




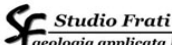


PARCO REGIONALE DELLA VALLE DEL LAMBRO
Via Vittorio Veneto, 19 - 20844 Triuggio (MB)

OPERE DI REGOLAZIONE DELLE PORTATE previste nell'intervento

“Area di laminazione di Inverigo – interventi idraulici
e di riqualificazione fluviale nei territori di Inverigo,
Nibionno e Veduggio con Colzano”

APPALTO INTEGRATO - PROGETTO ESECUTIVO

INDICE	DATA	MODIFICHE	DISEGN.	CONTR.	APPROV.
CALCOLI ESECUTIVI Calcoli esecutivi delle strutture					
APPALTATORE:  MAZZONI COSTRUZIONI S.r.l. VIA DONIZETTI, 3 – 20122 MILANO (MI)			RESPONSABILE DEL PROCEDIMENTO: Dott. Bernardino Farchi		
PROGETTISTI indicati:  MAJONE & PARTNERS S.r.l. (Mandataria) Ing. Denis Cerlini Ing. Alessandro Balbo Ing. Giacomo Galimberti  BIOS.I.S. S.r.l. (Mandante) - ASPETTI FORESTALI Agr. Giordano Fossi Ing. Achille Paolo Arcuri  STUDIO FRATI (Mandante) - GEOLOGIA Geol. Stefano Frati			SCALA: ELABORATO: INV 3.04/1		
PROGETTO DEFINITIVO: PROGETTAZIONE IDRAULICA: Ing. Maurizio Rosso - Ing. Santo La Ferlita PROGETTAZIONE STRUTTURALE: Ing. Piergiorgio Locatelli - Ing. Luigi Nava GEOLOGIA: Geol. Pietro Alborghetti			Giugno 2016		

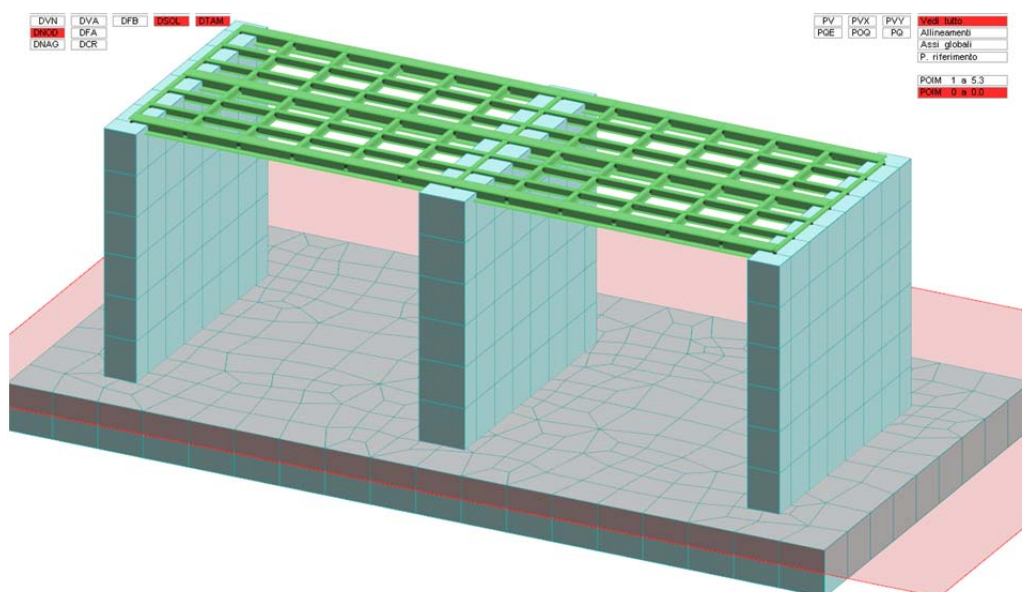
INDICE

1	INTRODUZIONE	3
2	PARAMETRI GENERALI DI PROGETTO	4
2.1	Premessa	4
2.2	Quadro normativo	4
2.3	Vita nominale (V_N)	4
2.4	Classe d'uso	4
2.5	Materiali utilizzati	4
2.5.1	Calcestruzzo	4
2.5.2	Acciaio	5
3	ANALISI DEI CARICHI GENERALE	6
3.1	Carichi permanenti strutturali	6
3.2	Carichi permanenti non strutturali	6
3.3	Carichi variabili	7
3.4	Azione sismica - § 3.2 NTC '08	8
3.4.1	Localizzazione del sito d'intervento	9
3.4.2	Periodo di riferimento (V_R) per l'azione sismica	9
3.4.3	Probabilità di superamento e Periodo di ritorno	9
3.4.4	Definizione dei parametri a_g , F_0 e T^*_C	9
3.4.5	Coefficiente di amplificazione stratigrafica	10
3.4.6	Coefficiente di amplificazione topografica	10
3.4.7	Categoria di sottosuolo	10
4	ANALISI	11
4.1	Verifiche piastra di camminamento	11
4.1.1	Introduzione	11
4.1.2	Calcoli	11
4.2	Verifiche profili impalcato	14
4.2.1	Introduzione	14
4.2.2	Verifica IPE180 tipo A	14
4.2.3	Verifica IPE180 tipo B	17
4.2.4	Verifica HEA280	20
4.2.5	Verifica HEB280	23
4.3	Verifica sismica impalcato	26
4.4	Verifica collegamenti impalcato	28
4.4.1	Introduzione	28
4.4.2	Verifica collegamento tipo	29
4.4.3	Verifica collegamento controvento	31

4.5	Appoggi neoprene	33
4.6	Tirafondi.....	34
4.7	Spalla.....	35
4.8	Pila centrale.....	39
4.9	Fondazione.....	42
4.9.1	Introduzione.....	42
4.9.2	Calcoli.....	42
4.10	Pali.....	43
4.10.1	Introduzione.....	43
4.10.2	Analisi.....	43
4.11	Sfioratore laterale	64
4.11.1	Introduzione.....	64
4.11.2	Analisi.....	64

In prossimità dell'impalcato da ponte verrà inoltre realizzato un manufatto di sfioro, anch'esso gravante su pali di fondazione.

Nella presente relazione verranno riportati i calcoli effettuati per le verifiche ed il dimensionamento degli elementi strutturali, effettuando le principali verifiche descritte dalla normativa vigente. Si allega inoltre la relazione di calcolo riguardante il modello tridimensionale della struttura, realizzato con il software ad elementi finiti ModeSt 8.8.



2 PARAMETRI GENERALI DI PROGETTO

2.1 Premessa

A meno di diverse indicazioni i dati di seguito riportati sono da ritenersi validi per tutte le opere in progetto.

2.2 Quadro normativo

La normativa di riferimento è la seguente:

- D.M. 14 GENNAIO 2008 - Norme Tecniche per le Costruzioni.
- Circolare 617 del 02/02/2009 - Istruzioni per l'applicazione delle nuove Norme Tecniche per le Costruzioni di cui al D.M. 14 gennaio 2008.
- Legge 05/11/1971 – n. 1086 - G.U. 21-12-71 n.321 – “Norme per la disciplina delle opere in conglomerato cementizio armato, normale e precompresso ed a struttura metallica.”

2.3 Vita nominale (V_N)

La vita nominale, intesa come il periodo di tempo nel quale la struttura, purché soggetta alla manutenzione ordinaria, deve poter essere utilizzata per lo scopo al quale è destinata, è stata valutata in comune accordo tra committente e progettista in **100 anni**.

Appartengono infatti a tale categoria grandi opere, ponti, opere infrastrutturali e dighe di grandi dimensioni o di importanza strategica (§2.4.1 NTC '08).

2.4 Classe d'uso

La classe d'uso di un edificio in presenza di azioni sismiche, è funzione delle conseguenze correlate ad una eventuale interruzione dell'operatività della struttura o di un suo collasso. Per il progetto corrente la categoria individuata è la numero **III** (§2.4.2 NTC '08).

2.5 Materiali utilizzati

2.5.1 Calcestruzzo

Si assume, per tutti gli elementi, **classe di esposizione XC4** (UNI 11104, in applicazione della UNI EN 206), da cui seguono:

1. resistenza minima: $R_{ck,min} = 40MPa$;
2. copriferro minimo: $c_{min} = 40mm$.

In fase di calcolo il calcestruzzo utilizzato è del tipo **C32/40**, i cui minimi parametri da garantire a 28 giorni dall'esecuzione del getto sono descritti nella tabella sotto riportata

- C32/40

Simbolo	Formula	Valore	
fck	Resistenza caratteristica a compressione cilindrica	32.00	MPa
Rck	Resistenza caratteristica a compressione cubica	40.00	MPa
fctm	Resistenza a trazione media	3.02	MPa
fctk_0.05	Resistenza a trazione caratteristica	2.12	MPa
Ecm	Modulo elastico medio	34922.82	MPa
ν	Coeff. di Poisson	0.20	-
γ_c	Coeff. di normativa	1.50	-
α_{cc}	Coeff. di normativa per resistenze di lunga durata	0.85	-
fcd	Resistenza a compressione di progetto	18.13	MPa
ξ_{cu}	Deformazione ultima a rottura	0.35	%

2.5.2 Acciaio

L'acciaio impiegato per la realizzazione delle armature è del tipo **B450C** in barre ad aderenza migliorata le cui caratteristiche sono di seguito elencate:

Descrizione	Formula	B450C	
Diametri utilizzabili	-	da 6 a 40	mm
Resistenza caratteristica a trazione ($\geq f_t \text{ nom} = 540$)	-	540	MPa
Tensione caratteristica di snervamento ($\geq 450 f_y \text{ nom} = 450$)	-	450	MPa
Rapporto di sovreresistenza	$(f_t/f_y)k$	≥ 1.15	-
-	$(f_y/f_y \text{ nom})k$	< 1.35	-
-	-	≤ 1.25	-
Allungamento totale al carico massimo	-	$\geq 7.5\%$	%
Modulo elastico longitudinale	-	210000	MPa
Fattore di sicurezza parziale proprietà acciaio	-	1.15	-
Resistenza a trazione caratteristica	f_{yd}/γ_y	391.3	MPa

L'acciaio utilizzato per i profili metallici invece è del tipo **S355** ($f_{yk} = 355$ MPa, $f_{yu} = 510$ MPa).

I bulloni utilizzati per i collegamenti tra gli elementi strutturali sono invece di **classe 8.8** ($f_{yk} = 640$ MPa, $f_{yu} = 800$ MPa).

3 ANALISI DEI CARICHI GENERALE

L'individuazione dei diversi scenari di contingenza a cui l'opera potrà essere soggetta è stata determinata dal progettista in funzione dell'*ambiente di progetto*, del relativo *quadro normativo di riferimento*, di situazioni che introducono perturbazioni nello schema strutturale e di disposizioni non simmetriche dei carichi.

3.1 Carichi permanenti strutturali

A livello di carichi permanenti strutturali sono stati considerati i pesi propri degli elementi strutturali.

- IPE180 $q = 18.8 \text{ daN/m}$
interasse $i_1 = 0.79 \text{ m}$
interasse $i_2 = 1.17 \text{ m} \rightarrow$ incidenza totale 40 daN/m^2
- HEB280 $q = 103 \text{ daN/m}$
interasse $i = 5 \text{ m} \rightarrow$ incidenza totale 22 daN/m^2
- HEA280 $q = 76.4 \text{ daN/m}$
interasse $i = 2.5 \text{ m} \rightarrow$ incidenza totale 32 daN/m^2
- Controventi $\Phi 20$
 $q = 2.5 \text{ daN/m}$
 $l_{\text{tot}} = 55 \text{ m} \rightarrow$ incidenza totale 6 daN/m^2
- Spalle Dimensioni $5.74 \text{ m} \times 5.3 \text{ m} \times 0.7 \text{ m}$
- Pila Dimensioni $5.74 \text{ m} \times 5.3 \text{ m} \times 1.0 \text{ m}$
- Fondazioni Dimensioni $17.9 \text{ m} \times 9.0 \text{ m} \times 1.0 \text{ m}$
- Pali Lunghezza 14 m
Diametro $0.8 \text{ m} - 0.7 \text{ m}$

3.2 Carichi permanenti non strutturali

Alla stregua di carichi permanenti non strutturali sono state considerate le sollecitazioni dovute al peso degli elementi di camminamento oltre alle spinte provocate dal terreno sostenuto dalle spalle ed il peso dell'acqua transitante al di sotto dell'impalcato.

- Piastra metallica $\text{Peso specifico } 7850 \text{ daN/m}^3$
 $\text{Spessore } 0.011 \text{ m} \rightarrow$ carico 90 daN/m^2
- Parapetto \rightarrow carico 50 daN/m
- Spinta terreno $\text{Peso specifico terreno } 1700 \text{ daN/m}^3$
 $\text{Angolo di attrito } 30^\circ$ (coefficiente di spinta attiva $k_a = 0.333$)
 \rightarrow Pressione terreno alla base spalla 3000 daN/m^2
- Peso acqua fondazione $\text{Peso specifico } 1100 \text{ daN/m}^3$

Spessore 2.5m



carico 2500 daN/m²

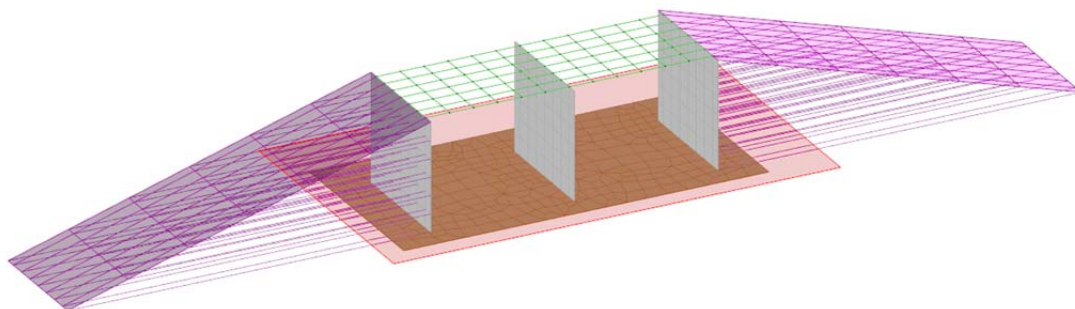


Figura 1 - Spinta del terreno

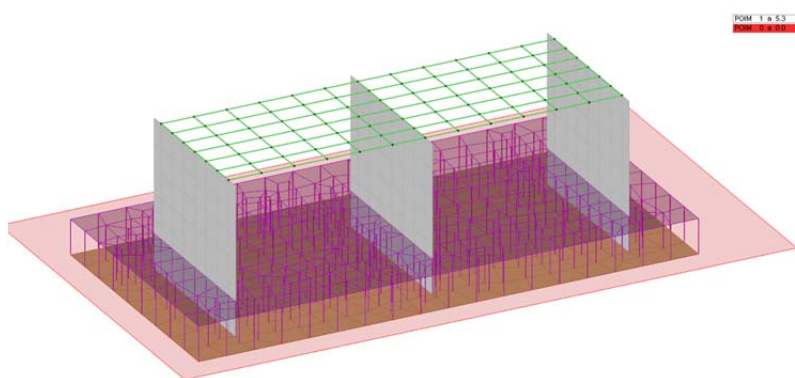


Figura 2 - Carico acqua in fondazione

3.3 Carichi variabili

Nel rispetto delle richieste effettuate dalla Committenza, a livello di carichi variabili sull'impalcato per simulare il peso della folla è stato assunto un valore pari a 1000 daN/m²; data l'intensità di quest'ultimo carico è stato evitato di considerare l'effetto del sovraccarico da neve.

Sono stati anche considerati gli effetti dovuti alla spinta generata dalla presenza di un carico da folla in prossimità delle spalle del ponte, assunti in fase di predimensionamento pari a 330 daN/m², mentre in fase di modellazione tridimensionale ad elementi finiti, nella quale si tiene in conto degli effetti di tipo piastra degli elementi bidimensionali, è stato assunto pari a 1000 daN/m².

Sono state tenute in conto anche le disposizioni relative al passaggio di mezzi di soccorso/manutenzione, così come indicato nella Circolare al paragrafo §C5.1.4.9, considerando una combinazione di carico caratterizzata da due assi di peso complessivo pari a 4000 daN e 8000 daN. Automaticamente non è stato quindi utilizzato lo schema di carico 4 previsto dal paragrafo §5.1.3.3.3 delle NTC in quanto caratterizzato da un carico concentrato di intensità inferiore (1000 daN).

Inoltre, in relazione ai dati forniti dagli studi idrologici, sono stati inseriti carichi agenti su spalle e pila centrale dovuti alle spinte dell'acqua, in relazione ad eventi naturali con periodo di ritorno di T = 200 anni e T = 500 anni.

Nel caso di scenario con T = 200 anni, è stata valutata la spinta dell'acqua, calcolata in regime idrostatico, considerando un'altezza del tirante idraulico pari a 4.3 m rispetto all'estradosso delle fondazioni ed un peso specifico dell'acqua pari a 1000 daN/m³, incrementato di un coefficiente $\gamma = 1.1$ per tenere in conto di possibili effetti dinamici. In questa situazione la spinta dell'acqua si

scarica sia sulla pila centrale che sulla spalle laterali in quanto è previsto che entrambe le paratoie, di cui la passerella è dotata, possano abbassarsi per regimare il deflusso di acqua.

Nel caso di scenario con $T = 500$ anni, è stata valutata la spinta dell'acqua, calcolata in regime idrostatico, considerando un'altezza del tirante idraulico pari a 4.68 m rispetto all'estradosso delle fondazioni ed un peso specifico dell'acqua pari a 1000 daN/m^3 , incrementato di un coefficiente $\gamma = 1.1$ per tenere in conto di possibili effetti dinamici. In questa situazione però la spinta si scarica solo sulla pila centrale ed una spalla, in quanto solo una delle due paratoie risulta essere abbassata per controllare il deflusso di acqua.

