | 45.24 | 2.09 | -2.59 | 13 (9) | 637 (9) | 376 (9) |
| 9-2-S | 95 | 150 | 45.24 | 45.24 | 13.78 | -11.91 | 65 (9) | 3172 (9) | 1732 (9) |
| 9-3-S | 95 | 150 | 45.24 | 45.24 | 32.26 | -30.92 | 164 (9) | 8019 (9) | 4519 (9) |
| 9-4-S | 95 | 150 | 45.24 | 45.24 | 70.59 | -58.72 | 482 (9) | 23594 (9) | 8624 (9) |
| 9-5-S | 95 | 150 | 45.24 | 45.24 | 12.36 | -120.52 | 362 (9) | 7290 (9) | 17706 (9) |
| 9-6-S | 95 | 150 | 45.24 | 45.24 | 1.61 | -177.19 | 529 (9) | 6895 (9) | 25918 (9) |
| 9-7-S | 95 | 150 | 45.24 | 45.24 | 21.81 | -70.67 | 211 (9) | 6578 (9) | 10323 (9) |
| 9-8-S | 95 | 150 | 45.24 | 45.24 | 88.37 | -0.04 | 262 (9) | 12832 (9) | 3414 (9) |
| 9-9-S | 95 | 150 | 45.24 | 45.24 | 230.16 | 0.00 | 685 (9) | 33513 (9) | 8915 (9) |
| 9-10-S | 95 | 150 | 45.24 | 45.24 | 245.70 | 0.00 | 774 (9) | 37868 (9) | 10074 (9) |
| 9-11-S | 95 | 150 | 45.24 | 45.24 | 238.08 | 0.00 | 743 (9) | 36360 (9) | 9673 (9) |
| 9-12-S | 95 | 150 | 45.24 | 45.24 | 234.84 | -0.08 | 725 (9) | 35495 (9) | 9443 (9) |
| 9-13-S | 95 | 150 | 45.24 | 45.24 | 224.25 | -1.90 | 682 (9) | 33390 (9) | 8883 (9) |
| 9-14-S | 95 | 150 | 45.24 | 45.24 | 208.31 | -6.16 | 620 (9) | 30332 (9) | 8069 (9) |
| 9-15-S | 95 | 150 | 45.24 | 45.24 | 199.33 | -15.38 | 579 (9) | 28325 (9) | 7535 (9) |
| 9-16-S | 95 | 150 | 45.24 | 45.24 | 70.12 | -48.63 | 187 (9) | 9177 (9) | 7373 (9) |
| 9-17-S | 95 | 150 | 45.24 | 45.24 | 19.01 | -127.95 | 388 (9) | 5055 (9) | 19002 (9) |
| 9-18-S | 95 | 150 | 45.24 | 45.24 | 12.61 | -74.42 | 228 (9) | 2973 (9) | 11174 (9) |
| 9-19-S | 95 | 150 | 45.24 | 45.24 | 4.85 | -24.15 | 80 (10) | 1970 (10) | 3927 (10) |
| 9-20-S | 95 | 150 | 45.24 | 45.24 | 3.71 | -2.79 | 13 (9) | 635 (9) | 371 (9) |
| 10-1-S | 95 | 150 | 45.24 | 45.24 | 2.09 | -2.59 | 13 (9) | 637 (9) | 376 (9) |
| 10-2-S | 95 | 150 | 45.24 | 45.24 | 13.78 | -11.91 | 65 (9) | 3172 (9) | 1732 (9) |
| 10-3-S | 95 | 150 | 45.24 | 45.24 | 32.26 | -30.92 | 164 (9) | 8019 (9) | 4519 (9) |
| 10-4-S | 95 | 150 | 45.24 | 45.24 | 70.59 | -58.72 | 482 (9) | 23594 (9) | 8624 (9) |
| 10-5-S | 95 | 150 | 45.24 | 45.24 | 12.36 | -120.52 | 362 (9) | 7290 (9) | 17706 (9) |
| 10-6-S | 95 | 150 | 45.24 | 45.24 | 1.61 | -177.19 | 529 (9) | 6895 (9) | 25918 (9) |
| 10-7-S | 95 | 150 | 45.24 | 45.24 | 21.81 | -70.67 | 211 (9) | 6578 (9) | 10323 (9) |
| 10-8-S | 95 | 150 | 45.24 | 45.24 | 88.37 | -0.04 | 262 (9) | 12832 (9) | 3414 (9) |
| 10-9-S | 95 | 150 | 45.24 | 45.24 | 230.16 | 0.00 | 685 (9) | 33513 (9) | 8915 (9) |
| 10-10-S | 95 | 150 | 45.24 | 45.24 | 245.70 | 0.00 | 774 (9) | 37868 (9) | 10074 (9) |
| 10-11-S | 95 | 150 | 45.24 | 45.24 | 238.08 | 0.00 | 743 (9) | 36360 (9) | 9673 (9) |
| 10-12-S | 95 | 150 | 45.24 | 45.24 | 234.84 | -0.08 | 725 (9) | 35495 (9) | 9443 (9) |
| 10-13-S | 95 | 150 | 45.24 | 45.24 | 224.25 | -1.90 | 682 (9) | 33390 (9) | 8883 (9) |
| 10-14-S | 95 | 150 | 45.24 | 45.24 | 208.31 | -6.16 | 620 (9) | 30332 (9) | 8069 (9) |
| 10-15-S | 95 | 150 | 45.24 | 45.24 | 199.33 | -15.38 | 579 (9) | 28325 (9) | 7535 (9) |
| 10-16-S | 95 | 150 | 45.24 | 45.24 | 70.12 | -48.63 | 187 (9) | 9177 (9) | 7373 (9) |
| 10-17-S | 95 | 150 | 45.24 | 45.24 | 19.01 | -127.95 | 388 (9) | 5055 (9) | 19002 (9) |

| Is | B | H | Afi | Afs | Mp | Mn | σc | σfi | σfs |
|---------|------|------|-------|-------|--------|--------|---------|-----------|-----------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kNm] | [kPa] | [kPa] | [kPa] |
| 10-18-S | 95 | 150 | 45.24 | 45.24 | 12.61 | -74.42 | 228 (9) | 2973 (9) | 11174 (9) |
| 10-19-S | 95 | 150 | 45.24 | 45.24 | 4.85 | -24.15 | 80 (10) | 1970 (10) | 3927 (10) |
| 10-20-S | 95 | 150 | 45.24 | 45.24 | 3.71 | -2.79 | 13 (9) | 635 (9) | 371 (9) |
| 11-1-S | 95 | 150 | 40.72 | 40.72 | 0.44 | -0.79 | 4 (9) | 63 (9) | 201 (9) |
| 11-2-S | 95 | 150 | 40.72 | 40.72 | 0.01 | -4.35 | 14 (9) | 178 (9) | 705 (9) |
| 11-3-S | 95 | 150 | 40.72 | 40.72 | 0.48 | -7.20 | 23 (9) | 297 (9) | 1178 (9) |
| 11-4-S | 95 | 150 | 40.72 | 40.72 | 4.25 | -7.03 | 23 (9) | 1129 (9) | 1167 (9) |
| 11-5-S | 95 | 150 | 40.72 | 40.72 | 16.67 | -3.95 | 65 (9) | 3332 (9) | 839 (9) |
| 11-6-S | 95 | 150 | 40.72 | 40.72 | 46.84 | -2.46 | 146 (9) | 7494 (9) | 1888 (9) |
| 11-7-S | 95 | 150 | 40.72 | 40.72 | 88.87 | -0.89 | 277 (9) | 14223 (9) | 3583 (9) |
| 11-8-S | 95 | 150 | 40.72 | 40.72 | 139.10 | 0.00 | 433 (9) | 22256 (9) | 5606 (9) |
| 11-9-S | 95 | 150 | 40.72 | 40.72 | 193.31 | 0.00 | 601 (9) | 30884 (9) | 7780 (9) |
| 11-10-S | 95 | 150 | 40.72 | 40.72 | 136.18 | -0.12 | 444 (9) | 22836 (9) | 5752 (9) |
| 11-11-S | 95 | 150 | 40.72 | 40.72 | 148.90 | 0.00 | 488 (9) | 25074 (9) | 6316 (9) |
| 11-12-S | 95 | 150 | 40.72 | 40.72 | 147.47 | 0.00 | 483 (9) | 24810 (9) | 6249 (9) |
| 11-13-S | 95 | 150 | 40.72 | 40.72 | 136.05 | -0.29 | 444 (9) | 22838 (9) | 5753 (9) |
| 11-14-S | 95 | 150 | 40.72 | 40.72 | 116.69 | -0.75 | 379 (9) | 19482 (9) | 4907 (9) |
| 11-15-S | 95 | 150 | 40.72 | 40.72 | 92.56 | -1.24 | 298 (9) | 15333 (9) | 3862 (9) |
| 11-16-S | 95 | 150 | 40.72 | 40.72 | 68.07 | -1.74 | 217 (9) | 11174 (9) | 2815 (9) |
| 11-17-S | 95 | 150 | 40.72 | 40.72 | 45.93 | -2.21 | 146 (9) | 7485 (9) | 1885 (9) |
| 11-18-S | 95 | 150 | 40.72 | 40.72 | 26.82 | -2.56 | 85 (9) | 4351 (9) | 1096 (9) |
| 11-19-S | 95 | 150 | 40.72 | 40.72 | 11.30 | -1.83 | 36 (9) | 1827 (9) | 460 (9) |
| 11-20-S | 95 | 150 | 40.72 | 40.72 | 1.12 | -0.95 | 4 (9) | 224 (9) | 154 (9) |

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 | σc | σfi | σfs |
|----|------|------|-------|-------|-------|-------|----------|------------|-----------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kN] | [kPa] | [kPa] | [kPa] |
| 1 | 100 | 40 | 15.71 | 22.62 | 0.75 | 4.29 | 38 (11) | 313 (11) | 452 (11) |
| 2 | 100 | 41 | 15.71 | 22.62 | 0.75 | 5.28 | 37 (11) | 188 (11) | 459 (11) |
| 3 | 100 | 42 | 15.71 | 22.62 | 0.77 | 6.30 | 37 (11) | 103 (11) | 472 (11) |
| 4 | 100 | 43 | 15.71 | 22.62 | 0.79 | 7.34 | 38 (11) | 47 (11) | 492 (11) |
| 5 | 100 | 44 | 15.71 | 22.62 | 0.84 | 8.41 | 39 (11) | 11 (11) | 521 (11) |
| 6 | 100 | 45 | 15.71 | 22.62 | 0.91 | 9.50 | 42 (11) | 10 (11) | 558 (11) |
| 7 | 100 | 46 | 15.71 | 22.62 | 1.01 | 10.62 | 45 (11) | 21 (11) | 603 (11) |
| 8 | 100 | 47 | 15.71 | 22.62 | 1.14 | 11.76 | 49 (11) | 22 (11) | 656 (11) |
| 9 | 100 | 48 | 15.71 | 22.62 | 1.30 | 12.92 | 53 (11) | 13 (11) | 717 (11) |
| 10 | 100 | 49 | 15.71 | 22.62 | 1.51 | 14.11 | 58 (11) | 7 (11) | 787 (11) |
| 11 | 100 | 50 | 15.71 | 22.62 | 1.77 | 15.32 | 64 (11) | 41 (11) | 867 (11) |
| 12 | 100 | 51 | 15.71 | 22.62 | 2.07 | 16.56 | 71 (11) | 92 (11) | 957 (11) |
| 13 | 100 | 52 | 15.71 | 22.62 | 2.44 | 17.82 | 79 (11) | 164 (11) | 1060 (11) |
| 14 | 100 | 53 | 15.71 | 22.62 | 2.86 | 19.11 | 88 (11) | 262 (11) | 1176 (11) |
| 15 | 100 | 54 | 15.71 | 22.62 | 3.35 | 20.42 | 98 (11) | 391 (11) | 1306 (11) |
| 16 | 100 | 55 | 15.71 | 22.62 | 3.90 | 21.76 | 110 (11) | 555 (11) | 1451 (11) |
| 17 | 100 | 56 | 15.71 | 22.62 | 4.54 | 23.12 | 122 (11) | 760 (11) | 1610 (11) |
| 18 | 100 | 57 | 15.71 | 22.62 | 5.25 | 24.50 | 136 (11) | 1010 (11) | 1785 (11) |
| 19 | 100 | 58 | 15.71 | 22.62 | 6.04 | 25.91 | 152 (11) | 1308 (11) | 1974 (11) |
| 20 | 100 | 59 | 15.71 | 22.62 | 6.92 | 27.35 | 168 (11) | 1657 (11) | 2178 (11) |
| 21 | 100 | 60 | 15.71 | 22.62 | 7.90 | 28.81 | 186 (11) | 2059 (11) | 2397 (11) |
| 22 | 100 | 61 | 15.71 | 22.62 | 8.97 | 30.29 | 205 (11) | 2515 (11) | 2629 (11) |
| 23 | 100 | 62 | 15.71 | 22.62 | 10.14 | 31.80 | 225 (11) | 3027 (11) | 2876 (11) |
| 24 | 100 | 63 | 15.71 | 22.62 | 11.42 | 33.33 | 246 (11) | 3594 (11) | 3135 (11) |
| 25 | 100 | 64 | 15.71 | 22.62 | 12.81 | 34.89 | 269 (11) | 4218 (11) | 3408 (11) |
| 26 | 100 | 65 | 15.71 | 22.62 | 14.32 | 36.47 | 292 (11) | 4900 (11) | 3694 (11) |
| 27 | 100 | 66 | 15.71 | 22.62 | 15.95 | 38.07 | 317 (11) | 5638 (11) | 3992 (11) |
| 28 | 100 | 67 | 15.71 | 22.62 | 17.70 | 39.70 | 342 (11) | 6434 (11) | 4303 (11) |
| 29 | 100 | 68 | 15.71 | 22.62 | 19.58 | 41.36 | 369 (11) | 7289 (11) | 4627 (11) |
| 30 | 100 | 69 | 15.71 | 22.62 | 21.60 | 43.04 | 397 (11) | 8201 (11) | 4963 (11) |
| 31 | 100 | 70 | 15.71 | 22.62 | 23.75 | 44.74 | 425 (11) | 9172 (11) | 5312 (11) |
| 32 | 100 | 71 | 15.71 | 22.62 | 26.05 | 46.47 | 455 (11) | 10202 (11) | 5673 (11) |

| n° | B | H | Afi | Afs | M | N | σ_c | σ_{fi} | σ_{fs} |
|----|------|------|-------|-------|--------|--------|------------|---------------|---------------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kN] | [kPa] | [kPa] | [kPa] |
| 33 | 100 | 72 | 15.71 | 22.62 | 28.50 | 48.22 | 486 (11) | 11291 (11) | 6046 (11) |
| 34 | 100 | 73 | 15.71 | 22.62 | 31.10 | 50.00 | 517 (11) | 12438 (11) | 6431 (11) |
| 35 | 100 | 74 | 15.71 | 22.62 | 33.86 | 51.80 | 550 (11) | 13646 (11) | 6828 (11) |
| 36 | 100 | 75 | 15.71 | 22.62 | 36.78 | 53.63 | 583 (11) | 14913 (11) | 7237 (11) |
| 37 | 100 | 76 | 15.71 | 22.62 | 39.86 | 55.48 | 618 (11) | 16240 (11) | 7658 (11) |
| 38 | 100 | 77 | 15.71 | 22.62 | 43.12 | 57.36 | 653 (11) | 17626 (11) | 8091 (11) |
| 39 | 100 | 78 | 15.71 | 22.62 | 46.55 | 59.26 | 689 (11) | 19074 (11) | 8535 (11) |
| 40 | 100 | 79 | 15.71 | 22.62 | 50.16 | 61.18 | 726 (11) | 20581 (11) | 8991 (11) |
| 41 | 100 | 80 | 15.71 | 22.62 | 53.96 | 63.13 | 764 (11) | 22149 (11) | 9459 (11) |
| 42 | 100 | 81 | 31.42 | 22.62 | 57.95 | 65.10 | 730 (11) | 23214 (11) | 8942 (11) |
| 43 | 100 | 82 | 31.42 | 22.62 | 62.13 | 67.10 | 767 (11) | 24883 (11) | 9387 (11) |
| 44 | 100 | 83 | 31.42 | 22.62 | 66.52 | 69.12 | 804 (11) | 26612 (11) | 9842 (11) |
| 45 | 100 | 84 | 31.42 | 22.62 | 71.10 | 71.17 | 842 (11) | 28402 (11) | 10308 (11) |
| 46 | 100 | 85 | 31.42 | 22.62 | 75.89 | 73.24 | 881 (11) | 30254 (11) | 10785 (11) |
| 47 | 100 | 86 | 31.42 | 22.62 | 80.90 | 75.34 | 921 (11) | 32166 (11) | 11271 (11) |
| 48 | 100 | 87 | 31.42 | 22.62 | 86.12 | 77.46 | 961 (11) | 34139 (11) | 11768 (11) |
| 49 | 100 | 88 | 31.42 | 67.86 | 91.57 | 79.60 | 737 (11) | 13328 (11) | 9739 (11) |
| 50 | 100 | 89 | 31.42 | 67.86 | 97.24 | 81.77 | 766 (11) | 14074 (11) | 10129 (11) |
| 51 | 100 | 90 | 31.42 | 67.86 | 103.14 | 83.97 | 796 (11) | 14842 (11) | 10526 (11) |
| 52 | 100 | 91 | 31.42 | 67.86 | 109.28 | 86.19 | 826 (11) | 15631 (11) | 10931 (11) |
| 53 | 100 | 92 | 31.42 | 67.86 | 115.66 | 88.43 | 857 (11) | 16442 (11) | 11342 (11) |
| 54 | 100 | 93 | 31.42 | 67.86 | 122.29 | 90.70 | 888 (11) | 17274 (11) | 11760 (11) |
| 55 | 100 | 94 | 31.42 | 67.86 | 129.16 | 92.99 | 919 (11) | 18128 (11) | 12184 (11) |
| 56 | 100 | 95 | 31.42 | 67.86 | 136.29 | 95.31 | 951 (11) | 19003 (11) | 12616 (11) |
| 57 | 100 | 96 | 31.42 | 67.86 | 143.68 | 97.65 | 984 (11) | 19900 (11) | 13054 (11) |
| 58 | 100 | 97 | 31.42 | 67.86 | 151.33 | 100.01 | 1017 (11) | 20818 (11) | 13499 (11) |
| 59 | 100 | 98 | 31.42 | 67.86 | 159.25 | 102.40 | 1050 (11) | 21758 (11) | 13950 (11) |
| 60 | 100 | 99 | 31.42 | 67.86 | 167.44 | 104.82 | 1084 (11) | 22720 (11) | 14408 (11) |
| 61 | 100 | 100 | 31.42 | 67.86 | 175.91 | 107.26 | 1119 (11) | 23704 (11) | 14872 (11) |
| 62 | 100 | 101 | 31.42 | 45.24 | 184.67 | 109.72 | 1292 (11) | 35821 (11) | 16812 (11) |
| 63 | 100 | 102 | 31.42 | 45.24 | 193.71 | 112.21 | 1333 (11) | 37323 (11) | 17344 (11) |
| 64 | 100 | 103 | 15.71 | 45.24 | 203.04 | 114.72 | 1485 (11) | 39602 (11) | 19451 (11) |
| 65 | 100 | 104 | 15.71 | 45.24 | 212.66 | 117.26 | 1529 (11) | 41188 (11) | 20038 (11) |
| 66 | 100 | 105 | 15.71 | 45.24 | 222.59 | 119.82 | 1574 (11) | 42807 (11) | 20633 (11) |
| 67 | 100 | 106 | 15.71 | 45.24 | 232.82 | 122.41 | 1619 (11) | 44458 (11) | 21234 (11) |
| 68 | 100 | 107 | 15.71 | 45.24 | 243.37 | 125.02 | 1664 (11) | 46142 (11) | 21843 (11) |
| 69 | 100 | 108 | 15.71 | 45.24 | 254.22 | 127.65 | 1710 (11) | 47858 (11) | 22459 (11) |
| 70 | 100 | 109 | 15.71 | 45.24 | 265.40 | 130.31 | 1757 (11) | 49607 (11) | 23083 (11) |
| 71 | 100 | 110 | 15.71 | 45.24 | 276.90 | 133.00 | 1804 (11) | 51388 (11) | 23713 (11) |

Mensola valle

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

| n° | B | H | Afi | Afs | M | N | σ_c | σ_{fi} | σ_{fs} |
|----|------|------|-------|-------|-------|------|------------|---------------|---------------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kN] | [kPa] | [kPa] | [kPa] |
| 1 | 100 | 50 | 8.04 | 8.04 | 0.00 | 0.00 | 0 (11) | 0 (11) | 0 (11) |
| 2 | 100 | 50 | 8.04 | 8.04 | -0.05 | 0.00 | 2 (11) | 16 (11) | 138 (11) |
| 3 | 100 | 50 | 8.04 | 8.04 | -0.19 | 0.00 | 9 (11) | 65 (11) | 551 (11) |
| 4 | 100 | 50 | 8.04 | 8.04 | -0.42 | 0.00 | 20 (11) | 146 (11) | 1239 (11) |
| 5 | 100 | 50 | 8.04 | 8.04 | -0.75 | 0.00 | 35 (11) | 260 (11) | 2203 (11) |

Piastra fondazione

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

| Is | B | H | Afi | Afs | Mp | Mn | σ_c | σ_{fi} | σ_{fs} |
|-------|------|------|-------|-------|-------|--------|------------|---------------|---------------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kNm] | [kPa] | [kPa] | [kPa] |
| 1-1-P | 100 | 150 | 10.05 | 10.05 | 0.62 | -0.34 | 4 (10) | 439 (10) | 239 (10) |
| 1-2-P | 100 | 150 | 10.05 | 10.05 | 1.17 | -1.03 | 10 (9) | 989 (9) | 695 (9) |
| 1-3-P | 100 | 150 | 10.05 | 10.05 | 1.20 | -5.48 | 35 (9) | 2020 (9) | 3603 (9) |
| 1-4-P | 100 | 150 | 10.05 | 10.05 | 0.23 | -15.26 | 97 (9) | 1097 (9) | 9974 (9) |

| Is | B | H | Afi | Afs | Mp | Mn | σc | σfi | σfs |
|--------|------|------|-------|-------|-------|---------|-----------|------------|-------------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kNm] | [kPa] | [kPa] | [kPa] |
| 1-5-P | 100 | 150 | 10.05 | 10.05 | 0.00 | -35.32 | 223 (9) | 2533 (9) | 23042 (9) |
| 1-6-P | 100 | 150 | 10.05 | 10.05 | 0.00 | -68.94 | 435 (9) | 4938 (9) | 44917 (9) |
| 1-7-P | 100 | 150 | 10.05 | 10.05 | 0.67 | -117.65 | 741 (9) | 8406 (9) | 76459 (9) |
| 1-8-P | 100 | 150 | 10.05 | 10.05 | 8.98 | -203.37 | 1273 (9) | 14437 (9) | 131314 (9) |
| 1-9-P | 100 | 150 | 10.05 | 10.05 | 0.00 | -194.47 | 1223 (9) | 13877 (9) | 126222 (9) |
| 1-10-P | 100 | 150 | 10.05 | 10.05 | 8.98 | -203.37 | 1273 (9) | 14437 (9) | 131314 (9) |
| 1-11-P | 100 | 150 | 10.05 | 10.05 | 0.67 | -117.65 | 741 (9) | 8406 (9) | 76459 (9) |
| 1-12-P | 100 | 150 | 10.05 | 10.05 | 0.00 | -68.94 | 435 (9) | 4938 (9) | 44917 (9) |
| 1-13-P | 100 | 150 | 10.05 | 10.05 | 0.00 | -35.32 | 223 (9) | 2533 (9) | 23042 (9) |
| 1-14-P | 100 | 150 | 10.05 | 10.05 | 0.23 | -15.26 | 97 (9) | 1097 (9) | 9974 (9) |
| 1-15-P | 100 | 150 | 10.05 | 10.05 | 1.20 | -5.48 | 35 (9) | 2020 (9) | 3603 (9) |
| 1-16-P | 100 | 150 | 10.05 | 10.05 | 1.17 | -1.03 | 10 (9) | 989 (9) | 695 (9) |
| 1-17-P | 100 | 150 | 10.05 | 10.05 | 0.62 | -0.34 | 4 (10) | 439 (10) | 239 (10) |
| 2-1-P | 100 | 150 | 10.05 | 10.05 | 11.78 | -0.39 | 73 (9) | 7539 (9) | 829 (9) |
| 2-2-P | 100 | 150 | 10.05 | 10.05 | 14.48 | -0.48 | 90 (9) | 9261 (9) | 1018 (9) |
| 2-3-P | 100 | 150 | 10.05 | 10.05 | 21.88 | -4.12 | 136 (9) | 14076 (9) | 4513 (9) |
| 2-4-P | 100 | 150 | 10.05 | 10.05 | 22.24 | -9.00 | 139 (9) | 14297 (9) | 8928 (9) |
| 2-5-P | 100 | 150 | 10.05 | 10.05 | 16.69 | -19.06 | 169 (9) | 11833 (9) | 17403 (9) |
| 2-6-P | 100 | 150 | 10.05 | 10.05 | 11.33 | -43.55 | 383 (9) | 10815 (9) | 39484 (9) |
| 2-7-P | 100 | 150 | 10.05 | 10.05 | 8.92 | -81.43 | 670 (9) | 11855 (9) | 69121 (9) |
| 2-8-P | 100 | 150 | 10.05 | 10.05 | 12.81 | -93.44 | 725 (9) | 16746 (9) | 74815 (9) |
| 2-9-P | 100 | 150 | 10.05 | 10.05 | 6.78 | -127.53 | 989 (9) | 18056 (9) | 102028 (9) |
| 2-10-P | 100 | 150 | 10.05 | 10.05 | 12.81 | -93.44 | 725 (9) | 16746 (9) | 74815 (9) |
| 2-11-P | 100 | 150 | 10.05 | 10.05 | 8.92 | -81.43 | 670 (9) | 11855 (9) | 69121 (9) |
| 2-12-P | 100 | 150 | 10.05 | 10.05 | 11.33 | -43.55 | 383 (9) | 10815 (9) | 39484 (9) |
| 2-13-P | 100 | 150 | 10.05 | 10.05 | 16.69 | -19.06 | 169 (9) | 11833 (9) | 17403 (9) |
| 2-14-P | 100 | 150 | 10.05 | 10.05 | 22.24 | -9.00 | 139 (9) | 14297 (9) | 8928 (9) |
| 2-15-P | 100 | 150 | 10.05 | 10.05 | 21.88 | -4.12 | 136 (9) | 14076 (9) | 4513 (9) |
| 2-16-P | 100 | 150 | 10.05 | 10.05 | 14.48 | -0.48 | 90 (9) | 9261 (9) | 1018 (9) |
| 2-17-P | 100 | 150 | 10.05 | 10.05 | 11.78 | -0.39 | 73 (9) | 7539 (9) | 829 (9) |
| 5-1-P | 83 | 150 | 8.04 | 8.04 | 10.53 | -0.70 | 89 (10) | 9382 (10) | 1458 (10) |
| 5-2-P | 83 | 150 | 8.04 | 8.04 | 12.52 | -0.48 | 106 (10) | 11153 (10) | 1499 (10) |
| 5-3-P | 83 | 150 | 8.04 | 8.04 | 21.61 | -0.32 | 174 (9) | 18339 (9) | 1965 (9) |
| 5-4-P | 83 | 150 | 8.04 | 8.04 | 25.50 | -1.20 | 216 (10) | 22709 (10) | 3195 (10) |
| 5-5-P | 83 | 150 | 8.04 | 8.04 | 27.41 | -2.47 | 232 (10) | 24409 (10) | 5773 (10) |
| 5-6-P | 83 | 150 | 8.04 | 8.04 | 26.68 | -5.47 | 226 (10) | 23763 (10) | 12185 (10) |
| 5-7-P | 83 | 150 | 8.04 | 8.04 | 23.35 | -10.25 | 217 (10) | 20795 (10) | 22822 (10) |
| 5-8-P | 83 | 150 | 8.04 | 8.04 | 19.10 | -15.40 | 274 (10) | 17008 (10) | 28796 (10) |
| 5-9-P | 83 | 150 | 8.04 | 8.04 | 18.39 | -16.13 | 284 (9) | 14842 (9) | 29930 (9) |
| 5-10-P | 83 | 150 | 8.04 | 8.04 | 19.10 | -15.40 | 274 (10) | 17008 (10) | 28796 (10) |
| 5-11-P | 83 | 150 | 8.04 | 8.04 | 23.35 | -10.25 | 217 (10) | 20795 (10) | 22822 (10) |
| 5-12-P | 83 | 150 | 8.04 | 8.04 | 26.68 | -5.47 | 226 (10) | 23763 (10) | 12185 (10) |
| 5-13-P | 83 | 150 | 8.04 | 8.04 | 27.41 | -2.47 | 232 (10) | 24409 (10) | 5773 (10) |
| 5-14-P | 83 | 150 | 8.04 | 8.04 | 25.50 | -1.20 | 216 (10) | 22709 (10) | 3195 (10) |
| 5-15-P | 83 | 150 | 8.04 | 8.04 | 21.61 | -0.32 | 174 (9) | 18339 (9) | 1965 (9) |
| 5-16-P | 83 | 150 | 8.04 | 8.04 | 12.52 | -0.48 | 106 (10) | 11153 (10) | 1499 (10) |
| 5-17-P | 83 | 150 | 8.04 | 8.04 | 10.53 | -0.70 | 89 (10) | 9382 (10) | 1458 (10) |
| 6-1-P | 83 | 150 | 8.04 | 8.04 | 0.77 | -1.47 | 12 (10) | 681 (10) | 1313 (10) |
| 6-2-P | 83 | 150 | 8.04 | 8.04 | 3.20 | -0.81 | 27 (10) | 2850 (10) | 719 (10) |
| 6-3-P | 83 | 150 | 8.04 | 8.04 | 8.34 | -6.54 | 71 (10) | 7431 (10) | 5822 (10) |
| 6-4-P | 83 | 150 | 8.04 | 8.04 | 12.08 | -15.05 | 127 (10) | 10761 (10) | 13400 (10) |
| 6-5-P | 83 | 150 | 8.04 | 8.04 | 13.87 | -28.49 | 241 (10) | 12349 (10) | 25368 (10) |
| 6-6-P | 83 | 150 | 8.04 | 8.04 | 14.38 | -51.08 | 432 (10) | 12806 (10) | 45493 (10) |
| 6-7-P | 83 | 150 | 8.04 | 8.04 | 15.45 | -87.05 | 736 (10) | 13759 (10) | 77523 (10) |
| 6-8-P | 83 | 150 | 8.04 | 8.04 | 31.79 | -153.06 | 1264 (9) | 22997 (9) | 133108 (9) |
| 6-9-P | 83 | 150 | 8.04 | 8.04 | 0.00 | -124.57 | 1054 (10) | 11885 (10) | 110936 (10) |
| 6-10-P | 83 | 150 | 8.04 | 8.04 | 31.79 | -153.06 | 1264 (9) | 22997 (9) | 133108 (9) |
| 6-11-P | 83 | 150 | 8.04 | 8.04 | 15.45 | -87.05 | 736 (10) | 13759 (10) | 77523 (10) |
| 6-12-P | 83 | 150 | 8.04 | 8.04 | 14.38 | -51.08 | 432 (10) | 12806 (10) | 45493 (10) |
| 6-13-P | 83 | 150 | 8.04 | 8.04 | 13.87 | -28.49 | 241 (10) | 12349 (10) | 25368 (10) |
| 6-14-P | 83 | 150 | 8.04 | 8.04 | 12.08 | -15.05 | 127 (10) | 10761 (10) | 13400 (10) |
| 6-15-P | 83 | 150 | 8.04 | 8.04 | 8.34 | -6.54 | 71 (10) | 7431 (10) | 5822 (10) |
| 6-16-P | 83 | 150 | 8.04 | 8.04 | 3.20 | -0.81 | 27 (10) | 2850 (10) | 719 (10) |
| 6-17-P | 83 | 150 | 8.04 | 8.04 | 0.77 | -1.47 | 12 (10) | 681 (10) | 1313 (10) |
| 7-1-P | 83 | 150 | 8.04 | 8.04 | 0.15 | -0.52 | 6 (10) | 134 (10) | 580 (10) |
| 7-2-P | 83 | 150 | 8.04 | 8.04 | 0.94 | -3.99 | 32 (9) | 827 (9) | 3421 (9) |
| 7-3-P | 83 | 150 | 8.04 | 8.04 | 2.10 | -16.88 | 138 (9) | 1756 (9) | 14479 (9) |
| 7-4-P | 83 | 150 | 8.04 | 8.04 | 2.44 | -37.25 | 305 (9) | 3435 (9) | 32064 (9) |
| 7-5-P | 83 | 150 | 8.04 | 8.04 | 2.20 | -65.76 | 540 (9) | 6094 (9) | 56884 (9) |
| 7-6-P | 83 | 150 | 8.04 | 8.04 | 1.86 | -101.74 | 840 (9) | 9478 (9) | 88462 (9) |

| Is | B | H | Afi | Afs | Mp | Mn | σc | σfi | σfs |
|---------|------|------|-------|-------|--------|---------|-----------|------------|-------------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kNm] | [kPa] | [kPa] | [kPa] |
| 7-7-P | 83 | 150 | 8.04 | 8.04 | 1.17 | -137.20 | 1141 (9) | 12870 (9) | 120126 (9) |
| 7-8-P | 83 | 150 | 8.04 | 8.04 | 0.00 | -146.66 | 1241 (10) | 13994 (10) | 130614 (10) |
| 7-9-P | 83 | 150 | 8.04 | 8.04 | 0.00 | -174.43 | 1475 (9) | 16636 (9) | 155281 (9) |
| 7-10-P | 83 | 150 | 8.04 | 8.04 | 0.00 | -146.66 | 1241 (10) | 13994 (10) | 130614 (10) |
| 7-11-P | 83 | 150 | 8.04 | 8.04 | 1.17 | -137.20 | 1141 (9) | 12870 (9) | 120126 (9) |
| 7-12-P | 83 | 150 | 8.04 | 8.04 | 1.86 | -101.74 | 840 (9) | 9478 (9) | 88462 (9) |
| 7-13-P | 83 | 150 | 8.04 | 8.04 | 2.20 | -65.76 | 540 (9) | 6094 (9) | 56884 (9) |
| 7-14-P | 83 | 150 | 8.04 | 8.04 | 2.44 | -37.25 | 305 (9) | 3435 (9) | 32064 (9) |
| 7-15-P | 83 | 150 | 8.04 | 8.04 | 2.10 | -16.88 | 138 (9) | 1756 (9) | 14479 (9) |
| 7-16-P | 83 | 150 | 8.04 | 8.04 | 0.94 | -3.99 | 32 (9) | 827 (9) | 3421 (9) |
| 7-17-P | 83 | 150 | 8.04 | 8.04 | 0.15 | -0.52 | 6 (10) | 134 (10) | 580 (10) |
| 8-1-S | 95 | 150 | 40.72 | 40.72 | 0.44 | -0.79 | 4 (9) | 63 (9) | 201 (9) |
| 8-2-S | 95 | 150 | 40.72 | 40.72 | 0.01 | -4.35 | 14 (9) | 178 (9) | 705 (9) |
| 8-3-S | 95 | 150 | 40.72 | 40.72 | 0.48 | -7.20 | 23 (9) | 297 (9) | 1178 (9) |
| 8-4-S | 95 | 150 | 40.72 | 40.72 | 4.25 | -7.03 | 23 (9) | 1129 (9) | 1167 (9) |
| 8-5-S | 95 | 150 | 40.72 | 40.72 | 16.67 | -3.95 | 65 (9) | 3332 (9) | 839 (9) |
| 8-6-S | 95 | 150 | 40.72 | 40.72 | 46.84 | -2.46 | 146 (9) | 7494 (9) | 1888 (9) |
| 8-7-S | 95 | 150 | 40.72 | 40.72 | 88.87 | -0.89 | 277 (9) | 14223 (9) | 3583 (9) |
| 8-8-S | 95 | 150 | 40.72 | 40.72 | 139.10 | 0.00 | 433 (9) | 22256 (9) | 5606 (9) |
| 8-9-S | 95 | 150 | 40.72 | 40.72 | 193.31 | 0.00 | 601 (9) | 30884 (9) | 7780 (9) |
| 8-10-S | 95 | 150 | 40.72 | 40.72 | 136.18 | -0.12 | 444 (9) | 22836 (9) | 5752 (9) |
| 8-11-S | 95 | 150 | 40.72 | 40.72 | 148.90 | 0.00 | 488 (9) | 25074 (9) | 6316 (9) |
| 8-12-S | 95 | 150 | 40.72 | 40.72 | 147.47 | 0.00 | 483 (9) | 24810 (9) | 6249 (9) |
| 8-13-S | 95 | 150 | 40.72 | 40.72 | 136.05 | -0.29 | 444 (9) | 22838 (9) | 5753 (9) |
| 8-14-S | 95 | 150 | 40.72 | 40.72 | 116.69 | -0.75 | 379 (9) | 19482 (9) | 4907 (9) |
| 8-15-S | 95 | 150 | 40.72 | 40.72 | 92.56 | -1.24 | 298 (9) | 15333 (9) | 3862 (9) |
| 8-16-S | 95 | 150 | 40.72 | 40.72 | 68.07 | -1.74 | 217 (9) | 11174 (9) | 2815 (9) |
| 8-17-S | 95 | 150 | 40.72 | 40.72 | 45.93 | -2.21 | 146 (9) | 7485 (9) | 1885 (9) |
| 8-18-S | 95 | 150 | 40.72 | 40.72 | 26.82 | -2.56 | 85 (9) | 4351 (9) | 1096 (9) |
| 8-19-S | 95 | 150 | 40.72 | 40.72 | 11.30 | -1.83 | 36 (9) | 1827 (9) | 460 (9) |
| 8-20-S | 95 | 150 | 40.72 | 40.72 | 1.12 | -0.95 | 4 (9) | 224 (9) | 154 (9) |
| 9-1-S | 95 | 150 | 45.24 | 45.24 | 2.09 | -2.59 | 13 (9) | 637 (9) | 376 (9) |
| 9-2-S | 95 | 150 | 45.24 | 45.24 | 13.78 | -11.91 | 65 (9) | 3172 (9) | 1732 (9) |
| 9-3-S | 95 | 150 | 45.24 | 45.24 | 32.26 | -30.92 | 164 (9) | 8019 (9) | 4519 (9) |
| 9-4-S | 95 | 150 | 45.24 | 45.24 | 70.59 | -58.72 | 482 (9) | 23594 (9) | 8624 (9) |
| 9-5-S | 95 | 150 | 45.24 | 45.24 | 12.36 | -120.52 | 362 (9) | 7290 (9) | 17706 (9) |
| 9-6-S | 95 | 150 | 45.24 | 45.24 | 1.61 | -177.19 | 529 (9) | 6895 (9) | 25918 (9) |
| 9-7-S | 95 | 150 | 45.24 | 45.24 | 21.81 | -70.67 | 211 (9) | 6578 (9) | 10323 (9) |
| 9-8-S | 95 | 150 | 45.24 | 45.24 | 88.37 | -0.04 | 262 (9) | 12832 (9) | 3414 (9) |
| 9-9-S | 95 | 150 | 45.24 | 45.24 | 230.16 | 0.00 | 685 (9) | 33513 (9) | 8915 (9) |
| 9-10-S | 95 | 150 | 45.24 | 45.24 | 245.70 | 0.00 | 774 (9) | 37868 (9) | 10074 (9) |
| 9-11-S | 95 | 150 | 45.24 | 45.24 | 238.08 | 0.00 | 743 (9) | 36360 (9) | 9673 (9) |
| 9-12-S | 95 | 150 | 45.24 | 45.24 | 234.84 | -0.08 | 725 (9) | 35495 (9) | 9443 (9) |
| 9-13-S | 95 | 150 | 45.24 | 45.24 | 224.25 | -1.90 | 682 (9) | 33390 (9) | 8883 (9) |
| 9-14-S | 95 | 150 | 45.24 | 45.24 | 208.31 | -6.16 | 620 (9) | 30332 (9) | 8069 (9) |
| 9-15-S | 95 | 150 | 45.24 | 45.24 | 199.33 | -15.38 | 579 (9) | 28325 (9) | 7535 (9) |
| 9-16-S | 95 | 150 | 45.24 | 45.24 | 70.12 | -48.63 | 187 (9) | 9177 (9) | 7373 (9) |
| 9-17-S | 95 | 150 | 45.24 | 45.24 | 19.01 | -127.95 | 388 (9) | 5055 (9) | 19002 (9) |
| 9-18-S | 95 | 150 | 45.24 | 45.24 | 12.61 | -74.42 | 228 (9) | 2973 (9) | 11174 (9) |
| 9-19-S | 95 | 150 | 45.24 | 45.24 | 4.85 | -24.15 | 80 (10) | 1970 (10) | 3927 (10) |
| 9-20-S | 95 | 150 | 45.24 | 45.24 | 3.71 | -2.79 | 13 (9) | 635 (9) | 371 (9) |
| 10-1-S | 95 | 150 | 45.24 | 45.24 | 2.09 | -2.59 | 13 (9) | 637 (9) | 376 (9) |
| 10-2-S | 95 | 150 | 45.24 | 45.24 | 13.78 | -11.91 | 65 (9) | 3172 (9) | 1732 (9) |
| 10-3-S | 95 | 150 | 45.24 | 45.24 | 32.26 | -30.92 | 164 (9) | 8019 (9) | 4519 (9) |
| 10-4-S | 95 | 150 | 45.24 | 45.24 | 70.59 | -58.72 | 482 (9) | 23594 (9) | 8624 (9) |
| 10-5-S | 95 | 150 | 45.24 | 45.24 | 12.36 | -120.52 | 362 (9) | 7290 (9) | 17706 (9) |
| 10-6-S | 95 | 150 | 45.24 | 45.24 | 1.61 | -177.19 | 529 (9) | 6895 (9) | 25918 (9) |
| 10-7-S | 95 | 150 | 45.24 | 45.24 | 21.81 | -70.67 | 211 (9) | 6578 (9) | 10323 (9) |
| 10-8-S | 95 | 150 | 45.24 | 45.24 | 88.37 | -0.04 | 262 (9) | 12832 (9) | 3414 (9) |
| 10-9-S | 95 | 150 | 45.24 | 45.24 | 230.16 | 0.00 | 685 (9) | 33513 (9) | 8915 (9) |
| 10-10-S | 95 | 150 | 45.24 | 45.24 | 245.70 | 0.00 | 774 (9) | 37868 (9) | 10074 (9) |
| 10-11-S | 95 | 150 | 45.24 | 45.24 | 238.08 | 0.00 | 743 (9) | 36360 (9) | 9673 (9) |
| 10-12-S | 95 | 150 | 45.24 | 45.24 | 234.84 | -0.08 | 725 (9) | 35495 (9) | 9443 (9) |
| 10-13-S | 95 | 150 | 45.24 | 45.24 | 224.25 | -1.90 | 682 (9) | 33390 (9) | 8883 (9) |
| 10-14-S | 95 | 150 | 45.24 | 45.24 | 208.31 | -6.16 | 620 (9) | 30332 (9) | 8069 (9) |
| 10-15-S | 95 | 150 | 45.24 | 45.24 | 199.33 | -15.38 | 579 (9) | 28325 (9) | 7535 (9) |
| 10-16-S | 95 | 150 | 45.24 | 45.24 | 70.12 | -48.63 | 187 (9) | 9177 (9) | 7373 (9) |
| 10-17-S | 95 | 150 | 45.24 | 45.24 | 19.01 | -127.95 | 388 (9) | 5055 (9) | 19002 (9) |
| 10-18-S | 95 | 150 | 45.24 | 45.24 | 12.61 | -74.42 | 228 (9) | 2973 (9) | 11174 (9) |
| 10-19-S | 95 | 150 | 45.24 | 45.24 | 4.85 | -24.15 | 80 (10) | 1970 (10) | 3927 (10) |

| Is | B | H | Afi | Afs | Mp | Mn | σ_c | σ_{fi} | σ_{fs} |
|---------|------|------|-------|-------|--------|-------|------------|---------------|---------------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kNm] | [kPa] | [kPa] | [kPa] |
| 10-20-S | 95 | 150 | 45.24 | 45.24 | 3.71 | -2.79 | 13 (9) | 635 (9) | 371 (9) |
| 11-1-S | 95 | 150 | 40.72 | 40.72 | 0.44 | -0.79 | 4 (9) | 63 (9) | 201 (9) |
| 11-2-S | 95 | 150 | 40.72 | 40.72 | 0.01 | -4.35 | 14 (9) | 178 (9) | 705 (9) |
| 11-3-S | 95 | 150 | 40.72 | 40.72 | 0.48 | -7.20 | 23 (9) | 297 (9) | 1178 (9) |
| 11-4-S | 95 | 150 | 40.72 | 40.72 | 4.25 | -7.03 | 23 (9) | 1129 (9) | 1167 (9) |
| 11-5-S | 95 | 150 | 40.72 | 40.72 | 16.67 | -3.95 | 65 (9) | 3332 (9) | 839 (9) |
| 11-6-S | 95 | 150 | 40.72 | 40.72 | 46.84 | -2.46 | 146 (9) | 7494 (9) | 1888 (9) |
| 11-7-S | 95 | 150 | 40.72 | 40.72 | 88.87 | -0.89 | 277 (9) | 14223 (9) | 3583 (9) |
| 11-8-S | 95 | 150 | 40.72 | 40.72 | 139.10 | 0.00 | 433 (9) | 22256 (9) | 5606 (9) |
| 11-9-S | 95 | 150 | 40.72 | 40.72 | 193.31 | 0.00 | 601 (9) | 30884 (9) | 7780 (9) |
| 11-10-S | 95 | 150 | 40.72 | 40.72 | 136.18 | -0.12 | 444 (9) | 22836 (9) | 5752 (9) |
| 11-11-S | 95 | 150 | 40.72 | 40.72 | 148.90 | 0.00 | 488 (9) | 25074 (9) | 6316 (9) |
| 11-12-S | 95 | 150 | 40.72 | 40.72 | 147.47 | 0.00 | 483 (9) | 24810 (9) | 6249 (9) |
| 11-13-S | 95 | 150 | 40.72 | 40.72 | 136.05 | -0.29 | 444 (9) | 22838 (9) | 5753 (9) |
| 11-14-S | 95 | 150 | 40.72 | 40.72 | 116.69 | -0.75 | 379 (9) | 19482 (9) | 4907 (9) |
| 11-15-S | 95 | 150 | 40.72 | 40.72 | 92.56 | -1.24 | 298 (9) | 15333 (9) | 3862 (9) |
| 11-16-S | 95 | 150 | 40.72 | 40.72 | 68.07 | -1.74 | 217 (9) | 11174 (9) | 2815 (9) |
| 11-17-S | 95 | 150 | 40.72 | 40.72 | 45.93 | -2.21 | 146 (9) | 7485 (9) | 1885 (9) |
| 11-18-S | 95 | 150 | 40.72 | 40.72 | 26.82 | -2.56 | 85 (9) | 4351 (9) | 1096 (9) |
| 11-19-S | 95 | 150 | 40.72 | 40.72 | 11.30 | -1.83 | 36 (9) | 1827 (9) | 460 (9) |
| 11-20-S | 95 | 150 | 40.72 | 40.72 | 1.12 | -0.95 | 4 (9) | 224 (9) | 154 (9) |

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 prima fessurazione espressa in [kNm] |
| ϵ | deformazione espresso in % |
| Sm | spaziatura tra le fessure espressa in [mm] |
| w | apertura delle fessure espressa in [mm] |

Combinazioni SLEF

Paramento

Apertura limite fessure $w_{im}=0.30$

| n° | B | H | Af | Aeff | M | Mpf | ϵ | Sm | w |
|----|------|------|-------|---------|-------|---------|------------|------|------------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kNm] | [%] | [mm] | [mm] |
| 1 | 100 | 40 | 22.62 | 1125.00 | 0.75 | 179.94 | 0.0000 | 0.00 | 0.000 (10) |
| 2 | 100 | 41 | 22.62 | 1125.00 | 0.75 | 229.17 | 0.0000 | 0.00 | 0.000 (10) |
| 3 | 100 | 42 | 22.62 | 1125.00 | 0.77 | 304.56 | 0.0000 | 0.00 | 0.000 (10) |
| 4 | 100 | 43 | 22.62 | 1125.00 | 0.79 | 422.24 | 0.0000 | 0.00 | 0.000 (10) |
| 5 | 100 | 44 | 22.62 | 1125.00 | 0.84 | 601.18 | 0.0000 | 0.00 | 0.000 (10) |
| 6 | 100 | 45 | 0.00 | 0.00 | 0.91 | 839.02 | 0.0000 | 0.00 | 0.000 (10) |
| 7 | 100 | 46 | 0.00 | 0.00 | 1.01 | 1056.41 | 0.0000 | 0.00 | 0.000 (10) |
| 8 | 100 | 47 | 0.00 | 0.00 | 1.14 | 1120.34 | 0.0000 | 0.00 | 0.000 (10) |
| 9 | 100 | 48 | 0.00 | 0.00 | 1.30 | 1021.56 | 0.0000 | 0.00 | 0.000 (10) |
| 10 | 100 | 49 | 22.62 | 1125.00 | 1.51 | 867.53 | 0.0000 | 0.00 | 0.000 (10) |
| 11 | 100 | 50 | 22.62 | 1125.00 | 1.77 | 730.35 | 0.0000 | 0.00 | 0.000 (10) |
| 12 | 100 | 51 | 22.62 | 1125.00 | 2.07 | 626.66 | 0.0000 | 0.00 | 0.000 (10) |
| 13 | 100 | 52 | 22.62 | 1125.00 | 2.44 | 552.04 | 0.0000 | 0.00 | 0.000 (10) |
| 14 | 100 | 53 | 22.62 | 1125.00 | 2.86 | 498.81 | 0.0000 | 0.00 | 0.000 (10) |
| 15 | 100 | 54 | 22.62 | 1125.00 | 3.35 | 460.68 | 0.0000 | 0.00 | 0.000 (10) |
| 16 | 100 | 55 | 22.62 | 1125.00 | 3.90 | 433.24 | 0.0000 | 0.00 | 0.000 (10) |
| 17 | 100 | 56 | 22.62 | 1125.00 | 4.54 | 413.45 | 0.0000 | 0.00 | 0.000 (10) |
| 18 | 100 | 57 | 22.62 | 1125.00 | 5.25 | 399.26 | 0.0000 | 0.00 | 0.000 (10) |
| 19 | 100 | 58 | 22.62 | 1125.00 | 6.04 | 389.26 | 0.0000 | 0.00 | 0.000 (10) |
| 20 | 100 | 59 | 22.62 | 1125.00 | 6.92 | 382.44 | 0.0000 | 0.00 | 0.000 (10) |
| 21 | 100 | 60 | 22.62 | 1125.00 | 7.90 | 378.10 | 0.0000 | 0.00 | 0.000 (10) |
| 22 | 100 | 61 | 22.62 | 1125.00 | 8.97 | 375.73 | 0.0000 | 0.00 | 0.000 (10) |

| n° | B | H | Af | Aeff | M | Mpf | ε | Sm | w |
|----|------|------|-------|---------|--------|--------|--------|------|------------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kNm] | [%] | [mm] | [mm] |
| 23 | 100 | 62 | 22.62 | 1125.00 | 10.14 | 374.94 | 0.0000 | 0.00 | 0.000 (10) |
| 24 | 100 | 63 | 22.62 | 1125.00 | 11.42 | 375.44 | 0.0000 | 0.00 | 0.000 (10) |
| 25 | 100 | 64 | 22.62 | 1125.00 | 12.81 | 377.02 | 0.0000 | 0.00 | 0.000 (10) |
| 26 | 100 | 65 | 22.62 | 1125.00 | 14.32 | 379.49 | 0.0000 | 0.00 | 0.000 (10) |
| 27 | 100 | 66 | 22.62 | 1125.00 | 15.95 | 382.74 | 0.0000 | 0.00 | 0.000 (10) |
| 28 | 100 | 67 | 22.62 | 1125.00 | 17.70 | 386.65 | 0.0000 | 0.00 | 0.000 (10) |
| 29 | 100 | 68 | 22.62 | 1125.00 | 19.58 | 391.13 | 0.0000 | 0.00 | 0.000 (10) |
| 30 | 100 | 69 | 22.62 | 1125.00 | 21.60 | 396.13 | 0.0000 | 0.00 | 0.000 (10) |
| 31 | 100 | 70 | 22.62 | 1125.00 | 23.75 | 401.57 | 0.0000 | 0.00 | 0.000 (10) |
| 32 | 100 | 71 | 22.62 | 1125.00 | 26.05 | 407.42 | 0.0000 | 0.00 | 0.000 (10) |
| 33 | 100 | 72 | 22.62 | 1125.00 | 28.50 | 413.63 | 0.0000 | 0.00 | 0.000 (10) |
| 34 | 100 | 73 | 22.62 | 1125.00 | 31.10 | 420.18 | 0.0000 | 0.00 | 0.000 (10) |
| 35 | 100 | 74 | 22.62 | 1125.00 | 33.86 | 427.04 | 0.0000 | 0.00 | 0.000 (10) |
| 36 | 100 | 75 | 22.62 | 1125.00 | 36.78 | 434.17 | 0.0000 | 0.00 | 0.000 (10) |
| 37 | 100 | 76 | 22.62 | 1125.00 | 39.86 | 441.57 | 0.0000 | 0.00 | 0.000 (10) |
| 38 | 100 | 77 | 22.62 | 1125.00 | 43.12 | 449.22 | 0.0000 | 0.00 | 0.000 (10) |
| 39 | 100 | 78 | 22.62 | 1125.00 | 46.55 | 457.09 | 0.0000 | 0.00 | 0.000 (10) |
| 40 | 100 | 79 | 22.62 | 1125.00 | 50.16 | 465.19 | 0.0000 | 0.00 | 0.000 (10) |
| 41 | 100 | 80 | 22.62 | 1125.00 | 53.96 | 473.49 | 0.0000 | 0.00 | 0.000 (10) |
| 42 | 100 | 81 | 22.62 | 1125.00 | 57.95 | 505.59 | 0.0000 | 0.00 | 0.000 (10) |
| 43 | 100 | 82 | 22.62 | 1125.00 | 62.13 | 514.30 | 0.0000 | 0.00 | 0.000 (10) |
| 44 | 100 | 83 | 22.62 | 1125.00 | 66.52 | 523.22 | 0.0000 | 0.00 | 0.000 (10) |
| 45 | 100 | 84 | 22.62 | 1125.00 | 71.10 | 532.33 | 0.0000 | 0.00 | 0.000 (10) |
| 46 | 100 | 85 | 22.62 | 1125.00 | 75.89 | 541.62 | 0.0000 | 0.00 | 0.000 (10) |
| 47 | 100 | 86 | 22.62 | 1125.00 | 80.90 | 551.08 | 0.0000 | 0.00 | 0.000 (10) |
| 48 | 100 | 87 | 22.62 | 1125.00 | 86.12 | 560.71 | 0.0000 | 0.00 | 0.000 (10) |
| 49 | 100 | 88 | 67.86 | 1125.00 | 91.57 | 692.47 | 0.0000 | 0.00 | 0.000 (10) |
| 50 | 100 | 89 | 67.86 | 1125.00 | 97.24 | 703.71 | 0.0000 | 0.00 | 0.000 (10) |
| 51 | 100 | 90 | 67.86 | 1125.00 | 103.14 | 715.12 | 0.0000 | 0.00 | 0.000 (10) |
| 52 | 100 | 91 | 67.86 | 1125.00 | 109.28 | 726.68 | 0.0000 | 0.00 | 0.000 (10) |
| 53 | 100 | 92 | 67.86 | 1125.00 | 115.66 | 738.41 | 0.0000 | 0.00 | 0.000 (10) |
| 54 | 100 | 93 | 67.86 | 1125.00 | 122.29 | 750.29 | 0.0000 | 0.00 | 0.000 (10) |
| 55 | 100 | 94 | 67.86 | 1125.00 | 129.16 | 762.31 | 0.0000 | 0.00 | 0.000 (10) |
| 56 | 100 | 95 | 67.86 | 1125.00 | 136.29 | 774.49 | 0.0000 | 0.00 | 0.000 (10) |
| 57 | 100 | 96 | 67.86 | 1125.00 | 143.68 | 786.81 | 0.0000 | 0.00 | 0.000 (10) |
| 58 | 100 | 97 | 67.86 | 1125.00 | 151.33 | 799.28 | 0.0000 | 0.00 | 0.000 (10) |
| 59 | 100 | 98 | 67.86 | 1125.00 | 159.25 | 811.88 | 0.0000 | 0.00 | 0.000 (10) |
| 60 | 100 | 99 | 67.86 | 1125.00 | 167.44 | 824.62 | 0.0000 | 0.00 | 0.000 (10) |
| 61 | 100 | 100 | 67.86 | 1125.00 | 175.91 | 837.50 | 0.0000 | 0.00 | 0.000 (10) |
| 62 | 100 | 101 | 45.24 | 1125.00 | 184.67 | 781.21 | 0.0000 | 0.00 | 0.000 (10) |
| 63 | 100 | 102 | 45.24 | 1125.00 | 193.71 | 793.67 | 0.0000 | 0.00 | 0.000 (10) |
| 64 | 100 | 103 | 45.24 | 1125.00 | 203.04 | 777.94 | 0.0000 | 0.00 | 0.000 (10) |
| 65 | 100 | 104 | 45.24 | 1125.00 | 212.66 | 790.47 | 0.0000 | 0.00 | 0.000 (10) |
| 66 | 100 | 105 | 45.24 | 1125.00 | 222.59 | 803.13 | 0.0000 | 0.00 | 0.000 (10) |
| 67 | 100 | 106 | 45.24 | 1125.00 | 232.82 | 815.91 | 0.0000 | 0.00 | 0.000 (10) |
| 68 | 100 | 107 | 45.24 | 1125.00 | 243.37 | 828.81 | 0.0000 | 0.00 | 0.000 (10) |
| 69 | 100 | 108 | 45.24 | 1125.00 | 254.22 | 841.83 | 0.0000 | 0.00 | 0.000 (10) |
| 70 | 100 | 109 | 45.24 | 1125.00 | 265.40 | 854.97 | 0.0000 | 0.00 | 0.000 (10) |
| 71 | 100 | 110 | 45.24 | 1125.00 | 276.90 | 868.23 | 0.0000 | 0.00 | 0.000 (10) |

Mensola valle

Apertura limite fessure $w_{lim}=0.30$

| n° | B | H | Af | Aeff | M | Mpf | ε | Sm | w |
|----|------|------|-------|---------|-------|---------|--------|------|------------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kNm] | [%] | [mm] | [mm] |
| 1 | 100 | 50 | 0.00 | 0.00 | 0.00 | 0.00 | 0.0000 | 0.00 | 0.000 (10) |
| 2 | 100 | 50 | 0.00 | 0.00 | -0.05 | 0.00 | 0.0000 | 0.00 | 0.000 (10) |
| 3 | 100 | 50 | 8.04 | 1125.00 | -0.19 | -143.03 | 0.0000 | 0.00 | 0.000 (10) |
| 4 | 100 | 50 | 8.04 | 1125.00 | -0.42 | -143.03 | 0.0000 | 0.00 | 0.000 (10) |
| 5 | 100 | 50 | 8.04 | 1125.00 | -0.75 | -143.03 | 0.0000 | 0.00 | 0.000 (10) |

Piastra fondazione

Apertura limite fessure $w_{lim}=0.30$

| Is | B | H | Af | Aeff | M | Mpf | ε | Sm | w |
|--------|------|------|-------|---------|---------|----------|--------|------|-------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kNm] | [%] | [mm] | [mm] |
| 1-1-P | 100 | 150 | 10.05 | 1125.00 | 0.62 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 1-2-P | 100 | 150 | 10.05 | 1125.00 | 1.11 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 1-3-P | 100 | 150 | 10.05 | 1125.00 | -5.05 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 1-4-P | 100 | 150 | 10.05 | 1125.00 | -13.99 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 1-5-P | 100 | 150 | 10.05 | 1125.00 | -32.32 | -1235.64 | 0.0000 | 0.00 | 0.000 |
| 1-6-P | 100 | 150 | 10.05 | 1125.00 | -63.00 | -1235.64 | 0.0000 | 0.00 | 0.000 |
| 1-7-P | 100 | 150 | 10.05 | 1125.00 | -107.25 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 1-8-P | 100 | 150 | 10.05 | 1125.00 | -184.19 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 1-9-P | 100 | 150 | 10.05 | 1125.00 | -177.05 | -1235.64 | 0.0000 | 0.00 | 0.000 |
| 1-10-P | 100 | 150 | 10.05 | 1125.00 | -184.19 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 1-11-P | 100 | 150 | 10.05 | 1125.00 | -107.25 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 1-12-P | 100 | 150 | 10.05 | 1125.00 | -63.00 | -1235.64 | 0.0000 | 0.00 | 0.000 |
| 1-13-P | 100 | 150 | 10.05 | 1125.00 | -32.32 | -1235.64 | 0.0000 | 0.00 | 0.000 |
| 1-14-P | 100 | 150 | 10.05 | 1125.00 | -13.99 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 1-15-P | 100 | 150 | 10.05 | 1125.00 | -5.05 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 1-16-P | 100 | 150 | 10.05 | 1125.00 | 1.11 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 1-17-P | 100 | 150 | 10.05 | 1125.00 | 0.62 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 2-1-P | 100 | 150 | 10.05 | 1125.00 | 10.58 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 2-2-P | 100 | 150 | 10.05 | 1125.00 | 12.99 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 2-3-P | 100 | 150 | 10.05 | 1125.00 | 19.74 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 2-4-P | 100 | 150 | 10.05 | 1125.00 | 20.05 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 2-5-P | 100 | 150 | 10.05 | 1125.00 | -17.44 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 2-6-P | 100 | 150 | 10.05 | 1125.00 | -39.56 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 2-7-P | 100 | 150 | 10.05 | 1125.00 | -73.87 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 2-8-P | 100 | 150 | 10.05 | 1125.00 | -84.95 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 2-9-P | 100 | 150 | 10.05 | 1125.00 | -115.85 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 2-10-P | 100 | 150 | 10.05 | 1125.00 | -84.95 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 2-11-P | 100 | 150 | 10.05 | 1125.00 | -73.87 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 2-12-P | 100 | 150 | 10.05 | 1125.00 | -39.56 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 2-13-P | 100 | 150 | 10.05 | 1125.00 | -17.44 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 2-14-P | 100 | 150 | 10.05 | 1125.00 | 20.05 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 2-15-P | 100 | 150 | 10.05 | 1125.00 | 19.74 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 2-16-P | 100 | 150 | 10.05 | 1125.00 | 12.99 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 2-17-P | 100 | 150 | 10.05 | 1125.00 | 10.58 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 5-1-P | 83 | 150 | 8.04 | 937.50 | 10.53 | 1027.62 | 0.0000 | 0.00 | 0.000 |
| 5-2-P | 83 | 150 | 8.04 | 937.50 | 12.52 | 1027.62 | 0.0000 | 0.00 | 0.000 |
| 5-3-P | 83 | 150 | 8.04 | 937.50 | 20.59 | 1027.62 | 0.0000 | 0.00 | 0.000 |
| 5-4-P | 83 | 150 | 8.04 | 937.50 | 25.50 | 1027.62 | 0.0000 | 0.00 | 0.000 |
| 5-5-P | 83 | 150 | 8.04 | 937.50 | 27.41 | 1027.62 | 0.0000 | 0.00 | 0.000 |
| 5-6-P | 83 | 150 | 8.04 | 937.50 | 26.68 | 1027.62 | 0.0000 | 0.00 | 0.000 |
| 5-7-P | 83 | 150 | 8.04 | 937.50 | 23.35 | 1027.62 | 0.0000 | 0.00 | 0.000 |
| 5-8-P | 83 | 150 | 8.04 | 937.50 | 19.10 | 1027.62 | 0.0000 | 0.00 | 0.000 |
| 5-9-P | 83 | 150 | 8.04 | 937.50 | -17.60 | 1027.62 | 0.0000 | 0.00 | 0.000 |
| 5-10-P | 83 | 150 | 8.04 | 937.50 | 19.10 | 1027.62 | 0.0000 | 0.00 | 0.000 |
| 5-11-P | 83 | 150 | 8.04 | 937.50 | 23.35 | 1027.62 | 0.0000 | 0.00 | 0.000 |
| 5-12-P | 83 | 150 | 8.04 | 937.50 | 26.68 | 1027.62 | 0.0000 | 0.00 | 0.000 |
| 5-13-P | 83 | 150 | 8.04 | 937.50 | 27.41 | 1027.62 | 0.0000 | 0.00 | 0.000 |
| 5-14-P | 83 | 150 | 8.04 | 937.50 | 25.50 | 1027.62 | 0.0000 | 0.00 | 0.000 |
| 5-15-P | 83 | 150 | 8.04 | 937.50 | 20.59 | 1027.62 | 0.0000 | 0.00 | 0.000 |
| 5-16-P | 83 | 150 | 8.04 | 937.50 | 12.52 | 1027.62 | 0.0000 | 0.00 | 0.000 |
| 5-17-P | 83 | 150 | 8.04 | 937.50 | 10.53 | 1027.62 | 0.0000 | 0.00 | 0.000 |
| 6-1-P | 83 | 150 | 8.04 | 937.50 | -1.47 | 1027.62 | 0.0000 | 0.00 | 0.000 |
| 6-2-P | 83 | 150 | 8.04 | 937.50 | 3.20 | 1027.62 | 0.0000 | 0.00 | 0.000 |
| 6-3-P | 83 | 150 | 8.04 | 937.50 | 8.34 | 1027.62 | 0.0000 | 0.00 | 0.000 |
| 6-4-P | 83 | 150 | 8.04 | 937.50 | -15.05 | 1027.62 | 0.0000 | 0.00 | 0.000 |
| 6-5-P | 83 | 150 | 8.04 | 937.50 | -28.49 | 1027.62 | 0.0000 | 0.00 | 0.000 |
| 6-6-P | 83 | 150 | 8.04 | 937.50 | -51.08 | 1027.62 | 0.0000 | 0.00 | 0.000 |
| 6-7-P | 83 | 150 | 8.04 | 937.50 | -87.05 | 1027.62 | 0.0000 | 0.00 | 0.000 |
| 6-8-P | 83 | 150 | 8.04 | 937.50 | -149.46 | 1027.62 | 0.0000 | 0.00 | 0.000 |
| 6-9-P | 83 | 150 | 8.04 | 937.50 | -124.57 | -1027.62 | 0.0000 | 0.00 | 0.000 |
| 6-10-P | 83 | 150 | 8.04 | 937.50 | -149.46 | 1027.62 | 0.0000 | 0.00 | 0.000 |
| 6-11-P | 83 | 150 | 8.04 | 937.50 | -87.05 | 1027.62 | 0.0000 | 0.00 | 0.000 |
| 6-12-P | 83 | 150 | 8.04 | 937.50 | -51.08 | 1027.62 | 0.0000 | 0.00 | 0.000 |
| 6-13-P | 83 | 150 | 8.04 | 937.50 | -28.49 | 1027.62 | 0.0000 | 0.00 | 0.000 |
| 6-14-P | 83 | 150 | 8.04 | 937.50 | -15.05 | 1027.62 | 0.0000 | 0.00 | 0.000 |
| 6-15-P | 83 | 150 | 8.04 | 937.50 | 8.34 | 1027.62 | 0.0000 | 0.00 | 0.000 |
| 6-16-P | 83 | 150 | 8.04 | 937.50 | 3.20 | 1027.62 | 0.0000 | 0.00 | 0.000 |
| 6-17-P | 83 | 150 | 8.04 | 937.50 | -1.47 | 1027.62 | 0.0000 | 0.00 | 0.000 |
| 7-1-P | 83 | 150 | 8.04 | 937.50 | -0.52 | 1027.62 | 0.0000 | 0.00 | 0.000 |
| 7-2-P | 83 | 150 | 8.04 | 937.50 | -3.84 | 1027.62 | 0.0000 | 0.00 | 0.000 |

| Is | B [cm] | H [cm] | Af [cmq] | Aeff [cmq] | M [kNm] | Mpf [kNm] | ε [%] | Sm [mm] | w [mm] |
|-----------|------------------|------------------|--------------------|----------------------|-------------------|---------------------|-----------------|-------------------|------------------|
| 7-3-P | 83 | 150 | 8.04 | 937.50 | -16.26 | 1027.62 | 0.0000 | 0.00 | 0.000 |
| 7-4-P | 83 | 150 | 8.04 | 937.50 | -36.00 | 1027.62 | 0.0000 | 0.00 | 0.000 |
| 7-5-P | 83 | 150 | 8.04 | 937.50 | -63.87 | 1027.62 | 0.0000 | 0.00 | 0.000 |
| 7-6-P | 83 | 150 | 8.04 | 937.50 | -99.33 | 1027.62 | 0.0000 | 0.00 | 0.000 |
| 7-7-P | 83 | 150 | 8.04 | 937.50 | -134.89 | 1027.62 | 0.0000 | 0.00 | 0.000 |
| 7-8-P | 83 | 150 | 8.04 | 937.50 | -146.66 | -1027.62 | 0.0000 | 0.00 | 0.000 |
| 7-9-P | 83 | 150 | 8.04 | 937.50 | -174.36 | -1027.62 | 0.0000 | 0.00 | 0.000 |
| 7-10-P | 83 | 150 | 8.04 | 937.50 | -146.66 | -1027.62 | 0.0000 | 0.00 | 0.000 |
| 7-11-P | 83 | 150 | 8.04 | 937.50 | -134.89 | 1027.62 | 0.0000 | 0.00 | 0.000 |
| 7-12-P | 83 | 150 | 8.04 | 937.50 | -99.33 | 1027.62 | 0.0000 | 0.00 | 0.000 |
| 7-13-P | 83 | 150 | 8.04 | 937.50 | -63.87 | 1027.62 | 0.0000 | 0.00 | 0.000 |
| 7-14-P | 83 | 150 | 8.04 | 937.50 | -36.00 | 1027.62 | 0.0000 | 0.00 | 0.000 |
| 7-15-P | 83 | 150 | 8.04 | 937.50 | -16.26 | 1027.62 | 0.0000 | 0.00 | 0.000 |
| 7-16-P | 83 | 150 | 8.04 | 937.50 | -3.84 | 1027.62 | 0.0000 | 0.00 | 0.000 |
| 7-17-P | 83 | 150 | 8.04 | 937.50 | -0.52 | 1027.62 | 0.0000 | 0.00 | 0.000 |
| 8-1-S | 95 | 150 | 40.72 | 1071.56 | -0.67 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 8-2-S | 95 | 150 | 0.00 | 0.00 | -3.91 | 0.00 | 0.0000 | 0.00 | 0.000 |
| 8-3-S | 95 | 150 | 40.72 | 1071.56 | -6.53 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 8-4-S | 95 | 150 | 40.72 | 1071.56 | -6.47 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 8-5-S | 95 | 150 | 40.72 | 1071.56 | 14.78 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 8-6-S | 95 | 150 | 40.72 | 1071.56 | 41.55 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 8-7-S | 95 | 150 | 40.72 | 1071.56 | 78.86 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 8-8-S | 95 | 150 | 40.72 | 1071.56 | 123.39 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 8-9-S | 95 | 150 | 40.72 | 1071.56 | 171.23 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 8-10-S | 95 | 150 | 40.72 | 1071.56 | 126.61 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 8-11-S | 95 | 150 | 40.72 | 1071.56 | 139.01 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 8-12-S | 95 | 150 | 40.72 | 1071.56 | 137.55 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 8-13-S | 95 | 150 | 40.72 | 1071.56 | 126.62 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 8-14-S | 95 | 150 | 40.72 | 1071.56 | 108.01 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 8-15-S | 95 | 150 | 40.72 | 1071.56 | 85.01 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 8-16-S | 95 | 150 | 40.72 | 1071.56 | 61.95 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 8-17-S | 95 | 150 | 40.72 | 1071.56 | 41.50 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 8-18-S | 95 | 150 | 40.72 | 1071.56 | 24.12 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 8-19-S | 95 | 150 | 40.72 | 1071.56 | 10.13 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 8-20-S | 95 | 150 | 40.72 | 1071.56 | 0.99 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 9-1-S | 95 | 150 | 45.24 | 1071.56 | -2.31 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 9-2-S | 95 | 150 | 45.24 | 1071.56 | 12.08 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 9-3-S | 95 | 150 | 45.24 | 1071.56 | 28.18 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 9-4-S | 95 | 150 | 45.24 | 1071.56 | 62.19 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 9-5-S | 95 | 150 | 45.24 | 1071.56 | -108.90 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 9-6-S | 95 | 150 | 45.24 | 1071.56 | -159.40 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 9-7-S | 95 | 150 | 45.24 | 1071.56 | -63.49 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 9-8-S | 95 | 150 | 45.24 | 1071.56 | 78.92 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 9-9-S | 95 | 150 | 45.24 | 1071.56 | 206.12 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 9-10-S | 95 | 150 | 45.24 | 1071.56 | 232.90 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 9-11-S | 95 | 150 | 45.24 | 1071.56 | 223.63 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 9-12-S | 95 | 150 | 45.24 | 1071.56 | 218.31 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 9-13-S | 95 | 150 | 45.24 | 1071.56 | 205.36 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 9-14-S | 95 | 150 | 45.24 | 1071.56 | 186.56 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 9-15-S | 95 | 150 | 45.24 | 1071.56 | 174.21 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 9-16-S | 95 | 150 | 45.24 | 1071.56 | 56.44 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 9-17-S | 95 | 150 | 45.24 | 1071.56 | -116.87 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 9-18-S | 95 | 150 | 45.24 | 1071.56 | -68.73 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 9-19-S | 95 | 150 | 45.24 | 1071.56 | -24.15 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 9-20-S | 95 | 150 | 45.24 | 1071.56 | 3.12 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 10-1-S | 95 | 150 | 45.24 | 1071.56 | -2.31 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 10-2-S | 95 | 150 | 45.24 | 1071.56 | 12.08 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 10-3-S | 95 | 150 | 45.24 | 1071.56 | 28.18 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 10-4-S | 95 | 150 | 45.24 | 1071.56 | 62.19 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 10-5-S | 95 | 150 | 45.24 | 1071.56 | -108.90 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 10-6-S | 95 | 150 | 45.24 | 1071.56 | -159.40 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 10-7-S | 95 | 150 | 45.24 | 1071.56 | -63.49 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 10-8-S | 95 | 150 | 45.24 | 1071.56 | 78.92 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 10-9-S | 95 | 150 | 45.24 | 1071.56 | 206.12 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 10-10-S | 95 | 150 | 45.24 | 1071.56 | 232.90 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 10-11-S | 95 | 150 | 45.24 | 1071.56 | 223.63 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 10-12-S | 95 | 150 | 45.24 | 1071.56 | 218.31 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 10-13-S | 95 | 150 | 45.24 | 1071.56 | 205.36 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 10-14-S | 95 | 150 | 45.24 | 1071.56 | 186.56 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 10-15-S | 95 | 150 | 45.24 | 1071.56 | 174.21 | 1398.75 | 0.0000 | 0.00 | 0.000 |

| Is | B | H | Af | Aeff | M | Mpf | ε | Sm | w |
|---------|------|------|-------|---------|---------|---------|--------|------|-------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kNm] | [%] | [mm] | [mm] |
| 10-16-S | 95 | 150 | 45.24 | 1071.56 | 56.44 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 10-17-S | 95 | 150 | 45.24 | 1071.56 | -116.87 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 10-18-S | 95 | 150 | 45.24 | 1071.56 | -68.73 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 10-19-S | 95 | 150 | 45.24 | 1071.56 | -24.15 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 10-20-S | 95 | 150 | 45.24 | 1071.56 | 3.12 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 11-1-S | 95 | 150 | 40.72 | 1071.56 | -0.67 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 11-2-S | 95 | 150 | 0.00 | 0.00 | -3.91 | 0.00 | 0.0000 | 0.00 | 0.000 |
| 11-3-S | 95 | 150 | 40.72 | 1071.56 | -6.53 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 11-4-S | 95 | 150 | 40.72 | 1071.56 | -6.47 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 11-5-S | 95 | 150 | 40.72 | 1071.56 | 14.78 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 11-6-S | 95 | 150 | 40.72 | 1071.56 | 41.55 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 11-7-S | 95 | 150 | 40.72 | 1071.56 | 78.86 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 11-8-S | 95 | 150 | 40.72 | 1071.56 | 123.39 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 11-9-S | 95 | 150 | 40.72 | 1071.56 | 171.23 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 11-10-S | 95 | 150 | 40.72 | 1071.56 | 126.61 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 11-11-S | 95 | 150 | 40.72 | 1071.56 | 139.01 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 11-12-S | 95 | 150 | 40.72 | 1071.56 | 137.55 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 11-13-S | 95 | 150 | 40.72 | 1071.56 | 126.62 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 11-14-S | 95 | 150 | 40.72 | 1071.56 | 108.01 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 11-15-S | 95 | 150 | 40.72 | 1071.56 | 85.01 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 11-16-S | 95 | 150 | 40.72 | 1071.56 | 61.95 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 11-17-S | 95 | 150 | 40.72 | 1071.56 | 41.50 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 11-18-S | 95 | 150 | 40.72 | 1071.56 | 24.12 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 11-19-S | 95 | 150 | 40.72 | 1071.56 | 10.13 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 11-20-S | 95 | 150 | 40.72 | 1071.56 | 0.99 | 1370.62 | 0.0000 | 0.00 | 0.000 |

Combinazioni SLEQ

Paramento

Apertura limite fessure $w_{lim}=0.20$

| n° | B | H | Af | Aeff | M | Mpf | ε | Sm | w |
|----|------|------|-------|---------|-------|---------|--------|------|------------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kNm] | [%] | [mm] | [mm] |
| 1 | 100 | 40 | 22.62 | 1125.00 | 0.75 | 179.94 | 0.0000 | 0.00 | 0.000 (11) |
| 2 | 100 | 41 | 22.62 | 1125.00 | 0.75 | 229.17 | 0.0000 | 0.00 | 0.000 (11) |
| 3 | 100 | 42 | 22.62 | 1125.00 | 0.77 | 304.56 | 0.0000 | 0.00 | 0.000 (11) |
| 4 | 100 | 43 | 22.62 | 1125.00 | 0.79 | 422.24 | 0.0000 | 0.00 | 0.000 (11) |
| 5 | 100 | 44 | 22.62 | 1125.00 | 0.84 | 601.18 | 0.0000 | 0.00 | 0.000 (11) |
| 6 | 100 | 45 | 0.00 | 0.00 | 0.91 | 839.02 | 0.0000 | 0.00 | 0.000 (11) |
| 7 | 100 | 46 | 0.00 | 0.00 | 1.01 | 1056.41 | 0.0000 | 0.00 | 0.000 (11) |
| 8 | 100 | 47 | 0.00 | 0.00 | 1.14 | 1120.34 | 0.0000 | 0.00 | 0.000 (11) |
| 9 | 100 | 48 | 0.00 | 0.00 | 1.30 | 1021.56 | 0.0000 | 0.00 | 0.000 (11) |
| 10 | 100 | 49 | 22.62 | 1125.00 | 1.51 | 867.53 | 0.0000 | 0.00 | 0.000 (11) |
| 11 | 100 | 50 | 22.62 | 1125.00 | 1.77 | 730.35 | 0.0000 | 0.00 | 0.000 (11) |
| 12 | 100 | 51 | 22.62 | 1125.00 | 2.07 | 626.66 | 0.0000 | 0.00 | 0.000 (11) |
| 13 | 100 | 52 | 22.62 | 1125.00 | 2.44 | 552.04 | 0.0000 | 0.00 | 0.000 (11) |
| 14 | 100 | 53 | 22.62 | 1125.00 | 2.86 | 498.81 | 0.0000 | 0.00 | 0.000 (11) |
| 15 | 100 | 54 | 22.62 | 1125.00 | 3.35 | 460.68 | 0.0000 | 0.00 | 0.000 (11) |
| 16 | 100 | 55 | 22.62 | 1125.00 | 3.90 | 433.24 | 0.0000 | 0.00 | 0.000 (11) |
| 17 | 100 | 56 | 22.62 | 1125.00 | 4.54 | 413.45 | 0.0000 | 0.00 | 0.000 (11) |
| 18 | 100 | 57 | 22.62 | 1125.00 | 5.25 | 399.26 | 0.0000 | 0.00 | 0.000 (11) |
| 19 | 100 | 58 | 22.62 | 1125.00 | 6.04 | 389.26 | 0.0000 | 0.00 | 0.000 (11) |
| 20 | 100 | 59 | 22.62 | 1125.00 | 6.92 | 382.44 | 0.0000 | 0.00 | 0.000 (11) |
| 21 | 100 | 60 | 22.62 | 1125.00 | 7.90 | 378.10 | 0.0000 | 0.00 | 0.000 (11) |
| 22 | 100 | 61 | 22.62 | 1125.00 | 8.97 | 375.73 | 0.0000 | 0.00 | 0.000 (11) |
| 23 | 100 | 62 | 22.62 | 1125.00 | 10.14 | 374.94 | 0.0000 | 0.00 | 0.000 (11) |
| 24 | 100 | 63 | 22.62 | 1125.00 | 11.42 | 375.44 | 0.0000 | 0.00 | 0.000 (11) |
| 25 | 100 | 64 | 22.62 | 1125.00 | 12.81 | 377.02 | 0.0000 | 0.00 | 0.000 (11) |
| 26 | 100 | 65 | 22.62 | 1125.00 | 14.32 | 379.49 | 0.0000 | 0.00 | 0.000 (11) |
| 27 | 100 | 66 | 22.62 | 1125.00 | 15.95 | 382.74 | 0.0000 | 0.00 | 0.000 (11) |
| 28 | 100 | 67 | 22.62 | 1125.00 | 17.70 | 386.65 | 0.0000 | 0.00 | 0.000 (11) |
| 29 | 100 | 68 | 22.62 | 1125.00 | 19.58 | 391.13 | 0.0000 | 0.00 | 0.000 (11) |
| 30 | 100 | 69 | 22.62 | 1125.00 | 21.60 | 396.13 | 0.0000 | 0.00 | 0.000 (11) |
| 31 | 100 | 70 | 22.62 | 1125.00 | 23.75 | 401.57 | 0.0000 | 0.00 | 0.000 (11) |
| 32 | 100 | 71 | 22.62 | 1125.00 | 26.05 | 407.42 | 0.0000 | 0.00 | 0.000 (11) |
| 33 | 100 | 72 | 22.62 | 1125.00 | 28.50 | 413.63 | 0.0000 | 0.00 | 0.000 (11) |

| n° | B | H | Af | Aeff | M | Mpf | ε | Sm | w |
|----|------|------|-------|---------|--------|--------|--------|------|------------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kNm] | [%] | [mm] | [mm] |
| 34 | 100 | 73 | 22.62 | 1125.00 | 31.10 | 420.18 | 0.0000 | 0.00 | 0.000 (11) |
| 35 | 100 | 74 | 22.62 | 1125.00 | 33.86 | 427.04 | 0.0000 | 0.00 | 0.000 (11) |
| 36 | 100 | 75 | 22.62 | 1125.00 | 36.78 | 434.17 | 0.0000 | 0.00 | 0.000 (11) |
| 37 | 100 | 76 | 22.62 | 1125.00 | 39.86 | 441.57 | 0.0000 | 0.00 | 0.000 (11) |
| 38 | 100 | 77 | 22.62 | 1125.00 | 43.12 | 449.22 | 0.0000 | 0.00 | 0.000 (11) |
| 39 | 100 | 78 | 22.62 | 1125.00 | 46.55 | 457.09 | 0.0000 | 0.00 | 0.000 (11) |
| 40 | 100 | 79 | 22.62 | 1125.00 | 50.16 | 465.19 | 0.0000 | 0.00 | 0.000 (11) |
| 41 | 100 | 80 | 22.62 | 1125.00 | 53.96 | 473.49 | 0.0000 | 0.00 | 0.000 (11) |
| 42 | 100 | 81 | 22.62 | 1125.00 | 57.95 | 505.59 | 0.0000 | 0.00 | 0.000 (11) |
| 43 | 100 | 82 | 22.62 | 1125.00 | 62.13 | 514.30 | 0.0000 | 0.00 | 0.000 (11) |
| 44 | 100 | 83 | 22.62 | 1125.00 | 66.52 | 523.22 | 0.0000 | 0.00 | 0.000 (11) |
| 45 | 100 | 84 | 22.62 | 1125.00 | 71.10 | 532.33 | 0.0000 | 0.00 | 0.000 (11) |
| 46 | 100 | 85 | 22.62 | 1125.00 | 75.89 | 541.62 | 0.0000 | 0.00 | 0.000 (11) |
| 47 | 100 | 86 | 22.62 | 1125.00 | 80.90 | 551.08 | 0.0000 | 0.00 | 0.000 (11) |
| 48 | 100 | 87 | 22.62 | 1125.00 | 86.12 | 560.71 | 0.0000 | 0.00 | 0.000 (11) |
| 49 | 100 | 88 | 67.86 | 1125.00 | 91.57 | 692.47 | 0.0000 | 0.00 | 0.000 (11) |
| 50 | 100 | 89 | 67.86 | 1125.00 | 97.24 | 703.71 | 0.0000 | 0.00 | 0.000 (11) |
| 51 | 100 | 90 | 67.86 | 1125.00 | 103.14 | 715.12 | 0.0000 | 0.00 | 0.000 (11) |
| 52 | 100 | 91 | 67.86 | 1125.00 | 109.28 | 726.68 | 0.0000 | 0.00 | 0.000 (11) |
| 53 | 100 | 92 | 67.86 | 1125.00 | 115.66 | 738.41 | 0.0000 | 0.00 | 0.000 (11) |
| 54 | 100 | 93 | 67.86 | 1125.00 | 122.29 | 750.29 | 0.0000 | 0.00 | 0.000 (11) |
| 55 | 100 | 94 | 67.86 | 1125.00 | 129.16 | 762.31 | 0.0000 | 0.00 | 0.000 (11) |
| 56 | 100 | 95 | 67.86 | 1125.00 | 136.29 | 774.49 | 0.0000 | 0.00 | 0.000 (11) |
| 57 | 100 | 96 | 67.86 | 1125.00 | 143.68 | 786.81 | 0.0000 | 0.00 | 0.000 (11) |
| 58 | 100 | 97 | 67.86 | 1125.00 | 151.33 | 799.28 | 0.0000 | 0.00 | 0.000 (11) |
| 59 | 100 | 98 | 67.86 | 1125.00 | 159.25 | 811.88 | 0.0000 | 0.00 | 0.000 (11) |
| 60 | 100 | 99 | 67.86 | 1125.00 | 167.44 | 824.62 | 0.0000 | 0.00 | 0.000 (11) |
| 61 | 100 | 100 | 67.86 | 1125.00 | 175.91 | 837.50 | 0.0000 | 0.00 | 0.000 (11) |
| 62 | 100 | 101 | 45.24 | 1125.00 | 184.67 | 781.21 | 0.0000 | 0.00 | 0.000 (11) |
| 63 | 100 | 102 | 45.24 | 1125.00 | 193.71 | 793.67 | 0.0000 | 0.00 | 0.000 (11) |
| 64 | 100 | 103 | 45.24 | 1125.00 | 203.04 | 777.94 | 0.0000 | 0.00 | 0.000 (11) |
| 65 | 100 | 104 | 45.24 | 1125.00 | 212.66 | 790.47 | 0.0000 | 0.00 | 0.000 (11) |
| 66 | 100 | 105 | 45.24 | 1125.00 | 222.59 | 803.13 | 0.0000 | 0.00 | 0.000 (11) |
| 67 | 100 | 106 | 45.24 | 1125.00 | 232.82 | 815.91 | 0.0000 | 0.00 | 0.000 (11) |
| 68 | 100 | 107 | 45.24 | 1125.00 | 243.37 | 828.81 | 0.0000 | 0.00 | 0.000 (11) |
| 69 | 100 | 108 | 45.24 | 1125.00 | 254.22 | 841.83 | 0.0000 | 0.00 | 0.000 (11) |
| 70 | 100 | 109 | 45.24 | 1125.00 | 265.40 | 854.97 | 0.0000 | 0.00 | 0.000 (11) |
| 71 | 100 | 110 | 45.24 | 1125.00 | 276.90 | 868.23 | 0.0000 | 0.00 | 0.000 (11) |

Mensola valle

Apertura limite fessure $w_{lim}=0.20$

| n° | B | H | Af | Aeff | M | Mpf | ε | Sm | w |
|----|------|------|-------|---------|-------|---------|--------|------|------------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kNm] | [%] | [mm] | [mm] |
| 1 | 100 | 50 | 0.00 | 0.00 | 0.00 | 0.00 | 0.0000 | 0.00 | 0.000 (11) |
| 2 | 100 | 50 | 0.00 | 0.00 | -0.05 | 0.00 | 0.0000 | 0.00 | 0.000 (11) |
| 3 | 100 | 50 | 8.04 | 1125.00 | -0.19 | -143.03 | 0.0000 | 0.00 | 0.000 (11) |
| 4 | 100 | 50 | 8.04 | 1125.00 | -0.42 | -143.03 | 0.0000 | 0.00 | 0.000 (11) |
| 5 | 100 | 50 | 8.04 | 1125.00 | -0.75 | -143.03 | 0.0000 | 0.00 | 0.000 (11) |

Piastra fondazione

Apertura limite fessure $w_{lim}=0.20$

| Is | B | H | Af | Aeff | M | Mpf | ε | Sm | w |
|-------|------|------|-------|---------|---------|----------|--------|------|-------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kNm] | [%] | [mm] | [mm] |
| 1-1-P | 100 | 150 | 10.05 | 1125.00 | 0.62 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 1-2-P | 100 | 150 | 10.05 | 1125.00 | 1.11 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 1-3-P | 100 | 150 | 10.05 | 1125.00 | -5.05 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 1-4-P | 100 | 150 | 10.05 | 1125.00 | -13.99 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 1-5-P | 100 | 150 | 10.05 | 1125.00 | -32.32 | -1235.64 | 0.0000 | 0.00 | 0.000 |
| 1-6-P | 100 | 150 | 10.05 | 1125.00 | -63.00 | -1235.64 | 0.0000 | 0.00 | 0.000 |
| 1-7-P | 100 | 150 | 10.05 | 1125.00 | -107.25 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 1-8-P | 100 | 150 | 10.05 | 1125.00 | -184.19 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 1-9-P | 100 | 150 | 10.05 | 1125.00 | -177.05 | -1235.64 | 0.0000 | 0.00 | 0.000 |

| Is | B | H | Af | Aeff | M | Mpf | ε | Sm | w |
|--------|------|------|-------|---------|---------|----------|--------|------|-------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kNm] | [%] | [mm] | [mm] |
| 1-10-P | 100 | 150 | 10.05 | 1125.00 | -184.19 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 1-11-P | 100 | 150 | 10.05 | 1125.00 | -107.25 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 1-12-P | 100 | 150 | 10.05 | 1125.00 | -63.00 | -1235.64 | 0.0000 | 0.00 | 0.000 |
| 1-13-P | 100 | 150 | 10.05 | 1125.00 | -32.32 | -1235.64 | 0.0000 | 0.00 | 0.000 |
| 1-14-P | 100 | 150 | 10.05 | 1125.00 | -13.99 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 1-15-P | 100 | 150 | 10.05 | 1125.00 | -5.05 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 1-16-P | 100 | 150 | 10.05 | 1125.00 | 1.11 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 1-17-P | 100 | 150 | 10.05 | 1125.00 | 0.62 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 2-1-P | 100 | 150 | 10.05 | 1125.00 | 10.58 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 2-2-P | 100 | 150 | 10.05 | 1125.00 | 12.99 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 2-3-P | 100 | 150 | 10.05 | 1125.00 | 19.74 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 2-4-P | 100 | 150 | 10.05 | 1125.00 | 20.05 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 2-5-P | 100 | 150 | 10.05 | 1125.00 | -17.44 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 2-6-P | 100 | 150 | 10.05 | 1125.00 | -39.56 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 2-7-P | 100 | 150 | 10.05 | 1125.00 | -73.87 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 2-8-P | 100 | 150 | 10.05 | 1125.00 | -84.95 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 2-9-P | 100 | 150 | 10.05 | 1125.00 | -115.85 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 2-10-P | 100 | 150 | 10.05 | 1125.00 | -84.95 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 2-11-P | 100 | 150 | 10.05 | 1125.00 | -73.87 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 2-12-P | 100 | 150 | 10.05 | 1125.00 | -39.56 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 2-13-P | 100 | 150 | 10.05 | 1125.00 | -17.44 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 2-14-P | 100 | 150 | 10.05 | 1125.00 | 20.05 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 2-15-P | 100 | 150 | 10.05 | 1125.00 | 19.74 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 2-16-P | 100 | 150 | 10.05 | 1125.00 | 12.99 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 2-17-P | 100 | 150 | 10.05 | 1125.00 | 10.58 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 5-1-P | 83 | 150 | 8.04 | 937.50 | 10.53 | 1027.62 | 0.0000 | 0.00 | 0.000 |
| 5-2-P | 83 | 150 | 8.04 | 937.50 | 12.52 | 1027.62 | 0.0000 | 0.00 | 0.000 |
| 5-3-P | 83 | 150 | 8.04 | 937.50 | 20.59 | 1027.62 | 0.0000 | 0.00 | 0.000 |
| 5-4-P | 83 | 150 | 8.04 | 937.50 | 25.50 | 1027.62 | 0.0000 | 0.00 | 0.000 |
| 5-5-P | 83 | 150 | 8.04 | 937.50 | 27.41 | 1027.62 | 0.0000 | 0.00 | 0.000 |
| 5-6-P | 83 | 150 | 8.04 | 937.50 | 26.68 | 1027.62 | 0.0000 | 0.00 | 0.000 |
| 5-7-P | 83 | 150 | 8.04 | 937.50 | 23.35 | 1027.62 | 0.0000 | 0.00 | 0.000 |
| 5-8-P | 83 | 150 | 8.04 | 937.50 | 19.10 | 1027.62 | 0.0000 | 0.00 | 0.000 |
| 5-9-P | 83 | 150 | 8.04 | 937.50 | -17.60 | 1027.62 | 0.0000 | 0.00 | 0.000 |
| 5-10-P | 83 | 150 | 8.04 | 937.50 | 19.10 | 1027.62 | 0.0000 | 0.00 | 0.000 |
| 5-11-P | 83 | 150 | 8.04 | 937.50 | 23.35 | 1027.62 | 0.0000 | 0.00 | 0.000 |
| 5-12-P | 83 | 150 | 8.04 | 937.50 | 26.68 | 1027.62 | 0.0000 | 0.00 | 0.000 |
| 5-13-P | 83 | 150 | 8.04 | 937.50 | 27.41 | 1027.62 | 0.0000 | 0.00 | 0.000 |
| 5-14-P | 83 | 150 | 8.04 | 937.50 | 25.50 | 1027.62 | 0.0000 | 0.00 | 0.000 |
| 5-15-P | 83 | 150 | 8.04 | 937.50 | 20.59 | 1027.62 | 0.0000 | 0.00 | 0.000 |
| 5-16-P | 83 | 150 | 8.04 | 937.50 | 12.52 | 1027.62 | 0.0000 | 0.00 | 0.000 |
| 5-17-P | 83 | 150 | 8.04 | 937.50 | 10.53 | 1027.62 | 0.0000 | 0.00 | 0.000 |
| 6-1-P | 83 | 150 | 8.04 | 937.50 | -1.47 | 1027.62 | 0.0000 | 0.00 | 0.000 |
| 6-2-P | 83 | 150 | 8.04 | 937.50 | 3.20 | 1027.62 | 0.0000 | 0.00 | 0.000 |
| 6-3-P | 83 | 150 | 8.04 | 937.50 | 8.34 | 1027.62 | 0.0000 | 0.00 | 0.000 |
| 6-4-P | 83 | 150 | 8.04 | 937.50 | -15.05 | 1027.62 | 0.0000 | 0.00 | 0.000 |
| 6-5-P | 83 | 150 | 8.04 | 937.50 | -28.49 | 1027.62 | 0.0000 | 0.00 | 0.000 |
| 6-6-P | 83 | 150 | 8.04 | 937.50 | -51.08 | 1027.62 | 0.0000 | 0.00 | 0.000 |
| 6-7-P | 83 | 150 | 8.04 | 937.50 | -87.05 | 1027.62 | 0.0000 | 0.00 | 0.000 |
| 6-8-P | 83 | 150 | 8.04 | 937.50 | -149.46 | 1027.62 | 0.0000 | 0.00 | 0.000 |
| 6-9-P | 83 | 150 | 8.04 | 937.50 | -124.57 | -1027.62 | 0.0000 | 0.00 | 0.000 |
| 6-10-P | 83 | 150 | 8.04 | 937.50 | -149.46 | 1027.62 | 0.0000 | 0.00 | 0.000 |
| 6-11-P | 83 | 150 | 8.04 | 937.50 | -87.05 | 1027.62 | 0.0000 | 0.00 | 0.000 |
| 6-12-P | 83 | 150 | 8.04 | 937.50 | -51.08 | 1027.62 | 0.0000 | 0.00 | 0.000 |
| 6-13-P | 83 | 150 | 8.04 | 937.50 | -28.49 | 1027.62 | 0.0000 | 0.00 | 0.000 |
| 6-14-P | 83 | 150 | 8.04 | 937.50 | -15.05 | 1027.62 | 0.0000 | 0.00 | 0.000 |
| 6-15-P | 83 | 150 | 8.04 | 937.50 | 8.34 | 1027.62 | 0.0000 | 0.00 | 0.000 |
| 6-16-P | 83 | 150 | 8.04 | 937.50 | 3.20 | 1027.62 | 0.0000 | 0.00 | 0.000 |
| 6-17-P | 83 | 150 | 8.04 | 937.50 | -1.47 | 1027.62 | 0.0000 | 0.00 | 0.000 |
| 7-1-P | 83 | 150 | 8.04 | 937.50 | -0.52 | 1027.62 | 0.0000 | 0.00 | 0.000 |
| 7-2-P | 83 | 150 | 8.04 | 937.50 | -3.84 | 1027.62 | 0.0000 | 0.00 | 0.000 |
| 7-3-P | 83 | 150 | 8.04 | 937.50 | -16.26 | 1027.62 | 0.0000 | 0.00 | 0.000 |
| 7-4-P | 83 | 150 | 8.04 | 937.50 | -36.00 | 1027.62 | 0.0000 | 0.00 | 0.000 |
| 7-5-P | 83 | 150 | 8.04 | 937.50 | -63.87 | 1027.62 | 0.0000 | 0.00 | 0.000 |
| 7-6-P | 83 | 150 | 8.04 | 937.50 | -99.33 | 1027.62 | 0.0000 | 0.00 | 0.000 |
| 7-7-P | 83 | 150 | 8.04 | 937.50 | -134.89 | 1027.62 | 0.0000 | 0.00 | 0.000 |
| 7-8-P | 83 | 150 | 8.04 | 937.50 | -146.66 | -1027.62 | 0.0000 | 0.00 | 0.000 |
| 7-9-P | 83 | 150 | 8.04 | 937.50 | -174.36 | -1027.62 | 0.0000 | 0.00 | 0.000 |
| 7-10-P | 83 | 150 | 8.04 | 937.50 | -146.66 | -1027.62 | 0.0000 | 0.00 | 0.000 |
| 7-11-P | 83 | 150 | 8.04 | 937.50 | -134.89 | 1027.62 | 0.0000 | 0.00 | 0.000 |

| Is | B | H | Af | Aeff | M | Mpf | ε | Sm | w |
|---------|------|------|-------|---------|---------|---------|--------|------|-------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kNm] | [%] | [mm] | [mm] |
| 7-12-P | 83 | 150 | 8.04 | 937.50 | -99.33 | 1027.62 | 0.0000 | 0.00 | 0.000 |
| 7-13-P | 83 | 150 | 8.04 | 937.50 | -63.87 | 1027.62 | 0.0000 | 0.00 | 0.000 |
| 7-14-P | 83 | 150 | 8.04 | 937.50 | -36.00 | 1027.62 | 0.0000 | 0.00 | 0.000 |
| 7-15-P | 83 | 150 | 8.04 | 937.50 | -16.26 | 1027.62 | 0.0000 | 0.00 | 0.000 |
| 7-16-P | 83 | 150 | 8.04 | 937.50 | -3.84 | 1027.62 | 0.0000 | 0.00 | 0.000 |
| 7-17-P | 83 | 150 | 8.04 | 937.50 | -0.52 | 1027.62 | 0.0000 | 0.00 | 0.000 |
| 8-1-S | 95 | 150 | 40.72 | 1071.56 | -0.67 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 8-2-S | 95 | 150 | 0.00 | 0.00 | -3.91 | 0.00 | 0.0000 | 0.00 | 0.000 |
| 8-3-S | 95 | 150 | 40.72 | 1071.56 | -6.53 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 8-4-S | 95 | 150 | 40.72 | 1071.56 | -6.47 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 8-5-S | 95 | 150 | 40.72 | 1071.56 | 14.78 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 8-6-S | 95 | 150 | 40.72 | 1071.56 | 41.55 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 8-7-S | 95 | 150 | 40.72 | 1071.56 | 78.86 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 8-8-S | 95 | 150 | 40.72 | 1071.56 | 123.39 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 8-9-S | 95 | 150 | 40.72 | 1071.56 | 171.23 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 8-10-S | 95 | 150 | 40.72 | 1071.56 | 126.61 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 8-11-S | 95 | 150 | 40.72 | 1071.56 | 139.01 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 8-12-S | 95 | 150 | 40.72 | 1071.56 | 137.55 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 8-13-S | 95 | 150 | 40.72 | 1071.56 | 126.62 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 8-14-S | 95 | 150 | 40.72 | 1071.56 | 108.01 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 8-15-S | 95 | 150 | 40.72 | 1071.56 | 85.01 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 8-16-S | 95 | 150 | 40.72 | 1071.56 | 61.95 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 8-17-S | 95 | 150 | 40.72 | 1071.56 | 41.50 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 8-18-S | 95 | 150 | 40.72 | 1071.56 | 24.12 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 8-19-S | 95 | 150 | 40.72 | 1071.56 | 10.13 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 8-20-S | 95 | 150 | 40.72 | 1071.56 | 0.99 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 9-1-S | 95 | 150 | 45.24 | 1071.56 | -2.31 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 9-2-S | 95 | 150 | 45.24 | 1071.56 | 12.08 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 9-3-S | 95 | 150 | 45.24 | 1071.56 | 28.18 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 9-4-S | 95 | 150 | 45.24 | 1071.56 | 62.19 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 9-5-S | 95 | 150 | 45.24 | 1071.56 | -108.90 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 9-6-S | 95 | 150 | 45.24 | 1071.56 | -159.40 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 9-7-S | 95 | 150 | 45.24 | 1071.56 | -63.49 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 9-8-S | 95 | 150 | 45.24 | 1071.56 | 78.92 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 9-9-S | 95 | 150 | 45.24 | 1071.56 | 206.12 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 9-10-S | 95 | 150 | 45.24 | 1071.56 | 232.90 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 9-11-S | 95 | 150 | 45.24 | 1071.56 | 223.63 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 9-12-S | 95 | 150 | 45.24 | 1071.56 | 218.31 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 9-13-S | 95 | 150 | 45.24 | 1071.56 | 205.36 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 9-14-S | 95 | 150 | 45.24 | 1071.56 | 186.56 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 9-15-S | 95 | 150 | 45.24 | 1071.56 | 174.21 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 9-16-S | 95 | 150 | 45.24 | 1071.56 | 56.44 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 9-17-S | 95 | 150 | 45.24 | 1071.56 | -116.87 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 9-18-S | 95 | 150 | 45.24 | 1071.56 | -68.73 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 9-19-S | 95 | 150 | 45.24 | 1071.56 | -24.15 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 9-20-S | 95 | 150 | 45.24 | 1071.56 | 3.12 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 10-1-S | 95 | 150 | 45.24 | 1071.56 | -2.31 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 10-2-S | 95 | 150 | 45.24 | 1071.56 | 12.08 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 10-3-S | 95 | 150 | 45.24 | 1071.56 | 28.18 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 10-4-S | 95 | 150 | 45.24 | 1071.56 | 62.19 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 10-5-S | 95 | 150 | 45.24 | 1071.56 | -108.90 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 10-6-S | 95 | 150 | 45.24 | 1071.56 | -159.40 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 10-7-S | 95 | 150 | 45.24 | 1071.56 | -63.49 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 10-8-S | 95 | 150 | 45.24 | 1071.56 | 78.92 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 10-9-S | 95 | 150 | 45.24 | 1071.56 | 206.12 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 10-10-S | 95 | 150 | 45.24 | 1071.56 | 232.90 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 10-11-S | 95 | 150 | 45.24 | 1071.56 | 223.63 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 10-12-S | 95 | 150 | 45.24 | 1071.56 | 218.31 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 10-13-S | 95 | 150 | 45.24 | 1071.56 | 205.36 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 10-14-S | 95 | 150 | 45.24 | 1071.56 | 186.56 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 10-15-S | 95 | 150 | 45.24 | 1071.56 | 174.21 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 10-16-S | 95 | 150 | 45.24 | 1071.56 | 56.44 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 10-17-S | 95 | 150 | 45.24 | 1071.56 | -116.87 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 10-18-S | 95 | 150 | 45.24 | 1071.56 | -68.73 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 10-19-S | 95 | 150 | 45.24 | 1071.56 | -24.15 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 10-20-S | 95 | 150 | 45.24 | 1071.56 | 3.12 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 11-1-S | 95 | 150 | 40.72 | 1071.56 | -0.67 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 11-2-S | 95 | 150 | 0.00 | 0.00 | -3.91 | 0.00 | 0.0000 | 0.00 | 0.000 |
| 11-3-S | 95 | 150 | 40.72 | 1071.56 | -6.53 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 11-4-S | 95 | 150 | 40.72 | 1071.56 | -6.47 | 1370.62 | 0.0000 | 0.00 | 0.000 |

| Is | B | H | Af | Aeff | M | Mpf | ε | Sm | w |
|-----------|----------|----------|-----------|-------------|----------|------------|----------|-----------|----------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kNm] | [%] | [mm] | [mm] |
| 11-5-S | 95 | 150 | 40.72 | 1071.56 | 14.78 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 11-6-S | 95 | 150 | 40.72 | 1071.56 | 41.55 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 11-7-S | 95 | 150 | 40.72 | 1071.56 | 78.86 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 11-8-S | 95 | 150 | 40.72 | 1071.56 | 123.39 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 11-9-S | 95 | 150 | 40.72 | 1071.56 | 171.23 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 11-10-S | 95 | 150 | 40.72 | 1071.56 | 126.61 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 11-11-S | 95 | 150 | 40.72 | 1071.56 | 139.01 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 11-12-S | 95 | 150 | 40.72 | 1071.56 | 137.55 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 11-13-S | 95 | 150 | 40.72 | 1071.56 | 126.62 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 11-14-S | 95 | 150 | 40.72 | 1071.56 | 108.01 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 11-15-S | 95 | 150 | 40.72 | 1071.56 | 85.01 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 11-16-S | 95 | 150 | 40.72 | 1071.56 | 61.95 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 11-17-S | 95 | 150 | 40.72 | 1071.56 | 41.50 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 11-18-S | 95 | 150 | 40.72 | 1071.56 | 24.12 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 11-19-S | 95 | 150 | 40.72 | 1071.56 | 10.13 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 11-20-S | 95 | 150 | 40.72 | 1071.56 | 0.99 | 1370.62 | 0.0000 | 0.00 | 0.000 |

Elenco ferri

Simbologia adottata

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

Paramento

| n° | Tipo | nf | D [mm] | L [m] | P _f [kN] | P _{gr} [kN] | V _{cls} [mc] |
|------------------------|-------------------|----|-----------|----------|------------------------|-------------------------|--------------------------|
| 1 | Diritto inferiore | 5 | 20.00 | 7.75 | 0.1873 | 0.9366 | |
| 2 | Diritto superiore | 10 | 24.00 | 4.19 | 0.1459 | 1.4586 | |
| 3 | Diritto inferiore | 5 | 20.00 | 4.55 | 0.1102 | 0.5508 | |
| 4 | Diritto superiore | 5 | 24.00 | 7.93 | 0.2763 | 1.3814 | |
| 5 | Ripartitore | 69 | 10.00 | 1.00 | 0.0060 | 0.4172 | |
| Totale al metro | | | | | | 5.1618 | 5.42 |
| Totale | | | | | | 1912.32 | 20.67 |

Mensola valle

| n° | Tipo | nf | D [mm] | L [m] | P _f [kN] | P _{gr} [kN] | V _{cls} [mc] |
|------------------------|-------------------|----|-----------|----------|------------------------|-------------------------|--------------------------|
| 1 | Diritto inferiore | 4 | 16.00 | 1.63 | 0.0252 | 0.1009 | |
| 2 | Diritto superiore | 4 | 16.00 | 1.63 | 0.0252 | 0.1009 | |
| 3 | Ripartitore | 2 | 10.00 | 1.00 | 0.0060 | 0.0121 | |
| Totale al metro | | | | | | 5.1618 | 5.42 |
| Totale | | | | | | 1912.32 | 20.67 |

Piastra fondazione

| n° | Tipo | nf | D [mm] | L [m] | P _f [kN] | P _{gr} [kN] | V _{cls} [mc] |
|---------------|-----------------------------------|----|-----------|----------|------------------------|-------------------------|--------------------------|
| 1 | Sagomato superiore Verticale | 12 | 16.00 | 4.56 | 0.0706 | 0.8477 | |
| 2 | Diritto inferiore Orizzontale [M] | 22 | 16.00 | 6.54 | 0.1012 | 2.2270 | |
| 3 | Diritto superiore Orizzontale [M] | 22 | 16.00 | 6.54 | 0.1012 | 2.2270 | |
| 4 | Diritto inferiore Verticale | 38 | 24.00 | 8.33 | 0.2901 | 11.0239 | |
| 5 | Diritto superiore Verticale | 38 | 24.00 | 8.33 | 0.2901 | 11.0239 | |
| Totale | | | | | | 27.3496 | 32.00 |

12 ALLEGATO 3 – TABULATI DI CALCOLO – VERIFICHE STRUTTURALI E GEOTECNICHE DEI MURI - MURO TIPO MA H8 (H=8 M)

Dati

Materiali

Simbologia adottata

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

Calcestruzzo armato

| n° | Descr | C | A | γ | R _{ck} | E | ν | n | ntc |
|----|--------|--------|-------|----------|-----------------|----------|-------|-------|------|
| | | | | [kN/mc] | [kPa] | [kPa] | | | |
| 4 | C32/40 | C32/40 | B450C | 24.5170 | 40000 | 33346000 | 0.30 | 15.00 | 0.50 |

Acciai

| Descr | f _{yk} | f _{uk} |
|-------|-----------------|-----------------|
| | [kPa] | [kPa] |
| B450C | 449936 | 539963 |

Tipologie pali

Simbologia adottata

| | |
|--------|--|
| n° | Indice tipologia palo |
| Descr | Descrizione tipologia palo |
| P | Contributo portanza palo (laterale e/o punta) |
| T | Tecnologia costruttiva (trivellato, infisso o elica continua) |
| V | Vincolo palo-fondazione: Cerniera o Incastro (libero o impedito di ruotare in testa) |
| Imat | Indice materiale che lo costituisce |
| BD | usa metodo di Bustamante-Doix |
| PN | Portanza nota |
| Pp, PI | Portanza di punta e laterale caratteristica, espressa in [kN] |

| n° | Descr | P | T | V | Imat | BD | PN | Pp | PI |
|----|-------------|------------------|------------|----------|------|----|----|----|----|
| 1 | Tipologia 1 | Laterale + Punta | Trivellato | Incastro | 4 | NO | NO | -- | -- |

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 | 1.00 | 0.00 | 0.000 |

| n° | X | Y | A |
|----|-------|------|-------|
| | [m] | [m] | [°] |
| 3 | 8.50 | 0.00 | 0.000 |
| 4 | 25.00 | 0.00 | 0.000 |

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

Falda

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 | -4.00 | -9.50 | 0.000 |
| 2 | 10.00 | -9.50 | 0.000 |

Geometria muro

Geometria paramento e fondazione

Paramento

| | | |
|--|---------|---------|
| Materiale | C32/40 | |
| Altezza paramento | 8.00 | [m] |
| Altezza paramento libero | 8.00 | [m] |
| Spessore in sommità | 0.40 | [m] |
| Spessore all'attacco con la fondazione | 1.20 | [m] |
| Inclinazione paramento esterno | 0.00 | [°] |
| Inclinazione paramento interno | 5.71 | [°] |
| Spessore rivestimento | 0.15 | [m] |
| Peso sp. rivestimento | 20.0000 | [kN/mc] |

Mensola di marciapiede

| | | |
|--|------|-----|
| Posizione rispetto alla testa del muro | 0.00 | [m] |
| Lunghezza | 0.35 | [m] |
| Spessore all'estremità libera | 0.50 | [m] |
| Spessore all'incastro | 0.50 | [m] |

Fondazione

| | | |
|----------------------------|--------|-----|
| Materiale | C32/40 | |
| Lunghezza mensola di valle | 2.00 | [m] |
| Lunghezza mensola di monte | 2.40 | [m] |
| Lunghezza totale | 5.60 | [m] |
| Inclinazione piano di posa | 0.00 | [°] |
| Spessore | 1.50 | [m] |
| Spessore magrone | 0.20 | [m] |

Descrizione pali di fondazione

Simbologia adottata

n° numero d'ordine della fila
X ascissa della fila misurata dallo spigolo di monte della fondazione espressa in [m]
I interasse tra i pali, espressa in [m]
f franco laterale (distanza minima dal bordo laterale), espressa in [m]
Np Numero di pali della fila
D diametro dei pali della fila espresso in [cm]
L lunghezza dei pali della fila espressa in [m]
 α inclinazione dei pali della fila rispetto alla verticale espressa in [°]
ALL allineamento dei pali della fila rispetto al baricentro della fondazione (CENTRATI o SFALSATI)

| n° | Tipologia | X [m] | I [m] | f [m] | Np | D [cm] | L [m] | α [°] | ALL |
|----|-------------|----------|----------|----------|----|-----------|----------|-----------------|----------|
| 1 | Tipologia 1 | 1.00 | 3.81 | 0.20 | 1 | 120.00 | 25.00 | 0.00 | Centrati |
| 2 | Tipologia 1 | 4.60 | 3.81 | 0.20 | 1 | 120.00 | 25.00 | 0.00 | Centrati |

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 (Q) - VARIABILE

Coeff. di combinazione $\Psi_0=0.75 - \Psi_1=0.75 - \Psi_2=0.00$

Carichi sul terreno

| n° | Tipo | X [m] | F _x [kN] | F _y [kN] | M [kNm] | X _i [m] | X _f [m] | Q _i [kN] | Q _f [kN] |
|----|-------------|----------|------------------------|------------------------|------------|-----------------------|-----------------------|------------------------|------------------------|
| 1 | Distribuito | | | | | 1.50 | 25.00 | 20.0000 | 20.0000 |

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 | | |
|----------------------------|-------------|---------------------|-----------------------|------|------|------|------|-----------------------|------|------|
| | | | HYD | UPL | EQU | A1 | A2 | EQU | A1 | A2 |
| Permanenti strutturali | Favorevoli | $\gamma_{G1, fav}$ | 1.00 | 0.90 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Permanenti strutturali | Sfavorevoli | $\gamma_{G1, sfav}$ | 1.00 | 1.10 | 1.30 | 1.30 | 1.00 | 1.00 | 1.00 | 1.00 |
| Permanenti non strutturali | Favorevoli | $\gamma_{G2, fav}$ | 0.00 | 0.80 | 0.80 | 0.80 | 0.80 | 0.00 | 0.00 | 0.00 |
| Permanenti non strutturali | Sfavorevoli | $\gamma_{G2, sfav}$ | 1.00 | 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 | 0.00 |
| Variabili | Sfavorevoli | $\gamma_{Q, sfav}$ | 1.00 | 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 | 0.00 |
| Variabili da traffico | Sfavorevoli | $\gamma_{QT, sfav}$ | 1.00 | 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 | γ_c | 1.00 | 1.25 | 1.00 | 1.00 |
| Resistenza non drenata | γ_{cu} | 1.00 | 1.40 | 1.00 | 1.00 |
| Peso nell'unità 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 |
| Ribaltamento | -- | -- | 1.15 | -- | -- | 1.00 |
| Stabilità fronte di scavo | -- | 1.10 | -- | -- | 1.20 | -- |

Carichi verticali. Coeff. parziali γ_R da applicare alle resistenze caratteristiche

| Resistenza | Pali infissi | Pali trivellati | Pali ad elica continua |
|------------|--------------|-----------------|------------------------|
|------------|--------------|-----------------|------------------------|

| | | R1 | R2 | R3 | R1 | R2 | R3 | R1 | R2 | R3 |
|-----------------------|---------------|----|----|------|----|----|------|----|----|------|
| Punta | γ_b | -- | -- | 1.15 | -- | -- | 1.35 | -- | -- | 1.30 |
| Laterale compressione | γ_s | -- | -- | 1.15 | -- | -- | 1.15 | -- | -- | 1.15 |
| Totale compressione | γ_t | -- | -- | 1.15 | -- | -- | 1.30 | -- | -- | 1.25 |
| Laterale trazione | γ_{st} | -- | -- | 1.25 | -- | -- | 1.25 | -- | -- | 1.25 |

Carichi trasversali. Coeff. parziali γ_R da applicare alle resistenze caratteristiche

| | | R1 | R2 | R3 |
|-------------|------------|----|----|------|
| Trasversale | γ_t | -- | -- | 1.30 |

Coefficienti di riduzione ζ per la determinazione della resistenza caratteristica dei pali

Numero di verticali indagate 1

$\zeta_3=1.70$ $\zeta_4=1.70$

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):

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

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

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

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

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

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

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

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

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

I valori dei coeff. $\Psi_{0,j}$, $\Psi_{1,j}$, $\Psi_{2,j}$ sono definiti nelle singole condizioni variabili. per 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 | γ | Ψ | Effetto |
|-----------------|----------|--------|-------------|
| Peso muro | 1.00 | -- | Favorevole |
| Peso terrapieno | 1.00 | -- | Favorevole |
| Spinta terreno | 1.30 | -- | Sfavorevole |
| Q | 1.50 | 1.00 | Sfavorevole |

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

| Condizione | γ | Ψ | Effetto |
|------------|----------|--------|------------|
| Peso muro | 1.00 | -- | Favorevole |

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

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

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

Combinazione n° 5 - GEO (A2-M2-R2)

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

Combinazione n° 6 - GEO (A2-M2-R2)

| Condizione | γ | Ψ | Effetto |
|-----------------|----------|--------|-------------|
| Peso muro | 1.00 | -- | Sfavorevole |
| Peso terrapieno | 1.00 | -- | Sfavorevole |
| Spinta terreno | 1.00 | -- | Sfavorevole |
| Q | 1.30 | 1.00 | Sfavorevole |

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

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

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

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

Combinazione n° 9 - SLER

| Condizione | γ | Ψ | Effetto |
|-----------------|----------|--------|-------------|
| Peso muro | 1.00 | -- | Sfavorevole |
| Peso terrapieno | 1.00 | -- | Sfavorevole |
| Spinta terreno | 1.00 | -- | Sfavorevole |
| Q | 1.00 | 0.75 | Sfavorevole |

Combinazione n° 10 - SLEF

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

Combinazione n° 11 - SLEQ

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

Dati sismici

| | Simbolo | U.M. | SLU | SLE |
|------------------------|---------|---------------------|-------|-------|
| Accelerazione al suolo | a_g | [m/s ²] | 1.962 | 0.000 |
| Accelerazione al suolo | a_g/g | [%] | 0.200 | 0.000 |

| | Simbolo | U.M. | | SLU | SLE |
|---|---------|------|----|-------|-------|
| Massimo fattore amplificazione spettro orizzontale | F0 | | | 2.496 | 0.000 |
| Periodo inizio tratto spettro a velocità costante | Tc* | | | 0.540 | 0.000 |
| Tipo di sottosuolo - Coefficiente stratigrafico | Ss | | B | 1.200 | 1.200 |
| Categoria topografica - Coefficiente amplificazione topografica | St | | T1 | 1.000 | |

| Stato limite ... | Coeff. di riduzione β_m | kh | kv |
|-----------------------|-------------------------------|--------|--------|
| Ultimo | 1.000 | 24.000 | 12.000 |
| Ultimo - Ribaltamento | 1.000 | 24.000 | 12.000 |
| Esercizio | 1.000 | 0.000 | 0.000 |

Forma diagramma incremento sismico **Rettangolare**

Opzioni di calcolo

Spinta

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

Stabilità globale

| | |
|---|--------|
| Metodo di calcolo della stabilità globale | Bishop |
|---|--------|

Altro

| | |
|--|-------|
| Partecipazione spinta passiva terreno antistante | 0.00 |
| Partecipazione resistenza passiva dente di fondazione | 50.00 |
| Componente verticale della spinta nel calcolo delle sollecitazioni | NO |
| Considera terreno sulla fondazione di valle | NO |
| Considera spinta e peso acqua fondazione di valle | NO |

Spostamenti

| | |
|--|-----------|
| Modello a blocchi | |
| Non è stato richiesto il calcolo degli spostamenti | |
| Spostamento limite | 1.00 [cm] |

Opzioni calcolo pali

Portanza verticale

| | |
|--|---|
| Metodo di calcolo della portanza alla punta | Hansen |
| Metodo di calcolo della portanza alla laterale | Integrazione delle tensioni tangenziali ($k_s \sigma_v \tan(\delta) + c_a$) |
| Correzione angolo di attrito in funzione del tipo di palo (infilso/trivellato) | Non attiva |
| Andamento pressione verticale nel calcolo della portanza alla punta σ_v con la profondità | Pressione geostatica |
| Andamento pressione verticale nel calcolo della portanza laterale | Pressione geostatica |

Portanza trasversale

| | |
|-------------------------------|--|
| Criterio rottura palo-terreno | |
| - Spostamento limite | Non attivo |
| - Pressione limite | Pressione limite costante $p_l = 9.18$ [kPa] |
| - Palo infinitamente elastico | Non attivo |

Cedimenti

| | |
|-------------------------------|-----------------------------|
| Metodo di calcolo | Metodo agli elementi finiti |
| Spostamento limite alla punta | 1.00 [cm] |
| Spostamento limite laterale | 0.50 [cm] |

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

| | |
|---------------------------------|------------|
| 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.

