

ISTITUTO ZOOPROFILATTICO SPERIMENTALE
DELL'ABRUZZO E DEL MOLISE
"G. CAPORALE"

PROGETTO ESECUTIVO

REALIZZAZIONE DI FABBRICATI DESTINATI ALRICOVERO ANIMALI
E CONCIMAIA IN LOCALITA' COLLATERRATO DI TERAMO

PROGETTO: ARCHITETTI ILARIO TOTTONI E MAURIZIO DE SIATI

STABULARIO PER ANIMALI A LUNGA PERMANENZA

CALCOLI ESECUTIVI DELLE STRUTTURE

RELAZIONE GEOTECNICA
RELAZIONE SULLE FONDAZIONI
RELAZIONE SUI MATERIALI
RELAZIONE DI CALCOLO

DATA: MAGGIO 2010

RELAZIONE GEOTECNICA

(D.M. 14.01.2008)

La presente relazione viene redatta sulla scorta della Relazione geologica fornita dall'Ente, redatta dal dott. geol. Italo Cipolloni (Sondedile s.r.l.).

La stratigrafia media dell'area di sedime, ricostruita in seguito a sondaggio geognostico, procedendo dalla superficie, risulta così costituita:

- 1) Da quota 0.00 a quota -1.00: strato di **terreno vegetale** a granulometria limo-sabbiosa, marrone scuro, asciutto, consistente, ma non idoneo come terreno di fondazione.
- 2) Da quota -1.00 a quota - 17.00: strato di **terreno costituito da argille limose e limi argillosi** di colore marrone, da moderatamente consistenti a consistenti con intercalati rari livelli più plastici. Tali depositi costituiscono presumibilmente l'accumulo di materiali provenienti dai sovrastanti rilievi collinari e presentano i seguenti parametri geotecnici caratteristici: peso specifico $\gamma = 18-20$ kN/mc - coesione drenata $c' = 15-18$ kPa - coesione drenata $c_u = 45-115$ kPa - angolo attrito interno $\phi' = 24^\circ-25^\circ$ - contenuto d'acqua naturale $w_n = 19\%-22\%$ - limiti di Atterberg $LL=32\%-39\%$ e $IP= 16\%-21\%$ - indice di consistenza $I_c = 0,7-0,9$ - pocket penetrometer $p = 130-270$ kPa - modulo compressibilità edometrica $E_{ed} = 3,5-5,5$ MPa ;
- 3) Oltre quota -17.00: **substrato geologico costituito da argille marnose grigio-azzurre plioceniche** sovraconsolidate di elevata consistenza. I parametri geotecnici sono i seguenti: peso specifico $\gamma = 20-21$ kN/mc - coesione drenata $c' = 30-70$ kPa - coesione drenata $c_u = 100-300$ kPa - angolo attrito interno $\phi' = 24^\circ-27^\circ$ - contenuto d'acqua naturale $w_n = 11\%-17\%$ - limiti di Atterberg $LL=27\%-42\%$ e $IP= 9\%-22\%$ - indice di consistenza $I_c < 1$ - pocket penetrometer $p > 600$ kPa - modulo compressibilità edometrica $E_{ed} = 26-27$ MPa ;

La falda freatica è posta a quota -11.00 m.

Le opere da realizzarsi consistono nella realizzazione di nuovo fabbricato con fondazioni continue in cemento armato e con struttura a carpenteria metallica, destinato a ricovero animali..

VERIFICHE DELLA SICUREZZA DEL CARICO LIMITE (S.L.U.)

La verifica di sicurezza allo Stato Limite Ultimo del terreno di fondazione viene condotta con l'utilizzo dell'**Approccio 2 (A1 + M1 + R3)** delle NTC08.

Il carico unitario massimo trasmesso dalla struttura in elevazione – scarico pilastri+peso fondazione - al terreno (combinazione carichi SLU fondamentale 1 riportata nella Relazione di calcolo strutturale) fornisce un valore massimo $q_d = 90$ kPa, relativo alla trave di fondazione sul lato lungo di monte (in condizione **A1**).

La fondazione, delle dimensioni di cm. 60x100, viene attestata nello strato di **limi argillosi e argille limose** con piano di posa a -1.50 m. dal piano campagna; per la condizione **M1** i parametri geotecnici non subiscono modificazioni rispetto a quelli caratteristici e pertanto presentano i seguenti valori: peso specifico $\gamma = 18-20$ kN/mc – coesione drenata $c' = 15-18$ kPa - coesione non drenata $c_u = 45-115$ kPa - angolo attrito interno $\phi' = 24^\circ-25^\circ$ - contenuto d'acqua naturale $w_n = 19\%-22\%$ - limiti di Atterberg $LL=32\%-39\%$ e $IP= 16\%-21\%$ - indice di consistenza $I_c = 0,7-0,9$ - pocket penetrometer $p = 130-270$ kPa - modulo compressibilità edometrica $E_{ed} = 3,5-5,5$ MPa ;

Per il calcolo della capacità portante unitaria si utilizza la formula del Terzaghi, per terreni coesivi in assenza di drenaggio ($\phi = 0^\circ$ - $N_\gamma = 0$):

$$q_{lim} = c_u \times N_c + \gamma \times D \times N_q$$

dove c_u = coesione non drenata; $\gamma \times D$ = pressione del terreno sul piano di fondazione; N_c e N_q = fattori di capacità portante tabellari.

$$q_{lim} = 45 \times 5,70 + 18 \times 1.50 \times 1,00 = 283.5 \text{ kPa}$$

Per la condizione **R3** il coefficiente γ_R è pari a 2.3 .

Pertanto la portanza offerta dal terreno è pari a:

$$q_R = 283.5/2.3 = 123.26 \text{ kPa} > q_d = 90.0 \text{ kPa}$$

VERIFICHE DELLA SICUREZZA DEGLI SPOSTAMENTI (S.L.E.)

Il valore di progetto della pressione massima quasi permanente trasmessa dalla struttura– scarico pilastri+fondazioni - al terreno (combinazione carichi SLE Quasi

Permanente comb. 30 riportata nella Relazione di calcolo strutturale) fornisce un valore massimo $q_d = 40$ kPa sulle fondazioni sui lati lunghi esterni.

L'incremento di pressione rispetto alla situazione iniziale è pari a:

$$\Delta p = q_d - \gamma \times h = 40.0 - 18 \times 1.50 = 13.0 \text{ kPa}$$

Il valore molto modesto dell'incremento di pressione dovuto all'esecuzione della struttura rende poco temibili i cedimenti, come di seguito verificato.

La deformazione riguarda esclusivamente lo strato di **limi argillosi e argille limose** della potenza di mt. 15.50 .

Il valore dello spostamento viene calcolato mediante la formula semplificata:

$$s = H \times C_c / (1 + e_0) \times \log \left((p_0 + \Delta p) / p_0 \right)$$

dove:

s = cedimento da determinare;

H = spessore dello strato di limi;

p_0 = pressione effettiva a metà dello strato considerato (pari a $p_0 = \Sigma \gamma \times h = 19 \times 9.50/2 = 90.25$ kPa a metà strato fuori falda e $p_0 = 19 \times 9.50 + 9 \times 6.00/2 = 207.50$ kPa a metà strato entro falda);

Δp = incremento della pressione effettiva dovuta al peso della fondazione;

e_0 = indice dei pori in corrispondenza di p_0 per argilla normalmente consolidata (pari a 0,95);

C_c = indice di compressibilità per argilla normalmente consolidata (pari a 0,10).

Si ottiene:

$$s = 9.50 \times 0.10 / (1 + 0.95) \times \log \left((90.25 + 6.86) / 90.25 \right) + 6.00 \times 0.10 / (1 + 0.95) \times \log \left((207.50 + 0.60) / 207.50 \right) = 0.0153 + 0.0004 = 0.0157 \text{ m.}$$

L'abbassamento può ritenersi ammissibile, anche in quanto pressochè uniforme, determinando le fondazioni pressioni molto simili nel terreno.

Teramo, maggio 2010

I progettisti

Arch. Maurizio De Siati Arch. Ilario Tottone

RELAZIONE SULLE FONDAZIONI (D.M. 14.01.2008)

Le opere da realizzarsi consistono nella realizzazione di un capannone con fondazioni continue in cemento armato di tipo rettangolare ed a travi a T e ad L rovesce e struttura in elevazione a carpenteria metallica.

Il volume dell'ampliamento si presenta di forma parallelepipedica, con base di circa mt. 9,60 x mt. 13,60 ed altezza massima di circa mt. 9,50.

Il calcolo strutturale delle travi di fondazione è riportato nella Relazione di calcolo allegata al progetto. Esso è stato eseguito applicando l' **Approccio 2 (A1 + M1 + R3)**.

Le sollecitazioni massime nelle travi di fondazione sono di seguito riepilogate.

Trave di fondazione Sezione numero 1 Rett. TRAVI FONDAZIONE RETT

| | | | | | | |
|-----------------------|-----------------|---------------|---------|-----------------|--------------|---------|
| Spostamenti | Min trave 1 8 | -1.1 [mm] | Comb. 4 | Max trave 15 16 | -0.0 [mm] | Comb. 4 |
| Taglio | Min trave 8 15 | -66368.5 [N] | Comb. 4 | Max trave 1 8 | 80942.4 [N] | Comb. 4 |
| Pressioni sul terreno | Min trave 1 8 | 0.1 [MPa] | Comb. 4 | Max trave 15 16 | 0.0 [MPa] | Comb. 4 |
| Momento flettente | Min trave 1 8 | -105.30 [kNm] | Comb. 4 | Max trave 1 2 | 105.25 [kNm] | Comb. 4 |
| Momento torcente | Min trave 36 43 | -30.50 [kNm] | Comb. 1 | Max trave 1 8 | 30.56 [kNm] | Comb. 1 |

Trave di fondazione Sezione numero 2 a Tr TRAVI FONDAZIONE A T

| | | | | | | |
|-----------------------|-----------------|---------------|---------|-----------------|-------------|---------|
| Spostamenti | Min trave 7 14 | -0.8 [mm] | Comb. 4 | Max trave 20 21 | -0.1 [mm] | Comb. 4 |
| Taglio | Min trave 14 21 | -69790.9 [N] | Comb. 4 | Max trave 7 14 | 81329.4 [N] | Comb. 4 |
| Pressioni sul terreno | Min trave 7 14 | 0.1 [MPa] | Comb. 4 | Max trave 20 21 | 0.0 [MPa] | Comb. 4 |
| Momento flettente | Min trave 7 14 | -120.71 [kNm] | Comb. 4 | Max trave 20 21 | 84.92 [kNm] | Comb. 4 |
| Momento torcente | Min trave 7 14 | -47.92 [kNm] | Comb. 4 | Max trave 42 49 | 49.11 [kNm] | Comb. 4 |

Trave di fondazione Sezione numero 3 a L TRAVI FONDAZIONE A L

| | | | | | | |
|-----------------------|-----------------|--------------|---------|-----------------|--------------|----------|
| Spostamenti | Min trave 48 49 | -0.7 [mm] | Comb. 4 | Max trave 47 48 | -0.4 [mm] | Comb. 25 |
| Taglio | Min trave 48 49 | -26071.1 [N] | Comb. 4 | Max trave 46 47 | 24173.5 [N] | Comb. 3 |
| Pressioni sul terreno | Min trave 48 49 | 0.1 [MPa] | Comb. 4 | Max trave 47 48 | 0.0 [MPa] | Comb. 25 |
| Momento flettente | Min trave 47 48 | -25.02 [kNm] | Comb. 3 | Max trave 48 49 | 122.48 [kNm] | Comb. 4 |
| Momento torcente | Min trave 48 49 | -17.58 [kNm] | Comb. 5 | Max trave 46 47 | 13.08 [kNm] | Comb. 5 |

Trave di fondazione Sezione numero 4 a _| TRAVI FONDAZIONE A L

| | | | | | | |
|-----------------------|---------------|--------------|---------|---------------|--------------|----------|
| Spostamenti | Min trave 6 7 | -0.8 [mm] | Comb. 4 | Max trave 5 6 | -0.4 [mm] | Comb. 23 |
| Taglio | Min trave 4 5 | -29960.7 [N] | Comb. 4 | Max trave 4 5 | 24170.7 [N] | Comb. 3 |
| Pressioni sul terreno | Min trave 6 7 | 0.1 [MPa] | Comb. 4 | Max trave 5 6 | 0.0 [MPa] | Comb. 23 |
| Momento flettente | Min trave 5 6 | -24.98 [kNm] | Comb. 3 | Max trave 6 7 | 127.99 [kNm] | Comb. 4 |
| Momento torcente | Min trave 4 5 | -18.31 [kNm] | Comb. 4 | Max trave 6 7 | 27.24 [kNm] | Comb. 4 |

Trave di fondazione Sezione numero 5 Rett. TRAVI COLL. FONDAZIONE

| | | | | | | |
|-----------------------|-----------------|--------------|----------|-----------------|-------------|---------|
| Spostamenti | Min trave 30 31 | -0.6 [mm] | Comb. 1 | Max trave 16 17 | 0.1 [mm] | Comb. 4 |
| Taglio | Min trave 26 27 | -23449.0 [N] | Comb. 2 | Max trave 16 17 | 24492.6 [N] | Comb. 4 |
| Pressioni sul terreno | Min trave 30 31 | 0.1 [MPa] | Comb. 1 | Max trave 16 17 | -0.0 [MPa] | Comb. 4 |
| Momento flettente | Min trave 9 10 | -27.29 [kNm] | Comb. 38 | Max trave 30 31 | 34.91 [kNm] | Comb. 4 |
| Momento torcente | Min trave 9 10 | -0.13 [kNm] | Comb. 2 | Max trave 37 38 | 0.13 [kNm] | Comb. 2 |

Il calcestruzzo previsto è di classe C 25/30 ($f_{cd} = 14.17$ MPa), mentre l'acciaio è del tipo B 450C ($f_{yd} = 391$ MPa).

Teramo, li

I progettisti

Architetti Ilario Tottone e Maurizio De Siati

RELAZIONE SUI MATERIALI

(D.M. 14.01.2008)

I materiali ed i prodotti per uso strutturale da utilizzarsi, ai sensi del par. 11.1 del D.M. 14.01.2008 (NTC08), dovranno essere identificati univocamente a cura del produttore, qualificati sotto la responsabilità del produttore, accettati dal Direttore dei Lavori mediante acquisizione e verifica della documentazione di qualificazione e mediante eventuali prove sperimentali di accettazione.

Nella esecuzione delle opere in epigrafe, con strutture di fondazione del tipo in c.a. normale gettato in opera e con strutture in elevazione a carpenteria metallica, é previsto l'impiego dei seguenti materiali:

CALCESTRUZZO

Per le strutture di fondazione di tipo continuo a sezione rettangolare, a T rovescia e ad L rovescia viene prevede utilizzato calcestruzzo classe C 25/30.

Il calcestruzzo verrà confezionato con processo industrializzato, cioè prodotto in uno stabilimento esterno al cantiere, certificando la classe di resistenza del calcestruzzo fornito e rispettando tutte le prescrizioni riportate al par. 11.2.8 delle NTC08.

I componenti del calcestruzzo dovranno essere rispondenti a quanto prescritto nel par. 11.2.9 delle NTC 08:

- 1) LEGANTI: esclusivamente leganti idraulici, dotati di certificato di conformità. E' escluso l'impiego di cementi alluminosi
- 2) AGGREGATI: dovranno utilizzarsi quelli ottenuti dalla lavorazione di materiali naturali con diametro massimo di mm. 30

| | |
|-----------------------------|---------------|
| sabbia lavata e ben granata | granul. mm. 2 |
| ghiaietto vagliato | " mm. 2-15 |
| ghiaia vagliata | " mm. 15-30 |

così dosati:

| | |
|---------------------|----------------------------------|
| -sabbia lavata | mc. 0,42 per mc. di calcestruzzo |
| -ghiaietto vagliato | mc. 0,42 per mc. di calcestruzzo |
| -ghiaia vagliata | mc. 0,42 per mc. di calcestruzzo |

3) AGGIUNTE E ADDITIVI: conformi a par. 11.2.9.3 e 11.2.9.4 delle NTC08

4) ACQUA DI IMPASTO : potabile o priva di sali (solfuri o cloruri) e sostanze organiche – conforme alla norma UNI EN 1008: 2003

Il Direttore dei Lavori effettuerà il controllo di accettazione di tipo A, non essendo previsto l'impiego di più di 1.500 mc. di miscela omogenea. Il controllo di accettazione andrà eseguito secondo quanto previsto dal par. 11.2.5 delle NTC08.

ACCIAIO PER CEMENTO ARMATO NORMALE

Per gli acciai andranno eseguiti i seguenti controlli:

- 1) in stabilimento di produzione, da eseguirsi sui lotti di produzione: dovranno essere rispettati controlli di produzione, procedure di qualificazione, mantenimento e rinnovo della qualificazione, identificazione e rintracciabilità dei prodotti qualificati, forniture e documentazione di accompagnamento, prove di qualificazione e verifiche periodiche della qualità, così come prescritto dalle NTC08 dal par. 11.3.1.2 al par. 11.3.1.6, nonché nel par. 11.3.2.10.1;
- 2) nei centri di trasformazione, da eseguirsi sulle forniture: i centri di trasformazione dovranno attenersi a quanto prescritto nel par. 11.3.1.7, nel par. 11.3.2.6 e nel par. 11.3.2.10.3 delle NTC08;
- 3) di accettazione in cantiere, da eseguirsi sui lotti di spedizione, secondo quanto prescritto al par. 11.3.2.10.4 delle NTC08.

E' ammesso esclusivamente l'impiego di acciai saldabili qualificati secondo le procedure sopra esposte.

E' previsto l'impiego di acciaio per cemento armato B450C rispondente ai requisiti indicati nel par. 11.3.2.1 delle NTC08

L'accertamento delle proprietà meccaniche dovrà rispettarsi il par. 11.3.2.3 delle NTC08.

Le caratteristiche dimensionali e d'impiego rispetteranno il par. 11.3.2.4 delle NTC08.

ACCIAIO PER STRUTTURE METALLICHE

Dovranno essere utilizzati acciai conformi alle norme armonizzate della serie UNI EN 10025 (per i laminati), UNI EN 10210 (per i tubi senza saldatura) e UNI EN 10219-1 (per i tubi saldati), recanti la Marcatura CE, cui si applica il sistema di attestazione della conformità 2+ e secondo quanto specificato al punto A del par. 11.1 delle NTC08.

Per l'accertamento delle caratteristiche meccaniche il prelievo dei saggi, la posizione nel pezzo da cui essi devono essere prelevati, la preparazione delle provette

e le modalità di prova devono rispondere alle prescrizioni delle norme UNI EN ISO 377:1999, UNI 552:1986, EN 1002-1:2004, UNI EN ISO 10045:1992.

Verrà utilizzato acciaio S 275 secondo UNI 10025-2 per laminati a caldo con profili a sezione aperta; acciaio S275H secondo UNI EN 10210-1 per laminati a caldo con profili a sezione cava.

I controlli sui prodotti laminati verranno eseguiti secondo le prescrizioni di cui al par. 11.3.4.10 delle NTC08.

La documentazione di accompagnamento delle forniture saranno conformi a quanto disposto dal par. 11.3.1.5 delle NTC08.

L'acciaio per strutture saldate sarà conforme alle prescrizioni del par. 11.3.4.4 delle NTC08.

I procedimenti di saldatura andranno eseguiti secondo quanto disposto dal par. 11.3.4.5 delle NTC08.

I bulloni (del tipo normale 6.8) impiegati nelle unioni a taglio devono soddisfare i requisiti di cui alla norma armonizzata UNI EN 15048-1:2007 "Bulloneria strutturale non a serraggio controllato" e recare relativa marcatura CE, con le specificazioni di cui al punto A del par. 11.1 delle NTC08.

Teramo, li

I progettisti

Architetti Ilario Tottone e Maurizio De Siati

RELAZIONE DI CALCOLO

En.Ex.Sys. WinStrand

- Structural Analysis & Design

Ditta produttrice:

En.Ex.Sys. s.r.l. - Via Tizzano 46/2 - Casalecchio di Reno (Bologna)

Sigla:

WinStrand

Piattaforma software:

Microsoft Windows XP Home, Microsoft Windows XP Home Professional

Documentazione in uso:

Manuale teorico - Manuale d'uso

Campo di applicazione:

Analisi statica e dinamica di strutture in campo elastico lineare.

- Elementi finiti implementati

- Truss.
- Beam (Modellazione di Travi e Pilastr).
- Travi su suolo elastico alla Winckler.
- Plinti su suolo elastico alla Winckler.
- Elementi Shear Wall per la modellazione di pareti di taglio.
- Elementi shell (lastra/piastra) equivalenti.
- Elementi Isoparametrici a 8 Nodi Shell (lastra/piastra).

- Schemi di Carico

- Carichi nodali concentrati.
- Carichi applicati direttamente agli elementi.
- Carichi Superficiali.

- Tipo di Risoluzione

- Analisi statica e/o dinamica in campo lineare con il metodo dell'equilibrio.
- Fattorizzazione LDL^T .
- Analisi Statica:
 - - modellazione generale 6 gradi di libertà per nodo.
 - ipotesi di solai infinitamente rigidi nel proprio piano (3 gradi di libertà per nodo + 3 per impalcato).
- Analisi dinamica. (Nel caso di analisi modale gli autovettori ed autovalori possono essere calcolati mediante *subspace iteration* oppure tramite il *metodo dei vettori di Ritz*):
 - - Via statica equivalente.
 - Modale con il metodo dello spettro di risposta.

- Normativa di riferimento

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

- Legge n. 1086 del 5 Novembre 1971. *"Norme per la disciplina delle opere di conglomerato cementizio armato, normale e precompresso, ed a struttura metallica"*.
- Legge n. 64 del 2 Febbraio 1974. *"Provvedimenti per le costruzioni con particolari prescrizioni per le zone sismiche"*.
- D.M. del 3 Marzo 1975. *"Approvazione delle norme tecniche per le costruzioni in zone sismiche"*.
- D.M. del 3 Marzo 1975. *"Disposizioni concernenti l'applicazione delle norme tecniche per le costruzioni in zone sismiche"*.
- D.M. del 3 Ottobre 1978. *"Criteri generali per la verifica della sicurezza delle costruzioni e dei carichi e sovraccarichi"*.
- D.M. del 14 Febbraio 1992. *"Norme Tecniche per l'esecuzione delle opere in C.A. normale e precompresso e per le strutture metalliche"*.
- *Istruzioni per la valutazione delle: Azioni sulle Costruzioni.* (C.N.R. 10012/85)
- D.M. del 9 Gennaio 1996. *"Norme Tecniche per il calcolo, l'esecuzione ed il collaudo delle strutture in cemento armato, normale e precompresso e per le strutture metalliche"*.
- D.M. del 16 Gennaio 1996. *"Norme tecniche relative ai «Criteri generali per la verifica di sicurezza delle costruzioni e dei carichi e sovraccarichi»"*.
- D.M. del 16 Gennaio 1996. *"Norme tecniche per le costruzioni in zone sismiche"*
- Ordinanza n. 3274 del 20 Marzo 2003. *"Primi elementi in materia di criteri generali per la classificazione sismica del territorio nazionale e di normative tecniche per le costruzioni in zona sismica"*
- Ordinanza n. 3316. *"Modifiche ed integrazioni all'ordinanza del Presidente del Consiglio dei Ministri n. 3274 del 20 Marzo 2003"*
- D.M. del 14 Gennaio 2008 *"Approvazione delle nuove norme tecniche per le costruzioni"*

- Indice

- Dati relativi ai nodi della struttura
- Elementi tipo biella
- Elementi tipo pilastro
- Elementi tipo trave
- Elementi tipo trave su suolo alla Winkler
- Condizioni e combinazioni di carico
- Carichi e coppie applicati ai nodi
- Dati relativi alle aree di carico
- Carichi applicati agli elementi
- Risultati analisi dinamica
- Sollecitazioni nei telai
- Verifiche travi fondazione
- Verifiche sezioni acciaio

- Dati relativi ai nodi della struttura

- Convenzioni adottate

La terna di riferimento generale è destrorsa.

I nodi vengono numerati, con riferimento a una sezione orizzontale, da sinistra a destra, dal basso verso l'alto e per quote crescenti.

L'impalcato di appartenenza di un nodo è definito, in generale, dalla prima delle tre cifre che ne definiscono il numero, possono tuttavia presentarsi casi in cui si hanno più di 100 nodi per solaio nel qual caso il solaio di appartenenza è specificato dall'ultimo valore stampato nella riga dei dati relativi al nodo.

La maschera dei vincoli è costituita dai valori 0 e 1. Il valore 1 indica che per il nodo in riferimento il grado di libertà correlativo è soppresso mentre il valore 0 indica che è libero.

Nel caso di edifici civili multipiano l'asse z generale coincide con l'asse verticale rivolto verso l'alto.

- Nodi

| Nodo | x [m] | y [m] | z [m] | Ux | Uy | Uz | Rx | Ry | Rz | Solaio |
|------|----------|----------|----------|----|----|----|----|----|----|--------|
| 1 | 0.00 | 0.00 | 0.00 | 1 | 1 | 0 | 0 | 0 | 1 | 0 |
| 2 | 4.90 | 0.00 | 0.00 | 1 | 1 | 0 | 0 | 0 | 1 | 0 |
| 3 | 9.20 | 0.00 | 0.00 | 1 | 1 | 0 | 0 | 0 | 1 | 0 |
| 4 | 14.10 | 0.00 | 0.00 | 1 | 1 | 0 | 0 | 0 | 1 | 0 |
| 5 | 19.00 | 0.00 | 0.00 | 1 | 1 | 0 | 0 | 0 | 1 | 0 |
| 6 | 23.30 | 0.00 | 0.00 | 1 | 1 | 0 | 0 | 0 | 1 | 0 |
| 7 | 28.20 | 0.00 | 0.00 | 1 | 1 | 0 | 0 | 0 | 1 | 0 |
| 8 | 0.00 | 5.40 | 0.00 | 1 | 1 | 0 | 0 | 0 | 1 | 0 |
| 9 | 2.00 | 5.40 | 0.00 | 1 | 1 | 0 | 0 | 0 | 1 | 0 |
| 10 | 12.10 | 5.40 | 0.00 | 1 | 1 | 0 | 0 | 0 | 1 | 0 |
| 11 | 14.10 | 5.40 | 0.00 | 1 | 1 | 0 | 0 | 0 | 1 | 0 |
| 12 | 16.10 | 5.40 | 0.00 | 1 | 1 | 0 | 0 | 0 | 1 | 0 |
| 13 | 26.20 | 5.40 | 0.00 | 1 | 1 | 0 | 0 | 0 | 1 | 0 |
| 14 | 28.20 | 5.40 | 0.00 | 1 | 1 | 0 | 0 | 0 | 1 | 0 |
| 15 | 0.00 | 10.80 | 0.00 | 1 | 1 | 0 | 0 | 0 | 1 | 0 |
| 16 | 2.00 | 10.80 | 0.00 | 1 | 1 | 0 | 0 | 0 | 1 | 0 |
| 17 | 12.10 | 10.80 | 0.00 | 1 | 1 | 0 | 0 | 0 | 1 | 0 |
| 18 | 14.10 | 10.80 | 0.00 | 1 | 1 | 0 | 0 | 0 | 1 | 0 |
| 19 | 16.10 | 10.80 | 0.00 | 1 | 1 | 0 | 0 | 0 | 1 | 0 |
| 20 | 26.20 | 10.80 | 0.00 | 1 | 1 | 0 | 0 | 0 | 1 | 0 |
| 21 | 28.20 | 10.80 | 0.00 | 1 | 1 | 0 | 0 | 0 | 1 | 0 |
| 22 | 0.00 | 16.20 | 0.00 | 1 | 1 | 0 | 0 | 0 | 1 | 0 |
| 23 | 2.00 | 16.20 | 0.00 | 1 | 1 | 0 | 0 | 0 | 1 | 0 |
| 24 | 12.10 | 16.20 | 0.00 | 1 | 1 | 0 | 0 | 0 | 1 | 0 |
| 25 | 14.10 | 16.20 | 0.00 | 1 | 1 | 0 | 0 | 0 | 1 | 0 |
| 26 | 16.10 | 16.20 | 0.00 | 1 | 1 | 0 | 0 | 0 | 1 | 0 |
| 27 | 26.20 | 16.20 | 0.00 | 1 | 1 | 0 | 0 | 0 | 1 | 0 |
| 28 | 28.20 | 16.20 | 0.00 | 1 | 1 | 0 | 0 | 0 | 1 | 0 |
| 29 | 0.00 | 21.60 | 0.00 | 1 | 1 | 0 | 0 | 0 | 1 | 0 |
| 30 | 2.00 | 21.60 | 0.00 | 1 | 1 | 0 | 0 | 0 | 1 | 0 |
| 31 | 12.10 | 21.60 | 0.00 | 1 | 1 | 0 | 0 | 0 | 1 | 0 |
| 32 | 14.10 | 21.60 | 0.00 | 1 | 1 | 0 | 0 | 0 | 1 | 0 |
| 33 | 16.10 | 21.60 | 0.00 | 1 | 1 | 0 | 0 | 0 | 1 | 0 |
| 34 | 26.20 | 21.60 | 0.00 | 1 | 1 | 0 | 0 | 0 | 1 | 0 |
| 35 | 28.20 | 21.60 | 0.00 | 1 | 1 | 0 | 0 | 0 | 1 | 0 |
| 36 | 0.00 | 27.00 | 0.00 | 1 | 1 | 0 | 0 | 0 | 1 | 0 |
| 37 | 2.00 | 27.00 | 0.00 | 1 | 1 | 0 | 0 | 0 | 1 | 0 |
| 38 | 12.10 | 27.00 | 0.00 | 1 | 1 | 0 | 0 | 0 | 1 | 0 |
| 39 | 14.10 | 27.00 | 0.00 | 1 | 1 | 0 | 0 | 0 | 1 | 0 |
| 40 | 16.10 | 27.00 | 0.00 | 1 | 1 | 0 | 0 | 0 | 1 | 0 |
| 41 | 26.20 | 27.00 | 0.00 | 1 | 1 | 0 | 0 | 0 | 1 | 0 |
| 42 | 28.20 | 27.00 | 0.00 | 1 | 1 | 0 | 0 | 0 | 1 | 0 |
| 43 | 0.00 | 32.40 | 0.00 | 1 | 1 | 0 | 0 | 0 | 1 | 0 |
| 44 | 4.90 | 32.40 | 0.00 | 1 | 1 | 0 | 0 | 0 | 1 | 0 |
| 45 | 9.20 | 32.40 | 0.00 | 1 | 1 | 0 | 0 | 0 | 1 | 0 |
| 46 | 14.10 | 32.40 | 0.00 | 1 | 1 | 0 | 0 | 0 | 1 | 0 |
| 47 | 19.00 | 32.40 | 0.00 | 1 | 1 | 0 | 0 | 0 | 1 | 0 |
| 48 | 23.30 | 32.40 | 0.00 | 1 | 1 | 0 | 0 | 0 | 1 | 0 |
| 49 | 28.20 | 32.40 | 0.00 | 1 | 1 | 0 | 0 | 0 | 1 | 0 |
| 50 | 0.00 | 0.00 | 3.60 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

| | | | | | | | | | |
|-----|-------|-------|------|---|---|---|---|---|---|
| 51 | 4.90 | 0.00 | 3.60 | 0 | 0 | 0 | 0 | 0 | 0 |
| 52 | 9.20 | 0.00 | 3.60 | 0 | 0 | 0 | 0 | 0 | 0 |
| 53 | 14.10 | 0.00 | 3.60 | 0 | 0 | 0 | 0 | 0 | 0 |
| 54 | 19.00 | 0.00 | 3.60 | 0 | 0 | 0 | 0 | 0 | 0 |
| 55 | 23.30 | 0.00 | 3.60 | 0 | 0 | 0 | 0 | 0 | 0 |
| 56 | 28.20 | 0.00 | 3.60 | 0 | 0 | 0 | 0 | 0 | 0 |
| 57 | 0.00 | 5.40 | 3.60 | 0 | 0 | 0 | 0 | 0 | 0 |
| 58 | 28.20 | 5.40 | 3.60 | 0 | 0 | 0 | 0 | 0 | 0 |
| 59 | 14.10 | 5.40 | 3.60 | 0 | 0 | 0 | 0 | 0 | 0 |
| 60 | 0.00 | 10.80 | 3.60 | 0 | 0 | 0 | 0 | 0 | 0 |
| 61 | 28.20 | 10.80 | 3.60 | 0 | 0 | 0 | 0 | 0 | 0 |
| 62 | 14.10 | 10.80 | 3.60 | 0 | 0 | 0 | 0 | 0 | 0 |
| 63 | 0.00 | 16.20 | 3.60 | 0 | 0 | 0 | 0 | 0 | 0 |
| 64 | 14.10 | 16.20 | 3.60 | 0 | 0 | 0 | 0 | 0 | 0 |
| 65 | 28.20 | 16.20 | 3.60 | 0 | 0 | 0 | 0 | 0 | 0 |
| 66 | 0.00 | 21.60 | 3.60 | 0 | 0 | 0 | 0 | 0 | 0 |
| 67 | 28.20 | 21.60 | 3.60 | 0 | 0 | 0 | 0 | 0 | 0 |
| 68 | 14.10 | 21.60 | 3.60 | 0 | 0 | 0 | 0 | 0 | 0 |
| 69 | 0.00 | 27.00 | 3.60 | 0 | 0 | 0 | 0 | 0 | 0 |
| 70 | 28.20 | 27.00 | 3.60 | 0 | 0 | 0 | 0 | 0 | 0 |
| 71 | 14.10 | 27.00 | 3.60 | 0 | 0 | 0 | 0 | 0 | 0 |
| 72 | 0.00 | 32.40 | 3.60 | 0 | 0 | 0 | 0 | 0 | 0 |
| 73 | 4.90 | 32.40 | 3.60 | 0 | 0 | 0 | 0 | 0 | 0 |
| 74 | 9.20 | 32.40 | 3.60 | 0 | 0 | 0 | 0 | 0 | 0 |
| 75 | 14.10 | 32.40 | 3.60 | 0 | 0 | 0 | 0 | 0 | 0 |
| 76 | 19.00 | 32.40 | 3.60 | 0 | 0 | 0 | 0 | 0 | 0 |
| 77 | 23.30 | 32.40 | 3.60 | 0 | 0 | 0 | 0 | 0 | 0 |
| 78 | 28.20 | 32.40 | 3.60 | 0 | 0 | 0 | 0 | 0 | 0 |
| 79 | 1.33 | 0.00 | 3.87 | 0 | 0 | 0 | 0 | 0 | 0 |
| 80 | 26.87 | 0.00 | 3.87 | 0 | 0 | 0 | 0 | 0 | 0 |
| 81 | 1.33 | 5.40 | 3.87 | 0 | 0 | 0 | 0 | 0 | 0 |
| 82 | 26.87 | 5.40 | 3.87 | 0 | 0 | 0 | 0 | 0 | 0 |
| 83 | 1.33 | 10.80 | 3.87 | 0 | 0 | 0 | 0 | 0 | 0 |
| 84 | 26.87 | 10.80 | 3.87 | 0 | 0 | 0 | 0 | 0 | 0 |
| 85 | 1.33 | 16.20 | 3.87 | 0 | 0 | 0 | 0 | 0 | 0 |
| 86 | 26.87 | 16.20 | 3.87 | 0 | 0 | 0 | 0 | 0 | 0 |
| 87 | 1.33 | 21.60 | 3.87 | 0 | 0 | 0 | 0 | 0 | 0 |
| 88 | 26.87 | 21.60 | 3.87 | 0 | 0 | 0 | 0 | 0 | 0 |
| 89 | 1.33 | 27.00 | 3.87 | 0 | 0 | 0 | 0 | 0 | 0 |
| 90 | 26.87 | 27.00 | 3.87 | 0 | 0 | 0 | 0 | 0 | 0 |
| 91 | 1.33 | 32.40 | 3.87 | 0 | 0 | 0 | 0 | 0 | 0 |
| 92 | 26.87 | 32.40 | 3.87 | 0 | 0 | 0 | 0 | 0 | 0 |
| 93 | 2.66 | 0.00 | 4.13 | 0 | 0 | 0 | 0 | 0 | 0 |
| 94 | 25.54 | 0.00 | 4.13 | 0 | 0 | 0 | 0 | 0 | 0 |
| 95 | 2.66 | 5.40 | 4.13 | 0 | 0 | 0 | 0 | 0 | 0 |
| 96 | 25.54 | 5.40 | 4.13 | 0 | 0 | 0 | 0 | 0 | 0 |
| 97 | 2.66 | 10.80 | 4.13 | 0 | 0 | 0 | 0 | 0 | 0 |
| 98 | 25.54 | 10.80 | 4.13 | 0 | 0 | 0 | 0 | 0 | 0 |
| 99 | 2.66 | 16.20 | 4.13 | 0 | 0 | 0 | 0 | 0 | 0 |
| 100 | 25.54 | 16.20 | 4.13 | 0 | 0 | 0 | 0 | 0 | 0 |
| 101 | 2.66 | 21.60 | 4.13 | 0 | 0 | 0 | 0 | 0 | 0 |
| 102 | 25.54 | 21.60 | 4.13 | 0 | 0 | 0 | 0 | 0 | 0 |
| 103 | 2.66 | 27.00 | 4.13 | 0 | 0 | 0 | 0 | 0 | 0 |
| 104 | 25.54 | 27.00 | 4.13 | 0 | 0 | 0 | 0 | 0 | 0 |
| 105 | 2.66 | 32.40 | 4.13 | 0 | 0 | 0 | 0 | 0 | 0 |
| 106 | 25.54 | 32.40 | 4.13 | 0 | 0 | 0 | 0 | 0 | 0 |
| 107 | 3.99 | 0.00 | 4.40 | 0 | 0 | 0 | 0 | 0 | 0 |
| 108 | 24.21 | 0.00 | 4.40 | 0 | 0 | 0 | 0 | 0 | 0 |
| 109 | 3.99 | 5.40 | 4.40 | 0 | 0 | 0 | 0 | 0 | 0 |

| | | | | | | | | | | |
|-----|-------|-------|------|---|---|---|---|---|---|---|
| 110 | 24.21 | 5.40 | 4.40 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 111 | 3.99 | 10.80 | 4.40 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 112 | 24.21 | 10.80 | 4.40 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 113 | 3.99 | 16.20 | 4.40 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 114 | 24.21 | 16.20 | 4.40 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 115 | 3.99 | 21.60 | 4.40 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 116 | 24.21 | 21.60 | 4.40 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 117 | 3.99 | 27.00 | 4.40 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 118 | 24.21 | 27.00 | 4.40 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 119 | 3.99 | 32.40 | 4.40 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 120 | 24.21 | 32.40 | 4.40 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 121 | 4.90 | 0.00 | 4.58 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 122 | 23.30 | 0.00 | 4.58 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 123 | 4.90 | 32.40 | 4.58 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 124 | 23.30 | 32.40 | 4.58 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 125 | 5.32 | 0.00 | 4.66 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 126 | 22.88 | 0.00 | 4.66 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 127 | 5.32 | 5.40 | 4.66 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 128 | 22.88 | 5.40 | 4.66 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 129 | 5.32 | 10.80 | 4.66 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 130 | 22.88 | 10.80 | 4.66 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 131 | 5.32 | 16.20 | 4.66 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 132 | 22.88 | 16.20 | 4.66 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 133 | 5.32 | 21.60 | 4.66 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 134 | 22.88 | 21.60 | 4.66 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 135 | 5.32 | 27.00 | 4.66 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 136 | 22.88 | 27.00 | 4.66 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 137 | 5.32 | 32.40 | 4.66 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 138 | 22.88 | 32.40 | 4.66 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 139 | 6.65 | 0.00 | 4.93 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 140 | 21.55 | 0.00 | 4.93 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 141 | 6.65 | 5.40 | 4.93 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 142 | 21.55 | 5.40 | 4.93 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 143 | 6.65 | 10.80 | 4.93 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 144 | 21.55 | 10.80 | 4.93 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 145 | 6.65 | 16.20 | 4.93 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 146 | 21.55 | 16.20 | 4.93 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 147 | 6.65 | 21.60 | 4.93 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 148 | 21.55 | 21.60 | 4.93 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 149 | 6.65 | 27.00 | 4.93 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 150 | 21.55 | 27.00 | 4.93 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 151 | 6.65 | 32.40 | 4.93 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 152 | 21.55 | 32.40 | 4.93 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 153 | 7.98 | 0.00 | 5.20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 154 | 20.22 | 0.00 | 5.20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 155 | 7.98 | 5.40 | 5.20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 156 | 20.22 | 5.40 | 5.20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 157 | 7.98 | 10.80 | 5.20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 158 | 20.22 | 10.80 | 5.20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 159 | 7.98 | 16.20 | 5.20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 160 | 20.22 | 16.20 | 5.20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 161 | 7.98 | 21.60 | 5.20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 162 | 20.22 | 21.60 | 5.20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 163 | 7.98 | 27.00 | 5.20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 164 | 20.22 | 27.00 | 5.20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 165 | 7.98 | 32.40 | 5.20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 166 | 20.22 | 32.40 | 5.20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 167 | 9.20 | 0.00 | 5.44 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 168 | 19.00 | 0.00 | 5.44 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

| | | | | | | | | | | |
|-----|-------|-------|------|---|---|---|---|---|---|---|
| 169 | 9.20 | 5.40 | 5.44 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 170 | 19.00 | 5.40 | 5.44 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 171 | 9.20 | 10.80 | 5.44 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 172 | 19.00 | 10.80 | 5.44 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 173 | 9.20 | 16.20 | 5.44 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 174 | 19.00 | 16.20 | 5.44 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 175 | 9.20 | 21.60 | 5.44 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 176 | 19.00 | 21.60 | 5.44 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 177 | 9.20 | 27.00 | 5.44 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 178 | 19.00 | 27.00 | 5.44 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 179 | 9.20 | 32.40 | 5.44 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 180 | 19.00 | 32.40 | 5.44 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 181 | 10.64 | 0.00 | 5.73 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 182 | 17.56 | 0.00 | 5.73 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 183 | 10.64 | 5.40 | 5.73 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 184 | 17.56 | 5.40 | 5.73 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 185 | 10.64 | 10.80 | 5.73 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 186 | 17.56 | 10.80 | 5.73 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 187 | 10.64 | 16.20 | 5.73 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 188 | 17.56 | 16.20 | 5.73 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 189 | 10.64 | 21.60 | 5.73 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 190 | 17.56 | 21.60 | 5.73 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 191 | 10.64 | 27.00 | 5.73 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 192 | 17.56 | 27.00 | 5.73 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 193 | 10.64 | 32.40 | 5.73 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 194 | 17.56 | 32.40 | 5.73 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 195 | 11.97 | 0.00 | 5.99 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 196 | 16.23 | 0.00 | 5.99 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 197 | 11.97 | 5.40 | 5.99 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 198 | 16.23 | 5.40 | 5.99 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 199 | 11.97 | 10.80 | 5.99 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 200 | 16.23 | 10.80 | 5.99 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 201 | 11.97 | 16.20 | 5.99 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 202 | 16.23 | 16.20 | 5.99 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 203 | 11.97 | 21.60 | 5.99 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 204 | 16.23 | 21.60 | 5.99 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 205 | 11.97 | 27.00 | 5.99 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 206 | 16.23 | 27.00 | 5.99 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 207 | 11.97 | 32.40 | 5.99 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 208 | 16.23 | 32.40 | 5.99 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 209 | 13.30 | 0.00 | 6.26 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 210 | 14.90 | 0.00 | 6.26 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 211 | 13.30 | 5.40 | 6.26 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 212 | 14.90 | 5.40 | 6.26 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 213 | 13.30 | 10.80 | 6.26 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 214 | 14.90 | 10.80 | 6.26 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 215 | 13.30 | 16.20 | 6.26 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 216 | 14.90 | 16.20 | 6.26 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 217 | 13.30 | 21.60 | 6.26 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 218 | 14.90 | 21.60 | 6.26 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 219 | 13.30 | 27.00 | 6.26 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 220 | 14.90 | 27.00 | 6.26 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 221 | 13.30 | 32.40 | 6.26 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 222 | 14.90 | 32.40 | 6.26 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 223 | 14.10 | 0.00 | 6.42 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 224 | 14.10 | 5.40 | 6.42 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 225 | 14.10 | 10.80 | 6.42 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 226 | 14.10 | 16.20 | 6.42 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 227 | 14.10 | 21.60 | 6.42 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

| | | | | | | | | | | |
|-----|-------|-------|------|---|---|---|---|---|---|---|
| 228 | 14.10 | 27.00 | 6.42 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 229 | 14.10 | 32.40 | 6.42 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

- Elementi tipo biella (truss)

- Convenzioni adottate

Nel seguito viene riportato per ogni elemento:

- Il nodo iniziale **i**;
- Il nodo finale **j**;
- Il nodo **k** che definisce l'orientamento nello spazio della terna riferimento locale dell'elemento.



- Il valore di **S₀** ovvero l'azione assiale cui si suppone soggetto l'elemento.
- Il tipo di materiale di cui è costituito l'elemento.
- Il tipo di sezione che ne definisce le caratteristiche inerziali.
- La lunghezza.

Va rilevato che:

- Il valore di **S₀** interviene (se diverso da zero) esclusivamente nella definizione della matrice di rigidezza dell'elemento (secondo la nota formulazione della matrice di rigidezza geometrica **K_G**) e non fornisce alcun contributo all'equilibrio globale dei nodi terminali dell'elemento.
- Il correlativo carico viceversa può, a discrezione dell'operatore, intervenire nell'equilibrio strutturale secondo i coefficienti di interazione specificati nelle combinazioni di carico.

- Caratteristiche dei Materiali:

| Tipo | Modulo Elastico [MPa] | ν | alfa [1/°C] | Peso Specifico [N/mc] | Commento |
|------|--------------------------|-------|----------------|--------------------------|--------------|
| 1 | 30000.0 | 0.120 | 0.000012 | 25000.0 | Calcestruzzo |
| 2 | 210000.0 | 0.330 | 0.000012 | 78500.0 | Acciaio |

- Sezioni Impiegate:

| Sezione | Materiale | Tipo di Sezione | Parametri Dimensionali Commenti |
|---------|-----------|-------------------------|------------------------------------|
| 1 | 2 | L Equal Flanges 60x60x6 | CONTROVENTAMENTI FALDA |
| 2 | 2 | Tubi 101.6X4.0 | CONTROVENTAMENTI PARETE |

- Caratteristiche Inerziali:

| Sezione | Materiale | Area [mm ²] | Jt [mm ⁴] | J2 [mm ⁴] | J3 [mm ⁴] | J23 [mm ⁴] | Xx | Xy |
|---------|-----------|----------------------------|--------------------------|--------------------------|--------------------------|---------------------------|-----|-----|
| 1 | 2 | 691 | 8208 | 227755 | 227755 | -133385 | 2.1 | 2.1 |
| 2 | 2 | 1223 | 2899821 | 1455161 | 1455166 | 0 | 1.5 | 1.5 |

| Dal Nodo | Al Nodo | Nodo K | So [N] | Materiale | Sezione | Lunghezza [m] |
|-------------|------------|-----------|-----------|-----------|---------|------------------|
| 110 | 56 | 10077 | 0.0 | 2 | 1 | 6.76 |
| 61 | 110 | 10078 | 0.0 | 2 | 1 | 6.76 |
| 114 | 61 | 10079 | 0.0 | 2 | 1 | 6.76 |
| 116 | 70 | 10084 | 0.0 | 2 | 1 | 6.76 |
| 112 | 65 | 10086 | 0.0 | 2 | 1 | 6.76 |
| 65 | 116 | 10085 | 0.0 | 2 | 1 | 6.76 |
| 108 | 58 | 10088 | 0.0 | 2 | 1 | 6.76 |
| 58 | 112 | 10087 | 0.0 | 2 | 1 | 6.76 |
| 50 | 109 | 10285 | 0.0 | 2 | 1 | 6.76 |
| 57 | 15 | 10285 | 0.0 | 2 | 2 | 6.49 |
| 57 | 111 | 10097 | 0.0 | 2 | 1 | 6.76 |
| 60 | 8 | 10285 | 0.0 | 2 | 2 | 6.49 |
| 53 | 59 | 10183 | 0.0 | 2 | 2 | 5.40 |
| 59 | 18 | 10279 | 0.0 | 2 | 2 | 6.49 |
| 58 | 21 | 10073 | 0.0 | 2 | 2 | 6.49 |
| 60 | 109 | 10096 | 0.0 | 2 | 1 | 6.76 |
| 60 | 113 | 10095 | 0.0 | 2 | 1 | 6.76 |
| 59 | 62 | 10184 | 0.0 | 2 | 2 | 5.40 |
| 62 | 11 | 10280 | 0.0 | 2 | 1 | 6.49 |
| 61 | 14 | 10074 | 0.0 | 2 | 2 | 6.49 |
| 63 | 101 | 10093 | 0.0 | 2 | 1 | 6.04 |
| 63 | 111 | 10094 | 0.0 | 2 | 1 | 6.76 |
| 66 | 36 | 10285 | 0.0 | 2 | 2 | 6.49 |
| 62 | 64 | 10185 | 0.0 | 2 | 2 | 5.40 |
| 66 | 113 | 10092 | 0.0 | 2 | 1 | 6.76 |
| 66 | 117 | 10091 | 0.0 | 2 | 1 | 6.76 |
| 69 | 29 | 10285 | 0.0 | 2 | 2 | 6.49 |
| 64 | 68 | 10186 | 0.0 | 2 | 2 | 5.40 |
| 68 | 39 | 10283 | 0.0 | 2 | 2 | 6.49 |
| 67 | 42 | 10075 | 0.0 | 2 | 2 | 6.49 |
| 69 | 105 | 10090 | 0.0 | 2 | 1 | 6.04 |
| 69 | 115 | 10090 | 0.0 | 2 | 1 | 6.76 |
| 72 | 117 | 10089 | 0.0 | 2 | 1 | 6.76 |
| 67 | 114 | 10080 | 0.0 | 2 | 1 | 6.76 |
| 57 | 107 | 10098 | 0.0 | 2 | 1 | 6.76 |
| 71 | 32 | 10284 | 0.0 | 2 | 2 | 6.49 |
| 68 | 71 | 10187 | 0.0 | 2 | 2 | 5.40 |
| 70 | 35 | 10076 | 0.0 | 2 | 2 | 6.49 |
| 71 | 75 | 10319 | 0.0 | 2 | 2 | 5.40 |
| 117 | 151 | 10121 | 0.0 | 2 | 1 | 6.04 |
| 118 | 67 | 10081 | 0.0 | 2 | 1 | 6.76 |
| 78 | 118 | 10082 | 0.0 | 2 | 1 | 6.76 |
| 192 | 152 | 10114 | 0.0 | 2 | 1 | 6.76 |
| 184 | 140 | 10101 | 0.0 | 2 | 1 | 6.76 |
| 150 | 120 | 10112 | 0.0 | 2 | 1 | 6.04 |
| 119 | 149 | 10122 | 0.0 | 2 | 1 | 6.04 |
| 151 | 191 | 10120 | 0.0 | 2 | 1 | 6.76 |
| 152 | 118 | 10111 | 0.0 | 2 | 1 | 6.04 |
| 142 | 108 | 10099 | 0.0 | 2 | 1 | 6.04 |
| 140 | 110 | 10100 | 0.0 | 2 | 1 | 6.04 |

| | | | | | | |
|-----|-----|-------|-----|---|---|------|
| 107 | 141 | 10110 | 0.0 | 2 | 1 | 6.04 |
| 70 | 120 | 10083 | 0.0 | 2 | 1 | 6.76 |
| 109 | 139 | 10109 | 0.0 | 2 | 1 | 6.04 |
| 182 | 142 | 10102 | 0.0 | 2 | 1 | 6.76 |
| 181 | 141 | 10107 | 0.0 | 2 | 1 | 6.76 |
| 139 | 183 | 10108 | 0.0 | 2 | 1 | 6.76 |
| 229 | 192 | 10115 | 0.0 | 2 | 1 | 6.45 |
| 194 | 150 | 10113 | 0.0 | 2 | 1 | 6.76 |
| 193 | 149 | 10119 | 0.0 | 2 | 1 | 6.76 |
| 228 | 194 | 10116 | 0.0 | 2 | 1 | 6.45 |
| 223 | 184 | 10104 | 0.0 | 2 | 1 | 6.45 |
| 224 | 182 | 10103 | 0.0 | 2 | 1 | 6.45 |
| 191 | 229 | 10117 | 0.0 | 2 | 1 | 6.45 |
| 193 | 228 | 10118 | 0.0 | 2 | 1 | 6.45 |
| 181 | 224 | 10106 | 0.0 | 2 | 1 | 6.45 |
| 183 | 223 | 10105 | 0.0 | 2 | 1 | 6.45 |
| 224 | 62 | 10277 | 0.0 | 2 | 2 | 6.09 |
| 225 | 59 | 10278 | 0.0 | 2 | 2 | 6.09 |
| 227 | 71 | 10281 | 0.0 | 2 | 2 | 6.09 |
| 228 | 68 | 10282 | 0.0 | 2 | 2 | 6.09 |

- Elementi tipo pilastro

- Convenzioni adottate

Ogni elemento tipo pilastro viene identificato da:

- Il nodo iniziale **i**;
- Il nodo finale **j**;
- Il nodo **k** che definisce l'orientamento nello spazio della terna riferimento locale dell'elemento.

La terna di riferimento locale del pilastro risulta quindi essere così disposta:



Sistema di riferimento locale

Vengono riportati i valori di efficacia dei vincoli flessionali alle estremità dell'elemento (variabili fra lo **0%** e il **100%**), nei due piani **1-2** e **1-3** del pilastro in corrispondenza dei nodi, dando quindi la possibilità di considerare aste non perfettamente incastrate alle estremità (coefficienti **V_{i12} - V_{j12} - V_{i13} - V_{j13}**).

In generale, se non diversamente disposto, l'asse 2 coincide, per i pilastri, con l'asse **y** globale e pertanto la disposizione della sezione coincide con quella che si avrebbe in una vista in pianta.

- Caratteristiche dei Materiali:

| Tipo | Modulo Elastico [MPa] | ν | alfa [1/°C] | Peso Specifico [N/mc] | Commento |
|------|--------------------------|-------|----------------|--------------------------|--------------|
| 1 | 30000.0 | 0.120 | 0.000012 | 25000.0 | Calcestruzzo |
| 2 | 210000.0 | 0.330 | 0.000012 | 78500.0 | Acciaio |

- Sezioni Impiegate:

| Sezione | Materiale | Tipo di Sezione | Parametri Dimensionali Commenti |
|---------|-----------|-----------------|------------------------------------|
| 1 | 2 | HEA 400 | PILASTRI ESTERNI LATERALI |
| 2 | 2 | HEA 240 | PILASTRI ESTERNI FRONTALI |
| 4 | 2 | HEB 300 | PILASTRI INTERNI |

- Caratteristiche Inerziali:

| Sezione | Materiale | Area [mm ²] | Jt [mm ⁴] | J2 [mm ⁴] | J3 [mm ⁴] | J23 [mm ⁴] | Xx | Xy |
|---------|-----------|----------------------------|--------------------------|--------------------------|--------------------------|---------------------------|-----|-----|
| 1 | 2 | 15924 | 1890384 | 451415632 | 85646221 | 23 | 3.6 | 1.5 |
| 2 | 2 | 7699 | 415519 | 77775840 | 27690794 | 1 | 4.2 | 1.4 |
| 4 | 2 | 14934 | 1850454 | 252041238 | 85636180 | 13 | 4.2 | 1.4 |

| Piano | Pilastro | Nodo i | Nodo j | Nodo k | Materiale | Sezione | Luce [m] | Vi12 | Vj12 | Vi13 | Vj13 |
|-------|----------|-----------|-----------|-----------|-----------|---------|-------------|------|------|------|------|
| 0 | 1 | 1 | 50 | 10024 | 2 | 1 | 3.60 | 100 | 100 | 100 | 100 |
| 0 | 7 | 7 | 56 | 10024 | 2 | 1 | 3.60 | 100 | 100 | 100 | 100 |
| 0 | 8 | 8 | 57 | 10006 | 2 | 1 | 3.60 | 100 | 100 | 100 | 100 |
| 0 | 14 | 14 | 58 | 10023 | 2 | 1 | 3.60 | 100 | 100 | 100 | 100 |
| 0 | 15 | 15 | 60 | 10005 | 2 | 1 | 3.60 | 100 | 100 | 100 | 100 |
| 0 | 21 | 21 | 61 | 10022 | 2 | 1 | 3.60 | 100 | 100 | 100 | 100 |
| 0 | 22 | 22 | 63 | 10004 | 2 | 1 | 3.60 | 100 | 100 | 100 | 100 |
| 0 | 28 | 28 | 65 | 10021 | 2 | 1 | 3.60 | 100 | 100 | 100 | 100 |
| 0 | 29 | 29 | 66 | 10003 | 2 | 1 | 3.60 | 100 | 100 | 100 | 100 |
| 0 | 35 | 35 | 67 | 10020 | 2 | 1 | 3.60 | 100 | 100 | 100 | 100 |
| 0 | 36 | 36 | 69 | 10002 | 2 | 1 | 3.60 | 100 | 100 | 100 | 100 |
| 0 | 42 | 42 | 70 | 10039 | 2 | 1 | 3.60 | 100 | 100 | 100 | 100 |
| 0 | 43 | 43 | 72 | 10001 | 2 | 1 | 3.60 | 100 | 100 | 100 | 100 |
| 0 | 49 | 49 | 78 | 10019 | 2 | 1 | 3.60 | 100 | 100 | 100 | 100 |
| 0 | 2 | 2 | 51 | 10032 | 2 | 2 | 3.60 | 100 | 100 | 100 | 100 |
| 0 | 51 | 51 | 121 | 10029 | 2 | 2 | 0.98 | 100 | 100 | 100 | 100 |
| 0 | 3 | 3 | 52 | 10031 | 2 | 2 | 3.60 | 100 | 100 | 100 | 100 |
| 0 | 52 | 52 | 167 | 10030 | 2 | 2 | 1.84 | 100 | 100 | 100 | 100 |
| 0 | 4 | 4 | 53 | 10037 | 2 | 4 | 3.60 | 100 | 100 | 100 | 100 |
| 0 | 53 | 53 | 223 | 10026 | 2 | 4 | 2.82 | 100 | 100 | 100 | 100 |
| 0 | 5 | 5 | 54 | 10036 | 2 | 2 | 3.60 | 100 | 100 | 100 | 100 |
| 0 | 54 | 54 | 168 | 10025 | 2 | 2 | 1.84 | 100 | 100 | 100 | 100 |
| 0 | 6 | 6 | 55 | 10028 | 2 | 2 | 3.60 | 100 | 100 | 100 | 100 |
| 0 | 55 | 55 | 122 | 10027 | 2 | 2 | 0.98 | 100 | 100 | 100 | 100 |
| 0 | 11 | 11 | 59 | 10018 | 2 | 4 | 3.60 | 100 | 100 | 100 | 100 |
| 0 | 59 | 59 | 224 | 10017 | 2 | 4 | 2.82 | 100 | 100 | 100 | 100 |
| 0 | 18 | 18 | 62 | 10016 | 2 | 4 | 3.60 | 100 | 100 | 100 | 100 |
| 0 | 62 | 62 | 225 | 10015 | 2 | 4 | 2.82 | 100 | 100 | 100 | 100 |
| 0 | 25 | 25 | 64 | 10014 | 2 | 4 | 3.60 | 100 | 100 | 100 | 100 |
| 0 | 64 | 64 | 226 | 10013 | 2 | 4 | 2.82 | 100 | 100 | 100 | 100 |
| 0 | 32 | 32 | 68 | 10012 | 2 | 4 | 3.60 | 100 | 100 | 100 | 100 |
| 0 | 68 | 68 | 227 | 10011 | 2 | 4 | 2.82 | 100 | 100 | 100 | 100 |

| | | | | | | | | | | | |
|---|----|----|-----|-------|---|---|------|-----|-----|-----|-----|
| 0 | 39 | 39 | 71 | 10010 | 2 | 4 | 3.60 | 100 | 100 | 100 | 100 |
| 0 | 71 | 71 | 228 | 10009 | 2 | 4 | 2.82 | 100 | 100 | 100 | 100 |
| 0 | 44 | 44 | 73 | 10041 | 2 | 2 | 3.60 | 100 | 100 | 100 | 100 |
| 0 | 73 | 73 | 123 | 10042 | 2 | 2 | 0.98 | 100 | 100 | 100 | 100 |
| 0 | 45 | 45 | 74 | 10034 | 2 | 2 | 3.60 | 100 | 100 | 100 | 100 |
| 0 | 74 | 74 | 179 | 10043 | 2 | 2 | 1.84 | 100 | 100 | 100 | 100 |
| 0 | 46 | 46 | 75 | 10008 | 2 | 4 | 3.60 | 100 | 100 | 100 | 100 |
| 0 | 75 | 75 | 229 | 10007 | 2 | 4 | 2.82 | 100 | 100 | 100 | 100 |
| 0 | 47 | 47 | 76 | 10035 | 2 | 2 | 3.60 | 100 | 100 | 100 | 100 |
| 0 | 76 | 76 | 180 | 10044 | 2 | 2 | 1.84 | 100 | 100 | 100 | 100 |
| 0 | 48 | 48 | 77 | 10045 | 2 | 2 | 3.60 | 100 | 100 | 100 | 100 |
| 0 | 77 | 77 | 124 | 10046 | 2 | 2 | 0.98 | 100 | 100 | 100 | 100 |

- Elementi tipo trave

- Convenzioni adottate

Ogni elemento tipo trave viene identificato da:

- Il nodo iniziale **i**;
- Il nodo finale **j**;
- Il nodo **k** che definisce l'orientamento nello spazio della terna riferimento locale dell'elemento.

La terna di riferimento locale della trave risulta essere così disposta:



Vengono riportati i valori di efficacia dei vincoli alle estremità dello elemento (variabili fra 0 e 100%), nei due piani **1-2** e **1-3** della trave in corrispondenza dei nodi, dando quindi la possibilità di considerare aste non perfettamente incastrate (coefficienti **Vi12, Vj12, Vi13, Vj13**).

- Caratteristiche dei Materiali:

| Tipo | Modulo Elastico [MPa] | ν | alfa [1/°C] | Peso Specifico [N/mc] | Commento |
|------|--------------------------|-------|----------------|--------------------------|--------------|
| 1 | 30000.0 | 0.120 | 0.000012 | 25000.0 | Calcestruzzo |
| 2 | 210000.0 | 0.330 | 0.000012 | 78500.0 | Acciaio |

- Sezioni Impiegate:

| Sezione | Materiale | Tipo di Sezione | Parametri Dimensionali |
|---------|-----------|-----------------|------------------------|
|---------|-----------|-----------------|------------------------|

| Commenti | | | |
|----------|---|---------|------------------------------|
| 1 | 2 | IPE 400 | TRAVI PRINCIPALI |
| 2 | 2 | HEA 140 | TRAVETTI SECONDARI |
| 3 | 2 | HEA 160 | TRAVETTI SECONDARI DI GRONDA |

- Caratteristiche Inerziali:

| Sezione | Materiale | Area [mm ²] | Jt [mm ⁴] | J2 [mm ⁴] | J3 [mm ⁴] | J23 [mm ⁴] | Xx | Xy |
|---------|-----------|----------------------------|--------------------------|--------------------------|--------------------------|---------------------------|-----|-----|
| 1 | 2 | 8462 | 510755 | 231788712 | 13181138 | 11 | 2.4 | 1.7 |
| 2 | 2 | 3147 | 81298 | 10346173 | 3893545 | -0 | 4.1 | 1.4 |
| 3 | 2 | 3885 | 121942 | 16760392 | 6156475 | -0 | 4.0 | 1.4 |

| Travata | Trave | Nodo i | Nodo j | Nodo k | Materiale | Sezione | Luce [m] | Vi12 | Vj12 | Vi13 | Vj13 |
|---------|-------|-----------|-----------|-----------|-----------|---------|-------------|------|------|------|------|
| 1 | 1 | 211 | 224 | 10248 | 2 | 1 | 0.82 | 100 | 100 | 100 | 100 |
| 2 | 1 | 213 | 225 | 10257 | 2 | 1 | 0.82 | 100 | 100 | 100 | 100 |
| 3 | 1 | 72 | 91 | 10038 | 2 | 1 | 1.36 | 100 | 100 | 100 | 100 |
| 3 | 2 | 91 | 105 | 10188 | 2 | 1 | 1.36 | 100 | 100 | 100 | 100 |
| 4 | 1 | 103 | 117 | 10210 | 2 | 1 | 1.36 | 100 | 100 | 100 | 100 |
| 5 | 1 | 50 | 79 | 10318 | 2 | 1 | 1.36 | 100 | 100 | 100 | 100 |
| 6 | 1 | 107 | 121 | 10318 | 2 | 1 | 0.93 | 100 | 100 | 100 | 100 |
| 7 | 1 | 80 | 56 | 10131 | 2 | 1 | 1.36 | 100 | 100 | 100 | 100 |
| 8 | 1 | 61 | 84 | 10234 | 2 | 1 | 1.36 | 100 | 100 | 100 | 100 |
| 9 | 1 | 58 | 82 | 10237 | 2 | 1 | 1.36 | 100 | 100 | 100 | 100 |
| 10 | 1 | 86 | 65 | 10164 | 2 | 1 | 1.36 | 100 | 100 | 100 | 100 |
| 11 | 1 | 90 | 70 | 10227 | 2 | 1 | 1.36 | 100 | 100 | 100 | 100 |
| 12 | 1 | 88 | 67 | 10146 | 2 | 1 | 1.36 | 100 | 100 | 100 | 100 |
| 13 | 1 | 92 | 78 | 10228 | 2 | 1 | 1.36 | 100 | 100 | 100 | 100 |
| 14 | 1 | 94 | 80 | 10131 | 2 | 1 | 1.36 | 100 | 100 | 100 | 100 |
| 15 | 1 | 100 | 86 | 10165 | 2 | 1 | 1.36 | 100 | 100 | 100 | 100 |
| 16 | 1 | 104 | 90 | 10226 | 2 | 1 | 1.36 | 100 | 100 | 100 | 100 |
| 17 | 1 | 102 | 88 | 10147 | 2 | 1 | 1.36 | 100 | 100 | 100 | 100 |
| 18 | 1 | 82 | 96 | 10238 | 2 | 1 | 1.36 | 100 | 100 | 100 | 100 |
| 19 | 1 | 84 | 98 | 10235 | 2 | 1 | 1.36 | 100 | 100 | 100 | 100 |
| 20 | 1 | 113 | 131 | 10145 | 2 | 1 | 1.36 | 100 | 100 | 100 | 100 |
| 20 | 2 | 131 | 145 | 10179 | 2 | 1 | 1.36 | 100 | 100 | 100 | 100 |
| 21 | 1 | 101 | 115 | 10162 | 2 | 1 | 1.36 | 100 | 100 | 100 | 100 |
| 22 | 1 | 222 | 208 | 10199 | 2 | 1 | 1.36 | 100 | 100 | 100 | 100 |
| 22 | 2 | 229 | 222 | 10198 | 2 | 1 | 0.82 | 100 | 100 | 100 | 100 |
| 23 | 1 | 208 | 194 | 10200 | 2 | 1 | 1.36 | 100 | 100 | 100 | 100 |
| 24 | 1 | 120 | 106 | 10207 | 2 | 1 | 1.36 | 100 | 100 | 100 | 100 |
| 25 | 1 | 194 | 180 | 10201 | 2 | 1 | 1.47 | 100 | 100 | 100 | 100 |
| 25 | 2 | 180 | 166 | 10202 | 2 | 1 | 1.24 | 100 | 100 | 100 | 100 |
| 26 | 1 | 215 | 226 | 10173 | 2 | 1 | 0.82 | 100 | 100 | 100 | 100 |
| 27 | 1 | 166 | 152 | 10203 | 2 | 1 | 1.36 | 100 | 100 | 100 | 100 |
| 27 | 2 | 152 | 138 | 10204 | 2 | 1 | 1.36 | 100 | 100 | 100 | 100 |
| 27 | 3 | 138 | 124 | 10205 | 2 | 1 | 0.43 | 100 | 100 | 100 | 100 |
| 27 | 4 | 124 | 120 | 10206 | 2 | 1 | 0.93 | 100 | 100 | 100 | 100 |
| 28 | 1 | 224 | 212 | 10139 | 2 | 1 | 0.82 | 100 | 100 | 100 | 100 |
| 29 | 1 | 214 | 200 | 10259 | 2 | 1 | 1.36 | 100 | 100 | 100 | 100 |
| 30 | 1 | 158 | 144 | 10263 | 2 | 1 | 1.36 | 100 | 100 | 100 | 100 |
| 31 | 1 | 162 | 176 | 10129 | 2 | 1 | 1.24 | 100 | 100 | 100 | 100 |
| 32 | 1 | 148 | 134 | 10149 | 2 | 1 | 1.36 | 100 | 100 | 100 | 100 |
| 32 | 2 | 134 | 116 | 10141 | 2 | 1 | 1.36 | 100 | 100 | 100 | 100 |
| 33 | 1 | 132 | 114 | 10140 | 2 | 1 | 1.36 | 100 | 100 | 100 | 100 |
| 34 | 1 | 202 | 188 | 10170 | 2 | 1 | 1.36 | 100 | 100 | 100 | 100 |
| 35 | 1 | 112 | 98 | 10236 | 2 | 1 | 1.36 | 100 | 100 | 100 | 100 |
| 36 | 1 | 96 | 110 | 10239 | 2 | 1 | 1.36 | 100 | 100 | 100 | 100 |
| 37 | 1 | 116 | 102 | 10148 | 2 | 1 | 1.36 | 100 | 100 | 100 | 100 |

| | | | | | | | | | | | |
|----|---|-----|-----|-------|---|---|------|-----|-----|-----|-----|
| 38 | 1 | 118 | 104 | 10225 | 2 | 1 | 1.36 | 100 | 100 | 100 | 100 |
| 39 | 1 | 114 | 100 | 10166 | 2 | 1 | 1.36 | 100 | 100 | 100 | 100 |
| 40 | 1 | 226 | 216 | 10172 | 2 | 1 | 0.82 | 100 | 100 | 100 | 100 |
| 41 | 1 | 146 | 132 | 10167 | 2 | 1 | 1.36 | 100 | 100 | 100 | 100 |
| 41 | 2 | 160 | 146 | 10168 | 2 | 1 | 1.36 | 100 | 100 | 100 | 100 |
| 42 | 1 | 188 | 174 | 10169 | 2 | 1 | 1.47 | 100 | 100 | 100 | 100 |
| 42 | 2 | 160 | 174 | 10240 | 2 | 1 | 1.24 | 100 | 100 | 100 | 100 |
| 43 | 1 | 216 | 202 | 10171 | 2 | 1 | 1.36 | 100 | 100 | 100 | 100 |
| 44 | 1 | 192 | 178 | 10221 | 2 | 1 | 1.47 | 100 | 100 | 100 | 100 |
| 44 | 2 | 178 | 164 | 10222 | 2 | 1 | 1.24 | 100 | 100 | 100 | 100 |
| 44 | 3 | 164 | 150 | 10223 | 2 | 1 | 1.36 | 100 | 100 | 100 | 100 |
| 44 | 4 | 150 | 136 | 10224 | 2 | 1 | 1.36 | 100 | 100 | 100 | 100 |
| 45 | 1 | 228 | 220 | 10218 | 2 | 1 | 0.82 | 100 | 100 | 100 | 100 |
| 46 | 1 | 136 | 118 | 10142 | 2 | 1 | 1.36 | 100 | 100 | 100 | 100 |
| 47 | 1 | 220 | 206 | 10219 | 2 | 1 | 1.36 | 100 | 100 | 100 | 100 |
| 47 | 2 | 206 | 192 | 10220 | 2 | 1 | 1.36 | 100 | 100 | 100 | 100 |
| 48 | 1 | 162 | 148 | 10150 | 2 | 1 | 1.36 | 100 | 100 | 100 | 100 |
| 49 | 1 | 190 | 176 | 10151 | 2 | 1 | 1.47 | 100 | 100 | 100 | 100 |
| 50 | 1 | 227 | 218 | 10154 | 2 | 1 | 0.82 | 100 | 100 | 100 | 100 |
| 51 | 1 | 204 | 190 | 10152 | 2 | 1 | 1.36 | 100 | 100 | 100 | 100 |
| 51 | 2 | 218 | 204 | 10153 | 2 | 1 | 1.36 | 100 | 100 | 100 | 100 |
| 52 | 1 | 156 | 142 | 10135 | 2 | 1 | 1.36 | 100 | 100 | 100 | 100 |
| 52 | 2 | 170 | 156 | 10000 | 2 | 1 | 1.24 | 100 | 100 | 100 | 100 |
| 52 | 3 | 184 | 170 | 10136 | 2 | 1 | 1.47 | 100 | 100 | 100 | 100 |
| 53 | 1 | 130 | 112 | 10249 | 2 | 1 | 1.36 | 100 | 100 | 100 | 100 |
| 54 | 1 | 186 | 172 | 10261 | 2 | 1 | 1.47 | 100 | 100 | 100 | 100 |
| 54 | 2 | 172 | 158 | 10262 | 2 | 1 | 1.24 | 100 | 100 | 100 | 100 |
| 55 | 1 | 144 | 130 | 10264 | 2 | 1 | 1.36 | 100 | 100 | 100 | 100 |
| 56 | 1 | 198 | 184 | 10137 | 2 | 1 | 1.36 | 100 | 100 | 100 | 100 |
| 56 | 2 | 212 | 198 | 10138 | 2 | 1 | 1.36 | 100 | 100 | 100 | 100 |
| 57 | 1 | 200 | 186 | 10260 | 2 | 1 | 1.36 | 100 | 100 | 100 | 100 |
| 58 | 1 | 108 | 94 | 10131 | 2 | 1 | 1.36 | 100 | 100 | 100 | 100 |
| 58 | 2 | 122 | 108 | 10131 | 2 | 1 | 0.93 | 100 | 100 | 100 | 100 |
| 58 | 3 | 126 | 122 | 10131 | 2 | 1 | 0.43 | 100 | 100 | 100 | 100 |
| 58 | 4 | 140 | 126 | 10131 | 2 | 1 | 1.36 | 100 | 100 | 100 | 100 |
| 58 | 5 | 154 | 140 | 10130 | 2 | 1 | 1.36 | 100 | 100 | 100 | 100 |
| 58 | 6 | 168 | 154 | 10132 | 2 | 1 | 1.24 | 100 | 100 | 100 | 100 |
| 59 | 1 | 105 | 119 | 10189 | 2 | 1 | 1.36 | 100 | 100 | 100 | 100 |
| 60 | 1 | 221 | 229 | 10197 | 2 | 1 | 0.82 | 100 | 100 | 100 | 100 |
| 61 | 1 | 109 | 127 | 10241 | 2 | 1 | 1.36 | 100 | 100 | 100 | 100 |
| 61 | 2 | 127 | 141 | 10242 | 2 | 1 | 1.36 | 100 | 100 | 100 | 100 |
| 62 | 1 | 142 | 128 | 10134 | 2 | 1 | 1.36 | 100 | 100 | 100 | 100 |
| 63 | 1 | 182 | 168 | 10131 | 2 | 1 | 1.47 | 100 | 100 | 100 | 100 |
| 63 | 2 | 196 | 182 | 10318 | 2 | 1 | 1.36 | 100 | 100 | 100 | 100 |
| 63 | 3 | 210 | 196 | 10132 | 2 | 1 | 1.36 | 100 | 100 | 100 | 100 |
| 64 | 1 | 149 | 163 | 10212 | 2 | 1 | 1.36 | 100 | 100 | 100 | 100 |
| 65 | 1 | 60 | 83 | 10229 | 2 | 1 | 1.36 | 100 | 100 | 100 | 100 |
| 66 | 1 | 57 | 81 | 10040 | 2 | 1 | 1.36 | 100 | 100 | 100 | 100 |
| 66 | 2 | 81 | 95 | 10231 | 2 | 1 | 1.36 | 100 | 100 | 100 | 100 |
| 66 | 3 | 95 | 109 | 10232 | 2 | 1 | 1.36 | 100 | 100 | 100 | 100 |
| 67 | 1 | 79 | 93 | 10318 | 2 | 1 | 1.36 | 100 | 100 | 100 | 100 |
| 68 | 1 | 141 | 155 | 10243 | 2 | 1 | 1.36 | 100 | 100 | 100 | 100 |
| 69 | 1 | 169 | 183 | 10245 | 2 | 1 | 1.47 | 100 | 100 | 100 | 100 |
| 70 | 1 | 93 | 107 | 10318 | 2 | 1 | 1.36 | 100 | 100 | 100 | 100 |
| 71 | 1 | 106 | 92 | 10208 | 2 | 1 | 1.36 | 100 | 100 | 100 | 100 |
| 72 | 1 | 121 | 125 | 10318 | 2 | 1 | 0.43 | 100 | 100 | 100 | 100 |
| 72 | 2 | 125 | 139 | 10318 | 2 | 1 | 1.36 | 100 | 100 | 100 | 100 |
| 72 | 3 | 139 | 153 | 10318 | 2 | 1 | 1.36 | 100 | 100 | 100 | 100 |
| 72 | 4 | 153 | 167 | 10318 | 2 | 1 | 1.24 | 100 | 100 | 100 | 100 |

| | | | | | | | | | | | |
|-----|---|-----|-----|-------|---|---|------|-----|-----|-----|-----|
| 73 | 1 | 89 | 103 | 10209 | 2 | 1 | 1.36 | 100 | 100 | 100 | 100 |
| 74 | 1 | 167 | 181 | 10318 | 2 | 1 | 1.47 | 100 | 100 | 100 | 100 |
| 74 | 2 | 181 | 195 | 10318 | 2 | 1 | 1.36 | 100 | 100 | 100 | 100 |
| 75 | 1 | 83 | 97 | 10230 | 2 | 1 | 1.36 | 100 | 100 | 100 | 100 |
| 76 | 1 | 63 | 85 | 10182 | 2 | 1 | 1.36 | 100 | 100 | 100 | 100 |
| 77 | 1 | 195 | 209 | 10318 | 2 | 1 | 1.36 | 100 | 100 | 100 | 100 |
| 78 | 1 | 97 | 111 | 10233 | 2 | 1 | 1.36 | 100 | 100 | 100 | 100 |
| 79 | 1 | 85 | 99 | 10181 | 2 | 1 | 1.36 | 100 | 100 | 100 | 100 |
| 79 | 2 | 99 | 113 | 10180 | 2 | 1 | 1.36 | 100 | 100 | 100 | 100 |
| 80 | 1 | 66 | 87 | 10033 | 2 | 1 | 1.36 | 100 | 100 | 100 | 100 |
| 81 | 1 | 69 | 89 | 10039 | 2 | 1 | 1.36 | 100 | 100 | 100 | 100 |
| 82 | 1 | 155 | 169 | 10244 | 2 | 1 | 1.24 | 100 | 100 | 100 | 100 |
| 83 | 1 | 111 | 129 | 10250 | 2 | 1 | 1.36 | 100 | 100 | 100 | 100 |
| 84 | 1 | 133 | 147 | 10161 | 2 | 1 | 1.36 | 100 | 100 | 100 | 100 |
| 85 | 1 | 117 | 135 | 10143 | 2 | 1 | 1.36 | 100 | 100 | 100 | 100 |
| 86 | 1 | 147 | 161 | 10160 | 2 | 1 | 1.36 | 100 | 100 | 100 | 100 |
| 87 | 1 | 135 | 149 | 10211 | 2 | 1 | 1.36 | 100 | 100 | 100 | 100 |
| 88 | 1 | 145 | 159 | 10178 | 2 | 1 | 1.36 | 100 | 100 | 100 | 100 |
| 88 | 2 | 159 | 173 | 10177 | 2 | 1 | 1.24 | 100 | 100 | 100 | 100 |
| 89 | 1 | 87 | 101 | 10163 | 2 | 1 | 1.36 | 100 | 100 | 100 | 100 |
| 90 | 1 | 173 | 187 | 10176 | 2 | 1 | 1.47 | 100 | 100 | 100 | 100 |
| 90 | 2 | 187 | 201 | 10175 | 2 | 1 | 1.36 | 100 | 100 | 100 | 100 |
| 90 | 3 | 201 | 215 | 10174 | 2 | 1 | 1.36 | 100 | 100 | 100 | 100 |
| 91 | 1 | 163 | 177 | 10213 | 2 | 1 | 1.24 | 100 | 100 | 100 | 100 |
| 91 | 2 | 177 | 191 | 10214 | 2 | 1 | 1.47 | 100 | 100 | 100 | 100 |
| 91 | 3 | 191 | 205 | 10215 | 2 | 1 | 1.36 | 100 | 100 | 100 | 100 |
| 91 | 4 | 205 | 219 | 10216 | 2 | 1 | 1.36 | 100 | 100 | 100 | 100 |
| 92 | 1 | 115 | 133 | 10144 | 2 | 1 | 1.36 | 100 | 100 | 100 | 100 |
| 93 | 1 | 161 | 175 | 10159 | 2 | 1 | 1.24 | 100 | 100 | 100 | 100 |
| 93 | 2 | 175 | 189 | 10158 | 2 | 1 | 1.47 | 100 | 100 | 100 | 100 |
| 93 | 3 | 189 | 203 | 10157 | 2 | 1 | 1.36 | 100 | 100 | 100 | 100 |
| 93 | 4 | 203 | 217 | 10156 | 2 | 1 | 1.36 | 100 | 100 | 100 | 100 |
| 94 | 1 | 183 | 197 | 10246 | 2 | 1 | 1.36 | 100 | 100 | 100 | 100 |
| 94 | 2 | 197 | 211 | 10247 | 2 | 1 | 1.36 | 100 | 100 | 100 | 100 |
| 95 | 1 | 129 | 143 | 10251 | 2 | 1 | 1.36 | 100 | 100 | 100 | 100 |
| 95 | 2 | 143 | 157 | 10252 | 2 | 1 | 1.36 | 100 | 100 | 100 | 100 |
| 95 | 3 | 157 | 171 | 10253 | 2 | 1 | 1.24 | 100 | 100 | 100 | 100 |
| 95 | 4 | 171 | 185 | 10254 | 2 | 1 | 1.47 | 100 | 100 | 100 | 100 |
| 95 | 5 | 185 | 199 | 10255 | 2 | 1 | 1.36 | 100 | 100 | 100 | 100 |
| 96 | 1 | 119 | 123 | 10190 | 2 | 1 | 0.93 | 100 | 100 | 100 | 100 |
| 96 | 2 | 123 | 137 | 10190 | 2 | 1 | 0.43 | 100 | 100 | 100 | 100 |
| 96 | 3 | 137 | 151 | 10191 | 2 | 1 | 1.36 | 100 | 100 | 100 | 100 |
| 96 | 4 | 151 | 165 | 10192 | 2 | 1 | 1.36 | 100 | 100 | 100 | 100 |
| 96 | 5 | 165 | 179 | 10193 | 2 | 1 | 1.24 | 100 | 100 | 100 | 100 |
| 96 | 6 | 179 | 193 | 10194 | 2 | 1 | 1.47 | 100 | 100 | 100 | 100 |
| 96 | 7 | 193 | 207 | 10195 | 2 | 1 | 1.36 | 100 | 100 | 100 | 100 |
| 96 | 8 | 207 | 221 | 10196 | 2 | 1 | 1.36 | 100 | 100 | 100 | 100 |
| 97 | 1 | 199 | 213 | 10256 | 2 | 1 | 1.36 | 100 | 100 | 100 | 100 |
| 98 | 1 | 219 | 228 | 10217 | 2 | 1 | 0.82 | 100 | 100 | 100 | 100 |
| 99 | 1 | 217 | 227 | 10155 | 2 | 1 | 0.82 | 100 | 100 | 100 | 100 |
| 100 | 1 | 209 | 223 | 10318 | 2 | 1 | 0.82 | 100 | 100 | 100 | 100 |
| 100 | 2 | 223 | 210 | 10318 | 2 | 1 | 0.82 | 100 | 100 | 100 | 100 |
| 101 | 1 | 225 | 214 | 10258 | 2 | 1 | 0.82 | 100 | 100 | 100 | 100 |
| 102 | 1 | 128 | 110 | 10133 | 2 | 1 | 1.36 | 100 | 100 | 100 | 100 |
| 110 | 1 | 50 | 51 | 10323 | 2 | 2 | 4.90 | 100 | 100 | 100 | 100 |
| 110 | 2 | 51 | 52 | 10323 | 2 | 2 | 4.30 | 100 | 100 | 100 | 100 |
| 110 | 3 | 52 | 53 | 10323 | 2 | 2 | 4.90 | 100 | 100 | 100 | 100 |
| 110 | 4 | 53 | 54 | 10318 | 2 | 2 | 4.90 | 100 | 100 | 100 | 100 |
| 110 | 5 | 54 | 55 | 10323 | 2 | 2 | 4.30 | 100 | 100 | 100 | 100 |