In entrambi i tipi di scenario, è stato assunto un sovraccarico dovuto alla presenza di un livello di acqua più elevato pari a 2800 daN/m^2 .

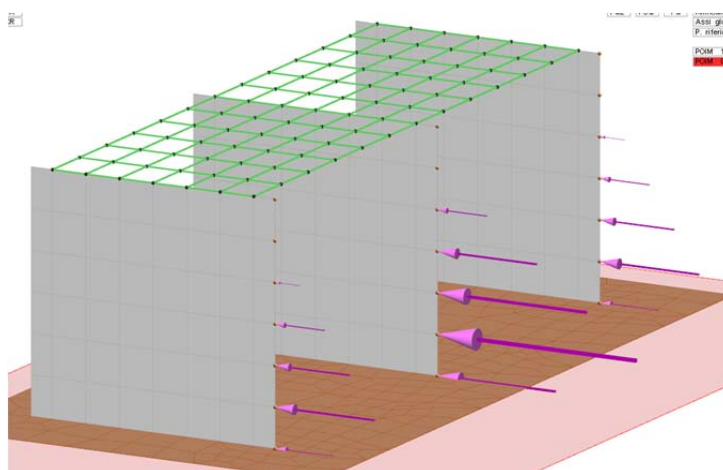


Figura 3 – Spinta acqua, scenario $T = 200$ anni

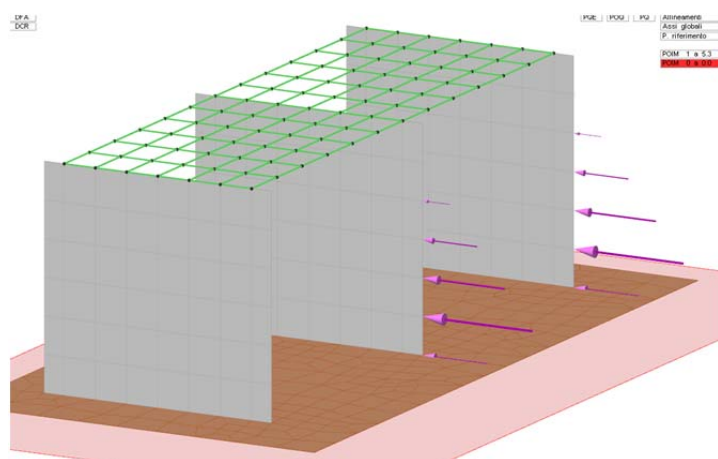


Figura 4 - Spinta acqua, scenario $T = 500$ anni

3.4 Azione sismica - § 3.2 NTC '08

La **pericolosità sismica di base** del sito di costruzione in funzione dello stato limite considerato dipende sia dall'accelerazione orizzontale massima in condizioni di campo libero su suolo orizzontale di categoria A, che dallo spettro di risposta elastico a quest'ultima corrispondente.

A loro volta le forme spettrali per ciascuna **probabilità di superamento** (P_{vr}) prevista dalla norma possono essere ricavate grazie ai parametri a_g (*Accelerazione orizzontale massima del sito*), F_0 (*Valore massimo del fattore di amplificazione dello spettro in accelerazione orizzontale*) e T^*_c (*Periodo di inizio del tratto a velocità costante dello spettro in accelerazione orizzontale*) definiti

dalla normativa italiana a seconda della localizzazione dell'area di costruzione all'interno del **Reticolo Nazionale di Riferimento**.

Nei paragrafi a seguire verranno progressivamente ricavati tutti i valori necessari per la costruzione degli spettri ali **SL di Vita**, **SL di Danno** e di **Operatività**.

3.4.1 Localizzazione del sito d'intervento

Località	Comune di Inverigo
Latitudine	45.73292° N
Longitudine	9.23529° E
ID punti reticolo d'appartenenza	11152 11151 10930 10929

3.4.2 Periodo di riferimento (V_R) per l'azione sismica

Il periodo V_R rispetto il quale sono valutate le azioni sismiche viene ricavato moltiplicando la **vita nominale** della struttura per il **coefficiente d'uso** (C_U), a sua volta funzione della **classe d'uso**:

Classe III: $C_U = 1.5$

$$V_R = V_N \cdot C_U = 100 \cdot 1.5 = 150 \text{ anni}$$

3.4.3 Probabilità di superamento e Periodo di ritorno

La **probabilità di superamento** (P_{VR}) del **periodo di riferimento** (V_R) per l'individuazione dell'azione sismica è funzione dello stato limite considerato. A meno di particolari indicazioni a riguardo, gli **SL** richiesti per la verifica strutturale e le relative P_{VR} sono:

STATI LIMITE D'ESERCIZIO	di Operatività (SLO)	81%
	di Danno (SLD)	63%
STATI LIMITE ULTIMI*	di salvaguardia della Vita (SLV)	10%
*: A tale categoria appartiene anche il caso degli SL di collasso, che tuttavia non è richiesto ai fini della verifica.		

A questo punto, grazie all'espressione $T_R = -\frac{V_R}{\ln(1 - P_{VR})}$, è possibile valutare il **periodo di ritorno** (T_R) dei corrispondenti terremoti:

P_{VR}	T_R [anni]
81%	90
63%	151
10%	1424

3.4.4 Definizione dei parametri a_g , F_0 e T^*_c

I valori forniti dal **D.M. 2008** di a_g , F_0 e T^*_c in funzione dei valori di **Latitudine**, **Longitudine** e **Periodo di ritorno** determinati ai punti precedenti sono:

Stato limite considerato	a_g [g]	F_0	T^*_c
SLD	0.0344	2.608	0.226
SLV	0.0653	2.697	0.306

3.4.5 Coefficiente di amplificazione stratigrafica

La definizione dell'azione sismica, oltre che dipendere dalla zonazione di progetto, risulta influenzata anche dalla categoria del sottosuolo ivi presente; nel caso in esame sono stati considerati terreni appartenenti alla **categoria C**.

Stato limite	ag [g]	F0	T*C		Ss	Cc	
SLD	0.0344	2.608	0.226		1.5	1.715	
SLV	0.0653	2.697	0.306		1.5	1.552	
Categoria	Descrizione					Ss	Cc
C	Depositi di terreni a grana grossa mediamente addensati o terreni a grana fina mediamente consistenti, con spessori superiori a 30 m, caratterizzati da un graduale miglioramento delle proprietà meccaniche con la profondità e da valori di Vs,30 compresi tra 180 m/s e 360 m/s (ovvero $15 < NSPT_{30} < 50$ nei terreni a grana grossa e $70 < cu_{30} < 250$ kPa nei terreni a grana fina).					$1.0 \leq 1.7 - 0.6 * F0 * ag / g \leq 1.5$	$1.05 * (Tc^*)^{-0.33}$

3.4.6 Coefficiente di amplificazione topografica

Per la completa definizione dello spettro elastico di risposta deve essere inoltre determinata la configurazione superficiale del sito in oggetto; nel caso corrente la categoria è la **T1**, ossia *pendii con inclinazione media $i < 15^\circ$* , cui è associato il seguente **coefficiente di amplificazione topografica (S_T)**:

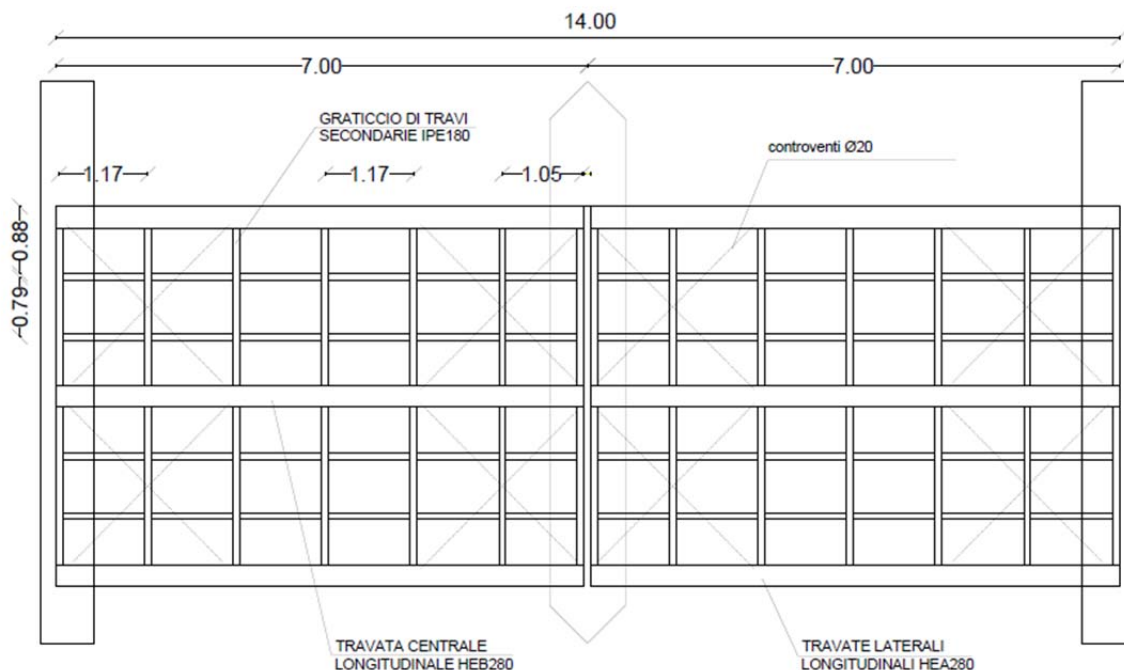
Categoria	Caratteristiche della superficie topografica	St
T1	Superficie pianeggiante, pendii e rilievi isolati con inclinazione media $i \leq 15^\circ$	1

3.4.7 Categoria di sottosuolo

La combinazione dei parametri S_s ed S_T porta alla definizione del parametro **S**, ossia, la **categoria di sottosuolo**:

Stato limite considerato	S_s	S_T	S
SLD	1.50	1.00	1.50
SLV	1.50	1.00	1.50

4 ANALISI



4.1 Verifiche piastra di camminamento

4.1.1 Introduzione

La verifica sulla piastra di camminamento è stata effettuata tramite il metodo di Grahof, tramite il quale la piastra viene studiata alla stregua di due travi perpendicolari tra loro e soggette rispettivamente ad un carico q_x e q_y tali per cui $q_x l_x + q_y l_y = q l_x l_y$; inoltre le due travi sono tali da avere una deformata identica in mezzzeria $f(l_x/2) = f(l_y/2)$. Stesso ragionamento vale per un carico concentrato nel centro della piastra.

Svolgendo i calcoli del caso, definiti q_{tot} e P_{tot} i carichi distribuiti e concentrati agenti sulla piastra, si ottengono i seguenti risultati:

$$\begin{aligned} \bullet \quad q_y &= q_{tot} l_x^5 / (l_x^4 + l_y^4) & q_x &= q_y l_y^5 / l_x^5 \\ \bullet \quad P_y &= P_{tot} l_x^4 / (l_x^4 + l_y^4) & P_x &= P_y l_y^4 / l_x^4 \end{aligned}$$

4.1.2 Calcoli

Dati generali

- Luci $l_x = 1.17 \text{ m}$ $l_y = 0.79 \text{ m}$
- Schema statico trave in semplice appoggio (Metodo di Grashof)
- Azioni resistenti di progetto $M_{x,RD} = 807.9 \text{ daNm}$
 $T_{x,RD} = 169628 \text{ daN}$
- $M_{y,RD} = 1196.6 \text{ daNm}$
 $T_{y,RD} = 251221 \text{ daN}$
- Rapporto limite SLE $L / f = 300$

Caso 1: peso proprio + peso folla

- Carico g_1 90 daN/m^2

- Coefficiente $\gamma_{g1} = 1.35$

$$\rightarrow g_1 = 125 \text{ daN/m}^2$$

- Carico $q = 1000 \text{ daN/m}^2$

- Coefficiente $\gamma_{g1} = 1.35$

$$\rightarrow \dots q = 1350 \text{ daN/m}^2$$

$$q_{\text{tot SLU}} = 1475 \text{ daN/m}^2$$

$$q_{\text{tot SLE}} = 1090 \text{ daN/m}^2$$

$$q_{x \text{ SLU}} = 200 \text{ daN/m}$$

$$M_{x,ED} = 34.2 \text{ daNm}$$

VERIFICATO

$$T_{x,ED} = 117 \text{ daN}$$

VERIFICATO

$$q_{y \text{ SLU}} = 1428 \text{ daN/m}$$

$$M_{y,ED} = 111 \text{ daNm}$$

VERIFICATO

$$T_{y,ED} = 564 \text{ daN}$$

VERIFICATO

$$q_{x \text{ SLE}} = 148.1 \text{ daN/m}$$

$$f_{\text{max}} = 0.00196 \text{ m}$$

$$L / f = 596$$

VERIFICATO

$$q_{y \text{ SLE}} = 1057.8 \text{ daN/m}$$

$$f_{\text{max}} = 0.00196 \text{ m}$$

$$L / f = 403$$

VERIFICATO

Caso 2: peso proprio + peso mezzi soccorso/manutenzione

- Carico $g_1 = 90 \text{ daN/m}^2$

- Coefficiente $\gamma_{g1} = 1.35$

$$\rightarrow q_{\text{tot SLU}} = 125 \text{ daN/m}^2$$

$$q_{\text{tot SLE}} = 90 \text{ daN/m}^2$$

- Carico $P = 4000 \text{ daN}$

- Coefficiente $\gamma_{g1} = 1.35$

$$\rightarrow P_{\text{tot SLU}} = 5400 \text{ daN/m}^2$$

$$P_{\text{tot SLE}} = 4000 \text{ daN/m}^2$$

$$q_{x \text{ SLU}} = 17.0 \text{ daN/m}$$

$$P_{x \text{ SLU}} = 929.3 \text{ daN}$$

$$M_{x,ED} = 275 \text{ daNm}$$

VERIFICATO

$$T_{x,ED} = 938.9 \text{ daN}$$

VERIFICATO

$$q_{y \text{ SLU}} = 121.1 \text{ daN/m}$$

$$P_{y \text{ SLU}} = 4470.7 \text{ daN}$$

$$M_{y,ED} = 892 \text{ daNm}$$

VERIFICATO

$$T_{y,ED} = 4517.2 \text{ daN}$$

VERIFICATO

Non sono previste verifiche in termini deformativi in quanto si presuppone che la situazione di carico dovuto a mezzi di manutenzione/soccorso sia limitata nel tempo.

4.2 Verifiche profili impalcato

4.2.1 Introduzione

Sono state effettuate le seguenti verifiche sui profili metallici costituenti l'impalcato:

- Verifica di resistenza a flessione
- Verifica di resistenza a taglio
- Verifica di deformabilità
- Verifiche legate a variazioni termiche $\Delta T = \pm 30^\circ\text{C}$

Non sono state effettuate verifiche legate all'instabilità flessio-torsionale degli elementi strutturali in quanto si ritiene che la limitata luce di libera inflessione e il contributo irrigidente della piastra di camminamento determinino un effetto benefico nei riguardi dell'instabilità.

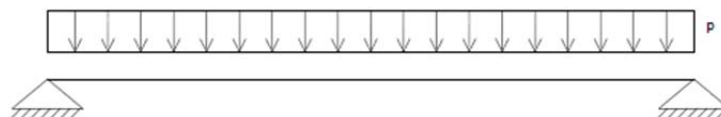
Verrà invece effettuata una verifica a presso-flessione considerando l'azione di compressione dovuta a fenomeni di espansione termica, nell'ipotesi di impossibilità da parte del profilo metallico di potersi allungare liberamente.

4.2.2 Verifica IPE180 tipo A

Dati generali

- Luce $l = 1.17 \text{ m}$
- Interasse $i = 0.79 \text{ m}$
- Schema statico trave in semplice appoggio
- Azioni resistenti di progetto $M_{x,RD} = 5626 \text{ daNm}$
 $T_{x,RD} = 21970 \text{ daN}$
- Rapporto limite SLE $L / f = 300$
- Coefficiente di dilatazione termica $\alpha = 12 \times 10^{-6} \text{ } 1/^\circ\text{C}$ \rightarrow deformazione $\varepsilon = 0.036 \%$

Caso 1: peso proprio + peso lastra camminamento + peso folla



- Carico $g_{1_SLE} \quad 18.8 \text{ daN/m}$
- Coefficiente $\gamma_{g1} \quad 1.35 \rightarrow g_{1_SLU} = 25.4 \text{ daN/m}$

- Carico $g_{2_SLE} \quad 71.1 \text{ daN/m}$
- Coefficiente $\gamma_{g2} \quad 1.50 \rightarrow g_{2_SLU} = 106.7 \text{ daN/m}$

- Carico $q_{SLE} \quad 790 \text{ daN/m}$
- Coefficiente $\gamma_q \quad 1.35 \rightarrow q_{SLU} = 1066.5 \text{ daN/m}$

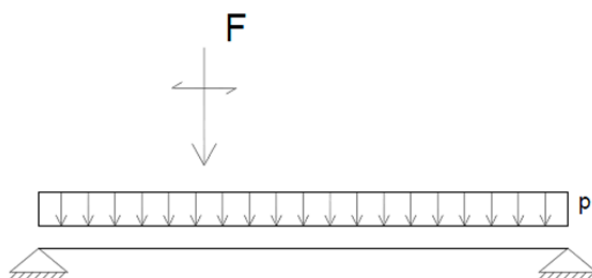
$$q_{tot \text{ SLU}} = 1198.6 \text{ daN/m}$$

$$q_{tot \text{ SLE}} = 879.9 \text{ daN/m}$$

$M_{ED} = 205 \text{ daNm}$	VERIFICATO
$T_{ED} = 701 \text{ daN}$	VERIFICATO
$f_{max} = 0.00008 \text{ m}$	
$L / f = 15087$	VERIFICATO

Caso 2: peso proprio + peso lastra camminamento + peso mezzi soccorso/manutenzione

Il carico concentrato F viene di volta in volta collocato nella posizione più sfavorevole per la verifica in corso di studio.