Valori limite aperture delle fessure:

$$w_1=0.20$$

$$w_2=0.30$$

$$w_3=0.40$$

Verifica delle tensioni

Valori limite delle tensioni nei materiali:

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

Risultati per inviluppo

Spinta e forze

Simbologia adottata

| | |
|---------------------------------|--|
| Ic | Indice della combinazione |
| A | Tipo azione |
| I | Inclinazione della spinta, espressa in [°] |
| V | Valore dell'azione, espressa in [kN] |
| C _x , C _y | Componente in direzione X ed Y dell'azione, espressa in [kN] |
| P _x , P _y | Coordinata X ed Y del punto di applicazione dell'azione, espressa in [m] |

| Ic | A | V | I | C _x | C _y | P _x | P _y |
|----|---|--------|--------|----------------|----------------|----------------|----------------|
| | | [kN] | [°] | [kN] | [kN] | [m] | [m] |
| 3 | Spinta statica | 198.52 | 23.33 | 182.29 | 78.63 | 3.20 | -6.33 |
| | Incremento di spinta sismica | | 162.75 | 149.44 | 64.46 | 3.20 | -4.75 |
| | Peso/Inerzia muro | | | 88.11 | 367.13/44.06 | 0.23 | -6.91 |
| | Peso/Inerzia rivestimento | | | 5.76 | 24.00 | 0.00 | 0.00 |
| | Peso/Inerzia terrapieno | | | 96.77 | 403.19/48.38 | 1.79 | -3.81 |
| | Peso dell'acqua sulla fondazione di valle | | | | 0.00 | 0.00 | 0.00 |
| | Resistenza pali | | | -625.96 | | | |

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) | 896.55 | 236.97 | 750.43 | 3285.82 | -0.028 |
| 2 - STR (A1-M1-R3) | 975.13 | 300.93 | 1054.24 | 3664.70 | 0.123 |
| 3 - STR (A1-M1-R3) | 1029.86 | 522.36 | 2121.04 | 3833.39 | 1.137 |
| 4 - STR (A1-M1-R3) | 830.75 | 489.38 | 2283.06 | 3435.02 | 1.413 |

Sollecitazioni

Elementi calcolati a trave

Simbologia adottata

| | |
|---|---|
| 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) |

Elementi calcolati a piastra

Simbologia adottata

| | |
|---------------------------------|---|
| M _x , M _y | Momenti flettenti, espresso in [kNm] |
| M _{xy} | Momento torcente, espresso in [kNm]. Positivo se diretto da monte verso valle |
| T _x , T _y | Tagli, espresso in [kN]. Positivo se tende le fibre contro terra (a monte) |

I momenti flettenti sono positivi se tendono le fibre inferiori (intradosso fondazione, paramento esterno)

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 | 4.29 | 4.81 | 0.00 | 0.00 | 0.75 | 0.84 |
| 2 | -0.10 | 5.28 | 5.80 | 0.02 | 1.64 | 0.75 | 0.92 |
| 3 | -0.20 | 6.30 | 6.82 | 0.09 | 3.32 | 0.77 | 1.18 |
| 4 | -0.30 | 7.34 | 7.86 | 0.20 | 5.06 | 0.79 | 1.61 |
| 5 | -0.40 | 8.41 | 8.92 | 0.36 | 6.85 | 0.84 | 2.22 |
| 6 | -0.50 | 9.50 | 10.02 | 0.56 | 8.69 | 0.91 | 3.03 |
| 7 | -0.60 | 10.62 | 11.13 | 0.81 | 10.58 | 1.01 | 4.02 |
| 8 | -0.70 | 11.76 | 12.27 | 1.10 | 12.52 | 1.14 | 5.21 |
| 9 | -0.80 | 12.92 | 13.44 | 1.44 | 14.52 | 1.30 | 6.60 |
| 10 | -0.90 | 14.11 | 14.62 | 1.82 | 16.56 | 1.51 | 8.20 |

| n° | X | N _{min} | N _{max} | T _{min} | T _{max} | M _{min} | M _{max} |
|----|-------|------------------|------------------|------------------|------------------|------------------|------------------|
| | [m] | [kN] | [kN] | [kN] | [kN] | [kNm] | [kNm] |
| 11 | -1.00 | 15.32 | 15.84 | 2.25 | 18.65 | 1.77 | 10.01 |
| 12 | -1.10 | 16.56 | 17.08 | 2.72 | 20.80 | 2.07 | 12.04 |
| 13 | -1.20 | 17.82 | 18.34 | 3.24 | 23.00 | 2.44 | 14.30 |
| 14 | -1.30 | 19.11 | 19.63 | 3.80 | 25.24 | 2.86 | 16.78 |
| 15 | -1.40 | 20.42 | 20.94 | 4.41 | 27.54 | 3.35 | 19.49 |
| 16 | -1.50 | 21.76 | 22.27 | 5.06 | 29.89 | 3.90 | 22.45 |
| 17 | -1.60 | 23.12 | 23.63 | 5.76 | 32.29 | 4.54 | 25.65 |
| 18 | -1.70 | 24.50 | 25.02 | 6.50 | 34.74 | 5.25 | 29.10 |
| 19 | -1.80 | 25.91 | 26.43 | 7.29 | 37.24 | 6.04 | 32.80 |
| 20 | -1.90 | 27.35 | 27.86 | 8.12 | 39.79 | 6.92 | 36.76 |
| 21 | -2.00 | 28.81 | 29.32 | 9.00 | 42.39 | 7.90 | 40.99 |
| 22 | -2.10 | 30.29 | 30.81 | 9.92 | 45.05 | 8.97 | 45.49 |
| 23 | -2.20 | 31.80 | 32.31 | 10.89 | 47.75 | 10.14 | 50.26 |
| 24 | -2.30 | 33.33 | 33.85 | 11.90 | 50.51 | 11.42 | 55.31 |
| 25 | -2.40 | 34.89 | 35.40 | 12.96 | 53.31 | 12.81 | 60.65 |
| 26 | -2.50 | 36.47 | 36.98 | 14.06 | 56.17 | 14.32 | 66.28 |
| 27 | -2.60 | 38.07 | 38.59 | 15.20 | 59.08 | 15.95 | 72.21 |
| 28 | -2.70 | 39.70 | 40.22 | 16.40 | 62.04 | 17.70 | 78.44 |
| 29 | -2.80 | 41.36 | 41.87 | 17.63 | 65.05 | 19.58 | 84.97 |
| 30 | -2.90 | 43.04 | 43.55 | 18.91 | 68.11 | 21.60 | 91.82 |
| 31 | -3.00 | 44.74 | 45.26 | 20.24 | 71.22 | 23.75 | 98.98 |
| 32 | -3.10 | 46.47 | 46.99 | 21.61 | 74.38 | 26.05 | 106.47 |
| 33 | -3.20 | 48.22 | 48.74 | 23.03 | 77.59 | 28.50 | 114.28 |
| 34 | -3.30 | 50.00 | 50.52 | 24.49 | 80.86 | 31.10 | 122.43 |
| 35 | -3.40 | 51.80 | 52.32 | 26.00 | 84.17 | 33.86 | 130.91 |
| 36 | -3.50 | 53.63 | 54.14 | 27.55 | 87.54 | 36.78 | 139.74 |
| 37 | -3.60 | 55.48 | 56.00 | 29.15 | 90.95 | 39.86 | 148.92 |
| 38 | -3.70 | 57.36 | 57.87 | 30.79 | 94.42 | 43.12 | 158.45 |
| 39 | -3.80 | 59.26 | 59.77 | 32.47 | 97.94 | 46.55 | 168.33 |
| 40 | -3.90 | 61.18 | 61.70 | 34.21 | 101.51 | 50.16 | 178.58 |
| 41 | -4.00 | 63.13 | 63.64 | 35.98 | 105.13 | 53.96 | 189.20 |
| 42 | -4.10 | 65.10 | 65.62 | 37.80 | 108.80 | 57.95 | 200.20 |
| 43 | -4.20 | 67.10 | 67.62 | 39.67 | 112.52 | 62.13 | 211.57 |
| 44 | -4.30 | 69.12 | 69.64 | 41.58 | 116.29 | 66.52 | 223.33 |
| 45 | -4.40 | 71.17 | 71.69 | 43.54 | 120.12 | 71.10 | 235.48 |
| 46 | -4.50 | 73.24 | 73.76 | 45.54 | 123.99 | 75.89 | 248.03 |
| 47 | -4.60 | 75.34 | 75.85 | 47.59 | 127.92 | 80.90 | 260.97 |
| 48 | -4.70 | 77.46 | 77.97 | 49.68 | 131.89 | 86.12 | 274.32 |
| 49 | -4.80 | 79.60 | 80.12 | 51.81 | 135.92 | 91.57 | 288.08 |
| 50 | -4.90 | 81.77 | 82.29 | 54.00 | 140.00 | 97.24 | 302.26 |
| 51 | -5.00 | 83.97 | 84.48 | 56.22 | 144.12 | 103.14 | 316.86 |
| 52 | -5.10 | 86.19 | 86.70 | 58.49 | 148.30 | 109.28 | 331.88 |
| 53 | -5.20 | 88.43 | 88.94 | 60.81 | 152.53 | 115.66 | 347.34 |
| 54 | -5.30 | 90.70 | 91.21 | 63.17 | 156.81 | 122.29 | 363.23 |
| 55 | -5.40 | 92.99 | 93.50 | 65.58 | 161.15 | 129.16 | 379.57 |
| 56 | -5.50 | 95.31 | 95.82 | 68.03 | 165.53 | 136.29 | 396.35 |
| 57 | -5.60 | 97.65 | 98.16 | 70.52 | 169.96 | 143.68 | 413.59 |
| 58 | -5.70 | 100.01 | 100.53 | 73.07 | 174.45 | 151.33 | 431.28 |
| 59 | -5.80 | 102.40 | 102.92 | 75.65 | 178.98 | 159.25 | 449.44 |
| 60 | -5.90 | 104.82 | 105.33 | 78.28 | 183.57 | 167.44 | 468.06 |
| 61 | -6.00 | 107.26 | 107.77 | 80.96 | 188.21 | 175.91 | 487.16 |
| 62 | -6.10 | 109.72 | 110.24 | 83.68 | 192.89 | 184.67 | 506.73 |
| 63 | -6.20 | 112.21 | 112.72 | 86.45 | 197.63 | 193.71 | 526.79 |
| 64 | -6.30 | 114.72 | 115.24 | 89.26 | 202.42 | 203.04 | 547.34 |
| 65 | -6.40 | 117.26 | 117.77 | 92.11 | 207.26 | 212.66 | 568.38 |
| 66 | -6.50 | 119.82 | 120.34 | 95.01 | 212.15 | 222.59 | 589.92 |
| 67 | -6.60 | 122.41 | 122.92 | 97.96 | 217.10 | 232.82 | 611.97 |
| 68 | -6.70 | 125.02 | 125.53 | 100.95 | 222.09 | 243.37 | 634.52 |
| 69 | -6.80 | 127.65 | 128.17 | 103.99 | 227.13 | 254.22 | 657.60 |
| 70 | -6.90 | 130.31 | 130.83 | 107.07 | 232.23 | 265.40 | 681.19 |
| 71 | -7.00 | 133.00 | 133.51 | 110.19 | 237.37 | 276.90 | 705.30 |
| 72 | -7.10 | 135.71 | 136.22 | 113.36 | 242.57 | 288.72 | 729.95 |
| 73 | -7.20 | 138.44 | 138.96 | 116.58 | 247.82 | 300.89 | 755.13 |
| 74 | -7.30 | 141.20 | 141.71 | 119.84 | 253.12 | 313.38 | 780.86 |
| 75 | -7.40 | 143.98 | 144.50 | 123.15 | 258.47 | 326.22 | 807.13 |
| 76 | -7.50 | 146.79 | 147.30 | 126.50 | 263.87 | 339.41 | 833.95 |
| 77 | -7.60 | 149.62 | 150.13 | 129.89 | 269.32 | 352.95 | 861.33 |
| 78 | -7.70 | 152.48 | 152.99 | 133.33 | 274.82 | 366.84 | 889.27 |
| 79 | -7.80 | 155.36 | 155.87 | 136.82 | 280.37 | 381.10 | 917.77 |
| 80 | -7.90 | 158.26 | 158.78 | 140.35 | 285.97 | 395.72 | 946.85 |

| n° | X | N _{min} | N _{max} | T _{min} | T _{max} | M _{min} | M _{max} |
|----|-------|------------------|------------------|------------------|------------------|------------------|------------------|
| | [m] | [kN] | [kN] | [kN] | [kN] | [kNm] | [kNm] |
| 81 | -8.00 | 161.19 | 161.71 | 143.93 | 291.63 | 410.71 | 976.51 |

Mensola valle

| n° | X | N _{min} | N _{max} | T _{min} | T _{max} | M _{min} | M _{max} |
|----|-------|------------------|------------------|------------------|------------------|------------------|------------------|
| | [m] | [kN] | [kN] | [kN] | [kN] | [kNm] | [kNm] |
| 1 | -0.75 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 2 | -0.66 | 0.00 | 0.00 | 1.07 | 1.20 | 0.05 | 0.05 |
| 3 | -0.57 | 0.00 | 0.00 | 2.15 | 2.40 | 0.19 | 0.21 |
| 4 | -0.49 | 0.00 | 0.00 | 3.22 | 3.60 | 0.42 | 0.47 |
| 5 | -0.40 | 0.00 | 0.00 | 4.29 | 4.81 | 0.75 | 0.84 |

Piastra fondazione

| In | Mx | My | Mxy | Tx | Ty | |
|----|-------------------|------------------|------------------|------------------|-------------------|------------|
| | [kNm] | [kNm] | [kNm] | [kN] | [kN] | |
| 1 | 0.62 0.33 | 0.68 0.43 | 0.28 0.17 | 2.15 -7.71 | 10.47 1.67 | MAX MIN |
| 2 | 2.42 0.24 | 0.75 0.33 | 0.43 -0.02 | 13.43 -6.59 | 0.09 -10.04 | MAX MIN |
| 3 | -0.67 -2.46 | 2.42 -0.39 | 0.75 0.19 | 31.71 9.92 | -1.66 -22.19 | MAX MIN |
| 4 | 0.17 0.14 | 1.33 -0.53 | 0.50 0.40 | 14.84 4.27 | 11.76 -5.67 | MAX MIN |
| 5 | 2.69 -5.28 | 0.46 0.18 | -0.21 -1.10 | 39.44 -1.65 | -1.44 -12.19 | MAX MIN |
| 6 | -5.08 -13.84 | -0.30 -2.73 | -0.94 -1.94 | 69.03 23.82 | -5.68 -27.91 | MAX MIN |
| 7 | -0.78 -2.16 | 10.66 0.42 | 2.47 0.96 | 43.92 19.10 | -9.46 -51.67 | MAX MIN |
| 8 | 0.09 0.00 | 7.12 -0.79 | 1.16 0.85 | 20.69 8.90 | 9.22 -26.86 | MAX MIN |
| 9 | -5.75 -13.68 | 5.89 -3.20 | 0.93 -1.53 | 94.79 41.79 | -17.59 -65.53 | MAX MIN |
| 10 | -3.93 -22.91 | -0.47 -0.76 | -2.82 -4.17 | 66.52 4.33 | -0.64 -10.77 | MAX MIN |
| 11 | -15.77 -38.24 | -5.26 -7.33 | -5.49 -7.98 | 111.02 41.03 | -5.43 -27.22 | MAX MIN |
| 12 | -15.89 -36.42 | -6.35 -12.57 | -6.81 -10.17 | 153.63 68.62 | -19.76 -69.28 | MAX MIN |
| 13 | 0.20 0.02 | 28.30 4.84 | 6.38 2.98 | 51.93 25.16 | -23.42 -90.57 | MAX MIN |
| 14 | 0.53 0.37 | 21.49 2.31 | 2.60 1.65 | 24.06 11.68 | -2.13 -57.09 | MAX MIN |
| 15 | -3.92 -9.08 | 21.64 -0.35 | 8.06 2.60 | 114.49 55.40 | -37.10 -115.48 | MAX MIN |
| 16 | -12.40 -27.84 | 2.43 -13.73 | 1.31 -4.15 | 191.35 92.48 | -44.64 -130.08 | MAX MIN |
| 17 | -23.00 -61.54 | -2.12 -3.55 | -7.01 -10.09 | 86.08 6.67 | 1.43 -6.45 | MAX MIN |
| 18 | -35.66 -80.49 | -10.04 -14.63 | -13.70 -20.51 | 151.68 57.92 | -2.31 -20.45 | MAX MIN |
| 19 | -33.07 -73.97 | -19.57 -26.72 | -18.86 -27.84 | 215.48 97.04 | -16.35 -61.13 | MAX MIN |
| 20 | -26.66 -59.61 | -27.10 -36.79 | -13.65 -19.98 | 282.16 136.10 | -45.17 -130.15 | MAX MIN |
| 21 | 2.75 1.38 | 59.21 15.39 | 12.98 6.35 | 54.97 28.43 | -42.29 -135.95 | MAX MIN |
| 22 | 0.78 0.55 | 47.26 10.71 | 5.18 3.01 | 24.70 12.93 | -15.97 -89.59 | MAX MIN |
| 23 | -1.70 -3.27 | 52.20 9.79 | 20.82 9.40 | 125.44 64.09 | -63.31 -176.27 | MAX MIN |
| 24 | -9.11 -18.44 | 28.22 -5.91 | 19.88 7.40 | 218.27 110.39 | -79.60 -208.93 | MAX MIN |
| 25 | -22.87 -47.48 | -12.59 -34.47 | 7.88 -2.07 | 341.35 171.30 | -90.77 -231.04 | MAX MIN |
| 26 | -58.54 -130.82 | -4.41 -7.22 | -13.37 -20.03 | 94.85 5.52 | 3.43 -0.30 | MAX MIN |
| 27 | -67.66 -145.12 | -14.90 -23.31 | -26.00 -40.46 | 183.09 71.39 | 2.17 -8.17 | MAX MIN |
| 28 | -58.90 -129.10 | -31.09 -46.50 | -38.05 -58.80 | 270.09 121.93 | -6.17 -36.13 | MAX MIN |

| In | Mx [kNm] | My [kNm] | Mxy [kNm] | Tx [kN] | Ty [kN] | |
|----|--------------------|--------------------|--------------------|------------------|---------------------|------------|
| 29 | -48.54 -108.56 | -48.71 -69.30 | -33.03 -49.34 | 373.31 179.10 | -33.37 -102.56 | MAX MIN |
| 30 | -45.18 -96.12 | -56.52 -75.90 | -16.10 -23.69 | 507.80 253.13 | -92.62 -232.05 | MAX MIN |
| 31 | 5.61 2.46 | 106.46 32.97 | 22.03 10.87 | 51.95 28.46 | -63.46 -183.22 | MAX MIN |
| 32 | 0.61 0.24 | 86.87 25.27 | 8.97 4.93 | 22.18 12.52 | -28.91 -118.48 | MAX MIN |
| 33 | 2.88 0.13 | 101.35 28.57 | 37.82 17.95 | 124.31 66.34 | -93.93 -243.74 | MAX MIN |
| 34 | -6.87 -9.68 | 76.37 13.24 | 43.85 19.79 | 225.73 118.13 | -122.19 -300.99 | MAX MIN |
| 35 | -22.80 -39.67 | 32.48 -14.47 | 38.90 15.92 | 368.52 190.38 | -150.75 -358.25 | MAX MIN |
| 36 | -52.94 -98.43 | -33.72 -61.17 | 21.74 4.30 | 598.71 306.56 | -182.89 -420.23 | MAX MIN |
| 37 | -112.85 -231.77 | -5.22 -8.46 | -19.74 -30.46 | 91.67 3.42 | 6.04 3.75 | MAX MIN |
| 38 | -111.08 -229.96 | -13.56 -22.28 | -39.54 -62.70 | 196.78 78.36 | 9.20 6.36 | MAX MIN |
| 39 | -99.76 -211.27 | -37.58 -60.56 | -62.20 -98.35 | 301.31 136.01 | 8.63 4.59 | MAX MIN |
| 40 | -76.44 -171.92 | -64.35 -101.07 | -64.21 -99.83 | 449.85 213.66 | 2.30 -20.71 | MAX MIN |
| 41 | -80.34 -174.46 | -92.98 -140.89 | -40.12 -58.93 | 637.77 314.94 | -57.74 -154.25 | MAX MIN |
| 42 | -115.31 -221.44 | -99.38 -136.78 | -18.48 -28.09 | 762.94 389.09 | -224.63 -495.70 | MAX MIN |
| 43 | 9.47 3.84 | 171.92 59.10 | 33.52 16.36 | 42.41 24.98 | -84.06 -227.33 | MAX MIN |
| 44 | 0.26 -0.32 | 141.93 47.37 | 14.18 7.42 | 16.34 10.36 | -38.62 -137.56 | MAX MIN |
| 45 | 11.12 2.99 | 169.91 55.94 | 57.63 27.50 | 109.24 61.02 | -125.52 -311.56 | MAX MIN |
| 46 | 2.32 -5.01 | 147.97 43.00 | 68.83 32.04 | 207.50 112.12 | -167.39 -396.48 | MAX MIN |
| 47 | -21.50 -29.23 | 109.31 20.36 | 67.84 30.39 | 346.62 183.81 | -216.22 -493.85 | MAX MIN |
| 48 | -59.20 -96.70 | 49.28 -18.12 | 51.86 20.37 | 546.65 286.87 | -283.56 -625.07 | MAX MIN |
| 49 | -129.65 -226.60 | -40.31 -82.94 | 11.97 -7.68 | 736.88 386.09 | -410.23 -867.59 | MAX MIN |
| 50 | -176.09 -345.55 | -1.94 -3.02 | -21.64 -33.95 | 75.09 2.24 | 17.37 5.75 | MAX MIN |
| 51 | -158.61 -320.23 | 0.34 -2.44 | -44.52 -71.21 | 178.63 72.79 | 30.95 10.91 | MAX MIN |
| 52 | -150.69 -308.67 | -13.18 -26.12 | -79.68 -126.65 | 311.99 142.60 | 63.37 26.80 | MAX MIN |
| 53 | -146.39 -303.46 | -70.53 -120.24 | -100.86 -157.98 | 461.29 216.86 | 51.31 25.04 | MAX MIN |
| 54 | -90.60 -216.78 | -104.31 -172.78 | -105.45 -161.40 | 528.76 252.34 | -68.73 -156.17 | MAX MIN |
| 55 | -178.17 -345.90 | -143.99 -218.58 | -56.08 -81.67 | 630.72 321.37 | -285.74 -598.62 | MAX MIN |
| 56 | -239.18 -421.55 | -137.51 -185.79 | -77.96 -112.68 | 743.32 395.36 | -529.97 -1085.51 | MAX MIN |
| 57 | 16.69 6.62 | 256.15 93.93 | 48.74 23.20 | 27.63 18.42 | -101.44 -263.95 | MAX MIN |
| 58 | 0.39 0.00 | 214.82 78.05 | 22.52 11.12 | 8.92 6.67 | -42.27 -141.56 | MAX MIN |
| 59 | 25.45 8.49 | 254.46 91.02 | 80.24 37.74 | 82.05 48.63 | -153.93 -372.26 | MAX MIN |
| 60 | 23.76 3.85 | 238.94 81.44 | 91.84 42.69 | 165.14 92.45 | -208.62 -482.79 | MAX MIN |
| 61 | -1.50 -16.24 | 214.34 66.41 | 89.36 40.44 | 277.92 151.50 | -275.49 -615.15 | MAX MIN |
| 62 | -45.11 -61.55 | 173.88 42.13 | 71.17 29.31 | 414.14 223.15 | -368.39 -795.60 | MAX MIN |
| 63 | -96.50 -152.74 | 107.63 -4.16 | 21.31 -4.47 | 564.42 302.82 | -512.18 -1070.11 | MAX MIN |
| 64 | -119.88 -206.24 | 10.72 -76.45 | -49.34 -71.38 | 638.08 341.88 | -683.68 -1388.65 | MAX MIN |
| 65 | -228.99 -439.68 | 8.77 5.17 | -14.73 -23.32 | 43.42 1.48 | 33.47 10.63 | MAX MIN |
| 66 | -197.87 -394.22 | 34.99 23.48 | -31.27 -50.23 | 110.51 45.81 | 84.93 33.60 | MAX MIN |
| 67 | -202.08 -406.08 | 69.15 47.29 | -60.92 -96.85 | 239.28 111.55 | 125.91 45.41 | MAX MIN |

| In | Mx [kNm] | My [kNm] | Mxy [kNm] | Tx [kN] | Ty [kN] | |
|-----|--------------------|----------------------|--------------------|--------------------|---------------------|------------|
| 68 | -224.36 -446.34 | 97.30 64.98 | -113.31 -177.32 | 308.66 144.14 | -45.30 -77.58 | MAX MIN |
| 69 | -267.01 -511.79 | -112.70 -195.46 | -165.55 -256.74 | 228.66 98.74 | -212.55 -391.67 | MAX MIN |
| 70 | -217.03 -422.94 | -168.06 -263.17 | -389.63 -605.06 | 326.08 166.18 | -400.10 -782.18 | MAX MIN |
| 71 | -150.56 -300.59 | -188.66 -263.91 | -152.06 -231.56 | 475.41 259.67 | -644.33 -1263.69 | MAX MIN |
| 72 | -133.72 -245.46 | -256.57 -354.57 | -85.42 -126.29 | 450.81 241.50 | -841.36 -1659.41 | MAX MIN |
| 73 | 32.09 12.83 | 356.28 135.85 | 73.79 33.82 | 14.03 10.54 | -113.73 -290.87 | MAX MIN |
| 74 | 10.50 4.83 | 320.85 123.57 | 36.80 17.22 | 3.34 -0.71 | -39.04 -129.97 | MAX MIN |
| 75 | 51.11 19.00 | 343.20 128.56 | 104.91 48.25 | 49.30 31.86 | -174.48 -417.26 | MAX MIN |
| 76 | 61.62 20.18 | 343.50 126.68 | 111.01 50.96 | 107.71 63.02 | -239.67 -548.49 | MAX MIN |
| 77 | 46.42 8.47 | 339.93 121.88 | 104.13 46.93 | 183.43 103.28 | -319.55 -705.62 | MAX MIN |
| 78 | 10.56 -16.19 | 323.96 109.19 | 83.44 34.88 | 272.23 150.59 | -423.63 -906.86 | MAX MIN |
| 79 | -33.59 -47.31 | 283.30 81.30 | 43.70 10.19 | 349.77 191.73 | -558.96 -1164.06 | MAX MIN |
| 80 | -50.77 -68.10 | 190.35 12.53 | -6.61 -26.08 | 389.79 211.30 | -721.20 -1467.26 | MAX MIN |
| 81 | -68.18 -105.58 | 30.55 -115.28 | -23.96 -35.05 | 300.11 160.78 | -885.08 -1769.92 | MAX MIN |
| 82 | -249.98 -476.82 | 15.37 9.14 | 0.00 0.00 | 0.00 0.00 | 40.95 13.08 | MAX MIN |
| 83 | -212.93 -422.60 | 56.81 37.54 | 0.00 0.00 | 0.00 0.00 | 126.31 52.81 | MAX MIN |
| 84 | -225.87 -451.70 | 125.04 86.20 | 0.00 0.00 | 0.00 0.00 | 149.40 50.50 | MAX MIN |
| 85 | -225.87 -457.33 | 398.07 267.49 | 0.00 0.00 | 0.00 0.00 | -131.18 -196.65 | MAX MIN |
| 86 | -138.75 -317.35 | 1409.03 915.14 | 0.00 0.00 | 0.00 0.00 | -499.83 -847.92 | MAX MIN |
| 87 | -231.59 -451.83 | -177.11 -280.00 | 0.00 0.00 | 0.00 0.00 | -824.65 -1447.56 | MAX MIN |
| 88 | -306.24 -549.49 | -1233.22 -1894.84 | 0.00 0.00 | 0.00 0.00 | -904.87 -1667.41 | MAX MIN |
| 89 | -170.48 -310.37 | -486.75 -691.15 | 0.00 0.00 | 0.00 0.00 | -920.73 -1784.55 | MAX MIN |
| 90 | -80.18 -130.82 | -68.31 -201.04 | 0.00 0.00 | 0.00 0.00 | -957.14 -1901.82 | MAX MIN |
| 91 | 54.93 22.00 | 430.95 167.22 | 104.55 46.40 | 5.93 2.73 | -117.68 -302.50 | MAX MIN |
| 92 | 35.57 15.58 | 510.35 204.52 | 87.52 37.89 | 0.16 -4.83 | -33.95 -116.56 | MAX MIN |
| 93 | 104.24 40.95 | 434.41 167.46 | 129.27 58.18 | 20.79 14.89 | -183.81 -440.65 | MAX MIN |
| 94 | 114.21 42.85 | 455.37 175.52 | 125.09 56.66 | 47.14 29.48 | -256.46 -586.46 | MAX MIN |
| 95 | 110.73 38.53 | 477.20 183.08 | 114.82 51.34 | 84.87 49.87 | -344.00 -757.97 | MAX MIN |
| 96 | 98.84 30.47 | 489.47 184.27 | 94.84 40.39 | 128.10 73.13 | -451.85 -965.96 | MAX MIN |
| 97 | 81.78 20.66 | 477.24 170.15 | 64.10 23.66 | 163.90 92.02 | -581.97 -1213.73 | MAX MIN |
| 98 | 65.90 12.63 | 435.04 138.39 | 33.06 6.33 | 166.95 92.68 | -712.60 -1460.20 | MAX MIN |
| 99 | 51.54 5.48 | 379.74 98.80 | 10.63 -2.44 | 109.59 60.43 | -839.08 -1699.02 | MAX MIN |
| 100 | 45.19 2.28 | 352.92 76.28 | 0.00 0.00 | 0.00 0.00 | -899.91 -1814.42 | MAX MIN |
| 101 | -228.99 -439.68 | 8.77 5.17 | 23.32 14.73 | -1.48 -43.42 | 33.47 10.63 | MAX MIN |
| 102 | -197.87 -394.22 | 34.99 23.48 | 50.23 31.27 | -45.81 -110.51 | 84.93 33.60 | MAX MIN |
| 103 | -202.08 -406.08 | 69.15 47.29 | 96.85 60.92 | -111.55 -239.28 | 125.91 45.41 | MAX MIN |
| 104 | -224.36 -446.34 | 97.30 64.98 | 177.32 113.31 | -144.14 -308.66 | -45.30 -77.58 | MAX MIN |
| 105 | -267.01 -511.79 | -112.70 -195.46 | 256.74 165.55 | -98.74 -228.66 | -212.55 -391.67 | MAX MIN |
| 106 | -217.03 -422.94 | -168.06 -263.17 | 605.06 389.63 | -166.18 -326.08 | -400.10 -782.18 | MAX MIN |

| In | Mx [kNm] | My [kNm] | Mxy [kNm] | Tx [kN] | Ty [kN] | |
|-----|--------------------|--------------------|------------------|--------------------|---------------------|------------|
| 107 | -150.56 -300.59 | -188.66 -263.91 | 231.56 152.06 | -259.67 -475.41 | -644.33 -1263.69 | MAX MIN |
| 108 | -133.72 -245.46 | -256.57 -354.57 | 126.29 85.42 | -241.50 -450.81 | -841.36 -1659.41 | MAX MIN |
| 109 | -68.18 -105.58 | 30.55 -115.28 | 35.05 23.96 | -160.78 -300.11 | -885.08 -1769.92 | MAX MIN |
| 110 | 51.54 5.48 | 379.74 98.80 | 2.44 -10.63 | -60.43 -109.59 | -839.08 -1699.02 | MAX MIN |
| 111 | 151.33 58.81 | 504.44 196.04 | 145.97 63.89 | 0.00 0.00 | -116.92 -303.21 | MAX MIN |
| 112 | 207.86 83.72 | 692.88 279.07 | 194.92 83.04 | 0.00 0.00 | -32.09 -112.44 | MAX MIN |
| 113 | 158.52 61.94 | 528.39 206.47 | 132.11 59.10 | 0.00 0.00 | -185.48 -446.64 | MAX MIN |
| 114 | 172.75 68.41 | 575.83 228.04 | 123.31 55.65 | 0.00 0.00 | -260.93 -597.95 | MAX MIN |
| 115 | 189.59 75.93 | 631.97 253.09 | 112.01 50.17 | 0.00 0.00 | -351.05 -774.24 | MAX MIN |
| 116 | 204.88 82.20 | 682.92 273.99 | 94.41 40.98 | 0.00 0.00 | -460.15 -984.50 | MAX MIN |
| 117 | 214.55 84.86 | 715.16 282.86 | 70.06 28.45 | 0.00 0.00 | -586.46 -1225.52 | MAX MIN |
| 118 | 216.57 83.18 | 721.89 277.27 | 44.73 16.36 | 0.00 0.00 | -708.20 -1456.63 | MAX MIN |
| 119 | 214.13 79.39 | 713.77 264.63 | 21.13 6.53 | 0.00 0.00 | -808.11 -1645.94 | MAX MIN |
| 120 | 212.38 77.42 | 707.94 258.07 | 0.00 0.00 | 0.00 0.00 | -847.46 -1720.46 | MAX MIN |
| 121 | 214.13 79.39 | 713.77 264.63 | -6.53 -21.13 | 0.00 0.00 | -808.11 -1645.94 | MAX MIN |
| 122 | -176.09 -345.55 | -1.94 -3.02 | 33.95 21.64 | -2.24 -75.09 | 17.37 5.75 | MAX MIN |
| 123 | -158.61 -320.23 | 0.34 -2.44 | 71.21 44.52 | -72.79 -178.63 | 30.95 10.91 | MAX MIN |
| 124 | -150.69 -308.67 | -13.18 -26.12 | 126.65 79.68 | -142.60 -311.99 | 63.37 26.80 | MAX MIN |
| 125 | -146.39 -303.46 | -70.53 -120.24 | 157.98 100.86 | -216.86 -461.29 | 51.31 25.04 | MAX MIN |
| 126 | -90.60 -216.78 | -104.31 -172.78 | 161.40 105.45 | -252.34 -528.76 | -68.73 -156.17 | MAX MIN |
| 127 | -178.17 -345.90 | -143.99 -218.58 | 81.67 56.08 | -321.37 -630.72 | -285.74 -598.62 | MAX MIN |
| 128 | -239.18 -421.55 | -137.51 -185.79 | 112.68 77.96 | -395.36 -743.32 | -529.97 -1085.51 | MAX MIN |
| 129 | -119.88 -206.24 | 10.72 -76.45 | 71.38 49.34 | -341.88 -638.08 | -683.68 -1388.65 | MAX MIN |
| 130 | -50.77 -68.10 | 190.35 12.53 | 26.08 6.61 | -211.30 -389.79 | -721.20 -1467.26 | MAX MIN |
| 131 | 65.90 12.63 | 435.04 138.39 | -6.33 -33.06 | -92.68 -166.95 | -712.60 -1460.20 | MAX MIN |
| 132 | 216.57 83.18 | 721.89 277.27 | -16.36 -44.73 | 0.00 0.00 | -708.20 -1456.63 | MAX MIN |
| 133 | 216.57 83.18 | 721.89 277.27 | -16.36 -44.73 | 0.00 0.00 | -708.20 -1456.63 | MAX MIN |
| 134 | 216.57 83.18 | 721.89 277.27 | -16.36 -44.73 | 0.00 0.00 | -708.20 -1456.63 | MAX MIN |
| 135 | 216.57 83.18 | 721.89 277.27 | -16.36 -44.73 | 0.00 0.00 | -708.20 -1456.63 | MAX MIN |
| 136 | 216.57 83.18 | 721.89 277.27 | -16.36 -44.73 | 0.00 0.00 | -708.20 -1456.63 | MAX MIN |
| 137 | 216.57 83.18 | 721.89 277.27 | -16.36 -44.73 | 0.00 0.00 | -708.20 -1456.63 | MAX MIN |
| 138 | 216.57 83.18 | 721.89 277.27 | -16.36 -44.73 | 0.00 0.00 | -708.20 -1456.63 | MAX MIN |
| 139 | 216.57 83.18 | 721.89 277.27 | -16.36 -44.73 | 0.00 0.00 | -708.20 -1456.63 | MAX MIN |
| 140 | 216.57 83.18 | 721.89 277.27 | -16.36 -44.73 | 0.00 0.00 | -708.20 -1456.63 | MAX MIN |
| 141 | 216.57 83.18 | 721.89 277.27 | -16.36 -44.73 | 0.00 0.00 | -708.20 -1456.63 | MAX MIN |
| 142 | 216.57 83.18 | 721.89 277.27 | -16.36 -44.73 | 0.00 0.00 | -708.20 -1456.63 | MAX MIN |
| 143 | 216.57 83.18 | 721.89 277.27 | -16.36 -44.73 | 0.00 0.00 | -708.20 -1456.63 | MAX MIN |
| 144 | 216.57 83.18 | 721.89 277.27 | -16.36 -44.73 | 0.00 0.00 | -708.20 -1456.63 | MAX MIN |
| 145 | -112.85 -231.77 | -5.22 -8.46 | 30.46 19.74 | -3.42 -91.67 | 6.04 3.75 | MAX MIN |

| In | Mx [kNm] | My [kNm] | Mxy [kNm] | Tx [kN] | Ty [kN] | |
|-----|--------------------|-------------------|------------------|--------------------|---------------------|------------|
| 146 | -111.08 -229.96 | -13.56 -22.28 | 62.70 39.54 | -78.36 -196.78 | 9.20 6.36 | MAX MIN |
| 147 | -99.76 -211.27 | -37.58 -60.56 | 98.35 62.20 | -136.01 -301.31 | 8.63 4.59 | MAX MIN |
| 148 | -76.44 -171.92 | -64.35 -101.07 | 99.83 64.21 | -213.66 -449.85 | 2.30 -20.71 | MAX MIN |
| 149 | -80.34 -174.46 | -92.98 -140.89 | 58.93 40.12 | -314.94 -637.77 | -57.74 -154.25 | MAX MIN |
| 150 | -115.31 -221.44 | -99.38 -136.78 | 28.09 18.48 | -389.09 -762.94 | -224.63 -495.70 | MAX MIN |
| 151 | -129.65 -226.60 | -40.31 -82.94 | 7.68 -11.97 | -386.09 -736.88 | -410.23 -867.59 | MAX MIN |
| 152 | -96.50 -152.74 | 107.63 -4.16 | 4.47 -21.31 | -302.82 -564.42 | -512.18 -1070.11 | MAX MIN |
| 153 | -33.59 -47.31 | 283.30 81.30 | -10.19 -43.70 | -191.73 -349.77 | -558.96 -1164.06 | MAX MIN |
| 154 | 81.78 20.66 | 477.24 170.15 | -23.66 -64.10 | -92.02 -163.90 | -581.97 -1213.73 | MAX MIN |
| 155 | 214.55 84.86 | 715.16 282.86 | -28.45 -70.06 | 0.00 0.00 | -586.46 -1225.52 | MAX MIN |
| 156 | 214.55 84.86 | 715.16 282.86 | -28.45 -70.06 | 0.00 0.00 | -586.46 -1225.52 | MAX MIN |
| 157 | 214.55 84.86 | 715.16 282.86 | -28.45 -70.06 | 0.00 0.00 | -586.46 -1225.52 | MAX MIN |
| 158 | 214.55 84.86 | 715.16 282.86 | -28.45 -70.06 | 0.00 0.00 | -586.46 -1225.52 | MAX MIN |
| 159 | 214.55 84.86 | 715.16 282.86 | -28.45 -70.06 | 0.00 0.00 | -586.46 -1225.52 | MAX MIN |
| 160 | 214.55 84.86 | 715.16 282.86 | -28.45 -70.06 | 0.00 0.00 | -586.46 -1225.52 | MAX MIN |
| 161 | 214.55 84.86 | 715.16 282.86 | -28.45 -70.06 | 0.00 0.00 | -586.46 -1225.52 | MAX MIN |
| 162 | 214.55 84.86 | 715.16 282.86 | -28.45 -70.06 | 0.00 0.00 | -586.46 -1225.52 | MAX MIN |
| 163 | 214.55 84.86 | 715.16 282.86 | -28.45 -70.06 | 0.00 0.00 | -586.46 -1225.52 | MAX MIN |
| 164 | 214.55 84.86 | 715.16 282.86 | -28.45 -70.06 | 0.00 0.00 | -586.46 -1225.52 | MAX MIN |
| 165 | 214.55 84.86 | 715.16 282.86 | -28.45 -70.06 | 0.00 0.00 | -586.46 -1225.52 | MAX MIN |
| 166 | 214.55 84.86 | 715.16 282.86 | -28.45 -70.06 | 0.00 0.00 | -586.46 -1225.52 | MAX MIN |
| 167 | 214.55 84.86 | 715.16 282.86 | -28.45 -70.06 | 0.00 0.00 | -586.46 -1225.52 | MAX MIN |
| 168 | 214.55 84.86 | 715.16 282.86 | -28.45 -70.06 | 0.00 0.00 | -586.46 -1225.52 | MAX MIN |
| 169 | 214.55 84.86 | 715.16 282.86 | -28.45 -70.06 | 0.00 0.00 | -586.46 -1225.52 | MAX MIN |
| 170 | -58.54 -130.82 | -4.41 -7.22 | 20.03 13.37 | -5.52 -94.85 | 3.43 -0.30 | MAX MIN |
| 171 | -67.66 -145.12 | -14.90 -23.31 | 40.46 26.00 | -71.39 -183.09 | 2.17 -8.17 | MAX MIN |
| 172 | -58.90 -129.10 | -31.09 -46.50 | 58.80 38.05 | -121.93 -270.09 | -6.17 -36.13 | MAX MIN |
| 173 | -48.54 -108.56 | -48.71 -69.30 | 49.34 33.03 | -179.10 -373.31 | -33.37 -102.56 | MAX MIN |
| 174 | -45.18 -96.12 | -56.52 -75.90 | 23.69 16.10 | -253.13 -507.80 | -92.62 -232.05 | MAX MIN |
| 175 | -52.94 -98.43 | -33.72 -61.17 | -4.30 -21.74 | -306.56 -598.71 | -182.89 -420.23 | MAX MIN |
| 176 | -59.20 -96.70 | 49.28 -18.12 | -20.37 -51.86 | -286.87 -546.65 | -283.56 -625.07 | MAX MIN |
| 177 | -45.11 -61.55 | 173.88 42.13 | -29.31 -71.17 | -223.15 -414.14 | -368.39 -795.60 | MAX MIN |
| 178 | 10.56 -16.19 | 323.96 109.19 | -34.88 -83.44 | -150.59 -272.23 | -423.63 -906.86 | MAX MIN |
| 179 | 98.84 30.47 | 489.47 184.27 | -40.39 -94.84 | -73.13 -128.10 | -451.85 -965.96 | MAX MIN |
| 180 | 204.88 82.20 | 682.92 273.99 | -40.98 -94.41 | 0.00 0.00 | -460.15 -984.50 | MAX MIN |
| 181 | 204.88 82.20 | 682.92 273.99 | -40.98 -94.41 | 0.00 0.00 | -460.15 -984.50 | MAX MIN |
| 182 | 204.88 82.20 | 682.92 273.99 | -40.98 -94.41 | 0.00 0.00 | -460.15 -984.50 | MAX MIN |
| 183 | 204.88 82.20 | 682.92 273.99 | -40.98 -94.41 | 0.00 0.00 | -460.15 -984.50 | MAX MIN |
| 184 | 204.88 82.20 | 682.92 273.99 | -40.98 -94.41 | 0.00 0.00 | -460.15 -984.50 | MAX MIN |

| In | Mx [kNm] | My [kNm] | Mxy [kNm] | Tx [kN] | Ty [kN] | |
|-----|------------------|------------------|-------------------|--------------------|--------------------|------------|
| 185 | 204.88 82.20 | 682.92 273.99 | -40.98 -94.41 | 0.00 0.00 | -460.15 -984.50 | MAX MIN |
| 186 | 204.88 82.20 | 682.92 273.99 | -40.98 -94.41 | 0.00 0.00 | -460.15 -984.50 | MAX MIN |
| 187 | 204.88 82.20 | 682.92 273.99 | -40.98 -94.41 | 0.00 0.00 | -460.15 -984.50 | MAX MIN |
| 188 | 204.88 82.20 | 682.92 273.99 | -40.98 -94.41 | 0.00 0.00 | -460.15 -984.50 | MAX MIN |
| 189 | 204.88 82.20 | 682.92 273.99 | -40.98 -94.41 | 0.00 0.00 | -460.15 -984.50 | MAX MIN |
| 190 | 204.88 82.20 | 682.92 273.99 | -40.98 -94.41 | 0.00 0.00 | -460.15 -984.50 | MAX MIN |
| 191 | 204.88 82.20 | 682.92 273.99 | -40.98 -94.41 | 0.00 0.00 | -460.15 -984.50 | MAX MIN |
| 192 | 204.88 82.20 | 682.92 273.99 | -40.98 -94.41 | 0.00 0.00 | -460.15 -984.50 | MAX MIN |
| 193 | 204.88 82.20 | 682.92 273.99 | -40.98 -94.41 | 0.00 0.00 | -460.15 -984.50 | MAX MIN |
| 194 | 204.88 82.20 | 682.92 273.99 | -40.98 -94.41 | 0.00 0.00 | -460.15 -984.50 | MAX MIN |
| 195 | 204.88 82.20 | 682.92 273.99 | -40.98 -94.41 | 0.00 0.00 | -460.15 -984.50 | MAX MIN |
| 196 | 204.88 82.20 | 682.92 273.99 | -40.98 -94.41 | 0.00 0.00 | -460.15 -984.50 | MAX MIN |
| 197 | -23.00 -61.54 | -2.12 -3.55 | 10.09 7.01 | -6.67 -86.08 | 1.43 -6.45 | MAX MIN |
| 198 | -35.66 -80.49 | -10.04 -14.63 | 20.51 13.70 | -57.92 -151.68 | -2.31 -20.45 | MAX MIN |
| 199 | -33.07 -73.97 | -19.57 -26.72 | 27.84 18.86 | -97.04 -215.48 | -16.35 -61.13 | MAX MIN |
| 200 | -26.66 -59.61 | -27.10 -36.79 | 19.98 13.65 | -136.10 -282.16 | -45.17 -130.15 | MAX MIN |
| 201 | -22.87 -47.48 | -12.59 -34.47 | 2.07 -7.88 | -171.30 -341.35 | -90.77 -231.04 | MAX MIN |
| 202 | -22.80 -39.67 | 32.48 -14.47 | -15.92 -38.90 | -190.38 -368.52 | -150.75 -358.25 | MAX MIN |
| 203 | -21.50 -29.23 | 109.31 20.36 | -30.39 -67.84 | -183.81 -346.62 | -216.22 -493.85 | MAX MIN |
| 204 | -1.50 -16.24 | 214.34 66.41 | -40.44 -89.36 | -151.50 -277.92 | -275.49 -615.15 | MAX MIN |
| 205 | 46.42 8.47 | 339.93 121.88 | -46.93 -104.13 | -103.28 -183.43 | -319.55 -705.62 | MAX MIN |
| 206 | 110.73 38.53 | 477.20 183.08 | -51.34 -114.82 | -49.87 -84.87 | -344.00 -757.97 | MAX MIN |
| 207 | 189.59 75.93 | 631.97 253.09 | -50.17 -112.01 | 0.00 0.00 | -351.05 -774.24 | MAX MIN |
| 208 | 189.59 75.93 | 631.97 253.09 | -50.17 -112.01 | 0.00 0.00 | -351.05 -774.24 | MAX MIN |
| 209 | 189.59 75.93 | 631.97 253.09 | -50.17 -112.01 | 0.00 0.00 | -351.05 -774.24 | MAX MIN |
| 210 | 189.59 75.93 | 631.97 253.09 | -50.17 -112.01 | 0.00 0.00 | -351.05 -774.24 | MAX MIN |
| 211 | 189.59 75.93 | 631.97 253.09 | -50.17 -112.01 | 0.00 0.00 | -351.05 -774.24 | MAX MIN |
| 212 | 189.59 75.93 | 631.97 253.09 | -50.17 -112.01 | 0.00 0.00 | -351.05 -774.24 | MAX MIN |
| 213 | 189.59 75.93 | 631.97 253.09 | -50.17 -112.01 | 0.00 0.00 | -351.05 -774.24 | MAX MIN |
| 214 | 189.59 75.93 | 631.97 253.09 | -50.17 -112.01 | 0.00 0.00 | -351.05 -774.24 | MAX MIN |
| 215 | 189.59 75.93 | 631.97 253.09 | -50.17 -112.01 | 0.00 0.00 | -351.05 -774.24 | MAX MIN |
| 216 | 189.59 75.93 | 631.97 253.09 | -50.17 -112.01 | 0.00 0.00 | -351.05 -774.24 | MAX MIN |
| 217 | 189.59 75.93 | 631.97 253.09 | -50.17 -112.01 | 0.00 0.00 | -351.05 -774.24 | MAX MIN |
| 218 | 189.59 75.93 | 631.97 253.09 | -50.17 -112.01 | 0.00 0.00 | -351.05 -774.24 | MAX MIN |
| 219 | 189.59 75.93 | 631.97 253.09 | -50.17 -112.01 | 0.00 0.00 | -351.05 -774.24 | MAX MIN |
| 220 | 189.59 75.93 | 631.97 253.09 | -50.17 -112.01 | 0.00 0.00 | -351.05 -774.24 | MAX MIN |
| 221 | 189.59 75.93 | 631.97 253.09 | -50.17 -112.01 | 0.00 0.00 | -351.05 -774.24 | MAX MIN |
| 222 | 189.59 75.93 | 631.97 253.09 | -50.17 -112.01 | 0.00 0.00 | -351.05 -774.24 | MAX MIN |
| 223 | 189.59 75.93 | 631.97 253.09 | -50.17 -112.01 | 0.00 0.00 | -351.05 -774.24 | MAX MIN |

| In | Mx [kNm] | My [kNm] | Mxy [kNm] | Tx [kN] | Ty [kN] | |
|-----|------------------|------------------|-------------------|--------------------|--------------------|------------|
| 224 | 189.59 75.93 | 631.97 253.09 | -50.17 -112.01 | 0.00 0.00 | -351.05 -774.24 | MAX MIN |
| 225 | 189.59 75.93 | 631.97 253.09 | -50.17 -112.01 | 0.00 0.00 | -351.05 -774.24 | MAX MIN |
| 226 | -3.93 -22.91 | -0.47 -0.76 | 4.17 2.82 | -4.33 -66.52 | -0.64 -10.77 | MAX MIN |
| 227 | -15.77 -38.24 | -5.26 -7.33 | 7.98 5.49 | -41.03 -111.02 | -5.43 -27.22 | MAX MIN |
| 228 | -15.89 -36.42 | -6.35 -12.57 | 10.17 6.81 | -68.62 -153.63 | -19.76 -69.28 | MAX MIN |
| 229 | -12.40 -27.84 | 2.43 -13.73 | 4.15 -1.31 | -92.48 -191.35 | -44.64 -130.08 | MAX MIN |
| 230 | -9.11 -18.44 | 28.22 -5.91 | -7.40 -19.88 | -110.39 -218.27 | -79.60 -208.93 | MAX MIN |
| 231 | -6.87 -9.68 | 76.37 13.24 | -19.79 -43.85 | -118.13 -225.73 | -122.19 -300.99 | MAX MIN |
| 232 | 2.32 -5.01 | 147.97 43.00 | -32.04 -68.83 | -112.12 -207.50 | -167.39 -396.48 | MAX MIN |
| 233 | 23.76 3.85 | 238.94 81.44 | -42.69 -91.84 | -92.45 -165.14 | -208.62 -482.79 | MAX MIN |
| 234 | 61.62 20.18 | 343.50 126.68 | -50.96 -111.01 | -63.02 -107.71 | -239.67 -548.49 | MAX MIN |
| 235 | 114.21 42.85 | 455.37 175.52 | -56.66 -125.09 | -29.48 -47.14 | -256.46 -586.46 | MAX MIN |
| 236 | 172.75 68.41 | 575.83 228.04 | -55.65 -123.31 | 0.00 0.00 | -260.93 -597.95 | MAX MIN |
| 237 | 172.75 68.41 | 575.83 228.04 | -55.65 -123.31 | 0.00 0.00 | -260.93 -597.95 | MAX MIN |
| 238 | 172.75 68.41 | 575.83 228.04 | -55.65 -123.31 | 0.00 0.00 | -260.93 -597.95 | MAX MIN |
| 239 | 172.75 68.41 | 575.83 228.04 | -55.65 -123.31 | 0.00 0.00 | -260.93 -597.95 | MAX MIN |
| 240 | 172.75 68.41 | 575.83 228.04 | -55.65 -123.31 | 0.00 0.00 | -260.93 -597.95 | MAX MIN |
| 241 | 172.75 68.41 | 575.83 228.04 | -55.65 -123.31 | 0.00 0.00 | -260.93 -597.95 | MAX MIN |
| 242 | 172.75 68.41 | 575.83 228.04 | -55.65 -123.31 | 0.00 0.00 | -260.93 -597.95 | MAX MIN |
| 243 | 172.75 68.41 | 575.83 228.04 | -55.65 -123.31 | 0.00 0.00 | -260.93 -597.95 | MAX MIN |
| 244 | 172.75 68.41 | 575.83 228.04 | -55.65 -123.31 | 0.00 0.00 | -260.93 -597.95 | MAX MIN |
| 245 | 172.75 68.41 | 575.83 228.04 | -55.65 -123.31 | 0.00 0.00 | -260.93 -597.95 | MAX MIN |
| 246 | 172.75 68.41 | 575.83 228.04 | -55.65 -123.31 | 0.00 0.00 | -260.93 -597.95 | MAX MIN |
| 247 | 172.75 68.41 | 575.83 228.04 | -55.65 -123.31 | 0.00 0.00 | -260.93 -597.95 | MAX MIN |
| 248 | 172.75 68.41 | 575.83 228.04 | -55.65 -123.31 | 0.00 0.00 | -260.93 -597.95 | MAX MIN |
| 249 | 172.75 68.41 | 575.83 228.04 | -55.65 -123.31 | 0.00 0.00 | -260.93 -597.95 | MAX MIN |
| 250 | 172.75 68.41 | 575.83 228.04 | -55.65 -123.31 | 0.00 0.00 | -260.93 -597.95 | MAX MIN |
| 251 | 172.75 68.41 | 575.83 228.04 | -55.65 -123.31 | 0.00 0.00 | -260.93 -597.95 | MAX MIN |
| 252 | 172.75 68.41 | 575.83 228.04 | -55.65 -123.31 | 0.00 0.00 | -260.93 -597.95 | MAX MIN |
| 253 | 172.75 68.41 | 575.83 228.04 | -55.65 -123.31 | 0.00 0.00 | -260.93 -597.95 | MAX MIN |
| 254 | 172.75 68.41 | 575.83 228.04 | -55.65 -123.31 | 0.00 0.00 | -260.93 -597.95 | MAX MIN |
| 255 | 172.75 68.41 | 575.83 228.04 | -55.65 -123.31 | 0.00 0.00 | -260.93 -597.95 | MAX MIN |
| 256 | 172.75 68.41 | 575.83 228.04 | -55.65 -123.31 | 0.00 0.00 | -260.93 -597.95 | MAX MIN |
| 257 | 2.69 -5.28 | 0.46 0.18 | 1.10 0.21 | 1.65 -39.44 | -1.44 -12.19 | MAX MIN |
| 258 | -5.08 -13.84 | -0.30 -2.73 | 1.94 0.94 | -23.82 -69.03 | -5.68 -27.91 | MAX MIN |
| 259 | -5.75 -13.68 | 5.89 -3.20 | 1.53 -0.93 | -41.79 -94.79 | -17.59 -65.53 | MAX MIN |
| 260 | -3.92 -9.08 | 21.64 -0.35 | -2.60 -8.06 | -55.40 -114.49 | -37.10 -115.48 | MAX MIN |
| 261 | -1.70 -3.27 | 52.20 9.79 | -9.40 -20.82 | -64.09 -125.44 | -63.31 -176.27 | MAX MIN |
| 262 | 2.88 0.13 | 101.35 28.57 | -17.95 -37.82 | -66.34 -124.31 | -93.93 -243.74 | MAX MIN |

| In | Mx [kNm] | My [kNm] | Mxy [kNm] | Tx [kN] | Ty [kN] | |
|-----|------------------|-------------------|-------------------|-------------------|--------------------|------------|
| 263 | 11.12 2.99 | 169.91 55.94 | -27.50 -57.63 | -61.02 -109.24 | -125.52 -311.56 | MAX MIN |
| 264 | 25.45 8.49 | 254.46 91.02 | -37.74 -80.24 | -48.63 -82.05 | -153.93 -372.26 | MAX MIN |
| 265 | 51.11 19.00 | 343.20 128.56 | -48.25 -104.91 | -31.86 -49.30 | -174.48 -417.26 | MAX MIN |
| 266 | 104.24 40.95 | 434.41 167.46 | -58.18 -129.27 | -14.89 -20.79 | -183.81 -440.65 | MAX MIN |
| 267 | 158.52 61.94 | 528.39 206.47 | -59.10 -132.11 | 0.00 0.00 | -185.48 -446.64 | MAX MIN |
| 268 | 158.52 61.94 | 528.39 206.47 | -59.10 -132.11 | 0.00 0.00 | -185.48 -446.64 | MAX MIN |
| 269 | 158.52 61.94 | 528.39 206.47 | -59.10 -132.11 | 0.00 0.00 | -185.48 -446.64 | MAX MIN |
| 270 | 158.52 61.94 | 528.39 206.47 | -59.10 -132.11 | 0.00 0.00 | -185.48 -446.64 | MAX MIN |
| 271 | 158.52 61.94 | 528.39 206.47 | -59.10 -132.11 | 0.00 0.00 | -185.48 -446.64 | MAX MIN |
| 272 | 158.52 61.94 | 528.39 206.47 | -59.10 -132.11 | 0.00 0.00 | -185.48 -446.64 | MAX MIN |
| 273 | 25.70 -103.36 | 85.67 -344.52 | 26.58 -67.03 | 0.00 0.00 | -179.33 -399.25 | MAX MIN |
| 274 | 53.71 -112.24 | 179.04 -374.13 | 55.80 -80.69 | 0.00 0.00 | -262.93 -362.92 | MAX MIN |
| 275 | 29.03 -104.06 | 96.78 -346.88 | 11.69 -65.63 | 0.00 0.00 | -123.29 -415.61 | MAX MIN |
| 276 | 37.27 -103.08 | 124.23 -343.61 | 2.01 -65.05 | 0.00 0.00 | -76.88 -432.08 | MAX MIN |
| 277 | 48.02 -100.76 | 160.08 -335.85 | -5.13 -63.26 | 0.00 0.00 | -35.60 -452.22 | MAX MIN |
| 278 | 60.16 -96.72 | 200.52 -322.40 | -10.27 -58.95 | 0.00 0.00 | 2.00 -476.60 | MAX MIN |
| 279 | 72.79 -91.08 | 242.65 -303.59 | -12.69 -50.48 | 0.00 0.00 | 35.15 -503.29 | MAX MIN |
| 280 | 83.36 -85.42 | 277.86 -284.74 | -11.57 -37.81 | 0.00 0.00 | 59.71 -526.10 | MAX MIN |
| 281 | 91.00 -80.85 | 303.34 -269.49 | -6.96 -20.42 | 0.00 0.00 | 75.98 -542.59 | MAX MIN |
| 282 | 93.82 -79.07 | 312.73 -263.58 | 0.00 0.00 | 0.00 0.00 | 81.71 -548.63 | MAX MIN |
| 283 | 91.00 -80.85 | 303.34 -269.49 | 20.42 6.96 | 0.00 0.00 | 75.98 -542.59 | MAX MIN |
| 284 | 83.36 -85.42 | 277.86 -284.74 | 37.81 11.57 | 0.00 0.00 | 59.71 -526.10 | MAX MIN |
| 285 | 72.79 -91.08 | 242.65 -303.59 | 50.48 12.69 | 0.00 0.00 | 35.15 -503.29 | MAX MIN |
| 286 | 60.16 -96.72 | 200.52 -322.40 | 58.95 10.27 | 0.00 0.00 | 2.00 -476.60 | MAX MIN |
| 287 | 48.02 -100.76 | 160.08 -335.85 | 63.26 5.13 | 0.00 0.00 | -35.60 -452.22 | MAX MIN |
| 288 | 37.27 -103.08 | 124.23 -343.61 | 65.05 -2.01 | 0.00 0.00 | -76.88 -432.08 | MAX MIN |
| 289 | 29.03 -104.06 | 96.78 -346.88 | 65.63 -11.69 | 0.00 0.00 | -123.29 -415.61 | MAX MIN |
| 290 | 2.42 0.24 | 0.75 0.33 | 0.02 -0.43 | 6.59 -13.43 | 0.09 -10.04 | MAX MIN |
| 291 | -0.67 -2.46 | 2.42 -0.39 | -0.19 -0.75 | -9.92 -31.71 | -1.66 -22.19 | MAX MIN |
| 292 | -0.78 -2.16 | 10.66 0.42 | -0.96 -2.47 | -19.10 -43.92 | -9.46 -51.67 | MAX MIN |
| 293 | 0.20 0.02 | 28.30 4.84 | -2.98 -6.38 | -25.16 -51.93 | -23.42 -90.57 | MAX MIN |
| 294 | 2.75 1.38 | 59.21 15.39 | -6.35 -12.98 | -28.43 -54.97 | -42.29 -135.95 | MAX MIN |
| 295 | 5.61 2.46 | 106.46 32.97 | -10.87 -22.03 | -28.46 -51.95 | -63.46 -183.22 | MAX MIN |
| 296 | 9.47 3.84 | 171.92 59.10 | -16.36 -33.52 | -24.98 -42.41 | -84.06 -227.33 | MAX MIN |
| 297 | 16.69 6.62 | 256.15 93.93 | -23.20 -48.74 | -18.42 -27.63 | -101.44 -263.95 | MAX MIN |
| 298 | 32.09 12.83 | 356.28 135.85 | -33.82 -73.79 | -10.54 -14.03 | -113.73 -290.87 | MAX MIN |
| 299 | 54.93 22.00 | 430.95 167.22 | -46.40 -104.55 | -2.73 -5.93 | -117.68 -302.50 | MAX MIN |
| 300 | 151.33 58.81 | 504.44 196.04 | -63.89 -145.97 | 0.00 0.00 | -116.92 -303.21 | MAX MIN |
| 301 | 151.33 58.81 | 504.44 196.04 | -63.89 -145.97 | 0.00 0.00 | -116.92 -303.21 | MAX MIN |

| In | Mx [kNm] | My [kNm] | Mxy [kNm] | Tx [kN] | Ty [kN] | |
|-----|------------------|-------------------|-------------------|------------------|--------------------|------------|
| 302 | 151.33 58.81 | 504.44 196.04 | -63.89 -145.97 | 0.00 0.00 | -116.92 -303.21 | MAX MIN |
| 303 | 151.33 58.81 | 504.44 196.04 | -63.89 -145.97 | 0.00 0.00 | -116.92 -303.21 | MAX MIN |
| 304 | 151.33 58.81 | 504.44 196.04 | -63.89 -145.97 | 0.00 0.00 | -116.92 -303.21 | MAX MIN |
| 305 | 151.33 58.81 | 504.44 196.04 | -63.89 -145.97 | 0.00 0.00 | -116.92 -303.21 | MAX MIN |
| 306 | 25.70 -103.36 | 85.67 -344.52 | 67.03 -26.58 | 0.00 0.00 | -179.33 -399.25 | MAX MIN |
| 307 | 17.23 -25.46 | 118.15 -259.65 | 13.04 -51.11 | 4.76 -4.67 | -158.16 -378.27 | MAX MIN |
| 308 | 16.99 -6.12 | 166.32 -255.82 | 18.26 -40.48 | 7.74 -2.51 | -245.31 -351.90 | MAX MIN |
| 309 | 33.74 -49.54 | 121.37 -261.36 | 7.76 -66.71 | -3.30 -9.91 | -103.33 -393.30 | MAX MIN |
| 310 | 39.22 -57.46 | 140.68 -256.89 | -1.13 -68.62 | -11.86 -16.20 | -58.15 -409.61 | MAX MIN |
| 311 | 43.17 -59.54 | 168.25 -246.01 | -8.65 -68.45 | -13.89 -24.12 | -17.71 -430.23 | MAX MIN |
| 312 | 45.25 -59.68 | 201.46 -228.30 | -15.06 -65.55 | -12.92 -29.28 | 19.26 -456.07 | MAX MIN |
| 313 | 45.03 -59.50 | 238.11 -203.77 | -18.70 -57.99 | -10.51 -30.94 | 51.95 -485.64 | MAX MIN |
| 314 | 42.23 -60.75 | 270.37 -178.90 | 17.51 -44.71 | -7.27 -26.17 | 76.39 -512.07 | MAX MIN |
| 315 | 39.52 -61.92 | 294.84 -158.38 | -10.78 -24.94 | -3.67 -15.09 | 92.77 -531.87 | MAX MIN |
| 316 | 38.36 -62.45 | 304.10 -150.31 | 0.00 0.00 | 0.00 0.00 | 98.60 -539.29 | MAX MIN |
| 317 | 39.52 -61.92 | 294.84 -158.38 | 24.94 10.78 | 15.09 3.67 | 92.77 -531.87 | MAX MIN |
| 318 | 42.23 -60.75 | 270.37 -178.90 | 44.71 17.51 | 26.17 7.27 | 76.39 -512.07 | MAX MIN |
| 319 | 45.03 -59.50 | 238.11 -203.77 | 57.99 18.70 | 30.94 10.51 | 51.95 -485.64 | MAX MIN |
| 320 | 45.25 -59.68 | 201.46 -228.30 | 65.55 15.06 | 29.28 12.92 | 19.26 -456.07 | MAX MIN |
| 321 | 43.17 -59.54 | 168.25 -246.01 | 68.45 8.65 | 24.12 13.89 | -17.71 -430.23 | MAX MIN |
| 322 | 39.22 -57.46 | 140.68 -256.89 | 68.62 1.13 | 16.20 11.86 | -58.15 -409.61 | MAX MIN |
| 323 | 33.74 -49.54 | 121.37 -261.36 | 66.71 -7.76 | 9.91 3.30 | -103.33 -393.30 | MAX MIN |
| 324 | 17.23 -25.46 | 118.15 -259.65 | 51.11 -13.04 | 4.67 -4.76 | -158.16 -378.27 | MAX MIN |
| 325 | 0.62 0.33 | 0.68 0.43 | -0.17 -0.28 | 7.71 -2.15 | 10.47 1.67 | MAX MIN |
| 326 | 0.17 0.14 | 1.33 -0.53 | -0.40 -0.50 | -4.27 -14.84 | 11.76 -5.67 | MAX MIN |
| 327 | 0.09 0.00 | 7.12 -0.79 | -0.85 -1.16 | -8.90 -20.69 | 9.22 -26.86 | MAX MIN |
| 328 | 0.53 0.37 | 21.49 2.31 | -1.65 -2.60 | -11.68 -24.06 | -2.13 -57.09 | MAX MIN |
| 329 | 0.78 0.55 | 47.26 10.71 | -3.01 -5.18 | -12.93 -24.70 | -15.97 -89.59 | MAX MIN |
| 330 | 0.61 0.24 | 86.87 25.27 | -4.93 -8.97 | -12.52 -22.18 | -28.91 -118.48 | MAX MIN |
| 331 | 0.26 -0.32 | 141.93 47.37 | -7.42 -14.18 | -10.36 -16.34 | -38.62 -137.56 | MAX MIN |
| 332 | 0.39 0.00 | 214.82 78.05 | -11.12 -22.52 | -6.67 -8.92 | -42.27 -141.56 | MAX MIN |
| 333 | 10.50 4.83 | 320.85 123.57 | -17.22 -36.80 | 0.71 -3.34 | -39.04 -129.97 | MAX MIN |
| 334 | 35.57 15.58 | 510.35 204.52 | -37.89 -87.52 | 4.83 -0.16 | -33.95 -116.56 | MAX MIN |
| 335 | 207.86 83.72 | 692.88 279.07 | -83.04 -194.92 | 0.00 0.00 | -32.09 -112.44 | MAX MIN |
| 336 | 207.86 83.72 | 692.88 279.07 | -83.04 -194.92 | 0.00 0.00 | -32.09 -112.44 | MAX MIN |
| 337 | 207.86 83.72 | 692.88 279.07 | -83.04 -194.92 | 0.00 0.00 | -32.09 -112.44 | MAX MIN |
| 338 | 207.86 83.72 | 692.88 279.07 | -83.04 -194.92 | 0.00 0.00 | -32.09 -112.44 | MAX MIN |
| 339 | 207.86 83.72 | 692.88 279.07 | -83.04 -194.92 | 0.00 0.00 | -32.09 -112.44 | MAX MIN |
| 340 | 207.86 83.72 | 692.88 279.07 | -83.04 -194.92 | 0.00 0.00 | -32.09 -112.44 | MAX MIN |

| In | Mx [kNm] | My [kNm] | Mxy [kNm] | Tx [kN] | Ty [kN] | |
|-----|------------------|-------------------|------------------|------------------|--------------------|------------|
| 341 | 53.71 -112.24 | 179.04 -374.13 | 80.69 -55.80 | 0.00 0.00 | -262.93 -362.92 | MAX MIN |
| 342 | 16.99 -6.12 | 166.32 -255.82 | 40.48 -18.26 | 2.51 -7.74 | -245.31 -351.90 | MAX MIN |
| 343 | 13.34 -10.56 | 134.07 -197.86 | -0.20 -41.92 | 0.26 -9.85 | -117.59 -334.62 | MAX MIN |
| 344 | 5.34 -0.48 | 125.96 -172.98 | -5.29 -25.22 | 3.06 -6.77 | -203.46 -329.06 | MAX MIN |
| 345 | 23.83 -18.14 | 133.92 -193.71 | -2.77 -60.40 | -8.73 -14.37 | -64.45 -346.08 | MAX MIN |
| 346 | 32.95 -25.62 | 147.75 -185.96 | -7.48 -66.52 | -11.92 -27.76 | -21.79 -361.55 | MAX MIN |
| 347 | 35.36 -27.67 | 169.15 -171.68 | -14.61 -68.97 | -10.30 -41.89 | 16.94 -382.98 | MAX MIN |
| 348 | 32.16 -28.28 | 197.84 -148.71 | -23.10 -69.65 | -6.94 -54.02 | 52.81 -412.33 | MAX MIN |
| 349 | 23.73 -29.82 | 234.24 -114.36 | -29.98 -66.98 | -2.90 -58.06 | 84.72 -449.76 | MAX MIN |
| 350 | 11.49 -34.54 | 271.72 -75.20 | -30.01 -56.73 | 0.23 -50.06 | 109.89 -487.16 | MAX MIN |
| 351 | 1.03 -38.87 | 304.23 -39.53 | -19.36 -33.48 | 1.15 -29.29 | 128.45 -517.79 | MAX MIN |
| 352 | -3.16 -40.71 | 317.53 -24.67 | 0.00 0.00 | 0.00 0.00 | 135.42 -529.83 | MAX MIN |
| 353 | 1.03 -38.87 | 304.23 -39.53 | 33.48 19.36 | 29.29 -1.15 | 128.45 -517.79 | MAX MIN |
| 354 | 11.49 -34.54 | 271.72 -75.20 | 56.73 30.01 | 50.06 -0.23 | 109.89 -487.16 | MAX MIN |
| 355 | 23.73 -29.82 | 234.24 -114.36 | 66.98 29.98 | 58.06 2.90 | 84.72 -449.76 | MAX MIN |
| 356 | 32.16 -28.28 | 197.84 -148.71 | 69.65 23.10 | 54.02 6.94 | 52.81 -412.33 | MAX MIN |
| 357 | 35.36 -27.67 | 169.15 -171.68 | 68.97 14.61 | 41.89 10.30 | 16.94 -382.98 | MAX MIN |
| 358 | 32.95 -25.62 | 147.75 -185.96 | 66.52 7.48 | 27.76 11.92 | -21.79 -361.55 | MAX MIN |
| 359 | 23.83 -18.14 | 133.92 -193.71 | 60.40 2.77 | 14.37 8.73 | -64.45 -346.08 | MAX MIN |
| 360 | 13.34 -10.56 | 134.07 -197.86 | 41.92 0.20 | 9.85 -0.26 | -117.59 -334.62 | MAX MIN |
| 361 | 5.34 -0.48 | 125.96 -172.98 | 25.22 5.29 | 6.77 -3.06 | -203.46 -329.06 | MAX MIN |
| 362 | 9.17 -2.48 | 130.30 -133.94 | -7.77 -33.09 | -5.48 -9.35 | -79.76 -289.16 | MAX MIN |
| 363 | 1.54 0.05 | 109.89 -121.65 | -8.28 -19.46 | -1.67 -6.96 | -153.57 -299.51 | MAX MIN |
| 364 | 17.76 -4.15 | 136.69 -133.35 | -10.74 -53.48 | -6.32 -21.06 | -29.56 -295.22 | MAX MIN |
| 365 | 25.21 -4.35 | 145.42 -124.06 | -14.48 -63.69 | -1.93 -37.65 | 10.67 -308.62 | MAX MIN |
| 366 | 27.32 -2.01 | 160.32 -108.33 | -22.06 -70.43 | 5.32 -58.24 | 48.01 -329.79 | MAX MIN |
| 367 | 21.08 0.51 | 182.41 -83.07 | -34.46 -77.76 | 12.78 -76.82 | 83.79 -362.21 | MAX MIN |
| 368 | 6.91 -8.10 | 217.43 -39.58 | -49.13 -85.14 | 19.64 -86.38 | 116.34 -410.28 | MAX MIN |
| 369 | -5.47 -31.23 | 264.03 21.68 | -54.30 -80.37 | 22.87 -78.21 | 141.70 -466.31 | MAX MIN |
| 370 | -17.69 -52.48 | 314.97 89.01 | -38.01 -51.77 | 16.31 -47.41 | 171.80 -519.67 | MAX MIN |
| 371 | -20.97 -60.80 | 339.67 121.10 | 0.00 0.00 | 0.00 0.00 | 190.42 -543.28 | MAX MIN |
| 372 | -17.69 -52.48 | 314.97 89.01 | 51.77 38.01 | 47.41 -16.31 | 171.80 -519.67 | MAX MIN |
| 373 | -5.47 -31.23 | 264.03 21.68 | 80.37 54.30 | 78.21 -22.87 | 141.70 -466.31 | MAX MIN |
| 374 | 6.91 -8.10 | 217.43 -39.58 | 85.14 49.13 | 86.38 -19.64 | 116.34 -410.28 | MAX MIN |
| 375 | 21.08 0.51 | 182.41 -83.07 | 77.76 34.46 | 76.82 -12.78 | 83.79 -362.21 | MAX MIN |
| 376 | 27.32 -2.01 | 160.32 -108.33 | 70.43 22.06 | 58.24 -5.32 | 48.01 -329.79 | MAX MIN |
| 377 | 25.21 -4.35 | 145.42 -124.06 | 63.69 14.48 | 37.65 1.93 | 10.67 -308.62 | MAX MIN |
| 378 | 17.76 -4.15 | 136.69 -133.35 | 53.48 10.74 | 21.06 6.32 | -29.56 -295.22 | MAX MIN |
| 379 | 9.17 -2.48 | 130.30 -133.94 | 33.09 7.77 | 9.35 5.48 | -79.76 -289.16 | MAX MIN |

| In | Mx [kNm] | My [kNm] | Mxy [kNm] | Tx [kN] | Ty [kN] | |
|-----|------------------|-------------------|--------------------|-------------------|--------------------|------------|
| 380 | 1.54 0.05 | 109.89 -121.65 | 19.46 8.28 | 6.96 1.67 | -153.57 -299.51 | MAX MIN |
| 381 | 6.73 0.94 | 120.27 -83.65 | -9.88 -27.39 | -2.49 -12.08 | -44.91 -242.84 | MAX MIN |
| 382 | 0.53 -0.99 | 99.37 -82.13 | -8.72 -15.91 | -2.99 -6.37 | -104.20 -259.67 | MAX MIN |
| 383 | 13.22 3.38 | 128.53 -81.19 | -14.96 -46.45 | 3.22 -26.09 | -0.81 -243.45 | MAX MIN |
| 384 | 18.69 8.30 | 134.39 -72.38 | -19.23 -58.97 | 16.12 -45.34 | 36.33 -253.43 | MAX MIN |
| 385 | 21.79 13.46 | 142.42 -56.96 | -27.45 -69.32 | 31.72 -68.90 | 72.24 -272.18 | MAX MIN |
| 386 | 30.48 7.28 | 156.29 -31.87 | -43.96 -84.04 | 46.57 -95.05 | 109.79 -304.58 | MAX MIN |
| 387 | 30.79 -13.31 | 181.33 10.52 | -70.25 -103.50 | 57.24 -115.63 | 145.74 -359.89 | MAX MIN |
| 388 | 16.73 -48.69 | 238.46 97.68 | -94.96 -117.06 | 69.29 -114.91 | 175.04 -442.16 | MAX MIN |
| 389 | 1.11 -86.79 | 342.46 238.33 | -68.54 -85.71 | 61.74 -76.05 | 194.71 -536.59 | MAX MIN |
| 390 | -3.63 -104.07 | 412.75 322.16 | 0.00 0.00 | 0.00 0.00 | 199.38 -581.95 | MAX MIN |
| 391 | 1.11 -86.79 | 342.46 238.33 | 85.71 68.54 | 76.05 -61.74 | 194.71 -536.59 | MAX MIN |
| 392 | 16.73 -48.69 | 238.46 97.68 | 117.06 94.96 | 114.91 -69.29 | 175.04 -442.16 | MAX MIN |
| 393 | 30.79 -13.31 | 181.33 10.52 | 103.50 70.25 | 115.63 -57.24 | 145.74 -359.89 | MAX MIN |
| 394 | 30.48 7.28 | 156.29 -31.87 | 84.04 43.96 | 95.05 -46.57 | 109.79 -304.58 | MAX MIN |
| 395 | 21.79 13.46 | 142.42 -56.96 | 69.32 27.45 | 68.90 -31.72 | 72.24 -272.18 | MAX MIN |
| 396 | 18.69 8.30 | 134.39 -72.38 | 58.97 19.23 | 45.34 -16.12 | 36.33 -253.43 | MAX MIN |
| 397 | 13.22 3.38 | 128.53 -81.19 | 46.45 14.96 | 26.09 -3.22 | -0.81 -243.45 | MAX MIN |
| 398 | 6.73 0.94 | 120.27 -83.65 | 27.39 9.88 | 12.08 2.49 | -44.91 -242.84 | MAX MIN |
| 399 | 0.53 -0.99 | 99.37 -82.13 | 15.91 8.72 | 6.37 2.99 | -104.20 -259.67 | MAX MIN |
| 400 | 5.06 2.26 | 106.36 -45.34 | -10.21 -23.34 | 4.30 -13.71 | -14.99 -195.56 | MAX MIN |
| 401 | -0.20 -1.13 | 87.49 -50.19 | -7.99 -12.95 | -0.02 -7.00 | -59.81 -213.02 | MAX MIN |
| 402 | 9.45 6.50 | 113.91 -40.44 | -16.46 -40.65 | 17.98 -28.16 | 21.17 -192.74 | MAX MIN |
| 403 | 15.56 9.75 | 116.86 -31.55 | -21.45 -53.15 | 40.23 -45.93 | 53.22 -198.67 | MAX MIN |
| 404 | 26.00 7.15 | 118.64 -17.14 | -29.57 -64.94 | 68.62 -69.24 | 85.43 -212.93 | MAX MIN |
| 405 | 45.25 -1.98 | 121.97 5.02 | -45.98 -80.84 | 97.37 -99.26 | 122.72 -240.88 | MAX MIN |
| 406 | 74.27 -15.80 | 136.11 45.32 | -83.02 -110.94 | 121.12 -136.14 | 171.49 -295.99 | MAX MIN |
| 407 | 47.97 -72.22 | 159.51 103.60 | -120.11 -151.99 | 126.08 -156.28 | 199.37 -389.89 | MAX MIN |
| 408 | 6.54 -137.81 | 414.21 299.47 | -122.70 -170.86 | 84.77 -111.74 | 134.28 -552.00 | MAX MIN |
| 409 | 36.67 -134.29 | 755.64 510.15 | 0.00 0.00 | 0.00 0.00 | 55.56 -671.82 | MAX MIN |
| 410 | 6.54 -137.81 | 414.21 299.47 | 170.86 122.70 | 111.74 -84.77 | 134.28 -552.00 | MAX MIN |
| 411 | 47.97 -72.22 | 159.51 103.60 | 151.99 120.11 | 156.28 -126.08 | 199.37 -389.89 | MAX MIN |
| 412 | 74.27 -15.80 | 136.11 45.32 | 110.94 83.02 | 136.14 -121.12 | 171.49 -295.99 | MAX MIN |
| 413 | 45.25 -1.98 | 121.97 5.02 | 80.84 45.98 | 99.26 -97.37 | 122.72 -240.88 | MAX MIN |
| 414 | 26.00 7.15 | 118.64 -17.14 | 64.94 29.57 | 69.24 -68.62 | 85.43 -212.93 | MAX MIN |
| 415 | 15.56 9.75 | 116.86 -31.55 | 53.15 21.45 | 45.93 -40.23 | 53.22 -198.67 | MAX MIN |
| 416 | 9.45 6.50 | 113.91 -40.44 | 40.65 16.46 | 28.16 -17.98 | 21.17 -192.74 | MAX MIN |
| 417 | 5.06 2.26 | 106.36 -45.34 | 23.34 10.21 | 13.71 -4.30 | -14.99 -195.56 | MAX MIN |
| 418 | -0.20 -1.13 | 87.49 -50.19 | 12.95 7.99 | 7.00 0.02 | -59.81 -213.02 | MAX MIN |

| In | Mx [kNm] | My [kNm] | Mxy [kNm] | Tx [kN] | Ty [kN] | |
|-----|-------------------|--------------------|--------------------|-------------------|---------------------|------------|
| 419 | 3.79 2.38 | 89.73 -17.71 | -9.91 -19.61 | 12.47 -12.84 | 9.84 -148.90 | MAX MIN |
| 420 | -0.79 -1.11 | 73.21 -26.11 | -7.00 -10.36 | 4.18 -6.97 | -21.54 -163.54 | MAX MIN |
| 421 | 6.70 4.05 | 95.82 -10.97 | -16.91 -35.02 | 34.43 -24.54 | 36.52 -144.74 | MAX MIN |
| 422 | 12.47 1.35 | 96.31 -1.84 | -22.62 -46.70 | 66.80 -37.73 | 60.54 -147.29 | MAX MIN |
| 423 | 22.12 -7.02 | 93.13 11.44 | -29.91 -57.02 | 110.72 -55.48 | 84.51 -156.57 | MAX MIN |
| 424 | 40.27 -22.22 | 87.19 30.83 | -44.15 -70.79 | 170.26 -81.51 | 111.07 -177.27 | MAX MIN |
| 425 | 74.91 -45.83 | 82.22 55.51 | -71.43 -92.24 | 214.22 -115.59 | 158.27 -224.12 | MAX MIN |
| 426 | 158.05 -43.65 | 142.17 79.29 | -131.37 -175.88 | 161.70 -162.00 | 157.48 -306.57 | MAX MIN |
| 427 | -40.61 -210.95 | 182.59 91.98 | -178.95 -265.03 | 48.66 -152.28 | 32.55 -488.09 | MAX MIN |
| 428 | 179.06 -79.96 | 1805.36 1125.63 | 0.00 0.00 | 0.00 0.00 | -246.14 -902.23 | MAX MIN |
| 429 | -40.61 -210.95 | 182.59 91.98 | 265.03 178.95 | 152.28 -48.66 | 32.55 -488.09 | MAX MIN |
| 430 | 158.05 -43.65 | 142.17 79.29 | 175.88 131.37 | 162.00 -161.70 | 157.48 -306.57 | MAX MIN |
| 431 | 74.91 -45.83 | 82.22 55.51 | 92.24 71.43 | 115.59 -214.22 | 158.27 -224.12 | MAX MIN |
| 432 | 40.27 -22.22 | 87.19 30.83 | 70.79 44.15 | 81.51 -170.26 | 111.07 -177.27 | MAX MIN |
| 433 | 22.12 -7.02 | 93.13 11.44 | 57.02 29.91 | 55.48 -110.72 | 84.51 -156.57 | MAX MIN |
| 434 | 12.47 1.35 | 96.31 -1.84 | 46.70 22.62 | 37.73 -66.80 | 60.54 -147.29 | MAX MIN |
| 435 | 6.70 4.05 | 95.82 -10.97 | 35.02 16.91 | 24.54 -34.43 | 36.52 -144.74 | MAX MIN |
| 436 | 3.79 2.38 | 89.73 -17.71 | 19.61 9.91 | 12.84 -12.47 | 9.84 -148.90 | MAX MIN |
| 437 | -0.79 -1.11 | 73.21 -26.11 | 10.36 7.00 | 6.97 -4.18 | -21.54 -163.54 | MAX MIN |
| 438 | 2.36 1.91 | 71.52 0.21 | -9.49 -16.23 | 20.59 -9.12 | 27.73 -104.99 | MAX MIN |
| 439 | -0.91 -1.24 | 57.04 -10.10 | -5.98 -8.06 | 8.39 -5.37 | 8.47 -114.75 | MAX MIN |
| 440 | 4.35 -0.74 | 76.34 7.90 | -17.27 -29.84 | 50.36 -15.61 | 45.23 -101.29 | MAX MIN |
| 441 | 6.60 -9.01 | 75.43 17.01 | -24.30 -40.70 | 91.37 -21.45 | 60.37 -101.99 | MAX MIN |
| 442 | 8.15 -25.96 | 69.81 29.23 | -32.56 -50.10 | 147.23 -28.77 | 71.38 -107.92 | MAX MIN |
| 443 | 9.56 -55.30 | 59.96 40.94 | -44.76 -60.40 | 235.31 -40.10 | 74.69 -123.20 | MAX MIN |
| 444 | 13.36 -109.50 | 69.74 20.77 | -66.31 -82.92 | 297.13 -47.37 | 64.16 -158.01 | MAX MIN |
| 445 | 16.89 -163.43 | 78.42 4.08 | -90.32 -123.17 | 244.91 -38.63 | 25.31 -230.92 | MAX MIN |
| 446 | 18.85 -197.15 | 88.49 -4.76 | -407.58 -627.76 | 126.55 -20.17 | -74.80 -393.16 | MAX MIN |
| 447 | 19.60 -209.72 | 92.16 -8.21 | 0.00 0.00 | 0.00 0.00 | -494.43 -1040.80 | MAX MIN |
| 448 | 18.85 -197.15 | 88.49 -4.76 | 627.76 407.58 | 20.17 -126.55 | -74.80 -393.16 | MAX MIN |
| 449 | 16.89 -163.43 | 78.42 4.08 | 123.17 90.32 | 38.63 -244.91 | 25.31 -230.92 | MAX MIN |
| 450 | 13.36 -109.50 | 69.74 20.77 | 82.92 66.31 | 47.37 -297.13 | 64.16 -158.01 | MAX MIN |
| 451 | 9.56 -55.30 | 59.96 40.94 | 60.40 44.76 | 40.10 -235.31 | 74.69 -123.20 | MAX MIN |
| 452 | 8.15 -25.96 | 69.81 29.23 | 50.10 32.56 | 28.77 -147.23 | 71.38 -107.92 | MAX MIN |
| 453 | 6.60 -9.01 | 75.43 17.01 | 40.70 24.30 | 21.45 -91.37 | 60.37 -101.99 | MAX MIN |
| 454 | 4.35 -0.74 | 76.34 7.90 | 29.84 17.27 | 15.61 -50.36 | 45.23 -101.29 | MAX MIN |
| 455 | 2.36 1.91 | 71.52 0.21 | 16.23 9.49 | 9.12 -20.59 | 27.73 -104.99 | MAX MIN |
| 456 | -0.91 -1.24 | 57.04 -10.10 | 8.06 5.98 | 5.37 -8.39 | 8.47 -114.75 | MAX MIN |
| 457 | 1.63 0.57 | 52.87 9.52 | -8.89 -13.15 | 28.24 -2.95 | 38.44 -65.99 | MAX MIN |

| In | Mx [kNm] | My [kNm] | Mxy [kNm] | Tx [kN] | Ty [kN] | |
|-----|--------------------|----------------------|--------------------|--------------------|--------------------|------------|
| 458 | -0.84 -1.24 | 40.04 -1.68 | -4.81 -5.99 | 12.43 -2.45 | 30.06 -69.68 | MAX MIN |
| 459 | 2.13 -5.35 | 56.80 17.14 | -17.55 -25.37 | 64.59 -2.35 | 47.44 -64.00 | MAX MIN |
| 460 | 0.14 -19.18 | 55.69 25.61 | -26.87 -36.39 | 110.88 0.48 | 53.67 -64.43 | MAX MIN |
| 461 | -6.78 -44.78 | 50.54 36.47 | -38.21 -46.67 | 170.34 4.80 | 51.61 -69.73 | MAX MIN |
| 462 | -22.45 -88.62 | 55.11 29.43 | -46.90 -60.01 | 250.94 12.47 | 30.50 -84.56 | MAX MIN |
| 463 | -51.63 -160.18 | 54.56 7.43 | -61.86 -87.03 | 326.72 31.64 | -44.32 -117.16 | MAX MIN |
| 464 | -128.50 -277.58 | 20.14 -46.06 | -121.10 -182.31 | 336.21 86.36 | -127.53 -191.09 | MAX MIN |
| 465 | 74.94 -172.80 | -1.82 -81.47 | -174.89 -269.03 | 237.36 110.41 | -230.52 -377.53 | MAX MIN |
| 466 | -143.46 -338.60 | -1117.54 -1631.97 | 0.00 0.00 | 0.00 0.00 | -489.17 -795.13 | MAX MIN |
| 467 | 74.94 -172.80 | -1.82 -81.47 | 269.03 174.89 | -110.41 -237.36 | -230.52 -377.53 | MAX MIN |
| 468 | -128.50 -277.58 | 20.14 -46.06 | 182.31 121.10 | -86.36 -336.21 | -127.53 -191.09 | MAX MIN |
| 469 | -51.63 -160.18 | 54.56 7.43 | 87.03 61.86 | -31.64 -326.72 | -44.32 -117.16 | MAX MIN |
| 470 | -22.45 -88.62 | 55.11 29.43 | 60.01 46.90 | -12.47 -250.94 | 30.50 -84.56 | MAX MIN |
| 471 | -6.78 -44.78 | 50.54 36.47 | 46.67 38.21 | -4.80 -170.34 | 51.61 -69.73 | MAX MIN |
| 472 | 0.14 -19.18 | 55.69 25.61 | 36.39 26.87 | -0.48 -110.88 | 53.67 -64.43 | MAX MIN |
| 473 | 2.13 -5.35 | 56.80 17.14 | 25.37 17.55 | 2.35 -64.59 | 47.44 -64.00 | MAX MIN |
| 474 | 1.63 0.57 | 52.87 9.52 | 13.15 8.89 | 2.95 -28.24 | 38.44 -65.99 | MAX MIN |
| 475 | -0.84 -1.24 | 40.04 -1.68 | 5.99 4.81 | 2.45 -12.43 | 30.06 -69.68 | MAX MIN |
| 476 | 1.72 -0.42 | 34.93 11.77 | -7.63 -10.04 | 35.90 5.68 | 41.90 -34.05 | MAX MIN |
| 477 | -0.59 -0.81 | 23.76 0.77 | -3.08 -3.98 | 16.57 1.85 | 42.90 -31.22 | MAX MIN |
| 478 | 0.83 -9.06 | 38.09 18.21 | -16.85 -21.13 | 77.90 14.85 | 44.27 -34.05 | MAX MIN |
| 479 | -3.67 -27.17 | 38.04 25.17 | -26.39 -32.88 | 126.30 26.21 | 43.81 -34.91 | MAX MIN |
| 480 | -14.26 -58.14 | 39.81 29.15 | -35.29 -45.90 | 181.22 39.52 | 32.48 -41.20 | MAX MIN |
| 481 | -32.24 -104.70 | 45.44 22.15 | -46.30 -67.88 | 239.68 57.14 | -3.22 -59.12 | MAX MIN |
| 482 | -58.72 -166.54 | 38.42 3.32 | -68.18 -107.12 | 298.61 81.49 | -87.19 -113.02 | MAX MIN |
| 483 | -28.89 -192.20 | 13.48 -32.53 | -100.70 -159.64 | 318.68 97.22 | -177.52 -244.34 | MAX MIN |
| 484 | 17.59 -205.64 | -214.12 -267.30 | -113.19 -178.13 | 219.16 71.13 | -334.79 -410.79 | MAX MIN |
| 485 | -10.25 -241.60 | -436.63 -583.87 | 0.00 0.00 | 0.00 0.00 | -409.83 -516.46 | MAX MIN |
| 486 | 17.59 -205.64 | -214.12 -267.30 | 178.13 113.19 | -71.13 -219.16 | -334.79 -410.79 | MAX MIN |
| 487 | -28.89 -192.20 | 13.48 -32.53 | 159.64 100.70 | -97.22 -318.68 | -177.52 -244.34 | MAX MIN |
| 488 | -58.72 -166.54 | 38.42 3.32 | 107.12 68.18 | -81.49 -298.61 | -87.19 -113.02 | MAX MIN |
| 489 | -32.24 -104.70 | 45.44 22.15 | 67.88 46.30 | -57.14 -239.68 | -3.22 -59.12 | MAX MIN |
| 490 | -14.26 -58.14 | 39.81 29.15 | 45.90 35.29 | -39.52 -181.22 | 32.48 -41.20 | MAX MIN |
| 491 | -3.67 -27.17 | 38.04 25.17 | 32.88 26.39 | -26.21 -126.30 | 43.81 -34.91 | MAX MIN |
| 492 | 0.83 -9.06 | 38.09 18.21 | 21.13 16.85 | -14.85 -77.90 | 44.27 -34.05 | MAX MIN |
| 493 | 1.72 -0.42 | 34.93 11.77 | 10.04 7.63 | -5.68 -35.90 | 41.90 -34.05 | MAX MIN |
| 494 | -0.59 -0.81 | 23.76 0.77 | 3.98 3.08 | -1.85 -16.57 | 42.90 -31.22 | MAX MIN |
| 495 | 1.74 -1.25 | 19.02 9.13 | -5.31 -6.52 | 45.87 17.52 | 37.24 -11.57 | MAX MIN |
| 496 | 0.05 -0.06 | 10.37 0.13 | -1.43 -1.95 | 22.04 8.02 | 45.39 -2.95 | MAX MIN |

| In | Mx [kNm] | My [kNm] | Mxy [kNm] | Tx [kN] | Ty [kN] | |
|-----|-------------------|--------------------|-------------------|--------------------|--------------------|------------|
| 497 | -0.32 -12.20 | 21.73 13.56 | -12.77 -15.95 | 95.09 37.14 | 36.10 -12.52 | MAX MIN |
| 498 | -5.56 -32.76 | 22.99 18.25 | -21.40 -27.58 | 145.92 57.05 | 32.87 -13.28 | MAX MIN |
| 499 | -14.28 -63.93 | 26.82 18.06 | -30.95 -43.74 | 195.29 76.17 | 19.23 -19.71 | MAX MIN |
| 500 | -24.83 -104.47 | 30.49 14.57 | -43.21 -66.96 | 238.48 93.72 | -15.42 -38.71 | MAX MIN |
| 501 | -25.23 -144.20 | 25.02 3.44 | -59.12 -96.46 | 262.41 104.23 | -80.23 -100.59 | MAX MIN |
| 502 | -8.63 -171.33 | -26.03 -42.16 | -71.86 -118.68 | 251.20 94.43 | -147.84 -212.56 | MAX MIN |
| 503 | 10.91 -194.32 | -120.38 -152.38 | -54.58 -90.04 | 171.93 56.42 | -227.66 -341.58 | MAX MIN |
| 504 | 18.13 -206.99 | -174.09 -223.69 | 0.00 0.00 | 0.00 0.00 | -266.81 -401.97 | MAX MIN |
| 505 | 10.91 -194.32 | -120.38 -152.38 | 90.04 54.58 | -56.42 -171.93 | -227.66 -341.58 | MAX MIN |
| 506 | -8.63 -171.33 | -26.03 -42.16 | 118.68 71.86 | -94.43 -251.20 | -147.84 -212.56 | MAX MIN |
| 507 | -25.23 -144.20 | 25.02 3.44 | 96.46 59.12 | -104.23 -262.41 | -80.23 -100.59 | MAX MIN |
| 508 | -24.83 -104.47 | 30.49 14.57 | 66.96 43.21 | -93.72 -238.48 | -15.42 -38.71 | MAX MIN |
| 509 | -14.28 -63.93 | 26.82 18.06 | 43.74 30.95 | -76.17 -195.29 | 19.23 -19.71 | MAX MIN |
| 510 | -5.56 -32.76 | 22.99 18.25 | 27.58 21.40 | -57.05 -145.92 | 32.87 -13.28 | MAX MIN |
| 511 | -0.32 -12.20 | 21.73 13.56 | 15.95 12.77 | -37.14 -95.09 | 36.10 -12.52 | MAX MIN |
| 512 | 1.74 -1.25 | 19.02 9.13 | 6.52 5.31 | -17.52 -45.87 | 37.24 -11.57 | MAX MIN |
| 513 | 0.05 -0.06 | 10.37 0.13 | 1.95 1.43 | -8.02 -22.04 | 45.39 -2.95 | MAX MIN |
| 514 | -0.20 -3.34 | 7.52 4.74 | -2.41 -2.96 | 62.88 34.12 | 22.78 -0.86 | MAX MIN |
| 515 | 0.31 0.14 | 1.99 -0.78 | -0.29 -0.51 | 31.28 16.95 | 32.70 9.09 | MAX MIN |
| 516 | -5.12 -17.42 | 9.52 7.25 | -7.02 -8.86 | 124.72 67.33 | 21.67 -1.15 | MAX MIN |
| 517 | -11.48 -39.86 | 10.73 8.36 | -13.00 -17.02 | 182.99 98.14 | 19.29 -1.19 | MAX MIN |
| 518 | -16.55 -68.82 | 13.75 8.57 | -19.98 -28.82 | 233.73 124.88 | 10.39 -5.25 | MAX MIN |
| 519 | -15.88 -100.53 | 16.38 8.30 | -28.34 -44.24 | 267.47 142.28 | -10.76 -18.79 | MAX MIN |
| 520 | -6.79 -131.42 | 10.16 2.15 | -36.91 -60.47 | 270.42 142.02 | -45.84 -60.46 | MAX MIN |
| 521 | 11.48 -153.76 | -13.72 -18.19 | -38.42 -64.65 | 228.35 117.15 | -84.03 -119.13 | MAX MIN |
| 522 | 28.34 -169.44 | -39.97 -53.14 | -25.91 -44.25 | 133.40 66.90 | -120.43 -187.88 | MAX MIN |
| 523 | 34.74 -175.45 | -52.73 -73.91 | 0.00 0.00 | 0.00 0.00 | -135.53 -223.79 | MAX MIN |
| 524 | 28.34 -169.44 | -39.97 -53.14 | 44.25 25.91 | -66.90 -133.40 | -120.43 -187.88 | MAX MIN |
| 525 | 11.48 -153.76 | -13.72 -18.19 | 64.65 38.42 | -117.15 -228.35 | -84.03 -119.13 | MAX MIN |
| 526 | -6.79 -131.42 | 10.16 2.15 | 60.47 36.91 | -142.02 -270.42 | -45.84 -60.46 | MAX MIN |
| 527 | -15.88 -100.53 | 16.38 8.30 | 44.24 28.34 | -142.28 -267.47 | -10.76 -18.79 | MAX MIN |
| 528 | -16.55 -68.82 | 13.75 8.57 | 28.82 19.98 | -124.88 -233.73 | 10.39 -5.25 | MAX MIN |
| 529 | -11.48 -39.86 | 10.73 8.36 | 17.02 13.00 | -98.14 -182.99 | 19.29 -1.19 | MAX MIN |
| 530 | -5.12 -17.42 | 9.52 7.25 | 8.86 7.02 | -67.33 -124.72 | 21.67 -1.15 | MAX MIN |
| 531 | -0.20 -3.34 | 7.52 4.74 | 2.96 2.41 | -34.12 -62.88 | 22.78 -0.86 | MAX MIN |
| 532 | 0.31 0.14 | 1.99 -0.78 | 0.51 0.29 | -16.95 -31.28 | 32.70 9.09 | MAX MIN |
| 533 | -8.90 -12.38 | 0.85 0.49 | -1.65 -2.22 | 89.30 58.35 | 12.86 1.29 | MAX MIN |
| 534 | -2.28 -2.86 | -1.77 -2.32 | -0.47 -0.62 | 48.92 32.93 | 21.65 10.06 | MAX MIN |
| 535 | -22.82 -35.30 | 0.27 0.07 | -4.97 -6.10 | 167.79 107.85 | 12.61 1.73 | MAX MIN |

| In | Mx [kNm] | My [kNm] | Mxy [kNm] | Tx [kN] | Ty [kN] | |
|-----|-------------------|-----------------|------------------|--------------------|-------------------|------------|
| 536 | -35.13 -62.12 | 0.10 -0.14 | -8.99 -11.28 | 242.62 156.45 | 11.36 2.06 | MAX MIN |
| 537 | -39.83 -87.81 | 1.96 0.76 | -13.42 -17.58 | 309.26 202.24 | 6.40 -0.09 | MAX MIN |
| 538 | -29.14 -109.06 | 5.24 2.77 | -18.31 -26.13 | 352.63 234.16 | -5.64 -9.50 | MAX MIN |
| 539 | 1.13 -123.21 | 6.72 3.85 | -22.21 -33.66 | 352.14 236.47 | -24.29 -32.58 | MAX MIN |
| 540 | 48.06 -124.63 | 2.98 2.03 | -21.67 -34.19 | 290.95 196.45 | -45.75 -65.15 | MAX MIN |
| 541 | 90.40 -121.30 | -2.21 -5.70 | -13.75 -22.27 | 166.60 112.63 | -65.93 -97.85 | MAX MIN |
| 542 | 107.88 -119.04 | -4.50 -10.42 | 0.00 0.00 | 0.00 0.00 | -74.38 -111.81 | MAX MIN |
| 543 | 90.40 -121.30 | -2.21 -5.70 | 22.27 13.75 | -112.63 -166.60 | -65.93 -97.85 | MAX MIN |
| 544 | 48.06 -124.63 | 2.98 2.03 | 34.19 21.67 | -196.45 -290.95 | -45.75 -65.15 | MAX MIN |
| 545 | 1.13 -123.21 | 6.72 3.85 | 33.66 22.21 | -236.47 -352.14 | -24.29 -32.58 | MAX MIN |
| 546 | -29.14 -109.06 | 5.24 2.77 | 26.13 18.31 | -234.16 -352.63 | -5.64 -9.50 | MAX MIN |
| 547 | -39.83 -87.81 | 1.96 0.76 | 17.58 13.42 | -202.24 -309.26 | 6.40 -0.09 | MAX MIN |
| 548 | -35.13 -62.12 | 0.10 -0.14 | 11.28 8.99 | -156.45 -242.62 | 11.36 2.06 | MAX MIN |
| 549 | -22.82 -35.30 | 0.27 0.07 | 6.10 4.97 | -107.85 -167.79 | 12.61 1.73 | MAX MIN |
| 550 | -8.90 -12.38 | 0.85 0.49 | 2.22 1.65 | -58.35 -89.30 | 12.86 1.29 | MAX MIN |
| 551 | -2.28 -2.86 | -1.77 -2.32 | 0.62 0.47 | -32.93 -48.92 | 21.65 10.06 | MAX MIN |

Verifiche strutturali

Verifiche a flessione

Elementi calcolati a trave

Simbologia adottata

| | |
|-----|---|
| n° | indice sezione |
| Y | ordinata sezione espressa in [m] |
| B | larghezza sezione espressa in [cm] |
| H | altezza sezione espressa in [cm] |
| Afi | area ferri inferiori espressa in [cmq] |
| Afs | area ferri superiori espressa in [cmq] |
| M | momento agente espressa in [kNm] |
| N | sforzo normale agente espressa in [kN] |
| Mu | momento ultimi espresso in [kNm] |
| Nu | sforzo normale ultimo espressa in [kN] |
| FS | fattore di sicurezza (rapporto tra sollecitazione ultima e sollecitazione agente) |

Elementi calcolati a piastra

Simbologia adottata

| | |
|----------|---|
| n° | indice sezione |
| Y | ordinata sezione espressa in [m] |
| B | larghezza sezione espressa in [cm] |
| H | altezza sezione espressa in [cm] |
| Afi, Afs | area ferri inferiori e superiori, espresso in [cmq] |
| Mp, Mn | momento positivo e negativo agente espressa in [kNm] |
| Mu | momento ultimi espresso in [kNm] |
| FS | fattore di sicurezza (rapporto tra sollecitazione ultima e sollecitazione agente) |

Paramento

| n° | B [cm] | H [cm] | Afi [cmq] | Afs [cmq] | M [kNm] | N [kN] | Mu [kNm] | Nu [kN] | FS |
|----|-----------|-----------|--------------|--------------|------------|-----------|-------------|------------|---------|
| 1 | 100 | 40 | 15.71 | 18.10 | 0.84 | 4.81 | 567.42 | 3242.39 | 674.748 |
| 2 | 100 | 41 | 15.71 | 18.10 | 0.92 | 5.80 | 584.14 | 3662.36 | 631.630 |
| 3 | 100 | 42 | 15.71 | 18.10 | 1.18 | 6.82 | 618.08 | 3570.21 | 523.819 |
| 4 | 100 | 43 | 15.71 | 18.10 | 1.61 | 7.86 | 631.03 | 3076.71 | 391.554 |
| 5 | 100 | 44 | 15.71 | 18.10 | 2.22 | 8.92 | 614.52 | 2464.86 | 276.201 |
| 6 | 100 | 45 | 15.71 | 18.10 | 3.03 | 10.02 | 579.82 | 1919.61 | 191.670 |
| 7 | 100 | 46 | 15.71 | 18.10 | 4.02 | 11.13 | 540.46 | 1497.45 | 134.533 |

| n° | B | H | Afi | Afs | M | N | Mu | Nu | FS |
|----|------|------|-------|-------|--------|--------|---------|---------|--------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kN] | [kNm] | [kN] | |
| 8 | 100 | 47 | 15.71 | 18.10 | 5.21 | 12.27 | 502.48 | 1184.19 | 96.506 |
| 9 | 100 | 48 | 15.71 | 18.10 | 6.60 | 13.44 | 475.21 | 967.54 | 72.015 |
| 10 | 100 | 49 | 15.71 | 18.10 | 8.20 | 14.62 | 457.57 | 816.22 | 55.813 |
| 11 | 100 | 50 | 15.71 | 18.10 | 10.01 | 15.84 | 446.96 | 707.13 | 44.648 |
| 12 | 100 | 51 | 15.71 | 18.10 | 12.04 | 17.08 | 440.90 | 625.25 | 36.616 |
| 13 | 100 | 52 | 15.71 | 18.10 | 14.30 | 18.34 | 437.95 | 561.83 | 30.636 |
| 14 | 100 | 53 | 15.71 | 18.10 | 16.78 | 19.63 | 437.20 | 511.43 | 26.059 |
| 15 | 100 | 54 | 15.71 | 18.10 | 19.49 | 20.94 | 438.07 | 470.52 | 22.473 |
| 16 | 100 | 55 | 15.71 | 18.10 | 22.45 | 22.27 | 440.17 | 436.74 | 19.608 |
| 17 | 100 | 56 | 15.71 | 18.10 | 25.65 | 23.63 | 443.20 | 408.41 | 17.281 |
| 18 | 100 | 57 | 15.71 | 18.10 | 29.10 | 25.02 | 446.98 | 384.36 | 15.362 |
| 19 | 100 | 58 | 15.71 | 18.10 | 32.80 | 26.43 | 450.46 | 362.97 | 13.734 |
| 20 | 100 | 59 | 15.71 | 18.10 | 36.76 | 27.86 | 454.45 | 344.45 | 12.362 |
| 21 | 100 | 60 | 15.71 | 18.10 | 40.99 | 29.32 | 458.87 | 328.25 | 11.195 |
| 22 | 100 | 61 | 15.71 | 18.10 | 45.49 | 30.81 | 463.64 | 313.99 | 10.193 |
| 23 | 100 | 62 | 15.71 | 18.10 | 50.26 | 32.31 | 468.71 | 301.34 | 9.326 |
| 24 | 100 | 63 | 15.71 | 18.10 | 55.31 | 33.85 | 474.03 | 290.04 | 8.570 |
| 25 | 100 | 64 | 15.71 | 18.10 | 60.65 | 35.40 | 479.56 | 279.91 | 7.907 |
| 26 | 100 | 65 | 15.71 | 18.10 | 66.28 | 36.98 | 485.28 | 270.76 | 7.321 |
| 27 | 100 | 66 | 15.71 | 18.10 | 72.21 | 38.59 | 491.15 | 262.47 | 6.802 |
| 28 | 100 | 67 | 15.71 | 18.10 | 78.44 | 40.22 | 497.17 | 254.92 | 6.338 |
| 29 | 100 | 68 | 15.71 | 18.10 | 84.97 | 41.87 | 503.30 | 248.02 | 5.923 |
| 30 | 100 | 69 | 15.71 | 18.10 | 91.82 | 43.55 | 509.55 | 241.69 | 5.549 |
| 31 | 100 | 70 | 15.71 | 18.10 | 98.98 | 45.26 | 515.88 | 235.87 | 5.212 |
| 32 | 100 | 71 | 15.71 | 18.10 | 106.47 | 46.99 | 522.31 | 230.50 | 4.906 |
| 33 | 100 | 72 | 15.71 | 18.10 | 114.28 | 48.74 | 528.80 | 225.52 | 4.627 |
| 34 | 100 | 73 | 15.71 | 18.10 | 122.43 | 50.52 | 535.37 | 220.90 | 4.373 |
| 35 | 100 | 74 | 15.71 | 18.10 | 130.91 | 52.32 | 541.99 | 216.60 | 4.140 |
| 36 | 100 | 75 | 15.71 | 18.10 | 139.74 | 54.14 | 548.68 | 212.59 | 3.926 |
| 37 | 100 | 76 | 15.71 | 18.10 | 148.92 | 56.00 | 555.41 | 208.84 | 3.730 |
| 38 | 100 | 77 | 15.71 | 18.10 | 158.45 | 57.87 | 562.18 | 205.33 | 3.548 |
| 39 | 100 | 78 | 15.71 | 18.10 | 168.33 | 59.77 | 569.00 | 202.04 | 3.380 |
| 40 | 100 | 79 | 15.71 | 18.10 | 178.58 | 61.70 | 575.86 | 198.94 | 3.225 |
| 41 | 100 | 80 | 15.71 | 18.10 | 189.20 | 63.64 | 582.75 | 196.02 | 3.080 |
| 42 | 100 | 81 | 31.42 | 18.10 | 200.20 | 65.62 | 589.52 | 193.22 | 2.945 |
| 43 | 100 | 82 | 31.42 | 18.10 | 211.57 | 67.62 | 596.49 | 190.63 | 2.819 |
| 44 | 100 | 83 | 31.42 | 18.10 | 223.33 | 69.64 | 603.50 | 188.18 | 2.702 |
| 45 | 100 | 84 | 31.42 | 18.10 | 235.48 | 71.69 | 610.52 | 185.85 | 2.593 |
| 46 | 100 | 85 | 31.42 | 18.10 | 248.03 | 73.76 | 617.57 | 183.65 | 2.490 |
| 47 | 100 | 86 | 31.42 | 18.10 | 260.97 | 75.85 | 624.65 | 181.56 | 2.394 |
| 48 | 100 | 87 | 31.42 | 18.10 | 274.32 | 77.97 | 631.74 | 179.57 | 2.303 |
| 49 | 100 | 88 | 31.42 | 63.33 | 288.08 | 80.12 | 2160.65 | 600.90 | 7.500 |
| 50 | 100 | 89 | 31.42 | 63.33 | 302.26 | 82.29 | 2185.40 | 594.96 | 7.230 |
| 51 | 100 | 90 | 31.42 | 63.33 | 316.86 | 84.48 | 2210.20 | 589.29 | 6.975 |
| 52 | 100 | 91 | 31.42 | 63.33 | 331.88 | 86.70 | 2235.05 | 583.88 | 6.734 |
| 53 | 100 | 92 | 31.42 | 63.33 | 347.34 | 88.94 | 2259.94 | 578.71 | 6.506 |
| 54 | 100 | 93 | 31.42 | 63.33 | 363.23 | 91.21 | 2284.87 | 573.76 | 6.290 |
| 55 | 100 | 94 | 31.42 | 63.33 | 379.57 | 93.50 | 2309.84 | 569.01 | 6.085 |
| 56 | 100 | 95 | 31.42 | 63.33 | 396.35 | 95.82 | 2334.84 | 564.46 | 5.891 |
| 57 | 100 | 96 | 31.42 | 63.33 | 413.59 | 98.16 | 2359.88 | 560.10 | 5.706 |
| 58 | 100 | 97 | 31.42 | 63.33 | 431.28 | 100.53 | 2384.94 | 555.91 | 5.530 |
| 59 | 100 | 98 | 31.42 | 63.33 | 449.44 | 102.92 | 2410.04 | 551.89 | 5.362 |
| 60 | 100 | 99 | 31.42 | 63.33 | 468.06 | 105.33 | 2435.17 | 548.02 | 5.203 |
| 61 | 100 | 100 | 31.42 | 63.33 | 487.16 | 107.77 | 2460.32 | 544.29 | 5.050 |
| 62 | 100 | 101 | 31.42 | 63.33 | 506.73 | 110.24 | 2485.50 | 540.70 | 4.905 |
| 63 | 100 | 102 | 31.42 | 63.33 | 526.79 | 112.72 | 2510.70 | 537.25 | 4.766 |
| 64 | 100 | 103 | 31.42 | 63.33 | 547.34 | 115.24 | 2535.93 | 533.92 | 4.633 |
| 65 | 100 | 104 | 31.42 | 63.33 | 568.38 | 117.77 | 2561.17 | 530.70 | 4.506 |
| 66 | 100 | 105 | 31.42 | 63.33 | 589.92 | 120.34 | 2586.44 | 527.60 | 4.384 |
| 67 | 100 | 106 | 31.42 | 63.33 | 611.97 | 122.92 | 2611.73 | 524.60 | 4.268 |
| 68 | 100 | 107 | 31.42 | 63.33 | 634.52 | 125.53 | 2637.04 | 521.71 | 4.156 |
| 69 | 100 | 108 | 31.42 | 63.33 | 657.60 | 128.17 | 2662.36 | 518.91 | 4.049 |
| 70 | 100 | 109 | 31.42 | 63.33 | 681.19 | 130.83 | 2687.70 | 516.20 | 3.946 |
| 71 | 100 | 110 | 31.42 | 63.33 | 705.30 | 133.51 | 2713.06 | 513.58 | 3.847 |
| 72 | 100 | 111 | 31.42 | 45.24 | 729.95 | 136.22 | 1985.33 | 370.50 | 2.720 |
| 73 | 100 | 112 | 31.42 | 45.24 | 755.13 | 138.96 | 2003.59 | 368.69 | 2.653 |
| 74 | 100 | 113 | 15.71 | 45.24 | 780.86 | 141.71 | 2006.68 | 364.18 | 2.570 |
| 75 | 100 | 114 | 15.71 | 45.24 | 807.13 | 144.50 | 2025.55 | 362.63 | 2.510 |
| 76 | 100 | 115 | 15.71 | 45.24 | 833.95 | 147.30 | 2044.45 | 361.12 | 2.452 |
| 77 | 100 | 116 | 15.71 | 45.24 | 861.33 | 150.13 | 2063.38 | 359.66 | 2.396 |

| n° | B | H | Afi | Afs | M | N | Mu | Nu | FS |
|----|------|------|-------|-------|--------|--------|---------|--------|-------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kN] | [kNm] | [kN] | |
| 78 | 100 | 117 | 15.71 | 45.24 | 889.27 | 152.99 | 2082.34 | 358.25 | 2.342 |
| 79 | 100 | 118 | 15.71 | 45.24 | 917.77 | 155.87 | 2101.32 | 356.88 | 2.290 |
| 80 | 100 | 119 | 15.71 | 45.24 | 946.85 | 158.78 | 2120.14 | 355.52 | 2.239 |
| 81 | 100 | 120 | 15.71 | 45.24 | 976.51 | 161.71 | 2138.43 | 354.12 | 2.190 |