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|-----|---|-----|-----|-------|---|---|-------|-----|-----|-----|-----|
| 110 | 6 | 55 | 56 | 10323 | 2 | 2 | 4.90 | 100 | 100 | 100 | 100 |
| 111 | 1 | 57 | 59 | 10301 | 2 | 2 | 14.10 | 100 | 100 | 100 | 100 |
| 111 | 2 | 59 | 58 | 10300 | 2 | 2 | 14.10 | 100 | 100 | 100 | 100 |
| 112 | 1 | 60 | 62 | 10303 | 2 | 2 | 14.10 | 100 | 100 | 100 | 100 |
| 112 | 2 | 62 | 61 | 10302 | 2 | 2 | 14.10 | 100 | 100 | 100 | 100 |
| 113 | 1 | 63 | 64 | 10305 | 2 | 2 | 14.10 | 100 | 100 | 100 | 100 |
| 113 | 2 | 64 | 65 | 10304 | 2 | 2 | 14.10 | 100 | 100 | 100 | 100 |
| 114 | 1 | 66 | 68 | 10308 | 2 | 2 | 14.10 | 100 | 100 | 100 | 100 |
| 114 | 2 | 68 | 67 | 10307 | 2 | 2 | 14.10 | 100 | 100 | 100 | 100 |
| 115 | 1 | 69 | 71 | 10319 | 2 | 2 | 14.10 | 100 | 100 | 100 | 100 |
| 115 | 2 | 71 | 70 | 10306 | 2 | 2 | 14.10 | 100 | 100 | 100 | 100 |
| 116 | 1 | 72 | 73 | 10312 | 2 | 2 | 4.90 | 100 | 100 | 100 | 100 |
| 116 | 2 | 73 | 74 | 10313 | 2 | 2 | 4.30 | 100 | 100 | 100 | 100 |
| 116 | 3 | 74 | 75 | 10314 | 2 | 2 | 4.90 | 100 | 100 | 100 | 100 |
| 116 | 4 | 75 | 76 | 10315 | 2 | 2 | 4.90 | 100 | 100 | 100 | 100 |
| 116 | 5 | 76 | 77 | 10316 | 2 | 2 | 4.30 | 100 | 100 | 100 | 100 |
| 116 | 6 | 77 | 78 | 10317 | 2 | 2 | 4.90 | 100 | 100 | 100 | 100 |
| 120 | 1 | 50 | 57 | 10286 | 2 | 3 | 5.40 | 100 | 100 | 100 | 100 |
| 120 | 2 | 57 | 60 | 10287 | 2 | 3 | 5.40 | 100 | 100 | 100 | 100 |
| 120 | 3 | 60 | 63 | 10288 | 2 | 3 | 5.40 | 100 | 100 | 100 | 100 |
| 120 | 4 | 63 | 66 | 10289 | 2 | 3 | 5.40 | 100 | 100 | 100 | 100 |
| 120 | 5 | 66 | 69 | 10290 | 2 | 3 | 5.40 | 100 | 100 | 100 | 100 |
| 120 | 6 | 69 | 72 | 10291 | 2 | 3 | 5.40 | 100 | 100 | 100 | 100 |
| 121 | 1 | 56 | 58 | 10292 | 2 | 3 | 5.40 | 100 | 100 | 100 | 100 |
| 121 | 2 | 58 | 61 | 10293 | 2 | 3 | 5.40 | 100 | 100 | 100 | 100 |
| 121 | 3 | 61 | 65 | 10294 | 2 | 3 | 5.40 | 100 | 100 | 100 | 100 |
| 121 | 4 | 65 | 67 | 10295 | 2 | 3 | 5.40 | 100 | 100 | 100 | 100 |
| 121 | 5 | 67 | 70 | 10296 | 2 | 3 | 5.40 | 100 | 100 | 100 | 100 |
| 121 | 6 | 70 | 78 | 10297 | 2 | 3 | 5.40 | 100 | 100 | 100 | 100 |
| 122 | 1 | 79 | 81 | 10382 | 2 | 2 | 5.40 | 100 | 100 | 100 | 100 |
| 122 | 2 | 83 | 81 | 10422 | 2 | 2 | 5.40 | 100 | 100 | 100 | 100 |
| 122 | 3 | 85 | 83 | 10423 | 2 | 2 | 5.40 | 100 | 100 | 100 | 100 |
| 122 | 4 | 85 | 87 | 10392 | 2 | 2 | 5.40 | 100 | 100 | 100 | 100 |
| 122 | 5 | 87 | 89 | 10393 | 2 | 2 | 5.40 | 100 | 100 | 100 | 100 |
| 122 | 6 | 89 | 91 | 10394 | 2 | 2 | 5.40 | 100 | 100 | 100 | 100 |
| 123 | 1 | 80 | 82 | 10328 | 2 | 2 | 5.40 | 100 | 100 | 100 | 100 |
| 123 | 2 | 84 | 82 | 10299 | 2 | 2 | 5.40 | 100 | 100 | 100 | 100 |
| 123 | 3 | 86 | 84 | 10298 | 2 | 2 | 5.40 | 100 | 100 | 100 | 100 |
| 123 | 4 | 86 | 88 | 10329 | 2 | 2 | 5.40 | 100 | 100 | 100 | 100 |
| 123 | 5 | 88 | 90 | 10330 | 2 | 2 | 5.40 | 100 | 100 | 100 | 100 |
| 123 | 6 | 90 | 92 | 10331 | 2 | 2 | 5.40 | 100 | 100 | 100 | 100 |
| 124 | 1 | 93 | 95 | 10383 | 2 | 2 | 5.40 | 100 | 100 | 100 | 100 |
| 124 | 2 | 95 | 97 | 10424 | 2 | 2 | 5.40 | 100 | 100 | 100 | 100 |
| 124 | 3 | 97 | 99 | 10425 | 2 | 2 | 5.40 | 100 | 100 | 100 | 100 |
| 124 | 4 | 99 | 101 | 10395 | 2 | 2 | 5.40 | 100 | 100 | 100 | 100 |
| 124 | 5 | 101 | 103 | 10396 | 2 | 2 | 5.40 | 100 | 100 | 100 | 100 |
| 124 | 6 | 103 | 105 | 10397 | 2 | 2 | 5.40 | 100 | 100 | 100 | 100 |
| 125 | 1 | 94 | 96 | 10349 | 2 | 2 | 5.40 | 100 | 100 | 100 | 100 |
| 125 | 2 | 98 | 96 | 10380 | 2 | 2 | 5.40 | 100 | 100 | 100 | 100 |
| 125 | 3 | 100 | 98 | 10381 | 2 | 2 | 5.40 | 100 | 100 | 100 | 100 |
| 125 | 4 | 100 | 102 | 10365 | 2 | 2 | 5.40 | 100 | 100 | 100 | 100 |
| 125 | 5 | 102 | 104 | 10366 | 2 | 2 | 5.40 | 100 | 100 | 100 | 100 |
| 125 | 6 | 104 | 106 | 10367 | 2 | 2 | 5.40 | 100 | 100 | 100 | 100 |
| 126 | 1 | 107 | 109 | 10384 | 2 | 2 | 5.40 | 100 | 100 | 100 | 100 |
| 126 | 2 | 109 | 111 | 10426 | 2 | 2 | 5.40 | 100 | 100 | 100 | 100 |
| 126 | 3 | 111 | 113 | 10427 | 2 | 2 | 5.40 | 100 | 100 | 100 | 100 |
| 126 | 4 | 113 | 115 | 10398 | 2 | 2 | 5.40 | 100 | 100 | 100 | 100 |
| 126 | 5 | 115 | 117 | 10399 | 2 | 2 | 5.40 | 100 | 100 | 100 | 100 |
| 126 | 6 | 117 | 119 | 10400 | 2 | 2 | 5.40 | 100 | 100 | 100 | 100 |

| | | | | | | | | | | | |
|-----|---|-----|-----|-------|---|---|------|-----|-----|-----|-----|
| 127 | 1 | 108 | 110 | 10348 | 2 | 2 | 5.40 | 100 | 100 | 100 | 100 |
| 127 | 2 | 112 | 110 | 10378 | 2 | 2 | 5.40 | 100 | 100 | 100 | 100 |
| 127 | 3 | 114 | 112 | 10379 | 2 | 2 | 5.40 | 100 | 100 | 100 | 100 |
| 127 | 4 | 114 | 116 | 10362 | 2 | 2 | 5.40 | 100 | 100 | 100 | 100 |
| 127 | 5 | 116 | 118 | 10363 | 2 | 2 | 5.40 | 100 | 100 | 100 | 100 |
| 127 | 6 | 118 | 120 | 10364 | 2 | 2 | 5.40 | 100 | 100 | 100 | 100 |
| 128 | 1 | 125 | 127 | 10385 | 2 | 2 | 5.40 | 100 | 100 | 100 | 100 |
| 128 | 2 | 129 | 127 | 10428 | 2 | 2 | 5.40 | 100 | 100 | 100 | 100 |
| 128 | 3 | 131 | 129 | 10429 | 2 | 2 | 5.40 | 100 | 100 | 100 | 100 |
| 128 | 4 | 131 | 133 | 10401 | 2 | 2 | 5.40 | 100 | 100 | 100 | 100 |
| 128 | 5 | 133 | 135 | 10402 | 2 | 2 | 5.40 | 100 | 100 | 100 | 100 |
| 128 | 6 | 135 | 137 | 10403 | 2 | 2 | 5.40 | 100 | 100 | 100 | 100 |
| 129 | 1 | 126 | 128 | 10347 | 2 | 2 | 5.40 | 100 | 100 | 100 | 100 |
| 129 | 2 | 130 | 128 | 10376 | 2 | 2 | 5.40 | 100 | 100 | 100 | 100 |
| 129 | 3 | 132 | 130 | 10377 | 2 | 2 | 5.40 | 100 | 100 | 100 | 100 |
| 129 | 4 | 132 | 134 | 10359 | 2 | 2 | 5.40 | 100 | 100 | 100 | 100 |
| 129 | 5 | 134 | 136 | 10360 | 2 | 2 | 5.40 | 100 | 100 | 100 | 100 |
| 129 | 6 | 136 | 138 | 10361 | 2 | 2 | 5.40 | 100 | 100 | 100 | 100 |
| 130 | 1 | 139 | 141 | 10386 | 2 | 2 | 5.40 | 100 | 100 | 100 | 100 |
| 130 | 2 | 143 | 141 | 10430 | 2 | 2 | 5.40 | 100 | 100 | 100 | 100 |
| 130 | 3 | 145 | 143 | 10431 | 2 | 2 | 5.40 | 100 | 100 | 100 | 100 |
| 130 | 4 | 145 | 147 | 10404 | 2 | 2 | 5.40 | 100 | 100 | 100 | 100 |
| 130 | 5 | 147 | 149 | 10405 | 2 | 2 | 5.40 | 100 | 100 | 100 | 100 |
| 130 | 6 | 149 | 151 | 10406 | 2 | 2 | 5.40 | 100 | 100 | 100 | 100 |
| 131 | 1 | 140 | 142 | 10346 | 2 | 2 | 5.40 | 100 | 100 | 100 | 100 |
| 131 | 2 | 144 | 142 | 10374 | 2 | 2 | 5.40 | 100 | 100 | 100 | 100 |
| 131 | 3 | 146 | 144 | 10375 | 2 | 2 | 5.40 | 100 | 100 | 100 | 100 |
| 131 | 4 | 146 | 148 | 10356 | 2 | 2 | 5.40 | 100 | 100 | 100 | 100 |
| 131 | 5 | 148 | 150 | 10357 | 2 | 2 | 5.40 | 100 | 100 | 100 | 100 |
| 131 | 6 | 150 | 152 | 10358 | 2 | 2 | 5.40 | 100 | 100 | 100 | 100 |
| 132 | 1 | 153 | 155 | 10387 | 2 | 2 | 5.40 | 100 | 100 | 100 | 100 |
| 132 | 2 | 157 | 155 | 10434 | 2 | 2 | 5.40 | 100 | 100 | 100 | 100 |
| 132 | 3 | 159 | 157 | 10435 | 2 | 2 | 5.40 | 100 | 100 | 100 | 100 |
| 132 | 4 | 159 | 161 | 10407 | 2 | 2 | 5.40 | 100 | 100 | 100 | 100 |
| 132 | 5 | 161 | 163 | 10408 | 2 | 2 | 5.40 | 100 | 100 | 100 | 100 |
| 132 | 6 | 163 | 165 | 10409 | 2 | 2 | 5.40 | 100 | 100 | 100 | 100 |
| 133 | 1 | 154 | 156 | 10345 | 2 | 2 | 5.40 | 100 | 100 | 100 | 100 |
| 133 | 2 | 158 | 156 | 10372 | 2 | 2 | 5.40 | 100 | 100 | 100 | 100 |
| 133 | 3 | 160 | 158 | 10373 | 2 | 2 | 5.40 | 100 | 100 | 100 | 100 |
| 133 | 4 | 160 | 162 | 10353 | 2 | 2 | 5.40 | 100 | 100 | 100 | 100 |
| 133 | 5 | 162 | 164 | 10354 | 2 | 2 | 5.40 | 100 | 100 | 100 | 100 |
| 133 | 6 | 164 | 166 | 10355 | 2 | 2 | 5.40 | 100 | 100 | 100 | 100 |
| 134 | 1 | 167 | 169 | 10388 | 2 | 2 | 5.40 | 100 | 100 | 100 | 100 |
| 134 | 2 | 171 | 169 | 10432 | 2 | 2 | 5.40 | 100 | 100 | 100 | 100 |
| 134 | 3 | 173 | 171 | 10433 | 2 | 2 | 5.40 | 100 | 100 | 100 | 100 |
| 134 | 4 | 173 | 175 | 10410 | 2 | 2 | 5.40 | 100 | 100 | 100 | 100 |
| 134 | 5 | 175 | 177 | 10411 | 2 | 2 | 5.40 | 100 | 100 | 100 | 100 |
| 134 | 6 | 177 | 179 | 10412 | 2 | 2 | 5.40 | 100 | 100 | 100 | 100 |
| 135 | 1 | 168 | 170 | 10344 | 2 | 2 | 5.40 | 100 | 100 | 100 | 100 |
| 135 | 2 | 172 | 170 | 10370 | 2 | 2 | 5.40 | 100 | 100 | 100 | 100 |
| 135 | 3 | 174 | 172 | 10371 | 2 | 2 | 5.40 | 100 | 100 | 100 | 100 |
| 135 | 4 | 174 | 176 | 10350 | 2 | 2 | 5.40 | 100 | 100 | 100 | 100 |
| 135 | 5 | 176 | 178 | 10351 | 2 | 2 | 5.40 | 100 | 100 | 100 | 100 |
| 135 | 6 | 178 | 180 | 10352 | 2 | 2 | 5.40 | 100 | 100 | 100 | 100 |
| 136 | 1 | 181 | 183 | 10389 | 2 | 2 | 5.40 | 100 | 100 | 100 | 100 |
| 136 | 2 | 185 | 183 | 10436 | 2 | 2 | 5.40 | 100 | 100 | 100 | 100 |
| 136 | 3 | 187 | 185 | 10437 | 2 | 2 | 5.40 | 100 | 100 | 100 | 100 |
| 136 | 4 | 187 | 189 | 10413 | 2 | 2 | 5.40 | 100 | 100 | 100 | 100 |
| 136 | 5 | 189 | 191 | 10414 | 2 | 2 | 5.40 | 100 | 100 | 100 | 100 |

| | | | | | | | | | | | |
|-----|---|-----|-----|-------|---|---|------|-----|-----|-----|-----|
| 136 | 6 | 191 | 193 | 10415 | 2 | 2 | 5.40 | 100 | 100 | 100 | 100 |
| 137 | 1 | 182 | 184 | 10340 | 2 | 2 | 5.40 | 100 | 100 | 100 | 100 |
| 137 | 2 | 186 | 184 | 10368 | 2 | 2 | 5.40 | 100 | 100 | 100 | 100 |
| 137 | 3 | 188 | 186 | 10369 | 2 | 2 | 5.40 | 100 | 100 | 100 | 100 |
| 137 | 4 | 188 | 190 | 10341 | 2 | 2 | 5.40 | 100 | 100 | 100 | 100 |
| 137 | 5 | 190 | 192 | 10342 | 2 | 2 | 5.40 | 100 | 100 | 100 | 100 |
| 137 | 6 | 192 | 194 | 10343 | 2 | 2 | 5.40 | 100 | 100 | 100 | 100 |
| 138 | 1 | 195 | 197 | 10390 | 2 | 2 | 5.40 | 100 | 100 | 100 | 100 |
| 138 | 2 | 199 | 197 | 10438 | 2 | 2 | 5.40 | 100 | 100 | 100 | 100 |
| 138 | 3 | 201 | 199 | 10439 | 2 | 2 | 5.40 | 100 | 100 | 100 | 100 |
| 138 | 4 | 201 | 203 | 10416 | 2 | 2 | 5.40 | 100 | 100 | 100 | 100 |
| 138 | 5 | 203 | 205 | 10417 | 2 | 2 | 5.40 | 100 | 100 | 100 | 100 |
| 138 | 6 | 205 | 207 | 10418 | 2 | 2 | 5.40 | 100 | 100 | 100 | 100 |
| 139 | 1 | 196 | 198 | 10334 | 2 | 2 | 5.40 | 100 | 100 | 100 | 100 |
| 139 | 2 | 200 | 198 | 10338 | 2 | 2 | 5.40 | 100 | 100 | 100 | 100 |
| 139 | 3 | 202 | 200 | 10339 | 2 | 2 | 5.40 | 100 | 100 | 100 | 100 |
| 139 | 4 | 202 | 204 | 10335 | 2 | 2 | 5.40 | 100 | 100 | 100 | 100 |
| 139 | 5 | 204 | 206 | 10336 | 2 | 2 | 5.40 | 100 | 100 | 100 | 100 |
| 139 | 6 | 206 | 208 | 10337 | 2 | 2 | 5.40 | 100 | 100 | 100 | 100 |
| 140 | 1 | 209 | 211 | 10391 | 2 | 2 | 5.40 | 100 | 100 | 100 | 100 |
| 140 | 2 | 213 | 211 | 10440 | 2 | 2 | 5.40 | 100 | 100 | 100 | 100 |
| 140 | 3 | 215 | 213 | 10441 | 2 | 2 | 5.40 | 100 | 100 | 100 | 100 |
| 140 | 4 | 215 | 217 | 10419 | 2 | 2 | 5.40 | 100 | 100 | 100 | 100 |
| 140 | 5 | 217 | 219 | 10420 | 2 | 2 | 5.40 | 100 | 100 | 100 | 100 |
| 140 | 6 | 219 | 221 | 10421 | 2 | 2 | 5.40 | 100 | 100 | 100 | 100 |
| 141 | 1 | 210 | 212 | 10324 | 2 | 2 | 5.40 | 100 | 100 | 100 | 100 |
| 141 | 2 | 214 | 212 | 10332 | 2 | 2 | 5.40 | 100 | 100 | 100 | 100 |
| 141 | 3 | 216 | 214 | 10333 | 2 | 2 | 5.40 | 100 | 100 | 100 | 100 |
| 141 | 4 | 216 | 218 | 10325 | 2 | 2 | 5.40 | 100 | 100 | 100 | 100 |
| 141 | 5 | 218 | 220 | 10326 | 2 | 2 | 5.40 | 100 | 100 | 100 | 100 |
| 141 | 6 | 220 | 222 | 10327 | 2 | 2 | 5.40 | 100 | 100 | 100 | 100 |
| 142 | 1 | 223 | 224 | 10309 | 2 | 2 | 5.40 | 100 | 100 | 100 | 100 |
| 142 | 2 | 225 | 224 | 10322 | 2 | 2 | 5.40 | 100 | 100 | 100 | 100 |
| 142 | 3 | 226 | 225 | 10321 | 2 | 2 | 5.40 | 100 | 100 | 100 | 100 |
| 142 | 4 | 226 | 227 | 10311 | 2 | 2 | 5.40 | 100 | 100 | 100 | 100 |
| 142 | 5 | 227 | 228 | 10310 | 2 | 2 | 5.40 | 100 | 100 | 100 | 100 |
| 142 | 6 | 228 | 229 | 10320 | 2 | 2 | 5.40 | 100 | 100 | 100 | 100 |

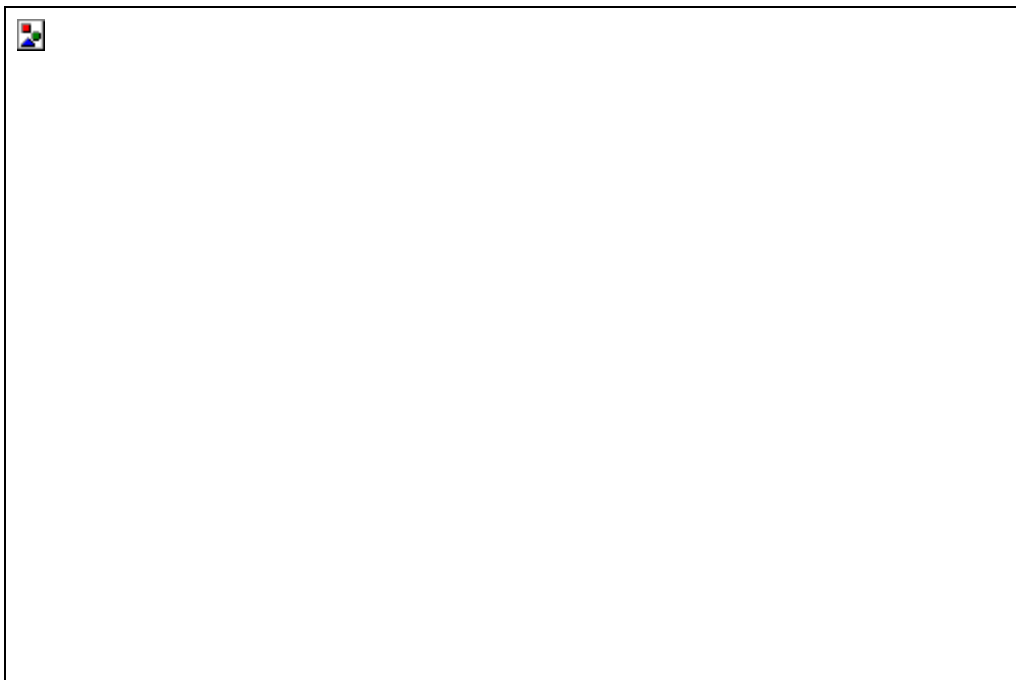
- Elementi tipo trave su suolo alla Winkler

- Convenzioni adottate

Ogni elemento tipo trave su suolo alla Winkler viene identificato da:

- Il nodo iniziale i ;
- il nodo finale j ;
- il nodo k che definisce l'orientamento nello spazio della terna riferimento locale dell'elemento.

La terna di riferimento locale della trave risulta essere così disposta:



1. La modellazione del terreno sul quale agiscono le travi è alla Winkler e pertanto particolare attenzione va riposta ai casi in cui le travi inducano sul terreno zone di trazione poichè, in tal caso, la modellazione stessa cade in difetto.

- Caratteristiche dei Materiali:

| Tipo | Modulo Elastico [MPa] | ν | alfa [1/°C] | Peso Specifico [N/mc] | Commento |
|------|--------------------------|-------|----------------|--------------------------|--------------|
| 1 | 30000.0 | 0.120 | 0.000012 | 25000.0 | Calcestruzzo |
| 2 | 210000.0 | 0.330 | 0.000012 | 78500.0 | Acciaio |

- Caratteristiche dei Terreni di Fondazione:

| Tipo | Costante di Sottofondo [N/mm³] | Commento |
|------|-----------------------------------|----------------|
| 1 | 0.08 | argilla limosa |

- Sezioni Impiegate:

| Sezione | Materiale | Tipo di Sezione | Parametri Dimensionali Commenti |
|---------|-----------|-----------------|---|
| 1 | 1 | Rett. | B= 600 H=1000 [mm] Terreno numero 1 argilla limosa TRAVI FONDAZIONE RETT |
| 2 | 1 | a Tr | B=1000 H=1500 b= 500 h= 400 [mm] Terreno numero 1 argilla limosa TRAVI FONDAZIONE A T |
| 3 | 1 | a L | B=1000 H=1500 b= 500 h= 400 [mm] Terreno numero 1 argilla limosa TRAVI FONDAZIONE A L |
| 4 | 1 | a _ | B=1000 H=1500 b= 500 h= 400 [mm] Terreno numero 1 argilla limosa TRAVI FONDAZIONE A L |
| 5 | 1 | Rett. | B= 400 H= 400 [mm] Terreno numero 1 argilla limosa TRAVI COLL. FONDAZIONE |

- Caratteristiche Inerziali:

| Sezione | Materiale | Area [mm²] | Jt [mm⁴] | J2 [mm⁴] | J3 [mm⁴] | J23 [mm⁴] | Xx | Xy |
|---------|-----------|---------------|-------------|-------------|-------------|--------------|-----|-----|
| 1 | 1 | 600000 | 43784961104 | 49999997020 | 17999995500 | 0 | 1.2 | 1.2 |

| | | | | | | | | |
|---|---|--------|-------------|--------------|-------------|--------------|-----|-----|
| 2 | 1 | 950000 | 86338594556 | 191054821014 | 44791664928 | 0 | 1.2 | 1.2 |
| 3 | 1 | 950000 | 81346444786 | 191054821014 | 59265349060 | -43421052396 | 1.2 | 1.2 |
| 4 | 1 | 950000 | 81346444786 | 191054821014 | 59265349060 | 43421052396 | 1.2 | 1.2 |
| 5 | 1 | 160000 | 3598739626 | 2133332891 | 2133332891 | 0 | 1.2 | 1.2 |

| Travata | Trave | Nodo i | Nodo j | Nodo k | Materiale | Sezione | Luce [m] |
|---------|-------|-----------|-----------|-----------|-----------|---------|-------------|
| 103 | 1 | 1 | 2 | 10128 | 1 | 1 | 4.90 |
| 103 | 2 | 2 | 3 | 10128 | 1 | 1 | 4.30 |
| 103 | 3 | 3 | 4 | 10128 | 1 | 1 | 4.90 |
| 103 | 4 | 4 | 5 | 10128 | 1 | 4 | 4.90 |
| 103 | 5 | 5 | 6 | 10128 | 1 | 4 | 4.30 |
| 103 | 6 | 6 | 7 | 10128 | 1 | 4 | 4.90 |
| 104 | 1 | 8 | 9 | 10072 | 1 | 1 | 2.00 |
| 104 | 2 | 9 | 10 | 10056 | 1 | 5 | 10.10 |
| 104 | 3 | 10 | 11 | 10071 | 1 | 1 | 2.00 |
| 104 | 4 | 11 | 12 | 10070 | 1 | 1 | 2.00 |
| 104 | 5 | 12 | 13 | 10055 | 1 | 5 | 10.10 |
| 104 | 6 | 13 | 14 | 10060 | 1 | 2 | 2.00 |
| 105 | 1 | 15 | 16 | 10069 | 1 | 1 | 2.00 |
| 105 | 2 | 16 | 17 | 10054 | 1 | 5 | 10.10 |
| 105 | 3 | 17 | 18 | 10066 | 1 | 1 | 2.00 |
| 105 | 4 | 18 | 19 | 10065 | 1 | 1 | 2.00 |
| 105 | 5 | 19 | 20 | 10053 | 1 | 5 | 10.10 |
| 105 | 6 | 20 | 21 | 10059 | 1 | 2 | 2.00 |
| 106 | 1 | 22 | 23 | 10068 | 1 | 1 | 2.00 |
| 106 | 2 | 23 | 24 | 10052 | 1 | 5 | 10.10 |
| 106 | 3 | 24 | 25 | 10064 | 1 | 1 | 2.00 |
| 106 | 4 | 25 | 26 | 10063 | 1 | 1 | 2.00 |
| 106 | 5 | 26 | 27 | 10051 | 1 | 5 | 10.10 |
| 106 | 6 | 27 | 28 | 10058 | 1 | 2 | 2.00 |
| 107 | 1 | 29 | 30 | 10067 | 1 | 1 | 2.00 |
| 107 | 2 | 30 | 31 | 10050 | 1 | 5 | 10.10 |
| 107 | 3 | 31 | 32 | 10062 | 1 | 1 | 2.00 |
| 107 | 4 | 32 | 33 | 10061 | 1 | 1 | 2.00 |
| 107 | 5 | 33 | 34 | 10049 | 1 | 5 | 10.10 |
| 107 | 6 | 34 | 35 | 10057 | 1 | 2 | 2.00 |
| 108 | 1 | 36 | 37 | 10076 | 1 | 1 | 2.00 |
| 108 | 2 | 37 | 38 | 10048 | 1 | 5 | 10.10 |
| 108 | 3 | 38 | 39 | 10076 | 1 | 1 | 2.00 |
| 108 | 4 | 39 | 40 | 10076 | 1 | 1 | 2.00 |
| 108 | 5 | 40 | 41 | 10047 | 1 | 5 | 10.10 |
| 108 | 6 | 41 | 42 | 10076 | 1 | 2 | 2.00 |
| 109 | 1 | 43 | 44 | 10271 | 1 | 1 | 4.90 |
| 109 | 2 | 44 | 45 | 10272 | 1 | 1 | 4.30 |
| 109 | 3 | 45 | 46 | 10273 | 1 | 1 | 4.90 |
| 109 | 4 | 46 | 47 | 10274 | 1 | 3 | 4.90 |
| 109 | 5 | 47 | 48 | 10275 | 1 | 3 | 4.30 |
| 109 | 6 | 48 | 49 | 10276 | 1 | 3 | 4.90 |
| 117 | 1 | 1 | 8 | 10040 | 1 | 1 | 5.40 |
| 117 | 2 | 8 | 15 | 10040 | 1 | 1 | 5.40 |
| 117 | 3 | 15 | 22 | 10040 | 1 | 1 | 5.40 |
| 117 | 4 | 22 | 29 | 10040 | 1 | 1 | 5.40 |
| 117 | 5 | 29 | 36 | 10040 | 1 | 1 | 5.40 |
| 117 | 6 | 36 | 43 | 10040 | 1 | 1 | 5.40 |
| 118 | 1 | 4 | 11 | 10265 | 1 | 1 | 5.40 |
| 118 | 2 | 11 | 18 | 10266 | 1 | 1 | 5.40 |
| 118 | 3 | 18 | 25 | 10267 | 1 | 1 | 5.40 |
| 118 | 4 | 25 | 32 | 10268 | 1 | 1 | 5.40 |
| 118 | 5 | 32 | 39 | 10269 | 1 | 1 | 5.40 |

| | | | | | | | |
|-----|---|----|----|-------|---|---|------|
| 118 | 6 | 39 | 46 | 10270 | 1 | 1 | 5.40 |
| 119 | 1 | 7 | 14 | 10128 | 1 | 2 | 5.40 |
| 119 | 2 | 14 | 21 | 10127 | 1 | 2 | 5.40 |
| 119 | 3 | 21 | 28 | 10126 | 1 | 2 | 5.40 |
| 119 | 4 | 28 | 35 | 10125 | 1 | 2 | 5.40 |
| 119 | 5 | 35 | 42 | 10124 | 1 | 2 | 5.40 |
| 119 | 6 | 42 | 49 | 10123 | 1 | 2 | 5.40 |

- Condizioni e combinazioni di carico

- Convenzioni adottate

Nel seguito vengono riportate il numero di condizioni di carico statiche e dinamiche che sollecitano la struttura. Si noti che:

- Per quanto riguarda le condizioni di carico dinamiche, il programma assimila ogni direzione di ingresso del sisma, definita dal progettista, ad una condizione di carico. Pertanto qualora agiscano sulla struttura n condizioni di carico statiche e il progettista abbia supposto che la struttura venga sollecitata da un sisma entrante in m direzioni, la struttura stessa viene considerata del programma come soggetta ad $n + m$ condizioni di carico.
- Le combinazioni di carico, definite dal progettista, combinano fra loro le $n + m$ condizioni di carico ognuna partecipante alla combinazione i -esima secondo i fattori di partecipazione nel seguito riportati. N.B.: se la condizione j -esima ha fattore di partecipazione unitario, allora partecipa per intero alla combinazione i -esima.
- Le prime n condizioni sono sempre statiche mentre sono di origine dinamica le (eventuali) condizioni da $n+1$ a $n+m$.

- Condizioni di carico definite:

- Cond. 1 peso proprio
- Cond. 2 peso lamiera copertura
- Cond. 3 peso pannelli copertura
- Cond. 4 peso tamponature
- Cond. 5 carico neve
- Cond. 6 vento 0°
- Cond. 7 vento 90°
- Cond. 8 vento 180°
- Cond. 9 vento 270°
- Cond. 10 variazioni termiche
- Cond. 21 Sisma 0SLV
- Cond. 22 Sisma 90SLV
- Cond. 23 Sisma 180SLV
- Cond. 24 Sisma 270SLV
- Cond. 25 Sisma -90SLV vert.
- Cond. 26 Sisma 0SLD
- Cond. 27 Sisma 90SLD
- Cond. 28 Sisma 180SLD
- Cond. 29 Sisma 270SLD
- Cond. 30 Sisma -90SLD vert.

- Combinazioni agli Stati Limite Ultimi

| Combinazione di carico numero | | | | | | | | | | |
|-------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| | | | | | | | | | | 1 |
| | | | | | | | | | | 2 |
| | | | | | | | | | | 3 |
| | | | | | | | | | | 4 |
| | | | | | | | | | | 5 |
| Comb.\Cond | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 1 | 1.3000 | 1.5000 | 1.5000 | 1.5000 | 1.5000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.9000 |

| | | | | | | | | | | |
|---|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 2 | 1.3000 | 1.5000 | 1.5000 | 1.5000 | 0.7500 | 1.5000 | 0.0000 | 0.0000 | 0.0000 | 0.9000 |
| 3 | 1.3000 | 1.5000 | 1.5000 | 1.5000 | 0.7500 | 0.0000 | 1.5000 | 0.0000 | 0.0000 | 0.9000 |
| 4 | 1.3000 | 1.5000 | 1.5000 | 1.5000 | 0.7500 | 0.0000 | 0.0000 | 1.5000 | 0.0000 | 0.9000 |
| 5 | 1.3000 | 1.5000 | 1.5000 | 1.5000 | 0.7500 | 0.0000 | 0.0000 | 0.0000 | 1.5000 | 0.9000 |

- Combinazioni agli Stati Limite di Salvaguardia della Vita

| Combinazione di carico numero | | | | | | | | | | |
|-------------------------------|---------------------|--------|--------|--------|--------|--------|--------|--------|---------|--|
| 6 | Sisma 0 / 90 -90 | | | | | | | | | |
| 7 | Sisma 0 / 270 -90 | | | | | | | | | |
| 8 | Sisma 90 / 0 -90 | | | | | | | | | |
| 9 | Sisma 90 / 180 -90 | | | | | | | | | |
| 10 | Sisma 180 / 90 -90 | | | | | | | | | |
| 11 | Sisma 180 / 270 -90 | | | | | | | | | |
| 12 | Sisma 270 / 0 -90 | | | | | | | | | |
| 13 | Sisma 270 / 180 -90 | | | | | | | | | |
| 14 | Sisma Verticale | | | | | | | | | |
| 15 | Sisma Verticale | | | | | | | | | |
| 16 | Sisma Verticale | | | | | | | | | |
| 17 | Sisma Verticale | | | | | | | | | |
| 18 | Sisma Verticale | | | | | | | | | |
| 19 | Sisma Verticale | | | | | | | | | |
| 20 | Sisma Verticale | | | | | | | | | |
| 21 | Sisma Verticale | | | | | | | | | |
| Comb.\Cond | 1 | 2 | 3 | 4 | 21 | 22 | 23 | 24 | 25 | |
| 6 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 0.3000 | 0.0000 | 0.0000 | 0.3000 | |
| 7 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 0.0000 | 0.0000 | 0.3000 | 0.3000 | |
| 8 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 0.3000 | 1.0000 | 0.0000 | 0.0000 | 0.3000 | |
| 9 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 0.0000 | 1.0000 | 0.3000 | 0.0000 | 0.3000 | |
| 10 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 0.0000 | 0.3000 | 1.0000 | 0.0000 | 0.3000 | |
| 11 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 0.0000 | 0.0000 | 1.0000 | 0.3000 | 0.3000 | |
| 12 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 0.3000 | 0.0000 | 0.0000 | 1.0000 | 0.3000 | |
| 13 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 0.0000 | 0.0000 | 0.3000 | 1.0000 | 0.3000 | |
| 14 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 0.3000 | 0.3000 | 0.0000 | 0.0000 | 1.0000 | |
| 15 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 0.3000 | 0.3000 | 0.0000 | 0.0000 | -1.0000 | |
| 16 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 0.3000 | 0.0000 | 0.0000 | 0.3000 | 1.0000 | |
| 17 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 0.3000 | 0.0000 | 0.0000 | 0.3000 | -1.0000 | |
| 18 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 0.0000 | 0.3000 | 0.3000 | 0.0000 | 1.0000 | |
| 19 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 0.0000 | 0.3000 | 0.3000 | 0.0000 | -1.0000 | |
| 20 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 0.0000 | 0.0000 | 0.3000 | 0.3000 | 1.0000 | |
| 21 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 0.0000 | 0.0000 | 0.3000 | 0.3000 | -1.0000 | |

- Combinazioni RARE Stati Limite di Esercizio

| Combinazione di carico numero | | | | | | | | | |
|-------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--|
| 22 | | | | | | | | | |
| 23 | | | | | | | | | |
| 24 | | | | | | | | | |
| 25 | | | | | | | | | |
| Comb.\Cond | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | |
| 22 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 0.6000 | 0.6000 | 0.6000 | |
| 23 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 0.5000 | 1.0000 | 0.6000 | 0.6000 | |
| 24 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 0.5000 | 0.6000 | 1.0000 | 0.6000 | |
| 25 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 0.5000 | 0.6000 | 0.6000 | 1.0000 | |

- Combinazioni FREQUENTI Stati Limite di Esercizio

Combinazione di carico numero

| COMBINAZIONE DI CARTE MINORE | | | | | | | | | |
|------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|----|
| | | | | | | | | | 26 |
| | | | | | | | | | 27 |
| | | | | | | | | | 28 |
| | | | | | | | | | 29 |
| Comb.\Cond | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | |
| 26 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 0.2000 | 0.0000 | 0.0000 | 0.0000 | |
| 27 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 0.0000 | 0.2000 | 0.0000 | 0.0000 | |
| 28 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 0.0000 | 0.0000 | 0.2000 | 0.0000 | |
| 29 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 0.0000 | 0.0000 | 0.0000 | 0.5000 | |

- Combinazioni QUASI PERMANENTI Stati Limite di Esercizio

Combinazione di carico numero

| Combinazione di carico numero | | | | |
|-------------------------------|--------|--------|--------|--------|
| | | | | 30 |
| Comb.\Cond | 1 | 2 | 3 | 4 |
| 30 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |

- Combinazioni agli Stati Limite di Danno

Combinazione di carico numero

| | | | | | | | | | | | |
|------------|--------|--------|--------|--------|--------|--------|---------------------|--------|--------|---------|--|
| | | | | | | 31 | Sisma 0 / 90 -90 | | | | |
| | | | | | | 32 | Sisma 0 / 270 -90 | | | | |
| | | | | | | 33 | Sisma 90 / 0 -90 | | | | |
| | | | | | | 34 | Sisma 90 / 180 -90 | | | | |
| | | | | | | 35 | Sisma 180 / 90 -90 | | | | |
| | | | | | | 36 | Sisma 180 / 270 -90 | | | | |
| | | | | | | 37 | Sisma 270 / 0 -90 | | | | |
| | | | | | | 38 | Sisma 270 / 180 -90 | | | | |
| | | | | | | 39 | Sisma Verticale | | | | |
| | | | | | | 40 | Sisma Verticale | | | | |
| | | | | | | 41 | Sisma Verticale | | | | |
| | | | | | | 42 | Sisma Verticale | | | | |
| | | | | | | 43 | Sisma Verticale | | | | |
| | | | | | | 44 | Sisma Verticale | | | | |
| | | | | | | 45 | Sisma Verticale | | | | |
| | | | | | | 46 | Sisma Verticale | | | | |
| Comb.\Cond | | 1 | 2 | 3 | 4 | 26 | 27 | 28 | 29 | 30 | |
| 31 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 0.3000 | 0.0000 | 0.0000 | 0.3000 | |
| 32 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 0.0000 | 0.0000 | 0.3000 | 0.3000 | |
| 33 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 0.3000 | 1.0000 | 0.0000 | 0.0000 | 0.0000 | 0.3000 | |
| 34 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 0.0000 | 1.0000 | 0.3000 | 0.0000 | 0.0000 | 0.3000 | |
| 35 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 0.0000 | 0.3000 | 1.0000 | 0.0000 | 0.0000 | 0.3000 | |
| 36 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 0.0000 | 0.0000 | 1.0000 | 0.3000 | 0.0000 | 0.3000 | |
| 37 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 0.3000 | 0.0000 | 0.0000 | 1.0000 | 0.0000 | 0.3000 | |
| 38 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 0.0000 | 0.0000 | 0.3000 | 1.0000 | 0.0000 | 0.3000 | |
| 39 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 0.3000 | 0.3000 | 0.0000 | 0.0000 | 0.0000 | 1.0000 | |
| 40 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 0.3000 | 0.3000 | 0.0000 | 0.0000 | 0.0000 | -1.0000 | |
| 41 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 0.3000 | 0.0000 | 0.0000 | 0.0000 | 0.3000 | 1.0000 | |
| 42 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 0.3000 | 0.0000 | 0.0000 | 0.0000 | 0.3000 | -1.0000 | |
| 43 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 0.0000 | 0.3000 | 0.3000 | 0.0000 | 0.0000 | 1.0000 | |
| 44 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 0.0000 | 0.3000 | 0.3000 | 0.0000 | 0.0000 | -1.0000 | |
| 45 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 0.0000 | 0.0000 | 0.3000 | 0.3000 | 0.0000 | 1.0000 | |
| 46 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 0.0000 | 0.0000 | 0.3000 | 0.3000 | 0.0000 | -1.0000 | |

- Carichi e coppie applicati ai nodi

- Convenzioni adottate

La terna di riferimento generale è destrorsa per cui si hanno i seguenti segni positivi per i carichi o per le coppie direttamente applicati ai nodi:



Versi positivi delle forze concentrate applicate ai nodi.



Versi positivi delle coppie concentrate applicate ai nodi.

Nel seguito vengono riportati per ogni nodo, su cui agiscono carichi concentrati, le componenti del carico (P_x , P_y , P_z , M_x , M_y , M_z) e la condizione di carico cui esse fanno riferimento.

| Nodo | Cond. | P_x [N] | P_y [N] | P_z [N] | M_x [kNm] | M_y [kNm] | M_z [kNm] |
|------|-------|--------------|--------------|--------------|----------------|----------------|----------------|
| 1 | 1 | 0.0 | 0.0 | -337.5 | 0.0 | 0.0 | 0.0 |
| | 6 | -4374.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 7 | 2624.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 8 | 0.0 | -4762.8 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 9 | 0.0 | 4762.8 | 0.0 | 0.0 | 0.0 | 0.0 |
| 2 | 1 | 0.0 | 0.0 | -163.2 | 0.0 | 0.0 | 0.0 |
| | 8 | 0.0 | -8942.4 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 9 | 0.0 | 8942.4 | 0.0 | 0.0 | 0.0 | 0.0 |

| | | | | | | | |
|----|---|---------|---------|--------|-----|-----|-----|
| 3 | 1 | 0.0 | 0.0 | -163.2 | 0.0 | 0.0 | 0.0 |
| | 8 | 0.0 | -8942.4 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 9 | 0.0 | 8942.4 | 0.0 | 0.0 | 0.0 | 0.0 |
| 4 | 1 | 0.0 | 0.0 | -316.5 | 0.0 | 0.0 | 0.0 |
| | 8 | 0.0 | -9525.6 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 9 | 0.0 | 9525.6 | 0.0 | 0.0 | 0.0 | 0.0 |
| 5 | 1 | 0.0 | 0.0 | -163.2 | 0.0 | 0.0 | 0.0 |
| | 8 | 0.0 | -8942.4 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 9 | 0.0 | 8942.4 | 0.0 | 0.0 | 0.0 | 0.0 |
| 6 | 1 | 0.0 | 0.0 | -163.2 | 0.0 | 0.0 | 0.0 |
| | 8 | 0.0 | -8942.4 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 9 | 0.0 | 8942.4 | 0.0 | 0.0 | 0.0 | 0.0 |
| 7 | 1 | 0.0 | 0.0 | -337.5 | 0.0 | 0.0 | 0.0 |
| | 6 | -2624.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 7 | 4374.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 8 | 0.0 | -4762.8 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 9 | 0.0 | 4762.8 | 0.0 | 0.0 | 0.0 | 0.0 |
| 8 | 1 | 0.0 | 0.0 | -384.2 | 0.0 | 0.0 | 0.0 |
| | 6 | -8748.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 7 | 5248.8 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 11 | 1 | 0.0 | 0.0 | -342.9 | 0.0 | 0.0 | 0.0 |
| 14 | 1 | 0.0 | 0.0 | -384.2 | 0.0 | 0.0 | 0.0 |
| | 6 | -5248.8 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 7 | 8748.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 15 | 1 | 0.0 | 0.0 | -384.2 | 0.0 | 0.0 | 0.0 |
| | 6 | -8748.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 7 | 5248.8 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 18 | 1 | 0.0 | 0.0 | -363.3 | 0.0 | 0.0 | 0.0 |
| 21 | 1 | 0.0 | 0.0 | -384.2 | 0.0 | 0.0 | 0.0 |
| | 6 | -5248.8 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 7 | 8748.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 22 | 1 | 0.0 | 0.0 | -337.5 | 0.0 | 0.0 | 0.0 |
| | 6 | -8748.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 7 | 5248.8 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 25 | 1 | 0.0 | 0.0 | -316.5 | 0.0 | 0.0 | 0.0 |
| 28 | 1 | 0.0 | 0.0 | -337.5 | 0.0 | 0.0 | 0.0 |
| | 6 | -5248.8 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 7 | 8748.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 29 | 1 | 0.0 | 0.0 | -384.2 | 0.0 | 0.0 | 0.0 |
| | 6 | -8748.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 7 | 5248.8 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 32 | 1 | 0.0 | 0.0 | -363.3 | 0.0 | 0.0 | 0.0 |
| 35 | 1 | 0.0 | 0.0 | -384.2 | 0.0 | 0.0 | 0.0 |
| | 6 | -5248.8 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 7 | 8748.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 36 | 1 | 0.0 | 0.0 | -384.2 | 0.0 | 0.0 | 0.0 |
| | 6 | -8748.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 7 | 5248.8 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 39 | 1 | 0.0 | 0.0 | -363.3 | 0.0 | 0.0 | 0.0 |
| 42 | 1 | 0.0 | 0.0 | -384.2 | 0.0 | 0.0 | 0.0 |
| | 6 | -5248.8 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 7 | 8748.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 43 | 1 | 0.0 | 0.0 | -337.5 | 0.0 | 0.0 | 0.0 |
| | 6 | -4374.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 7 | 2624.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 8 | 0.0 | -4762.8 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 9 | 0.0 | 4762.8 | 0.0 | 0.0 | 0.0 | 0.0 |
| 44 | 1 | 0.0 | 0.0 | -163.2 | 0.0 | 0.0 | 0.0 |
| | 8 | 0.0 | -8942.4 | 0.0 | 0.0 | 0.0 | 0.0 |

| | | | | | | | |
|----|---|---------|----------|---------|-----|-----|-----|
| | 9 | 0.0 | 8942.4 | 0.0 | 0.0 | 0.0 | 0.0 |
| 45 | 1 | 0.0 | 0.0 | -163.2 | 0.0 | 0.0 | 0.0 |
| | 8 | 0.0 | -8942.4 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 9 | 0.0 | 8942.4 | 0.0 | 0.0 | 0.0 | 0.0 |
| 46 | 1 | 0.0 | 0.0 | -316.5 | 0.0 | 0.0 | 0.0 |
| | 8 | 0.0 | -9525.6 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 9 | 0.0 | 9525.6 | 0.0 | 0.0 | 0.0 | 0.0 |
| 47 | 1 | 0.0 | 0.0 | -163.2 | 0.0 | 0.0 | 0.0 |
| | 8 | 0.0 | -8942.4 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 9 | 0.0 | 8942.4 | 0.0 | 0.0 | 0.0 | 0.0 |
| 48 | 1 | 0.0 | 0.0 | -163.2 | 0.0 | 0.0 | 0.0 |
| | 8 | 0.0 | -8942.4 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 9 | 0.0 | 8942.4 | 0.0 | 0.0 | 0.0 | 0.0 |
| 49 | 1 | 0.0 | 0.0 | -337.5 | 0.0 | 0.0 | 0.0 |
| | 6 | -2624.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 7 | 4374.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 8 | 0.0 | -4762.8 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 9 | 0.0 | 4762.8 | 0.0 | 0.0 | 0.0 | 0.0 |
| 50 | 1 | 0.0 | 0.0 | -646.9 | 0.0 | 0.0 | 0.0 |
| | 6 | -4374.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 7 | 2624.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 8 | 0.0 | -5082.9 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 9 | 0.0 | 5082.9 | 0.0 | 0.0 | 0.0 | 0.0 |
| 51 | 1 | 0.0 | 0.0 | -378.1 | 0.0 | 0.0 | 0.0 |
| | 8 | 0.0 | -10944.5 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 9 | 0.0 | 10944.5 | 0.0 | 0.0 | 0.0 | 0.0 |
| 52 | 1 | 0.0 | 0.0 | -417.0 | 0.0 | 0.0 | 0.0 |
| | 8 | 0.0 | -13357.4 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 9 | 0.0 | 13357.4 | 0.0 | 0.0 | 0.0 | 0.0 |
| 53 | 1 | 0.0 | 0.0 | -784.9 | 0.0 | 0.0 | 0.0 |
| | 8 | 0.0 | -16686.9 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 9 | 0.0 | 16686.9 | 0.0 | 0.0 | 0.0 | 0.0 |
| 54 | 1 | 0.0 | 0.0 | -417.0 | 0.0 | 0.0 | 0.0 |
| | 8 | 0.0 | -13357.4 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 9 | 0.0 | 13357.4 | 0.0 | 0.0 | 0.0 | 0.0 |
| 55 | 1 | 0.0 | 0.0 | -378.1 | 0.0 | 0.0 | 0.0 |
| | 8 | 0.0 | -10944.5 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 9 | 0.0 | 10944.5 | 0.0 | 0.0 | 0.0 | 0.0 |
| 56 | 1 | 0.0 | 0.0 | -646.9 | 0.0 | 0.0 | 0.0 |
| | 6 | -2624.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 7 | 4374.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 8 | 0.0 | -5082.9 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 9 | 0.0 | 5082.9 | 0.0 | 0.0 | 0.0 | 0.0 |
| 57 | 1 | 0.0 | 0.0 | -1015.1 | 0.0 | 0.0 | 0.0 |
| | 6 | -8748.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 7 | 5248.8 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 58 | 1 | 0.0 | 0.0 | -1015.1 | 0.0 | 0.0 | 0.0 |
| | 6 | -5248.8 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 7 | 8748.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 59 | 1 | 0.0 | 0.0 | -1255.3 | 0.0 | 0.0 | 0.0 |
| 60 | 1 | 0.0 | 0.0 | -1015.1 | 0.0 | 0.0 | 0.0 |
| | 6 | -8748.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 7 | 5248.8 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 61 | 1 | 0.0 | 0.0 | -1015.1 | 0.0 | 0.0 | 0.0 |
| | 6 | -5248.8 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 7 | 8748.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 62 | 1 | 0.0 | 0.0 | -1235.0 | 0.0 | 0.0 | 0.0 |
| 63 | 1 | 0.0 | 0.0 | -965.4 | 0.0 | 0.0 | 0.0 |
| | 6 | -8748.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

| | | | | | | | |
|----|---|---------|----------|---------|-----|-----|-----|
| | 7 | 5248.8 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 64 | 1 | 0.0 | 0.0 | -1164.7 | 0.0 | 0.0 | 0.0 |
| 65 | 1 | 0.0 | 0.0 | -968.4 | 0.0 | 0.0 | 0.0 |
| | 6 | -5248.8 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 7 | 8748.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 66 | 1 | 0.0 | 0.0 | -1015.1 | 0.0 | 0.0 | 0.0 |
| | 6 | -8748.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 7 | 5248.8 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 67 | 1 | 0.0 | 0.0 | -1015.1 | 0.0 | 0.0 | 0.0 |
| | 6 | -5248.8 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 7 | 8748.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 68 | 1 | 0.0 | 0.0 | -1255.3 | 0.0 | 0.0 | 0.0 |
| 69 | 1 | 0.0 | 0.0 | -1012.2 | 0.0 | 0.0 | 0.0 |
| | 6 | -8748.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 7 | 5248.8 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 70 | 1 | 0.0 | 0.0 | -1015.1 | 0.0 | 0.0 | 0.0 |
| | 6 | -5248.8 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 7 | 8748.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 71 | 1 | 0.0 | 0.0 | -1255.3 | 0.0 | 0.0 | 0.0 |
| 72 | 1 | 0.0 | 0.0 | -646.9 | 0.0 | 0.0 | 0.0 |
| | 6 | -4374.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 7 | 2624.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 8 | 0.0 | -5082.9 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 9 | 0.0 | 5082.9 | 0.0 | 0.0 | 0.0 | 0.0 |
| 73 | 1 | 0.0 | 0.0 | -378.1 | 0.0 | 0.0 | 0.0 |
| | 8 | 0.0 | -10944.5 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 9 | 0.0 | 10944.5 | 0.0 | 0.0 | 0.0 | 0.0 |
| 74 | 1 | 0.0 | 0.0 | -417.0 | 0.0 | 0.0 | 0.0 |
| | 8 | 0.0 | -13357.4 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 9 | 0.0 | 13357.4 | 0.0 | 0.0 | 0.0 | 0.0 |
| 75 | 1 | 0.0 | 0.0 | -784.9 | 0.0 | 0.0 | 0.0 |
| | 8 | 0.0 | -16686.9 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 9 | 0.0 | 16686.9 | 0.0 | 0.0 | 0.0 | 0.0 |
| 76 | 1 | 0.0 | 0.0 | -417.0 | 0.0 | 0.0 | 0.0 |
| | 8 | 0.0 | -13357.4 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 9 | 0.0 | 13357.4 | 0.0 | 0.0 | 0.0 | 0.0 |
| 77 | 1 | 0.0 | 0.0 | -378.1 | 0.0 | 0.0 | 0.0 |
| | 8 | 0.0 | -10944.5 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 9 | 0.0 | 10944.5 | 0.0 | 0.0 | 0.0 | 0.0 |
| 78 | 1 | 0.0 | 0.0 | -646.9 | 0.0 | 0.0 | 0.0 |
| | 6 | -2624.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 7 | 4374.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 8 | 0.0 | -5082.9 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 9 | 0.0 | 5082.9 | 0.0 | 0.0 | 0.0 | 0.0 |
| 79 | 1 | 0.0 | 0.0 | -235.2 | 0.0 | 0.0 | 0.0 |
| | 8 | 0.0 | -512.8 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 9 | 0.0 | 512.8 | 0.0 | 0.0 | 0.0 | 0.0 |
| 80 | 1 | 0.0 | 0.0 | -235.2 | 0.0 | 0.0 | 0.0 |
| | 8 | 0.0 | -512.8 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 9 | 0.0 | 512.8 | 0.0 | 0.0 | 0.0 | 0.0 |
| 81 | 1 | 0.0 | 0.0 | -335.2 | 0.0 | 0.0 | 0.0 |
| 82 | 1 | 0.0 | 0.0 | -335.2 | 0.0 | 0.0 | 0.0 |
| 83 | 1 | 0.0 | 0.0 | -335.2 | 0.0 | 0.0 | 0.0 |
| 84 | 1 | 0.0 | 0.0 | -335.2 | 0.0 | 0.0 | 0.0 |
| 85 | 1 | 0.0 | 0.0 | -335.2 | 0.0 | 0.0 | 0.0 |
| 86 | 1 | 0.0 | 0.0 | -335.2 | 0.0 | 0.0 | 0.0 |
| 87 | 1 | 0.0 | 0.0 | -335.2 | 0.0 | 0.0 | 0.0 |
| 88 | 1 | 0.0 | 0.0 | -335.2 | 0.0 | 0.0 | 0.0 |
| 89 | 1 | 0.0 | 0.0 | -335.2 | 0.0 | 0.0 | 0.0 |

| | | | | | | | |
|-----|---|-----|---------|--------|-----|-----|-----|
| 90 | 1 | 0.0 | 0.0 | -335.2 | 0.0 | 0.0 | 0.0 |
| 91 | 1 | 0.0 | 0.0 | -235.2 | 0.0 | 0.0 | 0.0 |
| | 8 | 0.0 | -512.8 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 9 | 0.0 | 512.8 | 0.0 | 0.0 | 0.0 | 0.0 |
| 92 | 1 | 0.0 | 0.0 | -235.2 | 0.0 | 0.0 | 0.0 |
| | 8 | 0.0 | -512.8 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 9 | 0.0 | 512.8 | 0.0 | 0.0 | 0.0 | 0.0 |
| 93 | 1 | 0.0 | 0.0 | -235.2 | 0.0 | 0.0 | 0.0 |
| | 8 | 0.0 | -321.8 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 9 | 0.0 | 321.8 | 0.0 | 0.0 | 0.0 | 0.0 |
| 94 | 1 | 0.0 | 0.0 | -235.2 | 0.0 | 0.0 | 0.0 |
| | 8 | 0.0 | -321.8 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 9 | 0.0 | 321.8 | 0.0 | 0.0 | 0.0 | 0.0 |
| 95 | 1 | 0.0 | 0.0 | -335.2 | 0.0 | 0.0 | 0.0 |
| 96 | 1 | 0.0 | 0.0 | -335.2 | 0.0 | 0.0 | 0.0 |
| 97 | 1 | 0.0 | 0.0 | -335.2 | 0.0 | 0.0 | 0.0 |
| 98 | 1 | 0.0 | 0.0 | -335.2 | 0.0 | 0.0 | 0.0 |
| 99 | 1 | 0.0 | 0.0 | -335.2 | 0.0 | 0.0 | 0.0 |
| 100 | 1 | 0.0 | 0.0 | -335.2 | 0.0 | 0.0 | 0.0 |
| 101 | 1 | 0.0 | 0.0 | -359.8 | 0.0 | 0.0 | 0.0 |
| 102 | 1 | 0.0 | 0.0 | -335.2 | 0.0 | 0.0 | 0.0 |
| 103 | 1 | 0.0 | 0.0 | -335.2 | 0.0 | 0.0 | 0.0 |
| 104 | 1 | 0.0 | 0.0 | -335.2 | 0.0 | 0.0 | 0.0 |
| 105 | 1 | 0.0 | 0.0 | -259.8 | 0.0 | 0.0 | 0.0 |
| | 8 | 0.0 | -321.8 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 9 | 0.0 | 321.8 | 0.0 | 0.0 | 0.0 | 0.0 |
| 106 | 1 | 0.0 | 0.0 | -235.2 | 0.0 | 0.0 | 0.0 |
| | 8 | 0.0 | -321.8 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 9 | 0.0 | 321.8 | 0.0 | 0.0 | 0.0 | 0.0 |
| 107 | 1 | 0.0 | 0.0 | -265.9 | 0.0 | 0.0 | 0.0 |
| | 8 | 0.0 | -127.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 9 | 0.0 | 127.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 108 | 1 | 0.0 | 0.0 | -265.9 | 0.0 | 0.0 | 0.0 |
| | 8 | 0.0 | -127.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 9 | 0.0 | 127.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 109 | 1 | 0.0 | 0.0 | -414.8 | 0.0 | 0.0 | 0.0 |
| 110 | 1 | 0.0 | 0.0 | -414.8 | 0.0 | 0.0 | 0.0 |
| 111 | 1 | 0.0 | 0.0 | -390.3 | 0.0 | 0.0 | 0.0 |
| 112 | 1 | 0.0 | 0.0 | -390.3 | 0.0 | 0.0 | 0.0 |
| 113 | 1 | 0.0 | 0.0 | -390.3 | 0.0 | 0.0 | 0.0 |
| 114 | 1 | 0.0 | 0.0 | -390.3 | 0.0 | 0.0 | 0.0 |
| 115 | 1 | 0.0 | 0.0 | -362.7 | 0.0 | 0.0 | 0.0 |
| 116 | 1 | 0.0 | 0.0 | -390.3 | 0.0 | 0.0 | 0.0 |
| 117 | 1 | 0.0 | 0.0 | -414.8 | 0.0 | 0.0 | 0.0 |
| 118 | 1 | 0.0 | 0.0 | -414.8 | 0.0 | 0.0 | 0.0 |
| 119 | 1 | 0.0 | 0.0 | -238.4 | 0.0 | 0.0 | 0.0 |
| | 8 | 0.0 | -127.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 9 | 0.0 | 127.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 120 | 1 | 0.0 | 0.0 | -265.9 | 0.0 | 0.0 | 0.0 |
| | 8 | 0.0 | -127.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 9 | 0.0 | 127.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 121 | 1 | 0.0 | 0.0 | -112.0 | 0.0 | 0.0 | 0.0 |
| | 8 | 0.0 | -1679.2 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 9 | 0.0 | 1679.2 | 0.0 | 0.0 | 0.0 | 0.0 |
| 122 | 1 | 0.0 | 0.0 | -112.0 | 0.0 | 0.0 | 0.0 |
| | 8 | 0.0 | -1679.2 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 9 | 0.0 | 1679.2 | 0.0 | 0.0 | 0.0 | 0.0 |
| 123 | 1 | 0.0 | 0.0 | -112.0 | 0.0 | 0.0 | 0.0 |
| | 8 | 0.0 | -1679.2 | 0.0 | 0.0 | 0.0 | 0.0 |

| | | | | | | | |
|-----|---|-----|---------|--------|-----|-----|-----|
| | 9 | 0.0 | 1679.2 | 0.0 | 0.0 | 0.0 | 0.0 |
| 124 | 1 | 0.0 | 0.0 | -112.0 | 0.0 | 0.0 | 0.0 |
| | 8 | 0.0 | -1679.2 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 9 | 0.0 | 1679.2 | 0.0 | 0.0 | 0.0 | 0.0 |
| 125 | 1 | 0.0 | 0.0 | -189.0 | 0.0 | 0.0 | 0.0 |
| | 8 | 0.0 | -338.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 9 | 0.0 | 338.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 126 | 1 | 0.0 | 0.0 | -189.0 | 0.0 | 0.0 | 0.0 |
| | 8 | 0.0 | -338.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 9 | 0.0 | 338.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 127 | 1 | 0.0 | 0.0 | -335.2 | 0.0 | 0.0 | 0.0 |
| 128 | 1 | 0.0 | 0.0 | -335.2 | 0.0 | 0.0 | 0.0 |
| 129 | 1 | 0.0 | 0.0 | -335.2 | 0.0 | 0.0 | 0.0 |
| 130 | 1 | 0.0 | 0.0 | -335.2 | 0.0 | 0.0 | 0.0 |
| 131 | 1 | 0.0 | 0.0 | -335.2 | 0.0 | 0.0 | 0.0 |
| 132 | 1 | 0.0 | 0.0 | -335.2 | 0.0 | 0.0 | 0.0 |
| 133 | 1 | 0.0 | 0.0 | -335.2 | 0.0 | 0.0 | 0.0 |
| 134 | 1 | 0.0 | 0.0 | -335.2 | 0.0 | 0.0 | 0.0 |
| 135 | 1 | 0.0 | 0.0 | -335.2 | 0.0 | 0.0 | 0.0 |
| 136 | 1 | 0.0 | 0.0 | -335.2 | 0.0 | 0.0 | 0.0 |
| 137 | 1 | 0.0 | 0.0 | -189.0 | 0.0 | 0.0 | 0.0 |
| | 8 | 0.0 | -338.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 9 | 0.0 | 338.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 138 | 1 | 0.0 | 0.0 | -189.0 | 0.0 | 0.0 | 0.0 |
| | 8 | 0.0 | -338.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 9 | 0.0 | 338.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 139 | 1 | 0.0 | 0.0 | -287.3 | 0.0 | 0.0 | 0.0 |
| | 8 | 0.0 | -366.3 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 9 | 0.0 | 366.3 | 0.0 | 0.0 | 0.0 | 0.0 |
| 140 | 1 | 0.0 | 0.0 | -287.3 | 0.0 | 0.0 | 0.0 |
| | 8 | 0.0 | -366.3 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 9 | 0.0 | 366.3 | 0.0 | 0.0 | 0.0 | 0.0 |
| 141 | 1 | 0.0 | 0.0 | -387.3 | 0.0 | 0.0 | 0.0 |
| 142 | 1 | 0.0 | 0.0 | -387.3 | 0.0 | 0.0 | 0.0 |
| 143 | 1 | 0.0 | 0.0 | -335.2 | 0.0 | 0.0 | 0.0 |
| 144 | 1 | 0.0 | 0.0 | -335.2 | 0.0 | 0.0 | 0.0 |
| 145 | 1 | 0.0 | 0.0 | -335.2 | 0.0 | 0.0 | 0.0 |
| 146 | 1 | 0.0 | 0.0 | -335.2 | 0.0 | 0.0 | 0.0 |
| 147 | 1 | 0.0 | 0.0 | -335.2 | 0.0 | 0.0 | 0.0 |
| 148 | 1 | 0.0 | 0.0 | -335.2 | 0.0 | 0.0 | 0.0 |
| 149 | 1 | 0.0 | 0.0 | -387.3 | 0.0 | 0.0 | 0.0 |
| 150 | 1 | 0.0 | 0.0 | -387.3 | 0.0 | 0.0 | 0.0 |
| 151 | 1 | 0.0 | 0.0 | -287.3 | 0.0 | 0.0 | 0.0 |
| | 8 | 0.0 | -366.3 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 9 | 0.0 | 366.3 | 0.0 | 0.0 | 0.0 | 0.0 |
| 152 | 1 | 0.0 | 0.0 | -287.3 | 0.0 | 0.0 | 0.0 |
| | 8 | 0.0 | -366.3 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 9 | 0.0 | 366.3 | 0.0 | 0.0 | 0.0 | 0.0 |
| 153 | 1 | 0.0 | 0.0 | -229.6 | 0.0 | 0.0 | 0.0 |
| | 8 | 0.0 | -173.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 9 | 0.0 | 173.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 154 | 1 | 0.0 | 0.0 | -229.6 | 0.0 | 0.0 | 0.0 |
| | 8 | 0.0 | -173.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 9 | 0.0 | 173.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 155 | 1 | 0.0 | 0.0 | -329.6 | 0.0 | 0.0 | 0.0 |
| 156 | 1 | 0.0 | 0.0 | -329.6 | 0.0 | 0.0 | 0.0 |
| 157 | 1 | 0.0 | 0.0 | -329.6 | 0.0 | 0.0 | 0.0 |
| 158 | 1 | 0.0 | 0.0 | -329.6 | 0.0 | 0.0 | 0.0 |
| 159 | 1 | 0.0 | 0.0 | -329.6 | 0.0 | 0.0 | 0.0 |

| | | | | | | | |
|-----|---|-----|---------|--------|-----|-----|-----|
| 160 | 1 | 0.0 | 0.0 | -329.6 | 0.0 | 0.0 | 0.0 |
| 161 | 1 | 0.0 | 0.0 | -329.6 | 0.0 | 0.0 | 0.0 |
| 162 | 1 | 0.0 | 0.0 | -329.6 | 0.0 | 0.0 | 0.0 |
| 163 | 1 | 0.0 | 0.0 | -329.6 | 0.0 | 0.0 | 0.0 |
| 164 | 1 | 0.0 | 0.0 | -329.6 | 0.0 | 0.0 | 0.0 |
| 165 | 1 | 0.0 | 0.0 | -229.6 | 0.0 | 0.0 | 0.0 |
| | 8 | 0.0 | -173.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 9 | 0.0 | 173.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 166 | 1 | 0.0 | 0.0 | -229.6 | 0.0 | 0.0 | 0.0 |
| | 8 | 0.0 | -173.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 9 | 0.0 | 173.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 167 | 1 | 0.0 | 0.0 | -318.6 | 0.0 | 0.0 | 0.0 |
| | 8 | 0.0 | -4098.1 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 9 | 0.0 | 4098.1 | 0.0 | 0.0 | 0.0 | 0.0 |
| 168 | 1 | 0.0 | 0.0 | -318.6 | 0.0 | 0.0 | 0.0 |
| | 8 | 0.0 | -4098.1 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 9 | 0.0 | 4098.1 | 0.0 | 0.0 | 0.0 | 0.0 |
| 169 | 1 | 0.0 | 0.0 | -335.2 | 0.0 | 0.0 | 0.0 |
| 170 | 1 | 0.0 | 0.0 | -335.2 | 0.0 | 0.0 | 0.0 |
| 171 | 1 | 0.0 | 0.0 | -335.2 | 0.0 | 0.0 | 0.0 |
| 172 | 1 | 0.0 | 0.0 | -335.2 | 0.0 | 0.0 | 0.0 |
| 173 | 1 | 0.0 | 0.0 | -335.2 | 0.0 | 0.0 | 0.0 |
| 174 | 1 | 0.0 | 0.0 | -335.2 | 0.0 | 0.0 | 0.0 |
| 175 | 1 | 0.0 | 0.0 | -335.2 | 0.0 | 0.0 | 0.0 |
| 176 | 1 | 0.0 | 0.0 | -335.2 | 0.0 | 0.0 | 0.0 |
| 177 | 1 | 0.0 | 0.0 | -335.2 | 0.0 | 0.0 | 0.0 |
| 178 | 1 | 0.0 | 0.0 | -335.2 | 0.0 | 0.0 | 0.0 |
| 179 | 1 | 0.0 | 0.0 | -318.6 | 0.0 | 0.0 | 0.0 |
| | 8 | 0.0 | -4098.1 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 9 | 0.0 | 4098.1 | 0.0 | 0.0 | 0.0 | 0.0 |
| 180 | 1 | 0.0 | 0.0 | -318.6 | 0.0 | 0.0 | 0.0 |
| | 8 | 0.0 | -4098.1 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 9 | 0.0 | 4098.1 | 0.0 | 0.0 | 0.0 | 0.0 |
| 181 | 1 | 0.0 | 0.0 | -294.5 | 0.0 | 0.0 | 0.0 |
| | 8 | 0.0 | -523.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 9 | 0.0 | 523.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 182 | 1 | 0.0 | 0.0 | -294.5 | 0.0 | 0.0 | 0.0 |
| | 8 | 0.0 | -523.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 9 | 0.0 | 523.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 183 | 1 | 0.0 | 0.0 | -394.6 | 0.0 | 0.0 | 0.0 |
| 184 | 1 | 0.0 | 0.0 | -394.6 | 0.0 | 0.0 | 0.0 |
| 185 | 1 | 0.0 | 0.0 | -340.8 | 0.0 | 0.0 | 0.0 |
| 186 | 1 | 0.0 | 0.0 | -340.8 | 0.0 | 0.0 | 0.0 |
| 187 | 1 | 0.0 | 0.0 | -340.8 | 0.0 | 0.0 | 0.0 |
| 188 | 1 | 0.0 | 0.0 | -340.8 | 0.0 | 0.0 | 0.0 |
| 189 | 1 | 0.0 | 0.0 | -340.8 | 0.0 | 0.0 | 0.0 |
| 190 | 1 | 0.0 | 0.0 | -340.8 | 0.0 | 0.0 | 0.0 |
| 191 | 1 | 0.0 | 0.0 | -394.6 | 0.0 | 0.0 | 0.0 |
| 192 | 1 | 0.0 | 0.0 | -394.6 | 0.0 | 0.0 | 0.0 |
| 193 | 1 | 0.0 | 0.0 | -294.5 | 0.0 | 0.0 | 0.0 |
| | 8 | 0.0 | -523.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 9 | 0.0 | 523.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 194 | 1 | 0.0 | 0.0 | -294.5 | 0.0 | 0.0 | 0.0 |
| | 8 | 0.0 | -523.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 9 | 0.0 | 523.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 195 | 1 | 0.0 | 0.0 | -235.2 | 0.0 | 0.0 | 0.0 |
| | 8 | 0.0 | -306.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 9 | 0.0 | 306.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 196 | 1 | 0.0 | 0.0 | -235.2 | 0.0 | 0.0 | 0.0 |

| | | | | | | | |
|-----|---|-----|---------|--------|-----|-----|-----|
| | 8 | 0.0 | -306.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 9 | 0.0 | 306.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 197 | 1 | 0.0 | 0.0 | -335.2 | 0.0 | 0.0 | 0.0 |
| 198 | 1 | 0.0 | 0.0 | -335.2 | 0.0 | 0.0 | 0.0 |
| 199 | 1 | 0.0 | 0.0 | -335.2 | 0.0 | 0.0 | 0.0 |
| 200 | 1 | 0.0 | 0.0 | -335.2 | 0.0 | 0.0 | 0.0 |
| 201 | 1 | 0.0 | 0.0 | -335.2 | 0.0 | 0.0 | 0.0 |
| 202 | 1 | 0.0 | 0.0 | -335.2 | 0.0 | 0.0 | 0.0 |
| 203 | 1 | 0.0 | 0.0 | -335.2 | 0.0 | 0.0 | 0.0 |
| 204 | 1 | 0.0 | 0.0 | -335.2 | 0.0 | 0.0 | 0.0 |
| 205 | 1 | 0.0 | 0.0 | -335.2 | 0.0 | 0.0 | 0.0 |
| 206 | 1 | 0.0 | 0.0 | -335.2 | 0.0 | 0.0 | 0.0 |
| 207 | 1 | 0.0 | 0.0 | -235.2 | 0.0 | 0.0 | 0.0 |
| | 8 | 0.0 | -306.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 9 | 0.0 | 306.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 208 | 1 | 0.0 | 0.0 | -235.2 | 0.0 | 0.0 | 0.0 |
| | 8 | 0.0 | -306.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 9 | 0.0 | 306.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 209 | 1 | 0.0 | 0.0 | -208.3 | 0.0 | 0.0 | 0.0 |
| | 8 | 0.0 | -112.3 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 9 | 0.0 | 112.3 | 0.0 | 0.0 | 0.0 | 0.0 |
| 210 | 1 | 0.0 | 0.0 | -208.3 | 0.0 | 0.0 | 0.0 |
| | 8 | 0.0 | -112.3 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 9 | 0.0 | 112.3 | 0.0 | 0.0 | 0.0 | 0.0 |
| 211 | 1 | 0.0 | 0.0 | -308.3 | 0.0 | 0.0 | 0.0 |
| 212 | 1 | 0.0 | 0.0 | -308.3 | 0.0 | 0.0 | 0.0 |
| 213 | 1 | 0.0 | 0.0 | -308.3 | 0.0 | 0.0 | 0.0 |
| 214 | 1 | 0.0 | 0.0 | -308.3 | 0.0 | 0.0 | 0.0 |
| 215 | 1 | 0.0 | 0.0 | -308.3 | 0.0 | 0.0 | 0.0 |
| 216 | 1 | 0.0 | 0.0 | -308.3 | 0.0 | 0.0 | 0.0 |
| 217 | 1 | 0.0 | 0.0 | -308.3 | 0.0 | 0.0 | 0.0 |
| 218 | 1 | 0.0 | 0.0 | -308.3 | 0.0 | 0.0 | 0.0 |
| 219 | 1 | 0.0 | 0.0 | -308.3 | 0.0 | 0.0 | 0.0 |
| 220 | 1 | 0.0 | 0.0 | -308.3 | 0.0 | 0.0 | 0.0 |
| 221 | 1 | 0.0 | 0.0 | -208.3 | 0.0 | 0.0 | 0.0 |
| | 8 | 0.0 | -112.3 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 9 | 0.0 | 112.3 | 0.0 | 0.0 | 0.0 | 0.0 |
| 222 | 1 | 0.0 | 0.0 | -208.3 | 0.0 | 0.0 | 0.0 |
| | 8 | 0.0 | -112.3 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 9 | 0.0 | 112.3 | 0.0 | 0.0 | 0.0 | 0.0 |
| 223 | 1 | 0.0 | 0.0 | -481.8 | 0.0 | 0.0 | 0.0 |
| | 8 | 0.0 | -5192.1 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 9 | 0.0 | 5192.1 | 0.0 | 0.0 | 0.0 | 0.0 |
| 224 | 1 | 0.0 | 0.0 | -625.7 | 0.0 | 0.0 | 0.0 |
| 225 | 1 | 0.0 | 0.0 | -573.2 | 0.0 | 0.0 | 0.0 |
| 226 | 1 | 0.0 | 0.0 | -529.3 | 0.0 | 0.0 | 0.0 |
| 227 | 1 | 0.0 | 0.0 | -573.2 | 0.0 | 0.0 | 0.0 |
| 228 | 1 | 0.0 | 0.0 | -625.7 | 0.0 | 0.0 | 0.0 |
| 229 | 1 | 0.0 | 0.0 | -481.8 | 0.0 | 0.0 | 0.0 |
| | 8 | 0.0 | -5192.1 | 0.0 | 0.0 | 0.0 | 0.0 |
| | 9 | 0.0 | 5192.1 | 0.0 | 0.0 | 0.0 | 0.0 |

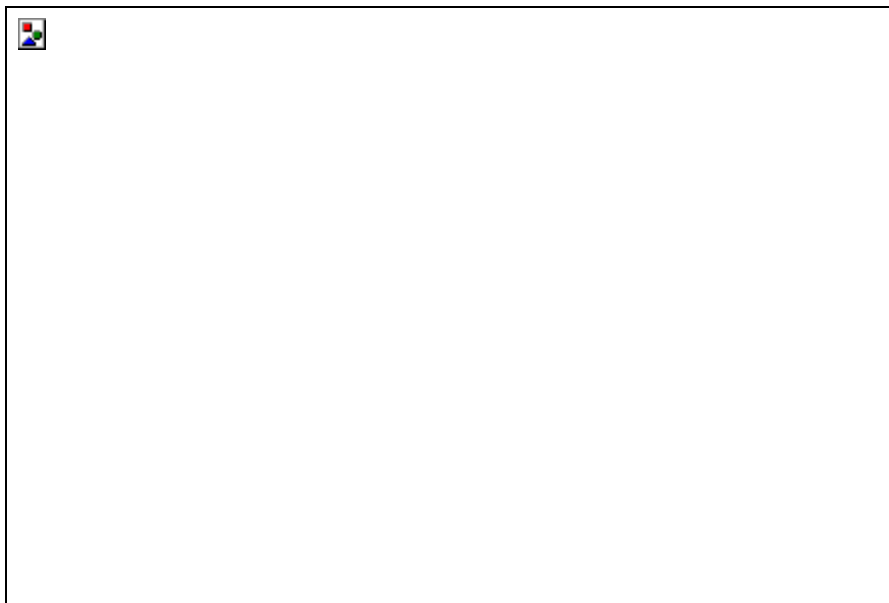
- Dati relativi alle aree di carico

- Convenzioni adottate

Nel seguito sono riportate le *aree di carico* definite nel progetto.