- Carico g_{1_SLE}	18.8 daN/m	
- Coefficiente γ_{g1}	1.35	$\rightarrow g_{1_SLU} = 25.4 \text{ daN/m}$
- Carico g_{2_SLE}	71.1 daN/m	
- Coefficiente γ_{g2}	1.50	$\rightarrow g_{2_SLU} = 106.7 \text{ daN/m}$
- Carico P_{SLE}	4000 daN	
- Coefficiente γ_q	1.35	$\rightarrow P_{SLU} = 5400 \text{ daN}$

$q_{tot \text{ SLU}} = 132.1 \text{ daN/m}$
 $P_{tot \text{ SLU}} = 5400 \text{ daN}$

$q_{tot \text{ SLE}} = 89.9 \text{ daN/m}$
 $P_{tot \text{ SLE}} = 4000 \text{ daN}$

$M_{ED} = 1602 \text{ daNm}$	VERIFICATO
$T_{ED} = 5477 \text{ daN}$	VERIFICATO
$f_{max} = 0.00049 \text{ m}$	
$L / f = 2385$	VERIFICATO

Caso 3: effetto variazione termica ΔT , deformazione libera

Allungamento $\Delta L = 0.42 \text{ mm}$	\rightarrow	Inferiore al gioco foro-bullone pari a 1.0 mm
		VERIFICATO

Caso 4: effetto variazione termica ΔT , deformazione impedita

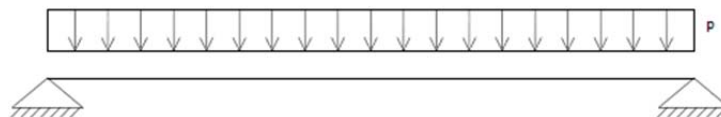
Incremento di sforzo assiale	$\Delta\sigma = 756 \text{ daN/cm}^2$	
Incremento di azione assiale	$\Delta N = 18106.2 \text{ daN}$	
Lunghezza libera inflessione L_0	117 cm	
Inerzia minima sezione I_{\min}	100.9 cm ³	
	→	$N_{\text{crit}} = 152770 \text{ daN}$
Snellezza adimensionale λ	0.746	
Curva di stabilità (Tab. 4.2.VI)	b	
	→	$\alpha = 0.34$
Coefficiente Φ	0.871	
Coefficiente χ	0.757	
$M_{RD} = 5626 \text{ daNm}$		
$\chi N_{RD} = 0.757 \times 80970 = 61294 \text{ daN}$		
$N_{ED} = 18106.2 \text{ daN}$		
$M_{ED} = 205 \text{ daNm}$		
	→	F.S. = 0.33 VERIFICATO

4.2.3 Verifica IPE180 tipo B

Dati generali

- Luce $l = 2.50 \text{ m}$
- Interasse $i = 1.17 \text{ m}$
- Schema statico trave in semplice appoggio
- Azioni resistenti di progetto $M_{x,RD} = 5626 \text{ daNm}$
 $T_{x,RD} = 21970 \text{ daN}$
- Rapporto limite SLE $L / f = 300$
- Coefficiente di dilatazione termica $\alpha = 12 \times 10^{-6} \text{ } 1/^{\circ}\text{C}$ \rightarrow deformazione $\varepsilon = 0.036 \%$

Caso 1: peso proprio + peso lastra camminamento + peso folla



- Carico g_{1_SLE} 18.8 daN/m
- Coefficiente γ_{g1} $1.35 \rightarrow g_{1_SLU} = 25.4 \text{ daN/m}$

- Carico g_{2_SLE} 105.3 daN/m
- Coefficiente γ_{g2} $1.50 \rightarrow g_{2_SLU} = 157.9 \text{ daN/m}$

- Carico q_{SLE} 1170 daN/m
- Coefficiente γ_q $1.35 \rightarrow q_{SLU} = 1579.5 \text{ daN/m}$

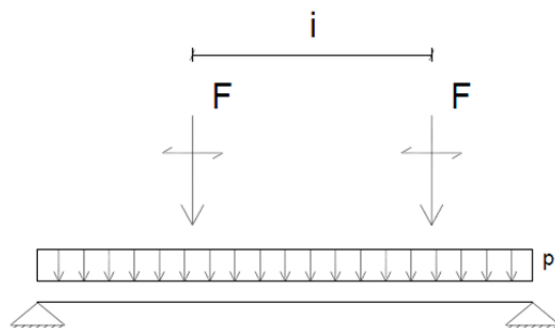
- $q_{tot \text{ SLU}} = 1762.8 \text{ daN/m}$**
- $q_{tot \text{ SLE}} = 1294.1 \text{ daN/m}$**

$M_{ED} = 1377 \text{ daNm}$ VERIFICATO
 $T_{ED} = 2203 \text{ daN}$ VERIFICATO

$f_{max} = 0.00023 \text{ m}$
 $L / f = 1050.5$ VERIFICATO

Caso 2: peso proprio + peso lastra camminamento + peso mezzi soccorso/manutenzione

Il doppio carico concentrato F viene di volta in volta collocato nella posizione più sfavorevole per la verifica in corso di studio (interasse $i = 1.30 \text{ m}$)



- Carico g_{1_SLE}	18.8 daN/m	
- Coefficiente γ_{g1}	1.35	$\rightarrow g_{1_SLU} = 25.4 \text{ daN/m}$
- Carico g_{2_SLE}	105.3 daN/m	
- Coefficiente γ_{g2}	1.50	$\rightarrow g_{2_SLU} = 157.9 \text{ daN/m}$
- Carico P_{SLE}	4000 daN	
- Coefficiente γ_q	1.35	$\rightarrow P_{SLU} = 5400 \text{ daN}$
$q_{tot \text{ SLU}} = 183.3 \text{ daN/m}$		
$P_{tot \text{ SLU}} = 5400 \text{ daN}$		
$q_{tot \text{ SLE}} = 124.1 \text{ daN/m}$		
$P_{tot \text{ SLE}} = 4000 \text{ daN}$		
$M_{ED} = 3900 \text{ daNm}$	VERIFICATO	
$T_{ED} = 8200 \text{ daN}$	VERIFICATO	
$f_{max} = 0.0065 \text{ m}$		
$L / f = 385$	VERIFICATO	

Caso 3: effetto variazione termica ΔT , deformazione libera

Allungamento $\Delta L = 0.90 \text{ mm}$ \rightarrow Inferiore al gioco foro-bullone pari a 1.0 mm
VERIFICATO

Caso 4: effetto variazione termica ΔT , deformazione impedita

Incremento di sforzo assiale $\Delta \sigma = 756 \text{ daN/cm}^2$
Incremento di azione assiale $\Delta N = 18106.2 \text{ daN}$

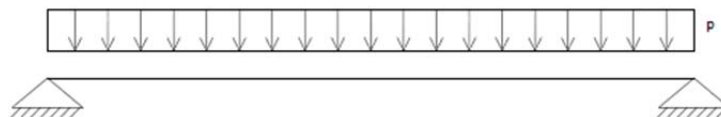
Lunghezza libera inflessione L_0	79 cm	
Inerzia minima sezione I_{\min}	100.9 cm ³	
	→	$N_{\text{crit}} = 335085 \text{ daN}$
Snellezza adimensionale λ	0.504	
Curva di stabilità (Tab. 4.2.VI)	b	
	→	$\alpha = 0.34$
Coefficiente Φ	0.678	
Coefficiente χ	0.883	
$M_{\text{RD}} = 5626 \text{ daNm}$		
$\chi N_{\text{RD}} = 0.883 \times 80970 = 71496.5 \text{ daN}$		
$N_{\text{ED}} = 18106.2 \text{ daN}$		
$M_{\text{ED}} = 1377 \text{ daNm}$		
	→	F.S. = 0.49 VERIFICATO

4.2.4 Verifica HEA280

Dati generali

- Luce $l = 7.00 \text{ m}$
- Interasse $i = 1.25 \text{ m}$
- Schema statico trave in semplice appoggio
- Azioni resistenti di progetto $M_{x,RD} = 34250 \text{ daNm}$
 $T_{x,RD} = 61960 \text{ daN}$
- Rapporto limite SLE $L / f = 300$
- Coefficiente di dilatazione termica $\alpha = 12 \times 10^{-6} \text{ } 1/^{\circ}\text{C}$ \rightarrow deformazione $\varepsilon = 0.036 \%$

Caso 1: peso proprio + peso lastra camminamento + peso parapetto + peso folla



- Carico g_{1_SLE} 76.4 daN/m
- Coefficiente γ_{g1} $1.35 \rightarrow g_{1_SLU} = 103.1 \text{ daN/m}$

- Carico g_{2_SLE} 165 daN/m
- Coefficiente γ_{g2} $1.50 \rightarrow g_{2_SLU} = 247.5 \text{ daN/m}$

- Carico q_{SLE} 1250 daN/m
- Coefficiente γ_q $1.35 \rightarrow q_{SLU} = 1687.5 \text{ daN/m}$

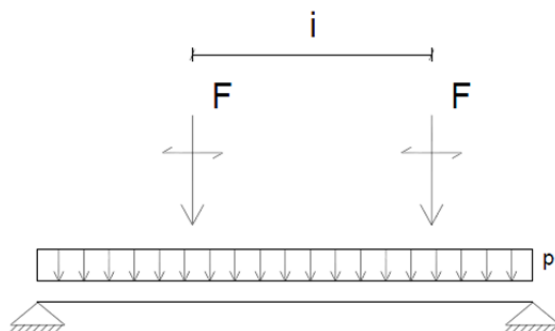
- $q_{tot \text{ SLU}} = 2038.1 \text{ daN/m}$**
- $q_{tot \text{ SLE}} = 1491.4 \text{ daN/m}$**

$M_{ED} = 12483 \text{ daNm}$ VERIFICATO
 $T_{ED} = 7133 \text{ daN}$ VERIFICATO

$f_{max} = 0.016 \text{ m}$
 $L / f = 431$ VERIFICATO

Caso 2: peso proprio + peso lastra camminamento + peso parapetto + peso mezzi soccorso/manutenzione

Il doppio carico concentrato F viene di volta in volta collocato nella posizione più sfavorevole per la verifica in corso di studio (interasse $i = 3.00$ m). Inoltre, dato l'interasse tra gli elementi principali (travi HEA280 e HEB280), viene considerato il caso in cui due ruote del mezzo di soccorso/manutenzione si trovino effettivamente al di sopra del profilo HEA280, e al peso così determinato si somma la quota parte di carico che anche le altre due ruote scaricano sulla medesima trave.



- Carico g_{1_SLE} 76.4 daN/m
- Coefficiente γ_{g1} 1.35 \rightarrow $g_{1_SLU} = 103.1$ daN/m

- Carico g_{2_SLE} 165 daN/m
- Coefficiente γ_{g2} 1.50 \rightarrow $g_{2_SLU} = 247.5$ daN/m

- Carico $P1_{SLE}$ 2960 daN
- Coefficiente γ_q 1.35 \rightarrow $P1_{SLU} = 3996$ daN
- Carico $P2_{SLE}$ 5920 daN
- Coefficiente γ_q 1.35 \rightarrow $P1_{SLU} = 7992$ daN

$q_{tot\ SLU} = 350.6$ daN/m

$P1_{tot\ SLU} = 3996$ daN

$P2_{tot\ SLU} = 7992$ daN

$q_{tot\ SLE} = 241.4$ daN/m

$P1_{tot\ SLE} = 2960$ daN

$P2_{tot\ SLE} = 5920$ daN

$M_{ED} = 17530$ daNm VERIFICATO

$T_{ED} = 11500$ daN VERIFICATO

$f_{max} = 0.0202$ m

$L / f = 345$ VERIFICATO

Caso 3: effetto variazione termica ΔT , deformazione libera

Allungamento $\Delta L = 2.38 \text{ mm}$ \rightarrow Il foro di alloggiamento delle travi dovrà essere
asolato per permettere questo tipo di
deformazione

Caso 4: effetto variazione termica ΔT , deformazione impedita

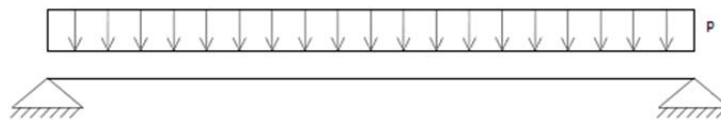
Incremento di sforzo assiale	$\Delta\sigma = 756 \text{ daN/cm}^2$
Incremento di azione assiale	$\Delta N = 73528.5 \text{ daN}$
Lunghezza libera inflessione L_0	117 cm
Inerzia minima sezione I_{\min}	4763 cm^3
	$\rightarrow N_{\text{crit}} = 7211538 \text{ daN}$
Rapporto $N_{\text{ED}} / N_{\text{crit}}$	$0.01 < 0.04$ (NTC §4.2.4.1.3.1)
	\rightarrow Si trascurano gli effetti dovuti ad instabilità VERIFICATO

4.2.5 Verifica HEB280

Dati generali

- Luce $l = 7.00 \text{ m}$
- Interasse $i = 2.5 \text{ m}$
- Schema statico trave in semplice appoggio
- Azioni resistenti di progetto $M_{x,RD} = 51860 \text{ daNm}$
 $T_{x,RD} = 80290 \text{ daN}$
- Rapporto limite SLE $L / f = 300$
- Coefficiente di dilatazione termica $\alpha = 12 \times 10^{-6} \text{ } 1/^{\circ}\text{C}$ \rightarrow deformazione $\varepsilon = 0.036 \%$

Caso 1: peso proprio + peso lastra camminamento + peso folla



- Carico $g_{1_SLE} \quad 103 \text{ daN/m}$
- Coefficiente $\gamma_{g1} \quad 1.35 \rightarrow g_{1_SLU} = 139.1 \text{ daN/m}$

- Carico $g_{2_SLE} \quad 225 \text{ daN/m}$
- Coefficiente $\gamma_{g2} \quad 1.50 \rightarrow g_{2_SLU} = 337.5 \text{ daN/m}$

- Carico $q_{SLE} \quad 2500 \text{ daN/m}$
- Coefficiente $\gamma_q \quad 1.35 \rightarrow q_{SLU} = 3375 \text{ daN/m}$

$$q_{\text{tot SLU}} = 3851.6 \text{ daN/m}$$

$$q_{\text{tot SLE}} = 2828 \text{ daN/m}$$

$$M_{ED} = 23587 \text{ daNm} \quad \text{VERIFICATO}$$

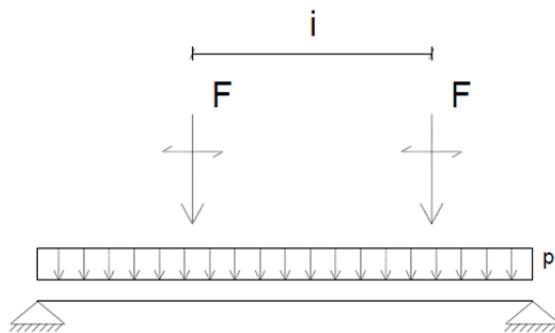
$$T_{ED} = 13479 \text{ daN} \quad \text{VERIFICATO}$$

$$f_{\text{max}} = 0.0218 \text{ m}$$

$$L / f = 320 \quad \text{VERIFICATO}$$

Caso 2: peso proprio + peso lastra camminamento + peso mezzi soccorso/manutenzione

Il doppio carico concentrato F viene di volta in volta collocato nella posizione più sfavorevole per la verifica in corso di studio (interasse $i = 3.00$ m). Inoltre, dato l'interasse tra gli elementi principali (travi HEA280 e HEB280), viene considerato il caso peggiore, determinato da un valore di carico concentrato massimo.