Mensola valle

| n° | B | H | Afi | Afs | M | N | Mu | Nu | FS |
|----|------|------|-------|-------|-------|------|---------|------|----------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kN] | [kNm] | [kN] | |
| 1 | 100 | 50 | 8.04 | 8.04 | 0.00 | 0.00 | 0.00 | 0.00 | 1000.000 |
| 2 | 100 | 50 | 8.04 | 8.04 | 0.00 | 0.00 | 0.00 | 0.00 | 1000.000 |
| 3 | 100 | 50 | 8.04 | 8.04 | -0.21 | 0.00 | -139.00 | 0.00 | 661.147 |
| 4 | 100 | 50 | 8.04 | 8.04 | -0.47 | 0.00 | -139.00 | 0.00 | 293.843 |
| 5 | 100 | 50 | 8.04 | 8.04 | -0.84 | 0.00 | -139.00 | 0.00 | 165.287 |

Fondazione

| Is | Afi | Afs | Mp | Mn | Mu | FS |
|--------|-------|-------|-------|---------|---------|-------------|
| | [cmq] | [cmq] | [kNm] | [kNm] | [kNm] | |
| 1-1-P | 10.05 | 10.05 | 0.67 | -0.29 | 561.35 | 100.000 (1) |
| 1-2-P | 10.05 | 10.05 | 1.29 | -1.15 | 561.35 | 100.000 (1) |
| 1-3-P | 10.05 | 10.05 | 2.42 | -14.28 | -561.35 | 46.459 (3) |
| 1-4-P | 10.05 | 10.05 | 1.44 | -38.83 | -561.35 | 16.893 (3) |
| 1-5-P | 10.05 | 10.05 | 0.00 | -83.77 | -561.35 | 7.719 (3) |
| 1-6-P | 10.05 | 10.05 | 0.00 | -158.60 | -561.35 | 4.045 (3) |
| 1-7-P | 10.05 | 10.05 | 0.16 | -262.48 | -561.35 | 2.425 (3) |
| 1-8-P | 10.05 | 10.05 | 7.72 | -419.16 | -561.35 | 1.483 (3) |
| 1-9-P | 10.05 | 10.05 | 0.00 | -422.73 | -561.35 | 1.493 (3) |
| 1-10-P | 10.05 | 10.05 | 7.72 | -419.16 | -561.35 | 1.483 (3) |
| 1-11-P | 10.05 | 10.05 | 0.16 | -262.48 | -561.35 | 2.425 (3) |
| 1-12-P | 10.05 | 10.05 | 0.00 | -158.60 | -561.35 | 4.045 (3) |
| 1-13-P | 10.05 | 10.05 | 0.00 | -83.77 | -561.35 | 7.719 (3) |
| 1-14-P | 10.05 | 10.05 | 1.44 | -38.83 | -561.35 | 16.893 (3) |
| 1-15-P | 10.05 | 10.05 | 2.42 | -14.28 | -561.35 | 46.459 (3) |
| 1-16-P | 10.05 | 10.05 | 1.29 | -1.15 | 561.35 | 100.000 (1) |
| 1-17-P | 10.05 | 10.05 | 0.67 | -0.29 | 561.35 | 100.000 (1) |
| 2-1-P | 10.05 | 10.05 | 30.61 | -0.70 | 561.35 | 21.291 (3) |
| 2-2-P | 10.05 | 10.05 | 39.84 | 0.00 | 561.35 | 16.599 (3) |
| 2-3-P | 10.05 | 10.05 | 58.20 | -3.29 | 561.35 | 11.326 (3) |
| 2-4-P | 10.05 | 10.05 | 63.13 | -11.08 | 561.35 | 10.570 (3) |
| 2-5-P | 10.05 | 10.05 | 54.45 | -28.92 | -561.35 | 12.335 (3) |
| 2-6-P | 10.05 | 10.05 | 40.74 | -71.86 | -561.35 | 5.446 (3) |
| 2-7-P | 10.05 | 10.05 | 32.93 | -144.23 | -561.35 | 2.956 (3) |
| 2-8-P | 10.05 | 10.05 | 34.26 | -174.76 | -561.35 | 2.650 (3) |
| 2-9-P | 10.05 | 10.05 | 26.85 | -239.87 | -561.35 | 1.929 (3) |
| 2-10-P | 10.05 | 10.05 | 34.26 | -174.76 | -561.35 | 2.650 (3) |
| 2-11-P | 10.05 | 10.05 | 32.93 | -144.23 | -561.35 | 2.956 (3) |
| 2-12-P | 10.05 | 10.05 | 40.74 | -71.86 | -561.35 | 5.446 (3) |
| 2-13-P | 10.05 | 10.05 | 54.45 | -28.92 | -561.35 | 12.335 (3) |
| 2-14-P | 10.05 | 10.05 | 63.13 | -11.08 | 561.35 | 10.570 (3) |
| 2-15-P | 10.05 | 10.05 | 58.20 | -3.29 | 561.35 | 11.326 (3) |
| 2-16-P | 10.05 | 10.05 | 39.84 | 0.00 | 561.35 | 16.599 (3) |
| 2-17-P | 10.05 | 10.05 | 30.61 | -0.70 | 561.35 | 21.291 (3) |
| 5-1-P | 8.04 | 8.04 | 0.52 | -12.68 | -449.08 | 35.418 (4) |
| 5-2-P | 8.04 | 8.04 | 0.12 | -18.66 | -449.08 | 24.071 (4) |
| 5-3-P | 8.04 | 8.04 | 0.46 | -25.35 | -449.08 | 17.714 (4) |
| 5-4-P | 8.04 | 8.04 | 1.39 | -28.14 | -449.08 | 15.959 (4) |
| 5-5-P | 8.04 | 8.04 | 3.66 | -29.19 | -449.08 | 15.387 (4) |
| 5-6-P | 8.04 | 8.04 | 7.13 | -31.32 | -449.08 | 14.337 (4) |
| 5-7-P | 8.04 | 8.04 | 9.25 | -35.54 | -449.08 | 12.637 (4) |
| 5-8-P | 8.04 | 8.04 | 4.82 | -35.73 | -449.08 | 12.567 (4) |
| 5-9-P | 8.04 | 8.04 | 5.41 | -27.50 | -449.08 | 13.569 (1) |
| 5-10-P | 8.04 | 8.04 | 4.82 | -35.73 | -449.08 | 12.567 (4) |
| 5-11-P | 8.04 | 8.04 | 9.25 | -35.54 | -449.08 | 12.637 (4) |
| 5-12-P | 8.04 | 8.04 | 7.13 | -31.32 | -449.08 | 14.337 (4) |
| 5-13-P | 8.04 | 8.04 | 3.66 | -29.19 | -449.08 | 15.387 (4) |

| Is | Afi | Afs | Mp | Mn | Mu | FS |
|--------|-------|-------|--------|---------|----------|-------------|
| | [cmq] | [cmq] | [kNm] | [kNm] | [kNm] | |
| 5-14-P | 8.04 | 8.04 | 1.39 | -28.14 | -449.08 | 15.959 (4) |
| 5-15-P | 8.04 | 8.04 | 0.46 | -25.35 | -449.08 | 17.714 (4) |
| 5-16-P | 8.04 | 8.04 | 0.12 | -18.66 | -449.08 | 24.071 (4) |
| 5-17-P | 8.04 | 8.04 | 0.52 | -12.68 | -449.08 | 35.418 (4) |
| 6-1-P | 8.04 | 8.04 | 1.94 | -2.65 | 449.08 | 100.000 (1) |
| 6-2-P | 8.04 | 8.04 | 5.63 | -2.87 | 449.08 | 100.000 (1) |
| 6-3-P | 8.04 | 8.04 | 12.14 | -9.46 | 449.08 | 49.203 (1) |
| 6-4-P | 8.04 | 8.04 | 16.04 | -17.37 | 449.08 | 30.028 (1) |
| 6-5-P | 8.04 | 8.04 | 17.91 | -29.57 | 449.08 | 18.963 (1) |
| 6-6-P | 8.04 | 8.04 | 19.44 | -50.77 | 449.08 | 11.659 (1) |
| 6-7-P | 8.04 | 8.04 | 24.69 | -87.60 | 449.08 | 7.005 (1) |
| 6-8-P | 8.04 | 8.04 | 59.46 | -168.66 | 449.08 | 4.278 (2) |
| 6-9-P | 8.04 | 8.04 | 0.00 | -115.26 | 449.08 | 7.579 (1) |
| 6-10-P | 8.04 | 8.04 | 59.46 | -168.66 | 449.08 | 4.278 (2) |
| 6-11-P | 8.04 | 8.04 | 24.69 | -87.60 | 449.08 | 7.005 (1) |
| 6-12-P | 8.04 | 8.04 | 19.44 | -50.77 | 449.08 | 11.659 (1) |
| 6-13-P | 8.04 | 8.04 | 17.91 | -29.57 | 449.08 | 18.963 (1) |
| 6-14-P | 8.04 | 8.04 | 16.04 | -17.37 | 449.08 | 30.028 (1) |
| 6-15-P | 8.04 | 8.04 | 12.14 | -9.46 | 449.08 | 49.203 (1) |
| 6-16-P | 8.04 | 8.04 | 5.63 | -2.87 | 449.08 | 100.000 (1) |
| 6-17-P | 8.04 | 8.04 | 1.94 | -2.65 | 449.08 | 100.000 (1) |
| 7-1-P | 8.04 | 8.04 | 0.43 | -0.86 | 449.08 | 100.000 (1) |
| 7-2-P | 8.04 | 8.04 | 1.50 | -3.91 | 449.08 | 100.000 (1) |
| 7-3-P | 8.04 | 8.04 | 3.21 | -17.06 | -449.08 | 54.679 (2) |
| 7-4-P | 8.04 | 8.04 | 3.98 | -37.08 | -449.08 | 27.349 (2) |
| 7-5-P | 8.04 | 8.04 | 4.18 | -64.64 | -449.08 | 16.658 (2) |
| 7-6-P | 8.04 | 8.04 | 4.57 | -98.36 | -449.08 | 11.349 (2) |
| 7-7-P | 8.04 | 8.04 | 5.09 | -128.10 | -449.08 | 8.914 (2) |
| 7-8-P | 8.04 | 8.04 | 1.40 | -129.56 | 449.08 | 8.148 (1) |
| 7-9-P | 8.04 | 8.04 | 0.00 | -154.70 | 449.08 | 14.462 (1) |
| 7-10-P | 8.04 | 8.04 | 1.40 | -129.56 | 449.08 | 8.148 (1) |
| 7-11-P | 8.04 | 8.04 | 5.09 | -128.10 | -449.08 | 8.914 (2) |
| 7-12-P | 8.04 | 8.04 | 4.57 | -98.36 | -449.08 | 11.349 (2) |
| 7-13-P | 8.04 | 8.04 | 4.18 | -64.64 | -449.08 | 16.658 (2) |
| 7-14-P | 8.04 | 8.04 | 3.98 | -37.08 | -449.08 | 27.349 (2) |
| 7-15-P | 8.04 | 8.04 | 3.21 | -17.06 | -449.08 | 54.679 (2) |
| 7-16-P | 8.04 | 8.04 | 1.50 | -3.91 | 449.08 | 100.000 (1) |
| 7-17-P | 8.04 | 8.04 | 0.43 | -0.86 | 449.08 | 100.000 (1) |
| 8-1-S | 40.72 | 40.72 | 0.61 | -1.02 | 2243.82 | 100.000 (1) |
| 8-2-S | 40.72 | 40.72 | 0.01 | -5.22 | 2243.82 | 100.000 (1) |
| 8-3-S | 40.72 | 40.72 | 0.67 | -8.47 | 2243.82 | 100.000 (1) |
| 8-4-S | 40.72 | 40.72 | 30.13 | -3.47 | 2243.82 | 82.305 (3) |
| 8-5-S | 40.72 | 40.72 | 80.10 | -2.83 | 2243.82 | 36.252 (3) |
| 8-6-S | 40.72 | 40.72 | 165.88 | -1.99 | 2243.82 | 16.590 (3) |
| 8-7-S | 40.72 | 40.72 | 276.88 | -0.20 | 2243.82 | 9.707 (3) |
| 8-8-S | 40.72 | 40.72 | 407.29 | 0.00 | 2243.82 | 6.510 (3) |
| 8-9-S | 40.72 | 40.72 | 546.83 | 0.00 | 2243.82 | 4.810 (3) |
| 8-10-S | 40.72 | 40.72 | 0.00 | -329.83 | -2243.82 | 6.803 (4) |
| 8-11-S | 40.72 | 40.72 | 0.00 | -230.67 | -2243.82 | 9.727 (4) |
| 8-12-S | 40.72 | 40.72 | 0.00 | -153.92 | -2243.82 | 14.578 (4) |
| 8-13-S | 40.72 | 40.72 | 0.25 | -90.64 | -2243.82 | 24.754 (4) |
| 8-14-S | 40.72 | 40.72 | 76.74 | -2.30 | -2243.82 | 51.602 (2) |
| 8-15-S | 40.72 | 40.72 | 70.10 | -2.34 | 2243.82 | 100.000 (2) |
| 8-16-S | 40.72 | 40.72 | 58.29 | -2.87 | 2243.82 | 100.000 (2) |
| 8-17-S | 40.72 | 40.72 | 44.01 | -3.52 | 2243.82 | 100.000 (2) |
| 8-18-S | 40.72 | 40.72 | 28.57 | -4.04 | 2243.82 | 100.000 (2) |
| 8-19-S | 40.72 | 40.72 | 11.46 | -2.55 | 2243.82 | 100.000 (1) |
| 8-20-S | 40.72 | 40.72 | 1.42 | -1.27 | 2243.82 | 100.000 (1) |
| 9-1-S | 45.24 | 45.24 | 2.47 | -3.12 | 2491.09 | 100.000 (1) |
| 9-2-S | 45.24 | 45.24 | 18.69 | -17.99 | 2491.09 | 72.302 (3) |
| 9-3-S | 45.24 | 45.24 | 43.29 | -47.54 | 2491.09 | 25.928 (3) |
| 9-4-S | 45.24 | 45.24 | 106.49 | -91.44 | 2491.09 | 5.551 (3) |
| 9-5-S | 45.24 | 45.24 | 17.35 | -174.91 | -2491.09 | 14.242 (4) |
| 9-6-S | 45.24 | 45.24 | 15.19 | -246.31 | -2491.09 | 10.114 (4) |
| 9-7-S | 45.24 | 45.24 | 118.50 | -60.91 | 2491.09 | 18.653 (3) |
| 9-8-S | 45.24 | 45.24 | 356.58 | 0.00 | 2491.09 | 8.775 (3) |
| 9-9-S | 45.24 | 45.24 | 671.55 | 0.00 | 2491.09 | 4.405 (3) |
| 9-10-S | 45.24 | 45.24 | 0.00 | -279.72 | -2491.09 | 8.906 (4) |
| 9-11-S | 45.24 | 45.24 | 0.00 | -162.49 | -2491.09 | 15.331 (4) |
| 9-12-S | 45.24 | 45.24 | 183.24 | -2.41 | -2491.09 | 43.707 (2) |

| Is | Afi | Afs | Mp | Mn | Mu | FS |
|---------|-------|-------|--------|---------|----------|-------------|
| | [cmq] | [cmq] | [kNm] | [kNm] | [kNm] | |
| 9-13-S | 45.24 | 45.24 | 211.24 | -5.25 | 2491.09 | 30.299 (2) |
| 9-14-S | 45.24 | 45.24 | 234.49 | -11.45 | 2491.09 | 14.315 (2) |
| 9-15-S | 45.24 | 45.24 | 290.15 | -15.15 | 2491.09 | 9.309 (3) |
| 9-16-S | 45.24 | 45.24 | 105.04 | -76.87 | 2491.09 | 24.965 (3) |
| 9-17-S | 45.24 | 45.24 | 57.25 | -175.01 | -2491.09 | 14.727 (3) |
| 9-18-S | 45.24 | 45.24 | 38.11 | -100.24 | -2491.09 | 25.587 (3) |
| 9-19-S | 45.24 | 45.24 | 23.39 | -42.86 | -2491.09 | 58.128 (4) |
| 9-20-S | 45.24 | 45.24 | 5.24 | -4.25 | 2491.09 | 100.000 (1) |
| 10-1-S | 45.24 | 45.24 | 2.47 | -3.12 | 2491.09 | 100.000 (1) |
| 10-2-S | 45.24 | 45.24 | 18.69 | -17.99 | 2491.09 | 72.302 (3) |
| 10-3-S | 45.24 | 45.24 | 43.29 | -47.54 | 2491.09 | 25.928 (3) |
| 10-4-S | 45.24 | 45.24 | 106.49 | -91.44 | 2491.09 | 5.551 (3) |
| 10-5-S | 45.24 | 45.24 | 17.35 | -174.91 | -2491.09 | 14.242 (4) |
| 10-6-S | 45.24 | 45.24 | 15.19 | -246.31 | -2491.09 | 10.114 (4) |
| 10-7-S | 45.24 | 45.24 | 118.50 | -60.91 | 2491.09 | 18.653 (3) |
| 10-8-S | 45.24 | 45.24 | 356.58 | 0.00 | 2491.09 | 8.775 (3) |
| 10-9-S | 45.24 | 45.24 | 671.55 | 0.00 | 2491.09 | 4.405 (3) |
| 10-10-S | 45.24 | 45.24 | 0.00 | -279.72 | -2491.09 | 8.906 (4) |
| 10-11-S | 45.24 | 45.24 | 0.00 | -162.49 | -2491.09 | 15.331 (4) |
| 10-12-S | 45.24 | 45.24 | 183.24 | -2.41 | -2491.09 | 43.707 (2) |
| 10-13-S | 45.24 | 45.24 | 211.24 | -5.25 | 2491.09 | 30.299 (2) |
| 10-14-S | 45.24 | 45.24 | 234.49 | -11.45 | 2491.09 | 14.315 (2) |
| 10-15-S | 45.24 | 45.24 | 290.15 | -15.15 | 2491.09 | 9.309 (3) |
| 10-16-S | 45.24 | 45.24 | 105.04 | -76.87 | 2491.09 | 24.965 (3) |
| 10-17-S | 45.24 | 45.24 | 57.25 | -175.01 | -2491.09 | 14.727 (3) |
| 10-18-S | 45.24 | 45.24 | 38.11 | -100.24 | -2491.09 | 25.587 (3) |
| 10-19-S | 45.24 | 45.24 | 23.39 | -42.86 | -2491.09 | 58.128 (4) |
| 10-20-S | 45.24 | 45.24 | 5.24 | -4.25 | 2491.09 | 100.000 (1) |
| 11-1-S | 40.72 | 40.72 | 0.61 | -1.02 | 2243.82 | 100.000 (1) |
| 11-2-S | 40.72 | 40.72 | 0.01 | -5.22 | 2243.82 | 100.000 (1) |
| 11-3-S | 40.72 | 40.72 | 0.67 | -8.47 | 2243.82 | 100.000 (1) |
| 11-4-S | 40.72 | 40.72 | 30.13 | -3.47 | 2243.82 | 82.305 (3) |
| 11-5-S | 40.72 | 40.72 | 80.10 | -2.83 | 2243.82 | 36.252 (3) |
| 11-6-S | 40.72 | 40.72 | 165.88 | -1.99 | 2243.82 | 16.590 (3) |
| 11-7-S | 40.72 | 40.72 | 276.88 | -0.20 | 2243.82 | 9.707 (3) |
| 11-8-S | 40.72 | 40.72 | 407.29 | 0.00 | 2243.82 | 6.510 (3) |
| 11-9-S | 40.72 | 40.72 | 546.83 | 0.00 | 2243.82 | 4.810 (3) |
| 11-10-S | 40.72 | 40.72 | 0.00 | -329.83 | -2243.82 | 6.803 (4) |
| 11-11-S | 40.72 | 40.72 | 0.00 | -230.67 | -2243.82 | 9.727 (4) |
| 11-12-S | 40.72 | 40.72 | 0.00 | -153.92 | -2243.82 | 14.578 (4) |
| 11-13-S | 40.72 | 40.72 | 0.25 | -90.64 | -2243.82 | 24.754 (4) |
| 11-14-S | 40.72 | 40.72 | 76.74 | -2.30 | -2243.82 | 51.602 (2) |
| 11-15-S | 40.72 | 40.72 | 70.10 | -2.34 | 2243.82 | 100.000 (2) |
| 11-16-S | 40.72 | 40.72 | 58.29 | -2.87 | 2243.82 | 100.000 (2) |
| 11-17-S | 40.72 | 40.72 | 44.01 | -3.52 | 2243.82 | 100.000 (2) |
| 11-18-S | 40.72 | 40.72 | 28.57 | -4.04 | 2243.82 | 100.000 (2) |
| 11-19-S | 40.72 | 40.72 | 11.46 | -2.55 | 2243.82 | 100.000 (1) |
| 11-20-S | 40.72 | 40.72 | 1.42 | -1.27 | 2243.82 | 100.000 (1) |

Verifiche a taglio

Simbologia adottata

| | |
|------------------|---|
| Is | indice sezione |
| Y | ordinata sezione espressa in [m] |
| B | larghezza sezione espressa in [cm] |
| H | altezza sezione espressa in [cm] |
| A _{sw} | area ferri a taglio espressa in [cmq] |
| cotgθ | inclinazione delle bielle compresse, θ inclinazione dei puntoni di calcestruzzo |
| V _{Rcd} | resistenza di progetto a 'taglio compressione' espressa in [kN] |
| V _{Rsd} | resistenza di progetto a 'taglio trazione' espressa in [kN] |
| V _{Rd} | resistenza di progetto a taglio espressa 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 | H | A _{sw} | cotθ | V _{Rcd} | V _{Rsd} | V _{Rd} | T | FS |
|----|------|------|-----------------|------|------------------|------------------|-----------------|------|---------|
| | [cm] | [cm] | [cmq] | | [kN] | [kN] | [kN] | [kN] | |
| 1 | 100 | 40 | 0.00 | -- | 0.00 | 0.00 | 238.08 | 0.00 | 100.000 |

| n° | B [cm] | H [cm] | A _{sw} [cmq] | cotθ | V _{Rcd} [kN] | V _{Rsd} [kN] | V _{Rd} [kN] | T [kN] | FS |
|----|-----------|-----------|--------------------------|------|--------------------------|--------------------------|-------------------------|-----------|---------|
| 2 | 100 | 41 | 0.00 | -- | 0.00 | 0.00 | 241.22 | 1.64 | 147.386 |
| 3 | 100 | 42 | 0.00 | -- | 0.00 | 0.00 | 244.33 | 3.32 | 73.490 |
| 4 | 100 | 43 | 0.00 | -- | 0.00 | 0.00 | 247.42 | 5.06 | 48.861 |
| 5 | 100 | 44 | 0.00 | -- | 0.00 | 0.00 | 250.48 | 6.85 | 36.550 |
| 6 | 100 | 45 | 0.00 | -- | 0.00 | 0.00 | 253.51 | 8.69 | 29.163 |
| 7 | 100 | 46 | 0.00 | -- | 0.00 | 0.00 | 256.51 | 10.58 | 24.237 |
| 8 | 100 | 47 | 0.00 | -- | 0.00 | 0.00 | 259.50 | 12.52 | 20.718 |
| 9 | 100 | 48 | 0.00 | -- | 0.00 | 0.00 | 262.45 | 14.52 | 18.079 |
| 10 | 100 | 49 | 0.00 | -- | 0.00 | 0.00 | 265.39 | 16.56 | 16.025 |
| 11 | 100 | 50 | 0.00 | -- | 0.00 | 0.00 | 268.31 | 18.65 | 14.383 |
| 12 | 100 | 51 | 0.00 | -- | 0.00 | 0.00 | 271.20 | 20.80 | 13.039 |
| 13 | 100 | 52 | 0.00 | -- | 0.00 | 0.00 | 274.08 | 23.00 | 11.919 |
| 14 | 100 | 53 | 0.00 | -- | 0.00 | 0.00 | 276.94 | 25.24 | 10.971 |
| 15 | 100 | 54 | 0.00 | -- | 0.00 | 0.00 | 279.77 | 27.54 | 10.159 |
| 16 | 100 | 55 | 0.00 | -- | 0.00 | 0.00 | 282.59 | 29.89 | 9.455 |
| 17 | 100 | 56 | 0.00 | -- | 0.00 | 0.00 | 285.40 | 32.29 | 8.839 |
| 18 | 100 | 57 | 0.00 | -- | 0.00 | 0.00 | 288.19 | 34.74 | 8.296 |
| 19 | 100 | 58 | 0.00 | -- | 0.00 | 0.00 | 290.96 | 37.24 | 7.813 |
| 20 | 100 | 59 | 0.00 | -- | 0.00 | 0.00 | 293.71 | 39.79 | 7.382 |
| 21 | 100 | 60 | 0.00 | -- | 0.00 | 0.00 | 296.45 | 42.39 | 6.993 |
| 22 | 100 | 61 | 0.00 | -- | 0.00 | 0.00 | 299.18 | 45.05 | 6.642 |
| 23 | 100 | 62 | 0.00 | -- | 0.00 | 0.00 | 301.89 | 47.75 | 6.322 |
| 24 | 100 | 63 | 0.00 | -- | 0.00 | 0.00 | 304.59 | 50.51 | 6.031 |
| 25 | 100 | 64 | 0.00 | -- | 0.00 | 0.00 | 307.28 | 53.31 | 5.764 |
| 26 | 100 | 65 | 0.00 | -- | 0.00 | 0.00 | 309.95 | 56.17 | 5.518 |
| 27 | 100 | 66 | 0.00 | -- | 0.00 | 0.00 | 312.62 | 59.08 | 5.292 |
| 28 | 100 | 67 | 0.00 | -- | 0.00 | 0.00 | 315.27 | 62.04 | 5.082 |
| 29 | 100 | 68 | 0.00 | -- | 0.00 | 0.00 | 317.90 | 65.05 | 4.887 |
| 30 | 100 | 69 | 0.00 | -- | 0.00 | 0.00 | 320.53 | 68.11 | 4.706 |
| 31 | 100 | 70 | 0.00 | -- | 0.00 | 0.00 | 323.15 | 71.22 | 4.537 |
| 32 | 100 | 71 | 0.00 | -- | 0.00 | 0.00 | 325.75 | 74.38 | 4.380 |
| 33 | 100 | 72 | 0.00 | -- | 0.00 | 0.00 | 328.35 | 77.59 | 4.232 |
| 34 | 100 | 73 | 0.00 | -- | 0.00 | 0.00 | 330.94 | 80.86 | 4.093 |
| 35 | 100 | 74 | 0.00 | -- | 0.00 | 0.00 | 333.51 | 84.17 | 3.962 |
| 36 | 100 | 75 | 0.00 | -- | 0.00 | 0.00 | 336.08 | 87.54 | 3.839 |
| 37 | 100 | 76 | 0.00 | -- | 0.00 | 0.00 | 338.64 | 90.95 | 3.723 |
| 38 | 100 | 77 | 0.00 | -- | 0.00 | 0.00 | 341.19 | 94.42 | 3.613 |
| 39 | 100 | 78 | 0.00 | -- | 0.00 | 0.00 | 343.73 | 97.94 | 3.510 |
| 40 | 100 | 79 | 0.00 | -- | 0.00 | 0.00 | 346.26 | 101.51 | 3.411 |
| 41 | 100 | 80 | 0.00 | -- | 0.00 | 0.00 | 348.78 | 105.13 | 3.318 |
| 42 | 100 | 81 | 0.00 | -- | 0.00 | 0.00 | 397.70 | 108.80 | 3.655 |
| 43 | 100 | 82 | 0.00 | -- | 0.00 | 0.00 | 400.51 | 112.52 | 3.559 |
| 44 | 100 | 83 | 0.00 | -- | 0.00 | 0.00 | 403.32 | 116.29 | 3.468 |
| 45 | 100 | 84 | 0.00 | -- | 0.00 | 0.00 | 406.11 | 120.12 | 3.381 |
| 46 | 100 | 85 | 0.00 | -- | 0.00 | 0.00 | 408.89 | 123.99 | 3.298 |
| 47 | 100 | 86 | 0.00 | -- | 0.00 | 0.00 | 411.67 | 127.92 | 3.218 |
| 48 | 100 | 87 | 0.00 | -- | 0.00 | 0.00 | 414.43 | 131.89 | 3.142 |
| 49 | 100 | 88 | 0.00 | -- | 0.00 | 0.00 | 515.22 | 135.92 | 3.791 |
| 50 | 100 | 89 | 0.00 | -- | 0.00 | 0.00 | 518.56 | 140.00 | 3.704 |
| 51 | 100 | 90 | 0.00 | -- | 0.00 | 0.00 | 521.89 | 144.12 | 3.621 |
| 52 | 100 | 91 | 0.00 | -- | 0.00 | 0.00 | 525.21 | 148.30 | 3.541 |
| 53 | 100 | 92 | 0.00 | -- | 0.00 | 0.00 | 528.52 | 152.53 | 3.465 |
| 54 | 100 | 93 | 0.00 | -- | 0.00 | 0.00 | 531.83 | 156.81 | 3.391 |
| 55 | 100 | 94 | 0.00 | -- | 0.00 | 0.00 | 535.12 | 161.15 | 3.321 |
| 56 | 100 | 95 | 0.00 | -- | 0.00 | 0.00 | 538.40 | 165.53 | 3.253 |
| 57 | 100 | 96 | 0.00 | -- | 0.00 | 0.00 | 541.67 | 169.96 | 3.187 |
| 58 | 100 | 97 | 0.00 | -- | 0.00 | 0.00 | 544.94 | 174.45 | 3.124 |
| 59 | 100 | 98 | 0.00 | -- | 0.00 | 0.00 | 548.20 | 178.98 | 3.063 |
| 60 | 100 | 99 | 0.00 | -- | 0.00 | 0.00 | 551.45 | 183.57 | 3.004 |
| 61 | 100 | 100 | 0.00 | -- | 0.00 | 0.00 | 554.69 | 188.21 | 2.947 |
| 62 | 100 | 101 | 0.00 | -- | 0.00 | 0.00 | 557.92 | 192.89 | 2.892 |
| 63 | 100 | 102 | 0.00 | -- | 0.00 | 0.00 | 561.14 | 197.63 | 2.839 |
| 64 | 100 | 103 | 0.00 | -- | 0.00 | 0.00 | 564.36 | 202.42 | 2.788 |
| 65 | 100 | 104 | 0.00 | -- | 0.00 | 0.00 | 567.57 | 207.26 | 2.738 |
| 66 | 100 | 105 | 0.00 | -- | 0.00 | 0.00 | 570.77 | 212.15 | 2.690 |
| 67 | 100 | 106 | 0.00 | -- | 0.00 | 0.00 | 573.97 | 217.10 | 2.644 |
| 68 | 100 | 107 | 0.00 | -- | 0.00 | 0.00 | 577.16 | 222.09 | 2.599 |
| 69 | 100 | 108 | 0.00 | -- | 0.00 | 0.00 | 580.34 | 227.13 | 2.555 |
| 70 | 100 | 109 | 0.00 | -- | 0.00 | 0.00 | 583.52 | 232.23 | 2.513 |
| 71 | 100 | 110 | 0.00 | -- | 0.00 | 0.00 | 586.69 | 237.37 | 2.472 |

| n° | B [cm] | H [cm] | A _{sw} [cmq] | cotθ | V _{Rcd} [kN] | V _{Rsd} [kN] | V _{Rd} [kN] | T [kN] | FS |
|----|-----------|-----------|--------------------------|------|--------------------------|--------------------------|-------------------------|-----------|-------|
| 72 | 100 | 111 | 0.00 | -- | 0.00 | 0.00 | 550.95 | 242.57 | 2.271 |
| 73 | 100 | 112 | 0.00 | -- | 0.00 | 0.00 | 553.92 | 247.82 | 2.235 |
| 74 | 100 | 113 | 0.00 | -- | 0.00 | 0.00 | 517.40 | 253.12 | 2.044 |
| 75 | 100 | 114 | 0.00 | -- | 0.00 | 0.00 | 520.17 | 258.47 | 2.013 |
| 76 | 100 | 115 | 0.00 | -- | 0.00 | 0.00 | 522.93 | 263.87 | 1.982 |
| 77 | 100 | 116 | 0.00 | -- | 0.00 | 0.00 | 525.69 | 269.32 | 1.952 |
| 78 | 100 | 117 | 0.00 | -- | 0.00 | 0.00 | 528.45 | 274.82 | 1.923 |
| 79 | 100 | 118 | 0.00 | -- | 0.00 | 0.00 | 531.20 | 280.37 | 1.895 |
| 80 | 100 | 119 | 0.00 | -- | 0.00 | 0.00 | 533.95 | 285.97 | 1.867 |
| 81 | 100 | 120 | 0.00 | -- | 0.00 | 0.00 | 536.70 | 291.63 | 1.840 |

Mensola valle

| n° | B [cm] | H [cm] | A _{sw} [cmq] | cotθ | V _{Rcd} [kN] | V _{Rsd} [kN] | V _{Rd} [kN] | T [kN] | FS |
|----|-----------|-----------|--------------------------|------|--------------------------|--------------------------|-------------------------|-----------|---------|
| 1 | 100 | 50 | 0.00 | -- | 0.00 | 0.00 | 207.84 | 0.00 | 100.000 |
| 2 | 100 | 50 | 0.00 | -- | 0.00 | 0.00 | 207.84 | 1.20 | 173.006 |
| 3 | 100 | 50 | 0.00 | -- | 0.00 | 0.00 | 207.84 | 2.40 | 86.503 |
| 4 | 100 | 50 | 0.00 | -- | 0.00 | 0.00 | 207.84 | 3.60 | 57.669 |
| 5 | 100 | 50 | 0.00 | -- | 0.00 | 0.00 | 207.84 | 4.81 | 43.251 |

Fondazione

| Is | B [cm] | H [cm] | A _{sw} [cmq] | cotg (θ) | V _{Rcd} [kN] | V _{Rsd} [kN] | V _{Rd} [kN] | T [kN] | FS |
|--------|-----------|-----------|--------------------------|----------|--------------------------|--------------------------|-------------------------|-----------|-------------|
| 1-1-P | 100 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 475.86 | 0.00 | 100.000 (1) |
| 1-2-P | 100 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 475.86 | 0.00 | 100.000 (1) |
| 1-3-P | 100 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 475.86 | 243.55 | 1.954 (1) |
| 1-4-P | 100 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 475.86 | 243.55 | 1.954 (1) |
| 1-5-P | 100 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 475.86 | 243.55 | 1.954 (1) |
| 1-6-P | 100 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 475.86 | 243.55 | 1.954 (1) |
| 1-7-P | 100 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 475.86 | 243.55 | 1.954 (1) |
| 1-8-P | 100 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 475.86 | 243.55 | 1.954 (1) |
| 1-9-P | 100 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 475.86 | 243.55 | 1.954 (1) |
| 1-10-P | 100 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 475.86 | 19.29 | 24.665 (1) |
| 1-11-P | 100 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 475.86 | 19.29 | 24.665 (1) |
| 1-12-P | 100 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 475.86 | 19.29 | 24.665 (1) |
| 1-13-P | 100 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 475.86 | 19.29 | 24.665 (1) |
| 1-14-P | 100 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 475.86 | 19.29 | 24.665 (1) |
| 1-15-P | 100 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 475.86 | 0.00 | 100.000 (1) |
| 1-16-P | 100 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 475.86 | 0.00 | 100.000 (1) |
| 1-17-P | 100 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 475.86 | 0.00 | 100.000 (1) |
| 2-1-P | 100 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 475.86 | 0.00 | 100.000 (1) |
| 2-2-P | 100 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 475.86 | 0.00 | 100.000 (1) |
| 2-3-P | 100 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 475.86 | 328.70 | 1.448 (1) |
| 2-4-P | 100 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 475.86 | 328.70 | 1.448 (1) |
| 2-5-P | 100 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 475.86 | 328.70 | 1.448 (1) |
| 2-6-P | 100 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 475.86 | 328.70 | 1.448 (1) |
| 2-7-P | 100 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 475.86 | 328.70 | 1.448 (1) |
| 2-8-P | 100 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 475.86 | 328.70 | 1.448 (1) |
| 2-9-P | 100 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 475.86 | 328.70 | 1.448 (1) |
| 2-10-P | 100 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 475.86 | 12.22 | 38.929 (1) |
| 2-11-P | 100 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 475.86 | 12.22 | 38.929 (1) |
| 2-12-P | 100 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 475.86 | 12.22 | 38.929 (1) |
| 2-13-P | 100 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 475.86 | 12.22 | 38.929 (1) |
| 2-14-P | 100 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 475.86 | 12.22 | 38.929 (1) |
| 2-15-P | 100 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 475.86 | 0.00 | 100.000 (1) |
| 2-16-P | 100 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 475.86 | 0.00 | 100.000 (1) |
| 2-17-P | 100 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 475.86 | 0.00 | 100.000 (1) |
| 5-1-P | 80 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 380.69 | 12.54 | 30.357 (1) |
| 5-2-P | 80 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 380.69 | 12.54 | 30.357 (1) |
| 5-3-P | 80 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 380.69 | 14.15 | 26.896 (1) |
| 5-4-P | 80 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 380.69 | 14.15 | 26.896 (1) |
| 5-5-P | 80 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 380.69 | 14.15 | 26.896 (1) |
| 5-6-P | 80 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 380.69 | 14.15 | 26.896 (1) |
| 5-7-P | 80 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 380.69 | 14.15 | 26.896 (1) |

| Is | B | H | A _{sw} | cotg (θ) | V _{Rcd} | V _{Rsd} | V _{Rd} | T | FS |
|--------|------|------|-----------------|----------|------------------|------------------|-----------------|---------|-------------|
| | [cm] | [cm] | [cmq] | | [kN] | [kN] | [kN] | [kN] | |
| 5-8-P | 80 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 380.69 | 14.15 | 26.896 (1) |
| 5-9-P | 80 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 380.69 | 14.15 | 26.896 (1) |
| 5-10-P | 80 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 380.69 | 3.08 | 100.000 (1) |
| 5-11-P | 80 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 380.69 | 3.08 | 100.000 (1) |
| 5-12-P | 80 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 380.69 | 3.08 | 100.000 (1) |
| 5-13-P | 80 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 380.69 | 3.08 | 100.000 (1) |
| 5-14-P | 80 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 380.69 | 3.08 | 100.000 (1) |
| 5-15-P | 80 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 380.69 | 12.54 | 30.357 (1) |
| 5-16-P | 80 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 380.69 | 12.54 | 30.357 (1) |
| 5-17-P | 80 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 380.69 | 12.54 | 30.357 (1) |
| 6-1-P | 80 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 380.69 | 130.18 | 2.924 (1) |
| 6-2-P | 80 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 380.69 | 130.18 | 2.924 (1) |
| 6-3-P | 80 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 380.69 | 81.69 | 4.660 (1) |
| 6-4-P | 80 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 380.69 | 81.69 | 4.660 (1) |
| 6-5-P | 80 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 380.69 | 81.69 | 4.660 (1) |
| 6-6-P | 80 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 380.69 | 81.69 | 4.660 (1) |
| 6-7-P | 80 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 380.69 | 81.69 | 4.660 (1) |
| 6-8-P | 80 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 380.69 | 81.69 | 4.660 (1) |
| 6-9-P | 80 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 380.69 | 81.69 | 4.660 (1) |
| 6-10-P | 80 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 380.69 | 4.68 | 81.416 (1) |
| 6-11-P | 80 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 380.69 | 4.68 | 81.416 (1) |
| 6-12-P | 80 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 380.69 | 4.68 | 81.416 (1) |
| 6-13-P | 80 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 380.69 | 4.68 | 81.416 (1) |
| 6-14-P | 80 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 380.69 | 4.68 | 81.416 (1) |
| 6-15-P | 80 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 380.69 | 27.84 | 13.675 (1) |
| 6-16-P | 80 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 380.69 | 27.84 | 13.675 (1) |
| 6-17-P | 80 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 380.69 | 27.84 | 13.675 (1) |
| 7-1-P | 80 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 380.69 | 0.00 | 100.000 (1) |
| 7-2-P | 80 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 380.69 | 0.00 | 100.000 (1) |
| 7-3-P | 80 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 380.69 | 158.55 | 2.401 (1) |
| 7-4-P | 80 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 380.69 | 158.55 | 2.401 (1) |
| 7-5-P | 80 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 380.69 | 158.55 | 2.401 (1) |
| 7-6-P | 80 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 380.69 | 158.55 | 2.401 (1) |
| 7-7-P | 80 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 380.69 | 158.55 | 2.401 (1) |
| 7-8-P | 80 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 380.69 | 158.55 | 2.401 (1) |
| 7-9-P | 80 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 380.69 | 158.55 | 2.401 (1) |
| 7-10-P | 80 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 380.69 | 19.52 | 19.501 (1) |
| 7-11-P | 80 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 380.69 | 19.52 | 19.501 (1) |
| 7-12-P | 80 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 380.69 | 19.52 | 19.501 (1) |
| 7-13-P | 80 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 380.69 | 19.52 | 19.501 (1) |
| 7-14-P | 80 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 380.69 | 19.52 | 19.501 (1) |
| 7-15-P | 80 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 380.69 | 0.00 | 100.000 (1) |
| 7-16-P | 80 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 380.69 | 0.00 | 100.000 (1) |
| 7-17-P | 80 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 380.69 | 0.00 | 100.000 (1) |
| 8-1-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 456.72 | 1.074 (1) |
| 8-2-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 456.72 | 1.074 (1) |
| 8-3-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 456.72 | 1.074 (1) |
| 8-4-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 456.72 | 1.074 (1) |
| 8-5-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 456.72 | 1.074 (1) |
| 8-6-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 456.72 | 1.074 (1) |
| 8-7-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 402.39 | 1.219 (1) |
| 8-8-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 402.39 | 1.219 (1) |
| 8-9-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 402.39 | 1.219 (1) |
| 8-10-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 0.00 | 100.000 (1) |
| 8-11-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 0.00 | 100.000 (1) |
| 8-12-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 0.00 | 100.000 (1) |
| 8-13-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 9.67 | 50.728 (1) |
| 8-14-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 9.67 | 50.728 (1) |
| 8-15-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 9.67 | 50.728 (1) |
| 8-16-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 9.67 | 50.728 (1) |
| 8-17-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 51.39 | 9.546 (1) |
| 8-18-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 51.39 | 9.546 (1) |
| 8-19-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 51.39 | 9.546 (1) |
| 8-20-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 9.67 | 50.728 (1) |
| 9-1-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 508.12 | 224.44 | 2.264 (1) |
| 9-2-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 508.12 | 224.44 | 2.264 (1) |
| 9-3-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 508.12 | 224.44 | 2.264 (1) |
| 9-4-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 508.12 | 224.44 | 2.264 (1) |
| 9-5-S | 95 | 150 | 16.08 | 2.500 | 4046.17 | 1446.48 | 1446.48 | 1293.46 | 1.118 (1) |
| 9-6-S | 95 | 150 | 16.08 | 2.500 | 4046.17 | 1446.48 | 1446.48 | 1293.46 | 1.118 (1) |

| Is | B | H | A _{sw} | cotg (θ) | V _{Rcd} | V _{Rsd} | V _{Rd} | T | FS |
|---------|------|------|-----------------|----------|------------------|------------------|-----------------|---------|-------------|
| | [cm] | [cm] | [cmq] | | [kN] | [kN] | [kN] | [kN] | |
| 9-7-S | 95 | 150 | 16.08 | 2.500 | 4046.17 | 1446.48 | 1446.48 | 0.00 | 100.000 (1) |
| 9-8-S | 95 | 150 | 16.08 | 2.500 | 4046.17 | 1446.48 | 1446.48 | 0.00 | 100.000 (1) |
| 9-9-S | 95 | 150 | 16.08 | 2.500 | 4046.17 | 1446.48 | 1446.48 | 0.00 | 100.000 (1) |
| 9-10-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 508.12 | 1.37 | 100.000 (1) |
| 9-11-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 508.12 | 1.37 | 100.000 (1) |
| 9-12-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 508.12 | 1.37 | 100.000 (1) |
| 9-13-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 508.12 | 1.37 | 100.000 (1) |
| 9-14-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 508.12 | 1.37 | 100.000 (1) |
| 9-15-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 508.12 | 1.37 | 100.000 (1) |
| 9-16-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 508.12 | 1.37 | 100.000 (1) |
| 9-17-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 508.12 | 215.48 | 2.358 (1) |
| 9-18-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 508.12 | 215.48 | 2.358 (1) |
| 9-19-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 508.12 | 215.48 | 2.358 (1) |
| 9-20-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 508.12 | 215.48 | 2.358 (1) |
| 10-1-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 508.12 | 224.44 | 2.264 (1) |
| 10-2-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 508.12 | 224.44 | 2.264 (1) |
| 10-3-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 508.12 | 224.44 | 2.264 (1) |
| 10-4-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 508.12 | 224.44 | 2.264 (1) |
| 10-5-S | 95 | 150 | 16.08 | 2.500 | 4046.17 | 1446.48 | 1446.48 | 1293.46 | 1.118 (1) |
| 10-6-S | 95 | 150 | 16.08 | 2.500 | 4046.17 | 1446.48 | 1446.48 | 1293.46 | 1.118 (1) |
| 10-7-S | 95 | 150 | 16.08 | 2.500 | 4046.17 | 1446.48 | 1446.48 | 0.00 | 100.000 (1) |
| 10-8-S | 95 | 150 | 16.08 | 2.500 | 4046.17 | 1446.48 | 1446.48 | 0.00 | 100.000 (1) |
| 10-9-S | 95 | 150 | 16.08 | 2.500 | 4046.17 | 1446.48 | 1446.48 | 0.00 | 100.000 (1) |
| 10-10-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 508.12 | 1.37 | 100.000 (1) |
| 10-11-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 508.12 | 1.37 | 100.000 (1) |
| 10-12-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 508.12 | 1.37 | 100.000 (1) |
| 10-13-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 508.12 | 1.37 | 100.000 (1) |
| 10-14-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 508.12 | 1.37 | 100.000 (1) |
| 10-15-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 508.12 | 1.37 | 100.000 (1) |
| 10-16-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 508.12 | 1.37 | 100.000 (1) |
| 10-17-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 508.12 | 215.48 | 2.358 (1) |
| 10-18-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 508.12 | 215.48 | 2.358 (1) |
| 10-19-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 508.12 | 215.48 | 2.358 (1) |
| 10-20-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 508.12 | 215.48 | 2.358 (1) |
| 11-1-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 456.72 | 1.074 (1) |
| 11-2-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 456.72 | 1.074 (1) |
| 11-3-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 456.72 | 1.074 (1) |
| 11-4-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 456.72 | 1.074 (1) |
| 11-5-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 456.72 | 1.074 (1) |
| 11-6-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 456.72 | 1.074 (1) |
| 11-7-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 402.39 | 1.219 (1) |
| 11-8-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 402.39 | 1.219 (1) |
| 11-9-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 402.39 | 1.219 (1) |
| 11-10-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 0.00 | 100.000 (1) |
| 11-11-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 0.00 | 100.000 (1) |
| 11-12-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 0.00 | 100.000 (1) |
| 11-13-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 9.67 | 50.728 (1) |
| 11-14-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 9.67 | 50.728 (1) |
| 11-15-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 9.67 | 50.728 (1) |
| 11-16-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 9.67 | 50.728 (1) |
| 11-17-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 51.39 | 9.546 (1) |
| 11-18-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 51.39 | 9.546 (1) |
| 11-19-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 51.39 | 9.546 (1) |
| 11-20-S | 95 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 490.59 | 9.67 | 50.728 (1) |

Verifica a punzonamento

Simbologia adottata

| | |
|-----------------------------------|---|
| OP | Oggetto che viene punzonato |
| P | Oggetto che punzona |
| C ₁ , C ₂ | Dimensioni pilastro nelle due direzioni, espressa in [mm] |
| d | Altezza utile della fondazione, espressa in [mm] |
| u ₀ | Lunghezza perimetro di verifica a faccia pilastro, espresso in [mm] |
| u ₁ | Lunghezza perimetro di verifica per effetto della diffusione, espresso in [mm] |
| p _y , p _z | Percentuali di armatura piastra in zona tesa |
| d _{pC} , d _{uc} | distanza della prima e dell'ultima cucitura dalla faccia del pilastro |
| V _{Ed,j} | Tensione di taglio sul perimetro del pilastro, espressa in [kPa] |
| V _{Rd,max} | Valore di progetto del massimo taglio-punzonamento resistente, espressa in [kPa] |
| V _{Ed,f} | Tensione di taglio sul perimetro di verifica u ₁ , espresso in [kPa] |
| V _{Rd,cf} | Valore di progetto del taglio-punzonamento resistente senza armature sul perimetro di verifica u ₁ , espresso in [kPa] |
| V _{Rd,cs} | Valore di progetto del taglio-punzonamento resistente con armature, espresso in [kPa] |

nsc Numero di serie di cuciture
nc Numero di cuciture
FS Fattore di sicurezza (minore tra i rapporti $V_{Rd,max}/V_{Ed,i}$, $V_{Rd,cf}/V_{Ed,f}$ e $V_{Rd,cs}/V_{Ed,f}$)

Verifica delle tensioni

Simbologia adottata

n° indice sezione
Y ordinata sezione, espressa in [m]
B larghezza sezione, espressa in [cm]
H altezza sezione, espressa in [cm]
Afi area ferri inferiori, espressa in [cmq]
Afs area ferri superiori, espressa in [cmq]
M momento agente, espressa in [kNm]
N sforzo normale agente, espressa in [kN]
 σ_c tensione di compressione nel cls, espressa in [kPa]
 σ_{fi} tensione nei ferri inferiori, espressa in [kPa]
 σ_{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 | σ_c | σ_{fi} | σ_{fs} |
|----|------|------|-------|-------|-------|-------|------------|---------------|---------------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kN] | [kPa] | [kPa] | [kPa] |
| 1 | 100 | 40 | 15.71 | 18.10 | 0.75 | 4.29 | 39 (9) | 362 (9) | 460 (9) |
| 2 | 100 | 41 | 15.71 | 18.10 | 0.75 | 5.28 | 37 (9) | 211 (9) | 464 (9) |
| 3 | 100 | 42 | 15.71 | 18.10 | 0.77 | 6.30 | 37 (9) | 112 (9) | 474 (9) |
| 4 | 100 | 43 | 15.71 | 18.10 | 0.79 | 7.34 | 38 (9) | 50 (9) | 493 (9) |
| 5 | 100 | 44 | 15.71 | 18.10 | 0.84 | 8.41 | 39 (9) | 12 (9) | 521 (9) |
| 6 | 100 | 45 | 15.71 | 18.10 | 0.91 | 9.50 | 42 (9) | 10 (9) | 558 (9) |
| 7 | 100 | 46 | 15.71 | 18.10 | 1.01 | 10.62 | 45 (9) | 22 (9) | 603 (9) |
| 8 | 100 | 47 | 15.71 | 18.10 | 1.14 | 11.76 | 49 (9) | 23 (9) | 656 (9) |
| 9 | 100 | 48 | 15.71 | 18.10 | 1.30 | 12.92 | 53 (9) | 14 (9) | 717 (9) |
| 10 | 100 | 49 | 15.71 | 18.10 | 1.51 | 14.11 | 58 (9) | 8 (9) | 787 (9) |
| 11 | 100 | 50 | 15.71 | 18.10 | 1.77 | 15.32 | 64 (9) | 44 (9) | 867 (9) |
| 12 | 100 | 51 | 15.71 | 18.10 | 2.07 | 16.56 | 71 (9) | 98 (9) | 959 (9) |
| 13 | 100 | 52 | 15.71 | 18.10 | 2.44 | 17.82 | 80 (9) | 176 (9) | 1064 (9) |
| 14 | 100 | 53 | 15.71 | 18.10 | 2.86 | 19.11 | 89 (9) | 283 (9) | 1182 (9) |
| 15 | 100 | 54 | 15.71 | 18.10 | 3.35 | 20.42 | 99 (9) | 425 (9) | 1316 (9) |
| 16 | 100 | 55 | 15.71 | 18.10 | 3.90 | 21.76 | 111 (9) | 611 (9) | 1465 (9) |
| 17 | 100 | 56 | 15.71 | 18.10 | 4.54 | 23.12 | 125 (9) | 846 (9) | 1632 (9) |
| 18 | 100 | 57 | 15.71 | 18.10 | 5.25 | 24.50 | 139 (9) | 1136 (9) | 1815 (9) |
| 19 | 100 | 58 | 15.71 | 18.10 | 6.04 | 25.91 | 156 (9) | 1490 (9) | 2015 (9) |
| 20 | 100 | 59 | 15.71 | 18.10 | 6.94 | 27.35 | 174 (9) | 1914 (9) | 2234 (9) |
| 21 | 100 | 60 | 15.71 | 18.10 | 7.94 | 28.81 | 194 (9) | 2418 (9) | 2472 (9) |
| 22 | 100 | 61 | 15.71 | 18.10 | 9.06 | 30.29 | 215 (9) | 3008 (9) | 2730 (9) |
| 23 | 100 | 62 | 15.71 | 18.10 | 10.30 | 31.80 | 239 (9) | 3692 (9) | 3009 (9) |
| 24 | 100 | 63 | 15.71 | 18.10 | 11.68 | 33.33 | 264 (9) | 4473 (9) | 3309 (9) |
| 25 | 100 | 64 | 15.71 | 18.10 | 13.21 | 34.89 | 291 (9) | 5352 (9) | 3629 (9) |
| 26 | 100 | 65 | 15.71 | 18.10 | 14.88 | 36.47 | 320 (9) | 6329 (9) | 3968 (9) |
| 27 | 100 | 66 | 15.71 | 18.10 | 16.70 | 38.07 | 350 (9) | 7404 (9) | 4326 (9) |
| 28 | 100 | 67 | 15.71 | 18.10 | 18.67 | 39.70 | 382 (9) | 8576 (9) | 4702 (9) |
| 29 | 100 | 68 | 15.71 | 18.10 | 20.81 | 41.36 | 416 (9) | 9846 (9) | 5096 (9) |
| 30 | 100 | 69 | 15.71 | 18.10 | 23.12 | 43.04 | 451 (9) | 11212 (9) | 5507 (9) |
| 31 | 100 | 70 | 15.71 | 18.10 | 25.60 | 44.74 | 487 (9) | 12674 (9) | 5935 (9) |
| 32 | 100 | 71 | 15.71 | 18.10 | 28.26 | 46.47 | 525 (9) | 14231 (9) | 6380 (9) |
| 33 | 100 | 72 | 15.71 | 18.10 | 31.10 | 48.22 | 564 (9) | 15883 (9) | 6842 (9) |
| 34 | 100 | 73 | 15.71 | 18.10 | 34.12 | 50.00 | 605 (9) | 17629 (9) | 7320 (9) |
| 35 | 100 | 74 | 15.71 | 18.10 | 37.34 | 51.80 | 647 (9) | 19469 (9) | 7814 (9) |
| 36 | 100 | 75 | 15.71 | 18.10 | 40.75 | 53.63 | 690 (9) | 21402 (9) | 8323 (9) |
| 37 | 100 | 76 | 15.71 | 18.10 | 44.37 | 55.48 | 734 (9) | 23428 (9) | 8849 (9) |
| 38 | 100 | 77 | 15.71 | 18.10 | 48.19 | 57.36 | 780 (9) | 25546 (9) | 9389 (9) |
| 39 | 100 | 78 | 15.71 | 18.10 | 52.22 | 59.26 | 827 (9) | 27756 (9) | 9945 (9) |
| 40 | 100 | 79 | 15.71 | 18.10 | 56.47 | 61.18 | 875 (9) | 30058 (9) | 10516 (9) |
| 41 | 100 | 80 | 15.71 | 18.10 | 60.93 | 63.13 | 924 (9) | 32451 (9) | 11101 (9) |

| n° | B | H | Afi | Afs | M | N | σ_c | σ_{fi} | σ_{fs} |
|----|------|------|-------|-------|--------|--------|------------|---------------|---------------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kN] | [kPa] | [kPa] | [kPa] |
| 42 | 100 | 81 | 31.42 | 18.10 | 65.63 | 65.10 | 884 (9) | 34274 (9) | 10459 (9) |
| 43 | 100 | 82 | 31.42 | 18.10 | 70.55 | 67.10 | 931 (9) | 36822 (9) | 11012 (9) |
| 44 | 100 | 83 | 31.42 | 18.10 | 75.71 | 69.12 | 979 (9) | 39460 (9) | 11577 (9) |
| 45 | 100 | 84 | 31.42 | 18.10 | 81.10 | 71.17 | 1028 (9) | 42186 (9) | 12155 (9) |
| 46 | 100 | 85 | 31.42 | 18.10 | 86.75 | 73.24 | 1078 (9) | 45002 (9) | 12746 (9) |
| 47 | 100 | 86 | 31.42 | 18.10 | 92.64 | 75.34 | 1129 (9) | 47907 (9) | 13350 (9) |
| 48 | 100 | 87 | 31.42 | 18.10 | 98.78 | 77.46 | 1181 (9) | 50899 (9) | 13966 (9) |
| 49 | 100 | 88 | 31.42 | 63.33 | 105.18 | 79.60 | 851 (9) | 17000 (9) | 11154 (9) |
| 50 | 100 | 89 | 31.42 | 63.33 | 111.85 | 81.77 | 886 (9) | 17966 (9) | 11620 (9) |
| 51 | 100 | 90 | 31.42 | 63.33 | 118.78 | 83.97 | 921 (9) | 18959 (9) | 12094 (9) |
| 52 | 100 | 91 | 31.42 | 63.33 | 125.98 | 86.19 | 958 (9) | 19977 (9) | 12576 (9) |
| 53 | 100 | 92 | 31.42 | 63.33 | 133.47 | 88.43 | 994 (9) | 21021 (9) | 13066 (9) |
| 54 | 100 | 93 | 31.42 | 63.33 | 141.23 | 90.70 | 1032 (9) | 22092 (9) | 13563 (9) |
| 55 | 100 | 94 | 31.42 | 63.33 | 149.28 | 92.99 | 1069 (9) | 23188 (9) | 14068 (9) |
| 56 | 100 | 95 | 31.42 | 63.33 | 157.62 | 95.31 | 1108 (9) | 24310 (9) | 14580 (9) |
| 57 | 100 | 96 | 31.42 | 63.33 | 166.26 | 97.65 | 1146 (9) | 25458 (9) | 15099 (9) |
| 58 | 100 | 97 | 31.42 | 63.33 | 175.19 | 100.01 | 1186 (9) | 26631 (9) | 15626 (9) |
| 59 | 100 | 98 | 31.42 | 63.33 | 184.43 | 102.40 | 1226 (9) | 27831 (9) | 16159 (9) |
| 60 | 100 | 99 | 31.42 | 63.33 | 193.98 | 104.82 | 1266 (9) | 29056 (9) | 16700 (9) |
| 61 | 100 | 100 | 31.42 | 63.33 | 203.85 | 107.26 | 1307 (9) | 30306 (9) | 17248 (9) |
| 62 | 100 | 101 | 31.42 | 63.33 | 214.03 | 109.72 | 1348 (9) | 31582 (9) | 17802 (9) |
| 63 | 100 | 102 | 31.42 | 63.33 | 224.54 | 112.21 | 1390 (9) | 32883 (9) | 18364 (9) |
| 64 | 100 | 103 | 31.42 | 63.33 | 235.38 | 114.72 | 1432 (9) | 34210 (9) | 18932 (9) |
| 65 | 100 | 104 | 31.42 | 63.33 | 246.55 | 117.26 | 1474 (9) | 35562 (9) | 19506 (9) |
| 66 | 100 | 105 | 31.42 | 63.33 | 258.05 | 119.82 | 1517 (9) | 36940 (9) | 20087 (9) |
| 67 | 100 | 106 | 31.42 | 63.33 | 269.90 | 122.41 | 1561 (9) | 38343 (9) | 20675 (9) |
| 68 | 100 | 107 | 31.42 | 63.33 | 282.10 | 125.02 | 1605 (9) | 39771 (9) | 21269 (9) |
| 69 | 100 | 108 | 31.42 | 63.33 | 294.64 | 127.65 | 1649 (9) | 41224 (9) | 21869 (9) |
| 70 | 100 | 109 | 31.42 | 63.33 | 307.55 | 130.31 | 1694 (9) | 42703 (9) | 22476 (9) |
| 71 | 100 | 110 | 31.42 | 63.33 | 320.81 | 133.00 | 1739 (9) | 44206 (9) | 23089 (9) |
| 72 | 100 | 111 | 31.42 | 45.24 | 334.44 | 135.71 | 1974 (9) | 62541 (9) | 25721 (9) |
| 73 | 100 | 112 | 31.42 | 45.24 | 348.44 | 138.44 | 2026 (9) | 64677 (9) | 26409 (9) |
| 74 | 100 | 113 | 15.71 | 45.24 | 362.81 | 141.20 | 2240 (9) | 67901 (9) | 29389 (9) |
| 75 | 100 | 114 | 15.71 | 45.24 | 377.56 | 143.98 | 2296 (9) | 70130 (9) | 30139 (9) |
| 76 | 100 | 115 | 15.71 | 45.24 | 392.70 | 146.79 | 2352 (9) | 72394 (9) | 30895 (9) |
| 77 | 100 | 116 | 15.71 | 45.24 | 408.22 | 149.62 | 2409 (9) | 74693 (9) | 31659 (9) |
| 78 | 100 | 117 | 15.71 | 45.24 | 424.14 | 152.48 | 2466 (9) | 77026 (9) | 32429 (9) |
| 79 | 100 | 118 | 15.71 | 45.24 | 440.46 | 155.36 | 2524 (9) | 79393 (9) | 33206 (9) |
| 80 | 100 | 119 | 15.71 | 45.24 | 457.18 | 158.26 | 2582 (9) | 81795 (9) | 33990 (9) |
| 81 | 100 | 120 | 15.71 | 45.24 | 474.30 | 161.19 | 2640 (9) | 84232 (9) | 34780 (9) |

Mensola valle

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

| n° | B | H | Afi | Afs | M | N | σ_c | σ_{fi} | σ_{fs} |
|----|------|------|-------|-------|-------|------|------------|---------------|---------------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kN] | [kPa] | [kPa] | [kPa] |
| 1 | 100 | 50 | 8.04 | 8.04 | 0.00 | 0.00 | 0 (9) | 0 (9) | 0 (9) |
| 2 | 100 | 50 | 8.04 | 8.04 | -0.05 | 0.00 | 2 (9) | 16 (9) | 138 (9) |
| 3 | 100 | 50 | 8.04 | 8.04 | -0.19 | 0.00 | 9 (9) | 65 (9) | 551 (9) |
| 4 | 100 | 50 | 8.04 | 8.04 | -0.42 | 0.00 | 20 (9) | 146 (9) | 1239 (9) |
| 5 | 100 | 50 | 8.04 | 8.04 | -0.75 | 0.00 | 35 (9) | 260 (9) | 2203 (9) |

Piastra fondazione

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

| Is | B | H | Afi | Afs | Mp | Mn | σ_c | σ_{fi} | σ_{fs} |
|-------|------|------|-------|-------|-------|-------|------------|---------------|---------------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kNm] | [kPa] | [kPa] | [kPa] |
| 1-1-P | 100 | 150 | 10.05 | 10.05 | 0.58 | -0.28 | 4 (10) | 417 (10) | 196 (10) |
| 1-2-P | 100 | 150 | 10.05 | 10.05 | 1.18 | -1.11 | 9 (9) | 809 (9) | 933 (9) |
| 1-3-P | 100 | 150 | 10.05 | 10.05 | 1.39 | -6.69 | 42 (9) | 2316 (9) | 4337 (9) |

| Is | B | H | Afi | Afs | Mp | Mn | σc | σfi | σfs |
|--------|------|------|-------|-------|-------|---------|-----------|------------|-------------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kNm] | [kPa] | [kPa] | [kPa] |
| 1-4-P | 100 | 150 | 10.05 | 10.05 | 0.44 | -18.63 | 117 (9) | 1354 (9) | 12032 (9) |
| 1-5-P | 100 | 150 | 10.05 | 10.05 | 0.00 | -42.35 | 266 (9) | 3015 (9) | 27420 (9) |
| 1-6-P | 100 | 150 | 10.05 | 10.05 | 0.00 | -82.21 | 516 (9) | 5856 (9) | 53261 (9) |
| 1-7-P | 100 | 150 | 10.05 | 10.05 | 0.63 | -139.53 | 876 (9) | 9938 (9) | 90397 (9) |
| 1-8-P | 100 | 150 | 10.05 | 10.05 | 9.58 | -238.44 | 1496 (9) | 16972 (9) | 154371 (9) |
| 1-9-P | 100 | 150 | 10.05 | 10.05 | 0.00 | -229.83 | 1443 (9) | 16372 (9) | 148916 (9) |
| 1-10-P | 100 | 150 | 10.05 | 10.05 | 9.58 | -238.44 | 1496 (9) | 16972 (9) | 154371 (9) |
| 1-11-P | 100 | 150 | 10.05 | 10.05 | 0.63 | -139.53 | 876 (9) | 9938 (9) | 90397 (9) |
| 1-12-P | 100 | 150 | 10.05 | 10.05 | 0.00 | -82.21 | 516 (9) | 5856 (9) | 53261 (9) |
| 1-13-P | 100 | 150 | 10.05 | 10.05 | 0.00 | -42.35 | 266 (9) | 3015 (9) | 27420 (9) |
| 1-14-P | 100 | 150 | 10.05 | 10.05 | 0.44 | -18.63 | 117 (9) | 1354 (9) | 12032 (9) |
| 1-15-P | 100 | 150 | 10.05 | 10.05 | 1.39 | -6.69 | 42 (9) | 2316 (9) | 4337 (9) |
| 1-16-P | 100 | 150 | 10.05 | 10.05 | 1.18 | -1.11 | 9 (9) | 809 (9) | 933 (9) |
| 1-17-P | 100 | 150 | 10.05 | 10.05 | 0.58 | -0.28 | 4 (10) | 417 (10) | 196 (10) |
| 2-1-P | 100 | 150 | 10.05 | 10.05 | 14.52 | -0.41 | 90 (9) | 9254 (9) | 1017 (9) |
| 2-2-P | 100 | 150 | 10.05 | 10.05 | 18.00 | -0.31 | 111 (9) | 11433 (9) | 1257 (9) |
| 2-3-P | 100 | 150 | 10.05 | 10.05 | 26.92 | -4.03 | 167 (9) | 17194 (9) | 4876 (9) |
| 2-4-P | 100 | 150 | 10.05 | 10.05 | 27.85 | -9.59 | 172 (9) | 17735 (9) | 10390 (9) |
| 2-5-P | 100 | 150 | 10.05 | 10.05 | 21.65 | -21.13 | 202 (9) | 15108 (9) | 20892 (9) |
| 2-6-P | 100 | 150 | 10.05 | 10.05 | 15.02 | -49.06 | 436 (9) | 14117 (9) | 44940 (9) |
| 2-7-P | 100 | 150 | 10.05 | 10.05 | 11.91 | -92.91 | 770 (9) | 14190 (9) | 79505 (9) |
| 2-8-P | 100 | 150 | 10.05 | 10.05 | 16.03 | -107.52 | 891 (9) | 21078 (9) | 91909 (9) |
| 2-9-P | 100 | 150 | 10.05 | 10.05 | 9.19 | -146.91 | 1145 (9) | 20021 (9) | 118137 (9) |
| 2-10-P | 100 | 150 | 10.05 | 10.05 | 16.03 | -107.52 | 891 (9) | 21078 (9) | 91909 (9) |
| 2-11-P | 100 | 150 | 10.05 | 10.05 | 11.91 | -92.91 | 770 (9) | 14190 (9) | 79505 (9) |
| 2-12-P | 100 | 150 | 10.05 | 10.05 | 15.02 | -49.06 | 436 (9) | 14117 (9) | 44940 (9) |
| 2-13-P | 100 | 150 | 10.05 | 10.05 | 21.65 | -21.13 | 202 (9) | 15108 (9) | 20892 (9) |
| 2-14-P | 100 | 150 | 10.05 | 10.05 | 27.85 | -9.59 | 172 (9) | 17735 (9) | 10390 (9) |
| 2-15-P | 100 | 150 | 10.05 | 10.05 | 26.92 | -4.03 | 167 (9) | 17194 (9) | 4876 (9) |
| 2-16-P | 100 | 150 | 10.05 | 10.05 | 18.00 | -0.31 | 111 (9) | 11433 (9) | 1257 (9) |
| 2-17-P | 100 | 150 | 10.05 | 10.05 | 14.52 | -0.41 | 90 (9) | 9254 (9) | 1017 (9) |
| 5-1-P | 80 | 150 | 8.04 | 8.04 | 10.52 | -0.88 | 91 (10) | 9372 (10) | 1656 (10) |
| 5-2-P | 80 | 150 | 8.04 | 8.04 | 13.73 | -1.77 | 118 (9) | 12152 (9) | 2041 (9) |
| 5-3-P | 80 | 150 | 8.04 | 8.04 | 22.23 | -2.53 | 192 (10) | 19812 (10) | 2253 (10) |
| 5-4-P | 80 | 150 | 8.04 | 8.04 | 26.17 | -1.48 | 226 (10) | 23320 (10) | 3074 (10) |
| 5-5-P | 80 | 150 | 8.04 | 8.04 | 28.53 | -2.70 | 246 (10) | 25423 (10) | 5613 (10) |
| 5-6-P | 80 | 150 | 8.04 | 8.04 | 28.19 | -6.05 | 243 (10) | 25120 (10) | 11327 (10) |
| 5-7-P | 80 | 150 | 8.04 | 8.04 | 25.82 | -10.67 | 210 (9) | 21642 (9) | 17257 (9) |
| 5-8-P | 80 | 150 | 8.04 | 8.04 | 19.19 | -18.29 | 302 (10) | 17098 (10) | 31117 (10) |
| 5-9-P | 80 | 150 | 8.04 | 8.04 | 15.91 | -21.11 | 348 (10) | 14175 (10) | 35917 (10) |
| 5-10-P | 80 | 150 | 8.04 | 8.04 | 19.19 | -18.29 | 302 (10) | 17098 (10) | 31117 (10) |
| 5-11-P | 80 | 150 | 8.04 | 8.04 | 25.82 | -10.67 | 210 (9) | 21642 (9) | 17257 (9) |
| 5-12-P | 80 | 150 | 8.04 | 8.04 | 28.19 | -6.05 | 243 (10) | 25120 (10) | 11327 (10) |
| 5-13-P | 80 | 150 | 8.04 | 8.04 | 28.53 | -2.70 | 246 (10) | 25423 (10) | 5613 (10) |
| 5-14-P | 80 | 150 | 8.04 | 8.04 | 26.17 | -1.48 | 226 (10) | 23320 (10) | 3074 (10) |
| 5-15-P | 80 | 150 | 8.04 | 8.04 | 22.23 | -2.53 | 192 (10) | 19812 (10) | 2253 (10) |
| 5-16-P | 80 | 150 | 8.04 | 8.04 | 13.73 | -1.77 | 118 (9) | 12152 (9) | 2041 (9) |
| 5-17-P | 80 | 150 | 8.04 | 8.04 | 10.52 | -0.88 | 91 (10) | 9372 (10) | 1656 (10) |
| 6-1-P | 80 | 150 | 8.04 | 8.04 | 0.93 | -1.70 | 15 (10) | 832 (10) | 1515 (10) |
| 6-2-P | 80 | 150 | 8.04 | 8.04 | 3.68 | -0.91 | 32 (10) | 3277 (10) | 811 (10) |
| 6-3-P | 80 | 150 | 8.04 | 8.04 | 9.29 | -6.76 | 80 (10) | 8275 (10) | 6024 (10) |
| 6-4-P | 80 | 150 | 8.04 | 8.04 | 13.17 | -15.22 | 131 (10) | 11735 (10) | 13560 (10) |
| 6-5-P | 80 | 150 | 8.04 | 8.04 | 14.96 | -28.80 | 249 (10) | 13333 (10) | 25666 (10) |
| 6-6-P | 80 | 150 | 8.04 | 8.04 | 15.71 | -52.19 | 451 (10) | 13999 (10) | 46512 (10) |
| 6-7-P | 80 | 150 | 8.04 | 8.04 | 18.47 | -90.45 | 781 (10) | 16457 (10) | 80605 (10) |
| 6-8-P | 80 | 150 | 8.04 | 8.04 | 39.39 | -161.27 | 1371 (9) | 29257 (9) | 141501 (9) |
| 6-9-P | 80 | 150 | 8.04 | 8.04 | 0.00 | -127.79 | 1104 (10) | 12520 (10) | 113877 (10) |
| 6-10-P | 80 | 150 | 8.04 | 8.04 | 39.39 | -161.27 | 1371 (9) | 29257 (9) | 141501 (9) |
| 6-11-P | 80 | 150 | 8.04 | 8.04 | 18.47 | -90.45 | 781 (10) | 16457 (10) | 80605 (10) |
| 6-12-P | 80 | 150 | 8.04 | 8.04 | 15.71 | -52.19 | 451 (10) | 13999 (10) | 46512 (10) |
| 6-13-P | 80 | 150 | 8.04 | 8.04 | 14.96 | -28.80 | 249 (10) | 13333 (10) | 25666 (10) |
| 6-14-P | 80 | 150 | 8.04 | 8.04 | 13.17 | -15.22 | 131 (10) | 11735 (10) | 13560 (10) |
| 6-15-P | 80 | 150 | 8.04 | 8.04 | 9.29 | -6.76 | 80 (10) | 8275 (10) | 6024 (10) |
| 6-16-P | 80 | 150 | 8.04 | 8.04 | 3.68 | -0.91 | 32 (10) | 3277 (10) | 811 (10) |
| 6-17-P | 80 | 150 | 8.04 | 8.04 | 0.93 | -1.70 | 15 (10) | 832 (10) | 1515 (10) |
| 7-1-P | 80 | 150 | 8.04 | 8.04 | 0.19 | -0.58 | 6 (10) | 210 (10) | 651 (10) |
| 7-2-P | 80 | 150 | 8.04 | 8.04 | 1.06 | -3.98 | 34 (9) | 937 (9) | 3460 (9) |
| 7-3-P | 80 | 150 | 8.04 | 8.04 | 2.34 | -16.89 | 142 (9) | 1975 (9) | 14694 (9) |
| 7-4-P | 80 | 150 | 8.04 | 8.04 | 2.77 | -37.19 | 315 (9) | 3569 (9) | 32467 (9) |
| 7-5-P | 80 | 150 | 8.04 | 8.04 | 2.60 | -65.46 | 557 (9) | 6313 (9) | 57426 (9) |

| Is | B | H | Afi | Afs | Mp | Mn | σc | σfi | σfs |
|---------|------|------|-------|-------|--------|---------|-----------|------------|-------------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kNm] | [kPa] | [kPa] | [kPa] |
| 7-6-P | 80 | 150 | 8.04 | 8.04 | 2.39 | -100.59 | 860 (9) | 9754 (9) | 88722 (9) |
| 7-7-P | 80 | 150 | 8.04 | 8.04 | 1.84 | -133.60 | 1151 (9) | 13056 (9) | 118752 (9) |
| 7-8-P | 80 | 150 | 8.04 | 8.04 | 0.00 | -143.47 | 1239 (10) | 14057 (10) | 127857 (10) |
| 7-9-P | 80 | 150 | 8.04 | 8.04 | 0.00 | -169.49 | 1464 (10) | 16605 (10) | 151038 (10) |
| 7-10-P | 80 | 150 | 8.04 | 8.04 | 0.00 | -143.47 | 1239 (10) | 14057 (10) | 127857 (10) |
| 7-11-P | 80 | 150 | 8.04 | 8.04 | 1.84 | -133.60 | 1151 (9) | 13056 (9) | 118752 (9) |
| 7-12-P | 80 | 150 | 8.04 | 8.04 | 2.39 | -100.59 | 860 (9) | 9754 (9) | 88722 (9) |
| 7-13-P | 80 | 150 | 8.04 | 8.04 | 2.60 | -65.46 | 557 (9) | 6313 (9) | 57426 (9) |
| 7-14-P | 80 | 150 | 8.04 | 8.04 | 2.77 | -37.19 | 315 (9) | 3569 (9) | 32467 (9) |
| 7-15-P | 80 | 150 | 8.04 | 8.04 | 2.34 | -16.89 | 142 (9) | 1975 (9) | 14694 (9) |
| 7-16-P | 80 | 150 | 8.04 | 8.04 | 1.06 | -3.98 | 34 (9) | 937 (9) | 3460 (9) |
| 7-17-P | 80 | 150 | 8.04 | 8.04 | 0.19 | -0.58 | 6 (10) | 210 (10) | 651 (10) |
| 8-1-S | 95 | 150 | 40.72 | 40.72 | 0.41 | -0.80 | 4 (9) | 66 (9) | 218 (9) |
| 8-2-S | 95 | 150 | 40.72 | 40.72 | 0.04 | -4.57 | 15 (9) | 192 (9) | 764 (9) |
| 8-3-S | 95 | 150 | 40.72 | 40.72 | 1.09 | -7.23 | 24 (9) | 388 (9) | 1227 (9) |
| 8-4-S | 95 | 150 | 40.72 | 40.72 | 6.72 | -6.55 | 33 (9) | 1706 (9) | 1143 (9) |
| 8-5-S | 95 | 150 | 40.72 | 40.72 | 23.96 | -3.46 | 72 (9) | 3713 (9) | 935 (9) |
| 8-6-S | 95 | 150 | 40.72 | 40.72 | 62.53 | -2.35 | 192 (9) | 9862 (9) | 2484 (9) |
| 8-7-S | 95 | 150 | 40.72 | 40.72 | 114.72 | -0.74 | 354 (9) | 18213 (9) | 4588 (9) |
| 8-8-S | 95 | 150 | 40.72 | 40.72 | 177.37 | 0.00 | 550 (9) | 28244 (9) | 7115 (9) |
| 8-9-S | 95 | 150 | 40.72 | 40.72 | 244.70 | 0.00 | 759 (9) | 38995 (9) | 9823 (9) |
| 8-10-S | 95 | 150 | 40.72 | 40.72 | 118.78 | -1.40 | 410 (9) | 21062 (9) | 5305 (9) |
| 8-11-S | 95 | 150 | 40.72 | 40.72 | 133.89 | -0.11 | 458 (9) | 23545 (9) | 5931 (9) |
| 8-12-S | 95 | 150 | 40.72 | 40.72 | 135.01 | -0.06 | 458 (9) | 23555 (9) | 5933 (9) |
| 8-13-S | 95 | 150 | 40.72 | 40.72 | 126.36 | -0.47 | 426 (9) | 21883 (9) | 5512 (9) |
| 8-14-S | 95 | 150 | 40.72 | 40.72 | 109.74 | -0.94 | 367 (9) | 18837 (9) | 4745 (9) |
| 8-15-S | 95 | 150 | 40.72 | 40.72 | 88.62 | -1.48 | 293 (9) | 15056 (9) | 3793 (9) |
| 8-16-S | 95 | 150 | 40.72 | 40.72 | 66.60 | -2.08 | 218 (9) | 11204 (9) | 2822 (9) |
| 8-17-S | 95 | 150 | 40.72 | 40.72 | 45.91 | -2.63 | 149 (9) | 7657 (9) | 1929 (9) |
| 8-18-S | 95 | 150 | 40.72 | 40.72 | 27.40 | -3.01 | 88 (9) | 4543 (9) | 1144 (9) |
| 8-19-S | 95 | 150 | 40.72 | 40.72 | 11.85 | -2.11 | 38 (9) | 1954 (9) | 492 (9) |
| 8-20-S | 95 | 150 | 40.72 | 40.72 | 1.30 | -1.11 | 5 (9) | 263 (9) | 182 (9) |
| 9-1-S | 95 | 150 | 45.24 | 45.24 | 2.38 | -2.94 | 15 (9) | 738 (9) | 434 (9) |
| 9-2-S | 95 | 150 | 45.24 | 45.24 | 15.42 | -13.36 | 75 (9) | 3652 (9) | 1980 (9) |
| 9-3-S | 95 | 150 | 45.24 | 45.24 | 36.07 | -34.64 | 189 (9) | 9243 (9) | 5147 (9) |
| 9-4-S | 95 | 150 | 45.24 | 45.24 | 79.64 | -65.56 | 557 (9) | 27282 (9) | 9776 (9) |
| 9-5-S | 95 | 150 | 45.24 | 45.24 | 13.88 | -133.99 | 409 (9) | 8479 (9) | 20000 (9) |
| 9-6-S | 95 | 150 | 45.24 | 45.24 | 3.24 | -195.11 | 595 (9) | 7744 (9) | 29111 (9) |
| 9-7-S | 95 | 150 | 45.24 | 45.24 | 32.43 | -73.60 | 227 (9) | 7860 (9) | 11101 (9) |
| 9-8-S | 95 | 150 | 45.24 | 45.24 | 122.29 | -0.01 | 354 (9) | 17326 (9) | 4609 (9) |
| 9-9-S | 95 | 150 | 45.24 | 45.24 | 291.89 | 0.00 | 861 (9) | 42135 (9) | 11209 (9) |
| 9-10-S | 95 | 150 | 45.24 | 45.24 | 245.37 | 0.00 | 801 (9) | 39186 (9) | 10425 (9) |
| 9-11-S | 95 | 150 | 45.24 | 45.24 | 241.28 | 0.00 | 776 (9) | 37966 (9) | 10100 (9) |
| 9-12-S | 95 | 150 | 45.24 | 45.24 | 241.48 | -0.26 | 764 (9) | 37413 (9) | 9953 (9) |
| 9-13-S | 95 | 150 | 45.24 | 45.24 | 234.85 | -2.78 | 729 (9) | 35687 (9) | 9494 (9) |
| 9-14-S | 95 | 150 | 45.24 | 45.24 | 224.64 | -8.33 | 681 (9) | 33318 (9) | 8864 (9) |
| 9-15-S | 95 | 150 | 45.24 | 45.24 | 224.90 | -20.18 | 666 (9) | 32610 (9) | 8675 (9) |
| 9-16-S | 95 | 150 | 45.24 | 45.24 | 58.88 | -63.28 | 197 (9) | 7753 (9) | 9631 (9) |
| 9-17-S | 95 | 150 | 45.24 | 45.24 | 22.09 | -136.03 | 419 (9) | 5459 (9) | 20520 (9) |
| 9-18-S | 95 | 150 | 45.24 | 45.24 | 15.08 | -78.56 | 244 (9) | 3409 (9) | 11921 (9) |
| 9-19-S | 95 | 150 | 45.24 | 45.24 | 7.65 | -28.38 | 86 (9) | 1642 (9) | 4221 (9) |
| 9-20-S | 95 | 150 | 45.24 | 45.24 | 4.46 | -3.47 | 16 (9) | 776 (9) | 471 (9) |
| 10-1-S | 95 | 150 | 45.24 | 45.24 | 2.38 | -2.94 | 15 (9) | 738 (9) | 434 (9) |
| 10-2-S | 95 | 150 | 45.24 | 45.24 | 15.42 | -13.36 | 75 (9) | 3652 (9) | 1980 (9) |
| 10-3-S | 95 | 150 | 45.24 | 45.24 | 36.07 | -34.64 | 189 (9) | 9243 (9) | 5147 (9) |
| 10-4-S | 95 | 150 | 45.24 | 45.24 | 79.64 | -65.56 | 557 (9) | 27282 (9) | 9776 (9) |
| 10-5-S | 95 | 150 | 45.24 | 45.24 | 13.88 | -133.99 | 409 (9) | 8479 (9) | 20000 (9) |
| 10-6-S | 95 | 150 | 45.24 | 45.24 | 3.24 | -195.11 | 595 (9) | 7744 (9) | 29111 (9) |
| 10-7-S | 95 | 150 | 45.24 | 45.24 | 32.43 | -73.60 | 227 (9) | 7860 (9) | 11101 (9) |
| 10-8-S | 95 | 150 | 45.24 | 45.24 | 122.29 | -0.01 | 354 (9) | 17326 (9) | 4609 (9) |
| 10-9-S | 95 | 150 | 45.24 | 45.24 | 291.89 | 0.00 | 861 (9) | 42135 (9) | 11209 (9) |
| 10-10-S | 95 | 150 | 45.24 | 45.24 | 245.37 | 0.00 | 801 (9) | 39186 (9) | 10425 (9) |
| 10-11-S | 95 | 150 | 45.24 | 45.24 | 241.28 | 0.00 | 776 (9) | 37966 (9) | 10100 (9) |
| 10-12-S | 95 | 150 | 45.24 | 45.24 | 241.48 | -0.26 | 764 (9) | 37413 (9) | 9953 (9) |
| 10-13-S | 95 | 150 | 45.24 | 45.24 | 234.85 | -2.78 | 729 (9) | 35687 (9) | 9494 (9) |
| 10-14-S | 95 | 150 | 45.24 | 45.24 | 224.64 | -8.33 | 681 (9) | 33318 (9) | 8864 (9) |
| 10-15-S | 95 | 150 | 45.24 | 45.24 | 224.90 | -20.18 | 666 (9) | 32610 (9) | 8675 (9) |
| 10-16-S | 95 | 150 | 45.24 | 45.24 | 58.88 | -63.28 | 197 (9) | 7753 (9) | 9631 (9) |
| 10-17-S | 95 | 150 | 45.24 | 45.24 | 22.09 | -136.03 | 419 (9) | 5459 (9) | 20520 (9) |
| 10-18-S | 95 | 150 | 45.24 | 45.24 | 15.08 | -78.56 | 244 (9) | 3409 (9) | 11921 (9) |

| Is | B | H | Afi | Afs | Mp | Mn | σc | σfi | σfs |
|---------|------|------|-------|-------|--------|--------|---------|-----------|----------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kNm] | [kPa] | [kPa] | [kPa] |
| 10-19-S | 95 | 150 | 45.24 | 45.24 | 7.65 | -28.38 | 86 (9) | 1642 (9) | 4221 (9) |
| 10-20-S | 95 | 150 | 45.24 | 45.24 | 4.46 | -3.47 | 16 (9) | 776 (9) | 471 (9) |
| 11-1-S | 95 | 150 | 40.72 | 40.72 | 0.41 | -0.80 | 4 (9) | 66 (9) | 218 (9) |
| 11-2-S | 95 | 150 | 40.72 | 40.72 | 0.04 | -4.57 | 15 (9) | 192 (9) | 764 (9) |
| 11-3-S | 95 | 150 | 40.72 | 40.72 | 1.09 | -7.23 | 24 (9) | 388 (9) | 1227 (9) |
| 11-4-S | 95 | 150 | 40.72 | 40.72 | 6.72 | -6.55 | 33 (9) | 1706 (9) | 1143 (9) |
| 11-5-S | 95 | 150 | 40.72 | 40.72 | 23.96 | -3.46 | 72 (9) | 3713 (9) | 935 (9) |
| 11-6-S | 95 | 150 | 40.72 | 40.72 | 62.53 | -2.35 | 192 (9) | 9862 (9) | 2484 (9) |
| 11-7-S | 95 | 150 | 40.72 | 40.72 | 114.72 | -0.74 | 354 (9) | 18213 (9) | 4588 (9) |
| 11-8-S | 95 | 150 | 40.72 | 40.72 | 177.37 | 0.00 | 550 (9) | 28244 (9) | 7115 (9) |
| 11-9-S | 95 | 150 | 40.72 | 40.72 | 244.70 | 0.00 | 759 (9) | 38995 (9) | 9823 (9) |
| 11-10-S | 95 | 150 | 40.72 | 40.72 | 118.78 | -1.40 | 410 (9) | 21062 (9) | 5305 (9) |
| 11-11-S | 95 | 150 | 40.72 | 40.72 | 133.89 | -0.11 | 458 (9) | 23545 (9) | 5931 (9) |
| 11-12-S | 95 | 150 | 40.72 | 40.72 | 135.01 | -0.06 | 458 (9) | 23555 (9) | 5933 (9) |
| 11-13-S | 95 | 150 | 40.72 | 40.72 | 126.36 | -0.47 | 426 (9) | 21883 (9) | 5512 (9) |
| 11-14-S | 95 | 150 | 40.72 | 40.72 | 109.74 | -0.94 | 367 (9) | 18837 (9) | 4745 (9) |
| 11-15-S | 95 | 150 | 40.72 | 40.72 | 88.62 | -1.48 | 293 (9) | 15056 (9) | 3793 (9) |
| 11-16-S | 95 | 150 | 40.72 | 40.72 | 66.60 | -2.08 | 218 (9) | 11204 (9) | 2822 (9) |
| 11-17-S | 95 | 150 | 40.72 | 40.72 | 45.91 | -2.63 | 149 (9) | 7657 (9) | 1929 (9) |
| 11-18-S | 95 | 150 | 40.72 | 40.72 | 27.40 | -3.01 | 88 (9) | 4543 (9) | 1144 (9) |
| 11-19-S | 95 | 150 | 40.72 | 40.72 | 11.85 | -2.11 | 38 (9) | 1954 (9) | 492 (9) |
| 11-20-S | 95 | 150 | 40.72 | 40.72 | 1.30 | -1.11 | 5 (9) | 263 (9) | 182 (9) |

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 | σc | σfi | σfs |
|----|------|------|-------|-------|-------|-------|----------|------------|-----------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kN] | [kPa] | [kPa] | [kPa] |
| 1 | 100 | 40 | 15.71 | 18.10 | 0.75 | 4.29 | 39 (10) | 362 (10) | 460 (10) |
| 2 | 100 | 41 | 15.71 | 18.10 | 0.75 | 5.28 | 37 (10) | 211 (10) | 464 (10) |
| 3 | 100 | 42 | 15.71 | 18.10 | 0.77 | 6.30 | 37 (10) | 112 (10) | 474 (10) |
| 4 | 100 | 43 | 15.71 | 18.10 | 0.79 | 7.34 | 38 (10) | 50 (10) | 493 (10) |
| 5 | 100 | 44 | 15.71 | 18.10 | 0.84 | 8.41 | 39 (10) | 12 (10) | 521 (10) |
| 6 | 100 | 45 | 15.71 | 18.10 | 0.91 | 9.50 | 42 (10) | 10 (10) | 558 (10) |
| 7 | 100 | 46 | 15.71 | 18.10 | 1.01 | 10.62 | 45 (10) | 22 (10) | 603 (10) |
| 8 | 100 | 47 | 15.71 | 18.10 | 1.14 | 11.76 | 49 (10) | 23 (10) | 656 (10) |
| 9 | 100 | 48 | 15.71 | 18.10 | 1.30 | 12.92 | 53 (10) | 14 (10) | 717 (10) |
| 10 | 100 | 49 | 15.71 | 18.10 | 1.51 | 14.11 | 58 (10) | 8 (10) | 787 (10) |
| 11 | 100 | 50 | 15.71 | 18.10 | 1.77 | 15.32 | 64 (10) | 44 (10) | 867 (10) |
| 12 | 100 | 51 | 15.71 | 18.10 | 2.07 | 16.56 | 71 (10) | 98 (10) | 959 (10) |
| 13 | 100 | 52 | 15.71 | 18.10 | 2.44 | 17.82 | 80 (10) | 176 (10) | 1064 (10) |
| 14 | 100 | 53 | 15.71 | 18.10 | 2.86 | 19.11 | 89 (10) | 283 (10) | 1182 (10) |
| 15 | 100 | 54 | 15.71 | 18.10 | 3.35 | 20.42 | 99 (10) | 425 (10) | 1316 (10) |
| 16 | 100 | 55 | 15.71 | 18.10 | 3.90 | 21.76 | 111 (10) | 611 (10) | 1465 (10) |
| 17 | 100 | 56 | 15.71 | 18.10 | 4.54 | 23.12 | 125 (10) | 846 (10) | 1632 (10) |
| 18 | 100 | 57 | 15.71 | 18.10 | 5.25 | 24.50 | 139 (10) | 1136 (10) | 1814 (10) |
| 19 | 100 | 58 | 15.71 | 18.10 | 6.04 | 25.91 | 156 (10) | 1486 (10) | 2013 (10) |
| 20 | 100 | 59 | 15.71 | 18.10 | 6.92 | 27.35 | 173 (10) | 1901 (10) | 2229 (10) |
| 21 | 100 | 60 | 15.71 | 18.10 | 7.90 | 28.81 | 192 (10) | 2382 (10) | 2459 (10) |
| 22 | 100 | 61 | 15.71 | 18.10 | 8.97 | 30.29 | 213 (10) | 2932 (10) | 2705 (10) |
| 23 | 100 | 62 | 15.71 | 18.10 | 10.14 | 31.80 | 235 (10) | 3551 (10) | 2966 (10) |
| 24 | 100 | 63 | 15.71 | 18.10 | 11.42 | 33.33 | 258 (10) | 4241 (10) | 3240 (10) |
| 25 | 100 | 64 | 15.71 | 18.10 | 12.81 | 34.89 | 282 (10) | 5003 (10) | 3529 (10) |
| 26 | 100 | 65 | 15.71 | 18.10 | 14.32 | 36.47 | 307 (10) | 5835 (10) | 3832 (10) |
| 27 | 100 | 66 | 15.71 | 18.10 | 15.95 | 38.07 | 334 (10) | 6740 (10) | 4148 (10) |
| 28 | 100 | 67 | 15.71 | 18.10 | 17.70 | 39.70 | 362 (10) | 7716 (10) | 4477 (10) |
| 29 | 100 | 68 | 15.71 | 18.10 | 19.58 | 41.36 | 390 (10) | 8764 (10) | 4820 (10) |
| 30 | 100 | 69 | 15.71 | 18.10 | 21.60 | 43.04 | 420 (10) | 9886 (10) | 5176 (10) |
| 31 | 100 | 70 | 15.71 | 18.10 | 23.75 | 44.74 | 451 (10) | 11079 (10) | 5545 (10) |
| 32 | 100 | 71 | 15.71 | 18.10 | 26.05 | 46.47 | 484 (10) | 12347 (10) | 5927 (10) |
| 33 | 100 | 72 | 15.71 | 18.10 | 28.50 | 48.22 | 517 (10) | 13687 (10) | 6322 (10) |

| n° | B [cm] | H [cm] | Afi [cmq] | Afs [cmq] | M [kNm] | N [kN] | σc [kPa] | σfi [kPa] | σfs [kPa] |
|----|-----------|-----------|--------------|--------------|------------|-----------|-------------|--------------|--------------|
| 34 | 100 | 73 | 15.71 | 18.10 | 31.10 | 50.00 | 551 (10) | 15101 (10) | 6730 (10) |
| 35 | 100 | 74 | 15.71 | 18.10 | 33.86 | 51.80 | 586 (10) | 16589 (10) | 7151 (10) |
| 36 | 100 | 75 | 15.71 | 18.10 | 36.78 | 53.63 | 623 (10) | 18151 (10) | 7585 (10) |
| 37 | 100 | 76 | 15.71 | 18.10 | 39.86 | 55.48 | 660 (10) | 19787 (10) | 8031 (10) |
| 38 | 100 | 77 | 15.71 | 18.10 | 43.12 | 57.36 | 698 (10) | 21498 (10) | 8490 (10) |
| 39 | 100 | 78 | 15.71 | 18.10 | 46.55 | 59.26 | 738 (10) | 23284 (10) | 8961 (10) |
| 40 | 100 | 79 | 15.71 | 18.10 | 50.16 | 61.18 | 778 (10) | 25145 (10) | 9445 (10) |
| 41 | 100 | 80 | 15.71 | 18.10 | 53.96 | 63.13 | 819 (10) | 27081 (10) | 9941 (10) |
| 42 | 100 | 81 | 31.42 | 18.10 | 57.95 | 65.10 | 782 (10) | 28460 (10) | 9359 (10) |
| 43 | 100 | 82 | 31.42 | 18.10 | 62.13 | 67.10 | 821 (10) | 30525 (10) | 9828 (10) |
| 44 | 100 | 83 | 31.42 | 18.10 | 66.52 | 69.12 | 861 (10) | 32664 (10) | 10309 (10) |
| 45 | 100 | 84 | 31.42 | 18.10 | 71.10 | 71.17 | 903 (10) | 34879 (10) | 10801 (10) |
| 46 | 100 | 85 | 31.42 | 18.10 | 75.89 | 73.24 | 945 (10) | 37170 (10) | 11304 (10) |
| 47 | 100 | 86 | 31.42 | 18.10 | 80.90 | 75.34 | 988 (10) | 39537 (10) | 11818 (10) |
| 48 | 100 | 87 | 31.42 | 18.10 | 86.12 | 77.46 | 1032 (10) | 41980 (10) | 12343 (10) |
| 49 | 100 | 88 | 31.42 | 63.33 | 91.57 | 79.60 | 749 (10) | 14178 (10) | 9872 (10) |
| 50 | 100 | 89 | 31.42 | 63.33 | 97.24 | 81.77 | 779 (10) | 14973 (10) | 10270 (10) |
| 51 | 100 | 90 | 31.42 | 63.33 | 103.14 | 83.97 | 810 (10) | 15792 (10) | 10674 (10) |
| 52 | 100 | 91 | 31.42 | 63.33 | 109.28 | 86.19 | 840 (10) | 16633 (10) | 11085 (10) |
| 53 | 100 | 92 | 31.42 | 63.33 | 115.66 | 88.43 | 872 (10) | 17497 (10) | 11504 (10) |
| 54 | 100 | 93 | 31.42 | 63.33 | 122.29 | 90.70 | 904 (10) | 18384 (10) | 11929 (10) |
| 55 | 100 | 94 | 31.42 | 63.33 | 129.16 | 92.99 | 936 (10) | 19295 (10) | 12361 (10) |
| 56 | 100 | 95 | 31.42 | 63.33 | 136.29 | 95.31 | 969 (10) | 20228 (10) | 12801 (10) |
| 57 | 100 | 96 | 31.42 | 63.33 | 143.68 | 97.65 | 1002 (10) | 21184 (10) | 13247 (10) |
| 58 | 100 | 97 | 31.42 | 63.33 | 151.33 | 100.01 | 1036 (10) | 22164 (10) | 13700 (10) |
| 59 | 100 | 98 | 31.42 | 63.33 | 159.25 | 102.40 | 1070 (10) | 23166 (10) | 14159 (10) |
| 60 | 100 | 99 | 31.42 | 63.33 | 167.44 | 104.82 | 1104 (10) | 24192 (10) | 14625 (10) |
| 61 | 100 | 100 | 31.42 | 63.33 | 175.91 | 107.26 | 1140 (10) | 25241 (10) | 15098 (10) |
| 62 | 100 | 101 | 31.42 | 63.33 | 184.67 | 109.72 | 1175 (10) | 26313 (10) | 15578 (10) |
| 63 | 100 | 102 | 31.42 | 63.33 | 193.71 | 112.21 | 1211 (10) | 27408 (10) | 16063 (10) |
| 64 | 100 | 103 | 31.42 | 63.33 | 203.04 | 114.72 | 1248 (10) | 28527 (10) | 16556 (10) |
| 65 | 100 | 104 | 31.42 | 63.33 | 212.66 | 117.26 | 1285 (10) | 29669 (10) | 17054 (10) |
| 66 | 100 | 105 | 31.42 | 63.33 | 222.59 | 119.82 | 1322 (10) | 30834 (10) | 17559 (10) |
| 67 | 100 | 106 | 31.42 | 63.33 | 232.82 | 122.41 | 1360 (10) | 32023 (10) | 18070 (10) |
| 68 | 100 | 107 | 31.42 | 63.33 | 243.37 | 125.02 | 1398 (10) | 33234 (10) | 18588 (10) |
| 69 | 100 | 108 | 31.42 | 63.33 | 254.22 | 127.65 | 1436 (10) | 34469 (10) | 19112 (10) |
| 70 | 100 | 109 | 31.42 | 63.33 | 265.40 | 130.31 | 1476 (10) | 35728 (10) | 19641 (10) |
| 71 | 100 | 110 | 31.42 | 63.33 | 276.90 | 133.00 | 1515 (10) | 37010 (10) | 20177 (10) |
| 72 | 100 | 111 | 31.42 | 45.24 | 288.72 | 135.71 | 1717 (10) | 52294 (10) | 22459 (10) |
| 73 | 100 | 112 | 31.42 | 45.24 | 300.89 | 138.44 | 1762 (10) | 54119 (10) | 23062 (10) |
| 74 | 100 | 113 | 15.71 | 45.24 | 313.38 | 141.20 | 1948 (10) | 56925 (10) | 25647 (10) |
| 75 | 100 | 114 | 15.71 | 45.24 | 326.22 | 143.98 | 1997 (10) | 58836 (10) | 26305 (10) |
| 76 | 100 | 115 | 15.71 | 45.24 | 339.41 | 146.79 | 2046 (10) | 60779 (10) | 26971 (10) |
| 77 | 100 | 116 | 15.71 | 45.24 | 352.95 | 149.62 | 2096 (10) | 62755 (10) | 27643 (10) |
| 78 | 100 | 117 | 15.71 | 45.24 | 366.84 | 152.48 | 2147 (10) | 64764 (10) | 28322 (10) |
| 79 | 100 | 118 | 15.71 | 45.24 | 381.10 | 155.36 | 2198 (10) | 66805 (10) | 29007 (10) |
| 80 | 100 | 119 | 15.71 | 45.24 | 395.72 | 158.26 | 2249 (10) | 68879 (10) | 29699 (10) |
| 81 | 100 | 120 | 15.71 | 45.24 | 410.71 | 161.19 | 2301 (10) | 70985 (10) | 30398 (10) |

Mensola valle

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

| n° | B [cm] | H [cm] | Afi [cmq] | Afs [cmq] | M [kNm] | N [kN] | σc [kPa] | σfi [kPa] | σfs [kPa] |
|----|-----------|-----------|--------------|--------------|------------|-----------|-------------|--------------|--------------|
| 1 | 100 | 50 | 8.04 | 8.04 | 0.00 | 0.00 | 0 (10) | 0 (10) | 0 (10) |
| 2 | 100 | 50 | 8.04 | 8.04 | -0.05 | 0.00 | 2 (10) | 16 (10) | 138 (10) |
| 3 | 100 | 50 | 8.04 | 8.04 | -0.19 | 0.00 | 9 (10) | 65 (10) | 551 (10) |
| 4 | 100 | 50 | 8.04 | 8.04 | -0.42 | 0.00 | 20 (10) | 146 (10) | 1239 (10) |
| 5 | 100 | 50 | 8.04 | 8.04 | -0.75 | 0.00 | 35 (10) | 260 (10) | 2203 (10) |

Piastra fondazione

Tensione massima di compressione nel calcestruzzo 19920 [kPa]