Un'*area di carico* è definita da una superficie contornata da travi di bordo ed i carichi superficiali su essa agenti vengono riportati dal programma sulle travi perimetrali in ragione dell'area di influenza relativa ad ogni trave e della direzione di orditura della superficie.

È importante rilevare che **la direzione di orditura viene assunta dal programma con riferimento al primo lato della superficie di carico e non con riferimento all'asse x globale della struttura.**



Esempio: *direzione* di orditura 0 gradi.

In particolare ricordiamo che le *aree di carico* fungono esclusivamente da supporto per il calcolo dei carichi di tipo superficiale in quanto i carichi definiti tramite tali *aree di carico* in effetti vengono trasferiti (sotto forma di carichi lineari o carichi nodali concentrati nei nodi) sulle travi perimetrali che contornano l'area di carico stessa.

A seguire vengono riportati per ogni tipologia definita i carichi agenti nelle varie condizioni di carico. La dizione:

Globale

indica che il carico è definito nel sistema di riferimento globale della struttura.

Globale Proiettato

indica che il carico è definito nel sistema di riferimento globale della struttura ma il valore viene computato in proiezione.

Locale

indica che il carico è definito nel sistema di riferimento locale della superficie di carico.

| Area di Carico Numero | Commento |
|-----------------------|---------------------------------|
| 1 | Copertura falda A |
| 2 | Copertura Falda B |
| 3 | Vento pareti lunghe sopravvento |

| | | |
|--|---|--------------------------------|
| | 4 | Vento pareti lunghe sottovento |
| | | |
| | 5 | vento pareti corte |
| | | |

| Tipo | Alfa | Condizione | Carico Trasmesso | Riferimento | qx [N/mq] Qx [N] | qy [N/mq] Qy [N] | qz [N/mq] Qz [N] |
|------|-------|------------|---------------------|--------------------|---------------------------|---------------------------|---------------------------|
| 1 | 90.00 | 2 | Alle Travi | Globale | 0.0 | 0.0 | 100.0 |
| | | | | | -0.0 | 0.0 | 46588.7 |
| 1 | 90.00 | 3 | Alle Travi | Globale | 0.0 | 0.0 | 100.0 |
| | | | | | -0.0 | 0.0 | 46588.7 |
| 1 | 90.00 | 5 | Alle Travi | Globale Proiettato | 0.0 | 0.0 | 900.0 |
| | | | | | -0.0 | 0.0 | 411156.1 |
| 1 | 90.00 | 6 | Alle Travi | Locale | 0.0 | 0.0 | 540.0 |
| | | | | | -49338.7 | 0.0 | 246693.7 |
| 1 | 90.00 | 7 | Alle Travi | Locale | 0.0 | 0.0 | -540.0 |
| | | | | | 49338.7 | 0.0 | -246693.7 |
| | | | | | | | |
| 2 | 90.00 | 2 | Alle Travi | Globale | 0.0 | 0.0 | 100.0 |
| | | | | | 0.0 | 0.0 | 46588.7 |
| 2 | 90.00 | 3 | Alle Travi | Globale | 0.0 | 0.0 | 100.0 |
| | | | | | 0.0 | 0.0 | 46588.7 |
| 2 | 90.00 | 5 | Alle Travi | Globale Proiettato | 0.0 | 0.0 | 900.0 |
| | | | | | 0.0 | 0.0 | 411155.9 |
| 2 | 90.00 | 6 | Alle Travi | Locale | 0.0 | 0.0 | -540.0 |
| | | | | | -49338.7 | 0.0 | -246693.6 |
| 2 | 90.00 | 7 | Alle Travi | Locale | 0.0 | 0.0 | 540.0 |
| | | | | | 49338.7 | 0.0 | 246693.6 |
| | | | | | | | |
| 3 | 0.00 | 6 | Ai Nodi | Globale | 900.0 | 0.0 | 0.0 |
| | | | | | 104976.0 | 0.0 | 0.0 |
| 3 | 0.00 | 7 | Ai Nodi | Globale | -540.0 | 0.0 | 0.0 |
| | | | | | -62985.6 | 0.0 | 0.0 |
| | | | | | | | |
| 4 | 0.00 | 6 | Ai Nodi | Globale | 540.0 | 0.0 | 0.0 |
| | | | | | 62985.6 | 0.0 | 0.0 |
| 4 | 0.00 | 7 | Ai Nodi | Globale | -900.0 | 0.0 | 0.0 |
| | | | | | -104976.0 | 0.0 | 0.0 |
| | | | | | | | |
| 5 | 0.00 | 8 | Ai Nodi | Globale | 0.0 | 1080.0 | 0.0 |
| | | | | | 0.0 | 305169.2 | 0.0 |
| 5 | 0.00 | 9 | Ai Nodi | Globale | 0.0 | -1080.0 | 0.0 |
| | | | | | 0.0 | -305169.2 | -0.0 |
| | | | | | | | |

- Carichi applicati agli elementi

- Convenzioni adottate

I carichi applicati vengono raccolti nella tabella riportata alla fine del paragrafo e si intendono applicati nel sistema di riferimento locale dell'elemento.

Per la lettura della tabella si definiscono:

NodoI, NodoJ

I nodi iniziale/finale dell'asta o lato dell'elemento cui afferisce il carico

L

La distanza fra i suddetti nodi.

qxi, ..., qzj

Le componenti di un carico distribuito costante o variabile linearmente iniziali (indice i) e finale (indice j).

xi, xj

Le distanze, misurate a partire dal Nodol, dei punti di applicazione dei carichi qxi..qzj relativi a carichi distribuiti applicati su porzioni di un'asta.

Px, ..., Pz xApp

Le componenti di un Carico Concentrato applicato a distanza xApp dal Nodol.

Mx, ..., Mz xApp

Le componenti di una Coppia Concentrata applicata a distanza xApp dal Nodol.

Var Termica Assiale, ..., Var Termica Farfalla 13

Le variazioni termiche (Assiali ed a Farfalla) misurate in gradi Celsius.

mxi, ..., mzj

Le componenti di coppie distribuite costanti o variabili linearmente iniziali (indice i) e finale (indice j).

qSx, qSy, qSz

carichi, per unità di superficie, applicati su elementi superficiali o facce di elementi solidi

Peso Proprio

Il valore del carico derivante dal peso proprio dell'elemento

- Carichi distribuiti

| Nodo I | Nodo J | L [m] | Condizione di carico | xi [m] | qxi [N/m] | qyi [N/m] | qzi [N/m] | xj [m] | qxj [N/m] | qyj [N/m] | qzj [N/m] |
|--------|--------|----------|-------------------------|-----------|--------------|--------------|--------------|-----------|--------------|--------------|--------------|
| 211 | 224 | 0.82 | 1 | 0.00 | 130.3 | 651.4 | 0.0 | 0.82 | 130.3 | 651.4 | 0.0 |
| 1 | 2 | 4.90 | 1 | 0.00 | 0.0 | 15000.0 | 0.0 | 4.90 | 0.0 | 15000.0 | 0.0 |
| | | | 4 | 0.00 | 0.0 | 6000.0 | 0.0 | 4.90 | 0.0 | 6000.0 | 0.0 |
| 1 | 50 | 3.60 | 1 | 0.00 | 1250.0 | 0.0 | 0.0 | 3.60 | 1250.0 | 0.0 | 0.0 |
| 110 | 56 | 6.76 | 1 | 0.00 | -6.4 | 53.9 | 0.0 | 6.76 | -6.4 | 53.9 | 0.0 |
| 213 | 225 | 0.82 | 1 | 0.00 | 130.3 | 651.4 | 0.0 | 0.82 | 130.3 | 651.4 | 0.0 |
| 2 | 3 | 4.30 | 1 | 0.00 | 0.0 | 15000.0 | 0.0 | 4.30 | 0.0 | 15000.0 | 0.0 |
| | | | 4 | 0.00 | 0.0 | 6000.0 | 0.0 | 4.30 | 0.0 | 6000.0 | 0.0 |
| 7 | 56 | 3.60 | 1 | 0.00 | 1250.0 | 0.0 | 0.0 | 3.60 | 1250.0 | 0.0 | 0.0 |
| 61 | 110 | 6.76 | 1 | 0.00 | 6.4 | 53.9 | 0.0 | 6.76 | 6.4 | 53.9 | 0.0 |
| 72 | 91 | 1.36 | 1 | 0.00 | 130.3 | 651.4 | 0.0 | 1.36 | 130.3 | 651.4 | 0.0 |
| 3 | 4 | 4.90 | 1 | 0.00 | 0.0 | 15000.0 | 0.0 | 4.90 | 0.0 | 15000.0 | 0.0 |
| | | | 4 | 0.00 | 0.0 | 6000.0 | 0.0 | 4.90 | 0.0 | 6000.0 | 0.0 |
| 8 | 57 | 3.60 | 1 | 0.00 | 1250.0 | 0.0 | 0.0 | 3.60 | 1250.0 | 0.0 | 0.0 |
| 114 | 61 | 6.76 | 1 | 0.00 | -6.4 | 53.9 | 0.0 | 6.76 | -6.4 | 53.9 | 0.0 |
| 91 | 105 | 1.36 | 1 | 0.00 | 130.3 | 651.4 | 0.0 | 1.36 | 130.3 | 651.4 | 0.0 |
| 4 | 5 | 4.90 | 1 | 0.00 | 0.0 | 23750.0 | 0.0 | 4.90 | 0.0 | 23750.0 | 0.0 |
| | | | 4 | 0.00 | 0.0 | 6000.0 | 0.0 | 4.90 | 0.0 | 6000.0 | 0.0 |
| 14 | 58 | 3.60 | 1 | 0.00 | 1250.0 | 0.0 | 0.0 | 3.60 | 1250.0 | 0.0 | 0.0 |
| 116 | 70 | 6.76 | 1 | 0.00 | -6.4 | 53.9 | 0.0 | 6.76 | -6.4 | 53.9 | 0.0 |
| 103 | 117 | 1.36 | 1 | 0.00 | 130.3 | 651.4 | 0.0 | 1.36 | 130.3 | 651.4 | 0.0 |
| 5 | 6 | 4.30 | 1 | 0.00 | 0.0 | 23750.0 | 0.0 | 4.30 | 0.0 | 23750.0 | 0.0 |
| | | | 4 | 0.00 | 0.0 | 6000.0 | 0.0 | 4.30 | 0.0 | 6000.0 | 0.0 |
| 15 | 60 | 3.60 | 1 | 0.00 | 1250.0 | 0.0 | 0.0 | 3.60 | 1250.0 | 0.0 | 0.0 |
| 112 | 65 | 6.76 | 1 | 0.00 | -6.4 | 53.9 | 0.0 | 6.76 | -6.4 | 53.9 | 0.0 |
| 50 | 79 | 1.36 | 1 | 0.00 | 130.3 | 651.4 | 0.0 | 1.36 | 130.3 | 651.4 | 0.0 |
| 6 | 7 | 4.90 | 1 | 0.00 | 0.0 | 23750.0 | 0.0 | 4.90 | 0.0 | 23750.0 | 0.0 |
| | | | 4 | 0.00 | 0.0 | 6000.0 | 0.0 | 4.90 | 0.0 | 6000.0 | 0.0 |
| 21 | 61 | 3.60 | 1 | 0.00 | 1250.0 | 0.0 | 0.0 | 3.60 | 1250.0 | 0.0 | 0.0 |

| | | | | | | | | | | | |
|-----|-----|-------|---|------|--------|---------|-----|-------|--------|---------|-----|
| 65 | 116 | 6.76 | 1 | 0.00 | 6.4 | 53.9 | 0.0 | 6.76 | 6.4 | 53.9 | 0.0 |
| 107 | 121 | 0.93 | 1 | 0.00 | 130.3 | 651.4 | 0.0 | 0.93 | 130.3 | 651.4 | 0.0 |
| 8 | 9 | 2.00 | 1 | 0.00 | 0.0 | 15000.0 | 0.0 | 2.00 | 0.0 | 15000.0 | 0.0 |
| 22 | 63 | 3.60 | 1 | 0.00 | 1250.0 | 0.0 | 0.0 | 3.60 | 1250.0 | 0.0 | 0.0 |
| 108 | 58 | 6.76 | 1 | 0.00 | -6.4 | 53.9 | 0.0 | 6.76 | -6.4 | 53.9 | 0.0 |
| 80 | 56 | 1.36 | 1 | 0.00 | -130.3 | 651.4 | 0.0 | 1.36 | -130.3 | 651.4 | 0.0 |
| 9 | 10 | 10.10 | 1 | 0.00 | 0.0 | 4000.0 | 0.0 | 10.10 | 0.0 | 4000.0 | 0.0 |
| 28 | 65 | 3.60 | 1 | 0.00 | 1250.0 | 0.0 | 0.0 | 3.60 | 1250.0 | 0.0 | 0.0 |
| 58 | 112 | 6.76 | 1 | 0.00 | 6.4 | 53.9 | 0.0 | 6.76 | 6.4 | 53.9 | 0.0 |
| 61 | 84 | 1.36 | 1 | 0.00 | 130.3 | 651.4 | 0.0 | 1.36 | 130.3 | 651.4 | 0.0 |
| 10 | 11 | 2.00 | 1 | 0.00 | 0.0 | 15000.0 | 0.0 | 2.00 | 0.0 | 15000.0 | 0.0 |
| 29 | 66 | 3.60 | 1 | 0.00 | 1250.0 | 0.0 | 0.0 | 3.60 | 1250.0 | 0.0 | 0.0 |
| 50 | 109 | 6.76 | 1 | 0.00 | 6.4 | 53.9 | 0.0 | 6.76 | 6.4 | 53.9 | 0.0 |
| 58 | 82 | 1.36 | 1 | 0.00 | 130.3 | 651.4 | 0.0 | 1.36 | 130.3 | 651.4 | 0.0 |
| 11 | 12 | 2.00 | 1 | 0.00 | 0.0 | 15000.0 | 0.0 | 2.00 | 0.0 | 15000.0 | 0.0 |
| 35 | 67 | 3.60 | 1 | 0.00 | 1250.0 | 0.0 | 0.0 | 3.60 | 1250.0 | 0.0 | 0.0 |
| 57 | 15 | 6.49 | 1 | 0.00 | -53.3 | 79.9 | 0.0 | 6.49 | -53.3 | 79.9 | 0.0 |
| 86 | 65 | 1.36 | 1 | 0.00 | -130.3 | 651.4 | 0.0 | 1.36 | -130.3 | 651.4 | 0.0 |
| 12 | 13 | 10.10 | 1 | 0.00 | 0.0 | 4000.0 | 0.0 | 10.10 | 0.0 | 4000.0 | 0.0 |
| 36 | 69 | 3.60 | 1 | 0.00 | 1250.0 | 0.0 | 0.0 | 3.60 | 1250.0 | 0.0 | 0.0 |
| 57 | 111 | 6.76 | 1 | 0.00 | 6.4 | 53.9 | 0.0 | 6.76 | 6.4 | 53.9 | 0.0 |
| 90 | 70 | 1.36 | 1 | 0.00 | -130.3 | 651.4 | 0.0 | 1.36 | -130.3 | 651.4 | 0.0 |
| 13 | 14 | 2.00 | 1 | 0.00 | 0.0 | 23750.0 | 0.0 | 2.00 | 0.0 | 23750.0 | 0.0 |
| 42 | 70 | 3.60 | 1 | 0.00 | 1250.0 | 0.0 | 0.0 | 3.60 | 1250.0 | 0.0 | 0.0 |
| 60 | 8 | 6.49 | 1 | 0.00 | -53.3 | 79.9 | 0.0 | 6.49 | -53.3 | 79.9 | 0.0 |
| 88 | 67 | 1.36 | 1 | 0.00 | -130.3 | 651.4 | 0.0 | 1.36 | -130.3 | 651.4 | 0.0 |
| 15 | 16 | 2.00 | 1 | 0.00 | 0.0 | 15000.0 | 0.0 | 2.00 | 0.0 | 15000.0 | 0.0 |
| 43 | 72 | 3.60 | 1 | 0.00 | 1250.0 | 0.0 | 0.0 | 3.60 | 1250.0 | 0.0 | 0.0 |
| 53 | 59 | 5.40 | 1 | 0.00 | 0.0 | 96.0 | 0.0 | 5.40 | 0.0 | 96.0 | 0.0 |
| 92 | 78 | 1.36 | 1 | 0.00 | -130.3 | 651.4 | 0.0 | 1.36 | -130.3 | 651.4 | 0.0 |
| 16 | 17 | 10.10 | 1 | 0.00 | 0.0 | 4000.0 | 0.0 | 10.10 | 0.0 | 4000.0 | 0.0 |
| 49 | 78 | 3.60 | 1 | 0.00 | 1250.0 | 0.0 | 0.0 | 3.60 | 1250.0 | 0.0 | 0.0 |
| 59 | 18 | 6.49 | 1 | 0.00 | -53.3 | 79.9 | 0.0 | 6.49 | -53.3 | 79.9 | 0.0 |
| 94 | 80 | 1.36 | 1 | 0.00 | -130.3 | 651.4 | 0.0 | 1.36 | -130.3 | 651.4 | 0.0 |
| 17 | 18 | 2.00 | 1 | 0.00 | 0.0 | 15000.0 | 0.0 | 2.00 | 0.0 | 15000.0 | 0.0 |
| 2 | 51 | 3.60 | 1 | 0.00 | 604.4 | 0.0 | 0.0 | 3.60 | 604.4 | 0.0 | 0.0 |
| 58 | 21 | 6.49 | 1 | 0.00 | -53.3 | 79.9 | 0.0 | 6.49 | -53.3 | 79.9 | 0.0 |
| 100 | 86 | 1.36 | 1 | 0.00 | -130.3 | 651.4 | 0.0 | 1.36 | -130.3 | 651.4 | 0.0 |
| 18 | 19 | 2.00 | 1 | 0.00 | 0.0 | 15000.0 | 0.0 | 2.00 | 0.0 | 15000.0 | 0.0 |
| 51 | 121 | 0.98 | 1 | 0.00 | 604.4 | 0.0 | 0.0 | 0.98 | 604.4 | 0.0 | 0.0 |
| 60 | 109 | 6.76 | 1 | 0.00 | 6.4 | 53.9 | 0.0 | 6.76 | 6.4 | 53.9 | 0.0 |
| 104 | 90 | 1.36 | 1 | 0.00 | -130.3 | 651.4 | 0.0 | 1.36 | -130.3 | 651.4 | 0.0 |
| 19 | 20 | 10.10 | 1 | 0.00 | 0.0 | 4000.0 | 0.0 | 10.10 | 0.0 | 4000.0 | 0.0 |
| 3 | 52 | 3.60 | 1 | 0.00 | 604.4 | 0.0 | 0.0 | 3.60 | 604.4 | 0.0 | 0.0 |
| 60 | 113 | 6.76 | 1 | 0.00 | 6.4 | 53.9 | 0.0 | 6.76 | 6.4 | 53.9 | 0.0 |
| 102 | 88 | 1.36 | 1 | 0.00 | -130.3 | 651.4 | 0.0 | 1.36 | -130.3 | 651.4 | 0.0 |
| 20 | 21 | 2.00 | 1 | 0.00 | 0.0 | 23750.0 | 0.0 | 2.00 | 0.0 | 23750.0 | 0.0 |
| 52 | 167 | 1.84 | 1 | 0.00 | 604.4 | 0.0 | 0.0 | 1.84 | 604.4 | 0.0 | 0.0 |
| 59 | 62 | 5.40 | 1 | 0.00 | 0.0 | 96.0 | 0.0 | 5.40 | 0.0 | 96.0 | 0.0 |
| 82 | 96 | 1.36 | 1 | 0.00 | 130.3 | 651.4 | 0.0 | 1.36 | 130.3 | 651.4 | 0.0 |
| 22 | 23 | 2.00 | 1 | 0.00 | 0.0 | 15000.0 | 0.0 | 2.00 | 0.0 | 15000.0 | 0.0 |
| 4 | 53 | 3.60 | 1 | 0.00 | 1172.3 | 0.0 | 0.0 | 3.60 | 1172.3 | 0.0 | 0.0 |
| 62 | 11 | 6.49 | 1 | 0.00 | -30.1 | 45.1 | 0.0 | 6.49 | -30.1 | 45.1 | 0.0 |
| 84 | 98 | 1.36 | 1 | 0.00 | 130.3 | 651.4 | 0.0 | 1.36 | 130.3 | 651.4 | 0.0 |
| 23 | 24 | 10.10 | 1 | 0.00 | 0.0 | 4000.0 | 0.0 | 10.10 | 0.0 | 4000.0 | 0.0 |
| 53 | 223 | 2.82 | 1 | 0.00 | 1172.3 | 0.0 | 0.0 | 2.82 | 1172.3 | 0.0 | 0.0 |
| 61 | 14 | 6.49 | 1 | 0.00 | -53.3 | 79.9 | 0.0 | 6.49 | -53.3 | 79.9 | 0.0 |
| 113 | 131 | 1.36 | 1 | 0.00 | 130.3 | 651.4 | 0.0 | 1.36 | 130.3 | 651.4 | 0.0 |
| 24 | 25 | 2.00 | 1 | 0.00 | 0.0 | 15000.0 | 0.0 | 2.00 | 0.0 | 15000.0 | 0.0 |

| | | | | | | | | | | | |
|-----|-----|-------|---|------|--------|---------|------|-------|--------|---------|------|
| 5 | 54 | 3.60 | 1 | 0.00 | 604.4 | 0.0 | 0.0 | 3.60 | 604.4 | 0.0 | 0.0 |
| 63 | 101 | 6.04 | 1 | 0.00 | 4.8 | 54.0 | 0.0 | 6.04 | 4.8 | 54.0 | 0.0 |
| 131 | 145 | 1.36 | 1 | 0.00 | 130.3 | 651.4 | 0.0 | 1.36 | 130.3 | 651.4 | 0.0 |
| 25 | 26 | 2.00 | 1 | 0.00 | 0.0 | 15000.0 | 0.0 | 2.00 | 0.0 | 15000.0 | 0.0 |
| 54 | 168 | 1.84 | 1 | 0.00 | 604.4 | -0.0 | 0.0 | 1.84 | 604.4 | -0.0 | 0.0 |
| 63 | 111 | 6.76 | 1 | 0.00 | 6.4 | 53.9 | 0.0 | 6.76 | 6.4 | 53.9 | 0.0 |
| 101 | 115 | 1.36 | 1 | 0.00 | 130.3 | 651.4 | 0.0 | 1.36 | 130.3 | 651.4 | 0.0 |
| 26 | 27 | 10.10 | 1 | 0.00 | 0.0 | 4000.0 | 0.0 | 10.10 | 0.0 | 4000.0 | 0.0 |
| 6 | 55 | 3.60 | 1 | 0.00 | 604.4 | 0.0 | 0.0 | 3.60 | 604.4 | 0.0 | 0.0 |
| 66 | 36 | 6.49 | 1 | 0.00 | -53.3 | 79.9 | 0.0 | 6.49 | -53.3 | 79.9 | 0.0 |
| 222 | 208 | 1.36 | 1 | 0.00 | -130.3 | 651.4 | 0.0 | 1.36 | -130.3 | 651.4 | 0.0 |
| 27 | 28 | 2.00 | 1 | 0.00 | 0.0 | 23750.0 | 0.0 | 2.00 | 0.0 | 23750.0 | 0.0 |
| 55 | 122 | 0.98 | 1 | 0.00 | 604.4 | 0.0 | 0.0 | 0.98 | 604.4 | 0.0 | 0.0 |
| 62 | 64 | 5.40 | 1 | 0.00 | 0.0 | 96.0 | 0.0 | 5.40 | 0.0 | 96.0 | 0.0 |
| 229 | 222 | 0.82 | 1 | 0.00 | -130.3 | 651.4 | 0.0 | 0.82 | -130.3 | 651.4 | 0.0 |
| 29 | 30 | 2.00 | 1 | 0.00 | 0.0 | 15000.0 | 0.0 | 2.00 | 0.0 | 15000.0 | 0.0 |
| 11 | 59 | 3.60 | 1 | 0.00 | 1172.3 | 0.0 | 0.0 | 3.60 | 1172.3 | 0.0 | 0.0 |
| 66 | 113 | 6.76 | 1 | 0.00 | 6.4 | 53.9 | 0.0 | 6.76 | 6.4 | 53.9 | 0.0 |
| 208 | 194 | 1.36 | 1 | 0.00 | -130.3 | 651.4 | 0.0 | 1.36 | -130.3 | 651.4 | 0.0 |
| 30 | 31 | 10.10 | 1 | 0.00 | 0.0 | 4000.0 | 0.0 | 10.10 | 0.0 | 4000.0 | 0.0 |
| 59 | 224 | 2.82 | 1 | 0.00 | 1172.3 | -0.0 | -0.0 | 2.82 | 1172.3 | -0.0 | -0.0 |
| 66 | 117 | 6.76 | 1 | 0.00 | 6.4 | 53.9 | 0.0 | 6.76 | 6.4 | 53.9 | 0.0 |
| 120 | 106 | 1.36 | 1 | 0.00 | -130.3 | 651.4 | 0.0 | 1.36 | -130.3 | 651.4 | 0.0 |
| 31 | 32 | 2.00 | 1 | 0.00 | 0.0 | 15000.0 | 0.0 | 2.00 | 0.0 | 15000.0 | 0.0 |
| 18 | 62 | 3.60 | 1 | 0.00 | 1172.3 | 0.0 | 0.0 | 3.60 | 1172.3 | 0.0 | 0.0 |
| 69 | 29 | 6.49 | 1 | 0.00 | -53.3 | 79.9 | 0.0 | 6.49 | -53.3 | 79.9 | 0.0 |
| 194 | 180 | 1.47 | 1 | 0.00 | -130.3 | 651.4 | 0.0 | 1.47 | -130.3 | 651.4 | 0.0 |
| 32 | 33 | 2.00 | 1 | 0.00 | 0.0 | 15000.0 | 0.0 | 2.00 | 0.0 | 15000.0 | 0.0 |
| 62 | 225 | 2.82 | 1 | 0.00 | 1172.3 | -0.0 | -0.0 | 2.82 | 1172.3 | -0.0 | -0.0 |
| 64 | 68 | 5.40 | 1 | 0.00 | 0.0 | 96.0 | 0.0 | 5.40 | 0.0 | 96.0 | 0.0 |
| 180 | 166 | 1.24 | 1 | 0.00 | -130.3 | 651.4 | 0.0 | 1.24 | -130.3 | 651.4 | 0.0 |
| 33 | 34 | 10.10 | 1 | 0.00 | 0.0 | 4000.0 | 0.0 | 10.10 | 0.0 | 4000.0 | 0.0 |
| 25 | 64 | 3.60 | 1 | 0.00 | 1172.3 | 0.0 | 0.0 | 3.60 | 1172.3 | 0.0 | 0.0 |
| 68 | 39 | 6.49 | 1 | 0.00 | -53.3 | 79.9 | 0.0 | 6.49 | -53.3 | 79.9 | 0.0 |
| 215 | 226 | 0.82 | 1 | 0.00 | 130.3 | 651.4 | 0.0 | 0.82 | 130.3 | 651.4 | 0.0 |
| 34 | 35 | 2.00 | 1 | 0.00 | 0.0 | 23750.0 | 0.0 | 2.00 | 0.0 | 23750.0 | 0.0 |
| 64 | 226 | 2.82 | 1 | 0.00 | 1172.3 | 0.0 | 0.0 | 2.82 | 1172.3 | 0.0 | 0.0 |
| 67 | 42 | 6.49 | 1 | 0.00 | -53.3 | 79.9 | 0.0 | 6.49 | -53.3 | 79.9 | 0.0 |
| 166 | 152 | 1.36 | 1 | 0.00 | -130.3 | 651.4 | 0.0 | 1.36 | -130.3 | 651.4 | 0.0 |
| 36 | 37 | 2.00 | 1 | 0.00 | 0.0 | 15000.0 | 0.0 | 2.00 | 0.0 | 15000.0 | 0.0 |
| 32 | 68 | 3.60 | 1 | 0.00 | 1172.3 | 0.0 | 0.0 | 3.60 | 1172.3 | 0.0 | 0.0 |
| 69 | 105 | 6.04 | 1 | 0.00 | 4.8 | 54.0 | 0.0 | 6.04 | 4.8 | 54.0 | 0.0 |
| 152 | 138 | 1.36 | 1 | 0.00 | -130.3 | 651.4 | 0.0 | 1.36 | -130.3 | 651.4 | 0.0 |
| 37 | 38 | 10.10 | 1 | 0.00 | 0.0 | 4000.0 | 0.0 | 10.10 | 0.0 | 4000.0 | 0.0 |
| 68 | 227 | 2.82 | 1 | 0.00 | 1172.3 | -0.0 | -0.0 | 2.82 | 1172.3 | -0.0 | -0.0 |
| 69 | 115 | 6.76 | 1 | 0.00 | 6.4 | 53.9 | 0.0 | 6.76 | 6.4 | 53.9 | 0.0 |
| 138 | 124 | 0.43 | 1 | 0.00 | -130.3 | 651.4 | 0.0 | 0.43 | -130.3 | 651.4 | 0.0 |
| 38 | 39 | 2.00 | 1 | 0.00 | 0.0 | 15000.0 | 0.0 | 2.00 | 0.0 | 15000.0 | 0.0 |
| 39 | 71 | 3.60 | 1 | 0.00 | 1172.3 | 0.0 | 0.0 | 3.60 | 1172.3 | 0.0 | 0.0 |
| 72 | 117 | 6.76 | 1 | 0.00 | 6.4 | 53.9 | 0.0 | 6.76 | 6.4 | 53.9 | 0.0 |
| 124 | 120 | 0.93 | 1 | 0.00 | -130.3 | 651.4 | 0.0 | 0.93 | -130.3 | 651.4 | 0.0 |
| 39 | 40 | 2.00 | 1 | 0.00 | 0.0 | 15000.0 | 0.0 | 2.00 | 0.0 | 15000.0 | 0.0 |
| 71 | 228 | 2.82 | 1 | 0.00 | 1172.3 | -0.0 | -0.0 | 2.82 | 1172.3 | -0.0 | -0.0 |
| 67 | 114 | 6.76 | 1 | 0.00 | 6.4 | 53.9 | 0.0 | 6.76 | 6.4 | 53.9 | 0.0 |
| 224 | 212 | 0.82 | 1 | 0.00 | -130.3 | 651.4 | 0.0 | 0.82 | -130.3 | 651.4 | 0.0 |
| 40 | 41 | 10.10 | 1 | 0.00 | 0.0 | 4000.0 | 0.0 | 10.10 | 0.0 | 4000.0 | 0.0 |
| 44 | 73 | 3.60 | 1 | 0.00 | 604.4 | 0.0 | 0.0 | 3.60 | 604.4 | 0.0 | 0.0 |
| 57 | 107 | 6.76 | 1 | 0.00 | 6.4 | 53.9 | 0.0 | 6.76 | 6.4 | 53.9 | 0.0 |
| 214 | 200 | 1.36 | 1 | 0.00 | -130.3 | 651.4 | 0.0 | 1.36 | -130.3 | 651.4 | 0.0 |

| | | | | | | | | | | | |
|-----|-----|------|---|------|--------|---------|-----|------|--------|---------|-----|
| 41 | 42 | 2.00 | 1 | 0.00 | 0.0 | 23750.0 | 0.0 | 2.00 | 0.0 | 23750.0 | 0.0 |
| 73 | 123 | 0.98 | 1 | 0.00 | 604.4 | 0.0 | 0.0 | 0.98 | 604.4 | 0.0 | 0.0 |
| 71 | 32 | 6.49 | 1 | 0.00 | -53.3 | 79.9 | 0.0 | 6.49 | -53.3 | 79.9 | 0.0 |
| 158 | 144 | 1.36 | 1 | 0.00 | -130.3 | 651.4 | 0.0 | 1.36 | -130.3 | 651.4 | 0.0 |
| 43 | 44 | 4.90 | 1 | 0.00 | 0.0 | 15000.0 | 0.0 | 4.90 | 0.0 | 15000.0 | 0.0 |
| | | | 4 | 0.00 | 0.0 | 6000.0 | 0.0 | 4.90 | 0.0 | 6000.0 | 0.0 |
| 45 | 74 | 3.60 | 1 | 0.00 | 604.4 | 0.0 | 0.0 | 3.60 | 604.4 | 0.0 | 0.0 |
| 68 | 71 | 5.40 | 1 | 0.00 | 0.0 | 96.0 | 0.0 | 5.40 | 0.0 | 96.0 | 0.0 |
| 162 | 176 | 1.24 | 1 | 0.00 | 130.3 | 651.4 | 0.0 | 1.24 | 130.3 | 651.4 | 0.0 |
| 44 | 45 | 4.30 | 1 | 0.00 | 0.0 | 15000.0 | 0.0 | 4.30 | 0.0 | 15000.0 | 0.0 |
| | | | 4 | 0.00 | 0.0 | 6000.0 | 0.0 | 4.30 | 0.0 | 6000.0 | 0.0 |
| 74 | 179 | 1.84 | 1 | 0.00 | 604.4 | 0.0 | 0.0 | 1.84 | 604.4 | 0.0 | 0.0 |
| 70 | 35 | 6.49 | 1 | 0.00 | -53.3 | 79.9 | 0.0 | 6.49 | -53.3 | 79.9 | 0.0 |
| 148 | 134 | 1.36 | 1 | 0.00 | -130.3 | 651.4 | 0.0 | 1.36 | -130.3 | 651.4 | 0.0 |
| 45 | 46 | 4.90 | 1 | 0.00 | 0.0 | 15000.0 | 0.0 | 4.90 | 0.0 | 15000.0 | 0.0 |
| | | | 4 | 0.00 | 0.0 | 6000.0 | 0.0 | 4.90 | 0.0 | 6000.0 | 0.0 |
| 46 | 75 | 3.60 | 1 | 0.00 | 1172.3 | 0.0 | 0.0 | 3.60 | 1172.3 | 0.0 | 0.0 |
| 71 | 75 | 5.40 | 1 | 0.00 | 0.0 | 96.0 | 0.0 | 5.40 | 0.0 | 96.0 | 0.0 |
| 134 | 116 | 1.36 | 1 | 0.00 | -130.3 | 651.4 | 0.0 | 1.36 | -130.3 | 651.4 | 0.0 |
| 46 | 47 | 4.90 | 1 | 0.00 | 0.0 | 23750.0 | 0.0 | 4.90 | 0.0 | 23750.0 | 0.0 |
| | | | 4 | 0.00 | 0.0 | 6000.0 | 0.0 | 4.90 | 0.0 | 6000.0 | 0.0 |
| 75 | 229 | 2.82 | 1 | 0.00 | 1172.3 | 0.0 | 0.0 | 2.82 | 1172.3 | 0.0 | 0.0 |
| 117 | 151 | 6.04 | 1 | 0.00 | 4.8 | 54.0 | 0.0 | 6.04 | 4.8 | 54.0 | 0.0 |
| 132 | 114 | 1.36 | 1 | 0.00 | -130.3 | 651.4 | 0.0 | 1.36 | -130.3 | 651.4 | 0.0 |
| 47 | 48 | 4.30 | 1 | 0.00 | 0.0 | 23750.0 | 0.0 | 4.30 | 0.0 | 23750.0 | 0.0 |
| | | | 4 | 0.00 | 0.0 | 6000.0 | 0.0 | 4.30 | 0.0 | 6000.0 | 0.0 |
| 47 | 76 | 3.60 | 1 | 0.00 | 604.4 | 0.0 | 0.0 | 3.60 | 604.4 | 0.0 | 0.0 |
| 118 | 67 | 6.76 | 1 | 0.00 | -6.4 | 53.9 | 0.0 | 6.76 | -6.4 | 53.9 | 0.0 |
| 202 | 188 | 1.36 | 1 | 0.00 | -130.3 | 651.4 | 0.0 | 1.36 | -130.3 | 651.4 | 0.0 |
| 48 | 49 | 4.90 | 1 | 0.00 | 0.0 | 23750.0 | 0.0 | 4.90 | 0.0 | 23750.0 | 0.0 |
| | | | 4 | 0.00 | 0.0 | 6000.0 | 0.0 | 4.90 | 0.0 | 6000.0 | 0.0 |
| 76 | 180 | 1.84 | 1 | 0.00 | 604.4 | 0.0 | 0.0 | 1.84 | 604.4 | 0.0 | 0.0 |
| 78 | 118 | 6.76 | 1 | 0.00 | 6.4 | 53.9 | 0.0 | 6.76 | 6.4 | 53.9 | 0.0 |
| 112 | 98 | 1.36 | 1 | 0.00 | -130.3 | 651.4 | 0.0 | 1.36 | -130.3 | 651.4 | 0.0 |
| 1 | 8 | 5.40 | 1 | 0.00 | 0.0 | 15000.0 | 0.0 | 5.40 | 0.0 | 15000.0 | 0.0 |
| | | | 4 | 0.00 | 0.0 | 8000.0 | 0.0 | 5.40 | 0.0 | 8000.0 | 0.0 |
| 48 | 77 | 3.60 | 1 | 0.00 | 604.4 | 0.0 | 0.0 | 3.60 | 604.4 | 0.0 | 0.0 |
| 192 | 152 | 6.76 | 1 | 0.00 | -6.4 | 53.9 | 0.0 | 6.76 | -6.4 | 53.9 | 0.0 |
| 96 | 110 | 1.36 | 1 | 0.00 | 130.3 | 651.4 | 0.0 | 1.36 | 130.3 | 651.4 | 0.0 |
| 8 | 15 | 5.40 | 1 | 0.00 | 0.0 | 15000.0 | 0.0 | 5.40 | 0.0 | 15000.0 | 0.0 |
| | | | 4 | 0.00 | 0.0 | 8000.0 | 0.0 | 5.40 | 0.0 | 8000.0 | 0.0 |
| 77 | 124 | 0.98 | 1 | 0.00 | 604.4 | 0.0 | 0.0 | 0.98 | 604.4 | 0.0 | 0.0 |
| 184 | 140 | 6.76 | 1 | 0.00 | -6.4 | 53.9 | 0.0 | 6.76 | -6.4 | 53.9 | 0.0 |
| 116 | 102 | 1.36 | 1 | 0.00 | -130.3 | 651.4 | 0.0 | 1.36 | -130.3 | 651.4 | 0.0 |
| 15 | 22 | 5.40 | 1 | 0.00 | 0.0 | 15000.0 | 0.0 | 5.40 | 0.0 | 15000.0 | 0.0 |
| | | | 4 | 0.00 | 0.0 | 8000.0 | 0.0 | 5.40 | 0.0 | 8000.0 | 0.0 |
| 150 | 120 | 6.04 | 1 | 0.00 | -4.8 | 54.0 | 0.0 | 6.04 | -4.8 | 54.0 | 0.0 |
| 118 | 104 | 1.36 | 1 | 0.00 | -130.3 | 651.4 | 0.0 | 1.36 | -130.3 | 651.4 | 0.0 |
| 22 | 29 | 5.40 | 1 | 0.00 | 0.0 | 15000.0 | 0.0 | 5.40 | 0.0 | 15000.0 | 0.0 |
| | | | 4 | 0.00 | 0.0 | 8000.0 | 0.0 | 5.40 | 0.0 | 8000.0 | 0.0 |
| 119 | 149 | 6.04 | 1 | 0.00 | 4.8 | 54.0 | 0.0 | 6.04 | 4.8 | 54.0 | 0.0 |
| 114 | 100 | 1.36 | 1 | 0.00 | -130.3 | 651.4 | 0.0 | 1.36 | -130.3 | 651.4 | 0.0 |
| 29 | 36 | 5.40 | 1 | 0.00 | 0.0 | 15000.0 | 0.0 | 5.40 | 0.0 | 15000.0 | 0.0 |
| | | | 4 | 0.00 | 0.0 | 8000.0 | 0.0 | 5.40 | 0.0 | 8000.0 | 0.0 |
| 151 | 191 | 6.76 | 1 | 0.00 | 6.4 | 53.9 | 0.0 | 6.76 | 6.4 | 53.9 | 0.0 |
| 226 | 216 | 0.82 | 1 | 0.00 | -130.3 | 651.4 | 0.0 | 0.82 | -130.3 | 651.4 | 0.0 |
| 36 | 43 | 5.40 | 1 | 0.00 | 0.0 | 15000.0 | 0.0 | 5.40 | 0.0 | 15000.0 | 0.0 |
| | | | 4 | 0.00 | 0.0 | 8000.0 | 0.0 | 5.40 | 0.0 | 8000.0 | 0.0 |
| 152 | 118 | 6.04 | 1 | 0.00 | -4.8 | 54.0 | 0.0 | 6.04 | -4.8 | 54.0 | 0.0 |

| | | | | | | | | | | | |
|-----|-----|------|---|------|--------|---------|-----|------|--------|---------|-----|
| 146 | 132 | 1.36 | 1 | 0.00 | -130.3 | 651.4 | 0.0 | 1.36 | -130.3 | 651.4 | 0.0 |
| 4 | 11 | 5.40 | 1 | 0.00 | 0.0 | 15000.0 | 0.0 | 5.40 | 0.0 | 15000.0 | 0.0 |
| 142 | 108 | 6.04 | 1 | 0.00 | -4.8 | 54.0 | 0.0 | 6.04 | -4.8 | 54.0 | 0.0 |
| 160 | 146 | 1.36 | 1 | 0.00 | -130.3 | 651.4 | 0.0 | 1.36 | -130.3 | 651.4 | 0.0 |
| 11 | 18 | 5.40 | 1 | 0.00 | 0.0 | 15000.0 | 0.0 | 5.40 | 0.0 | 15000.0 | 0.0 |
| 140 | 110 | 6.04 | 1 | 0.00 | -4.8 | 54.0 | 0.0 | 6.04 | -4.8 | 54.0 | 0.0 |
| 188 | 174 | 1.47 | 1 | 0.00 | -130.3 | 651.4 | 0.0 | 1.47 | -130.3 | 651.4 | 0.0 |
| 18 | 25 | 5.40 | 1 | 0.00 | 0.0 | 15000.0 | 0.0 | 5.40 | 0.0 | 15000.0 | 0.0 |
| 107 | 141 | 6.04 | 1 | 0.00 | 4.8 | 54.0 | 0.0 | 6.04 | 4.8 | 54.0 | 0.0 |
| 160 | 174 | 1.24 | 1 | 0.00 | 130.3 | 651.4 | 0.0 | 1.24 | 130.3 | 651.4 | 0.0 |
| 25 | 32 | 5.40 | 1 | 0.00 | 0.0 | 15000.0 | 0.0 | 5.40 | 0.0 | 15000.0 | 0.0 |
| 70 | 120 | 6.76 | 1 | 0.00 | 6.4 | 53.9 | 0.0 | 6.76 | 6.4 | 53.9 | 0.0 |
| 216 | 202 | 1.36 | 1 | 0.00 | -130.3 | 651.4 | 0.0 | 1.36 | -130.3 | 651.4 | 0.0 |
| 32 | 39 | 5.40 | 1 | 0.00 | 0.0 | 15000.0 | 0.0 | 5.40 | 0.0 | 15000.0 | 0.0 |
| 109 | 139 | 6.04 | 1 | 0.00 | 4.8 | 54.0 | 0.0 | 6.04 | 4.8 | 54.0 | 0.0 |
| 192 | 178 | 1.47 | 1 | 0.00 | -130.3 | 651.4 | 0.0 | 1.47 | -130.3 | 651.4 | 0.0 |
| 39 | 46 | 5.40 | 1 | 0.00 | 0.0 | 15000.0 | 0.0 | 5.40 | 0.0 | 15000.0 | 0.0 |
| 182 | 142 | 6.76 | 1 | 0.00 | -6.4 | 53.9 | 0.0 | 6.76 | -6.4 | 53.9 | 0.0 |
| 178 | 164 | 1.24 | 1 | 0.00 | -130.3 | 651.4 | 0.0 | 1.24 | -130.3 | 651.4 | 0.0 |
| 7 | 14 | 5.40 | 1 | 0.00 | 0.0 | 23750.0 | 0.0 | 5.40 | 0.0 | 23750.0 | 0.0 |
| | | | 4 | 0.00 | 0.0 | 8000.0 | 0.0 | 5.40 | 0.0 | 8000.0 | 0.0 |
| 181 | 141 | 6.76 | 1 | 0.00 | -6.4 | 53.9 | 0.0 | 6.76 | -6.4 | 53.9 | 0.0 |
| 164 | 150 | 1.36 | 1 | 0.00 | -130.3 | 651.4 | 0.0 | 1.36 | -130.3 | 651.4 | 0.0 |
| 14 | 21 | 5.40 | 1 | 0.00 | 0.0 | 23750.0 | 0.0 | 5.40 | 0.0 | 23750.0 | 0.0 |
| | | | 4 | 0.00 | 0.0 | 8000.0 | 0.0 | 5.40 | 0.0 | 8000.0 | 0.0 |
| 139 | 183 | 6.76 | 1 | 0.00 | 6.4 | 53.9 | 0.0 | 6.76 | 6.4 | 53.9 | 0.0 |
| 150 | 136 | 1.36 | 1 | 0.00 | -130.3 | 651.4 | 0.0 | 1.36 | -130.3 | 651.4 | 0.0 |
| 21 | 28 | 5.40 | 1 | 0.00 | 0.0 | 23750.0 | 0.0 | 5.40 | 0.0 | 23750.0 | 0.0 |
| | | | 4 | 0.00 | 0.0 | 8000.0 | 0.0 | 5.40 | 0.0 | 8000.0 | 0.0 |
| 229 | 192 | 6.45 | 1 | 0.00 | -5.8 | 53.9 | 0.0 | 6.45 | -5.8 | 53.9 | 0.0 |
| 228 | 220 | 0.82 | 1 | 0.00 | -130.3 | 651.4 | 0.0 | 0.82 | -130.3 | 651.4 | 0.0 |
| 28 | 35 | 5.40 | 1 | 0.00 | 0.0 | 23750.0 | 0.0 | 5.40 | 0.0 | 23750.0 | 0.0 |
| | | | 4 | 0.00 | 0.0 | 8000.0 | 0.0 | 5.40 | 0.0 | 8000.0 | 0.0 |
| 194 | 150 | 6.76 | 1 | 0.00 | -6.4 | 53.9 | 0.0 | 6.76 | -6.4 | 53.9 | 0.0 |
| 136 | 118 | 1.36 | 1 | 0.00 | -130.3 | 651.4 | 0.0 | 1.36 | -130.3 | 651.4 | 0.0 |
| 35 | 42 | 5.40 | 1 | 0.00 | 0.0 | 23750.0 | 0.0 | 5.40 | 0.0 | 23750.0 | 0.0 |
| | | | 4 | 0.00 | 0.0 | 8000.0 | 0.0 | 5.40 | 0.0 | 8000.0 | 0.0 |
| 193 | 149 | 6.76 | 1 | 0.00 | -6.4 | 53.9 | 0.0 | 6.76 | -6.4 | 53.9 | 0.0 |
| 220 | 206 | 1.36 | 1 | 0.00 | -130.3 | 651.4 | 0.0 | 1.36 | -130.3 | 651.4 | 0.0 |
| 42 | 49 | 5.40 | 1 | 0.00 | 0.0 | 23750.0 | 0.0 | 5.40 | 0.0 | 23750.0 | 0.0 |
| | | | 4 | 0.00 | 0.0 | 8000.0 | 0.0 | 5.40 | 0.0 | 8000.0 | 0.0 |
| 228 | 194 | 6.45 | 1 | 0.00 | -5.8 | 53.9 | 0.0 | 6.45 | -5.8 | 53.9 | 0.0 |
| 206 | 192 | 1.36 | 1 | 0.00 | -130.3 | 651.4 | 0.0 | 1.36 | -130.3 | 651.4 | 0.0 |
| 223 | 184 | 6.45 | 1 | 0.00 | -5.8 | 53.9 | 0.0 | 6.45 | -5.8 | 53.9 | 0.0 |
| 162 | 148 | 1.36 | 1 | 0.00 | -130.3 | 651.4 | 0.0 | 1.36 | -130.3 | 651.4 | 0.0 |
| 224 | 182 | 6.45 | 1 | 0.00 | -5.8 | 53.9 | 0.0 | 6.45 | -5.8 | 53.9 | 0.0 |
| 190 | 176 | 1.47 | 1 | 0.00 | -130.3 | 651.4 | 0.0 | 1.47 | -130.3 | 651.4 | 0.0 |
| 191 | 229 | 6.45 | 1 | 0.00 | 5.8 | 53.9 | 0.0 | 6.45 | 5.8 | 53.9 | 0.0 |
| 227 | 218 | 0.82 | 1 | 0.00 | -130.3 | 651.4 | 0.0 | 0.82 | -130.3 | 651.4 | 0.0 |
| 193 | 228 | 6.45 | 1 | 0.00 | 5.8 | 53.9 | 0.0 | 6.45 | 5.8 | 53.9 | 0.0 |
| 204 | 190 | 1.36 | 1 | 0.00 | -130.3 | 651.4 | 0.0 | 1.36 | -130.3 | 651.4 | 0.0 |
| 181 | 224 | 6.45 | 1 | 0.00 | 5.8 | 53.9 | 0.0 | 6.45 | 5.8 | 53.9 | 0.0 |
| 218 | 204 | 1.36 | 1 | 0.00 | -130.3 | 651.4 | 0.0 | 1.36 | -130.3 | 651.4 | 0.0 |
| 183 | 223 | 6.45 | 1 | 0.00 | 5.8 | 53.9 | 0.0 | 6.45 | 5.8 | 53.9 | 0.0 |
| 156 | 142 | 1.36 | 1 | 0.00 | -130.3 | 651.4 | 0.0 | 1.36 | -130.3 | 651.4 | 0.0 |
| 224 | 62 | 6.09 | 1 | 0.00 | -44.5 | 85.1 | 0.0 | 6.09 | -44.5 | 85.1 | 0.0 |
| 170 | 156 | 1.24 | 1 | 0.00 | -130.3 | 651.4 | 0.0 | 1.24 | -130.3 | 651.4 | 0.0 |
| 225 | 59 | 6.09 | 1 | 0.00 | -44.5 | 85.1 | 0.0 | 6.09 | -44.5 | 85.1 | 0.0 |
| 184 | 170 | 1.47 | 1 | 0.00 | -130.3 | 651.4 | 0.0 | 1.47 | -130.3 | 651.4 | 0.0 |

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|-----|-----|------|---|------|--------|-------|-----|------|--------|-------|-----|
| 227 | 71 | 6.09 | 1 | 0.00 | -44.5 | 85.1 | 0.0 | 6.09 | -44.5 | 85.1 | 0.0 |
| 130 | 112 | 1.36 | 1 | 0.00 | -130.3 | 651.4 | 0.0 | 1.36 | -130.3 | 651.4 | 0.0 |
| 228 | 68 | 6.09 | 1 | 0.00 | -44.5 | 85.1 | 0.0 | 6.09 | -44.5 | 85.1 | 0.0 |
| 186 | 172 | 1.47 | 1 | 0.00 | -130.3 | 651.4 | 0.0 | 1.47 | -130.3 | 651.4 | 0.0 |
| 172 | 158 | 1.24 | 1 | 0.00 | -130.3 | 651.4 | 0.0 | 1.24 | -130.3 | 651.4 | 0.0 |
| 144 | 130 | 1.36 | 1 | 0.00 | -130.3 | 651.4 | 0.0 | 1.36 | -130.3 | 651.4 | 0.0 |
| 198 | 184 | 1.36 | 1 | 0.00 | -130.3 | 651.4 | 0.0 | 1.36 | -130.3 | 651.4 | 0.0 |
| 212 | 198 | 1.36 | 1 | 0.00 | -130.3 | 651.4 | 0.0 | 1.36 | -130.3 | 651.4 | 0.0 |
| 200 | 186 | 1.36 | 1 | 0.00 | -130.3 | 651.4 | 0.0 | 1.36 | -130.3 | 651.4 | 0.0 |
| 108 | 94 | 1.36 | 1 | 0.00 | -130.3 | 651.4 | 0.0 | 1.36 | -130.3 | 651.4 | 0.0 |
| 122 | 108 | 0.93 | 1 | 0.00 | -130.3 | 651.4 | 0.0 | 0.93 | -130.3 | 651.4 | 0.0 |
| 126 | 122 | 0.43 | 1 | 0.00 | -130.3 | 651.4 | 0.0 | 0.43 | -130.3 | 651.4 | 0.0 |
| 140 | 126 | 1.36 | 1 | 0.00 | -130.3 | 651.4 | 0.0 | 1.36 | -130.3 | 651.4 | 0.0 |
| 154 | 140 | 1.36 | 1 | 0.00 | -130.3 | 651.4 | 0.0 | 1.36 | -130.3 | 651.4 | 0.0 |
| 168 | 154 | 1.24 | 1 | 0.00 | -130.3 | 651.4 | 0.0 | 1.24 | -130.3 | 651.4 | 0.0 |
| 105 | 119 | 1.36 | 1 | 0.00 | 130.3 | 651.4 | 0.0 | 1.36 | 130.3 | 651.4 | 0.0 |
| 221 | 229 | 0.82 | 1 | 0.00 | 130.3 | 651.4 | 0.0 | 0.82 | 130.3 | 651.4 | 0.0 |
| 109 | 127 | 1.36 | 1 | 0.00 | 130.3 | 651.4 | 0.0 | 1.36 | 130.3 | 651.4 | 0.0 |
| 127 | 141 | 1.36 | 1 | 0.00 | 130.3 | 651.4 | 0.0 | 1.36 | 130.3 | 651.4 | 0.0 |
| 142 | 128 | 1.36 | 1 | 0.00 | -130.3 | 651.4 | 0.0 | 1.36 | -130.3 | 651.4 | 0.0 |
| 182 | 168 | 1.47 | 1 | 0.00 | -130.3 | 651.4 | 0.0 | 1.47 | -130.3 | 651.4 | 0.0 |
| 196 | 182 | 1.36 | 1 | 0.00 | -130.3 | 651.4 | 0.0 | 1.36 | -130.3 | 651.4 | 0.0 |
| 210 | 196 | 1.36 | 1 | 0.00 | -130.3 | 651.4 | 0.0 | 1.36 | -130.3 | 651.4 | 0.0 |
| 149 | 163 | 1.36 | 1 | 0.00 | 130.3 | 651.4 | 0.0 | 1.36 | 130.3 | 651.4 | 0.0 |
| 60 | 83 | 1.36 | 1 | 0.00 | 130.3 | 651.4 | 0.0 | 1.36 | 130.3 | 651.4 | 0.0 |
| 57 | 81 | 1.36 | 1 | 0.00 | 130.3 | 651.4 | 0.0 | 1.36 | 130.3 | 651.4 | 0.0 |
| 81 | 95 | 1.36 | 1 | 0.00 | 130.3 | 651.4 | 0.0 | 1.36 | 130.3 | 651.4 | 0.0 |
| 95 | 109 | 1.36 | 1 | 0.00 | 130.3 | 651.4 | 0.0 | 1.36 | 130.3 | 651.4 | 0.0 |
| 79 | 93 | 1.36 | 1 | 0.00 | 130.3 | 651.4 | 0.0 | 1.36 | 130.3 | 651.4 | 0.0 |
| 141 | 155 | 1.36 | 1 | 0.00 | 130.3 | 651.4 | 0.0 | 1.36 | 130.3 | 651.4 | 0.0 |
| 169 | 183 | 1.47 | 1 | 0.00 | 130.3 | 651.4 | 0.0 | 1.47 | 130.3 | 651.4 | 0.0 |
| 93 | 107 | 1.36 | 1 | 0.00 | 130.3 | 651.4 | 0.0 | 1.36 | 130.3 | 651.4 | 0.0 |
| 106 | 92 | 1.36 | 1 | 0.00 | -130.3 | 651.4 | 0.0 | 1.36 | -130.3 | 651.4 | 0.0 |
| 121 | 125 | 0.43 | 1 | 0.00 | 130.3 | 651.4 | 0.0 | 0.43 | 130.3 | 651.4 | 0.0 |
| 125 | 139 | 1.36 | 1 | 0.00 | 130.3 | 651.4 | 0.0 | 1.36 | 130.3 | 651.4 | 0.0 |
| 139 | 153 | 1.36 | 1 | 0.00 | 130.3 | 651.4 | 0.0 | 1.36 | 130.3 | 651.4 | 0.0 |
| 153 | 167 | 1.24 | 1 | 0.00 | 130.3 | 651.4 | 0.0 | 1.24 | 130.3 | 651.4 | 0.0 |
| 89 | 103 | 1.36 | 1 | 0.00 | 130.3 | 651.4 | 0.0 | 1.36 | 130.3 | 651.4 | 0.0 |
| 167 | 181 | 1.47 | 1 | 0.00 | 130.3 | 651.4 | 0.0 | 1.47 | 130.3 | 651.4 | 0.0 |
| 181 | 195 | 1.36 | 1 | 0.00 | 130.3 | 651.4 | 0.0 | 1.36 | 130.3 | 651.4 | 0.0 |
| 83 | 97 | 1.36 | 1 | 0.00 | 130.3 | 651.4 | 0.0 | 1.36 | 130.3 | 651.4 | 0.0 |
| 63 | 85 | 1.36 | 1 | 0.00 | 130.3 | 651.4 | 0.0 | 1.36 | 130.3 | 651.4 | 0.0 |
| 195 | 209 | 1.36 | 1 | 0.00 | 130.3 | 651.4 | 0.0 | 1.36 | 130.3 | 651.4 | 0.0 |
| 97 | 111 | 1.36 | 1 | 0.00 | 130.3 | 651.4 | 0.0 | 1.36 | 130.3 | 651.4 | 0.0 |
| 85 | 99 | 1.36 | 1 | 0.00 | 130.3 | 651.4 | 0.0 | 1.36 | 130.3 | 651.4 | 0.0 |
| 99 | 113 | 1.36 | 1 | 0.00 | 130.3 | 651.4 | 0.0 | 1.36 | 130.3 | 651.4 | 0.0 |
| 66 | 87 | 1.36 | 1 | 0.00 | 130.3 | 651.4 | 0.0 | 1.36 | 130.3 | 651.4 | 0.0 |
| 69 | 89 | 1.36 | 1 | 0.00 | 130.3 | 651.4 | 0.0 | 1.36 | 130.3 | 651.4 | 0.0 |
| 155 | 169 | 1.24 | 1 | 0.00 | 130.3 | 651.4 | 0.0 | 1.24 | 130.3 | 651.4 | 0.0 |
| 111 | 129 | 1.36 | 1 | 0.00 | 130.3 | 651.4 | 0.0 | 1.36 | 130.3 | 651.4 | 0.0 |
| 133 | 147 | 1.36 | 1 | 0.00 | 130.3 | 651.4 | 0.0 | 1.36 | 130.3 | 651.4 | 0.0 |
| 117 | 135 | 1.36 | 1 | 0.00 | 130.3 | 651.4 | 0.0 | 1.36 | 130.3 | 651.4 | 0.0 |
| 147 | 161 | 1.36 | 1 | 0.00 | 130.3 | 651.4 | 0.0 | 1.36 | 130.3 | 651.4 | 0.0 |
| 135 | 149 | 1.36 | 1 | 0.00 | 130.3 | 651.4 | 0.0 | 1.36 | 130.3 | 651.4 | 0.0 |
| 145 | 159 | 1.36 | 1 | 0.00 | 130.3 | 651.4 | 0.0 | 1.36 | 130.3 | 651.4 | 0.0 |
| 159 | 173 | 1.24 | 1 | 0.00 | 130.3 | 651.4 | 0.0 | 1.24 | 130.3 | 651.4 | 0.0 |
| 87 | 101 | 1.36 | 1 | 0.00 | 130.3 | 651.4 | 0.0 | 1.36 | 130.3 | 651.4 | 0.0 |
| 173 | 187 | 1.47 | 1 | 0.00 | 130.3 | 651.4 | 0.0 | 1.47 | 130.3 | 651.4 | 0.0 |
| 187 | 201 | 1.36 | 1 | 0.00 | 130.3 | 651.4 | 0.0 | 1.36 | 130.3 | 651.4 | 0.0 |

| | | | | | | | | | | | |
|-----|-----|-------|---|------|--------|-------|-------|-------|--------|-------|-------|
| 201 | 215 | 1.36 | 1 | 0.00 | 130.3 | 651.4 | 0.0 | 1.36 | 130.3 | 651.4 | 0.0 |
| 163 | 177 | 1.24 | 1 | 0.00 | 130.3 | 651.4 | 0.0 | 1.24 | 130.3 | 651.4 | 0.0 |
| 177 | 191 | 1.47 | 1 | 0.00 | 130.3 | 651.4 | 0.0 | 1.47 | 130.3 | 651.4 | 0.0 |
| 191 | 205 | 1.36 | 1 | 0.00 | 130.3 | 651.4 | 0.0 | 1.36 | 130.3 | 651.4 | 0.0 |
| 205 | 219 | 1.36 | 1 | 0.00 | 130.3 | 651.4 | 0.0 | 1.36 | 130.3 | 651.4 | 0.0 |
| 115 | 133 | 1.36 | 1 | 0.00 | 130.3 | 651.4 | 0.0 | 1.36 | 130.3 | 651.4 | 0.0 |
| 161 | 175 | 1.24 | 1 | 0.00 | 130.3 | 651.4 | 0.0 | 1.24 | 130.3 | 651.4 | 0.0 |
| 175 | 189 | 1.47 | 1 | 0.00 | 130.3 | 651.4 | 0.0 | 1.47 | 130.3 | 651.4 | 0.0 |
| 189 | 203 | 1.36 | 1 | 0.00 | 130.3 | 651.4 | 0.0 | 1.36 | 130.3 | 651.4 | 0.0 |
| 203 | 217 | 1.36 | 1 | 0.00 | 130.3 | 651.4 | 0.0 | 1.36 | 130.3 | 651.4 | 0.0 |
| 183 | 197 | 1.36 | 1 | 0.00 | 130.3 | 651.4 | 0.0 | 1.36 | 130.3 | 651.4 | 0.0 |
| 197 | 211 | 1.36 | 1 | 0.00 | 130.3 | 651.4 | 0.0 | 1.36 | 130.3 | 651.4 | 0.0 |
| 129 | 143 | 1.36 | 1 | 0.00 | 130.3 | 651.4 | 0.0 | 1.36 | 130.3 | 651.4 | 0.0 |
| 143 | 157 | 1.36 | 1 | 0.00 | 130.3 | 651.4 | 0.0 | 1.36 | 130.3 | 651.4 | 0.0 |
| 157 | 171 | 1.24 | 1 | 0.00 | 130.3 | 651.4 | 0.0 | 1.24 | 130.3 | 651.4 | 0.0 |
| 171 | 185 | 1.47 | 1 | 0.00 | 130.3 | 651.4 | 0.0 | 1.47 | 130.3 | 651.4 | 0.0 |
| 185 | 199 | 1.36 | 1 | 0.00 | 130.3 | 651.4 | 0.0 | 1.36 | 130.3 | 651.4 | 0.0 |
| 119 | 123 | 0.93 | 1 | 0.00 | 130.3 | 651.4 | 0.0 | 0.93 | 130.3 | 651.4 | 0.0 |
| 123 | 137 | 0.43 | 1 | 0.00 | 130.3 | 651.4 | 0.0 | 0.43 | 130.3 | 651.4 | 0.0 |
| 137 | 151 | 1.36 | 1 | 0.00 | 130.3 | 651.4 | 0.0 | 1.36 | 130.3 | 651.4 | 0.0 |
| 151 | 165 | 1.36 | 1 | 0.00 | 130.3 | 651.4 | 0.0 | 1.36 | 130.3 | 651.4 | 0.0 |
| 165 | 179 | 1.24 | 1 | 0.00 | 130.3 | 651.4 | 0.0 | 1.24 | 130.3 | 651.4 | 0.0 |
| 179 | 193 | 1.47 | 1 | 0.00 | 130.3 | 651.4 | 0.0 | 1.47 | 130.3 | 651.4 | 0.0 |
| 193 | 207 | 1.36 | 1 | 0.00 | 130.3 | 651.4 | 0.0 | 1.36 | 130.3 | 651.4 | 0.0 |
| 207 | 221 | 1.36 | 1 | 0.00 | 130.3 | 651.4 | 0.0 | 1.36 | 130.3 | 651.4 | 0.0 |
| 199 | 213 | 1.36 | 1 | 0.00 | 130.3 | 651.4 | 0.0 | 1.36 | 130.3 | 651.4 | 0.0 |
| 219 | 228 | 0.82 | 1 | 0.00 | 130.3 | 651.4 | 0.0 | 0.82 | 130.3 | 651.4 | 0.0 |
| 217 | 227 | 0.82 | 1 | 0.00 | 130.3 | 651.4 | 0.0 | 0.82 | 130.3 | 651.4 | 0.0 |
| 209 | 223 | 0.82 | 1 | 0.00 | 130.3 | 651.4 | 0.0 | 0.82 | 130.3 | 651.4 | 0.0 |
| 223 | 210 | 0.82 | 1 | 0.00 | -130.3 | 651.4 | 0.0 | 0.82 | -130.3 | 651.4 | 0.0 |
| 225 | 214 | 0.82 | 1 | 0.00 | -130.3 | 651.4 | 0.0 | 0.82 | -130.3 | 651.4 | 0.0 |
| 128 | 110 | 1.36 | 1 | 0.00 | -130.3 | 651.4 | 0.0 | 1.36 | -130.3 | 651.4 | 0.0 |
| 50 | 51 | 4.90 | 1 | 0.00 | 0.0 | 247.0 | 0.0 | 4.90 | 0.0 | 247.0 | 0.0 |
| 51 | 52 | 4.30 | 1 | 0.00 | 0.0 | 247.0 | 0.0 | 4.30 | 0.0 | 247.0 | 0.0 |
| 52 | 53 | 4.90 | 1 | 0.00 | 0.0 | 247.0 | 0.0 | 4.90 | 0.0 | 247.0 | 0.0 |
| 53 | 54 | 4.90 | 1 | 0.00 | 0.0 | 247.0 | 0.0 | 4.90 | 0.0 | 247.0 | 0.0 |
| 54 | 55 | 4.30 | 1 | 0.00 | 0.0 | 247.0 | 0.0 | 4.30 | 0.0 | 247.0 | 0.0 |
| 55 | 56 | 4.90 | 1 | 0.00 | 0.0 | 247.0 | 0.0 | 4.90 | 0.0 | 247.0 | 0.0 |
| 57 | 59 | 14.10 | 1 | 0.00 | 0.0 | 247.0 | 0.0 | 14.10 | 0.0 | 247.0 | 0.0 |
| 59 | 58 | 14.10 | 1 | 0.00 | 0.0 | 247.0 | 0.0 | 14.10 | 0.0 | 247.0 | 0.0 |
| 60 | 62 | 14.10 | 1 | 0.00 | 0.0 | 247.0 | 0.0 | 14.10 | 0.0 | 247.0 | 0.0 |
| 62 | 61 | 14.10 | 1 | 0.00 | 0.0 | 247.0 | 0.0 | 14.10 | 0.0 | 247.0 | 0.0 |
| 63 | 64 | 14.10 | 1 | 0.00 | 0.0 | 247.0 | 0.0 | 14.10 | 0.0 | 247.0 | 0.0 |
| 64 | 65 | 14.10 | 1 | 0.00 | 0.0 | 247.0 | 0.0 | 14.10 | 0.0 | 247.0 | 0.0 |
| 66 | 68 | 14.10 | 1 | 0.00 | 0.0 | 247.0 | 0.0 | 14.10 | 0.0 | 247.0 | 0.0 |
| 68 | 67 | 14.10 | 1 | 0.00 | 0.0 | 247.0 | 0.0 | 14.10 | 0.0 | 247.0 | 0.0 |
| 69 | 71 | 14.10 | 1 | 0.00 | 0.0 | 247.0 | 0.0 | 14.10 | 0.0 | 247.0 | 0.0 |
| 71 | 70 | 14.10 | 1 | 0.00 | 0.0 | 247.0 | 0.0 | 14.10 | 0.0 | 247.0 | 0.0 |
| 72 | 73 | 4.90 | 1 | 0.00 | 0.0 | 247.0 | 0.0 | 4.90 | 0.0 | 247.0 | 0.0 |
| 73 | 74 | 4.30 | 1 | 0.00 | 0.0 | 247.0 | 0.0 | 4.30 | 0.0 | 247.0 | 0.0 |
| 74 | 75 | 4.90 | 1 | 0.00 | 0.0 | 247.0 | 0.0 | 4.90 | 0.0 | 247.0 | 0.0 |
| 75 | 76 | 4.90 | 1 | 0.00 | 0.0 | 247.0 | 0.0 | 4.90 | 0.0 | 247.0 | 0.0 |
| 76 | 77 | 4.30 | 1 | 0.00 | 0.0 | 247.0 | 0.0 | 4.30 | 0.0 | 247.0 | 0.0 |
| 77 | 78 | 4.90 | 1 | 0.00 | 0.0 | 247.0 | 0.0 | 4.90 | 0.0 | 247.0 | 0.0 |
| 50 | 57 | 5.40 | 1 | 0.00 | 0.0 | 299.4 | 58.2 | 5.40 | 0.0 | 299.4 | 58.2 |
| | | | 2 | 0.00 | 0.0 | 66.6 | 12.9 | 5.40 | 0.0 | 66.6 | 12.9 |
| | | | 3 | 0.00 | 0.0 | 66.6 | 12.9 | 5.40 | 0.0 | 66.6 | 12.9 |
| | | | 5 | 0.00 | 0.0 | 587.5 | 114.2 | 5.40 | 0.0 | 587.5 | 114.2 |
| | | | 6 | 0.00 | 0.0 | 366.2 | -2.0 | 5.40 | 0.0 | 366.2 | -2.0 |

| | | | | | | | | | | | |
|-----|-----|------|---|------|-----|--------|--------|------|-----|--------|--------|
| | | | 5 | 0.00 | 0.0 | 587.5 | -114.2 | 5.40 | 0.0 | 587.5 | -114.2 |
| | | | 6 | 0.00 | 0.0 | -366.2 | -2.0 | 5.40 | 0.0 | -366.2 | -2.0 |
| | | | 7 | 0.00 | 0.0 | 366.2 | 2.0 | 5.40 | 0.0 | 366.2 | 2.0 |
| | | | 2 | 0.00 | 0.0 | 66.6 | -12.9 | 5.40 | 0.0 | 66.6 | -12.9 |
| | | | 3 | 0.00 | 0.0 | 66.6 | -12.9 | 5.40 | 0.0 | 66.6 | -12.9 |
| | | | 5 | 0.00 | 0.0 | 587.5 | -114.2 | 5.40 | 0.0 | 587.5 | -114.2 |
| | | | 6 | 0.00 | 0.0 | -366.2 | -2.0 | 5.40 | 0.0 | -366.2 | -2.0 |
| | | | 7 | 0.00 | 0.0 | 366.2 | 2.0 | 5.40 | 0.0 | 366.2 | 2.0 |
| 150 | 152 | 5.40 | 1 | 0.00 | 0.0 | 242.5 | -47.1 | 5.40 | 0.0 | 242.5 | -47.1 |
| | | | 2 | 0.00 | 0.0 | 66.6 | -12.9 | 5.40 | 0.0 | 66.6 | -12.9 |
| | | | 3 | 0.00 | 0.0 | 66.6 | -12.9 | 5.40 | 0.0 | 66.6 | -12.9 |
| | | | 5 | 0.00 | 0.0 | 587.5 | -114.2 | 5.40 | 0.0 | 587.5 | -114.2 |
| | | | 6 | 0.00 | 0.0 | -366.2 | -2.0 | 5.40 | 0.0 | -366.2 | -2.0 |
| | | | 7 | 0.00 | 0.0 | 366.2 | 2.0 | 5.40 | 0.0 | 366.2 | 2.0 |
| | | | 2 | 0.00 | 0.0 | 66.6 | -12.9 | 5.40 | 0.0 | 66.6 | -12.9 |
| | | | 3 | 0.00 | 0.0 | 66.6 | -12.9 | 5.40 | 0.0 | 66.6 | -12.9 |
| | | | 5 | 0.00 | 0.0 | 587.5 | -114.2 | 5.40 | 0.0 | 587.5 | -114.2 |
| | | | 6 | 0.00 | 0.0 | -366.2 | -2.0 | 5.40 | 0.0 | -366.2 | -2.0 |
| | | | 7 | 0.00 | 0.0 | 366.2 | 2.0 | 5.40 | 0.0 | 366.2 | 2.0 |
| 153 | 155 | 5.40 | 1 | 0.00 | 0.0 | 242.5 | 47.1 | 5.40 | 0.0 | 242.5 | 47.1 |
| | | | 2 | 0.00 | 0.0 | 61.1 | 11.9 | 5.40 | 0.0 | 61.1 | 11.9 |
| | | | 3 | 0.00 | 0.0 | 61.1 | 11.9 | 5.40 | 0.0 | 61.1 | 11.9 |
| | | | 5 | 0.00 | 0.0 | 538.9 | 104.8 | 5.40 | 0.0 | 538.9 | 104.8 |
| | | | 6 | 0.00 | 0.0 | 335.9 | -1.8 | 5.40 | 0.0 | 335.9 | -1.8 |
| | | | 7 | 0.00 | 0.0 | -335.9 | 1.8 | 5.40 | 0.0 | -335.9 | 1.8 |
| | | | 2 | 0.00 | 0.0 | 66.6 | 12.9 | 5.40 | 0.0 | 66.6 | 12.9 |
| | | | 3 | 0.00 | 0.0 | 66.6 | 12.9 | 5.40 | 0.0 | 66.6 | 12.9 |
| | | | 5 | 0.00 | 0.0 | 587.5 | 114.2 | 5.40 | 0.0 | 587.5 | 114.2 |
| | | | 6 | 0.00 | 0.0 | 366.2 | -2.0 | 5.40 | 0.0 | 366.2 | -2.0 |
| | | | 7 | 0.00 | 0.0 | -366.2 | 2.0 | 5.40 | 0.0 | -366.2 | 2.0 |
| 157 | 155 | 5.40 | 1 | 0.00 | 0.0 | 242.5 | -47.1 | 5.40 | 0.0 | 242.5 | -47.1 |
| | | | 2 | 0.00 | 0.0 | 61.1 | -11.9 | 5.40 | 0.0 | 61.1 | -11.9 |
| | | | 3 | 0.00 | 0.0 | 61.1 | -11.9 | 5.40 | 0.0 | 61.1 | -11.9 |
| | | | 5 | 0.00 | 0.0 | 538.9 | -104.8 | 5.40 | 0.0 | 538.9 | -104.8 |
| | | | 6 | 0.00 | 0.0 | 335.9 | 1.8 | 5.40 | 0.0 | 335.9 | 1.8 |
| | | | 7 | 0.00 | 0.0 | -335.9 | -1.8 | 5.40 | 0.0 | -335.9 | -1.8 |
| | | | 2 | 0.00 | 0.0 | 66.6 | -12.9 | 5.40 | 0.0 | 66.6 | -12.9 |
| | | | 3 | 0.00 | 0.0 | 66.6 | -12.9 | 5.40 | 0.0 | 66.6 | -12.9 |
| | | | 5 | 0.00 | 0.0 | 587.5 | -114.2 | 5.40 | 0.0 | 587.5 | -114.2 |
| | | | 6 | 0.00 | 0.0 | 366.2 | 2.0 | 5.40 | 0.0 | 366.2 | 2.0 |
| | | | 7 | 0.00 | 0.0 | -366.2 | -2.0 | 5.40 | 0.0 | -366.2 | -2.0 |
| 159 | 157 | 5.40 | 1 | 0.00 | 0.0 | 242.5 | -47.1 | 5.40 | 0.0 | 242.5 | -47.1 |
| | | | 2 | 0.00 | 0.0 | 61.1 | -11.9 | 5.40 | 0.0 | 61.1 | -11.9 |
| | | | 3 | 0.00 | 0.0 | 61.1 | -11.9 | 5.40 | 0.0 | 61.1 | -11.9 |
| | | | 5 | 0.00 | 0.0 | 538.9 | -104.8 | 5.40 | 0.0 | 538.9 | -104.8 |
| | | | 6 | 0.00 | 0.0 | 335.9 | 1.8 | 5.40 | 0.0 | 335.9 | 1.8 |
| | | | 7 | 0.00 | 0.0 | -335.9 | -1.8 | 5.40 | 0.0 | -335.9 | -1.8 |
| | | | 2 | 0.00 | 0.0 | 66.6 | -12.9 | 5.40 | 0.0 | 66.6 | -12.9 |
| | | | 3 | 0.00 | 0.0 | 66.6 | -12.9 | 5.40 | 0.0 | 66.6 | -12.9 |
| | | | 5 | 0.00 | 0.0 | 587.5 | -114.2 | 5.40 | 0.0 | 587.5 | -114.2 |
| | | | 6 | 0.00 | 0.0 | 366.2 | 2.0 | 5.40 | 0.0 | 366.2 | 2.0 |
| | | | 7 | 0.00 | 0.0 | -366.2 | -2.0 | 5.40 | 0.0 | -366.2 | -2.0 |
| 159 | 161 | 5.40 | 1 | 0.00 | 0.0 | 242.5 | 47.1 | 5.40 | 0.0 | 242.5 | 47.1 |
| | | | 2 | 0.00 | 0.0 | 61.1 | 11.9 | 5.40 | 0.0 | 61.1 | 11.9 |
| | | | 3 | 0.00 | 0.0 | 61.1 | 11.9 | 5.40 | 0.0 | 61.1 | 11.9 |
| | | | 5 | 0.00 | 0.0 | 538.9 | 104.8 | 5.40 | 0.0 | 538.9 | 104.8 |
| | | | 6 | 0.00 | 0.0 | 335.9 | -1.8 | 5.40 | 0.0 | 335.9 | -1.8 |
| | | | 7 | 0.00 | 0.0 | -335.9 | 1.8 | 5.40 | 0.0 | -335.9 | 1.8 |
| | | | 2 | 0.00 | 0.0 | 66.6 | 12.9 | 5.40 | 0.0 | 66.6 | 12.9 |