- Carico g_{1_SLE} 103 daN/m
- Coefficiente γ_{g1} 1.35 \rightarrow $g_{1_SLU} = 139.1$ daN/m

- Carico g_{2_SLE} 225 daN/m
- Coefficiente γ_{g2} 1.50 \rightarrow $g_{2_SLU} = 337.5$ daN/m

- Carico $P1_{SLE}$ 2960 daN
- Coefficiente γ_q 1.35 \rightarrow $P1_{SLU} = 3996$ daN
- Carico $P2_{SLE}$ 5920 daN
- Coefficiente γ_q 1.35 \rightarrow $P1_{SLU} = 7992$ daN

$q_{tot\ SLU} = 476.6$ daN/m

$P1_{tot\ SLU} = 3996$ daN

$P2_{tot\ SLU} = 7992$ daN

$q_{tot\ SLE} = 328$ daN/m

$P1_{tot\ SLE} = 2960$ daN

$P2_{tot\ SLE} = 5920$ daN

$M_{ED} = 18300$ daNm VERIFICATO

$T_{ED} = 11949$ daN VERIFICATO

$f_{max} = 0.015$ m

$L / f = 465$ VERIFICATO

Caso 3: effetto variazione termica ΔT , deformazione libera

Allungamento $\Delta L = 2.38 \text{ mm}$ \rightarrow Il foro di alloggiamento delle travi dovrà essere
asolato per permettere questo tipo di
deformazione

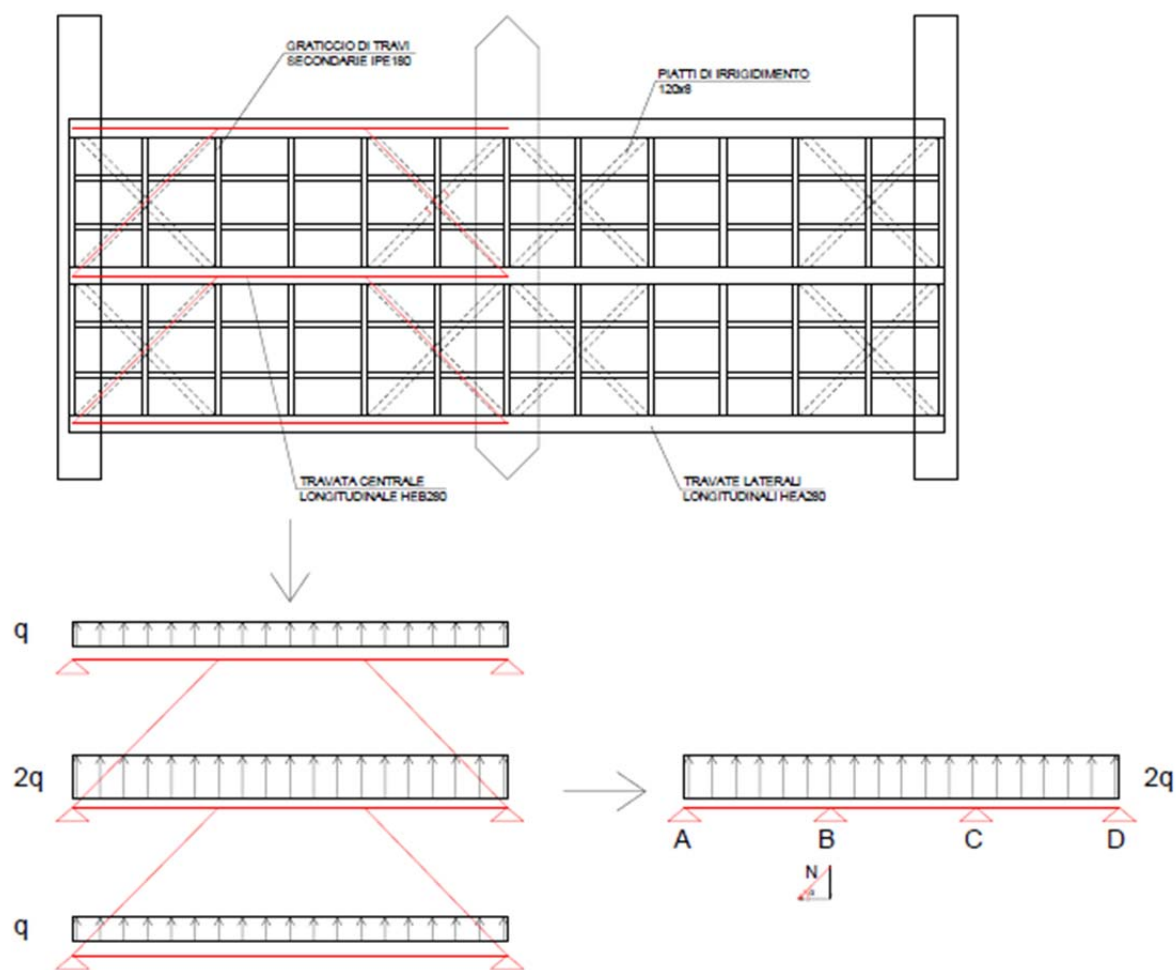
Caso 4: effetto variazione termica ΔT , deformazione impedita

Incremento di sforzo assiale	$\Delta\sigma = 756 \text{ daN/cm}^2$
Incremento di azione assiale	$\Delta N = 99338.4 \text{ daN}$
Lunghezza libera inflessione L_0	117 cm
Inerzia minima sezione I_{\min}	6595 cm^3
	\rightarrow $N_{\text{crit}} = 9985322.9 \text{ daN}$
Rapporto $N_{\text{ED}} / N_{\text{crit}}$	$0.01 < 0.04$ (NTC §4.2.4.1.3.1)
	\rightarrow Si trascurano gli effetti dovuti ad instabilità VERIFICATO

4.3 Verifica sismica impalcato

Il procedimento di calcolo eseguito per le verifiche sismiche sull'impalcato risulta il seguente: dopo aver calcolato la massa presente su una singola campata, è stata ricavata la forza dovuta al sisma avendo a disposizione l'accelerazione spettrale di riferimento. Per ipotesi la forza totale è stata poi divisa sui tre profili principali (HEA280 e HEB280), in particolare assegnando un carico doppio al profilo centrale.

Si è ricavato quindi uno schema di carico di trave su quattro appoggi, le cui reazioni vincolari sono state utilizzate per la verifica dei tiranti di controvento. Si sottolinea come non siano stati considerati i controventi soggetti a compressione, ma solo quelli a trazione.



MASSE PARTECIPANTI

- Lastra di camminamento	90 daN/m ²
- IPE180	40 daN/m ²
- HEA280	32 daN/m ²
- HEB 280	22 daN/m ²
- Controventi	6 daN/m ²
- Parapetto	25 daN/m ²
	215 daN/m ²

AREA IMPALCATO $7.0 \text{ m} \times 5.0 \text{ m} = 35.0 \text{ m}^2$

→

MASSA TOT = 7525 daN

ACCELERAZIONE SPETTRALE

- Fattore di struttura $q = 1$
- Accelerazione massima spettro 0.176 g

→

FORZA TOT = 1324.4 daN

Carico $q = 47.3 \text{ daN/m}$

Carico $2q = 94.6 \text{ daN/m}$

ANALISI TRAVE CENTRALE HEB280

- Luce campate 2.35 m
- Carico 94.6 daN/m

→ **$M_{ED_max} = 52.2 \text{ daNm}$**

$V_{ED_max} = 133.4 \text{ daN}$

→

Sollecitazioni trascurabili

($M_{rd,z} = 24260 \text{ daNm}$

$T_{rd,z} = 196800 \text{ daN}$)

Reazione $R_b = 244.5 \text{ daN}$

Angolo inclinazione $\alpha = 56^\circ$

→

Azione assiale $N = 294.9 \text{ daN}$

Azione resistente $N_{RD} = 27191 \text{ daN}$

VERIFICATO

4.4 Verifica collegamenti impalcato

4.4.1 Introduzione

Nel seguente paragrafo verranno svolte le verifiche dei collegamenti tra le varie parti strutturali, nel rispetto delle indicazioni fornite dalla normativa NTC '08 in riferimento ai dettami inseriti nel capitolo 4.

In particolare per le unioni con saldature a cordoni d'angolo, con riferimento all'altezza di gola 'a', la resistenza di progetto si determina attraverso la seguente formulazione (paragrafo §4.2.8.2.4):

$$\sqrt{\left(\sum \sigma_{\perp}\right)^2 + 3\left(\left(\sum \tau_{\perp}\right)^2 + \left(\sum \tau_{\parallel}\right)^2\right)} \leq \frac{f_{tk}}{\beta \gamma_{M2}}$$

dove $\sigma_{\perp}, \tau_{\perp}, \tau_{\parallel}$ sono rispettivamente la tensione normale, tangenziale perpendicolare e tangenziale parallela all'asse del cordone d'angolo, f_{tk} è la resistenza a rottura del più debole degli elementi collegati, β è un coefficiente che assume valore pari a 0.80 per acciaio S235, 0.85 per acciaio S275 e 0.90 per acciaio S355, infine $\gamma_{M2}=1.25$.

Per quanto riguarda le unioni bullonate verranno effettuate le seguenti verifiche (paragrafo §4.2.8.1.1):

- Verifica a taglio $F_{v,Rd} = 0.6 * f_{tb} * A_{res} / \gamma_{M2}$ per bulloni di classe 8.8; f_{tb} rappresenta la resistenza a rottura del materiale, A_{res} l'area di calcolo;
- Verifica resistenza al rifollamento $F_{b,Rd} = k * \alpha * f_{tu} * d * t / \gamma_{M2}$; d rappresenta il diametro del foro, t è lo spessore della piastra, f_{tk} la resistenza a rottura del materiale; considerando i

bulloni presenti alla stregua di bulloni di bordo, risulta che $\alpha = \min \left\{ \frac{e_1 / (3d_0)}{f_{tb} / f_t}, 1 \right\}$, mentre

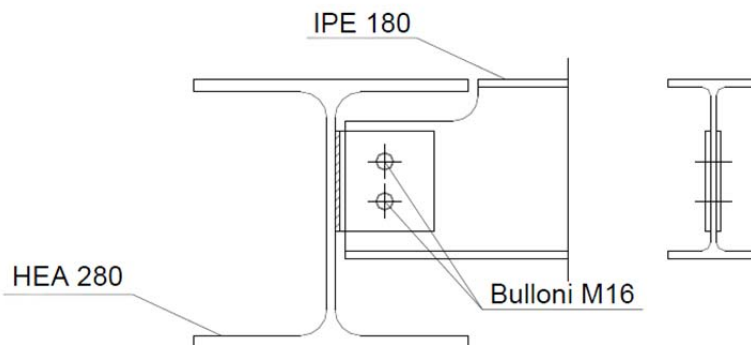
$$k = \min \left\{ \frac{2.8 \frac{e_2}{d_0} - 1.7}{2.5}, \text{ con } e_1 \text{ ed } e_2 \text{ distanze dal bordo della piastra dei bulloni, } d_0 \text{ diametro}$$

nominale del foro di alloggiamento del bullone, f_{tb} e f_t rispettivamente le resistenze del bullone e della piastra;

4.4.2 Verifica collegamento tipo

Si effettuano le verifiche relative al collegamento tipo, mostrato in figura. Le sollecitazioni di taglio di progetto sono state ricavate dal caso peggiore tra quelli studiati nei paragrafi precedenti, di conseguenza i risultati sono validi per tutti i collegamenti previsti.

$T_{\max} = 8200 \text{ daN}$



Verifica a taglio bulloni

Dati:

- Area resistente : $A_{\text{res}} = 1.57 \text{ cm}^2$
- Acciaio bullone M8.8 : $f_{\text{tb}} = 8000 \text{ daN/cm}^2$
- N° bulloni: $n = 2$
- N° superfici di taglio per bullone: $n_f = 2$
- Resistenza a taglio bullone: $F_{\text{v,Rd}} = 6029 \text{ daN}$

→ **$F_{\text{v,Rd}} = 6029 \text{ daN}$**
 $V_{\text{ed_bullone}} = 2050 \text{ daN}$ VERIFICATO

Verifica a rifollamento IPE180

Dati:

- Spessore : $t = 0.53 \text{ cm}$
- Acciaio profilo S355 : $f_{\text{tk}} = 5100 \text{ daN/cm}^2$
- Distanza da bordo 1 : $e_1 = 3.0 \text{ cm}$
- Distanza da bordo 2 : $e_2 = 5.0 \text{ cm}$

→ $\alpha = 0.588$ $k = 2.50$

→ **$F_{\text{b,Rd}} = 5088 \text{ daN}$**
 $V_{\text{ed}} = 4100 \text{ daN}$ VERIFICATO

Verifica a rifollamento piastra di collegamento

Dati:

- Spessore : $t = 0.5 \text{ cm}$

- Acciaio profilo S355 : $f_{tk} = 5100 \text{ daN/cm}^2$
- Distanza da bordo 1 : $e_1 = 3.0 \text{ cm}$
- Distanza da bordo 2 : $e_2 = 5.0 \text{ cm}$

→ $\alpha = 0.588$ $k = 2.50$

→ $F_{b,Rd_TOT} = 4800 \text{ daN}$
 $V_{ed_bullone} = 2050 \text{ daN}$ VERIFICATO

Verifica saldatura piastra

Dati:

- Altezza di gola : $a = 0.3 \text{ cm}$
- Lunghezza cordone: $l = 10 \text{ cm}$
- Acciaio S355 : $f_{tk} = 5100 \text{ daN/cm}^2$ → $\beta = 0.90$
- N° cordoni: $n = 3$

- Taglio agente su singolo cordone $V_{ED} = 2735 \text{ daN}$
- Distanza tra punto applicazione taglio e saldatura 5.0 cm → $M_{ED} = 137 \text{ daNm}$

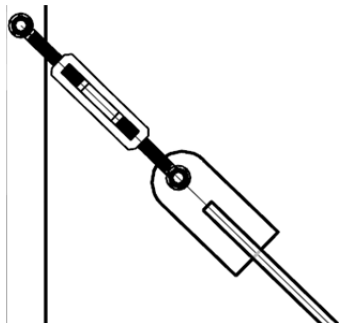
- $\tau_{\parallel} = 912 \text{ daN/cm}^2$
 $\sigma_{\perp} = \tau_{\perp} = 1938 \text{ daN/cm}^2$

- Verifica **FS: 1.08**

4.4.3 Verifica collegamento controvento

Si effettuano le verifiche relative al collegamento dei controventi, mostrato in figura. Come sollecitazione di progetto è stato considerato il valore azione determinata dal sisma.

$N_{RD} = 294.9 \text{ daN}$



Verifica saldatura piastra

Dati:

- Altezza di gola : $a = 0.3 \text{ cm}$
- Lunghezza cordone: $l = 11 \text{ cm}$
- Acciaio S355 : $f_{tk} = 5100 \text{ daN/cm}^2 \rightarrow \beta = 0.90$
- N° cordoni: $n = 4$

$\rightarrow \tau_{\parallel} = 22.3 \text{ daN/cm}^2$

\rightarrow Verifica **FS: 117.4**

Verifica trazione piastra

Dati:

- Sezione piastra $10.0 \text{ cm} \times 1.0 \text{ cm}$
 - Diametro foro $2.15 \text{ cm} \rightarrow$ Area netta $7.85 \text{ cm} \times 1.0 \text{ cm}$
- $N_{rd} = 26540 \text{ daN}$**
VERIFICATO

Verifica a taglio bulloni

Dati:

- Area resistente : $A_{res} = 2.45 \text{ cm}^2$
- Acciaio bullone M8.8 : $f_{tb} = 8000 \text{ daN/cm}^2$
- N° bulloni: $n = 1$
- N° superfici di taglio per bullone: $n_f = 1$
- Resistenza a taglio bullone: $F_{v,Rd} = 6029 \text{ daN}$

\rightarrow **$F_{v,Rd} = 6029 \text{ daN}$**

$V_{ed_bullone} = 294.9 \text{ daN}$ VERIFICATO

Verifica a rifollamento piastra di collegamento

Dati:

- Spessore : $t = 1.0 \text{ cm}$

- Acciaio profilo S355 : $f_{tk} = 5100 \text{ daN/cm}^2$
- Distanza da bordo 1 : $e_1 = 4.0 \text{ cm}$
- Distanza da bordo 2 : $e_2 = 5.0 \text{ cm}$

→ $\alpha = 0.635$ $k = 2.50$

→ $F_{b,Rd_TOT} = 12952 \text{ daN}$

$V_{ed_bullone} = 294.9 \text{ daN}$ VERIFICATO

Verifica saldatura piastra collegamento profilo HE

Dati:

- Altezza di gola : $a = 0.3 \text{ cm}$
- Lunghezza cordone: $l = 7 \text{ cm}$
- Acciaio S355 : $f_{tk} = 5100 \text{ daN/cm}^2$ → $\beta = 0.90$
- N° cordoni: $n = 2$
- Angolo inclinazione forza $\alpha = 56^\circ$

→ $\tau_{\parallel} = 39.3 \text{ daN/cm}^2$

$\sigma_{\perp} = \tau_{\perp} = 41.2 \text{ daN/cm}^2$

→ Verifica **FS: 42.4**

4.5 Appoggi neoprene

Gli appoggi in gomma armata sono stati progettati seguendo le disposizioni indicate nel catalogo Alga; in particolare è necessario conoscere i seguenti dati di input:

1. Valore massimo di azione verticale agente V_{Ed} ;
2. Valore massimo di azione orizzontale agente H_{Ed} ;
3. Valore massimo di spostamento s ;

Dall'analisi dei paragrafi precedenti si ricava un valore massimo di azione di compressione pari a:

→ Reazione massima all'appoggio $V_{Ed} = 13479 \text{ daN}$

Per quanto riguarda il carico massimo orizzontale, è stato valutato l'effetto del sisma agente nella direzione perpendicolare all'asse del ponte; trascurando l'effetto dei controventi, si considera un asta di luce $l=7.0 \text{ m}$, caricata con un carico $q = 94.6 \text{ daN/m}$ (vedi paragrafo azione sismica).

→ Reazione massima all'appoggio $H_{Ed} = 331.1 \text{ daN}$

Inoltre dall'analisi della combinazione con variazione termica è scaturito un valore di spostamento massimo in corrispondenza dell'appoggio pari a $s = 2.38 \text{ mm}$.

Noti i dati di input necessari, è possibile sfruttare il catalogo di riferimento per la scelta del prodotto più adatto; in particolare è necessario dapprima individuare la corretta combinazione di carico sfruttando il rapporto tra i carichi di progetto H_{Ed} e V_{Ed} : se il rapporto tra le forze risulta maggiore del 3% allora bisogna utilizzare i risultati forniti dalla cosiddetta Combo2 da catalogo, altrimenti si sfruttano i valori contenuti nella Combo1.