Tensione massima di trazione dell'acciaio

359949

[kPa]

| Is | B | H | Afi | Afs | Mp | Mn | σ_c | σ_{fi} | σ_{fs} |
|--------|------|------|-------|-------|-------|---------|------------|---------------|---------------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kNm] | [kPa] | [kPa] | [kPa] |
| 1-1-P | 100 | 150 | 10.05 | 10.05 | 0.58 | -0.28 | 4 (10) | 417 (10) | 196 (10) |
| 1-2-P | 100 | 150 | 10.05 | 10.05 | 1.18 | -1.11 | 9 (9) | 809 (9) | 933 (9) |
| 1-3-P | 100 | 150 | 10.05 | 10.05 | 1.39 | -6.69 | 42 (9) | 2316 (9) | 4337 (9) |
| 1-4-P | 100 | 150 | 10.05 | 10.05 | 0.44 | -18.63 | 117 (9) | 1354 (9) | 12032 (9) |
| 1-5-P | 100 | 150 | 10.05 | 10.05 | 0.00 | -42.35 | 266 (9) | 3015 (9) | 27420 (9) |
| 1-6-P | 100 | 150 | 10.05 | 10.05 | 0.00 | -82.21 | 516 (9) | 5856 (9) | 53261 (9) |
| 1-7-P | 100 | 150 | 10.05 | 10.05 | 0.63 | -139.53 | 876 (9) | 9938 (9) | 90397 (9) |
| 1-8-P | 100 | 150 | 10.05 | 10.05 | 9.58 | -238.44 | 1496 (9) | 16972 (9) | 154371 (9) |
| 1-9-P | 100 | 150 | 10.05 | 10.05 | 0.00 | -229.83 | 1443 (9) | 16372 (9) | 148916 (9) |
| 1-10-P | 100 | 150 | 10.05 | 10.05 | 9.58 | -238.44 | 1496 (9) | 16972 (9) | 154371 (9) |
| 1-11-P | 100 | 150 | 10.05 | 10.05 | 0.63 | -139.53 | 876 (9) | 9938 (9) | 90397 (9) |
| 1-12-P | 100 | 150 | 10.05 | 10.05 | 0.00 | -82.21 | 516 (9) | 5856 (9) | 53261 (9) |
| 1-13-P | 100 | 150 | 10.05 | 10.05 | 0.00 | -42.35 | 266 (9) | 3015 (9) | 27420 (9) |
| 1-14-P | 100 | 150 | 10.05 | 10.05 | 0.44 | -18.63 | 117 (9) | 1354 (9) | 12032 (9) |
| 1-15-P | 100 | 150 | 10.05 | 10.05 | 1.39 | -6.69 | 42 (9) | 2316 (9) | 4337 (9) |
| 1-16-P | 100 | 150 | 10.05 | 10.05 | 1.18 | -1.11 | 9 (9) | 809 (9) | 933 (9) |
| 1-17-P | 100 | 150 | 10.05 | 10.05 | 0.58 | -0.28 | 4 (10) | 417 (10) | 196 (10) |
| 2-1-P | 100 | 150 | 10.05 | 10.05 | 14.52 | -0.41 | 90 (9) | 9254 (9) | 1017 (9) |
| 2-2-P | 100 | 150 | 10.05 | 10.05 | 18.00 | -0.31 | 111 (9) | 11433 (9) | 1257 (9) |
| 2-3-P | 100 | 150 | 10.05 | 10.05 | 26.92 | -4.03 | 167 (9) | 17194 (9) | 4876 (9) |
| 2-4-P | 100 | 150 | 10.05 | 10.05 | 27.85 | -9.59 | 172 (9) | 17735 (9) | 10390 (9) |
| 2-5-P | 100 | 150 | 10.05 | 10.05 | 21.65 | -21.13 | 202 (9) | 15108 (9) | 20892 (9) |
| 2-6-P | 100 | 150 | 10.05 | 10.05 | 15.02 | -49.06 | 436 (9) | 14117 (9) | 44940 (9) |
| 2-7-P | 100 | 150 | 10.05 | 10.05 | 11.91 | -92.91 | 770 (9) | 14190 (9) | 79505 (9) |
| 2-8-P | 100 | 150 | 10.05 | 10.05 | 16.03 | -107.52 | 891 (9) | 21078 (9) | 91909 (9) |
| 2-9-P | 100 | 150 | 10.05 | 10.05 | 9.19 | -146.91 | 1145 (9) | 20021 (9) | 118137 (9) |
| 2-10-P | 100 | 150 | 10.05 | 10.05 | 16.03 | -107.52 | 891 (9) | 21078 (9) | 91909 (9) |
| 2-11-P | 100 | 150 | 10.05 | 10.05 | 11.91 | -92.91 | 770 (9) | 14190 (9) | 79505 (9) |
| 2-12-P | 100 | 150 | 10.05 | 10.05 | 15.02 | -49.06 | 436 (9) | 14117 (9) | 44940 (9) |
| 2-13-P | 100 | 150 | 10.05 | 10.05 | 21.65 | -21.13 | 202 (9) | 15108 (9) | 20892 (9) |
| 2-14-P | 100 | 150 | 10.05 | 10.05 | 27.85 | -9.59 | 172 (9) | 17735 (9) | 10390 (9) |
| 2-15-P | 100 | 150 | 10.05 | 10.05 | 26.92 | -4.03 | 167 (9) | 17194 (9) | 4876 (9) |
| 2-16-P | 100 | 150 | 10.05 | 10.05 | 18.00 | -0.31 | 111 (9) | 11433 (9) | 1257 (9) |
| 2-17-P | 100 | 150 | 10.05 | 10.05 | 14.52 | -0.41 | 90 (9) | 9254 (9) | 1017 (9) |
| 5-1-P | 80 | 150 | 8.04 | 8.04 | 10.52 | -0.88 | 91 (10) | 9372 (10) | 1656 (10) |
| 5-2-P | 80 | 150 | 8.04 | 8.04 | 13.73 | -1.77 | 118 (9) | 12152 (9) | 2041 (9) |
| 5-3-P | 80 | 150 | 8.04 | 8.04 | 22.23 | -2.53 | 192 (10) | 19812 (10) | 2253 (10) |
| 5-4-P | 80 | 150 | 8.04 | 8.04 | 26.17 | -1.48 | 226 (10) | 23320 (10) | 3074 (10) |
| 5-5-P | 80 | 150 | 8.04 | 8.04 | 28.53 | -2.70 | 246 (10) | 25423 (10) | 5613 (10) |
| 5-6-P | 80 | 150 | 8.04 | 8.04 | 28.19 | -6.05 | 243 (10) | 25120 (10) | 11327 (10) |
| 5-7-P | 80 | 150 | 8.04 | 8.04 | 25.82 | -10.67 | 210 (9) | 21642 (9) | 17257 (9) |
| 5-8-P | 80 | 150 | 8.04 | 8.04 | 19.19 | -18.29 | 302 (10) | 17098 (10) | 31117 (10) |
| 5-9-P | 80 | 150 | 8.04 | 8.04 | 15.91 | -21.11 | 348 (10) | 14175 (10) | 35917 (10) |
| 5-10-P | 80 | 150 | 8.04 | 8.04 | 19.19 | -18.29 | 302 (10) | 17098 (10) | 31117 (10) |
| 5-11-P | 80 | 150 | 8.04 | 8.04 | 25.82 | -10.67 | 210 (9) | 21642 (9) | 17257 (9) |
| 5-12-P | 80 | 150 | 8.04 | 8.04 | 28.19 | -6.05 | 243 (10) | 25120 (10) | 11327 (10) |
| 5-13-P | 80 | 150 | 8.04 | 8.04 | 28.53 | -2.70 | 246 (10) | 25423 (10) | 5613 (10) |
| 5-14-P | 80 | 150 | 8.04 | 8.04 | 26.17 | -1.48 | 226 (10) | 23320 (10) | 3074 (10) |
| 5-15-P | 80 | 150 | 8.04 | 8.04 | 22.23 | -2.53 | 192 (10) | 19812 (10) | 2253 (10) |
| 5-16-P | 80 | 150 | 8.04 | 8.04 | 13.73 | -1.77 | 118 (9) | 12152 (9) | 2041 (9) |
| 5-17-P | 80 | 150 | 8.04 | 8.04 | 10.52 | -0.88 | 91 (10) | 9372 (10) | 1656 (10) |
| 6-1-P | 80 | 150 | 8.04 | 8.04 | 0.93 | -1.70 | 15 (10) | 832 (10) | 1515 (10) |
| 6-2-P | 80 | 150 | 8.04 | 8.04 | 3.68 | -0.91 | 32 (10) | 3277 (10) | 811 (10) |
| 6-3-P | 80 | 150 | 8.04 | 8.04 | 9.29 | -6.76 | 80 (10) | 8275 (10) | 6024 (10) |
| 6-4-P | 80 | 150 | 8.04 | 8.04 | 13.17 | -15.22 | 131 (10) | 11735 (10) | 13560 (10) |
| 6-5-P | 80 | 150 | 8.04 | 8.04 | 14.96 | -28.80 | 249 (10) | 13333 (10) | 25666 (10) |
| 6-6-P | 80 | 150 | 8.04 | 8.04 | 15.71 | -52.19 | 451 (10) | 13999 (10) | 46512 (10) |
| 6-7-P | 80 | 150 | 8.04 | 8.04 | 18.47 | -90.45 | 781 (10) | 16457 (10) | 80605 (10) |
| 6-8-P | 80 | 150 | 8.04 | 8.04 | 39.39 | -161.27 | 1371 (9) | 29257 (9) | 141501 (9) |
| 6-9-P | 80 | 150 | 8.04 | 8.04 | 0.00 | -127.79 | 1104 (10) | 12520 (10) | 113877 (10) |
| 6-10-P | 80 | 150 | 8.04 | 8.04 | 39.39 | -161.27 | 1371 (9) | 29257 (9) | 141501 (9) |
| 6-11-P | 80 | 150 | 8.04 | 8.04 | 18.47 | -90.45 | 781 (10) | 16457 (10) | 80605 (10) |
| 6-12-P | 80 | 150 | 8.04 | 8.04 | 15.71 | -52.19 | 451 (10) | 13999 (10) | 46512 (10) |
| 6-13-P | 80 | 150 | 8.04 | 8.04 | 14.96 | -28.80 | 249 (10) | 13333 (10) | 25666 (10) |
| 6-14-P | 80 | 150 | 8.04 | 8.04 | 13.17 | -15.22 | 131 (10) | 11735 (10) | 13560 (10) |
| 6-15-P | 80 | 150 | 8.04 | 8.04 | 9.29 | -6.76 | 80 (10) | 8275 (10) | 6024 (10) |

| Is | B | H | Afi | Afs | Mp | Mn | σc | σfi | σfs |
|---------|------|------|-------|-------|--------|---------|-----------|------------|-------------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kNm] | [kPa] | [kPa] | [kPa] |
| 6-16-P | 80 | 150 | 8.04 | 8.04 | 3.68 | -0.91 | 32 (10) | 3277 (10) | 811 (10) |
| 6-17-P | 80 | 150 | 8.04 | 8.04 | 0.93 | -1.70 | 15 (10) | 832 (10) | 1515 (10) |
| 7-1-P | 80 | 150 | 8.04 | 8.04 | 0.19 | -0.58 | 6 (10) | 210 (10) | 651 (10) |
| 7-2-P | 80 | 150 | 8.04 | 8.04 | 1.06 | -3.98 | 34 (9) | 937 (9) | 3460 (9) |
| 7-3-P | 80 | 150 | 8.04 | 8.04 | 2.34 | -16.89 | 142 (9) | 1975 (9) | 14694 (9) |
| 7-4-P | 80 | 150 | 8.04 | 8.04 | 2.77 | -37.19 | 315 (9) | 3569 (9) | 32467 (9) |
| 7-5-P | 80 | 150 | 8.04 | 8.04 | 2.60 | -65.46 | 557 (9) | 6313 (9) | 57426 (9) |
| 7-6-P | 80 | 150 | 8.04 | 8.04 | 2.39 | -100.59 | 860 (9) | 9754 (9) | 88722 (9) |
| 7-7-P | 80 | 150 | 8.04 | 8.04 | 1.84 | -133.60 | 1151 (9) | 13056 (9) | 118752 (9) |
| 7-8-P | 80 | 150 | 8.04 | 8.04 | 0.00 | -143.47 | 1239 (10) | 14057 (10) | 127857 (10) |
| 7-9-P | 80 | 150 | 8.04 | 8.04 | 0.00 | -169.49 | 1464 (10) | 16605 (10) | 151038 (10) |
| 7-10-P | 80 | 150 | 8.04 | 8.04 | 0.00 | -143.47 | 1239 (10) | 14057 (10) | 127857 (10) |
| 7-11-P | 80 | 150 | 8.04 | 8.04 | 1.84 | -133.60 | 1151 (9) | 13056 (9) | 118752 (9) |
| 7-12-P | 80 | 150 | 8.04 | 8.04 | 2.39 | -100.59 | 860 (9) | 9754 (9) | 88722 (9) |
| 7-13-P | 80 | 150 | 8.04 | 8.04 | 2.60 | -65.46 | 557 (9) | 6313 (9) | 57426 (9) |
| 7-14-P | 80 | 150 | 8.04 | 8.04 | 2.77 | -37.19 | 315 (9) | 3569 (9) | 32467 (9) |
| 7-15-P | 80 | 150 | 8.04 | 8.04 | 2.34 | -16.89 | 142 (9) | 1975 (9) | 14694 (9) |
| 7-16-P | 80 | 150 | 8.04 | 8.04 | 1.06 | -3.98 | 34 (9) | 937 (9) | 3460 (9) |
| 7-17-P | 80 | 150 | 8.04 | 8.04 | 0.19 | -0.58 | 6 (10) | 210 (10) | 651 (10) |
| 8-1-S | 95 | 150 | 40.72 | 40.72 | 0.41 | -0.80 | 4 (9) | 66 (9) | 218 (9) |
| 8-2-S | 95 | 150 | 40.72 | 40.72 | 0.04 | -4.57 | 15 (9) | 192 (9) | 764 (9) |
| 8-3-S | 95 | 150 | 40.72 | 40.72 | 1.09 | -7.23 | 24 (9) | 388 (9) | 1227 (9) |
| 8-4-S | 95 | 150 | 40.72 | 40.72 | 6.72 | -6.55 | 33 (9) | 1706 (9) | 1143 (9) |
| 8-5-S | 95 | 150 | 40.72 | 40.72 | 23.96 | -3.46 | 72 (9) | 3713 (9) | 935 (9) |
| 8-6-S | 95 | 150 | 40.72 | 40.72 | 62.53 | -2.35 | 192 (9) | 9862 (9) | 2484 (9) |
| 8-7-S | 95 | 150 | 40.72 | 40.72 | 114.72 | -0.74 | 354 (9) | 18213 (9) | 4588 (9) |
| 8-8-S | 95 | 150 | 40.72 | 40.72 | 177.37 | 0.00 | 550 (9) | 28244 (9) | 7115 (9) |
| 8-9-S | 95 | 150 | 40.72 | 40.72 | 244.70 | 0.00 | 759 (9) | 38995 (9) | 9823 (9) |
| 8-10-S | 95 | 150 | 40.72 | 40.72 | 118.78 | -1.40 | 410 (9) | 21062 (9) | 5305 (9) |
| 8-11-S | 95 | 150 | 40.72 | 40.72 | 133.89 | -0.11 | 458 (9) | 23545 (9) | 5931 (9) |
| 8-12-S | 95 | 150 | 40.72 | 40.72 | 135.01 | -0.06 | 458 (9) | 23555 (9) | 5933 (9) |
| 8-13-S | 95 | 150 | 40.72 | 40.72 | 126.36 | -0.47 | 426 (9) | 21883 (9) | 5512 (9) |
| 8-14-S | 95 | 150 | 40.72 | 40.72 | 109.74 | -0.94 | 367 (9) | 18837 (9) | 4745 (9) |
| 8-15-S | 95 | 150 | 40.72 | 40.72 | 88.62 | -1.48 | 293 (9) | 15056 (9) | 3793 (9) |
| 8-16-S | 95 | 150 | 40.72 | 40.72 | 66.60 | -2.08 | 218 (9) | 11204 (9) | 2822 (9) |
| 8-17-S | 95 | 150 | 40.72 | 40.72 | 45.91 | -2.63 | 149 (9) | 7657 (9) | 1929 (9) |
| 8-18-S | 95 | 150 | 40.72 | 40.72 | 27.40 | -3.01 | 88 (9) | 4543 (9) | 1144 (9) |
| 8-19-S | 95 | 150 | 40.72 | 40.72 | 11.85 | -2.11 | 38 (9) | 1954 (9) | 492 (9) |
| 8-20-S | 95 | 150 | 40.72 | 40.72 | 1.30 | -1.11 | 5 (9) | 263 (9) | 182 (9) |
| 9-1-S | 95 | 150 | 45.24 | 45.24 | 2.38 | -2.94 | 15 (9) | 738 (9) | 434 (9) |
| 9-2-S | 95 | 150 | 45.24 | 45.24 | 15.42 | -13.36 | 75 (9) | 3652 (9) | 1980 (9) |
| 9-3-S | 95 | 150 | 45.24 | 45.24 | 36.07 | -34.64 | 189 (9) | 9243 (9) | 5147 (9) |
| 9-4-S | 95 | 150 | 45.24 | 45.24 | 79.64 | -65.56 | 557 (9) | 27282 (9) | 9776 (9) |
| 9-5-S | 95 | 150 | 45.24 | 45.24 | 13.88 | -133.99 | 409 (9) | 8479 (9) | 20000 (9) |
| 9-6-S | 95 | 150 | 45.24 | 45.24 | 3.24 | -195.11 | 595 (9) | 7744 (9) | 29111 (9) |
| 9-7-S | 95 | 150 | 45.24 | 45.24 | 32.43 | -73.60 | 227 (9) | 7860 (9) | 11101 (9) |
| 9-8-S | 95 | 150 | 45.24 | 45.24 | 122.29 | -0.01 | 354 (9) | 17326 (9) | 4609 (9) |
| 9-9-S | 95 | 150 | 45.24 | 45.24 | 291.89 | 0.00 | 861 (9) | 42135 (9) | 11209 (9) |
| 9-10-S | 95 | 150 | 45.24 | 45.24 | 245.37 | 0.00 | 801 (9) | 39186 (9) | 10425 (9) |
| 9-11-S | 95 | 150 | 45.24 | 45.24 | 241.28 | 0.00 | 776 (9) | 37966 (9) | 10100 (9) |
| 9-12-S | 95 | 150 | 45.24 | 45.24 | 241.48 | -0.26 | 764 (9) | 37413 (9) | 9953 (9) |
| 9-13-S | 95 | 150 | 45.24 | 45.24 | 234.85 | -2.78 | 729 (9) | 35687 (9) | 9494 (9) |
| 9-14-S | 95 | 150 | 45.24 | 45.24 | 224.64 | -8.33 | 681 (9) | 33318 (9) | 8864 (9) |
| 9-15-S | 95 | 150 | 45.24 | 45.24 | 224.90 | -20.18 | 666 (9) | 32610 (9) | 8675 (9) |
| 9-16-S | 95 | 150 | 45.24 | 45.24 | 58.88 | -63.28 | 197 (9) | 7753 (9) | 9631 (9) |
| 9-17-S | 95 | 150 | 45.24 | 45.24 | 22.09 | -136.03 | 419 (9) | 5459 (9) | 20520 (9) |
| 9-18-S | 95 | 150 | 45.24 | 45.24 | 15.08 | -78.56 | 244 (9) | 3409 (9) | 11921 (9) |
| 9-19-S | 95 | 150 | 45.24 | 45.24 | 7.65 | -28.38 | 86 (9) | 1642 (9) | 4221 (9) |
| 9-20-S | 95 | 150 | 45.24 | 45.24 | 4.46 | -3.47 | 16 (9) | 776 (9) | 471 (9) |
| 10-1-S | 95 | 150 | 45.24 | 45.24 | 2.38 | -2.94 | 15 (9) | 738 (9) | 434 (9) |
| 10-2-S | 95 | 150 | 45.24 | 45.24 | 15.42 | -13.36 | 75 (9) | 3652 (9) | 1980 (9) |
| 10-3-S | 95 | 150 | 45.24 | 45.24 | 36.07 | -34.64 | 189 (9) | 9243 (9) | 5147 (9) |
| 10-4-S | 95 | 150 | 45.24 | 45.24 | 79.64 | -65.56 | 557 (9) | 27282 (9) | 9776 (9) |
| 10-5-S | 95 | 150 | 45.24 | 45.24 | 13.88 | -133.99 | 409 (9) | 8479 (9) | 20000 (9) |
| 10-6-S | 95 | 150 | 45.24 | 45.24 | 3.24 | -195.11 | 595 (9) | 7744 (9) | 29111 (9) |
| 10-7-S | 95 | 150 | 45.24 | 45.24 | 32.43 | -73.60 | 227 (9) | 7860 (9) | 11101 (9) |
| 10-8-S | 95 | 150 | 45.24 | 45.24 | 122.29 | -0.01 | 354 (9) | 17326 (9) | 4609 (9) |
| 10-9-S | 95 | 150 | 45.24 | 45.24 | 291.89 | 0.00 | 861 (9) | 42135 (9) | 11209 (9) |
| 10-10-S | 95 | 150 | 45.24 | 45.24 | 245.37 | 0.00 | 801 (9) | 39186 (9) | 10425 (9) |
| 10-11-S | 95 | 150 | 45.24 | 45.24 | 241.28 | 0.00 | 776 (9) | 37966 (9) | 10100 (9) |

| Is | B | H | Afi | Afs | Mp | Mn | σ_c | σ_{fi} | σ_{fs} |
|---------|------|------|-------|-------|--------|---------|------------|---------------|---------------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kNm] | [kPa] | [kPa] | [kPa] |
| 10-12-S | 95 | 150 | 45.24 | 45.24 | 241.48 | -0.26 | 764 (9) | 37413 (9) | 9953 (9) |
| 10-13-S | 95 | 150 | 45.24 | 45.24 | 234.85 | -2.78 | 729 (9) | 35687 (9) | 9494 (9) |
| 10-14-S | 95 | 150 | 45.24 | 45.24 | 224.64 | -8.33 | 681 (9) | 33318 (9) | 8864 (9) |
| 10-15-S | 95 | 150 | 45.24 | 45.24 | 224.90 | -20.18 | 666 (9) | 32610 (9) | 8675 (9) |
| 10-16-S | 95 | 150 | 45.24 | 45.24 | 58.88 | -63.28 | 197 (9) | 7753 (9) | 9631 (9) |
| 10-17-S | 95 | 150 | 45.24 | 45.24 | 22.09 | -136.03 | 419 (9) | 5459 (9) | 20520 (9) |
| 10-18-S | 95 | 150 | 45.24 | 45.24 | 15.08 | -78.56 | 244 (9) | 3409 (9) | 11921 (9) |
| 10-19-S | 95 | 150 | 45.24 | 45.24 | 7.65 | -28.38 | 86 (9) | 1642 (9) | 4221 (9) |
| 10-20-S | 95 | 150 | 45.24 | 45.24 | 4.46 | -3.47 | 16 (9) | 776 (9) | 471 (9) |
| 11-1-S | 95 | 150 | 40.72 | 40.72 | 0.41 | -0.80 | 4 (9) | 66 (9) | 218 (9) |
| 11-2-S | 95 | 150 | 40.72 | 40.72 | 0.04 | -4.57 | 15 (9) | 192 (9) | 764 (9) |
| 11-3-S | 95 | 150 | 40.72 | 40.72 | 1.09 | -7.23 | 24 (9) | 388 (9) | 1227 (9) |
| 11-4-S | 95 | 150 | 40.72 | 40.72 | 6.72 | -6.55 | 33 (9) | 1706 (9) | 1143 (9) |
| 11-5-S | 95 | 150 | 40.72 | 40.72 | 23.96 | -3.46 | 72 (9) | 3713 (9) | 935 (9) |
| 11-6-S | 95 | 150 | 40.72 | 40.72 | 62.53 | -2.35 | 192 (9) | 9862 (9) | 2484 (9) |
| 11-7-S | 95 | 150 | 40.72 | 40.72 | 114.72 | -0.74 | 354 (9) | 18213 (9) | 4588 (9) |
| 11-8-S | 95 | 150 | 40.72 | 40.72 | 177.37 | 0.00 | 550 (9) | 28244 (9) | 7115 (9) |
| 11-9-S | 95 | 150 | 40.72 | 40.72 | 244.70 | 0.00 | 759 (9) | 38995 (9) | 9823 (9) |
| 11-10-S | 95 | 150 | 40.72 | 40.72 | 118.78 | -1.40 | 410 (9) | 21062 (9) | 5305 (9) |
| 11-11-S | 95 | 150 | 40.72 | 40.72 | 133.89 | -0.11 | 458 (9) | 23545 (9) | 5931 (9) |
| 11-12-S | 95 | 150 | 40.72 | 40.72 | 135.01 | -0.06 | 458 (9) | 23555 (9) | 5933 (9) |
| 11-13-S | 95 | 150 | 40.72 | 40.72 | 126.36 | -0.47 | 426 (9) | 21883 (9) | 5512 (9) |
| 11-14-S | 95 | 150 | 40.72 | 40.72 | 109.74 | -0.94 | 367 (9) | 18837 (9) | 4745 (9) |
| 11-15-S | 95 | 150 | 40.72 | 40.72 | 88.62 | -1.48 | 293 (9) | 15056 (9) | 3793 (9) |
| 11-16-S | 95 | 150 | 40.72 | 40.72 | 66.60 | -2.08 | 218 (9) | 11204 (9) | 2822 (9) |
| 11-17-S | 95 | 150 | 40.72 | 40.72 | 45.91 | -2.63 | 149 (9) | 7657 (9) | 1929 (9) |
| 11-18-S | 95 | 150 | 40.72 | 40.72 | 27.40 | -3.01 | 88 (9) | 4543 (9) | 1144 (9) |
| 11-19-S | 95 | 150 | 40.72 | 40.72 | 11.85 | -2.11 | 38 (9) | 1954 (9) | 492 (9) |
| 11-20-S | 95 | 150 | 40.72 | 40.72 | 1.30 | -1.11 | 5 (9) | 263 (9) | 182 (9) |

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 | σ_c | σ_{fi} | σ_{fs} |
|----|------|------|-------|-------|-------|-------|------------|---------------|---------------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kN] | [kPa] | [kPa] | [kPa] |
| 1 | 100 | 40 | 15.71 | 18.10 | 0.75 | 4.29 | 39 (11) | 362 (11) | 460 (11) |
| 2 | 100 | 41 | 15.71 | 18.10 | 0.75 | 5.28 | 37 (11) | 211 (11) | 464 (11) |
| 3 | 100 | 42 | 15.71 | 18.10 | 0.77 | 6.30 | 37 (11) | 112 (11) | 474 (11) |
| 4 | 100 | 43 | 15.71 | 18.10 | 0.79 | 7.34 | 38 (11) | 50 (11) | 493 (11) |
| 5 | 100 | 44 | 15.71 | 18.10 | 0.84 | 8.41 | 39 (11) | 12 (11) | 521 (11) |
| 6 | 100 | 45 | 15.71 | 18.10 | 0.91 | 9.50 | 42 (11) | 10 (11) | 558 (11) |
| 7 | 100 | 46 | 15.71 | 18.10 | 1.01 | 10.62 | 45 (11) | 22 (11) | 603 (11) |
| 8 | 100 | 47 | 15.71 | 18.10 | 1.14 | 11.76 | 49 (11) | 23 (11) | 656 (11) |
| 9 | 100 | 48 | 15.71 | 18.10 | 1.30 | 12.92 | 53 (11) | 14 (11) | 717 (11) |
| 10 | 100 | 49 | 15.71 | 18.10 | 1.51 | 14.11 | 58 (11) | 8 (11) | 787 (11) |
| 11 | 100 | 50 | 15.71 | 18.10 | 1.77 | 15.32 | 64 (11) | 44 (11) | 867 (11) |
| 12 | 100 | 51 | 15.71 | 18.10 | 2.07 | 16.56 | 71 (11) | 98 (11) | 959 (11) |
| 13 | 100 | 52 | 15.71 | 18.10 | 2.44 | 17.82 | 80 (11) | 176 (11) | 1064 (11) |
| 14 | 100 | 53 | 15.71 | 18.10 | 2.86 | 19.11 | 89 (11) | 283 (11) | 1182 (11) |
| 15 | 100 | 54 | 15.71 | 18.10 | 3.35 | 20.42 | 99 (11) | 425 (11) | 1316 (11) |
| 16 | 100 | 55 | 15.71 | 18.10 | 3.90 | 21.76 | 111 (11) | 611 (11) | 1465 (11) |
| 17 | 100 | 56 | 15.71 | 18.10 | 4.54 | 23.12 | 125 (11) | 846 (11) | 1632 (11) |
| 18 | 100 | 57 | 15.71 | 18.10 | 5.25 | 24.50 | 139 (11) | 1136 (11) | 1814 (11) |
| 19 | 100 | 58 | 15.71 | 18.10 | 6.04 | 25.91 | 156 (11) | 1486 (11) | 2013 (11) |
| 20 | 100 | 59 | 15.71 | 18.10 | 6.92 | 27.35 | 173 (11) | 1901 (11) | 2229 (11) |
| 21 | 100 | 60 | 15.71 | 18.10 | 7.90 | 28.81 | 192 (11) | 2382 (11) | 2459 (11) |
| 22 | 100 | 61 | 15.71 | 18.10 | 8.97 | 30.29 | 213 (11) | 2932 (11) | 2705 (11) |
| 23 | 100 | 62 | 15.71 | 18.10 | 10.14 | 31.80 | 235 (11) | 3551 (11) | 2966 (11) |
| 24 | 100 | 63 | 15.71 | 18.10 | 11.42 | 33.33 | 258 (11) | 4241 (11) | 3240 (11) |
| 25 | 100 | 64 | 15.71 | 18.10 | 12.81 | 34.89 | 282 (11) | 5003 (11) | 3529 (11) |
| 26 | 100 | 65 | 15.71 | 18.10 | 14.32 | 36.47 | 307 (11) | 5835 (11) | 3832 (11) |

| n° | B | H | Afi | Afs | M | N | σc | σfi | σfs |
|----|------|------|-------|-------|--------|--------|-----------|------------|------------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kN] | [kPa] | [kPa] | [kPa] |
| 27 | 100 | 66 | 15.71 | 18.10 | 15.95 | 38.07 | 334 (11) | 6740 (11) | 4148 (11) |
| 28 | 100 | 67 | 15.71 | 18.10 | 17.70 | 39.70 | 362 (11) | 7716 (11) | 4477 (11) |
| 29 | 100 | 68 | 15.71 | 18.10 | 19.58 | 41.36 | 390 (11) | 8764 (11) | 4820 (11) |
| 30 | 100 | 69 | 15.71 | 18.10 | 21.60 | 43.04 | 420 (11) | 9886 (11) | 5176 (11) |
| 31 | 100 | 70 | 15.71 | 18.10 | 23.75 | 44.74 | 451 (11) | 11079 (11) | 5545 (11) |
| 32 | 100 | 71 | 15.71 | 18.10 | 26.05 | 46.47 | 484 (11) | 12347 (11) | 5927 (11) |
| 33 | 100 | 72 | 15.71 | 18.10 | 28.50 | 48.22 | 517 (11) | 13687 (11) | 6322 (11) |
| 34 | 100 | 73 | 15.71 | 18.10 | 31.10 | 50.00 | 551 (11) | 15101 (11) | 6730 (11) |
| 35 | 100 | 74 | 15.71 | 18.10 | 33.86 | 51.80 | 586 (11) | 16589 (11) | 7151 (11) |
| 36 | 100 | 75 | 15.71 | 18.10 | 36.78 | 53.63 | 623 (11) | 18151 (11) | 7585 (11) |
| 37 | 100 | 76 | 15.71 | 18.10 | 39.86 | 55.48 | 660 (11) | 19787 (11) | 8031 (11) |
| 38 | 100 | 77 | 15.71 | 18.10 | 43.12 | 57.36 | 698 (11) | 21498 (11) | 8490 (11) |
| 39 | 100 | 78 | 15.71 | 18.10 | 46.55 | 59.26 | 738 (11) | 23284 (11) | 8961 (11) |
| 40 | 100 | 79 | 15.71 | 18.10 | 50.16 | 61.18 | 778 (11) | 25145 (11) | 9445 (11) |
| 41 | 100 | 80 | 15.71 | 18.10 | 53.96 | 63.13 | 819 (11) | 27081 (11) | 9941 (11) |
| 42 | 100 | 81 | 31.42 | 18.10 | 57.95 | 65.10 | 782 (11) | 28460 (11) | 9359 (11) |
| 43 | 100 | 82 | 31.42 | 18.10 | 62.13 | 67.10 | 821 (11) | 30525 (11) | 9828 (11) |
| 44 | 100 | 83 | 31.42 | 18.10 | 66.52 | 69.12 | 861 (11) | 32664 (11) | 10309 (11) |
| 45 | 100 | 84 | 31.42 | 18.10 | 71.10 | 71.17 | 903 (11) | 34879 (11) | 10801 (11) |
| 46 | 100 | 85 | 31.42 | 18.10 | 75.89 | 73.24 | 945 (11) | 37170 (11) | 11304 (11) |
| 47 | 100 | 86 | 31.42 | 18.10 | 80.90 | 75.34 | 988 (11) | 39537 (11) | 11818 (11) |
| 48 | 100 | 87 | 31.42 | 18.10 | 86.12 | 77.46 | 1032 (11) | 41980 (11) | 12343 (11) |
| 49 | 100 | 88 | 31.42 | 63.33 | 91.57 | 79.60 | 749 (11) | 14178 (11) | 9872 (11) |
| 50 | 100 | 89 | 31.42 | 63.33 | 97.24 | 81.77 | 779 (11) | 14973 (11) | 10270 (11) |
| 51 | 100 | 90 | 31.42 | 63.33 | 103.14 | 83.97 | 810 (11) | 15792 (11) | 10674 (11) |
| 52 | 100 | 91 | 31.42 | 63.33 | 109.28 | 86.19 | 840 (11) | 16633 (11) | 11085 (11) |
| 53 | 100 | 92 | 31.42 | 63.33 | 115.66 | 88.43 | 872 (11) | 17497 (11) | 11504 (11) |
| 54 | 100 | 93 | 31.42 | 63.33 | 122.29 | 90.70 | 904 (11) | 18384 (11) | 11929 (11) |
| 55 | 100 | 94 | 31.42 | 63.33 | 129.16 | 92.99 | 936 (11) | 19295 (11) | 12361 (11) |
| 56 | 100 | 95 | 31.42 | 63.33 | 136.29 | 95.31 | 969 (11) | 20228 (11) | 12801 (11) |
| 57 | 100 | 96 | 31.42 | 63.33 | 143.68 | 97.65 | 1002 (11) | 21184 (11) | 13247 (11) |
| 58 | 100 | 97 | 31.42 | 63.33 | 151.33 | 100.01 | 1036 (11) | 22164 (11) | 13700 (11) |
| 59 | 100 | 98 | 31.42 | 63.33 | 159.25 | 102.40 | 1070 (11) | 23166 (11) | 14159 (11) |
| 60 | 100 | 99 | 31.42 | 63.33 | 167.44 | 104.82 | 1104 (11) | 24192 (11) | 14625 (11) |
| 61 | 100 | 100 | 31.42 | 63.33 | 175.91 | 107.26 | 1140 (11) | 25241 (11) | 15098 (11) |
| 62 | 100 | 101 | 31.42 | 63.33 | 184.67 | 109.72 | 1175 (11) | 26313 (11) | 15578 (11) |
| 63 | 100 | 102 | 31.42 | 63.33 | 193.71 | 112.21 | 1211 (11) | 27408 (11) | 16063 (11) |
| 64 | 100 | 103 | 31.42 | 63.33 | 203.04 | 114.72 | 1248 (11) | 28527 (11) | 16556 (11) |
| 65 | 100 | 104 | 31.42 | 63.33 | 212.66 | 117.26 | 1285 (11) | 29669 (11) | 17054 (11) |
| 66 | 100 | 105 | 31.42 | 63.33 | 222.59 | 119.82 | 1322 (11) | 30834 (11) | 17559 (11) |
| 67 | 100 | 106 | 31.42 | 63.33 | 232.82 | 122.41 | 1360 (11) | 32023 (11) | 18070 (11) |
| 68 | 100 | 107 | 31.42 | 63.33 | 243.37 | 125.02 | 1398 (11) | 33234 (11) | 18588 (11) |
| 69 | 100 | 108 | 31.42 | 63.33 | 254.22 | 127.65 | 1436 (11) | 34469 (11) | 19112 (11) |
| 70 | 100 | 109 | 31.42 | 63.33 | 265.40 | 130.31 | 1476 (11) | 35728 (11) | 19641 (11) |
| 71 | 100 | 110 | 31.42 | 63.33 | 276.90 | 133.00 | 1515 (11) | 37010 (11) | 20177 (11) |
| 72 | 100 | 111 | 31.42 | 45.24 | 288.72 | 135.71 | 1717 (11) | 52294 (11) | 22459 (11) |
| 73 | 100 | 112 | 31.42 | 45.24 | 300.89 | 138.44 | 1762 (11) | 54119 (11) | 23062 (11) |
| 74 | 100 | 113 | 15.71 | 45.24 | 313.38 | 141.20 | 1948 (11) | 56925 (11) | 25647 (11) |
| 75 | 100 | 114 | 15.71 | 45.24 | 326.22 | 143.98 | 1997 (11) | 58836 (11) | 26305 (11) |
| 76 | 100 | 115 | 15.71 | 45.24 | 339.41 | 146.79 | 2046 (11) | 60779 (11) | 26971 (11) |
| 77 | 100 | 116 | 15.71 | 45.24 | 352.95 | 149.62 | 2096 (11) | 62755 (11) | 27643 (11) |
| 78 | 100 | 117 | 15.71 | 45.24 | 366.84 | 152.48 | 2147 (11) | 64764 (11) | 28322 (11) |
| 79 | 100 | 118 | 15.71 | 45.24 | 381.10 | 155.36 | 2198 (11) | 66805 (11) | 29007 (11) |
| 80 | 100 | 119 | 15.71 | 45.24 | 395.72 | 158.26 | 2249 (11) | 68879 (11) | 29699 (11) |
| 81 | 100 | 120 | 15.71 | 45.24 | 410.71 | 161.19 | 2301 (11) | 70985 (11) | 30398 (11) |

Mensola valle

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

| n° | B | H | Afi | Afs | M | N | σc | σfi | σfs |
|----|------|------|-------|-------|-------|------|---------|----------|-----------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kN] | [kPa] | [kPa] | [kPa] |
| 1 | 100 | 50 | 8.04 | 8.04 | 0.00 | 0.00 | 0 (11) | 0 (11) | 0 (11) |
| 2 | 100 | 50 | 8.04 | 8.04 | -0.05 | 0.00 | 2 (11) | 16 (11) | 138 (11) |
| 3 | 100 | 50 | 8.04 | 8.04 | -0.19 | 0.00 | 9 (11) | 65 (11) | 551 (11) |
| 4 | 100 | 50 | 8.04 | 8.04 | -0.42 | 0.00 | 20 (11) | 146 (11) | 1239 (11) |

| n° | B | H | Afi | Afs | M | N | σc | σfi | σfs |
|----|------|------|-------|-------|-------|------|---------|----------|-----------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kN] | [kPa] | [kPa] | [kPa] |
| 5 | 100 | 50 | 8.04 | 8.04 | -0.75 | 0.00 | 35 (11) | 260 (11) | 2203 (11) |

Piastra fondazione

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

| Is | B | H | Afi | Afs | Mp | Mn | σc | σfi | σfs |
|--------|------|------|-------|-------|-------|---------|----------|------------|------------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kNm] | [kPa] | [kPa] | [kPa] |
| 1-1-P | 100 | 150 | 10.05 | 10.05 | 0.58 | -0.28 | 4 (10) | 417 (10) | 196 (10) |
| 1-2-P | 100 | 150 | 10.05 | 10.05 | 1.18 | -1.11 | 9 (9) | 809 (9) | 933 (9) |
| 1-3-P | 100 | 150 | 10.05 | 10.05 | 1.39 | -6.69 | 42 (9) | 2316 (9) | 4337 (9) |
| 1-4-P | 100 | 150 | 10.05 | 10.05 | 0.44 | -18.63 | 117 (9) | 1354 (9) | 12032 (9) |
| 1-5-P | 100 | 150 | 10.05 | 10.05 | 0.00 | -42.35 | 266 (9) | 3015 (9) | 27420 (9) |
| 1-6-P | 100 | 150 | 10.05 | 10.05 | 0.00 | -82.21 | 516 (9) | 5856 (9) | 53261 (9) |
| 1-7-P | 100 | 150 | 10.05 | 10.05 | 0.63 | -139.53 | 876 (9) | 9938 (9) | 90397 (9) |
| 1-8-P | 100 | 150 | 10.05 | 10.05 | 9.58 | -238.44 | 1496 (9) | 16972 (9) | 154371 (9) |
| 1-9-P | 100 | 150 | 10.05 | 10.05 | 0.00 | -229.83 | 1443 (9) | 16372 (9) | 148916 (9) |
| 1-10-P | 100 | 150 | 10.05 | 10.05 | 9.58 | -238.44 | 1496 (9) | 16972 (9) | 154371 (9) |
| 1-11-P | 100 | 150 | 10.05 | 10.05 | 0.63 | -139.53 | 876 (9) | 9938 (9) | 90397 (9) |
| 1-12-P | 100 | 150 | 10.05 | 10.05 | 0.00 | -82.21 | 516 (9) | 5856 (9) | 53261 (9) |
| 1-13-P | 100 | 150 | 10.05 | 10.05 | 0.00 | -42.35 | 266 (9) | 3015 (9) | 27420 (9) |
| 1-14-P | 100 | 150 | 10.05 | 10.05 | 0.44 | -18.63 | 117 (9) | 1354 (9) | 12032 (9) |
| 1-15-P | 100 | 150 | 10.05 | 10.05 | 1.39 | -6.69 | 42 (9) | 2316 (9) | 4337 (9) |
| 1-16-P | 100 | 150 | 10.05 | 10.05 | 1.18 | -1.11 | 9 (9) | 809 (9) | 933 (9) |
| 1-17-P | 100 | 150 | 10.05 | 10.05 | 0.58 | -0.28 | 4 (10) | 417 (10) | 196 (10) |
| 2-1-P | 100 | 150 | 10.05 | 10.05 | 14.52 | -0.41 | 90 (9) | 9254 (9) | 1017 (9) |
| 2-2-P | 100 | 150 | 10.05 | 10.05 | 18.00 | -0.31 | 111 (9) | 11433 (9) | 1257 (9) |
| 2-3-P | 100 | 150 | 10.05 | 10.05 | 26.92 | -4.03 | 167 (9) | 17194 (9) | 4876 (9) |
| 2-4-P | 100 | 150 | 10.05 | 10.05 | 27.85 | -9.59 | 172 (9) | 17735 (9) | 10390 (9) |
| 2-5-P | 100 | 150 | 10.05 | 10.05 | 21.65 | -21.13 | 202 (9) | 15108 (9) | 20892 (9) |
| 2-6-P | 100 | 150 | 10.05 | 10.05 | 15.02 | -49.06 | 436 (9) | 14117 (9) | 44940 (9) |
| 2-7-P | 100 | 150 | 10.05 | 10.05 | 11.91 | -92.91 | 770 (9) | 14190 (9) | 79505 (9) |
| 2-8-P | 100 | 150 | 10.05 | 10.05 | 16.03 | -107.52 | 891 (9) | 21078 (9) | 91909 (9) |
| 2-9-P | 100 | 150 | 10.05 | 10.05 | 9.19 | -146.91 | 1145 (9) | 20021 (9) | 118137 (9) |
| 2-10-P | 100 | 150 | 10.05 | 10.05 | 16.03 | -107.52 | 891 (9) | 21078 (9) | 91909 (9) |
| 2-11-P | 100 | 150 | 10.05 | 10.05 | 11.91 | -92.91 | 770 (9) | 14190 (9) | 79505 (9) |
| 2-12-P | 100 | 150 | 10.05 | 10.05 | 15.02 | -49.06 | 436 (9) | 14117 (9) | 44940 (9) |
| 2-13-P | 100 | 150 | 10.05 | 10.05 | 21.65 | -21.13 | 202 (9) | 15108 (9) | 20892 (9) |
| 2-14-P | 100 | 150 | 10.05 | 10.05 | 27.85 | -9.59 | 172 (9) | 17735 (9) | 10390 (9) |
| 2-15-P | 100 | 150 | 10.05 | 10.05 | 26.92 | -4.03 | 167 (9) | 17194 (9) | 4876 (9) |
| 2-16-P | 100 | 150 | 10.05 | 10.05 | 18.00 | -0.31 | 111 (9) | 11433 (9) | 1257 (9) |
| 2-17-P | 100 | 150 | 10.05 | 10.05 | 14.52 | -0.41 | 90 (9) | 9254 (9) | 1017 (9) |
| 5-1-P | 80 | 150 | 8.04 | 8.04 | 10.52 | -0.88 | 91 (10) | 9372 (10) | 1656 (10) |
| 5-2-P | 80 | 150 | 8.04 | 8.04 | 13.73 | -1.77 | 118 (9) | 12152 (9) | 2041 (9) |
| 5-3-P | 80 | 150 | 8.04 | 8.04 | 22.23 | -2.53 | 192 (10) | 19812 (10) | 2253 (10) |
| 5-4-P | 80 | 150 | 8.04 | 8.04 | 26.17 | -1.48 | 226 (10) | 23320 (10) | 3074 (10) |
| 5-5-P | 80 | 150 | 8.04 | 8.04 | 28.53 | -2.70 | 246 (10) | 25423 (10) | 5613 (10) |
| 5-6-P | 80 | 150 | 8.04 | 8.04 | 28.19 | -6.05 | 243 (10) | 25120 (10) | 11327 (10) |
| 5-7-P | 80 | 150 | 8.04 | 8.04 | 25.82 | -10.67 | 210 (9) | 21642 (9) | 17257 (9) |
| 5-8-P | 80 | 150 | 8.04 | 8.04 | 19.19 | -18.29 | 302 (10) | 17098 (10) | 31117 (10) |
| 5-9-P | 80 | 150 | 8.04 | 8.04 | 15.91 | -21.11 | 348 (10) | 14175 (10) | 35917 (10) |
| 5-10-P | 80 | 150 | 8.04 | 8.04 | 19.19 | -18.29 | 302 (10) | 17098 (10) | 31117 (10) |
| 5-11-P | 80 | 150 | 8.04 | 8.04 | 25.82 | -10.67 | 210 (9) | 21642 (9) | 17257 (9) |
| 5-12-P | 80 | 150 | 8.04 | 8.04 | 28.19 | -6.05 | 243 (10) | 25120 (10) | 11327 (10) |
| 5-13-P | 80 | 150 | 8.04 | 8.04 | 28.53 | -2.70 | 246 (10) | 25423 (10) | 5613 (10) |
| 5-14-P | 80 | 150 | 8.04 | 8.04 | 26.17 | -1.48 | 226 (10) | 23320 (10) | 3074 (10) |
| 5-15-P | 80 | 150 | 8.04 | 8.04 | 22.23 | -2.53 | 192 (10) | 19812 (10) | 2253 (10) |
| 5-16-P | 80 | 150 | 8.04 | 8.04 | 13.73 | -1.77 | 118 (9) | 12152 (9) | 2041 (9) |
| 5-17-P | 80 | 150 | 8.04 | 8.04 | 10.52 | -0.88 | 91 (10) | 9372 (10) | 1656 (10) |
| 6-1-P | 80 | 150 | 8.04 | 8.04 | 0.93 | -1.70 | 15 (10) | 832 (10) | 1515 (10) |
| 6-2-P | 80 | 150 | 8.04 | 8.04 | 3.68 | -0.91 | 32 (10) | 3277 (10) | 811 (10) |
| 6-3-P | 80 | 150 | 8.04 | 8.04 | 9.29 | -6.76 | 80 (10) | 8275 (10) | 6024 (10) |
| 6-4-P | 80 | 150 | 8.04 | 8.04 | 13.17 | -15.22 | 131 (10) | 11735 (10) | 13560 (10) |
| 6-5-P | 80 | 150 | 8.04 | 8.04 | 14.96 | -28.80 | 249 (10) | 13333 (10) | 25666 (10) |
| 6-6-P | 80 | 150 | 8.04 | 8.04 | 15.71 | -52.19 | 451 (10) | 13999 (10) | 46512 (10) |
| 6-7-P | 80 | 150 | 8.04 | 8.04 | 18.47 | -90.45 | 781 (10) | 16457 (10) | 80605 (10) |

| Is | B | H | Afi | Afs | Mp | Mn | σ_c | σ_{fi} | σ_{fs} |
|--------|------|------|-------|-------|--------|---------|------------|---------------|---------------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kNm] | [kPa] | [kPa] | [kPa] |
| 6-8-P | 80 | 150 | 8.04 | 8.04 | 39.39 | -161.27 | 1371 (9) | 29257 (9) | 141501 (9) |
| 6-9-P | 80 | 150 | 8.04 | 8.04 | 0.00 | -127.79 | 1104 (10) | 12520 (10) | 113877 (10) |
| 6-10-P | 80 | 150 | 8.04 | 8.04 | 39.39 | -161.27 | 1371 (9) | 29257 (9) | 141501 (9) |
| 6-11-P | 80 | 150 | 8.04 | 8.04 | 18.47 | -90.45 | 781 (10) | 16457 (10) | 80605 (10) |
| 6-12-P | 80 | 150 | 8.04 | 8.04 | 15.71 | -52.19 | 451 (10) | 13999 (10) | 46512 (10) |
| 6-13-P | 80 | 150 | 8.04 | 8.04 | 14.96 | -28.80 | 249 (10) | 13333 (10) | 25666 (10) |
| 6-14-P | 80 | 150 | 8.04 | 8.04 | 13.17 | -15.22 | 131 (10) | 11735 (10) | 13560 (10) |
| 6-15-P | 80 | 150 | 8.04 | 8.04 | 9.29 | -6.76 | 80 (10) | 8275 (10) | 6024 (10) |
| 6-16-P | 80 | 150 | 8.04 | 8.04 | 3.68 | -0.91 | 32 (10) | 3277 (10) | 811 (10) |
| 6-17-P | 80 | 150 | 8.04 | 8.04 | 0.93 | -1.70 | 15 (10) | 832 (10) | 1515 (10) |
| 7-1-P | 80 | 150 | 8.04 | 8.04 | 0.19 | -0.58 | 6 (10) | 210 (10) | 651 (10) |
| 7-2-P | 80 | 150 | 8.04 | 8.04 | 1.06 | -3.98 | 34 (9) | 937 (9) | 3460 (9) |
| 7-3-P | 80 | 150 | 8.04 | 8.04 | 2.34 | -16.89 | 142 (9) | 1975 (9) | 14694 (9) |
| 7-4-P | 80 | 150 | 8.04 | 8.04 | 2.77 | -37.19 | 315 (9) | 3569 (9) | 32467 (9) |
| 7-5-P | 80 | 150 | 8.04 | 8.04 | 2.60 | -65.46 | 557 (9) | 6313 (9) | 57426 (9) |
| 7-6-P | 80 | 150 | 8.04 | 8.04 | 2.39 | -100.59 | 860 (9) | 9754 (9) | 88722 (9) |
| 7-7-P | 80 | 150 | 8.04 | 8.04 | 1.84 | -133.60 | 1151 (9) | 13056 (9) | 118752 (9) |
| 7-8-P | 80 | 150 | 8.04 | 8.04 | 0.00 | -143.47 | 1239 (10) | 14057 (10) | 127857 (10) |
| 7-9-P | 80 | 150 | 8.04 | 8.04 | 0.00 | -169.49 | 1464 (10) | 16605 (10) | 151038 (10) |
| 7-10-P | 80 | 150 | 8.04 | 8.04 | 0.00 | -143.47 | 1239 (10) | 14057 (10) | 127857 (10) |
| 7-11-P | 80 | 150 | 8.04 | 8.04 | 1.84 | -133.60 | 1151 (9) | 13056 (9) | 118752 (9) |
| 7-12-P | 80 | 150 | 8.04 | 8.04 | 2.39 | -100.59 | 860 (9) | 9754 (9) | 88722 (9) |
| 7-13-P | 80 | 150 | 8.04 | 8.04 | 2.60 | -65.46 | 557 (9) | 6313 (9) | 57426 (9) |
| 7-14-P | 80 | 150 | 8.04 | 8.04 | 2.77 | -37.19 | 315 (9) | 3569 (9) | 32467 (9) |
| 7-15-P | 80 | 150 | 8.04 | 8.04 | 2.34 | -16.89 | 142 (9) | 1975 (9) | 14694 (9) |
| 7-16-P | 80 | 150 | 8.04 | 8.04 | 1.06 | -3.98 | 34 (9) | 937 (9) | 3460 (9) |
| 7-17-P | 80 | 150 | 8.04 | 8.04 | 0.19 | -0.58 | 6 (10) | 210 (10) | 651 (10) |
| 8-1-S | 95 | 150 | 40.72 | 40.72 | 0.41 | -0.80 | 4 (9) | 66 (9) | 218 (9) |
| 8-2-S | 95 | 150 | 40.72 | 40.72 | 0.04 | -4.57 | 15 (9) | 192 (9) | 764 (9) |
| 8-3-S | 95 | 150 | 40.72 | 40.72 | 1.09 | -7.23 | 24 (9) | 388 (9) | 1227 (9) |
| 8-4-S | 95 | 150 | 40.72 | 40.72 | 6.72 | -6.55 | 33 (9) | 1706 (9) | 1143 (9) |
| 8-5-S | 95 | 150 | 40.72 | 40.72 | 23.96 | -3.46 | 72 (9) | 3713 (9) | 935 (9) |
| 8-6-S | 95 | 150 | 40.72 | 40.72 | 62.53 | -2.35 | 192 (9) | 9862 (9) | 2484 (9) |
| 8-7-S | 95 | 150 | 40.72 | 40.72 | 114.72 | -0.74 | 354 (9) | 18213 (9) | 4588 (9) |
| 8-8-S | 95 | 150 | 40.72 | 40.72 | 177.37 | 0.00 | 550 (9) | 28244 (9) | 7115 (9) |
| 8-9-S | 95 | 150 | 40.72 | 40.72 | 244.70 | 0.00 | 759 (9) | 38995 (9) | 9823 (9) |
| 8-10-S | 95 | 150 | 40.72 | 40.72 | 118.78 | -1.40 | 410 (9) | 21062 (9) | 5305 (9) |
| 8-11-S | 95 | 150 | 40.72 | 40.72 | 133.89 | -0.11 | 458 (9) | 23545 (9) | 5931 (9) |
| 8-12-S | 95 | 150 | 40.72 | 40.72 | 135.01 | -0.06 | 458 (9) | 23555 (9) | 5933 (9) |
| 8-13-S | 95 | 150 | 40.72 | 40.72 | 126.36 | -0.47 | 426 (9) | 21883 (9) | 5512 (9) |
| 8-14-S | 95 | 150 | 40.72 | 40.72 | 109.74 | -0.94 | 367 (9) | 18837 (9) | 4745 (9) |
| 8-15-S | 95 | 150 | 40.72 | 40.72 | 88.62 | -1.48 | 293 (9) | 15056 (9) | 3793 (9) |
| 8-16-S | 95 | 150 | 40.72 | 40.72 | 66.60 | -2.08 | 218 (9) | 11204 (9) | 2822 (9) |
| 8-17-S | 95 | 150 | 40.72 | 40.72 | 45.91 | -2.63 | 149 (9) | 7657 (9) | 1929 (9) |
| 8-18-S | 95 | 150 | 40.72 | 40.72 | 27.40 | -3.01 | 88 (9) | 4543 (9) | 1144 (9) |
| 8-19-S | 95 | 150 | 40.72 | 40.72 | 11.85 | -2.11 | 38 (9) | 1954 (9) | 492 (9) |
| 8-20-S | 95 | 150 | 40.72 | 40.72 | 1.30 | -1.11 | 5 (9) | 263 (9) | 182 (9) |
| 9-1-S | 95 | 150 | 45.24 | 45.24 | 2.38 | -2.94 | 15 (9) | 738 (9) | 434 (9) |
| 9-2-S | 95 | 150 | 45.24 | 45.24 | 15.42 | -13.36 | 75 (9) | 3652 (9) | 1980 (9) |
| 9-3-S | 95 | 150 | 45.24 | 45.24 | 36.07 | -34.64 | 189 (9) | 9243 (9) | 5147 (9) |
| 9-4-S | 95 | 150 | 45.24 | 45.24 | 79.64 | -65.56 | 557 (9) | 27282 (9) | 9776 (9) |
| 9-5-S | 95 | 150 | 45.24 | 45.24 | 13.88 | -133.99 | 409 (9) | 8479 (9) | 20000 (9) |
| 9-6-S | 95 | 150 | 45.24 | 45.24 | 3.24 | -195.11 | 595 (9) | 7744 (9) | 29111 (9) |
| 9-7-S | 95 | 150 | 45.24 | 45.24 | 32.43 | -73.60 | 227 (9) | 7860 (9) | 11101 (9) |
| 9-8-S | 95 | 150 | 45.24 | 45.24 | 122.29 | -0.01 | 354 (9) | 17326 (9) | 4609 (9) |
| 9-9-S | 95 | 150 | 45.24 | 45.24 | 291.89 | 0.00 | 861 (9) | 42135 (9) | 11209 (9) |
| 9-10-S | 95 | 150 | 45.24 | 45.24 | 245.37 | 0.00 | 801 (9) | 39186 (9) | 10425 (9) |
| 9-11-S | 95 | 150 | 45.24 | 45.24 | 241.28 | 0.00 | 776 (9) | 37966 (9) | 10100 (9) |
| 9-12-S | 95 | 150 | 45.24 | 45.24 | 241.48 | -0.26 | 764 (9) | 37413 (9) | 9953 (9) |
| 9-13-S | 95 | 150 | 45.24 | 45.24 | 234.85 | -2.78 | 729 (9) | 35687 (9) | 9494 (9) |
| 9-14-S | 95 | 150 | 45.24 | 45.24 | 224.64 | -8.33 | 681 (9) | 33318 (9) | 8864 (9) |
| 9-15-S | 95 | 150 | 45.24 | 45.24 | 224.90 | -20.18 | 666 (9) | 32610 (9) | 8675 (9) |
| 9-16-S | 95 | 150 | 45.24 | 45.24 | 58.88 | -63.28 | 197 (9) | 7753 (9) | 9631 (9) |
| 9-17-S | 95 | 150 | 45.24 | 45.24 | 22.09 | -136.03 | 419 (9) | 5459 (9) | 20520 (9) |
| 9-18-S | 95 | 150 | 45.24 | 45.24 | 15.08 | -78.56 | 244 (9) | 3409 (9) | 11921 (9) |
| 9-19-S | 95 | 150 | 45.24 | 45.24 | 7.65 | -28.38 | 86 (9) | 1642 (9) | 4221 (9) |
| 9-20-S | 95 | 150 | 45.24 | 45.24 | 4.46 | -3.47 | 16 (9) | 776 (9) | 471 (9) |
| 10-1-S | 95 | 150 | 45.24 | 45.24 | 2.38 | -2.94 | 15 (9) | 738 (9) | 434 (9) |
| 10-2-S | 95 | 150 | 45.24 | 45.24 | 15.42 | -13.36 | 75 (9) | 3652 (9) | 1980 (9) |
| 10-3-S | 95 | 150 | 45.24 | 45.24 | 36.07 | -34.64 | 189 (9) | 9243 (9) | 5147 (9) |

| Is | B | H | Afi | Afs | Mp | Mn | σ_c | σ_{fi} | σ_{fs} |
|---------|------|------|-------|-------|--------|---------|------------|---------------|---------------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kNm] | [kPa] | [kPa] | [kPa] |
| 10-4-S | 95 | 150 | 45.24 | 45.24 | 79.64 | -65.56 | 557 (9) | 27282 (9) | 9776 (9) |
| 10-5-S | 95 | 150 | 45.24 | 45.24 | 13.88 | -133.99 | 409 (9) | 8479 (9) | 20000 (9) |
| 10-6-S | 95 | 150 | 45.24 | 45.24 | 3.24 | -195.11 | 595 (9) | 7744 (9) | 29111 (9) |
| 10-7-S | 95 | 150 | 45.24 | 45.24 | 32.43 | -73.60 | 227 (9) | 7860 (9) | 11101 (9) |
| 10-8-S | 95 | 150 | 45.24 | 45.24 | 122.29 | -0.01 | 354 (9) | 17326 (9) | 4609 (9) |
| 10-9-S | 95 | 150 | 45.24 | 45.24 | 291.89 | 0.00 | 861 (9) | 42135 (9) | 11209 (9) |
| 10-10-S | 95 | 150 | 45.24 | 45.24 | 245.37 | 0.00 | 801 (9) | 39186 (9) | 10425 (9) |
| 10-11-S | 95 | 150 | 45.24 | 45.24 | 241.28 | 0.00 | 776 (9) | 37966 (9) | 10100 (9) |
| 10-12-S | 95 | 150 | 45.24 | 45.24 | 241.48 | -0.26 | 764 (9) | 37413 (9) | 9953 (9) |
| 10-13-S | 95 | 150 | 45.24 | 45.24 | 234.85 | -2.78 | 729 (9) | 35687 (9) | 9494 (9) |
| 10-14-S | 95 | 150 | 45.24 | 45.24 | 224.64 | -8.33 | 681 (9) | 33318 (9) | 8864 (9) |
| 10-15-S | 95 | 150 | 45.24 | 45.24 | 224.90 | -20.18 | 666 (9) | 32610 (9) | 8675 (9) |
| 10-16-S | 95 | 150 | 45.24 | 45.24 | 58.88 | -63.28 | 197 (9) | 7753 (9) | 9631 (9) |
| 10-17-S | 95 | 150 | 45.24 | 45.24 | 22.09 | -136.03 | 419 (9) | 5459 (9) | 20520 (9) |
| 10-18-S | 95 | 150 | 45.24 | 45.24 | 15.08 | -78.56 | 244 (9) | 3409 (9) | 11921 (9) |
| 10-19-S | 95 | 150 | 45.24 | 45.24 | 7.65 | -28.38 | 86 (9) | 1642 (9) | 4221 (9) |
| 10-20-S | 95 | 150 | 45.24 | 45.24 | 4.46 | -3.47 | 16 (9) | 776 (9) | 471 (9) |
| 11-1-S | 95 | 150 | 40.72 | 40.72 | 0.41 | -0.80 | 4 (9) | 66 (9) | 218 (9) |
| 11-2-S | 95 | 150 | 40.72 | 40.72 | 0.04 | -4.57 | 15 (9) | 192 (9) | 764 (9) |
| 11-3-S | 95 | 150 | 40.72 | 40.72 | 1.09 | -7.23 | 24 (9) | 388 (9) | 1227 (9) |
| 11-4-S | 95 | 150 | 40.72 | 40.72 | 6.72 | -6.55 | 33 (9) | 1706 (9) | 1143 (9) |
| 11-5-S | 95 | 150 | 40.72 | 40.72 | 23.96 | -3.46 | 72 (9) | 3713 (9) | 935 (9) |
| 11-6-S | 95 | 150 | 40.72 | 40.72 | 62.53 | -2.35 | 192 (9) | 9862 (9) | 2484 (9) |
| 11-7-S | 95 | 150 | 40.72 | 40.72 | 114.72 | -0.74 | 354 (9) | 18213 (9) | 4588 (9) |
| 11-8-S | 95 | 150 | 40.72 | 40.72 | 177.37 | 0.00 | 550 (9) | 28244 (9) | 7115 (9) |
| 11-9-S | 95 | 150 | 40.72 | 40.72 | 244.70 | 0.00 | 759 (9) | 38995 (9) | 9823 (9) |
| 11-10-S | 95 | 150 | 40.72 | 40.72 | 118.78 | -1.40 | 410 (9) | 21062 (9) | 5305 (9) |
| 11-11-S | 95 | 150 | 40.72 | 40.72 | 133.89 | -0.11 | 458 (9) | 23545 (9) | 5931 (9) |
| 11-12-S | 95 | 150 | 40.72 | 40.72 | 135.01 | -0.06 | 458 (9) | 23555 (9) | 5933 (9) |
| 11-13-S | 95 | 150 | 40.72 | 40.72 | 126.36 | -0.47 | 426 (9) | 21883 (9) | 5512 (9) |
| 11-14-S | 95 | 150 | 40.72 | 40.72 | 109.74 | -0.94 | 367 (9) | 18837 (9) | 4745 (9) |
| 11-15-S | 95 | 150 | 40.72 | 40.72 | 88.62 | -1.48 | 293 (9) | 15056 (9) | 3793 (9) |
| 11-16-S | 95 | 150 | 40.72 | 40.72 | 66.60 | -2.08 | 218 (9) | 11204 (9) | 2822 (9) |
| 11-17-S | 95 | 150 | 40.72 | 40.72 | 45.91 | -2.63 | 149 (9) | 7657 (9) | 1929 (9) |
| 11-18-S | 95 | 150 | 40.72 | 40.72 | 27.40 | -3.01 | 88 (9) | 4543 (9) | 1144 (9) |
| 11-19-S | 95 | 150 | 40.72 | 40.72 | 11.85 | -2.11 | 38 (9) | 1954 (9) | 492 (9) |
| 11-20-S | 95 | 150 | 40.72 | 40.72 | 1.30 | -1.11 | 5 (9) | 263 (9) | 182 (9) |

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 prima fessurazione espressa in [kNm] |
| ϵ | deformazione espresso in % |
| Sm | spaziatura tra le fessure espressa in [mm] |
| w | apertura delle fessure espressa in [mm] |

Combinazioni SLEF

Paramento

Apertura limite fessure $w_{lim}=0.30$

| n° | B | H | Af | Aeff | M | Mpf | ϵ | Sm | w |
|----|------|------|-------|---------|-------|--------|------------|------|------------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kNm] | [%] | [mm] | [mm] |
| 1 | 100 | 40 | 18.10 | 1125.00 | 0.75 | 174.99 | 0.0000 | 0.00 | 0.000 (10) |
| 2 | 100 | 41 | 18.10 | 1125.00 | 0.75 | 223.72 | 0.0000 | 0.00 | 0.000 (10) |
| 3 | 100 | 42 | 18.10 | 1125.00 | 0.77 | 298.94 | 0.0000 | 0.00 | 0.000 (10) |
| 4 | 100 | 43 | 18.10 | 1125.00 | 0.79 | 417.75 | 0.0000 | 0.00 | 0.000 (10) |
| 5 | 100 | 44 | 18.10 | 1125.00 | 0.84 | 601.51 | 0.0000 | 0.00 | 0.000 (10) |
| 6 | 100 | 45 | 0.00 | 0.00 | 0.91 | 850.94 | 0.0000 | 0.00 | 0.000 (10) |

| n° | B | H | Af | Aeff | M | Mpf | ε | Sm | w |
|----|------|------|-------|---------|--------|---------|--------|------|------------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kNm] | [%] | [mm] | [mm] |
| 7 | 100 | 46 | 0.00 | 0.00 | 1.01 | 1082.37 | 0.0000 | 0.00 | 0.000 (10) |
| 8 | 100 | 47 | 0.00 | 0.00 | 1.14 | 1147.12 | 0.0000 | 0.00 | 0.000 (10) |
| 9 | 100 | 48 | 0.00 | 0.00 | 1.30 | 1035.89 | 0.0000 | 0.00 | 0.000 (10) |
| 10 | 100 | 49 | 18.10 | 1125.00 | 1.51 | 869.93 | 0.0000 | 0.00 | 0.000 (10) |
| 11 | 100 | 50 | 18.10 | 1125.00 | 1.77 | 725.92 | 0.0000 | 0.00 | 0.000 (10) |
| 12 | 100 | 51 | 18.10 | 1125.00 | 2.07 | 619.01 | 0.0000 | 0.00 | 0.000 (10) |
| 13 | 100 | 52 | 18.10 | 1125.00 | 2.44 | 543.00 | 0.0000 | 0.00 | 0.000 (10) |
| 14 | 100 | 53 | 18.10 | 1125.00 | 2.86 | 489.23 | 0.0000 | 0.00 | 0.000 (10) |
| 15 | 100 | 54 | 18.10 | 1125.00 | 3.35 | 450.94 | 0.0000 | 0.00 | 0.000 (10) |
| 16 | 100 | 55 | 18.10 | 1125.00 | 3.90 | 423.49 | 0.0000 | 0.00 | 0.000 (10) |
| 17 | 100 | 56 | 18.10 | 1125.00 | 4.54 | 403.75 | 0.0000 | 0.00 | 0.000 (10) |
| 18 | 100 | 57 | 18.10 | 1125.00 | 5.25 | 389.63 | 0.0000 | 0.00 | 0.000 (10) |
| 19 | 100 | 58 | 18.10 | 1125.00 | 6.04 | 379.68 | 0.0000 | 0.00 | 0.000 (10) |
| 20 | 100 | 59 | 18.10 | 1125.00 | 6.92 | 372.91 | 0.0000 | 0.00 | 0.000 (10) |
| 21 | 100 | 60 | 18.10 | 1125.00 | 7.90 | 368.60 | 0.0000 | 0.00 | 0.000 (10) |
| 22 | 100 | 61 | 18.10 | 1125.00 | 8.97 | 366.24 | 0.0000 | 0.00 | 0.000 (10) |
| 23 | 100 | 62 | 18.10 | 1125.00 | 10.14 | 365.45 | 0.0000 | 0.00 | 0.000 (10) |
| 24 | 100 | 63 | 18.10 | 1125.00 | 11.42 | 365.93 | 0.0000 | 0.00 | 0.000 (10) |
| 25 | 100 | 64 | 18.10 | 1125.00 | 12.81 | 367.47 | 0.0000 | 0.00 | 0.000 (10) |
| 26 | 100 | 65 | 18.10 | 1125.00 | 14.32 | 369.91 | 0.0000 | 0.00 | 0.000 (10) |
| 27 | 100 | 66 | 18.10 | 1125.00 | 15.95 | 373.10 | 0.0000 | 0.00 | 0.000 (10) |
| 28 | 100 | 67 | 18.10 | 1125.00 | 17.70 | 376.95 | 0.0000 | 0.00 | 0.000 (10) |
| 29 | 100 | 68 | 18.10 | 1125.00 | 19.58 | 381.36 | 0.0000 | 0.00 | 0.000 (10) |
| 30 | 100 | 69 | 18.10 | 1125.00 | 21.60 | 386.28 | 0.0000 | 0.00 | 0.000 (10) |
| 31 | 100 | 70 | 18.10 | 1125.00 | 23.75 | 391.64 | 0.0000 | 0.00 | 0.000 (10) |
| 32 | 100 | 71 | 18.10 | 1125.00 | 26.05 | 397.41 | 0.0000 | 0.00 | 0.000 (10) |
| 33 | 100 | 72 | 18.10 | 1125.00 | 28.50 | 403.53 | 0.0000 | 0.00 | 0.000 (10) |
| 34 | 100 | 73 | 18.10 | 1125.00 | 31.10 | 409.98 | 0.0000 | 0.00 | 0.000 (10) |
| 35 | 100 | 74 | 18.10 | 1125.00 | 33.86 | 416.73 | 0.0000 | 0.00 | 0.000 (10) |
| 36 | 100 | 75 | 18.10 | 1125.00 | 36.78 | 423.77 | 0.0000 | 0.00 | 0.000 (10) |
| 37 | 100 | 76 | 18.10 | 1125.00 | 39.86 | 431.06 | 0.0000 | 0.00 | 0.000 (10) |
| 38 | 100 | 77 | 18.10 | 1125.00 | 43.12 | 438.60 | 0.0000 | 0.00 | 0.000 (10) |
| 39 | 100 | 78 | 18.10 | 1125.00 | 46.55 | 446.36 | 0.0000 | 0.00 | 0.000 (10) |
| 40 | 100 | 79 | 18.10 | 1125.00 | 50.16 | 454.35 | 0.0000 | 0.00 | 0.000 (10) |
| 41 | 100 | 80 | 18.10 | 1125.00 | 53.96 | 462.53 | 0.0000 | 0.00 | 0.000 (10) |
| 42 | 100 | 81 | 18.10 | 1125.00 | 57.95 | 494.08 | 0.0000 | 0.00 | 0.000 (10) |
| 43 | 100 | 82 | 18.10 | 1125.00 | 62.13 | 502.68 | 0.0000 | 0.00 | 0.000 (10) |
| 44 | 100 | 83 | 18.10 | 1125.00 | 66.52 | 511.48 | 0.0000 | 0.00 | 0.000 (10) |
| 45 | 100 | 84 | 18.10 | 1125.00 | 71.10 | 520.47 | 0.0000 | 0.00 | 0.000 (10) |
| 46 | 100 | 85 | 18.10 | 1125.00 | 75.89 | 529.64 | 0.0000 | 0.00 | 0.000 (10) |
| 47 | 100 | 86 | 18.10 | 1125.00 | 80.90 | 538.98 | 0.0000 | 0.00 | 0.000 (10) |
| 48 | 100 | 87 | 18.10 | 1125.00 | 86.12 | 548.49 | 0.0000 | 0.00 | 0.000 (10) |
| 49 | 100 | 88 | 63.33 | 1125.00 | 91.57 | 680.40 | 0.0000 | 0.00 | 0.000 (10) |
| 50 | 100 | 89 | 63.33 | 1125.00 | 97.24 | 691.51 | 0.0000 | 0.00 | 0.000 (10) |
| 51 | 100 | 90 | 63.33 | 1125.00 | 103.14 | 702.78 | 0.0000 | 0.00 | 0.000 (10) |
| 52 | 100 | 91 | 63.33 | 1125.00 | 109.28 | 714.22 | 0.0000 | 0.00 | 0.000 (10) |
| 53 | 100 | 92 | 63.33 | 1125.00 | 115.66 | 725.81 | 0.0000 | 0.00 | 0.000 (10) |
| 54 | 100 | 93 | 63.33 | 1125.00 | 122.29 | 737.55 | 0.0000 | 0.00 | 0.000 (10) |
| 55 | 100 | 94 | 63.33 | 1125.00 | 129.16 | 749.45 | 0.0000 | 0.00 | 0.000 (10) |
| 56 | 100 | 95 | 63.33 | 1125.00 | 136.29 | 761.49 | 0.0000 | 0.00 | 0.000 (10) |
| 57 | 100 | 96 | 63.33 | 1125.00 | 143.68 | 773.68 | 0.0000 | 0.00 | 0.000 (10) |
| 58 | 100 | 97 | 63.33 | 1125.00 | 151.33 | 786.00 | 0.0000 | 0.00 | 0.000 (10) |
| 59 | 100 | 98 | 63.33 | 1125.00 | 159.25 | 798.47 | 0.0000 | 0.00 | 0.000 (10) |
| 60 | 100 | 99 | 63.33 | 1125.00 | 167.44 | 811.08 | 0.0000 | 0.00 | 0.000 (10) |
| 61 | 100 | 100 | 63.33 | 1125.00 | 175.91 | 823.82 | 0.0000 | 0.00 | 0.000 (10) |
| 62 | 100 | 101 | 63.33 | 1125.00 | 184.67 | 836.69 | 0.0000 | 0.00 | 0.000 (10) |
| 63 | 100 | 102 | 63.33 | 1125.00 | 193.71 | 849.70 | 0.0000 | 0.00 | 0.000 (10) |
| 64 | 100 | 103 | 63.33 | 1125.00 | 203.04 | 862.84 | 0.0000 | 0.00 | 0.000 (10) |
| 65 | 100 | 104 | 63.33 | 1125.00 | 212.66 | 876.11 | 0.0000 | 0.00 | 0.000 (10) |
| 66 | 100 | 105 | 63.33 | 1125.00 | 222.59 | 889.50 | 0.0000 | 0.00 | 0.000 (10) |
| 67 | 100 | 106 | 63.33 | 1125.00 | 232.82 | 903.03 | 0.0000 | 0.00 | 0.000 (10) |
| 68 | 100 | 107 | 63.33 | 1125.00 | 243.37 | 916.68 | 0.0000 | 0.00 | 0.000 (10) |
| 69 | 100 | 108 | 63.33 | 1125.00 | 254.22 | 930.45 | 0.0000 | 0.00 | 0.000 (10) |
| 70 | 100 | 109 | 63.33 | 1125.00 | 265.40 | 944.35 | 0.0000 | 0.00 | 0.000 (10) |
| 71 | 100 | 110 | 63.33 | 1125.00 | 276.90 | 958.37 | 0.0000 | 0.00 | 0.000 (10) |
| 72 | 100 | 111 | 45.24 | 1125.00 | 288.72 | 911.50 | 0.0000 | 0.00 | 0.000 (10) |
| 73 | 100 | 112 | 45.24 | 1125.00 | 300.89 | 925.21 | 0.0000 | 0.00 | 0.000 (10) |
| 74 | 100 | 113 | 45.24 | 1125.00 | 313.38 | 908.74 | 0.0000 | 0.00 | 0.000 (10) |
| 75 | 100 | 114 | 45.24 | 1125.00 | 326.22 | 922.47 | 0.0000 | 0.00 | 0.000 (10) |
| 76 | 100 | 115 | 45.24 | 1125.00 | 339.41 | 936.33 | 0.0000 | 0.00 | 0.000 (10) |

| n° | B | H | Af | Aeff | M | Mpf | ε | Sm | w |
|----|------|------|-------|---------|--------|---------|--------|------|------------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kNm] | [%] | [mm] | [mm] |
| 77 | 100 | 116 | 45.24 | 1125.00 | 352.95 | 950.29 | 0.0000 | 0.00 | 0.000 (10) |
| 78 | 100 | 117 | 45.24 | 1125.00 | 366.84 | 964.38 | 0.0000 | 0.00 | 0.000 (10) |
| 79 | 100 | 118 | 45.24 | 1125.00 | 381.10 | 978.58 | 0.0000 | 0.00 | 0.000 (10) |
| 80 | 100 | 119 | 45.24 | 1125.00 | 395.72 | 992.90 | 0.0000 | 0.00 | 0.000 (10) |
| 81 | 100 | 120 | 45.24 | 1125.00 | 410.71 | 1007.33 | 0.0000 | 0.00 | 0.000 (10) |

Mensola valle

Apertura limite fessure $w_{lim}=0.30$

| n° | B | H | Af | Aeff | M | Mpf | ε | Sm | w |
|----|------|------|-------|---------|-------|---------|--------|------|------------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kNm] | [%] | [mm] | [mm] |
| 1 | 100 | 50 | 0.00 | 0.00 | 0.00 | 0.00 | 0.0000 | 0.00 | 0.000 (10) |
| 2 | 100 | 50 | 0.00 | 0.00 | -0.05 | 0.00 | 0.0000 | 0.00 | 0.000 (10) |
| 3 | 100 | 50 | 8.04 | 1125.00 | -0.19 | -143.03 | 0.0000 | 0.00 | 0.000 (10) |
| 4 | 100 | 50 | 8.04 | 1125.00 | -0.42 | -143.03 | 0.0000 | 0.00 | 0.000 (10) |
| 5 | 100 | 50 | 8.04 | 1125.00 | -0.75 | -143.03 | 0.0000 | 0.00 | 0.000 (10) |

Piastra fondazione

Apertura limite fessure $w_{lim}=0.30$

| Is | B | H | Af | Aeff | M | Mpf | ε | Sm | w |
|--------|------|------|-------|---------|---------|----------|--------|------|-------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kNm] | [%] | [mm] | [mm] |
| 1-1-P | 100 | 150 | 10.05 | 1125.00 | 0.58 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 1-2-P | 100 | 150 | 10.05 | 1125.00 | 1.13 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 1-3-P | 100 | 150 | 10.05 | 1125.00 | -6.08 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 1-4-P | 100 | 150 | 10.05 | 1125.00 | -16.88 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 1-5-P | 100 | 150 | 10.05 | 1125.00 | -38.46 | -1235.64 | 0.0000 | 0.00 | 0.000 |
| 1-6-P | 100 | 150 | 10.05 | 1125.00 | -74.71 | -1235.64 | 0.0000 | 0.00 | 0.000 |
| 1-7-P | 100 | 150 | 10.05 | 1125.00 | -126.80 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 1-8-P | 100 | 150 | 10.05 | 1125.00 | -216.53 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 1-9-P | 100 | 150 | 10.05 | 1125.00 | -208.88 | -1235.64 | 0.0000 | 0.00 | 0.000 |
| 1-10-P | 100 | 150 | 10.05 | 1125.00 | -216.53 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 1-11-P | 100 | 150 | 10.05 | 1125.00 | -126.80 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 1-12-P | 100 | 150 | 10.05 | 1125.00 | -74.71 | -1235.64 | 0.0000 | 0.00 | 0.000 |
| 1-13-P | 100 | 150 | 10.05 | 1125.00 | -38.46 | -1235.64 | 0.0000 | 0.00 | 0.000 |
| 1-14-P | 100 | 150 | 10.05 | 1125.00 | -16.88 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 1-15-P | 100 | 150 | 10.05 | 1125.00 | -6.08 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 1-16-P | 100 | 150 | 10.05 | 1125.00 | 1.13 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 1-17-P | 100 | 150 | 10.05 | 1125.00 | 0.58 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 2-1-P | 100 | 150 | 10.05 | 1125.00 | 12.98 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 2-2-P | 100 | 150 | 10.05 | 1125.00 | 16.04 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 2-3-P | 100 | 150 | 10.05 | 1125.00 | 24.12 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 2-4-P | 100 | 150 | 10.05 | 1125.00 | 24.88 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 2-5-P | 100 | 150 | 10.05 | 1125.00 | -19.54 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 2-6-P | 100 | 150 | 10.05 | 1125.00 | -45.03 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 2-7-P | 100 | 150 | 10.05 | 1125.00 | -84.97 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 2-8-P | 100 | 150 | 10.05 | 1125.00 | -98.22 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 2-9-P | 100 | 150 | 10.05 | 1125.00 | -134.14 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 2-10-P | 100 | 150 | 10.05 | 1125.00 | -98.22 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 2-11-P | 100 | 150 | 10.05 | 1125.00 | -84.97 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 2-12-P | 100 | 150 | 10.05 | 1125.00 | -45.03 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 2-13-P | 100 | 150 | 10.05 | 1125.00 | -19.54 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 2-14-P | 100 | 150 | 10.05 | 1125.00 | 24.88 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 2-15-P | 100 | 150 | 10.05 | 1125.00 | 24.12 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 2-16-P | 100 | 150 | 10.05 | 1125.00 | 16.04 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 2-17-P | 100 | 150 | 10.05 | 1125.00 | 12.98 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 5-1-P | 80 | 150 | 8.04 | 900.00 | 10.52 | 988.51 | 0.0000 | 0.00 | 0.000 |
| 5-2-P | 80 | 150 | 8.04 | 900.00 | 13.64 | 988.51 | 0.0000 | 0.00 | 0.000 |
| 5-3-P | 80 | 150 | 8.04 | 900.00 | 22.23 | 988.51 | 0.0000 | 0.00 | 0.000 |
| 5-4-P | 80 | 150 | 8.04 | 900.00 | 26.17 | 988.51 | 0.0000 | 0.00 | 0.000 |
| 5-5-P | 80 | 150 | 8.04 | 900.00 | 28.53 | 988.51 | 0.0000 | 0.00 | 0.000 |
| 5-6-P | 80 | 150 | 8.04 | 900.00 | 28.19 | 988.51 | 0.0000 | 0.00 | 0.000 |
| 5-7-P | 80 | 150 | 8.04 | 900.00 | 24.29 | 988.51 | 0.0000 | 0.00 | 0.000 |
| 5-8-P | 80 | 150 | 8.04 | 900.00 | 19.19 | 988.51 | 0.0000 | 0.00 | 0.000 |

| Is | B | H | Af | Aeff | M | Mpf | ε | Sm | w |
|--------|------|------|-------|---------|---------|---------|--------|------|-------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kNm] | [%] | [mm] | [mm] |
| 5-9-P | 80 | 150 | 8.04 | 900.00 | -21.11 | 988.51 | 0.0000 | 0.00 | 0.000 |
| 5-10-P | 80 | 150 | 8.04 | 900.00 | 19.19 | 988.51 | 0.0000 | 0.00 | 0.000 |
| 5-11-P | 80 | 150 | 8.04 | 900.00 | 24.29 | 988.51 | 0.0000 | 0.00 | 0.000 |
| 5-12-P | 80 | 150 | 8.04 | 900.00 | 28.19 | 988.51 | 0.0000 | 0.00 | 0.000 |
| 5-13-P | 80 | 150 | 8.04 | 900.00 | 28.53 | 988.51 | 0.0000 | 0.00 | 0.000 |
| 5-14-P | 80 | 150 | 8.04 | 900.00 | 26.17 | 988.51 | 0.0000 | 0.00 | 0.000 |
| 5-15-P | 80 | 150 | 8.04 | 900.00 | 22.23 | 988.51 | 0.0000 | 0.00 | 0.000 |
| 5-16-P | 80 | 150 | 8.04 | 900.00 | 13.64 | 988.51 | 0.0000 | 0.00 | 0.000 |
| 5-17-P | 80 | 150 | 8.04 | 900.00 | 10.52 | 988.51 | 0.0000 | 0.00 | 0.000 |
| 6-1-P | 80 | 150 | 8.04 | 900.00 | -1.70 | 988.51 | 0.0000 | 0.00 | 0.000 |
| 6-2-P | 80 | 150 | 8.04 | 900.00 | 3.68 | 988.51 | 0.0000 | 0.00 | 0.000 |
| 6-3-P | 80 | 150 | 8.04 | 900.00 | 9.29 | 988.51 | 0.0000 | 0.00 | 0.000 |
| 6-4-P | 80 | 150 | 8.04 | 900.00 | -15.22 | 988.51 | 0.0000 | 0.00 | 0.000 |
| 6-5-P | 80 | 150 | 8.04 | 900.00 | -28.80 | 988.51 | 0.0000 | 0.00 | 0.000 |
| 6-6-P | 80 | 150 | 8.04 | 900.00 | -52.19 | 988.51 | 0.0000 | 0.00 | 0.000 |
| 6-7-P | 80 | 150 | 8.04 | 900.00 | -90.45 | 988.51 | 0.0000 | 0.00 | 0.000 |
| 6-8-P | 80 | 150 | 8.04 | 900.00 | -158.78 | 988.51 | 0.0000 | 0.00 | 0.000 |
| 6-9-P | 80 | 150 | 8.04 | 900.00 | -127.79 | -988.51 | 0.0000 | 0.00 | 0.000 |
| 6-10-P | 80 | 150 | 8.04 | 900.00 | -158.78 | 988.51 | 0.0000 | 0.00 | 0.000 |
| 6-11-P | 80 | 150 | 8.04 | 900.00 | -90.45 | 988.51 | 0.0000 | 0.00 | 0.000 |
| 6-12-P | 80 | 150 | 8.04 | 900.00 | -52.19 | 988.51 | 0.0000 | 0.00 | 0.000 |
| 6-13-P | 80 | 150 | 8.04 | 900.00 | -28.80 | 988.51 | 0.0000 | 0.00 | 0.000 |
| 6-14-P | 80 | 150 | 8.04 | 900.00 | -15.22 | 988.51 | 0.0000 | 0.00 | 0.000 |
| 6-15-P | 80 | 150 | 8.04 | 900.00 | 9.29 | 988.51 | 0.0000 | 0.00 | 0.000 |
| 6-16-P | 80 | 150 | 8.04 | 900.00 | 3.68 | 988.51 | 0.0000 | 0.00 | 0.000 |
| 6-17-P | 80 | 150 | 8.04 | 900.00 | -1.70 | 988.51 | 0.0000 | 0.00 | 0.000 |
| 7-1-P | 80 | 150 | 8.04 | 900.00 | -0.58 | 988.51 | 0.0000 | 0.00 | 0.000 |
| 7-2-P | 80 | 150 | 8.04 | 900.00 | -3.88 | 988.51 | 0.0000 | 0.00 | 0.000 |
| 7-3-P | 80 | 150 | 8.04 | 900.00 | -16.49 | 988.51 | 0.0000 | 0.00 | 0.000 |
| 7-4-P | 80 | 150 | 8.04 | 900.00 | -36.43 | 988.51 | 0.0000 | 0.00 | 0.000 |
| 7-5-P | 80 | 150 | 8.04 | 900.00 | -64.44 | 988.51 | 0.0000 | 0.00 | 0.000 |
| 7-6-P | 80 | 150 | 8.04 | 900.00 | -99.56 | 988.51 | 0.0000 | 0.00 | 0.000 |
| 7-7-P | 80 | 150 | 8.04 | 900.00 | -133.26 | 988.51 | 0.0000 | 0.00 | 0.000 |
| 7-8-P | 80 | 150 | 8.04 | 900.00 | -143.47 | -988.51 | 0.0000 | 0.00 | 0.000 |
| 7-9-P | 80 | 150 | 8.04 | 900.00 | -169.49 | -988.51 | 0.0000 | 0.00 | 0.000 |
| 7-10-P | 80 | 150 | 8.04 | 900.00 | -143.47 | -988.51 | 0.0000 | 0.00 | 0.000 |
| 7-11-P | 80 | 150 | 8.04 | 900.00 | -133.26 | 988.51 | 0.0000 | 0.00 | 0.000 |
| 7-12-P | 80 | 150 | 8.04 | 900.00 | -99.56 | 988.51 | 0.0000 | 0.00 | 0.000 |
| 7-13-P | 80 | 150 | 8.04 | 900.00 | -64.44 | 988.51 | 0.0000 | 0.00 | 0.000 |
| 7-14-P | 80 | 150 | 8.04 | 900.00 | -36.43 | 988.51 | 0.0000 | 0.00 | 0.000 |
| 7-15-P | 80 | 150 | 8.04 | 900.00 | -16.49 | 988.51 | 0.0000 | 0.00 | 0.000 |
| 7-16-P | 80 | 150 | 8.04 | 900.00 | -3.88 | 988.51 | 0.0000 | 0.00 | 0.000 |
| 7-17-P | 80 | 150 | 8.04 | 900.00 | -0.58 | 988.51 | 0.0000 | 0.00 | 0.000 |
| 8-1-S | 95 | 150 | 40.72 | 1071.56 | -0.73 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 8-2-S | 95 | 150 | 40.72 | 1071.56 | -4.23 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 8-3-S | 95 | 150 | 40.72 | 1071.56 | -6.80 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 8-4-S | 95 | 150 | 40.72 | 1071.56 | -6.34 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 8-5-S | 95 | 150 | 40.72 | 1071.56 | 20.59 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 8-6-S | 95 | 150 | 40.72 | 1071.56 | 54.68 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 8-7-S | 95 | 150 | 40.72 | 1071.56 | 100.98 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 8-8-S | 95 | 150 | 40.72 | 1071.56 | 156.59 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 8-9-S | 95 | 150 | 40.72 | 1071.56 | 216.19 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 8-10-S | 95 | 150 | 40.72 | 1071.56 | 116.77 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 8-11-S | 95 | 150 | 40.72 | 1071.56 | 130.54 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 8-12-S | 95 | 150 | 40.72 | 1071.56 | 130.59 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 8-13-S | 95 | 150 | 40.72 | 1071.56 | 121.32 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 8-14-S | 95 | 150 | 40.72 | 1071.56 | 104.43 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 8-15-S | 95 | 150 | 40.72 | 1071.56 | 83.47 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 8-16-S | 95 | 150 | 40.72 | 1071.56 | 62.12 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 8-17-S | 95 | 150 | 40.72 | 1071.56 | 42.45 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 8-18-S | 95 | 150 | 40.72 | 1071.56 | 25.19 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 8-19-S | 95 | 150 | 40.72 | 1071.56 | 10.84 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 8-20-S | 95 | 150 | 40.72 | 1071.56 | 1.16 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 9-1-S | 95 | 150 | 45.24 | 1071.56 | -2.67 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 9-2-S | 95 | 150 | 45.24 | 1071.56 | 13.91 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 9-3-S | 95 | 150 | 45.24 | 1071.56 | 32.49 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 9-4-S | 95 | 150 | 45.24 | 1071.56 | 71.91 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 9-5-S | 95 | 150 | 45.24 | 1071.56 | -123.01 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 9-6-S | 95 | 150 | 45.24 | 1071.56 | -179.04 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 9-7-S | 95 | 150 | 45.24 | 1071.56 | -68.28 | 1398.75 | 0.0000 | 0.00 | 0.000 |

| Is | B | H | Af | Aeff | M | Mpf | ε | Sm | w |
|---------|------|------|-------|---------|---------|---------|--------|------|-------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kNm] | [%] | [mm] | [mm] |
| 9-8-S | 95 | 150 | 45.24 | 1071.56 | 106.56 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 9-9-S | 95 | 150 | 45.24 | 1071.56 | 259.14 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 9-10-S | 95 | 150 | 45.24 | 1071.56 | 241.01 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 9-11-S | 95 | 150 | 45.24 | 1071.56 | 233.51 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 9-12-S | 95 | 150 | 45.24 | 1071.56 | 230.10 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 9-13-S | 95 | 150 | 45.24 | 1071.56 | 219.49 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 9-14-S | 95 | 150 | 45.24 | 1071.56 | 204.92 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 9-15-S | 95 | 150 | 45.24 | 1071.56 | 200.56 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 9-16-S | 95 | 150 | 45.24 | 1071.56 | -59.24 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 9-17-S | 95 | 150 | 45.24 | 1071.56 | -126.21 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 9-18-S | 95 | 150 | 45.24 | 1071.56 | -73.32 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 9-19-S | 95 | 150 | 45.24 | 1071.56 | -25.96 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 9-20-S | 95 | 150 | 45.24 | 1071.56 | 3.82 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 10-1-S | 95 | 150 | 45.24 | 1071.56 | -2.67 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 10-2-S | 95 | 150 | 45.24 | 1071.56 | 13.91 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 10-3-S | 95 | 150 | 45.24 | 1071.56 | 32.49 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 10-4-S | 95 | 150 | 45.24 | 1071.56 | 71.91 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 10-5-S | 95 | 150 | 45.24 | 1071.56 | -123.01 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 10-6-S | 95 | 150 | 45.24 | 1071.56 | -179.04 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 10-7-S | 95 | 150 | 45.24 | 1071.56 | -68.28 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 10-8-S | 95 | 150 | 45.24 | 1071.56 | 106.56 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 10-9-S | 95 | 150 | 45.24 | 1071.56 | 259.14 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 10-10-S | 95 | 150 | 45.24 | 1071.56 | 241.01 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 10-11-S | 95 | 150 | 45.24 | 1071.56 | 233.51 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 10-12-S | 95 | 150 | 45.24 | 1071.56 | 230.10 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 10-13-S | 95 | 150 | 45.24 | 1071.56 | 219.49 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 10-14-S | 95 | 150 | 45.24 | 1071.56 | 204.92 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 10-15-S | 95 | 150 | 45.24 | 1071.56 | 200.56 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 10-16-S | 95 | 150 | 45.24 | 1071.56 | -59.24 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 10-17-S | 95 | 150 | 45.24 | 1071.56 | -126.21 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 10-18-S | 95 | 150 | 45.24 | 1071.56 | -73.32 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 10-19-S | 95 | 150 | 45.24 | 1071.56 | -25.96 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 10-20-S | 95 | 150 | 45.24 | 1071.56 | 3.82 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 11-1-S | 95 | 150 | 40.72 | 1071.56 | -0.73 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 11-2-S | 95 | 150 | 40.72 | 1071.56 | -4.23 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 11-3-S | 95 | 150 | 40.72 | 1071.56 | -6.80 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 11-4-S | 95 | 150 | 40.72 | 1071.56 | -6.34 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 11-5-S | 95 | 150 | 40.72 | 1071.56 | 20.59 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 11-6-S | 95 | 150 | 40.72 | 1071.56 | 54.68 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 11-7-S | 95 | 150 | 40.72 | 1071.56 | 100.98 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 11-8-S | 95 | 150 | 40.72 | 1071.56 | 156.59 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 11-9-S | 95 | 150 | 40.72 | 1071.56 | 216.19 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 11-10-S | 95 | 150 | 40.72 | 1071.56 | 116.77 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 11-11-S | 95 | 150 | 40.72 | 1071.56 | 130.54 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 11-12-S | 95 | 150 | 40.72 | 1071.56 | 130.59 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 11-13-S | 95 | 150 | 40.72 | 1071.56 | 121.32 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 11-14-S | 95 | 150 | 40.72 | 1071.56 | 104.43 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 11-15-S | 95 | 150 | 40.72 | 1071.56 | 83.47 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 11-16-S | 95 | 150 | 40.72 | 1071.56 | 62.12 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 11-17-S | 95 | 150 | 40.72 | 1071.56 | 42.45 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 11-18-S | 95 | 150 | 40.72 | 1071.56 | 25.19 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 11-19-S | 95 | 150 | 40.72 | 1071.56 | 10.84 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 11-20-S | 95 | 150 | 40.72 | 1071.56 | 1.16 | 1370.62 | 0.0000 | 0.00 | 0.000 |

Combinazioni SLEQ

Paramento

Apertura limite fessure $w_{lim}=0.20$

| n° | B | H | Af | Aeff | M | Mpf | ε | Sm | w |
|----|------|------|-------|---------|-------|--------|--------|------|------------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kNm] | [%] | [mm] | [mm] |
| 1 | 100 | 40 | 18.10 | 1125.00 | 0.75 | 174.99 | 0.0000 | 0.00 | 0.000 (11) |
| 2 | 100 | 41 | 18.10 | 1125.00 | 0.75 | 223.72 | 0.0000 | 0.00 | 0.000 (11) |
| 3 | 100 | 42 | 18.10 | 1125.00 | 0.77 | 298.94 | 0.0000 | 0.00 | 0.000 (11) |
| 4 | 100 | 43 | 18.10 | 1125.00 | 0.79 | 417.75 | 0.0000 | 0.00 | 0.000 (11) |
| 5 | 100 | 44 | 18.10 | 1125.00 | 0.84 | 601.51 | 0.0000 | 0.00 | 0.000 (11) |

| n° | B | H | Af | Aeff | M | Mpf | ε | Sm | w |
|----|------|------|-------|---------|--------|---------|--------|------|------------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kNm] | [%] | [mm] | [mm] |
| 6 | 100 | 45 | 0.00 | 0.00 | 0.91 | 850.94 | 0.0000 | 0.00 | 0.000 (11) |
| 7 | 100 | 46 | 0.00 | 0.00 | 1.01 | 1082.37 | 0.0000 | 0.00 | 0.000 (11) |
| 8 | 100 | 47 | 0.00 | 0.00 | 1.14 | 1147.12 | 0.0000 | 0.00 | 0.000 (11) |
| 9 | 100 | 48 | 0.00 | 0.00 | 1.30 | 1035.89 | 0.0000 | 0.00 | 0.000 (11) |
| 10 | 100 | 49 | 18.10 | 1125.00 | 1.51 | 869.93 | 0.0000 | 0.00 | 0.000 (11) |
| 11 | 100 | 50 | 18.10 | 1125.00 | 1.77 | 725.92 | 0.0000 | 0.00 | 0.000 (11) |
| 12 | 100 | 51 | 18.10 | 1125.00 | 2.07 | 619.01 | 0.0000 | 0.00 | 0.000 (11) |
| 13 | 100 | 52 | 18.10 | 1125.00 | 2.44 | 543.00 | 0.0000 | 0.00 | 0.000 (11) |
| 14 | 100 | 53 | 18.10 | 1125.00 | 2.86 | 489.23 | 0.0000 | 0.00 | 0.000 (11) |
| 15 | 100 | 54 | 18.10 | 1125.00 | 3.35 | 450.94 | 0.0000 | 0.00 | 0.000 (11) |
| 16 | 100 | 55 | 18.10 | 1125.00 | 3.90 | 423.49 | 0.0000 | 0.00 | 0.000 (11) |
| 17 | 100 | 56 | 18.10 | 1125.00 | 4.54 | 403.75 | 0.0000 | 0.00 | 0.000 (11) |
| 18 | 100 | 57 | 18.10 | 1125.00 | 5.25 | 389.63 | 0.0000 | 0.00 | 0.000 (11) |
| 19 | 100 | 58 | 18.10 | 1125.00 | 6.04 | 379.68 | 0.0000 | 0.00 | 0.000 (11) |
| 20 | 100 | 59 | 18.10 | 1125.00 | 6.92 | 372.91 | 0.0000 | 0.00 | 0.000 (11) |
| 21 | 100 | 60 | 18.10 | 1125.00 | 7.90 | 368.60 | 0.0000 | 0.00 | 0.000 (11) |
| 22 | 100 | 61 | 18.10 | 1125.00 | 8.97 | 366.24 | 0.0000 | 0.00 | 0.000 (11) |
| 23 | 100 | 62 | 18.10 | 1125.00 | 10.14 | 365.45 | 0.0000 | 0.00 | 0.000 (11) |
| 24 | 100 | 63 | 18.10 | 1125.00 | 11.42 | 365.93 | 0.0000 | 0.00 | 0.000 (11) |
| 25 | 100 | 64 | 18.10 | 1125.00 | 12.81 | 367.47 | 0.0000 | 0.00 | 0.000 (11) |
| 26 | 100 | 65 | 18.10 | 1125.00 | 14.32 | 369.91 | 0.0000 | 0.00 | 0.000 (11) |
| 27 | 100 | 66 | 18.10 | 1125.00 | 15.95 | 373.10 | 0.0000 | 0.00 | 0.000 (11) |
| 28 | 100 | 67 | 18.10 | 1125.00 | 17.70 | 376.95 | 0.0000 | 0.00 | 0.000 (11) |
| 29 | 100 | 68 | 18.10 | 1125.00 | 19.58 | 381.36 | 0.0000 | 0.00 | 0.000 (11) |
| 30 | 100 | 69 | 18.10 | 1125.00 | 21.60 | 386.28 | 0.0000 | 0.00 | 0.000 (11) |
| 31 | 100 | 70 | 18.10 | 1125.00 | 23.75 | 391.64 | 0.0000 | 0.00 | 0.000 (11) |
| 32 | 100 | 71 | 18.10 | 1125.00 | 26.05 | 397.41 | 0.0000 | 0.00 | 0.000 (11) |
| 33 | 100 | 72 | 18.10 | 1125.00 | 28.50 | 403.53 | 0.0000 | 0.00 | 0.000 (11) |
| 34 | 100 | 73 | 18.10 | 1125.00 | 31.10 | 409.98 | 0.0000 | 0.00 | 0.000 (11) |
| 35 | 100 | 74 | 18.10 | 1125.00 | 33.86 | 416.73 | 0.0000 | 0.00 | 0.000 (11) |
| 36 | 100 | 75 | 18.10 | 1125.00 | 36.78 | 423.77 | 0.0000 | 0.00 | 0.000 (11) |
| 37 | 100 | 76 | 18.10 | 1125.00 | 39.86 | 431.06 | 0.0000 | 0.00 | 0.000 (11) |
| 38 | 100 | 77 | 18.10 | 1125.00 | 43.12 | 438.60 | 0.0000 | 0.00 | 0.000 (11) |
| 39 | 100 | 78 | 18.10 | 1125.00 | 46.55 | 446.36 | 0.0000 | 0.00 | 0.000 (11) |
| 40 | 100 | 79 | 18.10 | 1125.00 | 50.16 | 454.35 | 0.0000 | 0.00 | 0.000 (11) |
| 41 | 100 | 80 | 18.10 | 1125.00 | 53.96 | 462.53 | 0.0000 | 0.00 | 0.000 (11) |
| 42 | 100 | 81 | 18.10 | 1125.00 | 57.95 | 494.08 | 0.0000 | 0.00 | 0.000 (11) |
| 43 | 100 | 82 | 18.10 | 1125.00 | 62.13 | 502.68 | 0.0000 | 0.00 | 0.000 (11) |
| 44 | 100 | 83 | 18.10 | 1125.00 | 66.52 | 511.48 | 0.0000 | 0.00 | 0.000 (11) |
| 45 | 100 | 84 | 18.10 | 1125.00 | 71.10 | 520.47 | 0.0000 | 0.00 | 0.000 (11) |
| 46 | 100 | 85 | 18.10 | 1125.00 | 75.89 | 529.64 | 0.0000 | 0.00 | 0.000 (11) |
| 47 | 100 | 86 | 18.10 | 1125.00 | 80.90 | 538.98 | 0.0000 | 0.00 | 0.000 (11) |
| 48 | 100 | 87 | 18.10 | 1125.00 | 86.12 | 548.49 | 0.0000 | 0.00 | 0.000 (11) |
| 49 | 100 | 88 | 63.33 | 1125.00 | 91.57 | 680.40 | 0.0000 | 0.00 | 0.000 (11) |
| 50 | 100 | 89 | 63.33 | 1125.00 | 97.24 | 691.51 | 0.0000 | 0.00 | 0.000 (11) |
| 51 | 100 | 90 | 63.33 | 1125.00 | 103.14 | 702.78 | 0.0000 | 0.00 | 0.000 (11) |
| 52 | 100 | 91 | 63.33 | 1125.00 | 109.28 | 714.22 | 0.0000 | 0.00 | 0.000 (11) |
| 53 | 100 | 92 | 63.33 | 1125.00 | 115.66 | 725.81 | 0.0000 | 0.00 | 0.000 (11) |
| 54 | 100 | 93 | 63.33 | 1125.00 | 122.29 | 737.55 | 0.0000 | 0.00 | 0.000 (11) |
| 55 | 100 | 94 | 63.33 | 1125.00 | 129.16 | 749.45 | 0.0000 | 0.00 | 0.000 (11) |
| 56 | 100 | 95 | 63.33 | 1125.00 | 136.29 | 761.49 | 0.0000 | 0.00 | 0.000 (11) |
| 57 | 100 | 96 | 63.33 | 1125.00 | 143.68 | 773.68 | 0.0000 | 0.00 | 0.000 (11) |
| 58 | 100 | 97 | 63.33 | 1125.00 | 151.33 | 786.00 | 0.0000 | 0.00 | 0.000 (11) |
| 59 | 100 | 98 | 63.33 | 1125.00 | 159.25 | 798.47 | 0.0000 | 0.00 | 0.000 (11) |
| 60 | 100 | 99 | 63.33 | 1125.00 | 167.44 | 811.08 | 0.0000 | 0.00 | 0.000 (11) |
| 61 | 100 | 100 | 63.33 | 1125.00 | 175.91 | 823.82 | 0.0000 | 0.00 | 0.000 (11) |
| 62 | 100 | 101 | 63.33 | 1125.00 | 184.67 | 836.69 | 0.0000 | 0.00 | 0.000 (11) |
| 63 | 100 | 102 | 63.33 | 1125.00 | 193.71 | 849.70 | 0.0000 | 0.00 | 0.000 (11) |
| 64 | 100 | 103 | 63.33 | 1125.00 | 203.04 | 862.84 | 0.0000 | 0.00 | 0.000 (11) |
| 65 | 100 | 104 | 63.33 | 1125.00 | 212.66 | 876.11 | 0.0000 | 0.00 | 0.000 (11) |
| 66 | 100 | 105 | 63.33 | 1125.00 | 222.59 | 889.50 | 0.0000 | 0.00 | 0.000 (11) |
| 67 | 100 | 106 | 63.33 | 1125.00 | 232.82 | 903.03 | 0.0000 | 0.00 | 0.000 (11) |
| 68 | 100 | 107 | 63.33 | 1125.00 | 243.37 | 916.68 | 0.0000 | 0.00 | 0.000 (11) |
| 69 | 100 | 108 | 63.33 | 1125.00 | 254.22 | 930.45 | 0.0000 | 0.00 | 0.000 (11) |
| 70 | 100 | 109 | 63.33 | 1125.00 | 265.40 | 944.35 | 0.0000 | 0.00 | 0.000 (11) |
| 71 | 100 | 110 | 63.33 | 1125.00 | 276.90 | 958.37 | 0.0000 | 0.00 | 0.000 (11) |
| 72 | 100 | 111 | 45.24 | 1125.00 | 288.72 | 911.50 | 0.0000 | 0.00 | 0.000 (11) |
| 73 | 100 | 112 | 45.24 | 1125.00 | 300.89 | 925.21 | 0.0000 | 0.00 | 0.000 (11) |
| 74 | 100 | 113 | 45.24 | 1125.00 | 313.38 | 908.74 | 0.0000 | 0.00 | 0.000 (11) |
| 75 | 100 | 114 | 45.24 | 1125.00 | 326.22 | 922.47 | 0.0000 | 0.00 | 0.000 (11) |

| n° | B | H | Af | Aeff | M | Mpf | ε | Sm | w |
|----|------|------|-------|---------|--------|---------|--------|------|------------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kNm] | [%] | [mm] | [mm] |
| 76 | 100 | 115 | 45.24 | 1125.00 | 339.41 | 936.33 | 0.0000 | 0.00 | 0.000 (11) |
| 77 | 100 | 116 | 45.24 | 1125.00 | 352.95 | 950.29 | 0.0000 | 0.00 | 0.000 (11) |
| 78 | 100 | 117 | 45.24 | 1125.00 | 366.84 | 964.38 | 0.0000 | 0.00 | 0.000 (11) |
| 79 | 100 | 118 | 45.24 | 1125.00 | 381.10 | 978.58 | 0.0000 | 0.00 | 0.000 (11) |
| 80 | 100 | 119 | 45.24 | 1125.00 | 395.72 | 992.90 | 0.0000 | 0.00 | 0.000 (11) |
| 81 | 100 | 120 | 45.24 | 1125.00 | 410.71 | 1007.33 | 0.0000 | 0.00 | 0.000 (11) |

Mensola valle

Apertura limite fessure $w_{lim}=0.20$

| n° | B | H | Af | Aeff | M | Mpf | ε | Sm | w |
|----|------|------|-------|---------|-------|---------|--------|------|------------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kNm] | [%] | [mm] | [mm] |
| 1 | 100 | 50 | 0.00 | 0.00 | 0.00 | 0.00 | 0.0000 | 0.00 | 0.000 (11) |
| 2 | 100 | 50 | 0.00 | 0.00 | -0.05 | 0.00 | 0.0000 | 0.00 | 0.000 (11) |
| 3 | 100 | 50 | 8.04 | 1125.00 | -0.19 | -143.03 | 0.0000 | 0.00 | 0.000 (11) |
| 4 | 100 | 50 | 8.04 | 1125.00 | -0.42 | -143.03 | 0.0000 | 0.00 | 0.000 (11) |
| 5 | 100 | 50 | 8.04 | 1125.00 | -0.75 | -143.03 | 0.0000 | 0.00 | 0.000 (11) |

Piastra fondazione

Apertura limite fessure $w_{lim}=0.20$

| Is | B | H | Af | Aeff | M | Mpf | ε | Sm | w |
|--------|------|------|-------|---------|---------|----------|--------|------|-------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kNm] | [%] | [mm] | [mm] |
| 1-1-P | 100 | 150 | 10.05 | 1125.00 | 0.58 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 1-2-P | 100 | 150 | 10.05 | 1125.00 | 1.13 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 1-3-P | 100 | 150 | 10.05 | 1125.00 | -6.08 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 1-4-P | 100 | 150 | 10.05 | 1125.00 | -16.88 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 1-5-P | 100 | 150 | 10.05 | 1125.00 | -38.46 | -1235.64 | 0.0000 | 0.00 | 0.000 |
| 1-6-P | 100 | 150 | 10.05 | 1125.00 | -74.71 | -1235.64 | 0.0000 | 0.00 | 0.000 |
| 1-7-P | 100 | 150 | 10.05 | 1125.00 | -126.80 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 1-8-P | 100 | 150 | 10.05 | 1125.00 | -216.53 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 1-9-P | 100 | 150 | 10.05 | 1125.00 | -208.88 | -1235.64 | 0.0000 | 0.00 | 0.000 |
| 1-10-P | 100 | 150 | 10.05 | 1125.00 | -216.53 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 1-11-P | 100 | 150 | 10.05 | 1125.00 | -126.80 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 1-12-P | 100 | 150 | 10.05 | 1125.00 | -74.71 | -1235.64 | 0.0000 | 0.00 | 0.000 |
| 1-13-P | 100 | 150 | 10.05 | 1125.00 | -38.46 | -1235.64 | 0.0000 | 0.00 | 0.000 |
| 1-14-P | 100 | 150 | 10.05 | 1125.00 | -16.88 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 1-15-P | 100 | 150 | 10.05 | 1125.00 | -6.08 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 1-16-P | 100 | 150 | 10.05 | 1125.00 | 1.13 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 1-17-P | 100 | 150 | 10.05 | 1125.00 | 0.58 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 2-1-P | 100 | 150 | 10.05 | 1125.00 | 12.98 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 2-2-P | 100 | 150 | 10.05 | 1125.00 | 16.04 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 2-3-P | 100 | 150 | 10.05 | 1125.00 | 24.12 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 2-4-P | 100 | 150 | 10.05 | 1125.00 | 24.88 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 2-5-P | 100 | 150 | 10.05 | 1125.00 | -19.54 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 2-6-P | 100 | 150 | 10.05 | 1125.00 | -45.03 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 2-7-P | 100 | 150 | 10.05 | 1125.00 | -84.97 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 2-8-P | 100 | 150 | 10.05 | 1125.00 | -98.22 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 2-9-P | 100 | 150 | 10.05 | 1125.00 | -134.14 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 2-10-P | 100 | 150 | 10.05 | 1125.00 | -98.22 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 2-11-P | 100 | 150 | 10.05 | 1125.00 | -84.97 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 2-12-P | 100 | 150 | 10.05 | 1125.00 | -45.03 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 2-13-P | 100 | 150 | 10.05 | 1125.00 | -19.54 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 2-14-P | 100 | 150 | 10.05 | 1125.00 | 24.88 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 2-15-P | 100 | 150 | 10.05 | 1125.00 | 24.12 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 2-16-P | 100 | 150 | 10.05 | 1125.00 | 16.04 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 2-17-P | 100 | 150 | 10.05 | 1125.00 | 12.98 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 5-1-P | 80 | 150 | 8.04 | 900.00 | 10.52 | 988.51 | 0.0000 | 0.00 | 0.000 |
| 5-2-P | 80 | 150 | 8.04 | 900.00 | 13.64 | 988.51 | 0.0000 | 0.00 | 0.000 |
| 5-3-P | 80 | 150 | 8.04 | 900.00 | 22.23 | 988.51 | 0.0000 | 0.00 | 0.000 |
| 5-4-P | 80 | 150 | 8.04 | 900.00 | 26.17 | 988.51 | 0.0000 | 0.00 | 0.000 |
| 5-5-P | 80 | 150 | 8.04 | 900.00 | 28.53 | 988.51 | 0.0000 | 0.00 | 0.000 |
| 5-6-P | 80 | 150 | 8.04 | 900.00 | 28.19 | 988.51 | 0.0000 | 0.00 | 0.000 |
| 5-7-P | 80 | 150 | 8.04 | 900.00 | 24.29 | 988.51 | 0.0000 | 0.00 | 0.000 |

| Is | B | H | Af | Aeff | M | Mpf | ε | Sm | w |
|--------|------|------|-------|---------|---------|---------|--------|------|-------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kNm] | [%] | [mm] | [mm] |
| 5-8-P | 80 | 150 | 8.04 | 900.00 | 19.19 | 988.51 | 0.0000 | 0.00 | 0.000 |
| 5-9-P | 80 | 150 | 8.04 | 900.00 | -21.11 | 988.51 | 0.0000 | 0.00 | 0.000 |
| 5-10-P | 80 | 150 | 8.04 | 900.00 | 19.19 | 988.51 | 0.0000 | 0.00 | 0.000 |
| 5-11-P | 80 | 150 | 8.04 | 900.00 | 24.29 | 988.51 | 0.0000 | 0.00 | 0.000 |
| 5-12-P | 80 | 150 | 8.04 | 900.00 | 28.19 | 988.51 | 0.0000 | 0.00 | 0.000 |
| 5-13-P | 80 | 150 | 8.04 | 900.00 | 28.53 | 988.51 | 0.0000 | 0.00 | 0.000 |
| 5-14-P | 80 | 150 | 8.04 | 900.00 | 26.17 | 988.51 | 0.0000 | 0.00 | 0.000 |
| 5-15-P | 80 | 150 | 8.04 | 900.00 | 22.23 | 988.51 | 0.0000 | 0.00 | 0.000 |
| 5-16-P | 80 | 150 | 8.04 | 900.00 | 13.64 | 988.51 | 0.0000 | 0.00 | 0.000 |
| 5-17-P | 80 | 150 | 8.04 | 900.00 | 10.52 | 988.51 | 0.0000 | 0.00 | 0.000 |
| 6-1-P | 80 | 150 | 8.04 | 900.00 | -1.70 | 988.51 | 0.0000 | 0.00 | 0.000 |
| 6-2-P | 80 | 150 | 8.04 | 900.00 | 3.68 | 988.51 | 0.0000 | 0.00 | 0.000 |
| 6-3-P | 80 | 150 | 8.04 | 900.00 | 9.29 | 988.51 | 0.0000 | 0.00 | 0.000 |
| 6-4-P | 80 | 150 | 8.04 | 900.00 | -15.22 | 988.51 | 0.0000 | 0.00 | 0.000 |
| 6-5-P | 80 | 150 | 8.04 | 900.00 | -28.80 | 988.51 | 0.0000 | 0.00 | 0.000 |
| 6-6-P | 80 | 150 | 8.04 | 900.00 | -52.19 | 988.51 | 0.0000 | 0.00 | 0.000 |
| 6-7-P | 80 | 150 | 8.04 | 900.00 | -90.45 | 988.51 | 0.0000 | 0.00 | 0.000 |
| 6-8-P | 80 | 150 | 8.04 | 900.00 | -158.78 | 988.51 | 0.0000 | 0.00 | 0.000 |
| 6-9-P | 80 | 150 | 8.04 | 900.00 | -127.79 | -988.51 | 0.0000 | 0.00 | 0.000 |
| 6-10-P | 80 | 150 | 8.04 | 900.00 | -158.78 | 988.51 | 0.0000 | 0.00 | 0.000 |
| 6-11-P | 80 | 150 | 8.04 | 900.00 | -90.45 | 988.51 | 0.0000 | 0.00 | 0.000 |
| 6-12-P | 80 | 150 | 8.04 | 900.00 | -52.19 | 988.51 | 0.0000 | 0.00 | 0.000 |
| 6-13-P | 80 | 150 | 8.04 | 900.00 | -28.80 | 988.51 | 0.0000 | 0.00 | 0.000 |
| 6-14-P | 80 | 150 | 8.04 | 900.00 | -15.22 | 988.51 | 0.0000 | 0.00 | 0.000 |
| 6-15-P | 80 | 150 | 8.04 | 900.00 | 9.29 | 988.51 | 0.0000 | 0.00 | 0.000 |
| 6-16-P | 80 | 150 | 8.04 | 900.00 | 3.68 | 988.51 | 0.0000 | 0.00 | 0.000 |
| 6-17-P | 80 | 150 | 8.04 | 900.00 | -1.70 | 988.51 | 0.0000 | 0.00 | 0.000 |
| 7-1-P | 80 | 150 | 8.04 | 900.00 | -0.58 | 988.51 | 0.0000 | 0.00 | 0.000 |
| 7-2-P | 80 | 150 | 8.04 | 900.00 | -3.88 | 988.51 | 0.0000 | 0.00 | 0.000 |
| 7-3-P | 80 | 150 | 8.04 | 900.00 | -16.49 | 988.51 | 0.0000 | 0.00 | 0.000 |
| 7-4-P | 80 | 150 | 8.04 | 900.00 | -36.43 | 988.51 | 0.0000 | 0.00 | 0.000 |
| 7-5-P | 80 | 150 | 8.04 | 900.00 | -64.44 | 988.51 | 0.0000 | 0.00 | 0.000 |
| 7-6-P | 80 | 150 | 8.04 | 900.00 | -99.56 | 988.51 | 0.0000 | 0.00 | 0.000 |
| 7-7-P | 80 | 150 | 8.04 | 900.00 | -133.26 | 988.51 | 0.0000 | 0.00 | 0.000 |
| 7-8-P | 80 | 150 | 8.04 | 900.00 | -143.47 | -988.51 | 0.0000 | 0.00 | 0.000 |
| 7-9-P | 80 | 150 | 8.04 | 900.00 | -169.49 | -988.51 | 0.0000 | 0.00 | 0.000 |
| 7-10-P | 80 | 150 | 8.04 | 900.00 | -143.47 | -988.51 | 0.0000 | 0.00 | 0.000 |
| 7-11-P | 80 | 150 | 8.04 | 900.00 | -133.26 | 988.51 | 0.0000 | 0.00 | 0.000 |
| 7-12-P | 80 | 150 | 8.04 | 900.00 | -99.56 | 988.51 | 0.0000 | 0.00 | 0.000 |
| 7-13-P | 80 | 150 | 8.04 | 900.00 | -64.44 | 988.51 | 0.0000 | 0.00 | 0.000 |
| 7-14-P | 80 | 150 | 8.04 | 900.00 | -36.43 | 988.51 | 0.0000 | 0.00 | 0.000 |
| 7-15-P | 80 | 150 | 8.04 | 900.00 | -16.49 | 988.51 | 0.0000 | 0.00 | 0.000 |
| 7-16-P | 80 | 150 | 8.04 | 900.00 | -3.88 | 988.51 | 0.0000 | 0.00 | 0.000 |
| 7-17-P | 80 | 150 | 8.04 | 900.00 | -0.58 | 988.51 | 0.0000 | 0.00 | 0.000 |
| 8-1-S | 95 | 150 | 40.72 | 1071.56 | -0.73 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 8-2-S | 95 | 150 | 40.72 | 1071.56 | -4.23 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 8-3-S | 95 | 150 | 40.72 | 1071.56 | -6.80 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 8-4-S | 95 | 150 | 40.72 | 1071.56 | -6.34 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 8-5-S | 95 | 150 | 40.72 | 1071.56 | 20.59 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 8-6-S | 95 | 150 | 40.72 | 1071.56 | 54.68 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 8-7-S | 95 | 150 | 40.72 | 1071.56 | 100.98 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 8-8-S | 95 | 150 | 40.72 | 1071.56 | 156.59 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 8-9-S | 95 | 150 | 40.72 | 1071.56 | 216.19 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 8-10-S | 95 | 150 | 40.72 | 1071.56 | 116.77 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 8-11-S | 95 | 150 | 40.72 | 1071.56 | 130.54 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 8-12-S | 95 | 150 | 40.72 | 1071.56 | 130.59 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 8-13-S | 95 | 150 | 40.72 | 1071.56 | 121.32 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 8-14-S | 95 | 150 | 40.72 | 1071.56 | 104.43 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 8-15-S | 95 | 150 | 40.72 | 1071.56 | 83.47 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 8-16-S | 95 | 150 | 40.72 | 1071.56 | 62.12 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 8-17-S | 95 | 150 | 40.72 | 1071.56 | 42.45 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 8-18-S | 95 | 150 | 40.72 | 1071.56 | 25.19 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 8-19-S | 95 | 150 | 40.72 | 1071.56 | 10.84 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 8-20-S | 95 | 150 | 40.72 | 1071.56 | 1.16 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 9-1-S | 95 | 150 | 45.24 | 1071.56 | -2.67 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 9-2-S | 95 | 150 | 45.24 | 1071.56 | 13.91 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 9-3-S | 95 | 150 | 45.24 | 1071.56 | 32.49 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 9-4-S | 95 | 150 | 45.24 | 1071.56 | 71.91 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 9-5-S | 95 | 150 | 45.24 | 1071.56 | -123.01 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 9-6-S | 95 | 150 | 45.24 | 1071.56 | -179.04 | 1398.75 | 0.0000 | 0.00 | 0.000 |

| Is | B | H | Af | Aeff | M | Mpf | ε | Sm | w |
|---------|------|------|-------|---------|---------|---------|--------|------|-------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kNm] | [%] | [mm] | [mm] |
| 9-7-S | 95 | 150 | 45.24 | 1071.56 | -68.28 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 9-8-S | 95 | 150 | 45.24 | 1071.56 | 106.56 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 9-9-S | 95 | 150 | 45.24 | 1071.56 | 259.14 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 9-10-S | 95 | 150 | 45.24 | 1071.56 | 241.01 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 9-11-S | 95 | 150 | 45.24 | 1071.56 | 233.51 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 9-12-S | 95 | 150 | 45.24 | 1071.56 | 230.10 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 9-13-S | 95 | 150 | 45.24 | 1071.56 | 219.49 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 9-14-S | 95 | 150 | 45.24 | 1071.56 | 204.92 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 9-15-S | 95 | 150 | 45.24 | 1071.56 | 200.56 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 9-16-S | 95 | 150 | 45.24 | 1071.56 | -59.24 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 9-17-S | 95 | 150 | 45.24 | 1071.56 | -126.21 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 9-18-S | 95 | 150 | 45.24 | 1071.56 | -73.32 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 9-19-S | 95 | 150 | 45.24 | 1071.56 | -25.96 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 9-20-S | 95 | 150 | 45.24 | 1071.56 | 3.82 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 10-1-S | 95 | 150 | 45.24 | 1071.56 | -2.67 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 10-2-S | 95 | 150 | 45.24 | 1071.56 | 13.91 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 10-3-S | 95 | 150 | 45.24 | 1071.56 | 32.49 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 10-4-S | 95 | 150 | 45.24 | 1071.56 | 71.91 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 10-5-S | 95 | 150 | 45.24 | 1071.56 | -123.01 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 10-6-S | 95 | 150 | 45.24 | 1071.56 | -179.04 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 10-7-S | 95 | 150 | 45.24 | 1071.56 | -68.28 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 10-8-S | 95 | 150 | 45.24 | 1071.56 | 106.56 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 10-9-S | 95 | 150 | 45.24 | 1071.56 | 259.14 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 10-10-S | 95 | 150 | 45.24 | 1071.56 | 241.01 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 10-11-S | 95 | 150 | 45.24 | 1071.56 | 233.51 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 10-12-S | 95 | 150 | 45.24 | 1071.56 | 230.10 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 10-13-S | 95 | 150 | 45.24 | 1071.56 | 219.49 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 10-14-S | 95 | 150 | 45.24 | 1071.56 | 204.92 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 10-15-S | 95 | 150 | 45.24 | 1071.56 | 200.56 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 10-16-S | 95 | 150 | 45.24 | 1071.56 | -59.24 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 10-17-S | 95 | 150 | 45.24 | 1071.56 | -126.21 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 10-18-S | 95 | 150 | 45.24 | 1071.56 | -73.32 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 10-19-S | 95 | 150 | 45.24 | 1071.56 | -25.96 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 10-20-S | 95 | 150 | 45.24 | 1071.56 | 3.82 | 1398.75 | 0.0000 | 0.00 | 0.000 |
| 11-1-S | 95 | 150 | 40.72 | 1071.56 | -0.73 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 11-2-S | 95 | 150 | 40.72 | 1071.56 | -4.23 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 11-3-S | 95 | 150 | 40.72 | 1071.56 | -6.80 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 11-4-S | 95 | 150 | 40.72 | 1071.56 | -6.34 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 11-5-S | 95 | 150 | 40.72 | 1071.56 | 20.59 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 11-6-S | 95 | 150 | 40.72 | 1071.56 | 54.68 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 11-7-S | 95 | 150 | 40.72 | 1071.56 | 100.98 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 11-8-S | 95 | 150 | 40.72 | 1071.56 | 156.59 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 11-9-S | 95 | 150 | 40.72 | 1071.56 | 216.19 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 11-10-S | 95 | 150 | 40.72 | 1071.56 | 116.77 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 11-11-S | 95 | 150 | 40.72 | 1071.56 | 130.54 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 11-12-S | 95 | 150 | 40.72 | 1071.56 | 130.59 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 11-13-S | 95 | 150 | 40.72 | 1071.56 | 121.32 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 11-14-S | 95 | 150 | 40.72 | 1071.56 | 104.43 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 11-15-S | 95 | 150 | 40.72 | 1071.56 | 83.47 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 11-16-S | 95 | 150 | 40.72 | 1071.56 | 62.12 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 11-17-S | 95 | 150 | 40.72 | 1071.56 | 42.45 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 11-18-S | 95 | 150 | 40.72 | 1071.56 | 25.19 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 11-19-S | 95 | 150 | 40.72 | 1071.56 | 10.84 | 1370.62 | 0.0000 | 0.00 | 0.000 |
| 11-20-S | 95 | 150 | 40.72 | 1071.56 | 1.16 | 1370.62 | 0.0000 | 0.00 | 0.000 |