| | | | | | | | | | | | |
|-----|-----|------|---|------|-----|--------|--------|------|-----|--------|--------|
| | | | 3 | 0.00 | 0.0 | 66.6 | 12.9 | 5.40 | 0.0 | 66.6 | 12.9 |
| | | | 5 | 0.00 | 0.0 | 587.5 | 114.2 | 5.40 | 0.0 | 587.5 | 114.2 |
| | | | 6 | 0.00 | 0.0 | 366.2 | -2.0 | 5.40 | 0.0 | 366.2 | -2.0 |
| | | | 7 | 0.00 | 0.0 | -366.2 | 2.0 | 5.40 | 0.0 | -366.2 | 2.0 |
| 161 | 163 | 5.40 | 1 | 0.00 | 0.0 | 242.5 | 47.1 | 5.40 | 0.0 | 242.5 | 47.1 |
| | | | 2 | 0.00 | 0.0 | 61.1 | 11.9 | 5.40 | 0.0 | 61.1 | 11.9 |
| | | | 3 | 0.00 | 0.0 | 61.1 | 11.9 | 5.40 | 0.0 | 61.1 | 11.9 |
| | | | 5 | 0.00 | 0.0 | 538.9 | 104.8 | 5.40 | 0.0 | 538.9 | 104.8 |
| | | | 6 | 0.00 | 0.0 | 335.9 | -1.8 | 5.40 | 0.0 | 335.9 | -1.8 |
| | | | 7 | 0.00 | 0.0 | -335.9 | 1.8 | 5.40 | 0.0 | -335.9 | 1.8 |
| | | | 2 | 0.00 | 0.0 | 66.6 | 12.9 | 5.40 | 0.0 | 66.6 | 12.9 |
| | | | 3 | 0.00 | 0.0 | 66.6 | 12.9 | 5.40 | 0.0 | 66.6 | 12.9 |
| | | | 5 | 0.00 | 0.0 | 587.5 | 114.2 | 5.40 | 0.0 | 587.5 | 114.2 |
| | | | 6 | 0.00 | 0.0 | 366.2 | -2.0 | 5.40 | 0.0 | 366.2 | -2.0 |
| | | | 7 | 0.00 | 0.0 | -366.2 | 2.0 | 5.40 | 0.0 | -366.2 | 2.0 |
| 163 | 165 | 5.40 | 1 | 0.00 | 0.0 | 242.5 | 47.1 | 5.40 | 0.0 | 242.5 | 47.1 |
| | | | 2 | 0.00 | 0.0 | 61.1 | 11.9 | 5.40 | 0.0 | 61.1 | 11.9 |
| | | | 3 | 0.00 | 0.0 | 61.1 | 11.9 | 5.40 | 0.0 | 61.1 | 11.9 |
| | | | 5 | 0.00 | 0.0 | 538.9 | 104.8 | 5.40 | 0.0 | 538.9 | 104.8 |
| | | | 6 | 0.00 | 0.0 | 335.9 | -1.8 | 5.40 | 0.0 | 335.9 | -1.8 |
| | | | 7 | 0.00 | 0.0 | -335.9 | 1.8 | 5.40 | 0.0 | -335.9 | 1.8 |
| | | | 2 | 0.00 | 0.0 | 66.6 | 12.9 | 5.40 | 0.0 | 66.6 | 12.9 |
| | | | 3 | 0.00 | 0.0 | 66.6 | 12.9 | 5.40 | 0.0 | 66.6 | 12.9 |
| | | | 5 | 0.00 | 0.0 | 587.5 | 114.2 | 5.40 | 0.0 | 587.5 | 114.2 |
| | | | 6 | 0.00 | 0.0 | 366.2 | -2.0 | 5.40 | 0.0 | 366.2 | -2.0 |
| | | | 7 | 0.00 | 0.0 | -366.2 | 2.0 | 5.40 | 0.0 | -366.2 | 2.0 |
| 154 | 156 | 5.40 | 1 | 0.00 | 0.0 | 242.5 | -47.1 | 5.40 | 0.0 | 242.5 | -47.1 |
| | | | 2 | 0.00 | 0.0 | 61.1 | -11.9 | 5.40 | 0.0 | 61.1 | -11.9 |
| | | | 3 | 0.00 | 0.0 | 61.1 | -11.9 | 5.40 | 0.0 | 61.1 | -11.9 |
| | | | 5 | 0.00 | 0.0 | 538.9 | -104.8 | 5.40 | 0.0 | 538.9 | -104.8 |
| | | | 6 | 0.00 | 0.0 | -335.9 | -1.8 | 5.40 | 0.0 | -335.9 | -1.8 |
| | | | 7 | 0.00 | 0.0 | 335.9 | 1.8 | 5.40 | 0.0 | 335.9 | 1.8 |
| | | | 2 | 0.00 | 0.0 | 66.6 | -12.9 | 5.40 | 0.0 | 66.6 | -12.9 |
| | | | 3 | 0.00 | 0.0 | 66.6 | -12.9 | 5.40 | 0.0 | 66.6 | -12.9 |
| | | | 5 | 0.00 | 0.0 | 587.5 | -114.2 | 5.40 | 0.0 | 587.5 | -114.2 |
| | | | 6 | 0.00 | 0.0 | -366.2 | -2.0 | 5.40 | 0.0 | -366.2 | -2.0 |
| | | | 7 | 0.00 | 0.0 | 366.2 | 2.0 | 5.40 | 0.0 | 366.2 | 2.0 |
| 158 | 156 | 5.40 | 1 | 0.00 | 0.0 | 242.5 | 47.1 | 5.40 | 0.0 | 242.5 | 47.1 |
| | | | 2 | 0.00 | 0.0 | 61.1 | 11.9 | 5.40 | 0.0 | 61.1 | 11.9 |
| | | | 3 | 0.00 | 0.0 | 61.1 | 11.9 | 5.40 | 0.0 | 61.1 | 11.9 |
| | | | 5 | 0.00 | 0.0 | 538.9 | 104.8 | 5.40 | 0.0 | 538.9 | 104.8 |
| | | | 6 | 0.00 | 0.0 | -335.9 | 1.8 | 5.40 | 0.0 | -335.9 | 1.8 |
| | | | 7 | 0.00 | 0.0 | 335.9 | -1.8 | 5.40 | 0.0 | 335.9 | -1.8 |
| | | | 2 | 0.00 | 0.0 | 66.6 | 12.9 | 5.40 | 0.0 | 66.6 | 12.9 |
| | | | 3 | 0.00 | 0.0 | 66.6 | 12.9 | 5.40 | 0.0 | 66.6 | 12.9 |
| | | | 5 | 0.00 | 0.0 | 587.5 | 114.2 | 5.40 | 0.0 | 587.5 | 114.2 |
| | | | 6 | 0.00 | 0.0 | -366.2 | 2.0 | 5.40 | 0.0 | -366.2 | 2.0 |
| | | | 7 | 0.00 | 0.0 | 366.2 | -2.0 | 5.40 | 0.0 | 366.2 | -2.0 |
| 160 | 158 | 5.40 | 1 | 0.00 | 0.0 | 242.5 | 47.1 | 5.40 | 0.0 | 242.5 | 47.1 |
| | | | 2 | 0.00 | 0.0 | 61.1 | 11.9 | 5.40 | 0.0 | 61.1 | 11.9 |
| | | | 3 | 0.00 | 0.0 | 61.1 | 11.9 | 5.40 | 0.0 | 61.1 | 11.9 |
| | | | 5 | 0.00 | 0.0 | 538.9 | 104.8 | 5.40 | 0.0 | 538.9 | 104.8 |
| | | | 6 | 0.00 | 0.0 | -335.9 | 1.8 | 5.40 | 0.0 | -335.9 | 1.8 |
| | | | 7 | 0.00 | 0.0 | 335.9 | -1.8 | 5.40 | 0.0 | 335.9 | -1.8 |
| | | | 2 | 0.00 | 0.0 | 66.6 | 12.9 | 5.40 | 0.0 | 66.6 | 12.9 |
| | | | 3 | 0.00 | 0.0 | 66.6 | 12.9 | 5.40 | 0.0 | 66.6 | 12.9 |
| | | | 5 | 0.00 | 0.0 | 587.5 | 114.2 | 5.40 | 0.0 | 587.5 | 114.2 |
| | | | 6 | 0.00 | 0.0 | -366.2 | 2.0 | 5.40 | 0.0 | -366.2 | 2.0 |
| | | | 7 | 0.00 | 0.0 | 366.2 | -2.0 | 5.40 | 0.0 | 366.2 | -2.0 |

| | | | | | | | | | | | |
|-----|-----|------|---|------|-----|--------|--------|------|-----|--------|--------|
| 160 | 162 | 5.40 | 1 | 0.00 | 0.0 | 242.5 | -47.1 | 5.40 | 0.0 | 242.5 | -47.1 |
| | | | 2 | 0.00 | 0.0 | 61.1 | -11.9 | 5.40 | 0.0 | 61.1 | -11.9 |
| | | | 3 | 0.00 | 0.0 | 61.1 | -11.9 | 5.40 | 0.0 | 61.1 | -11.9 |
| | | | 5 | 0.00 | 0.0 | 538.9 | -104.8 | 5.40 | 0.0 | 538.9 | -104.8 |
| | | | 6 | 0.00 | 0.0 | -335.9 | -1.8 | 5.40 | 0.0 | -335.9 | -1.8 |
| | | | 7 | 0.00 | 0.0 | 335.9 | 1.8 | 5.40 | 0.0 | 335.9 | 1.8 |
| | | | 2 | 0.00 | 0.0 | 66.6 | -12.9 | 5.40 | 0.0 | 66.6 | -12.9 |
| | | | 3 | 0.00 | 0.0 | 66.6 | -12.9 | 5.40 | 0.0 | 66.6 | -12.9 |
| | | | 5 | 0.00 | 0.0 | 587.5 | -114.2 | 5.40 | 0.0 | 587.5 | -114.2 |
| | | | 6 | 0.00 | 0.0 | -366.2 | -2.0 | 5.40 | 0.0 | -366.2 | -2.0 |
| | | | 7 | 0.00 | 0.0 | 366.2 | 2.0 | 5.40 | 0.0 | 366.2 | 2.0 |
| 162 | 164 | 5.40 | 1 | 0.00 | 0.0 | 242.5 | -47.1 | 5.40 | 0.0 | 242.5 | -47.1 |
| | | | 2 | 0.00 | 0.0 | 61.1 | -11.9 | 5.40 | 0.0 | 61.1 | -11.9 |
| | | | 3 | 0.00 | 0.0 | 61.1 | -11.9 | 5.40 | 0.0 | 61.1 | -11.9 |
| | | | 5 | 0.00 | 0.0 | 538.9 | -104.8 | 5.40 | 0.0 | 538.9 | -104.8 |
| | | | 6 | 0.00 | 0.0 | -335.9 | -1.8 | 5.40 | 0.0 | -335.9 | -1.8 |
| | | | 7 | 0.00 | 0.0 | 335.9 | 1.8 | 5.40 | 0.0 | 335.9 | 1.8 |
| | | | 2 | 0.00 | 0.0 | 66.6 | -12.9 | 5.40 | 0.0 | 66.6 | -12.9 |
| | | | 3 | 0.00 | 0.0 | 66.6 | -12.9 | 5.40 | 0.0 | 66.6 | -12.9 |
| | | | 5 | 0.00 | 0.0 | 587.5 | -114.2 | 5.40 | 0.0 | 587.5 | -114.2 |
| | | | 6 | 0.00 | 0.0 | -366.2 | -2.0 | 5.40 | 0.0 | -366.2 | -2.0 |
| | | | 7 | 0.00 | 0.0 | 366.2 | 2.0 | 5.40 | 0.0 | 366.2 | 2.0 |
| 164 | 166 | 5.40 | 1 | 0.00 | 0.0 | 242.5 | -47.1 | 5.40 | 0.0 | 242.5 | -47.1 |
| | | | 2 | 0.00 | 0.0 | 66.6 | -12.9 | 5.40 | 0.0 | 66.6 | -12.9 |
| | | | 3 | 0.00 | 0.0 | 66.6 | -12.9 | 5.40 | 0.0 | 66.6 | -12.9 |
| | | | 5 | 0.00 | 0.0 | 587.5 | -114.2 | 5.40 | 0.0 | 587.5 | -114.2 |
| | | | 6 | 0.00 | 0.0 | -366.2 | -2.0 | 5.40 | 0.0 | -366.2 | -2.0 |
| | | | 7 | 0.00 | 0.0 | 366.2 | 2.0 | 5.40 | 0.0 | 366.2 | 2.0 |
| | | | 2 | 0.00 | 0.0 | 61.1 | -11.9 | 5.40 | 0.0 | 61.1 | -11.9 |
| | | | 3 | 0.00 | 0.0 | 61.1 | -11.9 | 5.40 | 0.0 | 61.1 | -11.9 |
| | | | 5 | 0.00 | 0.0 | 538.9 | -104.8 | 5.40 | 0.0 | 538.9 | -104.8 |
| | | | 6 | 0.00 | 0.0 | -335.9 | -1.8 | 5.40 | 0.0 | -335.9 | -1.8 |
| | | | 7 | 0.00 | 0.0 | 335.9 | 1.8 | 5.40 | 0.0 | 335.9 | 1.8 |
| 167 | 169 | 5.40 | 1 | 0.00 | 0.0 | 242.5 | 47.1 | 5.40 | 0.0 | 242.5 | 47.1 |
| | | | 2 | 0.00 | 0.0 | 61.1 | 11.9 | 5.40 | 0.0 | 61.1 | 11.9 |
| | | | 3 | 0.00 | 0.0 | 61.1 | 11.9 | 5.40 | 0.0 | 61.1 | 11.9 |
| | | | 5 | 0.00 | 0.0 | 538.9 | 104.8 | 5.40 | 0.0 | 538.9 | 104.8 |
| | | | 6 | 0.00 | 0.0 | 335.9 | -1.8 | 5.40 | 0.0 | 335.9 | -1.8 |
| | | | 7 | 0.00 | 0.0 | -335.9 | 1.8 | 5.40 | 0.0 | -335.9 | 1.8 |
| | | | 2 | 0.00 | 0.0 | 72.1 | 14.0 | 5.40 | 0.0 | 72.1 | 14.0 |
| | | | 3 | 0.00 | 0.0 | 72.1 | 14.0 | 5.40 | 0.0 | 72.1 | 14.0 |
| | | | 5 | 0.00 | 0.0 | 636.1 | 123.6 | 5.40 | 0.0 | 636.1 | 123.6 |
| | | | 6 | 0.00 | 0.0 | 396.5 | -2.1 | 5.40 | 0.0 | 396.5 | -2.1 |
| | | | 7 | 0.00 | 0.0 | -396.5 | 2.1 | 5.40 | 0.0 | -396.5 | 2.1 |
| 171 | 169 | 5.40 | 1 | 0.00 | 0.0 | 242.5 | -47.1 | 5.40 | 0.0 | 242.5 | -47.1 |
| | | | 2 | 0.00 | 0.0 | 72.1 | -14.0 | 5.40 | 0.0 | 72.1 | -14.0 |
| | | | 3 | 0.00 | 0.0 | 72.1 | -14.0 | 5.40 | 0.0 | 72.1 | -14.0 |
| | | | 5 | 0.00 | 0.0 | 636.1 | -123.6 | 5.40 | 0.0 | 636.1 | -123.6 |
| | | | 6 | 0.00 | 0.0 | 396.5 | 2.1 | 5.40 | 0.0 | 396.5 | 2.1 |
| | | | 7 | 0.00 | 0.0 | -396.5 | -2.1 | 5.40 | 0.0 | -396.5 | -2.1 |
| | | | 2 | 0.00 | 0.0 | 61.1 | -11.9 | 5.40 | 0.0 | 61.1 | -11.9 |
| | | | 3 | 0.00 | 0.0 | 61.1 | -11.9 | 5.40 | 0.0 | 61.1 | -11.9 |
| | | | 5 | 0.00 | 0.0 | 538.9 | -104.8 | 5.40 | 0.0 | 538.9 | -104.8 |
| | | | 6 | 0.00 | 0.0 | 335.9 | 1.8 | 5.40 | 0.0 | 335.9 | 1.8 |
| | | | 7 | 0.00 | 0.0 | -335.9 | -1.8 | 5.40 | 0.0 | -335.9 | -1.8 |
| 173 | 171 | 5.40 | 1 | 0.00 | 0.0 | 242.5 | -47.1 | 5.40 | 0.0 | 242.5 | -47.1 |
| | | | 2 | 0.00 | 0.0 | 72.1 | -14.0 | 5.40 | 0.0 | 72.1 | -14.0 |
| | | | 3 | 0.00 | 0.0 | 72.1 | -14.0 | 5.40 | 0.0 | 72.1 | -14.0 |
| | | | 5 | 0.00 | 0.0 | 636.1 | -123.6 | 5.40 | 0.0 | 636.1 | -123.6 |

| | | | | | | | | | | | |
|-----|-----|------|---|------|-----|--------|--------|------|-----|--------|--------|
| | | | 6 | 0.00 | 0.0 | 396.5 | 2.1 | 5.40 | 0.0 | 396.5 | 2.1 |
| | | | 7 | 0.00 | 0.0 | -396.5 | -2.1 | 5.40 | 0.0 | -396.5 | -2.1 |
| | | | 2 | 0.00 | 0.0 | 61.1 | -11.9 | 5.40 | 0.0 | 61.1 | -11.9 |
| | | | 3 | 0.00 | 0.0 | 61.1 | -11.9 | 5.40 | 0.0 | 61.1 | -11.9 |
| | | | 5 | 0.00 | 0.0 | 538.9 | -104.8 | 5.40 | 0.0 | 538.9 | -104.8 |
| | | | 6 | 0.00 | 0.0 | 335.9 | 1.8 | 5.40 | 0.0 | 335.9 | 1.8 |
| | | | 7 | 0.00 | 0.0 | -335.9 | -1.8 | 5.40 | 0.0 | -335.9 | -1.8 |
| 173 | 175 | 5.40 | 1 | 0.00 | 0.0 | 242.5 | 47.1 | 5.40 | 0.0 | 242.5 | 47.1 |
| | | | 2 | 0.00 | 0.0 | 72.1 | 14.0 | 5.40 | 0.0 | 72.1 | 14.0 |
| | | | 3 | 0.00 | 0.0 | 72.1 | 14.0 | 5.40 | 0.0 | 72.1 | 14.0 |
| | | | 5 | 0.00 | 0.0 | 636.1 | 123.6 | 5.40 | 0.0 | 636.1 | 123.6 |
| | | | 6 | 0.00 | 0.0 | 396.5 | -2.1 | 5.40 | 0.0 | 396.5 | -2.1 |
| | | | 7 | 0.00 | 0.0 | -396.5 | 2.1 | 5.40 | 0.0 | -396.5 | 2.1 |
| | | | 2 | 0.00 | 0.0 | 61.1 | 11.9 | 5.40 | 0.0 | 61.1 | 11.9 |
| | | | 3 | 0.00 | 0.0 | 61.1 | 11.9 | 5.40 | 0.0 | 61.1 | 11.9 |
| | | | 5 | 0.00 | 0.0 | 538.9 | 104.8 | 5.40 | 0.0 | 538.9 | 104.8 |
| | | | 6 | 0.00 | 0.0 | 335.9 | -1.8 | 5.40 | 0.0 | 335.9 | -1.8 |
| | | | 7 | 0.00 | 0.0 | -335.9 | 1.8 | 5.40 | 0.0 | -335.9 | 1.8 |
| 175 | 177 | 5.40 | 1 | 0.00 | 0.0 | 242.5 | 47.1 | 5.40 | 0.0 | 242.5 | 47.1 |
| | | | 2 | 0.00 | 0.0 | 72.1 | 14.0 | 5.40 | 0.0 | 72.1 | 14.0 |
| | | | 3 | 0.00 | 0.0 | 72.1 | 14.0 | 5.40 | 0.0 | 72.1 | 14.0 |
| | | | 5 | 0.00 | 0.0 | 636.1 | 123.6 | 5.40 | 0.0 | 636.1 | 123.6 |
| | | | 6 | 0.00 | 0.0 | 396.5 | -2.1 | 5.40 | 0.0 | 396.5 | -2.1 |
| | | | 7 | 0.00 | 0.0 | -396.5 | 2.1 | 5.40 | 0.0 | -396.5 | 2.1 |
| | | | 2 | 0.00 | 0.0 | 61.1 | 11.9 | 5.40 | 0.0 | 61.1 | 11.9 |
| | | | 3 | 0.00 | 0.0 | 61.1 | 11.9 | 5.40 | 0.0 | 61.1 | 11.9 |
| | | | 5 | 0.00 | 0.0 | 538.9 | 104.8 | 5.40 | 0.0 | 538.9 | 104.8 |
| | | | 6 | 0.00 | 0.0 | 335.9 | -1.8 | 5.40 | 0.0 | 335.9 | -1.8 |
| | | | 7 | 0.00 | 0.0 | -335.9 | 1.8 | 5.40 | 0.0 | -335.9 | 1.8 |
| 177 | 179 | 5.40 | 1 | 0.00 | 0.0 | 242.5 | 47.1 | 5.40 | 0.0 | 242.5 | 47.1 |
| | | | 2 | 0.00 | 0.0 | 72.1 | 14.0 | 5.40 | 0.0 | 72.1 | 14.0 |
| | | | 3 | 0.00 | 0.0 | 72.1 | 14.0 | 5.40 | 0.0 | 72.1 | 14.0 |
| | | | 5 | 0.00 | 0.0 | 636.1 | 123.6 | 5.40 | 0.0 | 636.1 | 123.6 |
| | | | 6 | 0.00 | 0.0 | 396.5 | -2.1 | 5.40 | 0.0 | 396.5 | -2.1 |
| | | | 7 | 0.00 | 0.0 | -396.5 | 2.1 | 5.40 | 0.0 | -396.5 | 2.1 |
| | | | 2 | 0.00 | 0.0 | 61.1 | 11.9 | 5.40 | 0.0 | 61.1 | 11.9 |
| | | | 3 | 0.00 | 0.0 | 61.1 | 11.9 | 5.40 | 0.0 | 61.1 | 11.9 |
| | | | 5 | 0.00 | 0.0 | 538.9 | 104.8 | 5.40 | 0.0 | 538.9 | 104.8 |
| | | | 6 | 0.00 | 0.0 | 335.9 | -1.8 | 5.40 | 0.0 | 335.9 | -1.8 |
| | | | 7 | 0.00 | 0.0 | -335.9 | 1.8 | 5.40 | 0.0 | -335.9 | 1.8 |
| 168 | 170 | 5.40 | 1 | 0.00 | 0.0 | 242.5 | -47.1 | 5.40 | 0.0 | 242.5 | -47.1 |
| | | | 2 | 0.00 | 0.0 | 72.1 | -14.0 | 5.40 | 0.0 | 72.1 | -14.0 |
| | | | 3 | 0.00 | 0.0 | 72.1 | -14.0 | 5.40 | 0.0 | 72.1 | -14.0 |
| | | | 5 | 0.00 | 0.0 | 636.1 | -123.6 | 5.40 | 0.0 | 636.1 | -123.6 |
| | | | 6 | 0.00 | 0.0 | -396.5 | -2.1 | 5.40 | 0.0 | -396.5 | -2.1 |
| | | | 7 | 0.00 | 0.0 | 396.5 | 2.1 | 5.40 | 0.0 | 396.5 | 2.1 |
| | | | 2 | 0.00 | 0.0 | 61.1 | -11.9 | 5.40 | 0.0 | 61.1 | -11.9 |
| | | | 3 | 0.00 | 0.0 | 61.1 | -11.9 | 5.40 | 0.0 | 61.1 | -11.9 |
| | | | 5 | 0.00 | 0.0 | 538.9 | -104.8 | 5.40 | 0.0 | 538.9 | -104.8 |
| | | | 6 | 0.00 | 0.0 | -335.9 | -1.8 | 5.40 | 0.0 | -335.9 | -1.8 |
| | | | 7 | 0.00 | 0.0 | 335.9 | 1.8 | 5.40 | 0.0 | 335.9 | 1.8 |
| 172 | 170 | 5.40 | 1 | 0.00 | 0.0 | 242.5 | 47.1 | 5.40 | 0.0 | 242.5 | 47.1 |
| | | | 2 | 0.00 | 0.0 | 72.1 | 14.0 | 5.40 | 0.0 | 72.1 | 14.0 |
| | | | 3 | 0.00 | 0.0 | 72.1 | 14.0 | 5.40 | 0.0 | 72.1 | 14.0 |
| | | | 5 | 0.00 | 0.0 | 636.1 | 123.6 | 5.40 | 0.0 | 636.1 | 123.6 |
| | | | 6 | 0.00 | 0.0 | -396.5 | 2.1 | 5.40 | 0.0 | -396.5 | 2.1 |
| | | | 7 | 0.00 | 0.0 | 396.5 | -2.1 | 5.40 | 0.0 | 396.5 | -2.1 |
| | | | 2 | 0.00 | 0.0 | 61.1 | 11.9 | 5.40 | 0.0 | 61.1 | 11.9 |
| | | | 3 | 0.00 | 0.0 | 61.1 | 11.9 | 5.40 | 0.0 | 61.1 | 11.9 |

| | | | | | | | | | | | |
|-----|-----|------|---|------|-----|--------|--------|------|-----|--------|--------|
| | | | 5 | 0.00 | 0.0 | 538.9 | 104.8 | 5.40 | 0.0 | 538.9 | 104.8 |
| | | | 6 | 0.00 | 0.0 | -335.9 | 1.8 | 5.40 | 0.0 | -335.9 | 1.8 |
| | | | 7 | 0.00 | 0.0 | 335.9 | -1.8 | 5.40 | 0.0 | 335.9 | -1.8 |
| 174 | 172 | 5.40 | 1 | 0.00 | 0.0 | 242.5 | 47.1 | 5.40 | 0.0 | 242.5 | 47.1 |
| | | | 2 | 0.00 | 0.0 | 72.1 | 14.0 | 5.40 | 0.0 | 72.1 | 14.0 |
| | | | 3 | 0.00 | 0.0 | 72.1 | 14.0 | 5.40 | 0.0 | 72.1 | 14.0 |
| | | | 5 | 0.00 | 0.0 | 636.1 | 123.6 | 5.40 | 0.0 | 636.1 | 123.6 |
| | | | 6 | 0.00 | 0.0 | -396.5 | 2.1 | 5.40 | 0.0 | -396.5 | 2.1 |
| | | | 7 | 0.00 | 0.0 | 396.5 | -2.1 | 5.40 | 0.0 | 396.5 | -2.1 |
| | | | 2 | 0.00 | 0.0 | 61.1 | 11.9 | 5.40 | 0.0 | 61.1 | 11.9 |
| | | | 3 | 0.00 | 0.0 | 61.1 | 11.9 | 5.40 | 0.0 | 61.1 | 11.9 |
| | | | 5 | 0.00 | 0.0 | 538.9 | 104.8 | 5.40 | 0.0 | 538.9 | 104.8 |
| | | | 6 | 0.00 | 0.0 | -335.9 | 1.8 | 5.40 | 0.0 | -335.9 | 1.8 |
| | | | 7 | 0.00 | 0.0 | 335.9 | -1.8 | 5.40 | 0.0 | 335.9 | -1.8 |
| 174 | 176 | 5.40 | 1 | 0.00 | 0.0 | 242.5 | -47.1 | 5.40 | 0.0 | 242.5 | -47.1 |
| | | | 2 | 0.00 | 0.0 | 72.1 | -14.0 | 5.40 | 0.0 | 72.1 | -14.0 |
| | | | 3 | 0.00 | 0.0 | 72.1 | -14.0 | 5.40 | 0.0 | 72.1 | -14.0 |
| | | | 5 | 0.00 | 0.0 | 636.1 | -123.6 | 5.40 | 0.0 | 636.1 | -123.6 |
| | | | 6 | 0.00 | 0.0 | -396.5 | -2.1 | 5.40 | 0.0 | -396.5 | -2.1 |
| | | | 7 | 0.00 | 0.0 | 396.5 | 2.1 | 5.40 | 0.0 | 396.5 | 2.1 |
| | | | 2 | 0.00 | 0.0 | 61.1 | -11.9 | 5.40 | 0.0 | 61.1 | -11.9 |
| | | | 3 | 0.00 | 0.0 | 61.1 | -11.9 | 5.40 | 0.0 | 61.1 | -11.9 |
| | | | 5 | 0.00 | 0.0 | 538.9 | -104.8 | 5.40 | 0.0 | 538.9 | -104.8 |
| | | | 6 | 0.00 | 0.0 | -335.9 | -1.8 | 5.40 | 0.0 | -335.9 | -1.8 |
| | | | 7 | 0.00 | 0.0 | 335.9 | 1.8 | 5.40 | 0.0 | 335.9 | 1.8 |
| 176 | 178 | 5.40 | 1 | 0.00 | 0.0 | 242.5 | -47.1 | 5.40 | 0.0 | 242.5 | -47.1 |
| | | | 2 | 0.00 | 0.0 | 72.1 | -14.0 | 5.40 | 0.0 | 72.1 | -14.0 |
| | | | 3 | 0.00 | 0.0 | 72.1 | -14.0 | 5.40 | 0.0 | 72.1 | -14.0 |
| | | | 5 | 0.00 | 0.0 | 636.1 | -123.6 | 5.40 | 0.0 | 636.1 | -123.6 |
| | | | 6 | 0.00 | 0.0 | -396.5 | -2.1 | 5.40 | 0.0 | -396.5 | -2.1 |
| | | | 7 | 0.00 | 0.0 | 396.5 | 2.1 | 5.40 | 0.0 | 396.5 | 2.1 |
| | | | 2 | 0.00 | 0.0 | 61.1 | -11.9 | 5.40 | 0.0 | 61.1 | -11.9 |
| | | | 3 | 0.00 | 0.0 | 61.1 | -11.9 | 5.40 | 0.0 | 61.1 | -11.9 |
| | | | 5 | 0.00 | 0.0 | 538.9 | -104.8 | 5.40 | 0.0 | 538.9 | -104.8 |
| | | | 6 | 0.00 | 0.0 | -335.9 | -1.8 | 5.40 | 0.0 | -335.9 | -1.8 |
| | | | 7 | 0.00 | 0.0 | 335.9 | 1.8 | 5.40 | 0.0 | 335.9 | 1.8 |
| 178 | 180 | 5.40 | 1 | 0.00 | 0.0 | 242.5 | -47.1 | 5.40 | 0.0 | 242.5 | -47.1 |
| | | | 2 | 0.00 | 0.0 | 72.1 | -14.0 | 5.40 | 0.0 | 72.1 | -14.0 |
| | | | 3 | 0.00 | 0.0 | 72.1 | -14.0 | 5.40 | 0.0 | 72.1 | -14.0 |
| | | | 5 | 0.00 | 0.0 | 636.1 | -123.6 | 5.40 | 0.0 | 636.1 | -123.6 |
| | | | 6 | 0.00 | 0.0 | -396.5 | -2.1 | 5.40 | 0.0 | -396.5 | -2.1 |
| | | | 7 | 0.00 | 0.0 | 396.5 | 2.1 | 5.40 | 0.0 | 396.5 | 2.1 |
| | | | 2 | 0.00 | 0.0 | 61.1 | -11.9 | 5.40 | 0.0 | 61.1 | -11.9 |
| | | | 3 | 0.00 | 0.0 | 61.1 | -11.9 | 5.40 | 0.0 | 61.1 | -11.9 |
| | | | 5 | 0.00 | 0.0 | 538.9 | -104.8 | 5.40 | 0.0 | 538.9 | -104.8 |
| | | | 6 | 0.00 | 0.0 | -335.9 | -1.8 | 5.40 | 0.0 | -335.9 | -1.8 |
| | | | 7 | 0.00 | 0.0 | 335.9 | 1.8 | 5.40 | 0.0 | 335.9 | 1.8 |
| 181 | 183 | 5.40 | 1 | 0.00 | 0.0 | 242.5 | 47.1 | 5.40 | 0.0 | 242.5 | 47.1 |
| | | | 2 | 0.00 | 0.0 | 66.6 | 12.9 | 5.40 | 0.0 | 66.6 | 12.9 |
| | | | 3 | 0.00 | 0.0 | 66.6 | 12.9 | 5.40 | 0.0 | 66.6 | 12.9 |
| | | | 5 | 0.00 | 0.0 | 587.5 | 114.2 | 5.40 | 0.0 | 587.5 | 114.2 |
| | | | 6 | 0.00 | 0.0 | 366.2 | -2.0 | 5.40 | 0.0 | 366.2 | -2.0 |
| | | | 7 | 0.00 | 0.0 | -366.2 | 2.0 | 5.40 | 0.0 | -366.2 | 2.0 |
| | | | 2 | 0.00 | 0.0 | 72.1 | 14.0 | 5.40 | 0.0 | 72.1 | 14.0 |
| | | | 3 | 0.00 | 0.0 | 72.1 | 14.0 | 5.40 | 0.0 | 72.1 | 14.0 |
| | | | 5 | 0.00 | 0.0 | 636.1 | 123.6 | 5.40 | 0.0 | 636.1 | 123.6 |
| | | | 6 | 0.00 | 0.0 | 396.5 | -2.1 | 5.40 | 0.0 | 396.5 | -2.1 |
| | | | 7 | 0.00 | 0.0 | -396.5 | 2.1 | 5.40 | 0.0 | -396.5 | 2.1 |
| 185 | 183 | 5.40 | 1 | 0.00 | 0.0 | 242.5 | -47.1 | 5.40 | 0.0 | 242.5 | -47.1 |

| | | | | | | | | | | | |
|-----|-----|------|---|------|-----|--------|--------|------|-----|--------|--------|
| | | | 2 | 0.00 | 0.0 | 66.6 | -12.9 | 5.40 | 0.0 | 66.6 | -12.9 |
| | | | 3 | 0.00 | 0.0 | 66.6 | -12.9 | 5.40 | 0.0 | 66.6 | -12.9 |
| | | | 5 | 0.00 | 0.0 | 587.5 | -114.2 | 5.40 | 0.0 | 587.5 | -114.2 |
| | | | 6 | 0.00 | 0.0 | 366.2 | 2.0 | 5.40 | 0.0 | 366.2 | 2.0 |
| | | | 7 | 0.00 | 0.0 | -366.2 | -2.0 | 5.40 | 0.0 | -366.2 | -2.0 |
| | | | 2 | 0.00 | 0.0 | 72.1 | -14.0 | 5.40 | 0.0 | 72.1 | -14.0 |
| | | | 3 | 0.00 | 0.0 | 72.1 | -14.0 | 5.40 | 0.0 | 72.1 | -14.0 |
| | | | 5 | 0.00 | 0.0 | 636.1 | -123.6 | 5.40 | 0.0 | 636.1 | -123.6 |
| | | | 6 | 0.00 | 0.0 | 396.5 | 2.1 | 5.40 | 0.0 | 396.5 | 2.1 |
| | | | 7 | 0.00 | 0.0 | -396.5 | -2.1 | 5.40 | 0.0 | -396.5 | -2.1 |
| 187 | 185 | 5.40 | 1 | 0.00 | 0.0 | 242.5 | -47.1 | 5.40 | 0.0 | 242.5 | -47.1 |
| | | | 2 | 0.00 | 0.0 | 66.6 | -12.9 | 5.40 | 0.0 | 66.6 | -12.9 |
| | | | 3 | 0.00 | 0.0 | 66.6 | -12.9 | 5.40 | 0.0 | 66.6 | -12.9 |
| | | | 5 | 0.00 | 0.0 | 587.5 | -114.2 | 5.40 | 0.0 | 587.5 | -114.2 |
| | | | 6 | 0.00 | 0.0 | 366.2 | 2.0 | 5.40 | 0.0 | 366.2 | 2.0 |
| | | | 7 | 0.00 | 0.0 | -366.2 | -2.0 | 5.40 | 0.0 | -366.2 | -2.0 |
| | | | 2 | 0.00 | 0.0 | 72.1 | -14.0 | 5.40 | 0.0 | 72.1 | -14.0 |
| | | | 3 | 0.00 | 0.0 | 72.1 | -14.0 | 5.40 | 0.0 | 72.1 | -14.0 |
| | | | 5 | 0.00 | 0.0 | 636.1 | -123.6 | 5.40 | 0.0 | 636.1 | -123.6 |
| | | | 6 | 0.00 | 0.0 | 396.5 | 2.1 | 5.40 | 0.0 | 396.5 | 2.1 |
| | | | 7 | 0.00 | 0.0 | -396.5 | -2.1 | 5.40 | 0.0 | -396.5 | -2.1 |
| 187 | 189 | 5.40 | 1 | 0.00 | 0.0 | 242.5 | 47.1 | 5.40 | 0.0 | 242.5 | 47.1 |
| | | | 2 | 0.00 | 0.0 | 66.6 | 12.9 | 5.40 | 0.0 | 66.6 | 12.9 |
| | | | 3 | 0.00 | 0.0 | 66.6 | 12.9 | 5.40 | 0.0 | 66.6 | 12.9 |
| | | | 5 | 0.00 | 0.0 | 587.5 | 114.2 | 5.40 | 0.0 | 587.5 | 114.2 |
| | | | 6 | 0.00 | 0.0 | 366.2 | -2.0 | 5.40 | 0.0 | 366.2 | -2.0 |
| | | | 7 | 0.00 | 0.0 | -366.2 | 2.0 | 5.40 | 0.0 | -366.2 | 2.0 |
| | | | 2 | 0.00 | 0.0 | 72.1 | 14.0 | 5.40 | 0.0 | 72.1 | 14.0 |
| | | | 3 | 0.00 | 0.0 | 72.1 | 14.0 | 5.40 | 0.0 | 72.1 | 14.0 |
| | | | 5 | 0.00 | 0.0 | 636.1 | 123.6 | 5.40 | 0.0 | 636.1 | 123.6 |
| | | | 6 | 0.00 | 0.0 | 396.5 | -2.1 | 5.40 | 0.0 | 396.5 | -2.1 |
| | | | 7 | 0.00 | 0.0 | -396.5 | 2.1 | 5.40 | 0.0 | -396.5 | 2.1 |
| 189 | 191 | 5.40 | 1 | 0.00 | 0.0 | 242.5 | 47.1 | 5.40 | 0.0 | 242.5 | 47.1 |
| | | | 2 | 0.00 | 0.0 | 66.6 | 12.9 | 5.40 | 0.0 | 66.6 | 12.9 |
| | | | 3 | 0.00 | 0.0 | 66.6 | 12.9 | 5.40 | 0.0 | 66.6 | 12.9 |
| | | | 5 | 0.00 | 0.0 | 587.5 | 114.2 | 5.40 | 0.0 | 587.5 | 114.2 |
| | | | 6 | 0.00 | 0.0 | 366.2 | -2.0 | 5.40 | 0.0 | 366.2 | -2.0 |
| | | | 7 | 0.00 | 0.0 | -366.2 | 2.0 | 5.40 | 0.0 | -366.2 | 2.0 |
| | | | 2 | 0.00 | 0.0 | 72.1 | 14.0 | 5.40 | 0.0 | 72.1 | 14.0 |
| | | | 3 | 0.00 | 0.0 | 72.1 | 14.0 | 5.40 | 0.0 | 72.1 | 14.0 |
| | | | 5 | 0.00 | 0.0 | 636.1 | 123.6 | 5.40 | 0.0 | 636.1 | 123.6 |
| | | | 6 | 0.00 | 0.0 | 396.5 | -2.1 | 5.40 | 0.0 | 396.5 | -2.1 |
| | | | 7 | 0.00 | 0.0 | -396.5 | 2.1 | 5.40 | 0.0 | -396.5 | 2.1 |
| 191 | 193 | 5.40 | 1 | 0.00 | 0.0 | 242.5 | 47.1 | 5.40 | 0.0 | 242.5 | 47.1 |
| | | | 2 | 0.00 | 0.0 | 72.1 | 14.0 | 5.40 | 0.0 | 72.1 | 14.0 |
| | | | 3 | 0.00 | 0.0 | 72.1 | 14.0 | 5.40 | 0.0 | 72.1 | 14.0 |
| | | | 5 | 0.00 | 0.0 | 636.1 | 123.6 | 5.40 | 0.0 | 636.1 | 123.6 |
| | | | 6 | 0.00 | 0.0 | 396.5 | -2.1 | 5.40 | 0.0 | 396.5 | -2.1 |
| | | | 7 | 0.00 | 0.0 | -396.5 | 2.1 | 5.40 | 0.0 | -396.5 | 2.1 |
| | | | 2 | 0.00 | 0.0 | 66.6 | 12.9 | 5.40 | 0.0 | 66.6 | 12.9 |
| | | | 3 | 0.00 | 0.0 | 66.6 | 12.9 | 5.40 | 0.0 | 66.6 | 12.9 |
| | | | 5 | 0.00 | 0.0 | 587.5 | 114.2 | 5.40 | 0.0 | 587.5 | 114.2 |
| | | | 6 | 0.00 | 0.0 | 366.2 | -2.0 | 5.40 | 0.0 | 366.2 | -2.0 |
| | | | 7 | 0.00 | 0.0 | -366.2 | 2.0 | 5.40 | 0.0 | -366.2 | 2.0 |
| 182 | 184 | 5.40 | 1 | 0.00 | 0.0 | 242.5 | -47.1 | 5.40 | 0.0 | 242.5 | -47.1 |
| | | | 2 | 0.00 | 0.0 | 66.6 | -12.9 | 5.40 | 0.0 | 66.6 | -12.9 |
| | | | 3 | 0.00 | 0.0 | 66.6 | -12.9 | 5.40 | 0.0 | 66.6 | -12.9 |
| | | | 5 | 0.00 | 0.0 | 587.5 | -114.2 | 5.40 | 0.0 | 587.5 | -114.2 |
| | | | 6 | 0.00 | 0.0 | -366.2 | -2.0 | 5.40 | 0.0 | -366.2 | -2.0 |

| | | | | | | | | | | | |
|-----|-----|------|---|------|-----|--------|--------|------|-----|--------|--------|
| | | | 7 | 0.00 | 0.0 | 366.2 | 2.0 | 5.40 | 0.0 | 366.2 | 2.0 |
| | | | 2 | 0.00 | 0.0 | 72.1 | -14.0 | 5.40 | 0.0 | 72.1 | -14.0 |
| | | | 3 | 0.00 | 0.0 | 72.1 | -14.0 | 5.40 | 0.0 | 72.1 | -14.0 |
| | | | 5 | 0.00 | 0.0 | 636.1 | -123.6 | 5.40 | 0.0 | 636.1 | -123.6 |
| | | | 6 | 0.00 | 0.0 | -396.5 | -2.1 | 5.40 | 0.0 | -396.5 | -2.1 |
| | | | 7 | 0.00 | 0.0 | 396.5 | 2.1 | 5.40 | 0.0 | 396.5 | 2.1 |
| 186 | 184 | 5.40 | 1 | 0.00 | 0.0 | 242.5 | 47.1 | 5.40 | 0.0 | 242.5 | 47.1 |
| | | | 2 | 0.00 | 0.0 | 66.6 | 12.9 | 5.40 | 0.0 | 66.6 | 12.9 |
| | | | 3 | 0.00 | 0.0 | 66.6 | 12.9 | 5.40 | 0.0 | 66.6 | 12.9 |
| | | | 5 | 0.00 | 0.0 | 587.5 | 114.2 | 5.40 | 0.0 | 587.5 | 114.2 |
| | | | 6 | 0.00 | 0.0 | -366.2 | 2.0 | 5.40 | 0.0 | -366.2 | 2.0 |
| | | | 7 | 0.00 | 0.0 | 366.2 | -2.0 | 5.40 | 0.0 | 366.2 | -2.0 |
| | | | 2 | 0.00 | 0.0 | 72.1 | 14.0 | 5.40 | 0.0 | 72.1 | 14.0 |
| | | | 3 | 0.00 | 0.0 | 72.1 | 14.0 | 5.40 | 0.0 | 72.1 | 14.0 |
| | | | 5 | 0.00 | 0.0 | 636.1 | 123.6 | 5.40 | 0.0 | 636.1 | 123.6 |
| | | | 6 | 0.00 | 0.0 | -396.5 | 2.1 | 5.40 | 0.0 | -396.5 | 2.1 |
| | | | 7 | 0.00 | 0.0 | 396.5 | -2.1 | 5.40 | 0.0 | 396.5 | -2.1 |
| 188 | 186 | 5.40 | 1 | 0.00 | 0.0 | 242.5 | 47.1 | 5.40 | 0.0 | 242.5 | 47.1 |
| | | | 2 | 0.00 | 0.0 | 66.6 | 12.9 | 5.40 | 0.0 | 66.6 | 12.9 |
| | | | 3 | 0.00 | 0.0 | 66.6 | 12.9 | 5.40 | 0.0 | 66.6 | 12.9 |
| | | | 5 | 0.00 | 0.0 | 587.5 | 114.2 | 5.40 | 0.0 | 587.5 | 114.2 |
| | | | 6 | 0.00 | 0.0 | -366.2 | 2.0 | 5.40 | 0.0 | -366.2 | 2.0 |
| | | | 7 | 0.00 | 0.0 | 366.2 | -2.0 | 5.40 | 0.0 | 366.2 | -2.0 |
| | | | 2 | 0.00 | 0.0 | 72.1 | 14.0 | 5.40 | 0.0 | 72.1 | 14.0 |
| | | | 3 | 0.00 | 0.0 | 72.1 | 14.0 | 5.40 | 0.0 | 72.1 | 14.0 |
| | | | 5 | 0.00 | 0.0 | 636.1 | 123.6 | 5.40 | 0.0 | 636.1 | 123.6 |
| | | | 6 | 0.00 | 0.0 | -396.5 | 2.1 | 5.40 | 0.0 | -396.5 | 2.1 |
| | | | 7 | 0.00 | 0.0 | 396.5 | -2.1 | 5.40 | 0.0 | 396.5 | -2.1 |
| 188 | 190 | 5.40 | 1 | 0.00 | 0.0 | 242.5 | -47.1 | 5.40 | 0.0 | 242.5 | -47.1 |
| | | | 2 | 0.00 | 0.0 | 66.6 | -12.9 | 5.40 | 0.0 | 66.6 | -12.9 |
| | | | 3 | 0.00 | 0.0 | 66.6 | -12.9 | 5.40 | 0.0 | 66.6 | -12.9 |
| | | | 5 | 0.00 | 0.0 | 587.5 | -114.2 | 5.40 | 0.0 | 587.5 | -114.2 |
| | | | 6 | 0.00 | 0.0 | -366.2 | -2.0 | 5.40 | 0.0 | -366.2 | -2.0 |
| | | | 7 | 0.00 | 0.0 | 366.2 | 2.0 | 5.40 | 0.0 | 366.2 | 2.0 |
| | | | 2 | 0.00 | 0.0 | 72.1 | -14.0 | 5.40 | 0.0 | 72.1 | -14.0 |
| | | | 3 | 0.00 | 0.0 | 72.1 | -14.0 | 5.40 | 0.0 | 72.1 | -14.0 |
| | | | 5 | 0.00 | 0.0 | 636.1 | -123.6 | 5.40 | 0.0 | 636.1 | -123.6 |
| | | | 6 | 0.00 | 0.0 | -396.5 | -2.1 | 5.40 | 0.0 | -396.5 | -2.1 |
| | | | 7 | 0.00 | 0.0 | 396.5 | 2.1 | 5.40 | 0.0 | 396.5 | 2.1 |
| 190 | 192 | 5.40 | 1 | 0.00 | 0.0 | 242.5 | -47.1 | 5.40 | 0.0 | 242.5 | -47.1 |
| | | | 2 | 0.00 | 0.0 | 66.6 | -12.9 | 5.40 | 0.0 | 66.6 | -12.9 |
| | | | 3 | 0.00 | 0.0 | 66.6 | -12.9 | 5.40 | 0.0 | 66.6 | -12.9 |
| | | | 5 | 0.00 | 0.0 | 587.5 | -114.2 | 5.40 | 0.0 | 587.5 | -114.2 |
| | | | 6 | 0.00 | 0.0 | -366.2 | -2.0 | 5.40 | 0.0 | -366.2 | -2.0 |
| | | | 7 | 0.00 | 0.0 | 366.2 | 2.0 | 5.40 | 0.0 | 366.2 | 2.0 |
| | | | 2 | 0.00 | 0.0 | 72.1 | -14.0 | 5.40 | 0.0 | 72.1 | -14.0 |
| | | | 3 | 0.00 | 0.0 | 72.1 | -14.0 | 5.40 | 0.0 | 72.1 | -14.0 |
| | | | 5 | 0.00 | 0.0 | 636.1 | -123.6 | 5.40 | 0.0 | 636.1 | -123.6 |
| | | | 6 | 0.00 | 0.0 | -396.5 | -2.1 | 5.40 | 0.0 | -396.5 | -2.1 |
| | | | 7 | 0.00 | 0.0 | 396.5 | 2.1 | 5.40 | 0.0 | 396.5 | 2.1 |
| 192 | 194 | 5.40 | 1 | 0.00 | 0.0 | 242.5 | -47.1 | 5.40 | 0.0 | 242.5 | -47.1 |
| | | | 2 | 0.00 | 0.0 | 72.1 | -14.0 | 5.40 | 0.0 | 72.1 | -14.0 |
| | | | 3 | 0.00 | 0.0 | 72.1 | -14.0 | 5.40 | 0.0 | 72.1 | -14.0 |
| | | | 5 | 0.00 | 0.0 | 636.1 | -123.6 | 5.40 | 0.0 | 636.1 | -123.6 |
| | | | 6 | 0.00 | 0.0 | -396.5 | -2.1 | 5.40 | 0.0 | -396.5 | -2.1 |
| | | | 7 | 0.00 | 0.0 | 396.5 | 2.1 | 5.40 | 0.0 | 396.5 | 2.1 |
| | | | 2 | 0.00 | 0.0 | 66.6 | -12.9 | 5.40 | 0.0 | 66.6 | -12.9 |
| | | | 3 | 0.00 | 0.0 | 66.6 | -12.9 | 5.40 | 0.0 | 66.6 | -12.9 |
| | | | 5 | 0.00 | 0.0 | 587.5 | -114.2 | 5.40 | 0.0 | 587.5 | -114.2 |

| | | | | | | | | | | | |
|-----|-----|------|---|------|-----|--------|--------|------|-----|--------|--------|
| | | | 2 | 0.00 | 0.0 | 66.6 | -12.9 | 5.40 | 0.0 | 66.6 | -12.9 |
| | | | 3 | 0.00 | 0.0 | 66.6 | -12.9 | 5.40 | 0.0 | 66.6 | -12.9 |
| | | | 5 | 0.00 | 0.0 | 587.5 | -114.2 | 5.40 | 0.0 | 587.5 | -114.2 |
| | | | 6 | 0.00 | 0.0 | -366.2 | -2.0 | 5.40 | 0.0 | -366.2 | -2.0 |
| | | | 7 | 0.00 | 0.0 | 366.2 | 2.0 | 5.40 | 0.0 | 366.2 | 2.0 |
| 206 | 208 | 5.40 | 1 | 0.00 | 0.0 | 242.5 | -47.1 | 5.40 | 0.0 | 242.5 | -47.1 |
| | | | 2 | 0.00 | 0.0 | 66.6 | -12.9 | 5.40 | 0.0 | 66.6 | -12.9 |
| | | | 3 | 0.00 | 0.0 | 66.6 | -12.9 | 5.40 | 0.0 | 66.6 | -12.9 |
| | | | 5 | 0.00 | 0.0 | 587.5 | -114.2 | 5.40 | 0.0 | 587.5 | -114.2 |
| | | | 6 | 0.00 | 0.0 | -366.2 | -2.0 | 5.40 | 0.0 | -366.2 | -2.0 |
| | | | 7 | 0.00 | 0.0 | 366.2 | 2.0 | 5.40 | 0.0 | 366.2 | 2.0 |
| | | | 2 | 0.00 | 0.0 | 66.6 | -12.9 | 5.40 | 0.0 | 66.6 | -12.9 |
| | | | 3 | 0.00 | 0.0 | 66.6 | -12.9 | 5.40 | 0.0 | 66.6 | -12.9 |
| | | | 5 | 0.00 | 0.0 | 587.5 | -114.2 | 5.40 | 0.0 | 587.5 | -114.2 |
| | | | 6 | 0.00 | 0.0 | -366.2 | -2.0 | 5.40 | 0.0 | -366.2 | -2.0 |
| | | | 7 | 0.00 | 0.0 | 366.2 | 2.0 | 5.40 | 0.0 | 366.2 | 2.0 |
| 209 | 211 | 5.40 | 1 | 0.00 | 0.0 | 242.5 | 47.1 | 5.40 | 0.0 | 242.5 | 47.1 |
| | | | 2 | 0.00 | 0.0 | 40.0 | 7.8 | 5.40 | 0.0 | 40.0 | 7.8 |
| | | | 3 | 0.00 | 0.0 | 40.0 | 7.8 | 5.40 | 0.0 | 40.0 | 7.8 |
| | | | 5 | 0.00 | 0.0 | 353.4 | 68.7 | 5.40 | 0.0 | 353.4 | 68.7 |
| | | | 6 | 0.00 | 0.0 | 220.3 | -1.2 | 5.40 | 0.0 | 220.3 | -1.2 |
| | | | 7 | 0.00 | 0.0 | -220.3 | 1.2 | 5.40 | 0.0 | -220.3 | 1.2 |
| | | | 2 | 0.00 | 0.0 | 66.6 | 12.9 | 5.40 | 0.0 | 66.6 | 12.9 |
| | | | 3 | 0.00 | 0.0 | 66.6 | 12.9 | 5.40 | 0.0 | 66.6 | 12.9 |
| | | | 5 | 0.00 | 0.0 | 587.5 | 114.2 | 5.40 | 0.0 | 587.5 | 114.2 |
| | | | 6 | 0.00 | 0.0 | 366.2 | -2.0 | 5.40 | 0.0 | 366.2 | -2.0 |
| | | | 7 | 0.00 | 0.0 | -366.2 | 2.0 | 5.40 | 0.0 | -366.2 | 2.0 |
| 213 | 211 | 5.40 | 1 | 0.00 | 0.0 | 242.5 | -47.1 | 5.40 | 0.0 | 242.5 | -47.1 |
| | | | 2 | 0.00 | 0.0 | 40.0 | -7.8 | 5.40 | 0.0 | 40.0 | -7.8 |
| | | | 3 | 0.00 | 0.0 | 40.0 | -7.8 | 5.40 | 0.0 | 40.0 | -7.8 |
| | | | 5 | 0.00 | 0.0 | 353.4 | -68.7 | 5.40 | 0.0 | 353.4 | -68.7 |
| | | | 6 | 0.00 | 0.0 | 220.3 | 1.2 | 5.40 | 0.0 | 220.3 | 1.2 |
| | | | 7 | 0.00 | 0.0 | -220.3 | -1.2 | 5.40 | 0.0 | -220.3 | -1.2 |
| | | | 2 | 0.00 | 0.0 | 66.6 | -12.9 | 5.40 | 0.0 | 66.6 | -12.9 |
| | | | 3 | 0.00 | 0.0 | 66.6 | -12.9 | 5.40 | 0.0 | 66.6 | -12.9 |
| | | | 5 | 0.00 | 0.0 | 587.5 | -114.2 | 5.40 | 0.0 | 587.5 | -114.2 |
| | | | 6 | 0.00 | 0.0 | 366.2 | 2.0 | 5.40 | 0.0 | 366.2 | 2.0 |
| | | | 7 | 0.00 | 0.0 | -366.2 | -2.0 | 5.40 | 0.0 | -366.2 | -2.0 |
| 215 | 213 | 5.40 | 1 | 0.00 | 0.0 | 242.5 | -47.1 | 5.40 | 0.0 | 242.5 | -47.1 |
| | | | 2 | 0.00 | 0.0 | 40.0 | -7.8 | 5.40 | 0.0 | 40.0 | -7.8 |
| | | | 3 | 0.00 | 0.0 | 40.0 | -7.8 | 5.40 | 0.0 | 40.0 | -7.8 |
| | | | 5 | 0.00 | 0.0 | 353.4 | -68.7 | 5.40 | 0.0 | 353.4 | -68.7 |
| | | | 6 | 0.00 | 0.0 | 220.3 | 1.2 | 5.40 | 0.0 | 220.3 | 1.2 |
| | | | 7 | 0.00 | 0.0 | -220.3 | -1.2 | 5.40 | 0.0 | -220.3 | -1.2 |
| | | | 2 | 0.00 | 0.0 | 66.6 | -12.9 | 5.40 | 0.0 | 66.6 | -12.9 |
| | | | 3 | 0.00 | 0.0 | 66.6 | -12.9 | 5.40 | 0.0 | 66.6 | -12.9 |
| | | | 5 | 0.00 | 0.0 | 587.5 | -114.2 | 5.40 | 0.0 | 587.5 | -114.2 |
| | | | 6 | 0.00 | 0.0 | 366.2 | 2.0 | 5.40 | 0.0 | 366.2 | 2.0 |
| | | | 7 | 0.00 | 0.0 | -366.2 | -2.0 | 5.40 | 0.0 | -366.2 | -2.0 |
| 215 | 217 | 5.40 | 1 | 0.00 | 0.0 | 242.5 | 47.1 | 5.40 | 0.0 | 242.5 | 47.1 |
| | | | 2 | 0.00 | 0.0 | 40.0 | 7.8 | 5.40 | 0.0 | 40.0 | 7.8 |
| | | | 3 | 0.00 | 0.0 | 40.0 | 7.8 | 5.40 | 0.0 | 40.0 | 7.8 |
| | | | 5 | 0.00 | 0.0 | 353.4 | 68.7 | 5.40 | 0.0 | 353.4 | 68.7 |
| | | | 6 | 0.00 | 0.0 | 220.3 | -1.2 | 5.40 | 0.0 | 220.3 | -1.2 |
| | | | 7 | 0.00 | 0.0 | -220.3 | 1.2 | 5.40 | 0.0 | -220.3 | 1.2 |
| | | | 2 | 0.00 | 0.0 | 66.6 | 12.9 | 5.40 | 0.0 | 66.6 | 12.9 |
| | | | 3 | 0.00 | 0.0 | 66.6 | 12.9 | 5.40 | 0.0 | 66.6 | 12.9 |
| | | | 5 | 0.00 | 0.0 | 587.5 | 114.2 | 5.40 | 0.0 | 587.5 | 114.2 |
| | | | 6 | 0.00 | 0.0 | 366.2 | -2.0 | 5.40 | 0.0 | 366.2 | -2.0 |

| | | | | | | | | | | | |
|-----|-----|------|---|------|-----|--------|--------|------|-----|--------|--------|
| | | | 7 | 0.00 | 0.0 | -366.2 | 2.0 | 5.40 | 0.0 | -366.2 | 2.0 |
| 217 | 219 | 5.40 | 1 | 0.00 | 0.0 | 242.5 | 47.1 | 5.40 | 0.0 | 242.5 | 47.1 |
| | | | 2 | 0.00 | 0.0 | 40.0 | 7.8 | 5.40 | 0.0 | 40.0 | 7.8 |
| | | | 3 | 0.00 | 0.0 | 40.0 | 7.8 | 5.40 | 0.0 | 40.0 | 7.8 |
| | | | 5 | 0.00 | 0.0 | 353.4 | 68.7 | 5.40 | 0.0 | 353.4 | 68.7 |
| | | | 6 | 0.00 | 0.0 | 220.3 | -1.2 | 5.40 | 0.0 | 220.3 | -1.2 |
| | | | 7 | 0.00 | 0.0 | -220.3 | 1.2 | 5.40 | 0.0 | -220.3 | 1.2 |
| | | | 2 | 0.00 | 0.0 | 66.6 | 12.9 | 5.40 | 0.0 | 66.6 | 12.9 |
| | | | 3 | 0.00 | 0.0 | 66.6 | 12.9 | 5.40 | 0.0 | 66.6 | 12.9 |
| | | | 5 | 0.00 | 0.0 | 587.5 | 114.2 | 5.40 | 0.0 | 587.5 | 114.2 |
| | | | 6 | 0.00 | 0.0 | 366.2 | -2.0 | 5.40 | 0.0 | 366.2 | -2.0 |
| | | | 7 | 0.00 | 0.0 | -366.2 | 2.0 | 5.40 | 0.0 | -366.2 | 2.0 |
| 219 | 221 | 5.40 | 1 | 0.00 | 0.0 | 242.5 | 47.1 | 5.40 | 0.0 | 242.5 | 47.1 |
| | | | 2 | 0.00 | 0.0 | 40.0 | 7.8 | 5.40 | 0.0 | 40.0 | 7.8 |
| | | | 3 | 0.00 | 0.0 | 40.0 | 7.8 | 5.40 | 0.0 | 40.0 | 7.8 |
| | | | 5 | 0.00 | 0.0 | 353.4 | 68.7 | 5.40 | 0.0 | 353.4 | 68.7 |
| | | | 6 | 0.00 | 0.0 | 220.3 | -1.2 | 5.40 | 0.0 | 220.3 | -1.2 |
| | | | 7 | 0.00 | 0.0 | -220.3 | 1.2 | 5.40 | 0.0 | -220.3 | 1.2 |
| | | | 2 | 0.00 | 0.0 | 66.6 | 12.9 | 5.40 | 0.0 | 66.6 | 12.9 |
| | | | 3 | 0.00 | 0.0 | 66.6 | 12.9 | 5.40 | 0.0 | 66.6 | 12.9 |
| | | | 5 | 0.00 | 0.0 | 587.5 | 114.2 | 5.40 | 0.0 | 587.5 | 114.2 |
| | | | 6 | 0.00 | 0.0 | 366.2 | -2.0 | 5.40 | 0.0 | 366.2 | -2.0 |
| | | | 7 | 0.00 | 0.0 | -366.2 | 2.0 | 5.40 | 0.0 | -366.2 | 2.0 |
| 210 | 212 | 5.40 | 1 | 0.00 | 0.0 | 242.5 | -47.1 | 5.40 | 0.0 | 242.5 | -47.1 |
| | | | 2 | 0.00 | 0.0 | 40.0 | -7.8 | 5.40 | 0.0 | 40.0 | -7.8 |
| | | | 3 | 0.00 | 0.0 | 40.0 | -7.8 | 5.40 | 0.0 | 40.0 | -7.8 |
| | | | 5 | 0.00 | 0.0 | 353.4 | -68.7 | 5.40 | 0.0 | 353.4 | -68.7 |
| | | | 6 | 0.00 | 0.0 | -220.3 | -1.2 | 5.40 | 0.0 | -220.3 | -1.2 |
| | | | 7 | 0.00 | 0.0 | 220.3 | 1.2 | 5.40 | 0.0 | 220.3 | 1.2 |
| | | | 2 | 0.00 | 0.0 | 66.6 | -12.9 | 5.40 | 0.0 | 66.6 | -12.9 |
| | | | 3 | 0.00 | 0.0 | 66.6 | -12.9 | 5.40 | 0.0 | 66.6 | -12.9 |
| | | | 5 | 0.00 | 0.0 | 587.5 | -114.2 | 5.40 | 0.0 | 587.5 | -114.2 |
| | | | 6 | 0.00 | 0.0 | -366.2 | -2.0 | 5.40 | 0.0 | -366.2 | -2.0 |
| | | | 7 | 0.00 | 0.0 | 366.2 | 2.0 | 5.40 | 0.0 | 366.2 | 2.0 |
| 214 | 212 | 5.40 | 1 | 0.00 | 0.0 | 242.5 | 47.1 | 5.40 | 0.0 | 242.5 | 47.1 |
| | | | 2 | 0.00 | 0.0 | 40.0 | 7.8 | 5.40 | 0.0 | 40.0 | 7.8 |
| | | | 3 | 0.00 | 0.0 | 40.0 | 7.8 | 5.40 | 0.0 | 40.0 | 7.8 |
| | | | 5 | 0.00 | 0.0 | 353.4 | 68.7 | 5.40 | 0.0 | 353.4 | 68.7 |
| | | | 6 | 0.00 | 0.0 | -220.3 | 1.2 | 5.40 | 0.0 | -220.3 | 1.2 |
| | | | 7 | 0.00 | 0.0 | 220.3 | -1.2 | 5.40 | 0.0 | 220.3 | -1.2 |
| | | | 2 | 0.00 | 0.0 | 66.6 | 12.9 | 5.40 | 0.0 | 66.6 | 12.9 |
| | | | 3 | 0.00 | 0.0 | 66.6 | 12.9 | 5.40 | 0.0 | 66.6 | 12.9 |
| | | | 5 | 0.00 | 0.0 | 587.5 | 114.2 | 5.40 | 0.0 | 587.5 | 114.2 |
| | | | 6 | 0.00 | 0.0 | -366.2 | 2.0 | 5.40 | 0.0 | -366.2 | 2.0 |
| | | | 7 | 0.00 | 0.0 | 366.2 | -2.0 | 5.40 | 0.0 | 366.2 | -2.0 |
| 216 | 214 | 5.40 | 1 | 0.00 | 0.0 | 242.5 | 47.1 | 5.40 | 0.0 | 242.5 | 47.1 |
| | | | 2 | 0.00 | 0.0 | 40.0 | 7.8 | 5.40 | 0.0 | 40.0 | 7.8 |
| | | | 3 | 0.00 | 0.0 | 40.0 | 7.8 | 5.40 | 0.0 | 40.0 | 7.8 |
| | | | 5 | 0.00 | 0.0 | 353.4 | 68.7 | 5.40 | 0.0 | 353.4 | 68.7 |
| | | | 6 | 0.00 | 0.0 | -220.3 | 1.2 | 5.40 | 0.0 | -220.3 | 1.2 |
| | | | 7 | 0.00 | 0.0 | 220.3 | -1.2 | 5.40 | 0.0 | 220.3 | -1.2 |
| | | | 2 | 0.00 | 0.0 | 66.6 | 12.9 | 5.40 | 0.0 | 66.6 | 12.9 |
| | | | 3 | 0.00 | 0.0 | 66.6 | 12.9 | 5.40 | 0.0 | 66.6 | 12.9 |
| | | | 5 | 0.00 | 0.0 | 587.5 | 114.2 | 5.40 | 0.0 | 587.5 | 114.2 |
| | | | 6 | 0.00 | 0.0 | -366.2 | 2.0 | 5.40 | 0.0 | -366.2 | 2.0 |
| | | | 7 | 0.00 | 0.0 | 366.2 | -2.0 | 5.40 | 0.0 | 366.2 | -2.0 |
| 216 | 218 | 5.40 | 1 | 0.00 | 0.0 | 242.5 | -47.1 | 5.40 | 0.0 | 242.5 | -47.1 |
| | | | 2 | 0.00 | 0.0 | 40.0 | -7.8 | 5.40 | 0.0 | 40.0 | -7.8 |
| | | | 3 | 0.00 | 0.0 | 40.0 | -7.8 | 5.40 | 0.0 | 40.0 | -7.8 |

| | | | | | | | | | | | |
|-----|-----|------|---|------|-----|--------|--------|------|-----|--------|--------|
| | | | 5 | 0.00 | 0.0 | 353.4 | -68.7 | 5.40 | 0.0 | 353.4 | -68.7 |
| | | | 6 | 0.00 | 0.0 | -220.3 | -1.2 | 5.40 | 0.0 | -220.3 | -1.2 |
| | | | 7 | 0.00 | 0.0 | 220.3 | 1.2 | 5.40 | 0.0 | 220.3 | 1.2 |
| | | | 2 | 0.00 | 0.0 | 66.6 | -12.9 | 5.40 | 0.0 | 66.6 | -12.9 |
| | | | 3 | 0.00 | 0.0 | 66.6 | -12.9 | 5.40 | 0.0 | 66.6 | -12.9 |
| | | | 5 | 0.00 | 0.0 | 587.5 | -114.2 | 5.40 | 0.0 | 587.5 | -114.2 |
| | | | 6 | 0.00 | 0.0 | -366.2 | -2.0 | 5.40 | 0.0 | -366.2 | -2.0 |
| | | | 7 | 0.00 | 0.0 | 366.2 | 2.0 | 5.40 | 0.0 | 366.2 | 2.0 |
| 218 | 220 | 5.40 | 1 | 0.00 | 0.0 | 242.5 | -47.1 | 5.40 | 0.0 | 242.5 | -47.1 |
| | | | 2 | 0.00 | 0.0 | 40.0 | -7.8 | 5.40 | 0.0 | 40.0 | -7.8 |
| | | | 3 | 0.00 | 0.0 | 40.0 | -7.8 | 5.40 | 0.0 | 40.0 | -7.8 |
| | | | 5 | 0.00 | 0.0 | 353.4 | -68.7 | 5.40 | 0.0 | 353.4 | -68.7 |
| | | | 6 | 0.00 | 0.0 | -220.3 | -1.2 | 5.40 | 0.0 | -220.3 | -1.2 |
| | | | 7 | 0.00 | 0.0 | 220.3 | 1.2 | 5.40 | 0.0 | 220.3 | 1.2 |
| | | | 2 | 0.00 | 0.0 | 66.6 | -12.9 | 5.40 | 0.0 | 66.6 | -12.9 |
| | | | 3 | 0.00 | 0.0 | 66.6 | -12.9 | 5.40 | 0.0 | 66.6 | -12.9 |
| | | | 5 | 0.00 | 0.0 | 587.5 | -114.2 | 5.40 | 0.0 | 587.5 | -114.2 |
| | | | 6 | 0.00 | 0.0 | -366.2 | -2.0 | 5.40 | 0.0 | -366.2 | -2.0 |
| | | | 7 | 0.00 | 0.0 | 366.2 | 2.0 | 5.40 | 0.0 | 366.2 | 2.0 |
| 220 | 222 | 5.40 | 1 | 0.00 | 0.0 | 242.5 | -47.1 | 5.40 | 0.0 | 242.5 | -47.1 |
| | | | 2 | 0.00 | 0.0 | 40.0 | -7.8 | 5.40 | 0.0 | 40.0 | -7.8 |
| | | | 3 | 0.00 | 0.0 | 40.0 | -7.8 | 5.40 | 0.0 | 40.0 | -7.8 |
| | | | 5 | 0.00 | 0.0 | 353.4 | -68.7 | 5.40 | 0.0 | 353.4 | -68.7 |
| | | | 6 | 0.00 | 0.0 | -220.3 | -1.2 | 5.40 | 0.0 | -220.3 | -1.2 |
| | | | 7 | 0.00 | 0.0 | 220.3 | 1.2 | 5.40 | 0.0 | 220.3 | 1.2 |
| | | | 2 | 0.00 | 0.0 | 66.6 | -12.9 | 5.40 | 0.0 | 66.6 | -12.9 |
| | | | 3 | 0.00 | 0.0 | 66.6 | -12.9 | 5.40 | 0.0 | 66.6 | -12.9 |
| | | | 5 | 0.00 | 0.0 | 587.5 | -114.2 | 5.40 | 0.0 | 587.5 | -114.2 |
| | | | 6 | 0.00 | 0.0 | -366.2 | -2.0 | 5.40 | 0.0 | -366.2 | -2.0 |
| | | | 7 | 0.00 | 0.0 | 366.2 | 2.0 | 5.40 | 0.0 | 366.2 | 2.0 |
| 223 | 224 | 5.40 | 1 | 0.00 | 0.0 | 247.0 | 0.0 | 5.40 | 0.0 | 247.0 | 0.0 |
| | | | 2 | 0.00 | 0.0 | 40.8 | 0.0 | 5.40 | 0.0 | 40.8 | 0.0 |
| | | | 3 | 0.00 | 0.0 | 40.8 | 0.0 | 5.40 | 0.0 | 40.8 | 0.0 |
| | | | 5 | 0.00 | 0.0 | 360.0 | 0.0 | 5.40 | 0.0 | 360.0 | 0.0 |
| | | | 6 | 0.00 | 0.0 | -216.0 | -43.2 | 5.40 | 0.0 | -216.0 | -43.2 |
| | | | 7 | 0.00 | 0.0 | 216.0 | 43.2 | 5.40 | 0.0 | 216.0 | 43.2 |
| | | | 2 | 0.00 | 0.0 | 40.8 | -0.0 | 5.40 | 0.0 | 40.8 | -0.0 |
| | | | 3 | 0.00 | 0.0 | 40.8 | -0.0 | 5.40 | 0.0 | 40.8 | -0.0 |
| | | | 5 | 0.00 | 0.0 | 360.0 | -0.0 | 5.40 | 0.0 | 360.0 | -0.0 |
| | | | 6 | 0.00 | 0.0 | 216.0 | -43.2 | 5.40 | 0.0 | 216.0 | -43.2 |
| | | | 7 | 0.00 | 0.0 | -216.0 | 43.2 | 5.40 | 0.0 | -216.0 | 43.2 |
| 225 | 224 | 5.40 | 1 | 0.00 | 0.0 | 247.0 | 0.0 | 5.40 | 0.0 | 247.0 | 0.0 |
| | | | 2 | 0.00 | 0.0 | 40.8 | 0.0 | 5.40 | 0.0 | 40.8 | 0.0 |
| | | | 3 | 0.00 | 0.0 | 40.8 | 0.0 | 5.40 | 0.0 | 40.8 | 0.0 |
| | | | 5 | 0.00 | 0.0 | 360.0 | 0.0 | 5.40 | 0.0 | 360.0 | 0.0 |
| | | | 6 | 0.00 | 0.0 | -216.0 | 43.2 | 5.40 | 0.0 | -216.0 | 43.2 |
| | | | 7 | 0.00 | 0.0 | 216.0 | -43.2 | 5.40 | 0.0 | 216.0 | -43.2 |
| | | | 2 | 0.00 | 0.0 | 40.8 | 0.0 | 5.40 | 0.0 | 40.8 | 0.0 |
| | | | 3 | 0.00 | 0.0 | 40.8 | 0.0 | 5.40 | 0.0 | 40.8 | 0.0 |
| | | | 5 | 0.00 | 0.0 | 360.0 | 0.0 | 5.40 | 0.0 | 360.0 | 0.0 |
| | | | 6 | 0.00 | 0.0 | 216.0 | 43.2 | 5.40 | 0.0 | 216.0 | 43.2 |
| | | | 7 | 0.00 | 0.0 | -216.0 | -43.2 | 5.40 | 0.0 | -216.0 | -43.2 |
| 226 | 225 | 5.40 | 1 | 0.00 | 0.0 | 247.0 | 0.0 | 5.40 | 0.0 | 247.0 | 0.0 |
| | | | 2 | 0.00 | 0.0 | 40.8 | 0.0 | 5.40 | 0.0 | 40.8 | 0.0 |
| | | | 3 | 0.00 | 0.0 | 40.8 | 0.0 | 5.40 | 0.0 | 40.8 | 0.0 |
| | | | 5 | 0.00 | 0.0 | 360.0 | 0.0 | 5.40 | 0.0 | 360.0 | 0.0 |
| | | | 6 | 0.00 | 0.0 | -216.0 | 43.2 | 5.40 | 0.0 | -216.0 | 43.2 |
| | | | 7 | 0.00 | 0.0 | 216.0 | -43.2 | 5.40 | 0.0 | 216.0 | -43.2 |
| | | | 2 | 0.00 | 0.0 | 40.8 | 0.0 | 5.40 | 0.0 | 40.8 | 0.0 |

| | | | | | | | | | | | |
|-----|-----|------|---|------|-----|--------|-------|------|-----|--------|-------|
| | | | 3 | 0.00 | 0.0 | 40.8 | 0.0 | 5.40 | 0.0 | 40.8 | 0.0 |
| | | | 5 | 0.00 | 0.0 | 360.0 | 0.0 | 5.40 | 0.0 | 360.0 | 0.0 |
| | | | 6 | 0.00 | 0.0 | 216.0 | 43.2 | 5.40 | 0.0 | 216.0 | 43.2 |
| | | | 7 | 0.00 | 0.0 | -216.0 | -43.2 | 5.40 | 0.0 | -216.0 | -43.2 |
| 226 | 227 | 5.40 | 1 | 0.00 | 0.0 | 247.0 | 0.0 | 5.40 | 0.0 | 247.0 | 0.0 |
| | | | 2 | 0.00 | 0.0 | 40.8 | 0.0 | 5.40 | 0.0 | 40.8 | 0.0 |
| | | | 3 | 0.00 | 0.0 | 40.8 | 0.0 | 5.40 | 0.0 | 40.8 | 0.0 |
| | | | 5 | 0.00 | 0.0 | 360.0 | 0.0 | 5.40 | 0.0 | 360.0 | 0.0 |
| | | | 6 | 0.00 | 0.0 | -216.0 | -43.2 | 5.40 | 0.0 | -216.0 | -43.2 |
| | | | 7 | 0.00 | 0.0 | 216.0 | 43.2 | 5.40 | 0.0 | 216.0 | 43.2 |
| | | | 2 | 0.00 | 0.0 | 40.8 | 0.0 | 5.40 | 0.0 | 40.8 | 0.0 |
| | | | 3 | 0.00 | 0.0 | 40.8 | 0.0 | 5.40 | 0.0 | 40.8 | 0.0 |
| | | | 5 | 0.00 | 0.0 | 360.0 | -0.0 | 5.40 | 0.0 | 360.0 | -0.0 |
| | | | 6 | 0.00 | 0.0 | 216.0 | -43.2 | 5.40 | 0.0 | 216.0 | -43.2 |
| | | | 7 | 0.00 | 0.0 | -216.0 | 43.2 | 5.40 | 0.0 | -216.0 | 43.2 |
| 227 | 228 | 5.40 | 1 | 0.00 | 0.0 | 247.0 | 0.0 | 5.40 | 0.0 | 247.0 | 0.0 |
| | | | 2 | 0.00 | 0.0 | 40.8 | 0.0 | 5.40 | 0.0 | 40.8 | 0.0 |
| | | | 3 | 0.00 | 0.0 | 40.8 | 0.0 | 5.40 | 0.0 | 40.8 | 0.0 |
| | | | 5 | 0.00 | 0.0 | 360.0 | 0.0 | 5.40 | 0.0 | 360.0 | 0.0 |
| | | | 6 | 0.00 | 0.0 | -216.0 | -43.2 | 5.40 | 0.0 | -216.0 | -43.2 |
| | | | 7 | 0.00 | 0.0 | 216.0 | 43.2 | 5.40 | 0.0 | 216.0 | 43.2 |
| | | | 2 | 0.00 | 0.0 | 40.8 | -0.0 | 5.40 | 0.0 | 40.8 | -0.0 |
| | | | 3 | 0.00 | 0.0 | 40.8 | -0.0 | 5.40 | 0.0 | 40.8 | -0.0 |
| | | | 5 | 0.00 | 0.0 | 360.0 | -0.0 | 5.40 | 0.0 | 360.0 | -0.0 |
| | | | 6 | 0.00 | 0.0 | 216.0 | -43.2 | 5.40 | 0.0 | 216.0 | -43.2 |
| | | | 7 | 0.00 | 0.0 | -216.0 | 43.2 | 5.40 | 0.0 | -216.0 | 43.2 |
| 228 | 229 | 5.40 | 1 | 0.00 | 0.0 | 247.0 | 0.0 | 5.40 | 0.0 | 247.0 | 0.0 |
| | | | 2 | 0.00 | 0.0 | 40.8 | -0.0 | 5.40 | 0.0 | 40.8 | -0.0 |
| | | | 3 | 0.00 | 0.0 | 40.8 | -0.0 | 5.40 | 0.0 | 40.8 | -0.0 |
| | | | 5 | 0.00 | 0.0 | 360.0 | -0.0 | 5.40 | 0.0 | 360.0 | -0.0 |
| | | | 6 | 0.00 | 0.0 | -216.0 | -43.2 | 5.40 | 0.0 | -216.0 | -43.2 |
| | | | 7 | 0.00 | 0.0 | 216.0 | 43.2 | 5.40 | 0.0 | 216.0 | 43.2 |
| | | | 2 | 0.00 | 0.0 | 40.8 | 0.0 | 5.40 | 0.0 | 40.8 | 0.0 |
| | | | 3 | 0.00 | 0.0 | 40.8 | 0.0 | 5.40 | 0.0 | 40.8 | 0.0 |
| | | | 5 | 0.00 | 0.0 | 360.0 | -0.0 | 5.40 | 0.0 | 360.0 | -0.0 |
| | | | 6 | 0.00 | 0.0 | 216.0 | -43.2 | 5.40 | 0.0 | 216.0 | -43.2 |
| | | | 7 | 0.00 | 0.0 | -216.0 | 43.2 | 5.40 | 0.0 | -216.0 | 43.2 |

Variazioni Termiche

- Var Termica Assiale = 15 °C

- Analisi dinamica

- Convenzioni adottate

Nella presente versione del programma **WinStrand** l'analisi in campo dinamico della struttura può essere condotta per via *statica equivalente* ovvero per via *modale* facendo uso, per il calcolo della risposta, dello spettro di pseudo accelerazioni fornito dal regolamento italiano.

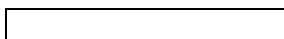
Nel caso di analisi dinamica condotta per via *statica equivalente* le azioni di piano vengono calcolate facendo riferimento al punto **C.6.1.1.** delle **norme tecniche per le costruzioni in zona sismica** e cioè, definiti:

W_i

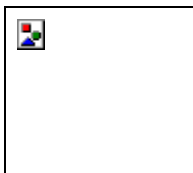
peso dell' i -esimo impalcato valutato tenendo conto dei carichi permanenti e dei coefficienti riduttivi relativi alle condizioni di carico accidentali

K_{hi}

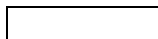
coefficiente ottenuto tenendo conto del coefficiente di intensità sismica e dei coefficienti di risposta, fondazione, struttura. Ovvero:



dove (indicando con h_j l'altezza del j -esimo piano)



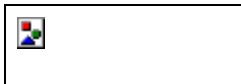
L'azione tagliante sull' i -esimo piano vale:



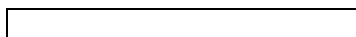
A tale azione tagliante viene poi associato (qualora il rapporto fra i lati D e B dell'edificio sia superiore a 2.5 in accordo al punto **C.6.1.2** delle norme citate) il momento torcente di piano:



Nel caso di analisi dinamica condotta per via *modale* il programma provvede al calcolo dei modi di vibrare della struttura facendo uso dell'algoritmo noto in letteratura tecnica come *Subspace Iteration*. Una volta *M-Ortonormalizzati* gli autovettori la risposta massima relativa all' i -esimo modo di vibrare viene valutata con la formula:



nella quale:



con:

$$C = (S-2)/100$$

$$L_{ni} = \{f_i^T\} [M] \{I\} \text{ e}$$

$$M_{ni} = \{f_i^T\} [M] \{f_i^T\}$$

I simboli che compaiono nelle espressioni precedenti hanno il seguente significato:

ε

coefficiente di fondazione;

β

coefficiente di struttura;

g

accelerazione di gravità

w_i

i-esima frequenza associata all'*i-esimo* autovettore;

$R(T_i)$

coefficiente di risposta ricavato dallo spettro di *pseudoaccelerazioni* del regolamento;

S

Grado di sismicità;

f_i

i-esimo autovettore;

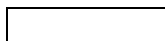
M

matrice delle masse;

I

vettore di trascinamento;

Per cui il campo di spostamenti indotto dall'*i-esimo* modo di vibrare sulla struttura vale:



Il programma per ogni direzione di ingresso del sisma quindi valuta il campo di spostamenti nodali e il campo di sollecitazioni nel generico elemento secondo la formula di quadratura:



dove:

n

numero di modi (≥ 3) considerati in soluzione

S_i

generica componente di spostamento o di sollecitazione indotta dallo *i-esimo* modo di vibrare nell'elemento.

In output vengono inoltre riportate, per ogni direzione di ingresso del sisma e per ogni modo di vibrare, le cosiddette *masse modali efficaci*. In particolare considerando la *j-esima* direzione di ingresso del sisma e denotando con il pedice *i* le grandezze relative all'*i-esimo* modo di vibrare, vengono forniti in output la grandezze:

- Il modo di vibrare (si noti che per ogni direzione di ingresso il *sub-set* di modi di vibrare utilizzato può cambiare essendo i modi di vibrare scelti in modo tale da fornire il massimo fattore di partecipazione L_{ij}).
- Il fattore di partecipazione L_{ij} (altrimenti noto in letteratura tecnica come g_{ij}).
- Il rapporto percentuale fra il fattore di partecipazione del primo modo considerato ed il generico modo (pari a $100 L_{ij}/L_{1j}$).

- La massa modale Em_{ij} efficace relativa all' i -esimo modo ($Em_{ij}=L_{ij}^2/M_{ij}$).
- Il rapporto fra la massa modale efficace dell' i -esimo modo e la massa modale efficace totale, calcolato come $100 Em_{ij} / Em_{Totj}$.
- La percentuale, cumulativa, della massa modale considerata sommando via via i contributi dovuti ai singoli modi di vibrare e pari a $100 \sum_i (Em_{ij} / Em_{Totj})$. Tale valore è pari al 100% per un'analisi dinamica completa.