→ Rapporto $H_{Ed} / V_{Ed} = 2.4\%$ → Combo1

A questo punto è necessario calcolare i seguenti valori:

1. Carico orizzontale equivalente $H_{eq} = H_{Ed} + s * k_h$, con k_h rigidezza dell'elemento fornita dal catalogo
2. Spostamento orizzontale equivalente $s_{eq} = H_{Ed} / k_h + s$

Di seguito si riporta uno stralcio di catalogo con i valori del prodotto adottato:

DATA	Dimensioni			hg	Combo 1			Combo 2			Kh	W
	Ht	A	B		V	H	s^*	V	H	s^*		
	mm	mm	mm		kN	kN	mm	kN	kN	mm	kN/mm	kG ⁴
NB 150x300xHt	21	150	300	10	1087	12	3,0	1029	61	15,0	4,05	3,0
	28	150	300	15	1225	11	4,0	1052	54	20,0	2,70	4,0
	35	150	300	20	1289	10	5,0	1039	51	25,0	2,03	5,0
	42	150	300	25	1231	10	6,0	1011	49	30,0	1,62	6,0
	49	150	300	30	1018	9	7,0	803	47	35,0	1,35	7,0
	56	150	300	35	865	9	8,0	655	46	40,0	1,16	8,0
	63	150	300	40	751	9	9,0	544	46	45,0	1,01	9,0
	70	150	300	45	662	9	10,0	458	45	50,0	0,90	10,0

L'appoggio in gomma scelto presenta le seguenti caratteristiche:

1. dimensioni in pianta 150 mm x 300 mm
2. altezza 28 mm
3. V_{Rd} 122500 daN

4.	H_{Rd}	1100 daN
5.	s^*	4.0 mm
6.	k_h	270 daN/mm

Il valore del carico V_{ed} risulta pari a 13479 daN < 122500 daN, il valore del carico equivalente H_{eq} risulta pari a 973.7 KN < 1100 KN, mentre il valore dello spostamento equivalente s_{eq} risulta pari a 3.61 mm < 4.0 mm, pertanto le verifiche sono rispettate.

4.6 Tirafondi

Per ipotesi, se la sollecitazione sismica agisse solo sulla trave principale centrale HEB280, si creerebbe un taglio all'appoggio pari a 3762.5 daN che, incrementato di un fattore di sicurezza pari a 1.5, risulterebbe pari a 5650 daN.

Si predispongono quattro tirafondi, aventi il compito di stabilizzare l'opera nei confronti delle azioni orizzontali.

- Tirafondo M20 Cl. 8.8
- Sezione resistente 245 mm²
- Resistenza a taglio 9408 daN
- N° tirafondi 4

→ **Resistenza a taglio totale 37632 daN** VERIFICATO

4.7 Spalla

La spalla è stata armata con ferri verticali $\Phi 14/20$ e ferri orizzontali $\Phi 10/20$.



Per il pre-dimensionamento della spalla si tengono in conto quattro diverse condizioni di carico:

- Peso proprio e permanenti portati spalla ed impalcato
- Carico da folla agente su impalcato
- Spinta del terreno e sovraccarico a ridosso del manufatto
- Spinta idrostatica (scenario con tempo di ritorno $T = 500$ anni)

La spalla verrà studiata alla stregua di mensola incastrata alla base, con luce $L = 5.30$ m, sezione 5.74 m x 0.70 m.

Per le verifiche strutturali verranno considerate due condizioni di carico:

- Pesì propri e permanenti portati incrementati di un coefficiente secondo normativa + carico da folla sul ponte ed a ridosso del ponte + spinta terreno
- Pesì propri e permanenti portati moltiplicati per un coefficiente unitario + spinta terreno + spinta idrostatica

CONDIZIONI DI CARICO

PESI IMPALCATO $g_1 + g_2$

- Lastra di camminamento	90 daN/m ²
- IPE180	40 daN/m ²
- HEA280	32 daN/m ²
- HEB 280	22 daN/m ²
- Controventi	6 daN/m ²
- Parapetto	25 daN/m ²
	215 daN/m ²

Area influenza spalla $3.5 \text{ m} \times 5.0 \text{ m} = 17.5 \text{ m}^2$

Peso spalla 53240 daN

→ Scenario A $\gamma = 1.35$
 $N = 76953.4 \text{ daN}$

 Scenario B $\gamma = 1.0$
 $N = 57002.5 \text{ daN}$

CARICO DA FOLLA IMPALCATO

- Carico da folla	1000 daN/m ²
Area influenza spalla	3.5 m x 5.0 m = 17.5 m ²
→ Scenario A	$\gamma = 1.35$ $N = 23625$ daN
Scenario B	$\gamma = 0$ $N = 0.0$ daN

SPINTA TERRENO

- Peso specifico terreno	1700 daN/m ³
- Angolo di attrito	30° (coefficiente di spinta attiva $k_a = 0.333$)
→	Pressione terreno alla base spalla 3000 daN/m ²
- Sovraccarico	→ Pressione terreno alla base spalla 330 daN/m ²
→ Scenario A	$\gamma_{\text{terreno}} = 1.35$; $\gamma_{\text{sovraccarico}} = 1.35$ $T_x = 75943.2$ daN $M_x = 146593.1$ daNm
Scenario B	$\gamma_{\text{terreno}} = 1.35$; $\gamma_{\text{sovraccarico}} = 0$ $T_x = 62248.5$ daN $M_x = 120347.1$ daNm

SPINTA ACQUA

- Altezza tirante idraulico	4.68 m
- Peso specifico acqua	1100 daN/m ³
→ Scenario A	$\gamma_{\text{acqua}} = 0.0$ $T_y = 0.0$ daN $M_y = 0.0$ daNm
Scenario B	$\gamma_{\text{acqua}} = 1.5$ $T_y = 65050.1$ daN $M_y = 101478.2$ daNm

SOLLECITAZIONI TOTALI

SCENARIO A	→	$N = 100578.4$ daN $T_x = 75943.2$ daN $M_x = 146593.1$ daNm
-------------------	---	--

$$T_y = 0.0 \text{ daN}$$

$$M_y = 0.0 \text{ daNm}$$

Resistenza a compressione $f_{cd} = 181.3 \text{ daN/cm}^2$
Area resistente $A_{res} = 39900 \text{ cm}^2 \rightarrow N_{rd} = 72338700 \text{ daN}$ VERIFICATO

Il momento resistente rispetto all'asse X è stato valutato con il programma VCA_Slu, considerando una sezione di lunghezza unitaria ed altezza pari a 70 cm, pari allo spessore della spalla, soggetta ad azione assiale pari a $100578.4 \text{ daN} / 5.8 \text{ m} = 17341.1 \text{ daN/m}$. Il momento flettente resistente risulta pari a 25380 daNm/m , a fronte di un momento $M_x = 146593 \text{ daNm} / 5.8 \text{ m} = 25274.6 \text{ daNm/m}$.

VERIFICA TAGLIO

$$V_{MAX} = \sqrt{V_x^2 + V_y^2} = 75943.2 \text{ daN}$$

$$k_x = 1.55$$

$$v_{min} = 0.38 \rightarrow V_{Xrdc} = 144039 \text{ daN}$$

$$V_{max} / V_{Xrd} = 1.89 \quad \text{VERIFICATO}$$

SCENARIO B \rightarrow $N = 57002.5 \text{ daN}$
 $T_x = 62248.5 \text{ daN}$
 $M_x = 120347.1 \text{ daNm}$
 $T_y = 65050.1 \text{ daN}$
 $M_y = 101478.2 \text{ daNm}$

VERIFICA FLESSIONE DEVIATA

Momento resistente $M_{xrd} = 22940 \text{ daNm/m} \times 5.8 \text{ m} = 133052 \text{ daNm}$

Momento resistente $M_{yrd} = 1158200 \text{ daNm}$

$$M_{xed} / M_{xrd} + M_{yed} / M_{yrd} = 0.991 \quad \text{VERIFICATO}$$

VERIFICA TAGLIO

$$V_{\text{MAX}} = \sqrt{V_x^2 + V_y^2} = 90035.5 \text{ daN}$$

$$k_x = 1.55$$

$$V_{\text{min}} = 0.38 \rightarrow V_{\text{Xrdc}} = 144039 \text{ daN}$$

$$k_y = 1.18$$

$$V_{\text{min}} = 0.25 \rightarrow V_{\text{Yrdc}} = 102148 \text{ daN}$$

$$V_{\text{max}} / \min(V_{\text{xrd}} ; V_{\text{yrd}}) = 1.13 \text{ VERIFICATO}$$

The image displays two side-by-side screenshots of the 'Verifica C.A. S.L.U.' software interface, showing structural analysis results for a wall and a central pile.

Left Screenshot (Spalla laterale):

- TITOLO:** Spalla laterale
- N° figure elementari:** 1
- N° strati barre:** 2
- Materiali:** B450C, C32/40
- Calcoli:** $\sigma_{cu} = 67.5$, $\sigma_{cu} = 391.3$, $E_s = 200,000$, $E_s/E_c = 15$, $\sigma_{s,adm} = 255$, $\tau_{c1} = 2.114$
- Calcolo MRd:** $M_{Rd} = 229.4$ kNm
- Precompresso:** ☐

Right Screenshot (Pila centrale):

- TITOLO:** Pila centrale
- N° figure elementari:** 1
- N° strati barre:** 12
- Materiali:** B450C, C32/40
- Calcoli:** $\sigma_{cu} = 67.5$, $\sigma_{cu} = 391.3$, $E_s = 200,000$, $E_s/E_c = 15$, $\sigma_{s,adm} = 255$, $\tau_{c1} = 2.114$
- Calcolo MRd:** $M_{Rd} = 11,582$ kNm
- Precompresso:** ☐

4.8 Pila centrale

La pila centrale è stata armata con ferri verticali $\Phi 14/20$ e ferri orizzontali $\Phi 10/20$.



Per il pre-dimensionamento della pila si tengono in conto tre diverse condizioni di carico:

- Peso proprio e permanenti portati spalla ed impalcato
- Carico da folla agente su impalcato
- Spinta idrostatica (scenario con tempo di ritorno $T = 200$ anni)

La pila verrà studiata alla stregua di mensola incastrata alla base, con luce $L = 5.30$ m, sezione 5.74 m x 1.00 m.

Per le verifiche strutturali verranno considerate due condizioni di carico:

- Pesi propri e permanenti portati incrementati di un coefficiente secondo normativa + carico da folla
- Pesi propri e permanenti portati moltiplicati per un coefficiente unitario + spinta idrostatica

CONDIZIONI DI CARICO

PESI IMPALCATO $g_1 + g_2$

- Lastra di camminamento	90 daN/m ²
- IPE180	40 daN/m ²
- HEA280	32 daN/m ²
- HEB 280	22 daN/m ²
- Controventi	6 daN/m ²
- Parapetto	25 daN/m ²
	215 daN/m ²

Area influenza spalla 7.0 m x 5.0 m = 35.0 m²

Peso pila 76055 daN

→ Scenario A $\gamma = 1.35$
 $N = 112833$ daN

 Scenario B $\gamma = 1.0$
 $N = 83580$ daN

CARICO DA FOLLA IMPALCATO

- Carico da folla	1000 daN/m ²
Area influenza spalla	7.0 m x 5.0 m = 35.0 m ²
→ Scenario A	$\gamma = 1.35$ $N = 47250 \text{ daN}$
Scenario B	$\gamma = 0$ $N = 0.0 \text{ daN}$

SPINTA ACQUA

- Altezza tirante idraulico	4.30 m
- Peso specifico acqua	1100 daN/m ³
→ Scenario A	$\gamma_{\text{acqua}} = 0.0$ $T_y = 0.0 \text{ daN}$ $M_y = 0.0 \text{ daNm}$
Scenario B	$\gamma_{\text{acqua}} = 1.5$ $T_y = 109830.6 \text{ daN}$ $M_y = 157423.9 \text{ daNm}$

SOLLECITAZIONI TOTALI

SCENARIO A	→	$N = 160083 \text{ daN}$ $T_x = 0.0 \text{ daN}$ $M_x = 0.0 \text{ daNm}$ $T_y = 0.0 \text{ daN}$ $M_y = 0.0 \text{ daNm}$
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Resistenza a compressione	$f_{cd} = 181.3 \text{ daN/cm}^2$	
Area resistente	$A_{res} = 57000 \text{ cm}^2$	→ $N_{rd} = 10334100 \text{ daN}$ VERIFICATO

SCENARIO B	→	$N = 83580 \text{ daN}$ $T_x = 0.0 \text{ daN}$ $M_x = 0.0 \text{ daNm}$ $T_y = 109830.6 \text{ daN}$ $M_y = 157423.9 \text{ daNm}$
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VERIFICA FLESSIONE

Momento resistente $M_{yrd} = 1258300 \text{ daNm}$
 $M_{yed} / M_{yrd} = 0.12$ VERIFICATO

Verifica C.A. S.L.U. - File: Pila Centrale

File Materiali Opzioni Visualizza Progetto Sez. Rett. Sismica Normativa: NTC 2008

Titolo: Pila centrale

N° figure elementari: 1 Zoom N° strati barre: 13 Zoom

N°	b [cm]	h [cm]
1	100	580

N°	As [cm²]	d [cm]
9	7.3	385
10	7.3	432.5
11	7.3	480
12	7.3	527.5
13	7.3	575

Sollecitazioni
S.L.U. Metodo n

N_{Ed}: 835.8 kN
M_{xEd}: 0 kNm
M_{yEd}: 0 kNm

P.to applicazione N
Centro Baricentro cls
Coord. [cm]: xN: 0, yN: 0

Tipo sezione
Rettan.re Trapezi
a T Circolare
Rettangoli Coord.

Tipo rottura
Lato calcestruzzo - Acciaio snervato

Metodo di calcolo
S.L.U. + Metodo n

Tipo flessione
Retta Deviata

Materiali
B450C C25/30

ε_{cu}: 67.5‰ ε_{c2}: 2‰
f_{yd}: 391.3 N/mm² ε_{cu}: 3.5‰
E_s: 200,000 N/mm² f_{cd}: 14.17 N/mm²
E_c/E_s: 15 f_{cc}/f_{cd}: 0.8
σ_{syd}: 1.957‰ σ_{c,adm}: 9.75 N/mm²
σ_{s,adm}: 255 N/mm² τ_{co}: 0.6
τ_{c1}: 1.829

M_{xRd}: 12.583 kNm
σ_c: -14.17 N/mm²
σ_s: 391.3 N/mm²
ε_c: 3.5‰
ε_s: 55.05‰
d: 575 cm
x: 34.37 x/d: 0.05978
δ: 0.7

N° rett.: 100
Calcola MRd Dominio M-N
L₀: 0 cm Col. modello
Precompresso

VERIFICA TAGLIO

$$V_{MAX} = \sqrt{V_x^2 + V_y^2} = 109830.6 \text{ daN}$$

$$k_y = 1.18$$

$$v_{min} = 0.25 \rightarrow V_{yrdc} = 145000 \text{ daN}$$

$$V_{max} / V_{xrd} = 1.33 \quad \text{VERIFICATO}$$

4.9 Fondazione

4.9.1 Introduzione

La fondazione, essendo sostenuta da un sistema di pali, è stata studiata alla stregua di trave in semplice appoggio soggetta ad un carico distribuito, dovuto al peso proprio ed al carico massimo di acqua raggiungibile, stimato in 5.8 m. L'armatura inserita risulta la seguente: lembo inferiore $\Phi 14/20$ in entrambe le direzioni, lembo superiore $\Phi 14/20$ in entrambe le direzioni.

4.9.2 Calcoli

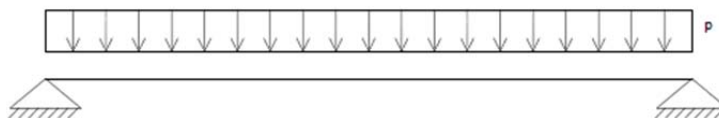
Dati generali

- Luce $l = 2.45 \text{ m}$
- Interasse $i = 1.00 \text{ m}$
- Sezione $1.00 \text{ m} \times 1.00 \text{ m}$
- Schema statico trave in semplice appoggio
- Azioni resistenti di progetto $M_{RD} = 25741 \text{ daNm/m}$

$$k = 1.46$$

$$v_{\min} = 0.35 \rightarrow V_{rdc} = 33181 \text{ daN/m}$$

Caso 1: peso proprio + peso acqua



- Carico $g_{1_SLE} = 2500 \text{ daN/m}$
- Coefficiente $\gamma_{g1} = 1.35 \rightarrow g_{1_SLU} = 3375 \text{ daN/m}$
- Carico $q_{acqua_SLE} = 6380 \text{ daN/m}$
- Coefficiente $\gamma_q = 1.5 \rightarrow q_{SLU} = 9570 \text{ daN/m}$

$$q_{tot \text{ SLU}} = 12945 \text{ daN/m}$$

$M_{ED} = 9712 \text{ daNm}$ VERIFICATO
 $T_{ED} = 15857.6 \text{ daN}$ VERIFICATO

4.10 Pali

4.10.1 Introduzione

L'analisi della palificata è stata svolta facendo affidamento su un foglio di calcolo opportunamente sviluppato per le verifiche strutturali e geotecniche di fondazioni profonde.

L'iter seguito per le verifiche è stato il seguente:

- A) Inserimento dei parametri del terreno definiti tramite analisi MASW, per la determina dell'effetto di interazione cinematica sul palo dovuto al passaggio da uno strato all'altro di terreno;
- B) Inserimento delle sollecitazioni di progetto: quest'ultime sono state ricavate da un apposito modello tridimensionale agli elementi finiti, inserendo le condizioni di carico descritte nei paragrafi precedenti. In particolare nel modello, ai nodi in corrispondenza della posizione dei pali, sono stati assegnati vincoli di tipo incastro, quindi in fase di post-processor, nel foglio di calcolo sui pali, sono state inserite le combinazioni di reazioni vincolari tali per cui risultasse:
 - N_{MAX} , con i relativi momenti M_x e M_y
 - N_{MIN} , con i relativi momenti M_x e M_y
 - Massima media geometrica tra M_x e M_y , con la relativa azione assiale N
 - Minima media geometrica tra M_x e M_y , con la relativa azione assiale N
 - Massima media geometrica tra V_x e V_y , con la relativa azione assiale N
 - Inserimento dei dati geometrici relativi alla palificata (dimensioni in pianta, interassi ecc.), questo per permettere al programma, nel caso venisse richiesta un'analisi globale della palificata e non solo sul singolo palo, di determinare la ripartizione delle azioni globali esterne, inserite nel precedente paragrafo;
- C) Verifiche strutturali a presso/tenso – flessione ed a taglio, con inserimento delle caratteristiche geometriche del palo, tipo di materiali utilizzati, armature longitudinali e trasversali per determinare le resistenze di progetto;
- D) Verifica strutturale a stabilità laterale del palo, con inserimento di coefficienti di reazione laterale per simulare l'effetto stabilizzante del terreno;
- E) Verifica geotecnica per portanza trasversale del terreno per terreni coerenti o incoerenti;
- F) Verifica geotecnica per portanza verticale del terreno per terreni coerenti o incoerenti;
- G) Verifiche geotecniche di gruppo, ovvero considerando l'intera palificata;
- H) Verifiche SLE nei riguardi di spostamenti limite trasversali e verticali;

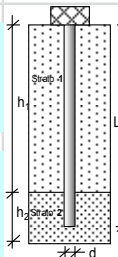
4.10.2 Analisi

Si riportano ora i calcoli effettuati con i relativi risultati per ciascuno dei punti precedentemente descritti.