Elenco ferri

Simbologia adottata

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

Paramento

| n° | Tipo | nf | D [mm] | L [m] | P _f [kN] | P _{gr} [kN] | V _{cls} [mc] |
|------------------------|-------------------|----|-----------|----------|------------------------|-------------------------|--------------------------|
| 1 | Diritto inferiore | 5 | 20.00 | 8.74 | 0.2115 | 1.0575 | |
| 2 | Diritto superiore | 10 | 24.00 | 5.19 | 0.1809 | 1.8086 | |
| 3 | Diritto superiore | 4 | 24.00 | 8.94 | 0.3113 | 1.2451 | |
| 4 | Diritto inferiore | 5 | 20.00 | 5.56 | 0.1343 | 0.6717 | |
| 5 | Ripartitore | 87 | 10.00 | 1.00 | 0.0060 | 0.5260 | |
| Totale al metro | | | | | | 5.8350 | 6.57 |
| Totale | | | | | | 2137.12 | 25.05 |

Mensola valle

| n° | Tipo | nf | D [mm] | L [m] | P _f [kN] | P _{gr} [kN] | V _{cls} [mc] |
|------------------------|-------------------|----|-----------|----------|------------------------|-------------------------|--------------------------|
| 1 | Diritto inferiore | 4 | 16.00 | 1.63 | 0.0252 | 0.1009 | |
| 2 | Diritto superiore | 4 | 16.00 | 1.63 | 0.0252 | 0.1009 | |
| 3 | Ripartitore | 2 | 10.00 | 1.00 | 0.0060 | 0.0121 | |
| Totale al metro | | | | | | 5.8350 | 6.57 |
| Totale | | | | | | 2137.12 | 25.05 |

Piastra fondazione

| n° | Tipo | nf | D [mm] | L [m] | P _f [kN] | P _{gr} [kN] | V _{cls} [mc] |
|---------------|-----------------------------------|----|-----------|----------|------------------------|-------------------------|--------------------------|
| 1 | Sagomato superiore Verticale | 16 | 16.00 | 4.56 | 0.0706 | 1.1303 | |
| 2 | Diritto inferiore Orizzontale [M] | 22 | 16.00 | 6.54 | 0.1012 | 2.2270 | |
| 3 | Diritto superiore Orizzontale [M] | 22 | 16.00 | 6.54 | 0.1012 | 2.2270 | |
| 4 | Diritto inferiore Verticale | 38 | 24.00 | 8.33 | 0.2901 | 11.0239 | |
| 5 | Diritto superiore Verticale | 38 | 24.00 | 8.33 | 0.2901 | 11.0239 | |
| Totale | | | | | | 27.6321 | 32.00 |

13 ALLEGATO 4 – TABULATI DI CALCOLO – VERIFICHE STRUTTURALI E GEOTECNICHE DEI MURI - MURO TIPO MA H10 (H=10 M)

Dati

Materiali

Simbologia adottata

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

Calcestruzzo armato

| n° | Descr | C | A | γ | R _{ck} | E | ν | n | ntc |
|----|--------|--------|-------|----------|-----------------|----------|-------|-------|------|
| | | | | [kN/mc] | [kPa] | [kPa] | | | |
| 4 | C32/40 | C32/40 | B450C | 24.5170 | 40000 | 33346000 | 0.30 | 15.00 | 0.50 |

Acciai

| Descr | f _{yk} | f _{uk} |
|-------|-----------------|-----------------|
| | [kPa] | [kPa] |
| B450C | 449936 | 539963 |

Tipologie pali

Simbologia adottata

| | |
|--------|--|
| n° | Indice tipologia palo |
| Descr | Descrizione tipologia palo |
| P | Contributo portanza palo (laterale e/o punta) |
| T | Tecnologia costruttiva (trivellato, infisso o elica continua) |
| V | Vincolo palo-fondazione: Cerniera o Incastro (libero o impedito di ruotare in testa) |
| Imat | Indice materiale che lo costituisce |
| BD | usa metodo di Bustamante-Doix |
| PN | Portanza nota |
| Pp, PI | Portanza di punta e laterale caratteristica, espressa in [kN] |

| n° | Descr | P | T | V | Imat | BD | PN | Pp | PI |
|----|-------------|------------------|------------|----------|------|----|----|----|----|
| 1 | Tipologia 1 | Laterale + Punta | Trivellato | Incastro | 4 | NO | NO | -- | -- |

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 | 1.00 | 0.00 | 0.000 |

| n° | X | Y | A |
|----|-------|------|-------|
| | [m] | [m] | [°] |
| 3 | 8.50 | 0.00 | 0.000 |
| 4 | 25.00 | 0.00 | 0.000 |

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

Falda

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 | -4.00 | -11.50 | 0.000 |
| 2 | 10.00 | -11.50 | 0.000 |

Geometria muro

Geometria paramento e fondazione

Paramento

| | | |
|--|---------|---------|
| Materiale | C32/40 | |
| Altezza paramento | 10.00 | [m] |
| Altezza paramento libero | 10.00 | [m] |
| Spessore in sommità | 0.40 | [m] |
| Spessore all'attacco con la fondazione | 1.40 | [m] |
| Inclinazione paramento esterno | 0.00 | [°] |
| Inclinazione paramento interno | 5.71 | [°] |
| Spessore rivestimento | 0.15 | [m] |
| Peso sp. rivestimento | 20.0000 | [kN/mc] |

Mensola di marciapiede

| | | |
|--|------|-----|
| Posizione rispetto alla testa del muro | 0.00 | [m] |
| Lunghezza | 0.35 | [m] |
| Spessore all'estremità libera | 0.50 | [m] |
| Spessore all'incastro | 0.50 | [m] |

Fondazione

| | | |
|----------------------------|--------|-----|
| Materiale | C32/40 | |
| Lunghezza mensola di valle | 2.00 | [m] |
| Lunghezza mensola di monte | 5.33 | [m] |
| Lunghezza totale | 8.73 | [m] |
| Inclinazione piano di posa | 0.00 | [°] |
| Spessore | 1.50 | [m] |
| Spessore magrone | 0.20 | [m] |

Descrizione pali di fondazione

Simbologia adottata

n° numero d'ordine della fila
X ascissa della fila misurata dallo spigolo di monte della fondazione espressa in [m]
I interasse tra i pali, espressa in [m]
f franco laterale (distanza minima dal bordo laterale), espressa in [m]
Np Numero di pali della fila
D diametro dei pali della fila espresso in [cm]
L lunghezza dei pali della fila espressa in [m]
 α inclinazione dei pali della fila rispetto alla verticale espressa in [°]
ALL allineamento dei pali della fila rispetto al baricentro della fondazione (CENTRATI o SFALSATI)

| n° | Tipologia | X [m] | I [m] | f [m] | Np | D [cm] | L [m] | α [°] | ALL |
|----|-------------|----------|----------|----------|----|-----------|----------|-----------------|----------|
| 1 | Tipologia 1 | 1.00 | 3.65 | 0.20 | 1 | 120.00 | 25.00 | 0.00 | Centrati |
| 2 | Tipologia 1 | 4.37 | 3.65 | 0.20 | 1 | 120.00 | 25.00 | 0.00 | Centrati |
| 3 | Tipologia 1 | 7.73 | 3.65 | 0.20 | 1 | 120.00 | 25.00 | 0.00 | Centrati |

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 (Q) - VARIABILE

Coeff. di combinazione $\Psi_0=0.75 - \Psi_1=0.75 - \Psi_2=0.00$

Carichi sul terreno

| n° | Tipo | X [m] | F_x [kN] | F_y [kN] | M [kNm] | X_i [m] | X_f [m] | Q_i [kN] | Q_f [kN] |
|----|-------------|----------|---------------|---------------|------------|--------------|--------------|---------------|---------------|
| 1 | Distribuito | | | | | 1.50 | 25.00 | 20.0000 | 20.0000 |

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 | | |
|----------------------------|-------------|---------------------|-----------------------|------|------|------|------|-----------------------|------|------|
| | | | HYD | UPL | EQU | A1 | A2 | EQU | A1 | A2 |
| Permanenti strutturali | Favorevoli | $\gamma_{G1, fav}$ | 1.00 | 0.90 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Permanenti strutturali | Sfavorevoli | $\gamma_{G1, sfav}$ | 1.00 | 1.10 | 1.30 | 1.30 | 1.00 | 1.00 | 1.00 | 1.00 |
| Permanenti non strutturali | Favorevoli | $\gamma_{G2, fav}$ | 0.00 | 0.80 | 0.80 | 0.80 | 0.80 | 0.00 | 0.00 | 0.00 |
| Permanenti non strutturali | Sfavorevoli | $\gamma_{G2, sfav}$ | 1.00 | 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 | 0.00 |
| Variabili | Sfavorevoli | $\gamma_{Q, sfav}$ | 1.00 | 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 | 0.00 |
| Variabili da traffico | Sfavorevoli | $\gamma_{QT, sfav}$ | 1.00 | 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 | γ_c | 1.00 | 1.25 | 1.00 | 1.00 |
| Resistenza non drenata | γ_{cu} | 1.00 | 1.40 | 1.00 | 1.00 |
| Peso nell'unità di volume | γ_r | 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 |
| Ribaltamento | -- | -- | 1.15 | -- | -- | 1.00 |
| Stabilità fronte di scavo | -- | 1.10 | -- | -- | 1.20 | -- |

Carichi verticali. Coeff. parziali γ_R da applicare alle resistenze caratteristiche

| Resistenza | | Pali infissi | | | Pali trivellati | | | Pali ad elica continua | | |
|-----------------------|---------------|--------------|----|------|-----------------|----|------|------------------------|----|------|
| | | R1 | R2 | R3 | R1 | R2 | R3 | R1 | R2 | R3 |
| Punta | γ_b | -- | -- | 1.15 | -- | -- | 1.35 | -- | -- | 1.30 |
| Laterale compressione | γ_s | -- | -- | 1.15 | -- | -- | 1.15 | -- | -- | 1.15 |
| Totale compressione | γ_t | -- | -- | 1.15 | -- | -- | 1.30 | -- | -- | 1.25 |
| Laterale trazione | γ_{st} | -- | -- | 1.25 | -- | -- | 1.25 | -- | -- | 1.25 |

Carichi trasversali. Coeff. parziali γ_R da applicare alle resistenze caratteristiche

| | | R1 | R2 | R3 |
|-------------|------------|----|----|------|
| Trasversale | γ_t | -- | -- | 1.30 |

Coefficienti di riduzione ζ per la determinazione della resistenza caratteristica dei pali

Numero di verticali indagate 1

$\zeta_3=1.70$ $\zeta_4=1.70$

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):

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

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

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

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

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

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

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

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

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

I valori dei coeff. $\Psi_{0,j}$, $\Psi_{1,j}$, $\Psi_{2,j}$ sono definiti nelle singole condizioni variabili. per 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 | γ | Ψ | Effetto |
|-----------------|----------|--------|-------------|
| Peso muro | 1.00 | -- | Favorevole |
| Peso terrapieno | 1.00 | -- | Favorevole |
| Spinta terreno | 1.30 | -- | Sfavorevole |
| Q | 1.50 | 1.00 | Sfavorevole |

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

| Condizione | γ | Ψ | Effetto |
|------------|----------|--------|---------|
|------------|----------|--------|---------|

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

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

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

Combinazione n° 5 - GEO (A2-M2-R2)

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

Combinazione n° 6 - GEO (A2-M2-R2)

| Condizione | γ | Ψ | Effetto |
|-----------------|----------|--------|-------------|
| Peso muro | 1.00 | -- | Sfavorevole |
| Peso terrapieno | 1.00 | -- | Sfavorevole |
| Spinta terreno | 1.00 | -- | Sfavorevole |
| Q | 1.30 | 1.00 | Sfavorevole |

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

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

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

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

Combinazione n° 9 - SLER

| Condizione | γ | Ψ | Effetto |
|-----------------|----------|--------|-------------|
| Peso muro | 1.00 | -- | Sfavorevole |
| Peso terrapieno | 1.00 | -- | Sfavorevole |
| Spinta terreno | 1.00 | -- | Sfavorevole |
| Q | 1.00 | 0.75 | Sfavorevole |

Combinazione n° 10 - SLEF

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

Combinazione n° 11 - SLEQ

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

Dati sismici

| | Simbolo | U.M. | SLU | SLE |
|------------------------|---------|---------------------|-------|-------|
| Accelerazione al suolo | a_g | [m/s ²] | 1.690 | 0.000 |

| | Simbolo | U.M. | | SLU | SLE |
|---|---------|------|----|-------|-------|
| Accelerazione al suolo | a_g/g | [%] | | 0.172 | 0.000 |
| Massimo fattore amplificazione spettro orizzontale | F0 | | | 2.509 | 0.000 |
| Periodo inizio tratto spettro a velocità costante | Tc* | | | 0.555 | 0.000 |
| Tipo di sottosuolo - Coefficiente stratigrafico | Ss | | B | 1.200 | 1.200 |
| Categoria topografica - Coefficiente amplificazione topografica | St | | T1 | 1.000 | |

| Stato limite ... | Coeff. di riduzione β_m | kh | kv |
|-----------------------|-------------------------------|--------|--------|
| Ultimo | 1.000 | 20.673 | 10.336 |
| Ultimo - Ribaltamento | 1.000 | 20.673 | 10.336 |
| Esercizio | 1.000 | 0.000 | 0.000 |

Forma diagramma incremento sismico **Rettangolare**

Opzioni di calcolo

Spinta

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

Stabilità globale

| | |
|---|--------|
| Metodo di calcolo della stabilità globale | Bishop |
|---|--------|

Altro

| | |
|--|-------|
| Partecipazione spinta passiva terreno antistante | 0.00 |
| Partecipazione resistenza passiva dente di fondazione | 50.00 |
| Componente verticale della spinta nel calcolo delle sollecitazioni | NO |
| Considera terreno sulla fondazione di valle | NO |
| Considera spinta e peso acqua fondazione di valle | NO |

Spostamenti

| | |
|--|-----------|
| Modello a blocchi | |
| Non è stato richiesto il calcolo degli spostamenti | |
| Spostamento limite | 1.00 [cm] |

Opzioni calcolo pali

Portanza verticale

| | |
|--|--|
| Metodo di calcolo della portanza alla punta | Hansen |
| Metodo di calcolo della portanza alla laterale | Integrazione delle tensioni tangenziali ($k_s \sigma_v \tan(\delta) + ca$) |
| Correzione angolo di attrito in funzione del tipo di palo (infilso/trivellato) | Non attiva |
| Andamento pressione verticale nel calcolo della portanza alla punta σ_v con la profondità | Pressione geostatica |
| Andamento pressione verticale nel calcolo della portanza laterale | Pressione geostatica |

Portanza trasversale

| | |
|-------------------------------|--|
| Critero rottura palo-terreno | |
| - Spostamento limite | Non attivo |
| - Pressione limite | Pressione limite costante $p_l = 9.18$ [kPa] |
| - Palo infinitamente elastico | Non attivo |

Cedimenti

| | |
|-------------------------------|-----------------------------|
| Metodo di calcolo | Metodo agli elementi finiti |
| Spostamento limite alla punta | 1.00 [cm] |
| Spostamento limite laterale | 0.50 [cm] |

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

| | |
|---------------------------------|------------|
| 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.

Valori limite aperture delle fessure:

$$w_1=0.20$$

$$w_2=0.30$$

$$w_3=0.40$$

Verifica delle tensioni

Valori limite delle tensioni nei materiali:

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

Risultati per inviluppo

Spinta e forze

Simbologia adottata

| | |
|---------------------------------|--|
| Ic | Indice della combinazione |
| A | Tipo azione |
| I | Inclinazione della spinta, espressa in [°] |
| V | Valore dell'azione, espressa in [kN] |
| C _x , C _y | Componente in direzione X ed Y dell'azione, espressa in [kN] |
| P _x , P _y | Coordinata X ed Y del punto di applicazione dell'azione, espressa in [m] |

| Ic | A | V | I | C _x | C _y | P _x | P _y |
|----|---|--------|--------|----------------|----------------|----------------|----------------|
| | | [kN] | [°] | [kN] | [kN] | [m] | [m] |
| 3 | Spinta statica | 290.91 | 23.33 | 267.12 | 115.22 | 6.33 | -7.67 |
| | Incremento di spinta sismica | | 199.31 | 183.01 | 78.94 | 6.33 | -5.75 |
| | Peso/Inerzia muro | | | 112.87 | 545.98/56.43 | 1.19 | -8.72 |
| | Peso/Inerzia rivestimento | | | 6.20 | 30.00 | 0.00 | 0.00 |
| | Peso/Inerzia terrapieno | | | 216.94 | 1049.39/108.47 | 3.41 | -4.86 |
| | Peso dell'acqua sulla fondazione di valle | | | | 0.00 | 0.00 | 0.00 |
| | Resistenza pali | | | -830.54 | | | |

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) | 1775.16 | 347.25 | 1331.16 | 9434.24 | -0.200 |
| 2 - STR (A1-M1-R3) | 1953.45 | 424.68 | 1776.36 | 10604.59 | -0.154 |
| 3 - STR (A1-M1-R3) | 1984.44 | 786.13 | 3902.68 | 10654.17 | 0.963 |
| 4 - STR (A1-M1-R3) | 1634.78 | 740.11 | 4470.59 | 9648.30 | 1.198 |

Sollecitazioni

Elementi calcolati a trave

Simbologia adottata

| | |
|---|---|
| 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) |

Elementi calcolati a piastra

Simbologia adottata

| | |
|---------------------------------|---|
| M _x , M _y | Momenti flettenti, espresso in [kNm] |
| M _{xy} | Momento torcente, espresso in [kNm]. Positivo se diretto da monte verso valle |
| T _x , T _y | Tagli, espresso in [kN]. Positivo se tende le fibre contro terra (a monte) |

I momenti flettenti sono positivi se tendono le fibre inferiori (intradosso fondazione, paramento esterno)

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 | 4.29 | 4.73 | 0.00 | 0.00 | 0.75 | 0.83 |
| 2 | -0.10 | 5.28 | 5.73 | 0.02 | 1.66 | 0.75 | 0.91 |
| 3 | -0.20 | 6.30 | 6.74 | 0.09 | 3.38 | 0.77 | 1.17 |
| 4 | -0.30 | 7.34 | 7.79 | 0.20 | 5.14 | 0.79 | 1.61 |
| 5 | -0.40 | 8.41 | 8.85 | 0.36 | 6.96 | 0.84 | 2.23 |
| 6 | -0.50 | 9.50 | 9.94 | 0.56 | 8.82 | 0.91 | 3.05 |
| 7 | -0.60 | 10.62 | 11.06 | 0.81 | 10.74 | 1.01 | 4.05 |
| 8 | -0.70 | 11.76 | 12.20 | 1.10 | 12.70 | 1.14 | 5.26 |
| 9 | -0.80 | 12.92 | 13.36 | 1.44 | 14.72 | 1.30 | 6.67 |
| 10 | -0.90 | 14.11 | 14.55 | 1.82 | 16.78 | 1.51 | 8.29 |

| n° | X | N _{min} | N _{max} | T _{min} | T _{max} | M _{min} | M _{max} |
|----|-------|------------------|------------------|------------------|------------------|------------------|------------------|
| | [m] | [kN] | [kN] | [kN] | [kN] | [kNm] | [kNm] |
| 11 | -1.00 | 15.32 | 15.77 | 2.25 | 18.89 | 1.77 | 10.12 |
| 12 | -1.10 | 16.56 | 17.00 | 2.72 | 21.06 | 2.07 | 12.18 |
| 13 | -1.20 | 17.82 | 18.27 | 3.24 | 23.27 | 2.44 | 14.46 |
| 14 | -1.30 | 19.11 | 19.55 | 3.80 | 25.54 | 2.86 | 16.97 |
| 15 | -1.40 | 20.42 | 20.87 | 4.41 | 27.85 | 3.35 | 19.72 |
| 16 | -1.50 | 21.76 | 22.20 | 5.06 | 30.22 | 3.90 | 22.70 |
| 17 | -1.60 | 23.12 | 23.56 | 5.76 | 32.63 | 4.54 | 25.94 |
| 18 | -1.70 | 24.50 | 24.95 | 6.50 | 35.10 | 5.25 | 29.42 |
| 19 | -1.80 | 25.91 | 26.36 | 7.29 | 37.61 | 6.04 | 33.16 |
| 20 | -1.90 | 27.35 | 27.79 | 8.12 | 40.18 | 6.92 | 37.16 |
| 21 | -2.00 | 28.81 | 29.25 | 9.00 | 42.79 | 7.90 | 41.43 |
| 22 | -2.10 | 30.29 | 30.73 | 9.92 | 45.45 | 8.97 | 45.97 |
| 23 | -2.20 | 31.80 | 32.24 | 10.89 | 48.17 | 10.14 | 50.78 |
| 24 | -2.30 | 33.33 | 33.77 | 11.90 | 50.93 | 11.42 | 55.88 |
| 25 | -2.40 | 34.89 | 35.33 | 12.96 | 53.75 | 12.81 | 61.26 |
| 26 | -2.50 | 36.47 | 36.91 | 14.06 | 56.61 | 14.32 | 66.93 |
| 27 | -2.60 | 38.07 | 38.52 | 15.20 | 59.53 | 15.95 | 72.91 |
| 28 | -2.70 | 39.70 | 40.15 | 16.40 | 62.49 | 17.70 | 79.18 |
| 29 | -2.80 | 41.36 | 41.80 | 17.63 | 65.51 | 19.58 | 85.76 |
| 30 | -2.90 | 43.04 | 43.48 | 18.91 | 68.58 | 21.60 | 92.65 |
| 31 | -3.00 | 44.74 | 45.19 | 20.24 | 71.69 | 23.75 | 99.86 |
| 32 | -3.10 | 46.47 | 46.91 | 21.61 | 74.86 | 26.05 | 107.40 |
| 33 | -3.20 | 48.22 | 48.67 | 23.03 | 78.07 | 28.50 | 115.26 |
| 34 | -3.30 | 50.00 | 50.44 | 24.49 | 81.34 | 31.10 | 123.45 |
| 35 | -3.40 | 51.80 | 52.25 | 26.00 | 84.65 | 33.86 | 131.99 |
| 36 | -3.50 | 53.63 | 54.07 | 27.55 | 88.02 | 36.78 | 140.86 |
| 37 | -3.60 | 55.48 | 55.92 | 29.15 | 91.43 | 39.86 | 150.08 |
| 38 | -3.70 | 57.36 | 57.80 | 30.79 | 94.90 | 43.12 | 159.66 |
| 39 | -3.80 | 59.26 | 59.70 | 32.47 | 98.41 | 46.55 | 169.60 |
| 40 | -3.90 | 61.18 | 61.62 | 34.21 | 101.98 | 50.16 | 179.89 |
| 41 | -4.00 | 63.13 | 63.57 | 35.98 | 105.60 | 53.96 | 190.56 |
| 42 | -4.10 | 65.10 | 65.55 | 37.80 | 109.26 | 57.95 | 201.60 |
| 43 | -4.20 | 67.10 | 67.54 | 39.67 | 112.98 | 62.13 | 213.02 |
| 44 | -4.30 | 69.12 | 69.57 | 41.58 | 116.74 | 66.52 | 224.83 |
| 45 | -4.40 | 71.17 | 71.61 | 43.54 | 120.56 | 71.10 | 237.02 |
| 46 | -4.50 | 73.24 | 73.69 | 45.54 | 124.42 | 75.89 | 249.61 |
| 47 | -4.60 | 75.34 | 75.78 | 47.59 | 128.34 | 80.90 | 262.60 |
| 48 | -4.70 | 77.46 | 77.90 | 49.68 | 132.31 | 86.12 | 275.99 |
| 49 | -4.80 | 79.60 | 80.05 | 51.81 | 136.32 | 91.57 | 289.79 |
| 50 | -4.90 | 81.77 | 82.22 | 54.00 | 140.39 | 97.24 | 304.01 |
| 51 | -5.00 | 83.97 | 84.41 | 56.22 | 144.50 | 103.14 | 318.65 |
| 52 | -5.10 | 86.19 | 86.63 | 58.49 | 148.67 | 109.28 | 333.71 |
| 53 | -5.20 | 88.43 | 88.87 | 60.81 | 152.89 | 115.66 | 349.20 |
| 54 | -5.30 | 90.70 | 91.14 | 63.17 | 157.15 | 122.29 | 365.13 |
| 55 | -5.40 | 92.99 | 93.43 | 65.58 | 161.47 | 129.16 | 381.50 |
| 56 | -5.50 | 95.31 | 95.75 | 68.03 | 165.84 | 136.29 | 398.31 |
| 57 | -5.60 | 97.65 | 98.09 | 70.52 | 170.25 | 143.68 | 415.58 |
| 58 | -5.70 | 100.01 | 100.46 | 73.07 | 174.72 | 151.33 | 433.30 |
| 59 | -5.80 | 102.40 | 102.85 | 75.65 | 179.23 | 159.25 | 451.48 |
| 60 | -5.90 | 104.82 | 105.26 | 78.28 | 183.80 | 167.44 | 470.13 |
| 61 | -6.00 | 107.26 | 107.70 | 80.96 | 188.42 | 175.91 | 489.25 |
| 62 | -6.10 | 109.72 | 110.16 | 83.68 | 193.08 | 184.67 | 508.84 |
| 63 | -6.20 | 112.21 | 112.65 | 86.45 | 197.80 | 193.71 | 528.92 |
| 64 | -6.30 | 114.72 | 115.17 | 89.26 | 202.57 | 203.04 | 549.48 |
| 65 | -6.40 | 117.26 | 117.70 | 92.11 | 207.38 | 212.66 | 570.54 |
| 66 | -6.50 | 119.82 | 120.26 | 95.01 | 212.25 | 222.59 | 592.09 |
| 67 | -6.60 | 122.41 | 122.85 | 97.96 | 217.17 | 232.82 | 614.15 |
| 68 | -6.70 | 125.02 | 125.46 | 100.95 | 222.13 | 243.37 | 636.71 |
| 69 | -6.80 | 127.65 | 128.10 | 103.99 | 227.15 | 254.22 | 659.78 |
| 70 | -6.90 | 130.31 | 130.76 | 107.07 | 232.22 | 265.40 | 683.37 |
| 71 | -7.00 | 133.00 | 133.44 | 110.19 | 237.34 | 276.90 | 707.49 |
| 72 | -7.10 | 135.71 | 136.15 | 113.36 | 242.50 | 288.72 | 732.13 |
| 73 | -7.20 | 138.44 | 138.88 | 116.58 | 247.72 | 300.89 | 757.30 |
| 74 | -7.30 | 141.20 | 141.64 | 119.84 | 252.99 | 313.38 | 783.02 |
| 75 | -7.40 | 143.98 | 144.42 | 123.15 | 258.30 | 326.22 | 809.27 |
| 76 | -7.50 | 146.79 | 147.23 | 126.50 | 263.67 | 339.41 | 836.08 |
| 77 | -7.60 | 149.62 | 150.06 | 129.89 | 269.09 | 352.95 | 863.43 |
| 78 | -7.70 | 152.48 | 152.92 | 133.33 | 274.56 | 366.84 | 891.35 |
| 79 | -7.80 | 155.36 | 155.80 | 136.82 | 280.07 | 381.10 | 919.83 |
| 80 | -7.90 | 158.26 | 158.71 | 140.35 | 285.64 | 395.72 | 948.87 |

| n° | X | N _{min} | N _{max} | T _{min} | T _{max} | M _{min} | M _{max} |
|-----|--------|------------------|------------------|------------------|------------------|------------------|------------------|
| | [m] | [kN] | [kN] | [kN] | [kN] | [kNm] | [kNm] |
| 81 | -8.00 | 161.19 | 161.63 | 143.93 | 291.26 | 410.71 | 978.50 |
| 82 | -8.10 | 164.15 | 164.59 | 147.55 | 296.93 | 426.08 | 1008.70 |
| 83 | -8.20 | 167.12 | 167.57 | 151.21 | 302.64 | 441.82 | 1039.48 |
| 84 | -8.30 | 170.13 | 170.57 | 154.92 | 308.41 | 457.95 | 1070.86 |
| 85 | -8.40 | 173.15 | 173.60 | 158.68 | 314.23 | 474.46 | 1102.82 |
| 86 | -8.50 | 176.21 | 176.65 | 162.48 | 320.10 | 491.37 | 1135.39 |
| 87 | -8.60 | 179.28 | 179.73 | 166.32 | 326.01 | 508.68 | 1168.56 |
| 88 | -8.70 | 182.38 | 182.83 | 170.21 | 331.98 | 526.39 | 1202.35 |
| 89 | -8.80 | 185.51 | 185.95 | 174.15 | 338.00 | 544.50 | 1236.74 |
| 90 | -8.90 | 188.66 | 189.10 | 178.13 | 344.07 | 563.03 | 1271.76 |
| 91 | -9.00 | 191.84 | 192.28 | 182.15 | 350.18 | 581.98 | 1307.40 |
| 92 | -9.10 | 195.03 | 195.48 | 186.23 | 356.35 | 601.34 | 1343.67 |
| 93 | -9.20 | 198.26 | 198.70 | 190.34 | 362.57 | 621.13 | 1380.58 |
| 94 | -9.30 | 201.51 | 201.95 | 194.50 | 368.84 | 641.35 | 1418.13 |
| 95 | -9.40 | 204.78 | 205.22 | 198.71 | 375.16 | 662.00 | 1456.32 |
| 96 | -9.50 | 208.08 | 208.52 | 202.96 | 381.52 | 683.10 | 1495.17 |
| 97 | -9.60 | 211.40 | 211.84 | 207.25 | 387.94 | 704.63 | 1534.67 |
| 98 | -9.70 | 214.74 | 215.19 | 211.59 | 394.41 | 726.62 | 1574.83 |
| 99 | -9.80 | 218.12 | 218.56 | 215.98 | 400.93 | 749.06 | 1615.65 |
| 100 | -9.90 | 221.51 | 221.95 | 220.41 | 407.50 | 771.95 | 1657.15 |
| 101 | -10.00 | 224.93 | 225.37 | 224.88 | 414.12 | 795.31 | 1699.33 |

Mensola valle

| n° | X | N _{min} | N _{max} | T _{min} | T _{max} | M _{min} | M _{max} |
|----|-------|------------------|------------------|------------------|------------------|------------------|------------------|
| | [m] | [kN] | [kN] | [kN] | [kN] | [kNm] | [kNm] |
| 1 | -0.75 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 2 | -0.66 | 0.00 | 0.00 | 1.07 | 1.18 | 0.05 | 0.05 |
| 3 | -0.57 | 0.00 | 0.00 | 2.15 | 2.37 | 0.19 | 0.21 |
| 4 | -0.49 | 0.00 | 0.00 | 3.22 | 3.55 | 0.42 | 0.47 |
| 5 | -0.40 | 0.00 | 0.00 | 4.29 | 4.73 | 0.75 | 0.83 |

Piastra fondazione

| In | M _x | M _y | M _{xy} | T _x | T _y | |
|----|----------------|----------------|-----------------|----------------|----------------|-----|
| | [kNm] | [kNm] | [kNm] | [kN] | [kN] | |
| 1 | 1.90 | 1.72 | -0.12 | -5.61 | 17.70 | MAX |
| | 0.72 | 0.74 | -0.42 | -21.48 | 7.51 | MIN |
| 2 | 5.55 | 0.15 | -0.98 | -1.13 | -0.92 | MAX |
| | 1.15 | 0.06 | -2.43 | -22.88 | -5.18 | MIN |
| 3 | -4.30 | -1.41 | -1.50 | 30.96 | -4.67 | MAX |
| | -7.70 | -4.20 | -3.52 | 16.79 | -14.21 | MIN |
| 4 | -0.12 | 0.19 | -0.04 | 12.70 | 19.91 | MAX |
| | -0.32 | -0.50 | -0.24 | 6.31 | 7.44 | MIN |
| 5 | -6.60 | -1.78 | -4.22 | 8.19 | 1.12 | MAX |
| | -14.26 | -3.50 | -9.25 | -24.14 | -2.18 | MIN |
| 6 | -21.58 | -6.85 | -8.24 | 71.43 | -5.01 | MAX |
| | -37.33 | -14.37 | -17.32 | 40.95 | -14.37 | MIN |
| 7 | -4.04 | -0.35 | -1.23 | 64.96 | -21.63 | MAX |
| | -7.50 | -5.03 | -3.95 | 38.15 | -47.95 | MIN |
| 8 | 0.52 | 2.43 | 0.36 | 30.33 | 9.36 | MAX |
| | 0.31 | -0.68 | 0.15 | 17.79 | -4.63 | MIN |
| 9 | -20.77 | -12.19 | -10.25 | 141.35 | -28.87 | MAX |
| | -36.58 | -26.87 | -22.64 | 82.80 | -59.46 | MIN |
| 10 | -52.55 | -5.98 | -11.98 | 14.70 | 3.42 | MAX |
| | -90.44 | -11.76 | -24.68 | -26.11 | 1.35 | MIN |
| 11 | -62.33 | -17.30 | -23.20 | 112.91 | 2.25 | MAX |
| | -110.41 | -34.08 | -46.86 | 65.64 | -2.88 | MIN |
| 12 | -52.05 | -32.91 | -33.16 | 208.82 | -19.35 | MAX |
| | -90.48 | -64.36 | -67.46 | 122.63 | -43.47 | MIN |
| 13 | 0.59 | 19.66 | 5.37 | 98.72 | -59.51 | MAX |
| | 0.35 | 6.32 | 3.36 | 54.91 | -117.71 | MIN |
| 14 | 4.02 | 20.16 | 3.10 | 45.06 | -21.11 | MAX |
| | 2.13 | 7.56 | 2.18 | 24.93 | -56.63 | MIN |
| 15 | -11.87 | -6.27 | -0.91 | 224.59 | -81.43 | MAX |
| | -20.62 | -21.39 | -6.97 | 125.39 | -156.06 | MIN |
| 16 | -39.00 | -42.92 | -17.85 | 393.07 | -87.86 | MAX |
| | -66.93 | -86.65 | -40.05 | 220.07 | -169.27 | MIN |
| 17 | -133.32 | -6.77 | -20.31 | 15.80 | 3.23 | MAX |
| | -241.45 | -13.34 | -40.95 | -25.69 | 1.44 | MIN |

| In | Mx [kNm] | My [kNm] | Mxy [kNm] | Tx [kN] | Ty [kN] | |
|----|--------------------|---------------------|--------------------|--------------------|----------------------|------------|
| 18 | -129.15 -232.61 | -15.92 -30.40 | -43.90 -87.72 | 137.29 80.42 | 1.73 -4.41 | MAX MIN |
| 19 | -120.42 -215.32 | -55.04 -105.99 | -66.35 -132.93 | 265.54 155.31 | 10.13 6.04 | MAX MIN |
| 20 | -74.25 -125.48 | -83.54 -156.79 | -67.61 -137.44 | 470.61 266.62 | -46.24 -99.87 | MAX MIN |
| 21 | 6.56 3.80 | 79.63 39.29 | 23.53 13.92 | 109.52 59.63 | -109.65 -215.70 | MAX MIN |
| 22 | 5.14 2.75 | 70.12 34.28 | 10.35 6.35 | 47.30 25.59 | -57.06 -122.47 | MAX MIN |
| 23 | -7.81 -14.74 | 40.08 13.27 | 31.12 18.68 | 266.45 145.74 | -156.44 -300.33 | MAX MIN |
| 24 | -40.92 -74.67 | -22.15 -55.90 | 8.35 3.11 | 534.43 293.19 | -204.18 -388.02 | MAX MIN |
| 25 | -131.39 -238.49 | -101.52 -195.68 | -17.28 -43.11 | 697.59 383.12 | -267.50 -508.11 | MAX MIN |
| 26 | -224.61 -414.26 | 7.40 3.79 | -18.38 -36.80 | 11.00 -15.80 | 10.36 5.15 | MAX MIN |
| 27 | -199.26 -361.80 | 34.48 15.86 | -40.24 -80.13 | 104.99 61.78 | 34.07 20.47 | MAX MIN |
| 28 | -204.82 -370.32 | 38.17 13.32 | -80.84 -161.62 | 236.46 136.77 | 18.38 -8.52 | MAX MIN |
| 29 | -251.27 -459.39 | -140.19 -261.59 | -114.41 -230.25 | 301.66 174.77 | -99.26 -216.13 | MAX MIN |
| 30 | -223.30 -404.90 | -166.86 -313.76 | -272.43 -549.28 | 452.06 248.31 | -377.29 -723.51 | MAX MIN |
| 31 | 13.96 7.64 | 186.46 98.01 | 47.69 27.22 | 92.03 49.40 | -159.75 -316.88 | MAX MIN |
| 32 | 5.58 3.12 | 164.86 86.64 | 22.70 13.31 | 35.86 19.10 | -80.01 -174.63 | MAX MIN |
| 33 | -1.86 -8.11 | 151.43 76.40 | 67.54 38.79 | 240.08 129.42 | -237.30 -457.68 | MAX MIN |
| 34 | -39.67 -76.96 | 80.11 32.06 | 55.58 32.76 | 472.66 255.35 | -336.94 -640.16 | MAX MIN |
| 35 | -143.82 -272.74 | -28.95 -81.14 | -16.93 -48.74 | 706.97 380.48 | -520.66 -979.25 | MAX MIN |
| 36 | -138.71 -246.97 | -94.96 -200.67 | -83.34 -174.57 | 605.29 323.77 | -730.29 -1378.87 | MAX MIN |
| 37 | -265.72 -492.34 | 27.34 13.91 | 0.00 0.00 | 0.00 0.00 | 17.48 8.87 | MAX MIN |
| 38 | -229.61 -417.64 | 89.47 43.43 | 0.00 0.00 | 0.00 0.00 | 79.97 49.46 | MAX MIN |
| 39 | -226.81 -406.66 | 291.82 138.12 | 0.00 0.00 | 0.00 0.00 | -7.22 -75.98 | MAX MIN |
| 40 | -180.01 -308.40 | 1196.23 583.65 | 0.00 0.00 | 0.00 0.00 | -398.10 -813.16 | MAX MIN |
| 41 | -250.25 -453.64 | -182.60 -343.57 | 0.00 0.00 | 0.00 0.00 | -837.34 -1644.41 | MAX MIN |
| 42 | -288.72 -540.58 | -876.37 -1752.36 | 0.00 0.00 | 0.00 0.00 | -1023.15 -1964.48 | MAX MIN |
| 43 | 36.05 19.64 | 328.14 172.46 | 78.31 43.93 | 50.92 27.01 | -196.21 -393.44 | MAX MIN |
| 44 | 17.32 9.53 | 307.83 161.84 | 43.58 24.83 | 15.32 7.52 | -85.80 -194.62 | MAX MIN |
| 45 | 38.61 19.37 | 309.14 163.13 | 96.61 54.65 | 148.34 78.84 | -298.27 -579.49 | MAX MIN |
| 46 | -0.83 -12.13 | 286.30 150.32 | 74.92 43.94 | 280.60 149.09 | -435.45 -831.14 | MAX MIN |
| 47 | -23.44 -48.97 | 233.65 117.65 | 10.89 1.92 | 413.32 220.23 | -644.27 -1217.33 | MAX MIN |
| 48 | -59.63 -107.21 | -11.77 -89.70 | -29.91 -70.71 | 368.55 197.27 | -915.30 -1726.42 | MAX MIN |
| 49 | -108.31 -199.06 | -182.66 -427.74 | 0.00 0.00 | 0.00 0.00 | -1074.21 -2029.28 | MAX MIN |
| 50 | -224.61 -414.26 | 7.40 3.79 | 36.80 18.38 | 15.80 -11.00 | 10.36 5.15 | MAX MIN |
| 51 | -199.26 -361.80 | 34.48 15.86 | 80.13 40.24 | -61.78 -104.99 | 34.07 20.47 | MAX MIN |
| 52 | -204.82 -370.32 | 38.17 13.32 | 161.62 80.84 | -136.77 -236.46 | 18.38 -8.52 | MAX MIN |
| 53 | -251.27 -459.39 | -140.19 -261.59 | 230.25 114.41 | -174.77 -301.66 | -99.26 -216.13 | MAX MIN |
| 54 | -223.30 -404.90 | -166.86 -313.76 | 549.28 272.43 | -248.31 -452.06 | -377.29 -723.51 | MAX MIN |
| 55 | -138.71 -246.97 | -94.96 -200.67 | 174.57 83.34 | -323.77 -605.29 | -730.29 -1378.87 | MAX MIN |
| 56 | -59.63 -107.21 | -11.77 -89.70 | 70.71 29.91 | -197.27 -368.55 | -915.30 -1726.42 | MAX MIN |

| In | Mx [kNm] | My [kNm] | Mxy [kNm] | Tx [kN] | Ty [kN] | |
|----|--------------------|--------------------|------------------|--------------------|----------------------|------------|
| 57 | 65.03 34.47 | 411.94 214.58 | 105.36 58.51 | 22.64 11.65 | -210.91 -428.69 | MAX MIN |
| 58 | 51.43 27.90 | 492.92 259.91 | 101.79 55.77 | 2.51 0.66 | -82.33 -194.98 | MAX MIN |
| 59 | 98.31 52.50 | 430.04 225.48 | 113.19 63.81 | 72.76 38.19 | -326.95 -640.62 | MAX MIN |
| 60 | 85.85 44.24 | 445.50 236.28 | 86.24 50.25 | 139.92 73.55 | -479.63 -921.19 | MAX MIN |
| 61 | 60.97 28.73 | 395.74 209.73 | 34.30 18.63 | 192.89 101.83 | -679.12 -1290.71 | MAX MIN |
| 62 | 29.23 8.28 | 264.08 128.33 | 2.72 -6.96 | 154.55 81.86 | -911.34 -1721.99 | MAX MIN |
| 63 | 10.30 -4.89 | 176.09 65.65 | 0.00 0.00 | 0.00 0.00 | -1035.60 -1952.57 | MAX MIN |
| 64 | 29.23 8.28 | 264.08 128.33 | 6.96 -2.72 | -81.86 -154.55 | -911.34 -1721.99 | MAX MIN |
| 65 | -133.32 -241.45 | -6.77 -13.34 | 40.95 20.31 | 25.69 -15.80 | 3.23 1.44 | MAX MIN |
| 66 | -129.15 -232.61 | -15.92 -30.40 | 87.72 43.90 | -80.42 -137.29 | 1.73 -4.41 | MAX MIN |
| 67 | -120.42 -215.32 | -55.04 -105.99 | 132.93 66.35 | -155.31 -265.54 | 10.13 6.04 | MAX MIN |
| 68 | -74.25 -125.48 | -83.54 -156.79 | 137.44 67.61 | -266.62 -470.61 | -46.24 -99.87 | MAX MIN |
| 69 | -131.39 -238.49 | -101.59 -195.68 | 43.11 17.28 | -383.12 -697.59 | -267.50 -508.11 | MAX MIN |
| 70 | -143.82 -272.74 | -28.95 -81.14 | 48.74 16.93 | -380.48 -706.97 | -520.66 -979.25 | MAX MIN |
| 71 | -23.44 -48.97 | 233.65 117.65 | -1.92 -10.89 | -220.23 -413.32 | -644.27 -1217.33 | MAX MIN |
| 72 | 60.97 28.73 | 395.74 209.73 | -18.63 -34.30 | -101.83 -192.89 | -679.12 -1290.71 | MAX MIN |
| 73 | 149.72 77.10 | 499.07 256.99 | 127.16 70.25 | 0.00 0.00 | -212.68 -435.62 | MAX MIN |
| 74 | 197.98 103.67 | 659.94 345.55 | 184.02 99.79 | 0.00 0.00 | -80.78 -194.88 | MAX MIN |
| 75 | 169.74 88.35 | 565.80 294.51 | 111.61 62.77 | 0.00 0.00 | -333.73 -656.72 | MAX MIN |
| 76 | 188.20 99.23 | 627.35 330.77 | 86.13 49.87 | 0.00 0.00 | -489.62 -943.50 | MAX MIN |
| 77 | 193.81 103.89 | 646.03 346.30 | 49.18 28.42 | 0.00 0.00 | -688.52 -1311.30 | MAX MIN |
| 78 | 181.25 98.35 | 604.17 327.84 | 16.60 8.58 | 0.00 0.00 | -888.40 -1681.72 | MAX MIN |
| 79 | 169.96 91.27 | 566.53 304.24 | 0.00 0.00 | 0.00 0.00 | -980.83 -1853.14 | MAX MIN |
| 80 | 181.25 98.35 | 604.17 327.84 | -8.58 -16.60 | 0.00 0.00 | -888.40 -1681.72 | MAX MIN |
| 81 | 193.81 103.89 | 646.03 346.30 | -28.42 -49.18 | 0.00 0.00 | -688.52 -1311.30 | MAX MIN |
| 82 | -52.55 -90.44 | -5.98 -11.76 | 24.68 11.98 | 26.11 -14.70 | 3.42 1.35 | MAX MIN |
| 83 | -62.33 -110.41 | -17.30 -34.08 | 46.86 23.20 | -65.64 -112.91 | 2.25 -2.88 | MAX MIN |
| 84 | -52.05 -90.48 | -32.91 -64.36 | 67.46 33.16 | -122.63 -208.82 | -19.35 -43.47 | MAX MIN |
| 85 | -39.00 -66.93 | -42.92 -86.65 | 40.05 17.85 | -220.07 -393.07 | -87.86 -169.27 | MAX MIN |
| 86 | -40.92 -74.67 | -22.15 -55.90 | -3.11 -8.35 | -293.19 -534.43 | -204.18 -388.02 | MAX MIN |
| 87 | -39.67 -76.96 | 80.11 32.06 | -32.76 -55.58 | -255.35 -472.66 | -336.94 -640.16 | MAX MIN |
| 88 | -0.83 -12.13 | 286.30 150.32 | -43.94 -74.92 | -149.09 -280.60 | -435.45 -831.14 | MAX MIN |
| 89 | 85.85 44.24 | 445.50 236.28 | -50.25 -86.24 | -73.55 -139.92 | -479.63 -921.19 | MAX MIN |
| 90 | 188.20 99.23 | 627.35 330.77 | -49.87 -86.13 | 0.00 0.00 | -489.62 -943.50 | MAX MIN |
| 91 | 188.20 99.23 | 627.35 330.77 | -49.87 -86.13 | 0.00 0.00 | -489.62 -943.50 | MAX MIN |
| 92 | 188.20 99.23 | 627.35 330.77 | -49.87 -86.13 | 0.00 0.00 | -489.62 -943.50 | MAX MIN |
| 93 | 188.20 99.23 | 627.35 330.77 | -49.87 -86.13 | 0.00 0.00 | -489.62 -943.50 | MAX MIN |
| 94 | 188.20 99.23 | 627.35 330.77 | -49.87 -86.13 | 0.00 0.00 | -489.62 -943.50 | MAX MIN |
| 95 | 188.20 99.23 | 627.35 330.77 | -49.87 -86.13 | 0.00 0.00 | -489.62 -943.50 | MAX MIN |

| In | Mx [kNm] | My [kNm] | Mxy [kNm] | Tx [kN] | Ty [kN] | |
|-----|------------------|------------------|-------------------|--------------------|--------------------|------------|
| 96 | 188.20 99.23 | 627.35 330.77 | -49.87 -86.13 | 0.00 0.00 | -489.62 -943.50 | MAX MIN |
| 97 | 188.20 99.23 | 627.35 330.77 | -49.87 -86.13 | 0.00 0.00 | -489.62 -943.50 | MAX MIN |
| 98 | 188.20 99.23 | 627.35 330.77 | -49.87 -86.13 | 0.00 0.00 | -489.62 -943.50 | MAX MIN |
| 99 | 188.20 99.23 | 627.35 330.77 | -49.87 -86.13 | 0.00 0.00 | -489.62 -943.50 | MAX MIN |
| 100 | 188.20 99.23 | 627.35 330.77 | -49.87 -86.13 | 0.00 0.00 | -489.62 -943.50 | MAX MIN |
| 101 | -6.60 -14.26 | -1.78 -3.50 | 9.25 4.22 | 24.14 -8.19 | 1.12 -2.18 | MAX MIN |
| 102 | -21.58 -37.33 | -6.85 -14.37 | 17.32 8.24 | -40.95 -71.43 | -5.01 -14.37 | MAX MIN |
| 103 | -20.77 -36.58 | -12.19 -26.87 | 22.64 10.25 | -82.80 -141.35 | -28.87 -59.46 | MAX MIN |
| 104 | -11.87 -20.62 | -6.27 -21.39 | 6.97 0.91 | -125.39 -224.59 | -81.43 -156.06 | MAX MIN |
| 105 | -7.81 -14.74 | 40.08 13.27 | -18.68 -31.12 | -145.74 -266.45 | -156.44 -300.33 | MAX MIN |
| 106 | -1.86 -8.11 | 151.43 76.40 | -38.79 -67.54 | -129.42 -240.08 | -237.30 -457.68 | MAX MIN |
| 107 | 38.61 19.37 | 309.14 163.13 | -54.65 -96.61 | -78.84 -148.34 | -298.27 -579.49 | MAX MIN |
| 108 | 98.31 52.50 | 430.04 225.48 | -63.81 -113.19 | -38.19 -72.76 | -326.95 -640.62 | MAX MIN |
| 109 | 169.74 88.35 | 565.80 294.51 | -62.77 -111.61 | 0.00 0.00 | -333.73 -656.72 | MAX MIN |
| 110 | 169.74 88.35 | 565.80 294.51 | -62.77 -111.61 | 0.00 0.00 | -333.73 -656.72 | MAX MIN |
| 111 | 169.74 88.35 | 565.80 294.51 | -62.77 -111.61 | 0.00 0.00 | -333.73 -656.72 | MAX MIN |
| 112 | 169.74 88.35 | 565.80 294.51 | -62.77 -111.61 | 0.00 0.00 | -333.73 -656.72 | MAX MIN |
| 113 | 169.74 88.35 | 565.80 294.51 | -62.77 -111.61 | 0.00 0.00 | -333.73 -656.72 | MAX MIN |
| 114 | 169.74 88.35 | 565.80 294.51 | -62.77 -111.61 | 0.00 0.00 | -333.73 -656.72 | MAX MIN |
| 115 | 169.74 88.35 | 565.80 294.51 | -62.77 -111.61 | 0.00 0.00 | -333.73 -656.72 | MAX MIN |
| 116 | 169.74 88.35 | 565.80 294.51 | -62.77 -111.61 | 0.00 0.00 | -333.73 -656.72 | MAX MIN |
| 117 | 169.74 88.35 | 565.80 294.51 | -62.77 -111.61 | 0.00 0.00 | -333.73 -656.72 | MAX MIN |
| 118 | 169.74 88.35 | 565.80 294.51 | -62.77 -111.61 | 0.00 0.00 | -333.73 -656.72 | MAX MIN |
| 119 | 169.74 88.35 | 565.80 294.51 | -62.77 -111.61 | 0.00 0.00 | -333.73 -656.72 | MAX MIN |
| 120 | 169.74 88.35 | 565.80 294.51 | -62.77 -111.61 | 0.00 0.00 | -333.73 -656.72 | MAX MIN |
| 121 | 169.74 88.35 | 565.80 294.51 | -62.77 -111.61 | 0.00 0.00 | -333.73 -656.72 | MAX MIN |
| 122 | 5.55 1.15 | 0.15 0.06 | 2.43 0.98 | 22.88 1.13 | -0.92 -5.18 | MAX MIN |
| 123 | -4.30 -7.70 | -1.41 -4.20 | 3.52 1.50 | -16.79 -30.96 | -4.67 -14.21 | MAX MIN |
| 124 | -4.04 -7.50 | -0.35 -5.03 | 3.95 1.23 | -38.15 -64.96 | -21.63 -47.95 | MAX MIN |
| 125 | 0.59 0.35 | 19.66 6.32 | -3.36 -5.37 | -54.91 -98.72 | -59.51 -117.71 | MAX MIN |
| 126 | 6.56 3.80 | 79.63 39.29 | -13.92 -23.53 | -59.63 -109.52 | -109.65 -215.70 | MAX MIN |
| 127 | 13.96 7.64 | 186.46 98.01 | -27.22 -47.69 | -49.40 -92.03 | -159.75 -316.88 | MAX MIN |
| 128 | 36.05 19.64 | 328.14 172.46 | -43.93 -78.31 | -27.01 -50.92 | -196.21 -393.44 | MAX MIN |
| 129 | 65.03 34.47 | 411.94 214.58 | -58.51 -105.36 | -11.65 -22.64 | -210.91 -428.69 | MAX MIN |
| 130 | 149.72 77.10 | 499.07 256.99 | -70.25 -127.16 | 0.00 0.00 | -212.68 -435.62 | MAX MIN |
| 131 | 149.72 77.10 | 499.07 256.99 | -70.25 -127.16 | 0.00 0.00 | -212.68 -435.62 | MAX MIN |
| 132 | 149.72 77.10 | 499.07 256.99 | -70.25 -127.16 | 0.00 0.00 | -212.68 -435.62 | MAX MIN |
| 133 | 149.72 77.10 | 499.07 256.99 | -70.25 -127.16 | 0.00 0.00 | -212.68 -435.62 | MAX MIN |
| 134 | 149.72 77.10 | 499.07 256.99 | -70.25 -127.16 | 0.00 0.00 | -212.68 -435.62 | MAX MIN |

| In | Mx [kNm] | My [kNm] | Mxy [kNm] | Tx [kN] | Ty [kN] | |
|-----|-------------------|--------------------|-------------------|------------------|--------------------|------------|
| 135 | 149.72 77.10 | 499.07 256.99 | -70.25 -127.16 | 0.00 0.00 | -212.68 -435.62 | MAX MIN |
| 136 | 149.72 77.10 | 499.07 256.99 | -70.25 -127.16 | 0.00 0.00 | -212.68 -435.62 | MAX MIN |
| 137 | 149.72 77.10 | 499.07 256.99 | -70.25 -127.16 | 0.00 0.00 | -212.68 -435.62 | MAX MIN |
| 138 | 149.72 77.10 | 499.07 256.99 | -70.25 -127.16 | 0.00 0.00 | -212.68 -435.62 | MAX MIN |
| 139 | 149.72 77.10 | 499.07 256.99 | -70.25 -127.16 | 0.00 0.00 | -212.68 -435.62 | MAX MIN |
| 140 | 149.72 77.10 | 499.07 256.99 | -70.25 -127.16 | 0.00 0.00 | -212.68 -435.62 | MAX MIN |
| 141 | 149.72 77.10 | 499.07 256.99 | -70.25 -127.16 | 0.00 0.00 | -212.68 -435.62 | MAX MIN |
| 142 | 149.72 77.10 | 499.07 256.99 | -70.25 -127.16 | 0.00 0.00 | -212.68 -435.62 | MAX MIN |
| 143 | 149.72 77.10 | 499.07 256.99 | -70.25 -127.16 | 0.00 0.00 | -212.68 -435.62 | MAX MIN |
| 144 | 149.72 77.10 | 499.07 256.99 | -70.25 -127.16 | 0.00 0.00 | -212.68 -435.62 | MAX MIN |
| 145 | 1.90 0.72 | 1.72 0.74 | 0.42 0.12 | 21.48 5.61 | 17.70 7.51 | MAX MIN |
| 146 | -0.12 -0.32 | 0.19 -0.50 | 0.24 0.04 | -6.31 -12.70 | 19.91 7.44 | MAX MIN |
| 147 | 0.52 0.31 | 2.43 -0.68 | -0.15 -0.36 | -17.79 -30.33 | 9.36 -4.63 | MAX MIN |
| 148 | 4.02 2.13 | 20.16 7.56 | -2.18 -3.10 | -24.93 -45.06 | -21.11 -56.63 | MAX MIN |
| 149 | 5.14 2.75 | 70.12 34.28 | -6.35 -10.35 | -25.59 -47.30 | -57.06 -122.47 | MAX MIN |
| 150 | 5.58 3.12 | 164.86 86.64 | -13.31 -22.70 | -19.10 -35.86 | -80.01 -174.63 | MAX MIN |
| 151 | 17.32 9.53 | 307.83 161.84 | -24.83 -43.58 | -7.52 -15.32 | -85.80 -194.62 | MAX MIN |
| 152 | 51.43 27.90 | 492.92 259.91 | -55.77 -101.79 | -0.66 -2.51 | -82.33 -194.98 | MAX MIN |
| 153 | 197.98 103.67 | 659.94 345.55 | -99.79 -184.02 | 0.00 0.00 | -80.78 -194.88 | MAX MIN |
| 154 | 197.98 103.67 | 659.94 345.55 | -99.79 -184.02 | 0.00 0.00 | -80.78 -194.88 | MAX MIN |
| 155 | 197.98 103.67 | 659.94 345.55 | -99.79 -184.02 | 0.00 0.00 | -80.78 -194.88 | MAX MIN |
| 156 | 197.98 103.67 | 659.94 345.55 | -99.79 -184.02 | 0.00 0.00 | -80.78 -194.88 | MAX MIN |
| 157 | 197.98 103.67 | 659.94 345.55 | -99.79 -184.02 | 0.00 0.00 | -80.78 -194.88 | MAX MIN |
| 158 | 197.98 103.67 | 659.94 345.55 | -99.79 -184.02 | 0.00 0.00 | -80.78 -194.88 | MAX MIN |
| 159 | 197.98 103.67 | 659.94 345.55 | -99.79 -184.02 | 0.00 0.00 | -80.78 -194.88 | MAX MIN |
| 160 | 197.98 103.67 | 659.94 345.55 | -99.79 -184.02 | 0.00 0.00 | -80.78 -194.88 | MAX MIN |
| 161 | 197.98 103.67 | 659.94 345.55 | -99.79 -184.02 | 0.00 0.00 | -80.78 -194.88 | MAX MIN |
| 162 | 197.98 103.67 | 659.94 345.55 | -99.79 -184.02 | 0.00 0.00 | -80.78 -194.88 | MAX MIN |
| 163 | 197.98 103.67 | 659.94 345.55 | -99.79 -184.02 | 0.00 0.00 | -80.78 -194.88 | MAX MIN |
| 164 | 197.98 103.67 | 659.94 345.55 | -99.79 -184.02 | 0.00 0.00 | -80.78 -194.88 | MAX MIN |
| 165 | 197.98 103.67 | 659.94 345.55 | -99.79 -184.02 | 0.00 0.00 | -80.78 -194.88 | MAX MIN |
| 166 | 197.98 103.67 | 659.94 345.55 | -99.79 -184.02 | 0.00 0.00 | -80.78 -194.88 | MAX MIN |
| 167 | 197.98 103.67 | 659.94 345.55 | -99.79 -184.02 | 0.00 0.00 | -80.78 -194.88 | MAX MIN |
| 168 | 197.98 103.67 | 659.94 345.55 | -99.79 -184.02 | 0.00 0.00 | -80.78 -194.88 | MAX MIN |
| 169 | 197.98 103.67 | 659.94 345.55 | -99.79 -184.02 | 0.00 0.00 | -80.78 -194.88 | MAX MIN |
| 170 | 87.93 -444.20 | 293.09 -1480.67 | 149.19 -129.54 | 0.00 0.00 | -216.88 -531.90 | MAX MIN |
| 171 | 144.71 -528.24 | 482.36 -1760.81 | 359.50 -179.57 | 0.00 0.00 | -232.33 -490.28 | MAX MIN |
| 172 | 108.70 -453.38 | 362.33 -1511.27 | 57.46 -124.25 | 0.00 0.00 | -67.49 -588.74 | MAX MIN |
| 173 | 135.92 -441.85 | 453.07 -1472.84 | -13.47 -122.06 | 0.00 0.00 | 73.95 -571.12 | MAX MIN |

| In | Mx [kNm] | My [kNm] | Mxy [kNm] | Tx [kN] | Ty [kN] | |
|-----|-------------------|--------------------|--------------------|------------------|--------------------|------------|
| 174 | 174.64 -406.93 | 582.13 -1356.44 | -61.09 -112.18 | 0.00 0.00 | 219.33 -518.25 | MAX MIN |
| 175 | 218.49 -352.98 | 728.28 -1176.61 | -58.77 -77.31 | 0.00 0.00 | 355.86 -453.26 | MAX MIN |
| 176 | 241.08 -322.22 | 803.60 -1074.07 | 0.00 0.00 | 0.00 0.00 | 418.89 -420.45 | MAX MIN |
| 177 | 218.49 -352.98 | 728.28 -1176.61 | 77.31 58.77 | 0.00 0.00 | 355.86 -453.26 | MAX MIN |
| 178 | 174.64 -406.93 | 582.13 -1356.44 | 112.18 61.09 | 0.00 0.00 | 219.33 -518.25 | MAX MIN |
| 179 | 135.92 -441.85 | 453.07 -1472.84 | 122.06 13.47 | 0.00 0.00 | 73.95 -571.12 | MAX MIN |
| 180 | 108.70 -453.38 | 362.33 -1511.27 | 124.25 -57.46 | 0.00 0.00 | -67.49 -588.74 | MAX MIN |
| 181 | 87.93 -444.20 | 293.09 -1480.67 | 129.54 -149.19 | 0.00 0.00 | -216.88 -531.90 | MAX MIN |
| 182 | 144.71 -528.24 | 482.36 -1760.81 | 179.57 -359.50 | 0.00 0.00 | -232.33 -490.28 | MAX MIN |
| 183 | 58.40 -182.16 | 337.56 -1385.93 | 108.94 -111.08 | 49.73 -8.66 | -194.36 -513.15 | MAX MIN |
| 184 | 54.93 -112.30 | 445.46 -1484.81 | 184.60 -110.74 | 52.38 -8.61 | -235.49 -476.63 | MAX MIN |
| 185 | 106.38 -294.05 | 373.86 -1396.52 | 53.44 -126.72 | 39.09 -8.63 | -50.01 -565.91 | MAX MIN |
| 186 | 122.36 -322.30 | 436.60 -1375.72 | -19.52 -126.60 | 20.92 -3.38 | 92.31 -543.07 | MAX MIN |
| 187 | 123.84 -347.42 | 535.53 -1273.80 | -82.02 -126.00 | 21.21 8.38 | 231.01 -498.23 | MAX MIN |
| 188 | 111.18 -374.91 | 667.44 -1088.38 | -75.99 -100.77 | 20.34 5.40 | 376.03 -435.05 | MAX MIN |
| 189 | 104.10 -385.44 | 742.62 -972.82 | 0.00 0.00 | 0.00 0.00 | 456.25 -392.64 | MAX MIN |
| 190 | 111.18 -374.91 | 667.44 -1088.38 | 100.77 75.99 | -5.40 -20.34 | 376.03 -435.05 | MAX MIN |
| 191 | 123.84 -347.42 | 535.53 -1273.80 | 126.00 82.02 | -8.38 -21.21 | 231.01 -498.23 | MAX MIN |
| 192 | 122.36 -322.30 | 436.60 -1375.72 | 126.60 19.52 | 3.38 -20.92 | 92.31 -543.07 | MAX MIN |
| 193 | 106.38 -294.05 | 373.86 -1396.52 | 126.72 -53.44 | 8.63 -39.09 | -50.01 -565.91 | MAX MIN |
| 194 | 58.40 -182.16 | 337.56 -1385.93 | 111.08 -108.94 | 8.66 -49.73 | -194.36 -513.15 | MAX MIN |
| 195 | 54.93 -112.30 | 445.46 -1484.81 | 110.74 -184.60 | 8.61 -52.38 | -235.49 -476.63 | MAX MIN |
| 196 | 47.71 -103.06 | 373.29 -1353.17 | 58.66 -86.62 | 76.76 -10.48 | -150.93 -472.58 | MAX MIN |
| 197 | 22.08 -30.18 | 361.88 -1269.20 | 40.19 -61.17 | 61.35 -12.78 | -254.17 -444.92 | MAX MIN |
| 198 | 83.40 -180.64 | 379.47 -1334.54 | 33.78 -106.97 | 85.58 4.05 | -17.37 -515.93 | MAX MIN |
| 199 | 106.30 -233.43 | 417.40 -1320.71 | -20.28 -112.25 | 70.15 26.34 | 117.52 -487.06 | MAX MIN |
| 200 | 81.79 -303.83 | 471.59 -1264.92 | -89.55 -120.83 | 83.09 52.93 | 268.78 -425.57 | MAX MIN |
| 201 | 28.51 -385.48 | 625.25 -1009.08 | -100.07 -148.42 | 89.52 53.55 | 368.07 -439.15 | MAX MIN |
| 202 | 20.87 -381.62 | 799.86 -697.63 | 0.00 0.00 | 0.00 0.00 | 375.47 -510.20 | MAX MIN |
| 203 | 28.51 -385.48 | 625.25 -1009.08 | 148.42 100.07 | -53.55 -89.52 | 368.07 -439.15 | MAX MIN |
| 204 | 81.79 -303.83 | 471.59 -1264.92 | 120.83 89.55 | -52.93 -83.09 | 268.78 -425.57 | MAX MIN |
| 205 | 106.30 -233.43 | 417.40 -1320.71 | 112.25 20.28 | -26.34 -70.15 | 117.52 -487.06 | MAX MIN |
| 206 | 83.40 -180.64 | 379.47 -1334.54 | 106.97 -33.78 | -4.05 -85.58 | -17.37 -515.93 | MAX MIN |
| 207 | 47.71 -103.06 | 373.29 -1353.17 | 86.62 -58.66 | 10.48 -76.76 | -150.93 -472.58 | MAX MIN |
| 208 | 22.08 -30.18 | 361.88 -1269.20 | 61.17 -40.19 | 12.78 -61.35 | -254.17 -444.92 | MAX MIN |
| 209 | 30.62 -41.47 | 384.19 -1203.56 | 13.54 -55.00 | 98.05 7.18 | -113.12 -445.46 | MAX MIN |
| 210 | 7.05 3.46 | 348.62 -1124.48 | 2.21 -35.67 | 61.85 -5.77 | -274.07 -425.29 | MAX MIN |
| 211 | 53.10 -95.10 | 380.72 -1215.18 | 9.23 -79.52 | 152.82 53.78 | -0.87 -472.65 | MAX MIN |
| 212 | 62.04 -153.01 | 376.19 -1218.18 | -18.73 -86.97 | 231.74 142.07 | 104.62 -452.18 | MAX MIN |

| In | Mx [kNm] | My [kNm] | Mxy [kNm] | Tx [kN] | Ty [kN] | |
|-----|--------------------|---------------------|--------------------|--------------------|---------------------|------------|
| 213 | 54.93 -174.43 | 381.53 -1193.75 | -104.51 -136.39 | 248.83 176.91 | 245.88 -386.24 | MAX MIN |
| 214 | -116.98 -443.74 | 364.59 -1197.46 | -133.53 -226.00 | 133.04 71.51 | 256.08 -489.42 | MAX MIN |
| 215 | -27.45 -262.63 | 1196.41 295.10 | 0.00 0.00 | 0.00 0.00 | -49.79 -1048.53 | MAX MIN |
| 216 | -116.98 -443.74 | 364.59 -1197.46 | 226.00 133.53 | -71.51 -133.04 | 256.08 -489.42 | MAX MIN |
| 217 | 54.93 -174.43 | 381.53 -1193.75 | 136.39 104.51 | -176.91 -248.83 | 245.88 -386.24 | MAX MIN |
| 218 | 62.04 -153.01 | 376.19 -1218.18 | 86.97 18.73 | -142.07 -231.74 | 104.62 -452.18 | MAX MIN |
| 219 | 53.10 -95.10 | 380.72 -1215.18 | 79.52 -9.23 | -53.78 -152.82 | -0.87 -472.65 | MAX MIN |
| 220 | 30.62 -41.47 | 384.19 -1203.56 | 55.00 -13.54 | -7.18 -98.05 | -113.12 -445.46 | MAX MIN |
| 221 | 7.05 3.46 | 348.62 -1124.48 | 35.67 -2.21 | 5.77 -61.85 | -274.07 -425.29 | MAX MIN |
| 222 | 17.20 -25.18 | 384.90 -1060.52 | -3.81 -31.62 | 110.42 31.96 | -88.33 -450.58 | MAX MIN |
| 223 | 5.90 2.44 | 352.19 -1006.46 | -11.36 -21.84 | 61.18 7.59 | -195.31 -453.31 | MAX MIN |
| 224 | 21.70 -77.57 | 376.42 -1088.99 | -3.62 -47.91 | 217.47 106.60 | -12.29 -461.99 | MAX MIN |
| 225 | 4.48 -154.97 | 347.75 -1116.32 | -20.71 -57.11 | 390.50 249.76 | 40.77 -470.86 | MAX MIN |
| 226 | -76.30 -277.66 | 289.04 -1167.85 | -58.28 -71.23 | 490.25 343.24 | 58.35 -509.79 | MAX MIN |
| 227 | -164.07 -391.70 | 242.11 -1208.74 | -294.64 -563.80 | 313.55 224.52 | -4.35 -662.36 | MAX MIN |
| 228 | -189.57 -430.36 | 234.19 -1214.97 | 0.00 0.00 | 0.00 0.00 | -477.48 -1554.18 | MAX MIN |
| 229 | -164.07 -391.70 | 242.11 -1208.74 | 563.80 294.64 | -224.52 -313.55 | -4.35 -662.36 | MAX MIN |
| 230 | -76.30 -277.66 | 289.04 -1167.85 | 71.23 58.28 | -343.24 -490.25 | 58.35 -509.79 | MAX MIN |
| 231 | 4.48 -154.97 | 347.75 -1116.32 | 57.11 20.71 | -249.76 -390.50 | 40.77 -470.86 | MAX MIN |
| 232 | 21.70 -77.57 | 376.42 -1088.99 | 47.91 3.62 | -106.60 -217.47 | -12.29 -461.99 | MAX MIN |
| 233 | 17.20 -25.18 | 384.90 -1060.52 | 31.62 3.81 | -31.96 -110.42 | -88.33 -450.58 | MAX MIN |
| 234 | 5.90 2.44 | 352.19 -1006.46 | 21.84 11.36 | -7.59 -61.18 | -195.31 -453.31 | MAX MIN |
| 235 | 6.18 -22.65 | 390.03 -918.60 | -9.13 -18.82 | 114.53 48.59 | -77.20 -477.04 | MAX MIN |
| 236 | 3.20 0.84 | 369.31 -883.89 | -10.67 -17.29 | 59.31 18.03 | -139.97 -519.09 | MAX MIN |
| 237 | -5.71 -79.90 | 378.99 -948.77 | -12.91 -27.88 | 241.85 128.70 | -40.30 -483.55 | MAX MIN |
| 238 | -48.12 -177.80 | 344.75 -987.67 | -22.16 -34.21 | 410.27 253.69 | -45.03 -531.75 | MAX MIN |
| 239 | -157.27 -360.76 | 274.17 -1072.40 | -64.46 -104.77 | 580.35 377.31 | -155.75 -688.00 | MAX MIN |
| 240 | -150.84 -312.67 | 213.21 -1136.39 | -109.11 -206.35 | 495.37 320.85 | -327.89 -958.24 | MAX MIN |
| 241 | -304.59 -593.24 | -636.52 -2662.52 | 0.00 0.00 | 0.00 0.00 | -613.44 -1521.05 | MAX MIN |
| 242 | -150.84 -312.67 | 213.21 -1136.39 | 206.35 109.11 | -320.85 -495.37 | -327.89 -958.24 | MAX MIN |
| 243 | -157.27 -360.76 | 274.17 -1072.40 | 104.77 64.46 | -377.31 -580.35 | -155.75 -688.00 | MAX MIN |
| 244 | -48.12 -177.80 | 344.75 -987.67 | 34.21 22.16 | -253.69 -410.27 | -45.03 -531.75 | MAX MIN |
| 245 | -5.71 -79.90 | 378.99 -948.77 | 27.88 12.91 | -128.70 -241.85 | -40.30 -483.55 | MAX MIN |
| 246 | 6.18 -22.65 | 390.03 -918.60 | 18.82 9.13 | -48.59 -114.53 | -77.20 -477.04 | MAX MIN |
| 247 | 3.20 0.84 | 369.31 -883.89 | 17.29 10.67 | -18.03 -59.31 | -139.97 -519.09 | MAX MIN |
| 248 | -1.29 -21.35 | 401.79 -772.69 | -7.49 -14.95 | 106.66 50.57 | -69.80 -506.07 | MAX MIN |
| 249 | 0.99 -0.10 | 390.49 -749.03 | -5.44 -18.83 | 53.49 21.98 | -102.47 -570.34 | MAX MIN |
| 250 | -20.66 -73.66 | 392.46 -796.88 | -12.79 -20.72 | 216.67 117.40 | -62.83 -512.37 | MAX MIN |
| 251 | -63.64 -158.77 | 364.99 -834.13 | -20.41 -36.67 | 329.05 195.07 | -102.46 -583.35 | MAX MIN |

| In | Mx [kNm] | My [kNm] | Mxy [kNm] | Tx [kN] | Ty [kN] | |
|-----|--------------------|--------------------|-------------------|--------------------|---------------------|------------|
| 252 | -102.77 -223.24 | 326.86 -884.80 | -38.54 -77.84 | 413.92 260.46 | -229.85 -757.10 | MAX MIN |
| 253 | -151.22 -290.19 | 173.63 -1133.47 | -57.04 -116.65 | 334.37 218.79 | -442.95 -1054.38 | MAX MIN |
| 254 | -203.76 -375.14 | -12.14 -1447.84 | 0.00 0.00 | 0.00 0.00 | -569.61 -1258.78 | MAX MIN |
| 255 | -151.22 -290.19 | 173.63 -1133.47 | 116.65 57.04 | -218.79 -334.37 | -442.95 -1054.38 | MAX MIN |
| 256 | -102.77 -223.24 | 326.86 -884.80 | 77.84 38.54 | -260.46 -413.92 | -229.85 -757.10 | MAX MIN |
| 257 | -63.64 -158.77 | 364.99 -834.13 | 36.67 20.41 | -195.07 -329.05 | -102.46 -583.35 | MAX MIN |
| 258 | -20.66 -73.66 | 392.46 -796.88 | 20.72 12.79 | -117.40 -216.67 | -62.83 -512.37 | MAX MIN |
| 259 | -1.29 -21.35 | 401.79 -772.69 | 14.95 7.49 | -50.57 -106.66 | -69.80 -506.07 | MAX MIN |
| 260 | 0.99 -0.10 | 390.49 -749.03 | 18.83 5.44 | -21.98 -53.49 | -102.47 -570.34 | MAX MIN |
| 261 | -4.94 -16.96 | 416.63 -617.95 | -3.92 -19.25 | 84.30 42.80 | -56.34 -522.51 | MAX MIN |
| 262 | -0.03 -0.82 | 410.82 -602.46 | -3.12 -21.65 | 43.32 20.07 | -71.73 -601.92 | MAX MIN |
| 263 | -23.96 -57.25 | 411.20 -634.54 | -7.79 -27.53 | 162.44 89.86 | -64.61 -525.10 | MAX MIN |
| 264 | -52.85 -110.87 | 396.41 -659.07 | -12.82 -35.44 | 223.79 132.18 | -109.16 -592.57 | MAX MIN |
| 265 | -88.07 -167.45 | 359.05 -720.95 | -19.53 -49.08 | 234.55 144.05 | -200.56 -725.25 | MAX MIN |
| 266 | -120.00 -214.74 | 300.86 -823.69 | -16.77 -41.01 | 155.72 97.42 | -332.23 -900.75 | MAX MIN |
| 267 | -133.88 -235.15 | 267.16 -885.35 | 0.00 0.00 | 0.00 0.00 | -403.84 -996.32 | MAX MIN |
| 268 | -120.00 -214.74 | 300.86 -823.69 | 41.01 16.77 | -97.42 -155.72 | -332.23 -900.75 | MAX MIN |
| 269 | -88.07 -167.45 | 359.05 -720.95 | 49.08 19.53 | -144.05 -234.55 | -200.56 -725.25 | MAX MIN |
| 270 | -52.85 -110.87 | 396.41 -659.07 | 35.44 12.82 | -132.18 -223.79 | -109.16 -592.57 | MAX MIN |
| 271 | -23.96 -57.25 | 411.20 -634.54 | 27.53 7.79 | -89.86 -162.44 | -64.61 -525.10 | MAX MIN |
| 272 | -4.94 -16.96 | 416.63 -617.95 | 19.25 3.92 | -42.80 -84.30 | -56.34 -522.51 | MAX MIN |
| 273 | -0.03 -0.82 | 410.82 -602.46 | 21.65 3.12 | -20.07 -43.32 | -71.73 -601.92 | MAX MIN |
| 274 | -6.17 -12.40 | 427.30 -464.11 | -3.93 -22.96 | 56.58 32.32 | -31.46 -517.04 | MAX MIN |
| 275 | -0.46 -1.34 | 423.84 -456.37 | -2.50 -23.70 | 29.63 15.95 | -39.09 -606.95 | MAX MIN |
| 276 | -22.52 -40.01 | 426.65 -472.18 | -7.28 -31.16 | 104.32 63.01 | -42.71 -511.69 | MAX MIN |
| 277 | -47.23 -78.09 | 420.00 -488.07 | -10.27 -32.25 | 132.91 83.61 | -76.71 -562.16 | MAX MIN |
| 278 | -74.67 -117.33 | 406.06 -517.05 | -10.84 -29.68 | 127.41 81.99 | -132.25 -648.25 | MAX MIN |
| 279 | -96.19 -146.69 | 389.11 -551.80 | -7.43 -19.53 | 79.22 51.53 | -188.33 -732.46 | MAX MIN |
| 280 | -104.71 -158.25 | 380.43 -569.44 | 0.00 0.00 | 0.00 0.00 | -212.73 -768.66 | MAX MIN |
| 281 | -96.19 -146.69 | 389.11 -551.80 | 19.53 7.43 | -51.53 -79.22 | -188.33 -732.46 | MAX MIN |
| 282 | -74.67 -117.33 | 406.06 -517.05 | 29.68 10.84 | -81.99 -127.41 | -132.25 -648.25 | MAX MIN |
| 283 | -47.23 -78.09 | 420.00 -488.07 | 32.25 10.27 | -83.61 -132.91 | -76.71 -562.16 | MAX MIN |
| 284 | -22.52 -40.01 | 426.65 -472.18 | 31.16 7.28 | -63.01 -104.32 | -42.71 -511.69 | MAX MIN |
| 285 | -6.17 -12.40 | 427.30 -464.11 | 22.96 3.93 | -32.32 -56.58 | -31.46 -517.04 | MAX MIN |
| 286 | -0.46 -1.34 | 423.84 -456.37 | 23.70 2.50 | -15.95 -29.63 | -39.09 -606.95 | MAX MIN |
| 287 | -6.10 -8.11 | 427.38 -318.36 | -6.33 -25.81 | 30.11 23.85 | 4.68 -487.12 | MAX MIN |
| 288 | -1.07 -1.96 | 424.21 -318.59 | -3.02 -24.79 | 15.82 12.16 | -0.60 -581.90 | MAX MIN |
| 289 | -20.21 -25.95 | 430.77 -318.52 | -11.20 -34.76 | 54.41 44.29 | -3.18 -474.15 | MAX MIN |
| 290 | -39.99 -50.94 | 433.77 -320.21 | -13.81 -32.95 | 66.75 55.22 | -23.37 -508.34 | MAX MIN |

| In | Mx [kNm] | My [kNm] | Mxy [kNm] | Tx [kN] | Ty [kN] | |
|-----|-------------------|-------------------|------------------|------------------|-------------------|------------|
| 291 | -60.36 -77.31 | 435.68 -324.59 | -13.08 -26.27 | 61.32 50.76 | -51.47 -564.18 | MAX MIN |
| 292 | -75.45 -97.69 | 436.14 -330.24 | -8.02 -15.02 | 36.93 30.57 | -76.43 -613.68 | MAX MIN |
| 293 | -81.05 -105.33 | 436.09 -332.95 | 0.00 0.00 | 0.00 0.00 | -86.66 -633.69 | MAX MIN |
| 294 | -75.45 -97.69 | 436.14 -330.24 | 15.02 8.02 | -30.57 -36.93 | -76.43 -613.68 | MAX MIN |
| 295 | -60.36 -77.31 | 435.68 -324.59 | 26.27 13.08 | -50.76 -61.32 | -51.47 -564.18 | MAX MIN |
| 296 | -39.99 -50.94 | 433.77 -320.21 | 32.95 13.81 | -55.22 -66.75 | -23.37 -508.34 | MAX MIN |
| 297 | -20.21 -25.95 | 430.77 -318.52 | 34.76 11.20 | -44.29 -54.41 | -3.18 -474.15 | MAX MIN |
| 298 | -6.10 -8.11 | 427.38 -318.36 | 25.81 6.33 | -23.85 -30.11 | 4.68 -487.12 | MAX MIN |
| 299 | -1.07 -1.96 | 424.21 -318.59 | 24.79 3.02 | -12.16 -15.82 | -0.60 -581.90 | MAX MIN |
| 300 | -1.69 -7.40 | 411.81 -188.36 | -10.37 -28.26 | 19.88 1.39 | 48.32 -434.63 | MAX MIN |
| 301 | -1.64 -2.46 | 407.87 -196.22 | -4.10 -24.86 | 10.23 0.05 | 43.35 -527.53 | MAX MIN |
| 302 | -6.94 -23.43 | 418.53 -180.57 | -18.76 -39.77 | 36.25 4.15 | 45.92 -418.05 | MAX MIN |
| 303 | -16.25 -47.26 | 428.89 -169.07 | -23.75 -39.75 | 44.23 5.78 | 38.39 -444.16 | MAX MIN |
| 304 | -27.35 -73.06 | 442.68 -153.39 | -22.66 -32.96 | 40.06 5.09 | 28.20 -489.33 | MAX MIN |
| 305 | -36.34 -92.93 | 455.41 -138.47 | -14.01 -19.77 | 23.81 2.82 | 19.48 -529.51 | MAX MIN |
| 306 | -39.79 -100.43 | 460.79 -132.07 | 0.00 0.00 | 0.00 0.00 | 16.01 -545.69 | MAX MIN |
| 307 | -36.34 -92.93 | 455.41 -138.47 | 19.77 14.01 | -2.82 -23.81 | 19.48 -529.51 | MAX MIN |
| 308 | -27.35 -73.06 | 442.68 -153.39 | 32.96 22.66 | -5.09 -40.06 | 28.20 -489.33 | MAX MIN |
| 309 | -16.25 -47.26 | 428.89 -169.07 | 39.75 23.75 | -5.78 -44.23 | 38.39 -444.16 | MAX MIN |
| 310 | -6.94 -23.43 | 418.53 -180.57 | 39.77 18.76 | -4.15 -36.25 | 45.92 -418.05 | MAX MIN |
| 311 | -1.69 -7.40 | 411.81 -188.36 | 28.26 10.37 | -1.39 -19.88 | 48.32 -434.63 | MAX MIN |
| 312 | -1.64 -2.46 | 407.87 -196.22 | 24.86 4.10 | -0.05 -10.23 | 43.35 -527.53 | MAX MIN |
| 313 | 2.92 -7.05 | 378.18 -80.50 | -14.81 -30.00 | 20.75 -17.85 | 93.68 -363.34 | MAX MIN |
| 314 | -1.91 -2.49 | 372.99 -95.33 | -5.18 -23.80 | 10.51 -10.51 | 89.31 -447.60 | MAX MIN |
| 315 | 5.43 -24.27 | 385.70 -66.93 | -28.23 -45.82 | 38.61 -29.91 | 97.36 -347.15 | MAX MIN |
| 316 | 4.15 -52.15 | 400.13 -43.79 | -38.08 -52.94 | 48.17 -36.62 | 101.38 -373.02 | MAX MIN |
| 317 | -1.58 -85.10 | 425.27 -5.13 | -39.00 -52.50 | 44.56 -35.29 | 106.87 -423.13 | MAX MIN |
| 318 | -8.06 -111.94 | 454.55 39.07 | -25.88 -34.40 | 26.95 -22.26 | 112.26 -472.65 | MAX MIN |
| 319 | -10.29 -122.06 | 468.98 60.87 | 0.00 0.00 | 0.00 0.00 | 114.11 -494.25 | MAX MIN |
| 320 | -8.06 -111.94 | 454.55 39.07 | 34.40 25.88 | 22.26 -26.95 | 112.26 -472.65 | MAX MIN |
| 321 | -1.58 -85.10 | 425.27 -5.13 | 52.50 39.00 | 35.29 -44.56 | 106.87 -423.13 | MAX MIN |
| 322 | 4.15 -52.15 | 400.13 -43.79 | 52.94 38.08 | 36.62 -48.17 | 101.38 -373.02 | MAX MIN |
| 323 | 5.43 -24.27 | 385.70 -66.93 | 45.82 28.23 | 29.91 -38.61 | 97.36 -347.15 | MAX MIN |
| 324 | 2.92 -7.05 | 378.18 -80.50 | 30.00 14.81 | 17.85 -20.75 | 93.68 -363.34 | MAX MIN |
| 325 | -1.91 -2.49 | 372.99 -95.33 | 23.80 5.18 | 10.51 -10.51 | 89.31 -447.60 | MAX MIN |
| 326 | 7.65 -5.66 | 327.17 0.41 | -17.77 -29.91 | 28.66 -30.91 | 133.70 -278.57 | MAX MIN |
| 327 | -1.29 -1.68 | 321.21 -19.64 | -5.57 -21.45 | 14.08 -17.62 | 131.87 -348.54 | MAX MIN |
| 328 | 19.46 -23.26 | 332.32 17.71 | -35.92 -50.48 | 54.90 -55.44 | 142.99 -264.19 | MAX MIN |
| 329 | 24.60 -57.31 | 342.61 43.96 | -52.84 -70.68 | 72.87 -73.97 | 161.16 -289.80 | MAX MIN |

| In | Mx [kNm] | My [kNm] | Mxy [kNm] | Tx [kN] | Ty [kN] | |
|-----|-------------------|-------------------|--------------------|-------------------|-------------------|------------|
| 330 | 18.85 -105.22 | 375.26 108.88 | -63.32 -84.01 | 73.71 -76.73 | 180.80 -357.52 | MAX MIN |
| 331 | 10.57 -148.47 | 437.16 218.03 | -47.01 -63.92 | 47.53 -51.12 | 213.61 -442.50 | MAX MIN |
| 332 | 8.53 -165.04 | 476.97 284.64 | 0.00 0.00 | 0.00 0.00 | 237.53 -484.23 | MAX MIN |
| 333 | 10.57 -148.47 | 437.16 218.03 | 63.92 47.01 | 51.12 -47.53 | 213.61 -442.50 | MAX MIN |
| 334 | 18.85 -105.22 | 375.26 108.88 | 84.01 63.32 | 76.73 -73.71 | 180.80 -357.52 | MAX MIN |
| 335 | 24.60 -57.31 | 342.61 43.96 | 70.68 52.84 | 73.97 -72.87 | 161.16 -289.80 | MAX MIN |
| 336 | 19.46 -23.26 | 332.32 17.71 | 50.48 35.92 | 55.44 -54.90 | 142.99 -264.19 | MAX MIN |
| 337 | 7.65 -5.66 | 327.17 0.41 | 29.91 17.77 | 30.91 -28.66 | 133.70 -278.57 | MAX MIN |
| 338 | -1.29 -1.68 | 321.21 -19.64 | 21.45 5.57 | 17.62 -14.08 | 131.87 -348.54 | MAX MIN |
| 339 | 10.88 -4.02 | 263.64 52.72 | -17.73 -27.62 | 43.79 -34.04 | 160.74 -188.75 | MAX MIN |
| 340 | -0.11 -1.10 | 257.72 29.58 | -4.68 -17.82 | 20.97 -19.43 | 164.54 -240.62 | MAX MIN |
| 341 | 29.15 -22.53 | 262.95 70.53 | -37.10 -50.38 | 89.64 -62.16 | 171.98 -175.75 | MAX MIN |
| 342 | 56.09 -55.32 | 263.85 99.77 | -61.05 -80.87 | 124.79 -95.69 | 202.04 -195.47 | MAX MIN |
| 343 | 38.53 -126.01 | 272.36 143.72 | -85.86 -122.70 | 149.75 -118.39 | 256.97 -264.36 | MAX MIN |
| 344 | 8.53 -210.50 | 426.87 318.71 | -89.65 -146.70 | 127.95 -85.78 | 274.66 -434.92 | MAX MIN |
| 345 | 40.02 -229.10 | 725.98 469.67 | 0.00 0.00 | 0.00 0.00 | 248.51 -581.08 | MAX MIN |
| 346 | 8.53 -210.50 | 426.87 318.71 | 146.70 89.65 | 85.78 -127.95 | 274.66 -434.92 | MAX MIN |
| 347 | 38.53 -126.01 | 272.36 143.72 | 122.70 85.86 | 118.39 -149.75 | 256.97 -264.36 | MAX MIN |
| 348 | 56.09 -55.32 | 263.85 99.77 | 80.87 61.05 | 95.69 -124.79 | 202.04 -195.47 | MAX MIN |
| 349 | 29.15 -22.53 | 262.95 70.53 | 50.38 37.10 | 62.16 -89.64 | 171.98 -175.75 | MAX MIN |
| 350 | 10.88 -4.02 | 263.64 52.72 | 27.62 17.73 | 34.04 -43.79 | 160.74 -188.75 | MAX MIN |
| 351 | -0.11 -1.10 | 257.72 29.58 | 17.82 4.68 | 19.43 -20.97 | 164.54 -240.62 | MAX MIN |
| 352 | 9.39 -4.80 | 196.37 76.08 | -14.58 -23.77 | 63.99 -24.71 | 169.40 -104.36 | MAX MIN |
| 353 | 0.55 -1.45 | 191.39 52.15 | -2.86 -13.82 | 30.20 -15.08 | 182.07 -136.02 | MAX MIN |
| 354 | 25.58 -27.21 | 190.40 93.71 | -31.88 -44.99 | 138.01 -41.99 | 174.83 -93.83 | MAX MIN |
| 355 | 52.59 -67.57 | 175.80 116.90 | -51.27 -68.73 | 227.80 -62.31 | 198.06 -105.84 | MAX MIN |
| 356 | 126.22 -115.11 | 200.48 126.21 | -94.50 -151.81 | 263.27 -121.65 | 266.47 -158.65 | MAX MIN |
| 357 | -55.34 -309.36 | 221.72 102.08 | -129.05 -235.44 | 168.83 -145.87 | 226.30 -357.96 | MAX MIN |
| 358 | 163.44 -228.35 | 1735.03 846.18 | 0.00 0.00 | 0.00 0.00 | -63.90 -928.19 | MAX MIN |
| 359 | -55.34 -309.36 | 221.72 102.08 | 235.44 129.05 | 145.87 -168.83 | 226.30 -357.96 | MAX MIN |
| 360 | 126.22 -115.11 | 200.48 126.21 | 151.81 94.50 | 121.65 -263.27 | 266.47 -158.65 | MAX MIN |
| 361 | 52.59 -67.57 | 175.80 116.90 | 68.73 51.27 | 62.31 -227.80 | 198.06 -105.84 | MAX MIN |
| 362 | 25.58 -27.21 | 190.40 93.71 | 44.99 31.88 | 41.99 -138.01 | 174.83 -93.83 | MAX MIN |
| 363 | 9.39 -4.80 | 196.37 76.08 | 23.77 14.58 | 24.71 -63.99 | 169.40 -104.36 | MAX MIN |
| 364 | 0.55 -1.45 | 191.39 52.15 | 13.82 2.86 | 15.08 -30.20 | 182.07 -136.02 | MAX MIN |
| 365 | 4.11 -8.70 | 131.50 75.92 | -10.79 -21.05 | 83.79 -4.76 | 158.77 -34.57 | MAX MIN |
| 366 | 0.20 -2.25 | 127.31 52.91 | -0.97 -10.26 | 39.65 -5.48 | 182.15 -45.10 | MAX MIN |
| 367 | 5.22 -42.16 | 125.15 91.75 | -23.35 -40.96 | 183.23 2.68 | 150.73 -30.35 | MAX MIN |
| 368 | 0.47 -104.27 | 124.57 78.46 | -40.20 -69.41 | 330.39 22.43 | 144.01 -42.23 | MAX MIN |

| In | Mx [kNm] | My [kNm] | Mxy [kNm] | Tx [kN] | Ty [kN] | |
|-----|--------------------|---------------------|--------------------|--------------------|---------------------|------------|
| 369 | -14.56 -222.33 | 132.93 34.33 | -57.86 -103.82 | 410.44 36.67 | 115.93 -100.58 | MAX MIN |
| 370 | -30.27 -333.69 | 142.68 -4.10 | -295.66 -584.91 | 262.54 24.66 | 23.71 -274.38 | MAX MIN |
| 371 | -35.41 -367.78 | 150.39 -9.98 | 0.00 0.00 | 0.00 0.00 | -426.16 -1175.38 | MAX MIN |
| 372 | -30.27 -333.69 | 142.68 -4.10 | 584.91 295.66 | -24.66 -262.54 | 23.71 -274.38 | MAX MIN |
| 373 | -14.56 -222.33 | 132.93 34.33 | 132.82 57.86 | -36.67 -410.44 | 115.93 -100.58 | MAX MIN |
| 374 | 0.47 -104.27 | 124.57 78.46 | 69.41 40.20 | -22.43 -330.39 | 144.01 -42.23 | MAX MIN |
| 375 | 5.22 -42.16 | 125.15 91.75 | 40.96 23.35 | -2.68 -183.23 | 150.73 -30.35 | MAX MIN |
| 376 | 4.11 -8.70 | 131.50 75.92 | 21.05 10.79 | 4.76 -83.79 | 158.77 -34.57 | MAX MIN |
| 377 | 0.20 -2.25 | 127.31 52.91 | 10.26 0.97 | 5.48 -39.65 | 182.15 -45.10 | MAX MIN |
| 378 | -0.11 -13.42 | 77.41 57.60 | -7.70 -18.73 | 99.82 22.36 | 130.92 12.83 | MAX MIN |
| 379 | -0.47 -1.80 | 70.51 37.03 | 0.09 -7.33 | 48.29 8.22 | 163.82 22.47 | MAX MIN |
| 380 | -14.96 -59.52 | 79.33 58.10 | -18.81 -42.74 | 210.67 57.79 | 110.07 9.17 | MAX MIN |
| 381 | -52.53 -144.80 | 89.97 43.55 | -31.91 -73.13 | 344.77 109.81 | 70.33 -12.53 | MAX MIN |
| 382 | -152.33 -306.08 | 72.19 -0.91 | -73.89 -159.35 | 470.21 193.59 | -60.72 -95.84 | MAX MIN |
| 383 | -1.50 -312.68 | 81.64 -38.93 | -117.00 -240.64 | 391.78 202.77 | -232.85 -318.10 | MAX MIN |
| 384 | -233.96 -501.01 | -808.12 -1430.83 | 0.00 0.00 | 0.00 0.00 | -512.27 -892.19 | MAX MIN |
| 385 | -1.50 -312.68 | 81.64 -38.93 | 240.64 117.00 | -202.77 -391.78 | -232.85 -318.10 | MAX MIN |
| 386 | -152.33 -306.08 | 72.19 -0.91 | 159.35 73.89 | -193.59 -470.21 | -60.72 -95.84 | MAX MIN |
| 387 | -52.53 -144.80 | 89.97 43.55 | 73.13 31.91 | -109.81 -344.77 | 70.33 -12.53 | MAX MIN |
| 388 | -14.96 -59.52 | 79.33 58.10 | 42.74 18.81 | -57.79 -210.67 | 110.07 9.17 | MAX MIN |
| 389 | -0.11 -13.42 | 77.41 57.60 | 18.73 7.70 | -22.36 -99.82 | 130.92 12.83 | MAX MIN |
| 390 | -0.47 -1.80 | 70.51 37.03 | 7.33 -0.09 | -8.22 -48.29 | 163.82 22.47 | MAX MIN |
| 391 | -0.93 -16.43 | 34.91 28.02 | -5.97 -15.02 | 121.69 59.44 | 91.69 31.45 | MAX MIN |
| 392 | 0.61 -0.69 | 25.86 14.39 | 0.41 -4.26 | 60.57 28.33 | 128.75 55.34 | MAX MIN |
| 393 | -20.12 -68.43 | 43.79 26.73 | -16.49 -39.38 | 240.23 121.06 | 69.15 25.03 | MAX MIN |
| 394 | -58.96 -155.87 | 55.28 22.71 | -33.38 -79.62 | 341.66 180.78 | 20.66 -1.48 | MAX MIN |
| 395 | -61.55 -236.60 | 68.85 19.17 | -57.93 -134.04 | 397.31 212.63 | -92.30 -125.91 | MAX MIN |
| 396 | -53.61 -314.19 | -91.18 -118.42 | -71.82 -157.47 | 304.18 155.41 | -299.84 -374.69 | MAX MIN |
| 397 | -96.98 -380.78 | -247.36 -405.51 | 0.00 0.00 | 0.00 0.00 | -440.73 -545.31 | MAX MIN |
| 398 | -53.61 -314.19 | -91.18 -118.42 | 157.47 71.82 | -155.41 -304.18 | -299.84 -374.69 | MAX MIN |
| 399 | -61.55 -236.60 | 68.85 19.17 | 134.04 57.93 | -212.63 -397.31 | -92.30 -125.91 | MAX MIN |
| 400 | -58.96 -155.87 | 55.28 22.71 | 79.62 33.38 | -180.78 -341.66 | 20.66 -1.48 | MAX MIN |
| 401 | -20.12 -68.43 | 43.79 26.73 | 39.38 16.49 | -121.06 -240.23 | 69.15 25.03 | MAX MIN |
| 402 | -0.93 -16.43 | 34.91 28.02 | 15.02 5.97 | -59.44 -121.69 | 91.69 31.45 | MAX MIN |
| 403 | 0.61 -0.69 | 25.86 14.39 | 4.26 -0.41 | -28.33 -60.57 | 128.75 55.34 | MAX MIN |
| 404 | -5.66 -19.87 | 13.84 9.64 | -3.30 -7.88 | 150.67 96.86 | 47.69 23.60 | MAX MIN |
| 405 | 0.86 -0.90 | 6.43 2.40 | 0.45 -1.39 | 78.17 49.95 | 76.85 47.18 | MAX MIN |
| 406 | -28.54 -75.19 | 19.09 10.39 | -10.67 -24.63 | 281.94 183.15 | 35.01 21.10 | MAX MIN |
| 407 | -46.88 -149.77 | 30.57 13.39 | -22.17 -51.61 | 373.10 244.59 | 6.42 -4.19 | MAX MIN |

| In | Mx [kNm] | My [kNm] | Mxy [kNm] | Tx [kN] | Ty [kN] | |
|-----|-------------------|-------------------|------------------|--------------------|--------------------|------------|
| 408 | -47.62 -227.07 | 16.51 2.60 | -37.04 -85.56 | 382.12 249.35 | -60.78 -76.61 | MAX MIN |
| 409 | -36.57 -289.22 | -34.83 -54.66 | -32.38 -74.80 | 254.01 163.31 | -163.92 -217.56 | MAX MIN |
| 410 | -32.51 -315.80 | -62.57 -110.31 | 0.00 0.00 | 0.00 0.00 | -221.79 -307.11 | MAX MIN |
| 411 | -36.57 -289.22 | -34.83 -54.66 | 74.80 32.38 | -163.31 -254.01 | -163.92 -217.56 | MAX MIN |
| 412 | -47.62 -227.07 | 16.51 2.60 | 85.56 37.04 | -249.35 -382.12 | -60.78 -76.61 | MAX MIN |
| 413 | -46.88 -149.77 | 30.57 13.39 | 51.61 22.17 | -244.59 -373.10 | 6.42 -4.19 | MAX MIN |
| 414 | -28.54 -75.19 | 19.09 10.39 | 24.63 10.67 | -183.15 -281.94 | 35.01 21.10 | MAX MIN |
| 415 | -5.66 -19.87 | 13.84 9.64 | 7.88 3.30 | -96.86 -150.67 | 47.69 23.60 | MAX MIN |
| 416 | 0.86 -0.90 | 6.43 2.40 | 1.39 -0.45 | -49.95 -78.17 | 76.85 47.18 | MAX MIN |
| 417 | -24.93 -33.63 | 1.48 0.81 | -3.75 -5.90 | 200.49 152.46 | 25.03 14.29 | MAX MIN |
| 418 | -2.98 -4.59 | -1.47 -3.21 | -1.01 -1.81 | 113.03 86.66 | 46.29 32.78 | MAX MIN |
| 419 | -59.86 -97.65 | 3.14 1.30 | -8.82 -15.39 | 358.98 276.33 | 19.24 14.18 | MAX MIN |
| 420 | -69.95 -162.25 | 9.58 4.22 | -16.06 -30.78 | 467.40 368.74 | 5.28 -1.29 | MAX MIN |
| 421 | -33.14 -214.72 | 11.11 5.18 | -21.49 -43.90 | 468.90 376.82 | -33.14 -43.37 | MAX MIN |
| 422 | 33.37 -241.06 | -0.96 -5.39 | -17.20 -36.59 | 303.98 246.36 | -88.70 -113.55 | MAX MIN |
| 423 | 66.27 -248.63 | -7.43 -21.66 | 0.00 0.00 | 0.00 0.00 | -119.22 -153.24 | MAX MIN |
| 424 | 33.37 -241.06 | -0.96 -5.39 | 36.59 17.20 | -246.36 -303.98 | -88.70 -113.55 | MAX MIN |
| 425 | -33.14 -214.72 | 11.11 5.18 | 43.90 21.49 | -376.82 -468.90 | -33.14 -43.37 | MAX MIN |
| 426 | -69.95 -162.25 | 9.58 4.22 | 30.78 16.06 | -368.74 -467.40 | 5.28 -1.29 | MAX MIN |
| 427 | -59.86 -97.65 | 3.14 1.30 | 15.39 8.82 | -276.33 -358.98 | 19.24 14.18 | MAX MIN |
| 428 | -24.93 -33.63 | 1.48 0.81 | 5.90 3.75 | -152.46 -200.49 | 25.03 14.29 | MAX MIN |
| 429 | -2.98 -4.59 | -1.47 -3.21 | 1.81 1.01 | -86.66 -113.03 | 46.29 32.78 | MAX MIN |

Verifiche strutturali

Verifiche a flessione

Elementi calcolati a trave

Simbologia adottata

| | |
|-----|---|
| n° | indice sezione |
| Y | ordinata sezione espressa in [m] |
| B | larghezza sezione espressa 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] |
| Mu | momento ultimi espresso in [kNm] |
| Nu | sforzo normale ultimo espressa in [kN] |
| FS | fattore di sicurezza (rapporto tra sollecitazione ultima e sollecitazione agente) |

Elementi calcolati a piastra

Simbologia adottata

| | |
|----------|---|
| n° | indice sezione |
| Y | ordinata sezione espressa in [m] |
| B | larghezza sezione espressa in [cm] |
| H | altezza sezione espressa in [cm] |
| Afi, Afs | area ferri inferiori e superiori, espresso in [cmq] |
| Mp, Mn | momento positivo e negativo agente espressa in [kNm] |
| Mu | momento ultimi espresso in [kNm] |
| FS | fattore di sicurezza (rapporto tra sollecitazione ultima e sollecitazione agente) |

Paramento

| n° | B | H | Afi | Afs | M | N | Mu | Nu | FS |
|----|------|------|-------|-------|--------|--------|---------|---------|---------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kN] | [kNm] | [kN] | |
| 1 | 100 | 40 | 15.71 | 45.24 | 0.83 | 4.73 | 625.81 | 3576.05 | 755.405 |
| 2 | 100 | 41 | 15.71 | 45.24 | 0.91 | 5.73 | 628.98 | 3942.31 | 688.384 |
| 3 | 100 | 42 | 15.71 | 45.24 | 1.17 | 6.74 | 673.07 | 3870.12 | 573.831 |
| 4 | 100 | 43 | 15.71 | 45.24 | 1.61 | 7.79 | 739.93 | 3575.49 | 459.202 |
| 5 | 100 | 44 | 15.71 | 45.24 | 2.23 | 8.85 | 811.07 | 3214.14 | 363.065 |
| 6 | 100 | 45 | 15.71 | 45.24 | 3.05 | 9.94 | 879.21 | 2870.31 | 288.653 |
| 7 | 100 | 46 | 15.71 | 45.24 | 4.05 | 11.06 | 915.59 | 2498.80 | 225.945 |
| 8 | 100 | 47 | 15.71 | 45.24 | 5.26 | 12.20 | 930.34 | 2158.44 | 176.931 |
| 9 | 100 | 48 | 15.71 | 45.24 | 6.67 | 13.36 | 940.90 | 1885.50 | 141.089 |
| 10 | 100 | 49 | 15.71 | 45.24 | 8.29 | 14.55 | 950.06 | 1667.96 | 114.614 |
| 11 | 100 | 50 | 15.71 | 45.24 | 10.12 | 15.77 | 957.60 | 1491.22 | 94.582 |
| 12 | 100 | 51 | 15.71 | 45.24 | 12.18 | 17.00 | 966.58 | 1349.45 | 79.358 |
| 13 | 100 | 52 | 15.71 | 45.24 | 14.46 | 18.27 | 977.96 | 1235.39 | 67.629 |
| 14 | 100 | 53 | 15.71 | 45.24 | 16.97 | 19.55 | 986.87 | 1137.05 | 58.149 |
| 15 | 100 | 54 | 15.71 | 45.24 | 19.72 | 20.87 | 997.96 | 1056.06 | 50.612 |
| 16 | 100 | 55 | 15.71 | 45.24 | 22.70 | 22.20 | 1010.75 | 988.36 | 44.517 |
| 17 | 100 | 56 | 15.71 | 45.24 | 25.94 | 23.56 | 1024.89 | 931.05 | 39.514 |
| 18 | 100 | 57 | 15.71 | 45.24 | 29.42 | 24.95 | 1038.48 | 880.58 | 35.297 |
| 19 | 100 | 58 | 15.71 | 45.24 | 33.16 | 26.36 | 1050.84 | 835.25 | 31.689 |
| 20 | 100 | 59 | 15.71 | 45.24 | 37.16 | 27.79 | 1064.22 | 795.90 | 28.638 |
| 21 | 100 | 60 | 15.71 | 45.24 | 41.43 | 29.25 | 1078.46 | 761.46 | 26.032 |
| 22 | 100 | 61 | 15.71 | 45.24 | 45.97 | 30.73 | 1093.44 | 731.09 | 23.788 |
| 23 | 100 | 62 | 15.71 | 45.24 | 50.78 | 32.24 | 1109.04 | 704.15 | 21.840 |
| 24 | 100 | 63 | 15.71 | 45.24 | 55.88 | 33.77 | 1125.20 | 680.11 | 20.137 |
| 25 | 100 | 64 | 15.71 | 45.24 | 61.26 | 35.33 | 1141.83 | 658.53 | 18.639 |
| 26 | 100 | 65 | 15.71 | 45.24 | 66.93 | 36.91 | 1158.11 | 638.65 | 17.302 |
| 27 | 100 | 66 | 15.71 | 45.24 | 72.91 | 38.52 | 1173.52 | 619.99 | 16.096 |
| 28 | 100 | 67 | 15.71 | 45.24 | 79.18 | 40.15 | 1189.19 | 602.97 | 15.019 |
| 29 | 100 | 68 | 15.71 | 45.24 | 85.76 | 41.80 | 1205.09 | 587.40 | 14.052 |
| 30 | 100 | 69 | 15.71 | 45.24 | 92.65 | 43.48 | 1221.20 | 573.10 | 13.180 |
| 31 | 100 | 70 | 15.71 | 45.24 | 99.86 | 45.19 | 1237.49 | 559.93 | 12.392 |
| 32 | 100 | 71 | 15.71 | 45.24 | 107.40 | 46.91 | 1253.95 | 547.76 | 11.676 |
| 33 | 100 | 72 | 15.71 | 45.24 | 115.26 | 48.67 | 1270.54 | 536.47 | 11.023 |
| 34 | 100 | 73 | 15.71 | 45.24 | 123.45 | 50.44 | 1287.27 | 525.99 | 10.427 |
| 35 | 100 | 74 | 15.71 | 45.24 | 131.99 | 52.25 | 1304.11 | 516.23 | 9.881 |
| 36 | 100 | 75 | 15.71 | 45.24 | 140.86 | 54.07 | 1321.06 | 507.12 | 9.379 |
| 37 | 100 | 76 | 15.71 | 45.24 | 150.08 | 55.92 | 1338.10 | 498.60 | 8.916 |
| 38 | 100 | 77 | 15.71 | 45.24 | 159.66 | 57.80 | 1355.18 | 490.59 | 8.488 |
| 39 | 100 | 78 | 15.71 | 45.24 | 169.60 | 59.70 | 1372.34 | 483.07 | 8.092 |
| 40 | 100 | 79 | 15.71 | 45.24 | 179.89 | 61.62 | 1389.57 | 476.00 | 7.724 |
| 41 | 100 | 80 | 15.71 | 45.24 | 190.56 | 63.57 | 1406.88 | 469.34 | 7.383 |
| 42 | 100 | 81 | 15.71 | 45.24 | 201.60 | 65.55 | 1424.25 | 463.06 | 7.065 |
| 43 | 100 | 82 | 15.71 | 45.24 | 213.02 | 67.54 | 1441.68 | 457.12 | 6.768 |
| 44 | 100 | 83 | 15.71 | 45.24 | 224.83 | 69.57 | 1459.16 | 451.49 | 6.490 |
| 45 | 100 | 84 | 15.71 | 45.24 | 237.02 | 71.61 | 1476.69 | 446.17 | 6.230 |
| 46 | 100 | 85 | 15.71 | 45.24 | 249.61 | 73.69 | 1494.27 | 441.11 | 5.986 |
| 47 | 100 | 86 | 15.71 | 45.24 | 262.60 | 75.78 | 1511.90 | 436.31 | 5.757 |
| 48 | 100 | 87 | 15.71 | 45.24 | 275.99 | 77.90 | 1529.56 | 431.74 | 5.542 |
| 49 | 100 | 88 | 15.71 | 45.24 | 289.79 | 80.05 | 1547.26 | 427.39 | 5.339 |
| 50 | 100 | 89 | 15.71 | 45.24 | 304.01 | 82.22 | 1565.00 | 423.24 | 5.148 |
| 51 | 100 | 90 | 15.71 | 45.24 | 318.65 | 84.41 | 1582.77 | 419.28 | 4.967 |
| 52 | 100 | 91 | 15.71 | 45.24 | 333.71 | 86.63 | 1600.57 | 415.50 | 4.796 |
| 53 | 100 | 92 | 15.71 | 45.24 | 349.20 | 88.87 | 1618.40 | 411.89 | 4.635 |
| 54 | 100 | 93 | 15.71 | 45.24 | 365.13 | 91.14 | 1636.26 | 408.43 | 4.481 |
| 55 | 100 | 94 | 15.71 | 45.24 | 381.50 | 93.43 | 1654.14 | 405.12 | 4.336 |
| 56 | 100 | 95 | 15.71 | 45.24 | 398.31 | 95.75 | 1672.05 | 401.94 | 4.198 |
| 57 | 100 | 96 | 15.71 | 45.24 | 415.58 | 98.09 | 1689.98 | 398.89 | 4.067 |
| 58 | 100 | 97 | 15.71 | 45.24 | 433.30 | 100.46 | 1708.26 | 396.05 | 3.942 |
| 59 | 100 | 98 | 15.71 | 45.24 | 451.48 | 102.85 | 1726.60 | 393.32 | 3.824 |
| 60 | 100 | 99 | 15.71 | 45.24 | 470.13 | 105.26 | 1744.99 | 390.70 | 3.712 |
| 61 | 100 | 100 | 15.71 | 45.24 | 489.25 | 107.70 | 1763.42 | 388.19 | 3.604 |
| 62 | 100 | 101 | 15.71 | 45.24 | 508.84 | 110.16 | 1781.88 | 385.78 | 3.502 |
| 63 | 100 | 102 | 47.12 | 90.48 | 528.92 | 112.65 | 3566.16 | 759.55 | 6.742 |
| 64 | 100 | 103 | 47.12 | 90.48 | 549.48 | 115.17 | 3602.15 | 754.97 | 6.556 |
| 65 | 100 | 104 | 47.12 | 90.48 | 570.54 | 117.70 | 3638.17 | 750.56 | 6.377 |

| n° | B | H | Afi | Afs | M | N | Mu | Nu | FS |
|-----|------|------|-------|--------|---------|--------|---------|--------|-------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kN] | [kNm] | [kN] | |
| 66 | 100 | 105 | 47.12 | 90.48 | 592.09 | 120.26 | 3674.22 | 746.30 | 6.205 |
| 67 | 100 | 106 | 47.12 | 90.48 | 614.15 | 122.85 | 3710.29 | 742.19 | 6.041 |
| 68 | 100 | 107 | 47.12 | 90.48 | 636.71 | 125.46 | 3746.40 | 738.22 | 5.884 |
| 69 | 100 | 108 | 47.12 | 90.48 | 659.78 | 128.10 | 3782.53 | 734.38 | 5.733 |
| 70 | 100 | 109 | 47.12 | 90.48 | 683.37 | 130.76 | 3818.69 | 730.67 | 5.588 |
| 71 | 100 | 110 | 47.12 | 90.48 | 707.49 | 133.44 | 3854.87 | 727.08 | 5.449 |
| 72 | 100 | 111 | 47.12 | 90.48 | 732.13 | 136.15 | 3891.07 | 723.61 | 5.315 |
| 73 | 100 | 112 | 47.12 | 90.48 | 757.30 | 138.88 | 3927.29 | 720.24 | 5.186 |
| 74 | 100 | 113 | 47.12 | 90.48 | 783.02 | 141.64 | 3963.54 | 716.98 | 5.062 |
| 75 | 100 | 114 | 47.12 | 90.48 | 809.27 | 144.42 | 3999.80 | 713.82 | 4.942 |
| 76 | 100 | 115 | 47.12 | 90.48 | 836.08 | 147.23 | 4036.09 | 710.75 | 4.827 |
| 77 | 100 | 116 | 47.12 | 90.48 | 863.43 | 150.06 | 4072.39 | 707.78 | 4.717 |
| 78 | 100 | 117 | 47.12 | 113.10 | 891.35 | 152.92 | 5066.07 | 869.13 | 5.684 |
| 79 | 100 | 118 | 47.12 | 113.10 | 919.83 | 155.80 | 5113.75 | 866.17 | 5.559 |
| 80 | 100 | 119 | 47.12 | 113.10 | 948.87 | 158.71 | 5161.50 | 863.29 | 5.440 |
| 81 | 100 | 120 | 47.12 | 113.10 | 978.50 | 161.63 | 5209.33 | 860.51 | 5.324 |
| 82 | 100 | 121 | 47.12 | 113.10 | 1008.70 | 164.59 | 5257.23 | 857.82 | 5.212 |
| 83 | 100 | 122 | 47.12 | 113.10 | 1039.48 | 167.57 | 5305.20 | 855.21 | 5.104 |
| 84 | 100 | 123 | 47.12 | 113.10 | 1070.86 | 170.57 | 5351.91 | 852.48 | 4.998 |
| 85 | 100 | 124 | 47.12 | 113.10 | 1102.82 | 173.60 | 5397.50 | 849.63 | 4.894 |
| 86 | 100 | 125 | 47.12 | 113.10 | 1135.39 | 176.65 | 5443.10 | 846.87 | 4.794 |
| 87 | 100 | 126 | 47.12 | 113.10 | 1168.56 | 179.73 | 5488.71 | 844.17 | 4.697 |
| 88 | 100 | 127 | 47.12 | 113.10 | 1202.35 | 182.83 | 5534.32 | 841.55 | 4.603 |
| 89 | 100 | 128 | 47.12 | 113.10 | 1236.74 | 185.95 | 5579.93 | 838.99 | 4.512 |
| 90 | 100 | 129 | 47.12 | 113.10 | 1271.76 | 189.10 | 5625.55 | 836.49 | 4.423 |
| 91 | 100 | 130 | 47.12 | 113.10 | 1307.40 | 192.28 | 5671.18 | 834.06 | 4.338 |
| 92 | 100 | 131 | 47.12 | 67.86 | 1343.67 | 195.48 | 3508.37 | 510.40 | 2.611 |
| 93 | 100 | 132 | 47.12 | 67.86 | 1380.58 | 198.70 | 3536.70 | 509.02 | 2.562 |
| 94 | 100 | 133 | 31.42 | 67.86 | 1418.13 | 201.95 | 3529.90 | 502.68 | 2.489 |
| 95 | 100 | 134 | 31.42 | 67.86 | 1456.32 | 205.22 | 3557.92 | 501.38 | 2.443 |
| 96 | 100 | 135 | 31.42 | 67.86 | 1495.17 | 208.52 | 3585.97 | 500.11 | 2.398 |
| 97 | 100 | 136 | 31.42 | 67.86 | 1534.67 | 211.84 | 3614.04 | 498.87 | 2.355 |
| 98 | 100 | 137 | 31.42 | 67.86 | 1574.83 | 215.19 | 3642.14 | 497.67 | 2.313 |
| 99 | 100 | 138 | 31.42 | 67.86 | 1615.65 | 218.56 | 3670.26 | 496.50 | 2.272 |
| 100 | 100 | 139 | 31.42 | 67.86 | 1657.15 | 221.95 | 3698.41 | 495.35 | 2.232 |
| 101 | 100 | 140 | 31.42 | 67.86 | 1699.33 | 225.37 | 3726.58 | 494.24 | 2.193 |