- Dati generali relativi all'analisi dinamica

- Spettro in accordo con TU 2008

- 64100 Teramo TE, Italia Longitudine 13.7402 Latitudine 42.6904
- Tipo di Terreno B
- Coefficiente di amplificazione topografica (ST) 1.0000
- Vita nominale della costruzione (VN) 50.0 anni
- Classe d'uso I° coefficiente C_u 0.7
- Classe di duttilità impostata Bassa
- Fattore di struttura massimo q_0 per sisma orizzontale 4.00
- Fattore di duttilità K_R per sisma orizzontale 1.00
- Fattore K_R 1.00
- Fattore K_W 1.00
- Fattore di struttura q per sisma orizzontale 4.00
- Fattore di struttura q per sisma verticale 1.50
- Smorzamento Viscoso ($0.05 = 5\%$) 0.05

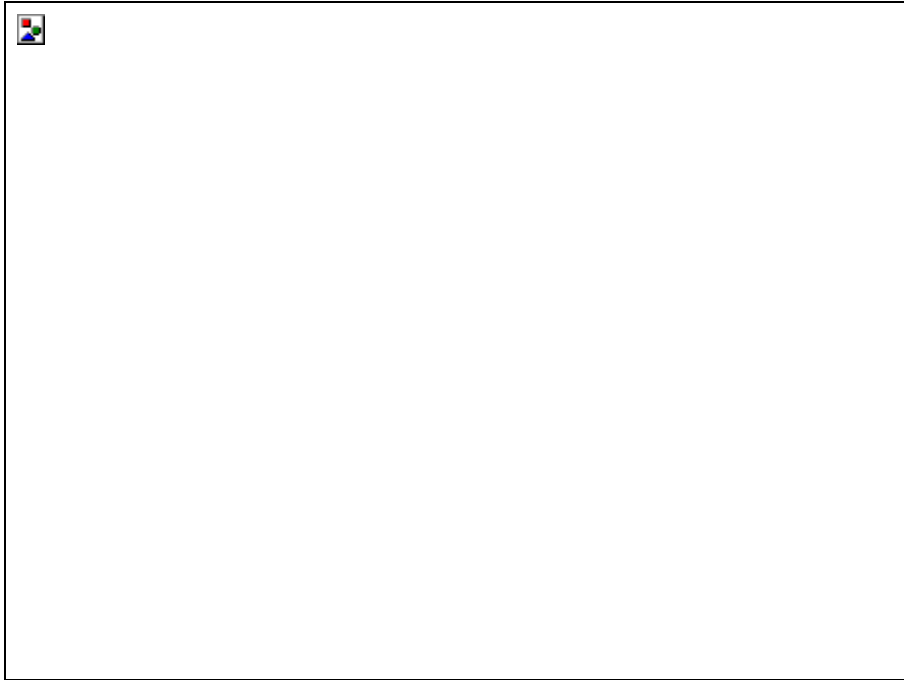
- TU 2008 SLV H

- Probabilità di superamento (PRV) 10.0 e periodo di ritorno (TR) 332 (anni)
- S_s 1.2
- T_B 0.16 [sec]
- T_C 0.47 [sec]
- T_D 2.24 [sec]
- a_g/g 0.1599
- F_o 2.4588
- T_C^* 0.3424



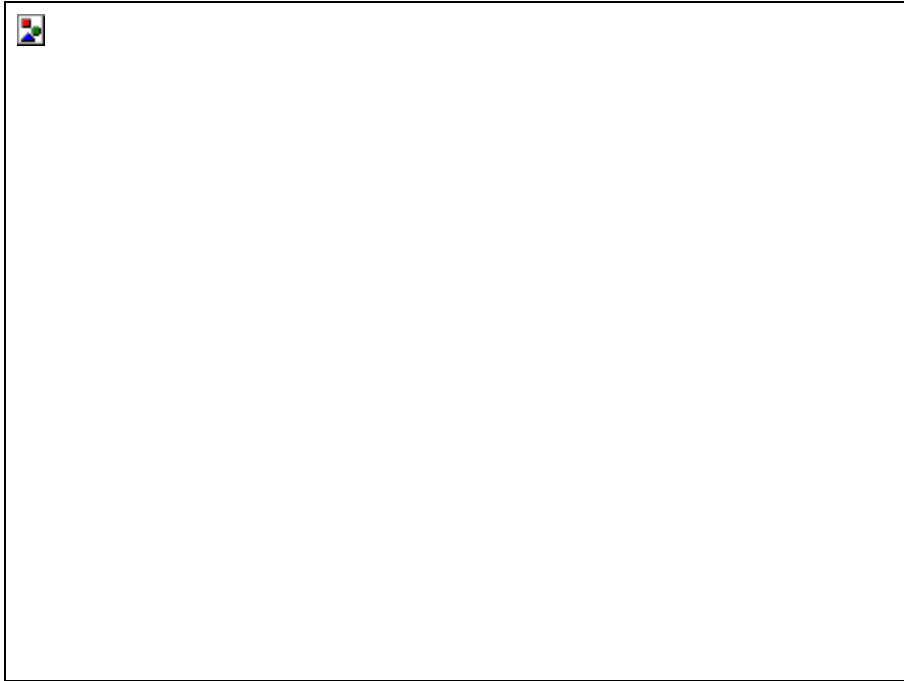
- TU 2008 SLV V

- Probabilità di superamento (PRV) 10.0 e periodo di ritorno (TR) 332 (anni)
- S_s 1.2
- T_B 0.05 [sec]
- T_C 0.15 [sec]
- T_D 1.00 [sec]
- a_g/g 0.1599
- F_v 1.3273
- T_C^* 0.3424



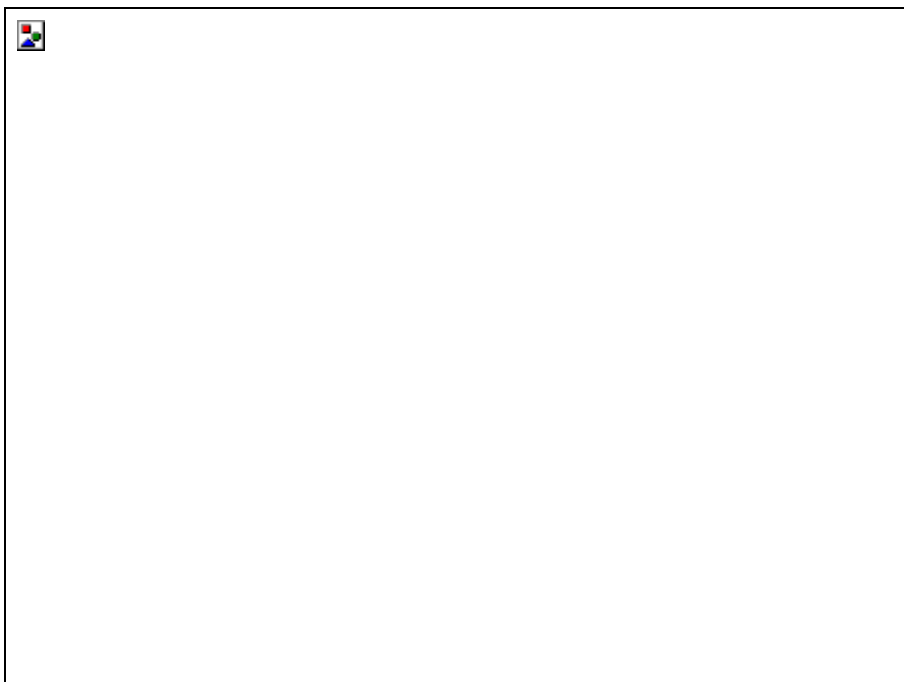
- TU 2008 SLD H

- Probabilità di superamento (PRV) 63.0 e periodo di ritorno (TR) 35 (anni)
- S_s 1.2
- T_B 0.13 [sec]
- T_C 0.40 [sec]
- T_D 1.85 [sec]
- a_g/g 0.0628
- F_o 2.4622
- T_C^* 0.2844



- TU 2008 SLD V

- Probabilità di superamento (PRV) 63.0 e periodo di ritorno (TR) 35 (anni)
- S_s 1.2
- T_B 0.05 [sec]
- T_C 0.15 [sec]
- T_D 1.00 [sec]
- a_g/g 0.0628
- F_v 0.8328
- T_C^* 0.2844



Fattori di partecipazione per il calcolo delle masse

Cond. Carico 1 Cond. 1 1.0000

Cond. Carico 2 Cond. 2 1.0000

Cond. Carico 3 Cond. 3 1.0000

Cond. Carico 4 Cond. 4 0.0000

Cond. Carico 5 Cond. 5 0.0000

Cond. Carico 6 Cond. 6 0.0000

Cond. Carico 7 Cond. 7 0.0000

Cond. Carico 8 Cond. 8 0.0000

Cond. Carico 9 Cond. 9 0.0000

Cond. Carico 10 Cond. 10 0.0000

Cond. Carico 11 0.0000

Cond. Carico 12 0.0000

Cond. Carico 13 0.0000

Cond. Carico 14 0.0000

Cond. Carico 15 0.0000

Cond. Carico 16 0.0000

Cond. Carico 17 0.0000

Cond. Carico 18 0.0000

Cond. Carico 19 0.0000

Cond. Carico 20 0.0000

Angoli d'ingresso del Sisma

- SLV Direzione 1 Angolo in pianta 0.00 [°]
- SLV Direzione 2 Angolo in pianta 90.00 [°]
- SLV Direzione 3 Angolo in pianta 180.00 [°]
- SLV Direzione 4 Angolo in pianta 270.00 [°]
- SLV Direzione 5 Sisma Verticale
- SLD Direzione 6 Angolo in pianta 0.00 [°]
- SLD Direzione 7 Angolo in pianta 90.00 [°]
- SLD Direzione 8 Angolo in pianta 180.00 [°]
- SLD Direzione 9 Angolo in pianta 270.00 [°]
- SLD Direzione 10 Sisma Verticale

- Primi autovalori e modi di vibrare della struttura.

| Modo | Autovalore | Frequenza [rad/sec] | Periodo [sec] | Coefficiente Risposta |
|------|--------------|------------------------|------------------|--------------------------|
| 1 | 1.03372e+003 | 32.151 | 0.20 | 0.1179 |
| 2 | 1.18047e+003 | 34.358 | 0.18 | 0.1179 |
| 3 | 1.49862e+003 | 38.712 | 0.16 | 0.1179 |
| 4 | 1.85725e+003 | 43.096 | 0.15 | 0.1226 |

| | | | | |
|----|--------------|--------|------|--------|
| 5 | 1.89118e+003 | 43.488 | 0.14 | 0.1232 |
| 6 | 2.02860e+003 | 45.040 | 0.14 | 0.1256 |
| 7 | 2.08821e+003 | 45.697 | 0.14 | 0.1265 |
| 8 | 2.57259e+003 | 50.721 | 0.12 | 0.1330 |
| 9 | 2.66571e+003 | 51.631 | 0.12 | 0.1340 |
| 10 | 2.74307e+003 | 52.374 | 0.12 | 0.1349 |
| 11 | 2.85786e+003 | 53.459 | 0.12 | 0.1360 |
| 12 | 2.95233e+003 | 54.335 | 0.12 | 0.1369 |
| 13 | 3.35669e+003 | 57.937 | 0.11 | 0.1403 |
| 14 | 4.36711e+003 | 66.084 | 0.10 | 0.1467 |
| 15 | 4.92641e+003 | 70.188 | 0.09 | 0.1493 |
| 16 | 7.66555e+003 | 87.553 | 0.07 | 0.1578 |
| 17 | 7.94677e+003 | 89.145 | 0.07 | 0.1584 |
| 18 | 8.90818e+003 | 94.383 | 0.07 | 0.1602 |
| 19 | 9.61065e+003 | 98.034 | 0.06 | 0.1614 |

- Sollecitazioni nei telai

SOLLECITAZIONI MASSIME TELAIO 01

Pilastro Sezione numero 1 HEA 400 PILASTRI ESTERNI LATERALI

| | | | | | | |
|-------------------------|---------------|--------------|----------|---------------|-------------|---------|
| Sforzo normale | Min asta 7 56 | 3309.5 [N] | Comb. 35 | Max asta 1 50 | 33481.6 [N] | Comb. 4 |
| Taglio piano 1-2 | Min asta 1 50 | -32246.7 [N] | Comb. 4 | Max asta 7 56 | 33001.1 [N] | Comb. 4 |
| Taglio piano 1-3 | Min asta 7 56 | -7795.7 [N] | Comb. 4 | Max asta 1 50 | 77.1 [N] | Comb. 5 |
| Momento torcente | Min asta 7 56 | -0.02 [kNm] | Comb. 4 | Max asta 1 50 | 0.02 [kNm] | Comb. 4 |
| Momento Flet. piano 1-2 | Min asta 1 50 | -77.46 [kNm] | Comb. 4 | Max asta 7 56 | 80.68 [kNm] | Comb. 4 |
| Momento Flet. piano 1-3 | Min asta 7 56 | -20.95 [kNm] | Comb. 4 | Max asta 1 50 | 7.14 [kNm] | Comb. 4 |

Pilastro Sezione numero 2 HEA 240 PILASTRI ESTERNI FRONTALI

| | | | | | | |
|-------------------------|-----------------|--------------|----------|-----------------|-------------|---------|
| Sforzo normale | Min asta 55 122 | 6121.9 [N] | Comb. 29 | Max asta 6 55 | 39002.4 [N] | Comb. 3 |
| Taglio piano 1-2 | Min asta 51 121 | -8771.8 [N] | Comb. 4 | Max asta 5 54 | 13844.2 [N] | Comb. 4 |
| Taglio piano 1-3 | Min asta 2 51 | -2828.9 [N] | Comb. 4 | Max asta 51 121 | 2670.5 [N] | Comb. 2 |
| Momento torcente | Min asta 54 168 | -0.01 [kNm] | Comb. 3 | Max asta 52 167 | 0.01 [kNm] | Comb. 2 |
| Momento Flet. piano 1-2 | Min asta 3 52 | -20.17 [kNm] | Comb. 4 | Max asta 5 54 | 29.95 [kNm] | Comb. 4 |
| Momento Flet. piano 1-3 | Min asta 2 51 | -5.67 [kNm] | Comb. 4 | Max asta 6 55 | 4.93 [kNm] | Comb. 4 |

Pilastro Sezione numero 4 HEB 300 PILASTRI INTERNI

| | | | | | | |
|-------------------------|-----------------|--------------|----------|-----------------|-------------|---------|
| Sforzo normale | Min asta 53 223 | 7930.7 [N] | Comb. 33 | Max asta 4 53 | 41343.2 [N] | Comb. 1 |
| Taglio piano 1-2 | Min asta 53 223 | -8540.0 [N] | Comb. 4 | Max asta 4 53 | 23724.9 [N] | Comb. 4 |
| Taglio piano 1-3 | Min asta 4 53 | -4252.2 [N] | Comb. 3 | Max asta 4 53 | 4068.3 [N] | Comb. 2 |
| Momento torcente | Min asta 53 223 | -0.01 [kNm] | Comb. 3 | Max asta 53 223 | 0.01 [kNm] | Comb. 2 |
| Momento Flet. piano 1-2 | Min asta 53 223 | -27.49 [kNm] | Comb. 4 | Max asta 4 53 | 57.92 [kNm] | Comb. 4 |
| Momento Flet. piano 1-3 | Min asta 4 53 | -9.33 [kNm] | Comb. 3 | Max asta 4 53 | 9.02 [kNm] | Comb. 2 |

Trave Sezione numero 1 IPE 400 TRAVI PRINCIPALI

| | | | | | | |
|-------------------------|------------------|--------------|---------|------------------|-------------|---------|
| Sforzo normale | Min asta 108 94 | -23052.4 [N] | Comb. 3 | Max asta 80 56 | 24738.4 [N] | Comb. 4 |
| Taglio piano 1-2 | Min asta 107 121 | -17383.4 [N] | Comb. 2 | Max asta 122 108 | 17876.8 [N] | Comb. 3 |
| Taglio piano 1-3 | Min asta 121 125 | -8587.9 [N] | Comb. 5 | Max asta 126 122 | 8606.5 [N] | Comb. 5 |
| Momento torcente | Min asta 126 122 | -1.12 [kNm] | Comb. 3 | Max asta 121 125 | 1.12 [kNm] | Comb. 2 |
| Momento Flet. piano 1-2 | Min asta 94 80 | -14.46 [kNm] | Comb. 3 | Max asta 50 79 | 36.21 [kNm] | Comb. 4 |
| Momento Flet. piano 1-3 | Min asta 153 167 | -3.67 [kNm] | Comb. 5 | Max asta 167 181 | 3.24 [kNm] | Comb. 4 |

Trave Sezione numero 2 HEA 140 TRAVETTI SECONDARI

| | | | | | | |
|----------------|----------------|-------------|---------|----------------|------------|---------|
| Sforzo normale | Min asta 50 51 | -4762.7 [N] | Comb. 3 | Max asta 53 54 | 8202.7 [N] | Comb. 4 |
|----------------|----------------|-------------|---------|----------------|------------|---------|

| | | | | | | |
|-------------------------|----------------|-------------|---------|----------------|------------|---------|
| Taglio piano 1-2 | Min asta 55 56 | -1367.5 [N] | Comb. 4 | Max asta 50 51 | 1396.9 [N] | Comb. 4 |
| Taglio piano 1-3 | Min asta 53 54 | -153.6 [N] | Comb. 4 | Max asta 52 53 | 155.1 [N] | Comb. 4 |
| Momento torcente | Min asta 50 51 | -0.00 [kNm] | Comb. 5 | Max asta 55 56 | 0.00 [kNm] | Comb. 5 |
| Momento Flet. piano 1-2 | Min asta 55 56 | -0.74 [kNm] | Comb. 3 | Max asta 50 51 | 2.41 [kNm] | Comb. 4 |
| Momento Flet. piano 1-3 | Min asta 52 53 | -0.39 [kNm] | Comb. 4 | Max asta 52 53 | 0.37 [kNm] | Comb. 4 |

Trave di fondazione Sezione numero 1 Rett. TRAVI FONDAZIONE RETT

| | | | | | | |
|-----------------------|---------------|--------------|---------|---------------|--------------|----------|
| Spostamenti | Min trave 1 2 | -1.1 [mm] | Comb. 4 | Max trave 3 4 | -0.4 [mm] | Comb. 33 |
| Taglio | Min trave 3 4 | -20353.2 [N] | Comb. 2 | Max trave 1 2 | 25317.4 [N] | Comb. 4 |
| Pressioni sul terreno | Min trave 1 2 | 0.1 [MPa] | Comb. 4 | Max trave 3 4 | 0.0 [MPa] | Comb. 33 |
| Momento flettente | Min trave 3 4 | -26.93 [kNm] | Comb. 2 | Max trave 1 2 | 105.25 [kNm] | Comb. 4 |
| Momento torcente | Min trave 1 2 | -22.65 [kNm] | Comb. 4 | Max trave 3 4 | 23.43 [kNm] | Comb. 4 |

Trave di fondazione Sezione numero 4 a _| TRAVI FONDAZIONE A L

| | | | | | | |
|-----------------------|---------------|--------------|---------|---------------|--------------|----------|
| Spostamenti | Min trave 6 7 | -0.8 [mm] | Comb. 4 | Max trave 5 6 | -0.4 [mm] | Comb. 23 |
| Taglio | Min trave 4 5 | -29960.7 [N] | Comb. 4 | Max trave 4 5 | 24170.7 [N] | Comb. 3 |
| Pressioni sul terreno | Min trave 6 7 | 0.1 [MPa] | Comb. 4 | Max trave 5 6 | 0.0 [MPa] | Comb. 23 |
| Momento flettente | Min trave 5 6 | -24.98 [kNm] | Comb. 3 | Max trave 6 7 | 127.99 [kNm] | Comb. 4 |
| Momento torcente | Min trave 4 5 | -18.31 [kNm] | Comb. 4 | Max trave 6 7 | 27.24 [kNm] | Comb. 4 |

SOLLECITAZIONI MASSIME TELAIO 02

Pilastro Sezione numero 1 HEA 400 PILASTRI ESTERNI LATERALI

| | | | | | | |
|-------------------------|----------------|---------------|----------|----------------|--------------|---------|
| Sforzo normale | Min asta 14 58 | 22951.2 [N] | Comb. 27 | Max asta 14 58 | 135118.9 [N] | Comb. 4 |
| Taglio piano 1-2 | Min asta 8 57 | -62837.2 [N] | Comb. 4 | Max asta 14 58 | 64316.5 [N] | Comb. 4 |
| Taglio piano 1-3 | Min asta 8 57 | -5640.9 [N] | Comb. 4 | Max asta 8 57 | 1215.0 [N] | Comb. 5 |
| Momento torcente | Min asta 14 58 | -0.02 [kNm] | Comb. 4 | Max asta 8 57 | 0.02 [kNm] | Comb. 4 |
| Momento Flet. piano 1-2 | Min asta 14 58 | -185.00 [kNm] | Comb. 3 | Max asta 8 57 | 185.07 [kNm] | Comb. 2 |
| Momento Flet. piano 1-3 | Min asta 8 57 | -14.31 [kNm] | Comb. 4 | Max asta 8 57 | 6.00 [kNm] | Comb. 4 |

Pilastro Sezione numero 4 HEB 300 PILASTRI INTERNI

| | | | | | | |
|-------------------------|-----------------|---------------|----------|-----------------|--------------|---------|
| Sforzo normale | Min asta 59 224 | 40574.7 [N] | Comb. 15 | Max asta 11 59 | 175545.8 [N] | Comb. 1 |
| Taglio piano 1-2 | Min asta 59 224 | -35643.1 [N] | Comb. 3 | Max asta 59 224 | 36021.1 [N] | Comb. 2 |
| Taglio piano 1-3 | Min asta 11 59 | -6209.6 [N] | Comb. 4 | Max asta 59 224 | 1889.6 [N] | Comb. 4 |
| Momento torcente | Min asta 59 224 | -0.00 [kNm] | Comb. 3 | Max asta 59 224 | 0.00 [kNm] | Comb. 2 |
| Momento Flet. piano 1-2 | Min asta 59 224 | -107.79 [kNm] | Comb. 2 | Max asta 59 224 | 107.76 [kNm] | Comb. 3 |
| Momento Flet. piano 1-3 | Min asta 11 59 | -15.51 [kNm] | Comb. 4 | Max asta 11 59 | 6.84 [kNm] | Comb. 4 |

Trave Sezione numero 1 IPE 400 TRAVI PRINCIPALI

| | | | | | | |
|-------------------------|---------------------|---------------|------------|---------------------|--------------|------------|
| Sforzo normale | Min asta 224 212 | 680.9 [N] | Comb. 2 | Max asta 58 82 | 60813.1 [N] | Comb. 3 |
| Taglio piano 1-2 | Min asta 211 224 | -84555.9 [N] | Comb. 2 | Max asta 224 212 | 84545.0 [N] | Comb. 3 |
| Taglio piano 1-3 | Min asta 169 183 | -3147.4 [N] | Comb. 5 | Max asta 184 170 | 3115.5 [N] | Comb. 5 |
| Momento torcente | Min asta 169 183 | -0.10 [kNm] | Comb. 2 | Max asta 184 170 | 0.10 [kNm] | Comb. 3 |
| Momento Flet. piano 1-2 | Min asta 142 128 | -122.40 [kNm] | Comb. 3 | Max asta 211 224 | 206.63 [kNm] | Comb. 1 |
| Momento Flet. piano 1-3 | Min asta 169 183 | -2.81 [kNm] | Comb. 5 | Max asta 169 183 | 2.54 [kNm] | Comb. 4 |

Trave Sezione numero 2 HEA 140 TRAVETTI SECONDARI

| | | | | | | |
|-------------------------|----------------|-------------|---------|----------------|-------------|---------|
| Sforzo normale | Min asta 57 59 | -2746.1 [N] | Comb. 2 | Max asta 59 58 | 22701.0 [N] | Comb. 2 |
| Taglio piano 1-2 | Min asta 57 59 | -2517.8 [N] | Comb. 2 | Max asta 59 58 | 2519.7 [N] | Comb. 3 |
| Taglio piano 1-3 | Min asta 59 58 | -11.5 [N] | Comb. 4 | Max asta 57 59 | 11.5 [N] | Comb. 4 |
| Momento torcente | Min asta 59 58 | -0.00 [kNm] | Comb. 5 | Max asta 57 59 | 0.00 [kNm] | Comb. 5 |
| Momento Flet. piano 1-2 | Min asta 57 59 | -3.11 [kNm] | Comb. 2 | Max asta 59 58 | 6.77 [kNm] | Comb. 3 |
| Momento Flet. piano 1-3 | Min asta 57 59 | -0.05 [kNm] | Comb. 4 | Max asta 57 59 | 0.11 [kNm] | Comb. 4 |

Trave di fondazione Sezione numero 1 Rett. TRAVI FONDAZIONE RETT

| | | | | | | |
|-----------------------|-----------------|--------------|---------|-----------------|-------------|----------|
| Spostamenti | Min trave 8 9 | -1.1 [mm] | Comb. 4 | Max trave 8 9 | -0.2 [mm] | Comb. 25 |
| Taglio | Min trave 11 12 | -47200.6 [N] | Comb. 1 | Max trave 10 11 | 48323.8 [N] | Comb. 1 |
| Pressioni sul terreno | Min trave 8 9 | 0.1 [MPa] | Comb. 4 | Max trave 8 9 | 0.0 [MPa] | Comb. 25 |
| Momento flettente | Min trave 10 11 | -86.02 [kNm] | Comb. 1 | Max trave 8 9 | 59.10 [kNm] | Comb. 4 |
| Momento torcente | Min trave 8 9 | -0.21 [kNm] | Comb. 2 | Max trave 8 9 | 0.11 [kNm] | Comb. 4 |

Trave di fondazione Sezione numero 2 a Tr TRAVI FONDAZIONE A T

| | | | | | | |
|-----------------------|-----------------|--------------|---------|-----------------|-------------|----------|
| Spostamenti | Min trave 13 14 | -0.8 [mm] | Comb. 4 | Max trave 13 14 | -0.2 [mm] | Comb. 25 |
| Taglio | Min trave 13 14 | -17966.7 [N] | Comb. 4 | Max trave 13 14 | 27957.3 [N] | Comb. 3 |
| Pressioni sul terreno | Min trave 13 14 | 0.1 [MPa] | Comb. 4 | Max trave 13 14 | 0.0 [MPa] | Comb. 25 |
| Momento flettente | Min trave 13 14 | -20.66 [kNm] | Comb. 3 | Max trave 13 14 | 47.24 [kNm] | Comb. 4 |
| Momento torcente | Min trave 13 14 | -0.14 [kNm] | Comb. 4 | Max trave 13 14 | 0.29 [kNm] | Comb. 3 |

Trave di fondazione Sezione numero 5 Rett. TRAVI COLL. FONDAZIONE

| | | | | | | |
|-----------------------|-----------------|--------------|----------|-----------------|-------------|----------|
| Spostamenti | Min trave 9 10 | -0.6 [mm] | Comb. 1 | Max trave 9 10 | 0.1 [mm] | Comb. 4 |
| Taglio | Min trave 12 13 | -21777.6 [N] | Comb. 2 | Max trave 9 10 | 24415.1 [N] | Comb. 38 |
| Pressioni sul terreno | Min trave 9 10 | 0.1 [MPa] | Comb. 1 | Max trave 9 10 | -0.0 [MPa] | Comb. 4 |
| Momento flettente | Min trave 9 10 | -27.29 [kNm] | Comb. 38 | Max trave 9 10 | 31.06 [kNm] | Comb. 4 |
| Momento torcente | Min trave 9 10 | -0.13 [kNm] | Comb. 2 | Max trave 12 13 | 0.07 [kNm] | Comb. 3 |

SOLLECITAZIONI MASSIME TELAIO 03

Pilastro Sezione numero 1 HEA 400 PILASTRI ESTERNI LATERALI

| | | | | | | |
|-------------------------|----------------|---------------|----------|----------------|--------------|---------|
| Sforzo normale | Min asta 15 60 | 22139.3 [N] | Comb. 37 | Max asta 21 61 | 105772.9 [N] | Comb. 3 |
| Taglio piano 1-2 | Min asta 15 60 | -63096.1 [N] | Comb. 4 | Max asta 21 61 | 63636.3 [N] | Comb. 4 |
| Taglio piano 1-3 | Min asta 15 60 | -3264.4 [N] | Comb. 4 | Max asta 15 60 | 1208.1 [N] | Comb. 5 |
| Momento torcente | Min asta 21 61 | -0.01 [kNm] | Comb. 4 | Max asta 15 60 | 0.01 [kNm] | Comb. 4 |
| Momento Flet. piano 1-2 | Min asta 21 61 | -183.17 [kNm] | Comb. 3 | Max asta 15 60 | 183.34 [kNm] | Comb. 2 |
| Momento Flet. piano 1-3 | Min asta 15 60 | -8.35 [kNm] | Comb. 4 | Max asta 15 60 | 3.40 [kNm] | Comb. 4 |

Pilastro Sezione numero 4 HEB 300 PILASTRI INTERNI

| | | | | | | |
|-------------------------|-----------------|---------------|----------|-----------------|--------------|---------|
| Sforzo normale | Min asta 18 62 | 26388.0 [N] | Comb. 29 | Max asta 18 62 | 171993.6 [N] | Comb. 1 |
| Taglio piano 1-2 | Min asta 62 225 | -36792.5 [N] | Comb. 3 | Max asta 62 225 | 37204.3 [N] | Comb. 2 |
| Taglio piano 1-3 | Min asta 18 62 | -3107.1 [N] | Comb. 4 | Max asta 18 62 | 1640.8 [N] | Comb. 5 |
| Momento torcente | Min asta 62 225 | -0.00 [kNm] | Comb. 3 | Max asta 62 225 | 0.00 [kNm] | Comb. 2 |
| Momento Flet. piano 1-2 | Min asta 62 225 | -114.77 [kNm] | Comb. 2 | Max asta 62 225 | 114.87 [kNm] | Comb. 3 |
| Momento Flet. piano 1-3 | Min asta 18 62 | -8.29 [kNm] | Comb. 4 | Max asta 18 62 | 4.23 [kNm] | Comb. 5 |

Trave Sezione numero 1 IPE 400 TRAVI PRINCIPALI

| | | | | | | |
|-------------------------|---------------------|---------------|------------|---------------------|--------------|------------|
| Sforzo normale | Min asta 225 214 | 3534.3 [N] | Comb. 2 | Max asta 60 83 | 55193.8 [N] | Comb. 1 |
| Taglio piano 1-2 | Min asta 213 225 | -84164.0 [N] | Comb. 2 | Max asta 225 214 | 84176.7 [N] | Comb. 3 |
| Taglio piano 1-3 | Min asta 225 214 | -4275.0 [N] | Comb. 4 | Max asta 213 225 | 4308.7 [N] | Comb. 4 |
| Momento torcente | Min asta 186 172 | -0.02 [kNm] | Comb. 3 | Max asta 171 185 | 0.02 [kNm] | Comb. 2 |
| Momento Flet. piano 1-2 | Min asta 144 130 | -126.94 [kNm] | Comb. 3 | Max asta 225 214 | 207.96 [kNm] | Comb. 1 |
| Momento Flet. piano 1-3 | Min asta 213 225 | -2.43 [kNm] | Comb. 4 | Max asta 171 185 | 2.24 [kNm] | Comb. 4 |

Trave Sezione numero 2 HEA 140 TRAVETTI SECONDARI

| | | | | | | |
|------------------|----------------|-------------|---------|----------------|-------------|---------|
| Sforzo normale | Min asta 60 62 | -1310.1 [N] | Comb. 2 | Max asta 62 61 | 21994.4 [N] | Comb. 2 |
| Taglio piano 1-2 | Min asta 60 62 | -2543.1 [N] | Comb. 2 | Max asta 62 61 | 2545.9 [N] | Comb. 3 |
| Taglio piano 1-3 | Min asta 62 61 | -6.3 [N] | Comb. 4 | Max asta 60 62 | 6.5 [N] | Comb. 4 |
| Momento torcente | Min asta 62 61 | -0.00 [kNm] | Comb. 5 | Max asta 60 62 | 0.00 [kNm] | Comb. 5 |

| | | | | | | |
|-------------------------|----------------|-------------|---------|----------------|------------|---------|
| Momento Flet. piano 1-2 | Min asta 60 62 | -3.14 [kNm] | Comb. 2 | Max asta 62 61 | 6.94 [kNm] | Comb. 3 |
| Momento Flet. piano 1-3 | Min asta 60 62 | -0.03 [kNm] | Comb. 4 | Max asta 60 62 | 0.06 [kNm] | Comb. 4 |

Trave di fondazione Sezione numero 1 Rett. TRAVI FONDAZIONE RETT

| | | | | | | |
|-----------------------|-----------------|--------------|---------|-----------------|-------------|---------|
| Spostamenti | Min trave 15 16 | -1.0 [mm] | Comb. 1 | Max trave 15 16 | -0.0 [mm] | Comb. 4 |
| Taglio | Min trave 18 19 | -48967.8 [N] | Comb. 1 | Max trave 17 18 | 49703.3 [N] | Comb. 1 |
| Pressioni sul terreno | Min trave 15 16 | 0.1 [MPa] | Comb. 1 | Max trave 15 16 | 0.0 [MPa] | Comb. 4 |
| Momento flettente | Min trave 17 18 | -88.20 [kNm] | Comb. 3 | Max trave 15 16 | 95.53 [kNm] | Comb. 4 |
| Momento torcente | Min trave 17 18 | -0.09 [kNm] | Comb. 4 | Max trave 18 19 | 0.14 [kNm] | Comb. 4 |

Trave di fondazione Sezione numero 2 a Tr TRAVI FONDAZIONE A T

| | | | | | | |
|-----------------------|-----------------|--------------|---------|-----------------|-------------|---------|
| Spostamenti | Min trave 20 21 | -0.7 [mm] | Comb. 1 | Max trave 20 21 | -0.1 [mm] | Comb. 4 |
| Taglio | Min trave 20 21 | -32993.7 [N] | Comb. 4 | Max trave 20 21 | 27767.2 [N] | Comb. 3 |
| Pressioni sul terreno | Min trave 20 21 | 0.1 [MPa] | Comb. 1 | Max trave 20 21 | 0.0 [MPa] | Comb. 4 |
| Momento flettente | Min trave 20 21 | -14.63 [kNm] | Comb. 3 | Max trave 20 21 | 84.92 [kNm] | Comb. 4 |
| Momento torcente | Min trave 20 21 | -0.11 [kNm] | Comb. 4 | Max trave 20 21 | 0.04 [kNm] | Comb. 2 |

Trave di fondazione Sezione numero 5 Rett. TRAVI COLL. FONDAZIONE

| | | | | | | |
|-----------------------|-----------------|--------------|---------|-----------------|-------------|---------|
| Spostamenti | Min trave 16 17 | -0.6 [mm] | Comb. 1 | Max trave 16 17 | 0.1 [mm] | Comb. 4 |
| Taglio | Min trave 19 20 | -23388.8 [N] | Comb. 2 | Max trave 16 17 | 24492.6 [N] | Comb. 4 |
| Pressioni sul terreno | Min trave 16 17 | 0.1 [MPa] | Comb. 1 | Max trave 16 17 | -0.0 [MPa] | Comb. 4 |
| Momento flettente | Min trave 16 17 | -19.00 [kNm] | Comb. 3 | Max trave 16 17 | 34.80 [kNm] | Comb. 4 |
| Momento torcente | Min trave 16 17 | -0.04 [kNm] | Comb. 4 | Max trave 19 20 | 0.08 [kNm] | Comb. 4 |

SOLLECITAZIONI MASSIME TELAIO 04

Pilastro Sezione numero 1 HEA 400 PILASTRI ESTERNI LATERALI

| | | | | | | |
|-------------------------|----------------|---------------|----------|----------------|--------------|----------|
| Sforzo normale | Min asta 22 63 | 22046.8 [N] | Comb. 28 | Max asta 28 65 | 103529.5 [N] | Comb. 3 |
| Taglio piano 1-2 | Min asta 22 63 | -61263.6 [N] | Comb. 4 | Max asta 28 65 | 62682.8 [N] | Comb. 4 |
| Taglio piano 1-3 | Min asta 22 63 | -1378.6 [N] | Comb. 4 | Max asta 22 63 | 1345.0 [N] | Comb. 5 |
| Momento torcente | Min asta 28 65 | -0.00 [kNm] | Comb. 38 | Max asta 28 65 | 0.00 [kNm] | Comb. 33 |
| Momento Flet. piano 1-2 | Min asta 28 65 | -177.27 [kNm] | Comb. 3 | Max asta 22 63 | 177.44 [kNm] | Comb. 2 |
| Momento Flet. piano 1-3 | Min asta 22 63 | -3.51 [kNm] | Comb. 4 | Max asta 22 63 | 3.40 [kNm] | Comb. 5 |

Pilastro Sezione numero 4 HEB 300 PILASTRI INTERNI

| | | | | | | |
|-------------------------|-----------------|---------------|----------|-----------------|--------------|----------|
| Sforzo normale | Min asta 64 226 | 37701.4 [N] | Comb. 29 | Max asta 25 64 | 169621.8 [N] | Comb. 1 |
| Taglio piano 1-2 | Min asta 64 226 | -35056.4 [N] | Comb. 3 | Max asta 64 226 | 35450.5 [N] | Comb. 2 |
| Taglio piano 1-3 | Min asta 25 64 | -2170.7 [N] | Comb. 4 | Max asta 25 64 | 1495.0 [N] | Comb. 5 |
| Momento torcente | Min asta 64 226 | -0.00 [kNm] | Comb. 37 | Max asta 64 226 | 0.00 [kNm] | Comb. 34 |
| Momento Flet. piano 1-2 | Min asta 64 226 | -111.47 [kNm] | Comb. 2 | Max asta 64 226 | 111.63 [kNm] | Comb. 3 |
| Momento Flet. piano 1-3 | Min asta 25 64 | -5.47 [kNm] | Comb. 4 | Max asta 25 64 | 4.11 [kNm] | Comb. 5 |

Trave Sezione numero 1 IPE 400 TRAVI PRINCIPALI

| | | | | | | |
|-------------------------|------------------|---------------|---------|------------------|--------------|---------|
| Sforzo normale | Min asta 215 226 | 3818.9 [N] | Comb. 3 | Max asta 113 131 | 54750.4 [N] | Comb. 4 |
| Taglio piano 1-2 | Min asta 215 226 | -82767.5 [N] | Comb. 2 | Max asta 226 216 | 82790.2 [N] | Comb. 3 |
| Taglio piano 1-3 | Min asta 173 187 | -2325.8 [N] | Comb. 5 | Max asta 173 187 | 2315.2 [N] | Comb. 4 |
| Momento torcente | Min asta 226 216 | -0.01 [kNm] | Comb. 5 | Max asta 215 226 | 0.01 [kNm] | Comb. 5 |
| Momento Flet. piano 1-2 | Min asta 160 146 | -122.61 [kNm] | Comb. 3 | Max asta 226 216 | 202.23 [kNm] | Comb. 1 |
| Momento Flet. piano 1-3 | Min asta 173 | -2.17 [kNm] | Comb. 5 | Max asta 173 | 2.16 [kNm] | Comb. 5 |

| | | | | | | |
|---|-----|--|---|-----|--|---|
| 3 | 187 | | 5 | 187 | | 4 |
|---|-----|--|---|-----|--|---|

Trave Sezione numero 2 HEA 140 TRAVETTI SECONDARI

| | | | | | | |
|-------------------------|----------------|-------------|----------|----------------|-------------|----------|
| Sforzo normale | Min asta 63 64 | -4.3 [N] | Comb. 2 | Max asta 64 65 | 20459.1 [N] | Comb. 2 |
| Taglio piano 1-2 | Min asta 63 64 | -2544.1 [N] | Comb. 2 | Max asta 64 65 | 2547.2 [N] | Comb. 3 |
| Taglio piano 1-3 | Min asta 64 65 | -1.5 [N] | Comb. 13 | Max asta 64 65 | 1.6 [N] | Comb. 8 |
| Momento torcente | Min asta 63 64 | -0.00 [kNm] | Comb. 4 | Max asta 64 65 | 0.00 [kNm] | Comb. 4 |
| Momento Flet. piano 1-2 | Min asta 64 65 | -3.14 [kNm] | Comb. 3 | Max asta 64 65 | 6.96 [kNm] | Comb. 3 |
| Momento Flet. piano 1-3 | Min asta 64 65 | -0.02 [kNm] | Comb. 33 | Max asta 64 65 | 0.02 [kNm] | Comb. 38 |

Trave di fondazione Sezione numero 1 Rett. TRAVI FONDAZIONE RETT

| | | | | | | |
|-----------------------|-----------------|--------------|---------|-----------------|-------------|---------|
| Spostamenti | Min trave 22 23 | -1.0 [mm] | Comb. 1 | Max trave 22 23 | -0.1 [mm] | Comb. 4 |
| Taglio | Min trave 25 26 | -47659.3 [N] | Comb. 1 | Max trave 24 25 | 48366.3 [N] | Comb. 1 |
| Pressioni sul terreno | Min trave 22 23 | 0.1 [MPa] | Comb. 1 | Max trave 22 23 | 0.0 [MPa] | Comb. 4 |
| Momento flettente | Min trave 24 25 | -88.11 [kNm] | Comb. 3 | Max trave 22 23 | 85.30 [kNm] | Comb. 4 |
| Momento torcente | Min trave 25 26 | -0.10 [kNm] | Comb. 4 | Max trave 25 26 | 0.11 [kNm] | Comb. 5 |

Trave di fondazione Sezione numero 2 a Tr TRAVI FONDAZIONE A T

| | | | | | | |
|-----------------------|-----------------|--------------|---------|-----------------|-------------|---------|
| Spostamenti | Min trave 27 28 | -0.7 [mm] | Comb. 1 | Max trave 27 28 | -0.1 [mm] | Comb. 4 |
| Taglio | Min trave 27 28 | -31680.7 [N] | Comb. 4 | Max trave 27 28 | 27070.7 [N] | Comb. 3 |
| Pressioni sul terreno | Min trave 27 28 | 0.1 [MPa] | Comb. 1 | Max trave 27 28 | 0.0 [MPa] | Comb. 4 |
| Momento flettente | Min trave 27 28 | -13.93 [kNm] | Comb. 3 | Max trave 27 28 | 82.45 [kNm] | Comb. 4 |
| Momento torcente | Min trave 27 28 | -0.05 [kNm] | Comb. 5 | Max trave 27 28 | 0.06 [kNm] | Comb. 4 |

Trave di fondazione Sezione numero 5 Rett. TRAVI COLL. FONDAZIONE

| | | | | | | |
|-----------------------|-----------------|--------------|---------|-----------------|-------------|---------|
| Spostamenti | Min trave 23 24 | -0.6 [mm] | Comb. 1 | Max trave 23 24 | 0.1 [mm] | Comb. 4 |
| Taglio | Min trave 26 27 | -23449.0 [N] | Comb. 2 | Max trave 23 24 | 23787.3 [N] | Comb. 3 |
| Pressioni sul terreno | Min trave 23 24 | 0.1 [MPa] | Comb. 1 | Max trave 23 24 | -0.0 [MPa] | Comb. 4 |
| Momento flettente | Min trave 23 24 | -19.13 [kNm] | Comb. 3 | Max trave 23 24 | 34.33 [kNm] | Comb. 4 |
| Momento torcente | Min trave 26 27 | -0.06 [kNm] | Comb. 4 | Max trave 26 27 | 0.07 [kNm] | Comb. 5 |

SOLLECITAZIONI MASSIME TELAIO 05

Pilastro Sezione numero 1 HEA 400 PILASTRI ESTERNI LATERALI

| | | | | | | |
|-------------------------|----------------|---------------|----------|----------------|--------------|---------|
| Sforzo normale | Min asta 29 66 | 22112.4 [N] | Comb. 33 | Max asta 35 67 | 105828.7 [N] | Comb. 3 |
| Taglio piano 1-2 | Min asta 29 66 | -62944.8 [N] | Comb. 4 | Max asta 35 67 | 63410.6 [N] | Comb. 4 |
| Taglio piano 1-3 | Min asta 29 66 | -517.3 [N] | Comb. 37 | Max asta 29 66 | 1172.8 [N] | Comb. 5 |
| Momento torcente | Min asta 29 66 | -0.00 [kNm] | Comb. 4 | Max asta 35 67 | 0.01 [kNm] | Comb. 4 |
| Momento Flet. piano 1-2 | Min asta 35 67 | -183.18 [kNm] | Comb. 3 | Max asta 29 66 | 183.36 [kNm] | Comb. 2 |
| Momento Flet. piano 1-3 | Min asta 29 66 | -1.32 [kNm] | Comb. 37 | Max asta 29 66 | 2.94 [kNm] | Comb. 5 |

Pilastro Sezione numero 4 HEB 300 PILASTRI INTERNI

| | | | | | | |
|-------------------------|-----------------|---------------|----------|-----------------|--------------|---------|
| Sforzo normale | Min asta 68 227 | 37302.2 [N] | Comb. 29 | Max asta 32 68 | 171804.4 [N] | Comb. 1 |
| Taglio piano 1-2 | Min asta 68 227 | -36822.5 [N] | Comb. 3 | Max asta 68 227 | 37212.7 [N] | Comb. 2 |
| Taglio piano 1-3 | Min asta 32 68 | -1241.3 [N] | Comb. 4 | Max asta 32 68 | 1230.4 [N] | Comb. 5 |
| Momento torcente | Min asta 68 227 | -0.00 [kNm] | Comb. 2 | Max asta 68 227 | 0.00 [kNm] | Comb. 3 |
| Momento Flet. piano 1-2 | Min asta 68 227 | -114.70 [kNm] | Comb. 2 | Max asta 68 227 | 114.94 [kNm] | Comb. 3 |
| Momento Flet. piano 1-3 | Min asta 32 68 | -2.38 [kNm] | Comb. 4 | Max asta 32 68 | 3.46 [kNm] | Comb. 5 |

Trave Sezione numero 1 IPE 400 TRAVI PRINCIPALI

| | | | | | | |
|-------------------------|---------------------|---------------|---------|---------------------|--------------|---------|
| Sforzo normale | Min asta 227 218 | 2974.2 [N] | Comb. 2 | Max asta 66 87 | 55534.8 [N] | Comb. 1 |
| Taglio piano 1-2 | Min asta 217 227 | -84144.1 [N] | Comb. 2 | Max asta 227 218 | 84177.1 [N] | Comb. 3 |
| Taglio piano 1-3 | Min asta 190 176 | -2491.0 [N] | Comb. 4 | Max asta 175 189 | 2513.8 [N] | Comb. 4 |
| Momento torcente | Min asta 175 189 | -0.02 [kNm] | Comb. 2 | Max asta 190 176 | 0.02 [kNm] | Comb. 3 |
| Momento Flet. piano 1-2 | Min asta 148 134 | -126.95 [kNm] | Comb. 3 | Max asta 227 218 | 207.94 [kNm] | Comb. 1 |
| Momento Flet. piano 1-3 | Min asta 175 189 | -2.24 [kNm] | Comb. 5 | Max asta 175 189 | 2.33 [kNm] | Comb. 4 |

Trave Sezione numero 2 HEA 140 TRAVETTI SECONDARI

| | | | | | | |
|-------------------------|----------------|-------------|---------|----------------|-------------|---------|
| Sforzo normale | Min asta 66 68 | -1494.6 [N] | Comb. 2 | Max asta 68 67 | 21898.6 [N] | Comb. 2 |
| Taglio piano 1-2 | Min asta 66 68 | -2542.5 [N] | Comb. 2 | Max asta 68 67 | 2545.9 [N] | Comb. 3 |
| Taglio piano 1-3 | Min asta 66 68 | -5.7 [N] | Comb. 4 | Max asta 68 67 | 6.3 [N] | Comb. 4 |
| Momento torcente | Min asta 66 68 | -0.00 [kNm] | Comb. 4 | Max asta 68 67 | 0.00 [kNm] | Comb. 4 |
| Momento Flet. piano 1-2 | Min asta 68 67 | -3.14 [kNm] | Comb. 3 | Max asta 68 67 | 6.94 [kNm] | Comb. 3 |
| Momento Flet. piano 1-3 | Min asta 68 67 | -0.05 [kNm] | Comb. 4 | Max asta 68 67 | 0.03 [kNm] | Comb. 4 |

Trave di fondazione Sezione numero 1 Rett. TRAVI FONDAZIONE RETT

| | | | | | | |
|-----------------------|-----------------|--------------|---------|-----------------|-------------|---------|
| Spostamenti | Min trave 29 30 | -1.0 [mm] | Comb. 1 | Max trave 29 30 | -0.1 [mm] | Comb. 4 |
| Taglio | Min trave 32 33 | -48981.7 [N] | Comb. 1 | Max trave 31 32 | 49759.2 [N] | Comb. 1 |
| Pressioni sul terreno | Min trave 29 30 | 0.1 [MPa] | Comb. 1 | Max trave 29 30 | 0.0 [MPa] | Comb. 4 |
| Momento flettente | Min trave 31 32 | -88.14 [kNm] | Comb. 3 | Max trave 29 30 | 88.13 [kNm] | Comb. 4 |
| Momento torcente | Min trave 32 33 | -0.09 [kNm] | Comb. 5 | Max trave 31 32 | 0.07 [kNm] | Comb. 5 |

Trave di fondazione Sezione numero 2 a Tr TRAVI FONDAZIONE A T

| | | | | | | |
|-----------------------|-----------------|--------------|---------|-----------------|-------------|---------|
| Spostamenti | Min trave 34 35 | -0.7 [mm] | Comb. 1 | Max trave 34 35 | -0.1 [mm] | Comb. 4 |
| Taglio | Min trave 34 35 | -30256.5 [N] | Comb. 4 | Max trave 34 35 | 27783.3 [N] | Comb. 3 |
| Pressioni sul terreno | Min trave 34 35 | 0.1 [MPa] | Comb. 1 | Max trave 34 35 | 0.0 [MPa] | Comb. 4 |
| Momento flettente | Min trave 34 35 | -14.65 [kNm] | Comb. 3 | Max trave 34 35 | 79.13 [kNm] | Comb. 4 |
| Momento torcente | Min trave 34 35 | -0.04 [kNm] | Comb. 2 | Max trave 34 35 | 0.09 [kNm] | Comb. 4 |

Trave di fondazione Sezione numero 5 Rett. TRAVI COLL. FONDAZIONE

| | | | | | | |
|-----------------------|-----------------|--------------|----------|-----------------|-------------|---------|
| Spostamenti | Min trave 30 31 | -0.6 [mm] | Comb. 1 | Max trave 30 31 | 0.1 [mm] | Comb. 4 |
| Taglio | Min trave 33 34 | -23404.6 [N] | Comb. 2 | Max trave 30 31 | 23732.6 [N] | Comb. 3 |
| Pressioni sul terreno | Min trave 30 31 | 0.1 [MPa] | Comb. 1 | Max trave 30 31 | -0.0 [MPa] | Comb. 4 |
| Momento flettente | Min trave 30 31 | -21.56 [kNm] | Comb. 38 | Max trave 30 31 | 34.91 [kNm] | Comb. 4 |
| Momento torcente | Min trave 33 34 | -0.06 [kNm] | Comb. 5 | Max trave 30 31 | 0.04 [kNm] | Comb. 5 |

SOLLECITAZIONI MASSIME TELAIO 06

Pilastro Sezione numero 1 HEA 400 PILASTRI ESTERNI LATERALI

| | | | | | | |
|-------------------------|----------------|---------------|----------|----------------|--------------|---------|
| Sforzo normale | Min asta 42 70 | 22954.9 [N] | Comb. 27 | Max asta 42 70 | 115128.7 [N] | Comb. 4 |
| Taglio piano 1-2 | Min asta 36 69 | -63110.6 [N] | Comb. 4 | Max asta 42 70 | 65051.3 [N] | Comb. 4 |
| Taglio piano 1-3 | Min asta 36 69 | -509.5 [N] | Comb. 37 | Max asta 36 69 | 3141.1 [N] | Comb. 4 |
| Momento torcente | Min asta 36 69 | -0.01 [kNm] | Comb. 4 | Max asta 42 70 | 0.02 [kNm] | Comb. 4 |
| Momento Flet. piano 1-2 | Min asta 42 70 | -184.97 [kNm] | Comb. 3 | Max asta 36 69 | 184.90 [kNm] | Comb. 2 |
| Momento Flet. piano 1-3 | Min asta 36 69 | -3.31 [kNm] | Comb. 4 | Max asta 36 69 | 7.99 [kNm] | Comb. 4 |

Pilastro Sezione numero 4 HEB 300 PILASTRI INTERNI

| | | | | | | |
|------------------|-----------------|--------------|----------|-----------------|--------------|---------|
| Sforzo normale | Min asta 71 228 | 40446.3 [N] | Comb. 17 | Max asta 39 71 | 175092.3 [N] | Comb. 1 |
| Taglio piano 1-2 | Min asta 71 228 | -35620.7 [N] | Comb. 3 | Max asta 71 228 | 35951.5 [N] | Comb. 2 |
| Taglio piano 1-3 | Min asta 71 228 | -667.3 [N] | Comb. 4 | Max asta 39 71 | 2197.7 [N] | Comb. 4 |
| Momento torcente | Min asta 71 228 | -0.00 [kNm] | Comb. 2 | Max asta 71 228 | 0.00 [kNm] | Comb. 3 |

| | | | | | | |
|-------------------------|-----------------|---------------|---------|-----------------|--------------|---------|
| Momento Flet. piano 1-2 | Min asta 71 228 | -107.77 [kNm] | Comb. 2 | Max asta 71 228 | 107.79 [kNm] | Comb. 3 |
| Momento Flet. piano 1-3 | Min asta 71 228 | -2.62 [kNm] | Comb. 4 | Max asta 39 71 | 5.29 [kNm] | Comb. 4 |

Trave Sezione numero 1 IPE 400 TRAVI PRINCIPALI

| | | | | | | |
|-------------------------|------------------|---------------|---------|------------------|--------------|---------|
| Sforzo normale | Min asta 219 228 | 382.2 [N] | Comb. 3 | Max asta 69 89 | 61608.4 [N] | Comb. 2 |
| Taglio piano 1-2 | Min asta 219 228 | -84552.1 [N] | Comb. 2 | Max asta 228 220 | 84543.0 [N] | Comb. 3 |
| Taglio piano 1-3 | Min asta 192 178 | -3039.9 [N] | Comb. 4 | Max asta 177 191 | 3065.6 [N] | Comb. 4 |
| Momento torcente | Min asta 192 178 | -0.10 [kNm] | Comb. 3 | Max asta 177 191 | 0.10 [kNm] | Comb. 2 |
| Momento Flet. piano 1-2 | Min asta 150 136 | -122.41 [kNm] | Comb. 3 | Max asta 228 220 | 206.63 [kNm] | Comb. 1 |
| Momento Flet. piano 1-3 | Min asta 177 191 | -2.53 [kNm] | Comb. 5 | Max asta 177 191 | 2.78 [kNm] | Comb. 4 |

Trave Sezione numero 2 HEA 140 TRAVETTI SECONDARI

| | | | | | | |
|-------------------------|----------------|-------------|---------|----------------|-------------|---------|
| Sforzo normale | Min asta 71 70 | -2517.2 [N] | Comb. 3 | Max asta 71 70 | 22907.8 [N] | Comb. 2 |
| Taglio piano 1-2 | Min asta 69 71 | -2518.6 [N] | Comb. 2 | Max asta 71 70 | 2519.9 [N] | Comb. 3 |
| Taglio piano 1-3 | Min asta 69 71 | -10.5 [N] | Comb. 4 | Max asta 71 70 | 11.2 [N] | Comb. 4 |
| Momento torcente | Min asta 69 71 | -0.00 [kNm] | Comb. 4 | Max asta 71 70 | 0.00 [kNm] | Comb. 4 |
| Momento Flet. piano 1-2 | Min asta 69 71 | -3.11 [kNm] | Comb. 2 | Max asta 71 70 | 6.77 [kNm] | Comb. 3 |
| Momento Flet. piano 1-3 | Min asta 71 70 | -0.10 [kNm] | Comb. 4 | Max asta 71 70 | 0.06 [kNm] | Comb. 4 |

Trave di fondazione Sezione numero 1 Rett. TRAVI FONDAZIONE RETT

| | | | | | | |
|-----------------------|-----------------|--------------|---------|-----------------|-------------|----------|
| Spostamenti | Min trave 36 37 | -1.0 [mm] | Comb. 4 | Max trave 36 37 | -0.1 [mm] | Comb. 25 |
| Taglio | Min trave 39 40 | -47293.8 [N] | Comb. 1 | Max trave 38 39 | 48380.4 [N] | Comb. 1 |
| Pressioni sul terreno | Min trave 36 37 | 0.1 [MPa] | Comb. 4 | Max trave 36 37 | 0.0 [MPa] | Comb. 25 |
| Momento flettente | Min trave 38 39 | -86.09 [kNm] | Comb. 1 | Max trave 36 37 | 63.88 [kNm] | Comb. 4 |
| Momento torcente | Min trave 38 39 | -0.05 [kNm] | Comb. 3 | Max trave 36 37 | 0.21 [kNm] | Comb. 2 |

Trave di fondazione Sezione numero 2 a Tr TRAVI FONDAZIONE A T

| | | | | | | |
|-----------------------|-----------------|--------------|---------|-----------------|-------------|----------|
| Spostamenti | Min trave 41 42 | -0.7 [mm] | Comb. 4 | Max trave 41 42 | -0.1 [mm] | Comb. 25 |
| Taglio | Min trave 41 42 | -19487.7 [N] | Comb. 4 | Max trave 41 42 | 27978.7 [N] | Comb. 3 |
| Pressioni sul terreno | Min trave 41 42 | 0.1 [MPa] | Comb. 4 | Max trave 41 42 | 0.0 [MPa] | Comb. 25 |
| Momento flettente | Min trave 41 42 | -20.73 [kNm] | Comb. 3 | Max trave 41 42 | 51.48 [kNm] | Comb. 4 |
| Momento torcente | Min trave 41 42 | -0.29 [kNm] | Comb. 3 | Max trave 41 42 | 0.02 [kNm] | Comb. 2 |

Trave di fondazione Sezione numero 5 Rett. TRAVI COLL. FONDAZIONE

| | | | | | | |
|-----------------------|-----------------|--------------|----------|-----------------|-------------|----------|
| Spostamenti | Min trave 37 38 | -0.6 [mm] | Comb. 1 | Max trave 37 38 | 0.1 [mm] | Comb. 4 |
| Taglio | Min trave 40 41 | -21797.5 [N] | Comb. 2 | Max trave 37 38 | 23156.9 [N] | Comb. 38 |
| Pressioni sul terreno | Min trave 37 38 | 0.1 [MPa] | Comb. 1 | Max trave 37 38 | -0.0 [MPa] | Comb. 4 |
| Momento flettente | Min trave 37 38 | -23.19 [kNm] | Comb. 38 | Max trave 37 38 | 30.79 [kNm] | Comb. 4 |
| Momento torcente | Min trave 40 41 | -0.07 [kNm] | Comb. 3 | Max trave 37 38 | 0.13 [kNm] | Comb. 2 |

SOLLECITAZIONI MASSIME TELAIO 07

Pilastro Sezione numero 1 HEA 400 PILASTRI ESTERNI LATERALI

| | | | | | | |
|-------------------------|----------------|--------------|----------|----------------|-------------|---------|
| Sforzo normale | Min asta 49 78 | 3297.9 [N] | Comb. 36 | Max asta 43 72 | 31606.8 [N] | Comb. 4 |
| Taglio piano 1-2 | Min asta 43 72 | -31766.9 [N] | Comb. 4 | Max asta 49 78 | 32078.7 [N] | Comb. 4 |
| Taglio piano 1-3 | Min asta 43 72 | -70.9 [N] | Comb. 38 | Max asta 49 78 | 5622.5 [N] | Comb. 4 |
| Momento torcente | Min asta 43 72 | -0.01 [kNm] | Comb. 4 | Max asta 49 78 | 0.01 [kNm] | Comb. 4 |
| Momento Flet. piano 1-2 | Min asta 43 72 | -76.34 [kNm] | Comb. 4 | Max asta 49 78 | 78.41 [kNm] | Comb. 4 |
| Momento Flet. piano 1-3 | Min asta 43 72 | -5.45 [kNm] | Comb. 4 | Max asta 49 78 | 14.80 [kNm] | Comb. 4 |

Pilastro Sezione numero 2 HEA 240 PILASTRI ESTERNI FRONTALI

| | | | | | | |
|------------------|-----------------|--------------|----------|-----------------|-------------|---------|
| Sforzo normale | Min asta 77 124 | 6111.0 [N] | Comb. 29 | Max asta 48 77 | 38998.3 [N] | Comb. 3 |
| Taglio piano 1-2 | Min asta 76 180 | -13662.1 [N] | Comb. 4 | Max asta 73 123 | 10624.8 [N] | Comb. 5 |

| | | | | | | |
|-------------------------|-----------------|--------------|---------|-----------------|-------------|---------|
| Taglio piano 1-3 | Min asta 44 73 | -2840.4 [N] | Comb. 4 | Max asta 73 123 | 2594.2 [N] | Comb. 2 |
| Momento torcente | Min asta 73 123 | -0.01 [kNm] | Comb. 4 | Max asta 73 123 | 0.01 [kNm] | Comb. 5 |
| Momento Flet. piano 1-2 | Min asta 47 76 | -22.62 [kNm] | Comb. 5 | Max asta 45 74 | 21.69 [kNm] | Comb. 5 |
| Momento Flet. piano 1-3 | Min asta 44 73 | -5.61 [kNm] | Comb. 4 | Max asta 48 77 | 4.86 [kNm] | Comb. 4 |

Pilastro Sezione numero 4 HEB 300 PILASTRI INTERNI

| | | | | | | |
|-------------------------|-----------------|-------------|----------|-----------------|-------------|---------|
| Sforzo normale | Min asta 75 229 | 6954.6 [N] | Comb. 29 | Max asta 46 75 | 41375.6 [N] | Comb. 1 |
| Taglio piano 1-2 | Min asta 75 229 | -2503.0 [N] | Comb. 5 | Max asta 46 75 | 8190.1 [N] | Comb. 4 |
| Taglio piano 1-3 | Min asta 46 75 | -4051.5 [N] | Comb. 2 | Max asta 46 75 | 4245.8 [N] | Comb. 3 |
| Momento torcente | Min asta 75 229 | -0.01 [kNm] | Comb. 2 | Max asta 75 229 | 0.01 [kNm] | Comb. 3 |
| Momento Flet. piano 1-2 | Min asta 46 75 | -9.54 [kNm] | Comb. 5 | Max asta 46 75 | 22.13 [kNm] | Comb. 4 |
| Momento Flet. piano 1-3 | Min asta 46 75 | -8.98 [kNm] | Comb. 2 | Max asta 46 75 | 9.31 [kNm] | Comb. 3 |

Trave Sezione numero 1 IPE 400 TRAVI PRINCIPALI

| | | | | | | |
|-------------------------|------------------|--------------|---------|------------------|-------------|---------|
| Sforzo normale | Min asta 120 106 | -23026.7 [N] | Comb. 3 | Max asta 194 180 | 27319.9 [N] | Comb. 4 |
| Taglio piano 1-2 | Min asta 119 123 | -17265.4 [N] | Comb. 2 | Max asta 124 120 | 17875.5 [N] | Comb. 3 |
| Taglio piano 1-3 | Min asta 138 124 | -10968.4 [N] | Comb. 4 | Max asta 123 137 | 10769.3 [N] | Comb. 4 |
| Momento torcente | Min asta 123 137 | -1.12 [kNm] | Comb. 2 | Max asta 138 124 | 1.12 [kNm] | Comb. 3 |
| Momento Flet. piano 1-2 | Min asta 106 92 | -14.45 [kNm] | Comb. 3 | Max asta 72 91 | 35.67 [kNm] | Comb. 4 |
| Momento Flet. piano 1-3 | Min asta 123 137 | -3.54 [kNm] | Comb. 5 | Max asta 165 179 | 3.82 [kNm] | Comb. 4 |

Trave Sezione numero 2 HEA 140 TRAVETTI SECONDARI

| | | | | | | |
|-------------------------|----------------|-------------|---------|----------------|-------------|---------|
| Sforzo normale | Min asta 72 73 | -4712.1 [N] | Comb. 3 | Max asta 75 76 | 14929.3 [N] | Comb. 4 |
| Taglio piano 1-2 | Min asta 77 78 | -1332.1 [N] | Comb. 4 | Max asta 72 73 | 1368.6 [N] | Comb. 4 |
| Taglio piano 1-3 | Min asta 74 75 | -192.4 [N] | Comb. 5 | Max asta 75 76 | 192.3 [N] | Comb. 5 |
| Momento torcente | Min asta 73 74 | -0.00 [kNm] | Comb. 4 | Max asta 76 77 | 0.00 [kNm] | Comb. 4 |
| Momento Flet. piano 1-2 | Min asta 77 78 | -0.74 [kNm] | Comb. 3 | Max asta 72 73 | 2.35 [kNm] | Comb. 4 |
| Momento Flet. piano 1-3 | Min asta 75 76 | -0.45 [kNm] | Comb. 5 | Max asta 74 75 | 0.49 [kNm] | Comb. 5 |

Trave di fondazione Sezione numero 1 Rett. TRAVI FONDAZIONE RETT

| | | | | | | |
|-----------------------|-----------------|--------------|---------|-----------------|--------------|----------|
| Spostamenti | Min trave 43 44 | -1.0 [mm] | Comb. 4 | Max trave 45 46 | -0.4 [mm] | Comb. 37 |
| Taglio | Min trave 45 46 | -20339.9 [N] | Comb. 2 | Max trave 43 44 | 24477.6 [N] | Comb. 4 |
| Pressioni sul terreno | Min trave 43 44 | 0.1 [MPa] | Comb. 4 | Max trave 45 46 | 0.0 [MPa] | Comb. 37 |
| Momento flettente | Min trave 45 46 | -26.93 [kNm] | Comb. 2 | Max trave 43 44 | 102.89 [kNm] | Comb. 4 |
| Momento torcente | Min trave 45 46 | -15.72 [kNm] | Comb. 5 | Max trave 43 44 | 15.46 [kNm] | Comb. 5 |

Trave di fondazione Sezione numero 3 a L TRAVI FONDAZIONE A L

| | | | | | | |
|-----------------------|-----------------|--------------|---------|-----------------|--------------|----------|
| Spostamenti | Min trave 48 49 | -0.7 [mm] | Comb. 4 | Max trave 47 48 | -0.4 [mm] | Comb. 25 |
| Taglio | Min trave 48 49 | -26071.1 [N] | Comb. 4 | Max trave 46 47 | 24173.5 [N] | Comb. 3 |
| Pressioni sul terreno | Min trave 48 49 | 0.1 [MPa] | Comb. 4 | Max trave 47 48 | 0.0 [MPa] | Comb. 25 |
| Momento flettente | Min trave 47 48 | -25.02 [kNm] | Comb. 3 | Max trave 48 49 | 122.48 [kNm] | Comb. 4 |
| Momento torcente | Min trave 48 49 | -17.58 [kNm] | Comb. 5 | Max trave 46 47 | 13.08 [kNm] | Comb. 5 |

SOLLECITAZIONI MASSIME TELAIO 08

Pilastro Sezione numero 1 HEA 400 PILASTRI ESTERNI LATERALI

| | | | | | | |
|-------------------------|----------------|---------------|----------|----------------|--------------|---------|
| Sforzo normale | Min asta 49 78 | 3297.9 [N] | Comb. 36 | Max asta 14 58 | 135118.9 [N] | Comb. 4 |
| Taglio piano 1-2 | Min asta 7 56 | -12422.2 [N] | Comb. 3 | Max asta 42 70 | 65051.3 [N] | Comb. 4 |
| Taglio piano 1-3 | Min asta 7 56 | -7795.7 [N] | Comb. 4 | Max asta 49 78 | 5622.5 [N] | Comb. 4 |
| Momento torcente | Min asta 14 58 | -0.02 [kNm] | Comb. 4 | Max asta 42 70 | 0.02 [kNm] | Comb. 4 |
| Momento Flet. piano 1-2 | Min asta 14 58 | -185.00 [kNm] | Comb. 3 | Max asta 42 70 | 100.41 [kNm] | Comb. 4 |
| Momento Flet. piano 1-3 | Min asta 7 56 | -20.95 [kNm] | Comb. 4 | Max asta 49 78 | 14.80 [kNm] | Comb. 4 |

Trave Sezione numero 3 HEA 160 TRAVETTI SECONDARI DI GRONDA

| | | | | | | |
|-------------------------|----------------|--------------|---------|----------------|-------------|---------|
| Sforzo normale | Min asta 56 58 | -11777.2 [N] | Comb. 4 | Max asta 61 65 | 64780.5 [N] | Comb. 4 |
| Taglio piano 1-2 | Min asta 56 58 | -4386.6 [N] | Comb. 3 | Max asta 70 78 | 4387.9 [N] | Comb. 3 |
| Taglio piano 1-3 | Min asta 56 58 | -846.2 [N] | Comb. 4 | Max asta 70 78 | 796.9 [N] | Comb. 4 |
| Momento torcente | Min asta 70 78 | -0.00 [kNm] | Comb. 3 | Max asta 56 58 | 0.00 [kNm] | Comb. 3 |
| Momento Flet. piano 1-2 | Min asta 70 78 | -2.06 [kNm] | Comb. 3 | Max asta 56 58 | 6.89 [kNm] | Comb. 4 |
| Momento Flet. piano 1-3 | Min asta 56 58 | -1.31 [kNm] | Comb. 4 | Max asta 56 58 | 0.48 [kNm] | Comb. 4 |

Biella Sezione numero 2 Tubi 101.6X4.0 CONTROVENTAMENTI PARETE

| | | | | | | |
|------------------|----------------|--------------|---------|----------------|-------------|---------|
| Sforzo normale | Min asta 61 14 | -23318.2 [N] | Comb. 5 | Max asta 61 14 | 20273.2 [N] | Comb. 4 |
| Taglio piano 1-2 | Min asta 61 14 | -337.0 [N] | Comb. 1 | Max asta 61 14 | 337.0 [N] | Comb. 1 |
| Taglio piano 1-3 | Min asta 67 42 | -0.0 [N] | Comb. 1 | Max asta 67 42 | 0.0 [N] | Comb. 4 |

Trave di fondazione Sezione numero 2 a Tr TRAVI FONDAZIONE A T

| | | | | | | |
|-----------------------|-----------------|---------------|---------|-----------------|-------------|----------|
| Spostamenti | Min trave 7 14 | -0.8 [mm] | Comb. 4 | Max trave 42 49 | -0.4 [mm] | Comb. 36 |
| Taglio | Min trave 14 21 | -69790.9 [N] | Comb. 4 | Max trave 7 14 | 81329.4 [N] | Comb. 4 |
| Pressioni sul terreno | Min trave 7 14 | 0.1 [MPa] | Comb. 4 | Max trave 42 49 | 0.0 [MPa] | Comb. 36 |
| Momento flettente | Min trave 7 14 | -120.71 [kNm] | Comb. 4 | Max trave 7 14 | 54.69 [kNm] | Comb. 4 |
| Momento torcente | Min trave 7 14 | -47.92 [kNm] | Comb. 4 | Max trave 42 49 | 49.11 [kNm] | Comb. 4 |

SOLLECITAZIONI MASSIME PILASTRI 08a

Pilastro Sezione numero 2 HEA 240 PILASTRI ESTERNI FRONTALI

| | | | | | | |
|-------------------------|-----------------|--------------|----------|-----------------|-------------|---------|
| Sforzo normale | Min asta 77 124 | 6111.0 [N] | Comb. 29 | Max asta 6 55 | 39002.4 [N] | Comb. 3 |
| Taglio piano 1-2 | Min asta 77 124 | -12985.6 [N] | Comb. 4 | Max asta 55 122 | 11021.2 [N] | Comb. 5 |
| Taglio piano 1-3 | Min asta 77 124 | -2703.5 [N] | Comb. 3 | Max asta 48 77 | 2495.4 [N] | Comb. 4 |
| Momento torcente | Min asta 77 124 | -0.01 [kNm] | Comb. 5 | Max asta 77 124 | 0.01 [kNm] | Comb. 4 |
| Momento Flet. piano 1-2 | Min asta 77 124 | -11.66 [kNm] | Comb. 4 | Max asta 6 55 | 19.83 [kNm] | Comb. 4 |
| Momento Flet. piano 1-3 | Min asta 48 77 | -4.13 [kNm] | Comb. 4 | Max asta 6 55 | 4.93 [kNm] | Comb. 4 |

SOLLECITAZIONI MASSIME PILASTRI TRAVI 08b

Pilastro Sezione numero 2 HEA 240 PILASTRI ESTERNI FRONTALI

| | | | | | | |
|-------------------------|-----------------|--------------|----------|-----------------|-------------|---------|
| Sforzo normale | Min asta 76 180 | 7747.4 [N] | Comb. 27 | Max asta 5 54 | 37815.1 [N] | Comb. 3 |
| Taglio piano 1-2 | Min asta 76 180 | -13662.1 [N] | Comb. 4 | Max asta 5 54 | 13844.2 [N] | Comb. 4 |
| Taglio piano 1-3 | Min asta 5 54 | -1724.9 [N] | Comb. 3 | Max asta 5 54 | 1601.3 [N] | Comb. 2 |
| Momento torcente | Min asta 54 168 | -0.01 [kNm] | Comb. 3 | Max asta 76 180 | 0.01 [kNm] | Comb. 3 |
| Momento Flet. piano 1-2 | Min asta 47 76 | -22.62 [kNm] | Comb. 5 | Max asta 5 54 | 29.95 [kNm] | Comb. 4 |
| Momento Flet. piano 1-3 | Min asta 5 54 | -3.49 [kNm] | Comb. 3 | Max asta 5 54 | 3.24 [kNm] | Comb. 2 |

Trave Sezione numero 2 HEA 140 TRAVETTI SECONDARI

| | | | | | | |
|-------------------------|------------------|-------------|---------|------------------|-------------|---------|
| Sforzo normale | Min asta 178 180 | -8498.6 [N] | Comb. 5 | Max asta 178 180 | 13504.8 [N] | Comb. 4 |
| Taglio piano 1-2 | Min asta 178 180 | -9863.7 [N] | Comb. 3 | Max asta 168 170 | 9863.4 [N] | Comb. 3 |
| Taglio piano 1-3 | Min asta 168 170 | -1322.0 [N] | Comb. 1 | Max asta 178 180 | 1321.9 [N] | Comb. 1 |
| Momento torcente | Min asta 168 170 | -0.01 [kNm] | Comb. 3 | Max asta 178 180 | 0.01 [kNm] | Comb. 3 |
| Momento Flet. piano 1-2 | Min asta 176 178 | -5.77 [kNm] | Comb. 3 | Max asta 178 180 | 14.75 [kNm] | Comb. 3 |
| Momento Flet. piano 1-3 | Min asta 168 170 | -1.25 [kNm] | Comb. 1 | Max asta 172 170 | 1.18 [kNm] | Comb. 1 |

SOLLECITAZIONI MASSIME TELAIO 09

Pilastro Sezione numero 4 HEB 300 PILASTRI INTERNI

| | | | | | | |
|-------------------------|-----------------|---------------|----------|-----------------|--------------|---------|
| Sforzo normale | Min asta 75 229 | 6954.6 [N] | Comb. 29 | Max asta 11 59 | 175545.8 [N] | Comb. 1 |
| Taglio piano 1-2 | Min asta 68 227 | -36822.5 [N] | Comb. 3 | Max asta 68 227 | 37212.7 [N] | Comb. 2 |
| Taglio piano 1-3 | Min asta 11 59 | -6209.6 [N] | Comb. 4 | Max asta 46 75 | 4245.8 [N] | Comb. 3 |
| Momento torcente | Min asta 75 229 | -0.01 [kNm] | Comb. 2 | Max asta 75 229 | 0.01 [kNm] | Comb. 3 |
| Momento Flet. piano 1-2 | Min asta 62 225 | -114.77 [kNm] | Comb. 2 | Max asta 68 227 | 114.94 [kNm] | Comb. 3 |
| Momento Flet. piano 1-3 | Min asta 11 59 | -15.51 [kNm] | Comb. 4 | Max asta 46 75 | 9.31 [kNm] | Comb. 3 |

Trave Sezione numero 2 HEA 140 TRAVETTI SECONDARI

| | | | | | | |
|-------------------------|------------------|--------------|---------|------------------|-------------|---------|
| Sforzo normale | Min asta 223 224 | -19789.6 [N] | Comb. 4 | Max asta 226 225 | 19064.4 [N] | Comb. 4 |
| Taglio piano 1-2 | Min asta 223 224 | -4451.8 [N] | Comb. 1 | Max asta 225 224 | 4453.2 [N] | Comb. 1 |
| Taglio piano 1-3 | Min asta 227 228 | -388.7 [N] | Comb. 3 | Max asta 225 224 | 389.8 [N] | Comb. 3 |
| Momento torcente | Min asta 223 224 | -0.00 [kNm] | Comb. 3 | Max asta 228 229 | 0.00 [kNm] | Comb. 3 |
| Momento Flet. piano 1-2 | Min asta 228 229 | -2.04 [kNm] | Comb. 1 | Max asta 225 224 | 4.01 [kNm] | Comb. 1 |
| Momento Flet. piano 1-3 | Min asta 225 224 | -0.42 [kNm] | Comb. 3 | Max asta 227 228 | 0.42 [kNm] | Comb. 3 |

Biella Sezione numero 1 L Equal Flanges 60x60x6 CONTROVENTAMENTI FALDA

| | | | | | | |
|------------------|----------------|--------------|---------|----------------|-------------|---------|
| Sforzo normale | Min asta 62 11 | -31894.4 [N] | Comb. 4 | Max asta 62 11 | 18196.3 [N] | Comb. 5 |
| Taglio piano 1-2 | Min asta 62 11 | -337.0 [N] | Comb. 1 | Max asta 62 11 | 337.0 [N] | Comb. 1 |
| Taglio piano 1-3 | Min asta 62 11 | 0.0 [N] | Comb. 1 | Max asta 62 11 | 0.0 [N] | Comb. 1 |

Biella Sezione numero 2 Tubi 101.6X4.0 CONTROVENTAMENTI PARETE

| | | | | | | |
|------------------|----------------|--------------|---------|-----------------|-------------|---------|
| Sforzo normale | Min asta 59 62 | -12302.4 [N] | Comb. 5 | Max asta 59 62 | 41613.8 [N] | Comb. 4 |
| Taglio piano 1-2 | Min asta 53 59 | -337.0 [N] | Comb. 1 | Max asta 53 59 | 337.0 [N] | Comb. 1 |
| Taglio piano 1-3 | Min asta 68 71 | -0.0 [N] | Comb. 2 | Max asta 225 59 | 0.0 [N] | Comb. 4 |

SOLLECITAZIONI MASSIME PILASTRI TRAVI 09b

Pilastro Sezione numero 2 HEA 240 PILASTRI ESTERNI FRONTALI

| | | | | | | |
|-------------------------|-----------------|--------------|----------|-----------------|-------------|---------|
| Sforzo normale | Min asta 74 179 | 7565.7 [N] | Comb. 28 | Max asta 3 52 | 37610.1 [N] | Comb. 2 |
| Taglio piano 1-2 | Min asta 74 179 | -13655.9 [N] | Comb. 4 | Max asta 3 52 | 13646.6 [N] | Comb. 4 |
| Taglio piano 1-3 | Min asta 3 52 | -1721.9 [N] | Comb. 3 | Max asta 3 52 | 1610.3 [N] | Comb. 2 |
| Momento torcente | Min asta 74 179 | -0.01 [kNm] | Comb. 2 | Max asta 52 167 | 0.01 [kNm] | Comb. 2 |
| Momento Flet. piano 1-2 | Min asta 45 74 | -22.01 [kNm] | Comb. 5 | Max asta 3 52 | 28.96 [kNm] | Comb. 4 |
| Momento Flet. piano 1-3 | Min asta 3 52 | -3.48 [kNm] | Comb. 3 | Max asta 3 52 | 3.29 [kNm] | Comb. 2 |

Trave Sezione numero 2 HEA 140 TRAVETTI SECONDARI

| | | | | | | |
|-------------------------|------------------|-------------|---------|------------------|-------------|---------|
| Sforzo normale | Min asta 177 179 | -8585.4 [N] | Comb. 5 | Max asta 177 179 | 13482.9 [N] | Comb. 4 |
| Taglio piano 1-2 | Min asta 177 179 | -9855.1 [N] | Comb. 2 | Max asta 167 169 | 9856.1 [N] | Comb. 2 |
| Taglio piano 1-3 | Min asta 177 179 | -1322.2 [N] | Comb. 1 | Max asta 167 169 | 1323.0 [N] | Comb. 1 |
| Momento torcente | Min asta 177 179 | -0.01 [kNm] | Comb. 2 | Max asta 167 169 | 0.01 [kNm] | Comb. 2 |
| Momento Flet. piano 1-2 | Min asta 171 169 | -5.76 [kNm] | Comb. 2 | Max asta 167 169 | 14.73 [kNm] | Comb. 2 |
| Momento Flet. piano 1-3 | Min asta 171 169 | -1.19 [kNm] | Comb. 1 | Max asta 167 169 | 1.25 [kNm] | Comb. 1 |

SOLLECITAZIONI MASSIME PILASTRI 09a

Pilastro Sezione numero 2 HEA 240 PILASTRI ESTERNI FRONTALI

| | | | | | | |
|-------------------------|-----------------|--------------|----------|-----------------|-------------|---------|
| Sforzo normale | Min asta 73 123 | 6202.7 [N] | Comb. 29 | Max asta 2 51 | 38424.7 [N] | Comb. 2 |
| Taglio piano 1-2 | Min asta 73 123 | -12927.0 [N] | Comb. 4 | Max asta 51 121 | 11084.8 [N] | Comb. 5 |
| Taglio piano 1-3 | Min asta 44 73 | -2840.4 [N] | Comb. 4 | Max asta 51 121 | 2670.5 [N] | Comb. 2 |
| Momento torcente | Min asta 73 123 | -0.01 [kNm] | Comb. 4 | Max asta 73 123 | 0.01 [kNm] | Comb. 5 |
| Momento Flet. piano 1-2 | Min asta 73 123 | -11.60 [kNm] | Comb. 4 | Max asta 2 51 | 18.77 [kNm] | Comb. 4 |
| Momento Flet. piano 1-3 | Min asta 2 51 | -5.67 [kNm] | Comb. 4 | Max asta 44 73 | 4.61 [kNm] | Comb. 4 |

SOLLECITAZIONI MASSIME TELAIO 10

Pilastro Sezione numero 1 HEA 400 PILASTRI ESTERNI LATERALI

| | | | | | | |
|-------------------------|----------------|--------------|----------|----------------|--------------|---------|
| Sforzo normale | Min asta 1 50 | 3713.2 [N] | Comb. 31 | Max asta 8 57 | 134420.8 [N] | Comb. 4 |
| Taglio piano 1-2 | Min asta 36 69 | -63110.6 [N] | Comb. 4 | Max asta 1 50 | 10656.1 [N] | Comb. 2 |
| Taglio piano 1-3 | Min asta 1 50 | -7673.0 [N] | Comb. 4 | Max asta 43 72 | 5491.8 [N] | Comb. 4 |
| Momento torcente | Min asta 36 69 | -0.01 [kNm] | Comb. 4 | Max asta 8 57 | 0.02 [kNm] | Comb. 4 |
| Momento Flet. piano 1-2 | Min asta 15 60 | -93.88 [kNm] | Comb. 4 | Max asta 8 57 | 185.07 [kNm] | Comb. 2 |
| Momento Flet. piano 1-3 | Min asta 1 50 | -20.48 [kNm] | Comb. 4 | Max asta 43 72 | 14.33 [kNm] | Comb. 4 |

Trave Sezione numero 3 HEA 160 TRAVETTI SECONDARI DI GRONDA

| | | | | | | |
|-------------------------|----------------|--------------|---------|----------------|-------------|---------|
| Sforzo normale | Min asta 50 57 | -12398.1 [N] | Comb. 4 | Max asta 60 63 | 61426.0 [N] | Comb. 4 |
| Taglio piano 1-2 | Min asta 50 57 | -4346.1 [N] | Comb. 2 | Max asta 69 72 | 4357.0 [N] | Comb. 2 |
| Taglio piano 1-3 | Min asta 66 69 | -788.5 [N] | Comb. 1 | Max asta 50 57 | 851.0 [N] | Comb. 4 |
| Momento torcente | Min asta 50 57 | -0.00 [kNm] | Comb. 2 | Max asta 69 72 | 0.00 [kNm] | Comb. 2 |
| Momento Flet. piano 1-2 | Min asta 69 72 | -2.06 [kNm] | Comb. 2 | Max asta 50 57 | 6.92 [kNm] | Comb. 4 |
| Momento Flet. piano 1-3 | Min asta 50 57 | -0.49 [kNm] | Comb. 4 | Max asta 50 57 | 1.32 [kNm] | Comb. 4 |

Biella Sezione numero 2 Tubi 101.6X4.0 CONTROVENTAMENTI PARETE

| | | | | | | |
|------------------|----------------|--------------|---------|----------------|-------------|---------|
| Sforzo normale | Min asta 66 36 | -14065.7 [N] | Comb. 4 | Max asta 60 8 | 34372.4 [N] | Comb. 4 |
| Taglio piano 1-2 | Min asta 60 8 | -337.0 [N] | Comb. 1 | Max asta 60 8 | 337.0 [N] | Comb. 1 |
| Taglio piano 1-3 | Min asta 69 29 | -0.0 [N] | Comb. 1 | Max asta 69 29 | 0.0 [N] | Comb. 4 |

Trave di fondazione Sezione numero 1 Rett. TRAVI FONDAZIONE RETT

| | | | | | | |
|-----------------------|-----------------|---------------|---------|---------------|-------------|----------|
| Spostamenti | Min trave 1 8 | -1.1 [mm] | Comb. 4 | Max trave 1 8 | -0.5 [mm] | Comb. 31 |
| Taglio | Min trave 8 15 | -66368.5 [N] | Comb. 4 | Max trave 1 8 | 80942.4 [N] | Comb. 4 |
| Pressioni sul terreno | Min trave 1 8 | 0.1 [MPa] | Comb. 4 | Max trave 1 8 | 0.0 [MPa] | Comb. 31 |
| Momento flettente | Min trave 1 8 | -105.30 [kNm] | Comb. 4 | Max trave 1 8 | 56.26 [kNm] | Comb. 4 |
| Momento torcente | Min trave 36 43 | -30.50 [kNm] | Comb. 1 | Max trave 1 8 | 30.56 [kNm] | Comb. 1 |

- Verifiche travi di fondazione

- Modalità di verifica

Le travi vengono progettate-verificate a flessione retta e taglio nel piano longitudinale della trave sulla base dell'involuppo delle sollecitazioni, in conformità al *Decreto Legge del 26 Marzo 1980* e successivi aggiornamenti.