- A) Si considera l'azione cinematica, cioè l'effetto dovuto al passaggio tra uno strato di terreno e l'altro; inserendo i dati relativi alle caratteristiche del singolo palo (diametro 0.80 m, lunghezza 14 m, modulo elastico 33350 MPa) e relativi alle caratteristiche dei terreni attraversati, ricavati dalle prove MASW, si ricava un valore di momento di

interazione cinematica, per terreno catalogato di tipo C e seguendo le indicazioni del modello di Nikolaou et Alt, pari a 13908 daNm. Questo valore sarà utilizzato nelle verifiche strutturali successive.

Si considera l'interazione cinematica (M) ?	si
d = diametro palo= m	0.80
L = lunghezza palo= m	14.00
E_p = modulo elastico di rigidezza assiale del palo= N/mm ²	33,350.00
STRATO 1	
tipo strato:	-
h_1 = altezza strato= m	15.00
$V_{s,1}$ = velocità delle onde di taglio= m/s	127.00
ρ_1 = densità (massa per unità di volume)= kN s ² / m ⁴	17.50
ν_1 = coeff. di poisson=	0.20
STRATO 2	
tipo strato:	-
h_2 = altezza strato= m	18.20
$V_{s,2}$ = velocità delle onde di taglio= m/s	329.00
ρ_2 = densità (massa per unità di volume)= kN s ² / m ⁴	25.00
ν_2 = coeff. di poisson=	0.23
ACCELERAZIONE SISMICA DEL SITO	
a_g/g = (accelerazione massima attesa su sito di riferimento rigido) / g =	0.065
F_0 = fattore amplif. spettrale massima, su sito di rif. rigido (se $F_0 < 2,2$ occorre adottare 2,2) =	2.664
$V_{s,30} = V_{s,1}$ = m/s	127.00
Categoria di sottosuolo di progetto =	C
A: S_S =	1.000
B: S_S =	1.200
C: S_S =	1.500
D: S_S =	1.800
E: S_S =	1.600
S_S = effetto amplificazione stratigrafica sul sottosuolo in progetto:	1.500
Categoria topografica in progetto =	T1
S_T = effetto dell'amplificazione topografica (1,0 se T1; 1,2 se T2; 1,2 se T3; 1,4 se T4)=	1.000
$S = S_S S_T$ =	1.500
Accelerazione massima al sito / g = $a_{max}/g = S a_g/g$ =	0.098
Accelerazione massima al sito = $a_{max} = (S a_g/g) g = m/sec^2$	0.956
G_1 = Modulo di taglio dello strato 1 = $\rho_1 V_{s,1}^2 = N/mm^2$	282.26
E_1 = Modulo di Young dello strato 1 = $2(1 + \nu_1) G_1 = N/mm^2$	677.42
G_2 = Modulo di taglio dello strato 2 = $\rho_2 V_{s,2}^2 = N/mm^2$	2,706.03
E_2 = Modulo di Young dello strato 2 = $2(1 + \nu_2) G_2 = N/mm^2$	6,656.82
Rapporto di snellezza = L/d =	17.50
J_p = Momento di inerzia del palo = $\pi d^4 / 64 = m^4$	0.0201
E_p / E_1 =	49.23
L_a = Lunghezza attiva = $1,5 d (E_p / E_1)^{0.25}$ =	3.18
$h_1 > L_a$?	si
(L'equazione a seguire per M è valida a rigore quando $h_1 > L_a$, ovvero quando l'interfaccia tra i due strati si trova a una profondità superiore alla Lunghezza attiva del palo)	
$V_{s,2} / V_{s,1}$ =	2.59
τ_c = Tensione di taglio all'interfaccia (contatto) tra i due strati = $a_{max} \rho_1 h_1 = kN/m^2$	251.07
Momento all'interfaccia (contatto) tra i due strati in condizioni di moto stazionario: $M = 0,042 \tau_c d^3 (L/d)^{0.30} (E_p / E_1)^{0.65} (V_{s,2} / V_{s,1})^{0.50} = kNm$	258.16
VALUTAZIONE DEL FATTORE δ DI RIDUZIONE DEL MOMENTO	
funzione del numero di cicli effettivi e del periodo dominante dell'accelerogramma	
Valutazione 1) per δ :	
N_c = n.o di cicli effettivi dell'accelerogramma=	-
Periodo naturale del deposito prossimo ai periodi predominanti dell'eccitaz. sismica: $\delta = 0,04 N_c + 0,23$ =	0.23
Periodo naturale del deposito che si allontana dai periodi predominanti dell'eccitaz. sismica: $\delta = 0,015 N_c + 0,17$ =	0.17
δ scelto in base ai due valori calcolati =	-
Valutazione 2) per δ :	
δ nel campo dei valori frequenti (variabile in genere tra 0,17 e 0,50); risulta δ =	0.50
Valutazione adottata per δ =	2)
δ = δ adottato=	0.50
M_{CIN} = Momento cinematico all'interfaccia tra i 2 strati (NIKOLAOU et Alt, 2001) = $\delta M = kNm$	129.08
τ_{if} = tensione tangenziale all'interfaccia da analisi di free-field= kN/m ²	-
M_{CIN} = Momento cinematico all'interfaccia tra i 2 strati (MAIORANO et Alt, 2009): $0,071 \tau_{if} d^3 (L/d)^{0.30} (E_p / E_1)^{0.65} (V_{s,2} / V_{s,1})^{0.50} = kNm$	-
Valore adottato per M_{CIN} =	NIKOLAOU et Alt 2001
M_{CIN} = Momento cinematico all'interfaccia tra i 2 strati = valore adottato= kNm	129.08
M_{NERZ} (su monopalo o singolo palo della palificata) = kNm	10.00
Moto cinematico e inerziale: in fase oppure sfasati?	fase
M_{RIS} = Momento risultante (su monopalo o singolo palo della palificata) = kNm	139.08



B) Inserimento delle azioni sollecitanti: nel caso di analisi del singolo palo sono state analizzate le reazioni vincolari ottenute da un modello ad elementi finiti, la cui relazione risulta allegata. Di tutte le combinazioni sono state ricavate le situazioni peggiori come precedentemente descritto. Si riporta uno schema riassuntivo dei risultati ottenuti.

TOTALE	SLU										
Nodo	CC	Rx	Ry	Rz MAX	Mx	My	Mz	Rz MAX		$(Mx^2 + My^2)^{0.5}$	$(Vx^2 + Vy^2)^{0.5}$
		<daN>	<daN>	<daN>	<daNm>	<daNm>	<daNm>	<daN>		<daNm>	<daNm>
-121.00	18	55.11	25525.8	126569.00	-2387.20	52.01	16.69	126569.00		2387.77	25525.86
Nodo	CC	Rx	Ry	Rz MIN	Mx	My	Mz	Rz MIN		$(Mx^2 + My^2)^{0.5}$	$(Vx^2 + Vy^2)^{0.5}$
		<daN>	<daN>	<daN>	<daNm>	<daNm>	<daNm>	<daN>		<daNm>	<daNm>
-41.00	5	3176.85	-1516.58	20210.38	667.33	2701.15	-75.66	20210.38		2782.36	3520.28
Nodo	CC	Rx	Ry	Rz	Mx	My	Mz	MAX $(Mx^2 + My^2)^{0.5}$		$(Mx^2 + My^2)^{0.5}$	$(Vx^2 + Vy^2)^{0.5}$
		<daN>	<daN>	<daN>	<daNm>	<daNm>	<daNm>	<daNm>		<daNm>	<daNm>
-121.00	11	6944.77	-1971.82	60597.53	-456.46	19243.75	48.54	19249.16		19249.16	7219.27
Nodo	CC	Rx	Ry	Rz	Mx	My	Mz	MIN $(Mx^2 + My^2)^{0.5}$		$(Mx^2 + My^2)^{0.5}$	$(Vx^2 + Vy^2)^{0.5}$
		<daN>	<daN>	<daN>	<daNm>	<daNm>	<daNm>	<daNm>		<daNm>	<daNm>
-198.00	8	4514.12	-419.86	48915.72	-3.50	-26.99	30.69	27.22		27.22	4533.60
Nodo	CC	Rx	Ry	Rz	Mx	My	Mz	MAX $(Vx^2 + Vy^2)^{0.5}$		$(Mx^2 + My^2)^{0.5}$	$(Vx^2 + Vy^2)^{0.5}$
		<daN>	<daN>	<daN>	<daNm>	<daNm>	<daNm>	<daNm>		<daNm>	<daNm>
-196.00	18	1.35	43859.5	90457.80	-2280.27	5.95	1.80	43859.50		2280.28	43859.50
Nodo	CC	Rx	Ry	Rz	Mx	My	Mz	MIN $(Vx^2 + Vy^2)^{0.5}$		$(Mx^2 + My^2)^{0.5}$	$(Vx^2 + Vy^2)^{0.5}$
		<daN>	<daN>	<daN>	<daNm>	<daNm>	<daNm>	<daNm>		<daNm>	<daNm>
-38.00	8	2.7	-61.94	28959.69	354.70	453.66	-4.14	62.00		575.86	62.00
TOTALE	SLE										
Nodo	CC	Rx	Ry	Rz MAX	Mx	My	Mz	Rz MAX		$(Mx^2 + My^2)^{0.5}$	$(Vx^2 + Vy^2)^{0.5}$
		<daN>	<daN>	<daN>	<daNm>	<daNm>	<daNm>	<daN>		<daNm>	<daNm>
-121.00	20	37.5	16962.6	88989.50	-1623.02	35.91	11.43	88989.50		1623.42	16962.64
Nodo	CC	Rx	Ry	Rz MIN	Mx	My	Mz	Rz MIN		$(Mx^2 + My^2)^{0.5}$	$(Vx^2 + Vy^2)^{0.5}$
		<daN>	<daN>	<daN>	<daNm>	<daNm>	<daNm>	<daN>		<daNm>	<daNm>
-326.00	23	1404.7	603.12	22353.80	-1810.28	2363.33	14.94	22353.80		2976.99	1528.70
Nodo	CC	Rx	Ry	Rz	Mx	My	Mz	MAX $(Mx^2 + My^2)^{0.5}$		$(Mx^2 + My^2)^{0.5}$	$(Vx^2 + Vy^2)^{0.5}$
		<daN>	<daN>	<daN>	<daNm>	<daNm>	<daNm>	<daNm>		<daNm>	<daNm>
-117.00	21	-7150.41	6335.84	46194.00	-1144.10	-7716.75	-25.90	7801.10		7801.10	9553.60
Nodo	CC	Rx	Ry	Rz	Mx	My	Mz	MIN $(Mx^2 + My^2)^{0.5}$		$(Mx^2 + My^2)^{0.5}$	$(Vx^2 + Vy^2)^{0.5}$
		<daN>	<daN>	<daN>	<daNm>	<daNm>	<daNm>	<daNm>		<daNm>	<daNm>
-323.00	21	143.58	4678.09	36142.40	-134.23	16.68	-3.56	135.26		135.26	4680.29
Nodo	CC	Rx	Ry	Rz	Mx	My	Mz	MAX $(Vx^2 + Vy^2)^{0.5}$		$(Mx^2 + My^2)^{0.5}$	$(Vx^2 + Vy^2)^{0.5}$
		<daN>	<daN>	<daN>	<daNm>	<daNm>	<daNm>	<daNm>		<daNm>	<daNm>
-196.00	20	0.92	29145.7	64810.90	-1511.95	4.08	1.23	29145.70		1511.96	29145.70
Nodo	CC	Rx	Ry	Rz	Mx	My	Mz	MIN $(Vx^2 + Vy^2)^{0.5}$		$(Mx^2 + My^2)^{0.5}$	$(Vx^2 + Vy^2)^{0.5}$
		<daN>	<daN>	<daN>	<daNm>	<daNm>	<daNm>	<daNm>		<daNm>	<daNm>
-323.00	22	-0.19	452.07	26611.20	-1411.48	0.12	0.03	452.07		1411.48	452.07

Infine sono state valutate anche le sollecitazioni globali agenti sul manufatto, in modo da poter eseguire anche un'analisi globale della palificata; in particolare sono stati valutati i pesi verticali agli SLU e SLE oltre alle spinte dovute all'acqua nei diversi scenari con tempo di ritorno differente, ottenendo così le situazioni peggiori a livello di sollecitazioni. Anche in questo caso si riporta uno schema riassuntivo di calcolo

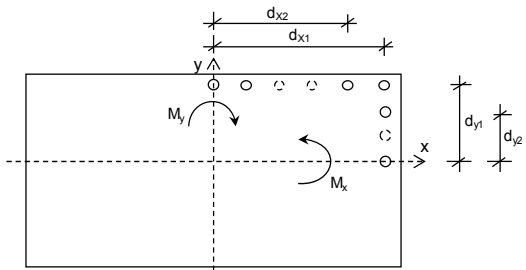
RELAZIONE DI CALCOLO STRUTTURALE
Passerella Parco Lambro, Inverigo

SPINTA ACQUA SCENARIO T=200				SPINTA ACQUA SCENARIO T=500			
yw	1000.00	daN/mc		yw	1000.00	daN/mc	
yq	1.10	-		yq	1.10	-	
h	4.30	m		h	4.68	m	
l_pila	7.20	m		l_pila	3.60	m	
l_spalla	3.60	m		l_spalla	3.60	m	
Z [m]	ow [daN/mq]	SPINTA_pila [daN]	SPINTA_spalla [daN]	Z [m]	ow [daN/mq]	SPINTA_pila [daN]	SPINTA_spalla [daN]
0.00	0.00	732.20	366.10	0.00	0.00	433.67	433.67
0.43	473.00			0.47	514.80		
0.86	946.00	5857.63	2928.82	0.94	1029.60	3469.34	3469.34
1.29	1419.00			1.40	1544.40		
1.72	1892.00	11715.26	5857.63	1.87	2059.20	6938.68	6938.68
2.15	2365.00			2.34	2574.00		
2.58	2838.00	17572.90	8786.45	2.81	3088.80	10408.02	10408.02
3.01	3311.00			3.28	3603.60		
3.44	3784.00	23430.53	11715.26	3.74	4118.40	13877.36	13877.36
3.87	4257.00			4.21	4633.20		
4.30	4730.00	13911.88	6955.94	4.68	5148.00	8239.68	8239.68
Carichi gravitazionali	SLU	SLE					
	daN	daN					
Impalcato g1	9925.00	7350.00					
Impalcato g2	8505.00	6300.00					
Spalla	73875.00	54725.00					
Pila	105540.00	78175.00					
Fondazione	543715.00	402750.00					
Pali	665000.00	492660.00					
Acqua fissa	604125.00	402750.00					
Folla	94500.00	70000.00					
Acqua piena	676620.00	451080.00					
Carichi orizzontali	SLU	SLE	H [m]				
Spinta piena 200	219665.00	146445.00	1.43				
Spinta piena 500	130100.00	86740.00	1.56				
Comb. 1	g1+g2						
	SLU				SLE		
	N [daN]	2084560.00			N [daN]	1499435.00	
	Mx [daNm]	0.00			Mx [daNm]	0.00	
	My [daNm]	0.00			My [daNm]	0.00	
	T [daN]	0.00			T [daN]	0.00	
Comb. 2	g1+g2+folla						
	SLU				SLE		
	N [daN]	2179060.00			N [daN]	1569435.00	
	Mx [daNm]	0.00			Mx [daNm]	0.00	
	My [daNm]	0.00			My [daNm]	0.00	
	T [daN]	0.00			T [daN]	0.00	
Comb. 3	g1+g2+piena200						
	SLU				SLE		
	N [daN]	2761180.00			N [daN]	1950515.00	
	Mx [daNm]	314853.17			Mx [daNm]	209904.50	
	My [daNm]	0.00			My [daNm]	0.00	
	T [daN]	219665.00			T [daN]	146445.00	
Comb. 4	g1+g2+piena500						
	SLU				SLE		
	N [daN]	2761180.00			N [daN]	1950515.00	
	Mx [daNm]	202956.00			Mx [daNm]	135314.40	
	My [daNm]	0.00			My [daNm]	0.00	
	T [daN]	130100.00			T [daN]	86740.00	

Si riporta quindi il foglio di calcolo relativo all'inserimento delle sollecitazioni su mono palo e su palificata.