Mensola valle

| n° | B | H | Afi | Afs | M | N | Mu | Nu | FS |
|----|------|------|-------|-------|-------|------|---------|------|----------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kN] | [kNm] | [kN] | |
| 1 | 100 | 50 | 8.04 | 8.04 | 0.00 | 0.00 | 0.00 | 0.00 | 1000.000 |
| 2 | 100 | 50 | 8.04 | 8.04 | 0.00 | 0.00 | 0.00 | 0.00 | 1000.000 |
| 3 | 100 | 50 | 8.04 | 8.04 | -0.21 | 0.00 | -139.00 | 0.00 | 671.115 |
| 4 | 100 | 50 | 8.04 | 8.04 | -0.47 | 0.00 | -139.00 | 0.00 | 298.274 |
| 5 | 100 | 50 | 8.04 | 8.04 | -0.83 | 0.00 | -139.00 | 0.00 | 167.779 |

Fondazione

| Is | Afi | Afs | Mp | Mn | Mu | FS |
|--------|-------|-------|-------|---------|---------|-------------|
| | [cmq] | [cmq] | [kNm] | [kNm] | [kNm] | |
| 1-1-P | 10.05 | 10.05 | 1.45 | -0.01 | 561.35 | 100.000 (1) |
| 1-2-P | 10.05 | 10.05 | 0.96 | -1.37 | 561.35 | 100.000 (1) |
| 1-3-P | 10.05 | 10.05 | 0.98 | -17.20 | -561.35 | 37.299 (3) |
| 1-4-P | 10.05 | 10.05 | 0.00 | -48.61 | -561.35 | 12.960 (3) |
| 1-5-P | 10.05 | 10.05 | 0.00 | -104.11 | -561.35 | 5.986 (3) |
| 1-6-P | 10.05 | 10.05 | 0.00 | -191.55 | -561.35 | 3.214 (3) |
| 1-7-P | 10.05 | 10.05 | 4.94 | -366.15 | -561.35 | 1.643 (3) |
| 1-8-P | 10.05 | 10.05 | 3.51 | -402.50 | -561.35 | 1.509 (3) |
| 1-9-P | 10.05 | 10.05 | 3.51 | -402.50 | -561.35 | 1.509 (3) |
| 1-10-P | 10.05 | 10.05 | 4.94 | -366.15 | -561.35 | 1.643 (3) |
| 1-11-P | 10.05 | 10.05 | 0.00 | -191.55 | -561.35 | 3.214 (3) |
| 1-12-P | 10.05 | 10.05 | 0.00 | -104.11 | -561.35 | 5.986 (3) |
| 1-13-P | 10.05 | 10.05 | 0.00 | -48.61 | -561.35 | 12.960 (3) |
| 1-14-P | 10.05 | 10.05 | 0.98 | -17.20 | -561.35 | 37.299 (3) |
| 1-15-P | 10.05 | 10.05 | 0.96 | -1.37 | 561.35 | 100.000 (1) |

| Is | Afi | Afs | Mp | Mn | Mu | FS |
|--------|-------|-------|-------|---------|---------|-------------|
| | [cmq] | [cmq] | [kNm] | [kNm] | [kNm] | |
| 1-16-P | 10.05 | 10.05 | 1.45 | -0.01 | 561.35 | 100.000 (1) |
| 2-1-P | 10.05 | 10.05 | 36.81 | 0.00 | 561.35 | 17.081 (3) |
| 2-2-P | 10.05 | 10.05 | 41.04 | 0.00 | 561.35 | 15.640 (3) |
| 2-3-P | 10.05 | 10.05 | 48.14 | -5.79 | 561.35 | 13.353 (3) |
| 2-4-P | 10.05 | 10.05 | 47.79 | -21.26 | 561.35 | 13.727 (3) |
| 2-5-P | 10.05 | 10.05 | 37.19 | -53.74 | -561.35 | 6.991 (3) |
| 2-6-P | 10.05 | 10.05 | 29.22 | -123.52 | -561.35 | 3.325 (3) |
| 2-7-P | 10.05 | 10.05 | 27.45 | -156.95 | -561.35 | 2.966 (3) |
| 2-8-P | 10.05 | 10.05 | 19.32 | -230.29 | -561.35 | 2.064 (3) |
| 2-9-P | 10.05 | 10.05 | 19.32 | -230.29 | -561.35 | 2.064 (3) |
| 2-10-P | 10.05 | 10.05 | 27.45 | -156.95 | -561.35 | 2.966 (3) |
| 2-11-P | 10.05 | 10.05 | 29.22 | -123.52 | -561.35 | 3.325 (3) |
| 2-12-P | 10.05 | 10.05 | 37.19 | -53.74 | -561.35 | 6.991 (3) |
| 2-13-P | 10.05 | 10.05 | 47.79 | -21.26 | 561.35 | 13.727 (3) |
| 2-14-P | 10.05 | 10.05 | 48.14 | -5.79 | 561.35 | 13.353 (3) |
| 2-15-P | 10.05 | 10.05 | 41.04 | 0.00 | 561.35 | 15.640 (3) |
| 2-16-P | 10.05 | 10.05 | 36.81 | 0.00 | 561.35 | 17.081 (3) |
| 5-1-P | 10.05 | 10.05 | 1.04 | -75.31 | -560.75 | 7.446 (4) |
| 5-2-P | 10.05 | 10.05 | 0.00 | -104.76 | -560.75 | 5.353 (4) |
| 5-3-P | 10.05 | 10.05 | 0.00 | -147.95 | -560.75 | 3.790 (4) |
| 5-4-P | 10.05 | 10.05 | 0.00 | -187.97 | -560.75 | 2.983 (4) |
| 5-5-P | 10.05 | 10.05 | 0.00 | -218.89 | -560.75 | 2.562 (4) |
| 5-6-P | 10.05 | 10.05 | 0.00 | -246.55 | -560.75 | 2.274 (4) |
| 5-7-P | 10.05 | 10.05 | 0.00 | -331.40 | -560.75 | 1.692 (4) |
| 5-8-P | 10.05 | 10.05 | 0.00 | -323.90 | -560.75 | 1.731 (4) |
| 5-9-P | 10.05 | 10.05 | 0.00 | -323.90 | -560.75 | 1.731 (4) |
| 5-10-P | 10.05 | 10.05 | 0.00 | -331.40 | -560.75 | 1.692 (4) |
| 5-11-P | 10.05 | 10.05 | 0.00 | -246.55 | -560.75 | 2.274 (4) |
| 5-12-P | 10.05 | 10.05 | 0.00 | -218.89 | -560.75 | 2.562 (4) |
| 5-13-P | 10.05 | 10.05 | 0.00 | -187.97 | -560.75 | 2.983 (4) |
| 5-14-P | 10.05 | 10.05 | 0.00 | -147.95 | -560.75 | 3.790 (4) |
| 5-15-P | 10.05 | 10.05 | 0.00 | -104.76 | -560.75 | 5.353 (4) |
| 5-16-P | 10.05 | 10.05 | 1.04 | -75.31 | -560.75 | 7.446 (4) |
| 6-1-P | 8.04 | 8.04 | 5.52 | -4.01 | 449.49 | 100.000 (2) |
| 6-2-P | 8.04 | 8.04 | 0.00 | -15.42 | -449.49 | 29.155 (4) |
| 6-3-P | 8.04 | 8.04 | 0.00 | -47.78 | -449.49 | 9.408 (4) |
| 6-4-P | 8.04 | 8.04 | 0.00 | -95.85 | -449.49 | 4.689 (4) |
| 6-5-P | 8.04 | 8.04 | 0.00 | -160.09 | -449.49 | 2.808 (4) |
| 6-6-P | 8.04 | 8.04 | 0.00 | -240.62 | -449.49 | 1.868 (4) |
| 6-7-P | 8.04 | 8.04 | 0.00 | -273.70 | -449.49 | 1.716 (3) |
| 6-8-P | 8.04 | 8.04 | 0.00 | -351.74 | -449.49 | 1.354 (3) |
| 6-9-P | 8.04 | 8.04 | 0.00 | -351.74 | -449.49 | 1.354 (3) |
| 6-10-P | 8.04 | 8.04 | 0.00 | -273.70 | -449.49 | 1.716 (3) |
| 6-11-P | 8.04 | 8.04 | 0.00 | -240.62 | -449.49 | 1.868 (4) |
| 6-12-P | 8.04 | 8.04 | 0.00 | -160.09 | -449.49 | 2.808 (4) |
| 6-13-P | 8.04 | 8.04 | 0.00 | -95.85 | -449.49 | 4.689 (4) |
| 6-14-P | 8.04 | 8.04 | 0.00 | -47.78 | -449.49 | 9.408 (4) |
| 6-15-P | 8.04 | 8.04 | 0.00 | -15.42 | -449.49 | 29.155 (4) |
| 6-16-P | 8.04 | 8.04 | 5.52 | -4.01 | 449.49 | 100.000 (2) |
| 7-1-P | 10.05 | 10.05 | 2.74 | -3.88 | 560.75 | 100.000 (1) |
| 7-2-P | 10.05 | 10.05 | 0.00 | -8.50 | -560.75 | 72.195 (3) |
| 7-3-P | 10.05 | 10.05 | 0.00 | -24.90 | -560.75 | 24.824 (3) |
| 7-4-P | 10.05 | 10.05 | 0.00 | -47.73 | -560.75 | 13.116 (3) |
| 7-5-P | 10.05 | 10.05 | 0.00 | -74.45 | -560.75 | 8.521 (3) |
| 7-6-P | 10.05 | 10.05 | 0.00 | -101.97 | -560.75 | 6.310 (3) |
| 7-7-P | 10.05 | 10.05 | 0.00 | -124.27 | -560.75 | 5.231 (3) |
| 7-8-P | 10.05 | 10.05 | 0.00 | -136.93 | -560.75 | 4.758 (3) |
| 7-9-P | 10.05 | 10.05 | 0.00 | -136.93 | -560.75 | 4.758 (3) |
| 7-10-P | 10.05 | 10.05 | 0.00 | -124.27 | -560.75 | 5.231 (3) |
| 7-11-P | 10.05 | 10.05 | 0.00 | -101.97 | -560.75 | 6.310 (3) |
| 7-12-P | 10.05 | 10.05 | 0.00 | -74.45 | -560.75 | 8.521 (3) |
| 7-13-P | 10.05 | 10.05 | 0.00 | -47.73 | -560.75 | 13.116 (3) |
| 7-14-P | 10.05 | 10.05 | 0.00 | -24.90 | -560.75 | 24.824 (3) |
| 7-15-P | 10.05 | 10.05 | 0.00 | -8.50 | -560.75 | 72.195 (3) |
| 7-16-P | 10.05 | 10.05 | 2.74 | -3.88 | 560.75 | 100.000 (1) |
| 8-1-P | 8.04 | 8.04 | 4.43 | -6.16 | -449.49 | 83.242 (3) |
| 8-2-P | 8.04 | 8.04 | 8.46 | -6.73 | 449.49 | 53.101 (4) |
| 8-3-P | 8.04 | 8.04 | 14.19 | -10.12 | 449.49 | 25.346 (4) |
| 8-4-P | 8.04 | 8.04 | 5.32 | -31.30 | 449.49 | 18.903 (2) |
| 8-5-P | 8.04 | 8.04 | 6.29 | -52.01 | 449.49 | 17.257 (2) |

| Is | Afi | Afs | Mp | Mn | Mu | FS |
|---------|-------|-------|--------|----------|----------|-------------|
| | [cmq] | [cmq] | [kNm] | [kNm] | [kNm] | |
| 8-6-P | 8.04 | 8.04 | 5.87 | -76.08 | 449.49 | 19.091 (2) |
| 8-7-P | 8.04 | 8.04 | 3.04 | -95.20 | -449.49 | 22.655 (2) |
| 8-8-P | 8.04 | 8.04 | 0.39 | -104.12 | -449.49 | 24.102 (2) |
| 8-9-P | 8.04 | 8.04 | 0.39 | -104.12 | -449.49 | 24.102 (2) |
| 8-10-P | 8.04 | 8.04 | 3.04 | -95.20 | -449.49 | 22.655 (2) |
| 8-11-P | 8.04 | 8.04 | 5.87 | -76.08 | 449.49 | 19.091 (2) |
| 8-12-P | 8.04 | 8.04 | 6.29 | -52.01 | 449.49 | 17.257 (2) |
| 8-13-P | 8.04 | 8.04 | 5.32 | -31.30 | 449.49 | 18.903 (2) |
| 8-14-P | 8.04 | 8.04 | 14.19 | -10.12 | 449.49 | 25.346 (4) |
| 8-15-P | 8.04 | 8.04 | 8.46 | -6.73 | 449.49 | 53.101 (4) |
| 8-16-P | 8.04 | 8.04 | 4.43 | -6.16 | -449.49 | 83.242 (3) |
| 9-1-P | 10.05 | 10.05 | 0.60 | -0.68 | 560.75 | 100.000 (1) |
| 9-2-P | 10.05 | 10.05 | 7.42 | -1.98 | 560.75 | 75.618 (4) |
| 9-3-P | 10.05 | 10.05 | 4.62 | -16.98 | 560.75 | 34.763 (2) |
| 9-4-P | 10.05 | 10.05 | 8.66 | -40.60 | 560.75 | 19.597 (2) |
| 9-5-P | 10.05 | 10.05 | 13.08 | -75.91 | 560.75 | 12.518 (2) |
| 9-6-P | 10.05 | 10.05 | 18.36 | -128.52 | 560.75 | 8.340 (2) |
| 9-7-P | 10.05 | 10.05 | 32.55 | -237.48 | -560.75 | 5.215 (2) |
| 9-8-P | 10.05 | 10.05 | 5.33 | -222.88 | -560.75 | 7.078 (2) |
| 9-9-P | 10.05 | 10.05 | 5.33 | -222.88 | -560.75 | 7.078 (2) |
| 9-10-P | 10.05 | 10.05 | 32.55 | -237.48 | -560.75 | 5.215 (2) |
| 9-11-P | 10.05 | 10.05 | 18.36 | -128.52 | 560.75 | 8.340 (2) |
| 9-12-P | 10.05 | 10.05 | 13.08 | -75.91 | 560.75 | 12.518 (2) |
| 9-13-P | 10.05 | 10.05 | 8.66 | -40.60 | 560.75 | 19.597 (2) |
| 9-14-P | 10.05 | 10.05 | 4.62 | -16.98 | 560.75 | 34.763 (2) |
| 9-15-P | 10.05 | 10.05 | 7.42 | -1.98 | 560.75 | 75.618 (4) |
| 9-16-P | 10.05 | 10.05 | 0.60 | -0.68 | 560.75 | 100.000 (1) |
| 10-1-P | 8.04 | 8.04 | 0.13 | -0.73 | 449.49 | 100.000 (1) |
| 10-2-P | 8.04 | 8.04 | 0.73 | -12.24 | -449.49 | 77.373 (2) |
| 10-3-P | 8.04 | 8.04 | 1.65 | -42.20 | -449.49 | 22.626 (2) |
| 10-4-P | 8.04 | 8.04 | 2.25 | -88.27 | -449.49 | 11.040 (2) |
| 10-5-P | 8.04 | 8.04 | 2.73 | -148.25 | -449.49 | 6.720 (2) |
| 10-6-P | 8.04 | 8.04 | 3.30 | -219.70 | -449.49 | 4.565 (2) |
| 10-7-P | 8.04 | 8.04 | 6.21 | -249.56 | -449.49 | 5.014 (2) |
| 10-8-P | 8.04 | 8.04 | 0.00 | -299.99 | -449.49 | 6.823 (2) |
| 10-9-P | 8.04 | 8.04 | 0.00 | -299.99 | -449.49 | 6.823 (2) |
| 10-10-P | 8.04 | 8.04 | 6.21 | -249.56 | -449.49 | 5.014 (2) |
| 10-11-P | 8.04 | 8.04 | 3.30 | -219.70 | -449.49 | 4.565 (2) |
| 10-12-P | 8.04 | 8.04 | 2.73 | -148.25 | -449.49 | 6.720 (2) |
| 10-13-P | 8.04 | 8.04 | 2.25 | -88.27 | -449.49 | 11.040 (2) |
| 10-14-P | 8.04 | 8.04 | 1.65 | -42.20 | -449.49 | 22.626 (2) |
| 10-15-P | 8.04 | 8.04 | 0.73 | -12.24 | -449.49 | 77.373 (2) |
| 10-16-P | 8.04 | 8.04 | 0.13 | -0.73 | 449.49 | 100.000 (1) |
| 11-1-S | 36.19 | 36.19 | 0.52 | -2.04 | 1995.71 | 100.000 (1) |
| 11-2-S | 36.19 | 36.19 | 0.00 | -7.90 | -1995.71 | 100.000 (1) |
| 11-3-S | 36.19 | 36.19 | 0.50 | -11.24 | 1995.71 | 100.000 (1) |
| 11-4-S | 36.19 | 36.19 | 13.02 | -12.04 | 1995.71 | 100.000 (3) |
| 11-5-S | 36.19 | 36.19 | 45.97 | -4.47 | 1995.71 | 45.829 (3) |
| 11-6-S | 36.19 | 36.19 | 126.83 | -2.34 | 1995.71 | 19.192 (3) |
| 11-7-S | 36.19 | 36.19 | 237.39 | -0.59 | 1995.71 | 9.814 (3) |
| 11-8-S | 36.19 | 36.19 | 369.86 | 0.00 | 1995.71 | 6.174 (3) |
| 11-9-S | 36.19 | 36.19 | 519.31 | 0.00 | 1995.71 | 4.347 (3) |
| 11-10-S | 36.19 | 36.19 | 0.00 | -1402.22 | -1995.71 | 1.423 (4) |
| 11-11-S | 36.19 | 36.19 | 0.00 | -1258.58 | -1995.71 | 1.586 (4) |
| 11-12-S | 36.19 | 36.19 | 0.00 | -1163.78 | -1995.71 | 1.715 (4) |
| 11-13-S | 36.19 | 36.19 | 0.00 | -1068.05 | -1995.71 | 1.869 (4) |
| 11-14-S | 36.19 | 36.19 | 0.00 | -974.67 | -1995.71 | 2.048 (4) |
| 11-15-S | 36.19 | 36.19 | 0.00 | -874.47 | -1995.71 | 2.282 (4) |
| 11-16-S | 36.19 | 36.19 | 0.00 | -767.78 | -1995.71 | 2.599 (4) |
| 11-17-S | 36.19 | 36.19 | 0.00 | -656.33 | -1995.71 | 3.041 (4) |
| 11-18-S | 36.19 | 36.19 | 0.00 | -542.75 | -1995.71 | 3.677 (4) |
| 11-19-S | 36.19 | 36.19 | 0.00 | -429.71 | -1995.71 | 4.644 (4) |
| 11-20-S | 36.19 | 36.19 | 0.00 | -322.00 | -1995.71 | 6.198 (4) |
| 11-21-S | 36.19 | 36.19 | 247.10 | -0.15 | -1995.71 | 8.973 (2) |
| 11-22-S | 36.19 | 36.19 | 263.23 | -0.20 | -1995.71 | 14.931 (2) |
| 11-23-S | 36.19 | 36.19 | 265.98 | -0.31 | -1995.71 | 32.463 (2) |
| 11-24-S | 36.19 | 36.19 | 252.50 | -0.47 | 1995.71 | 97.576 (2) |
| 11-25-S | 36.19 | 36.19 | 224.97 | -0.65 | 1995.71 | 43.967 (2) |
| 11-26-S | 36.19 | 36.19 | 189.40 | -0.84 | 1995.71 | 29.836 (2) |
| 11-27-S | 36.19 | 36.19 | 149.31 | -1.13 | 1995.71 | 25.974 (2) |

| Is | Afi [cmq] | Afs [cmq] | Mp [kNm] | Mn [kNm] | Mu [kNm] | FS |
|---------|--------------|--------------|-------------|-------------|-------------|-------------|
| 11-28-S | 36.19 | 36.19 | 108.89 | -1.51 | 1995.71 | 26.522 (2) |
| 11-29-S | 36.19 | 36.19 | 72.24 | -1.95 | 1995.71 | 32.045 (2) |
| 11-30-S | 36.19 | 36.19 | 48.36 | -4.37 | 1995.71 | 45.018 (3) |
| 11-31-S | 36.19 | 36.19 | 23.53 | -4.13 | 1995.71 | 87.341 (3) |
| 11-32-S | 36.19 | 36.19 | 2.39 | -1.13 | 1995.71 | 100.000 (1) |
| 12-1-S | 40.72 | 40.72 | 3.85 | -3.68 | 2243.06 | 100.000 (1) |
| 12-2-S | 40.72 | 40.72 | 35.38 | -25.63 | 2243.06 | 38.038 (4) |
| 12-3-S | 40.72 | 40.72 | 80.79 | -64.55 | 2243.06 | 16.287 (3) |
| 12-4-S | 40.72 | 40.72 | 115.22 | -115.26 | 2243.06 | 5.562 (4) |
| 12-5-S | 40.72 | 40.72 | 16.15 | -229.21 | -2243.06 | 9.786 (4) |
| 12-6-S | 40.72 | 40.72 | 2.21 | -320.06 | -2243.06 | 7.008 (4) |
| 12-7-S | 40.72 | 40.72 | 50.91 | -156.52 | -2243.06 | 14.330 (4) |
| 12-8-S | 40.72 | 40.72 | 234.17 | -0.03 | 2243.06 | 12.381 (3) |
| 12-9-S | 40.72 | 40.72 | 562.05 | 0.00 | 2243.06 | 4.620 (3) |
| 12-10-S | 40.72 | 40.72 | 0.00 | -1160.01 | -2243.06 | 1.934 (4) |
| 12-11-S | 40.72 | 40.72 | 0.00 | -1052.77 | -2243.06 | 2.131 (4) |
| 12-12-S | 40.72 | 40.72 | 0.00 | -949.39 | -2243.06 | 2.363 (4) |
| 12-13-S | 40.72 | 40.72 | 0.00 | -913.42 | -2243.06 | 2.456 (4) |
| 12-14-S | 40.72 | 40.72 | 0.00 | -1078.78 | -2243.06 | 2.079 (4) |
| 12-15-S | 40.72 | 40.72 | 0.00 | -1196.64 | -2243.06 | 1.874 (4) |
| 12-16-S | 40.72 | 40.72 | 0.00 | -1056.48 | -2243.06 | 2.123 (4) |
| 12-17-S | 40.72 | 40.72 | 0.00 | -850.46 | -2243.06 | 2.637 (4) |
| 12-18-S | 40.72 | 40.72 | 0.00 | -658.44 | -2243.06 | 3.407 (4) |
| 12-19-S | 40.72 | 40.72 | 0.00 | -487.76 | -2243.06 | 4.599 (4) |
| 12-20-S | 40.72 | 40.72 | 0.00 | -340.88 | -2243.06 | 6.580 (4) |
| 12-21-S | 40.72 | 40.72 | 267.79 | -0.25 | -2243.06 | 10.819 (2) |
| 12-22-S | 40.72 | 40.72 | 307.30 | -0.41 | -2243.06 | 26.463 (2) |
| 12-23-S | 40.72 | 40.72 | 333.65 | -0.78 | 2243.06 | 51.612 (2) |
| 12-24-S | 40.72 | 40.72 | 345.62 | -1.75 | 2243.06 | 15.990 (2) |
| 12-25-S | 40.72 | 40.72 | 340.56 | -4.21 | 2243.06 | 9.392 (2) |
| 12-26-S | 40.72 | 40.72 | 371.87 | -6.61 | 2243.06 | 6.683 (3) |
| 12-27-S | 40.72 | 40.72 | 349.10 | -22.55 | 2243.06 | 6.779 (3) |
| 12-28-S | 40.72 | 40.72 | 169.68 | -73.04 | 2243.06 | 13.472 (3) |
| 12-29-S | 40.72 | 40.72 | 86.48 | -217.84 | -2243.06 | 10.433 (3) |
| 12-30-S | 40.72 | 40.72 | 55.02 | -142.98 | -2243.06 | 15.711 (3) |
| 12-31-S | 40.72 | 40.72 | 29.88 | -60.77 | -2243.06 | 36.909 (4) |
| 12-32-S | 40.72 | 40.72 | 4.25 | -3.55 | 2243.06 | 100.000 (1) |
| 13-1-S | 40.72 | 40.72 | 3.85 | -3.68 | 2243.06 | 100.000 (1) |
| 13-2-S | 40.72 | 40.72 | 35.38 | -25.63 | 2243.06 | 38.038 (4) |
| 13-3-S | 40.72 | 40.72 | 80.79 | -64.55 | 2243.06 | 16.287 (3) |
| 13-4-S | 40.72 | 40.72 | 115.22 | -115.26 | 2243.06 | 5.562 (4) |
| 13-5-S | 40.72 | 40.72 | 16.15 | -229.21 | -2243.06 | 9.786 (4) |
| 13-6-S | 40.72 | 40.72 | 2.21 | -320.06 | -2243.06 | 7.008 (4) |
| 13-7-S | 40.72 | 40.72 | 50.91 | -156.52 | -2243.06 | 14.330 (4) |
| 13-8-S | 40.72 | 40.72 | 234.17 | -0.03 | 2243.06 | 12.381 (3) |
| 13-9-S | 40.72 | 40.72 | 562.05 | 0.00 | 2243.06 | 4.620 (3) |
| 13-10-S | 40.72 | 40.72 | 0.00 | -1160.01 | -2243.06 | 1.934 (4) |
| 13-11-S | 40.72 | 40.72 | 0.00 | -1052.77 | -2243.06 | 2.131 (4) |
| 13-12-S | 40.72 | 40.72 | 0.00 | -949.39 | -2243.06 | 2.363 (4) |
| 13-13-S | 40.72 | 40.72 | 0.00 | -913.42 | -2243.06 | 2.456 (4) |
| 13-14-S | 40.72 | 40.72 | 0.00 | -1078.78 | -2243.06 | 2.079 (4) |
| 13-15-S | 40.72 | 40.72 | 0.00 | -1196.64 | -2243.06 | 1.874 (4) |
| 13-16-S | 40.72 | 40.72 | 0.00 | -1056.48 | -2243.06 | 2.123 (4) |
| 13-17-S | 40.72 | 40.72 | 0.00 | -850.46 | -2243.06 | 2.637 (4) |
| 13-18-S | 40.72 | 40.72 | 0.00 | -658.44 | -2243.06 | 3.407 (4) |
| 13-19-S | 40.72 | 40.72 | 0.00 | -487.76 | -2243.06 | 4.599 (4) |
| 13-20-S | 40.72 | 40.72 | 0.00 | -340.88 | -2243.06 | 6.580 (4) |
| 13-21-S | 40.72 | 40.72 | 267.79 | -0.25 | -2243.06 | 10.819 (2) |
| 13-22-S | 40.72 | 40.72 | 307.30 | -0.41 | -2243.06 | 26.463 (2) |
| 13-23-S | 40.72 | 40.72 | 333.65 | -0.78 | 2243.06 | 51.612 (2) |
| 13-24-S | 40.72 | 40.72 | 345.62 | -1.75 | 2243.06 | 15.990 (2) |
| 13-25-S | 40.72 | 40.72 | 340.56 | -4.21 | 2243.06 | 9.392 (2) |
| 13-26-S | 40.72 | 40.72 | 371.87 | -6.61 | 2243.06 | 6.683 (3) |
| 13-27-S | 40.72 | 40.72 | 349.10 | -22.55 | 2243.06 | 6.779 (3) |
| 13-28-S | 40.72 | 40.72 | 169.68 | -73.04 | 2243.06 | 13.472 (3) |
| 13-29-S | 40.72 | 40.72 | 86.48 | -217.84 | -2243.06 | 10.433 (3) |
| 13-30-S | 40.72 | 40.72 | 55.02 | -142.98 | -2243.06 | 15.711 (3) |
| 13-31-S | 40.72 | 40.72 | 29.88 | -60.77 | -2243.06 | 36.909 (4) |
| 13-32-S | 40.72 | 40.72 | 4.25 | -3.55 | 2243.06 | 100.000 (1) |
| 14-1-S | 36.19 | 36.19 | 0.52 | -2.04 | 1995.71 | 100.000 (1) |

| Is | Afi | Afs | Mp | Mn | Mu | FS |
|---------|-------|-------|--------|----------|----------|-------------|
| | [cmq] | [cmq] | [kNm] | [kNm] | [kNm] | |
| 14-2-S | 36.19 | 36.19 | 0.00 | -7.90 | -1995.71 | 100.000 (1) |
| 14-3-S | 36.19 | 36.19 | 0.50 | -11.24 | 1995.71 | 100.000 (1) |
| 14-4-S | 36.19 | 36.19 | 13.02 | -12.04 | 1995.71 | 100.000 (3) |
| 14-5-S | 36.19 | 36.19 | 45.97 | -4.47 | 1995.71 | 45.829 (3) |
| 14-6-S | 36.19 | 36.19 | 126.83 | -2.34 | 1995.71 | 19.192 (3) |
| 14-7-S | 36.19 | 36.19 | 237.39 | -0.59 | 1995.71 | 9.814 (3) |
| 14-8-S | 36.19 | 36.19 | 369.86 | 0.00 | 1995.71 | 6.174 (3) |
| 14-9-S | 36.19 | 36.19 | 519.31 | 0.00 | 1995.71 | 4.347 (3) |
| 14-10-S | 36.19 | 36.19 | 0.00 | -1402.22 | -1995.71 | 1.423 (4) |
| 14-11-S | 36.19 | 36.19 | 0.00 | -1258.58 | -1995.71 | 1.586 (4) |
| 14-12-S | 36.19 | 36.19 | 0.00 | -1163.78 | -1995.71 | 1.715 (4) |
| 14-13-S | 36.19 | 36.19 | 0.00 | -1068.05 | -1995.71 | 1.869 (4) |
| 14-14-S | 36.19 | 36.19 | 0.00 | -974.67 | -1995.71 | 2.048 (4) |
| 14-15-S | 36.19 | 36.19 | 0.00 | -874.47 | -1995.71 | 2.282 (4) |
| 14-16-S | 36.19 | 36.19 | 0.00 | -767.78 | -1995.71 | 2.599 (4) |
| 14-17-S | 36.19 | 36.19 | 0.00 | -656.33 | -1995.71 | 3.041 (4) |
| 14-18-S | 36.19 | 36.19 | 0.00 | -542.75 | -1995.71 | 3.677 (4) |
| 14-19-S | 36.19 | 36.19 | 0.00 | -429.71 | -1995.71 | 4.644 (4) |
| 14-20-S | 36.19 | 36.19 | 0.00 | -322.00 | -1995.71 | 6.198 (4) |
| 14-21-S | 36.19 | 36.19 | 247.10 | -0.15 | -1995.71 | 8.973 (2) |
| 14-22-S | 36.19 | 36.19 | 263.23 | -0.20 | -1995.71 | 14.931 (2) |
| 14-23-S | 36.19 | 36.19 | 265.98 | -0.31 | -1995.71 | 32.463 (2) |
| 14-24-S | 36.19 | 36.19 | 252.50 | -0.47 | 1995.71 | 97.576 (2) |
| 14-25-S | 36.19 | 36.19 | 224.97 | -0.65 | 1995.71 | 43.967 (2) |
| 14-26-S | 36.19 | 36.19 | 189.40 | -0.84 | 1995.71 | 29.836 (2) |
| 14-27-S | 36.19 | 36.19 | 149.31 | -1.13 | 1995.71 | 25.974 (2) |
| 14-28-S | 36.19 | 36.19 | 108.89 | -1.51 | 1995.71 | 26.522 (2) |
| 14-29-S | 36.19 | 36.19 | 72.24 | -1.95 | 1995.71 | 32.045 (2) |
| 14-30-S | 36.19 | 36.19 | 48.36 | -4.37 | 1995.71 | 45.018 (3) |
| 14-31-S | 36.19 | 36.19 | 23.53 | -4.13 | 1995.71 | 87.341 (3) |
| 14-32-S | 36.19 | 36.19 | 2.39 | -1.13 | 1995.71 | 100.000 (1) |

Verifiche a taglio

Simbologia adottata

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

Paramento

| n° | B | H | A _{sw} | cotθ | V _{Rcd} | V _{Rsd} | V _{Rd} | T | FS |
|----|------|------|-----------------|------|------------------|------------------|-----------------|-------|---------|
| | [cm] | [cm] | [cmq] | | [kN] | [kN] | [kN] | [kN] | |
| 1 | 100 | 40 | 0.00 | -- | 0.00 | 0.00 | 289.64 | 0.00 | 100.000 |
| 2 | 100 | 41 | 0.00 | -- | 0.00 | 0.00 | 293.44 | 1.66 | 176.319 |
| 3 | 100 | 42 | 0.00 | -- | 0.00 | 0.00 | 297.20 | 3.38 | 87.952 |
| 4 | 100 | 43 | 0.00 | -- | 0.00 | 0.00 | 300.92 | 5.14 | 58.499 |
| 5 | 100 | 44 | 0.00 | -- | 0.00 | 0.00 | 304.61 | 6.96 | 43.776 |
| 6 | 100 | 45 | 0.00 | -- | 0.00 | 0.00 | 308.27 | 8.82 | 34.941 |
| 7 | 100 | 46 | 0.00 | -- | 0.00 | 0.00 | 311.89 | 10.74 | 29.049 |
| 8 | 100 | 47 | 0.00 | -- | 0.00 | 0.00 | 315.49 | 12.70 | 24.840 |
| 9 | 100 | 48 | 0.00 | -- | 0.00 | 0.00 | 319.05 | 14.72 | 21.682 |
| 10 | 100 | 49 | 0.00 | -- | 0.00 | 0.00 | 322.59 | 16.78 | 19.225 |
| 11 | 100 | 50 | 0.00 | -- | 0.00 | 0.00 | 326.11 | 18.89 | 17.260 |
| 12 | 100 | 51 | 0.00 | -- | 0.00 | 0.00 | 329.59 | 21.06 | 15.651 |
| 13 | 100 | 52 | 0.00 | -- | 0.00 | 0.00 | 333.05 | 23.27 | 14.311 |
| 14 | 100 | 53 | 0.00 | -- | 0.00 | 0.00 | 336.49 | 25.54 | 13.176 |
| 15 | 100 | 54 | 0.00 | -- | 0.00 | 0.00 | 339.91 | 27.85 | 12.204 |
| 16 | 100 | 55 | 0.00 | -- | 0.00 | 0.00 | 343.30 | 30.22 | 11.361 |
| 17 | 100 | 56 | 0.00 | -- | 0.00 | 0.00 | 346.67 | 32.63 | 10.624 |
| 18 | 100 | 57 | 0.00 | -- | 0.00 | 0.00 | 350.02 | 35.10 | 9.973 |

| n° | B [cm] | H [cm] | A _{sw} [cmq] | cotθ | V _{Rcd} [kN] | V _{Rsd} [kN] | V _{Rd} [kN] | T [kN] | FS |
|----|-----------|-----------|--------------------------|------|--------------------------|--------------------------|-------------------------|-----------|-------|
| 19 | 100 | 58 | 0.00 | -- | 0.00 | 0.00 | 353.35 | 37.61 | 9.395 |
| 20 | 100 | 59 | 0.00 | -- | 0.00 | 0.00 | 356.66 | 40.18 | 8.878 |
| 21 | 100 | 60 | 0.00 | -- | 0.00 | 0.00 | 359.95 | 42.79 | 8.412 |
| 22 | 100 | 61 | 0.00 | -- | 0.00 | 0.00 | 363.22 | 45.45 | 7.991 |
| 23 | 100 | 62 | 0.00 | -- | 0.00 | 0.00 | 366.48 | 48.17 | 7.608 |
| 24 | 100 | 63 | 0.00 | -- | 0.00 | 0.00 | 369.72 | 50.93 | 7.259 |
| 25 | 100 | 64 | 0.00 | -- | 0.00 | 0.00 | 372.94 | 53.75 | 6.938 |
| 26 | 100 | 65 | 0.00 | -- | 0.00 | 0.00 | 376.14 | 56.61 | 6.644 |
| 27 | 100 | 66 | 0.00 | -- | 0.00 | 0.00 | 379.33 | 59.53 | 6.372 |
| 28 | 100 | 67 | 0.00 | -- | 0.00 | 0.00 | 382.51 | 62.49 | 6.121 |
| 29 | 100 | 68 | 0.00 | -- | 0.00 | 0.00 | 385.67 | 65.51 | 5.887 |
| 30 | 100 | 69 | 0.00 | -- | 0.00 | 0.00 | 388.81 | 68.58 | 5.670 |
| 31 | 100 | 70 | 0.00 | -- | 0.00 | 0.00 | 391.94 | 71.69 | 5.467 |
| 32 | 100 | 71 | 0.00 | -- | 0.00 | 0.00 | 395.06 | 74.86 | 5.278 |
| 33 | 100 | 72 | 0.00 | -- | 0.00 | 0.00 | 398.16 | 78.07 | 5.100 |
| 34 | 100 | 73 | 0.00 | -- | 0.00 | 0.00 | 401.26 | 81.34 | 4.933 |
| 35 | 100 | 74 | 0.00 | -- | 0.00 | 0.00 | 404.34 | 84.65 | 4.776 |
| 36 | 100 | 75 | 0.00 | -- | 0.00 | 0.00 | 407.40 | 88.02 | 4.629 |
| 37 | 100 | 76 | 0.00 | -- | 0.00 | 0.00 | 410.46 | 91.43 | 4.489 |
| 38 | 100 | 77 | 0.00 | -- | 0.00 | 0.00 | 413.50 | 94.90 | 4.357 |
| 39 | 100 | 78 | 0.00 | -- | 0.00 | 0.00 | 416.53 | 98.41 | 4.232 |
| 40 | 100 | 79 | 0.00 | -- | 0.00 | 0.00 | 419.56 | 101.98 | 4.114 |
| 41 | 100 | 80 | 0.00 | -- | 0.00 | 0.00 | 422.57 | 105.60 | 4.002 |
| 42 | 100 | 81 | 0.00 | -- | 0.00 | 0.00 | 425.57 | 109.26 | 3.895 |
| 43 | 100 | 82 | 0.00 | -- | 0.00 | 0.00 | 428.56 | 112.98 | 3.793 |
| 44 | 100 | 83 | 0.00 | -- | 0.00 | 0.00 | 431.54 | 116.74 | 3.697 |
| 45 | 100 | 84 | 0.00 | -- | 0.00 | 0.00 | 434.51 | 120.56 | 3.604 |
| 46 | 100 | 85 | 0.00 | -- | 0.00 | 0.00 | 437.47 | 124.42 | 3.516 |
| 47 | 100 | 86 | 0.00 | -- | 0.00 | 0.00 | 440.42 | 128.34 | 3.432 |
| 48 | 100 | 87 | 0.00 | -- | 0.00 | 0.00 | 443.37 | 132.31 | 3.351 |
| 49 | 100 | 88 | 0.00 | -- | 0.00 | 0.00 | 446.30 | 136.32 | 3.274 |
| 50 | 100 | 89 | 0.00 | -- | 0.00 | 0.00 | 449.23 | 140.39 | 3.200 |
| 51 | 100 | 90 | 0.00 | -- | 0.00 | 0.00 | 452.15 | 144.50 | 3.129 |
| 52 | 100 | 91 | 0.00 | -- | 0.00 | 0.00 | 455.06 | 148.67 | 3.061 |
| 53 | 100 | 92 | 0.00 | -- | 0.00 | 0.00 | 457.96 | 152.89 | 2.995 |
| 54 | 100 | 93 | 0.00 | -- | 0.00 | 0.00 | 460.86 | 157.15 | 2.933 |
| 55 | 100 | 94 | 0.00 | -- | 0.00 | 0.00 | 463.74 | 161.47 | 2.872 |
| 56 | 100 | 95 | 0.00 | -- | 0.00 | 0.00 | 466.62 | 165.84 | 2.814 |
| 57 | 100 | 96 | 0.00 | -- | 0.00 | 0.00 | 469.50 | 170.25 | 2.758 |
| 58 | 100 | 97 | 0.00 | -- | 0.00 | 0.00 | 472.36 | 174.72 | 2.704 |
| 59 | 100 | 98 | 0.00 | -- | 0.00 | 0.00 | 475.22 | 179.23 | 2.651 |
| 60 | 100 | 99 | 0.00 | -- | 0.00 | 0.00 | 478.07 | 183.80 | 2.601 |
| 61 | 100 | 100 | 0.00 | -- | 0.00 | 0.00 | 480.92 | 188.42 | 2.552 |
| 62 | 100 | 101 | 0.00 | -- | 0.00 | 0.00 | 483.76 | 193.08 | 2.505 |
| 63 | 100 | 102 | 0.00 | -- | 0.00 | 0.00 | 486.60 | 197.80 | 2.460 |
| 64 | 100 | 103 | 0.00 | -- | 0.00 | 0.00 | 489.43 | 202.57 | 2.414 |
| 65 | 100 | 104 | 0.00 | -- | 0.00 | 0.00 | 492.26 | 207.38 | 2.370 |
| 66 | 100 | 105 | 0.00 | -- | 0.00 | 0.00 | 495.09 | 212.25 | 2.325 |
| 67 | 100 | 106 | 0.00 | -- | 0.00 | 0.00 | 497.91 | 217.17 | 2.282 |
| 68 | 100 | 107 | 0.00 | -- | 0.00 | 0.00 | 500.73 | 222.13 | 2.239 |
| 69 | 100 | 108 | 0.00 | -- | 0.00 | 0.00 | 503.54 | 227.15 | 2.197 |
| 70 | 100 | 109 | 0.00 | -- | 0.00 | 0.00 | 506.35 | 232.22 | 2.155 |
| 71 | 100 | 110 | 0.00 | -- | 0.00 | 0.00 | 509.15 | 237.34 | 2.114 |
| 72 | 100 | 111 | 0.00 | -- | 0.00 | 0.00 | 511.95 | 242.50 | 2.073 |
| 73 | 100 | 112 | 0.00 | -- | 0.00 | 0.00 | 514.74 | 247.72 | 2.032 |
| 74 | 100 | 113 | 0.00 | -- | 0.00 | 0.00 | 517.53 | 252.99 | 1.992 |
| 75 | 100 | 114 | 0.00 | -- | 0.00 | 0.00 | 520.31 | 258.30 | 1.952 |
| 76 | 100 | 115 | 0.00 | -- | 0.00 | 0.00 | 523.09 | 263.67 | 1.912 |
| 77 | 100 | 116 | 0.00 | -- | 0.00 | 0.00 | 525.86 | 269.09 | 1.872 |
| 78 | 100 | 117 | 0.00 | -- | 0.00 | 0.00 | 528.63 | 274.56 | 1.832 |
| 79 | 100 | 118 | 0.00 | -- | 0.00 | 0.00 | 531.39 | 280.07 | 1.792 |
| 80 | 100 | 119 | 0.00 | -- | 0.00 | 0.00 | 534.15 | 285.64 | 1.752 |
| 81 | 100 | 120 | 0.00 | -- | 0.00 | 0.00 | 536.91 | 291.26 | 1.712 |
| 82 | 100 | 121 | 0.00 | -- | 0.00 | 0.00 | 539.66 | 296.93 | 1.672 |
| 83 | 100 | 122 | 0.00 | -- | 0.00 | 0.00 | 542.41 | 302.64 | 1.632 |
| 84 | 100 | 123 | 0.00 | -- | 0.00 | 0.00 | 545.15 | 308.41 | 1.592 |
| 85 | 100 | 124 | 0.00 | -- | 0.00 | 0.00 | 547.89 | 314.23 | 1.552 |
| 86 | 100 | 125 | 0.00 | -- | 0.00 | 0.00 | 550.62 | 320.10 | 1.512 |
| 87 | 100 | 126 | 0.00 | -- | 0.00 | 0.00 | 553.35 | 326.01 | 1.472 |
| 88 | 100 | 127 | 0.00 | -- | 0.00 | 0.00 | 556.08 | 331.98 | 1.432 |

| n° | B | H | A _{sw} | cotθ | V _{Rcd} | V _{Rsd} | V _{Rd} | T | FS |
|-----|------|------|-----------------|------|------------------|------------------|-----------------|--------|-------|
| | [cm] | [cm] | [cmq] | | [kN] | [kN] | [kN] | [kN] | |
| 89 | 100 | 128 | 0.00 | -- | 0.00 | 0.00 | 760.63 | 338.00 | 2.250 |
| 90 | 100 | 129 | 0.00 | -- | 0.00 | 0.00 | 764.20 | 344.07 | 2.221 |
| 91 | 100 | 130 | 0.00 | -- | 0.00 | 0.00 | 767.76 | 350.18 | 2.192 |
| 92 | 100 | 131 | 0.00 | -- | 0.00 | 0.00 | 693.52 | 356.35 | 1.946 |
| 93 | 100 | 132 | 0.00 | -- | 0.00 | 0.00 | 696.75 | 362.57 | 1.922 |
| 94 | 100 | 133 | 0.00 | -- | 0.00 | 0.00 | 667.92 | 368.84 | 1.811 |
| 95 | 100 | 134 | 0.00 | -- | 0.00 | 0.00 | 671.01 | 375.16 | 1.789 |
| 96 | 100 | 135 | 0.00 | -- | 0.00 | 0.00 | 674.09 | 381.52 | 1.767 |
| 97 | 100 | 136 | 0.00 | -- | 0.00 | 0.00 | 677.17 | 387.94 | 1.746 |
| 98 | 100 | 137 | 0.00 | -- | 0.00 | 0.00 | 680.25 | 394.41 | 1.725 |
| 99 | 100 | 138 | 0.00 | -- | 0.00 | 0.00 | 683.32 | 400.93 | 1.704 |
| 100 | 100 | 139 | 0.00 | -- | 0.00 | 0.00 | 686.39 | 407.50 | 1.684 |
| 101 | 100 | 140 | 0.00 | -- | 0.00 | 0.00 | 689.46 | 414.12 | 1.665 |

Mensola valle

| n° | B | H | A _{sw} | cotθ | V _{Rcd} | V _{Rsd} | V _{Rd} | T | FS |
|----|------|------|-----------------|------|------------------|------------------|-----------------|------|---------|
| | [cm] | [cm] | [cmq] | | [kN] | [kN] | [kN] | [kN] | |
| 1 | 100 | 50 | 0.00 | -- | 0.00 | 0.00 | 207.84 | 0.00 | 100.000 |
| 2 | 100 | 50 | 0.00 | -- | 0.00 | 0.00 | 207.84 | 1.18 | 175.614 |
| 3 | 100 | 50 | 0.00 | -- | 0.00 | 0.00 | 207.84 | 2.37 | 87.807 |
| 4 | 100 | 50 | 0.00 | -- | 0.00 | 0.00 | 207.84 | 3.55 | 58.538 |
| 5 | 100 | 50 | 0.00 | -- | 0.00 | 0.00 | 207.84 | 4.73 | 43.904 |

Fondazione

| Is | B | H | A _{sw} | cotg (θ) | V _{Rcd} | V _{Rsd} | V _{Rd} | T | FS |
|--------|------|------|-----------------|----------|------------------|------------------|-----------------|--------|-------------|
| | [cm] | [cm] | [cmq] | | [kN] | [kN] | [kN] | [kN] | |
| 1-1-P | 100 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 475.86 | 1.25 | 100.000 (1) |
| 1-2-P | 100 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 475.86 | 96.67 | 4.922 (1) |
| 1-3-P | 100 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 475.86 | 96.67 | 4.922 (1) |
| 1-4-P | 100 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 475.86 | 96.67 | 4.922 (1) |
| 1-5-P | 100 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 475.86 | 96.67 | 4.922 (1) |
| 1-6-P | 100 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 475.86 | 96.67 | 4.922 (1) |
| 1-7-P | 100 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 475.86 | 96.67 | 4.922 (1) |
| 1-8-P | 100 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 475.86 | 96.67 | 4.922 (1) |
| 1-9-P | 100 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 475.86 | 37.10 | 12.828 (1) |
| 1-10-P | 100 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 475.86 | 37.10 | 12.828 (1) |
| 1-11-P | 100 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 475.86 | 37.10 | 12.828 (1) |
| 1-12-P | 100 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 475.86 | 37.10 | 12.828 (1) |
| 1-13-P | 100 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 475.86 | 37.10 | 12.828 (1) |
| 1-14-P | 100 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 475.86 | 37.10 | 12.828 (1) |
| 1-15-P | 100 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 475.86 | 1.25 | 100.000 (1) |
| 1-16-P | 100 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 475.86 | 1.25 | 100.000 (1) |
| 2-1-P | 100 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 475.86 | 454.93 | 1.046 (1) |
| 2-2-P | 100 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 475.86 | 454.93 | 1.046 (1) |
| 2-3-P | 100 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 475.86 | 454.93 | 1.046 (1) |
| 2-4-P | 100 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 475.86 | 454.93 | 1.046 (1) |
| 2-5-P | 100 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 475.86 | 454.93 | 1.046 (1) |
| 2-6-P | 100 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 475.86 | 454.93 | 1.046 (1) |
| 2-7-P | 100 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 475.86 | 454.93 | 1.046 (1) |
| 2-8-P | 100 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 475.86 | 454.93 | 1.046 (1) |
| 2-9-P | 100 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 475.86 | 454.93 | 1.046 (1) |
| 2-10-P | 100 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 475.86 | 454.93 | 1.046 (1) |
| 2-11-P | 100 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 475.86 | 454.93 | 1.046 (1) |
| 2-12-P | 100 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 475.86 | 454.93 | 1.046 (1) |
| 2-13-P | 100 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 475.86 | 454.93 | 1.046 (1) |
| 2-14-P | 100 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 475.86 | 454.93 | 1.046 (1) |
| 2-15-P | 100 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 475.86 | 454.93 | 1.046 (1) |
| 2-16-P | 100 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 475.86 | 454.93 | 1.046 (1) |
| 5-1-P | 89 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 422.72 | 135.78 | 3.113 (1) |
| 5-2-P | 89 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 422.72 | 135.78 | 3.113 (1) |
| 5-3-P | 89 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 422.72 | 135.78 | 3.113 (1) |
| 5-4-P | 89 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 422.72 | 135.78 | 3.113 (1) |
| 5-5-P | 89 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 422.72 | 135.78 | 3.113 (1) |
| 5-6-P | 89 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 422.72 | 135.78 | 3.113 (1) |

| Is | B | H | A _{sw} | cotg (θ) | V _{Rcd} | V _{Rsd} | V _{Rd} | T | FS |
|---------|------|------|-----------------|----------|------------------|------------------|-----------------|---------|-------------|
| | [cm] | [cm] | [cmq] | | [kN] | [kN] | [kN] | [kN] | |
| 9-13-P | 89 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 422.72 | 20.93 | 20.195 (1) |
| 9-14-P | 89 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 422.72 | 20.93 | 20.195 (1) |
| 9-15-P | 89 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 422.72 | 17.69 | 23.895 (1) |
| 9-16-P | 89 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 422.72 | 17.69 | 23.895 (1) |
| 10-1-P | 89 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 422.72 | 375.35 | 1.126 (1) |
| 10-2-P | 89 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 422.72 | 375.35 | 1.126 (1) |
| 10-3-P | 89 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 422.72 | 375.35 | 1.126 (1) |
| 10-4-P | 89 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 422.72 | 375.35 | 1.126 (1) |
| 10-5-P | 89 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 422.72 | 375.35 | 1.126 (1) |
| 10-6-P | 89 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 422.72 | 375.35 | 1.126 (1) |
| 10-7-P | 89 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 422.72 | 375.35 | 1.126 (1) |
| 10-8-P | 89 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 422.72 | 375.35 | 1.126 (1) |
| 10-9-P | 89 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 422.72 | 375.35 | 1.126 (1) |
| 10-10-P | 89 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 422.72 | 375.35 | 1.126 (1) |
| 10-11-P | 89 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 422.72 | 375.35 | 1.126 (1) |
| 10-12-P | 89 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 422.72 | 375.35 | 1.126 (1) |
| 10-13-P | 89 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 422.72 | 375.35 | 1.126 (1) |
| 10-14-P | 89 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 422.72 | 375.35 | 1.126 (1) |
| 10-15-P | 89 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 422.72 | 375.35 | 1.126 (1) |
| 10-16-P | 89 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 422.72 | 375.35 | 1.126 (1) |
| 11-1-S | 91 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 458.40 | 0.00 | 100.000 (1) |
| 11-2-S | 91 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 458.40 | 0.00 | 100.000 (1) |
| 11-3-S | 91 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 458.40 | 0.00 | 100.000 (1) |
| 11-4-S | 91 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 458.40 | 0.00 | 100.000 (1) |
| 11-5-S | 91 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 458.40 | 0.00 | 100.000 (1) |
| 11-6-S | 91 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 458.40 | 0.00 | 100.000 (1) |
| 11-7-S | 91 | 150 | 6.03 | 2.500 | 3876.25 | 542.43 | 542.43 | 0.00 | 100.000 (1) |
| 11-8-S | 91 | 150 | 6.03 | 2.500 | 3876.25 | 542.43 | 542.43 | 502.96 | 1.078 (1) |
| 11-9-S | 91 | 150 | 6.03 | 2.500 | 3876.25 | 542.43 | 542.43 | 502.96 | 1.078 (1) |
| 11-10-S | 91 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 458.40 | 0.00 | 100.000 (1) |
| 11-11-S | 91 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 458.40 | 0.00 | 100.000 (1) |
| 11-12-S | 91 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 458.40 | 0.00 | 100.000 (1) |
| 11-13-S | 91 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 458.40 | 0.00 | 100.000 (1) |
| 11-14-S | 91 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 458.40 | 0.00 | 100.000 (1) |
| 11-15-S | 91 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 458.40 | 0.00 | 100.000 (1) |
| 11-16-S | 91 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 458.40 | 0.00 | 100.000 (1) |
| 11-17-S | 91 | 150 | 6.03 | 2.500 | 3876.25 | 542.43 | 542.43 | 0.00 | 100.000 (1) |
| 11-18-S | 91 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 458.40 | 59.38 | 7.720 (1) |
| 11-19-S | 91 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 458.40 | 59.38 | 7.720 (1) |
| 11-20-S | 91 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 458.40 | 464.70 | 0.986 (1) |
| 11-21-S | 91 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 458.40 | 464.70 | 0.986 (1) |
| 11-22-S | 91 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 458.40 | 464.70 | 0.986 (1) |
| 11-23-S | 91 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 458.40 | 464.70 | 0.986 (1) |
| 11-24-S | 91 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 458.40 | 464.70 | 0.986 (1) |
| 11-25-S | 91 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 458.40 | 20.60 | 22.250 (1) |
| 11-26-S | 91 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 458.40 | 20.60 | 22.250 (1) |
| 11-27-S | 91 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 458.40 | 77.90 | 5.884 (1) |
| 11-28-S | 91 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 458.40 | 77.90 | 5.884 (1) |
| 11-29-S | 91 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 458.40 | 77.90 | 5.884 (1) |
| 11-30-S | 91 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 458.40 | 20.60 | 22.250 (1) |
| 11-31-S | 91 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 458.40 | 20.60 | 22.250 (1) |
| 11-32-S | 91 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 458.40 | 20.60 | 22.250 (1) |
| 12-1-S | 91 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 476.75 | 0.00 | 100.000 (1) |
| 12-2-S | 91 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 476.75 | 316.77 | 1.505 (1) |
| 12-3-S | 91 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 476.75 | 316.77 | 1.505 (1) |
| 12-4-S | 91 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 476.75 | 316.77 | 1.505 (1) |
| 12-5-S | 91 | 150 | 16.08 | 2.500 | 3876.25 | 1446.48 | 1446.48 | 1342.62 | 1.077 (1) |
| 12-6-S | 91 | 150 | 16.08 | 2.500 | 3876.25 | 1446.48 | 1446.48 | 1342.62 | 1.077 (1) |
| 12-7-S | 91 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 476.75 | 0.00 | 100.000 (1) |
| 12-8-S | 91 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 476.75 | 0.00 | 100.000 (1) |
| 12-9-S | 91 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 476.75 | 0.00 | 100.000 (1) |
| 12-10-S | 91 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 476.75 | 61.13 | 7.798 (1) |
| 12-11-S | 91 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 476.75 | 61.13 | 7.798 (1) |
| 12-12-S | 91 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 476.75 | 61.13 | 7.798 (1) |
| 12-13-S | 91 | 150 | 4.02 | 2.500 | 3876.25 | 361.62 | 361.62 | 820.64 | 0.441 (1) |
| 12-14-S | 91 | 150 | 4.02 | 2.500 | 3876.25 | 361.62 | 361.62 | 820.64 | 0.441 (1) |
| 12-15-S | 91 | 150 | 4.02 | 2.500 | 3876.25 | 361.62 | 361.62 | 820.64 | 0.441 (1) |
| 12-16-S | 91 | 150 | 4.02 | 2.500 | 3876.25 | 361.62 | 361.62 | 820.64 | 0.441 (1) |
| 12-17-S | 91 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 476.75 | 0.00 | 100.000 (1) |
| 12-18-S | 91 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 476.75 | 0.00 | 100.000 (1) |

| Is | B | H | A _{sw} | cotg (θ) | V _{Rcd} | V _{Rsd} | V _{Rd} | T | FS |
|---------|------|------|-----------------|----------|------------------|------------------|-----------------|---------|-------------|
| | [cm] | [cm] | [cmq] | | [kN] | [kN] | [kN] | [kN] | |
| 12-19-S | 91 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 476.75 | 0.00 | 100.000 (1) |
| 12-20-S | 91 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 476.75 | 0.00 | 100.000 (1) |
| 12-21-S | 91 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 476.75 | 491.67 | 0.970 (1) |
| 12-22-S | 91 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 476.75 | 17.55 | 27.170 (1) |
| 12-23-S | 91 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 476.75 | 17.55 | 27.170 (1) |
| 12-24-S | 91 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 476.75 | 17.55 | 27.170 (1) |
| 12-25-S | 91 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 476.75 | 17.55 | 27.170 (1) |
| 12-26-S | 91 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 476.75 | 17.55 | 27.170 (1) |
| 12-27-S | 91 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 476.75 | 17.55 | 27.170 (1) |
| 12-28-S | 91 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 476.75 | 286.47 | 1.664 (1) |
| 12-29-S | 91 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 476.75 | 286.47 | 1.664 (1) |
| 12-30-S | 91 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 476.75 | 286.47 | 1.664 (1) |
| 12-31-S | 91 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 476.75 | 286.47 | 1.664 (1) |
| 12-32-S | 91 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 476.75 | 286.47 | 1.664 (1) |
| 13-1-S | 91 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 476.75 | 0.00 | 100.000 (1) |
| 13-2-S | 91 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 476.75 | 316.77 | 1.505 (1) |
| 13-3-S | 91 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 476.75 | 316.77 | 1.505 (1) |
| 13-4-S | 91 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 476.75 | 316.77 | 1.505 (1) |
| 13-5-S | 91 | 150 | 16.08 | 2.500 | 3876.25 | 1446.48 | 1446.48 | 1342.62 | 1.077 (1) |
| 13-6-S | 91 | 150 | 16.08 | 2.500 | 3876.25 | 1446.48 | 1446.48 | 1342.62 | 1.077 (1) |
| 13-7-S | 91 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 476.75 | 0.00 | 100.000 (1) |
| 13-8-S | 91 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 476.75 | 0.00 | 100.000 (1) |
| 13-9-S | 91 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 476.75 | 0.00 | 100.000 (1) |
| 13-10-S | 91 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 476.75 | 447.16 | 1.066 (1) |
| 13-11-S | 91 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 476.75 | 447.16 | 1.066 (1) |
| 13-12-S | 91 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 476.75 | 447.16 | 1.066 (1) |
| 13-13-S | 91 | 150 | 4.02 | 2.500 | 3876.25 | 361.62 | 361.62 | 820.64 | 0.441 (1) |
| 13-14-S | 91 | 150 | 4.02 | 2.500 | 3876.25 | 361.62 | 361.62 | 820.64 | 0.441 (1) |
| 13-15-S | 91 | 150 | 4.02 | 2.500 | 3876.25 | 361.62 | 361.62 | 820.64 | 0.441 (1) |
| 13-16-S | 91 | 150 | 4.02 | 2.500 | 3876.25 | 361.62 | 361.62 | 820.64 | 0.441 (1) |
| 13-17-S | 91 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 476.75 | 0.00 | 100.000 (1) |
| 13-18-S | 91 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 476.75 | 0.00 | 100.000 (1) |
| 13-19-S | 91 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 476.75 | 0.00 | 100.000 (1) |
| 13-20-S | 91 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 476.75 | 551.84 | 0.864 (1) |
| 13-21-S | 91 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 476.75 | 551.84 | 0.864 (1) |
| 13-22-S | 91 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 476.75 | 17.55 | 27.170 (1) |
| 13-23-S | 91 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 476.75 | 17.55 | 27.170 (1) |
| 13-24-S | 91 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 476.75 | 17.55 | 27.170 (1) |
| 13-25-S | 91 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 476.75 | 17.55 | 27.170 (1) |
| 13-26-S | 91 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 476.75 | 17.55 | 27.170 (1) |
| 13-27-S | 91 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 476.75 | 17.55 | 27.170 (1) |
| 13-28-S | 91 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 476.75 | 17.55 | 27.170 (1) |
| 13-29-S | 91 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 476.75 | 266.88 | 1.786 (1) |
| 13-30-S | 91 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 476.75 | 266.88 | 1.786 (1) |
| 13-31-S | 91 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 476.75 | 266.88 | 1.786 (1) |
| 13-32-S | 91 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 476.75 | 266.88 | 1.786 (1) |
| 14-1-S | 91 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 458.40 | 0.00 | 100.000 (1) |
| 14-2-S | 91 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 458.40 | 0.00 | 100.000 (1) |
| 14-3-S | 91 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 458.40 | 0.00 | 100.000 (1) |
| 14-4-S | 91 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 458.40 | 0.00 | 100.000 (1) |
| 14-5-S | 91 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 458.40 | 0.00 | 100.000 (1) |
| 14-6-S | 91 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 458.40 | 0.00 | 100.000 (1) |
| 14-7-S | 91 | 150 | 6.03 | 2.500 | 3876.25 | 542.43 | 542.43 | 0.00 | 100.000 (1) |
| 14-8-S | 91 | 150 | 6.03 | 2.500 | 3876.25 | 542.43 | 542.43 | 502.96 | 1.078 (1) |
| 14-9-S | 91 | 150 | 6.03 | 2.500 | 3876.25 | 542.43 | 542.43 | 502.96 | 1.078 (1) |
| 14-10-S | 91 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 458.40 | 0.00 | 100.000 (1) |
| 14-11-S | 91 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 458.40 | 0.00 | 100.000 (1) |
| 14-12-S | 91 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 458.40 | 0.00 | 100.000 (1) |
| 14-13-S | 91 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 458.40 | 0.00 | 100.000 (1) |
| 14-14-S | 91 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 458.40 | 0.00 | 100.000 (1) |
| 14-15-S | 91 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 458.40 | 0.00 | 100.000 (1) |
| 14-16-S | 91 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 458.40 | 0.00 | 100.000 (1) |
| 14-17-S | 91 | 150 | 6.03 | 2.500 | 3876.25 | 542.43 | 542.43 | 0.00 | 100.000 (1) |
| 14-18-S | 91 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 458.40 | 59.38 | 7.720 (1) |
| 14-19-S | 91 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 458.40 | 59.38 | 7.720 (1) |
| 14-20-S | 91 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 458.40 | 464.70 | 0.986 (1) |
| 14-21-S | 91 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 458.40 | 464.70 | 0.986 (1) |
| 14-22-S | 91 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 458.40 | 464.70 | 0.986 (1) |
| 14-23-S | 91 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 458.40 | 464.70 | 0.986 (1) |
| 14-24-S | 91 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 458.40 | 464.70 | 0.986 (1) |

| Is | B | H | A _{sw} | cotg (θ) | V _{Rcd} | V _{Rsd} | V _{Rd} | T | FS |
|---------|------|------|-----------------|----------|------------------|------------------|-----------------|-------|------------|
| | [cm] | [cm] | [cmq] | | [kN] | [kN] | [kN] | [kN] | |
| 14-25-S | 91 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 458.40 | 20.60 | 22.250 (1) |
| 14-26-S | 91 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 458.40 | 20.60 | 22.250 (1) |
| 14-27-S | 91 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 458.40 | 77.90 | 5.884 (1) |
| 14-28-S | 91 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 458.40 | 77.90 | 5.884 (1) |
| 14-29-S | 91 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 458.40 | 77.90 | 5.884 (1) |
| 14-30-S | 91 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 458.40 | 20.60 | 22.250 (1) |
| 14-31-S | 91 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 458.40 | 20.60 | 22.250 (1) |
| 14-32-S | 91 | 150 | 0.00 | 2.000 | 0.00 | 0.00 | 458.40 | 20.60 | 22.250 (1) |

Verifica a punzonamento

Simbologia adottata

| | |
|---------------------------------|--|
| OP | Oggetto che viene punzonato |
| P | Oggetto che punzona |
| C ₁ , C ₂ | Dimensioni pilastro nelle due direzioni, espressa in [mm] |
| d | Altezza utile della fondazione, espressa in [mm] |
| u ₀ | Lunghezza perimetro di verifica a faccia pilastro, espresso in [mm] |
| u ₁ | Lunghezza perimetro di verifica per effetto della diffusione, espresso in [mm] |
| ρ _y , ρ _z | Percentuali di armatura piastra in zona tesa |
| dpc, duc | distanza della prima e dell'ultima cucitura dalla faccia del pilastro |
| V _{Ed,i} | Tensione di taglio sul perimetro del pilastro, espressa in [kPa] |
| V _{Rd,max} | Valore di progetto del massimo taglio-punzonamento resistente, espressa in [kPa] |
| V _{Ed,f} | Tensione di taglio sul perimetro di verifica u ₁ , espresso in [kPa] |
| V _{Rd,cf} | Valore di progetto del taglio-punzonamento resistente senza armature sul perimetro di verifica u ₁ , espresso in [kPa] |
| V _{Rd,cs} | Valore di progetto del taglio-punzonamento resistente con armature, espresso in [kPa] |
| nsc | Numero di serie di cuciture |
| nc | Numero di cuciture |
| FS | Fattore di sicurezza (minore tra i rapporti V _{Rd,max} /V _{Ed,i} , V _{Rd,cf} /V _{Ed,f} e V _{Rd,cs} /V _{Ed,f}) |

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] |
| A _{fi} | area ferri inferiori, espresso in [cmq] |
| A _{fs} | area ferri superiori, espressa in [cmq] |
| M | momento agente, espressa in [kNm] |
| N | sforzo normale agente, espressa in [kN] |
| σ _c | tensione di compressione nel cls, espressa in [kPa] |
| σ _{fi} | tensione nei ferri inferiori, espressa in [kPa] |
| σ _{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 | A _{fi} | A _{fs} | M | N | σ _c | σ _{fi} | σ _{fs} |
|----|------|------|-----------------|-----------------|-------|-------|----------------|-----------------|-----------------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kN] | [kPa] | [kPa] | [kPa] |
| 1 | 100 | 40 | 15.71 | 45.24 | 0.75 | 4.29 | 35 (9) | 193 (9) | 430 (9) |
| 2 | 100 | 41 | 15.71 | 45.24 | 0.75 | 5.28 | 35 (9) | 126 (9) | 445 (9) |
| 3 | 100 | 42 | 15.71 | 45.24 | 0.77 | 6.30 | 36 (9) | 74 (9) | 464 (9) |
| 4 | 100 | 43 | 15.71 | 45.24 | 0.79 | 7.34 | 37 (9) | 36 (9) | 489 (9) |
| 5 | 100 | 44 | 15.71 | 45.24 | 0.84 | 8.41 | 39 (9) | 9 (9) | 521 (9) |
| 6 | 100 | 45 | 15.71 | 45.24 | 0.91 | 9.50 | 42 (9) | 8 (9) | 559 (9) |
| 7 | 100 | 46 | 15.71 | 45.24 | 1.01 | 10.62 | 45 (9) | 17 (9) | 604 (9) |
| 8 | 100 | 47 | 15.71 | 45.24 | 1.14 | 11.76 | 49 (9) | 18 (9) | 657 (9) |
| 9 | 100 | 48 | 15.71 | 45.24 | 1.30 | 12.92 | 53 (9) | 11 (9) | 718 (9) |
| 10 | 100 | 49 | 15.71 | 45.24 | 1.51 | 14.11 | 58 (9) | 6 (9) | 786 (9) |
| 11 | 100 | 50 | 15.71 | 45.24 | 1.77 | 15.32 | 64 (9) | 33 (9) | 864 (9) |
| 12 | 100 | 51 | 15.71 | 45.24 | 2.07 | 16.56 | 71 (9) | 72 (9) | 951 (9) |
| 13 | 100 | 52 | 15.71 | 45.24 | 2.44 | 17.82 | 78 (9) | 126 (9) | 1049 (9) |
| 14 | 100 | 53 | 15.71 | 45.24 | 2.86 | 19.11 | 86 (9) | 196 (9) | 1156 (9) |
| 15 | 100 | 54 | 15.71 | 45.24 | 3.35 | 20.42 | 95 (9) | 284 (9) | 1275 (9) |

| n° | B | H | Afi | Afs | M | N | σc | σfi | σfs |
|----|------|------|-------|--------|--------|--------|----------|-----------|-----------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kN] | [kPa] | [kPa] | [kPa] |
| 16 | 100 | 55 | 15.71 | 45.24 | 3.90 | 21.76 | 105 (9) | 392 (9) | 1405 (9) |
| 17 | 100 | 56 | 15.71 | 45.24 | 4.54 | 23.12 | 116 (9) | 522 (9) | 1547 (9) |
| 18 | 100 | 57 | 15.71 | 45.24 | 5.25 | 24.50 | 128 (9) | 676 (9) | 1700 (9) |
| 19 | 100 | 58 | 15.71 | 45.24 | 6.04 | 25.91 | 141 (9) | 856 (9) | 1865 (9) |
| 20 | 100 | 59 | 15.71 | 45.24 | 6.94 | 27.35 | 155 (9) | 1064 (9) | 2044 (9) |
| 21 | 100 | 60 | 15.71 | 45.24 | 7.94 | 28.81 | 170 (9) | 1303 (9) | 2236 (9) |
| 22 | 100 | 61 | 15.71 | 45.24 | 9.06 | 30.29 | 186 (9) | 1578 (9) | 2444 (9) |
| 23 | 100 | 62 | 15.71 | 45.24 | 10.30 | 31.80 | 204 (9) | 1890 (9) | 2667 (9) |
| 24 | 100 | 63 | 15.71 | 45.24 | 11.68 | 33.33 | 222 (9) | 2240 (9) | 2906 (9) |
| 25 | 100 | 64 | 15.71 | 45.24 | 13.21 | 34.89 | 242 (9) | 2630 (9) | 3161 (9) |
| 26 | 100 | 65 | 15.71 | 45.24 | 14.88 | 36.47 | 263 (9) | 3059 (9) | 3430 (9) |
| 27 | 100 | 66 | 15.71 | 45.24 | 16.70 | 38.07 | 286 (9) | 3528 (9) | 3715 (9) |
| 28 | 100 | 67 | 15.71 | 45.24 | 18.67 | 39.70 | 309 (9) | 4036 (9) | 4013 (9) |
| 29 | 100 | 68 | 15.71 | 45.24 | 20.81 | 41.36 | 334 (9) | 4584 (9) | 4326 (9) |
| 30 | 100 | 69 | 15.71 | 45.24 | 23.12 | 43.04 | 359 (9) | 5172 (9) | 4652 (9) |
| 31 | 100 | 70 | 15.71 | 45.24 | 25.60 | 44.74 | 386 (9) | 5798 (9) | 4992 (9) |
| 32 | 100 | 71 | 15.71 | 45.24 | 28.26 | 46.47 | 413 (9) | 6464 (9) | 5345 (9) |
| 33 | 100 | 72 | 15.71 | 45.24 | 31.10 | 48.22 | 442 (9) | 7169 (9) | 5711 (9) |
| 34 | 100 | 73 | 15.71 | 45.24 | 34.12 | 50.00 | 472 (9) | 7912 (9) | 6089 (9) |
| 35 | 100 | 74 | 15.71 | 45.24 | 37.34 | 51.80 | 502 (9) | 8694 (9) | 6479 (9) |
| 36 | 100 | 75 | 15.71 | 45.24 | 40.75 | 53.63 | 533 (9) | 9514 (9) | 6882 (9) |
| 37 | 100 | 76 | 15.71 | 45.24 | 44.37 | 55.48 | 566 (9) | 10373 (9) | 7296 (9) |
| 38 | 100 | 77 | 15.71 | 45.24 | 48.19 | 57.36 | 599 (9) | 11270 (9) | 7722 (9) |
| 39 | 100 | 78 | 15.71 | 45.24 | 52.22 | 59.26 | 632 (9) | 12204 (9) | 8159 (9) |
| 40 | 100 | 79 | 15.71 | 45.24 | 56.47 | 61.18 | 667 (9) | 13177 (9) | 8607 (9) |
| 41 | 100 | 80 | 15.71 | 45.24 | 60.93 | 63.13 | 703 (9) | 14187 (9) | 9066 (9) |
| 42 | 100 | 81 | 15.71 | 45.24 | 65.63 | 65.10 | 739 (9) | 15234 (9) | 9536 (9) |
| 43 | 100 | 82 | 15.71 | 45.24 | 70.55 | 67.10 | 776 (9) | 16319 (9) | 10017 (9) |
| 44 | 100 | 83 | 15.71 | 45.24 | 75.71 | 69.12 | 814 (9) | 17441 (9) | 10508 (9) |
| 45 | 100 | 84 | 15.71 | 45.24 | 81.10 | 71.17 | 852 (9) | 18600 (9) | 11009 (9) |
| 46 | 100 | 85 | 15.71 | 45.24 | 86.75 | 73.24 | 892 (9) | 19796 (9) | 11521 (9) |
| 47 | 100 | 86 | 15.71 | 45.24 | 92.64 | 75.34 | 932 (9) | 21029 (9) | 12042 (9) |
| 48 | 100 | 87 | 15.71 | 45.24 | 98.78 | 77.46 | 972 (9) | 22299 (9) | 12573 (9) |
| 49 | 100 | 88 | 15.71 | 45.24 | 105.18 | 79.60 | 1014 (9) | 23605 (9) | 13113 (9) |
| 50 | 100 | 89 | 15.71 | 45.24 | 111.85 | 81.77 | 1056 (9) | 24948 (9) | 13663 (9) |
| 51 | 100 | 90 | 15.71 | 45.24 | 118.78 | 83.97 | 1098 (9) | 26327 (9) | 14223 (9) |
| 52 | 100 | 91 | 15.71 | 45.24 | 125.98 | 86.19 | 1142 (9) | 27743 (9) | 14791 (9) |
| 53 | 100 | 92 | 15.71 | 45.24 | 133.47 | 88.43 | 1186 (9) | 29194 (9) | 15369 (9) |
| 54 | 100 | 93 | 15.71 | 45.24 | 141.23 | 90.70 | 1230 (9) | 30682 (9) | 15955 (9) |
| 55 | 100 | 94 | 15.71 | 45.24 | 149.28 | 92.99 | 1275 (9) | 32206 (9) | 16551 (9) |
| 56 | 100 | 95 | 15.71 | 45.24 | 157.62 | 95.31 | 1321 (9) | 33766 (9) | 17154 (9) |
| 57 | 100 | 96 | 15.71 | 45.24 | 166.26 | 97.65 | 1368 (9) | 35361 (9) | 17767 (9) |
| 58 | 100 | 97 | 15.71 | 45.24 | 175.19 | 100.01 | 1415 (9) | 36993 (9) | 18388 (9) |
| 59 | 100 | 98 | 15.71 | 45.24 | 184.43 | 102.40 | 1462 (9) | 38660 (9) | 19017 (9) |
| 60 | 100 | 99 | 15.71 | 45.24 | 193.98 | 104.82 | 1510 (9) | 40362 (9) | 19654 (9) |
| 61 | 100 | 100 | 15.71 | 45.24 | 203.85 | 107.26 | 1559 (9) | 42100 (9) | 20300 (9) |
| 62 | 100 | 101 | 15.71 | 45.24 | 214.03 | 109.72 | 1608 (9) | 43874 (9) | 20954 (9) |
| 63 | 100 | 102 | 47.12 | 90.48 | 224.54 | 112.21 | 1181 (9) | 23302 (9) | 15816 (9) |
| 64 | 100 | 103 | 47.12 | 90.48 | 235.38 | 114.72 | 1216 (9) | 24241 (9) | 16303 (9) |
| 65 | 100 | 104 | 47.12 | 90.48 | 246.55 | 117.26 | 1252 (9) | 25198 (9) | 16796 (9) |
| 66 | 100 | 105 | 47.12 | 90.48 | 258.05 | 119.82 | 1289 (9) | 26173 (9) | 17295 (9) |
| 67 | 100 | 106 | 47.12 | 90.48 | 269.90 | 122.41 | 1326 (9) | 27165 (9) | 17799 (9) |
| 68 | 100 | 107 | 47.12 | 90.48 | 282.10 | 125.02 | 1363 (9) | 28176 (9) | 18309 (9) |
| 69 | 100 | 108 | 47.12 | 90.48 | 294.64 | 127.65 | 1400 (9) | 29204 (9) | 18824 (9) |
| 70 | 100 | 109 | 47.12 | 90.48 | 307.55 | 130.31 | 1438 (9) | 30251 (9) | 19344 (9) |
| 71 | 100 | 110 | 47.12 | 90.48 | 320.81 | 133.00 | 1477 (9) | 31315 (9) | 19870 (9) |
| 72 | 100 | 111 | 47.12 | 90.48 | 334.44 | 135.71 | 1515 (9) | 32396 (9) | 20400 (9) |
| 73 | 100 | 112 | 47.12 | 90.48 | 348.44 | 138.44 | 1554 (9) | 33496 (9) | 20937 (9) |
| 74 | 100 | 113 | 47.12 | 90.48 | 362.81 | 141.20 | 1594 (9) | 34613 (9) | 21478 (9) |
| 75 | 100 | 114 | 47.12 | 90.48 | 377.56 | 143.98 | 1633 (9) | 35748 (9) | 22024 (9) |
| 76 | 100 | 115 | 47.12 | 90.48 | 392.70 | 146.79 | 1673 (9) | 36900 (9) | 22576 (9) |
| 77 | 100 | 116 | 47.12 | 90.48 | 408.22 | 149.62 | 1714 (9) | 38070 (9) | 23132 (9) |
| 78 | 100 | 117 | 47.12 | 113.10 | 424.14 | 152.48 | 1656 (9) | 31957 (9) | 22574 (9) |
| 79 | 100 | 118 | 47.12 | 113.10 | 440.46 | 155.36 | 1695 (9) | 32935 (9) | 23108 (9) |
| 80 | 100 | 119 | 47.12 | 113.10 | 457.18 | 158.26 | 1733 (9) | 33928 (9) | 23646 (9) |
| 81 | 100 | 120 | 47.12 | 113.10 | 474.30 | 161.19 | 1772 (9) | 34934 (9) | 24189 (9) |
| 82 | 100 | 121 | 47.12 | 113.10 | 491.84 | 164.15 | 1812 (9) | 35955 (9) | 24736 (9) |
| 83 | 100 | 122 | 47.12 | 113.10 | 509.79 | 167.12 | 1851 (9) | 36990 (9) | 25287 (9) |
| 84 | 100 | 123 | 47.12 | 113.10 | 528.17 | 170.13 | 1891 (9) | 38039 (9) | 25843 (9) |
| 85 | 100 | 124 | 47.12 | 113.10 | 546.97 | 173.15 | 1931 (9) | 39102 (9) | 26403 (9) |

| n° | B | H | Afi | Afs | M | N | σc | σfi | σfs |
|-----|------|------|-------|--------|--------|--------|----------|-----------|-----------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kN] | [kPa] | [kPa] | [kPa] |
| 86 | 100 | 125 | 47.12 | 113.10 | 566.20 | 176.21 | 1971 (9) | 40180 (9) | 26967 (9) |
| 87 | 100 | 126 | 47.12 | 113.10 | 585.86 | 179.28 | 2012 (9) | 41271 (9) | 27535 (9) |
| 88 | 100 | 127 | 47.12 | 113.10 | 605.96 | 182.38 | 2053 (9) | 42376 (9) | 28108 (9) |
| 89 | 100 | 128 | 47.12 | 113.10 | 626.51 | 185.51 | 2094 (9) | 43496 (9) | 28684 (9) |
| 90 | 100 | 129 | 47.12 | 113.10 | 647.51 | 188.66 | 2136 (9) | 44629 (9) | 29264 (9) |
| 91 | 100 | 130 | 47.12 | 113.10 | 668.96 | 191.84 | 2177 (9) | 45777 (9) | 29849 (9) |
| 92 | 100 | 131 | 47.12 | 67.86 | 690.87 | 195.03 | 2559 (9) | 75487 (9) | 34331 (9) |
| 93 | 100 | 132 | 47.12 | 67.86 | 713.24 | 198.26 | 2609 (9) | 77388 (9) | 35016 (9) |
| 94 | 100 | 133 | 31.42 | 67.86 | 736.08 | 201.51 | 2825 (9) | 80305 (9) | 38076 (9) |
| 95 | 100 | 134 | 31.42 | 67.86 | 759.39 | 204.78 | 2878 (9) | 82270 (9) | 38806 (9) |
| 96 | 100 | 135 | 31.42 | 67.86 | 783.17 | 208.08 | 2931 (9) | 84258 (9) | 39541 (9) |
| 97 | 100 | 136 | 31.42 | 67.86 | 807.44 | 211.40 | 2984 (9) | 86269 (9) | 40280 (9) |
| 98 | 100 | 137 | 31.42 | 67.86 | 832.20 | 214.74 | 3038 (9) | 88303 (9) | 41024 (9) |
| 99 | 100 | 138 | 31.42 | 67.86 | 857.44 | 218.12 | 3092 (9) | 90359 (9) | 41773 (9) |
| 100 | 100 | 139 | 31.42 | 67.86 | 883.18 | 221.51 | 3147 (9) | 92438 (9) | 42527 (9) |
| 101 | 100 | 140 | 31.42 | 67.86 | 909.42 | 224.93 | 3201 (9) | 94541 (9) | 43285 (9) |

Mensola valle

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

| n° | B | H | Afi | Afs | M | N | σc | σfi | σfs |
|----|------|------|-------|-------|-------|------|--------|---------|----------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kN] | [kPa] | [kPa] | [kPa] |
| 1 | 100 | 50 | 8.04 | 8.04 | 0.00 | 0.00 | 0 (9) | 0 (9) | 0 (9) |
| 2 | 100 | 50 | 8.04 | 8.04 | -0.05 | 0.00 | 2 (9) | 16 (9) | 138 (9) |
| 3 | 100 | 50 | 8.04 | 8.04 | -0.19 | 0.00 | 9 (9) | 65 (9) | 551 (9) |
| 4 | 100 | 50 | 8.04 | 8.04 | -0.42 | 0.00 | 20 (9) | 146 (9) | 1239 (9) |
| 5 | 100 | 50 | 8.04 | 8.04 | -0.75 | 0.00 | 35 (9) | 260 (9) | 2203 (9) |

Piastra fondazione

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

| Is | B | H | Afi | Afs | Mp | Mn | σc | σfi | σfs |
|--------|------|------|-------|-------|-------|---------|----------|-----------|------------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kNm] | [kPa] | [kPa] | [kPa] |
| 1-1-P | 100 | 150 | 10.05 | 10.05 | 1.32 | 0.00 | 8 (9) | 851 (9) | 94 (9) |
| 1-2-P | 100 | 150 | 10.05 | 10.05 | 0.83 | -1.42 | 10 (9) | 691 (9) | 989 (9) |
| 1-3-P | 100 | 150 | 10.05 | 10.05 | 0.68 | -10.53 | 70 (9) | 1192 (9) | 7180 (9) |
| 1-4-P | 100 | 150 | 10.05 | 10.05 | 0.00 | -29.45 | 193 (9) | 2188 (9) | 19899 (9) |
| 1-5-P | 100 | 150 | 10.05 | 10.05 | 0.00 | -62.87 | 410 (9) | 4650 (9) | 42297 (9) |
| 1-6-P | 100 | 150 | 10.05 | 10.05 | 0.00 | -115.27 | 749 (9) | 8497 (9) | 77286 (9) |
| 1-7-P | 100 | 150 | 10.05 | 10.05 | 1.60 | -215.62 | 1381 (9) | 15672 (9) | 142545 (9) |
| 1-8-P | 100 | 150 | 10.05 | 10.05 | 1.77 | -239.18 | 1540 (9) | 17469 (9) | 158891 (9) |
| 1-9-P | 100 | 150 | 10.05 | 10.05 | 1.77 | -239.18 | 1540 (9) | 17469 (9) | 158891 (9) |
| 1-10-P | 100 | 150 | 10.05 | 10.05 | 1.60 | -215.62 | 1381 (9) | 15672 (9) | 142545 (9) |
| 1-11-P | 100 | 150 | 10.05 | 10.05 | 0.00 | -115.27 | 749 (9) | 8497 (9) | 77286 (9) |
| 1-12-P | 100 | 150 | 10.05 | 10.05 | 0.00 | -62.87 | 410 (9) | 4650 (9) | 42297 (9) |
| 1-13-P | 100 | 150 | 10.05 | 10.05 | 0.00 | -29.45 | 193 (9) | 2188 (9) | 19899 (9) |
| 1-14-P | 100 | 150 | 10.05 | 10.05 | 0.68 | -10.53 | 70 (9) | 1192 (9) | 7180 (9) |
| 1-15-P | 100 | 150 | 10.05 | 10.05 | 0.83 | -1.42 | 10 (9) | 691 (9) | 989 (9) |
| 1-16-P | 100 | 150 | 10.05 | 10.05 | 1.32 | 0.00 | 8 (9) | 851 (9) | 94 (9) |
| 2-1-P | 100 | 150 | 10.05 | 10.05 | 21.01 | 0.00 | 136 (9) | 14012 (9) | 1540 (9) |
| 2-2-P | 100 | 150 | 10.05 | 10.05 | 23.27 | 0.00 | 151 (9) | 15611 (9) | 1716 (9) |
| 2-3-P | 100 | 150 | 10.05 | 10.05 | 27.69 | -3.81 | 181 (9) | 18644 (9) | 5089 (9) |
| 2-4-P | 100 | 150 | 10.05 | 10.05 | 27.63 | -13.07 | 182 (9) | 18754 (9) | 13623 (9) |
| 2-5-P | 100 | 150 | 10.05 | 10.05 | 21.26 | -31.91 | 300 (9) | 16969 (9) | 30923 (9) |
| 2-6-P | 100 | 150 | 10.05 | 10.05 | 16.37 | -72.57 | 685 (9) | 16806 (9) | 70663 (9) |
| 2-7-P | 100 | 150 | 10.05 | 10.05 | 14.38 | -92.90 | 736 (9) | 11832 (9) | 75961 (9) |
| 2-8-P | 100 | 150 | 10.05 | 10.05 | 10.82 | -136.46 | 1138 (9) | 26287 (9) | 117450 (9) |
| 2-9-P | 100 | 150 | 10.05 | 10.05 | 10.82 | -136.46 | 1138 (9) | 26287 (9) | 117450 (9) |
| 2-10-P | 100 | 150 | 10.05 | 10.05 | 14.38 | -92.90 | 736 (9) | 11832 (9) | 75961 (9) |
| 2-11-P | 100 | 150 | 10.05 | 10.05 | 16.37 | -72.57 | 685 (9) | 16806 (9) | 70663 (9) |

| Is | B | H | Afi | Afs | Mp | Mn | σc | σfi | σfs |
|--------|------|------|-------|-------|-------|---------|----------|------------|------------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kNm] | [kPa] | [kPa] | [kPa] |
| 2-12-P | 100 | 150 | 10.05 | 10.05 | 21.26 | -31.91 | 300 (9) | 16969 (9) | 30923 (9) |
| 2-13-P | 100 | 150 | 10.05 | 10.05 | 27.63 | -13.07 | 182 (9) | 18754 (9) | 13623 (9) |
| 2-14-P | 100 | 150 | 10.05 | 10.05 | 27.69 | -3.81 | 181 (9) | 18644 (9) | 5089 (9) |
| 2-15-P | 100 | 150 | 10.05 | 10.05 | 23.27 | 0.00 | 151 (9) | 15611 (9) | 1716 (9) |
| 2-16-P | 100 | 150 | 10.05 | 10.05 | 21.01 | 0.00 | 136 (9) | 14012 (9) | 1540 (9) |
| 5-1-P | 89 | 150 | 10.05 | 10.05 | 30.76 | 0.00 | 171 (9) | 16613 (9) | 1967 (9) |
| 5-2-P | 89 | 150 | 10.05 | 10.05 | 38.50 | 0.00 | 206 (9) | 20025 (9) | 2371 (9) |
| 5-3-P | 89 | 150 | 10.05 | 10.05 | 55.92 | 0.00 | 298 (9) | 28967 (9) | 3429 (9) |
| 5-4-P | 89 | 150 | 10.05 | 10.05 | 71.31 | 0.00 | 376 (9) | 36585 (9) | 4331 (9) |
| 5-5-P | 89 | 150 | 10.05 | 10.05 | 76.86 | -0.03 | 398 (9) | 38755 (9) | 4888 (9) |
| 5-6-P | 89 | 150 | 10.05 | 10.05 | 72.82 | -4.66 | 375 (9) | 36552 (9) | 16049 (9) |
| 5-7-P | 89 | 150 | 10.05 | 10.05 | 63.36 | -49.05 | 660 (9) | 33876 (9) | 64297 (9) |
| 5-8-P | 89 | 150 | 10.05 | 10.05 | 31.70 | -42.86 | 508 (10) | 22643 (10) | 49450 (10) |
| 5-9-P | 89 | 150 | 10.05 | 10.05 | 31.70 | -42.86 | 508 (10) | 22643 (10) | 49450 (10) |
| 5-10-P | 89 | 150 | 10.05 | 10.05 | 63.36 | -49.05 | 660 (9) | 33876 (9) | 64297 (9) |
| 5-11-P | 89 | 150 | 10.05 | 10.05 | 72.82 | -4.66 | 375 (9) | 36552 (9) | 16049 (9) |
| 5-12-P | 89 | 150 | 10.05 | 10.05 | 76.86 | -0.03 | 398 (9) | 38755 (9) | 4888 (9) |
| 5-13-P | 89 | 150 | 10.05 | 10.05 | 71.31 | 0.00 | 376 (9) | 36585 (9) | 4331 (9) |
| 5-14-P | 89 | 150 | 10.05 | 10.05 | 55.92 | 0.00 | 298 (9) | 28967 (9) | 3429 (9) |
| 5-15-P | 89 | 150 | 10.05 | 10.05 | 38.50 | 0.00 | 206 (9) | 20025 (9) | 2371 (9) |
| 5-16-P | 89 | 150 | 10.05 | 10.05 | 30.76 | 0.00 | 171 (9) | 16613 (9) | 1967 (9) |
| 6-1-P | 89 | 150 | 8.04 | 8.04 | 0.95 | -0.08 | 8 (10) | 848 (10) | 238 (10) |
| 6-2-P | 89 | 150 | 8.04 | 8.04 | 3.85 | -0.58 | 32 (10) | 3424 (10) | 1552 (10) |
| 6-3-P | 89 | 150 | 8.04 | 8.04 | 3.58 | -5.84 | 72 (10) | 3181 (10) | 7797 (10) |
| 6-4-P | 89 | 150 | 8.04 | 8.04 | 3.57 | -19.80 | 193 (9) | 2462 (9) | 20965 (9) |
| 6-5-P | 89 | 150 | 8.04 | 8.04 | 3.37 | -52.50 | 430 (10) | 4804 (10) | 46706 (10) |
| 6-6-P | 89 | 150 | 8.04 | 8.04 | 5.34 | -104.65 | 854 (9) | 9548 (9) | 92825 (9) |
| 6-7-P | 89 | 150 | 8.04 | 8.04 | 24.04 | -151.81 | 1221 (9) | 17920 (9) | 132649 (9) |
| 6-8-P | 89 | 150 | 8.04 | 8.04 | 3.59 | -181.35 | 1461 (9) | 16324 (9) | 158704 (9) |
| 6-9-P | 89 | 150 | 8.04 | 8.04 | 3.59 | -181.35 | 1461 (9) | 16324 (9) | 158704 (9) |
| 6-10-P | 89 | 150 | 8.04 | 8.04 | 24.04 | -151.81 | 1221 (9) | 17920 (9) | 132649 (9) |
| 6-11-P | 89 | 150 | 8.04 | 8.04 | 5.34 | -104.65 | 854 (9) | 9548 (9) | 92825 (9) |
| 6-12-P | 89 | 150 | 8.04 | 8.04 | 3.37 | -52.50 | 430 (10) | 4804 (10) | 46706 (10) |
| 6-13-P | 89 | 150 | 8.04 | 8.04 | 3.57 | -19.80 | 193 (9) | 2462 (9) | 20965 (9) |
| 6-14-P | 89 | 150 | 8.04 | 8.04 | 3.58 | -5.84 | 72 (10) | 3181 (10) | 7797 (10) |
| 6-15-P | 89 | 150 | 8.04 | 8.04 | 3.85 | -0.58 | 32 (10) | 3424 (10) | 1552 (10) |
| 6-16-P | 89 | 150 | 8.04 | 8.04 | 0.95 | -0.08 | 8 (10) | 848 (10) | 238 (10) |
| 7-1-P | 89 | 150 | 10.05 | 10.05 | 0.02 | -1.27 | 9 (9) | 105 (9) | 886 (9) |
| 7-2-P | 89 | 150 | 10.05 | 10.05 | 0.05 | -4.66 | 34 (9) | 386 (9) | 3265 (9) |
| 7-3-P | 89 | 150 | 10.05 | 10.05 | 0.12 | -14.61 | 105 (9) | 1209 (9) | 10209 (9) |
| 7-4-P | 89 | 150 | 10.05 | 10.05 | 0.22 | -29.80 | 214 (9) | 2462 (9) | 20793 (9) |
| 7-5-P | 89 | 150 | 10.05 | 10.05 | 0.31 | -48.66 | 348 (9) | 4016 (9) | 33922 (9) |
| 7-6-P | 89 | 150 | 10.05 | 10.05 | 0.40 | -69.34 | 496 (9) | 5720 (9) | 48318 (9) |
| 7-7-P | 89 | 150 | 10.05 | 10.05 | 0.30 | -86.80 | 621 (9) | 7159 (9) | 60472 (9) |
| 7-8-P | 89 | 150 | 10.05 | 10.05 | 0.04 | -96.71 | 692 (9) | 7974 (9) | 67355 (9) |
| 7-9-P | 89 | 150 | 10.05 | 10.05 | 0.04 | -96.71 | 692 (9) | 7974 (9) | 67355 (9) |
| 7-10-P | 89 | 150 | 10.05 | 10.05 | 0.30 | -86.80 | 621 (9) | 7159 (9) | 60472 (9) |
| 7-11-P | 89 | 150 | 10.05 | 10.05 | 0.40 | -69.34 | 496 (9) | 5720 (9) | 48318 (9) |
| 7-12-P | 89 | 150 | 10.05 | 10.05 | 0.31 | -48.66 | 348 (9) | 4016 (9) | 33922 (9) |
| 7-13-P | 89 | 150 | 10.05 | 10.05 | 0.22 | -29.80 | 214 (9) | 2462 (9) | 20793 (9) |
| 7-14-P | 89 | 150 | 10.05 | 10.05 | 0.12 | -14.61 | 105 (9) | 1209 (9) | 10209 (9) |
| 7-15-P | 89 | 150 | 10.05 | 10.05 | 0.05 | -4.66 | 34 (9) | 386 (9) | 3265 (9) |
| 7-16-P | 89 | 150 | 10.05 | 10.05 | 0.02 | -1.27 | 9 (9) | 105 (9) | 886 (9) |
| 8-1-P | 89 | 150 | 8.04 | 8.04 | 0.06 | -1.78 | 14 (9) | 158 (9) | 1536 (9) |
| 8-2-P | 89 | 150 | 8.04 | 8.04 | 0.38 | -5.44 | 44 (9) | 489 (9) | 4757 (9) |
| 8-3-P | 89 | 150 | 8.04 | 8.04 | 1.15 | -15.96 | 129 (9) | 1439 (9) | 13994 (9) |
| 8-4-P | 89 | 150 | 8.04 | 8.04 | 2.19 | -32.90 | 264 (9) | 2955 (9) | 28733 (9) |
| 8-5-P | 89 | 150 | 8.04 | 8.04 | 3.00 | -54.99 | 440 (9) | 4916 (9) | 47799 (9) |
| 8-6-P | 89 | 150 | 8.04 | 8.04 | 3.13 | -80.51 | 642 (9) | 7169 (9) | 69701 (9) |
| 8-7-P | 89 | 150 | 8.04 | 8.04 | 1.71 | -101.46 | 807 (9) | 9020 (9) | 87698 (9) |
| 8-8-P | 89 | 150 | 8.04 | 8.04 | 0.22 | -111.91 | 890 (9) | 9952 (9) | 96755 (9) |
| 8-9-P | 89 | 150 | 8.04 | 8.04 | 0.22 | -111.91 | 890 (9) | 9952 (9) | 96755 (9) |
| 8-10-P | 89 | 150 | 8.04 | 8.04 | 1.71 | -101.46 | 807 (9) | 9020 (9) | 87698 (9) |
| 8-11-P | 89 | 150 | 8.04 | 8.04 | 3.13 | -80.51 | 642 (9) | 7169 (9) | 69701 (9) |
| 8-12-P | 89 | 150 | 8.04 | 8.04 | 3.00 | -54.99 | 440 (9) | 4916 (9) | 47799 (9) |
| 8-13-P | 89 | 150 | 8.04 | 8.04 | 2.19 | -32.90 | 264 (9) | 2955 (9) | 28733 (9) |
| 8-14-P | 89 | 150 | 8.04 | 8.04 | 1.15 | -15.96 | 129 (9) | 1439 (9) | 13994 (9) |
| 8-15-P | 89 | 150 | 8.04 | 8.04 | 0.38 | -5.44 | 44 (9) | 489 (9) | 4757 (9) |
| 8-16-P | 89 | 150 | 8.04 | 8.04 | 0.06 | -1.78 | 14 (9) | 158 (9) | 1536 (9) |
| 9-1-P | 89 | 150 | 10.05 | 10.05 | 0.22 | -0.11 | 2 (10) | 158 (10) | 190 (10) |

| Is | B | H | Afi | Afs | Mp | Mn | σc | σfi | σfs |
|-----------|----------|----------|------------|------------|-----------|-----------|-----------|------------|------------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kNm] | [kPa] | [kPa] | [kPa] |
| 9-2-P | 89 | 150 | 10.05 | 10.05 | 0.71 | -4.59 | 34 (10) | 511 (10) | 3277 (10) |
| 9-3-P | 89 | 150 | 10.05 | 10.05 | 2.17 | -20.13 | 144 (9) | 1664 (9) | 14053 (9) |
| 9-4-P | 89 | 150 | 10.05 | 10.05 | 4.50 | -46.55 | 334 (9) | 3844 (9) | 32469 (9) |
| 9-5-P | 89 | 150 | 10.05 | 10.05 | 7.20 | -85.59 | 612 (9) | 7053 (9) | 59572 (9) |
| 9-6-P | 89 | 150 | 10.05 | 10.05 | 10.19 | -141.94 | 1013 (9) | 11672 (9) | 98594 (9) |
| 9-7-P | 89 | 150 | 10.05 | 10.05 | 18.04 | -239.71 | 1682 (9) | 19380 (9) | 163698 (9) |
| 9-8-P | 89 | 150 | 10.05 | 10.05 | 2.86 | -244.23 | 1741 (9) | 20066 (9) | 169491 (9) |
| 9-9-P | 89 | 150 | 10.05 | 10.05 | 2.86 | -244.23 | 1741 (9) | 20066 (9) | 169491 (9) |
| 9-10-P | 89 | 150 | 10.05 | 10.05 | 18.04 | -239.71 | 1682 (9) | 19380 (9) | 163698 (9) |
| 9-11-P | 89 | 150 | 10.05 | 10.05 | 10.19 | -141.94 | 1013 (9) | 11672 (9) | 98594 (9) |
| 9-12-P | 89 | 150 | 10.05 | 10.05 | 7.20 | -85.59 | 612 (9) | 7053 (9) | 59572 (9) |
| 9-13-P | 89 | 150 | 10.05 | 10.05 | 4.50 | -46.55 | 334 (9) | 3844 (9) | 32469 (9) |
| 9-14-P | 89 | 150 | 10.05 | 10.05 | 2.17 | -20.13 | 144 (9) | 1664 (9) | 14053 (9) |
| 9-15-P | 89 | 150 | 10.05 | 10.05 | 0.71 | -4.59 | 34 (10) | 511 (10) | 3277 (10) |
| 9-16-P | 89 | 150 | 10.05 | 10.05 | 0.22 | -0.11 | 2 (10) | 158 (10) | 190 (10) |
| 10-1-P | 89 | 150 | 8.04 | 8.04 | 0.01 | -0.85 | 6 (9) | 67 (9) | 648 (9) |
| 10-2-P | 89 | 150 | 8.04 | 8.04 | 0.27 | -12.69 | 97 (9) | 1080 (9) | 10499 (9) |
| 10-3-P | 89 | 150 | 8.04 | 8.04 | 0.73 | -42.72 | 328 (9) | 3666 (9) | 35645 (9) |
| 10-4-P | 89 | 150 | 8.04 | 8.04 | 1.03 | -88.85 | 685 (9) | 7659 (9) | 74466 (9) |
| 10-5-P | 89 | 150 | 8.04 | 8.04 | 1.21 | -149.01 | 1154 (9) | 12893 (9) | 125347 (9) |
| 10-6-P | 89 | 150 | 8.04 | 8.04 | 1.26 | -220.91 | 1717 (9) | 19185 (9) | 186525 (9) |
| 10-7-P | 89 | 150 | 8.04 | 8.04 | 2.13 | -259.93 | 2041 (9) | 22809 (9) | 221754 (9) |
| 10-8-P | 89 | 150 | 8.04 | 8.04 | 0.00 | -311.33 | 2445 (9) | 27323 (9) | 265642 (9) |
| 10-9-P | 89 | 150 | 8.04 | 8.04 | 0.00 | -311.33 | 2445 (9) | 27323 (9) | 265642 (9) |
| 10-10-P | 89 | 150 | 8.04 | 8.04 | 2.13 | -259.93 | 2041 (9) | 22809 (9) | 221754 (9) |
| 10-11-P | 89 | 150 | 8.04 | 8.04 | 1.26 | -220.91 | 1717 (9) | 19185 (9) | 186525 (9) |
| 10-12-P | 89 | 150 | 8.04 | 8.04 | 1.21 | -149.01 | 1154 (9) | 12893 (9) | 125347 (9) |
| 10-13-P | 89 | 150 | 8.04 | 8.04 | 1.03 | -88.85 | 685 (9) | 7659 (9) | 74466 (9) |
| 10-14-P | 89 | 150 | 8.04 | 8.04 | 0.73 | -42.72 | 328 (9) | 3666 (9) | 35645 (9) |
| 10-15-P | 89 | 150 | 8.04 | 8.04 | 0.27 | -12.69 | 97 (9) | 1080 (9) | 10499 (9) |
| 10-16-P | 89 | 150 | 8.04 | 8.04 | 0.01 | -0.85 | 6 (9) | 67 (9) | 648 (9) |
| 11-1-S | 91 | 150 | 36.19 | 36.19 | 0.32 | -1.72 | 7 (9) | 92 (9) | 381 (9) |
| 11-2-S | 91 | 150 | 36.19 | 36.19 | 0.00 | -6.75 | 22 (9) | 287 (9) | 1186 (9) |
| 11-3-S | 91 | 150 | 36.19 | 36.19 | 1.47 | -7.95 | 30 (10) | 746 (10) | 1611 (10) |
| 11-4-S | 91 | 150 | 36.19 | 36.19 | 7.52 | -5.93 | 48 (10) | 2541 (10) | 1503 (10) |
| 11-5-S | 91 | 150 | 36.19 | 36.19 | 25.78 | -3.04 | 121 (9) | 6431 (9) | 1558 (9) |
| 11-6-S | 91 | 150 | 36.19 | 36.19 | 71.08 | -1.64 | 260 (9) | 13828 (9) | 3349 (9) |
| 11-7-S | 91 | 150 | 36.19 | 36.19 | 132.91 | -0.45 | 479 (9) | 25467 (9) | 6168 (9) |
| 11-8-S | 91 | 150 | 36.19 | 36.19 | 206.99 | 0.00 | 740 (9) | 39374 (9) | 9536 (9) |
| 11-9-S | 91 | 150 | 36.19 | 36.19 | 289.57 | 0.00 | 1030 (9) | 54803 (9) | 13273 (9) |
| 11-10-S | 91 | 150 | 36.19 | 36.19 | 341.13 | 0.00 | 842 (9) | 44800 (9) | 10850 (9) |
| 11-11-S | 91 | 150 | 36.19 | 36.19 | 349.24 | 0.00 | 913 (9) | 48598 (9) | 11771 (9) |
| 11-12-S | 91 | 150 | 36.19 | 36.19 | 345.51 | 0.00 | 933 (9) | 49681 (9) | 12033 (9) |
| 11-13-S | 91 | 150 | 36.19 | 36.19 | 341.91 | 0.00 | 953 (9) | 50733 (9) | 12287 (9) |
| 11-14-S | 91 | 150 | 36.19 | 36.19 | 338.23 | 0.00 | 971 (9) | 51695 (9) | 12520 (9) |
| 11-15-S | 91 | 150 | 36.19 | 36.19 | 341.94 | -0.05 | 1014 (9) | 53958 (9) | 13069 (9) |
| 11-16-S | 91 | 150 | 36.19 | 36.19 | 351.50 | -0.04 | 1075 (9) | 57237 (9) | 13863 (9) |
| 11-17-S | 91 | 150 | 36.19 | 36.19 | 364.47 | -0.02 | 1147 (9) | 61052 (9) | 14787 (9) |
| 11-18-S | 91 | 150 | 36.19 | 36.19 | 377.55 | -0.01 | 1217 (9) | 64770 (9) | 15687 (9) |
| 11-19-S | 91 | 150 | 36.19 | 36.19 | 388.04 | 0.00 | 1275 (9) | 67863 (9) | 16436 (9) |
| 11-20-S | 91 | 150 | 36.19 | 36.19 | 390.74 | -0.01 | 1302 (9) | 69282 (9) | 16780 (9) |
| 11-21-S | 91 | 150 | 36.19 | 36.19 | 384.94 | -0.02 | 1296 (9) | 68957 (9) | 16701 (9) |
| 11-22-S | 91 | 150 | 36.19 | 36.19 | 369.57 | -0.05 | 1253 (9) | 66692 (9) | 16153 (9) |
| 11-23-S | 91 | 150 | 36.19 | 36.19 | 343.91 | -0.10 | 1172 (9) | 62366 (9) | 15105 (9) |
| 11-24-S | 91 | 150 | 36.19 | 36.19 | 306.17 | -0.21 | 1046 (9) | 55644 (9) | 13477 (9) |
| 11-25-S | 91 | 150 | 36.19 | 36.19 | 259.06 | -0.35 | 884 (9) | 47073 (9) | 11401 (9) |
| 11-26-S | 91 | 150 | 36.19 | 36.19 | 207.90 | -0.50 | 708 (9) | 37704 (9) | 9132 (9) |
| 11-27-S | 91 | 150 | 36.19 | 36.19 | 156.31 | -0.68 | 531 (9) | 28245 (9) | 6841 (9) |
| 11-28-S | 91 | 150 | 36.19 | 36.19 | 108.26 | -0.85 | 366 (9) | 19465 (9) | 4714 (9) |
| 11-29-S | 91 | 150 | 36.19 | 36.19 | 68.05 | -1.03 | 229 (9) | 12181 (9) | 2950 (9) |
| 11-30-S | 91 | 150 | 36.19 | 36.19 | 38.34 | -1.40 | 129 (9) | 6852 (9) | 1660 (9) |
| 11-31-S | 91 | 150 | 36.19 | 36.19 | 14.76 | -1.08 | 50 (9) | 2639 (9) | 639 (9) |
| 11-32-S | 91 | 150 | 36.19 | 36.19 | 2.03 | -0.84 | 9 (9) | 453 (9) | 152 (9) |
| 12-1-S | 91 | 150 | 40.72 | 40.72 | 3.52 | -3.34 | 19 (9) | 944 (9) | 536 (9) |
| 12-2-S | 91 | 150 | 40.72 | 40.72 | 18.45 | -14.40 | 96 (9) | 4813 (9) | 2314 (9) |
| 12-3-S | 91 | 150 | 40.72 | 40.72 | 43.38 | -37.50 | 338 (9) | 17032 (9) | 6099 (9) |
| 12-4-S | 91 | 150 | 40.72 | 40.72 | 61.69 | -68.20 | 678 (9) | 34141 (9) | 11123 (9) |
| 12-5-S | 91 | 150 | 40.72 | 40.72 | 6.68 | -131.42 | 421 (9) | 5468 (9) | 21227 (9) |
| 12-6-S | 91 | 150 | 40.72 | 40.72 | 2.57 | -177.17 | 560 (9) | 7265 (9) | 28207 (9) |
| 12-7-S | 91 | 150 | 40.72 | 40.72 | 38.71 | -80.45 | 247 (9) | 11623 (9) | 12429 (9) |

| Is | B | H | Afi | Afs | Mp | Mn | σc | σfi | σfs |
|-----------|----------|----------|------------|------------|-----------|-----------|-----------|------------|------------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kNm] | [kPa] | [kPa] | [kPa] |
| 12-8-S | 91 | 150 | 40.72 | 40.72 | 134.04 | -0.01 | 471 (9) | 23749 (9) | 6117 (9) |
| 12-9-S | 91 | 150 | 40.72 | 40.72 | 321.20 | 0.00 | 1089 (9) | 54877 (9) | 14135 (9) |
| 12-10-S | 91 | 150 | 40.72 | 40.72 | 587.68 | 0.00 | 1597 (9) | 80464 (9) | 20726 (9) |
| 12-11-S | 91 | 150 | 40.72 | 40.72 | 534.85 | 0.00 | 1451 (9) | 73126 (9) | 18836 (9) |
| 12-12-S | 91 | 150 | 40.72 | 40.72 | 496.46 | -0.40 | 1350 (9) | 68039 (9) | 17526 (9) |
| 12-13-S | 91 | 150 | 40.72 | 40.72 | 424.60 | -4.20 | 1146 (9) | 57760 (9) | 14878 (9) |
| 12-14-S | 91 | 150 | 40.72 | 40.72 | 268.71 | -19.92 | 682 (9) | 34378 (9) | 8855 (9) |
| 12-15-S | 91 | 150 | 40.72 | 40.72 | 136.41 | -65.83 | 641 (10) | 32314 (10) | 11881 (10) |
| 12-16-S | 91 | 150 | 40.72 | 40.72 | 193.51 | -24.62 | 642 (9) | 32356 (9) | 8334 (9) |
| 12-17-S | 91 | 150 | 40.72 | 40.72 | 248.38 | -0.72 | 702 (9) | 35355 (9) | 9107 (9) |
| 12-18-S | 91 | 150 | 40.72 | 40.72 | 315.15 | -0.10 | 945 (9) | 47597 (9) | 12260 (9) |
| 12-19-S | 91 | 150 | 40.72 | 40.72 | 363.18 | -0.02 | 1123 (9) | 56559 (9) | 14569 (9) |
| 12-20-S | 91 | 150 | 40.72 | 40.72 | 389.85 | -0.03 | 1226 (9) | 61749 (9) | 15905 (9) |
| 12-21-S | 91 | 150 | 40.72 | 40.72 | 403.57 | -0.05 | 1283 (9) | 64623 (9) | 16646 (9) |
| 12-22-S | 91 | 150 | 40.72 | 40.72 | 405.46 | -0.13 | 1297 (9) | 65364 (9) | 16836 (9) |
| 12-23-S | 91 | 150 | 40.72 | 40.72 | 396.33 | -0.36 | 1272 (9) | 64096 (9) | 16510 (9) |
| 12-24-S | 91 | 150 | 40.72 | 40.72 | 374.70 | -0.98 | 1201 (9) | 60527 (9) | 15591 (9) |
| 12-25-S | 91 | 150 | 40.72 | 40.72 | 337.46 | -2.66 | 1074 (9) | 54092 (9) | 13933 (9) |
| 12-26-S | 91 | 150 | 40.72 | 40.72 | 298.07 | -6.20 | 936 (9) | 47168 (9) | 12150 (9) |
| 12-27-S | 91 | 150 | 40.72 | 40.72 | 212.87 | -16.40 | 654 (9) | 32950 (9) | 8487 (9) |
| 12-28-S | 91 | 150 | 40.72 | 40.72 | 66.61 | -47.99 | 239 (9) | 12053 (9) | 8376 (9) |
| 12-29-S | 91 | 150 | 40.72 | 40.72 | 22.42 | -140.34 | 462 (9) | 5989 (9) | 23253 (9) |
| 12-30-S | 91 | 150 | 40.72 | 40.72 | 13.33 | -90.34 | 300 (9) | 4842 (9) | 15124 (9) |
| 12-31-S | 91 | 150 | 40.72 | 40.72 | 6.83 | -33.14 | 109 (9) | 2539 (9) | 5483 (9) |
| 12-32-S | 91 | 150 | 40.72 | 40.72 | 3.62 | -2.68 | 19 (9) | 945 (9) | 409 (9) |
| 13-1-S | 91 | 150 | 40.72 | 40.72 | 3.52 | -3.34 | 19 (9) | 944 (9) | 536 (9) |
| 13-2-S | 91 | 150 | 40.72 | 40.72 | 18.45 | -14.40 | 96 (9) | 4813 (9) | 2314 (9) |
| 13-3-S | 91 | 150 | 40.72 | 40.72 | 43.38 | -37.50 | 338 (9) | 17032 (9) | 6099 (9) |
| 13-4-S | 91 | 150 | 40.72 | 40.72 | 61.69 | -68.20 | 678 (9) | 34141 (9) | 11123 (9) |
| 13-5-S | 91 | 150 | 40.72 | 40.72 | 6.68 | -131.42 | 421 (9) | 5468 (9) | 21227 (9) |
| 13-6-S | 91 | 150 | 40.72 | 40.72 | 2.57 | -177.17 | 560 (9) | 7265 (9) | 28207 (9) |
| 13-7-S | 91 | 150 | 40.72 | 40.72 | 38.71 | -80.45 | 247 (9) | 11623 (9) | 12429 (9) |
| 13-8-S | 91 | 150 | 40.72 | 40.72 | 134.04 | -0.01 | 471 (9) | 23749 (9) | 6117 (9) |
| 13-9-S | 91 | 150 | 40.72 | 40.72 | 321.20 | 0.00 | 1089 (9) | 54877 (9) | 14135 (9) |
| 13-10-S | 91 | 150 | 40.72 | 40.72 | 587.68 | 0.00 | 1597 (9) | 80464 (9) | 20726 (9) |
| 13-11-S | 91 | 150 | 40.72 | 40.72 | 534.85 | 0.00 | 1451 (9) | 73126 (9) | 18836 (9) |
| 13-12-S | 91 | 150 | 40.72 | 40.72 | 496.46 | -0.40 | 1350 (9) | 68039 (9) | 17526 (9) |
| 13-13-S | 91 | 150 | 40.72 | 40.72 | 424.60 | -4.20 | 1146 (9) | 57760 (9) | 14878 (9) |
| 13-14-S | 91 | 150 | 40.72 | 40.72 | 268.71 | -19.92 | 682 (9) | 34378 (9) | 8855 (9) |
| 13-15-S | 91 | 150 | 40.72 | 40.72 | 136.41 | -65.83 | 641 (10) | 32314 (10) | 11881 (10) |
| 13-16-S | 91 | 150 | 40.72 | 40.72 | 193.51 | -24.62 | 642 (9) | 32356 (9) | 8334 (9) |
| 13-17-S | 91 | 150 | 40.72 | 40.72 | 248.38 | -0.72 | 702 (9) | 35355 (9) | 9107 (9) |
| 13-18-S | 91 | 150 | 40.72 | 40.72 | 315.15 | -0.10 | 945 (9) | 47597 (9) | 12260 (9) |
| 13-19-S | 91 | 150 | 40.72 | 40.72 | 363.18 | -0.02 | 1123 (9) | 56559 (9) | 14569 (9) |
| 13-20-S | 91 | 150 | 40.72 | 40.72 | 389.85 | -0.03 | 1226 (9) | 61749 (9) | 15905 (9) |
| 13-21-S | 91 | 150 | 40.72 | 40.72 | 403.57 | -0.05 | 1283 (9) | 64623 (9) | 16646 (9) |
| 13-22-S | 91 | 150 | 40.72 | 40.72 | 405.46 | -0.13 | 1297 (9) | 65364 (9) | 16836 (9) |
| 13-23-S | 91 | 150 | 40.72 | 40.72 | 396.33 | -0.36 | 1272 (9) | 64096 (9) | 16510 (9) |
| 13-24-S | 91 | 150 | 40.72 | 40.72 | 374.70 | -0.98 | 1201 (9) | 60527 (9) | 15591 (9) |
| 13-25-S | 91 | 150 | 40.72 | 40.72 | 337.46 | -2.66 | 1074 (9) | 54092 (9) | 13933 (9) |
| 13-26-S | 91 | 150 | 40.72 | 40.72 | 298.07 | -6.20 | 936 (9) | 47168 (9) | 12150 (9) |
| 13-27-S | 91 | 150 | 40.72 | 40.72 | 212.87 | -16.40 | 654 (9) | 32950 (9) | 8487 (9) |
| 13-28-S | 91 | 150 | 40.72 | 40.72 | 66.61 | -47.99 | 239 (9) | 12053 (9) | 8376 (9) |
| 13-29-S | 91 | 150 | 40.72 | 40.72 | 22.42 | -140.34 | 462 (9) | 5989 (9) | 23253 (9) |
| 13-30-S | 91 | 150 | 40.72 | 40.72 | 13.33 | -90.34 | 300 (9) | 4842 (9) | 15124 (9) |
| 13-31-S | 91 | 150 | 40.72 | 40.72 | 6.83 | -33.14 | 109 (9) | 2539 (9) | 5483 (9) |
| 13-32-S | 91 | 150 | 40.72 | 40.72 | 3.62 | -2.68 | 19 (9) | 945 (9) | 409 (9) |
| 14-1-S | 91 | 150 | 36.19 | 36.19 | 0.32 | -1.72 | 7 (9) | 92 (9) | 381 (9) |
| 14-2-S | 91 | 150 | 36.19 | 36.19 | 0.00 | -6.75 | 22 (9) | 287 (9) | 1186 (9) |
| 14-3-S | 91 | 150 | 36.19 | 36.19 | 1.47 | -7.95 | 30 (10) | 746 (10) | 1611 (10) |
| 14-4-S | 91 | 150 | 36.19 | 36.19 | 7.52 | -5.93 | 48 (10) | 2541 (10) | 1503 (10) |
| 14-5-S | 91 | 150 | 36.19 | 36.19 | 25.78 | -3.04 | 121 (9) | 6431 (9) | 1558 (9) |
| 14-6-S | 91 | 150 | 36.19 | 36.19 | 71.08 | -1.64 | 260 (9) | 13828 (9) | 3349 (9) |
| 14-7-S | 91 | 150 | 36.19 | 36.19 | 132.91 | -0.45 | 479 (9) | 25467 (9) | 6168 (9) |
| 14-8-S | 91 | 150 | 36.19 | 36.19 | 206.99 | 0.00 | 740 (9) | 39374 (9) | 9536 (9) |
| 14-9-S | 91 | 150 | 36.19 | 36.19 | 289.57 | 0.00 | 1030 (9) | 54803 (9) | 13273 (9) |
| 14-10-S | 91 | 150 | 36.19 | 36.19 | 341.13 | 0.00 | 842 (9) | 44800 (9) | 10850 (9) |
| 14-11-S | 91 | 150 | 36.19 | 36.19 | 349.24 | 0.00 | 913 (9) | 48598 (9) | 11771 (9) |
| 14-12-S | 91 | 150 | 36.19 | 36.19 | 345.51 | 0.00 | 933 (9) | 49681 (9) | 12033 (9) |
| 14-13-S | 91 | 150 | 36.19 | 36.19 | 341.91 | 0.00 | 953 (9) | 50733 (9) | 12287 (9) |

| Is | B | H | Afi | Afs | Mp | Mn | σc | σfi | σfs |
|---------|------|------|-------|-------|--------|-------|----------|-----------|-----------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kNm] | [kPa] | [kPa] | [kPa] |
| 14-14-S | 91 | 150 | 36.19 | 36.19 | 338.23 | 0.00 | 971 (9) | 51695 (9) | 12520 (9) |
| 14-15-S | 91 | 150 | 36.19 | 36.19 | 341.94 | -0.05 | 1014 (9) | 53958 (9) | 13069 (9) |
| 14-16-S | 91 | 150 | 36.19 | 36.19 | 351.50 | -0.04 | 1075 (9) | 57237 (9) | 13863 (9) |
| 14-17-S | 91 | 150 | 36.19 | 36.19 | 364.47 | -0.02 | 1147 (9) | 61052 (9) | 14787 (9) |
| 14-18-S | 91 | 150 | 36.19 | 36.19 | 377.55 | -0.01 | 1217 (9) | 64770 (9) | 15687 (9) |
| 14-19-S | 91 | 150 | 36.19 | 36.19 | 388.04 | 0.00 | 1275 (9) | 67863 (9) | 16436 (9) |
| 14-20-S | 91 | 150 | 36.19 | 36.19 | 390.74 | -0.01 | 1302 (9) | 69282 (9) | 16780 (9) |
| 14-21-S | 91 | 150 | 36.19 | 36.19 | 384.94 | -0.02 | 1296 (9) | 68957 (9) | 16701 (9) |
| 14-22-S | 91 | 150 | 36.19 | 36.19 | 369.57 | -0.05 | 1253 (9) | 66692 (9) | 16153 (9) |
| 14-23-S | 91 | 150 | 36.19 | 36.19 | 343.91 | -0.10 | 1172 (9) | 62366 (9) | 15105 (9) |
| 14-24-S | 91 | 150 | 36.19 | 36.19 | 306.17 | -0.21 | 1046 (9) | 55644 (9) | 13477 (9) |
| 14-25-S | 91 | 150 | 36.19 | 36.19 | 259.06 | -0.35 | 884 (9) | 47073 (9) | 11401 (9) |
| 14-26-S | 91 | 150 | 36.19 | 36.19 | 207.90 | -0.50 | 708 (9) | 37704 (9) | 9132 (9) |
| 14-27-S | 91 | 150 | 36.19 | 36.19 | 156.31 | -0.68 | 531 (9) | 28245 (9) | 6841 (9) |
| 14-28-S | 91 | 150 | 36.19 | 36.19 | 108.26 | -0.85 | 366 (9) | 19465 (9) | 4714 (9) |
| 14-29-S | 91 | 150 | 36.19 | 36.19 | 68.05 | -1.03 | 229 (9) | 12181 (9) | 2950 (9) |
| 14-30-S | 91 | 150 | 36.19 | 36.19 | 38.34 | -1.40 | 129 (9) | 6852 (9) | 1660 (9) |
| 14-31-S | 91 | 150 | 36.19 | 36.19 | 14.76 | -1.08 | 50 (9) | 2639 (9) | 639 (9) |
| 14-32-S | 91 | 150 | 36.19 | 36.19 | 2.03 | -0.84 | 9 (9) | 453 (9) | 152 (9) |