Viene comunque sempre predisposta l'armatura minima mentre gli sforzi di taglio vengono integralmente assorbiti dalle staffe.

Le operazioni di progetto-verifica vengono condotte, per ogni asta, in tre diverse sezioni e precisamente in corrispondenza dei fili esterni dei pilastri e della sezione in campata nella quale viene riscontrato il massimo momento positivo (negativo).

I momenti si intendono positivi se tendono le fibre di intradosso (inferiori).

Per quanto concerne il progetto e la verifica delle travi a taglio esse vengono condotte nel modo seguente:

- Si controlla se la trave necessita o meno di armatura aggiuntiva a taglio:
 1. Se non occorre armatura aggiuntiva a taglio si procede a disporre la staffatura minima di regolamento e la progettazione ha termine.
 2. Se occorre armatura aggiuntiva a taglio la staffatura viene progettata andando a suddividere la trave, a seconda del caso, in uno, tre o cinque conci:
 - due tronchi in prossimità degli appoggi di lunghezza pari all'altezza della sezione;
 - due altri (eventuali) tronchi dall'ascissa precedente a quella in cui il taglio può essere assorbito con la sola staffatura minima da regolamento
 - un restante (eventuale) concio di chiusura centrale.
- In ogni caso l'armatura a taglio si intende simmetrica rispetto alla mezzeria della trave e viene progettata considerando, rispetto alla mezzeria, la zona della trave più sollecitata.

Per quanto concerne le verifiche a taglio esse vengono condotte suddividendo la trave in cinque conci:

due tronchi in prossimità degli appoggi di lunghezza pari all'altezza della sezione; due altri (eventuali) tronchi dall'ascissa precedente a quella in cui il taglio può essere assorbito con la sola staffatura minima da regolamento; il restante (eventuale) concio di chiusura centrale.

L'armatura a taglio si intende simmetrica rispetto alla mezzeria della trave e viene progettata considerando, rispetto alla mezzeria, la zona della trave più sollecitata.

Simbologia utilizzata:

| | |
|------------------|--------------------------------------|
| Af Es. | Area di ferro all'estradosso |
| Af In. | Area di ferro all'intradosso |
| Sigb.Es. | Tensione del calcestruzzo estradosso |
| Sigb. In. | Tensione del calcestruzzo intradosso |
| Sigf. Es. | Tensione dell'acciaio estradosso |
| Sigf. In. | Tensione dell'acciaio intradosso |

- Sezioni Impiegate: Trave di fondazione

| Sez. Num. | Info | Dimensioni | Criterio | Calcestr. | f_{cd} [MPa] | T_{rd} [MPa] | σ_{RARE} [MPa] | σ_{FREQ} [MPa] | σ_{QP} [MPa] | Acciaio | f_{yd} [MPa] | σ_{YRARE} [MPa] | σ_{YFREQ} [MPa] | σ_{YQP} [MPa] | Coprif. [mm] |
|-----------|------------------------------|--|----------|-----------|-------------------|-------------------|--------------------------|--------------------------|------------------------|---------|-------------------|---------------------------|---------------------------|-------------------------|-----------------|
| 1 | Rett. TRAVI FONDAZIONE RETT | B 600 [mm] H 1000 [mm] Terreno numero 1 | Verfond | C25/30 | 14.2 | 0.3 | 15.0 | 25.0 | 11.3 | B 450 C | 391.3 | 360.0 | 450.0 | 450.0 | 30.0 |
| 2 | a Tr TRAVI FONDAZIONE A T | B 1000 [mm] H 1500 [mm] b 500 [mm] h 400 [mm] Terreno numero 1 | Verfond | C25/30 | 14.2 | 0.3 | 15.0 | 25.0 | 11.3 | B 450 C | 391.3 | 360.0 | 450.0 | 450.0 | 30.0 |
| 3 | a L TRAVI FONDAZIONE A L | B 1000 [mm] H 1500 [mm] b 500 [mm] h 400 [mm] Terreno numero 1 | Verfond | C25/30 | 14.2 | 0.3 | 15.0 | 25.0 | 11.3 | B 450 C | 391.3 | 360.0 | 450.0 | 450.0 | 30.0 |
| 4 | a _ TRAVI FONDAZIONE A L | B 1000 [mm] H 1500 [mm] b 500 [mm] h 400 [mm] Terreno numero 1 | Verfond | C25/30 | 14.2 | 0.3 | 15.0 | 25.0 | 11.3 | B 450 C | 391.3 | 360.0 | 450.0 | 450.0 | 30.0 |
| 5 | Rett. TRAVI COLL. FONDAZIONE | B 400 [mm] H 400 [mm] Terreno numero 1 | Verfond | C25/30 | 14.2 | 0.3 | 15.0 | 25.0 | 11.3 | B 450 C | 391.3 | 360.0 | 450.0 | 450.0 | 30.0 |

EC2. 4.3.2.4.4. Verifica a taglio con il metodo dell'inclinazione variabile del traliccio. $\cotg \theta = 1.00$

Verifica a fessurazione indiretta

Fattore di sovraresistenza Travi $\gamma_{R,d}=1.00$
Fattore di sovraresistenza Fondazioni $\gamma_{R,d}=1.10$

- Verifiche Travate :

- Travata: 100 Travata 15 16 17 18 19 20 21

| Nodo | x | A _{fe} | A _{fi} | q _T | M _{rif} | M _{de} | M _{re} | x/d | M _{di} | M _{ri} | x/d | σ _{be} | σ _{bi} | σ _{fe} | σ _{fi} | w |
|---|--------------------|--------------------|-----------------|----------------|------------------|-----------------|-----------------|------|-----------------|-----------------|------|-----------------|-----------------|-----------------|-----------------|----|
| [m] | [mm ²] | [mm ²] | [N/m] | [kNm] | [kNm] | [kNm] | | | [kNm] | [kNm] | | [MPa] | [MPa] | [MPa] | [MPa] | mm |
| Trave di fondazione Sez. 1 Rett. 600x1000 [mm] TRAVI FONDAZIONE RETT | | | | | | | | | | | | | | | | |
| 15 | 0.13 | 831 | 1131 | | | 92.65 | 292.48 | 0.05 | -8.43 | -393.66 | 0.06 | | | | | |
| | | | | | S.L.E. Rare | 62.49 | | | 0.00 | | | 0.0 | 1.1 | 57.5 | 11.5 | |
| | | | | | S.L.E. Freq. | 28.99 | | | 0.00 | | | 0.0 | 0.5 | 26.7 | 5.3 | OK |
| | | | | | S.L.E. Q.P. | 3.99 | | | 0.00 | | | 0.0 | 0.1 | 3.7 | 0.7 | OK |
| Camp. | 1.06 | 1206 | 1206 | | | 79.79 | 420.55 | 0.06 | 0.00 | -420.55 | 0.06 | | | | | |
| | | | | | S.L.E. Rare | 44.16 | | | 0.00 | | | 0.0 | 0.7 | 41.0 | 7.9 | |
| | | | | | S.L.E. Freq. | 22.12 | | | 0.00 | | | 0.0 | 0.3 | 20.5 | 4.0 | OK |
| | | | | | S.L.E. Q.P. | 7.02 | | | 0.00 | | | 0.0 | 0.1 | 6.5 | 1.3 | OK |
| 16 | 2.00 | 663 | 1030 | | | 50.69 | 234.65 | 0.05 | 0.00 | -359.17 | 0.05 | | | | | |
| | | | | | S.L.E. Rare | 25.61 | | | 0.00 | | | 0.0 | 0.5 | 23.4 | 4.5 | |
| | | | | | S.L.E. Freq. | 13.83 | | | 0.00 | | | 0.0 | 0.3 | 12.7 | 2.5 | OK |
| | | | | | S.L.E. Q.P. | 6.40 | | | 0.00 | | | 0.0 | 0.1 | 5.9 | 1.1 | OK |
| Trave di fondazione Sez. 5 Rett. 400x400 [mm] TRAVI COLL. FONDAZIONE | | | | | | | | | | | | | | | | |
| 16 | 0.12 | 603 | 402 | | | 30.86 | 74.70 | 0.14 | 0.00 | -50.62 | 0.12 | | | | | |
| | | | | | S.L.E. Rare | 21.67 | | | 0.00 | | | 0.0 | 2.9 | 112.6 | 23.7 | |
| | | | | | S.L.E. Freq. | 12.09 | | | 0.00 | | | 0.0 | 1.6 | 62.8 | 13.2 | OK |
| | | | | | S.L.E. Q.P. | 6.18 | | | 0.00 | | | 0.0 | 0.8 | 32.1 | 6.7 | OK |
| Camp. | 5.05 | 603 | 402 | | | 0.81 | 74.70 | 0.14 | -2.45 | -50.62 | 0.12 | | | | | |
| | | | | | S.L.E. Rare | 0.00 | | | -1.55 | | | 0.2 | 0.0 | 1.6 | 11.9 | |
| | | | | | S.L.E. Freq. | 0.22 | | | -0.51 | | | 0.1 | 0.0 | 1.2 | 3.9 | OK |
| | | | | | S.L.E. Q.P. | 0.22 | | | 0.00 | | | 0.0 | 0.0 | 1.1 | 0.2 | OK |
| 17 | 9.98 | 674 | 467 | | | 4.32 | 83.03 | 0.14 | -16.07 | -58.48 | 0.12 | | | | | |
| | | | | | S.L.E. Rare | 0.00 | | | -8.97 | | | 1.3 | 0.0 | 8.9 | 59.7 | |
| | | | | | S.L.E. Freq. | 0.00 | | | -7.92 | | | 1.1 | 0.0 | 7.8 | 52.7 | OK |
| | | | | | S.L.E. Q.P. | 0.00 | | | -7.28 | | | 1.0 | 0.0 | 7.2 | 48.4 | OK |
| Trave di fondazione Sez. 1 Rett. 600x1000 [mm] TRAVI FONDAZIONE RETT | | | | | | | | | | | | | | | | |
| 17 | 0.13 | 663 | 918 | | | 20.96 | 234.51 | 0.05 | -33.80 | -321.23 | 0.05 | | | | | |
| | | | | | S.L.E. Rare | 0.00 | | | -12.21 | | | 0.2 | 0.0 | 1.4 | 11.3 | |
| | | | | | S.L.E. Freq. | 0.00 | | | -10.71 | | | 0.2 | 0.0 | 1.2 | 9.9 | OK |
| | | | | | S.L.E. Q.P. | 0.00 | | | -9.85 | | | 0.2 | 0.0 | 1.1 | 9.1 | OK |
| Camp. | 1.06 | 1206 | 1206 | | | 0.00 | 420.55 | 0.06 | -64.28 | -420.55 | 0.06 | | | | | |
| | | | | | S.L.E. Rare | 0.00 | | | -27.62 | | | 0.4 | 0.0 | 4.9 | 25.6 | |
| | | | | | S.L.E. Freq. | 0.00 | | | -23.59 | | | 0.4 | 0.0 | 4.2 | 21.9 | OK |
| | | | | | S.L.E. Q.P. | 0.00 | | | -21.28 | | | 0.3 | 0.0 | 3.8 | 19.7 | OK |
| 18 | 2.00 | 572 | 1830 | | | 20.96 | 203.62 | 0.05 | -82.93 | -623.43 | 0.08 | | | | | |
| | | | | | S.L.E. Rare | 0.00 | | | -48.22 | | | 0.7 | 0.0 | 2.8 | 26.9 | |
| | | | | | S.L.E. Freq. | 0.00 | | | -40.08 | | | 0.6 | 0.0 | 2.3 | 22.3 | OK |
| | | | | | S.L.E. Q.P. | 0.00 | | | -35.41 | | | 0.5 | 0.0 | 2.1 | 19.7 | OK |
| Trave di fondazione Sez. 1 Rett. 600x1000 [mm] TRAVI FONDAZIONE RETT | | | | | | | | | | | | | | | | |
| 18 | 0.13 | 572 | 1830 | | | 20.62 | 203.62 | 0.05 | -81.60 | -623.43 | 0.08 | | | | | |
| | | | | | S.L.E. Rare | 0.00 | | | -46.65 | | | 0.7 | 0.0 | 2.7 | 26.0 | |
| | | | | | S.L.E. Freq. | 0.00 | | | -39.29 | | | 0.6 | 0.0 | 2.3 | 21.9 | OK |
| | | | | | S.L.E. Q.P. | 0.00 | | | -34.69 | | | 0.5 | 0.0 | 2.0 | 19.3 | OK |
| Camp. | 1.06 | 1206 | 1206 | | | 0.00 | 420.55 | 0.06 | -63.22 | -420.55 | 0.06 | | | | | |
| | | | | | S.L.E. Rare | 0.00 | | | -26.66 | | | 0.4 | 0.0 | 4.8 | 24.7 | |
| | | | | | S.L.E. Freq. | 0.00 | | | -23.10 | | | 0.4 | 0.0 | 4.1 | 21.4 | OK |
| | | | | | S.L.E. Q.P. | 0.00 | | | -20.84 | | | 0.3 | 0.0 | 3.7 | 19.3 | OK |
| 19 | 2.00 | 663 | 918 | | | 20.62 | 234.51 | 0.05 | -33.22 | -321.23 | 0.05 | | | | | |
| | | | | | S.L.E. Rare | 0.00 | | | -11.74 | | | 0.2 | 0.0 | 1.3 | 10.9 | |
| | | | | | S.L.E. Freq. | 0.00 | | | -10.47 | | | 0.2 | 0.0 | 1.2 | 9.7 | OK |
| | | | | | S.L.E. Q.P. | 0.00 | | | -9.64 | | | 0.2 | 0.0 | 1.1 | 8.9 | OK |

| Trave di fondazione Sez. 5 Rett. 400x400 [mm] TRAVI COLL. FONDAZIONE | | | | | | | | | | | | | | | | |
|---|------|------|------|--------------|-------|-------|---------|------|--------|---------|------|-----|-----|-------|------|----|
| 19 | 0.12 | 603 | 402 | | | 4.07 | 74.70 | 0.14 | -15.69 | -50.62 | 0.12 | | | | | |
| | | | | S.L.E. Rare | 0.00 | | | | -8.61 | | | 1.3 | 0.0 | 8.6 | 66.2 | |
| | | | | S.L.E. Freq. | 0.00 | | | | -7.74 | | | 1.2 | 0.0 | 7.7 | 59.5 | OK |
| | | | | S.L.E. Q.P. | 0.00 | | | | -7.11 | | | 1.1 | 0.0 | 7.1 | 54.7 | OK |
| Camp. | 5.05 | 603 | 402 | | | 0.64 | 74.70 | 0.14 | -1.75 | -50.62 | 0.12 | | | | | |
| | | | | S.L.E. Rare | 0.00 | | | | -1.07 | | | 0.2 | 0.0 | 1.1 | 8.2 | |
| | | | | S.L.E. Freq. | 0.33 | | | | -0.18 | | | 0.0 | 0.0 | 1.7 | 1.4 | OK |
| | | | | S.L.E. Q.P. | 0.33 | | | | 0.00 | | | 0.0 | 0.0 | 1.7 | 0.4 | OK |
| 20 | 9.98 | 472 | 506 | | | 24.15 | 59.13 | 0.12 | 0.00 | -63.18 | 0.13 | | | | | |
| | | | | S.L.E. Rare | 16.82 | | | | 0.00 | | | 0.0 | 2.5 | 110.7 | 17.6 | |
| | | | | S.L.E. Freq. | 8.72 | | | | 0.00 | | | 0.0 | 1.3 | 57.4 | 9.1 | OK |
| | | | | S.L.E. Q.P. | 3.62 | | | | 0.00 | | | 0.0 | 0.5 | 23.8 | 3.8 | OK |
| Trave di fondazione Sez. 2 a Tr 1000x1500x500x400 [mm] TRAVI FONDAZIONE A T | | | | | | | | | | | | | | | | |
| 20 | 0.13 | 1456 | 1923 | | | 47.98 | 789.72 | 0.03 | -0.06 | 1018.98 | 0.05 | | | | | |
| | | | | S.L.E. Rare | 19.89 | | | | 0.00 | | | 0.0 | 0.1 | 7.1 | 1.3 | |
| | | | | S.L.E. Freq. | 9.94 | | | | 0.00 | | | 0.0 | 0.1 | 3.6 | 0.7 | OK |
| | | | | S.L.E. Q.P. | 3.58 | | | | 0.00 | | | 0.0 | 0.0 | 1.3 | 0.2 | OK |
| Camp. | 1.06 | 2011 | 1923 | | | 76.15 | 1081.87 | 0.04 | -6.75 | 1024.54 | 0.04 | | | | | |
| | | | | S.L.E. Rare | 37.03 | | | | 0.00 | | | 0.0 | 0.2 | 13.4 | 2.2 | |
| | | | | S.L.E. Freq. | 17.50 | | | | 0.00 | | | 0.0 | 0.1 | 6.3 | 1.1 | OK |
| | | | | S.L.E. Q.P. | 4.11 | | | | 0.00 | | | 0.0 | 0.0 | 1.5 | 0.2 | OK |
| 21 | 2.00 | 1346 | 1923 | | | 82.11 | 731.74 | 0.03 | -11.58 | 1017.78 | 0.05 | | | | | |
| | | | | S.L.E. Rare | 55.24 | | | | 0.00 | | | 0.0 | 0.3 | 19.8 | 3.8 | |
| | | | | S.L.E. Freq. | 24.56 | | | | -1.59 | | | 0.0 | 0.1 | 8.8 | 1.7 | OK |
| | | | | S.L.E. Q.P. | 1.79 | | | | 0.00 | | | 0.0 | 0.0 | 0.6 | 0.1 | OK |

| Da | A | Dx | VSd | Vrd _c | VRd _{max} | Vrd _s | TSd | Trd1 | Trd2 | Staffe |
|---|------|------|---------|------------------|--------------------|------------------|-------|----------|----------|-----------------|
| [m] | [m] | [m] | [N] | [N] | [N] | [N] | [kNm] | [kNm] | [kNm] | |
| Trave di fondazione 15 16 Sez. 1 Rett. 600x1000 [mm] TRAVI FONDAZIONE RETT | | | | | | | | | | |
| 0.13 | 2.13 | 1.99 | 33633.9 | 176608.1 | 1832651.7 | 338462.1 | 103.2 | 422406.8 | 131843.0 | ø 8 2br. 100.0' |
| Trave di fondazione 16 17 Sez. 5 Rett. 400x400 [mm] TRAVI COLL. FONDAZIONE | | | | | | | | | | |
| 0.12 | 9.98 | 9.85 | 23663.4 | 60989.5 | 454967.9 | 100830.5 | 45.2 | 60495.7 | 28323.2 | ø 8 2br. 125.0' |
| Trave di fondazione 17 18 Sez. 1 Rett. 600x1000 [mm] TRAVI FONDAZIONE RETT | | | | | | | | | | |
| 0.13 | 2.13 | 1.99 | 47964.3 | 176608.1 | 1832651.7 | 338462.1 | 89.1 | 422406.8 | 131843.0 | ø 8 2br. 100.0' |
| Trave di fondazione 18 19 Sez. 1 Rett. 600x1000 [mm] TRAVI FONDAZIONE RETT | | | | | | | | | | |
| 0.13 | 2.13 | 1.99 | 47230.2 | 176608.1 | 1832651.7 | 338462.1 | 132.6 | 422406.8 | 131843.0 | ø 8 2br. 100.0' |
| Trave di fondazione 19 20 Sez. 5 Rett. 400x400 [mm] TRAVI COLL. FONDAZIONE | | | | | | | | | | |
| 0.12 | 9.98 | 9.85 | 21622.5 | 60404.0 | 454967.9 | 100830.5 | 77.9 | 60495.7 | 28323.2 | ø 8 2br. 125.0' |
| Trave di fondazione 20 21 Sez. 2 a Tr 1000x1500x500x400 [mm] TRAVI FONDAZIONE A T | | | | | | | | | | |
| 0.13 | 2.13 | 1.99 | 32993.7 | 204022.0 | 2311218.3 | 412385.7 | 107.0 | 132393.4 | 54757.2 | ø 8 2br. 125.0' |

- Travata: 101 Travata 22 23 24 25 26 27 28

| Nodo | x | A _{fe} | A _{fi} | q _T | M _{rif} | M _{de} | M _{re} | x/d | M _{di} | M _{ri} | x/d | σ _{be} | σ _{bi} | σ _{fe} | σ _{fi} | w |
|--|------|--------------------|--------------------|----------------|------------------|-----------------|-----------------|------|-----------------|-----------------|------|-----------------|-----------------|-----------------|-----------------|----|
| | [m] | [mm ²] | [mm ²] | [N/m] | [kNm] | [kNm] | [kNm] | | [kNm] | [kNm] | | [MPa] | [MPa] | [MPa] | [MPa] | mm |
| Trave di fondazione Sez. 1 Rett. 600x1000 [mm] TRAVI FONDAZIONE RETT | | | | | | | | | | | | | | | | |
| 22 | 0.13 | 779 | 1131 | | | 83.43 | 274.35 | 0.05 | -8.14 | -393.38 | 0.06 | | | | | |
| | | | | S.L.E. Rare | 56.43 | | | | 0.00 | | | 0.0 | 1.1 | 49.2 | 10.5 | |

| | | | | | | | | | | | | | | | |
|---|------|------|------|--------------|-------|-------|--------|--------|--------|---------|------|-----|-------|------|----|
| | | | | S.L.E. Freq. | 26.23 | | | 0.00 | | | 0.0 | 0.5 | 22.9 | 4.9 | OK |
| | | | | S.L.E. Q.P. | 4.90 | | | 0.00 | | | 0.0 | 0.1 | 4.3 | 0.9 | OK |
| Camp. | 1.06 | 1272 | 1206 | | | 73.84 | 442.31 | 0.06 | 0.00 | -420.66 | 0.06 | | | | |
| | | | | S.L.E. Rare | 41.84 | | | 0.00 | | | 0.0 | 0.6 | 36.9 | 7.4 | |
| | | | | S.L.E. Freq. | 21.14 | | | 0.00 | | | 0.0 | 0.3 | 18.6 | 3.7 | OK |
| | | | | S.L.E. Q.P. | 7.56 | | | 0.00 | | | 0.0 | 0.1 | 6.7 | 1.3 | OK |
| 23 | 2.00 | 622 | 1030 | | | 48.89 | 220.07 | 0.05 | 0.00 | -358.97 | 0.05 | | | | |
| | | | | S.L.E. Rare | 25.17 | | | 0.00 | | | 0.0 | 0.5 | 21.8 | 4.5 | |
| | | | | S.L.E. Freq. | 13.70 | | | 0.00 | | | 0.0 | 0.3 | 11.9 | 2.5 | OK |
| | | | | S.L.E. Q.P. | 6.66 | | | 0.00 | | | 0.0 | 0.1 | 5.8 | 1.2 | OK |
| Trave di fondazione Sez. 5 Rett. 400x400 [mm] TRAVI COLL. FONDAZIONE | | | | | | | | | | | | | | | |
| 23 | 0.12 | 603 | 402 | | | 30.61 | 74.70 | 0.14 | 0.00 | -50.62 | 0.12 | | | | |
| | | | | S.L.E. Rare | 21.49 | | | 0.00 | | | 0.0 | 2.9 | 111.6 | 23.5 | |
| | | | | S.L.E. Freq. | 12.07 | | | 0.00 | | | 0.0 | 1.6 | 62.7 | 13.2 | OK |
| | | | | S.L.E. Q.P. | 6.38 | | | 0.00 | | | 0.0 | 0.9 | 33.2 | 7.0 | OK |
| Camp. | 5.05 | 603 | 402 | | | 0.36 | 74.70 | 0.14 | -2.10 | -50.62 | 0.12 | | | | |
| | | | | S.L.E. Rare | 0.00 | | | -1.33 | | | 0.2 | 0.0 | 1.3 | 10.2 | |
| | | | | S.L.E. Freq. | 0.21 | | | -0.41 | | | 0.1 | 0.0 | 1.1 | 3.1 | OK |
| | | | | S.L.E. Q.P. | 0.20 | | | 0.00 | | | 0.0 | 0.0 | 1.0 | 0.2 | OK |
| 24 | 9.98 | 472 | 467 | | | 4.18 | 59.13 | 0.12 | -16.10 | -58.48 | 0.12 | | | | |
| | | | | S.L.E. Rare | 0.00 | | | -9.77 | | | 1.4 | 0.0 | 10.4 | 65.0 | |
| | | | | S.L.E. Freq. | 0.00 | | | -7.85 | | | 1.2 | 0.0 | 8.3 | 52.2 | OK |
| | | | | S.L.E. Q.P. | 0.00 | | | -7.21 | | | 1.1 | 0.0 | 7.6 | 47.9 | OK |
| Trave di fondazione Sez. 1 Rett. 600x1000 [mm] TRAVI FONDAZIONE RETT | | | | | | | | | | | | | | | |
| 24 | 0.13 | 622 | 918 | | | 20.95 | 219.94 | 0.04 | -33.94 | -321.05 | 0.05 | | | | |
| | | | | S.L.E. Rare | 0.00 | | | -13.28 | | | 0.2 | 0.0 | 1.3 | 12.3 | |
| | | | | S.L.E. Freq. | 0.00 | | | -10.59 | | | 0.2 | 0.0 | 1.1 | 9.8 | OK |
| | | | | S.L.E. Q.P. | 0.00 | | | -9.76 | | | 0.2 | 0.0 | 1.0 | 9.0 | OK |
| Camp. | 1.06 | 1272 | 1206 | | | 0.00 | 442.31 | 0.06 | -64.34 | -420.66 | 0.06 | | | | |
| | | | | S.L.E. Rare | 0.00 | | | -30.52 | | | 0.5 | 0.0 | 5.4 | 28.3 | |
| | | | | S.L.E. Freq. | 0.00 | | | -23.26 | | | 0.4 | 0.0 | 4.1 | 21.6 | OK |
| | | | | S.L.E. Q.P. | 0.00 | | | -21.03 | | | 0.3 | 0.0 | 3.7 | 19.5 | OK |
| 25 | 2.00 | 536 | 1830 | | | 20.95 | 190.89 | 0.05 | -82.88 | -623.02 | 0.08 | | | | |
| | | | | S.L.E. Rare | 0.00 | | | -54.12 | | | 0.8 | 0.0 | 2.8 | 30.2 | |
| | | | | S.L.E. Freq. | 0.00 | | | -39.42 | | | 0.6 | 0.0 | 2.0 | 22.0 | OK |
| | | | | S.L.E. Q.P. | 0.00 | | | -34.91 | | | 0.5 | 0.0 | 1.8 | 19.5 | OK |
| Trave di fondazione Sez. 1 Rett. 600x1000 [mm] TRAVI FONDAZIONE RETT | | | | | | | | | | | | | | | |
| 25 | 0.13 | 536 | 1830 | | | 20.63 | 190.89 | 0.05 | -81.61 | -623.02 | 0.08 | | | | |
| | | | | S.L.E. Rare | 0.00 | | | -52.76 | | | 0.8 | 0.0 | 2.7 | 29.4 | |
| | | | | S.L.E. Freq. | 0.00 | | | -38.67 | | | 0.6 | 0.0 | 2.0 | 21.6 | OK |
| | | | | S.L.E. Q.P. | 0.00 | | | -34.24 | | | 0.5 | 0.0 | 1.8 | 19.1 | OK |
| Camp. | 1.06 | 1272 | 1206 | | | 0.00 | 442.31 | 0.06 | -63.33 | -420.66 | 0.06 | | | | |
| | | | | S.L.E. Rare | 0.00 | | | -29.68 | | | 0.5 | 0.0 | 5.2 | 27.5 | |
| | | | | S.L.E. Freq. | 0.00 | | | -22.80 | | | 0.4 | 0.0 | 4.0 | 21.2 | OK |
| | | | | S.L.E. Q.P. | 0.00 | | | -20.62 | | | 0.3 | 0.0 | 3.6 | 19.1 | OK |
| 26 | 2.00 | 622 | 918 | | | 20.63 | 219.94 | 0.04 | -33.39 | -321.05 | 0.05 | | | | |
| | | | | S.L.E. Rare | 0.00 | | | -12.87 | | | 0.2 | 0.0 | 1.3 | 11.9 | |
| | | | | S.L.E. Freq. | 0.00 | | | -10.36 | | | 0.2 | 0.0 | 1.0 | 9.6 | OK |
| | | | | S.L.E. Q.P. | 0.00 | | | -9.55 | | | 0.2 | 0.0 | 1.0 | 8.8 | OK |
| Trave di fondazione Sez. 5 Rett. 400x400 [mm] TRAVI COLL. FONDAZIONE | | | | | | | | | | | | | | | |
| 26 | 0.12 | 402 | 402 | | | 4.10 | 50.64 | 0.12 | -15.82 | -50.64 | 0.12 | | | | |
| | | | | S.L.E. Rare | 0.00 | | | -9.45 | | | 1.5 | 0.0 | 10.1 | 72.7 | |
| | | | | S.L.E. Freq. | 0.00 | | | -7.69 | | | 1.2 | 0.0 | 8.2 | 59.1 | OK |
| | | | | S.L.E. Q.P. | 0.00 | | | -7.05 | | | 1.1 | 0.0 | 7.6 | 54.2 | OK |
| Camp. | 5.05 | 402 | 402 | | | 0.55 | 50.64 | 0.12 | -1.47 | -50.64 | 0.12 | | | | |

| | | | | | | | | | | | | | | | | |
|--|------|------|------|--------------|-------|-------|---------|------|--------|---------|------|-----|-----|-------|------|----|
| | | | | S.L.E. Rare | 0.00 | | | | -0.89 | | | 0.1 | 0.0 | 1.0 | 6.8 | |
| | | | | S.L.E. Freq. | 0.32 | | | | -0.10 | | | 0.0 | 0.1 | 2.4 | 0.8 | OK |
| | | | | S.L.E. Q.P. | 0.31 | | | | 0.00 | | | 0.0 | 0.0 | 2.4 | 0.3 | OK |
| 27 | 9.98 | 449 | 506 | | | 24.41 | 56.31 | 0.12 | 0.00 | -63.18 | 0.13 | | | | | |
| | | | | S.L.E. Rare | 17.02 | | | | 0.00 | | | 0.0 | 2.5 | 117.6 | 17.8 | |
| | | | | S.L.E. Freq. | 8.92 | | | | 0.00 | | | 0.0 | 1.3 | 61.6 | 9.3 | OK |
| | | | | S.L.E. Q.P. | 3.92 | | | | 0.00 | | | 0.0 | 0.6 | 27.1 | 4.1 | OK |
| Trave di fondazione Sez. 2 a Tr 1000x1500x500x400 [mm] TRAVI FONDAZIONE A T | | | | | | | | | | | | | | | | |
| 27 | 0.13 | 1456 | 1923 | | | 47.87 | 789.72 | 0.03 | 0.00 | 1018.98 | 0.05 | | | | | |
| | | | | S.L.E. Rare | 20.08 | | | | 0.00 | | | 0.0 | 0.1 | 7.2 | 1.3 | |
| | | | | S.L.E. Freq. | 10.16 | | | | 0.00 | | | 0.0 | 0.1 | 3.6 | 0.7 | OK |
| | | | | S.L.E. Q.P. | 3.95 | | | | 0.00 | | | 0.0 | 0.0 | 1.4 | 0.3 | OK |
| Camp. | 1.06 | 2011 | 1923 | | | 74.61 | 1081.87 | 0.04 | -6.26 | 1024.54 | 0.04 | | | | | |
| | | | | S.L.E. Rare | 36.86 | | | | 0.00 | | | 0.0 | 0.2 | 13.3 | 2.2 | |
| | | | | S.L.E. Freq. | 17.65 | | | | 0.00 | | | 0.0 | 0.1 | 6.4 | 1.1 | OK |
| | | | | S.L.E. Q.P. | 4.85 | | | | 0.00 | | | 0.0 | 0.0 | 1.8 | 0.3 | OK |
| 28 | 2.00 | 1346 | 1923 | | | 79.99 | 731.74 | 0.03 | -10.96 | 1017.78 | 0.05 | | | | | |
| | | | | S.L.E. Rare | 53.93 | | | | 0.00 | | | 0.0 | 0.3 | 19.3 | 3.7 | |
| | | | | S.L.E. Freq. | 24.27 | | | | -0.63 | | | 0.0 | 0.1 | 8.7 | 1.7 | OK |
| | | | | S.L.E. Q.P. | 2.98 | | | | 0.00 | | | 0.0 | 0.0 | 1.1 | 0.2 | OK |

| Da | A | Dx | VSD | Vrd _c | VRd _{max} | Vrd _s | TSd | Trd1 | Trd2 | Staffe |
|--|------|------|---------|------------------|--------------------|------------------|-------|----------|----------|-----------------|
| [m] | [m] | [m] | [N] | [N] | [N] | [N] | [kNm] | [kNm] | [kNm] | |
| Trave di fondazione 22 23 Sez. 1 Rett. 600x1000 [mm] TRAVI FONDAZIONE RETT | | | | | | | | | | |
| 0.13 | 2.13 | 1.99 | 29320.7 | 176608.1 | 1832651.7 | 338462.1 | 44.0 | 422406.8 | 131843.0 | ø 8 2br. 100.0' |
| Trave di fondazione 23 24 Sez. 5 Rett. 400x400 [mm] TRAVI COLL. FONDAZIONE | | | | | | | | | | |
| 0.12 | 9.98 | 9.85 | 22200.8 | 60404.0 | 454967.9 | 100830.5 | 47.5 | 60495.7 | 28323.2 | ø 8 2br. 125.0' |
| Trave di fondazione 24 25 Sez. 1 Rett. 600x1000 [mm] TRAVI FONDAZIONE RETT | | | | | | | | | | |
| 0.13 | 2.13 | 1.99 | 46685.1 | 176608.1 | 1832651.7 | 338462.1 | 89.8 | 422406.8 | 131843.0 | ø 8 2br. 100.0' |
| Trave di fondazione 25 26 Sez. 1 Rett. 600x1000 [mm] TRAVI FONDAZIONE RETT | | | | | | | | | | |
| 0.13 | 2.13 | 1.99 | 45979.5 | 176608.1 | 1832651.7 | 338462.1 | 111.3 | 422406.8 | 131843.0 | ø 8 2br. 100.0' |
| Trave di fondazione 26 27 Sez. 5 Rett. 400x400 [mm] TRAVI COLL. FONDAZIONE | | | | | | | | | | |
| 0.12 | 9.98 | 9.85 | 21685.1 | 57667.4 | 454967.9 | 100830.5 | 69.1 | 60495.7 | 28323.2 | ø 8 2br. 125.0' |
| Trave di fondazione 27 28 Sez. 2 a Tr 1000x1500x500x400 [mm] TRAVI FONDAZIONE A T | | | | | | | | | | |
| 0.13 | 2.13 | 1.99 | 31680.7 | 204022.0 | 2311218.3 | 412385.7 | 51.3 | 132393.4 | 54757.2 | ø 8 2br. 125.0' |

- Travata: 102 Travata 29 30 31 32 33 34 35

| Nodo | x | A _{fe} | A _{fi} | q _T | M _{rif} | M _{de} | M _{re} | x/d | M _{di} | M _{ri} | x/d | σ _{be} | σ _{bi} | σ _{fe} | σ _{fi} | w |
|---|--------------------|--------------------|-----------------|----------------|------------------|-----------------|-----------------|------|-----------------|-----------------|------|-----------------|-----------------|-----------------|-----------------|----|
| [m] | [mm ²] | [mm ²] | [N/m] | [kNm] | [kNm] | [kNm] | [kNm] | | [kNm] | [kNm] | | [MPa] | [MPa] | [MPa] | [MPa] | mm |
| Trave di fondazione Sez. 1 Rett. 600x1000 [mm] TRAVI FONDAZIONE RETT | | | | | | | | | | | | | | | | |
| 29 | 0.13 | 779 | 1131 | | | 86.08 | 274.35 | 0.05 | -8.28 | -393.38 | 0.06 | | | | | |
| | | | | S.L.E. Rare | 58.11 | | | | 0.00 | | | 0.0 | 1.1 | 50.6 | 10.8 | |
| | | | | S.L.E. Freq. | 26.80 | | | | 0.00 | | | 0.0 | 0.5 | 23.4 | 5.0 | OK |
| | | | | S.L.E. Q.P. | 4.00 | | | | 0.00 | | | 0.0 | 0.1 | 3.5 | 0.7 | OK |
| Camp. | 1.06 | 1272 | 1206 | | | 75.85 | 442.31 | 0.06 | 0.00 | -420.66 | 0.06 | | | | | |
| | | | | S.L.E. Rare | 42.78 | | | | 0.00 | | | 0.0 | 0.7 | 37.7 | 7.6 | |
| | | | | S.L.E. Freq. | 21.43 | | | | 0.00 | | | 0.0 | 0.3 | 18.9 | 3.8 | OK |
| | | | | S.L.E. Q.P. | 7.03 | | | | 0.00 | | | 0.0 | 0.1 | 6.2 | 1.2 | OK |
| 30 | 2.00 | 622 | 1030 | | | 49.90 | 220.07 | 0.05 | 0.00 | -358.97 | 0.05 | | | | | |

| | | | | | | | | | | | | | | | | |
|---|------|------|------|--------------|-------|-------|--------|------|--------|---------|------|-----|-----|-------|------|----|
| | | | | S.L.E. Rare | 25.59 | | | | 0.00 | | | 0.0 | 0.5 | 22.2 | 4.6 | |
| | | | | S.L.E. Freq. | 13.82 | | | | 0.00 | | | 0.0 | 0.3 | 12.0 | 2.5 | OK |
| | | | | S.L.E. Q.P. | 6.41 | | | | 0.00 | | | 0.0 | 0.1 | 5.6 | 1.2 | OK |
| Trave di fondazione Sez. 5 Rett. 400x400 [mm] TRAVI COLL. FONDAZIONE | | | | | | | | | | | | | | | | |
| 30 | 0.12 | 603 | 402 | | | 31.09 | 74.70 | 0.14 | 0.00 | -50.62 | 0.12 | | | | | |
| | | | | S.L.E. Rare | 21.80 | | | | 0.00 | | | 0.0 | 3.0 | 113.3 | 23.8 | |
| | | | | S.L.E. Freq. | 12.15 | | | | 0.00 | | | 0.0 | 1.6 | 63.2 | 13.3 | OK |
| | | | | S.L.E. Q.P. | 6.18 | | | | 0.00 | | | 0.0 | 0.8 | 32.1 | 6.8 | OK |
| Camp. | 5.05 | 603 | 402 | | | 1.03 | 74.70 | 0.14 | -2.11 | -50.62 | 0.12 | | | | | |
| | | | | S.L.E. Rare | 0.00 | | | | -1.33 | | | 0.2 | 0.0 | 1.3 | 10.2 | |
| | | | | S.L.E. Freq. | 0.22 | | | | -0.40 | | | 0.1 | 0.0 | 1.2 | 3.1 | OK |
| | | | | S.L.E. Q.P. | 0.22 | | | | 0.00 | | | 0.0 | 0.0 | 1.1 | 0.2 | OK |
| 31 | 9.98 | 472 | 467 | | | 5.78 | 59.13 | 0.12 | -19.08 | -58.48 | 0.12 | | | | | |
| | | | | S.L.E. Rare | 0.00 | | | | -10.03 | | | 1.5 | 0.0 | 10.6 | 66.7 | |
| | | | | S.L.E. Freq. | 0.00 | | | | -7.93 | | | 1.2 | 0.0 | 8.4 | 52.7 | OK |
| | | | | S.L.E. Q.P. | 0.00 | | | | -7.28 | | | 1.1 | 0.0 | 7.7 | 48.5 | OK |
| Trave di fondazione Sez. 1 Rett. 600x1000 [mm] TRAVI FONDAZIONE RETT | | | | | | | | | | | | | | | | |
| 31 | 0.13 | 622 | 918 | | | 20.95 | 219.94 | 0.04 | -33.79 | -321.05 | 0.05 | | | | | |
| | | | | S.L.E. Rare | 0.00 | | | | -13.66 | | | 0.3 | 0.0 | 1.4 | 12.6 | |
| | | | | S.L.E. Freq. | 0.00 | | | | -10.72 | | | 0.2 | 0.0 | 1.1 | 9.9 | OK |
| | | | | S.L.E. Q.P. | 0.00 | | | | -9.86 | | | 0.2 | 0.0 | 1.0 | 9.1 | OK |
| Camp. | 1.06 | 1272 | 1206 | | | 0.00 | 442.31 | 0.06 | -64.24 | -420.66 | 0.06 | | | | | |
| | | | | S.L.E. Rare | 0.00 | | | | -31.51 | | | 0.5 | 0.0 | 5.6 | 29.2 | |
| | | | | S.L.E. Freq. | 0.00 | | | | -23.62 | | | 0.4 | 0.0 | 4.2 | 21.9 | OK |
| | | | | S.L.E. Q.P. | 0.00 | | | | -21.31 | | | 0.3 | 0.0 | 3.8 | 19.8 | OK |
| 32 | 2.00 | 536 | 1830 | | | 20.95 | 190.89 | 0.05 | -82.88 | -623.02 | 0.08 | | | | | |
| | | | | S.L.E. Rare | 0.00 | | | | -56.08 | | | 0.8 | 0.0 | 2.9 | 31.3 | |
| | | | | S.L.E. Freq. | 0.00 | | | | -40.14 | | | 0.6 | 0.0 | 2.1 | 22.4 | OK |
| | | | | S.L.E. Q.P. | 0.00 | | | | -35.46 | | | 0.5 | 0.0 | 1.8 | 19.8 | OK |
| Trave di fondazione Sez. 1 Rett. 600x1000 [mm] TRAVI FONDAZIONE RETT | | | | | | | | | | | | | | | | |
| 32 | 0.13 | 536 | 1830 | | | 20.65 | 190.89 | 0.05 | -81.68 | -623.02 | 0.08 | | | | | |
| | | | | S.L.E. Rare | 0.00 | | | | -54.42 | | | 0.8 | 0.0 | 2.8 | 30.3 | |
| | | | | S.L.E. Freq. | 0.00 | | | | -39.31 | | | 0.6 | 0.0 | 2.0 | 21.9 | OK |
| | | | | S.L.E. Q.P. | 0.00 | | | | -34.72 | | | 0.5 | 0.0 | 1.8 | 19.4 | OK |
| Camp. | 1.06 | 1272 | 1206 | | | 0.00 | 442.31 | 0.06 | -63.27 | -420.66 | 0.06 | | | | | |
| | | | | S.L.E. Rare | 0.00 | | | | -30.49 | | | 0.5 | 0.0 | 5.4 | 28.3 | |
| | | | | S.L.E. Freq. | 0.00 | | | | -23.11 | | | 0.4 | 0.0 | 4.1 | 21.4 | OK |
| | | | | S.L.E. Q.P. | 0.00 | | | | -20.85 | | | 0.3 | 0.0 | 3.7 | 19.3 | OK |
| 33 | 2.00 | 622 | 918 | | | 20.65 | 219.94 | 0.04 | -33.24 | -321.05 | 0.05 | | | | | |
| | | | | S.L.E. Rare | 0.00 | | | | -13.16 | | | 0.2 | 0.0 | 1.3 | 12.2 | |
| | | | | S.L.E. Freq. | 0.00 | | | | -10.48 | | | 0.2 | 0.0 | 1.0 | 9.7 | OK |
| | | | | S.L.E. Q.P. | 0.00 | | | | -9.64 | | | 0.2 | 0.0 | 1.0 | 8.9 | OK |
| Trave di fondazione Sez. 5 Rett. 400x400 [mm] TRAVI COLL. FONDAZIONE | | | | | | | | | | | | | | | | |
| 33 | 0.12 | 402 | 402 | | | 4.07 | 50.64 | 0.12 | -15.69 | -50.64 | 0.12 | | | | | |
| | | | | S.L.E. Rare | 0.00 | | | | -9.64 | | | 1.5 | 0.0 | 10.3 | 74.1 | |
| | | | | S.L.E. Freq. | 0.00 | | | | -7.74 | | | 1.2 | 0.0 | 8.3 | 59.5 | OK |
| | | | | S.L.E. Q.P. | 0.00 | | | | -7.11 | | | 1.1 | 0.0 | 7.6 | 54.6 | OK |
| Camp. | 5.05 | 402 | 402 | | | 0.60 | 50.64 | 0.12 | -1.39 | -50.64 | 0.12 | | | | | |
| | | | | S.L.E. Rare | 0.00 | | | | -0.83 | | | 0.1 | 0.0 | 0.9 | 6.4 | |
| | | | | S.L.E. Freq. | 0.34 | | | | -0.06 | | | 0.0 | 0.1 | 2.6 | 0.5 | OK |
| | | | | S.L.E. Q.P. | 0.34 | | | | 0.00 | | | 0.0 | 0.1 | 2.6 | 0.4 | OK |
| 34 | 9.98 | 449 | 506 | | | 24.03 | 56.31 | 0.12 | 0.00 | -63.18 | 0.13 | | | | | |
| | | | | S.L.E. Rare | 16.72 | | | | 0.00 | | | 0.0 | 2.5 | 115.6 | 17.5 | |
| | | | | S.L.E. Freq. | 8.67 | | | | 0.00 | | | 0.0 | 1.3 | 59.9 | 9.1 | OK |
| | | | | S.L.E. Q.P. | 3.61 | | | | 0.00 | | | 0.0 | 0.5 | 25.0 | 3.8 | OK |

| Trave di fondazione Sez. 2 a Tr 1000x1500x500x400 [mm] TRAVI FONDAZIONE A T | | | | | | | | | | | | | |
|---|------|------|------|--------------|--|-------|---------|------|--------|---------|------|-----|----------------|
| 34 | 0.13 | 1456 | 1923 | | | 46.70 | 789.72 | 0.03 | -0.06 | 1018.98 | 0.05 | | |
| | | | | S.L.E. Rare | | 19.69 | | | 0.00 | | | 0.0 | 0.1 7.1 1.3 |
| | | | | S.L.E. Freq. | | 9.84 | | | 0.00 | | | 0.0 | 0.1 3.5 0.7 OK |
| | | | | S.L.E. Q.P. | | 3.57 | | | 0.00 | | | 0.0 | 0.0 1.3 0.2 OK |
| Camp. | 1.06 | 2011 | 1923 | | | 72.02 | 1081.87 | 0.04 | -6.76 | 1024.54 | 0.04 | | |
| | | | | S.L.E. Rare | | 35.82 | | | 0.00 | | | 0.0 | 0.2 12.9 2.2 |
| | | | | S.L.E. Freq. | | 16.89 | | | 0.00 | | | 0.0 | 0.1 6.1 1.0 OK |
| | | | | S.L.E. Q.P. | | 4.10 | | | 0.00 | | | 0.0 | 0.0 1.5 0.2 OK |
| 35 | 2.00 | 1346 | 1923 | | | 76.93 | 731.74 | 0.03 | -11.60 | 1017.78 | 0.05 | | |
| | | | | S.L.E. Rare | | 51.79 | | | 0.00 | | | 0.0 | 0.3 18.5 3.5 |
| | | | | S.L.E. Freq. | | 22.83 | | | -1.61 | | | 0.0 | 0.1 8.2 1.6 OK |
| | | | | S.L.E. Q.P. | | 1.77 | | | 0.00 | | | 0.0 | 0.0 0.6 0.1 OK |

| Da | A | Dx | VSd | Vrd _c | VRd _{max} | Vrd _s | TSd | Trd1 | Trd2 | Staffe |
|---|------|------|---------|------------------|--------------------|------------------|-------|----------|----------|-----------------|
| [m] | [m] | [m] | [N] | [N] | [N] | [N] | [kNm] | [kNm] | [kNm] | |
| Trave di fondazione 29 30 Sez. 1 Rett. 600x1000 [mm] TRAVI FONDAZIONE RETT | | | | | | | | | | |
| 0.13 | 2.13 | 1.99 | 30376.5 | 176608.1 | 1832651.7 | 338462.1 | 61.7 | 422406.8 | 131843.0 | ø 8 2br. 100.0' |
| Trave di fondazione 30 31 Sez. 5 Rett. 400x400 [mm] TRAVI COLL. FONDAZIONE | | | | | | | | | | |
| 0.12 | 9.98 | 9.85 | 22798.2 | 60404.0 | 454967.9 | 100830.5 | 38.8 | 60495.7 | 28323.2 | ø 8 2br. 125.0' |
| Trave di fondazione 31 32 Sez. 1 Rett. 600x1000 [mm] TRAVI FONDAZIONE RETT | | | | | | | | | | |
| 0.13 | 2.13 | 1.99 | 48018.6 | 176608.1 | 1832651.7 | 338462.1 | 67.6 | 422406.8 | 131843.0 | ø 8 2br. 100.0' |
| Trave di fondazione 32 33 Sez. 1 Rett. 600x1000 [mm] TRAVI FONDAZIONE RETT | | | | | | | | | | |
| 0.13 | 2.13 | 1.99 | 47242.6 | 176608.1 | 1832651.7 | 338462.1 | 86.7 | 422406.8 | 131843.0 | ø 8 2br. 100.0' |
| Trave di fondazione 33 34 Sez. 5 Rett. 400x400 [mm] TRAVI COLL. FONDAZIONE | | | | | | | | | | |
| 0.12 | 9.98 | 9.85 | 21636.6 | 57667.4 | 454967.9 | 100830.5 | 57.7 | 60495.7 | 28323.2 | ø 8 2br. 125.0' |
| Trave di fondazione 34 35 Sez. 2 a Tr 1000x1500x500x400 [mm] TRAVI FONDAZIONE A T | | | | | | | | | | |
| 0.13 | 2.13 | 1.99 | 30256.5 | 204022.0 | 2311218.3 | 412385.7 | 83.1 | 132393.4 | 54757.2 | ø 8 2br. 125.0' |

- Travata: 103 Travata 36 37 38 39 40 41 42

| Nodo | x | A _{fe} | A _{fi} | q _T | M _{rif} | M _{de} | M _{re} | x/d | M _{di} | M _{ri} | x/d | σ _{be} | σ _{bi} | σ _{fe} | σ _{fi} | w |
|--|--------------------|--------------------|-----------------|----------------|------------------|-----------------|-----------------|------|-----------------|-----------------|------|-----------------|-----------------|-----------------|-----------------|----|
| [m] | [mm ²] | [mm ²] | [N/m] | [kNm] | [kNm] | [kNm] | [kNm] | | [kNm] | [kNm] | | [MPa] | [MPa] | [MPa] | [MPa] | mm |
| Trave di fondazione Sez. 1 Rett. 600x1000 [mm] TRAVI FONDAZIONE RETT | | | | | | | | | | | | | | | | |
| 36 | 0.13 | 779 | 1131 | | | 63.55 | 274.35 | 0.05 | -14.05 | -393.38 | 0.06 | | | | | |
| | | | | S.L.E. Rare | | 42.61 | | | 0.00 | | | 0.0 | 0.8 | 37.1 | 7.9 | |
| | | | | S.L.E. Freq. | | 16.77 | | | -5.04 | | | 0.1 | 0.3 | 14.6 | 4.7 | OK |
| | | | | S.L.E. Q.P. | | 0.00 | | | -2.34 | | | 0.0 | 0.0 | 0.3 | 2.2 | OK |
| Camp. | 1.06 | 1272 | 1206 | | | 59.27 | 442.31 | 0.06 | -5.21 | -420.66 | 0.06 | | | | | |
| | | | | S.L.E. Rare | | 34.65 | | | 0.00 | | | 0.0 | 0.5 | 30.6 | 6.1 | |
| | | | | S.L.E. Freq. | | 15.89 | | | 0.00 | | | 0.0 | 0.2 | 14.0 | 2.8 | OK |
| | | | | S.L.E. Q.P. | | 2.81 | | | 0.00 | | | 0.0 | 0.0 | 2.5 | 0.5 | OK |
| 37 | 2.00 | 622 | 1030 | | | 42.18 | 220.07 | 0.05 | 0.00 | -358.97 | 0.05 | | | | | |
| | | | | S.L.E. Rare | | 22.24 | | | 0.00 | | | 0.0 | 0.5 | 19.3 | 4.0 | |
| | | | | S.L.E. Freq. | | 11.37 | | | 0.00 | | | 0.0 | 0.2 | 9.9 | 2.0 | OK |
| | | | | S.L.E. Q.P. | | 4.13 | | | 0.00 | | | 0.0 | 0.1 | 3.6 | 0.7 | OK |
| Trave di fondazione Sez. 5 Rett. 400x400 [mm] TRAVI COLL. FONDAZIONE | | | | | | | | | | | | | | | | |
| 37 | 0.12 | 402 | 402 | | | 27.72 | 50.64 | 0.12 | 0.00 | -50.64 | 0.12 | | | | | |
| | | | | S.L.E. Rare | | 19.28 | | | 0.00 | | | 0.0 | 3.1 | 148.2 | 20.7 | |

| | | | | | | | | | | | | | | | |
|--|------|------|------|--------------|-------|--------|------|--------|---------|------|-----|-----|------|------|----|
| | | | | S.L.E. Freq. | 10.26 | | | 0.00 | | | 0.0 | 1.6 | 78.9 | 11.0 | OK |
| | | | | S.L.E. Q.P. | 4.32 | | | 0.00 | | | 0.0 | 0.7 | 33.2 | 4.6 | OK |
| Camp. | 5.05 | 402 | 402 | | 1.31 | 50.64 | 0.12 | -1.53 | -50.64 | 0.12 | | | | | |
| | | | | S.L.E. Rare | 0.00 | | | -0.93 | | | 0.1 | 0.0 | 1.0 | 7.1 | |
| | | | | S.L.E. Freq. | 0.33 | | | -0.12 | | | 0.0 | 0.1 | 2.6 | 0.9 | OK |
| | | | | S.L.E. Q.P. | 0.33 | | | 0.00 | | | 0.0 | 0.1 | 2.5 | 0.4 | OK |
| 38 | 9.98 | 449 | 467 | | 6.73 | 56.31 | 0.12 | -21.32 | -58.48 | 0.12 | | | | | |
| | | | | S.L.E. Rare | 0.00 | | | -10.37 | | | 1.5 | 0.0 | 11.1 | 69.0 | |
| | | | | S.L.E. Freq. | 0.00 | | | -7.93 | | | 1.2 | 0.0 | 8.5 | 52.8 | OK |
| | | | | S.L.E. Q.P. | 0.00 | | | -7.35 | | | 1.1 | 0.0 | 7.9 | 48.9 | OK |
| Trave di fondazione Sez. 1 Rett. 600x1000 [mm] TRAVI FONDAZIONE RETT | | | | | | | | | | | | | | | |
| 38 | 0.13 | 622 | 918 | | 20.35 | 219.94 | 0.04 | -31.58 | -321.05 | 0.05 | | | | | |
| | | | | S.L.E. Rare | 0.00 | | | -14.12 | | | 0.3 | 0.0 | 1.4 | 13.1 | |
| | | | | S.L.E. Freq. | 0.00 | | | -10.75 | | | 0.2 | 0.0 | 1.1 | 9.9 | OK |
| | | | | S.L.E. Q.P. | 0.00 | | | -9.93 | | | 0.2 | 0.0 | 1.0 | 9.2 | OK |
| Camp. | 1.06 | 1272 | 1206 | | 0.00 | 442.31 | 0.06 | -61.09 | -420.66 | 0.06 | | | | | |
| | | | | S.L.E. Rare | 0.00 | | | -32.65 | | | 0.5 | 0.0 | 5.8 | 30.3 | |
| | | | | S.L.E. Freq. | 0.00 | | | -23.60 | | | 0.4 | 0.0 | 4.2 | 21.9 | OK |
| | | | | S.L.E. Q.P. | 0.00 | | | -21.43 | | | 0.3 | 0.0 | 3.8 | 19.9 | OK |
| 39 | 2.00 | 536 | 1830 | | 20.35 | 190.89 | 0.05 | -80.51 | -623.02 | 0.08 | | | | | |
| | | | | S.L.E. Rare | 0.00 | | | -58.33 | | | 0.8 | 0.0 | 3.0 | 32.5 | |
| | | | | S.L.E. Freq. | 0.00 | | | -40.04 | | | 0.6 | 0.0 | 2.1 | 22.3 | OK |
| | | | | S.L.E. Q.P. | 0.00 | | | -35.63 | | | 0.5 | 0.0 | 1.8 | 19.9 | OK |
| Trave di fondazione Sez. 1 Rett. 600x1000 [mm] TRAVI FONDAZIONE RETT | | | | | | | | | | | | | | | |
| 39 | 0.13 | 536 | 1830 | | 19.75 | 190.89 | 0.05 | -78.14 | -623.02 | 0.08 | | | | | |
| | | | | S.L.E. Rare | 0.00 | | | -56.29 | | | 0.8 | 0.0 | 2.9 | 31.4 | |
| | | | | S.L.E. Freq. | 0.00 | | | -38.69 | | | 0.6 | 0.0 | 2.0 | 21.6 | OK |
| | | | | S.L.E. Q.P. | 0.00 | | | -34.37 | | | 0.5 | 0.0 | 1.8 | 19.2 | OK |
| Camp. | 1.06 | 1272 | 1206 | | 0.00 | 442.31 | 0.06 | -59.19 | -420.66 | 0.06 | | | | | |
| | | | | S.L.E. Rare | 0.00 | | | -31.39 | | | 0.5 | 0.0 | 5.5 | 29.1 | |
| | | | | S.L.E. Freq. | 0.00 | | | -22.78 | | | 0.4 | 0.0 | 4.0 | 21.1 | OK |
| | | | | S.L.E. Q.P. | 0.00 | | | -20.65 | | | 0.3 | 0.0 | 3.6 | 19.2 | OK |
| 40 | 2.00 | 622 | 918 | | 19.75 | 219.94 | 0.04 | -30.61 | -321.05 | 0.05 | | | | | |
| | | | | S.L.E. Rare | 0.00 | | | -13.50 | | | 0.3 | 0.0 | 1.3 | 12.5 | |
| | | | | S.L.E. Freq. | 0.00 | | | -10.34 | | | 0.2 | 0.0 | 1.0 | 9.6 | OK |
| | | | | S.L.E. Q.P. | 0.00 | | | -9.55 | | | 0.2 | 0.0 | 1.0 | 8.8 | OK |
| Trave di fondazione Sez. 5 Rett. 400x400 [mm] TRAVI COLL. FONDAZIONE | | | | | | | | | | | | | | | |
| 40 | 0.12 | 402 | 402 | | 3.72 | 50.64 | 0.12 | -14.35 | -50.64 | 0.12 | | | | | |
| | | | | S.L.E. Rare | 0.00 | | | -9.88 | | | 1.6 | 0.0 | 10.6 | 75.9 | |
| | | | | S.L.E. Freq. | 0.00 | | | -7.61 | | | 1.2 | 0.0 | 8.2 | 58.5 | OK |
| | | | | S.L.E. Q.P. | 0.00 | | | -7.04 | | | 1.1 | 0.0 | 7.6 | 54.1 | OK |
| Camp. | 5.05 | 402 | 402 | | 0.78 | 50.64 | 0.12 | -0.70 | -50.64 | 0.12 | | | | | |
| | | | | S.L.E. Rare | 0.09 | | | -0.35 | | | 0.1 | 0.0 | 0.7 | 2.7 | |
| | | | | S.L.E. Freq. | 0.45 | | | 0.00 | | | 0.0 | 0.1 | 3.4 | 0.5 | OK |
| | | | | S.L.E. Q.P. | 0.45 | | | 0.00 | | | 0.0 | 0.1 | 3.4 | 0.5 | OK |
| 41 | 9.98 | 449 | 467 | | 19.41 | 56.31 | 0.12 | -0.33 | -58.48 | 0.12 | | | | | |
| | | | | S.L.E. Rare | 13.33 | | | 0.00 | | | 0.0 | 2.0 | 92.1 | 14.1 | |
| | | | | S.L.E. Freq. | 6.27 | | | 0.00 | | | 0.0 | 0.9 | 43.3 | 6.6 | OK |
| | | | | S.L.E. Q.P. | 1.61 | | | 0.00 | | | 0.0 | 0.2 | 11.1 | 1.7 | OK |
| Trave di fondazione Sez. 2 a Tr 1000x1500x500x400 [mm] TRAVI FONDAZIONE A T | | | | | | | | | | | | | | | |
| 41 | 0.13 | 1456 | 1923 | | 35.04 | 789.72 | 0.03 | -4.00 | 1018.98 | 0.05 | | | | | |
| | | | | S.L.E. Rare | 15.39 | | | 0.00 | | | 0.0 | 0.1 | 5.5 | 1.0 | |
| | | | | S.L.E. Freq. | 6.81 | | | 0.00 | | | 0.0 | 0.0 | 2.4 | 0.5 | OK |
| | | | | S.L.E. Q.P. | 1.11 | | | 0.00 | | | 0.0 | 0.0 | 0.4 | 0.1 | OK |

| | | | | | | | | | | | | | | | |
|-------|------|------|------|--------------|--|-------|---------|------|--------|---------|------|-----|-----|------|--------|
| Camp. | 1.06 | 2011 | 1923 | | | 49.41 | 1081.87 | 0.04 | -12.61 | 1024.54 | 0.04 | | | | |
| | | | | S.L.E. Rare | | 26.05 | | | 0.00 | | | 0.0 | 0.1 | 9.4 | 1.6 |
| | | | | S.L.E. Freq. | | 10.23 | | | -2.00 | | | 0.0 | 0.1 | 3.7 | 0.8 OK |
| | | | | S.L.E. Q.P. | | 0.00 | | | -0.75 | | | 0.0 | 0.0 | 0.1 | 0.3 OK |
| 42 | 2.00 | 1346 | 1923 | | | 51.08 | 731.74 | 0.03 | -17.62 | 1017.78 | 0.05 | | | | |
| | | | | S.L.E. Rare | | 33.93 | | | 0.00 | | | 0.0 | 0.2 | 12.1 | 2.3 |
| | | | | S.L.E. Freq. | | 10.97 | | | -8.30 | | | 0.1 | 0.1 | 3.9 | 3.2 OK |
| | | | | S.L.E. Q.P. | | 0.00 | | | -5.88 | | | 0.0 | 0.0 | 0.4 | 2.3 OK |

| Da | A | Dx | VSd | Vrd _c | VRd _{max} | Vrd _s | TSd | Trd1 | Trd2 | Staffe |
|--|------|------|---------|------------------|--------------------|------------------|-------|----------|----------|-----------------|
| [m] | [m] | [m] | [N] | [N] | [N] | [N] | [kNm] | [kNm] | [kNm] | |
| Trave di fondazione 36 37 Sez. 1 Rett. 600x1000 [mm] TRAVI FONDAZIONE RETT | | | | | | | | | | |
| 0.13 | 2.13 | 1.99 | 26824.4 | 176608.1 | 1832651.7 | 338462.1 | 201.3 | 422406.8 | 131843.0 | ø 8 2br. 100.0' |
| Trave di fondazione 37 38 Sez. 5 Rett. 400x400 [mm] TRAVI COLL. FONDAZIONE | | | | | | | | | | |
| 0.12 | 9.98 | 9.85 | 20880.6 | 57667.4 | 454967.9 | 100830.5 | 129.9 | 60495.7 | 28323.2 | ø 8 2br. 125.0' |
| Trave di fondazione 38 39 Sez. 1 Rett. 600x1000 [mm] TRAVI FONDAZIONE RETT | | | | | | | | | | |
| 0.13 | 2.13 | 1.99 | 46706.2 | 176608.1 | 1832651.7 | 338462.1 | 66.2 | 422406.8 | 131843.0 | ø 8 2br. 100.0' |
| Trave di fondazione 39 40 Sez. 1 Rett. 600x1000 [mm] TRAVI FONDAZIONE RETT | | | | | | | | | | |
| 0.13 | 2.13 | 1.99 | 45621.7 | 176608.1 | 1832651.7 | 338462.1 | 58.0 | 422406.8 | 131843.0 | ø 8 2br. 100.0' |
| Trave di fondazione 40 41 Sez. 5 Rett. 400x400 [mm] TRAVI COLL. FONDAZIONE | | | | | | | | | | |
| 0.12 | 9.98 | 9.85 | 20129.4 | 57667.4 | 454967.9 | 100830.5 | 72.1 | 60495.7 | 28323.2 | ø 8 2br. 125.0' |
| Trave di fondazione 41 42 Sez. 2 a Tr 1000x1500x500x400 [mm] TRAVI FONDAZIONE A T | | | | | | | | | | |
| 0.13 | 2.13 | 1.99 | 25155.6 | 204022.0 | 2311218.3 | 412385.7 | 273.0 | 132393.4 | 54757.2 | ø 8 2br. 125.0' |

- Travata: 106 Travata 1 8 15 22 29 36 43

| Nodo | x | A _{fe} | A _{fi} | q _T | M _{rif} | M _{de} | M _{re} | x/d | M _{di} | M _{ri} | x/d | σ _{be} | σ _{bi} | σ _{fe} | σ _{fi} | w |
|---|--------------------|--------------------|-----------------|----------------|------------------|-----------------|-----------------|------|-----------------|-----------------|-------|-----------------|-----------------|-----------------|-----------------|----|
| [m] | [mm ²] | [mm ²] | [N/m] | [kNm] | [kNm] | [kNm] | [kNm] | | [kNm] | [kNm] | | [MPa] | [MPa] | [MPa] | [MPa] | mm |
| Trave di fondazione Sez. 1 Rett. 600x1000 [mm] TRAVI FONDAZIONE RETT | | | | | | | | | | | | | | | | |
| 1 | 0.13 | 831 | 1131 | | | 51.88 | 292.48 | 0.05 | -10.64 | 393.66 | 0.06 | | | | | |
| | | | | S.L.E. Rare | | 29.92 | | | 0.00 | | | 0.0 | 0.5 | 27.5 | 5.5 | |
| | | | | S.L.E. Freq. | | 15.31 | | | 0.00 | | | 0.0 | 0.3 | 14.1 | 2.8 | OK |
| | | | | S.L.E. Q.P. | | 2.03 | | | 0.00 | | | 0.0 | 0.0 | 1.9 | 0.4 | OK |
| Camp. | 2.70 | 1206 | 1206 | | | 46.66 | 420.55 | 0.06 | 0.00 | 420.55 | 0.06 | | | | | |
| | | | | S.L.E. Rare | | 25.46 | | | 0.00 | | | 0.0 | 0.4 | 23.6 | 4.5 | |
| | | | | S.L.E. Freq. | | 14.69 | | | 0.00 | | | 0.0 | 0.2 | 13.6 | 2.6 | OK |
| | | | | S.L.E. Q.P. | | 6.11 | | | 0.00 | | | 0.0 | 0.1 | 5.7 | 1.1 | OK |
| 8 | 5.28 | 731 | 2413 | | | 24.15 | 259.70 | 0.05 | -95.51 | 812.73 | 0.10 | | | | | |
| | | | | S.L.E. Rare | | 0.00 | | | -64.96 | | | 0.8 | 0.0 | 4.2 | 31.0 | |
| | | | | S.L.E. Freq. | | 0.00 | | | -32.19 | | | 0.4 | 0.0 | 2.1 | 15.4 | OK |
| | | | | S.L.E. Q.P. | | 0.00 | | | -9.88 | | | 0.1 | 0.0 | 0.6 | 4.7 | OK |
| Trave di fondazione Sez. 1 Rett. 600x1000 [mm] TRAVI FONDAZIONE RETT | | | | | | | | | | | | | | | | |
| 8 | 0.13 | 731 | 2413 | | | 21.02 | 259.70 | 0.05 | -83.14 | 812.73 | 0.10 | | | | | |
| | | | | S.L.E. Rare | | 0.00 | | | -56.71 | | | 0.7 | 0.0 | 3.5 | 27.1 | |
| | | | | S.L.E. Freq. | | 0.00 | | | -28.14 | | | 0.4 | 0.0 | 1.7 | 13.4 | OK |
| | | | | S.L.E. Q.P. | | 0.00 | | | -9.85 | | | 0.1 | 0.0 | 0.6 | 4.7 | OK |
| Camp. | 2.70 | 1206 | 1206 | | | 21.85 | 420.55 | 0.06 | 0.00 | | -0.06 | | | | | |

| | | | | | | | | | | | | | | | | | | | |
|--|------|------|------|--|--|--------------|-------|--------|------|--------|--------|---|------|-----|------|------|----|--|--|
| | | | | | | | | | | 420.55 | | | | | | | | | |
| | | | | | | S.L.E. Rare | 11.95 | | | 0.00 | | | 0.0 | 0.2 | 11.1 | 2.1 | | | |
| | | | | | | S.L.E. Freq. | 6.22 | | | 0.00 | | | 0.0 | 0.1 | 5.8 | 1.1 | OK | | |
| | | | | | | S.L.E. Q.P. | 3.83 | | | 0.00 | | | 0.0 | 0.1 | 3.6 | 0.7 | OK | | |
| 15 | 5.28 | 703 | 2413 | | | | 27.09 | 249.87 | 0.05 | -38.18 | 812.36 | - | 0.10 | | | | | | |
| | | | | | | S.L.E. Rare | 10.34 | | | -8.05 | | | 0.1 | 0.2 | 6.3 | 3.8 | | | |
| | | | | | | S.L.E. Freq. | 3.86 | | | -12.86 | | | 0.2 | 0.1 | 2.3 | 6.1 | OK | | |
| | | | | | | S.L.E. Q.P. | 0.00 | | | -9.92 | | | 0.1 | 0.0 | 0.6 | 4.7 | OK | | |
| | | | | | | | | | | | | | | | | | | | |
| Trave di fondazione Sez. 1 Rett. 600x1000 [mm] TRAVI FONDAZIONE RETT | | | | | | | | | | | | | | | | | | | |
| 15 | 0.13 | 703 | 2413 | | | | 28.48 | 249.87 | 0.05 | -40.92 | 812.36 | - | 0.10 | | | | | | |
| | | | | | | S.L.E. Rare | 15.55 | | | -4.82 | | | 0.1 | 0.3 | 9.5 | 2.6 | | | |
| | | | | | | S.L.E. Freq. | 6.47 | | | -12.78 | | | 0.2 | 0.1 | 3.9 | 6.1 | OK | | |
| | | | | | | S.L.E. Q.P. | 0.00 | | | -9.86 | | | 0.1 | 0.0 | 0.6 | 4.7 | OK | | |
| Camp. | 2.70 | 1206 | 1206 | | | | 25.91 | 420.55 | 0.06 | 0.00 | 420.55 | - | 0.06 | | | | | | |
| | | | | | | S.L.E. Rare | 16.83 | | | 0.00 | | | 0.0 | 0.3 | 15.6 | 3.0 | | | |
| | | | | | | S.L.E. Freq. | 7.79 | | | 0.00 | | | 0.0 | 0.1 | 7.2 | 1.4 | OK | | |
| | | | | | | S.L.E. Q.P. | 5.09 | | | 0.00 | | | 0.0 | 0.1 | 4.7 | 0.9 | OK | | |
| 22 | 5.28 | 703 | 2413 | | | | 12.57 | 249.87 | 0.05 | -49.71 | 812.36 | - | 0.10 | | | | | | |
| | | | | | | S.L.E. Rare | 0.00 | | | -34.23 | | | 0.4 | 0.0 | 2.1 | 16.4 | | | |
| | | | | | | S.L.E. Freq. | 0.00 | | | -17.94 | | | 0.2 | 0.0 | 1.1 | 8.6 | OK | | |
| | | | | | | S.L.E. Q.P. | 0.00 | | | -8.56 | | | 0.1 | 0.0 | 0.5 | 4.1 | OK | | |
| | | | | | | | | | | | | | | | | | | | |
| Trave di fondazione Sez. 1 Rett. 600x1000 [mm] TRAVI FONDAZIONE RETT | | | | | | | | | | | | | | | | | | | |
| 22 | 0.13 | 703 | 2413 | | | | 11.74 | 249.87 | 0.05 | -46.44 | 812.36 | - | 0.10 | | | | | | |
| | | | | | | S.L.E. Rare | 0.00 | | | -32.51 | | | 0.4 | 0.0 | 2.0 | 15.5 | | | |
| | | | | | | S.L.E. Freq. | 0.00 | | | -16.85 | | | 0.2 | 0.0 | 1.0 | 8.0 | OK | | |
| | | | | | | S.L.E. Q.P. | 0.00 | | | -8.56 | | | 0.1 | 0.0 | 0.5 | 4.1 | OK | | |
| Camp. | 2.70 | 1206 | 1206 | | | | 19.40 | 420.55 | 0.06 | 0.00 | 420.55 | - | 0.06 | | | | | | |
| | | | | | | S.L.E. Rare | 14.34 | | | 0.00 | | | 0.0 | 0.2 | 13.3 | 2.6 | | | |
| | | | | | | S.L.E. Freq. | 6.79 | | | 0.00 | | | 0.0 | 0.1 | 6.3 | 1.2 | OK | | |
| | | | | | | S.L.E. Q.P. | 5.08 | | | 0.00 | | | 0.0 | 0.1 | 4.7 | 0.9 | OK | | |
| 29 | 5.27 | 703 | 2413 | | | | 11.74 | 249.87 | 0.05 | -35.48 | 812.36 | - | 0.10 | | | | | | |
| | | | | | | S.L.E. Rare | 0.00 | | | -19.01 | | | 0.2 | 0.0 | 1.2 | 9.1 | | | |
| | | | | | | S.L.E. Freq. | 0.00 | | | -12.81 | | | 0.2 | 0.0 | 0.8 | 6.1 | OK | | |
| | | | | | | S.L.E. Q.P. | 0.00 | | | -9.88 | | | 0.1 | 0.0 | 0.6 | 4.7 | OK | | |
| | | | | | | | | | | | | | | | | | | | |
| Trave di fondazione Sez. 1 Rett. 600x1000 [mm] TRAVI FONDAZIONE RETT | | | | | | | | | | | | | | | | | | | |
| 29 | 0.13 | 703 | 2413 | | | | 14.00 | 249.87 | 0.05 | -35.57 | 812.36 | - | 0.10 | | | | | | |
| | | | | | | S.L.E. Rare | 0.00 | | | -19.83 | | | 0.3 | 0.0 | 1.2 | 9.5 | | | |
| | | | | | | S.L.E. Freq. | 0.00 | | | -12.89 | | | 0.2 | 0.0 | 0.8 | 6.2 | OK | | |
| | | | | | | S.L.E. Q.P. | 0.00 | | | -9.94 | | | 0.1 | 0.0 | 0.6 | 4.7 | OK | | |
| Camp. | 2.70 | 1206 | 1206 | | | | 18.38 | 420.55 | 0.06 | 0.00 | 420.55 | - | 0.06 | | | | | | |
| | | | | | | S.L.E. Rare | 12.21 | | | 0.00 | | | 0.0 | 0.2 | 11.3 | 2.2 | | | |
| | | | | | | S.L.E. Freq. | 6.44 | | | 0.00 | | | 0.0 | 0.1 | 6.0 | 1.2 | OK | | |
| | | | | | | S.L.E. Q.P. | 3.83 | | | 0.00 | | | 0.0 | 0.1 | 3.6 | 0.7 | OK | | |
| 36 | 5.27 | 731 | 2413 | | | | 14.00 | 259.70 | 0.05 | -55.41 | 812.73 | - | 0.10 | | | | | | |
| | | | | | | S.L.E. Rare | 0.00 | | | -41.25 | | | 0.5 | 0.0 | 2.5 | 19.7 | | | |
| | | | | | | S.L.E. Freq. | 0.00 | | | -18.86 | | | 0.2 | 0.0 | 1.2 | 9.0 | OK | | |
| | | | | | | S.L.E. Q.P. | 0.00 | | | -9.79 | | | 0.1 | 0.0 | 0.6 | 4.7 | OK | | |

| Trave di fondazione Sez. 1 Rett. 600x1000 [mm] TRAVI FONDAZIONE RETT | | | | | | | | | | | | | | |
|--|------|------|------|--------------|--|-------|--------|------|--------|--------|-------|-----|-----|-------------|
| 36 | 0.13 | 731 | 2413 | | | 15.77 | 259.70 | 0.05 | -62.51 | 812.73 | -0.10 | | | |
| | | | | S.L.E. Rare | | 0.00 | | | -44.34 | | | 0.6 | 0.0 | 2.9 21.2 |
| | | | | S.L.E. Freq. | | 0.00 | | | -21.13 | | | 0.3 | 0.0 | 1.4 10.1 OK |
| | | | | S.L.E. Q.P. | | 0.00 | | | -9.83 | | | 0.1 | 0.0 | 0.6 4.7 OK |
| Camp. | 2.70 | 1206 | 1206 | | | 33.01 | 420.55 | 0.06 | 0.00 | 420.55 | -0.06 | | | |
| | | | | S.L.E. Rare | | 19.72 | | | 0.00 | | | 0.0 | 0.3 | 18.3 3.5 |
| | | | | S.L.E. Freq. | | 11.84 | | | 0.00 | | | 0.0 | 0.2 | 11.0 2.1 OK |
| | | | | S.L.E. Q.P. | | 6.13 | | | 0.00 | | | 0.0 | 0.1 | 5.7 1.1 OK |
| 43 | 5.28 | 831 | 1131 | | | 24.51 | 292.48 | 0.05 | -0.58 | 393.66 | -0.06 | | | |
| | | | | S.L.E. Rare | | 9.22 | | | 0.00 | | | 0.0 | 0.2 | 8.5 1.7 |
| | | | | S.L.E. Freq. | | 4.96 | | | 0.00 | | | 0.0 | 0.1 | 4.6 0.9 OK |
| | | | | S.L.E. Q.P. | | 1.99 | | | 0.00 | | | 0.0 | 0.0 | 1.8 0.4 OK |