Solicitazioni su mono-Palo o Palificata ?		mono-Palo			
1) PER VERIFICHE SLU					
		Coefficienti parziali Azioni (A1, A2)			
		perm. γ_G (se fav.)	var. γ_Q (se fav.)		
SLU: combinazioni NON SISMICHE tipo: $\gamma_{G1} G_1 + \gamma_{G2} G_2 + \gamma_{Q1} Q_{k1} + \sum_{i=2,n} (\gamma_{Qi} \Psi_{0i} Q_{ki})$					
App. 1	Comb. 1 (STR): A1+M1+R1	1,30 (1,00)	1,50 (0,00)		
	Comb. 2 (GEO): A2+M1+R2	1,00 (1,00)	1,30 (0,00)		
App. 2	Comb. unica (STR, GEO): A1+M1+R3	1,30 (1,00)	1,50 (0,00)		
SLU: combinazioni SISMICHE tipo : $E + G_1 + G_2 + \sum_i (\psi_{Si} Q_{ki})$					
App. 1	Comb. 1 (STR): A1+M1+R1	1,00	1,00		
	Comb. 2 (GEO): A2+M1+R2	1,00	1,00		
App. 2	Comb. unica (STR, GEO): A1+M1+R3	1,00	1,00		
Approccio scelto nel calcolo Azioni su mono-Palo o Palificata (1 opp. 2)		2			
		mono-Palo		Palificata	
Relativa Comb. associata all'Approccio scelto: All'interno dell'app. scelto, riportare, per la comb. associata, i valori a seguire:		Verifiche SLU_STR unica	Verifiche SLU_GEO unica	Verifiche SLU_STR unica	Verifiche SLU_GEO unica
Ai fini di SLU_STR (N,M); resistenza SLU (N,M) dei pali N compressione (+), tra terne non sismiche e sismiche		Verifiche SLU_STR		Verifiche SLU_STR	
	N=N _{lim} = kN	378.05		20,845.60	
	M _x = kNm	6.67		-	
	M _y = kNm	27.01		-	
	N=N _{lim} = kN	1,503.19		27,611.80	
	M _x = kNm	23.87		3,148.53	
	M _y = kNm	0.52		-	
	N= kN	726.65		27,611.80	
	M _x = kNm	0.03		2,029.56	
	M _y = kNm	0.27		-	
{ (M _x ² + M _y ²) ^{1/2} } = min	N= kN	843.47		27,611.80	
	M _x = kNm	4.56		3,148.53	
	M _y = kNm	192.43		-	
N trazione (-), tra terne non sismiche e sismiche		Verifiche SLU_STR		Verifiche SLU_STR	
	N=N _{lim} = kN	-		-	
	M _x = kNm	-		-	
	M _y = kNm	-		-	
	N=N _{lim} = kN	-		-	
	M _x = kNm	-		-	
	M _y = kNm	-		-	
	N= kN	-		-	
	M _x = kNm	-		-	
	M _y = kNm	-		-	
{ (M _x ² + M _y ²) ^{1/2} } = min	N= kN	-		-	
	M _x = kNm	-		-	
	M _y = kNm	-		-	
{ (M _x ² + M _y ²) ^{1/2} } = max	N= kN	-		-	
	M _x = kNm	-		-	
	M _y = kNm	-		-	
Interazione cinematica		Verifiche SLU_STR		Verifiche SLU_STR	
M _{CDN} (su monopalo o singolo palo della palificata) = kNm		129.08		129.08	
M _{NER2} (su monopalo o singolo palo della palificata) = kNm		10.00		10.00	
M _{RIS} (su monopalo o singolo palo della palificata) = kNm		139.08		139.08	
N (tra le combinazioni SLU_STR sismiche) = kN		891.46		14,994.00	
	M _x = kNm	-		-	
	M _y = kNm	-		-	
Ai fini di SLU_STR (V); resistenza SLU a Taglio dei pali V tra combin. non sismiche e sismiche = max { (V _x ² + V _y ²) ^{1/2} } = kN		Verifiche SLU_STR		Verifiche SLU_STR	
		438.59		2,196.65	
Ai fini di SLU_STR (N) _{st_eq_el} ; stab. equilibrio elastico dei pali N= N di compressione (+) = kN		Verifiche SLU_STR		Verifiche SLU_STR	
		1,503.19		27,611.80	
	M _x = kNm			3,148.53	
	M _y = kNm			-	
Ai fini di SLU_GEO_qlim_trasv_t_c e SLU_GEO_qlim_trasv_t_i; portanza limite SLU trasversale V tra combin. non sismiche e sismiche = kN			Verifiche SLU_GEO		Verifiche SLU_GEO
M _p = Momento di plasticizzazione della sezione (Broms)= M _{0,0} calcolato per			438.59		2,196.65
a) N=0			-		-
b) N associato alla combinazione in cui opera V : N= kN			1,142.07		27,611.80
	M _x = kNm				3,148.53
	M _y = kNm				-
Ai fini di SLU_GEO_qlim_vert; portanza limite SLU verticale N= N di compressione (+) tra terne non sismiche e sismiche= kN			Verifiche SLU_GEO		Verifiche SLU_GEO
			1,503.19		27,611.80
	M _x = kNm				3,148.53
	M _y = kNm				-
N= N di trazione (-) tra terne non sismiche e sismiche= kN			-		-
	M _x = kNm				-
	M _y = kNm				-
Ai fini di SLU_GEO_Grup: portanze limiti SLU palificata per effetto di gruppo V tra combin. non sismiche e sismiche = kN					Verifiche SLU_GEO
Valore (utente) = kN					2,196.65
Valore adottato = kN					2,196.65
N= N di compressione (+) tra terne non sismiche e sismiche= kN					27,611.80
Valore (utente) = kN					-
Valore adottato = kN					27,611.80
2) PER VERIFICHE SLE					
SLE: combinazioni NON SISMICHE tipo QUASI PERM. $G_1 + G_2 + \psi_{G1} Q_{k1} + \sum_i (\psi_{Gi} Q_{ki})$; per SLE combinazioni non sismiche, di regola solo questa per cedimenti e spostamenti					
SLE: combinazioni NON SISMICHE tipo FREQUENTE $G_1 + G_2 + \psi_{F1} Q_{k1} + \sum_i (\psi_{Fi} Q_{ki})$					
SLE: combinazioni SISMICHE tipo : $E + G_1 + G_2 + \sum_i (\psi_{Si} Q_{ki})$					
Riportare, per le comb. considerate i valori a seguire:		mono-Palo		Palificata	
Ai fini di SLE_ced_vert; cedimento max SLE verticale N= N di compressione (+) = kN		Verifiche SLE		Verifiche SLE	
		889.89		19,505.15	
	M _x = kNm			2,099.04	
	M _y = kNm			-	
Ai fini di SLE_sp_trasv; spostamento max SLE trasversale V tra combin. non sismiche e sismiche: $V = \max \{ (V_x^2 + V_y^2)^{1/2} \} = kN$		Verifiche SLE		Verifiche SLE	
		291.45		1,464.45	

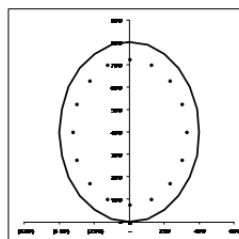
C) Vengono inseriti i dati per la distribuzione spaziale dei pali, in modo da ottenere le sollecitazioni agenti sui singoli elementi nel caso di verifiche globali.

Distribuzione dei pali nella palificata ?		uniforme
DISTRIBUZIONE UNIFORME E SIMMETRICA RISPETTO AI DUE ASSI DEI PALI NELLA PALIFICATA		
		
n_{px} = numero pali su una fila in direzione x :		7.00
n_{py} = numero pali su una fila in direzione y :		4.00
n_p = n.o totale pali della palificata =		28.00
d_{y1} = distanza asse x 1ª fila di pali = m		8.05
d_{y2} = distanza asse x 2ª fila di pali = m		5.65
d_{y3} = distanza asse x 3ª fila di pali = m		2.40
d_{y4} = distanza asse x 4ª fila di pali = m		-
d_{y5} = distanza asse x 5ª fila di pali = m	-	2.40
d_{y6} = distanza asse x 6ª fila di pali = m	-	5.65
d_{y7} = distanza asse x 7ª fila di pali = m	-	8.05
d_{y8} = distanza asse x 8ª fila di pali = m	-	-
d_{y9} = distanza asse x 9ª fila di pali = m	-	-
d_{y10} = distanza asse x 10ª fila di pali = m	-	-
d_{x1} = distanza asse y 1ª fila di pali = m		3.60
d_{x2} = distanza asse y 2ª fila di pali = m		1.20
d_{x3} = distanza asse y 3ª fila di pali = m	-	1.20
d_{x4} = distanza asse y 4ª fila di pali = m	-	3.60
d_{x5} = distanza asse y 5ª fila di pali = m	-	-
d_{x6} = distanza asse y 6ª fila di pali = m	-	-
d_{x7} = distanza asse y 7ª fila di pali = m	-	-
d_{x8} = distanza asse y 8ª fila di pali = m	-	-
d_{x9} = distanza asse y 9ª fila di pali = m	-	-
d_{x10} = distanza asse y 10ª fila di pali = m	-	-
d_{x11} = distanza asse y 11ª fila di pali = m	-	-
d_{x12} = distanza asse y 12ª fila di pali = m	-	-
d_{x13} = distanza asse y 13ª fila di pali = m	-	-
d_{x14} = distanza asse y 14ª fila di pali = m	-	-
d_{x15} = distanza asse y 15ª fila di pali = m	-	-
d_{x16} = distanza asse y 16ª fila di pali = m	-	-
d_{x17} = distanza asse y 17ª fila di pali = m	-	-
d_{x18} = distanza asse y 18ª fila di pali = m	-	-
d_{x19} = distanza asse y 19ª fila di pali = m	-	-
d_{x20} = distanza asse y 20ª fila di pali = m	-	-
$d_{y\max} = d_{y1} = m$		8.05
$d_{y\max} = m$		-
$d_{y\max} (adottato) = m$		8.05
$d_{x\max} = d_{x1} = m$		3.60
$d_{x\max} = m$		-
$d_{x\max} (adottato) = m$		3.60
$\sum_i d_{yi}^2 = d_{y1}^2 n_{px} 2 + d_{y2}^2 n_{px} 2 + \dots + d_{y10}^2 n_{px} 2 = m q$		2,869.58
$\sum_i d_{yi}^2 = m q$		-
$\sum_i d_{yi}^2 (adottato) = m q$		2,869.58
$\sum_i d_{xi}^2 = d_{x1}^2 n_{py} 2 + d_{x2}^2 n_{py} 2 + \dots + d_{x20}^2 n_{py} 2 = m q$		230.40
$\sum_i d_{xi}^2 = m q$		-
$\sum_i d_{xi}^2 (adottato) = m q$		230.40

1) PER VERIFICHE SLU					
			Palificata	Singolo Palo della palificata	
Ai fini di SLU_STR_(N,M); resistenza SLU (N,M) dei pali					
N compressione (+), tra terne non sismiche e sismiche				$N_{pmin} = N/n_p - M_x d_{ymax}/\Sigma d_y^2 - M_y d_{xmax}/\Sigma d_x^2$ $N_{pmax} = N/n_p + M_x d_{ymax}/\Sigma d_y^2 + M_y d_{xmax}/\Sigma d_x^2$	
			Verifiche SLU_STR	Verifiche SLU_STR	
	N= kN	20,845.60		N_{pmin} = kN	744.49
	M_x = kNm	-		N_{pmax} = kN	744.49
	M_y = kNm	-		M_p = kNm	-
	N= kN	27,611.80		N_{pmin} = kN	977.30
	M_x = kNm	3,148.53		N_{pmax} = kN	994.97
	M_y = kNm	-		M_p = kNm	78.45
	N= kN	27,611.80		N_{pmin} = kN	980.44
	M_x = kNm	2,029.56		N_{pmax} = kN	991.83
	M_y = kNm	-		M_p = kNm	46.46
	N= kN	27,611.80		N_{pmin} = kN	977.30
	M_x = kNm	3,148.53		N_{pmax} = kN	994.97
	M_y = kNm	-		M_p = kNm	78.45
N trazione (-), tra terne non sismiche e sismiche				$N_{pmin} = N/n_p + M_x d_{ymax}/\Sigma d_y^2 + M_y d_{xmax}/\Sigma d_x^2$ $N_{pmax} = N/n_p - M_x d_{ymax}/\Sigma d_y^2 - M_y d_{xmax}/\Sigma d_x^2$	
			Verifiche SLU_STR	Verifiche SLU_STR	
	N= kN	-		N_{pmin} = kN	-
	M_x = kNm	-		N_{pmax} = kN	-
	M_y = kNm	-		M_p = kNm	-
	N= kN	-		N_{pmin} = kN	-
	M_x = kNm	-		N_{pmax} = kN	-
	M_y = kNm	-		M_p = kNm	-
	N= kN	-		N_{pmin} = kN	-
	M_x = kNm	-		N_{pmax} = kN	-
	M_y = kNm	-		M_p = kNm	-
	N= kN	-		N_{pmin} = kN	-
	M_x = kNm	-		N_{pmax} = kN	-
	M_y = kNm	-		M_p = kNm	-
Interazione cinematica			Verifiche SLU_STR		
M_{cin} (su monopalo o singolo palo della palificata) = kNm			129.08		
M_{NERZ} (su monopalo o singolo palo della palificata) = kNm			10.00		
M_{RIS} (su monopalo o singolo palo della palificata) = kNm			139.08		
N (tra le combinazioni SLU_STR sismiche)= kN			14,994.00	N_{pmin} = kN	535.50
	M_x = kNm	-		N_{pmax} = kN	535.50
	M_y = kNm	-			
Ai fini di SLU_STR_(V); resistenza SLU a Taglio dei pali			Verifiche SLU_STR	Verifiche SLU_STR	
V tra combin. non sismiche e sismiche = $\max\{(V_x^2 + V_y^2)^{1/2}\}$ = kN			2,196.65	$V_p = V / n_p$ = kN	78.45
Ai fini di SLU_STR_(N)_st_eq_el; stab. equilibrio elastico dei pali			Verifiche SLU_STR	Verifiche SLU_STR	
N= N di compressione (+) = kN			27,611.80	$N_{pmax} = N/n_p + M_x d_{ymax}/\Sigma d_y^2 + M_y d_{xmax}/\Sigma d_x^2$	994.97
	M_x = kNm	3,148.53		N_{pmax} = kN	
	M_y = kNm	-			
Ai fini di SLU_GEO_qlim_trasv_t_c e SLU_GEO_qlim_trasv_t_i: portanza limite SLU trasversale			Verifiche SLU_GEO	Verifiche SLU_GEO	
V tra combin. non sismiche e sismiche = kN			2,196.65	$V_p = V / n_p$ = kN	78.45
M_y = Momento di plasticizzazione della sezione (Broms)= M_{Ro} , calcolato per					
a) N=0			-	$N_p = N / n_p$ = kN	-
b) N associato alla combinazione in cui opera V : N= kN			27,611.80	N_{pmin} = kN	977.30
	M_x = kNm	3,148.53		N_{pmax} = kN	994.97
	M_y = kNm	-			
Ai fini di SLU_GEO_qlim_vert: portanza limite SLU verticale			Verifiche SLU_GEO	Verifiche SLU_GEO	
N= N di compressione (+) tra terne non sismiche e sismiche= kN			27,611.80	$N_{pmax} = N/n_p + M_x d_{ymax}/\Sigma d_y^2 + M_y d_{xmax}/\Sigma d_x^2$	994.97
	M_x = kNm	3,148.53		N_{pmax} = kN	
	M_y = kNm	-			
N= N di trazione (-) tra terne non sismiche e sismiche= kN			-	$N_{pmax} = N/n_p - M_x d_{ymax}/\Sigma d_y^2 - M_y d_{xmax}/\Sigma d_x^2$	-
	M_x = kNm	-			
	M_y = kNm	-			
2) PER VERIFICHE SLE					
			Palificata	Singolo Palo della palificata	
Ai fini di SLE_ced_vert: cedimento max SLE verticale			Verifiche SLE	Verifiche SLE	
N= kN			19,505.15	$N_{pmax} = N/n_p + M_x d_{ymax}/\Sigma d_y^2 + M_y d_{xmax}/\Sigma d_x^2$	702.50
	M_x = kNm	2,099.04		$N_{pmedio} = N/n_p$ = kN	696.61
	M_y = kNm	-			
Ai fini di SLE_sp_trasv: spostamento max SLE trasversale			Verifiche SLE	Verifiche SLE	
V tra combin. non sismiche e sismiche: $V = \max\{(V_x^2 + V_y^2)^{1/2}\}$ = kN			1,464.45	$V_p = V / n_p$ = kN	52.30

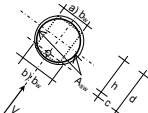
D) Verifiche strutturali a presso-tenso flessione: vengono inserite le caratteristiche geometriche e meccaniche dei singoli pali, il numero ed il diametro delle armature longitudinali, determinando quindi il valore di momento resistente della sezione. In sintesi, sono stati scelti pali di diametro 0.80 m armati con 16Φ20 longitudinalmente. Si riportano i risultati relativi all'analisi su mono-palo e su palificata.