Combinazioni SLEF

Paramento

Tensione massima di compressione nel calcestruzzo
Tensione massima di trazione dell'acciaio

33200 [kPa]
449936 [kPa]

| n° | B | H | Afi | Afs | M | N | σc | σfi | σfs |
|----|------|------|-------|-------|-------|-------|----------|-----------|-----------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kN] | [kPa] | [kPa] | [kPa] |
| 1 | 100 | 40 | 15.71 | 45.24 | 0.75 | 4.29 | 35 (10) | 193 (10) | 430 (10) |
| 2 | 100 | 41 | 15.71 | 45.24 | 0.75 | 5.28 | 35 (10) | 126 (10) | 445 (10) |
| 3 | 100 | 42 | 15.71 | 45.24 | 0.77 | 6.30 | 36 (10) | 74 (10) | 464 (10) |
| 4 | 100 | 43 | 15.71 | 45.24 | 0.79 | 7.34 | 37 (10) | 36 (10) | 489 (10) |
| 5 | 100 | 44 | 15.71 | 45.24 | 0.84 | 8.41 | 39 (10) | 9 (10) | 521 (10) |
| 6 | 100 | 45 | 15.71 | 45.24 | 0.91 | 9.50 | 42 (10) | 8 (10) | 559 (10) |
| 7 | 100 | 46 | 15.71 | 45.24 | 1.01 | 10.62 | 45 (10) | 17 (10) | 604 (10) |
| 8 | 100 | 47 | 15.71 | 45.24 | 1.14 | 11.76 | 49 (10) | 18 (10) | 657 (10) |
| 9 | 100 | 48 | 15.71 | 45.24 | 1.30 | 12.92 | 53 (10) | 11 (10) | 718 (10) |
| 10 | 100 | 49 | 15.71 | 45.24 | 1.51 | 14.11 | 58 (10) | 6 (10) | 786 (10) |
| 11 | 100 | 50 | 15.71 | 45.24 | 1.77 | 15.32 | 64 (10) | 33 (10) | 864 (10) |
| 12 | 100 | 51 | 15.71 | 45.24 | 2.07 | 16.56 | 71 (10) | 72 (10) | 951 (10) |
| 13 | 100 | 52 | 15.71 | 45.24 | 2.44 | 17.82 | 78 (10) | 126 (10) | 1049 (10) |
| 14 | 100 | 53 | 15.71 | 45.24 | 2.86 | 19.11 | 86 (10) | 196 (10) | 1156 (10) |
| 15 | 100 | 54 | 15.71 | 45.24 | 3.35 | 20.42 | 95 (10) | 284 (10) | 1275 (10) |
| 16 | 100 | 55 | 15.71 | 45.24 | 3.90 | 21.76 | 105 (10) | 392 (10) | 1405 (10) |
| 17 | 100 | 56 | 15.71 | 45.24 | 4.54 | 23.12 | 116 (10) | 522 (10) | 1547 (10) |
| 18 | 100 | 57 | 15.71 | 45.24 | 5.25 | 24.50 | 128 (10) | 676 (10) | 1700 (10) |
| 19 | 100 | 58 | 15.71 | 45.24 | 6.04 | 25.91 | 141 (10) | 854 (10) | 1864 (10) |
| 20 | 100 | 59 | 15.71 | 45.24 | 6.92 | 27.35 | 155 (10) | 1057 (10) | 2040 (10) |
| 21 | 100 | 60 | 15.71 | 45.24 | 7.90 | 28.81 | 169 (10) | 1287 (10) | 2227 (10) |
| 22 | 100 | 61 | 15.71 | 45.24 | 8.97 | 30.29 | 185 (10) | 1544 (10) | 2425 (10) |
| 23 | 100 | 62 | 15.71 | 45.24 | 10.14 | 31.80 | 201 (10) | 1828 (10) | 2634 (10) |
| 24 | 100 | 63 | 15.71 | 45.24 | 11.42 | 33.33 | 218 (10) | 2141 (10) | 2854 (10) |
| 25 | 100 | 64 | 15.71 | 45.24 | 12.81 | 34.89 | 236 (10) | 2481 (10) | 3084 (10) |
| 26 | 100 | 65 | 15.71 | 45.24 | 14.32 | 36.47 | 255 (10) | 2851 (10) | 3325 (10) |
| 27 | 100 | 66 | 15.71 | 45.24 | 15.95 | 38.07 | 274 (10) | 3249 (10) | 3577 (10) |
| 28 | 100 | 67 | 15.71 | 45.24 | 17.70 | 39.70 | 295 (10) | 3676 (10) | 3839 (10) |
| 29 | 100 | 68 | 15.71 | 45.24 | 19.58 | 41.36 | 316 (10) | 4133 (10) | 4111 (10) |
| 30 | 100 | 69 | 15.71 | 45.24 | 21.60 | 43.04 | 338 (10) | 4619 (10) | 4394 (10) |
| 31 | 100 | 70 | 15.71 | 45.24 | 23.75 | 44.74 | 361 (10) | 5135 (10) | 4686 (10) |
| 32 | 100 | 71 | 15.71 | 45.24 | 26.05 | 46.47 | 384 (10) | 5681 (10) | 4989 (10) |
| 33 | 100 | 72 | 15.71 | 45.24 | 28.50 | 48.22 | 408 (10) | 6257 (10) | 5302 (10) |
| 34 | 100 | 73 | 15.71 | 45.24 | 31.10 | 50.00 | 433 (10) | 6864 (10) | 5624 (10) |
| 35 | 100 | 74 | 15.71 | 45.24 | 33.86 | 51.80 | 459 (10) | 7501 (10) | 5956 (10) |
| 36 | 100 | 75 | 15.71 | 45.24 | 36.78 | 53.63 | 486 (10) | 8168 (10) | 6298 (10) |

| n° | B | H | Afi | Afs | M | N | σc | σfi | σfs |
|-----|------|------|-------|--------|--------|--------|-----------|------------|------------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kN] | [kPa] | [kPa] | [kPa] |
| 37 | 100 | 76 | 15.71 | 45.24 | 39.86 | 55.48 | 513 (10) | 8866 (10) | 6649 (10) |
| 38 | 100 | 77 | 15.71 | 45.24 | 43.12 | 57.36 | 541 (10) | 9595 (10) | 7010 (10) |
| 39 | 100 | 78 | 15.71 | 45.24 | 46.55 | 59.26 | 569 (10) | 10354 (10) | 7380 (10) |
| 40 | 100 | 79 | 15.71 | 45.24 | 50.16 | 61.18 | 598 (10) | 11145 (10) | 7759 (10) |
| 41 | 100 | 80 | 15.71 | 45.24 | 53.96 | 63.13 | 628 (10) | 11967 (10) | 8148 (10) |
| 42 | 100 | 81 | 15.71 | 45.24 | 57.95 | 65.10 | 659 (10) | 12819 (10) | 8546 (10) |
| 43 | 100 | 82 | 15.71 | 45.24 | 62.13 | 67.10 | 690 (10) | 13704 (10) | 8953 (10) |
| 44 | 100 | 83 | 15.71 | 45.24 | 66.52 | 69.12 | 722 (10) | 14619 (10) | 9369 (10) |
| 45 | 100 | 84 | 15.71 | 45.24 | 71.10 | 71.17 | 754 (10) | 15566 (10) | 9793 (10) |
| 46 | 100 | 85 | 15.71 | 45.24 | 75.89 | 73.24 | 787 (10) | 16544 (10) | 10227 (10) |
| 47 | 100 | 86 | 15.71 | 45.24 | 80.90 | 75.34 | 821 (10) | 17554 (10) | 10669 (10) |
| 48 | 100 | 87 | 15.71 | 45.24 | 86.12 | 77.46 | 856 (10) | 18596 (10) | 11120 (10) |
| 49 | 100 | 88 | 15.71 | 45.24 | 91.57 | 79.60 | 891 (10) | 19669 (10) | 11579 (10) |
| 50 | 100 | 89 | 15.71 | 45.24 | 97.24 | 81.77 | 926 (10) | 20774 (10) | 12047 (10) |
| 51 | 100 | 90 | 15.71 | 45.24 | 103.14 | 83.97 | 962 (10) | 21910 (10) | 12524 (10) |
| 52 | 100 | 91 | 15.71 | 45.24 | 109.28 | 86.19 | 999 (10) | 23079 (10) | 13009 (10) |
| 53 | 100 | 92 | 15.71 | 45.24 | 115.66 | 88.43 | 1037 (10) | 24279 (10) | 13502 (10) |
| 54 | 100 | 93 | 15.71 | 45.24 | 122.29 | 90.70 | 1075 (10) | 25512 (10) | 14003 (10) |
| 55 | 100 | 94 | 15.71 | 45.24 | 129.16 | 92.99 | 1113 (10) | 26776 (10) | 14512 (10) |
| 56 | 100 | 95 | 15.71 | 45.24 | 136.29 | 95.31 | 1152 (10) | 28073 (10) | 15030 (10) |
| 57 | 100 | 96 | 15.71 | 45.24 | 143.68 | 97.65 | 1192 (10) | 29401 (10) | 15555 (10) |
| 58 | 100 | 97 | 15.71 | 45.24 | 151.33 | 100.01 | 1232 (10) | 30762 (10) | 16089 (10) |
| 59 | 100 | 98 | 15.71 | 45.24 | 159.25 | 102.40 | 1273 (10) | 32155 (10) | 16630 (10) |
| 60 | 100 | 99 | 15.71 | 45.24 | 167.44 | 104.82 | 1314 (10) | 33580 (10) | 17179 (10) |
| 61 | 100 | 100 | 15.71 | 45.24 | 175.91 | 107.26 | 1356 (10) | 35037 (10) | 17735 (10) |
| 62 | 100 | 101 | 15.71 | 45.24 | 184.67 | 109.72 | 1399 (10) | 36526 (10) | 18300 (10) |
| 63 | 100 | 102 | 47.12 | 90.48 | 193.71 | 112.21 | 1031 (10) | 19443 (10) | 13861 (10) |
| 64 | 100 | 103 | 47.12 | 90.48 | 203.04 | 114.72 | 1062 (10) | 20235 (10) | 14283 (10) |
| 65 | 100 | 104 | 47.12 | 90.48 | 212.66 | 117.26 | 1094 (10) | 21044 (10) | 14711 (10) |
| 66 | 100 | 105 | 47.12 | 90.48 | 222.59 | 119.82 | 1125 (10) | 21869 (10) | 15145 (10) |
| 67 | 100 | 106 | 47.12 | 90.48 | 232.82 | 122.41 | 1157 (10) | 22711 (10) | 15584 (10) |
| 68 | 100 | 107 | 47.12 | 90.48 | 243.37 | 125.02 | 1190 (10) | 23569 (10) | 16028 (10) |
| 69 | 100 | 108 | 47.12 | 90.48 | 254.22 | 127.65 | 1223 (10) | 24444 (10) | 16478 (10) |
| 70 | 100 | 109 | 47.12 | 90.48 | 265.40 | 130.31 | 1256 (10) | 25335 (10) | 16933 (10) |
| 71 | 100 | 110 | 47.12 | 90.48 | 276.90 | 133.00 | 1289 (10) | 26242 (10) | 17393 (10) |
| 72 | 100 | 111 | 47.12 | 90.48 | 288.72 | 135.71 | 1323 (10) | 27166 (10) | 17858 (10) |
| 73 | 100 | 112 | 47.12 | 90.48 | 300.89 | 138.44 | 1357 (10) | 28107 (10) | 18328 (10) |
| 74 | 100 | 113 | 47.12 | 90.48 | 313.38 | 141.20 | 1392 (10) | 29064 (10) | 18803 (10) |
| 75 | 100 | 114 | 47.12 | 90.48 | 326.22 | 143.98 | 1427 (10) | 30038 (10) | 19284 (10) |
| 76 | 100 | 115 | 47.12 | 90.48 | 339.41 | 146.79 | 1462 (10) | 31029 (10) | 19769 (10) |
| 77 | 100 | 116 | 47.12 | 90.48 | 352.95 | 149.62 | 1497 (10) | 32036 (10) | 20260 (10) |
| 78 | 100 | 117 | 47.12 | 113.10 | 366.84 | 152.48 | 1449 (10) | 26943 (10) | 19789 (10) |
| 79 | 100 | 118 | 47.12 | 113.10 | 381.10 | 155.36 | 1483 (10) | 27788 (10) | 20261 (10) |
| 80 | 100 | 119 | 47.12 | 113.10 | 395.72 | 158.26 | 1517 (10) | 28646 (10) | 20737 (10) |
| 81 | 100 | 120 | 47.12 | 113.10 | 410.71 | 161.19 | 1552 (10) | 29517 (10) | 21218 (10) |
| 82 | 100 | 121 | 47.12 | 113.10 | 426.08 | 164.15 | 1586 (10) | 30402 (10) | 21703 (10) |
| 83 | 100 | 122 | 47.12 | 113.10 | 441.82 | 167.12 | 1622 (10) | 31301 (10) | 22193 (10) |
| 84 | 100 | 123 | 47.12 | 113.10 | 457.95 | 170.13 | 1657 (10) | 32213 (10) | 22687 (10) |
| 85 | 100 | 124 | 47.12 | 113.10 | 474.46 | 173.15 | 1693 (10) | 33138 (10) | 23185 (10) |
| 86 | 100 | 125 | 47.12 | 113.10 | 491.37 | 176.21 | 1729 (10) | 34076 (10) | 23687 (10) |
| 87 | 100 | 126 | 47.12 | 113.10 | 508.68 | 179.28 | 1765 (10) | 35029 (10) | 24194 (10) |
| 88 | 100 | 127 | 47.12 | 113.10 | 526.39 | 182.38 | 1801 (10) | 35994 (10) | 24705 (10) |
| 89 | 100 | 128 | 47.12 | 113.10 | 544.50 | 185.51 | 1838 (10) | 36973 (10) | 25220 (10) |
| 90 | 100 | 129 | 47.12 | 113.10 | 563.03 | 188.66 | 1875 (10) | 37966 (10) | 25739 (10) |
| 91 | 100 | 130 | 47.12 | 113.10 | 581.98 | 191.84 | 1913 (10) | 38972 (10) | 26262 (10) |
| 92 | 100 | 131 | 47.12 | 67.86 | 601.34 | 195.03 | 2244 (10) | 64174 (10) | 30180 (10) |
| 93 | 100 | 132 | 47.12 | 67.86 | 621.13 | 198.26 | 2289 (10) | 65843 (10) | 30793 (10) |
| 94 | 100 | 133 | 31.42 | 67.86 | 641.35 | 201.51 | 2479 (10) | 68427 (10) | 33483 (10) |
| 95 | 100 | 134 | 31.42 | 67.86 | 662.00 | 204.78 | 2526 (10) | 70156 (10) | 34138 (10) |
| 96 | 100 | 135 | 31.42 | 67.86 | 683.10 | 208.08 | 2574 (10) | 71907 (10) | 34799 (10) |
| 97 | 100 | 136 | 31.42 | 67.86 | 704.63 | 211.40 | 2622 (10) | 73680 (10) | 35464 (10) |
| 98 | 100 | 137 | 31.42 | 67.86 | 726.62 | 214.74 | 2671 (10) | 75475 (10) | 36134 (10) |
| 99 | 100 | 138 | 31.42 | 67.86 | 749.06 | 218.12 | 2719 (10) | 77292 (10) | 36809 (10) |
| 100 | 100 | 139 | 31.42 | 67.86 | 771.95 | 221.51 | 2768 (10) | 79131 (10) | 37489 (10) |
| 101 | 100 | 140 | 31.42 | 67.86 | 795.31 | 224.93 | 2818 (10) | 80991 (10) | 38174 (10) |

Mensola valle

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

| n° | B | H | Afi | Afs | M | N | σc | σfi | σfs |
|----|------|------|-------|-------|-------|------|---------|----------|-----------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kN] | [kPa] | [kPa] | [kPa] |
| 1 | 100 | 50 | 8.04 | 8.04 | 0.00 | 0.00 | 0 (10) | 0 (10) | 0 (10) |
| 2 | 100 | 50 | 8.04 | 8.04 | -0.05 | 0.00 | 2 (10) | 16 (10) | 138 (10) |
| 3 | 100 | 50 | 8.04 | 8.04 | -0.19 | 0.00 | 9 (10) | 65 (10) | 551 (10) |
| 4 | 100 | 50 | 8.04 | 8.04 | -0.42 | 0.00 | 20 (10) | 146 (10) | 1239 (10) |
| 5 | 100 | 50 | 8.04 | 8.04 | -0.75 | 0.00 | 35 (10) | 260 (10) | 2203 (10) |

Piastra fondazione

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

| Is | B | H | Afi | Afs | Mp | Mn | σc | σfi | σfs |
|--------|------|------|-------|-------|-------|---------|----------|------------|------------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kNm] | [kPa] | [kPa] | [kPa] |
| 1-1-P | 100 | 150 | 10.05 | 10.05 | 1.32 | 0.00 | 8 (9) | 851 (9) | 94 (9) |
| 1-2-P | 100 | 150 | 10.05 | 10.05 | 0.83 | -1.42 | 10 (9) | 691 (9) | 989 (9) |
| 1-3-P | 100 | 150 | 10.05 | 10.05 | 0.68 | -10.53 | 70 (9) | 1192 (9) | 7180 (9) |
| 1-4-P | 100 | 150 | 10.05 | 10.05 | 0.00 | -29.45 | 193 (9) | 2188 (9) | 19899 (9) |
| 1-5-P | 100 | 150 | 10.05 | 10.05 | 0.00 | -62.87 | 410 (9) | 4650 (9) | 42297 (9) |
| 1-6-P | 100 | 150 | 10.05 | 10.05 | 0.00 | -115.27 | 749 (9) | 8497 (9) | 77286 (9) |
| 1-7-P | 100 | 150 | 10.05 | 10.05 | 1.60 | -215.62 | 1381 (9) | 15672 (9) | 142545 (9) |
| 1-8-P | 100 | 150 | 10.05 | 10.05 | 1.77 | -239.18 | 1540 (9) | 17469 (9) | 158891 (9) |
| 1-9-P | 100 | 150 | 10.05 | 10.05 | 1.77 | -239.18 | 1540 (9) | 17469 (9) | 158891 (9) |
| 1-10-P | 100 | 150 | 10.05 | 10.05 | 1.60 | -215.62 | 1381 (9) | 15672 (9) | 142545 (9) |
| 1-11-P | 100 | 150 | 10.05 | 10.05 | 0.00 | -115.27 | 749 (9) | 8497 (9) | 77286 (9) |
| 1-12-P | 100 | 150 | 10.05 | 10.05 | 0.00 | -62.87 | 410 (9) | 4650 (9) | 42297 (9) |
| 1-13-P | 100 | 150 | 10.05 | 10.05 | 0.00 | -29.45 | 193 (9) | 2188 (9) | 19899 (9) |
| 1-14-P | 100 | 150 | 10.05 | 10.05 | 0.68 | -10.53 | 70 (9) | 1192 (9) | 7180 (9) |
| 1-15-P | 100 | 150 | 10.05 | 10.05 | 0.83 | -1.42 | 10 (9) | 691 (9) | 989 (9) |
| 1-16-P | 100 | 150 | 10.05 | 10.05 | 1.32 | 0.00 | 8 (9) | 851 (9) | 94 (9) |
| 2-1-P | 100 | 150 | 10.05 | 10.05 | 21.01 | 0.00 | 136 (9) | 14012 (9) | 1540 (9) |
| 2-2-P | 100 | 150 | 10.05 | 10.05 | 23.27 | 0.00 | 151 (9) | 15611 (9) | 1716 (9) |
| 2-3-P | 100 | 150 | 10.05 | 10.05 | 27.69 | -3.81 | 181 (9) | 18644 (9) | 5089 (9) |
| 2-4-P | 100 | 150 | 10.05 | 10.05 | 27.63 | -13.07 | 182 (9) | 18754 (9) | 13623 (9) |
| 2-5-P | 100 | 150 | 10.05 | 10.05 | 21.26 | -31.91 | 300 (9) | 16969 (9) | 30923 (9) |
| 2-6-P | 100 | 150 | 10.05 | 10.05 | 16.37 | -72.57 | 685 (9) | 16806 (9) | 70663 (9) |
| 2-7-P | 100 | 150 | 10.05 | 10.05 | 14.38 | -92.90 | 736 (9) | 11832 (9) | 75961 (9) |
| 2-8-P | 100 | 150 | 10.05 | 10.05 | 10.82 | -136.46 | 1138 (9) | 26287 (9) | 117450 (9) |
| 2-9-P | 100 | 150 | 10.05 | 10.05 | 10.82 | -136.46 | 1138 (9) | 26287 (9) | 117450 (9) |
| 2-10-P | 100 | 150 | 10.05 | 10.05 | 14.38 | -92.90 | 736 (9) | 11832 (9) | 75961 (9) |
| 2-11-P | 100 | 150 | 10.05 | 10.05 | 16.37 | -72.57 | 685 (9) | 16806 (9) | 70663 (9) |
| 2-12-P | 100 | 150 | 10.05 | 10.05 | 21.26 | -31.91 | 300 (9) | 16969 (9) | 30923 (9) |
| 2-13-P | 100 | 150 | 10.05 | 10.05 | 27.63 | -13.07 | 182 (9) | 18754 (9) | 13623 (9) |
| 2-14-P | 100 | 150 | 10.05 | 10.05 | 27.69 | -3.81 | 181 (9) | 18644 (9) | 5089 (9) |
| 2-15-P | 100 | 150 | 10.05 | 10.05 | 23.27 | 0.00 | 151 (9) | 15611 (9) | 1716 (9) |
| 2-16-P | 100 | 150 | 10.05 | 10.05 | 21.01 | 0.00 | 136 (9) | 14012 (9) | 1540 (9) |
| 5-1-P | 89 | 150 | 10.05 | 10.05 | 30.76 | 0.00 | 171 (9) | 16613 (9) | 1967 (9) |
| 5-2-P | 89 | 150 | 10.05 | 10.05 | 38.50 | 0.00 | 206 (9) | 20025 (9) | 2371 (9) |
| 5-3-P | 89 | 150 | 10.05 | 10.05 | 55.92 | 0.00 | 298 (9) | 28967 (9) | 3429 (9) |
| 5-4-P | 89 | 150 | 10.05 | 10.05 | 71.31 | 0.00 | 376 (9) | 36585 (9) | 4331 (9) |
| 5-5-P | 89 | 150 | 10.05 | 10.05 | 76.86 | -0.03 | 398 (9) | 38755 (9) | 4888 (9) |
| 5-6-P | 89 | 150 | 10.05 | 10.05 | 72.82 | -4.66 | 375 (9) | 36552 (9) | 16049 (9) |
| 5-7-P | 89 | 150 | 10.05 | 10.05 | 63.36 | -49.05 | 660 (9) | 33876 (9) | 64297 (9) |
| 5-8-P | 89 | 150 | 10.05 | 10.05 | 31.70 | -42.86 | 508 (10) | 22643 (10) | 49450 (10) |
| 5-9-P | 89 | 150 | 10.05 | 10.05 | 31.70 | -42.86 | 508 (10) | 22643 (10) | 49450 (10) |
| 5-10-P | 89 | 150 | 10.05 | 10.05 | 63.36 | -49.05 | 660 (9) | 33876 (9) | 64297 (9) |
| 5-11-P | 89 | 150 | 10.05 | 10.05 | 72.82 | -4.66 | 375 (9) | 36552 (9) | 16049 (9) |
| 5-12-P | 89 | 150 | 10.05 | 10.05 | 76.86 | -0.03 | 398 (9) | 38755 (9) | 4888 (9) |
| 5-13-P | 89 | 150 | 10.05 | 10.05 | 71.31 | 0.00 | 376 (9) | 36585 (9) | 4331 (9) |
| 5-14-P | 89 | 150 | 10.05 | 10.05 | 55.92 | 0.00 | 298 (9) | 28967 (9) | 3429 (9) |
| 5-15-P | 89 | 150 | 10.05 | 10.05 | 38.50 | 0.00 | 206 (9) | 20025 (9) | 2371 (9) |
| 5-16-P | 89 | 150 | 10.05 | 10.05 | 30.76 | 0.00 | 171 (9) | 16613 (9) | 1967 (9) |
| 6-1-P | 89 | 150 | 8.04 | 8.04 | 0.95 | -0.08 | 8 (10) | 848 (10) | 238 (10) |
| 6-2-P | 89 | 150 | 8.04 | 8.04 | 3.85 | -0.58 | 32 (10) | 3424 (10) | 1552 (10) |

| Is | B | H | Afi | Afs | Mp | Mn | σc | σfi | σfs |
|--------|------|------|-------|-------|-------|---------|----------|-----------|------------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kNm] | [kPa] | [kPa] | [kPa] |
| 6-3-P | 89 | 150 | 8.04 | 8.04 | 3.58 | -5.84 | 72 (10) | 3181 (10) | 7797 (10) |
| 6-4-P | 89 | 150 | 8.04 | 8.04 | 3.57 | -19.80 | 193 (9) | 2462 (9) | 20965 (9) |
| 6-5-P | 89 | 150 | 8.04 | 8.04 | 3.37 | -52.50 | 430 (10) | 4804 (10) | 46706 (10) |
| 6-6-P | 89 | 150 | 8.04 | 8.04 | 5.34 | -104.65 | 854 (9) | 9548 (9) | 92825 (9) |
| 6-7-P | 89 | 150 | 8.04 | 8.04 | 24.04 | -151.81 | 1221 (9) | 17920 (9) | 132649 (9) |
| 6-8-P | 89 | 150 | 8.04 | 8.04 | 3.59 | -181.35 | 1461 (9) | 16324 (9) | 158704 (9) |
| 6-9-P | 89 | 150 | 8.04 | 8.04 | 3.59 | -181.35 | 1461 (9) | 16324 (9) | 158704 (9) |
| 6-10-P | 89 | 150 | 8.04 | 8.04 | 24.04 | -151.81 | 1221 (9) | 17920 (9) | 132649 (9) |
| 6-11-P | 89 | 150 | 8.04 | 8.04 | 5.34 | -104.65 | 854 (9) | 9548 (9) | 92825 (9) |
| 6-12-P | 89 | 150 | 8.04 | 8.04 | 3.37 | -52.50 | 430 (10) | 4804 (10) | 46706 (10) |
| 6-13-P | 89 | 150 | 8.04 | 8.04 | 3.57 | -19.80 | 193 (9) | 2462 (9) | 20965 (9) |
| 6-14-P | 89 | 150 | 8.04 | 8.04 | 3.58 | -5.84 | 72 (10) | 3181 (10) | 7797 (10) |
| 6-15-P | 89 | 150 | 8.04 | 8.04 | 3.85 | -0.58 | 32 (10) | 3424 (10) | 1552 (10) |
| 6-16-P | 89 | 150 | 8.04 | 8.04 | 0.95 | -0.08 | 8 (10) | 848 (10) | 238 (10) |
| 7-1-P | 89 | 150 | 10.05 | 10.05 | 0.02 | -1.27 | 9 (9) | 105 (9) | 886 (9) |
| 7-2-P | 89 | 150 | 10.05 | 10.05 | 0.05 | -4.66 | 34 (9) | 386 (9) | 3265 (9) |
| 7-3-P | 89 | 150 | 10.05 | 10.05 | 0.12 | -14.61 | 105 (9) | 1209 (9) | 10209 (9) |
| 7-4-P | 89 | 150 | 10.05 | 10.05 | 0.22 | -29.80 | 214 (9) | 2462 (9) | 20793 (9) |
| 7-5-P | 89 | 150 | 10.05 | 10.05 | 0.31 | -48.66 | 348 (9) | 4016 (9) | 33922 (9) |
| 7-6-P | 89 | 150 | 10.05 | 10.05 | 0.40 | -69.34 | 496 (9) | 5720 (9) | 48318 (9) |
| 7-7-P | 89 | 150 | 10.05 | 10.05 | 0.30 | -86.80 | 621 (9) | 7159 (9) | 60472 (9) |
| 7-8-P | 89 | 150 | 10.05 | 10.05 | 0.04 | -96.71 | 692 (9) | 7974 (9) | 67355 (9) |
| 7-9-P | 89 | 150 | 10.05 | 10.05 | 0.04 | -96.71 | 692 (9) | 7974 (9) | 67355 (9) |
| 7-10-P | 89 | 150 | 10.05 | 10.05 | 0.30 | -86.80 | 621 (9) | 7159 (9) | 60472 (9) |
| 7-11-P | 89 | 150 | 10.05 | 10.05 | 0.40 | -69.34 | 496 (9) | 5720 (9) | 48318 (9) |
| 7-12-P | 89 | 150 | 10.05 | 10.05 | 0.31 | -48.66 | 348 (9) | 4016 (9) | 33922 (9) |
| 7-13-P | 89 | 150 | 10.05 | 10.05 | 0.22 | -29.80 | 214 (9) | 2462 (9) | 20793 (9) |
| 7-14-P | 89 | 150 | 10.05 | 10.05 | 0.12 | -14.61 | 105 (9) | 1209 (9) | 10209 (9) |
| 7-15-P | 89 | 150 | 10.05 | 10.05 | 0.05 | -4.66 | 34 (9) | 386 (9) | 3265 (9) |
| 7-16-P | 89 | 150 | 10.05 | 10.05 | 0.02 | -1.27 | 9 (9) | 105 (9) | 886 (9) |
| 8-1-P | 89 | 150 | 8.04 | 8.04 | 0.06 | -1.78 | 14 (9) | 158 (9) | 1536 (9) |
| 8-2-P | 89 | 150 | 8.04 | 8.04 | 0.38 | -5.44 | 44 (9) | 489 (9) | 4757 (9) |
| 8-3-P | 89 | 150 | 8.04 | 8.04 | 1.15 | -15.96 | 129 (9) | 1439 (9) | 13994 (9) |
| 8-4-P | 89 | 150 | 8.04 | 8.04 | 2.19 | -32.90 | 264 (9) | 2955 (9) | 28733 (9) |
| 8-5-P | 89 | 150 | 8.04 | 8.04 | 3.00 | -54.99 | 440 (9) | 4916 (9) | 47799 (9) |
| 8-6-P | 89 | 150 | 8.04 | 8.04 | 3.13 | -80.51 | 642 (9) | 7169 (9) | 69701 (9) |
| 8-7-P | 89 | 150 | 8.04 | 8.04 | 1.71 | -101.46 | 807 (9) | 9020 (9) | 87698 (9) |
| 8-8-P | 89 | 150 | 8.04 | 8.04 | 0.22 | -111.91 | 890 (9) | 9952 (9) | 96755 (9) |
| 8-9-P | 89 | 150 | 8.04 | 8.04 | 0.22 | -111.91 | 890 (9) | 9952 (9) | 96755 (9) |
| 8-10-P | 89 | 150 | 8.04 | 8.04 | 1.71 | -101.46 | 807 (9) | 9020 (9) | 87698 (9) |
| 8-11-P | 89 | 150 | 8.04 | 8.04 | 3.13 | -80.51 | 642 (9) | 7169 (9) | 69701 (9) |
| 8-12-P | 89 | 150 | 8.04 | 8.04 | 3.00 | -54.99 | 440 (9) | 4916 (9) | 47799 (9) |
| 8-13-P | 89 | 150 | 8.04 | 8.04 | 2.19 | -32.90 | 264 (9) | 2955 (9) | 28733 (9) |
| 8-14-P | 89 | 150 | 8.04 | 8.04 | 1.15 | -15.96 | 129 (9) | 1439 (9) | 13994 (9) |
| 8-15-P | 89 | 150 | 8.04 | 8.04 | 0.38 | -5.44 | 44 (9) | 489 (9) | 4757 (9) |
| 8-16-P | 89 | 150 | 8.04 | 8.04 | 0.06 | -1.78 | 14 (9) | 158 (9) | 1536 (9) |
| 9-1-P | 89 | 150 | 10.05 | 10.05 | 0.22 | -0.11 | 2 (10) | 158 (10) | 190 (10) |
| 9-2-P | 89 | 150 | 10.05 | 10.05 | 0.71 | -4.59 | 34 (10) | 511 (10) | 3277 (10) |
| 9-3-P | 89 | 150 | 10.05 | 10.05 | 2.17 | -20.13 | 144 (9) | 1664 (9) | 14053 (9) |
| 9-4-P | 89 | 150 | 10.05 | 10.05 | 4.50 | -46.55 | 334 (9) | 3844 (9) | 32469 (9) |
| 9-5-P | 89 | 150 | 10.05 | 10.05 | 7.20 | -85.59 | 612 (9) | 7053 (9) | 59572 (9) |
| 9-6-P | 89 | 150 | 10.05 | 10.05 | 10.19 | -141.94 | 1013 (9) | 11672 (9) | 98594 (9) |
| 9-7-P | 89 | 150 | 10.05 | 10.05 | 18.04 | -239.71 | 1682 (9) | 19380 (9) | 163698 (9) |
| 9-8-P | 89 | 150 | 10.05 | 10.05 | 2.86 | -244.23 | 1741 (9) | 20066 (9) | 169491 (9) |
| 9-9-P | 89 | 150 | 10.05 | 10.05 | 2.86 | -244.23 | 1741 (9) | 20066 (9) | 169491 (9) |
| 9-10-P | 89 | 150 | 10.05 | 10.05 | 18.04 | -239.71 | 1682 (9) | 19380 (9) | 163698 (9) |
| 9-11-P | 89 | 150 | 10.05 | 10.05 | 10.19 | -141.94 | 1013 (9) | 11672 (9) | 98594 (9) |
| 9-12-P | 89 | 150 | 10.05 | 10.05 | 7.20 | -85.59 | 612 (9) | 7053 (9) | 59572 (9) |
| 9-13-P | 89 | 150 | 10.05 | 10.05 | 4.50 | -46.55 | 334 (9) | 3844 (9) | 32469 (9) |
| 9-14-P | 89 | 150 | 10.05 | 10.05 | 2.17 | -20.13 | 144 (9) | 1664 (9) | 14053 (9) |
| 9-15-P | 89 | 150 | 10.05 | 10.05 | 0.71 | -4.59 | 34 (10) | 511 (10) | 3277 (10) |
| 9-16-P | 89 | 150 | 10.05 | 10.05 | 0.22 | -0.11 | 2 (10) | 158 (10) | 190 (10) |
| 10-1-P | 89 | 150 | 8.04 | 8.04 | 0.01 | -0.85 | 6 (9) | 67 (9) | 648 (9) |
| 10-2-P | 89 | 150 | 8.04 | 8.04 | 0.27 | -12.69 | 97 (9) | 1080 (9) | 10499 (9) |
| 10-3-P | 89 | 150 | 8.04 | 8.04 | 0.73 | -42.72 | 328 (9) | 3666 (9) | 35645 (9) |
| 10-4-P | 89 | 150 | 8.04 | 8.04 | 1.03 | -88.85 | 685 (9) | 7659 (9) | 74466 (9) |
| 10-5-P | 89 | 150 | 8.04 | 8.04 | 1.21 | -149.01 | 1154 (9) | 12893 (9) | 125347 (9) |
| 10-6-P | 89 | 150 | 8.04 | 8.04 | 1.26 | -220.91 | 1717 (9) | 19185 (9) | 186525 (9) |
| 10-7-P | 89 | 150 | 8.04 | 8.04 | 2.13 | -259.93 | 2041 (9) | 22809 (9) | 221754 (9) |
| 10-8-P | 89 | 150 | 8.04 | 8.04 | 0.00 | -311.33 | 2445 (9) | 27323 (9) | 265642 (9) |

| Is | B | H | Afi | Afs | Mp | Mn | σc | σfi | σfs |
|-----------|----------|----------|------------|------------|-----------|-----------|-----------|------------|------------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kNm] | [kPa] | [kPa] | [kPa] |
| 10-9-P | 89 | 150 | 8.04 | 8.04 | 0.00 | -311.33 | 2445 (9) | 27323 (9) | 265642 (9) |
| 10-10-P | 89 | 150 | 8.04 | 8.04 | 2.13 | -259.93 | 2041 (9) | 22809 (9) | 221754 (9) |
| 10-11-P | 89 | 150 | 8.04 | 8.04 | 1.26 | -220.91 | 1717 (9) | 19185 (9) | 186525 (9) |
| 10-12-P | 89 | 150 | 8.04 | 8.04 | 1.21 | -149.01 | 1154 (9) | 12893 (9) | 125347 (9) |
| 10-13-P | 89 | 150 | 8.04 | 8.04 | 1.03 | -88.85 | 685 (9) | 7659 (9) | 74466 (9) |
| 10-14-P | 89 | 150 | 8.04 | 8.04 | 0.73 | -42.72 | 328 (9) | 3666 (9) | 35645 (9) |
| 10-15-P | 89 | 150 | 8.04 | 8.04 | 0.27 | -12.69 | 97 (9) | 1080 (9) | 10499 (9) |
| 10-16-P | 89 | 150 | 8.04 | 8.04 | 0.01 | -0.85 | 6 (9) | 67 (9) | 648 (9) |
| 11-1-S | 91 | 150 | 36.19 | 36.19 | 0.32 | -1.72 | 7 (9) | 92 (9) | 381 (9) |
| 11-2-S | 91 | 150 | 36.19 | 36.19 | 0.00 | -6.75 | 22 (9) | 287 (9) | 1186 (9) |
| 11-3-S | 91 | 150 | 36.19 | 36.19 | 1.47 | -7.95 | 30 (10) | 746 (10) | 1611 (10) |
| 11-4-S | 91 | 150 | 36.19 | 36.19 | 7.52 | -5.93 | 48 (10) | 2541 (10) | 1503 (10) |
| 11-5-S | 91 | 150 | 36.19 | 36.19 | 25.78 | -3.04 | 121 (9) | 6431 (9) | 1558 (9) |
| 11-6-S | 91 | 150 | 36.19 | 36.19 | 71.08 | -1.64 | 260 (9) | 13828 (9) | 3349 (9) |
| 11-7-S | 91 | 150 | 36.19 | 36.19 | 132.91 | -0.45 | 479 (9) | 25467 (9) | 6168 (9) |
| 11-8-S | 91 | 150 | 36.19 | 36.19 | 206.99 | 0.00 | 740 (9) | 39374 (9) | 9536 (9) |
| 11-9-S | 91 | 150 | 36.19 | 36.19 | 289.57 | 0.00 | 1030 (9) | 54803 (9) | 13273 (9) |
| 11-10-S | 91 | 150 | 36.19 | 36.19 | 341.13 | 0.00 | 842 (9) | 44800 (9) | 10850 (9) |
| 11-11-S | 91 | 150 | 36.19 | 36.19 | 349.24 | 0.00 | 913 (9) | 48598 (9) | 11771 (9) |
| 11-12-S | 91 | 150 | 36.19 | 36.19 | 345.51 | 0.00 | 933 (9) | 49681 (9) | 12033 (9) |
| 11-13-S | 91 | 150 | 36.19 | 36.19 | 341.91 | 0.00 | 953 (9) | 50733 (9) | 12287 (9) |
| 11-14-S | 91 | 150 | 36.19 | 36.19 | 338.23 | 0.00 | 971 (9) | 51695 (9) | 12520 (9) |
| 11-15-S | 91 | 150 | 36.19 | 36.19 | 341.94 | -0.05 | 1014 (9) | 53958 (9) | 13069 (9) |
| 11-16-S | 91 | 150 | 36.19 | 36.19 | 351.50 | -0.04 | 1075 (9) | 57237 (9) | 13863 (9) |
| 11-17-S | 91 | 150 | 36.19 | 36.19 | 364.47 | -0.02 | 1147 (9) | 61052 (9) | 14787 (9) |
| 11-18-S | 91 | 150 | 36.19 | 36.19 | 377.55 | -0.01 | 1217 (9) | 64770 (9) | 15687 (9) |
| 11-19-S | 91 | 150 | 36.19 | 36.19 | 388.04 | 0.00 | 1275 (9) | 67863 (9) | 16436 (9) |
| 11-20-S | 91 | 150 | 36.19 | 36.19 | 390.74 | -0.01 | 1302 (9) | 69282 (9) | 16780 (9) |
| 11-21-S | 91 | 150 | 36.19 | 36.19 | 384.94 | -0.02 | 1296 (9) | 68957 (9) | 16701 (9) |
| 11-22-S | 91 | 150 | 36.19 | 36.19 | 369.57 | -0.05 | 1253 (9) | 66692 (9) | 16153 (9) |
| 11-23-S | 91 | 150 | 36.19 | 36.19 | 343.91 | -0.10 | 1172 (9) | 62366 (9) | 15105 (9) |
| 11-24-S | 91 | 150 | 36.19 | 36.19 | 306.17 | -0.21 | 1046 (9) | 55644 (9) | 13477 (9) |
| 11-25-S | 91 | 150 | 36.19 | 36.19 | 259.06 | -0.35 | 884 (9) | 47073 (9) | 11401 (9) |
| 11-26-S | 91 | 150 | 36.19 | 36.19 | 207.90 | -0.50 | 708 (9) | 37704 (9) | 9132 (9) |
| 11-27-S | 91 | 150 | 36.19 | 36.19 | 156.31 | -0.68 | 531 (9) | 28245 (9) | 6841 (9) |
| 11-28-S | 91 | 150 | 36.19 | 36.19 | 108.26 | -0.85 | 366 (9) | 19465 (9) | 4714 (9) |
| 11-29-S | 91 | 150 | 36.19 | 36.19 | 68.05 | -1.03 | 229 (9) | 12181 (9) | 2950 (9) |
| 11-30-S | 91 | 150 | 36.19 | 36.19 | 38.34 | -1.40 | 129 (9) | 6852 (9) | 1660 (9) |
| 11-31-S | 91 | 150 | 36.19 | 36.19 | 14.76 | -1.08 | 50 (9) | 2639 (9) | 639 (9) |
| 11-32-S | 91 | 150 | 36.19 | 36.19 | 2.03 | -0.84 | 9 (9) | 453 (9) | 152 (9) |
| 12-1-S | 91 | 150 | 40.72 | 40.72 | 3.52 | -3.34 | 19 (9) | 944 (9) | 536 (9) |
| 12-2-S | 91 | 150 | 40.72 | 40.72 | 18.45 | -14.40 | 96 (9) | 4813 (9) | 2314 (9) |
| 12-3-S | 91 | 150 | 40.72 | 40.72 | 43.38 | -37.50 | 338 (9) | 17032 (9) | 6099 (9) |
| 12-4-S | 91 | 150 | 40.72 | 40.72 | 61.69 | -68.20 | 678 (9) | 34141 (9) | 11123 (9) |
| 12-5-S | 91 | 150 | 40.72 | 40.72 | 6.68 | -131.42 | 421 (9) | 5468 (9) | 21227 (9) |
| 12-6-S | 91 | 150 | 40.72 | 40.72 | 2.57 | -177.17 | 560 (9) | 7265 (9) | 28207 (9) |
| 12-7-S | 91 | 150 | 40.72 | 40.72 | 38.71 | -80.45 | 247 (9) | 11623 (9) | 12429 (9) |
| 12-8-S | 91 | 150 | 40.72 | 40.72 | 134.04 | -0.01 | 471 (9) | 23749 (9) | 6117 (9) |
| 12-9-S | 91 | 150 | 40.72 | 40.72 | 321.20 | 0.00 | 1089 (9) | 54877 (9) | 14135 (9) |
| 12-10-S | 91 | 150 | 40.72 | 40.72 | 587.68 | 0.00 | 1597 (9) | 80464 (9) | 20726 (9) |
| 12-11-S | 91 | 150 | 40.72 | 40.72 | 534.85 | 0.00 | 1451 (9) | 73126 (9) | 18836 (9) |
| 12-12-S | 91 | 150 | 40.72 | 40.72 | 496.46 | -0.40 | 1350 (9) | 68039 (9) | 17526 (9) |
| 12-13-S | 91 | 150 | 40.72 | 40.72 | 424.60 | -4.20 | 1146 (9) | 57760 (9) | 14878 (9) |
| 12-14-S | 91 | 150 | 40.72 | 40.72 | 268.71 | -19.92 | 682 (9) | 34378 (9) | 8855 (9) |
| 12-15-S | 91 | 150 | 40.72 | 40.72 | 136.41 | -65.83 | 641 (10) | 32314 (10) | 11881 (10) |
| 12-16-S | 91 | 150 | 40.72 | 40.72 | 193.51 | -24.62 | 642 (9) | 32356 (9) | 8334 (9) |
| 12-17-S | 91 | 150 | 40.72 | 40.72 | 248.38 | -0.72 | 702 (9) | 35355 (9) | 9107 (9) |
| 12-18-S | 91 | 150 | 40.72 | 40.72 | 315.15 | -0.10 | 945 (9) | 47597 (9) | 12260 (9) |
| 12-19-S | 91 | 150 | 40.72 | 40.72 | 363.18 | -0.02 | 1123 (9) | 56559 (9) | 14569 (9) |
| 12-20-S | 91 | 150 | 40.72 | 40.72 | 389.85 | -0.03 | 1226 (9) | 61749 (9) | 15905 (9) |
| 12-21-S | 91 | 150 | 40.72 | 40.72 | 403.57 | -0.05 | 1283 (9) | 64623 (9) | 16646 (9) |
| 12-22-S | 91 | 150 | 40.72 | 40.72 | 405.46 | -0.13 | 1297 (9) | 65364 (9) | 16836 (9) |
| 12-23-S | 91 | 150 | 40.72 | 40.72 | 396.33 | -0.36 | 1272 (9) | 64096 (9) | 16510 (9) |
| 12-24-S | 91 | 150 | 40.72 | 40.72 | 374.70 | -0.98 | 1201 (9) | 60527 (9) | 15591 (9) |
| 12-25-S | 91 | 150 | 40.72 | 40.72 | 337.46 | -2.66 | 1074 (9) | 54092 (9) | 13933 (9) |
| 12-26-S | 91 | 150 | 40.72 | 40.72 | 298.07 | -6.20 | 936 (9) | 47168 (9) | 12150 (9) |
| 12-27-S | 91 | 150 | 40.72 | 40.72 | 212.87 | -16.40 | 654 (9) | 32950 (9) | 8487 (9) |
| 12-28-S | 91 | 150 | 40.72 | 40.72 | 66.61 | -47.99 | 239 (9) | 12053 (9) | 8376 (9) |
| 12-29-S | 91 | 150 | 40.72 | 40.72 | 22.42 | -140.34 | 462 (9) | 5989 (9) | 23253 (9) |
| 12-30-S | 91 | 150 | 40.72 | 40.72 | 13.33 | -90.34 | 300 (9) | 4842 (9) | 15124 (9) |

| Is | B | H | Afi | Afs | Mp | Mn | σ_c | σ_{fi} | σ_{fs} |
|---------|------|------|-------|-------|--------|---------|------------|---------------|---------------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kNm] | [kPa] | [kPa] | [kPa] |
| 12-31-S | 91 | 150 | 40.72 | 40.72 | 6.83 | -33.14 | 109 (9) | 2539 (9) | 5483 (9) |
| 12-32-S | 91 | 150 | 40.72 | 40.72 | 3.62 | -2.68 | 19 (9) | 945 (9) | 409 (9) |
| 13-1-S | 91 | 150 | 40.72 | 40.72 | 3.52 | -3.34 | 19 (9) | 944 (9) | 536 (9) |
| 13-2-S | 91 | 150 | 40.72 | 40.72 | 18.45 | -14.40 | 96 (9) | 4813 (9) | 2314 (9) |
| 13-3-S | 91 | 150 | 40.72 | 40.72 | 43.38 | -37.50 | 338 (9) | 17032 (9) | 6099 (9) |
| 13-4-S | 91 | 150 | 40.72 | 40.72 | 61.69 | -68.20 | 678 (9) | 34141 (9) | 11123 (9) |
| 13-5-S | 91 | 150 | 40.72 | 40.72 | 6.68 | -131.42 | 421 (9) | 5468 (9) | 21227 (9) |
| 13-6-S | 91 | 150 | 40.72 | 40.72 | 2.57 | -177.17 | 560 (9) | 7265 (9) | 28207 (9) |
| 13-7-S | 91 | 150 | 40.72 | 40.72 | 38.71 | -80.45 | 247 (9) | 11623 (9) | 12429 (9) |
| 13-8-S | 91 | 150 | 40.72 | 40.72 | 134.04 | -0.01 | 471 (9) | 23749 (9) | 6117 (9) |
| 13-9-S | 91 | 150 | 40.72 | 40.72 | 321.20 | 0.00 | 1089 (9) | 54877 (9) | 14135 (9) |
| 13-10-S | 91 | 150 | 40.72 | 40.72 | 587.68 | 0.00 | 1597 (9) | 80464 (9) | 20726 (9) |
| 13-11-S | 91 | 150 | 40.72 | 40.72 | 534.85 | 0.00 | 1451 (9) | 73126 (9) | 18836 (9) |
| 13-12-S | 91 | 150 | 40.72 | 40.72 | 496.46 | -0.40 | 1350 (9) | 68039 (9) | 17526 (9) |
| 13-13-S | 91 | 150 | 40.72 | 40.72 | 424.60 | -4.20 | 1146 (9) | 57760 (9) | 14878 (9) |
| 13-14-S | 91 | 150 | 40.72 | 40.72 | 268.71 | -19.92 | 682 (9) | 34378 (9) | 8855 (9) |
| 13-15-S | 91 | 150 | 40.72 | 40.72 | 136.41 | -65.83 | 641 (10) | 32314 (10) | 11881 (10) |
| 13-16-S | 91 | 150 | 40.72 | 40.72 | 193.51 | -24.62 | 642 (9) | 32356 (9) | 8334 (9) |
| 13-17-S | 91 | 150 | 40.72 | 40.72 | 248.38 | -0.72 | 702 (9) | 35355 (9) | 9107 (9) |
| 13-18-S | 91 | 150 | 40.72 | 40.72 | 315.15 | -0.10 | 945 (9) | 47597 (9) | 12260 (9) |
| 13-19-S | 91 | 150 | 40.72 | 40.72 | 363.18 | -0.02 | 1123 (9) | 56559 (9) | 14569 (9) |
| 13-20-S | 91 | 150 | 40.72 | 40.72 | 389.85 | -0.03 | 1226 (9) | 61749 (9) | 15905 (9) |
| 13-21-S | 91 | 150 | 40.72 | 40.72 | 403.57 | -0.05 | 1283 (9) | 64623 (9) | 16646 (9) |
| 13-22-S | 91 | 150 | 40.72 | 40.72 | 405.46 | -0.13 | 1297 (9) | 65364 (9) | 16836 (9) |
| 13-23-S | 91 | 150 | 40.72 | 40.72 | 396.33 | -0.36 | 1272 (9) | 64096 (9) | 16510 (9) |
| 13-24-S | 91 | 150 | 40.72 | 40.72 | 374.70 | -0.98 | 1201 (9) | 60527 (9) | 15591 (9) |
| 13-25-S | 91 | 150 | 40.72 | 40.72 | 337.46 | -2.66 | 1074 (9) | 54092 (9) | 13933 (9) |
| 13-26-S | 91 | 150 | 40.72 | 40.72 | 298.07 | -6.20 | 936 (9) | 47168 (9) | 12150 (9) |
| 13-27-S | 91 | 150 | 40.72 | 40.72 | 212.87 | -16.40 | 654 (9) | 32950 (9) | 8487 (9) |
| 13-28-S | 91 | 150 | 40.72 | 40.72 | 66.61 | -47.99 | 239 (9) | 12053 (9) | 8376 (9) |
| 13-29-S | 91 | 150 | 40.72 | 40.72 | 22.42 | -140.34 | 462 (9) | 5989 (9) | 23253 (9) |
| 13-30-S | 91 | 150 | 40.72 | 40.72 | 13.33 | -90.34 | 300 (9) | 4842 (9) | 15124 (9) |
| 13-31-S | 91 | 150 | 40.72 | 40.72 | 6.83 | -33.14 | 109 (9) | 2539 (9) | 5483 (9) |
| 13-32-S | 91 | 150 | 40.72 | 40.72 | 3.62 | -2.68 | 19 (9) | 945 (9) | 409 (9) |
| 14-1-S | 91 | 150 | 36.19 | 36.19 | 0.32 | -1.72 | 7 (9) | 92 (9) | 381 (9) |
| 14-2-S | 91 | 150 | 36.19 | 36.19 | 0.00 | -6.75 | 22 (9) | 287 (9) | 1186 (9) |
| 14-3-S | 91 | 150 | 36.19 | 36.19 | 1.47 | -7.95 | 30 (10) | 746 (10) | 1611 (10) |
| 14-4-S | 91 | 150 | 36.19 | 36.19 | 7.52 | -5.93 | 48 (10) | 2541 (10) | 1503 (10) |
| 14-5-S | 91 | 150 | 36.19 | 36.19 | 25.78 | -3.04 | 121 (9) | 6431 (9) | 1558 (9) |
| 14-6-S | 91 | 150 | 36.19 | 36.19 | 71.08 | -1.64 | 260 (9) | 13828 (9) | 3349 (9) |
| 14-7-S | 91 | 150 | 36.19 | 36.19 | 132.91 | -0.45 | 479 (9) | 25467 (9) | 6168 (9) |
| 14-8-S | 91 | 150 | 36.19 | 36.19 | 206.99 | 0.00 | 740 (9) | 39374 (9) | 9536 (9) |
| 14-9-S | 91 | 150 | 36.19 | 36.19 | 289.57 | 0.00 | 1030 (9) | 54803 (9) | 13273 (9) |
| 14-10-S | 91 | 150 | 36.19 | 36.19 | 341.13 | 0.00 | 842 (9) | 44800 (9) | 10850 (9) |
| 14-11-S | 91 | 150 | 36.19 | 36.19 | 349.24 | 0.00 | 913 (9) | 48598 (9) | 11771 (9) |
| 14-12-S | 91 | 150 | 36.19 | 36.19 | 345.51 | 0.00 | 933 (9) | 49681 (9) | 12033 (9) |
| 14-13-S | 91 | 150 | 36.19 | 36.19 | 341.91 | 0.00 | 953 (9) | 50733 (9) | 12287 (9) |
| 14-14-S | 91 | 150 | 36.19 | 36.19 | 338.23 | 0.00 | 971 (9) | 51695 (9) | 12520 (9) |
| 14-15-S | 91 | 150 | 36.19 | 36.19 | 341.94 | -0.05 | 1014 (9) | 53958 (9) | 13069 (9) |
| 14-16-S | 91 | 150 | 36.19 | 36.19 | 351.50 | -0.04 | 1075 (9) | 57237 (9) | 13863 (9) |
| 14-17-S | 91 | 150 | 36.19 | 36.19 | 364.47 | -0.02 | 1147 (9) | 61052 (9) | 14787 (9) |
| 14-18-S | 91 | 150 | 36.19 | 36.19 | 377.55 | -0.01 | 1217 (9) | 64770 (9) | 15687 (9) |
| 14-19-S | 91 | 150 | 36.19 | 36.19 | 388.04 | 0.00 | 1275 (9) | 67863 (9) | 16436 (9) |
| 14-20-S | 91 | 150 | 36.19 | 36.19 | 390.74 | -0.01 | 1302 (9) | 69282 (9) | 16780 (9) |
| 14-21-S | 91 | 150 | 36.19 | 36.19 | 384.94 | -0.02 | 1296 (9) | 68957 (9) | 16701 (9) |
| 14-22-S | 91 | 150 | 36.19 | 36.19 | 369.57 | -0.05 | 1253 (9) | 66692 (9) | 16153 (9) |
| 14-23-S | 91 | 150 | 36.19 | 36.19 | 343.91 | -0.10 | 1172 (9) | 62366 (9) | 15105 (9) |
| 14-24-S | 91 | 150 | 36.19 | 36.19 | 306.17 | -0.21 | 1046 (9) | 55644 (9) | 13477 (9) |
| 14-25-S | 91 | 150 | 36.19 | 36.19 | 259.06 | -0.35 | 884 (9) | 47073 (9) | 11401 (9) |
| 14-26-S | 91 | 150 | 36.19 | 36.19 | 207.90 | -0.50 | 708 (9) | 37704 (9) | 9132 (9) |
| 14-27-S | 91 | 150 | 36.19 | 36.19 | 156.31 | -0.68 | 531 (9) | 28245 (9) | 6841 (9) |
| 14-28-S | 91 | 150 | 36.19 | 36.19 | 108.26 | -0.85 | 366 (9) | 19465 (9) | 4714 (9) |
| 14-29-S | 91 | 150 | 36.19 | 36.19 | 68.05 | -1.03 | 229 (9) | 12181 (9) | 2950 (9) |
| 14-30-S | 91 | 150 | 36.19 | 36.19 | 38.34 | -1.40 | 129 (9) | 6852 (9) | 1660 (9) |
| 14-31-S | 91 | 150 | 36.19 | 36.19 | 14.76 | -1.08 | 50 (9) | 2639 (9) | 639 (9) |
| 14-32-S | 91 | 150 | 36.19 | 36.19 | 2.03 | -0.84 | 9 (9) | 453 (9) | 152 (9) |

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 | σc | σfi | σfs |
|----|------|------|-------|-------|--------|--------|-----------|------------|------------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kN] | [kPa] | [kPa] | [kPa] |
| 1 | 100 | 40 | 15.71 | 45.24 | 0.75 | 4.29 | 35 (11) | 193 (11) | 430 (11) |
| 2 | 100 | 41 | 15.71 | 45.24 | 0.75 | 5.28 | 35 (11) | 126 (11) | 445 (11) |
| 3 | 100 | 42 | 15.71 | 45.24 | 0.77 | 6.30 | 36 (11) | 74 (11) | 464 (11) |
| 4 | 100 | 43 | 15.71 | 45.24 | 0.79 | 7.34 | 37 (11) | 36 (11) | 489 (11) |
| 5 | 100 | 44 | 15.71 | 45.24 | 0.84 | 8.41 | 39 (11) | 9 (11) | 521 (11) |
| 6 | 100 | 45 | 15.71 | 45.24 | 0.91 | 9.50 | 42 (11) | 8 (11) | 559 (11) |
| 7 | 100 | 46 | 15.71 | 45.24 | 1.01 | 10.62 | 45 (11) | 17 (11) | 604 (11) |
| 8 | 100 | 47 | 15.71 | 45.24 | 1.14 | 11.76 | 49 (11) | 18 (11) | 657 (11) |
| 9 | 100 | 48 | 15.71 | 45.24 | 1.30 | 12.92 | 53 (11) | 11 (11) | 718 (11) |
| 10 | 100 | 49 | 15.71 | 45.24 | 1.51 | 14.11 | 58 (11) | 6 (11) | 786 (11) |
| 11 | 100 | 50 | 15.71 | 45.24 | 1.77 | 15.32 | 64 (11) | 33 (11) | 864 (11) |
| 12 | 100 | 51 | 15.71 | 45.24 | 2.07 | 16.56 | 71 (11) | 72 (11) | 951 (11) |
| 13 | 100 | 52 | 15.71 | 45.24 | 2.44 | 17.82 | 78 (11) | 126 (11) | 1049 (11) |
| 14 | 100 | 53 | 15.71 | 45.24 | 2.86 | 19.11 | 86 (11) | 196 (11) | 1156 (11) |
| 15 | 100 | 54 | 15.71 | 45.24 | 3.35 | 20.42 | 95 (11) | 284 (11) | 1275 (11) |
| 16 | 100 | 55 | 15.71 | 45.24 | 3.90 | 21.76 | 105 (11) | 392 (11) | 1405 (11) |
| 17 | 100 | 56 | 15.71 | 45.24 | 4.54 | 23.12 | 116 (11) | 522 (11) | 1547 (11) |
| 18 | 100 | 57 | 15.71 | 45.24 | 5.25 | 24.50 | 128 (11) | 676 (11) | 1700 (11) |
| 19 | 100 | 58 | 15.71 | 45.24 | 6.04 | 25.91 | 141 (11) | 854 (11) | 1864 (11) |
| 20 | 100 | 59 | 15.71 | 45.24 | 6.92 | 27.35 | 155 (11) | 1057 (11) | 2040 (11) |
| 21 | 100 | 60 | 15.71 | 45.24 | 7.90 | 28.81 | 169 (11) | 1287 (11) | 2227 (11) |
| 22 | 100 | 61 | 15.71 | 45.24 | 8.97 | 30.29 | 185 (11) | 1544 (11) | 2425 (11) |
| 23 | 100 | 62 | 15.71 | 45.24 | 10.14 | 31.80 | 201 (11) | 1828 (11) | 2634 (11) |
| 24 | 100 | 63 | 15.71 | 45.24 | 11.42 | 33.33 | 218 (11) | 2141 (11) | 2854 (11) |
| 25 | 100 | 64 | 15.71 | 45.24 | 12.81 | 34.89 | 236 (11) | 2481 (11) | 3084 (11) |
| 26 | 100 | 65 | 15.71 | 45.24 | 14.32 | 36.47 | 255 (11) | 2851 (11) | 3325 (11) |
| 27 | 100 | 66 | 15.71 | 45.24 | 15.95 | 38.07 | 274 (11) | 3249 (11) | 3577 (11) |
| 28 | 100 | 67 | 15.71 | 45.24 | 17.70 | 39.70 | 295 (11) | 3676 (11) | 3839 (11) |
| 29 | 100 | 68 | 15.71 | 45.24 | 19.58 | 41.36 | 316 (11) | 4133 (11) | 4111 (11) |
| 30 | 100 | 69 | 15.71 | 45.24 | 21.60 | 43.04 | 338 (11) | 4619 (11) | 4394 (11) |
| 31 | 100 | 70 | 15.71 | 45.24 | 23.75 | 44.74 | 361 (11) | 5135 (11) | 4686 (11) |
| 32 | 100 | 71 | 15.71 | 45.24 | 26.05 | 46.47 | 384 (11) | 5681 (11) | 4989 (11) |
| 33 | 100 | 72 | 15.71 | 45.24 | 28.50 | 48.22 | 408 (11) | 6257 (11) | 5302 (11) |
| 34 | 100 | 73 | 15.71 | 45.24 | 31.10 | 50.00 | 433 (11) | 6864 (11) | 5624 (11) |
| 35 | 100 | 74 | 15.71 | 45.24 | 33.86 | 51.80 | 459 (11) | 7501 (11) | 5956 (11) |
| 36 | 100 | 75 | 15.71 | 45.24 | 36.78 | 53.63 | 486 (11) | 8168 (11) | 6298 (11) |
| 37 | 100 | 76 | 15.71 | 45.24 | 39.86 | 55.48 | 513 (11) | 8866 (11) | 6649 (11) |
| 38 | 100 | 77 | 15.71 | 45.24 | 43.12 | 57.36 | 541 (11) | 9595 (11) | 7010 (11) |
| 39 | 100 | 78 | 15.71 | 45.24 | 46.55 | 59.26 | 569 (11) | 10354 (11) | 7380 (11) |
| 40 | 100 | 79 | 15.71 | 45.24 | 50.16 | 61.18 | 598 (11) | 11145 (11) | 7759 (11) |
| 41 | 100 | 80 | 15.71 | 45.24 | 53.96 | 63.13 | 628 (11) | 11967 (11) | 8148 (11) |
| 42 | 100 | 81 | 15.71 | 45.24 | 57.95 | 65.10 | 659 (11) | 12819 (11) | 8546 (11) |
| 43 | 100 | 82 | 15.71 | 45.24 | 62.13 | 67.10 | 690 (11) | 13704 (11) | 8953 (11) |
| 44 | 100 | 83 | 15.71 | 45.24 | 66.52 | 69.12 | 722 (11) | 14619 (11) | 9369 (11) |
| 45 | 100 | 84 | 15.71 | 45.24 | 71.10 | 71.17 | 754 (11) | 15566 (11) | 9793 (11) |
| 46 | 100 | 85 | 15.71 | 45.24 | 75.89 | 73.24 | 787 (11) | 16544 (11) | 10227 (11) |
| 47 | 100 | 86 | 15.71 | 45.24 | 80.90 | 75.34 | 821 (11) | 17554 (11) | 10669 (11) |
| 48 | 100 | 87 | 15.71 | 45.24 | 86.12 | 77.46 | 856 (11) | 18596 (11) | 11120 (11) |
| 49 | 100 | 88 | 15.71 | 45.24 | 91.57 | 79.60 | 891 (11) | 19669 (11) | 11579 (11) |
| 50 | 100 | 89 | 15.71 | 45.24 | 97.24 | 81.77 | 926 (11) | 20774 (11) | 12047 (11) |
| 51 | 100 | 90 | 15.71 | 45.24 | 103.14 | 83.97 | 962 (11) | 21910 (11) | 12524 (11) |
| 52 | 100 | 91 | 15.71 | 45.24 | 109.28 | 86.19 | 999 (11) | 23079 (11) | 13009 (11) |
| 53 | 100 | 92 | 15.71 | 45.24 | 115.66 | 88.43 | 1037 (11) | 24279 (11) | 13502 (11) |
| 54 | 100 | 93 | 15.71 | 45.24 | 122.29 | 90.70 | 1075 (11) | 25512 (11) | 14003 (11) |
| 55 | 100 | 94 | 15.71 | 45.24 | 129.16 | 92.99 | 1113 (11) | 26776 (11) | 14512 (11) |
| 56 | 100 | 95 | 15.71 | 45.24 | 136.29 | 95.31 | 1152 (11) | 28073 (11) | 15030 (11) |
| 57 | 100 | 96 | 15.71 | 45.24 | 143.68 | 97.65 | 1192 (11) | 29401 (11) | 15555 (11) |
| 58 | 100 | 97 | 15.71 | 45.24 | 151.33 | 100.01 | 1232 (11) | 30762 (11) | 16089 (11) |
| 59 | 100 | 98 | 15.71 | 45.24 | 159.25 | 102.40 | 1273 (11) | 32155 (11) | 16630 (11) |
| 60 | 100 | 99 | 15.71 | 45.24 | 167.44 | 104.82 | 1314 (11) | 33580 (11) | 17179 (11) |
| 61 | 100 | 100 | 15.71 | 45.24 | 175.91 | 107.26 | 1356 (11) | 35037 (11) | 17735 (11) |

| n° | B | H | Afi | Afs | M | N | σ_c | σ_{fi} | σ_{fs} |
|-----|------|------|-------|--------|--------|--------|------------|---------------|---------------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kN] | [kPa] | [kPa] | [kPa] |
| 62 | 100 | 101 | 15.71 | 45.24 | 184.67 | 109.72 | 1399 (11) | 36526 (11) | 18300 (11) |
| 63 | 100 | 102 | 47.12 | 90.48 | 193.71 | 112.21 | 1031 (11) | 19443 (11) | 13861 (11) |
| 64 | 100 | 103 | 47.12 | 90.48 | 203.04 | 114.72 | 1062 (11) | 20235 (11) | 14283 (11) |
| 65 | 100 | 104 | 47.12 | 90.48 | 212.66 | 117.26 | 1094 (11) | 21044 (11) | 14711 (11) |
| 66 | 100 | 105 | 47.12 | 90.48 | 222.59 | 119.82 | 1125 (11) | 21869 (11) | 15145 (11) |
| 67 | 100 | 106 | 47.12 | 90.48 | 232.82 | 122.41 | 1157 (11) | 22711 (11) | 15584 (11) |
| 68 | 100 | 107 | 47.12 | 90.48 | 243.37 | 125.02 | 1190 (11) | 23569 (11) | 16028 (11) |
| 69 | 100 | 108 | 47.12 | 90.48 | 254.22 | 127.65 | 1223 (11) | 24444 (11) | 16478 (11) |
| 70 | 100 | 109 | 47.12 | 90.48 | 265.40 | 130.31 | 1256 (11) | 25335 (11) | 16933 (11) |
| 71 | 100 | 110 | 47.12 | 90.48 | 276.90 | 133.00 | 1289 (11) | 26242 (11) | 17393 (11) |
| 72 | 100 | 111 | 47.12 | 90.48 | 288.72 | 135.71 | 1323 (11) | 27166 (11) | 17858 (11) |
| 73 | 100 | 112 | 47.12 | 90.48 | 300.89 | 138.44 | 1357 (11) | 28107 (11) | 18328 (11) |
| 74 | 100 | 113 | 47.12 | 90.48 | 313.38 | 141.20 | 1392 (11) | 29064 (11) | 18803 (11) |
| 75 | 100 | 114 | 47.12 | 90.48 | 326.22 | 143.98 | 1427 (11) | 30038 (11) | 19284 (11) |
| 76 | 100 | 115 | 47.12 | 90.48 | 339.41 | 146.79 | 1462 (11) | 31029 (11) | 19769 (11) |
| 77 | 100 | 116 | 47.12 | 90.48 | 352.95 | 149.62 | 1497 (11) | 32036 (11) | 20260 (11) |
| 78 | 100 | 117 | 47.12 | 113.10 | 366.84 | 152.48 | 1449 (11) | 26943 (11) | 19789 (11) |
| 79 | 100 | 118 | 47.12 | 113.10 | 381.10 | 155.36 | 1483 (11) | 27788 (11) | 20261 (11) |
| 80 | 100 | 119 | 47.12 | 113.10 | 395.72 | 158.26 | 1517 (11) | 28646 (11) | 20737 (11) |
| 81 | 100 | 120 | 47.12 | 113.10 | 410.71 | 161.19 | 1552 (11) | 29517 (11) | 21218 (11) |
| 82 | 100 | 121 | 47.12 | 113.10 | 426.08 | 164.15 | 1586 (11) | 30402 (11) | 21703 (11) |
| 83 | 100 | 122 | 47.12 | 113.10 | 441.82 | 167.12 | 1622 (11) | 31301 (11) | 22193 (11) |
| 84 | 100 | 123 | 47.12 | 113.10 | 457.95 | 170.13 | 1657 (11) | 32213 (11) | 22687 (11) |
| 85 | 100 | 124 | 47.12 | 113.10 | 474.46 | 173.15 | 1693 (11) | 33138 (11) | 23185 (11) |
| 86 | 100 | 125 | 47.12 | 113.10 | 491.37 | 176.21 | 1729 (11) | 34076 (11) | 23687 (11) |
| 87 | 100 | 126 | 47.12 | 113.10 | 508.68 | 179.28 | 1765 (11) | 35029 (11) | 24194 (11) |
| 88 | 100 | 127 | 47.12 | 113.10 | 526.39 | 182.38 | 1801 (11) | 35994 (11) | 24705 (11) |
| 89 | 100 | 128 | 47.12 | 113.10 | 544.50 | 185.51 | 1838 (11) | 36973 (11) | 25220 (11) |
| 90 | 100 | 129 | 47.12 | 113.10 | 563.03 | 188.66 | 1875 (11) | 37966 (11) | 25739 (11) |
| 91 | 100 | 130 | 47.12 | 113.10 | 581.98 | 191.84 | 1913 (11) | 38972 (11) | 26262 (11) |
| 92 | 100 | 131 | 47.12 | 67.86 | 601.34 | 195.03 | 2244 (11) | 64174 (11) | 30180 (11) |
| 93 | 100 | 132 | 47.12 | 67.86 | 621.13 | 198.26 | 2289 (11) | 65843 (11) | 30793 (11) |
| 94 | 100 | 133 | 31.42 | 67.86 | 641.35 | 201.51 | 2479 (11) | 68427 (11) | 33483 (11) |
| 95 | 100 | 134 | 31.42 | 67.86 | 662.00 | 204.78 | 2526 (11) | 70156 (11) | 34138 (11) |
| 96 | 100 | 135 | 31.42 | 67.86 | 683.10 | 208.08 | 2574 (11) | 71907 (11) | 34799 (11) |
| 97 | 100 | 136 | 31.42 | 67.86 | 704.63 | 211.40 | 2622 (11) | 73680 (11) | 35464 (11) |
| 98 | 100 | 137 | 31.42 | 67.86 | 726.62 | 214.74 | 2671 (11) | 75475 (11) | 36134 (11) |
| 99 | 100 | 138 | 31.42 | 67.86 | 749.06 | 218.12 | 2719 (11) | 77292 (11) | 36809 (11) |
| 100 | 100 | 139 | 31.42 | 67.86 | 771.95 | 221.51 | 2768 (11) | 79131 (11) | 37489 (11) |
| 101 | 100 | 140 | 31.42 | 67.86 | 795.31 | 224.93 | 2818 (11) | 80991 (11) | 38174 (11) |

Mensola valle

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

| n° | B | H | Afi | Afs | M | N | σ_c | σ_{fi} | σ_{fs} |
|----|------|------|-------|-------|-------|------|------------|---------------|---------------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kN] | [kPa] | [kPa] | [kPa] |
| 1 | 100 | 50 | 8.04 | 8.04 | 0.00 | 0.00 | 0 (11) | 0 (11) | 0 (11) |
| 2 | 100 | 50 | 8.04 | 8.04 | -0.05 | 0.00 | 2 (11) | 16 (11) | 138 (11) |
| 3 | 100 | 50 | 8.04 | 8.04 | -0.19 | 0.00 | 9 (11) | 65 (11) | 551 (11) |
| 4 | 100 | 50 | 8.04 | 8.04 | -0.42 | 0.00 | 20 (11) | 146 (11) | 1239 (11) |
| 5 | 100 | 50 | 8.04 | 8.04 | -0.75 | 0.00 | 35 (11) | 260 (11) | 2203 (11) |

Piastra fondazione

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

| Is | B | H | Afi | Afs | Mp | Mn | σ_c | σ_{fi} | σ_{fs} |
|-------|------|------|-------|-------|-------|--------|------------|---------------|---------------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kNm] | [kPa] | [kPa] | [kPa] |
| 1-1-P | 100 | 150 | 10.05 | 10.05 | 1.32 | 0.00 | 8 (9) | 851 (9) | 94 (9) |
| 1-2-P | 100 | 150 | 10.05 | 10.05 | 0.83 | -1.42 | 10 (9) | 691 (9) | 989 (9) |
| 1-3-P | 100 | 150 | 10.05 | 10.05 | 0.68 | -10.53 | 70 (9) | 1192 (9) | 7180 (9) |

| Is | B | H | Afi | Afs | Mp | Mn | σc | σfi | σfs |
|--------|------|------|-------|-------|-------|---------|----------|------------|------------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kNm] | [kPa] | [kPa] | [kPa] |
| 1-4-P | 100 | 150 | 10.05 | 10.05 | 0.00 | -29.45 | 193 (9) | 2188 (9) | 19899 (9) |
| 1-5-P | 100 | 150 | 10.05 | 10.05 | 0.00 | -62.87 | 410 (9) | 4650 (9) | 42297 (9) |
| 1-6-P | 100 | 150 | 10.05 | 10.05 | 0.00 | -115.27 | 749 (9) | 8497 (9) | 77286 (9) |
| 1-7-P | 100 | 150 | 10.05 | 10.05 | 1.60 | -215.62 | 1381 (9) | 15672 (9) | 142545 (9) |
| 1-8-P | 100 | 150 | 10.05 | 10.05 | 1.77 | -239.18 | 1540 (9) | 17469 (9) | 158891 (9) |
| 1-9-P | 100 | 150 | 10.05 | 10.05 | 1.77 | -239.18 | 1540 (9) | 17469 (9) | 158891 (9) |
| 1-10-P | 100 | 150 | 10.05 | 10.05 | 1.60 | -215.62 | 1381 (9) | 15672 (9) | 142545 (9) |
| 1-11-P | 100 | 150 | 10.05 | 10.05 | 0.00 | -115.27 | 749 (9) | 8497 (9) | 77286 (9) |
| 1-12-P | 100 | 150 | 10.05 | 10.05 | 0.00 | -62.87 | 410 (9) | 4650 (9) | 42297 (9) |
| 1-13-P | 100 | 150 | 10.05 | 10.05 | 0.00 | -29.45 | 193 (9) | 2188 (9) | 19899 (9) |
| 1-14-P | 100 | 150 | 10.05 | 10.05 | 0.68 | -10.53 | 70 (9) | 1192 (9) | 7180 (9) |
| 1-15-P | 100 | 150 | 10.05 | 10.05 | 0.83 | -1.42 | 10 (9) | 691 (9) | 989 (9) |
| 1-16-P | 100 | 150 | 10.05 | 10.05 | 1.32 | 0.00 | 8 (9) | 851 (9) | 94 (9) |
| 2-1-P | 100 | 150 | 10.05 | 10.05 | 21.01 | 0.00 | 136 (9) | 14012 (9) | 1540 (9) |
| 2-2-P | 100 | 150 | 10.05 | 10.05 | 23.27 | 0.00 | 151 (9) | 15611 (9) | 1716 (9) |
| 2-3-P | 100 | 150 | 10.05 | 10.05 | 27.69 | -3.81 | 181 (9) | 18644 (9) | 5089 (9) |
| 2-4-P | 100 | 150 | 10.05 | 10.05 | 27.63 | -13.07 | 182 (9) | 18754 (9) | 13623 (9) |
| 2-5-P | 100 | 150 | 10.05 | 10.05 | 21.26 | -31.91 | 300 (9) | 16969 (9) | 30923 (9) |
| 2-6-P | 100 | 150 | 10.05 | 10.05 | 16.37 | -72.57 | 685 (9) | 16806 (9) | 70663 (9) |
| 2-7-P | 100 | 150 | 10.05 | 10.05 | 14.38 | -92.90 | 736 (9) | 11832 (9) | 75961 (9) |
| 2-8-P | 100 | 150 | 10.05 | 10.05 | 10.82 | -136.46 | 1138 (9) | 26287 (9) | 117450 (9) |
| 2-9-P | 100 | 150 | 10.05 | 10.05 | 10.82 | -136.46 | 1138 (9) | 26287 (9) | 117450 (9) |
| 2-10-P | 100 | 150 | 10.05 | 10.05 | 14.38 | -92.90 | 736 (9) | 11832 (9) | 75961 (9) |
| 2-11-P | 100 | 150 | 10.05 | 10.05 | 16.37 | -72.57 | 685 (9) | 16806 (9) | 70663 (9) |
| 2-12-P | 100 | 150 | 10.05 | 10.05 | 21.26 | -31.91 | 300 (9) | 16969 (9) | 30923 (9) |
| 2-13-P | 100 | 150 | 10.05 | 10.05 | 27.63 | -13.07 | 182 (9) | 18754 (9) | 13623 (9) |
| 2-14-P | 100 | 150 | 10.05 | 10.05 | 27.69 | -3.81 | 181 (9) | 18644 (9) | 5089 (9) |
| 2-15-P | 100 | 150 | 10.05 | 10.05 | 23.27 | 0.00 | 151 (9) | 15611 (9) | 1716 (9) |
| 2-16-P | 100 | 150 | 10.05 | 10.05 | 21.01 | 0.00 | 136 (9) | 14012 (9) | 1540 (9) |
| 5-1-P | 89 | 150 | 10.05 | 10.05 | 30.76 | 0.00 | 171 (9) | 16613 (9) | 1967 (9) |
| 5-2-P | 89 | 150 | 10.05 | 10.05 | 38.50 | 0.00 | 206 (9) | 20025 (9) | 2371 (9) |
| 5-3-P | 89 | 150 | 10.05 | 10.05 | 55.92 | 0.00 | 298 (9) | 28967 (9) | 3429 (9) |
| 5-4-P | 89 | 150 | 10.05 | 10.05 | 71.31 | 0.00 | 376 (9) | 36585 (9) | 4331 (9) |
| 5-5-P | 89 | 150 | 10.05 | 10.05 | 76.86 | -0.03 | 398 (9) | 38755 (9) | 4888 (9) |
| 5-6-P | 89 | 150 | 10.05 | 10.05 | 72.82 | -4.66 | 375 (9) | 36552 (9) | 16049 (9) |
| 5-7-P | 89 | 150 | 10.05 | 10.05 | 63.36 | -49.05 | 660 (9) | 33876 (9) | 64297 (9) |
| 5-8-P | 89 | 150 | 10.05 | 10.05 | 31.70 | -42.86 | 508 (10) | 22643 (10) | 49450 (10) |
| 5-9-P | 89 | 150 | 10.05 | 10.05 | 31.70 | -42.86 | 508 (10) | 22643 (10) | 49450 (10) |
| 5-10-P | 89 | 150 | 10.05 | 10.05 | 63.36 | -49.05 | 660 (9) | 33876 (9) | 64297 (9) |
| 5-11-P | 89 | 150 | 10.05 | 10.05 | 72.82 | -4.66 | 375 (9) | 36552 (9) | 16049 (9) |
| 5-12-P | 89 | 150 | 10.05 | 10.05 | 76.86 | -0.03 | 398 (9) | 38755 (9) | 4888 (9) |
| 5-13-P | 89 | 150 | 10.05 | 10.05 | 71.31 | 0.00 | 376 (9) | 36585 (9) | 4331 (9) |
| 5-14-P | 89 | 150 | 10.05 | 10.05 | 55.92 | 0.00 | 298 (9) | 28967 (9) | 3429 (9) |
| 5-15-P | 89 | 150 | 10.05 | 10.05 | 38.50 | 0.00 | 206 (9) | 20025 (9) | 2371 (9) |
| 5-16-P | 89 | 150 | 10.05 | 10.05 | 30.76 | 0.00 | 171 (9) | 16613 (9) | 1967 (9) |
| 6-1-P | 89 | 150 | 8.04 | 8.04 | 0.95 | -0.08 | 8 (10) | 848 (10) | 238 (10) |
| 6-2-P | 89 | 150 | 8.04 | 8.04 | 3.85 | -0.58 | 32 (10) | 3424 (10) | 1552 (10) |
| 6-3-P | 89 | 150 | 8.04 | 8.04 | 3.58 | -5.84 | 72 (10) | 3181 (10) | 7797 (10) |
| 6-4-P | 89 | 150 | 8.04 | 8.04 | 3.57 | -19.80 | 193 (9) | 2462 (9) | 20965 (9) |
| 6-5-P | 89 | 150 | 8.04 | 8.04 | 3.37 | -52.50 | 430 (10) | 4804 (10) | 46706 (10) |
| 6-6-P | 89 | 150 | 8.04 | 8.04 | 5.34 | -104.65 | 854 (9) | 9548 (9) | 92825 (9) |
| 6-7-P | 89 | 150 | 8.04 | 8.04 | 24.04 | -151.81 | 1221 (9) | 17920 (9) | 132649 (9) |
| 6-8-P | 89 | 150 | 8.04 | 8.04 | 3.59 | -181.35 | 1461 (9) | 16324 (9) | 158704 (9) |
| 6-9-P | 89 | 150 | 8.04 | 8.04 | 3.59 | -181.35 | 1461 (9) | 16324 (9) | 158704 (9) |
| 6-10-P | 89 | 150 | 8.04 | 8.04 | 24.04 | -151.81 | 1221 (9) | 17920 (9) | 132649 (9) |
| 6-11-P | 89 | 150 | 8.04 | 8.04 | 5.34 | -104.65 | 854 (9) | 9548 (9) | 92825 (9) |
| 6-12-P | 89 | 150 | 8.04 | 8.04 | 3.37 | -52.50 | 430 (10) | 4804 (10) | 46706 (10) |
| 6-13-P | 89 | 150 | 8.04 | 8.04 | 3.57 | -19.80 | 193 (9) | 2462 (9) | 20965 (9) |
| 6-14-P | 89 | 150 | 8.04 | 8.04 | 3.58 | -5.84 | 72 (10) | 3181 (10) | 7797 (10) |
| 6-15-P | 89 | 150 | 8.04 | 8.04 | 3.85 | -0.58 | 32 (10) | 3424 (10) | 1552 (10) |
| 6-16-P | 89 | 150 | 8.04 | 8.04 | 0.95 | -0.08 | 8 (10) | 848 (10) | 238 (10) |
| 7-1-P | 89 | 150 | 10.05 | 10.05 | 0.02 | -1.27 | 9 (9) | 105 (9) | 886 (9) |
| 7-2-P | 89 | 150 | 10.05 | 10.05 | 0.05 | -4.66 | 34 (9) | 386 (9) | 3265 (9) |
| 7-3-P | 89 | 150 | 10.05 | 10.05 | 0.12 | -14.61 | 105 (9) | 1209 (9) | 10209 (9) |
| 7-4-P | 89 | 150 | 10.05 | 10.05 | 0.22 | -29.80 | 214 (9) | 2462 (9) | 20793 (9) |
| 7-5-P | 89 | 150 | 10.05 | 10.05 | 0.31 | -48.66 | 348 (9) | 4016 (9) | 33922 (9) |
| 7-6-P | 89 | 150 | 10.05 | 10.05 | 0.40 | -69.34 | 496 (9) | 5720 (9) | 48318 (9) |
| 7-7-P | 89 | 150 | 10.05 | 10.05 | 0.30 | -86.80 | 621 (9) | 7159 (9) | 60472 (9) |
| 7-8-P | 89 | 150 | 10.05 | 10.05 | 0.04 | -96.71 | 692 (9) | 7974 (9) | 67355 (9) |
| 7-9-P | 89 | 150 | 10.05 | 10.05 | 0.04 | -96.71 | 692 (9) | 7974 (9) | 67355 (9) |

| Is | B | H | Afi | Afs | Mp | Mn | σc | σfi | σfs |
|-----------|----------|----------|------------|------------|-----------|-----------|-----------|------------|------------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kNm] | [kPa] | [kPa] | [kPa] |
| 7-10-P | 89 | 150 | 10.05 | 10.05 | 0.30 | -86.80 | 621 (9) | 7159 (9) | 60472 (9) |
| 7-11-P | 89 | 150 | 10.05 | 10.05 | 0.40 | -69.34 | 496 (9) | 5720 (9) | 48318 (9) |
| 7-12-P | 89 | 150 | 10.05 | 10.05 | 0.31 | -48.66 | 348 (9) | 4016 (9) | 33922 (9) |
| 7-13-P | 89 | 150 | 10.05 | 10.05 | 0.22 | -29.80 | 214 (9) | 2462 (9) | 20793 (9) |
| 7-14-P | 89 | 150 | 10.05 | 10.05 | 0.12 | -14.61 | 105 (9) | 1209 (9) | 10209 (9) |
| 7-15-P | 89 | 150 | 10.05 | 10.05 | 0.05 | -4.66 | 34 (9) | 386 (9) | 3265 (9) |
| 7-16-P | 89 | 150 | 10.05 | 10.05 | 0.02 | -1.27 | 9 (9) | 105 (9) | 886 (9) |
| 8-1-P | 89 | 150 | 8.04 | 8.04 | 0.06 | -1.78 | 14 (9) | 158 (9) | 1536 (9) |
| 8-2-P | 89 | 150 | 8.04 | 8.04 | 0.38 | -5.44 | 44 (9) | 489 (9) | 4757 (9) |
| 8-3-P | 89 | 150 | 8.04 | 8.04 | 1.15 | -15.96 | 129 (9) | 1439 (9) | 13994 (9) |
| 8-4-P | 89 | 150 | 8.04 | 8.04 | 2.19 | -32.90 | 264 (9) | 2955 (9) | 28733 (9) |
| 8-5-P | 89 | 150 | 8.04 | 8.04 | 3.00 | -54.99 | 440 (9) | 4916 (9) | 47799 (9) |
| 8-6-P | 89 | 150 | 8.04 | 8.04 | 3.13 | -80.51 | 642 (9) | 7169 (9) | 69701 (9) |
| 8-7-P | 89 | 150 | 8.04 | 8.04 | 1.71 | -101.46 | 807 (9) | 9020 (9) | 87698 (9) |
| 8-8-P | 89 | 150 | 8.04 | 8.04 | 0.22 | -111.91 | 890 (9) | 9952 (9) | 96755 (9) |
| 8-9-P | 89 | 150 | 8.04 | 8.04 | 0.22 | -111.91 | 890 (9) | 9952 (9) | 96755 (9) |
| 8-10-P | 89 | 150 | 8.04 | 8.04 | 1.71 | -101.46 | 807 (9) | 9020 (9) | 87698 (9) |
| 8-11-P | 89 | 150 | 8.04 | 8.04 | 3.13 | -80.51 | 642 (9) | 7169 (9) | 69701 (9) |
| 8-12-P | 89 | 150 | 8.04 | 8.04 | 3.00 | -54.99 | 440 (9) | 4916 (9) | 47799 (9) |
| 8-13-P | 89 | 150 | 8.04 | 8.04 | 2.19 | -32.90 | 264 (9) | 2955 (9) | 28733 (9) |
| 8-14-P | 89 | 150 | 8.04 | 8.04 | 1.15 | -15.96 | 129 (9) | 1439 (9) | 13994 (9) |
| 8-15-P | 89 | 150 | 8.04 | 8.04 | 0.38 | -5.44 | 44 (9) | 489 (9) | 4757 (9) |
| 8-16-P | 89 | 150 | 8.04 | 8.04 | 0.06 | -1.78 | 14 (9) | 158 (9) | 1536 (9) |
| 9-1-P | 89 | 150 | 10.05 | 10.05 | 0.22 | -0.11 | 2 (10) | 158 (10) | 190 (10) |
| 9-2-P | 89 | 150 | 10.05 | 10.05 | 0.71 | -4.59 | 34 (10) | 511 (10) | 3277 (10) |
| 9-3-P | 89 | 150 | 10.05 | 10.05 | 2.17 | -20.13 | 144 (9) | 1664 (9) | 14053 (9) |
| 9-4-P | 89 | 150 | 10.05 | 10.05 | 4.50 | -46.55 | 334 (9) | 3844 (9) | 32469 (9) |
| 9-5-P | 89 | 150 | 10.05 | 10.05 | 7.20 | -85.59 | 612 (9) | 7053 (9) | 59572 (9) |
| 9-6-P | 89 | 150 | 10.05 | 10.05 | 10.19 | -141.94 | 1013 (9) | 11672 (9) | 98594 (9) |
| 9-7-P | 89 | 150 | 10.05 | 10.05 | 18.04 | -239.71 | 1682 (9) | 19380 (9) | 163698 (9) |
| 9-8-P | 89 | 150 | 10.05 | 10.05 | 2.86 | -244.23 | 1741 (9) | 20066 (9) | 169491 (9) |
| 9-9-P | 89 | 150 | 10.05 | 10.05 | 2.86 | -244.23 | 1741 (9) | 20066 (9) | 169491 (9) |
| 9-10-P | 89 | 150 | 10.05 | 10.05 | 18.04 | -239.71 | 1682 (9) | 19380 (9) | 163698 (9) |
| 9-11-P | 89 | 150 | 10.05 | 10.05 | 10.19 | -141.94 | 1013 (9) | 11672 (9) | 98594 (9) |
| 9-12-P | 89 | 150 | 10.05 | 10.05 | 7.20 | -85.59 | 612 (9) | 7053 (9) | 59572 (9) |
| 9-13-P | 89 | 150 | 10.05 | 10.05 | 4.50 | -46.55 | 334 (9) | 3844 (9) | 32469 (9) |
| 9-14-P | 89 | 150 | 10.05 | 10.05 | 2.17 | -20.13 | 144 (9) | 1664 (9) | 14053 (9) |
| 9-15-P | 89 | 150 | 10.05 | 10.05 | 0.71 | -4.59 | 34 (10) | 511 (10) | 3277 (10) |
| 9-16-P | 89 | 150 | 10.05 | 10.05 | 0.22 | -0.11 | 2 (10) | 158 (10) | 190 (10) |
| 10-1-P | 89 | 150 | 8.04 | 8.04 | 0.01 | -0.85 | 6 (9) | 67 (9) | 648 (9) |
| 10-2-P | 89 | 150 | 8.04 | 8.04 | 0.27 | -12.69 | 97 (9) | 1080 (9) | 10499 (9) |
| 10-3-P | 89 | 150 | 8.04 | 8.04 | 0.73 | -42.72 | 328 (9) | 3666 (9) | 35645 (9) |
| 10-4-P | 89 | 150 | 8.04 | 8.04 | 1.03 | -88.85 | 685 (9) | 7659 (9) | 74466 (9) |
| 10-5-P | 89 | 150 | 8.04 | 8.04 | 1.21 | -149.01 | 1154 (9) | 12893 (9) | 125347 (9) |
| 10-6-P | 89 | 150 | 8.04 | 8.04 | 1.26 | -220.91 | 1717 (9) | 19185 (9) | 186525 (9) |
| 10-7-P | 89 | 150 | 8.04 | 8.04 | 2.13 | -259.93 | 2041 (9) | 22809 (9) | 221754 (9) |
| 10-8-P | 89 | 150 | 8.04 | 8.04 | 0.00 | -311.33 | 2445 (9) | 27323 (9) | 265642 (9) |
| 10-9-P | 89 | 150 | 8.04 | 8.04 | 0.00 | -311.33 | 2445 (9) | 27323 (9) | 265642 (9) |
| 10-10-P | 89 | 150 | 8.04 | 8.04 | 2.13 | -259.93 | 2041 (9) | 22809 (9) | 221754 (9) |
| 10-11-P | 89 | 150 | 8.04 | 8.04 | 1.26 | -220.91 | 1717 (9) | 19185 (9) | 186525 (9) |
| 10-12-P | 89 | 150 | 8.04 | 8.04 | 1.21 | -149.01 | 1154 (9) | 12893 (9) | 125347 (9) |
| 10-13-P | 89 | 150 | 8.04 | 8.04 | 1.03 | -88.85 | 685 (9) | 7659 (9) | 74466 (9) |
| 10-14-P | 89 | 150 | 8.04 | 8.04 | 0.73 | -42.72 | 328 (9) | 3666 (9) | 35645 (9) |
| 10-15-P | 89 | 150 | 8.04 | 8.04 | 0.27 | -12.69 | 97 (9) | 1080 (9) | 10499 (9) |
| 10-16-P | 89 | 150 | 8.04 | 8.04 | 0.01 | -0.85 | 6 (9) | 67 (9) | 648 (9) |
| 11-1-S | 91 | 150 | 36.19 | 36.19 | 0.32 | -1.72 | 7 (9) | 92 (9) | 381 (9) |
| 11-2-S | 91 | 150 | 36.19 | 36.19 | 0.00 | -6.75 | 22 (9) | 287 (9) | 1186 (9) |
| 11-3-S | 91 | 150 | 36.19 | 36.19 | 1.47 | -7.95 | 30 (10) | 746 (10) | 1611 (10) |
| 11-4-S | 91 | 150 | 36.19 | 36.19 | 7.52 | -5.93 | 48 (10) | 2541 (10) | 1503 (10) |
| 11-5-S | 91 | 150 | 36.19 | 36.19 | 25.78 | -3.04 | 121 (9) | 6431 (9) | 1558 (9) |
| 11-6-S | 91 | 150 | 36.19 | 36.19 | 71.08 | -1.64 | 260 (9) | 13828 (9) | 3349 (9) |
| 11-7-S | 91 | 150 | 36.19 | 36.19 | 132.91 | -0.45 | 479 (9) | 25467 (9) | 6168 (9) |
| 11-8-S | 91 | 150 | 36.19 | 36.19 | 206.99 | 0.00 | 740 (9) | 39374 (9) | 9536 (9) |
| 11-9-S | 91 | 150 | 36.19 | 36.19 | 289.57 | 0.00 | 1030 (9) | 54803 (9) | 13273 (9) |
| 11-10-S | 91 | 150 | 36.19 | 36.19 | 341.13 | 0.00 | 842 (9) | 44800 (9) | 10850 (9) |
| 11-11-S | 91 | 150 | 36.19 | 36.19 | 349.24 | 0.00 | 913 (9) | 48598 (9) | 11771 (9) |
| 11-12-S | 91 | 150 | 36.19 | 36.19 | 345.51 | 0.00 | 933 (9) | 49681 (9) | 12033 (9) |
| 11-13-S | 91 | 150 | 36.19 | 36.19 | 341.91 | 0.00 | 953 (9) | 50733 (9) | 12287 (9) |
| 11-14-S | 91 | 150 | 36.19 | 36.19 | 338.23 | 0.00 | 971 (9) | 51695 (9) | 12520 (9) |
| 11-15-S | 91 | 150 | 36.19 | 36.19 | 341.94 | -0.05 | 1014 (9) | 53958 (9) | 13069 (9) |

| Is | B | H | Afi | Afs | Mp | Mn | σc | σfi | σfs |
|-----------|----------|----------|------------|------------|-----------|-----------|-----------|------------|------------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kNm] | [kPa] | [kPa] | [kPa] |
| 11-16-S | 91 | 150 | 36.19 | 36.19 | 351.50 | -0.04 | 1075 (9) | 57237 (9) | 13863 (9) |
| 11-17-S | 91 | 150 | 36.19 | 36.19 | 364.47 | -0.02 | 1147 (9) | 61052 (9) | 14787 (9) |
| 11-18-S | 91 | 150 | 36.19 | 36.19 | 377.55 | -0.01 | 1217 (9) | 64770 (9) | 15687 (9) |
| 11-19-S | 91 | 150 | 36.19 | 36.19 | 388.04 | 0.00 | 1275 (9) | 67863 (9) | 16436 (9) |
| 11-20-S | 91 | 150 | 36.19 | 36.19 | 390.74 | -0.01 | 1302 (9) | 69282 (9) | 16780 (9) |
| 11-21-S | 91 | 150 | 36.19 | 36.19 | 384.94 | -0.02 | 1296 (9) | 68957 (9) | 16701 (9) |
| 11-22-S | 91 | 150 | 36.19 | 36.19 | 369.57 | -0.05 | 1253 (9) | 66692 (9) | 16153 (9) |
| 11-23-S | 91 | 150 | 36.19 | 36.19 | 343.91 | -0.10 | 1172 (9) | 62366 (9) | 15105 (9) |
| 11-24-S | 91 | 150 | 36.19 | 36.19 | 306.17 | -0.21 | 1046 (9) | 55644 (9) | 13477 (9) |
| 11-25-S | 91 | 150 | 36.19 | 36.19 | 259.06 | -0.35 | 884 (9) | 47073 (9) | 11401 (9) |
| 11-26-S | 91 | 150 | 36.19 | 36.19 | 207.90 | -0.50 | 708 (9) | 37704 (9) | 9132 (9) |
| 11-27-S | 91 | 150 | 36.19 | 36.19 | 156.31 | -0.68 | 531 (9) | 28245 (9) | 6841 (9) |
| 11-28-S | 91 | 150 | 36.19 | 36.19 | 108.26 | -0.85 | 366 (9) | 19465 (9) | 4714 (9) |
| 11-29-S | 91 | 150 | 36.19 | 36.19 | 68.05 | -1.03 | 229 (9) | 12181 (9) | 2950 (9) |
| 11-30-S | 91 | 150 | 36.19 | 36.19 | 38.34 | -1.40 | 129 (9) | 6852 (9) | 1660 (9) |
| 11-31-S | 91 | 150 | 36.19 | 36.19 | 14.76 | -1.08 | 50 (9) | 2639 (9) | 639 (9) |
| 11-32-S | 91 | 150 | 36.19 | 36.19 | 2.03 | -0.84 | 9 (9) | 453 (9) | 152 (9) |
| 12-1-S | 91 | 150 | 40.72 | 40.72 | 3.52 | -3.34 | 19 (9) | 944 (9) | 536 (9) |
| 12-2-S | 91 | 150 | 40.72 | 40.72 | 18.45 | -14.40 | 96 (9) | 4813 (9) | 2314 (9) |
| 12-3-S | 91 | 150 | 40.72 | 40.72 | 43.38 | -37.50 | 338 (9) | 17032 (9) | 6099 (9) |
| 12-4-S | 91 | 150 | 40.72 | 40.72 | 61.69 | -68.20 | 678 (9) | 34141 (9) | 11123 (9) |
| 12-5-S | 91 | 150 | 40.72 | 40.72 | 6.68 | -131.42 | 421 (9) | 5468 (9) | 21227 (9) |
| 12-6-S | 91 | 150 | 40.72 | 40.72 | 2.57 | -177.17 | 560 (9) | 7265 (9) | 28207 (9) |
| 12-7-S | 91 | 150 | 40.72 | 40.72 | 38.71 | -80.45 | 247 (9) | 11623 (9) | 12429 (9) |
| 12-8-S | 91 | 150 | 40.72 | 40.72 | 134.04 | -0.01 | 471 (9) | 23749 (9) | 6117 (9) |
| 12-9-S | 91 | 150 | 40.72 | 40.72 | 321.20 | 0.00 | 1089 (9) | 54877 (9) | 14135 (9) |
| 12-10-S | 91 | 150 | 40.72 | 40.72 | 587.68 | 0.00 | 1597 (9) | 80464 (9) | 20726 (9) |
| 12-11-S | 91 | 150 | 40.72 | 40.72 | 534.85 | 0.00 | 1451 (9) | 73126 (9) | 18836 (9) |
| 12-12-S | 91 | 150 | 40.72 | 40.72 | 496.46 | -0.40 | 1350 (9) | 68039 (9) | 17526 (9) |
| 12-13-S | 91 | 150 | 40.72 | 40.72 | 424.60 | -4.20 | 1146 (9) | 57760 (9) | 14878 (9) |
| 12-14-S | 91 | 150 | 40.72 | 40.72 | 268.71 | -19.92 | 682 (9) | 34378 (9) | 8855 (9) |
| 12-15-S | 91 | 150 | 40.72 | 40.72 | 136.41 | -65.83 | 641 (10) | 32314 (10) | 11881 (10) |
| 12-16-S | 91 | 150 | 40.72 | 40.72 | 193.51 | -24.62 | 642 (9) | 32356 (9) | 8334 (9) |
| 12-17-S | 91 | 150 | 40.72 | 40.72 | 248.38 | -0.72 | 702 (9) | 35355 (9) | 9107 (9) |
| 12-18-S | 91 | 150 | 40.72 | 40.72 | 315.15 | -0.10 | 945 (9) | 47597 (9) | 12260 (9) |
| 12-19-S | 91 | 150 | 40.72 | 40.72 | 363.18 | -0.02 | 1123 (9) | 56559 (9) | 14569 (9) |
| 12-20-S | 91 | 150 | 40.72 | 40.72 | 389.85 | -0.03 | 1226 (9) | 61749 (9) | 15905 (9) |
| 12-21-S | 91 | 150 | 40.72 | 40.72 | 403.57 | -0.05 | 1283 (9) | 64623 (9) | 16646 (9) |
| 12-22-S | 91 | 150 | 40.72 | 40.72 | 405.46 | -0.13 | 1297 (9) | 65364 (9) | 16836 (9) |
| 12-23-S | 91 | 150 | 40.72 | 40.72 | 396.33 | -0.36 | 1272 (9) | 64096 (9) | 16510 (9) |
| 12-24-S | 91 | 150 | 40.72 | 40.72 | 374.70 | -0.98 | 1201 (9) | 60527 (9) | 15591 (9) |
| 12-25-S | 91 | 150 | 40.72 | 40.72 | 337.46 | -2.66 | 1074 (9) | 54092 (9) | 13933 (9) |
| 12-26-S | 91 | 150 | 40.72 | 40.72 | 298.07 | -6.20 | 936 (9) | 47168 (9) | 12150 (9) |
| 12-27-S | 91 | 150 | 40.72 | 40.72 | 212.87 | -16.40 | 654 (9) | 32950 (9) | 8487 (9) |
| 12-28-S | 91 | 150 | 40.72 | 40.72 | 66.61 | -47.99 | 239 (9) | 12053 (9) | 8376 (9) |
| 12-29-S | 91 | 150 | 40.72 | 40.72 | 22.42 | -140.34 | 462 (9) | 5989 (9) | 23253 (9) |
| 12-30-S | 91 | 150 | 40.72 | 40.72 | 13.33 | -90.34 | 300 (9) | 4842 (9) | 15124 (9) |
| 12-31-S | 91 | 150 | 40.72 | 40.72 | 6.83 | -33.14 | 109 (9) | 2539 (9) | 5483 (9) |
| 12-32-S | 91 | 150 | 40.72 | 40.72 | 3.62 | -2.68 | 19 (9) | 945 (9) | 409 (9) |
| 13-1-S | 91 | 150 | 40.72 | 40.72 | 3.52 | -3.34 | 19 (9) | 944 (9) | 536 (9) |
| 13-2-S | 91 | 150 | 40.72 | 40.72 | 18.45 | -14.40 | 96 (9) | 4813 (9) | 2314 (9) |
| 13-3-S | 91 | 150 | 40.72 | 40.72 | 43.38 | -37.50 | 338 (9) | 17032 (9) | 6099 (9) |
| 13-4-S | 91 | 150 | 40.72 | 40.72 | 61.69 | -68.20 | 678 (9) | 34141 (9) | 11123 (9) |
| 13-5-S | 91 | 150 | 40.72 | 40.72 | 6.68 | -131.42 | 421 (9) | 5468 (9) | 21227 (9) |
| 13-6-S | 91 | 150 | 40.72 | 40.72 | 2.57 | -177.17 | 560 (9) | 7265 (9) | 28207 (9) |
| 13-7-S | 91 | 150 | 40.72 | 40.72 | 38.71 | -80.45 | 247 (9) | 11623 (9) | 12429 (9) |
| 13-8-S | 91 | 150 | 40.72 | 40.72 | 134.04 | -0.01 | 471 (9) | 23749 (9) | 6117 (9) |
| 13-9-S | 91 | 150 | 40.72 | 40.72 | 321.20 | 0.00 | 1089 (9) | 54877 (9) | 14135 (9) |
| 13-10-S | 91 | 150 | 40.72 | 40.72 | 587.68 | 0.00 | 1597 (9) | 80464 (9) | 20726 (9) |
| 13-11-S | 91 | 150 | 40.72 | 40.72 | 534.85 | 0.00 | 1451 (9) | 73126 (9) | 18836 (9) |
| 13-12-S | 91 | 150 | 40.72 | 40.72 | 496.46 | -0.40 | 1350 (9) | 68039 (9) | 17526 (9) |
| 13-13-S | 91 | 150 | 40.72 | 40.72 | 424.60 | -4.20 | 1146 (9) | 57760 (9) | 14878 (9) |
| 13-14-S | 91 | 150 | 40.72 | 40.72 | 268.71 | -19.92 | 682 (9) | 34378 (9) | 8855 (9) |
| 13-15-S | 91 | 150 | 40.72 | 40.72 | 136.41 | -65.83 | 641 (10) | 32314 (10) | 11881 (10) |
| 13-16-S | 91 | 150 | 40.72 | 40.72 | 193.51 | -24.62 | 642 (9) | 32356 (9) | 8334 (9) |
| 13-17-S | 91 | 150 | 40.72 | 40.72 | 248.38 | -0.72 | 702 (9) | 35355 (9) | 9107 (9) |
| 13-18-S | 91 | 150 | 40.72 | 40.72 | 315.15 | -0.10 | 945 (9) | 47597 (9) | 12260 (9) |
| 13-19-S | 91 | 150 | 40.72 | 40.72 | 363.18 | -0.02 | 1123 (9) | 56559 (9) | 14569 (9) |
| 13-20-S | 91 | 150 | 40.72 | 40.72 | 389.85 | -0.03 | 1226 (9) | 61749 (9) | 15905 (9) |
| 13-21-S | 91 | 150 | 40.72 | 40.72 | 403.57 | -0.05 | 1283 (9) | 64623 (9) | 16646 (9) |

| Is | B | H | Afi | Afs | Mp | Mn | σ_c | σ_{fi} | σ_{fs} |
|---------|------|------|-------|-------|--------|---------|------------|---------------|---------------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kNm] | [kPa] | [kPa] | [kPa] |
| 13-22-S | 91 | 150 | 40.72 | 40.72 | 405.46 | -0.13 | 1297 (9) | 65364 (9) | 16836 (9) |
| 13-23-S | 91 | 150 | 40.72 | 40.72 | 396.33 | -0.36 | 1272 (9) | 64096 (9) | 16510 (9) |
| 13-24-S | 91 | 150 | 40.72 | 40.72 | 374.70 | -0.98 | 1201 (9) | 60527 (9) | 15591 (9) |
| 13-25-S | 91 | 150 | 40.72 | 40.72 | 337.46 | -2.66 | 1074 (9) | 54092 (9) | 13933 (9) |
| 13-26-S | 91 | 150 | 40.72 | 40.72 | 298.07 | -6.20 | 936 (9) | 47168 (9) | 12150 (9) |
| 13-27-S | 91 | 150 | 40.72 | 40.72 | 212.87 | -16.40 | 654 (9) | 32950 (9) | 8487 (9) |
| 13-28-S | 91 | 150 | 40.72 | 40.72 | 66.61 | -47.99 | 239 (9) | 12053 (9) | 8376 (9) |
| 13-29-S | 91 | 150 | 40.72 | 40.72 | 22.42 | -140.34 | 462 (9) | 5989 (9) | 23253 (9) |
| 13-30-S | 91 | 150 | 40.72 | 40.72 | 13.33 | -90.34 | 300 (9) | 4842 (9) | 15124 (9) |
| 13-31-S | 91 | 150 | 40.72 | 40.72 | 6.83 | -33.14 | 109 (9) | 2539 (9) | 5483 (9) |
| 13-32-S | 91 | 150 | 40.72 | 40.72 | 3.62 | -2.68 | 19 (9) | 945 (9) | 409 (9) |
| 14-1-S | 91 | 150 | 36.19 | 36.19 | 0.32 | -1.72 | 7 (9) | 92 (9) | 381 (9) |
| 14-2-S | 91 | 150 | 36.19 | 36.19 | 0.00 | -6.75 | 22 (9) | 287 (9) | 1186 (9) |
| 14-3-S | 91 | 150 | 36.19 | 36.19 | 1.47 | -7.95 | 30 (10) | 746 (10) | 1611 (10) |
| 14-4-S | 91 | 150 | 36.19 | 36.19 | 7.52 | -5.93 | 48 (10) | 2541 (10) | 1503 (10) |
| 14-5-S | 91 | 150 | 36.19 | 36.19 | 25.78 | -3.04 | 121 (9) | 6431 (9) | 1558 (9) |
| 14-6-S | 91 | 150 | 36.19 | 36.19 | 71.08 | -1.64 | 260 (9) | 13828 (9) | 3349 (9) |
| 14-7-S | 91 | 150 | 36.19 | 36.19 | 132.91 | -0.45 | 479 (9) | 25467 (9) | 6168 (9) |
| 14-8-S | 91 | 150 | 36.19 | 36.19 | 206.99 | 0.00 | 740 (9) | 39374 (9) | 9536 (9) |
| 14-9-S | 91 | 150 | 36.19 | 36.19 | 289.57 | 0.00 | 1030 (9) | 54803 (9) | 13273 (9) |
| 14-10-S | 91 | 150 | 36.19 | 36.19 | 341.13 | 0.00 | 842 (9) | 44800 (9) | 10850 (9) |
| 14-11-S | 91 | 150 | 36.19 | 36.19 | 349.24 | 0.00 | 913 (9) | 48598 (9) | 11771 (9) |
| 14-12-S | 91 | 150 | 36.19 | 36.19 | 345.51 | 0.00 | 933 (9) | 49681 (9) | 12033 (9) |
| 14-13-S | 91 | 150 | 36.19 | 36.19 | 341.91 | 0.00 | 953 (9) | 50733 (9) | 12287 (9) |
| 14-14-S | 91 | 150 | 36.19 | 36.19 | 338.23 | 0.00 | 971 (9) | 51695 (9) | 12520 (9) |
| 14-15-S | 91 | 150 | 36.19 | 36.19 | 341.94 | -0.05 | 1014 (9) | 53958 (9) | 13069 (9) |
| 14-16-S | 91 | 150 | 36.19 | 36.19 | 351.50 | -0.04 | 1075 (9) | 57237 (9) | 13863 (9) |
| 14-17-S | 91 | 150 | 36.19 | 36.19 | 364.47 | -0.02 | 1147 (9) | 61052 (9) | 14787 (9) |
| 14-18-S | 91 | 150 | 36.19 | 36.19 | 377.55 | -0.01 | 1217 (9) | 64770 (9) | 15687 (9) |
| 14-19-S | 91 | 150 | 36.19 | 36.19 | 388.04 | 0.00 | 1275 (9) | 67863 (9) | 16436 (9) |
| 14-20-S | 91 | 150 | 36.19 | 36.19 | 390.74 | -0.01 | 1302 (9) | 69282 (9) | 16780 (9) |
| 14-21-S | 91 | 150 | 36.19 | 36.19 | 384.94 | -0.02 | 1296 (9) | 68957 (9) | 16701 (9) |
| 14-22-S | 91 | 150 | 36.19 | 36.19 | 369.57 | -0.05 | 1253 (9) | 66692 (9) | 16153 (9) |
| 14-23-S | 91 | 150 | 36.19 | 36.19 | 343.91 | -0.10 | 1172 (9) | 62366 (9) | 15105 (9) |
| 14-24-S | 91 | 150 | 36.19 | 36.19 | 306.17 | -0.21 | 1046 (9) | 55644 (9) | 13477 (9) |
| 14-25-S | 91 | 150 | 36.19 | 36.19 | 259.06 | -0.35 | 884 (9) | 47073 (9) | 11401 (9) |
| 14-26-S | 91 | 150 | 36.19 | 36.19 | 207.90 | -0.50 | 708 (9) | 37704 (9) | 9132 (9) |
| 14-27-S | 91 | 150 | 36.19 | 36.19 | 156.31 | -0.68 | 531 (9) | 28245 (9) | 6841 (9) |
| 14-28-S | 91 | 150 | 36.19 | 36.19 | 108.26 | -0.85 | 366 (9) | 19465 (9) | 4714 (9) |
| 14-29-S | 91 | 150 | 36.19 | 36.19 | 68.05 | -1.03 | 229 (9) | 12181 (9) | 2950 (9) |
| 14-30-S | 91 | 150 | 36.19 | 36.19 | 38.34 | -1.40 | 129 (9) | 6852 (9) | 1660 (9) |
| 14-31-S | 91 | 150 | 36.19 | 36.19 | 14.76 | -1.08 | 50 (9) | 2639 (9) | 639 (9) |
| 14-32-S | 91 | 150 | 36.19 | 36.19 | 2.03 | -0.84 | 9 (9) | 453 (9) | 152 (9) |