Da [m] A [m] Dx [m] VSd [N] Vrd_c [N] VRd_{max} [N] Vrd_s [N] TSd [kNm] Trd1 [kNm] Trd2 [kNm] Staffe

| Trave di fondazione 1 8 Sez. 1 Rett. 600x1000 [mm] TRAVI FONDAZIONE RETT | | | | | | | | | | | |
|--|------|------|---------|----------|-----------|----------|---------|----------|----------|----------|--------|
| 0.13 | 5.28 | 5.15 | 78239.3 | 176608.1 | 1832651.7 | 338462.1 | 30497.3 | 422406.8 | 131843.0 | ø 8 2br. | 100.0' |
| Trave di fondazione 8 15 Sez. 1 Rett. 600x1000 [mm] TRAVI FONDAZIONE RETT | | | | | | | | | | | |
| 0.13 | 5.28 | 5.15 | 63686.9 | 176608.1 | 1832651.7 | 338462.1 | 7377.0 | 422406.8 | 131843.0 | ø 8 2br. | 100.0' |
| Trave di fondazione 15 22 Sez. 1 Rett. 600x1000 [mm] TRAVI FONDAZIONE RETT | | | | | | | | | | | |
| 0.13 | 5.28 | 5.15 | 43595.2 | 176608.1 | 1832651.7 | 338462.1 | 3801.0 | 422406.8 | 131843.0 | ø 8 2br. | 100.0' |
| Trave di fondazione 22 29 Sez. 1 Rett. 600x1000 [mm] TRAVI FONDAZIONE RETT | | | | | | | | | | | |
| 0.13 | 5.27 | 5.15 | 42207.5 | 176608.1 | 1832651.7 | 338462.1 | 2691.8 | 422406.8 | 131843.0 | ø 8 2br. | 100.0' |
| Trave di fondazione 29 36 Sez. 1 Rett. 600x1000 [mm] TRAVI FONDAZIONE RETT | | | | | | | | | | | |
| 0.13 | 5.27 | 5.15 | 50195.4 | 176608.1 | 1832651.7 | 338462.1 | 6777.3 | 422406.8 | 131843.0 | ø 8 2br. | 100.0' |
| Trave di fondazione 36 43 Sez. 1 Rett. 600x1000 [mm] TRAVI FONDAZIONE RETT | | | | | | | | | | | |
| 0.13 | 5.28 | 5.15 | 57661.3 | 176608.1 | 1832651.7 | 338462.1 | 30439.6 | 422406.8 | 131843.0 | ø 8 2br. | 100.0' |

- Travata: 107 Travata 4 11 18 25 32 39 46

| Nodo | x [m] | A _{fe} [mm ²] | A _{fi} [mm ²] | q _T [N/m] | M _{rif} [kNm] | M _{de} [kNm] | M _{re} [kNm] | x/d | M _{di} [kNm] | M _{ri} [kNm] | x/d | σ _{be} [MPa] | σ _{bi} [MPa] | σ _{fe} [MPa] | σ _{fi} [MPa] | w [mm] |
|--|-------|------------------------------------|------------------------------------|----------------------|------------------------|-----------------------|-----------------------|------|-----------------------|-----------------------|-------|-----------------------|-----------------------|-----------------------|-----------------------|--------|
| Trave di fondazione Sez. 1 Rett. 600x1000 [mm] TRAVI FONDAZIONE RETT | | | | | | | | | | | | | | | | |
| 4 | 0.13 | 831 | 1131 | | | 92.90 | 292.48 | 0.05 | -36.22 | 393.66 | -0.06 | | | | | |
| | | | | S.L.E. Rare | | 62.12 | | | 0.00 | | | 0.0 | 1.1 | 57.1 | 11.4 | |
| | | | | S.L.E. Freq. | | 29.62 | | | -0.81 | | | 0.0 | 0.5 | 27.2 | 5.4 | OK |
| | | | | S.L.E. Q.P. | | 0.49 | | | -0.80 | | | 0.0 | 0.0 | 0.5 | 0.7 | OK |
| Camp. | 2.70 | 1206 | 1206 | | | 50.55 | 420.55 | 0.06 | 0.00 | 420.55 | -0.06 | | | | | |
| | | | | S.L.E. Rare | | 25.22 | | | 0.00 | | | 0.0 | 0.4 | 23.4 | 4.5 | |
| | | | | S.L.E. Freq. | | 16.70 | | | 0.00 | | | 0.0 | 0.3 | 15.5 | 3.0 | OK |
| | | | | S.L.E. Q.P. | | 10.26 | | | 0.00 | | | 0.0 | 0.2 | 9.5 | 1.8 | OK |
| 11 | 5.28 | 731 | 2413 | | | 21.19 | 259.70 | 0.05 | -83.83 | 812.73 | -0.10 | | | | | |
| | | | | S.L.E. Rare | | 0.00 | | | -56.94 | | | 0.7 | 0.0 | 3.7 | 27.2 | |
| | | | | S.L.E. Freq. | | 0.00 | | | -26.86 | | | 0.3 | 0.0 | 1.8 | 12.8 | OK |
| | | | | S.L.E. Q.P. | | 0.00 | | | -6.99 | | | 0.1 | 0.0 | 0.5 | 3.3 | OK |
| Trave di fondazione Sez. 1 Rett. 600x1000 [mm] TRAVI FONDAZIONE RETT | | | | | | | | | | | | | | | | |

| | | | | | | | | | | | | | | | | | |
|---|------|------|------|--|--------------|-------|--------|------|--------|--------|-------|-----|-----|------|------|----|--|
| 11 | 0.13 | 731 | 2413 | | | 17.83 | 259.70 | 0.05 | -70.52 | 812.73 | -0.10 | | | | | | |
| | | | | | S.L.E. Rare | 0.00 | | | -48.05 | | | 0.6 | 0.0 | 3.0 | 22.9 | | |
| | | | | | S.L.E. Freq. | 0.00 | | | -22.64 | | | 0.3 | 0.0 | 1.4 | 10.8 | OK | |
| | | | | | S.L.E. Q.P. | 0.00 | | | -7.16 | | | 0.1 | 0.0 | 0.4 | 3.4 | OK | |
| Camp. | 2.70 | 1206 | 1206 | | | 13.31 | 420.55 | 0.06 | -2.54 | 420.55 | -0.06 | | | | | | |
| | | | | | S.L.E. Rare | 7.21 | | | 0.00 | | | 0.0 | 0.1 | 6.7 | 1.3 | | |
| | | | | | S.L.E. Freq. | 5.48 | | | 0.00 | | | 0.0 | 0.1 | 5.1 | 1.0 | OK | |
| | | | | | S.L.E. Q.P. | 4.62 | | | 0.00 | | | 0.0 | 0.1 | 4.3 | 0.8 | OK | |
| 18 | 5.28 | 703 | 2413 | | | 27.47 | 249.87 | 0.05 | -39.08 | 812.36 | -0.10 | | | | | | |
| | | | | | S.L.E. Rare | 17.49 | | | -1.45 | | | 0.0 | 0.3 | 10.6 | 3.0 | | |
| | | | | | S.L.E. Freq. | 7.53 | | | -10.89 | | | 0.1 | 0.1 | 4.6 | 5.2 | OK | |
| | | | | | S.L.E. Q.P. | 0.00 | | | -8.51 | | | 0.1 | 0.0 | 0.5 | 4.1 | OK | |
| Trave di fondazione Sez. 1 Rett. 600x1000 [mm] TRAVI FONDAZIONE RETT | | | | | | | | | | | | | | | | | |
| 18 | 0.13 | 703 | 2413 | | | 35.29 | 249.87 | 0.05 | -43.12 | 812.36 | -0.10 | | | | | | |
| | | | | | S.L.E. Rare | 22.70 | | | 0.00 | | | 0.0 | 0.4 | 13.8 | 3.8 | | |
| | | | | | S.L.E. Freq. | 10.11 | | | -10.90 | | | 0.1 | 0.2 | 6.1 | 5.2 | OK | |
| | | | | | S.L.E. Q.P. | 0.00 | | | -8.53 | | | 0.1 | 0.0 | 0.5 | 4.1 | OK | |
| Camp. | 2.70 | 1206 | 1206 | | | 18.89 | 420.55 | 0.06 | 0.00 | 420.55 | -0.06 | | | | | | |
| | | | | | S.L.E. Rare | 12.90 | | | 0.00 | | | 0.0 | 0.2 | 12.0 | 2.3 | | |
| | | | | | S.L.E. Freq. | 6.00 | | | 0.00 | | | 0.0 | 0.1 | 5.6 | 1.1 | OK | |
| | | | | | S.L.E. Q.P. | 4.52 | | | 0.00 | | | 0.0 | 0.1 | 4.2 | 0.8 | OK | |
| 25 | 5.28 | 703 | 2413 | | | 10.90 | 249.87 | 0.05 | -33.19 | 812.36 | -0.10 | | | | | | |
| | | | | | S.L.E. Rare | 0.00 | | | -24.69 | | | 0.3 | 0.0 | 1.5 | 11.8 | | |
| | | | | | S.L.E. Freq. | 0.00 | | | -11.98 | | | 0.2 | 0.0 | 0.7 | 5.7 | OK | |
| | | | | | S.L.E. Q.P. | 0.00 | | | -7.08 | | | 0.1 | 0.0 | 0.4 | 3.4 | OK | |
| Trave di fondazione Sez. 1 Rett. 600x1000 [mm] TRAVI FONDAZIONE RETT | | | | | | | | | | | | | | | | | |
| 25 | 0.13 | 703 | 2413 | | | 7.49 | 249.87 | 0.05 | -28.18 | 812.36 | -0.10 | | | | | | |
| | | | | | S.L.E. Rare | 0.00 | | | -22.57 | | | 0.3 | 0.0 | 1.4 | 10.8 | | |
| | | | | | S.L.E. Freq. | 0.00 | | | -10.23 | | | 0.1 | 0.0 | 0.6 | 4.9 | OK | |
| | | | | | S.L.E. Q.P. | 0.00 | | | -7.06 | | | 0.1 | 0.0 | 0.4 | 3.4 | OK | |
| Camp. | 2.70 | 1206 | 1206 | | | 17.29 | 420.55 | 0.06 | 0.00 | 420.55 | -0.06 | | | | | | |
| | | | | | S.L.E. Rare | 9.72 | | | 0.00 | | | 0.0 | 0.2 | 9.0 | 1.7 | | |
| | | | | | S.L.E. Freq. | 6.00 | | | 0.00 | | | 0.0 | 0.1 | 5.6 | 1.1 | OK | |
| | | | | | S.L.E. Q.P. | 4.52 | | | 0.00 | | | 0.0 | 0.1 | 4.2 | 0.8 | OK | |
| 32 | 5.27 | 703 | 2413 | | | 11.02 | 249.87 | 0.05 | -30.20 | 812.36 | -0.10 | | | | | | |
| | | | | | S.L.E. Rare | 0.00 | | | -16.33 | | | 0.2 | 0.0 | 1.0 | 7.8 | | |
| | | | | | S.L.E. Freq. | 0.00 | | | -10.96 | | | 0.1 | 0.0 | 0.7 | 5.2 | OK | |
| | | | | | S.L.E. Q.P. | 0.00 | | | -8.58 | | | 0.1 | 0.0 | 0.5 | 4.1 | OK | |
| Trave di fondazione Sez. 1 Rett. 600x1000 [mm] TRAVI FONDAZIONE RETT | | | | | | | | | | | | | | | | | |
| 32 | 0.13 | 703 | 2413 | | | 12.52 | 249.87 | 0.05 | -29.99 | 812.36 | -0.10 | | | | | | |
| | | | | | S.L.E. Rare | 0.00 | | | -15.29 | | | 0.2 | 0.0 | 0.9 | 7.3 | | |
| | | | | | S.L.E. Freq. | 0.00 | | | -10.88 | | | 0.1 | 0.0 | 0.7 | 5.2 | OK | |
| | | | | | S.L.E. Q.P. | 0.00 | | | -8.50 | | | 0.1 | 0.0 | 0.5 | 4.1 | OK | |
| Camp. | 2.70 | 1206 | 1206 | | | 12.96 | 420.55 | 0.06 | 0.00 | 420.55 | -0.06 | | | | | | |
| | | | | | S.L.E. Rare | 8.90 | | | 0.00 | | | 0.0 | 0.1 | 8.3 | 1.6 | | |
| | | | | | S.L.E. Freq. | 5.49 | | | 0.00 | | | 0.0 | 0.1 | 5.1 | 1.0 | OK | |
| | | | | | S.L.E. Q.P. | 4.63 | | | 0.00 | | | 0.0 | 0.1 | 4.3 | 0.8 | OK | |

| | | | | | | | | | | | | | | | | | |
|---|------|------|------|--------------|-------|-------|--------|------|--------|--------|-------|-----|-----|------|------|----|--|
| 39 | 5.27 | 731 | 2413 | | | 12.25 | 259.70 | 0.05 | -48.44 | 812.73 | -0.10 | | | | | | |
| | | | | S.L.E. Rare | 0.00 | | | | -29.55 | | | 0.4 | 0.0 | 1.8 | 14.1 | | |
| | | | | S.L.E. Freq. | 0.00 | | | | -11.16 | | | 0.1 | 0.0 | 0.7 | 5.3 | OK | |
| | | | | S.L.E. Q.P. | 0.00 | | | | -7.24 | | | 0.1 | 0.0 | 0.4 | 3.5 | OK | |
| Trave di fondazione Sez. 1 Rett. 600x1000 [mm] TRAVI FONDAZIONE RETT | | | | | | | | | | | | | | | | | |
| 39 | 0.13 | 731 | 2413 | | | 13.15 | 259.70 | 0.05 | -52.01 | 812.73 | -0.10 | | | | | | |
| | | | | S.L.E. Rare | 0.00 | | | | -31.75 | | | 0.4 | 0.0 | 2.1 | 15.2 | | |
| | | | | S.L.E. Freq. | 0.00 | | | | -11.08 | | | 0.1 | 0.0 | 0.7 | 5.3 | OK | |
| | | | | S.L.E. Q.P. | 0.00 | | | | -7.05 | | | 0.1 | 0.0 | 0.5 | 3.4 | OK | |
| Camp. | 2.70 | 1206 | 1206 | | | 33.53 | 420.55 | 0.06 | 0.00 | 420.55 | -0.06 | | | | | | |
| | | | | S.L.E. Rare | 13.88 | | | | 0.00 | | | 0.0 | 0.2 | 12.9 | 2.5 | | |
| | | | | S.L.E. Freq. | 11.04 | | | | 0.00 | | | 0.0 | 0.2 | 10.2 | 2.0 | OK | |
| | | | | S.L.E. Q.P. | 10.24 | | | | 0.00 | | | 0.0 | 0.2 | 9.5 | 1.8 | OK | |
| 46 | 5.28 | 831 | 1131 | | | 43.99 | 292.48 | 0.05 | -6.44 | 393.66 | -0.06 | | | | | | |
| | | | | S.L.E. Rare | 8.36 | | | | 0.00 | | | 0.0 | 0.2 | 7.7 | 1.5 | | |
| | | | | S.L.E. Freq. | 2.63 | | | | -0.84 | | | 0.0 | 0.0 | 2.4 | 0.8 | OK | |
| | | | | S.L.E. Q.P. | 0.47 | | | | -0.83 | | | 0.0 | 0.0 | 0.4 | 0.8 | OK | |

| Da | A | Dx | VSd | Vrd _c | VRd _{max} | Vrd _s | TSd | Trd1 | Trd2 | Staffe |
|---|------|------|---------|------------------|--------------------|------------------|--------|----------|----------|-----------------|
| [m] | [m] | [m] | [N] | [N] | [N] | [N] | [kNm] | [kNm] | [kNm] | |
| Trave di fondazione 4 11 Sez. 1 Rett. 600x1000 [mm] TRAVI FONDAZIONE RETT | | | | | | | | | | |
| 0.13 | 5.28 | 5.15 | 62843.1 | 176608.1 | 1832651.7 | 338462.1 | 5337.4 | 422406.8 | 131843.0 | ø 8 2br. 100.0' |
| Trave di fondazione 11 18 Sez. 1 Rett. 600x1000 [mm] TRAVI FONDAZIONE RETT | | | | | | | | | | |
| 0.13 | 5.28 | 5.15 | 45058.3 | 176608.1 | 1832651.7 | 338462.1 | 1441.1 | 422406.8 | 131843.0 | ø 8 2br. 100.0' |
| Trave di fondazione 18 25 Sez. 1 Rett. 600x1000 [mm] TRAVI FONDAZIONE RETT | | | | | | | | | | |
| 0.13 | 5.28 | 5.15 | 36556.8 | 176608.1 | 1832651.7 | 338462.1 | 465.6 | 422406.8 | 131843.0 | ø 8 2br. 100.0' |
| Trave di fondazione 25 32 Sez. 1 Rett. 600x1000 [mm] TRAVI FONDAZIONE RETT | | | | | | | | | | |
| 0.13 | 5.27 | 5.15 | 36616.2 | 176608.1 | 1832651.7 | 338462.1 | 481.0 | 422406.8 | 131843.0 | ø 8 2br. 100.0' |
| Trave di fondazione 32 39 Sez. 1 Rett. 600x1000 [mm] TRAVI FONDAZIONE RETT | | | | | | | | | | |
| 0.13 | 5.27 | 5.15 | 38485.3 | 176608.1 | 1832651.7 | 338462.1 | 1399.1 | 422406.8 | 131843.0 | ø 8 2br. 100.0' |
| Trave di fondazione 39 46 Sez. 1 Rett. 600x1000 [mm] TRAVI FONDAZIONE RETT | | | | | | | | | | |
| 0.13 | 5.28 | 5.15 | 44956.1 | 176608.1 | 1832651.7 | 338462.1 | 5365.8 | 422406.8 | 131843.0 | ø 8 2br. 100.0' |

- Travata: 108 Travata 7 14 21 28 35 42 49

| Nodo | x | A _{fe} | A _{fi} | q _T | M _{rif} | M _{de} | M _{re} | x/d | M _{di} | M _{ri} | x/d | σ _{be} | σ _{bi} | σ _{fe} | σ _{fi} | w |
|--|--------------------|--------------------|-----------------|----------------|------------------|-----------------|-----------------|------|-----------------|-----------------|-------|-----------------|-----------------|-----------------|-----------------|----|
| [m] | [mm ²] | [mm ²] | [N/m] | [kNm] | [kNm] | [kNm] | [kNm] | | [kNm] | [kNm] | | [MPa] | [MPa] | [MPa] | [MPa] | mm |
| Trave di fondazione Sez. 2 a Tr 1000x1500x500x400 [mm] TRAVI FONDAZIONE A T | | | | | | | | | | | | | | | | |
| 7 | 0.13 | 1346 | 1793 | | | 54.06 | 731.15 | 0.03 | -10.08 | -950.15 | 0.05 | | | | | |
| | | | | S.L.E. Rare | 32.07 | | | | 0.00 | | | 0.0 | 0.2 | 11.5 | 1.9 | |
| | | | | S.L.E. Freq. | 16.79 | | | | 0.00 | | | 0.0 | 0.1 | 6.0 | 1.0 | OK |
| | | | | S.L.E. Q.P. | 2.78 | | | | 0.00 | | | 0.0 | 0.0 | 1.0 | 0.2 | OK |
| Camp. | 2.70 | 2011 | 2011 | | | 45.00 | 1081.94 | 0.04 | -7.00 | 1068.21 | -0.05 | | | | | |
| | | | | S.L.E. Rare | 20.09 | | | | 0.00 | | | 0.0 | 0.1 | 7.3 | 1.2 | |
| | | | | S.L.E. Freq. | 12.58 | | | | 0.00 | | | 0.0 | 0.1 | 4.5 | 0.8 | OK |
| | | | | S.L.E. Q.P. | 6.14 | | | | 0.00 | | | 0.0 | 0.0 | 2.2 | 0.4 | OK |
| 14 | 5.28 | 1680 | 4021 | | | 28.03 | 913.96 | 0.03 | 110.84 | 2062.12 | -0.11 | | | | | |

| | | | | | | | | | | | | | | | |
|--|------|------|------|--------------|-------|-------|---------|--------|--------|---------|------|-----|-----|------|--------|
| | | | | S.L.E. Rare | 0.00 | | | -75.26 | | | 0.4 | 0.0 | 3.2 | 14.2 | |
| | | | | S.L.E. Freq. | 0.00 | | | -36.57 | | | 0.2 | 0.0 | 1.6 | 6.9 | OK |
| | | | | S.L.E. Q.P. | 0.00 | | | -10.60 | | | 0.1 | 0.0 | 0.5 | 2.0 | OK |
| Trave di fondazione Sez. 2 a Tr 1000x1500x500x400 [mm] TRAVI FONDAZIONE A T | | | | | | | | | | | | | | | |
| 14 | 0.13 | 1680 | 4021 | | | 24.85 | 913.96 | 0.03 | -98.30 | 2062.12 | 0.11 | | | | |
| | | | | S.L.E. Rare | 0.00 | | | | -66.90 | | | 0.4 | 0.0 | 2.7 | 12.6 |
| | | | | S.L.E. Freq. | 0.00 | | | | -32.48 | | | 0.2 | 0.0 | 1.3 | 6.1 OK |
| | | | | S.L.E. Q.P. | 0.00 | | | | -10.63 | | | 0.1 | 0.0 | 0.4 | 2.0 OK |
| Camp. | 2.70 | 2011 | 2011 | | | 27.69 | 1081.94 | 0.04 | -4.62 | 1068.21 | 0.05 | | | | |
| | | | | S.L.E. Rare | 10.86 | | | | 0.00 | | | 0.0 | 0.1 | 3.9 | 0.7 |
| | | | | S.L.E. Freq. | 6.40 | | | | 0.00 | | | 0.0 | 0.0 | 2.3 | 0.4 OK |
| | | | | S.L.E. Q.P. | 2.84 | | | | 0.00 | | | 0.0 | 0.0 | 1.0 | 0.2 OK |
| 21 | 5.28 | 1639 | 4021 | | | 35.81 | 892.21 | 0.03 | -47.99 | 2060.92 | 0.11 | | | | |
| | | | | S.L.E. Rare | 19.13 | | | | -5.06 | | | 0.0 | 0.1 | 4.6 | 1.1 |
| | | | | S.L.E. Freq. | 7.97 | | | | -15.03 | | | 0.1 | 0.0 | 1.9 | 2.8 OK |
| | | | | S.L.E. Q.P. | 0.00 | | | | -11.63 | | | 0.1 | 0.0 | 0.5 | 2.2 OK |
| Trave di fondazione Sez. 2 a Tr 1000x1500x500x400 [mm] TRAVI FONDAZIONE A T | | | | | | | | | | | | | | | |
| 21 | 0.13 | 1639 | 4021 | | | 43.30 | 892.21 | 0.03 | -50.60 | 2060.92 | 0.11 | | | | |
| | | | | S.L.E. Rare | 24.62 | | | | -2.17 | | | 0.0 | 0.1 | 5.9 | 1.4 |
| | | | | S.L.E. Freq. | 10.70 | | | | -14.86 | | | 0.1 | 0.1 | 2.5 | 2.8 OK |
| | | | | S.L.E. Q.P. | 0.00 | | | | -11.52 | | | 0.1 | 0.0 | 0.5 | 2.2 OK |
| Camp. | 2.70 | 2011 | 2011 | | | 39.07 | 1081.94 | 0.04 | -0.97 | 1068.21 | 0.05 | | | | |
| | | | | S.L.E. Rare | 20.78 | | | | 0.00 | | | 0.0 | 0.1 | 7.5 | 1.2 |
| | | | | S.L.E. Freq. | 10.66 | | | | 0.00 | | | 0.0 | 0.1 | 3.8 | 0.6 OK |
| | | | | S.L.E. Q.P. | 4.76 | | | | 0.00 | | | 0.0 | 0.0 | 1.7 | 0.3 OK |
| 28 | 5.28 | 1639 | 4021 | | | 13.21 | 892.21 | 0.03 | -52.32 | 2060.92 | 0.11 | | | | |
| | | | | S.L.E. Rare | 0.00 | | | | -35.97 | | | 0.2 | 0.0 | 1.5 | 6.8 |
| | | | | S.L.E. Freq. | 0.00 | | | | -19.21 | | | 0.1 | 0.0 | 0.8 | 3.6 OK |
| | | | | S.L.E. Q.P. | 0.00 | | | | -9.36 | | | 0.1 | 0.0 | 0.4 | 1.8 OK |
| Trave di fondazione Sez. 2 a Tr 1000x1500x500x400 [mm] TRAVI FONDAZIONE A T | | | | | | | | | | | | | | | |
| 28 | 0.13 | 1639 | 4021 | | | 12.54 | 892.21 | 0.03 | -49.61 | 2060.92 | 0.11 | | | | |
| | | | | S.L.E. Rare | 0.00 | | | | -34.43 | | | 0.2 | 0.0 | 1.4 | 6.5 |
| | | | | S.L.E. Freq. | 0.00 | | | | -18.34 | | | 0.1 | 0.0 | 0.8 | 3.5 OK |
| | | | | S.L.E. Q.P. | 0.00 | | | | -9.36 | | | 0.1 | 0.0 | 0.4 | 1.8 OK |
| Camp. | 2.70 | 2011 | 2011 | | | 20.22 | 1081.94 | 0.04 | -0.24 | 1068.21 | 0.05 | | | | |
| | | | | S.L.E. Rare | 14.41 | | | | 0.00 | | | 0.0 | 0.1 | 5.2 | 0.9 |
| | | | | S.L.E. Freq. | 6.46 | | | | 0.00 | | | 0.0 | 0.0 | 2.3 | 0.4 OK |
| | | | | S.L.E. Q.P. | 4.76 | | | | 0.00 | | | 0.0 | 0.0 | 1.7 | 0.3 OK |
| 35 | 5.27 | 1639 | 4021 | | | 14.02 | 892.21 | 0.03 | -40.64 | 2060.92 | 0.11 | | | | |
| | | | | S.L.E. Rare | 0.00 | | | | -20.35 | | | 0.1 | 0.0 | 0.8 | 3.8 |
| | | | | S.L.E. Freq. | 0.00 | | | | -14.86 | | | 0.1 | 0.0 | 0.6 | 2.8 OK |
| | | | | S.L.E. Q.P. | 0.00 | | | | -11.51 | | | 0.1 | 0.0 | 0.5 | 2.2 OK |
| Trave di fondazione Sez. 2 a Tr 1000x1500x500x400 [mm] TRAVI FONDAZIONE A T | | | | | | | | | | | | | | | |
| 35 | 0.13 | 1639 | 4021 | | | 16.54 | 892.21 | 0.03 | -40.93 | 2060.92 | 0.11 | | | | |
| | | | | S.L.E. Rare | 0.00 | | | | -21.44 | | | 0.1 | 0.0 | 0.9 | 4.0 |
| | | | | S.L.E. Freq. | 0.00 | | | | -15.02 | | | 0.1 | 0.0 | 0.6 | 2.8 OK |
| | | | | S.L.E. Q.P. | 0.00 | | | | -11.62 | | | 0.1 | 0.0 | 0.5 | 2.2 OK |

| | | | | | | | | | | | | | | | | | |
|--|------|------|------|--|--------------|-------|---------|------|--------|---------|------|-----|-----|-----|-----|----|--|
| Camp. | 2.70 | 2011 | 2011 | | | 16.71 | 1081.94 | 0.04 | -4.66 | 1068.21 | 0.05 | | | | | | |
| | | | | | S.L.E. Rare | 9.43 | | | 0.00 | | | 0.0 | 0.0 | 3.4 | 0.6 | | |
| | | | | | S.L.E. Freq. | 5.68 | | | 0.00 | | | 0.0 | 0.0 | 2.1 | 0.3 | OK | |
| | | | | | S.L.E. Q.P. | 2.83 | | | 0.00 | | | 0.0 | 0.0 | 1.0 | 0.2 | OK | |
| 42 | 5.27 | 1680 | 4021 | | | 16.54 | 913.96 | 0.03 | -65.43 | 2062.12 | 0.11 | | | | | | |
| | | | | | S.L.E. Rare | 0.00 | | | -48.93 | | | 0.3 | 0.0 | 2.0 | 9.2 | | |
| | | | | | S.L.E. Freq. | 0.00 | | | -21.52 | | | 0.1 | 0.0 | 0.9 | 4.0 | OK | |
| | | | | | S.L.E. Q.P. | 0.00 | | | -10.64 | | | 0.1 | 0.0 | 0.4 | 2.0 | OK | |
| Trave di fondazione Sez. 2 a Tr 1000x1500x500x400 [mm] TRAVI FONDAZIONE A T | | | | | | | | | | | | | | | | | |
| 42 | 0.13 | 1680 | 4021 | | | 18.35 | 913.96 | 0.03 | -72.59 | 2062.12 | 0.11 | | | | | | |
| | | | | | S.L.E. Rare | 0.00 | | | -51.96 | | | 0.3 | 0.0 | 2.2 | 9.8 | | |
| | | | | | S.L.E. Freq. | 0.00 | | | -23.82 | | | 0.1 | 0.0 | 1.0 | 4.5 | OK | |
| | | | | | S.L.E. Q.P. | 0.00 | | | -10.60 | | | 0.1 | 0.0 | 0.5 | 2.0 | OK | |
| Camp. | 2.70 | 2011 | 2011 | | | 30.63 | 1081.94 | 0.04 | -6.96 | 1068.21 | 0.05 | | | | | | |
| | | | | | S.L.E. Rare | 16.22 | | | 0.00 | | | 0.0 | 0.1 | 5.9 | 1.0 | | |
| | | | | | S.L.E. Freq. | 10.64 | | | 0.00 | | | 0.0 | 0.1 | 3.8 | 0.6 | OK | |
| | | | | | S.L.E. Q.P. | 6.13 | | | 0.00 | | | 0.0 | 0.0 | 2.2 | 0.4 | OK | |
| 49 | 5.28 | 1346 | 2011 | | | 27.82 | 731.70 | 0.03 | 0.00 | 1060.99 | 0.05 | | | | | | |
| | | | | | S.L.E. Rare | 10.75 | | | 0.00 | | | 0.0 | 0.1 | 3.8 | 0.7 | | |
| | | | | | S.L.E. Freq. | 6.13 | | | 0.00 | | | 0.0 | 0.0 | 2.2 | 0.4 | OK | |
| | | | | | S.L.E. Q.P. | 2.77 | | | 0.00 | | | 0.0 | 0.0 | 1.0 | 0.2 | OK | |

| Da | A | Dx | VSd | Vrd _c | Vrd _{max} | Vrd _s | TSd | Trd1 | Trd2 | Staffe |
|--|------|------|---------|------------------|--------------------|------------------|---------|----------|---------|-----------------|
| [m] | [m] | [m] | [N] | [N] | [N] | [N] | [kNm] | [kNm] | [kNm] | |
| Trave di fondazione 7 14 Sez. 2 a Tr 1000x1500x500x400 [mm] TRAVI FONDAZIONE A T | | | | | | | | | | |
| 0.13 | 5.28 | 5.15 | 78908.4 | 204022.0 | 2311218.3 | 412385.7 | 47673.2 | 132393.4 | 54757.2 | ø 8 2br. 125.0' |
| Trave di fondazione 14 21 Sez. 2 a Tr 1000x1500x500x400 [mm] TRAVI FONDAZIONE A T | | | | | | | | | | |
| 0.13 | 5.28 | 5.15 | 67389.2 | 212696.6 | 2311218.3 | 412385.7 | 13134.8 | 132393.4 | 54757.2 | ø 8 2br. 125.0' |
| Trave di fondazione 21 28 Sez. 2 a Tr 1000x1500x500x400 [mm] TRAVI FONDAZIONE A T | | | | | | | | | | |
| 0.13 | 5.28 | 5.15 | 47983.6 | 212696.6 | 2311218.3 | 412385.7 | 7397.9 | 132393.4 | 54757.2 | ø 8 2br. 125.0' |
| Trave di fondazione 28 35 Sez. 2 a Tr 1000x1500x500x400 [mm] TRAVI FONDAZIONE A T | | | | | | | | | | |
| 0.13 | 5.27 | 5.15 | 44631.3 | 212696.6 | 2311218.3 | 412385.7 | 6114.8 | 132393.4 | 54757.2 | ø 8 2br. 125.0' |
| Trave di fondazione 35 42 Sez. 2 a Tr 1000x1500x500x400 [mm] TRAVI FONDAZIONE A T | | | | | | | | | | |
| 0.13 | 5.27 | 5.15 | 52079.3 | 212696.6 | 2311218.3 | 412385.7 | 13084.6 | 132393.4 | 54757.2 | ø 8 2br. 125.0' |
| Trave di fondazione 42 49 Sez. 2 a Tr 1000x1500x500x400 [mm] TRAVI FONDAZIONE A T | | | | | | | | | | |
| 0.13 | 5.28 | 5.15 | 58570.3 | 204022.0 | 2311218.3 | 412385.7 | 48867.0 | 132393.4 | 54757.2 | ø 8 2br. 125.0' |

- Travata: 92 Travata 1 2 3 4 5 6 7

| Nodo | x | A _{fe} | A _{fi} | q _T | M _{rif} | M _{de} | M _{re} | x/d | M _{di} | M _{ri} | x/d | σ _{be} | σ _{bi} | σ _{fe} | σ _{fi} | w |
|---|--------------------|--------------------|-----------------|----------------|------------------|-----------------|-----------------|------|-----------------|-----------------|------|-----------------|-----------------|-----------------|-----------------|----|
| [m] | [mm ²] | [mm ²] | [N/m] | [kNm] | [kNm] | [kNm] | | | [kNm] | [kNm] | | [MPa] | [MPa] | [MPa] | [MPa] | mm |
| Trave di fondazione Sez. 1 Rett. 600x1000 [mm] TRAVI FONDAZIONE RETT | | | | | | | | | | | | | | | | |
| 1 | 0.13 | 779 | 1131 | | | 105.24 | 274.35 | 0.05 | -3.46 | -393.38 | 0.06 | | | | | |
| | | | | | S.L.E. Rare | 70.40 | | | 0.00 | | | 0.0 | 1.3 | 61.3 | 13.1 | |
| | | | | | S.L.E. Freq. | 39.05 | | | 0.00 | | | 0.0 | 0.7 | 34.0 | 7.3 | OK |
| | | | | | S.L.E. Q.P. | 12.28 | | | 0.00 | | | 0.0 | 0.2 | 10.7 | 2.3 | OK |
| Camp. | 2.45 | 1272 | 1206 | | | 88.85 | 442.31 | 0.06 | 0.00 | -420.66 | 0.06 | | | | | |
| | | | | | S.L.E. Rare | 54.61 | | | 0.00 | | | 0.0 | 0.8 | 48.2 | 9.6 | |

| | | | | | | | | | | | | | | | | |
|--|------|------|------|--------------|-------|---------|------|--------|----------|------|-----|-----|------|------|-----|----|
| | | | | S.L.E. Freq. | 32.03 | | | | 0.00 | | | 0.0 | 0.5 | 28.3 | 5.7 | OK |
| | | | | S.L.E. Q.P. | 12.72 | | | | 0.00 | | | 0.0 | 0.2 | 11.2 | 2.2 | OK |
| 2 | 4.78 | 576 | 2407 | | 35.69 | 204.99 | 0.05 | -18.63 | -808.76 | 0.11 | | | | | | |
| | | | | S.L.E. Rare | 16.15 | | | 0.00 | | | 0.0 | 0.3 | 9.2 | 2.8 | | |
| | | | | S.L.E. Freq. | 7.77 | | | -4.03 | | | 0.1 | 0.1 | 4.4 | 1.9 | OK | |
| | | | | S.L.E. Q.P. | 0.00 | | | -2.29 | | | 0.0 | 0.0 | 0.1 | 1.1 | OK | |
| Trave di fondazione Sez. 1 Rett. 600x1000 [mm] TRAVI FONDAZIONE RETT | | | | | | | | | | | | | | | | |
| 2 | 0.13 | 576 | 2232 | | 26.14 | 204.92 | 0.05 | -21.85 | -752.98 | 0.10 | | | | | | |
| | | | | S.L.E. Rare | 17.07 | | | 0.00 | | | 0.0 | 0.3 | 10.7 | 3.0 | | |
| | | | | S.L.E. Freq. | 7.96 | | | -4.97 | | | 0.1 | 0.2 | 5.0 | 2.6 | OK | |
| | | | | S.L.E. Q.P. | 0.00 | | | -2.92 | | | 0.0 | 0.0 | 0.2 | 1.5 | OK | |
| Camp. | 2.15 | 1272 | 1206 | | 11.45 | 442.31 | 0.06 | -5.59 | -420.66 | 0.06 | | | | | | |
| | | | | S.L.E. Rare | 4.71 | | | 0.00 | | | 0.0 | 0.1 | 4.2 | 0.8 | | |
| | | | | S.L.E. Freq. | 2.12 | | | -1.06 | | | 0.0 | 0.0 | 1.9 | 1.0 | OK | |
| | | | | S.L.E. Q.P. | 0.00 | | | -0.66 | | | 0.0 | 0.0 | 0.1 | 0.6 | OK | |
| 3 | 4.17 | 602 | 2264 | | 5.52 | 214.18 | 0.05 | -21.55 | -763.56 | 0.10 | | | | | | |
| | | | | S.L.E. Rare | 0.00 | | | -16.13 | | | 0.2 | 0.0 | 0.9 | 8.2 | | |
| | | | | S.L.E. Freq. | 0.00 | | | -10.43 | | | 0.1 | 0.0 | 0.6 | 5.3 | OK | |
| | | | | S.L.E. Q.P. | 0.00 | | | -9.30 | | | 0.1 | 0.0 | 0.5 | 4.7 | OK | |
| Trave di fondazione Sez. 1 Rett. 600x1000 [mm] TRAVI FONDAZIONE RETT | | | | | | | | | | | | | | | | |
| 3 | 0.13 | 602 | 2407 | | 6.19 | 214.24 | 0.05 | -24.49 | -809.11 | 0.11 | | | | | | |
| | | | | S.L.E. Rare | 0.00 | | | -15.08 | | | 0.2 | 0.0 | 0.8 | 7.2 | | |
| | | | | S.L.E. Freq. | 0.00 | | | -10.39 | | | 0.1 | 0.0 | 0.5 | 5.0 | OK | |
| | | | | S.L.E. Q.P. | 0.00 | | | -9.31 | | | 0.1 | 0.0 | 0.5 | 4.5 | OK | |
| Camp. | 2.45 | 1272 | 1206 | | 6.03 | 442.31 | 0.06 | -7.96 | -420.66 | 0.06 | | | | | | |
| | | | | S.L.E. Rare | 0.00 | | | -4.72 | | | 0.1 | 0.0 | 0.8 | 4.4 | | |
| | | | | S.L.E. Freq. | 0.43 | | | -2.70 | | | 0.0 | 0.0 | 0.5 | 2.5 | OK | |
| | | | | S.L.E. Q.P. | 0.10 | | | 0.00 | | | 0.0 | 0.0 | 0.1 | 0.0 | OK | |
| 4 | 4.78 | 431 | 1206 | | 15.49 | 153.66 | 0.04 | -20.60 | -417.23 | 0.06 | | | | | | |
| | | | | S.L.E. Rare | 0.00 | | | -14.54 | | | 0.2 | 0.0 | 1.0 | 13.6 | | |
| | | | | S.L.E. Freq. | 3.57 | | | -5.62 | | | 0.1 | 0.1 | 3.1 | 5.3 | OK | |
| | | | | S.L.E. Q.P. | 2.72 | | | 0.00 | | | 0.0 | 0.1 | 2.3 | 0.6 | OK | |
| Trave di fondazione Sez. 4 a _/ 1000x1500x500x400 [mm] TRAVI FONDAZIONE A L | | | | | | | | | | | | | | | | |
| 4 | 0.13 | 1346 | 1923 | | 19.50 | 731.74 | 0.03 | -20.43 | -1017.78 | 0.05 | | | | | | |
| | | | | S.L.E. Rare | 0.00 | | | -14.06 | | | 0.1 | 0.0 | 0.9 | 5.4 | | |
| | | | | S.L.E. Freq. | 3.84 | | | -5.26 | | | 0.0 | 0.0 | 1.4 | 2.0 | OK | |
| | | | | S.L.E. Q.P. | 3.06 | | | 0.00 | | | 0.0 | 0.0 | 1.1 | 0.2 | OK | |
| Camp. | 2.45 | 2011 | 1923 | | 21.83 | 1081.87 | 0.04 | 0.00 | -1024.54 | 0.04 | | | | | | |
| | | | | S.L.E. Rare | 14.10 | | | 0.00 | | | 0.0 | 0.1 | 5.1 | 0.9 | | |
| | | | | S.L.E. Freq. | 12.31 | | | 0.00 | | | 0.0 | 0.1 | 4.4 | 0.7 | OK | |
| | | | | S.L.E. Q.P. | 11.61 | | | 0.00 | | | 0.0 | 0.1 | 4.2 | 0.7 | OK | |
| 5 | 4.77 | 1516 | 3845 | | 14.21 | 826.56 | 0.03 | -13.96 | -1975.05 | 0.11 | | | | | | |
| | | | | S.L.E. Rare | 6.23 | | | -0.61 | | | 0.0 | 0.0 | 1.5 | 0.4 | | |
| | | | | S.L.E. Freq. | 4.37 | | | -0.83 | | | 0.0 | 0.0 | 1.1 | 0.3 | OK | |
| | | | | S.L.E. Q.P. | 0.90 | | | -0.09 | | | 0.0 | 0.0 | 0.2 | 0.1 | OK | |
| Trave di fondazione Sez. 4 a _/ 1000x1500x500x400 [mm] TRAVI FONDAZIONE A L | | | | | | | | | | | | | | | | |
| 5 | 0.13 | 1516 | 3845 | | 18.76 | 826.56 | 0.03 | -11.31 | -1975.05 | 0.11 | | | | | | |
| | | | | S.L.E. Rare | 4.99 | | | -0.54 | | | 0.0 | 0.0 | 1.2 | 0.3 | | |
| | | | | S.L.E. Freq. | 3.76 | | | -0.66 | | | 0.0 | 0.0 | 0.9 | 0.2 | OK | |
| | | | | S.L.E. Q.P. | 0.60 | | | -0.05 | | | 0.0 | 0.0 | 0.1 | 0.0 | OK | |
| Camp. | 2.15 | 2011 | 1923 | | 46.53 | 1081.87 | 0.04 | -4.68 | -1024.54 | 0.04 | | | | | | |

| | | | | | | | | | | | | | | | |
|--|------|------|------|--------------|-------|--------|---------|-------|--------|---------|------|-----|------|-----|----|
| | | | | S.L.E. Rare | 26.14 | | | 0.00 | | | 0.0 | 0.1 | 9.4 | 1.6 | |
| | | | | S.L.E. Freq. | 16.09 | | | 0.00 | | | 0.0 | 0.1 | 5.8 | 1.0 | OK |
| | | | | S.L.E. Q.P. | 6.37 | | | 0.00 | | | 0.0 | 0.0 | 2.3 | 0.4 | OK |
| 6 | 4.17 | 1516 | 3845 | | | 61.72 | 826.56 | 0.03 | -22.66 | 1975.05 | 0.11 | | | | |
| | | | | S.L.E. Rare | 41.22 | | | 0.00 | | | 0.0 | 0.2 | 10.1 | 2.4 | |
| | | | | S.L.E. Freq. | 22.39 | | | -0.84 | | | 0.0 | 0.1 | 5.5 | 1.3 | OK |
| | | | | S.L.E. Q.P. | 2.42 | | | 0.00 | | | 0.0 | 0.0 | 0.6 | 0.1 | OK |
| Trave di fondazione Sez. 4 a _/ 1000x1500x500x400 [mm] TRAVI FONDAZIONE A L | | | | | | | | | | | | | | | |
| 6 | 0.13 | 1516 | 3845 | | | 77.86 | 826.56 | 0.03 | -19.20 | 1975.05 | 0.11 | | | | |
| | | | | S.L.E. Rare | 40.98 | | | 0.00 | | | 0.0 | 0.2 | 9.9 | 2.4 | |
| | | | | S.L.E. Freq. | 22.52 | | | -0.44 | | | 0.0 | 0.1 | 5.4 | 1.3 | OK |
| | | | | S.L.E. Q.P. | 3.12 | | | 0.00 | | | 0.0 | 0.0 | 0.8 | 0.2 | OK |
| Camp. | 2.45 | 2011 | 1923 | | | 122.49 | 1081.87 | 0.04 | 0.00 | 1024.54 | 0.04 | | | | |
| | | | | S.L.E. Rare | 76.96 | | | 0.00 | | | 0.0 | 0.4 | 27.8 | 4.7 | |
| | | | | S.L.E. Freq. | 45.08 | | | 0.00 | | | 0.0 | 0.2 | 16.3 | 2.7 | OK |
| | | | | S.L.E. Q.P. | 17.53 | | | 0.00 | | | 0.0 | 0.1 | 6.3 | 1.1 | OK |
| 7 | 4.78 | 1346 | 1923 | | | 127.82 | 731.74 | 0.03 | -2.22 | 1017.78 | 0.05 | | | | |
| | | | | S.L.E. Rare | 83.63 | | | 0.00 | | | 0.0 | 0.5 | 29.9 | 5.7 | |
| | | | | S.L.E. Freq. | 47.21 | | | 0.00 | | | 0.0 | 0.3 | 16.9 | 3.2 | OK |
| | | | | S.L.E. Q.P. | 16.26 | | | 0.00 | | | 0.0 | 0.1 | 5.8 | 1.1 | OK |

| Da | A | Dx | VSd | Vrd _c | VRd _{max} | Vrd _s | TSd | Trd1 | Trd2 | Staffe |
|--|------|------|---------|------------------|--------------------|------------------|---------|----------|----------|-----------------|
| [m] | [m] | [m] | [N] | [N] | [N] | [N] | [kNm] | [kNm] | [kNm] | |
| Trave di fondazione 1 2 Sez. 1 Rett. 600x1000 [mm] TRAVI FONDAZIONE RETT | | | | | | | | | | |
| 0.13 | 4.78 | 4.65 | 25251.8 | 176608.1 | 1832651.7 | 338462.1 | 22601.7 | 422406.8 | 131843.0 | ø 8 2br. 100.0' |
| Trave di fondazione 2 3 Sez. 1 Rett. 600x1000 [mm] TRAVI FONDAZIONE RETT | | | | | | | | | | |
| 0.13 | 4.17 | 4.05 | 17201.7 | 176608.1 | 1832651.7 | 338462.1 | 5479.4 | 422406.8 | 131843.0 | ø 8 2br. 100.0' |
| Trave di fondazione 3 4 Sez. 1 Rett. 600x1000 [mm] TRAVI FONDAZIONE RETT | | | | | | | | | | |
| 0.13 | 4.78 | 4.65 | 19432.5 | 176608.1 | 1832651.7 | 338462.1 | 23376.9 | 422406.8 | 131843.0 | ø 8 2br. 100.0' |
| Trave di fondazione 4 5 Sez. 4 a _/ 1000x1500x500x400 [mm] TRAVI FONDAZIONE A L | | | | | | | | | | |
| 0.13 | 4.77 | 4.65 | 28378.0 | 204022.0 | 2311218.3 | 412385.7 | 18171.0 | 260846.6 | 82216.2 | ø 8 2br. 125.0' |
| Trave di fondazione 5 6 Sez. 4 a _/ 1000x1500x500x400 [mm] TRAVI FONDAZIONE A L | | | | | | | | | | |
| 0.13 | 4.17 | 4.05 | 18341.4 | 207232.1 | 2311218.3 | 412385.7 | 11502.3 | 260846.6 | 82216.2 | ø 8 2br. 125.0' |
| Trave di fondazione 6 7 Sez. 4 a _/ 1000x1500x500x400 [mm] TRAVI FONDAZIONE A L | | | | | | | | | | |
| 0.13 | 4.78 | 4.65 | 25719.6 | 204022.0 | 2311218.3 | 412385.7 | 27134.6 | 260846.6 | 82216.2 | ø 8 2br. 125.0' |

- Travata: 98 Travata 43 44 45 46 47 48 49

| Nodo | x | A _{fe} | A _{fi} | q _T | M _{rif} | M _{de} | M _{re} | x/d | M _{di} | M _{ri} | x/d | σ _{be} | σ _{bi} | σ _{fe} | σ _{fi} | w |
|---|--------------------|--------------------|-----------------|----------------|------------------|-----------------|-----------------|------|-----------------|-----------------|------|-----------------|-----------------|-----------------|-----------------|----|
| [m] | [mm ²] | [mm ²] | [N/m] | [kNm] | [kNm] | [kNm] | [kNm] | | [kNm] | [kNm] | | [MPa] | [MPa] | [MPa] | [MPa] | mm |
| Trave di fondazione Sez. 1 Rett. 600x1000 [mm] TRAVI FONDAZIONE RETT | | | | | | | | | | | | | | | | |
| 43 | 0.13 | 779 | 1131 | | | 102.89 | 274.35 | 0.05 | -3.39 | -393.38 | 0.06 | | | | | |
| | | | | S.L.E. Rare | 69.64 | | | 0.00 | | | 0.0 | 1.3 | 60.7 | 13.0 | | |
| | | | | S.L.E. Freq. | 38.67 | | | 0.00 | | | 0.0 | 0.7 | 33.7 | 7.2 | OK | |
| | | | | S.L.E. Q.P. | 12.29 | | | 0.00 | | | 0.0 | 0.2 | 10.7 | 2.3 | OK | |
| Camp. | 2.45 | 1272 | 1206 | | | 81.69 | 442.31 | 0.06 | 0.00 | -420.66 | 0.06 | | | | | |
| | | | | S.L.E. Rare | 49.61 | | | 0.00 | | | 0.0 | 0.8 | 43.8 | 8.8 | | |
| | | | | S.L.E. Freq. | 29.55 | | | 0.00 | | | 0.0 | 0.5 | 26.1 | 5.2 | OK | |
| | | | | S.L.E. Q.P. | 12.76 | | | 0.00 | | | 0.0 | 0.2 | 11.3 | 2.3 | OK | |

| | | | | | | | | | | | | | | | | | |
|---|------|------|------|--|--------------|-------|---------|------|--------|---------|------|-----|-----|-----|-----|----|--|
| 44 | 4.78 | 576 | 2407 | | | 28.81 | 204.99 | 0.05 | -18.53 | -808.76 | 0.11 | | | | | | |
| | | | | | S.L.E. Rare | 11.81 | | | 0.00 | | | 0.0 | 0.2 | 6.7 | 2.1 | | |
| | | | | | S.L.E. Freq. | 5.63 | | | -3.95 | | | 0.1 | 0.1 | 3.2 | 1.9 | OK | |
| | | | | | S.L.E. Q.P. | 0.00 | | | -2.22 | | | 0.0 | 0.0 | 0.1 | 1.1 | OK | |
| Trave di fondazione Sez. 1 Rett. 600x1000 [mm] TRAVI FONDAZIONE RETT | | | | | | | | | | | | | | | | | |
| 44 | 0.13 | 576 | 2232 | | | 19.73 | 204.92 | 0.05 | -21.74 | -752.98 | 0.10 | | | | | | |
| | | | | | S.L.E. Rare | 12.81 | | | 0.00 | | | 0.0 | 0.2 | 8.0 | 2.3 | | |
| | | | | | S.L.E. Freq. | 5.87 | | | -4.89 | | | 0.1 | 0.1 | 3.7 | 2.5 | OK | |
| | | | | | S.L.E. Q.P. | 0.00 | | | -2.85 | | | 0.0 | 0.0 | 0.2 | 1.5 | OK | |
| Camp. | 2.15 | 1272 | 1206 | | | 5.78 | 442.31 | 0.06 | -5.28 | -420.66 | 0.06 | | | | | | |
| | | | | | S.L.E. Rare | 1.11 | | | -0.51 | | | 0.0 | 0.0 | 1.0 | 0.5 | | |
| | | | | | S.L.E. Freq. | 0.30 | | | -1.05 | | | 0.0 | 0.0 | 0.3 | 1.0 | OK | |
| | | | | | S.L.E. Q.P. | 0.00 | | | -0.64 | | | 0.0 | 0.0 | 0.1 | 0.6 | OK | |
| 45 | 4.17 | 602 | 2264 | | | 6.19 | 214.18 | 0.05 | -24.51 | -763.56 | 0.10 | | | | | | |
| | | | | | S.L.E. Rare | 0.00 | | | -17.83 | | | 0.2 | 0.0 | 1.0 | 9.1 | | |
| | | | | | S.L.E. Freq. | 0.00 | | | -11.83 | | | 0.2 | 0.0 | 0.6 | 6.0 | OK | |
| | | | | | S.L.E. Q.P. | 0.00 | | | -9.31 | | | 0.1 | 0.0 | 0.5 | 4.7 | OK | |
| Trave di fondazione Sez. 1 Rett. 600x1000 [mm] TRAVI FONDAZIONE RETT | | | | | | | | | | | | | | | | | |
| 45 | 0.13 | 602 | 2407 | | | 6.19 | 214.24 | 0.05 | -24.49 | -809.11 | 0.11 | | | | | | |
| | | | | | S.L.E. Rare | 0.00 | | | -16.69 | | | 0.2 | 0.0 | 0.8 | 8.0 | | |
| | | | | | S.L.E. Freq. | 0.00 | | | -10.98 | | | 0.1 | 0.0 | 0.6 | 5.3 | OK | |
| | | | | | S.L.E. Q.P. | 0.00 | | | -9.32 | | | 0.1 | 0.0 | 0.5 | 4.5 | OK | |
| Camp. | 2.45 | 1272 | 1206 | | | 6.00 | 442.31 | 0.06 | -6.10 | -420.66 | 0.06 | | | | | | |
| | | | | | S.L.E. Rare | 0.00 | | | -2.52 | | | 0.0 | 0.0 | 0.4 | 2.3 | | |
| | | | | | S.L.E. Freq. | 0.41 | | | -1.61 | | | 0.0 | 0.0 | 0.4 | 1.5 | OK | |
| | | | | | S.L.E. Q.P. | 0.09 | | | 0.00 | | | 0.0 | 0.0 | 0.1 | 0.0 | OK | |
| 46 | 4.78 | 431 | 1206 | | | 10.73 | 153.66 | 0.04 | -6.33 | -417.23 | 0.06 | | | | | | |
| | | | | | S.L.E. Rare | 3.06 | | | -0.43 | | | 0.0 | 0.1 | 2.6 | 0.7 | | |
| | | | | | S.L.E. Freq. | 3.56 | | | 0.00 | | | 0.0 | 0.1 | 3.1 | 0.8 | OK | |
| | | | | | S.L.E. Q.P. | 2.72 | | | 0.00 | | | 0.0 | 0.1 | 2.3 | 0.6 | OK | |
| Trave di fondazione Sez. 3 a L 1000x1500x500x400 [mm] TRAVI FONDAZIONE A L | | | | | | | | | | | | | | | | | |
| 46 | 0.13 | 1346 | 1923 | | | 17.92 | 731.74 | 0.03 | -6.73 | 1017.78 | 0.05 | | | | | | |
| | | | | | S.L.E. Rare | 3.53 | | | -0.48 | | | 0.0 | 0.0 | 1.3 | 0.2 | | |
| | | | | | S.L.E. Freq. | 3.85 | | | 0.00 | | | 0.0 | 0.0 | 1.4 | 0.3 | OK | |
| | | | | | S.L.E. Q.P. | 3.06 | | | 0.00 | | | 0.0 | 0.0 | 1.1 | 0.2 | OK | |
| Camp. | 2.45 | 2011 | 1923 | | | 21.83 | 1081.87 | 0.04 | 0.00 | 1024.54 | 0.04 | | | | | | |
| | | | | | S.L.E. Rare | 13.00 | | | 0.00 | | | 0.0 | 0.1 | 4.7 | 0.8 | | |
| | | | | | S.L.E. Freq. | 12.30 | | | 0.00 | | | 0.0 | 0.1 | 4.4 | 0.7 | OK | |
| | | | | | S.L.E. Q.P. | 11.60 | | | 0.00 | | | 0.0 | 0.1 | 4.2 | 0.7 | OK | |
| 47 | 4.77 | 1516 | 3845 | | | 14.19 | 826.56 | 0.03 | -14.01 | 1975.05 | 0.11 | | | | | | |
| | | | | | S.L.E. Rare | 1.34 | | | -4.94 | | | 0.0 | 0.0 | 0.3 | 1.0 | | |
| | | | | | S.L.E. Freq. | 2.38 | | | -0.84 | | | 0.0 | 0.0 | 0.6 | 0.2 | OK | |
| | | | | | S.L.E. Q.P. | 0.89 | | | -0.10 | | | 0.0 | 0.0 | 0.2 | 0.1 | OK | |
| Trave di fondazione Sez. 3 a L 1000x1500x500x400 [mm] TRAVI FONDAZIONE A L | | | | | | | | | | | | | | | | | |
| 47 | 0.13 | 1516 | 3845 | | | 11.88 | 826.56 | 0.03 | -11.36 | 1975.05 | 0.11 | | | | | | |
| | | | | | S.L.E. Rare | 0.28 | | | -5.09 | | | 0.0 | 0.0 | 0.2 | 1.0 | | |
| | | | | | S.L.E. Freq. | 1.77 | | | -0.67 | | | 0.0 | 0.0 | 0.4 | 0.1 | OK | |
| | | | | | S.L.E. Q.P. | 0.60 | | | -0.05 | | | 0.0 | 0.0 | 0.1 | 0.0 | OK | |
| Camp. | 2.15 | 2011 | 1923 | | | 32.27 | 1081.87 | 0.04 | -4.73 | 1024.54 | 0.04 | | | | | | |
| | | | | | S.L.E. Rare | 16.72 | | | 0.00 | | | 0.0 | 0.1 | 6.0 | 1.0 | | |
| | | | | | S.L.E. Freq. | 11.38 | | | 0.00 | | | 0.0 | 0.1 | 4.1 | 0.7 | OK | |

| | | | | | | | | | | | | | | | |
|---|------|------|------|--------------|-------|--------|---------|------|--------|---------|------|-----|-----|------|-----|
| | | | | S.L.E. Q.P. | 6.36 | | | 0.00 | | | 0.0 | 0.0 | 2.3 | 0.4 | OK |
| 48 | 4.17 | 1516 | 3845 | | | 47.45 | 826.56 | 0.03 | -22.70 | 1975.05 | 0.11 | | | | |
| | | | | S.L.E. Rare | 31.70 | | | | 0.00 | | | 0.0 | 0.2 | 7.7 | 1.8 |
| | | | | S.L.E. Freq. | 17.63 | | | | -0.85 | | | 0.0 | 0.1 | 4.3 | 1.0 |
| | | | | S.L.E. Q.P. | 2.41 | | | | 0.00 | | | 0.0 | 0.0 | 0.6 | 0.1 |
| | | | | | | | | | | | | | | | |
| Trave di fondazione Sez. 3 a L 1000x1500x500x400 [mm] TRAVI FONDAZIONE A L | | | | | | | | | | | | | | | |
| 48 | 0.13 | 1516 | 3845 | | | 63.90 | 826.56 | 0.03 | -19.25 | 1975.05 | 0.11 | | | | |
| | | | | S.L.E. Rare | 31.53 | | | | 0.00 | | | 0.0 | 0.2 | 7.6 | 1.8 |
| | | | | S.L.E. Freq. | 17.79 | | | | -0.44 | | | 0.0 | 0.1 | 4.3 | 1.0 |
| | | | | S.L.E. Q.P. | 3.11 | | | | 0.00 | | | 0.0 | 0.0 | 0.8 | 0.2 |
| Camp. | 2.45 | 2011 | 1923 | | | 112.13 | 1081.87 | 0.04 | 0.00 | 1024.54 | 0.04 | | | | |
| | | | | S.L.E. Rare | 68.90 | | | | 0.00 | | | 0.0 | 0.3 | 24.9 | 4.2 |
| | | | | S.L.E. Freq. | 41.05 | | | | 0.00 | | | 0.0 | 0.2 | 14.8 | 2.5 |
| | | | | S.L.E. Q.P. | 17.52 | | | | 0.00 | | | 0.0 | 0.1 | 6.3 | 1.1 |
| 49 | 4.78 | 1346 | 1923 | | | 122.48 | 731.74 | 0.03 | -2.23 | 1017.78 | 0.05 | | | | |
| | | | | S.L.E. Rare | 82.48 | | | | 0.00 | | | 0.0 | 0.5 | 29.5 | 5.6 |
| | | | | S.L.E. Freq. | 46.64 | | | | 0.00 | | | 0.0 | 0.3 | 16.7 | 3.2 |
| | | | | S.L.E. Q.P. | 16.25 | | | | 0.00 | | | 0.0 | 0.1 | 5.8 | 1.1 |
| | | | | | | | | | | | | | | | |

| Da | A | Dx | VSd | Vrd _c | VRd _{max} | Vrd _s | TSd | Trd1 | Trd2 | Staffe |
|---|------|------|---------|------------------|--------------------|------------------|---------|----------|----------|-----------------|
| [m] | [m] | [m] | [N] | [N] | [N] | [N] | [kNm] | [kNm] | [kNm] | |
| Trave di fondazione 43 44 Sez. 1 Rett. 600x1000 [mm] TRAVI FONDAZIONE RETT | | | | | | | | | | |
| 0.13 | 4.78 | 4.65 | 24420.2 | 176608.1 | 1832651.7 | 338462.1 | 15434.2 | 422406.8 | 131843.0 | ø 8 2br. 100.0' |
| | | | | | | | | | | |
| Trave di fondazione 44 45 Sez. 1 Rett. 600x1000 [mm] TRAVI FONDAZIONE RETT | | | | | | | | | | |
| 0.13 | 4.17 | 4.05 | 17144.1 | 176608.1 | 1832651.7 | 338462.1 | 6255.5 | 422406.8 | 131843.0 | ø 8 2br. 100.0' |
| | | | | | | | | | | |
| Trave di fondazione 45 46 Sez. 1 Rett. 600x1000 [mm] TRAVI FONDAZIONE RETT | | | | | | | | | | |
| 0.13 | 4.78 | 4.65 | 19419.6 | 176608.1 | 1832651.7 | 338462.1 | 15687.8 | 422406.8 | 131843.0 | ø 8 2br. 100.0' |
| | | | | | | | | | | |
| Trave di fondazione 46 47 Sez. 3 a L 1000x1500x500x400 [mm] TRAVI FONDAZIONE A L | | | | | | | | | | |
| 0.13 | 4.77 | 4.65 | 23200.2 | 204022.0 | 2311218.3 | 412385.7 | 12988.8 | 260846.6 | 82216.2 | ø 8 2br. 125.0' |
| | | | | | | | | | | |
| Trave di fondazione 47 48 Sez. 3 a L 1000x1500x500x400 [mm] TRAVI FONDAZIONE A L | | | | | | | | | | |
| 0.13 | 4.17 | 4.05 | 18334.8 | 207232.1 | 2311218.3 | 412385.7 | 9460.3 | 260846.6 | 82216.2 | ø 8 2br. 125.0' |
| | | | | | | | | | | |
| Trave di fondazione 48 49 Sez. 3 a L 1000x1500x500x400 [mm] TRAVI FONDAZIONE A L | | | | | | | | | | |
| 0.13 | 4.78 | 4.65 | 25893.6 | 204022.0 | 2311218.3 | 412385.7 | 17524.8 | 260846.6 | 82216.2 | ø 8 2br. 125.0' |
| | | | | | | | | | | |

- Travata: 99 Travata 8 9 10 11 12 13 14

| Nodo | x | A _{fe} | A _{fi} | q _T | M _{rif} | M _{de} | M _{re} | x/d | M _{di} | M _{ri} | x/d | σ _{be} | σ _{bi} | σ _{fe} | σ _{fi} | w |
|---|------|--------------------|--------------------|----------------|------------------|-----------------|-----------------|------|-----------------|-----------------|------|-----------------|-----------------|-----------------|-----------------|----|
| | [m] | [mm ²] | [mm ²] | [N/m] | [kNm] | [kNm] | [kNm] | | [kNm] | [kNm] | | [MPa] | [MPa] | [MPa] | [MPa] | mm |
| Trave di fondazione Sez. 1 Rett. 600x1000 [mm] TRAVI FONDAZIONE RETT | | | | | | | | | | | | | | | | |
| 8 | 0.13 | 779 | 1131 | | | 59.10 | 274.35 | 0.05 | -13.75 | -393.38 | 0.06 | | | | | |
| | | | | | | S.L.E. Rare | 39.63 | | | 0.00 | | 0.0 | 0.7 | 34.5 | 7.4 | |
| | | | | | | S.L.E. Freq. | 15.28 | | | -4.99 | | 0.1 | 0.3 | 13.3 | 4.6 | OK |
| | | | | | | S.L.E. Q.P. | 0.00 | | | -2.32 | | 0.0 | 0.0 | 0.3 | 2.2 | OK |
| Camp. | 1.06 | 1272 | 1206 | | | 56.73 | 442.31 | 0.06 | -5.18 | -420.66 | 0.06 | | | | | |
| | | | | | | S.L.E. Rare | 33.85 | | | 0.00 | | 0.0 | 0.5 | 29.9 | 6.0 | |
| | | | | | | S.L.E. Freq. | 15.49 | | | 0.00 | | 0.0 | 0.2 | 13.7 | 2.7 | OK |
| | | | | | | S.L.E. Q.P. | 2.83 | | | 0.00 | | 0.0 | 0.0 | 2.5 | 0.5 | OK |
| 9 | 2.00 | 622 | 1030 | | | 41.87 | 220.07 | 0.05 | 0.00 | -358.97 | 0.05 | | | | | |
| | | | | | | S.L.E. Rare | 22.36 | | | 0.00 | | 0.0 | 0.5 | 19.4 | 4.0 | |

| | | | | | | | | | | | | | |
|---|------|--------------|-------|--|--|--------|--------|------|--------|---------|-------|------|----|
| | | S.L.E. Freq. | 11.43 | | | 0.00 | | | 0.0 | 0.2 | 9.9 | 2.1 | OK |
| | | S.L.E. Q.P. | 4.14 | | | 0.00 | | | 0.0 | 0.1 | 3.6 | 0.7 | OK |
| Trave di fondazione Sez. 5 Rett. 400x400 [mm] TRAVI COLL. FONDAZIONE | | | | | | | | | | | | | |
| 9 | 0.12 | 402 | 402 | | | 28.07 | 50.64 | 0.12 | 0.00 | -50.64 | 0.12 | | |
| | | S.L.E. Rare | 19.50 | | | 0.00 | | | 0.0 | 3.1 | 149.9 | 20.9 | |
| | | S.L.E. Freq. | 10.37 | | | 0.00 | | | 0.0 | 1.6 | 79.7 | 11.1 | OK |
| | | S.L.E. Q.P. | 4.33 | | | 0.00 | | | 0.0 | 0.7 | 33.3 | 4.6 | OK |
| Camp. | 5.05 | 402 | 402 | | | 1.30 | 50.64 | 0.12 | -1.32 | -50.64 | 0.12 | | |
| | | S.L.E. Rare | 0.00 | | | -0.79 | | | 0.1 | 0.0 | 0.8 | 6.0 | |
| | | S.L.E. Freq. | 0.33 | | | -0.05 | | | 0.0 | 0.1 | 2.5 | 0.4 | OK |
| | | S.L.E. Q.P. | 0.33 | | | 0.00 | | | 0.0 | 0.1 | 2.5 | 0.4 | OK |
| 10 | 9.98 | 449 | 467 | | | 6.74 | 56.31 | 0.12 | -21.27 | -58.48 | 0.12 | | |
| | | S.L.E. Rare | 0.00 | | | -11.10 | | | 1.6 | 0.0 | 11.9 | 73.8 | |
| | | S.L.E. Freq. | 0.00 | | | -8.00 | | | 1.2 | 0.0 | 8.6 | 53.2 | OK |
| | | S.L.E. Q.P. | 0.00 | | | -7.34 | | | 1.1 | 0.0 | 7.8 | 48.8 | OK |
| Trave di fondazione Sez. 1 Rett. 600x1000 [mm] TRAVI FONDAZIONE RETT | | | | | | | | | | | | | |
| 10 | 0.13 | 622 | 918 | | | 20.33 | 219.94 | 0.04 | -31.49 | -321.05 | 0.05 | | |
| | | S.L.E. Rare | 0.00 | | | -15.12 | | | 0.3 | 0.0 | 1.5 | 14.0 | |
| | | S.L.E. Freq. | 0.00 | | | -10.84 | | | 0.2 | 0.0 | 1.1 | 10.0 | OK |
| | | S.L.E. Q.P. | 0.00 | | | -9.92 | | | 0.2 | 0.0 | 1.0 | 9.2 | OK |
| Camp. | 1.06 | 1272 | 1206 | | | 0.00 | 442.31 | 0.06 | -61.04 | -420.66 | 0.06 | | |
| | | S.L.E. Rare | 0.00 | | | -35.28 | | | 0.5 | 0.0 | 6.2 | 32.7 | |
| | | S.L.E. Freq. | 0.00 | | | -23.82 | | | 0.4 | 0.0 | 4.2 | 22.1 | OK |
| | | S.L.E. Q.P. | 0.00 | | | -21.40 | | | 0.3 | 0.0 | 3.8 | 19.9 | OK |
| 11 | 2.00 | 536 | 1830 | | | 20.33 | 190.89 | 0.05 | -80.44 | -623.02 | 0.08 | | |
| | | S.L.E. Rare | 0.00 | | | -63.61 | | | 0.9 | 0.0 | 3.3 | 35.5 | |
| | | S.L.E. Freq. | 0.00 | | | -40.43 | | | 0.6 | 0.0 | 2.1 | 22.5 | OK |
| | | S.L.E. Q.P. | 0.00 | | | -35.58 | | | 0.5 | 0.0 | 1.8 | 19.8 | OK |
| Trave di fondazione Sez. 1 Rett. 600x1000 [mm] TRAVI FONDAZIONE RETT | | | | | | | | | | | | | |
| 11 | 0.13 | 536 | 1830 | | | 19.71 | 190.89 | 0.05 | -77.99 | -623.02 | 0.08 | | |
| | | S.L.E. Rare | 0.00 | | | -61.11 | | | 0.9 | 0.0 | 3.1 | 34.1 | |
| | | S.L.E. Freq. | 0.00 | | | -38.61 | | | 0.6 | 0.0 | 2.0 | 21.5 | OK |
| | | S.L.E. Q.P. | 0.00 | | | -34.29 | | | 0.5 | 0.0 | 1.8 | 19.1 | OK |
| Camp. | 1.06 | 1272 | 1206 | | | 0.00 | 442.31 | 0.06 | -59.09 | -420.66 | 0.06 | | |
| | | S.L.E. Rare | 0.00 | | | -33.74 | | | 0.5 | 0.0 | 5.9 | 31.3 | |
| | | S.L.E. Freq. | 0.00 | | | -22.74 | | | 0.4 | 0.0 | 4.0 | 21.1 | OK |
| | | S.L.E. Q.P. | 0.00 | | | -20.61 | | | 0.3 | 0.0 | 3.6 | 19.1 | OK |
| 12 | 2.00 | 622 | 918 | | | 19.71 | 219.94 | 0.04 | -30.57 | -321.05 | 0.05 | | |
| | | S.L.E. Rare | 0.00 | | | -14.36 | | | 0.3 | 0.0 | 1.4 | 13.3 | |
| | | S.L.E. Freq. | 0.00 | | | -10.32 | | | 0.2 | 0.0 | 1.0 | 9.5 | OK |
| | | S.L.E. Q.P. | 0.00 | | | -9.53 | | | 0.2 | 0.0 | 1.0 | 8.8 | OK |
| Trave di fondazione Sez. 5 Rett. 400x400 [mm] TRAVI COLL. FONDAZIONE | | | | | | | | | | | | | |
| 12 | 0.12 | 402 | 402 | | | 3.71 | 50.64 | 0.12 | -14.33 | -50.64 | 0.12 | | |
| | | S.L.E. Rare | 0.00 | | | -10.50 | | | 1.7 | 0.0 | 11.3 | 80.7 | |
| | | S.L.E. Freq. | 0.00 | | | -7.60 | | | 1.2 | 0.0 | 8.2 | 58.4 | OK |
| | | S.L.E. Q.P. | 0.00 | | | -7.03 | | | 1.1 | 0.0 | 7.5 | 54.0 | OK |
| Camp. | 5.05 | 402 | 402 | | | 0.75 | 50.64 | 0.12 | -0.47 | -50.64 | 0.12 | | |
| | | S.L.E. Rare | 0.14 | | | -0.20 | | | 0.0 | 0.0 | 1.1 | 1.5 | |
| | | S.L.E. Freq. | 0.45 | | | 0.00 | | | 0.0 | 0.1 | 3.4 | 0.5 | OK |
| | | S.L.E. Q.P. | 0.45 | | | 0.00 | | | 0.0 | 0.1 | 3.4 | 0.5 | OK |
| 13 | 9.98 | 449 | 467 | | | 19.28 | 56.31 | 0.12 | -0.34 | -58.48 | 0.12 | | |
| | | S.L.E. Rare | 13.23 | | | 0.00 | | | 0.0 | 2.0 | 91.4 | 14.0 | |
| | | S.L.E. Freq. | 6.21 | | | 0.00 | | | 0.0 | 0.9 | 42.9 | 6.6 | OK |
| | | S.L.E. Q.P. | 1.61 | | | 0.00 | | | 0.0 | 0.2 | 11.1 | 1.7 | OK |

| Trave di fondazione Sez. 2 a Tr 1000x1500x500x400 [mm] TRAVI FONDAZIONE A T | | | | | | | | | | | | | |
|---|------|------|------|--------------|--|-------|---------|------|--------|---------|------|-----|----------------|
| 13 | 0.13 | 1456 | 1923 | | | 34.02 | 789.72 | 0.03 | -4.01 | 1018.98 | 0.05 | | |
| | | | | S.L.E. Rare | | 15.20 | | | 0.00 | | | 0.0 | 0.1 5.4 1.0 |
| | | | | S.L.E. Freq. | | 6.72 | | | 0.00 | | | 0.0 | 0.0 2.4 0.4 OK |
| | | | | S.L.E. Q.P. | | 1.11 | | | 0.00 | | | 0.0 | 0.0 0.4 0.1 OK |
| Camp. | 1.06 | 2011 | 1923 | | | 46.29 | 1081.87 | 0.04 | -12.55 | 1024.54 | 0.04 | | |
| | | | | S.L.E. Rare | | 25.11 | | | 0.00 | | | 0.0 | 0.1 9.1 1.5 |
| | | | | S.L.E. Freq. | | 9.75 | | | -2.00 | | | 0.0 | 0.0 3.5 0.8 OK |
| | | | | S.L.E. Q.P. | | 0.00 | | | -0.75 | | | 0.0 | 0.0 0.1 0.3 OK |
| 14 | 2.00 | 1346 | 1923 | | | 47.19 | 731.74 | 0.03 | -17.56 | 1017.78 | 0.05 | | |
| | | | | S.L.E. Rare | | 31.34 | | | 0.00 | | | 0.0 | 0.2 11.2 2.1 |
| | | | | S.L.E. Freq. | | 9.68 | | | -8.30 | | | 0.1 | 0.1 3.5 3.2 OK |
| | | | | S.L.E. Q.P. | | 0.00 | | | -5.89 | | | 0.0 | 0.0 0.4 2.3 OK |

| Da | A | Dx | VSd | Vrd _c | VRd _{max} | Vrd _s | TSd | Trd1 | Trd2 | Staffe |
|---|------|------|---------|------------------|--------------------|------------------|-------|----------|----------|-----------------|
| [m] | [m] | [m] | [N] | [N] | [N] | [N] | [kNm] | [kNm] | [kNm] | |
| Trave di fondazione 8 9 Sez. 1 Rett. 600x1000 [mm] TRAVI FONDAZIONE RETT | | | | | | | | | | |
| 0.13 | 2.13 | 1.99 | 26706.1 | 176608.1 | 1832651.7 | 338462.1 | 202.0 | 422406.8 | 131843.0 | ø 8 2br. 100.0' |
| Trave di fondazione 9 10 Sez. 5 Rett. 400x400 [mm] TRAVI COLL. FONDAZIONE | | | | | | | | | | |
| 0.12 | 9.98 | 9.85 | 20818.1 | 57667.4 | 454967.9 | 100830.5 | 130.4 | 60495.7 | 28323.2 | ø 8 2br. 125.0' |
| Trave di fondazione 10 11 Sez. 1 Rett. 600x1000 [mm] TRAVI FONDAZIONE RETT | | | | | | | | | | |
| 0.13 | 2.13 | 1.99 | 46652.9 | 176608.1 | 1832651.7 | 338462.1 | 66.8 | 422406.8 | 131843.0 | ø 8 2br. 100.0' |
| Trave di fondazione 11 12 Sez. 1 Rett. 600x1000 [mm] TRAVI FONDAZIONE RETT | | | | | | | | | | |
| 0.13 | 2.13 | 1.99 | 45531.8 | 176608.1 | 1832651.7 | 338462.1 | 58.0 | 422406.8 | 131843.0 | ø 8 2br. 100.0' |
| Trave di fondazione 12 13 Sez. 5 Rett. 400x400 [mm] TRAVI COLL. FONDAZIONE | | | | | | | | | | |
| 0.12 | 9.98 | 9.85 | 20110.4 | 57667.4 | 454967.9 | 100830.5 | 71.8 | 60495.7 | 28323.2 | ø 8 2br. 125.0' |
| Trave di fondazione 13 14 Sez. 2 a Tr 1000x1500x500x400 [mm] TRAVI FONDAZIONE A T | | | | | | | | | | |
| 0.13 | 2.13 | 1.99 | 25133.1 | 204022.0 | 2311218.3 | 412385.7 | 272.5 | 132393.4 | 54757.2 | ø 8 2br. 125.0' |

- VERIFICA ELEMENTI IN ACCIAIO

- VERIFICA PILASTRI SEZIONE 1 PROFILO HEA 400 PILASTRI ESTERNI LATERALI

- Tipo di verifica da eseguire:

- Resistenza (Componenti Azioni Interna)..... : - N - Ty - Mx - My
- Instabilità Nel Piano 1/2 : Pr. singolo
- Instabilità Nel Piano 1/3 : Pr. singolo
- Pressoflessione (Componenti Azioni Interna). : N - Mx - My
- Instabilità Flesso-Torsionale : A doppio T

- Acciaio tipo : **Acciaio**
- Tensione di Snervamento : 275.00 [MPa]
- Tensione di Rottura : 430.00 [MPa]

| Asta Nodi | | Luce A [m] | Snellezza nel Piano | | Resistenza Sd/Sr | Instabilità Sd/Sr | | Pressoflessione Sd/Sr | Svergolamento Sd/Sr |
|-----------|----|---------------|---------------------|------|---------------------|-------------------|-----------|--------------------------|------------------------|
| Da | A | | 1/2 | 1/3 | | 1/2 | 1/3 | | |
| 49 | 78 | 3.600 | 21.4 | 49.1 | 0.122 (4) | 0.008 (4) | 0.009 (4) | 0.151 (4) | 0.132 (4) |
| 43 | 72 | 3.600 | 21.4 | 49.1 | 0.119 (4) | 0.008 (4) | 0.009 (4) | 0.146 (4) | 0.128 (4) |
| 42 | 70 | 3.600 | 21.4 | 49.1 | 0.288 (3) | 0.029 (4) | 0.034 (4) | 0.272 (3) | 0.288 (3) |
| 36 | 69 | 3.600 | 21.4 | 49.1 | 0.288 (2) | 0.029 (4) | 0.034 (4) | 0.272 (2) | 0.288 (2) |
| 35 | 67 | 3.600 | 21.4 | 49.1 | 0.286 (3) | 0.027 (3) | 0.031 (3) | 0.272 (3) | 0.286 (3) |
| 29 | 66 | 3.600 | 21.4 | 49.1 | 0.286 (2) | 0.027 (2) | 0.031 (2) | 0.273 (2) | 0.286 (2) |
| 28 | 65 | 3.600 | 21.4 | 49.1 | 0.276 (3) | 0.026 (3) | 0.030 (3) | 0.264 (3) | 0.276 (3) |
| 22 | 63 | 3.600 | 21.4 | 49.1 | 0.277 (2) | 0.026 (2) | 0.030 (2) | 0.265 (2) | 0.277 (2) |
| 21 | 61 | 3.600 | 21.4 | 49.1 | 0.286 (3) | 0.027 (3) | 0.031 (3) | 0.272 (3) | 0.286 (3) |
| 15 | 60 | 3.600 | 21.4 | 49.1 | 0.286 (2) | 0.027 (2) | 0.031 (2) | 0.273 (2) | 0.286 (2) |
| 14 | 58 | 3.600 | 21.4 | 49.1 | 0.288 (3) | 0.034 (4) | 0.040 (4) | 0.272 (3) | 0.288 (3) |
| 8 | 57 | 3.600 | 21.4 | 49.1 | 0.288 (2) | 0.034 (4) | 0.040 (4) | 0.272 (2) | 0.288 (2) |
| 7 | 56 | 3.600 | 21.4 | 49.1 | 0.126 (4) | 0.008 (4) | 0.010 (4) | 0.169 (4) | 0.136 (4) |
| 1 | 50 | 3.600 | 21.4 | 49.1 | 0.121 (4) | 0.008 (4) | 0.010 (4) | 0.163 (4) | 0.130 (4) |