Verifica a fessurazione

Simbologia adottata

| | |
|------------|---|
| n° | indice sezione |
| Y | ordinata sezione espressa in [m] |
| B | larghezza sezione espressa 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 prima fessurazione espressa in [kNm] |
| ϵ | deformazione espressa 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 | ϵ | Sm | w |
|----|------|------|-------|-------|-------|-------|------------|------|------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kNm] | [%] | [mm] | [mm] |

| n° | B | H | Af | Aeff | M | Mpf | ε | Sm | w |
|----|------|------|-------|---------|--------|---------|--------|------|------------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kNm] | [%] | [mm] | [mm] |
| 1 | 100 | 40 | 45.24 | 1125.00 | 0.75 | 203.21 | 0.0000 | 0.00 | 0.000 (10) |
| 2 | 100 | 41 | 45.24 | 1125.00 | 0.75 | 254.30 | 0.0000 | 0.00 | 0.000 (10) |
| 3 | 100 | 42 | 45.24 | 1125.00 | 0.77 | 329.75 | 0.0000 | 0.00 | 0.000 (10) |
| 4 | 100 | 43 | 45.24 | 1125.00 | 0.79 | 441.54 | 0.0000 | 0.00 | 0.000 (10) |
| 5 | 100 | 44 | 45.24 | 1125.00 | 0.84 | 599.84 | 0.0000 | 0.00 | 0.000 (10) |
| 6 | 100 | 45 | 0.00 | 0.00 | 0.91 | 793.54 | 0.0000 | 0.00 | 0.000 (10) |
| 7 | 100 | 46 | 0.00 | 0.00 | 1.01 | 961.80 | 0.0000 | 0.00 | 0.000 (10) |
| 8 | 100 | 47 | 0.00 | 0.00 | 1.14 | 1022.24 | 0.0000 | 0.00 | 0.000 (10) |
| 9 | 100 | 48 | 0.00 | 0.00 | 1.30 | 966.50 | 0.0000 | 0.00 | 0.000 (10) |
| 10 | 100 | 49 | 45.24 | 1125.00 | 1.51 | 857.80 | 0.0000 | 0.00 | 0.000 (10) |
| 11 | 100 | 50 | 45.24 | 1125.00 | 1.77 | 749.27 | 0.0000 | 0.00 | 0.000 (10) |
| 12 | 100 | 51 | 45.24 | 1125.00 | 2.07 | 660.51 | 0.0000 | 0.00 | 0.000 (10) |
| 13 | 100 | 52 | 45.24 | 1125.00 | 2.44 | 593.05 | 0.0000 | 0.00 | 0.000 (10) |
| 14 | 100 | 53 | 45.24 | 1125.00 | 2.86 | 543.06 | 0.0000 | 0.00 | 0.000 (10) |
| 15 | 100 | 54 | 45.24 | 1125.00 | 3.35 | 506.31 | 0.0000 | 0.00 | 0.000 (10) |
| 16 | 100 | 55 | 45.24 | 1125.00 | 3.90 | 479.37 | 0.0000 | 0.00 | 0.000 (10) |
| 17 | 100 | 56 | 45.24 | 1125.00 | 4.54 | 459.69 | 0.0000 | 0.00 | 0.000 (10) |
| 18 | 100 | 57 | 45.24 | 1125.00 | 5.25 | 445.47 | 0.0000 | 0.00 | 0.000 (10) |
| 19 | 100 | 58 | 45.24 | 1125.00 | 6.04 | 435.41 | 0.0000 | 0.00 | 0.000 (10) |
| 20 | 100 | 59 | 45.24 | 1125.00 | 6.92 | 428.55 | 0.0000 | 0.00 | 0.000 (10) |
| 21 | 100 | 60 | 45.24 | 1125.00 | 7.90 | 424.23 | 0.0000 | 0.00 | 0.000 (10) |
| 22 | 100 | 61 | 45.24 | 1125.00 | 8.97 | 421.93 | 0.0000 | 0.00 | 0.000 (10) |
| 23 | 100 | 62 | 45.24 | 1125.00 | 10.14 | 421.26 | 0.0000 | 0.00 | 0.000 (10) |
| 24 | 100 | 63 | 45.24 | 1125.00 | 11.42 | 421.94 | 0.0000 | 0.00 | 0.000 (10) |
| 25 | 100 | 64 | 45.24 | 1125.00 | 12.81 | 423.75 | 0.0000 | 0.00 | 0.000 (10) |
| 26 | 100 | 65 | 45.24 | 1125.00 | 14.32 | 426.50 | 0.0000 | 0.00 | 0.000 (10) |
| 27 | 100 | 66 | 45.24 | 1125.00 | 15.95 | 430.07 | 0.0000 | 0.00 | 0.000 (10) |
| 28 | 100 | 67 | 45.24 | 1125.00 | 17.70 | 434.33 | 0.0000 | 0.00 | 0.000 (10) |
| 29 | 100 | 68 | 45.24 | 1125.00 | 19.58 | 439.20 | 0.0000 | 0.00 | 0.000 (10) |
| 30 | 100 | 69 | 45.24 | 1125.00 | 21.60 | 444.61 | 0.0000 | 0.00 | 0.000 (10) |
| 31 | 100 | 70 | 45.24 | 1125.00 | 23.75 | 450.50 | 0.0000 | 0.00 | 0.000 (10) |
| 32 | 100 | 71 | 45.24 | 1125.00 | 26.05 | 456.81 | 0.0000 | 0.00 | 0.000 (10) |
| 33 | 100 | 72 | 45.24 | 1125.00 | 28.50 | 463.52 | 0.0000 | 0.00 | 0.000 (10) |
| 34 | 100 | 73 | 45.24 | 1125.00 | 31.10 | 470.57 | 0.0000 | 0.00 | 0.000 (10) |
| 35 | 100 | 74 | 45.24 | 1125.00 | 33.86 | 477.94 | 0.0000 | 0.00 | 0.000 (10) |
| 36 | 100 | 75 | 45.24 | 1125.00 | 36.78 | 485.62 | 0.0000 | 0.00 | 0.000 (10) |
| 37 | 100 | 76 | 45.24 | 1125.00 | 39.86 | 493.57 | 0.0000 | 0.00 | 0.000 (10) |
| 38 | 100 | 77 | 45.24 | 1125.00 | 43.12 | 501.77 | 0.0000 | 0.00 | 0.000 (10) |
| 39 | 100 | 78 | 45.24 | 1125.00 | 46.55 | 510.22 | 0.0000 | 0.00 | 0.000 (10) |
| 40 | 100 | 79 | 45.24 | 1125.00 | 50.16 | 518.90 | 0.0000 | 0.00 | 0.000 (10) |
| 41 | 100 | 80 | 45.24 | 1125.00 | 53.96 | 527.80 | 0.0000 | 0.00 | 0.000 (10) |
| 42 | 100 | 81 | 45.24 | 1125.00 | 57.95 | 536.90 | 0.0000 | 0.00 | 0.000 (10) |
| 43 | 100 | 82 | 45.24 | 1125.00 | 62.13 | 546.20 | 0.0000 | 0.00 | 0.000 (10) |
| 44 | 100 | 83 | 45.24 | 1125.00 | 66.52 | 555.68 | 0.0000 | 0.00 | 0.000 (10) |
| 45 | 100 | 84 | 45.24 | 1125.00 | 71.10 | 565.35 | 0.0000 | 0.00 | 0.000 (10) |
| 46 | 100 | 85 | 45.24 | 1125.00 | 75.89 | 575.20 | 0.0000 | 0.00 | 0.000 (10) |
| 47 | 100 | 86 | 45.24 | 1125.00 | 80.90 | 585.21 | 0.0000 | 0.00 | 0.000 (10) |
| 48 | 100 | 87 | 45.24 | 1125.00 | 86.12 | 595.39 | 0.0000 | 0.00 | 0.000 (10) |
| 49 | 100 | 88 | 45.24 | 1125.00 | 91.57 | 605.73 | 0.0000 | 0.00 | 0.000 (10) |
| 50 | 100 | 89 | 45.24 | 1125.00 | 97.24 | 616.22 | 0.0000 | 0.00 | 0.000 (10) |
| 51 | 100 | 90 | 45.24 | 1125.00 | 103.14 | 626.86 | 0.0000 | 0.00 | 0.000 (10) |
| 52 | 100 | 91 | 45.24 | 1125.00 | 109.28 | 637.66 | 0.0000 | 0.00 | 0.000 (10) |
| 53 | 100 | 92 | 45.24 | 1125.00 | 115.66 | 648.60 | 0.0000 | 0.00 | 0.000 (10) |
| 54 | 100 | 93 | 45.24 | 1125.00 | 122.29 | 659.68 | 0.0000 | 0.00 | 0.000 (10) |
| 55 | 100 | 94 | 45.24 | 1125.00 | 129.16 | 670.91 | 0.0000 | 0.00 | 0.000 (10) |
| 56 | 100 | 95 | 45.24 | 1125.00 | 136.29 | 682.27 | 0.0000 | 0.00 | 0.000 (10) |
| 57 | 100 | 96 | 45.24 | 1125.00 | 143.68 | 693.77 | 0.0000 | 0.00 | 0.000 (10) |
| 58 | 100 | 97 | 45.24 | 1125.00 | 151.33 | 705.40 | 0.0000 | 0.00 | 0.000 (10) |
| 59 | 100 | 98 | 45.24 | 1125.00 | 159.25 | 717.17 | 0.0000 | 0.00 | 0.000 (10) |
| 60 | 100 | 99 | 45.24 | 1125.00 | 167.44 | 729.07 | 0.0000 | 0.00 | 0.000 (10) |
| 61 | 100 | 100 | 45.24 | 1125.00 | 175.91 | 741.09 | 0.0000 | 0.00 | 0.000 (10) |
| 62 | 100 | 101 | 45.24 | 1125.00 | 184.67 | 753.25 | 0.0000 | 0.00 | 0.000 (10) |
| 63 | 100 | 102 | 90.48 | 1125.00 | 193.71 | 963.02 | 0.0000 | 0.00 | 0.000 (10) |
| 64 | 100 | 103 | 90.48 | 1125.00 | 203.04 | 977.16 | 0.0000 | 0.00 | 0.000 (10) |
| 65 | 100 | 104 | 90.48 | 1125.00 | 212.66 | 991.44 | 0.0000 | 0.00 | 0.000 (10) |
| 66 | 100 | 105 | 90.48 | 1125.00 | 222.59 | 1005.84 | 0.0000 | 0.00 | 0.000 (10) |
| 67 | 100 | 106 | 90.48 | 1125.00 | 232.82 | 1020.39 | 0.0000 | 0.00 | 0.000 (10) |
| 68 | 100 | 107 | 90.48 | 1125.00 | 243.37 | 1035.06 | 0.0000 | 0.00 | 0.000 (10) |
| 69 | 100 | 108 | 90.48 | 1125.00 | 254.22 | 1049.86 | 0.0000 | 0.00 | 0.000 (10) |
| 70 | 100 | 109 | 90.48 | 1125.00 | 265.40 | 1064.79 | 0.0000 | 0.00 | 0.000 (10) |

| n° | B | H | Af | Aeff | M | Mpf | ε | Sm | w |
|-----|------|------|--------|---------|--------|---------|--------|------|------------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kNm] | [%] | [mm] | [mm] |
| 71 | 100 | 110 | 90.48 | 1125.00 | 276.90 | 1079.85 | 0.0000 | 0.00 | 0.000 (10) |
| 72 | 100 | 111 | 90.48 | 1125.00 | 288.72 | 1095.03 | 0.0000 | 0.00 | 0.000 (10) |
| 73 | 100 | 112 | 90.48 | 1125.00 | 300.89 | 1110.34 | 0.0000 | 0.00 | 0.000 (10) |
| 74 | 100 | 113 | 90.48 | 1125.00 | 313.38 | 1125.77 | 0.0000 | 0.00 | 0.000 (10) |
| 75 | 100 | 114 | 90.48 | 1125.00 | 326.22 | 1141.33 | 0.0000 | 0.00 | 0.000 (10) |
| 76 | 100 | 115 | 90.48 | 1125.00 | 339.41 | 1157.00 | 0.0000 | 0.00 | 0.000 (10) |
| 77 | 100 | 116 | 90.48 | 1125.00 | 352.95 | 1172.80 | 0.0000 | 0.00 | 0.000 (10) |
| 78 | 100 | 117 | 113.10 | 1125.00 | 366.84 | 1270.02 | 0.0000 | 0.00 | 0.000 (10) |
| 79 | 100 | 118 | 113.10 | 1125.00 | 381.10 | 1286.77 | 0.0000 | 0.00 | 0.000 (10) |
| 80 | 100 | 119 | 113.10 | 1125.00 | 395.72 | 1303.65 | 0.0000 | 0.00 | 0.000 (10) |
| 81 | 100 | 120 | 113.10 | 1125.00 | 410.71 | 1320.64 | 0.0000 | 0.00 | 0.000 (10) |
| 82 | 100 | 121 | 113.10 | 1125.00 | 426.08 | 1337.76 | 0.0000 | 0.00 | 0.000 (10) |
| 83 | 100 | 122 | 113.10 | 1125.00 | 441.82 | 1354.99 | 0.0000 | 0.00 | 0.000 (10) |
| 84 | 100 | 123 | 113.10 | 1125.00 | 457.95 | 1372.34 | 0.0000 | 0.00 | 0.000 (10) |
| 85 | 100 | 124 | 113.10 | 1125.00 | 474.46 | 1389.81 | 0.0000 | 0.00 | 0.000 (10) |
| 86 | 100 | 125 | 113.10 | 1125.00 | 491.37 | 1407.40 | 0.0000 | 0.00 | 0.000 (10) |
| 87 | 100 | 126 | 113.10 | 1125.00 | 508.68 | 1425.10 | 0.0000 | 0.00 | 0.000 (10) |
| 88 | 100 | 127 | 113.10 | 1125.00 | 526.39 | 1442.92 | 0.0000 | 0.00 | 0.000 (10) |
| 89 | 100 | 128 | 113.10 | 1125.00 | 544.50 | 1460.86 | 0.0000 | 0.00 | 0.000 (10) |
| 90 | 100 | 129 | 113.10 | 1125.00 | 563.03 | 1478.91 | 0.0000 | 0.00 | 0.000 (10) |
| 91 | 100 | 130 | 113.10 | 1125.00 | 581.98 | 1497.08 | 0.0000 | 0.00 | 0.000 (10) |
| 92 | 100 | 131 | 67.86 | 1125.00 | 601.34 | 1332.38 | 0.0000 | 0.00 | 0.000 (10) |
| 93 | 100 | 132 | 67.86 | 1125.00 | 621.13 | 1349.35 | 0.0000 | 0.00 | 0.000 (10) |
| 94 | 100 | 133 | 67.86 | 1125.00 | 641.35 | 1331.82 | 0.0000 | 0.00 | 0.000 (10) |
| 95 | 100 | 134 | 67.86 | 1125.00 | 662.00 | 1348.78 | 0.0000 | 0.00 | 0.000 (10) |
| 96 | 100 | 135 | 67.86 | 1125.00 | 683.10 | 1365.85 | 0.0000 | 0.00 | 0.000 (10) |
| 97 | 100 | 136 | 67.86 | 1125.00 | 704.63 | 1383.04 | 0.0000 | 0.00 | 0.000 (10) |
| 98 | 100 | 137 | 67.86 | 1125.00 | 726.62 | 1400.34 | 0.0000 | 0.00 | 0.000 (10) |
| 99 | 100 | 138 | 67.86 | 1125.00 | 749.06 | 1417.75 | 0.0000 | 0.00 | 0.000 (10) |
| 100 | 100 | 139 | 67.86 | 1125.00 | 771.95 | 1435.27 | 0.0000 | 0.00 | 0.000 (10) |
| 101 | 100 | 140 | 67.86 | 1125.00 | 795.31 | 1452.90 | 0.0000 | 0.00 | 0.000 (10) |

Mensola valle

Apertura limite fessure $w_{lim}=0.30$

| n° | B | H | Af | Aeff | M | Mpf | ε | Sm | w |
|----|------|------|-------|---------|-------|---------|--------|------|------------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kNm] | [%] | [mm] | [mm] |
| 1 | 100 | 50 | 0.00 | 0.00 | 0.00 | 0.00 | 0.0000 | 0.00 | 0.000 (10) |
| 2 | 100 | 50 | 0.00 | 0.00 | -0.05 | 0.00 | 0.0000 | 0.00 | 0.000 (10) |
| 3 | 100 | 50 | 8.04 | 1125.00 | -0.19 | -143.03 | 0.0000 | 0.00 | 0.000 (10) |
| 4 | 100 | 50 | 8.04 | 1125.00 | -0.42 | -143.03 | 0.0000 | 0.00 | 0.000 (10) |
| 5 | 100 | 50 | 8.04 | 1125.00 | -0.75 | -143.03 | 0.0000 | 0.00 | 0.000 (10) |

Piastra fondazione

Apertura limite fessure $w_{lim}=0.30$

| Is | B | H | Af | Aeff | M | Mpf | ε | Sm | w |
|--------|------|------|-------|---------|---------|----------|--------|------|-------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kNm] | [%] | [mm] | [mm] |
| 1-1-P | 100 | 150 | 10.05 | 1125.00 | 1.19 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 1-2-P | 100 | 150 | 10.05 | 1125.00 | -1.39 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 1-3-P | 100 | 150 | 10.05 | 1125.00 | -10.07 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 1-4-P | 100 | 150 | 10.05 | 1125.00 | -27.91 | -1235.64 | 0.0000 | 0.00 | 0.000 |
| 1-5-P | 100 | 150 | 10.05 | 1125.00 | -59.33 | -1235.64 | 0.0000 | 0.00 | 0.000 |
| 1-6-P | 100 | 150 | 10.05 | 1125.00 | -108.41 | -1235.64 | 0.0000 | 0.00 | 0.000 |
| 1-7-P | 100 | 150 | 10.05 | 1125.00 | -199.94 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 1-8-P | 100 | 150 | 10.05 | 1125.00 | -222.87 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 1-9-P | 100 | 150 | 10.05 | 1125.00 | -222.87 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 1-10-P | 100 | 150 | 10.05 | 1125.00 | -199.94 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 1-11-P | 100 | 150 | 10.05 | 1125.00 | -108.41 | -1235.64 | 0.0000 | 0.00 | 0.000 |
| 1-12-P | 100 | 150 | 10.05 | 1125.00 | -59.33 | -1235.64 | 0.0000 | 0.00 | 0.000 |
| 1-13-P | 100 | 150 | 10.05 | 1125.00 | -27.91 | -1235.64 | 0.0000 | 0.00 | 0.000 |
| 1-14-P | 100 | 150 | 10.05 | 1125.00 | -10.07 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 1-15-P | 100 | 150 | 10.05 | 1125.00 | -1.39 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 1-16-P | 100 | 150 | 10.05 | 1125.00 | 1.19 | 1235.64 | 0.0000 | 0.00 | 0.000 |

| Is | B | H | Af | Aeff | M | Mpf | ε | Sm | w |
|--------|------|------|-------|---------|---------|---------|--------|------|-------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kNm] | [%] | [mm] | [mm] |
| 2-1-P | 100 | 150 | 10.05 | 1125.00 | 19.65 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 2-2-P | 100 | 150 | 10.05 | 1125.00 | 21.90 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 2-3-P | 100 | 150 | 10.05 | 1125.00 | 26.15 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 2-4-P | 100 | 150 | 10.05 | 1125.00 | 26.31 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 2-5-P | 100 | 150 | 10.05 | 1125.00 | -28.92 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 2-6-P | 100 | 150 | 10.05 | 1125.00 | -66.08 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 2-7-P | 100 | 150 | 10.05 | 1125.00 | -85.24 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 2-8-P | 100 | 150 | 10.05 | 1125.00 | -125.52 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 2-9-P | 100 | 150 | 10.05 | 1125.00 | -125.52 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 2-10-P | 100 | 150 | 10.05 | 1125.00 | -85.24 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 2-11-P | 100 | 150 | 10.05 | 1125.00 | -66.08 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 2-12-P | 100 | 150 | 10.05 | 1125.00 | -28.92 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 2-13-P | 100 | 150 | 10.05 | 1125.00 | 26.31 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 2-14-P | 100 | 150 | 10.05 | 1125.00 | 26.15 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 2-15-P | 100 | 150 | 10.05 | 1125.00 | 21.90 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 2-16-P | 100 | 150 | 10.05 | 1125.00 | 19.65 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 5-1-P | 89 | 150 | 10.05 | 999.38 | 23.26 | 1104.64 | 0.0000 | 0.00 | 0.000 |
| 5-2-P | 89 | 150 | 10.05 | 999.38 | 28.03 | 1104.64 | 0.0000 | 0.00 | 0.000 |
| 5-3-P | 89 | 150 | 10.05 | 999.38 | 40.55 | 1104.64 | 0.0000 | 0.00 | 0.000 |
| 5-4-P | 89 | 150 | 10.05 | 999.38 | 51.22 | 1104.64 | 0.0000 | 0.00 | 0.000 |
| 5-5-P | 89 | 150 | 10.05 | 999.38 | 54.26 | 1104.64 | 0.0000 | 0.00 | 0.000 |
| 5-6-P | 89 | 150 | 10.05 | 999.38 | 51.17 | 1104.64 | 0.0000 | 0.00 | 0.000 |
| 5-7-P | 89 | 150 | 10.05 | 999.38 | -55.72 | 1104.64 | 0.0000 | 0.00 | 0.000 |
| 5-8-P | 89 | 150 | 10.05 | 999.38 | -42.86 | 1104.64 | 0.0000 | 0.00 | 0.000 |
| 5-9-P | 89 | 150 | 10.05 | 999.38 | -42.86 | 1104.64 | 0.0000 | 0.00 | 0.000 |
| 5-10-P | 89 | 150 | 10.05 | 999.38 | -55.72 | 1104.64 | 0.0000 | 0.00 | 0.000 |
| 5-11-P | 89 | 150 | 10.05 | 999.38 | 51.17 | 1104.64 | 0.0000 | 0.00 | 0.000 |
| 5-12-P | 89 | 150 | 10.05 | 999.38 | 54.26 | 1104.64 | 0.0000 | 0.00 | 0.000 |
| 5-13-P | 89 | 150 | 10.05 | 999.38 | 51.22 | 1104.64 | 0.0000 | 0.00 | 0.000 |
| 5-14-P | 89 | 150 | 10.05 | 999.38 | 40.55 | 1104.64 | 0.0000 | 0.00 | 0.000 |
| 5-15-P | 89 | 150 | 10.05 | 999.38 | 28.03 | 1104.64 | 0.0000 | 0.00 | 0.000 |
| 5-16-P | 89 | 150 | 10.05 | 999.38 | 23.26 | 1104.64 | 0.0000 | 0.00 | 0.000 |
| 6-1-P | 89 | 150 | 8.04 | 999.37 | 0.95 | 1092.14 | 0.0000 | 0.00 | 0.000 |
| 6-2-P | 89 | 150 | 8.04 | 999.37 | 3.85 | 1092.14 | 0.0000 | 0.00 | 0.000 |
| 6-3-P | 89 | 150 | 8.04 | 999.37 | -5.84 | 1092.14 | 0.0000 | 0.00 | 0.000 |
| 6-4-P | 89 | 150 | 8.04 | 999.37 | -21.32 | 1092.14 | 0.0000 | 0.00 | 0.000 |
| 6-5-P | 89 | 150 | 8.04 | 999.37 | -52.50 | 1092.14 | 0.0000 | 0.00 | 0.000 |
| 6-6-P | 89 | 150 | 8.04 | 999.37 | -104.34 | 1092.14 | 0.0000 | 0.00 | 0.000 |
| 6-7-P | 89 | 150 | 8.04 | 999.37 | -149.10 | 1092.14 | 0.0000 | 0.00 | 0.000 |
| 6-8-P | 89 | 150 | 8.04 | 999.37 | -178.38 | 1092.14 | 0.0000 | 0.00 | 0.000 |
| 6-9-P | 89 | 150 | 8.04 | 999.37 | -178.38 | 1092.14 | 0.0000 | 0.00 | 0.000 |
| 6-10-P | 89 | 150 | 8.04 | 999.37 | -149.10 | 1092.14 | 0.0000 | 0.00 | 0.000 |
| 6-11-P | 89 | 150 | 8.04 | 999.37 | -104.34 | 1092.14 | 0.0000 | 0.00 | 0.000 |
| 6-12-P | 89 | 150 | 8.04 | 999.37 | -52.50 | 1092.14 | 0.0000 | 0.00 | 0.000 |
| 6-13-P | 89 | 150 | 8.04 | 999.37 | -21.32 | 1092.14 | 0.0000 | 0.00 | 0.000 |
| 6-14-P | 89 | 150 | 8.04 | 999.37 | -5.84 | 1092.14 | 0.0000 | 0.00 | 0.000 |
| 6-15-P | 89 | 150 | 8.04 | 999.37 | 3.85 | 1092.14 | 0.0000 | 0.00 | 0.000 |
| 6-16-P | 89 | 150 | 8.04 | 999.37 | 0.95 | 1092.14 | 0.0000 | 0.00 | 0.000 |
| 7-1-P | 89 | 150 | 0.00 | 0.00 | -1.24 | 0.00 | 0.0000 | 0.00 | 0.000 |
| 7-2-P | 89 | 150 | 0.00 | 0.00 | -4.57 | 0.00 | 0.0000 | 0.00 | 0.000 |
| 7-3-P | 89 | 150 | 10.05 | 999.37 | -14.29 | 1104.64 | 0.0000 | 0.00 | 0.000 |
| 7-4-P | 89 | 150 | 10.05 | 999.37 | -29.11 | 1104.64 | 0.0000 | 0.00 | 0.000 |
| 7-5-P | 89 | 150 | 10.05 | 999.37 | -47.49 | 1104.64 | 0.0000 | 0.00 | 0.000 |
| 7-6-P | 89 | 150 | 10.05 | 999.37 | -67.64 | 1104.64 | 0.0000 | 0.00 | 0.000 |
| 7-7-P | 89 | 150 | 10.05 | 999.38 | -84.66 | 1104.64 | 0.0000 | 0.00 | 0.000 |
| 7-8-P | 89 | 150 | 0.00 | 0.00 | -94.30 | 0.00 | 0.0000 | 0.00 | 0.000 |
| 7-9-P | 89 | 150 | 0.00 | 0.00 | -94.30 | 0.00 | 0.0000 | 0.00 | 0.000 |
| 7-10-P | 89 | 150 | 10.05 | 999.38 | -84.66 | 1104.64 | 0.0000 | 0.00 | 0.000 |
| 7-11-P | 89 | 150 | 10.05 | 999.37 | -67.64 | 1104.64 | 0.0000 | 0.00 | 0.000 |
| 7-12-P | 89 | 150 | 10.05 | 999.37 | -47.49 | 1104.64 | 0.0000 | 0.00 | 0.000 |
| 7-13-P | 89 | 150 | 10.05 | 999.37 | -29.11 | 1104.64 | 0.0000 | 0.00 | 0.000 |
| 7-14-P | 89 | 150 | 10.05 | 999.37 | -14.29 | 1104.64 | 0.0000 | 0.00 | 0.000 |
| 7-15-P | 89 | 150 | 0.00 | 0.00 | -4.57 | 0.00 | 0.0000 | 0.00 | 0.000 |
| 7-16-P | 89 | 150 | 0.00 | 0.00 | -1.24 | 0.00 | 0.0000 | 0.00 | 0.000 |
| 8-1-P | 89 | 150 | 0.00 | 0.00 | -1.73 | 0.00 | 0.0000 | 0.00 | 0.000 |
| 8-2-P | 89 | 150 | 8.04 | 999.38 | -5.35 | 1092.14 | 0.0000 | 0.00 | 0.000 |
| 8-3-P | 89 | 150 | 8.04 | 999.38 | -15.73 | 1092.14 | 0.0000 | 0.00 | 0.000 |
| 8-4-P | 89 | 150 | 8.04 | 999.37 | -32.30 | 1092.14 | 0.0000 | 0.00 | 0.000 |
| 8-5-P | 89 | 150 | 8.04 | 999.38 | -53.73 | 1092.14 | 0.0000 | 0.00 | 0.000 |
| 8-6-P | 89 | 150 | 8.04 | 999.38 | -78.34 | 1092.14 | 0.0000 | 0.00 | 0.000 |

| Is | B | H | Af | Aeff | M | Mpf | ε | Sm | w |
|---------|------|------|-------|---------|---------|----------|--------|------|-------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kNm] | [%] | [mm] | [mm] |
| 8-7-P | 89 | 150 | 8.04 | 999.38 | -98.57 | 1092.14 | 0.0000 | 0.00 | 0.000 |
| 8-8-P | 89 | 150 | 8.04 | 999.38 | -108.75 | 1092.14 | 0.0000 | 0.00 | 0.000 |
| 8-9-P | 89 | 150 | 8.04 | 999.38 | -108.75 | 1092.14 | 0.0000 | 0.00 | 0.000 |
| 8-10-P | 89 | 150 | 8.04 | 999.38 | -98.57 | 1092.14 | 0.0000 | 0.00 | 0.000 |
| 8-11-P | 89 | 150 | 8.04 | 999.38 | -78.34 | 1092.14 | 0.0000 | 0.00 | 0.000 |
| 8-12-P | 89 | 150 | 8.04 | 999.38 | -53.73 | 1092.14 | 0.0000 | 0.00 | 0.000 |
| 8-13-P | 89 | 150 | 8.04 | 999.38 | -32.30 | 1092.14 | 0.0000 | 0.00 | 0.000 |
| 8-14-P | 89 | 150 | 8.04 | 999.38 | -15.73 | 1092.14 | 0.0000 | 0.00 | 0.000 |
| 8-15-P | 89 | 150 | 8.04 | 999.38 | -5.35 | 1092.14 | 0.0000 | 0.00 | 0.000 |
| 8-16-P | 89 | 150 | 0.00 | 0.00 | -1.73 | 0.00 | 0.0000 | 0.00 | 0.000 |
| 9-1-P | 89 | 150 | 10.05 | 999.38 | 0.22 | 1104.64 | 0.0000 | 0.00 | 0.000 |
| 9-2-P | 89 | 150 | 10.05 | 999.37 | -4.59 | 1104.64 | 0.0000 | 0.00 | 0.000 |
| 9-3-P | 89 | 150 | 10.05 | 999.38 | -19.67 | 1104.64 | 0.0000 | 0.00 | 0.000 |
| 9-4-P | 89 | 150 | 10.05 | 999.38 | -45.46 | 1104.64 | 0.0000 | 0.00 | 0.000 |
| 9-5-P | 89 | 150 | 10.05 | 999.38 | -83.40 | 1104.64 | 0.0000 | 0.00 | 0.000 |
| 9-6-P | 89 | 150 | 10.05 | 999.38 | -138.03 | 1104.64 | 0.0000 | 0.00 | 0.000 |
| 9-7-P | 89 | 150 | 10.05 | 999.38 | -229.17 | 1104.64 | 0.0000 | 0.00 | 0.000 |
| 9-8-P | 89 | 150 | 10.05 | 999.38 | -237.28 | 1104.64 | 0.0000 | 0.00 | 0.000 |
| 9-9-P | 89 | 150 | 10.05 | 999.38 | -237.28 | 1104.64 | 0.0000 | 0.00 | 0.000 |
| 9-10-P | 89 | 150 | 10.05 | 999.38 | -229.17 | 1104.64 | 0.0000 | 0.00 | 0.000 |
| 9-11-P | 89 | 150 | 10.05 | 999.38 | -138.03 | 1104.64 | 0.0000 | 0.00 | 0.000 |
| 9-12-P | 89 | 150 | 10.05 | 999.37 | -83.40 | 1104.64 | 0.0000 | 0.00 | 0.000 |
| 9-13-P | 89 | 150 | 10.05 | 999.38 | -45.46 | 1104.64 | 0.0000 | 0.00 | 0.000 |
| 9-14-P | 89 | 150 | 10.05 | 999.38 | -19.67 | 1104.64 | 0.0000 | 0.00 | 0.000 |
| 9-15-P | 89 | 150 | 10.05 | 999.38 | -4.59 | 1104.64 | 0.0000 | 0.00 | 0.000 |
| 9-16-P | 89 | 150 | 10.05 | 999.37 | 0.22 | 1104.64 | 0.0000 | 0.00 | 0.000 |
| 10-1-P | 89 | 150 | 0.00 | 0.00 | -0.73 | 0.00 | 0.0000 | 0.00 | 0.000 |
| 10-2-P | 89 | 150 | 8.04 | 999.37 | -11.80 | 1092.13 | 0.0000 | 0.00 | 0.000 |
| 10-3-P | 89 | 150 | 8.04 | 999.37 | -40.07 | 1092.13 | 0.0000 | 0.00 | 0.000 |
| 10-4-P | 89 | 150 | 8.04 | 999.37 | -83.70 | 1092.13 | 0.0000 | 0.00 | 0.000 |
| 10-5-P | 89 | 150 | 8.04 | 999.37 | -140.89 | 1092.13 | 0.0000 | 0.00 | 0.000 |
| 10-6-P | 89 | 150 | 8.04 | 999.37 | -209.66 | 1092.13 | 0.0000 | 0.00 | 0.000 |
| 10-7-P | 89 | 150 | 8.04 | 999.37 | -249.25 | 1092.13 | 0.0000 | 0.00 | 0.000 |
| 10-8-P | 89 | 150 | 8.04 | 999.37 | -298.58 | -1092.13 | 0.0000 | 0.00 | 0.000 |
| 10-9-P | 89 | 150 | 8.04 | 999.37 | -298.58 | -1092.13 | 0.0000 | 0.00 | 0.000 |
| 10-10-P | 89 | 150 | 8.04 | 999.37 | -249.25 | 1092.13 | 0.0000 | 0.00 | 0.000 |
| 10-11-P | 89 | 150 | 8.04 | 999.37 | -209.66 | 1092.13 | 0.0000 | 0.00 | 0.000 |
| 10-12-P | 89 | 150 | 8.04 | 999.37 | -140.89 | 1092.13 | 0.0000 | 0.00 | 0.000 |
| 10-13-P | 89 | 150 | 8.04 | 999.37 | -83.70 | 1092.13 | 0.0000 | 0.00 | 0.000 |
| 10-14-P | 89 | 150 | 8.04 | 999.37 | -40.07 | 1092.13 | 0.0000 | 0.00 | 0.000 |
| 10-15-P | 89 | 150 | 8.04 | 999.37 | -11.80 | 1092.13 | 0.0000 | 0.00 | 0.000 |
| 10-16-P | 89 | 150 | 0.00 | 0.00 | -0.73 | 0.00 | 0.0000 | 0.00 | 0.000 |
| 11-1-S | 91 | 150 | 36.19 | 1026.56 | -1.50 | 1295.56 | 0.0000 | 0.00 | 0.000 |
| 11-2-S | 91 | 150 | 0.00 | 0.00 | -5.85 | 0.00 | 0.0000 | 0.00 | 0.000 |
| 11-3-S | 91 | 150 | 36.19 | 1026.56 | -7.95 | 1295.56 | 0.0000 | 0.00 | 0.000 |
| 11-4-S | 91 | 150 | 36.19 | 1026.56 | 7.52 | 1295.56 | 0.0000 | 0.00 | 0.000 |
| 11-5-S | 91 | 150 | 36.19 | 1026.56 | 25.38 | 1295.56 | 0.0000 | 0.00 | 0.000 |
| 11-6-S | 91 | 150 | 36.19 | 1026.56 | 68.22 | 1295.56 | 0.0000 | 0.00 | 0.000 |
| 11-7-S | 91 | 150 | 36.19 | 1026.56 | 125.65 | 1295.56 | 0.0000 | 0.00 | 0.000 |
| 11-8-S | 91 | 150 | 36.19 | 1026.56 | 194.27 | 1295.56 | 0.0000 | 0.00 | 0.000 |
| 11-9-S | 91 | 150 | 36.19 | 1026.56 | 270.39 | 1295.56 | 0.0000 | 0.00 | 0.000 |
| 11-10-S | 91 | 150 | 36.19 | 1026.56 | 221.04 | 1295.56 | 0.0000 | 0.00 | 0.000 |
| 11-11-S | 91 | 150 | 36.19 | 1026.56 | 239.78 | 1295.56 | 0.0000 | 0.00 | 0.000 |
| 11-12-S | 91 | 150 | 36.19 | 1026.56 | 245.12 | 1295.56 | 0.0000 | 0.00 | 0.000 |
| 11-13-S | 91 | 150 | 36.19 | 1026.56 | 250.31 | 1295.56 | 0.0000 | 0.00 | 0.000 |
| 11-14-S | 91 | 150 | 36.19 | 1026.56 | 255.06 | 1295.56 | 0.0000 | 0.00 | 0.000 |
| 11-15-S | 91 | 150 | 36.19 | 1026.56 | 266.22 | 1295.56 | 0.0000 | 0.00 | 0.000 |
| 11-16-S | 91 | 150 | 36.19 | 1026.56 | 282.40 | 1295.56 | 0.0000 | 0.00 | 0.000 |
| 11-17-S | 91 | 150 | 36.19 | 1026.56 | 301.22 | 1295.56 | 0.0000 | 0.00 | 0.000 |
| 11-18-S | 91 | 150 | 36.19 | 1026.56 | 319.57 | 1295.56 | 0.0000 | 0.00 | 0.000 |
| 11-19-S | 91 | 150 | 36.19 | 1026.56 | 334.83 | 1295.56 | 0.0000 | 0.00 | 0.000 |
| 11-20-S | 91 | 150 | 36.19 | 1026.56 | 341.83 | 1295.56 | 0.0000 | 0.00 | 0.000 |
| 11-21-S | 91 | 150 | 36.19 | 1026.56 | 340.23 | 1295.56 | 0.0000 | 0.00 | 0.000 |
| 11-22-S | 91 | 150 | 36.19 | 1026.56 | 329.05 | 1295.56 | 0.0000 | 0.00 | 0.000 |
| 11-23-S | 91 | 150 | 36.19 | 1026.56 | 307.71 | 1295.56 | 0.0000 | 0.00 | 0.000 |
| 11-24-S | 91 | 150 | 36.19 | 1026.56 | 274.54 | 1295.56 | 0.0000 | 0.00 | 0.000 |
| 11-25-S | 91 | 150 | 36.19 | 1026.56 | 232.25 | 1295.56 | 0.0000 | 0.00 | 0.000 |
| 11-26-S | 91 | 150 | 36.19 | 1026.56 | 186.03 | 1295.56 | 0.0000 | 0.00 | 0.000 |
| 11-27-S | 91 | 150 | 36.19 | 1026.56 | 139.36 | 1295.56 | 0.0000 | 0.00 | 0.000 |
| 11-28-S | 91 | 150 | 36.19 | 1026.56 | 96.04 | 1295.56 | 0.0000 | 0.00 | 0.000 |

| Is | B | H | Af | Aeff | M | Mpf | ε | Sm | w |
|---------|------|------|-------|---------|---------|---------|--------|------|-------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kNm] | [%] | [mm] | [mm] |
| 11-29-S | 91 | 150 | 36.19 | 1026.56 | 60.10 | 1295.56 | 0.0000 | 0.00 | 0.000 |
| 11-30-S | 91 | 150 | 36.19 | 1026.56 | 33.81 | 1295.56 | 0.0000 | 0.00 | 0.000 |
| 11-31-S | 91 | 150 | 36.19 | 1026.56 | 13.02 | 1295.56 | 0.0000 | 0.00 | 0.000 |
| 11-32-S | 91 | 150 | 36.19 | 1026.56 | 1.79 | 1295.56 | 0.0000 | 0.00 | 0.000 |
| 12-1-S | 91 | 150 | 40.72 | 1026.56 | 3.14 | 1323.69 | 0.0000 | 0.00 | 0.000 |
| 12-2-S | 91 | 150 | 40.72 | 1026.56 | 16.00 | 1323.69 | 0.0000 | 0.00 | 0.000 |
| 12-3-S | 91 | 150 | 40.72 | 1026.56 | 37.75 | 1323.69 | 0.0000 | 0.00 | 0.000 |
| 12-4-S | 91 | 150 | 40.72 | 1026.56 | -61.63 | 1323.69 | 0.0000 | 0.00 | 0.000 |
| 12-5-S | 91 | 150 | 40.72 | 1026.56 | -117.61 | 1323.69 | 0.0000 | 0.00 | 0.000 |
| 12-6-S | 91 | 150 | 40.72 | 1026.56 | -156.28 | 1323.69 | 0.0000 | 0.00 | 0.000 |
| 12-7-S | 91 | 150 | 40.72 | 1026.56 | -68.86 | 1323.69 | 0.0000 | 0.00 | 0.000 |
| 12-8-S | 91 | 150 | 40.72 | 1026.56 | 131.58 | 1323.69 | 0.0000 | 0.00 | 0.000 |
| 12-9-S | 91 | 150 | 40.72 | 1026.56 | 304.05 | 1323.69 | 0.0000 | 0.00 | 0.000 |
| 12-10-S | 91 | 150 | 40.72 | 1026.56 | 445.81 | 1323.69 | 0.0000 | 0.00 | 0.000 |
| 12-11-S | 91 | 150 | 40.72 | 1026.56 | 405.15 | 1323.69 | 0.0000 | 0.00 | 0.000 |
| 12-12-S | 91 | 150 | 40.72 | 1026.56 | 376.97 | 1323.69 | 0.0000 | 0.00 | 0.000 |
| 12-13-S | 91 | 150 | 40.72 | 1026.56 | 320.02 | 1323.69 | 0.0000 | 0.00 | 0.000 |
| 12-14-S | 91 | 150 | 40.72 | 1026.56 | 190.47 | 1323.69 | 0.0000 | 0.00 | 0.000 |
| 12-15-S | 91 | 150 | 40.72 | 1026.56 | 136.41 | 1323.69 | 0.0000 | 0.00 | 0.000 |
| 12-16-S | 91 | 150 | 40.72 | 1026.56 | 145.12 | 1323.69 | 0.0000 | 0.00 | 0.000 |
| 12-17-S | 91 | 150 | 40.72 | 1026.56 | 195.89 | 1323.69 | 0.0000 | 0.00 | 0.000 |
| 12-18-S | 91 | 150 | 40.72 | 1026.56 | 263.71 | 1323.69 | 0.0000 | 0.00 | 0.000 |
| 12-19-S | 91 | 150 | 40.72 | 1026.56 | 313.37 | 1323.69 | 0.0000 | 0.00 | 0.000 |
| 12-20-S | 91 | 150 | 40.72 | 1026.56 | 342.12 | 1323.69 | 0.0000 | 0.00 | 0.000 |
| 12-21-S | 91 | 150 | 40.72 | 1026.56 | 358.05 | 1323.69 | 0.0000 | 0.00 | 0.000 |
| 12-22-S | 91 | 150 | 40.72 | 1026.56 | 362.15 | 1323.69 | 0.0000 | 0.00 | 0.000 |
| 12-23-S | 91 | 150 | 40.72 | 1026.56 | 355.12 | 1323.69 | 0.0000 | 0.00 | 0.000 |
| 12-24-S | 91 | 150 | 40.72 | 1026.56 | 335.35 | 1323.69 | 0.0000 | 0.00 | 0.000 |
| 12-25-S | 91 | 150 | 40.72 | 1026.56 | 299.70 | 1323.69 | 0.0000 | 0.00 | 0.000 |
| 12-26-S | 91 | 150 | 40.72 | 1026.56 | 261.33 | 1323.69 | 0.0000 | 0.00 | 0.000 |
| 12-27-S | 91 | 150 | 40.72 | 1026.56 | 182.56 | 1323.69 | 0.0000 | 0.00 | 0.000 |
| 12-28-S | 91 | 150 | 40.72 | 1026.56 | 53.42 | 1323.69 | 0.0000 | 0.00 | 0.000 |
| 12-29-S | 91 | 150 | 40.72 | 1026.56 | -128.83 | 1323.69 | 0.0000 | 0.00 | 0.000 |
| 12-30-S | 91 | 150 | 40.72 | 1026.56 | -83.80 | 1323.69 | 0.0000 | 0.00 | 0.000 |
| 12-31-S | 91 | 150 | 40.72 | 1026.56 | -30.38 | 1323.69 | 0.0000 | 0.00 | 0.000 |
| 12-32-S | 91 | 150 | 40.72 | 1026.56 | 3.14 | 1323.69 | 0.0000 | 0.00 | 0.000 |
| 13-1-S | 91 | 150 | 40.72 | 1026.56 | 3.14 | 1323.69 | 0.0000 | 0.00 | 0.000 |
| 13-2-S | 91 | 150 | 40.72 | 1026.56 | 16.00 | 1323.69 | 0.0000 | 0.00 | 0.000 |
| 13-3-S | 91 | 150 | 40.72 | 1026.56 | 37.75 | 1323.69 | 0.0000 | 0.00 | 0.000 |
| 13-4-S | 91 | 150 | 40.72 | 1026.56 | -61.63 | 1323.69 | 0.0000 | 0.00 | 0.000 |
| 13-5-S | 91 | 150 | 40.72 | 1026.56 | -117.61 | 1323.69 | 0.0000 | 0.00 | 0.000 |
| 13-6-S | 91 | 150 | 40.72 | 1026.56 | -156.28 | 1323.69 | 0.0000 | 0.00 | 0.000 |
| 13-7-S | 91 | 150 | 40.72 | 1026.56 | -68.86 | 1323.69 | 0.0000 | 0.00 | 0.000 |
| 13-8-S | 91 | 150 | 40.72 | 1026.56 | 131.58 | 1323.69 | 0.0000 | 0.00 | 0.000 |
| 13-9-S | 91 | 150 | 40.72 | 1026.56 | 304.05 | 1323.69 | 0.0000 | 0.00 | 0.000 |
| 13-10-S | 91 | 150 | 40.72 | 1026.56 | 445.81 | 1323.69 | 0.0000 | 0.00 | 0.000 |
| 13-11-S | 91 | 150 | 40.72 | 1026.56 | 405.15 | 1323.69 | 0.0000 | 0.00 | 0.000 |
| 13-12-S | 91 | 150 | 40.72 | 1026.56 | 376.97 | 1323.69 | 0.0000 | 0.00 | 0.000 |
| 13-13-S | 91 | 150 | 40.72 | 1026.56 | 320.02 | 1323.69 | 0.0000 | 0.00 | 0.000 |
| 13-14-S | 91 | 150 | 40.72 | 1026.56 | 190.47 | 1323.69 | 0.0000 | 0.00 | 0.000 |
| 13-15-S | 91 | 150 | 40.72 | 1026.56 | 136.41 | 1323.69 | 0.0000 | 0.00 | 0.000 |
| 13-16-S | 91 | 150 | 40.72 | 1026.56 | 145.12 | 1323.69 | 0.0000 | 0.00 | 0.000 |
| 13-17-S | 91 | 150 | 40.72 | 1026.56 | 195.89 | 1323.69 | 0.0000 | 0.00 | 0.000 |
| 13-18-S | 91 | 150 | 40.72 | 1026.56 | 263.71 | 1323.69 | 0.0000 | 0.00 | 0.000 |
| 13-19-S | 91 | 150 | 40.72 | 1026.56 | 313.37 | 1323.69 | 0.0000 | 0.00 | 0.000 |
| 13-20-S | 91 | 150 | 40.72 | 1026.56 | 342.12 | 1323.69 | 0.0000 | 0.00 | 0.000 |
| 13-21-S | 91 | 150 | 40.72 | 1026.56 | 358.05 | 1323.69 | 0.0000 | 0.00 | 0.000 |
| 13-22-S | 91 | 150 | 40.72 | 1026.56 | 362.15 | 1323.69 | 0.0000 | 0.00 | 0.000 |
| 13-23-S | 91 | 150 | 40.72 | 1026.56 | 355.12 | 1323.69 | 0.0000 | 0.00 | 0.000 |
| 13-24-S | 91 | 150 | 40.72 | 1026.56 | 335.35 | 1323.69 | 0.0000 | 0.00 | 0.000 |
| 13-25-S | 91 | 150 | 40.72 | 1026.56 | 299.70 | 1323.69 | 0.0000 | 0.00 | 0.000 |
| 13-26-S | 91 | 150 | 40.72 | 1026.56 | 261.33 | 1323.69 | 0.0000 | 0.00 | 0.000 |
| 13-27-S | 91 | 150 | 40.72 | 1026.56 | 182.56 | 1323.69 | 0.0000 | 0.00 | 0.000 |
| 13-28-S | 91 | 150 | 40.72 | 1026.56 | 53.42 | 1323.69 | 0.0000 | 0.00 | 0.000 |
| 13-29-S | 91 | 150 | 40.72 | 1026.56 | -128.83 | 1323.69 | 0.0000 | 0.00 | 0.000 |
| 13-30-S | 91 | 150 | 40.72 | 1026.56 | -83.80 | 1323.69 | 0.0000 | 0.00 | 0.000 |
| 13-31-S | 91 | 150 | 40.72 | 1026.56 | -30.38 | 1323.69 | 0.0000 | 0.00 | 0.000 |
| 13-32-S | 91 | 150 | 40.72 | 1026.56 | 3.14 | 1323.69 | 0.0000 | 0.00 | 0.000 |
| 14-1-S | 91 | 150 | 36.19 | 1026.56 | -1.50 | 1295.56 | 0.0000 | 0.00 | 0.000 |
| 14-2-S | 91 | 150 | 0.00 | 0.00 | -5.85 | 0.00 | 0.0000 | 0.00 | 0.000 |

| Is | B | H | Af | Aeff | M | Mpf | ε | Sm | w |
|---------|------|------|-------|---------|---------|---------|--------|------|-------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kNm] | [%] | [mm] | [mm] |
| 14-3-S | 91 | 150 | 36.19 | 1026.56 | -7.95 | 1295.56 | 0.0000 | 0.00 | 0.000 |
| 14-4-S | 91 | 150 | 36.19 | 1026.56 | 7.52 | 1295.56 | 0.0000 | 0.00 | 0.000 |
| 14-5-S | 91 | 150 | 36.19 | 1026.56 | 25.38 | 1295.56 | 0.0000 | 0.00 | 0.000 |
| 14-6-S | 91 | 150 | 36.19 | 1026.56 | 68.22 | 1295.56 | 0.0000 | 0.00 | 0.000 |
| 14-7-S | 91 | 150 | 36.19 | 1026.56 | 125.65 | 1295.56 | 0.0000 | 0.00 | 0.000 |
| 14-8-S | 91 | 150 | 36.19 | 1026.56 | 194.27 | 1295.56 | 0.0000 | 0.00 | 0.000 |
| 14-9-S | 91 | 150 | 36.19 | 1026.56 | 270.39 | 1295.56 | 0.0000 | 0.00 | 0.000 |
| 14-10-S | 91 | 150 | 36.19 | 1026.56 | 321.04 | 1295.56 | 0.0000 | 0.00 | 0.000 |
| 14-11-S | 91 | 150 | 36.19 | 1026.56 | 399.78 | 1295.56 | 0.0000 | 0.00 | 0.000 |
| 14-12-S | 91 | 150 | 36.19 | 1026.56 | 445.12 | 1295.56 | 0.0000 | 0.00 | 0.000 |
| 14-13-S | 91 | 150 | 36.19 | 1026.56 | 500.31 | 1295.56 | 0.0000 | 0.00 | 0.000 |
| 14-14-S | 91 | 150 | 36.19 | 1026.56 | 555.06 | 1295.56 | 0.0000 | 0.00 | 0.000 |
| 14-15-S | 91 | 150 | 36.19 | 1026.56 | 666.22 | 1295.56 | 0.0000 | 0.00 | 0.000 |
| 14-16-S | 91 | 150 | 36.19 | 1026.56 | 782.40 | 1295.56 | 0.0000 | 0.00 | 0.000 |
| 14-17-S | 91 | 150 | 36.19 | 1026.56 | 901.22 | 1295.56 | 0.0000 | 0.00 | 0.000 |
| 14-18-S | 91 | 150 | 36.19 | 1026.56 | 1023.57 | 1295.56 | 0.0000 | 0.00 | 0.000 |
| 14-19-S | 91 | 150 | 36.19 | 1026.56 | 1149.83 | 1295.56 | 0.0000 | 0.00 | 0.000 |
| 14-20-S | 91 | 150 | 36.19 | 1026.56 | 1280.83 | 1295.56 | 0.0000 | 0.00 | 0.000 |
| 14-21-S | 91 | 150 | 36.19 | 1026.56 | 1416.23 | 1295.56 | 0.0000 | 0.00 | 0.000 |
| 14-22-S | 91 | 150 | 36.19 | 1026.56 | 1556.05 | 1295.56 | 0.0000 | 0.00 | 0.000 |
| 14-23-S | 91 | 150 | 36.19 | 1026.56 | 1700.71 | 1295.56 | 0.0000 | 0.00 | 0.000 |
| 14-24-S | 91 | 150 | 36.19 | 1026.56 | 1850.54 | 1295.56 | 0.0000 | 0.00 | 0.000 |
| 14-25-S | 91 | 150 | 36.19 | 1026.56 | 2005.25 | 1295.56 | 0.0000 | 0.00 | 0.000 |
| 14-26-S | 91 | 150 | 36.19 | 1026.56 | 2165.03 | 1295.56 | 0.0000 | 0.00 | 0.000 |
| 14-27-S | 91 | 150 | 36.19 | 1026.56 | 2330.36 | 1295.56 | 0.0000 | 0.00 | 0.000 |
| 14-28-S | 91 | 150 | 36.19 | 1026.56 | 2501.22 | 1295.56 | 0.0000 | 0.00 | 0.000 |
| 14-29-S | 91 | 150 | 36.19 | 1026.56 | 2678.10 | 1295.56 | 0.0000 | 0.00 | 0.000 |
| 14-30-S | 91 | 150 | 36.19 | 1026.56 | 2861.38 | 1295.56 | 0.0000 | 0.00 | 0.000 |
| 14-31-S | 91 | 150 | 36.19 | 1026.56 | 3051.02 | 1295.56 | 0.0000 | 0.00 | 0.000 |
| 14-32-S | 91 | 150 | 36.19 | 1026.56 | 3247.19 | 1295.56 | 0.0000 | 0.00 | 0.000 |

Combinazioni SLEQ

Paramento

Apertura limite fessure $w_{lim}=0.20$

| n° | B | H | Af | Aeff | M | Mpf | ε | Sm | w |
|----|------|------|-------|---------|-------|---------|--------|------|------------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kNm] | [%] | [mm] | [mm] |
| 1 | 100 | 40 | 45.24 | 1125.00 | 0.75 | 203.21 | 0.0000 | 0.00 | 0.000 (11) |
| 2 | 100 | 41 | 45.24 | 1125.00 | 0.75 | 254.30 | 0.0000 | 0.00 | 0.000 (11) |
| 3 | 100 | 42 | 45.24 | 1125.00 | 0.77 | 329.75 | 0.0000 | 0.00 | 0.000 (11) |
| 4 | 100 | 43 | 45.24 | 1125.00 | 0.79 | 441.54 | 0.0000 | 0.00 | 0.000 (11) |
| 5 | 100 | 44 | 45.24 | 1125.00 | 0.84 | 599.84 | 0.0000 | 0.00 | 0.000 (11) |
| 6 | 100 | 45 | 0.00 | 0.00 | 0.91 | 793.54 | 0.0000 | 0.00 | 0.000 (11) |
| 7 | 100 | 46 | 0.00 | 0.00 | 1.01 | 961.80 | 0.0000 | 0.00 | 0.000 (11) |
| 8 | 100 | 47 | 0.00 | 0.00 | 1.14 | 1022.24 | 0.0000 | 0.00 | 0.000 (11) |
| 9 | 100 | 48 | 0.00 | 0.00 | 1.30 | 966.50 | 0.0000 | 0.00 | 0.000 (11) |
| 10 | 100 | 49 | 45.24 | 1125.00 | 1.51 | 857.80 | 0.0000 | 0.00 | 0.000 (11) |
| 11 | 100 | 50 | 45.24 | 1125.00 | 1.77 | 749.27 | 0.0000 | 0.00 | 0.000 (11) |
| 12 | 100 | 51 | 45.24 | 1125.00 | 2.07 | 660.51 | 0.0000 | 0.00 | 0.000 (11) |
| 13 | 100 | 52 | 45.24 | 1125.00 | 2.44 | 593.05 | 0.0000 | 0.00 | 0.000 (11) |
| 14 | 100 | 53 | 45.24 | 1125.00 | 2.86 | 543.06 | 0.0000 | 0.00 | 0.000 (11) |
| 15 | 100 | 54 | 45.24 | 1125.00 | 3.35 | 506.31 | 0.0000 | 0.00 | 0.000 (11) |
| 16 | 100 | 55 | 45.24 | 1125.00 | 3.90 | 479.37 | 0.0000 | 0.00 | 0.000 (11) |
| 17 | 100 | 56 | 45.24 | 1125.00 | 4.54 | 459.69 | 0.0000 | 0.00 | 0.000 (11) |
| 18 | 100 | 57 | 45.24 | 1125.00 | 5.25 | 445.47 | 0.0000 | 0.00 | 0.000 (11) |
| 19 | 100 | 58 | 45.24 | 1125.00 | 6.04 | 435.41 | 0.0000 | 0.00 | 0.000 (11) |
| 20 | 100 | 59 | 45.24 | 1125.00 | 6.92 | 428.55 | 0.0000 | 0.00 | 0.000 (11) |
| 21 | 100 | 60 | 45.24 | 1125.00 | 7.90 | 424.23 | 0.0000 | 0.00 | 0.000 (11) |
| 22 | 100 | 61 | 45.24 | 1125.00 | 8.97 | 421.93 | 0.0000 | 0.00 | 0.000 (11) |
| 23 | 100 | 62 | 45.24 | 1125.00 | 10.14 | 421.26 | 0.0000 | 0.00 | 0.000 (11) |
| 24 | 100 | 63 | 45.24 | 1125.00 | 11.42 | 421.94 | 0.0000 | 0.00 | 0.000 (11) |
| 25 | 100 | 64 | 45.24 | 1125.00 | 12.81 | 423.75 | 0.0000 | 0.00 | 0.000 (11) |
| 26 | 100 | 65 | 45.24 | 1125.00 | 14.32 | 426.50 | 0.0000 | 0.00 | 0.000 (11) |
| 27 | 100 | 66 | 45.24 | 1125.00 | 15.95 | 430.07 | 0.0000 | 0.00 | 0.000 (11) |
| 28 | 100 | 67 | 45.24 | 1125.00 | 17.70 | 434.33 | 0.0000 | 0.00 | 0.000 (11) |

| n° | B | H | Af | Aeff | M | Mpf | ε | Sm | w |
|----|------|------|--------|---------|--------|---------|--------|------|------------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kNm] | [%] | [mm] | [mm] |
| 29 | 100 | 68 | 45.24 | 1125.00 | 19.58 | 439.20 | 0.0000 | 0.00 | 0.000 (11) |
| 30 | 100 | 69 | 45.24 | 1125.00 | 21.60 | 444.61 | 0.0000 | 0.00 | 0.000 (11) |
| 31 | 100 | 70 | 45.24 | 1125.00 | 23.75 | 450.50 | 0.0000 | 0.00 | 0.000 (11) |
| 32 | 100 | 71 | 45.24 | 1125.00 | 26.05 | 456.81 | 0.0000 | 0.00 | 0.000 (11) |
| 33 | 100 | 72 | 45.24 | 1125.00 | 28.50 | 463.52 | 0.0000 | 0.00 | 0.000 (11) |
| 34 | 100 | 73 | 45.24 | 1125.00 | 31.10 | 470.57 | 0.0000 | 0.00 | 0.000 (11) |
| 35 | 100 | 74 | 45.24 | 1125.00 | 33.86 | 477.94 | 0.0000 | 0.00 | 0.000 (11) |
| 36 | 100 | 75 | 45.24 | 1125.00 | 36.78 | 485.62 | 0.0000 | 0.00 | 0.000 (11) |
| 37 | 100 | 76 | 45.24 | 1125.00 | 39.86 | 493.57 | 0.0000 | 0.00 | 0.000 (11) |
| 38 | 100 | 77 | 45.24 | 1125.00 | 43.12 | 501.77 | 0.0000 | 0.00 | 0.000 (11) |
| 39 | 100 | 78 | 45.24 | 1125.00 | 46.55 | 510.22 | 0.0000 | 0.00 | 0.000 (11) |
| 40 | 100 | 79 | 45.24 | 1125.00 | 50.16 | 518.90 | 0.0000 | 0.00 | 0.000 (11) |
| 41 | 100 | 80 | 45.24 | 1125.00 | 53.96 | 527.80 | 0.0000 | 0.00 | 0.000 (11) |
| 42 | 100 | 81 | 45.24 | 1125.00 | 57.95 | 536.90 | 0.0000 | 0.00 | 0.000 (11) |
| 43 | 100 | 82 | 45.24 | 1125.00 | 62.13 | 546.20 | 0.0000 | 0.00 | 0.000 (11) |
| 44 | 100 | 83 | 45.24 | 1125.00 | 66.52 | 555.68 | 0.0000 | 0.00 | 0.000 (11) |
| 45 | 100 | 84 | 45.24 | 1125.00 | 71.10 | 565.35 | 0.0000 | 0.00 | 0.000 (11) |
| 46 | 100 | 85 | 45.24 | 1125.00 | 75.89 | 575.20 | 0.0000 | 0.00 | 0.000 (11) |
| 47 | 100 | 86 | 45.24 | 1125.00 | 80.90 | 585.21 | 0.0000 | 0.00 | 0.000 (11) |
| 48 | 100 | 87 | 45.24 | 1125.00 | 86.12 | 595.39 | 0.0000 | 0.00 | 0.000 (11) |
| 49 | 100 | 88 | 45.24 | 1125.00 | 91.57 | 605.73 | 0.0000 | 0.00 | 0.000 (11) |
| 50 | 100 | 89 | 45.24 | 1125.00 | 97.24 | 616.22 | 0.0000 | 0.00 | 0.000 (11) |
| 51 | 100 | 90 | 45.24 | 1125.00 | 103.14 | 626.86 | 0.0000 | 0.00 | 0.000 (11) |
| 52 | 100 | 91 | 45.24 | 1125.00 | 109.28 | 637.66 | 0.0000 | 0.00 | 0.000 (11) |
| 53 | 100 | 92 | 45.24 | 1125.00 | 115.66 | 648.60 | 0.0000 | 0.00 | 0.000 (11) |
| 54 | 100 | 93 | 45.24 | 1125.00 | 122.29 | 659.68 | 0.0000 | 0.00 | 0.000 (11) |
| 55 | 100 | 94 | 45.24 | 1125.00 | 129.16 | 670.91 | 0.0000 | 0.00 | 0.000 (11) |
| 56 | 100 | 95 | 45.24 | 1125.00 | 136.29 | 682.27 | 0.0000 | 0.00 | 0.000 (11) |
| 57 | 100 | 96 | 45.24 | 1125.00 | 143.68 | 693.77 | 0.0000 | 0.00 | 0.000 (11) |
| 58 | 100 | 97 | 45.24 | 1125.00 | 151.33 | 705.40 | 0.0000 | 0.00 | 0.000 (11) |
| 59 | 100 | 98 | 45.24 | 1125.00 | 159.25 | 717.17 | 0.0000 | 0.00 | 0.000 (11) |
| 60 | 100 | 99 | 45.24 | 1125.00 | 167.44 | 729.07 | 0.0000 | 0.00 | 0.000 (11) |
| 61 | 100 | 100 | 45.24 | 1125.00 | 175.91 | 741.09 | 0.0000 | 0.00 | 0.000 (11) |
| 62 | 100 | 101 | 45.24 | 1125.00 | 184.67 | 753.25 | 0.0000 | 0.00 | 0.000 (11) |
| 63 | 100 | 102 | 90.48 | 1125.00 | 193.71 | 963.02 | 0.0000 | 0.00 | 0.000 (11) |
| 64 | 100 | 103 | 90.48 | 1125.00 | 203.04 | 977.16 | 0.0000 | 0.00 | 0.000 (11) |
| 65 | 100 | 104 | 90.48 | 1125.00 | 212.66 | 991.44 | 0.0000 | 0.00 | 0.000 (11) |
| 66 | 100 | 105 | 90.48 | 1125.00 | 222.59 | 1005.84 | 0.0000 | 0.00 | 0.000 (11) |
| 67 | 100 | 106 | 90.48 | 1125.00 | 232.82 | 1020.39 | 0.0000 | 0.00 | 0.000 (11) |
| 68 | 100 | 107 | 90.48 | 1125.00 | 243.37 | 1035.06 | 0.0000 | 0.00 | 0.000 (11) |
| 69 | 100 | 108 | 90.48 | 1125.00 | 254.22 | 1049.86 | 0.0000 | 0.00 | 0.000 (11) |
| 70 | 100 | 109 | 90.48 | 1125.00 | 265.40 | 1064.79 | 0.0000 | 0.00 | 0.000 (11) |
| 71 | 100 | 110 | 90.48 | 1125.00 | 276.90 | 1079.85 | 0.0000 | 0.00 | 0.000 (11) |
| 72 | 100 | 111 | 90.48 | 1125.00 | 288.72 | 1095.03 | 0.0000 | 0.00 | 0.000 (11) |
| 73 | 100 | 112 | 90.48 | 1125.00 | 300.89 | 1110.34 | 0.0000 | 0.00 | 0.000 (11) |
| 74 | 100 | 113 | 90.48 | 1125.00 | 313.38 | 1125.77 | 0.0000 | 0.00 | 0.000 (11) |
| 75 | 100 | 114 | 90.48 | 1125.00 | 326.22 | 1141.33 | 0.0000 | 0.00 | 0.000 (11) |
| 76 | 100 | 115 | 90.48 | 1125.00 | 339.41 | 1157.00 | 0.0000 | 0.00 | 0.000 (11) |
| 77 | 100 | 116 | 90.48 | 1125.00 | 352.95 | 1172.80 | 0.0000 | 0.00 | 0.000 (11) |
| 78 | 100 | 117 | 113.10 | 1125.00 | 366.84 | 1270.02 | 0.0000 | 0.00 | 0.000 (11) |
| 79 | 100 | 118 | 113.10 | 1125.00 | 381.10 | 1286.77 | 0.0000 | 0.00 | 0.000 (11) |
| 80 | 100 | 119 | 113.10 | 1125.00 | 395.72 | 1303.65 | 0.0000 | 0.00 | 0.000 (11) |
| 81 | 100 | 120 | 113.10 | 1125.00 | 410.71 | 1320.64 | 0.0000 | 0.00 | 0.000 (11) |
| 82 | 100 | 121 | 113.10 | 1125.00 | 426.08 | 1337.76 | 0.0000 | 0.00 | 0.000 (11) |
| 83 | 100 | 122 | 113.10 | 1125.00 | 441.82 | 1354.99 | 0.0000 | 0.00 | 0.000 (11) |
| 84 | 100 | 123 | 113.10 | 1125.00 | 457.95 | 1372.34 | 0.0000 | 0.00 | 0.000 (11) |
| 85 | 100 | 124 | 113.10 | 1125.00 | 474.46 | 1389.81 | 0.0000 | 0.00 | 0.000 (11) |
| 86 | 100 | 125 | 113.10 | 1125.00 | 491.37 | 1407.40 | 0.0000 | 0.00 | 0.000 (11) |
| 87 | 100 | 126 | 113.10 | 1125.00 | 508.68 | 1425.10 | 0.0000 | 0.00 | 0.000 (11) |
| 88 | 100 | 127 | 113.10 | 1125.00 | 526.39 | 1442.92 | 0.0000 | 0.00 | 0.000 (11) |
| 89 | 100 | 128 | 113.10 | 1125.00 | 544.50 | 1460.86 | 0.0000 | 0.00 | 0.000 (11) |
| 90 | 100 | 129 | 113.10 | 1125.00 | 563.03 | 1478.91 | 0.0000 | 0.00 | 0.000 (11) |
| 91 | 100 | 130 | 113.10 | 1125.00 | 581.98 | 1497.08 | 0.0000 | 0.00 | 0.000 (11) |
| 92 | 100 | 131 | 67.86 | 1125.00 | 601.34 | 1332.38 | 0.0000 | 0.00 | 0.000 (11) |
| 93 | 100 | 132 | 67.86 | 1125.00 | 621.13 | 1349.35 | 0.0000 | 0.00 | 0.000 (11) |
| 94 | 100 | 133 | 67.86 | 1125.00 | 641.35 | 1331.82 | 0.0000 | 0.00 | 0.000 (11) |
| 95 | 100 | 134 | 67.86 | 1125.00 | 662.00 | 1348.78 | 0.0000 | 0.00 | 0.000 (11) |
| 96 | 100 | 135 | 67.86 | 1125.00 | 683.10 | 1365.85 | 0.0000 | 0.00 | 0.000 (11) |
| 97 | 100 | 136 | 67.86 | 1125.00 | 704.63 | 1383.04 | 0.0000 | 0.00 | 0.000 (11) |
| 98 | 100 | 137 | 67.86 | 1125.00 | 726.62 | 1400.34 | 0.0000 | 0.00 | 0.000 (11) |

| n° | B | H | Af | Aeff | M | Mpf | ε | Sm | w |
|-----|------|------|-------|---------|--------|---------|--------|------|------------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kNm] | [%] | [mm] | [mm] |
| 99 | 100 | 138 | 67.86 | 1125.00 | 749.06 | 1417.75 | 0.0000 | 0.00 | 0.000 (11) |
| 100 | 100 | 139 | 67.86 | 1125.00 | 771.95 | 1435.27 | 0.0000 | 0.00 | 0.000 (11) |
| 101 | 100 | 140 | 67.86 | 1125.00 | 795.31 | 1452.90 | 0.0000 | 0.00 | 0.000 (11) |

Mensola valle

Apertura limite fessure $w_{lim}=0.20$

| n° | B | H | Af | Aeff | M | Mpf | ε | Sm | w |
|----|------|------|-------|---------|-------|---------|--------|------|------------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kNm] | [%] | [mm] | [mm] |
| 1 | 100 | 50 | 0.00 | 0.00 | 0.00 | 0.00 | 0.0000 | 0.00 | 0.000 (11) |
| 2 | 100 | 50 | 0.00 | 0.00 | -0.05 | 0.00 | 0.0000 | 0.00 | 0.000 (11) |
| 3 | 100 | 50 | 8.04 | 1125.00 | -0.19 | -143.03 | 0.0000 | 0.00 | 0.000 (11) |
| 4 | 100 | 50 | 8.04 | 1125.00 | -0.42 | -143.03 | 0.0000 | 0.00 | 0.000 (11) |
| 5 | 100 | 50 | 8.04 | 1125.00 | -0.75 | -143.03 | 0.0000 | 0.00 | 0.000 (11) |

Piastra fondazione

Apertura limite fessure $w_{lim}=0.20$

| Is | B | H | Af | Aeff | M | Mpf | ε | Sm | w |
|--------|------|------|-------|---------|---------|----------|--------|------|-------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kNm] | [%] | [mm] | [mm] |
| 1-1-P | 100 | 150 | 10.05 | 1125.00 | 1.19 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 1-2-P | 100 | 150 | 10.05 | 1125.00 | -1.39 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 1-3-P | 100 | 150 | 10.05 | 1125.00 | -10.07 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 1-4-P | 100 | 150 | 10.05 | 1125.00 | -27.91 | -1235.64 | 0.0000 | 0.00 | 0.000 |
| 1-5-P | 100 | 150 | 10.05 | 1125.00 | -59.33 | -1235.64 | 0.0000 | 0.00 | 0.000 |
| 1-6-P | 100 | 150 | 10.05 | 1125.00 | -108.41 | -1235.64 | 0.0000 | 0.00 | 0.000 |
| 1-7-P | 100 | 150 | 10.05 | 1125.00 | -199.94 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 1-8-P | 100 | 150 | 10.05 | 1125.00 | -222.87 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 1-9-P | 100 | 150 | 10.05 | 1125.00 | -222.87 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 1-10-P | 100 | 150 | 10.05 | 1125.00 | -199.94 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 1-11-P | 100 | 150 | 10.05 | 1125.00 | -108.41 | -1235.64 | 0.0000 | 0.00 | 0.000 |
| 1-12-P | 100 | 150 | 10.05 | 1125.00 | -59.33 | -1235.64 | 0.0000 | 0.00 | 0.000 |
| 1-13-P | 100 | 150 | 10.05 | 1125.00 | -27.91 | -1235.64 | 0.0000 | 0.00 | 0.000 |
| 1-14-P | 100 | 150 | 10.05 | 1125.00 | -10.07 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 1-15-P | 100 | 150 | 10.05 | 1125.00 | -1.39 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 1-16-P | 100 | 150 | 10.05 | 1125.00 | 1.19 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 2-1-P | 100 | 150 | 10.05 | 1125.00 | 19.65 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 2-2-P | 100 | 150 | 10.05 | 1125.00 | 21.90 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 2-3-P | 100 | 150 | 10.05 | 1125.00 | 26.15 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 2-4-P | 100 | 150 | 10.05 | 1125.00 | 26.31 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 2-5-P | 100 | 150 | 10.05 | 1125.00 | -28.92 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 2-6-P | 100 | 150 | 10.05 | 1125.00 | -66.08 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 2-7-P | 100 | 150 | 10.05 | 1125.00 | -85.24 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 2-8-P | 100 | 150 | 10.05 | 1125.00 | -125.52 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 2-9-P | 100 | 150 | 10.05 | 1125.00 | -125.52 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 2-10-P | 100 | 150 | 10.05 | 1125.00 | -85.24 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 2-11-P | 100 | 150 | 10.05 | 1125.00 | -66.08 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 2-12-P | 100 | 150 | 10.05 | 1125.00 | -28.92 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 2-13-P | 100 | 150 | 10.05 | 1125.00 | 26.31 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 2-14-P | 100 | 150 | 10.05 | 1125.00 | 26.15 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 2-15-P | 100 | 150 | 10.05 | 1125.00 | 21.90 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 2-16-P | 100 | 150 | 10.05 | 1125.00 | 19.65 | 1235.64 | 0.0000 | 0.00 | 0.000 |
| 5-1-P | 89 | 150 | 10.05 | 999.38 | 23.26 | 1104.64 | 0.0000 | 0.00 | 0.000 |
| 5-2-P | 89 | 150 | 10.05 | 999.38 | 28.03 | 1104.64 | 0.0000 | 0.00 | 0.000 |
| 5-3-P | 89 | 150 | 10.05 | 999.38 | 40.55 | 1104.64 | 0.0000 | 0.00 | 0.000 |
| 5-4-P | 89 | 150 | 10.05 | 999.38 | 51.22 | 1104.64 | 0.0000 | 0.00 | 0.000 |
| 5-5-P | 89 | 150 | 10.05 | 999.38 | 54.26 | 1104.64 | 0.0000 | 0.00 | 0.000 |
| 5-6-P | 89 | 150 | 10.05 | 999.38 | 51.17 | 1104.64 | 0.0000 | 0.00 | 0.000 |
| 5-7-P | 89 | 150 | 10.05 | 999.38 | -55.72 | 1104.64 | 0.0000 | 0.00 | 0.000 |
| 5-8-P | 89 | 150 | 10.05 | 999.38 | -42.86 | 1104.64 | 0.0000 | 0.00 | 0.000 |
| 5-9-P | 89 | 150 | 10.05 | 999.38 | -42.86 | 1104.64 | 0.0000 | 0.00 | 0.000 |
| 5-10-P | 89 | 150 | 10.05 | 999.38 | -55.72 | 1104.64 | 0.0000 | 0.00 | 0.000 |
| 5-11-P | 89 | 150 | 10.05 | 999.38 | 51.17 | 1104.64 | 0.0000 | 0.00 | 0.000 |
| 5-12-P | 89 | 150 | 10.05 | 999.38 | 54.26 | 1104.64 | 0.0000 | 0.00 | 0.000 |

| Is | B | H | Af | Aeff | M | Mpf | ε | Sm | w |
|--------|------|------|-------|--------|---------|---------|--------|------|-------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kNm] | [%] | [mm] | [mm] |
| 5-13-P | 89 | 150 | 10.05 | 999.38 | 51.22 | 1104.64 | 0.0000 | 0.00 | 0.000 |
| 5-14-P | 89 | 150 | 10.05 | 999.38 | 40.55 | 1104.64 | 0.0000 | 0.00 | 0.000 |
| 5-15-P | 89 | 150 | 10.05 | 999.38 | 28.03 | 1104.64 | 0.0000 | 0.00 | 0.000 |
| 5-16-P | 89 | 150 | 10.05 | 999.38 | 23.26 | 1104.64 | 0.0000 | 0.00 | 0.000 |
| 6-1-P | 89 | 150 | 8.04 | 999.37 | 0.95 | 1092.14 | 0.0000 | 0.00 | 0.000 |
| 6-2-P | 89 | 150 | 8.04 | 999.37 | 3.85 | 1092.14 | 0.0000 | 0.00 | 0.000 |
| 6-3-P | 89 | 150 | 8.04 | 999.37 | -5.84 | 1092.14 | 0.0000 | 0.00 | 0.000 |
| 6-4-P | 89 | 150 | 8.04 | 999.37 | -21.32 | 1092.14 | 0.0000 | 0.00 | 0.000 |
| 6-5-P | 89 | 150 | 8.04 | 999.37 | -52.50 | 1092.14 | 0.0000 | 0.00 | 0.000 |
| 6-6-P | 89 | 150 | 8.04 | 999.37 | -104.34 | 1092.14 | 0.0000 | 0.00 | 0.000 |
| 6-7-P | 89 | 150 | 8.04 | 999.37 | -149.10 | 1092.14 | 0.0000 | 0.00 | 0.000 |
| 6-8-P | 89 | 150 | 8.04 | 999.37 | -178.38 | 1092.14 | 0.0000 | 0.00 | 0.000 |
| 6-9-P | 89 | 150 | 8.04 | 999.37 | -178.38 | 1092.14 | 0.0000 | 0.00 | 0.000 |
| 6-10-P | 89 | 150 | 8.04 | 999.37 | -149.10 | 1092.14 | 0.0000 | 0.00 | 0.000 |
| 6-11-P | 89 | 150 | 8.04 | 999.37 | -104.34 | 1092.14 | 0.0000 | 0.00 | 0.000 |
| 6-12-P | 89 | 150 | 8.04 | 999.37 | -52.50 | 1092.14 | 0.0000 | 0.00 | 0.000 |
| 6-13-P | 89 | 150 | 8.04 | 999.37 | -21.32 | 1092.14 | 0.0000 | 0.00 | 0.000 |
| 6-14-P | 89 | 150 | 8.04 | 999.37 | -5.84 | 1092.14 | 0.0000 | 0.00 | 0.000 |
| 6-15-P | 89 | 150 | 8.04 | 999.37 | 3.85 | 1092.14 | 0.0000 | 0.00 | 0.000 |
| 6-16-P | 89 | 150 | 8.04 | 999.37 | 0.95 | 1092.14 | 0.0000 | 0.00 | 0.000 |
| 7-1-P | 89 | 150 | 0.00 | 0.00 | -1.24 | 0.00 | 0.0000 | 0.00 | 0.000 |
| 7-2-P | 89 | 150 | 0.00 | 0.00 | -4.57 | 0.00 | 0.0000 | 0.00 | 0.000 |
| 7-3-P | 89 | 150 | 10.05 | 999.37 | -14.29 | 1104.64 | 0.0000 | 0.00 | 0.000 |
| 7-4-P | 89 | 150 | 10.05 | 999.37 | -29.11 | 1104.64 | 0.0000 | 0.00 | 0.000 |
| 7-5-P | 89 | 150 | 10.05 | 999.37 | -47.49 | 1104.64 | 0.0000 | 0.00 | 0.000 |
| 7-6-P | 89 | 150 | 10.05 | 999.37 | -67.64 | 1104.64 | 0.0000 | 0.00 | 0.000 |
| 7-7-P | 89 | 150 | 10.05 | 999.38 | -84.66 | 1104.64 | 0.0000 | 0.00 | 0.000 |
| 7-8-P | 89 | 150 | 0.00 | 0.00 | -94.30 | 0.00 | 0.0000 | 0.00 | 0.000 |
| 7-9-P | 89 | 150 | 0.00 | 0.00 | -94.30 | 0.00 | 0.0000 | 0.00 | 0.000 |
| 7-10-P | 89 | 150 | 10.05 | 999.38 | -84.66 | 1104.64 | 0.0000 | 0.00 | 0.000 |
| 7-11-P | 89 | 150 | 10.05 | 999.37 | -67.64 | 1104.64 | 0.0000 | 0.00 | 0.000 |
| 7-12-P | 89 | 150 | 10.05 | 999.37 | -47.49 | 1104.64 | 0.0000 | 0.00 | 0.000 |
| 7-13-P | 89 | 150 | 10.05 | 999.37 | -29.11 | 1104.64 | 0.0000 | 0.00 | 0.000 |
| 7-14-P | 89 | 150 | 10.05 | 999.37 | -14.29 | 1104.64 | 0.0000 | 0.00 | 0.000 |
| 7-15-P | 89 | 150 | 0.00 | 0.00 | -4.57 | 0.00 | 0.0000 | 0.00 | 0.000 |
| 7-16-P | 89 | 150 | 0.00 | 0.00 | -1.24 | 0.00 | 0.0000 | 0.00 | 0.000 |
| 8-1-P | 89 | 150 | 0.00 | 0.00 | -1.73 | 0.00 | 0.0000 | 0.00 | 0.000 |
| 8-2-P | 89 | 150 | 8.04 | 999.38 | -5.35 | 1092.14 | 0.0000 | 0.00 | 0.000 |
| 8-3-P | 89 | 150 | 8.04 | 999.38 | -15.73 | 1092.14 | 0.0000 | 0.00 | 0.000 |
| 8-4-P | 89 | 150 | 8.04 | 999.37 | -32.30 | 1092.14 | 0.0000 | 0.00 | 0.000 |
| 8-5-P | 89 | 150 | 8.04 | 999.38 | -53.73 | 1092.14 | 0.0000 | 0.00 | 0.000 |
| 8-6-P | 89 | 150 | 8.04 | 999.38 | -78.34 | 1092.14 | 0.0000 | 0.00 | 0.000 |
| 8-7-P | 89 | 150 | 8.04 | 999.38 | -98.57 | 1092.14 | 0.0000 | 0.00 | 0.000 |
| 8-8-P | 89 | 150 | 8.04 | 999.38 | -108.75 | 1092.14 | 0.0000 | 0.00 | 0.000 |
| 8-9-P | 89 | 150 | 8.04 | 999.38 | -108.75 | 1092.14 | 0.0000 | 0.00 | 0.000 |
| 8-10-P | 89 | 150 | 8.04 | 999.38 | -98.57 | 1092.14 | 0.0000 | 0.00 | 0.000 |
| 8-11-P | 89 | 150 | 8.04 | 999.38 | -78.34 | 1092.14 | 0.0000 | 0.00 | 0.000 |
| 8-12-P | 89 | 150 | 8.04 | 999.38 | -53.73 | 1092.14 | 0.0000 | 0.00 | 0.000 |
| 8-13-P | 89 | 150 | 8.04 | 999.38 | -32.30 | 1092.14 | 0.0000 | 0.00 | 0.000 |
| 8-14-P | 89 | 150 | 8.04 | 999.38 | -15.73 | 1092.14 | 0.0000 | 0.00 | 0.000 |
| 8-15-P | 89 | 150 | 8.04 | 999.38 | -5.35 | 1092.14 | 0.0000 | 0.00 | 0.000 |
| 8-16-P | 89 | 150 | 0.00 | 0.00 | -1.73 | 0.00 | 0.0000 | 0.00 | 0.000 |
| 9-1-P | 89 | 150 | 10.05 | 999.38 | 0.22 | 1104.64 | 0.0000 | 0.00 | 0.000 |
| 9-2-P | 89 | 150 | 10.05 | 999.37 | -4.59 | 1104.64 | 0.0000 | 0.00 | 0.000 |
| 9-3-P | 89 | 150 | 10.05 | 999.38 | -19.67 | 1104.64 | 0.0000 | 0.00 | 0.000 |
| 9-4-P | 89 | 150 | 10.05 | 999.38 | -45.46 | 1104.64 | 0.0000 | 0.00 | 0.000 |
| 9-5-P | 89 | 150 | 10.05 | 999.38 | -83.40 | 1104.64 | 0.0000 | 0.00 | 0.000 |
| 9-6-P | 89 | 150 | 10.05 | 999.38 | -138.03 | 1104.64 | 0.0000 | 0.00 | 0.000 |
| 9-7-P | 89 | 150 | 10.05 | 999.38 | -229.17 | 1104.64 | 0.0000 | 0.00 | 0.000 |
| 9-8-P | 89 | 150 | 10.05 | 999.38 | -237.28 | 1104.64 | 0.0000 | 0.00 | 0.000 |
| 9-9-P | 89 | 150 | 10.05 | 999.38 | -237.28 | 1104.64 | 0.0000 | 0.00 | 0.000 |
| 9-10-P | 89 | 150 | 10.05 | 999.38 | -229.17 | 1104.64 | 0.0000 | 0.00 | 0.000 |
| 9-11-P | 89 | 150 | 10.05 | 999.38 | -138.03 | 1104.64 | 0.0000 | 0.00 | 0.000 |
| 9-12-P | 89 | 150 | 10.05 | 999.37 | -83.40 | 1104.64 | 0.0000 | 0.00 | 0.000 |
| 9-13-P | 89 | 150 | 10.05 | 999.38 | -45.46 | 1104.64 | 0.0000 | 0.00 | 0.000 |
| 9-14-P | 89 | 150 | 10.05 | 999.38 | -19.67 | 1104.64 | 0.0000 | 0.00 | 0.000 |
| 9-15-P | 89 | 150 | 10.05 | 999.38 | -4.59 | 1104.64 | 0.0000 | 0.00 | 0.000 |
| 9-16-P | 89 | 150 | 10.05 | 999.37 | 0.22 | 1104.64 | 0.0000 | 0.00 | 0.000 |
| 10-1-P | 89 | 150 | 0.00 | 0.00 | -0.73 | 0.00 | 0.0000 | 0.00 | 0.000 |
| 10-2-P | 89 | 150 | 8.04 | 999.37 | -11.80 | 1092.13 | 0.0000 | 0.00 | 0.000 |

| Is | B | H | Af | Aeff | M | Mpf | ε | Sm | w |
|---------|------|------|-------|---------|---------|----------|--------|------|-------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kNm] | [%] | [mm] | [mm] |
| 10-3-P | 89 | 150 | 8.04 | 999.37 | -40.07 | 1092.13 | 0.0000 | 0.00 | 0.000 |
| 10-4-P | 89 | 150 | 8.04 | 999.37 | -83.70 | 1092.13 | 0.0000 | 0.00 | 0.000 |
| 10-5-P | 89 | 150 | 8.04 | 999.37 | -140.89 | 1092.13 | 0.0000 | 0.00 | 0.000 |
| 10-6-P | 89 | 150 | 8.04 | 999.37 | -209.66 | 1092.13 | 0.0000 | 0.00 | 0.000 |
| 10-7-P | 89 | 150 | 8.04 | 999.37 | -249.25 | 1092.13 | 0.0000 | 0.00 | 0.000 |
| 10-8-P | 89 | 150 | 8.04 | 999.37 | -298.58 | -1092.13 | 0.0000 | 0.00 | 0.000 |
| 10-9-P | 89 | 150 | 8.04 | 999.37 | -298.58 | -1092.13 | 0.0000 | 0.00 | 0.000 |
| 10-10-P | 89 | 150 | 8.04 | 999.37 | -249.25 | 1092.13 | 0.0000 | 0.00 | 0.000 |
| 10-11-P | 89 | 150 | 8.04 | 999.37 | -209.66 | 1092.13 | 0.0000 | 0.00 | 0.000 |
| 10-12-P | 89 | 150 | 8.04 | 999.37 | -140.89 | 1092.13 | 0.0000 | 0.00 | 0.000 |
| 10-13-P | 89 | 150 | 8.04 | 999.37 | -83.70 | 1092.13 | 0.0000 | 0.00 | 0.000 |
| 10-14-P | 89 | 150 | 8.04 | 999.37 | -40.07 | 1092.13 | 0.0000 | 0.00 | 0.000 |
| 10-15-P | 89 | 150 | 8.04 | 999.37 | -11.80 | 1092.13 | 0.0000 | 0.00 | 0.000 |
| 10-16-P | 89 | 150 | 0.00 | 0.00 | -0.73 | 0.00 | 0.0000 | 0.00 | 0.000 |
| 11-1-S | 91 | 150 | 36.19 | 1026.56 | -1.50 | 1295.56 | 0.0000 | 0.00 | 0.000 |
| 11-2-S | 91 | 150 | 0.00 | 0.00 | -5.85 | 0.00 | 0.0000 | 0.00 | 0.000 |
| 11-3-S | 91 | 150 | 36.19 | 1026.56 | -7.95 | 1295.56 | 0.0000 | 0.00 | 0.000 |
| 11-4-S | 91 | 150 | 36.19 | 1026.56 | 7.52 | 1295.56 | 0.0000 | 0.00 | 0.000 |
| 11-5-S | 91 | 150 | 36.19 | 1026.56 | 25.38 | 1295.56 | 0.0000 | 0.00 | 0.000 |
| 11-6-S | 91 | 150 | 36.19 | 1026.56 | 68.22 | 1295.56 | 0.0000 | 0.00 | 0.000 |
| 11-7-S | 91 | 150 | 36.19 | 1026.56 | 125.65 | 1295.56 | 0.0000 | 0.00 | 0.000 |
| 11-8-S | 91 | 150 | 36.19 | 1026.56 | 194.27 | 1295.56 | 0.0000 | 0.00 | 0.000 |
| 11-9-S | 91 | 150 | 36.19 | 1026.56 | 270.39 | 1295.56 | 0.0000 | 0.00 | 0.000 |
| 11-10-S | 91 | 150 | 36.19 | 1026.56 | 221.04 | 1295.56 | 0.0000 | 0.00 | 0.000 |
| 11-11-S | 91 | 150 | 36.19 | 1026.56 | 239.78 | 1295.56 | 0.0000 | 0.00 | 0.000 |
| 11-12-S | 91 | 150 | 36.19 | 1026.56 | 245.12 | 1295.56 | 0.0000 | 0.00 | 0.000 |
| 11-13-S | 91 | 150 | 36.19 | 1026.56 | 250.31 | 1295.56 | 0.0000 | 0.00 | 0.000 |
| 11-14-S | 91 | 150 | 36.19 | 1026.56 | 255.06 | 1295.56 | 0.0000 | 0.00 | 0.000 |
| 11-15-S | 91 | 150 | 36.19 | 1026.56 | 266.22 | 1295.56 | 0.0000 | 0.00 | 0.000 |
| 11-16-S | 91 | 150 | 36.19 | 1026.56 | 282.40 | 1295.56 | 0.0000 | 0.00 | 0.000 |
| 11-17-S | 91 | 150 | 36.19 | 1026.56 | 301.22 | 1295.56 | 0.0000 | 0.00 | 0.000 |
| 11-18-S | 91 | 150 | 36.19 | 1026.56 | 319.57 | 1295.56 | 0.0000 | 0.00 | 0.000 |
| 11-19-S | 91 | 150 | 36.19 | 1026.56 | 334.83 | 1295.56 | 0.0000 | 0.00 | 0.000 |
| 11-20-S | 91 | 150 | 36.19 | 1026.56 | 341.83 | 1295.56 | 0.0000 | 0.00 | 0.000 |
| 11-21-S | 91 | 150 | 36.19 | 1026.56 | 340.23 | 1295.56 | 0.0000 | 0.00 | 0.000 |
| 11-22-S | 91 | 150 | 36.19 | 1026.56 | 329.05 | 1295.56 | 0.0000 | 0.00 | 0.000 |
| 11-23-S | 91 | 150 | 36.19 | 1026.56 | 307.71 | 1295.56 | 0.0000 | 0.00 | 0.000 |
| 11-24-S | 91 | 150 | 36.19 | 1026.56 | 274.54 | 1295.56 | 0.0000 | 0.00 | 0.000 |
| 11-25-S | 91 | 150 | 36.19 | 1026.56 | 232.25 | 1295.56 | 0.0000 | 0.00 | 0.000 |
| 11-26-S | 91 | 150 | 36.19 | 1026.56 | 186.03 | 1295.56 | 0.0000 | 0.00 | 0.000 |
| 11-27-S | 91 | 150 | 36.19 | 1026.56 | 139.36 | 1295.56 | 0.0000 | 0.00 | 0.000 |
| 11-28-S | 91 | 150 | 36.19 | 1026.56 | 96.04 | 1295.56 | 0.0000 | 0.00 | 0.000 |
| 11-29-S | 91 | 150 | 36.19 | 1026.56 | 60.10 | 1295.56 | 0.0000 | 0.00 | 0.000 |
| 11-30-S | 91 | 150 | 36.19 | 1026.56 | 33.81 | 1295.56 | 0.0000 | 0.00 | 0.000 |
| 11-31-S | 91 | 150 | 36.19 | 1026.56 | 13.02 | 1295.56 | 0.0000 | 0.00 | 0.000 |
| 11-32-S | 91 | 150 | 36.19 | 1026.56 | 1.79 | 1295.56 | 0.0000 | 0.00 | 0.000 |
| 12-1-S | 91 | 150 | 40.72 | 1026.56 | 3.14 | 1323.69 | 0.0000 | 0.00 | 0.000 |
| 12-2-S | 91 | 150 | 40.72 | 1026.56 | 16.00 | 1323.69 | 0.0000 | 0.00 | 0.000 |
| 12-3-S | 91 | 150 | 40.72 | 1026.56 | 37.75 | 1323.69 | 0.0000 | 0.00 | 0.000 |
| 12-4-S | 91 | 150 | 40.72 | 1026.56 | -61.63 | 1323.69 | 0.0000 | 0.00 | 0.000 |
| 12-5-S | 91 | 150 | 40.72 | 1026.56 | -117.61 | 1323.69 | 0.0000 | 0.00 | 0.000 |
| 12-6-S | 91 | 150 | 40.72 | 1026.56 | -156.28 | 1323.69 | 0.0000 | 0.00 | 0.000 |
| 12-7-S | 91 | 150 | 40.72 | 1026.56 | -68.86 | 1323.69 | 0.0000 | 0.00 | 0.000 |
| 12-8-S | 91 | 150 | 40.72 | 1026.56 | 131.58 | 1323.69 | 0.0000 | 0.00 | 0.000 |
| 12-9-S | 91 | 150 | 40.72 | 1026.56 | 304.05 | 1323.69 | 0.0000 | 0.00 | 0.000 |
| 12-10-S | 91 | 150 | 40.72 | 1026.56 | 445.81 | 1323.69 | 0.0000 | 0.00 | 0.000 |
| 12-11-S | 91 | 150 | 40.72 | 1026.56 | 405.15 | 1323.69 | 0.0000 | 0.00 | 0.000 |
| 12-12-S | 91 | 150 | 40.72 | 1026.56 | 376.97 | 1323.69 | 0.0000 | 0.00 | 0.000 |
| 12-13-S | 91 | 150 | 40.72 | 1026.56 | 320.02 | 1323.69 | 0.0000 | 0.00 | 0.000 |
| 12-14-S | 91 | 150 | 40.72 | 1026.56 | 190.47 | 1323.69 | 0.0000 | 0.00 | 0.000 |
| 12-15-S | 91 | 150 | 40.72 | 1026.56 | 136.41 | 1323.69 | 0.0000 | 0.00 | 0.000 |
| 12-16-S | 91 | 150 | 40.72 | 1026.56 | 145.12 | 1323.69 | 0.0000 | 0.00 | 0.000 |
| 12-17-S | 91 | 150 | 40.72 | 1026.56 | 195.89 | 1323.69 | 0.0000 | 0.00 | 0.000 |
| 12-18-S | 91 | 150 | 40.72 | 1026.56 | 263.71 | 1323.69 | 0.0000 | 0.00 | 0.000 |
| 12-19-S | 91 | 150 | 40.72 | 1026.56 | 313.37 | 1323.69 | 0.0000 | 0.00 | 0.000 |
| 12-20-S | 91 | 150 | 40.72 | 1026.56 | 342.12 | 1323.69 | 0.0000 | 0.00 | 0.000 |
| 12-21-S | 91 | 150 | 40.72 | 1026.56 | 358.05 | 1323.69 | 0.0000 | 0.00 | 0.000 |
| 12-22-S | 91 | 150 | 40.72 | 1026.56 | 362.15 | 1323.69 | 0.0000 | 0.00 | 0.000 |
| 12-23-S | 91 | 150 | 40.72 | 1026.56 | 355.12 | 1323.69 | 0.0000 | 0.00 | 0.000 |
| 12-24-S | 91 | 150 | 40.72 | 1026.56 | 335.35 | 1323.69 | 0.0000 | 0.00 | 0.000 |

| Is | B | H | Af | Aeff | M | Mpf | ε | Sm | w |
|---------|------|------|-------|---------|---------|---------|--------|------|-------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kNm] | [%] | [mm] | [mm] |
| 12-25-S | 91 | 150 | 40.72 | 1026.56 | 299.70 | 1323.69 | 0.0000 | 0.00 | 0.000 |
| 12-26-S | 91 | 150 | 40.72 | 1026.56 | 261.33 | 1323.69 | 0.0000 | 0.00 | 0.000 |
| 12-27-S | 91 | 150 | 40.72 | 1026.56 | 182.56 | 1323.69 | 0.0000 | 0.00 | 0.000 |
| 12-28-S | 91 | 150 | 40.72 | 1026.56 | 53.42 | 1323.69 | 0.0000 | 0.00 | 0.000 |
| 12-29-S | 91 | 150 | 40.72 | 1026.56 | -128.83 | 1323.69 | 0.0000 | 0.00 | 0.000 |
| 12-30-S | 91 | 150 | 40.72 | 1026.56 | -83.80 | 1323.69 | 0.0000 | 0.00 | 0.000 |
| 12-31-S | 91 | 150 | 40.72 | 1026.56 | -30.38 | 1323.69 | 0.0000 | 0.00 | 0.000 |
| 12-32-S | 91 | 150 | 40.72 | 1026.56 | 3.14 | 1323.69 | 0.0000 | 0.00 | 0.000 |
| 13-1-S | 91 | 150 | 40.72 | 1026.56 | 3.14 | 1323.69 | 0.0000 | 0.00 | 0.000 |
| 13-2-S | 91 | 150 | 40.72 | 1026.56 | 16.00 | 1323.69 | 0.0000 | 0.00 | 0.000 |
| 13-3-S | 91 | 150 | 40.72 | 1026.56 | 37.75 | 1323.69 | 0.0000 | 0.00 | 0.000 |
| 13-4-S | 91 | 150 | 40.72 | 1026.56 | -61.63 | 1323.69 | 0.0000 | 0.00 | 0.000 |
| 13-5-S | 91 | 150 | 40.72 | 1026.56 | -117.61 | 1323.69 | 0.0000 | 0.00 | 0.000 |
| 13-6-S | 91 | 150 | 40.72 | 1026.56 | -156.28 | 1323.69 | 0.0000 | 0.00 | 0.000 |
| 13-7-S | 91 | 150 | 40.72 | 1026.56 | -68.86 | 1323.69 | 0.0000 | 0.00 | 0.000 |
| 13-8-S | 91 | 150 | 40.72 | 1026.56 | 131.58 | 1323.69 | 0.0000 | 0.00 | 0.000 |
| 13-9-S | 91 | 150 | 40.72 | 1026.56 | 304.05 | 1323.69 | 0.0000 | 0.00 | 0.000 |
| 13-10-S | 91 | 150 | 40.72 | 1026.56 | 445.81 | 1323.69 | 0.0000 | 0.00 | 0.000 |
| 13-11-S | 91 | 150 | 40.72 | 1026.56 | 405.15 | 1323.69 | 0.0000 | 0.00 | 0.000 |
| 13-12-S | 91 | 150 | 40.72 | 1026.56 | 376.97 | 1323.69 | 0.0000 | 0.00 | 0.000 |
| 13-13-S | 91 | 150 | 40.72 | 1026.56 | 320.02 | 1323.69 | 0.0000 | 0.00 | 0.000 |
| 13-14-S | 91 | 150 | 40.72 | 1026.56 | 190.47 | 1323.69 | 0.0000 | 0.00 | 0.000 |
| 13-15-S | 91 | 150 | 40.72 | 1026.56 | 136.41 | 1323.69 | 0.0000 | 0.00 | 0.000 |
| 13-16-S | 91 | 150 | 40.72 | 1026.56 | 145.12 | 1323.69 | 0.0000 | 0.00 | 0.000 |
| 13-17-S | 91 | 150 | 40.72 | 1026.56 | 195.89 | 1323.69 | 0.0000 | 0.00 | 0.000 |
| 13-18-S | 91 | 150 | 40.72 | 1026.56 | 263.71 | 1323.69 | 0.0000 | 0.00 | 0.000 |
| 13-19-S | 91 | 150 | 40.72 | 1026.56 | 313.37 | 1323.69 | 0.0000 | 0.00 | 0.000 |
| 13-20-S | 91 | 150 | 40.72 | 1026.56 | 342.12 | 1323.69 | 0.0000 | 0.00 | 0.000 |
| 13-21-S | 91 | 150 | 40.72 | 1026.56 | 358.05 | 1323.69 | 0.0000 | 0.00 | 0.000 |
| 13-22-S | 91 | 150 | 40.72 | 1026.56 | 362.15 | 1323.69 | 0.0000 | 0.00 | 0.000 |
| 13-23-S | 91 | 150 | 40.72 | 1026.56 | 355.12 | 1323.69 | 0.0000 | 0.00 | 0.000 |
| 13-24-S | 91 | 150 | 40.72 | 1026.56 | 335.35 | 1323.69 | 0.0000 | 0.00 | 0.000 |
| 13-25-S | 91 | 150 | 40.72 | 1026.56 | 299.70 | 1323.69 | 0.0000 | 0.00 | 0.000 |
| 13-26-S | 91 | 150 | 40.72 | 1026.56 | 261.33 | 1323.69 | 0.0000 | 0.00 | 0.000 |
| 13-27-S | 91 | 150 | 40.72 | 1026.56 | 182.56 | 1323.69 | 0.0000 | 0.00 | 0.000 |
| 13-28-S | 91 | 150 | 40.72 | 1026.56 | 53.42 | 1323.69 | 0.0000 | 0.00 | 0.000 |
| 13-29-S | 91 | 150 | 40.72 | 1026.56 | -128.83 | 1323.69 | 0.0000 | 0.00 | 0.000 |
| 13-30-S | 91 | 150 | 40.72 | 1026.56 | -83.80 | 1323.69 | 0.0000 | 0.00 | 0.000 |
| 13-31-S | 91 | 150 | 40.72 | 1026.56 | -30.38 | 1323.69 | 0.0000 | 0.00 | 0.000 |
| 13-32-S | 91 | 150 | 40.72 | 1026.56 | 3.14 | 1323.69 | 0.0000 | 0.00 | 0.000 |
| 14-1-S | 91 | 150 | 36.19 | 1026.56 | -1.50 | 1295.56 | 0.0000 | 0.00 | 0.000 |
| 14-2-S | 91 | 150 | 0.00 | 0.00 | -5.85 | 0.00 | 0.0000 | 0.00 | 0.000 |
| 14-3-S | 91 | 150 | 36.19 | 1026.56 | -7.95 | 1295.56 | 0.0000 | 0.00 | 0.000 |
| 14-4-S | 91 | 150 | 36.19 | 1026.56 | 7.52 | 1295.56 | 0.0000 | 0.00 | 0.000 |
| 14-5-S | 91 | 150 | 36.19 | 1026.56 | 25.38 | 1295.56 | 0.0000 | 0.00 | 0.000 |
| 14-6-S | 91 | 150 | 36.19 | 1026.56 | 68.22 | 1295.56 | 0.0000 | 0.00 | 0.000 |
| 14-7-S | 91 | 150 | 36.19 | 1026.56 | 125.65 | 1295.56 | 0.0000 | 0.00 | 0.000 |
| 14-8-S | 91 | 150 | 36.19 | 1026.56 | 194.27 | 1295.56 | 0.0000 | 0.00 | 0.000 |
| 14-9-S | 91 | 150 | 36.19 | 1026.56 | 270.39 | 1295.56 | 0.0000 | 0.00 | 0.000 |
| 14-10-S | 91 | 150 | 36.19 | 1026.56 | 221.04 | 1295.56 | 0.0000 | 0.00 | 0.000 |
| 14-11-S | 91 | 150 | 36.19 | 1026.56 | 239.78 | 1295.56 | 0.0000 | 0.00 | 0.000 |
| 14-12-S | 91 | 150 | 36.19 | 1026.56 | 245.12 | 1295.56 | 0.0000 | 0.00 | 0.000 |
| 14-13-S | 91 | 150 | 36.19 | 1026.56 | 250.31 | 1295.56 | 0.0000 | 0.00 | 0.000 |
| 14-14-S | 91 | 150 | 36.19 | 1026.56 | 255.06 | 1295.56 | 0.0000 | 0.00 | 0.000 |
| 14-15-S | 91 | 150 | 36.19 | 1026.56 | 266.22 | 1295.56 | 0.0000 | 0.00 | 0.000 |
| 14-16-S | 91 | 150 | 36.19 | 1026.56 | 282.40 | 1295.56 | 0.0000 | 0.00 | 0.000 |
| 14-17-S | 91 | 150 | 36.19 | 1026.56 | 301.22 | 1295.56 | 0.0000 | 0.00 | 0.000 |
| 14-18-S | 91 | 150 | 36.19 | 1026.56 | 319.57 | 1295.56 | 0.0000 | 0.00 | 0.000 |
| 14-19-S | 91 | 150 | 36.19 | 1026.56 | 334.83 | 1295.56 | 0.0000 | 0.00 | 0.000 |
| 14-20-S | 91 | 150 | 36.19 | 1026.56 | 341.83 | 1295.56 | 0.0000 | 0.00 | 0.000 |
| 14-21-S | 91 | 150 | 36.19 | 1026.56 | 340.23 | 1295.56 | 0.0000 | 0.00 | 0.000 |
| 14-22-S | 91 | 150 | 36.19 | 1026.56 | 329.05 | 1295.56 | 0.0000 | 0.00 | 0.000 |
| 14-23-S | 91 | 150 | 36.19 | 1026.56 | 307.71 | 1295.56 | 0.0000 | 0.00 | 0.000 |
| 14-24-S | 91 | 150 | 36.19 | 1026.56 | 274.54 | 1295.56 | 0.0000 | 0.00 | 0.000 |
| 14-25-S | 91 | 150 | 36.19 | 1026.56 | 232.25 | 1295.56 | 0.0000 | 0.00 | 0.000 |
| 14-26-S | 91 | 150 | 36.19 | 1026.56 | 186.03 | 1295.56 | 0.0000 | 0.00 | 0.000 |
| 14-27-S | 91 | 150 | 36.19 | 1026.56 | 139.36 | 1295.56 | 0.0000 | 0.00 | 0.000 |
| 14-28-S | 91 | 150 | 36.19 | 1026.56 | 96.04 | 1295.56 | 0.0000 | 0.00 | 0.000 |
| 14-29-S | 91 | 150 | 36.19 | 1026.56 | 60.10 | 1295.56 | 0.0000 | 0.00 | 0.000 |
| 14-30-S | 91 | 150 | 36.19 | 1026.56 | 33.81 | 1295.56 | 0.0000 | 0.00 | 0.000 |

| Is | B | H | Af | Aeff | M | Mpf | ϵ | Sm | w |
|-----------|----------|----------|-----------|-------------|----------|------------|------------|-----------|----------|
| | [cm] | [cm] | [cmq] | [cmq] | [kNm] | [kNm] | [%] | [mm] | [mm] |
| 14-31-S | 91 | 150 | 36.19 | 1026.56 | 13.02 | 1295.56 | 0.0000 | 0.00 | 0.000 |
| 14-32-S | 91 | 150 | 36.19 | 1026.56 | 1.79 | 1295.56 | 0.0000 | 0.00 | 0.000 |

Elenco ferri

Simbologia adottata

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

Paramento

| n° | Tipo | nf | D [mm] | L [m] | P _f [kN] | P _{gf} [kN] | V _{cls} [mc] |
|----|------------------------|-----|-----------|----------|------------------------|-------------------------|--------------------------|
| 1 | Diritto superiore | 5 | 24.00 | 4.29 | 0.1494 | 0.7468 | |
| 2 | Diritto superiore | 10 | 24.00 | 5.80 | 0.2019 | 2.0186 | |
| 3 | Diritto inferiore | 10 | 20.00 | 5.46 | 0.1319 | 1.3193 | |
| 4 | Diritto superiore | 10 | 24.00 | 10.95 | 0.3813 | 3.8127 | |
| 5 | Diritto inferiore | 5 | 20.00 | 10.74 | 0.2599 | 1.2993 | |
| 6 | Ripartitore | 119 | 10.00 | 1.00 | 0.0060 | 0.7195 | |
| | Totale al metro | | | | | 10.6358 | 9.17 |
| | Totale | | | | | 3758.91 | 33.49 |

Mensola valle

| n° | Tipo | nf | D [mm] | L [m] | P _f [kN] | P _{gf} [kN] | V _{cls} [mc] |
|----|------------------------|----|-----------|----------|------------------------|-------------------------|--------------------------|
| 1 | Diritto inferiore | 4 | 16.00 | 1.63 | 0.0252 | 0.1009 | |
| 2 | Diritto superiore | 4 | 16.00 | 1.63 | 0.0252 | 0.1009 | |
| 3 | Ripartitore | 2 | 10.00 | 1.00 | 0.0060 | 0.0121 | |
| | Totale al metro | | | | | 10.6358 | 9.17 |
| | Totale | | | | | 3758.91 | 33.49 |

Piastra fondazione

| n° | Tipo | nf | D [mm] | L [m] | P _f [kN] | P _{gf} [kN] | V _{cls} [mc] |
|----|-----------------------------------|----|-----------|----------|------------------------|-------------------------|--------------------------|
| 1 | Sagomato superiore Verticale | 6 | 16.00 | 4.56 | 0.0706 | 0.4239 | |
| 2 | Sagomato superiore Verticale | 6 | 16.00 | 4.56 | 0.0706 | 0.4239 | |
| 3 | Sagomato superiore Verticale | 16 | 16.00 | 4.56 | 0.0706 | 1.1303 | |
| 4 | Sagomato superiore Verticale | 4 | 16.00 | 4.56 | 0.0706 | 0.2826 | |
| 5 | Diritto inferiore Orizzontale [M] | 37 | 16.00 | 6.38 | 0.0988 | 3.6538 | |
| 6 | Diritto superiore Orizzontale [M] | 37 | 16.00 | 6.38 | 0.0988 | 3.6538 | |
| 7 | Diritto inferiore Verticale | 34 | 24.00 | 11.46 | 0.3991 | 13.5697 | |
| 8 | Diritto superiore Verticale | 34 | 24.00 | 11.46 | 0.3991 | 13.5697 | |
| | Totale | | | | | 36.7076 | 47.80 |