- VERIFICA PILASTRI SEZIONE 2 PROFILO HEA 240 PILASTRI ESTERNI FRONTALI

- Tipo di verifica da eseguire:

- Resistenza (Componenti Azioni Interna)..... : - N - Ty - Mx - My
- Instabilità Nel Piano 1/2 : Pr. singolo
- Instabilità Nel Piano 1/3 : Pr. singolo
- Pressoflessione (Componenti Azioni Interna). : N - Mx - My
- Instabilità Flesso-Torsionale : A doppio T

- Acciaio tipo : **Acciaio**
- Tensione di Snervamento : 275.00 [MPa]
- Tensione di Rottura : 430.00 [MPa]

| Asta Nodi | | Luce A [m] | Snellezza nel Piano | | Resistenza Sd/Sr | Instabilità Sd/Sr | | Pressoflessione Sd/Sr | Svergolamento Sd/Sr |
|-----------|-----|---------------|---------------------|------|---------------------|-------------------|-----------|--------------------------|------------------------|
| Da | A | | 1/2 | 1/3 | | 1/2 | 1/3 | | |
| 77 | 124 | 0.980 | 9.8 | 16.3 | 0.062 (4) | 0.018 (3) | 0.018 (3) | 0.078 (4) | 0.062 (4) |
| 48 | 77 | 3.600 | 35.8 | 60.0 | 0.062 (4) | 0.022 (3) | 0.028 (3) | 0.083 (4) | 0.066 (4) |
| 76 | 180 | 1.840 | 18.3 | 30.7 | 0.115 (5) | 0.017 (3) | 0.019 (3) | 0.117 (5) | 0.115 (5) |
| 47 | 76 | 3.600 | 35.8 | 60.0 | 0.121 (5) | 0.021 (3) | 0.027 (3) | 0.112 (5) | 0.135 (5) |
| 74 | 179 | 1.840 | 18.3 | 30.7 | 0.116 (5) | 0.017 (2) | 0.018 (2) | 0.117 (5) | 0.116 (5) |
| 45 | 74 | 3.600 | 35.8 | 60.0 | 0.118 (5) | 0.021 (2) | 0.027 (2) | 0.109 (5) | 0.131 (5) |
| 73 | 123 | 0.980 | 9.8 | 16.3 | 0.062 (4) | 0.017 (2) | 0.017 (2) | 0.079 (4) | 0.062 (4) |
| 44 | 73 | 3.600 | 35.8 | 60.0 | 0.064 (4) | 0.022 (2) | 0.027 (2) | 0.085 (4) | 0.065 (4) |
| 55 | 122 | 0.980 | 9.8 | 16.3 | 0.053 (5) | 0.018 (3) | 0.018 (3) | 0.067 (4) | 0.053 (5) |
| 6 | 55 | 3.600 | 35.8 | 60.0 | 0.106 (4) | 0.022 (3) | 0.028 (3) | 0.129 (4) | 0.118 (4) |
| 54 | 168 | 1.840 | 18.3 | 30.7 | 0.107 (4) | 0.017 (3) | 0.019 (3) | 0.116 (4) | 0.107 (4) |
| 5 | 54 | 3.600 | 35.8 | 60.0 | 0.161 (4) | 0.021 (3) | 0.027 (3) | 0.168 (4) | 0.179 (4) |
| 52 | 167 | 1.840 | 18.3 | 30.7 | 0.108 (4) | 0.017 (2) | 0.018 (2) | 0.119 (4) | 0.108 (4) |

| | | | | | | | | | |
|----|-----|-------|------|------|-----------|-----------|-----------|-----------|-----------|
| 3 | 52 | 3.600 | 35.8 | 60.0 | 0.155 (4) | 0.021 (2) | 0.027 (2) | 0.165 (4) | 0.173 (4) |
| 51 | 121 | 0.980 | 9.8 | 16.3 | 0.053 (5) | 0.017 (2) | 0.017 (2) | 0.069 (4) | 0.053 (5) |
| 2 | 51 | 3.600 | 35.8 | 60.0 | 0.101 (4) | 0.022 (2) | 0.027 (2) | 0.127 (4) | 0.112 (4) |

- VERIFICA PILASTRI SEZIONE 4 PROFILO HEB 300 PILASTRI INTERNI

- Tipo di verifica da eseguire:

- Resistenza (Componenti Azioni Interna)..... : - N - Ty - Mx - My
- Instabilità Nel Piano 1/2 : Pr. singolo
- Instabilità Nel Piano 1/3 : Pr. singolo
- Pressoflessione (Componenti Azioni Interna). : N - Mx - My
- Instabilità Flesso-Torsionale : A doppio T

- Acciaio tipo : **Acciaio**
- Tensione di Snervamento : 275.00 [MPa]
- Tensione di Rottura : 430.00 [MPa]

| Asta Nodi | | Luce | Snellezza nel Piano | | Resistenza | Instabilità Sd/Sr | | Pressoflessione | Svergolamento |
|-----------|-----|-------|---------------------|------|------------|-------------------|-----------|-----------------|---------------|
| Da | A | [m] | 1/2 | 1/3 | Sd/Sr | 1/2 | 1/3 | Sd/Sr | Sd/Sr |
| 75 | 229 | 2.820 | 21.7 | 37.2 | 0.020 (5) | 0.009 (1) | 0.010 (1) | 0.025 (3) | 0.020 (5) |
| 46 | 75 | 3.600 | 27.7 | 47.5 | 0.047 (4) | 0.012 (1) | 0.014 (1) | 0.048 (4) | 0.051 (4) |
| 71 | 228 | 2.820 | 21.7 | 37.2 | 0.230 (3) | 0.044 (1) | 0.049 (1) | 0.225 (3) | 0.230 (3) |
| 39 | 71 | 3.600 | 27.7 | 47.5 | 0.069 (3) | 0.049 (1) | 0.057 (1) | 0.087 (3) | 0.073 (3) |
| 68 | 227 | 2.820 | 21.7 | 37.2 | 0.246 (3) | 0.043 (1) | 0.048 (1) | 0.239 (3) | 0.246 (3) |
| 32 | 68 | 3.600 | 27.7 | 47.5 | 0.086 (3) | 0.048 (1) | 0.056 (1) | 0.101 (3) | 0.092 (3) |
| 64 | 226 | 2.820 | 21.7 | 37.2 | 0.239 (3) | 0.043 (1) | 0.048 (1) | 0.233 (3) | 0.239 (3) |
| 25 | 64 | 3.600 | 27.7 | 47.5 | 0.091 (3) | 0.047 (1) | 0.056 (1) | 0.104 (3) | 0.098 (3) |
| 62 | 225 | 2.820 | 21.7 | 37.2 | 0.245 (3) | 0.043 (1) | 0.048 (1) | 0.239 (3) | 0.245 (3) |
| 18 | 62 | 3.600 | 27.7 | 47.5 | 0.087 (3) | 0.048 (1) | 0.056 (1) | 0.100 (3) | 0.092 (3) |
| 59 | 224 | 2.820 | 21.7 | 37.2 | 0.230 (2) | 0.044 (1) | 0.049 (1) | 0.225 (3) | 0.230 (2) |
| 11 | 59 | 3.600 | 27.7 | 47.5 | 0.071 (4) | 0.049 (1) | 0.058 (1) | 0.106 (4) | 0.073 (3) |
| 53 | 223 | 2.820 | 21.7 | 37.2 | 0.059 (4) | 0.009 (1) | 0.010 (1) | 0.058 (4) | 0.059 (4) |
| 4 | 53 | 3.600 | 27.7 | 47.5 | 0.124 (4) | 0.012 (1) | 0.014 (1) | 0.118 (4) | 0.132 (4) |

- VERIFICA TRAVI SEZIONE 1 PROFILO IPE 400 TRAVI PRINCIPALI

- Tipo di verifica da eseguire:

- Resistenza (Componenti Azioni Interna)..... : - N - Ty - Mx - My
- Instabilità Nel Piano 1/2 : Pr. singolo
- Instabilità Nel Piano 1/3 : Pr. singolo
- Pressoflessione (Componenti Azioni Interna). : N - Mx - My
- Instabilità Flesso-Torsionale : A doppio T

- Acciaio tipo : **Acciaio**
- Tensione di Snervamento : 275.00 [MPa]
- Tensione di Rottura : 430.00 [MPa]

| Asta Nodi | | Luce | Snellezza nel Piano | | Resistenza | Instabilità Sd/Sr | | Pressoflessione | Svergolamento |
|-----------|-----|-------|---------------------|------|------------|-------------------|-----------|-----------------|---------------|
| Da | A | [m] | 1/2 | 1/3 | Sd/Sr | 1/2 | 1/3 | Sd/Sr | Sd/Sr |
| 128 | 110 | 1.356 | 8.2 | 34.4 | 0.405 (3) | 0.025 (3) | 0.027 (3) | 0.459 (3) | 0.427 (3) |
| 225 | 214 | 0.816 | 4.9 | 20.7 | 0.733 (1) | 0.019 (4) | 0.019 (4) | 0.731 (1) | 0.718 (1) |
| 223 | 210 | 0.816 | 4.9 | 20.7 | 0.068 (5) | 0.005 (5) | 0.005 (5) | 0.059 (5) | 0.040 (1) |
| 209 | 223 | 0.816 | 4.9 | 20.7 | 0.069 (5) | 0.005 (5) | 0.005 (5) | 0.060 (5) | 0.036 (1) |
| 217 | 227 | 0.816 | 4.9 | 20.7 | 0.732 (1) | 0.018 (4) | 0.018 (4) | 0.730 (1) | 0.717 (1) |
| 219 | 228 | 0.816 | 4.9 | 20.7 | 0.725 (1) | 0.015 (4) | 0.015 (4) | 0.724 (1) | 0.713 (1) |
| 199 | 213 | 1.356 | 8.2 | 34.4 | 0.509 (1) | 0.020 (4) | 0.021 (4) | 0.584 (1) | 0.569 (1) |
| 207 | 221 | 1.356 | 8.2 | 34.4 | 0.037 (1) | 0.012 (4) | 0.013 (4) | 0.035 (4) | 0.031 (2) |
| 193 | 207 | 1.356 | 8.2 | 34.4 | 0.050 (4) | 0.012 (4) | 0.013 (4) | 0.052 (4) | 0.031 (2) |
| 179 | 193 | 1.469 | 8.9 | 37.2 | 0.110 (4) | 0.013 (4) | 0.014 (4) | 0.087 (4) | 0.038 (2) |
| 165 | 179 | 1.244 | 7.5 | 31.5 | 0.140 (4) | 0.012 (4) | 0.013 (4) | 0.123 (4) | 0.032 (2) |
| 151 | 165 | 1.356 | 8.2 | 34.4 | 0.061 (4) | 0.012 (4) | 0.013 (4) | 0.059 (4) | 0.021 (4) |
| 137 | 151 | 1.356 | 8.2 | 34.4 | 0.073 (4) | 0.010 (4) | 0.011 (4) | 0.069 (4) | 0.025 (2) |
| 123 | 137 | 0.428 | 2.6 | 10.9 | 0.116 (4) | 0.011 (4) | 0.011 (4) | 0.089 (4) | 0.044 (2) |
| 119 | 123 | 0.928 | 5.6 | 23.5 | 0.113 (4) | 0.010 (4) | 0.010 (4) | 0.088 (4) | 0.049 (2) |
| 185 | 199 | 1.356 | 8.2 | 34.4 | 0.196 (1) | 0.021 (4) | 0.022 (4) | 0.224 (1) | 0.207 (1) |
| 171 | 185 | 1.469 | 8.9 | 37.2 | 0.347 (2) | 0.022 (4) | 0.024 (4) | 0.406 (2) | 0.387 (2) |
| 157 | 171 | 1.244 | 7.5 | 31.5 | 0.435 (2) | 0.023 (4) | 0.024 (4) | 0.488 (2) | 0.470 (2) |
| 143 | 157 | 1.356 | 8.2 | 34.4 | 0.460 (2) | 0.023 (4) | 0.025 (4) | 0.526 (2) | 0.504 (2) |
| 129 | 143 | 1.356 | 8.2 | 34.4 | 0.458 (2) | 0.024 (4) | 0.026 (4) | 0.525 (2) | 0.504 (2) |
| 197 | 211 | 1.356 | 8.2 | 34.4 | 0.499 (1) | 0.022 (4) | 0.024 (4) | 0.572 (1) | 0.559 (1) |
| 183 | 197 | 1.356 | 8.2 | 34.4 | 0.187 (1) | 0.023 (4) | 0.025 (4) | 0.214 (1) | 0.197 (1) |
| 203 | 217 | 1.356 | 8.2 | 34.4 | 0.509 (1) | 0.019 (4) | 0.020 (4) | 0.584 (1) | 0.569 (1) |
| 189 | 203 | 1.356 | 8.2 | 34.4 | 0.196 (1) | 0.020 (4) | 0.021 (4) | 0.224 (1) | 0.207 (1) |
| 175 | 189 | 1.469 | 8.9 | 37.2 | 0.346 (2) | 0.021 (4) | 0.022 (4) | 0.405 (2) | 0.387 (2) |
| 161 | 175 | 1.244 | 7.5 | 31.5 | 0.436 (2) | 0.022 (4) | 0.023 (4) | 0.488 (2) | 0.470 (2) |
| 115 | 133 | 1.356 | 8.2 | 34.4 | 0.407 (2) | 0.024 (4) | 0.026 (4) | 0.464 (2) | 0.438 (2) |
| 205 | 219 | 1.356 | 8.2 | 34.4 | 0.499 (1) | 0.015 (4) | 0.017 (4) | 0.573 (1) | 0.559 (1) |
| 191 | 205 | 1.356 | 8.2 | 34.4 | 0.187 (1) | 0.016 (4) | 0.018 (4) | 0.214 (1) | 0.197 (1) |
| 177 | 191 | 1.469 | 8.9 | 37.2 | 0.327 (2) | 0.019 (2) | 0.021 (2) | 0.380 (2) | 0.356 (2) |
| 163 | 177 | 1.244 | 7.5 | 31.5 | 0.417 (2) | 0.020 (2) | 0.022 (2) | 0.467 (2) | 0.445 (2) |
| 201 | 215 | 1.356 | 8.2 | 34.4 | 0.492 (1) | 0.020 (4) | 0.022 (4) | 0.564 (1) | 0.550 (1) |
| 187 | 201 | 1.356 | 8.2 | 34.4 | 0.187 (1) | 0.021 (4) | 0.023 (4) | 0.213 (1) | 0.197 (1) |
| 173 | 187 | 1.469 | 8.9 | 37.2 | 0.329 (2) | 0.022 (4) | 0.024 (4) | 0.386 (2) | 0.369 (2) |
| 87 | 101 | 1.356 | 8.2 | 34.4 | 0.288 (2) | 0.025 (1) | 0.027 (1) | 0.328 (2) | 0.298 (2) |
| 159 | 173 | 1.244 | 7.5 | 31.5 | 0.418 (2) | 0.023 (4) | 0.024 (4) | 0.469 (2) | 0.451 (2) |
| 145 | 159 | 1.356 | 8.2 | 34.4 | 0.441 (2) | 0.024 (4) | 0.026 (4) | 0.506 (2) | 0.487 (2) |
| 135 | 149 | 1.356 | 8.2 | 34.4 | 0.451 (2) | 0.025 (2) | 0.027 (2) | 0.514 (2) | 0.486 (2) |
| 147 | 161 | 1.356 | 8.2 | 34.4 | 0.460 (2) | 0.022 (4) | 0.024 (4) | 0.526 (2) | 0.503 (2) |
| 117 | 135 | 1.356 | 8.2 | 34.4 | 0.405 (2) | 0.026 (2) | 0.028 (2) | 0.460 (2) | 0.427 (2) |
| 133 | 147 | 1.356 | 8.2 | 34.4 | 0.458 (2) | 0.023 (4) | 0.025 (4) | 0.525 (2) | 0.503 (2) |
| 111 | 129 | 1.356 | 8.2 | 34.4 | 0.404 (2) | 0.025 (4) | 0.027 (4) | 0.462 (2) | 0.438 (2) |
| 155 | 169 | 1.244 | 7.5 | 31.5 | 0.416 (2) | 0.025 (4) | 0.027 (4) | 0.467 (2) | 0.445 (2) |
| 69 | 89 | 1.356 | 8.2 | 34.4 | 0.659 (2) | 0.029 (2) | 0.031 (2) | 0.755 (2) | 0.722 (2) |
| 66 | 87 | 1.356 | 8.2 | 34.4 | 0.649 (2) | 0.026 (1) | 0.028 (1) | 0.744 (2) | 0.716 (2) |
| 99 | 113 | 1.356 | 8.2 | 34.4 | 0.268 (2) | 0.023 (1) | 0.025 (1) | 0.304 (2) | 0.279 (2) |
| 85 | 99 | 1.356 | 8.2 | 34.4 | 0.268 (2) | 0.024 (1) | 0.026 (1) | 0.306 (2) | 0.281 (2) |
| 97 | 111 | 1.356 | 8.2 | 34.4 | 0.275 (2) | 0.023 (1) | 0.025 (1) | 0.311 (2) | 0.283 (2) |
| 195 | 209 | 1.356 | 8.2 | 34.4 | 0.037 (5) | 0.006 (5) | 0.006 (5) | 0.033 (1) | 0.031 (2) |
| 63 | 85 | 1.356 | 8.2 | 34.4 | 0.627 (2) | 0.026 (1) | 0.028 (1) | 0.718 (2) | 0.693 (2) |
| 83 | 97 | 1.356 | 8.2 | 34.4 | 0.285 (2) | 0.025 (1) | 0.027 (1) | 0.324 (2) | 0.298 (2) |
| 181 | 195 | 1.356 | 8.2 | 34.4 | 0.066 (4) | 0.006 (5) | 0.007 (5) | 0.054 (4) | 0.031 (2) |
| 167 | 181 | 1.469 | 8.9 | 37.2 | 0.113 (4) | 0.008 (5) | 0.009 (5) | 0.089 (4) | 0.038 (2) |
| 89 | 103 | 1.356 | 8.2 | 34.4 | 0.291 (2) | 0.028 (2) | 0.030 (2) | 0.331 (2) | 0.293 (2) |
| 153 | 167 | 1.244 | 7.5 | 31.5 | 0.127 (5) | 0.007 (5) | 0.007 (5) | 0.111 (5) | 0.032 (2) |

| | | | | | | | | | |
|-----|-----|-------|-----|------|-----------|-----------|-----------|-----------|-----------|
| 139 | 153 | 1.356 | 8.2 | 34.4 | 0.055 (5) | 0.007 (5) | 0.008 (5) | 0.049 (5) | 0.020 (4) |
| 125 | 139 | 1.356 | 8.2 | 34.4 | 0.067 (5) | 0.008 (3) | 0.009 (3) | 0.056 (5) | 0.025 (2) |
| 121 | 125 | 0.428 | 2.6 | 10.9 | 0.121 (5) | 0.009 (3) | 0.009 (3) | 0.100 (5) | 0.044 (2) |
| 106 | 92 | 1.356 | 8.2 | 34.4 | 0.087 (4) | 0.010 (4) | 0.011 (4) | 0.095 (4) | 0.064 (4) |
| 93 | 107 | 1.356 | 8.2 | 34.4 | 0.054 (4) | 0.010 (4) | 0.011 (4) | 0.048 (4) | 0.046 (2) |
| 169 | 183 | 1.469 | 8.9 | 37.2 | 0.327 (2) | 0.024 (4) | 0.027 (4) | 0.380 (2) | 0.356 (2) |
| 141 | 155 | 1.356 | 8.2 | 34.4 | 0.450 (2) | 0.026 (4) | 0.028 (4) | 0.512 (2) | 0.486 (2) |
| 79 | 93 | 1.356 | 8.2 | 34.4 | 0.090 (4) | 0.011 (4) | 0.012 (4) | 0.099 (4) | 0.068 (4) |
| 95 | 109 | 1.356 | 8.2 | 34.4 | 0.277 (2) | 0.026 (2) | 0.029 (2) | 0.313 (2) | 0.280 (2) |
| 81 | 95 | 1.356 | 8.2 | 34.4 | 0.288 (2) | 0.027 (2) | 0.030 (2) | 0.327 (2) | 0.294 (2) |
| 57 | 81 | 1.356 | 8.2 | 34.4 | 0.659 (2) | 0.028 (2) | 0.031 (2) | 0.755 (2) | 0.722 (2) |
| 60 | 83 | 1.356 | 8.2 | 34.4 | 0.649 (2) | 0.026 (1) | 0.028 (1) | 0.743 (2) | 0.716 (2) |
| 149 | 163 | 1.356 | 8.2 | 34.4 | 0.452 (2) | 0.021 (2) | 0.023 (2) | 0.514 (2) | 0.486 (2) |
| 210 | 196 | 1.356 | 8.2 | 34.4 | 0.037 (5) | 0.006 (5) | 0.006 (5) | 0.033 (1) | 0.031 (3) |
| 196 | 182 | 1.356 | 8.2 | 34.4 | 0.064 (4) | 0.006 (5) | 0.007 (5) | 0.052 (4) | 0.031 (3) |
| 182 | 168 | 1.469 | 8.9 | 37.2 | 0.115 (4) | 0.007 (5) | 0.008 (5) | 0.092 (4) | 0.040 (3) |
| 142 | 128 | 1.356 | 8.2 | 34.4 | 0.450 (3) | 0.025 (3) | 0.026 (3) | 0.514 (3) | 0.486 (3) |
| 127 | 141 | 1.356 | 8.2 | 34.4 | 0.448 (2) | 0.024 (4) | 0.026 (4) | 0.513 (2) | 0.486 (2) |
| 109 | 127 | 1.356 | 8.2 | 34.4 | 0.401 (2) | 0.025 (4) | 0.027 (4) | 0.457 (2) | 0.427 (2) |
| 221 | 229 | 0.816 | 4.9 | 20.7 | 0.088 (4) | 0.011 (4) | 0.012 (4) | 0.077 (4) | 0.036 (1) |
| 105 | 119 | 1.356 | 8.2 | 34.4 | 0.040 (4) | 0.009 (4) | 0.010 (4) | 0.036 (1) | 0.047 (2) |
| 168 | 154 | 1.244 | 7.5 | 31.5 | 0.127 (5) | 0.006 (5) | 0.006 (5) | 0.111 (5) | 0.033 (3) |
| 154 | 140 | 1.356 | 8.2 | 34.4 | 0.052 (5) | 0.007 (5) | 0.007 (5) | 0.046 (5) | 0.021 (4) |
| 140 | 126 | 1.356 | 8.2 | 34.4 | 0.063 (5) | 0.008 (2) | 0.009 (2) | 0.053 (5) | 0.027 (3) |
| 126 | 122 | 0.428 | 2.6 | 10.9 | 0.118 (5) | 0.009 (2) | 0.009 (2) | 0.096 (5) | 0.046 (3) |
| 122 | 108 | 0.928 | 5.6 | 23.5 | 0.125 (5) | 0.008 (2) | 0.008 (2) | 0.099 (5) | 0.051 (3) |
| 108 | 94 | 1.356 | 8.2 | 34.4 | 0.055 (4) | 0.011 (4) | 0.011 (4) | 0.050 (4) | 0.043 (3) |
| 200 | 186 | 1.356 | 8.2 | 34.4 | 0.196 (1) | 0.020 (4) | 0.022 (4) | 0.224 (1) | 0.207 (1) |
| 212 | 198 | 1.356 | 8.2 | 34.4 | 0.499 (1) | 0.022 (4) | 0.024 (4) | 0.572 (1) | 0.559 (1) |
| 198 | 184 | 1.356 | 8.2 | 34.4 | 0.187 (1) | 0.023 (4) | 0.025 (4) | 0.214 (1) | 0.197 (1) |
| 144 | 130 | 1.356 | 8.2 | 34.4 | 0.458 (3) | 0.024 (4) | 0.026 (4) | 0.525 (3) | 0.504 (3) |
| 172 | 158 | 1.244 | 7.5 | 31.5 | 0.436 (3) | 0.022 (4) | 0.024 (4) | 0.489 (3) | 0.470 (3) |
| 186 | 172 | 1.469 | 8.9 | 37.2 | 0.347 (3) | 0.021 (4) | 0.023 (4) | 0.406 (3) | 0.387 (3) |
| 130 | 112 | 1.356 | 8.2 | 34.4 | 0.408 (3) | 0.025 (4) | 0.027 (4) | 0.464 (3) | 0.439 (3) |
| 184 | 170 | 1.469 | 8.9 | 37.2 | 0.327 (3) | 0.024 (4) | 0.026 (4) | 0.380 (3) | 0.356 (3) |
| 170 | 156 | 1.244 | 7.5 | 31.5 | 0.416 (3) | 0.025 (4) | 0.027 (4) | 0.467 (3) | 0.445 (3) |
| 156 | 142 | 1.356 | 8.2 | 34.4 | 0.452 (3) | 0.026 (4) | 0.028 (4) | 0.514 (3) | 0.486 (3) |
| 218 | 204 | 1.356 | 8.2 | 34.4 | 0.509 (1) | 0.018 (4) | 0.020 (4) | 0.584 (1) | 0.569 (1) |
| 204 | 190 | 1.356 | 8.2 | 34.4 | 0.196 (1) | 0.019 (4) | 0.021 (4) | 0.224 (1) | 0.207 (1) |
| 227 | 218 | 0.816 | 4.9 | 20.7 | 0.732 (1) | 0.018 (4) | 0.018 (4) | 0.731 (1) | 0.718 (1) |
| 190 | 176 | 1.469 | 8.9 | 37.2 | 0.347 (3) | 0.020 (4) | 0.022 (4) | 0.406 (3) | 0.387 (3) |
| 162 | 148 | 1.356 | 8.2 | 34.4 | 0.461 (3) | 0.022 (4) | 0.024 (4) | 0.527 (3) | 0.504 (3) |
| 206 | 192 | 1.356 | 8.2 | 34.4 | 0.187 (1) | 0.016 (4) | 0.017 (4) | 0.214 (1) | 0.197 (1) |
| 220 | 206 | 1.356 | 8.2 | 34.4 | 0.499 (1) | 0.015 (4) | 0.016 (4) | 0.572 (1) | 0.559 (1) |
| 136 | 118 | 1.356 | 8.2 | 34.4 | 0.405 (3) | 0.025 (3) | 0.027 (3) | 0.459 (3) | 0.427 (3) |
| 228 | 220 | 0.816 | 4.9 | 20.7 | 0.725 (1) | 0.014 (4) | 0.015 (4) | 0.724 (1) | 0.713 (1) |
| 150 | 136 | 1.356 | 8.2 | 34.4 | 0.450 (3) | 0.024 (3) | 0.026 (3) | 0.514 (3) | 0.486 (3) |
| 164 | 150 | 1.356 | 8.2 | 34.4 | 0.451 (3) | 0.021 (3) | 0.022 (3) | 0.513 (3) | 0.486 (3) |
| 178 | 164 | 1.244 | 7.5 | 31.5 | 0.416 (3) | 0.020 (3) | 0.021 (3) | 0.467 (3) | 0.445 (3) |
| 192 | 178 | 1.469 | 8.9 | 37.2 | 0.327 (3) | 0.019 (3) | 0.021 (3) | 0.380 (3) | 0.356 (3) |
| 216 | 202 | 1.356 | 8.2 | 34.4 | 0.492 (1) | 0.020 (4) | 0.022 (4) | 0.564 (1) | 0.550 (1) |
| 160 | 174 | 1.244 | 7.5 | 31.5 | 0.417 (3) | 0.023 (4) | 0.024 (4) | 0.469 (3) | 0.451 (3) |
| 188 | 174 | 1.469 | 8.9 | 37.2 | 0.329 (3) | 0.022 (4) | 0.024 (4) | 0.386 (3) | 0.369 (3) |
| 160 | 146 | 1.356 | 8.2 | 34.4 | 0.441 (3) | 0.024 (4) | 0.026 (4) | 0.506 (3) | 0.487 (3) |
| 146 | 132 | 1.356 | 8.2 | 34.4 | 0.442 (3) | 0.025 (4) | 0.027 (4) | 0.507 (3) | 0.487 (3) |
| 226 | 216 | 0.816 | 4.9 | 20.7 | 0.710 (1) | 0.019 (4) | 0.019 (4) | 0.709 (1) | 0.698 (1) |
| 114 | 100 | 1.356 | 8.2 | 34.4 | 0.263 (3) | 0.023 (1) | 0.024 (1) | 0.301 (3) | 0.280 (3) |
| 118 | 104 | 1.356 | 8.2 | 34.4 | 0.275 (3) | 0.027 (3) | 0.029 (3) | 0.313 (3) | 0.281 (3) |
| 116 | 102 | 1.356 | 8.2 | 34.4 | 0.273 (3) | 0.023 (1) | 0.025 (1) | 0.310 (3) | 0.283 (3) |

| | | | | | | | | | |
|-----|-----|-------|-----|------|-----------|-----------|-----------|-----------|-----------|
| 96 | 110 | 1.356 | 8.2 | 34.4 | 0.275 (3) | 0.027 (3) | 0.029 (3) | 0.313 (3) | 0.280 (3) |
| 112 | 98 | 1.356 | 8.2 | 34.4 | 0.272 (3) | 0.023 (1) | 0.025 (1) | 0.310 (3) | 0.283 (3) |
| 202 | 188 | 1.356 | 8.2 | 34.4 | 0.187 (1) | 0.021 (4) | 0.023 (4) | 0.213 (1) | 0.197 (1) |
| 132 | 114 | 1.356 | 8.2 | 34.4 | 0.390 (3) | 0.026 (4) | 0.028 (4) | 0.447 (3) | 0.426 (3) |
| 134 | 116 | 1.356 | 8.2 | 34.4 | 0.408 (3) | 0.024 (4) | 0.026 (4) | 0.464 (3) | 0.439 (3) |
| 148 | 134 | 1.356 | 8.2 | 34.4 | 0.458 (3) | 0.023 (4) | 0.025 (4) | 0.525 (3) | 0.504 (3) |
| 162 | 176 | 1.244 | 7.5 | 31.5 | 0.436 (3) | 0.021 (4) | 0.023 (4) | 0.489 (3) | 0.470 (3) |
| 158 | 144 | 1.356 | 8.2 | 34.4 | 0.461 (3) | 0.023 (4) | 0.025 (4) | 0.527 (3) | 0.504 (3) |
| 214 | 200 | 1.356 | 8.2 | 34.4 | 0.509 (1) | 0.019 (4) | 0.021 (4) | 0.584 (1) | 0.569 (1) |
| 224 | 212 | 0.816 | 4.9 | 20.7 | 0.725 (1) | 0.021 (4) | 0.022 (4) | 0.724 (1) | 0.713 (1) |
| 124 | 120 | 0.928 | 5.6 | 23.5 | 0.113 (4) | 0.010 (4) | 0.011 (4) | 0.089 (4) | 0.051 (3) |
| 138 | 124 | 0.428 | 2.6 | 10.9 | 0.114 (4) | 0.011 (4) | 0.011 (4) | 0.087 (4) | 0.046 (3) |
| 152 | 138 | 1.356 | 8.2 | 34.4 | 0.074 (4) | 0.010 (4) | 0.011 (4) | 0.070 (4) | 0.027 (3) |
| 166 | 152 | 1.356 | 8.2 | 34.4 | 0.062 (4) | 0.012 (4) | 0.013 (4) | 0.061 (4) | 0.022 (4) |
| 215 | 226 | 0.816 | 4.9 | 20.7 | 0.710 (1) | 0.019 (4) | 0.020 (4) | 0.709 (1) | 0.698 (1) |
| 180 | 166 | 1.244 | 7.5 | 31.5 | 0.143 (4) | 0.012 (4) | 0.013 (4) | 0.126 (4) | 0.033 (3) |
| 194 | 180 | 1.469 | 8.9 | 37.2 | 0.112 (4) | 0.013 (4) | 0.014 (4) | 0.090 (4) | 0.040 (3) |
| 120 | 106 | 1.356 | 8.2 | 34.4 | 0.038 (5) | 0.010 (4) | 0.011 (4) | 0.041 (5) | 0.043 (3) |
| 208 | 194 | 1.356 | 8.2 | 34.4 | 0.048 (4) | 0.012 (4) | 0.013 (4) | 0.051 (4) | 0.031 (3) |
| 229 | 222 | 0.816 | 4.9 | 20.7 | 0.087 (4) | 0.011 (4) | 0.012 (4) | 0.076 (4) | 0.040 (1) |
| 222 | 208 | 1.356 | 8.2 | 34.4 | 0.036 (1) | 0.012 (4) | 0.013 (4) | 0.034 (4) | 0.031 (3) |
| 101 | 115 | 1.356 | 8.2 | 34.4 | 0.271 (2) | 0.024 (4) | 0.026 (4) | 0.308 (2) | 0.282 (2) |
| 131 | 145 | 1.356 | 8.2 | 34.4 | 0.443 (2) | 0.025 (4) | 0.027 (4) | 0.507 (2) | 0.487 (2) |
| 113 | 131 | 1.356 | 8.2 | 34.4 | 0.392 (2) | 0.026 (4) | 0.028 (4) | 0.449 (2) | 0.426 (2) |
| 84 | 98 | 1.356 | 8.2 | 34.4 | 0.286 (3) | 0.025 (1) | 0.027 (1) | 0.325 (3) | 0.297 (3) |
| 82 | 96 | 1.356 | 8.2 | 34.4 | 0.291 (3) | 0.028 (3) | 0.030 (3) | 0.328 (3) | 0.293 (3) |
| 102 | 88 | 1.356 | 8.2 | 34.4 | 0.287 (3) | 0.025 (1) | 0.027 (1) | 0.325 (3) | 0.297 (3) |
| 104 | 90 | 1.356 | 8.2 | 34.4 | 0.291 (3) | 0.028 (3) | 0.030 (3) | 0.328 (3) | 0.293 (3) |
| 100 | 86 | 1.356 | 8.2 | 34.4 | 0.265 (3) | 0.024 (1) | 0.026 (1) | 0.303 (3) | 0.281 (3) |
| 94 | 80 | 1.356 | 8.2 | 34.4 | 0.089 (4) | 0.011 (4) | 0.012 (4) | 0.097 (4) | 0.066 (4) |
| 92 | 78 | 1.356 | 8.2 | 34.4 | 0.145 (4) | 0.011 (4) | 0.012 (4) | 0.160 (4) | 0.138 (4) |
| 88 | 67 | 1.356 | 8.2 | 34.4 | 0.646 (3) | 0.026 (1) | 0.028 (1) | 0.741 (3) | 0.716 (3) |
| 90 | 70 | 1.356 | 8.2 | 34.4 | 0.656 (3) | 0.029 (3) | 0.031 (3) | 0.753 (3) | 0.722 (3) |
| 86 | 65 | 1.356 | 8.2 | 34.4 | 0.624 (3) | 0.025 (1) | 0.027 (1) | 0.716 (3) | 0.692 (3) |
| 58 | 82 | 1.356 | 8.2 | 34.4 | 0.657 (3) | 0.029 (3) | 0.031 (3) | 0.753 (3) | 0.722 (3) |
| 61 | 84 | 1.356 | 8.2 | 34.4 | 0.646 (3) | 0.026 (1) | 0.028 (1) | 0.741 (3) | 0.716 (3) |
| 80 | 56 | 1.356 | 8.2 | 34.4 | 0.141 (4) | 0.012 (4) | 0.013 (4) | 0.159 (4) | 0.142 (4) |
| 107 | 121 | 0.928 | 5.6 | 23.5 | 0.128 (5) | 0.008 (3) | 0.008 (3) | 0.101 (5) | 0.049 (2) |
| 50 | 79 | 1.356 | 8.2 | 34.4 | 0.142 (4) | 0.012 (4) | 0.012 (4) | 0.161 (4) | 0.144 (4) |
| 103 | 117 | 1.356 | 8.2 | 34.4 | 0.277 (2) | 0.027 (2) | 0.029 (2) | 0.313 (2) | 0.280 (2) |
| 91 | 105 | 1.356 | 8.2 | 34.4 | 0.095 (4) | 0.011 (4) | 0.012 (4) | 0.103 (4) | 0.066 (4) |
| 72 | 91 | 1.356 | 8.2 | 34.4 | 0.147 (4) | 0.012 (4) | 0.013 (4) | 0.163 (4) | 0.142 (4) |
| 213 | 225 | 0.816 | 4.9 | 20.7 | 0.732 (1) | 0.019 (4) | 0.019 (4) | 0.731 (1) | 0.718 (1) |
| 211 | 224 | 0.816 | 4.9 | 20.7 | 0.725 (1) | 0.021 (4) | 0.022 (4) | 0.724 (1) | 0.713 (1) |

- VERIFICA TRAVI SEZIONE 2 PROFILO HEA 140 TRAVETTI SECONDARI

- Tipo di verifica da eseguire:

- Resistenza (Componenti Azioni Interna)..... : - N - Ty - Mx - My
- Instabilità Nel Piano 1/2 : Pr. singolo
- Instabilità Nel Piano 1/3 : Pr. singolo
- Pressoflessione (Componenti Azioni Interna). : N - Mx - My
- Instabilità Flesso-Torsionale : A doppio T

- Acciaio tipo : **Acciaio**
- Tensione di Snervamento : 275.00 [MPa]
- Tensione di Rottura : 430.00 [MPa]

| Asta Nodi | | Luce [m] | Snellezza nel Piano | | Resistenza Sd/Sr | Instabilità Sd/Sr | | Pressoflessione Sd/Sr | Svergolamento Sd/Sr |
|-----------|-----|-------------|---------------------|-------|---------------------|-------------------|-----------|--------------------------|------------------------|
| Da | A | | 1/2 | 1/3 | | 1/2 | 1/3 | | |
| 228 | 229 | 5.400 | 94.2 | 153.5 | 0.092 (1) | 0.011 (4) | 0.025 (4) | 0.176 (1) | 0.172 (1) |
| 227 | 228 | 5.400 | 94.2 | 153.5 | 0.092 (1) | 0.017 (4) | 0.039 (4) | 0.172 (1) | 0.172 (1) |
| 226 | 227 | 5.400 | 94.2 | 153.5 | 0.092 (1) | 0.039 (4) | 0.089 (4) | 0.173 (1) | 0.173 (1) |
| 226 | 225 | 5.400 | 94.2 | 153.5 | 0.092 (1) | 0.045 (4) | 0.100 (4) | 0.184 (4) | 0.172 (1) |
| 225 | 224 | 5.400 | 94.2 | 153.5 | 0.092 (1) | 0.019 (5) | 0.042 (5) | 0.172 (1) | 0.173 (1) |
| 223 | 224 | 5.400 | 94.2 | 153.5 | 0.092 (1) | 0.033 (5) | 0.073 (5) | 0.176 (1) | 0.172 (1) |
| 220 | 222 | 5.400 | 94.2 | 153.5 | 0.149 (3) | 0.007 (4) | 0.016 (4) | 0.301 (3) | 0.278 (3) |
| 218 | 220 | 5.400 | 94.2 | 153.5 | 0.148 (3) | 0.011 (4) | 0.026 (4) | 0.294 (3) | 0.276 (3) |
| 216 | 218 | 5.400 | 94.2 | 153.5 | 0.128 (3) | 0.016 (4) | 0.035 (4) | 0.263 (3) | 0.240 (3) |
| 216 | 214 | 5.400 | 94.2 | 153.5 | 0.128 (3) | 0.013 (4) | 0.028 (4) | 0.263 (3) | 0.240 (3) |
| 214 | 212 | 5.400 | 94.2 | 153.5 | 0.148 (3) | 0.006 (5) | 0.014 (5) | 0.294 (3) | 0.276 (3) |
| 210 | 212 | 5.400 | 94.2 | 153.5 | 0.149 (3) | 0.007 (5) | 0.015 (5) | 0.301 (3) | 0.278 (3) |
| 219 | 221 | 5.400 | 94.2 | 153.5 | 0.149 (2) | 0.007 (4) | 0.016 (4) | 0.301 (2) | 0.278 (2) |
| 217 | 219 | 5.400 | 94.2 | 153.5 | 0.148 (2) | 0.011 (4) | 0.026 (4) | 0.294 (2) | 0.276 (2) |
| 215 | 217 | 5.400 | 94.2 | 153.5 | 0.128 (2) | 0.016 (4) | 0.035 (4) | 0.263 (2) | 0.240 (2) |
| 215 | 213 | 5.400 | 94.2 | 153.5 | 0.128 (2) | 0.013 (4) | 0.028 (4) | 0.263 (2) | 0.240 (2) |
| 213 | 211 | 5.400 | 94.2 | 153.5 | 0.148 (2) | 0.006 (5) | 0.014 (5) | 0.294 (2) | 0.276 (2) |
| 209 | 211 | 5.400 | 94.2 | 153.5 | 0.149 (2) | 0.007 (5) | 0.015 (5) | 0.301 (2) | 0.278 (2) |
| 206 | 208 | 5.400 | 94.2 | 153.5 | 0.160 (3) | 0.002 (5) | 0.004 (5) | 0.330 (1) | 0.300 (3) |
| 204 | 206 | 5.400 | 94.2 | 153.5 | 0.160 (3) | 0.002 (5) | 0.004 (5) | 0.207 (5) | 0.300 (3) |
| 202 | 204 | 5.400 | 94.2 | 153.5 | 0.156 (3) | 0.000 (5) | 0.000 (5) | 0.200 (5) | 0.291 (3) |
| 202 | 200 | 5.400 | 94.2 | 153.5 | 0.156 (3) | 0.001 (4) | 0.002 (4) | 0.208 (22) | 0.291 (3) |
| 200 | 198 | 5.400 | 94.2 | 153.5 | 0.160 (3) | 0.003 (4) | 0.007 (4) | 0.221 (22) | 0.300 (3) |
| 196 | 198 | 5.400 | 94.2 | 153.5 | 0.160 (3) | 0.003 (4) | 0.007 (4) | 0.330 (1) | 0.300 (3) |
| 205 | 207 | 5.400 | 94.2 | 153.5 | 0.161 (2) | 0.002 (5) | 0.004 (5) | 0.330 (1) | 0.300 (2) |
| 203 | 205 | 5.400 | 94.2 | 153.5 | 0.160 (2) | 0.002 (5) | 0.003 (5) | 0.207 (5) | 0.300 (2) |
| 201 | 203 | 5.400 | 94.2 | 153.5 | 0.156 (2) | 0.000 (5) | 0.000 (5) | 0.200 (5) | 0.291 (2) |
| 201 | 199 | 5.400 | 94.2 | 153.5 | 0.156 (2) | 0.001 (4) | 0.002 (4) | 0.208 (22) | 0.291 (2) |
| 199 | 197 | 5.400 | 94.2 | 153.5 | 0.160 (2) | 0.003 (4) | 0.007 (4) | 0.221 (22) | 0.300 (2) |
| 195 | 197 | 5.400 | 94.2 | 153.5 | 0.161 (2) | 0.003 (4) | 0.007 (4) | 0.330 (1) | 0.300 (2) |
| 192 | 194 | 5.400 | 94.2 | 153.5 | 0.165 (3) | 0.002 (9) | 0.004 (9) | 0.202 (5) | 0.309 (3) |
| 190 | 192 | 5.400 | 94.2 | 153.5 | 0.155 (3) | 0.008 (5) | 0.017 (5) | 0.221 (5) | 0.289 (3) |
| 188 | 190 | 5.400 | 94.2 | 153.5 | 0.161 (3) | 0.002 (5) | 0.005 (5) | 0.217 (5) | 0.300 (3) |
| 188 | 186 | 5.400 | 94.2 | 153.5 | 0.161 (3) | 0.006 (4) | 0.013 (4) | 0.221 (22) | 0.300 (3) |
| 186 | 184 | 5.400 | 94.2 | 153.5 | 0.155 (3) | 0.012 (4) | 0.026 (4) | 0.226 (4) | 0.289 (3) |
| 182 | 184 | 5.400 | 94.2 | 153.5 | 0.165 (3) | 0.002 (4) | 0.006 (4) | 0.205 (4) | 0.309 (3) |
| 191 | 193 | 5.400 | 94.2 | 153.5 | 0.165 (2) | 0.002 (8) | 0.004 (8) | 0.202 (5) | 0.309 (2) |
| 189 | 191 | 5.400 | 94.2 | 153.5 | 0.155 (2) | 0.007 (5) | 0.017 (5) | 0.221 (5) | 0.289 (2) |
| 187 | 189 | 5.400 | 94.2 | 153.5 | 0.160 (2) | 0.002 (5) | 0.004 (5) | 0.217 (5) | 0.300 (2) |
| 187 | 185 | 5.400 | 94.2 | 153.5 | 0.160 (2) | 0.006 (4) | 0.013 (4) | 0.221 (22) | 0.300 (2) |
| 185 | 183 | 5.400 | 94.2 | 153.5 | 0.155 (2) | 0.012 (4) | 0.026 (4) | 0.227 (4) | 0.289 (2) |
| 181 | 183 | 5.400 | 94.2 | 153.5 | 0.165 (2) | 0.002 (4) | 0.006 (4) | 0.205 (4) | 0.309 (2) |
| 178 | 180 | 5.400 | 94.2 | 153.5 | 0.340 (3) | 0.032 (4) | 0.071 (4) | 0.679 (3) | 0.635 (3) |
| 176 | 178 | 5.400 | 94.2 | 153.5 | 0.178 (3) | 0.020 (4) | 0.045 (4) | 0.371 (3) | 0.333 (3) |
| 174 | 176 | 5.400 | 94.2 | 153.5 | 0.177 (3) | 0.011 (4) | 0.024 (4) | 0.364 (3) | 0.332 (3) |
| 174 | 172 | 5.400 | 94.2 | 153.5 | 0.177 (3) | 0.008 (5) | 0.017 (5) | 0.364 (3) | 0.332 (3) |
| 172 | 170 | 5.400 | 94.2 | 153.5 | 0.178 (3) | 0.017 (5) | 0.038 (5) | 0.371 (3) | 0.333 (3) |
| 168 | 170 | 5.400 | 94.2 | 153.5 | 0.340 (3) | 0.028 (5) | 0.064 (5) | 0.679 (3) | 0.635 (3) |
| 177 | 179 | 5.400 | 94.2 | 153.5 | 0.339 (2) | 0.031 (4) | 0.071 (4) | 0.677 (2) | 0.634 (2) |
| 175 | 177 | 5.400 | 94.2 | 153.5 | 0.178 (2) | 0.020 (4) | 0.045 (4) | 0.371 (2) | 0.333 (2) |
| 173 | 175 | 5.400 | 94.2 | 153.5 | 0.177 (2) | 0.011 (4) | 0.024 (4) | 0.364 (2) | 0.332 (2) |

| | | | | | | | | | |
|-----|-----|-------|------|-------|-----------|-----------|-----------|------------|-----------|
| 173 | 171 | 5.400 | 94.2 | 153.5 | 0.177 (2) | 0.008 (5) | 0.017 (5) | 0.364 (2) | 0.331 (2) |
| 171 | 169 | 5.400 | 94.2 | 153.5 | 0.178 (2) | 0.017 (5) | 0.038 (5) | 0.371 (2) | 0.333 (2) |
| 167 | 169 | 5.400 | 94.2 | 153.5 | 0.339 (2) | 0.029 (5) | 0.064 (5) | 0.677 (2) | 0.634 (2) |
| 164 | 166 | 5.400 | 94.2 | 153.5 | 0.171 (3) | 0.006 (4) | 0.013 (4) | 0.338 (3) | 0.320 (3) |
| 162 | 164 | 5.400 | 94.2 | 153.5 | 0.151 (3) | 0.006 (4) | 0.013 (4) | 0.316 (3) | 0.283 (3) |
| 160 | 162 | 5.400 | 94.2 | 153.5 | 0.151 (3) | 0.005 (4) | 0.012 (4) | 0.311 (3) | 0.283 (3) |
| 160 | 158 | 5.400 | 94.2 | 153.5 | 0.151 (3) | 0.004 (4) | 0.009 (4) | 0.311 (3) | 0.283 (3) |
| 158 | 156 | 5.400 | 94.2 | 153.5 | 0.151 (3) | 0.004 (3) | 0.009 (3) | 0.316 (3) | 0.283 (3) |
| 154 | 156 | 5.400 | 94.2 | 153.5 | 0.171 (3) | 0.005 (5) | 0.011 (5) | 0.338 (3) | 0.320 (3) |
| 163 | 165 | 5.400 | 94.2 | 153.5 | 0.171 (2) | 0.006 (4) | 0.014 (4) | 0.338 (2) | 0.320 (2) |
| 161 | 163 | 5.400 | 94.2 | 153.5 | 0.151 (2) | 0.006 (4) | 0.013 (4) | 0.316 (2) | 0.283 (2) |
| 159 | 161 | 5.400 | 94.2 | 153.5 | 0.152 (2) | 0.005 (4) | 0.012 (4) | 0.312 (2) | 0.284 (2) |
| 159 | 157 | 5.400 | 94.2 | 153.5 | 0.151 (2) | 0.004 (4) | 0.009 (4) | 0.311 (2) | 0.283 (2) |
| 157 | 155 | 5.400 | 94.2 | 153.5 | 0.151 (2) | 0.004 (2) | 0.009 (2) | 0.316 (2) | 0.283 (2) |
| 153 | 155 | 5.400 | 94.2 | 153.5 | 0.171 (2) | 0.005 (5) | 0.010 (5) | 0.338 (2) | 0.320 (2) |
| 150 | 152 | 5.400 | 94.2 | 153.5 | 0.181 (3) | 0.005 (5) | 0.012 (5) | 0.218 (5) | 0.339 (3) |
| 148 | 150 | 5.400 | 94.2 | 153.5 | 0.157 (3) | 0.010 (5) | 0.022 (5) | 0.207 (5) | 0.294 (3) |
| 146 | 148 | 5.400 | 94.2 | 153.5 | 0.157 (3) | 0.002 (5) | 0.005 (5) | 0.213 (5) | 0.293 (3) |
| 146 | 144 | 5.400 | 94.2 | 153.5 | 0.157 (3) | 0.009 (4) | 0.021 (4) | 0.222 (4) | 0.293 (3) |
| 144 | 142 | 5.400 | 94.2 | 153.5 | 0.157 (3) | 0.017 (4) | 0.039 (4) | 0.216 (22) | 0.294 (3) |
| 140 | 142 | 5.400 | 94.2 | 153.5 | 0.181 (3) | 0.007 (4) | 0.015 (4) | 0.221 (22) | 0.339 (3) |
| 149 | 151 | 5.400 | 94.2 | 153.5 | 0.181 (2) | 0.006 (5) | 0.013 (5) | 0.218 (5) | 0.339 (2) |
| 147 | 149 | 5.400 | 94.2 | 153.5 | 0.157 (2) | 0.009 (5) | 0.021 (5) | 0.207 (5) | 0.294 (2) |
| 145 | 147 | 5.400 | 94.2 | 153.5 | 0.157 (2) | 0.002 (4) | 0.005 (4) | 0.213 (5) | 0.294 (2) |
| 145 | 143 | 5.400 | 94.2 | 153.5 | 0.157 (2) | 0.010 (4) | 0.021 (4) | 0.222 (4) | 0.293 (2) |
| 143 | 141 | 5.400 | 94.2 | 153.5 | 0.157 (2) | 0.018 (4) | 0.040 (4) | 0.217 (22) | 0.294 (2) |
| 139 | 141 | 5.400 | 94.2 | 153.5 | 0.181 (2) | 0.007 (4) | 0.016 (4) | 0.221 (22) | 0.339 (2) |
| 136 | 138 | 5.400 | 94.2 | 153.5 | 0.168 (3) | 0.025 (4) | 0.055 (4) | 0.219 (4) | 0.314 (3) |
| 134 | 136 | 5.400 | 94.2 | 153.5 | 0.158 (3) | 0.020 (4) | 0.045 (4) | 0.230 (4) | 0.295 (3) |
| 132 | 134 | 5.400 | 94.2 | 153.5 | 0.158 (3) | 0.015 (4) | 0.033 (4) | 0.217 (4) | 0.295 (3) |
| 132 | 130 | 5.400 | 94.2 | 153.5 | 0.158 (3) | 0.008 (4) | 0.017 (4) | 0.220 (4) | 0.295 (3) |
| 130 | 128 | 5.400 | 94.2 | 153.5 | 0.158 (3) | 0.010 (5) | 0.022 (5) | 0.220 (5) | 0.295 (3) |
| 126 | 128 | 5.400 | 94.2 | 153.5 | 0.168 (3) | 0.018 (5) | 0.040 (5) | 0.217 (5) | 0.314 (3) |
| 135 | 137 | 5.400 | 94.2 | 153.5 | 0.168 (2) | 0.024 (4) | 0.054 (4) | 0.219 (4) | 0.314 (2) |
| 133 | 135 | 5.400 | 94.2 | 153.5 | 0.158 (2) | 0.019 (4) | 0.044 (4) | 0.230 (4) | 0.296 (2) |
| 131 | 133 | 5.400 | 94.2 | 153.5 | 0.158 (2) | 0.015 (4) | 0.034 (4) | 0.218 (22) | 0.296 (2) |
| 131 | 129 | 5.400 | 94.2 | 153.5 | 0.158 (2) | 0.008 (4) | 0.018 (4) | 0.221 (4) | 0.295 (2) |
| 129 | 127 | 5.400 | 94.2 | 153.5 | 0.158 (2) | 0.009 (5) | 0.020 (5) | 0.218 (5) | 0.295 (2) |
| 125 | 127 | 5.400 | 94.2 | 153.5 | 0.168 (2) | 0.017 (5) | 0.039 (5) | 0.216 (5) | 0.314 (2) |
| 118 | 120 | 5.400 | 94.2 | 153.5 | 0.165 (3) | 0.025 (4) | 0.057 (4) | 0.323 (3) | 0.308 (3) |
| 116 | 118 | 5.400 | 94.2 | 153.5 | 0.154 (3) | 0.041 (4) | 0.092 (4) | 0.254 (4) | 0.288 (3) |
| 114 | 116 | 5.400 | 94.2 | 153.5 | 0.154 (3) | 0.040 (4) | 0.089 (4) | 0.249 (4) | 0.288 (3) |
| 114 | 112 | 5.400 | 94.2 | 153.5 | 0.154 (3) | 0.026 (4) | 0.057 (4) | 0.236 (4) | 0.288 (3) |
| 112 | 110 | 5.400 | 94.2 | 153.5 | 0.154 (3) | 0.020 (5) | 0.045 (5) | 0.229 (5) | 0.288 (3) |
| 108 | 110 | 5.400 | 94.2 | 153.5 | 0.165 (3) | 0.018 (5) | 0.042 (5) | 0.323 (3) | 0.308 (3) |
| 117 | 119 | 5.400 | 94.2 | 153.5 | 0.165 (2) | 0.026 (4) | 0.058 (4) | 0.333 (2) | 0.308 (2) |
| 115 | 117 | 5.400 | 94.2 | 153.5 | 0.154 (2) | 0.036 (4) | 0.082 (4) | 0.250 (4) | 0.288 (2) |
| 113 | 115 | 5.400 | 94.2 | 153.5 | 0.154 (2) | 0.047 (4) | 0.107 (4) | 0.309 (1) | 0.288 (2) |
| 111 | 113 | 5.400 | 94.2 | 153.5 | 0.154 (2) | 0.027 (4) | 0.062 (4) | 0.240 (4) | 0.288 (2) |
| 109 | 111 | 5.400 | 94.2 | 153.5 | 0.154 (2) | 0.019 (5) | 0.042 (5) | 0.228 (5) | 0.288 (2) |
| 107 | 109 | 5.400 | 94.2 | 153.5 | 0.165 (2) | 0.018 (5) | 0.040 (5) | 0.323 (2) | 0.308 (2) |
| 104 | 106 | 5.400 | 94.2 | 153.5 | 0.158 (3) | 0.001 (4) | 0.002 (4) | 0.206 (22) | 0.296 (3) |
| 102 | 104 | 5.400 | 94.2 | 153.5 | 0.148 (3) | 0.003 (4) | 0.006 (4) | 0.203 (22) | 0.277 (3) |
| 100 | 102 | 5.400 | 94.2 | 153.5 | 0.154 (3) | 0.003 (4) | 0.007 (4) | 0.208 (22) | 0.288 (3) |
| 100 | 98 | 5.400 | 94.2 | 153.5 | 0.154 (3) | 0.002 (2) | 0.005 (2) | 0.206 (22) | 0.288 (3) |
| 98 | 96 | 5.400 | 94.2 | 153.5 | 0.148 (3) | 0.001 (2) | 0.003 (2) | 0.192 (4) | 0.277 (3) |
| 94 | 96 | 5.400 | 94.2 | 153.5 | 0.158 (3) | 0.001 (4) | 0.001 (4) | 0.203 (22) | 0.296 (3) |
| 103 | 105 | 5.400 | 94.2 | 153.5 | 0.159 (2) | 0.014 (4) | 0.031 (4) | 0.217 (4) | 0.297 (2) |
| 101 | 103 | 5.400 | 94.2 | 153.5 | 0.148 (2) | 0.015 (4) | 0.033 (4) | 0.214 (4) | 0.277 (2) |

| | | | | | | | | | |
|----|-----|--------|-------|-------|-----------|-----------|-----------|------------|-----------|
| 99 | 101 | 5.400 | 94.2 | 153.5 | 0.154 (2) | 0.003 (3) | 0.008 (3) | 0.207 (22) | 0.288 (2) |
| 97 | 99 | 5.400 | 94.2 | 153.5 | 0.154 (2) | 0.003 (3) | 0.007 (3) | 0.205 (22) | 0.288 (2) |
| 95 | 97 | 5.400 | 94.2 | 153.5 | 0.148 (2) | 0.002 (3) | 0.004 (3) | 0.195 (4) | 0.277 (2) |
| 93 | 95 | 5.400 | 94.2 | 153.5 | 0.159 (2) | 0.001 (4) | 0.002 (4) | 0.203 (22) | 0.296 (2) |
| 90 | 92 | 5.400 | 94.2 | 153.5 | 0.173 (3) | 0.005 (4) | 0.012 (4) | 0.351 (3) | 0.323 (3) |
| 88 | 90 | 5.400 | 94.2 | 153.5 | 0.172 (3) | 0.010 (4) | 0.023 (4) | 0.346 (3) | 0.321 (3) |
| 86 | 88 | 5.400 | 94.2 | 153.5 | 0.155 (3) | 0.013 (4) | 0.028 (4) | 0.318 (3) | 0.290 (3) |
| 86 | 84 | 5.400 | 94.2 | 153.5 | 0.155 (3) | 0.012 (4) | 0.028 (4) | 0.318 (3) | 0.290 (3) |
| 84 | 82 | 5.400 | 94.2 | 153.5 | 0.172 (3) | 0.009 (4) | 0.020 (4) | 0.346 (3) | 0.321 (3) |
| 80 | 82 | 5.400 | 94.2 | 153.5 | 0.173 (3) | 0.002 (4) | 0.005 (4) | 0.351 (3) | 0.323 (3) |
| 89 | 91 | 5.400 | 94.2 | 153.5 | 0.172 (2) | 0.006 (4) | 0.014 (4) | 0.230 (22) | 0.322 (2) |
| 87 | 89 | 5.400 | 94.2 | 153.5 | 0.171 (2) | 0.011 (4) | 0.025 (4) | 0.345 (2) | 0.320 (2) |
| 85 | 87 | 5.400 | 94.2 | 153.5 | 0.155 (2) | 0.013 (4) | 0.029 (4) | 0.316 (2) | 0.290 (2) |
| 85 | 83 | 5.400 | 94.2 | 153.5 | 0.155 (2) | 0.012 (4) | 0.027 (4) | 0.317 (2) | 0.290 (2) |
| 83 | 81 | 5.400 | 94.2 | 153.5 | 0.171 (2) | 0.009 (4) | 0.019 (4) | 0.343 (2) | 0.321 (2) |
| 79 | 81 | 5.400 | 94.2 | 153.5 | 0.172 (2) | 0.002 (4) | 0.004 (4) | 0.226 (22) | 0.323 (2) |
| 77 | 78 | 4.900 | 85.5 | 139.3 | 0.052 (4) | 0.019 (4) | 0.041 (4) | 0.123 (4) | 0.093 (4) |
| 76 | 77 | 4.300 | 75.0 | 122.2 | 0.028 (3) | 0.023 (4) | 0.046 (4) | 0.069 (4) | 0.048 (3) |
| 75 | 76 | 4.900 | 85.5 | 139.3 | 0.034 (3) | 0.031 (4) | 0.067 (4) | 0.094 (4) | 0.060 (3) |
| 74 | 75 | 4.900 | 85.5 | 139.3 | 0.034 (2) | 0.030 (4) | 0.064 (4) | 0.093 (4) | 0.061 (2) |
| 73 | 74 | 4.300 | 75.0 | 122.2 | 0.031 (4) | 0.021 (4) | 0.042 (4) | 0.073 (4) | 0.051 (4) |
| 72 | 73 | 4.900 | 85.5 | 139.3 | 0.054 (4) | 0.017 (4) | 0.037 (4) | 0.124 (4) | 0.097 (4) |
| 71 | 70 | 14.100 | 221.3 | 360.8 | 0.156 (3) | 0.216 (2) | 0.563 (2) | 0.874 (2) | 0.511 (3) |
| 69 | 71 | 14.100 | 221.3 | 360.8 | 0.156 (2) | 0.204 (3) | 0.530 (3) | 0.837 (3) | 0.510 (2) |
| 68 | 67 | 14.100 | 221.3 | 360.8 | 0.160 (3) | 0.207 (2) | 0.538 (2) | 0.854 (2) | 0.524 (3) |
| 66 | 68 | 14.100 | 221.3 | 360.8 | 0.159 (2) | 0.199 (3) | 0.517 (3) | 0.830 (3) | 0.522 (2) |
| 64 | 65 | 14.100 | 221.3 | 360.8 | 0.160 (3) | 0.193 (2) | 0.502 (2) | 0.814 (2) | 0.525 (3) |
| 63 | 64 | 14.100 | 221.3 | 360.8 | 0.160 (2) | 0.182 (3) | 0.474 (3) | 0.781 (3) | 0.523 (2) |
| 62 | 61 | 14.100 | 221.3 | 360.8 | 0.160 (3) | 0.208 (2) | 0.540 (2) | 0.857 (2) | 0.524 (3) |
| 60 | 62 | 14.100 | 221.3 | 360.8 | 0.159 (2) | 0.198 (3) | 0.516 (3) | 0.829 (3) | 0.522 (2) |
| 59 | 58 | 14.100 | 221.3 | 360.8 | 0.156 (3) | 0.214 (2) | 0.557 (2) | 0.868 (2) | 0.511 (3) |
| 57 | 59 | 14.100 | 221.3 | 360.8 | 0.156 (2) | 0.206 (3) | 0.535 (3) | 0.842 (3) | 0.510 (2) |
| 55 | 56 | 4.900 | 85.5 | 139.3 | 0.054 (4) | 0.010 (3) | 0.022 (3) | 0.109 (4) | 0.096 (4) |
| 54 | 55 | 4.300 | 75.0 | 122.2 | 0.028 (3) | 0.011 (4) | 0.022 (4) | 0.064 (4) | 0.048 (3) |
| 53 | 54 | 4.900 | 85.5 | 139.3 | 0.034 (3) | 0.017 (4) | 0.037 (4) | 0.070 (3) | 0.060 (3) |
| 52 | 53 | 4.900 | 85.5 | 139.3 | 0.034 (2) | 0.016 (4) | 0.034 (4) | 0.070 (2) | 0.061 (2) |
| 51 | 52 | 4.300 | 75.0 | 122.2 | 0.034 (4) | 0.010 (2) | 0.020 (2) | 0.071 (4) | 0.056 (4) |
| 50 | 51 | 4.900 | 85.5 | 139.3 | 0.056 (4) | 0.009 (2) | 0.019 (2) | 0.110 (4) | 0.099 (4) |

- VERIFICA TRAVI SEZIONE 3 PROFILO HEA 160 TRAVETTI SECONDARI DI GRONDA

- Tipo di verifica da eseguire:

- Resistenza (Componenti Azioni Interna)..... : - N - Ty - Mx - My
 - Instabilità Nel Piano 1/2 : Pr. singolo
 - Instabilità Nel Piano 1/3 : Pr. singolo
 - Pressoflessione (Componenti Azioni Interna). : N - Mx - My
 - Instabilità Flesso-Torsionale : A doppio T
-
- Acciaio tipo : **Acciaio**
 - Tensione di Snervamento : 275.00 [MPa]
 - Tensione di Rottura : 430.00 [MPa]

| Asta Nodi | | Luce Da A [m] | Snellezza nel Piano | | Resistenza Sd/Sr | Instabilità Sd/Sr | | Pressoflessione Sd/Sr | Svergolamento Sd/Sr |
|-----------|----|------------------|---------------------|-------|---------------------|-------------------|-----------|--------------------------|------------------------|
| Da | A | | 1/2 | 1/3 | | 1/2 | 1/3 | | |
| 70 | 78 | 5.400 | 82.2 | 135.7 | 0.086 (4) | 0.012 (4) | 0.026 (4) | 0.200 (4) | 0.157 (4) |
| 67 | 70 | 5.400 | 82.2 | 135.7 | 0.063 (3) | 0.098 (4) | 0.210 (4) | 0.302 (4) | 0.115 (3) |
| 65 | 67 | 5.400 | 82.2 | 135.7 | 0.063 (3) | 0.094 (4) | 0.201 (4) | 0.265 (4) | 0.115 (3) |
| 61 | 65 | 5.400 | 82.2 | 135.7 | 0.067 (4) | 0.106 (4) | 0.226 (4) | 0.319 (4) | 0.115 (4) |
| 58 | 61 | 5.400 | 82.2 | 135.7 | 0.078 (4) | 0.090 (4) | 0.192 (4) | 0.313 (4) | 0.141 (4) |
| 56 | 58 | 5.400 | 82.2 | 135.7 | 0.112 (4) | 0.018 (5) | 0.038 (5) | 0.139 (3) | 0.204 (4) |
| 69 | 72 | 5.400 | 82.2 | 135.7 | 0.086 (4) | 0.016 (4) | 0.033 (4) | 0.202 (4) | 0.157 (4) |
| 66 | 69 | 5.400 | 82.2 | 135.7 | 0.063 (2) | 0.092 (4) | 0.196 (4) | 0.287 (4) | 0.116 (2) |
| 63 | 66 | 5.400 | 82.2 | 135.7 | 0.063 (2) | 0.090 (4) | 0.192 (4) | 0.256 (4) | 0.115 (2) |
| 60 | 63 | 5.400 | 82.2 | 135.7 | 0.065 (4) | 0.100 (4) | 0.214 (4) | 0.309 (4) | 0.118 (4) |
| 57 | 60 | 5.400 | 82.2 | 135.7 | 0.077 (4) | 0.087 (4) | 0.185 (4) | 0.305 (4) | 0.140 (4) |
| 50 | 57 | 5.400 | 82.2 | 135.7 | 0.113 (4) | 0.018 (5) | 0.039 (5) | 0.136 (2) | 0.205 (4) |

- VERIFICA BIELLE SEZIONE 1 PROFILO L Equal Flanges 60x60x6 CONTROVENTAMENTI FALDA

- Tipo di verifica da eseguire:

- Resistenza (Componenti Azioni Interna)..... : - N
- Instabilità Nel Piano 1/2 : Nessuna verifica
- Instabilità Nel Piano 1/3 : Nessuna verifica
- Pressoflessione (Componenti Azioni Interna). : Nessuna verifica
- Instabilità Flesso-Torsionale : Nessuna verifica

- Acciaio tipo : **Acciaio**
- Tensione di Snervamento : 275.00 [MPa]
- Tensione di Rottura : 430.00 [MPa]

| Asta Nodi | | Luce Da A [m] | Snellezza nel Piano | | Resistenza Sd/Sr | Instabilità Sd/Sr | | Pressoflessione Sd/Sr | Svergolamento Sd/Sr |
|-----------|-----|------------------|---------------------|-------|---------------------|-------------------|-----------|--------------------------|------------------------|
| Da | A | | 1/2 | 1/3 | | 1/2 | 1/3 | | |
| 183 | 223 | 6.451 | 355.3 | 355.3 | 0.026 (3) | 0.000 (0) | 0.000 (0) | 0.000 (0) | 0.000 (0) |
| 181 | 224 | 6.451 | 355.3 | 355.3 | 0.030 (3) | 0.000 (0) | 0.000 (0) | 0.000 (0) | 0.000 (0) |
| 193 | 228 | 6.451 | 355.3 | 355.3 | 0.027 (4) | 0.000 (0) | 0.000 (0) | 0.000 (0) | 0.000 (0) |
| 191 | 229 | 6.451 | 355.3 | 355.3 | 0.037 (4) | 0.000 (0) | 0.000 (0) | 0.000 (0) | 0.000 (0) |
| 224 | 182 | 6.451 | 355.3 | 355.3 | 0.025 (2) | 0.000 (0) | 0.000 (0) | 0.000 (0) | 0.000 (0) |
| 223 | 184 | 6.451 | 355.3 | 355.3 | 0.031 (5) | 0.000 (0) | 0.000 (0) | 0.000 (0) | 0.000 (0) |
| 228 | 194 | 6.451 | 355.3 | 355.3 | 0.029 (2) | 0.000 (0) | 0.000 (0) | 0.000 (0) | 0.000 (0) |
| 193 | 149 | 6.761 | 372.5 | 372.5 | 0.038 (4) | 0.000 (0) | 0.000 (0) | 0.000 (0) | 0.000 (0) |
| 194 | 150 | 6.761 | 372.5 | 372.5 | 0.029 (4) | 0.000 (0) | 0.000 (0) | 0.000 (0) | 0.000 (0) |
| 229 | 192 | 6.451 | 355.3 | 355.3 | 0.050 (4) | 0.000 (0) | 0.000 (0) | 0.000 (0) | 0.000 (0) |
| 139 | 183 | 6.761 | 372.5 | 372.5 | 0.043 (5) | 0.000 (0) | 0.000 (0) | 0.000 (0) | 0.000 (0) |
| 181 | 141 | 6.761 | 372.5 | 372.5 | 0.044 (5) | 0.000 (0) | 0.000 (0) | 0.000 (0) | 0.000 (0) |
| 182 | 142 | 6.761 | 372.5 | 372.5 | 0.049 (4) | 0.000 (0) | 0.000 (0) | 0.000 (0) | 0.000 (0) |
| 109 | 139 | 6.043 | 332.9 | 332.9 | 0.029 (3) | 0.000 (0) | 0.000 (0) | 0.000 (0) | 0.000 (0) |
| 70 | 120 | 6.761 | 372.5 | 372.5 | 0.066 (4) | 0.000 (0) | 0.000 (0) | 0.000 (0) | 0.000 (0) |
| 107 | 141 | 6.043 | 332.9 | 332.9 | 0.029 (2) | 0.000 (0) | 0.000 (0) | 0.000 (0) | 0.000 (0) |
| 140 | 110 | 6.043 | 332.9 | 332.9 | 0.065 (4) | 0.000 (0) | 0.000 (0) | 0.000 (0) | 0.000 (0) |
| 142 | 108 | 6.043 | 332.9 | 332.9 | 0.067 (4) | 0.000 (0) | 0.000 (0) | 0.000 (0) | 0.000 (0) |
| 152 | 118 | 6.043 | 332.9 | 332.9 | 0.027 (3) | 0.000 (0) | 0.000 (0) | 0.000 (0) | 0.000 (0) |
| 151 | 191 | 6.761 | 372.5 | 372.5 | 0.077 (4) | 0.000 (0) | 0.000 (0) | 0.000 (0) | 0.000 (0) |
| 119 | 149 | 6.043 | 332.9 | 332.9 | 0.082 (4) | 0.000 (0) | 0.000 (0) | 0.000 (0) | 0.000 (0) |

| | | | | | | | | | |
|-----|-----|-------|-------|-------|-----------|-----------|-----------|-----------|-----------|
| 150 | 120 | 6.043 | 332.9 | 332.9 | 0.052 (4) | 0.000 (0) | 0.000 (0) | 0.000 (0) | 0.000 (0) |
| 184 | 140 | 6.761 | 372.5 | 372.5 | 0.038 (5) | 0.000 (0) | 0.000 (0) | 0.000 (0) | 0.000 (0) |
| 192 | 152 | 6.761 | 372.5 | 372.5 | 0.047 (4) | 0.000 (0) | 0.000 (0) | 0.000 (0) | 0.000 (0) |
| 78 | 118 | 6.761 | 372.5 | 372.5 | 0.036 (5) | 0.000 (0) | 0.000 (0) | 0.000 (0) | 0.000 (0) |
| 118 | 67 | 6.761 | 372.5 | 372.5 | 0.104 (4) | 0.000 (0) | 0.000 (0) | 0.000 (0) | 0.000 (0) |
| 117 | 151 | 6.043 | 332.9 | 332.9 | 0.078 (4) | 0.000 (0) | 0.000 (0) | 0.000 (0) | 0.000 (0) |
| 57 | 107 | 6.761 | 372.5 | 372.5 | 0.037 (5) | 0.000 (0) | 0.000 (0) | 0.000 (0) | 0.000 (0) |
| 67 | 114 | 6.761 | 372.5 | 372.5 | 0.035 (4) | 0.000 (0) | 0.000 (0) | 0.000 (0) | 0.000 (0) |
| 72 | 117 | 6.761 | 372.5 | 372.5 | 0.043 (2) | 0.000 (0) | 0.000 (0) | 0.000 (0) | 0.000 (0) |
| 69 | 115 | 6.761 | 372.4 | 372.4 | 0.045 (5) | 0.000 (0) | 0.000 (0) | 0.000 (0) | 0.000 (0) |
| 69 | 105 | 6.043 | 332.9 | 332.9 | 0.040 (5) | 0.000 (0) | 0.000 (0) | 0.000 (0) | 0.000 (0) |
| 66 | 117 | 6.761 | 372.5 | 372.5 | 0.033 (3) | 0.000 (0) | 0.000 (0) | 0.000 (0) | 0.000 (0) |
| 66 | 113 | 6.761 | 372.5 | 372.5 | 0.064 (4) | 0.000 (0) | 0.000 (0) | 0.000 (0) | 0.000 (0) |
| 63 | 111 | 6.761 | 372.5 | 372.5 | 0.201 (4) | 0.000 (0) | 0.000 (0) | 0.000 (0) | 0.000 (0) |
| 63 | 101 | 6.043 | 332.9 | 332.9 | 0.392 (4) | 0.000 (0) | 0.000 (0) | 0.000 (0) | 0.000 (0) |
| 62 | 11 | 6.490 | 357.5 | 357.5 | 0.185 (4) | 0.000 (0) | 0.000 (0) | 0.000 (0) | 0.000 (0) |
| 60 | 113 | 6.761 | 372.5 | 372.5 | 0.079 (4) | 0.000 (0) | 0.000 (0) | 0.000 (0) | 0.000 (0) |
| 60 | 109 | 6.761 | 372.4 | 372.4 | 0.097 (5) | 0.000 (0) | 0.000 (0) | 0.000 (0) | 0.000 (0) |
| 57 | 111 | 6.761 | 372.5 | 372.5 | 0.171 (4) | 0.000 (0) | 0.000 (0) | 0.000 (0) | 0.000 (0) |
| 50 | 109 | 6.761 | 372.5 | 372.5 | 0.607 (4) | 0.000 (0) | 0.000 (0) | 0.000 (0) | 0.000 (0) |
| 58 | 112 | 6.761 | 372.5 | 372.5 | 0.080 (5) | 0.000 (0) | 0.000 (0) | 0.000 (0) | 0.000 (0) |
| 108 | 58 | 6.761 | 372.5 | 372.5 | 0.232 (4) | 0.000 (0) | 0.000 (0) | 0.000 (0) | 0.000 (0) |
| 65 | 116 | 6.761 | 372.5 | 372.5 | 0.330 (4) | 0.000 (0) | 0.000 (0) | 0.000 (0) | 0.000 (0) |
| 112 | 65 | 6.761 | 372.5 | 372.5 | 0.223 (4) | 0.000 (0) | 0.000 (0) | 0.000 (0) | 0.000 (0) |
| 116 | 70 | 6.761 | 372.4 | 372.4 | 0.613 (4) | 0.000 (0) | 0.000 (0) | 0.000 (0) | 0.000 (0) |
| 114 | 61 | 6.761 | 372.5 | 372.5 | 0.181 (4) | 0.000 (0) | 0.000 (0) | 0.000 (0) | 0.000 (0) |
| 61 | 110 | 6.761 | 372.4 | 372.4 | 0.110 (5) | 0.000 (0) | 0.000 (0) | 0.000 (0) | 0.000 (0) |
| 110 | 56 | 6.761 | 372.5 | 372.5 | 0.397 (4) | 0.000 (0) | 0.000 (0) | 0.000 (0) | 0.000 (0) |

- VERIFICA BIELLE SEZIONE 2 PROFILO Tubi 101.6X4.0 CONTROVENTAMENTI PARETE

- Tipo di verifica da eseguire:

- Resistenza (Componenti Azioni Interna)..... : - N
- Instabilità Nel Piano 1/2 : Nessuna verifica
- Instabilità Nel Piano 1/3 : Nessuna verifica
- Pressoflessione (Componenti Azioni Interna). : Nessuna verifica
- Instabilità Flesso-Torsionale : Nessuna verifica

- Acciaio tipo : **Acciaio**
- Tensione di Snervamento : 275.00 [MPa]
- Tensione di Rottura : 430.00 [MPa]

| Asta Nodi | | Luce | Snellezza nel Piano | | Resistenza | Instabilità Sd/Sr | | Pressoflessione | Svergolamento |
|-----------|----|-------|---------------------|-------|------------|-------------------|-----------|-----------------|---------------|
| Da | A | [m] | 1/2 | 1/3 | Sd/Sr | 1/2 | 1/3 | Sd/Sr | Sd/Sr |
| 228 | 68 | 6.092 | 176.6 | 176.6 | 0.016 (5) | 0.000 (0) | 0.000 (0) | 0.000 (0) | 0.000 (0) |
| 227 | 71 | 6.092 | 176.6 | 176.6 | 0.019 (5) | 0.000 (0) | 0.000 (0) | 0.000 (0) | 0.000 (0) |
| 225 | 59 | 6.092 | 176.6 | 176.6 | 0.016 (3) | 0.000 (0) | 0.000 (0) | 0.000 (0) | 0.000 (0) |
| 224 | 62 | 6.092 | 176.6 | 176.6 | 0.015 (2) | 0.000 (0) | 0.000 (0) | 0.000 (0) | 0.000 (0) |
| 71 | 75 | 5.400 | 156.6 | 156.6 | 0.046 (4) | 0.000 (0) | 0.000 (0) | 0.000 (0) | 0.000 (0) |
| 70 | 35 | 6.490 | 188.2 | 188.2 | 0.059 (4) | 0.000 (0) | 0.000 (0) | 0.000 (0) | 0.000 (0) |
| 68 | 71 | 5.400 | 156.6 | 156.6 | 0.047 (4) | 0.000 (0) | 0.000 (0) | 0.000 (0) | 0.000 (0) |

| | | | | | | | | | |
|----|----|-------|-------|-------|-----------|-----------|-----------|-----------|-----------|
| 71 | 32 | 6.490 | 188.2 | 188.2 | 0.029 (4) | 0.000 (0) | 0.000 (0) | 0.000 (0) | 0.000 (0) |
| 67 | 42 | 6.490 | 188.2 | 188.2 | 0.019 (5) | 0.000 (0) | 0.000 (0) | 0.000 (0) | 0.000 (0) |
| 68 | 39 | 6.490 | 188.2 | 188.2 | 0.025 (3) | 0.000 (0) | 0.000 (0) | 0.000 (0) | 0.000 (0) |
| 64 | 68 | 5.400 | 156.6 | 156.6 | 0.020 (5) | 0.000 (0) | 0.000 (0) | 0.000 (0) | 0.000 (0) |
| 69 | 29 | 6.490 | 188.2 | 188.2 | 0.018 (4) | 0.000 (0) | 0.000 (0) | 0.000 (0) | 0.000 (0) |
| 62 | 64 | 5.400 | 156.6 | 156.6 | 0.024 (4) | 0.000 (0) | 0.000 (0) | 0.000 (0) | 0.000 (0) |
| 66 | 36 | 6.490 | 188.2 | 188.2 | 0.046 (4) | 0.000 (0) | 0.000 (0) | 0.000 (0) | 0.000 (0) |
| 61 | 14 | 6.490 | 188.2 | 188.2 | 0.076 (5) | 0.000 (0) | 0.000 (0) | 0.000 (0) | 0.000 (0) |
| 59 | 62 | 5.400 | 156.6 | 156.6 | 0.135 (4) | 0.000 (0) | 0.000 (0) | 0.000 (0) | 0.000 (0) |
| 58 | 21 | 6.490 | 188.2 | 188.2 | 0.029 (4) | 0.000 (0) | 0.000 (0) | 0.000 (0) | 0.000 (0) |
| 59 | 18 | 6.490 | 188.2 | 188.2 | 0.064 (5) | 0.000 (0) | 0.000 (0) | 0.000 (0) | 0.000 (0) |
| 53 | 59 | 5.400 | 156.6 | 156.6 | 0.122 (4) | 0.000 (0) | 0.000 (0) | 0.000 (0) | 0.000 (0) |
| 60 | 8 | 6.490 | 188.2 | 188.2 | 0.114 (4) | 0.000 (0) | 0.000 (0) | 0.000 (0) | 0.000 (0) |
| 57 | 15 | 6.490 | 188.2 | 188.2 | 0.039 (4) | 0.000 (0) | 0.000 (0) | 0.000 (0) | 0.000 (0) |

Teramo, li

I progettisti

Architetti Ilario Tottone e Maurizio De Siati