Ckt					
$f_{ct} = 0,83 \cdot f_{ct} = N/mm^2$	33.20				
$R_{ct} = N/mm^2$	40.00				
$\gamma_c =$	1.50				
$f_{ctd} = \alpha_{ct} \cdot f_{ct} / \gamma_c = 0,85 \cdot f_{ct} / \gamma_c = N/mm^2$	18.51				
Acciaio					
$f_{yk} = N/mm^2$	450.00				
$\gamma_s =$	1.15				
$f_{yk} = f_{yk} / \gamma_s = N/mm^2$	391.30				
$E_s = N/mm^2$	200.000.00				
$\epsilon_{sk} = f_{yk} / E_s =$	0.196%				
Cognilite		(13.2)			
$c_{min,1} = mm$			elemento:	Filo	
$c_{min,2} = mm$			vita nominale V_a :	100	
$\Delta c_{min,1} = mm$			ambiente:	aggressivo	
$\Delta c_{min,2} = mm$			$c_{min,1} = mm$	45.00	
$\Delta c_{min,3} = mm$			$\Delta c_{min,1} = mm$	10.00	
$\Delta c_{min,4} = mm$					
$\Delta c_{min,5} = mm$					
$c_{min,1} + \Delta c_{min,1} - \Delta c_{min,2} - \Delta c_{min,3} = mm$					
$c_{min} = \max(c_{min,1} - \Delta c_{min,1} - \Delta c_{min,2} - \Delta c_{min,3}, 10 \text{ mm}) = mm$			$c_{min} = c_{min,1} - \Delta c_{min,1} =$	45.00	
$c_{min} = c_{min} + \Delta c_{min} = mm$	55.00				
$\phi_{st} = \phi \text{ staffa (max)} = mm$	10.00				
$\phi_b = \phi \text{ barra (max)} = mm$	20.00				
$c_{st,1} = \text{dist. min. da bordo a baric. barre strato 1} = c_{min} + \phi_{st} + \phi_b/2 = mm$	75.00				
Sezione					
$d = \text{diametro sezione palo} = mm$	800.00				
$A_c = \pi(d/2)^2 = mm^2$	502,654.82				
Strato 1 (esterno)					
$c_{s,1} = \text{dist. da bordo a baricentro barre strato 1} = mm$	75.00				
$N_o \text{ barre} = N_{s,1} =$	16.00				
$\phi_{s,1} = mm$	20.00				
Area totale barre $= A_{s,1} = mm^2$	5,020.55				
Strato 2 (intermedio)					
$c_{s,2} = \text{dist. da bordo a baricentro barre strato 2} = mm$	-				
$N_o \text{ barre} = N_{s,2} =$	-				
$\phi_{s,2} = mm$	-				
Area totale barre $= A_{s,2} = mm^2$	-				
Strato 3 (interno)					
$c_{s,3} = \text{dist. da bordo a baricentro barre strato 3} = mm$	-				
$N_o \text{ barre} = N_{s,3} =$	-				
$\phi_{s,3} = mm$	-				
Area totale barre $= A_{s,3} = mm^2$	-				
$A_s = A_s \text{ totale} = \sum_{i=1}^3 A_{s,i} = mm^2$	5,020.55				
$\rho_s = A_s / A_c = \%$	1.00%				
$\rho_{lim} = (\text{inf per } 0,3\% ; \text{sup per } 4\%) = \%$	inf				
$\rho_{lim} (\text{adottato}) =$	0.30%				
$\rho_s \geq \rho_{lim} (\text{adottato}) ?$	ok				
Calcolo M_{res} per Necessari					
mono-Palo					
Verifica SLU_STR_(N,M); resistenza SLU (N,M) dei pali					
N compressione (+), tra forme non sismiche e sismiche	Verifiche SLU_STR		$M_{ed} = \sqrt{M_{ed,1}^2 + M_{ed,2}^2}$	$M_{ed} \text{ (kNm)}$	$M_{ed} \geq M_{Rd} ?$
	$N = N_{ed} = kN$	378.05			
	$M_1 = kNm$	6.67			
	$M_2 = kNm$	27.01	27.82	685.34	ok
	$N = N_{ed} = kN$	1,593.19			
	$M_1 = kNm$	23.87			
	$M_2 = kNm$	0.52	23.88	592.82	ok
	$N = kN$	726.05			
	$M_1 = kNm$	0.93			
	$M_2 = kNm$	0.27	0.27	708.77	ok
	$N = kN$	843.47			
	$M_1 = kNm$	4.96			
	$M_2 = kNm$	192.43	192.48	784.38	ok
N trazione (-), tra forme non sismiche e sismiche	Verifiche SLU_STR				
	$N = N_{ed} = kN$	-			
	$M_1 = kNm$	-			
	$M_2 = kNm$	-	-	594.96	ok
	$N = N_{ed} = kN$	-			
	$M_1 = kNm$	-			
	$M_2 = kNm$	-	-	594.96	ok
	$N = kN$	-			
	$M_1 = kNm$	-			
	$M_2 = kNm$	-	-	594.96	ok
	$N = kN$	-			
	$M_1 = kNm$	-			
	$M_2 = kNm$	-	-	594.96	ok
Interazione cinematica					
$N = kN$	891.46		$M_{Rd} = M_{Rd,1} \cdot M_{Rd,2}$	$M_{Rd} \text{ (kNm)}$	$M_{Rd} \geq M_{ed} ?$
$M_{ed} = kNm$	139.08		139.08	793.86	ok
Ai fini di SLU_GEO_qlim_trasv_t_c e SLU_GEO_qlim_trasv_L_i: portanza limite SLU trasversale					
Verifiche SLU_GEO					
Vita combin. non sismiche e sismiche = kN	438.59				
$M_d = \text{Momento di plastificazione della sezione (Brenn)} = M_{Rd}$					
calcolato per				$M_{Rd} \text{ (kNm)}$	
$\alpha_f N = 0$	-			594.96	
M_d N as società alla combinazione in cui opera V: N = kN	1,142.07			841.22	



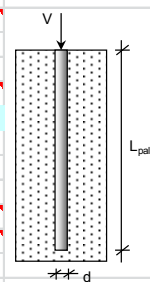
Singolo Palo della palificata (sollecitazioni per la distribuzione uniforme o sfalsata adottata)					
Verifica SLU_STR_(N,M); resistenza SLU_(N,M) dei pali					
	Verifiche SLU_STR		$M_d = M_p = \text{kNm}$	$M_{Rd} \text{ (N) kNm}$	$M_{Rd} \geq M_d?$
N compressione (+), tra terne non sismiche e sismiche	$N_{prinf} = \text{kN}$	744.49			
	$M_p = \text{kNm}$	-	-	594.96	ok
	$N_{prmax} = \text{kN}$	744.49			
	$M_p = \text{kNm}$	-	-	594.96	ok
	$N_{prinf} = \text{kN}$	977.30			
	$M_p = \text{kNm}$	78.45	78.45	594.96	ok
	$N_{prmax} = \text{kN}$	994.97			
	$M_p = \text{kNm}$	78.45	78.45	594.96	ok
	$N_{prinf} = \text{kN}$	980.44			
	$M_p = \text{kNm}$	46.46	46.46	594.96	ok
	$N_{prmax} = \text{kN}$	991.83			
	$M_p = \text{kNm}$	46.46	46.46	594.96	ok
	$N_{prinf} = \text{kN}$	977.30			
	$M_p = \text{kNm}$	78.45	78.45	594.96	ok
	$N_{prmax} = \text{kN}$	994.97			
	$M_p = \text{kNm}$	78.45	78.45	594.96	ok
N trazione (-), tra terne non sismiche e sismiche	Verifiche SLU_STR		$M_d = M_p = \text{kNm}$	$M_{Rd} \text{ (N) kNm}$	$M_{Rd} \geq M_d?$
	$N_{prinf} = \text{kN}$	-			
	$M_p = \text{kNm}$	-	-	594.96	ok
	$N_{prmax} = \text{kN}$	-			
	$M_p = \text{kNm}$	-	-	594.96	ok
	$N_{prinf} = \text{kN}$	-			
	$M_p = \text{kNm}$	-	-	594.96	ok
	$N_{prmax} = \text{kN}$	-			
	$M_p = \text{kNm}$	-	-	594.96	ok
	$N_{prinf} = \text{kN}$	-			
	$M_p = \text{kNm}$	-	-	594.96	ok
	$N_{prmax} = \text{kN}$	-			
	$M_p = \text{kNm}$	-	-	594.96	ok
	$N_{prinf} = \text{kN}$	-			
	$M_p = \text{kNm}$	-	-	594.96	ok
	$N_{prmax} = \text{kN}$	-			
	$M_p = \text{kNm}$	-	-	594.96	ok
Interazione cinematica	Verifiche SLU_STR		$M_d = M_{RIS} = \text{kNm}$	$M_{Rd} \text{ (N) kNm}$	$M_{Rd} \geq M_d?$
	$N_{prinf} = \text{kN}$	535.50			
	$M_{RIS} = \text{kNm}$	139.08	139.08	594.96	ok
	$N_{prmax} = \text{kN}$	535.50			
	$M_{RIS} = \text{kNm}$	139.08	139.08	594.96	ok
Ai fini di SLU_GEO_qlim_trasv_t_c e SLU_GEO_qlim_trasv_t_i: portanza limite SLU trasversale					
		Verifiche SLU_GEO			
V tra combin. non sismiche e sismiche = $V_p = \text{kN}$		78.45			
M_p = Momento di plasticizzazione della sezione (Broms) = M_{Rd} ; calcolato per				$M_{Rd} \text{ (N) kNm}$	
a) $N=0$		-		594.96	
N associato alla combinazione in cui opera V: b) $N_{prinf} = \text{kN}$		977.30		594.96	
c) $N_{prmax} = \text{kN}$		994.97		594.96	

E) Verifiche strutturali a taglio: vengono inserite le caratteristiche delle armature trasversali (diametro, passo) e si sceglie se valutare la resistenza del palo secondo i dettami delle NTC '08 al paragrafo §4.1.2.1.3.1, oppure se progettare le staffature resistenti a taglio. In definitiva vengono utilizzate staffe $\Phi 10$ passo 15 cm. Si riportano solo le verifiche relative al mono-palo, in quanto le sollecitazioni taglianti nel caso di palificata risultano notevolmente inferiori.

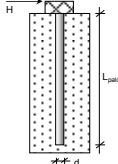
 <p>a) max inerzia: $b_w = 0.581 d$ b) min corda: $b_w = 2 \cdot [(d/2)^2 - (d/2 - c)^2]^{0.5}$</p>	
Cts	
$f_{ctd} = N/mm^2$	33.20
$R_{ctd} = N/mm^2$	40.00
$\gamma_c =$	1.50
$f_{ctd} = \alpha_{cc} f_{ctd} / \gamma_c = 0.85 f_{ctd} / \gamma_c = N/mm^2$	18.81
$f_{ctd} = 0.30 f_{ctd} = N/mm^2$	3.10
$f_{ctd,0.05} = 0.7 f_{ctd} = N/mm^2$	2.17
$f_{ctd} = f_{ctd,0.05} / \gamma_c = N/mm^2$	1.45
Acciaio	
$f_{yd} = N/mm^2$	450.00
$\gamma_s =$	1.15
$f_{yd} = f_{yk} / \gamma_s = N/mm^2$	391.30
$E_s = N/mm^2$	200.000.00
$\mu_{rel} = f_{yk} / E_s =$	0.001957
Sollecitazioni	
Presenza di mono-Palo o Palificata?	mono-Palo
$V = kN$	438.59
V (adottato) = kN	438.59
$d =$ diametro sezione palo = mm	800.00
$A_c = \pi (d/2)^2 = mm^2$	502.654.82
$c =$ dist. da bordo a baricentro barre strato = mm	
strato 1° : $c_{s,1} = mm$	72.00
strato 2° : $c_{s,2} = mm$	-
strato 3° : $c_{s,3} = mm$	-
$c_{med} = mm$	72.00
$c_{inf} = mm$	-
$c_{sup} = mm$	72.00
c (adottato) = mm	72.00
$h = d - c = mm$	728.00
Per b_w si utilizza il criterio a) max inerzia, b) min corda, c) Min a) b)?	c) Min a) b)
$b_w = mm$	457.89
Si procede alle verifiche senza staffature resistenti a taglio?	si
Si procede al dimensionamento con staffature resistenti a taglio?	si
$l_p =$ lunghezza palo = m	14.00
$V_{cr} = A_c I_p = m^3$	7.04
Verifica senza staffature resistenti a taglio	
V (adottato) = $V_{ed} = kN$	438.6
$k = \min [1 + (200/h)^{1.5}, 2] =$	1.524
$N_{ed} =$ forza assiale di calcolo di compressione (positiva) = kN	-
$\alpha_{cs} = \min [(N_{ed}/A_c) ; 0.2] f_{ctd} = N/mm^2$	-
$A_s = mm^2$	2,002.00
$\rho_s = \min [A_s / (b_w h) ; 0.02] =$	0.0060
$V_{med} = 0.035 k^{0.5} f_{ctd} = N/mm^2$	0.379
$V_{Rd} = [V_{med} + 0.15 \alpha_{cs}] b_w h = kN$	126.5
$V_{Rd} = [0.18 k (100 \rho_s f_{ctd})^{0.5} + 0.15 \alpha_{cs}] b_w h = kN$	165.3
$V_{Rd} = \max [V_{med} ; V_{Rd}] = kN$	165.3
$V_{ed} \geq V_{Rd}?$	No!
Dimensionamento con staffature resistenti a taglio	
Per gli N_{ed} si pone $\alpha_{cs} = 1$?	si
N (kN)	-
$\alpha_{cs} = N/A_c = N/mm^2$	-
1) $\alpha_{cs} : [1 + \alpha_{cs} f_{ctd} \leq 0.25 f_{ctd}]$ se $0.25 f_{ctd} \leq 0.5 f_{ctd}$ se $0.5 f_{ctd} \leq 0.5 (1 - \alpha_{cs} f_{ctd})$ se $0.5 f_{ctd} \leq 0.5 f_{ctd}$	-
2) α_{cs} pari al minimo tra quelli valutati per tutti gli N di compress.	-
Procedere con la valutazione 1) oppure 2)?	1)
α_{cs} adottato.	1.000
V (adottato) = $V_{ed} = kN$	438.6
s (passo staffe adottato) = mm	150.00
n_b (n.o bracci delle staffe adottato) =	2.00
Diametri adottati per le staffe:	
1° perimetro: $\phi_s = mm$	10.00
$A1 \phi_s = c \phi_s / 2^2 = mm^2$	78.54
2° perimetro: $\phi_s = mm$	-
$A1 \phi_s = c \phi_s / 2^2 = mm^2$	-
3° perimetro: $\phi_s = mm$	-
$A1 \phi_s = c \phi_s / 2^2 = mm^2$	-
$A_{sw} = n_b [A1 \phi_s + A1 \phi_s + A1 \phi_s] = mm^2$	157.08
$A_{sw} f_{yd} b_w s =$	0.89
$1/2 \alpha_{cs} 0.5 f_{ctd} =$	4.70
Controllo che $\cot \theta \geq 1$ ($\theta \leq 45^\circ$): $A_{sw} f_{yd} b_w s \leq 1/2 \alpha_{cs} 0.5 f_{ctd}$?	ok
$\theta' = \arcsin (A_{sw} f_{yd} b_w s / \alpha_{cs} 0.5 f_{ctd})^{0.5} =$	17.97
Controllo che $\cot \theta \geq 2.5$ ($\theta \geq \theta_{min} = 21.8^\circ$): se $\theta' \geq \theta_{min}$ si assume $\theta = \theta'$; se $\theta' < \theta_{min}$ si assume $\theta = 21.8^\circ$; θ adottato = $\theta =$	21.80
$V_{med} = 0.9 h (A_{sw} f_{yd} / \cot \theta) = kN$	671.3
$V_{Rd} = 0.9 h b_w \alpha_{cs} (0.5 f_{ctd} \cot \theta) / (1 + \cot^2 \theta) = 0.9 h b_w \alpha_{cs} (0.5 f_{ctd} / \cot \theta) = kN$	973.1
$V_{Rd} = [V_{med} \text{ se } \theta' < 21.8^\circ \text{ e } \theta \geq 21.8^\circ; \text{ altrimenti } \min(V_{med}; V_{Rd})] = kN$	671.3
$V_{ed} \geq V_{Rd}?$	ok
Prescrizioni armature	
Attivare prescrizioni armature?	si
ϕ_{min} (diametro min. delle barre longitudinali) = mm	14.00
ϕ_{max} (diametro max delle barre longitudinali) = mm	14.00
$s_{max} =$ passo max staffe = $\min(12 \phi_{min}; 250 \text{ mm}) = mm$	168.00
$s \leq s_{max}?$	ok
ϕ_{min} = diametro min. staffa = $\max(6 \text{ mm}; 1/4 \phi_{min}) = mm$	6.00
1° perimetro: $\phi_s \geq \phi_{min}?$	ok
2° perimetro: $\phi_s \geq \phi_{min}?$	-
3° perimetro: $\phi_s \geq \phi_{min}?$	-

F) La verifica a stabilità del palo si effettua inserendo, oltre alle caratteristiche geometriche dell'opera, anche il coefficiente di reazione laterale del mono-palo, valutato attraverso la formulazione di Davisson (1970) $k_{h_int} = 67 \frac{c_u}{D}$, dove $D = 0.80\text{m}$ e $c_u = 63.15 \text{ KN/m}^2$; quest'ultimo valore di coesione non drenata è stato ottenuto dall'analisi delle informazioni geotecniche a disposizione, in particolare è stato opportunamente ottenuto un valore mediato, modellando di fatto il palo come se fosse inserito all'interno di un terreno equivalente: è stato infatti dapprima ottenuto un valore di coesione medio relativo agli strati di terreno attraversati dal palo, valore che è stato poi redistribuito lungo tutta la luce dell'opera, essendo la somma degli spessori degli strati di terreno dotati di coesione non drenata inferiore alla lunghezza totale del palo. Di seguito si riportano i risultati ottenuti dalle analisi. Si riportano solo le verifiche relative al mono-palo, in quanto le sollecitazioni assiali nel caso di palificata risultano inferiori.

VERIFICA SLU CON FORZA DI COMPRESSIONE PER LA STABILITA' DELL'EQUILIBRIO ELASTICO		
Presenza di mono-Palo o Palificata ?	mono-Palo	
d = diametro sezione palo = m	0.80	
d = diametro (utente) = m	-	
d= diametro adottato = m	0.80	
N= Carico verticale agente in Combinazione SLU :		
N = N _{max} = carico assiale max su mono-Palo = kN	1,503.19	
N = N _{max} = carico assiale max su singolo palo della Palificata = kN	-	
N = N _{Ed} = kN	1,503.19	
Calcolo del carico critico elastico		
Carico critico di asta caricata da N e vincolata lateralmente a un mezzo elastico;		
Relazione da Timoshenko, Gere, in Theory of elastic stability (1961):		
$N_{cr} = (\pi^2 E J / L^2) [m^2 + \beta L^4 / (\pi^4 E J)]$		
Con m = n.o di semionde della deformata sinusoidale caricata dal carico di punta,		
posto λ = semilunghezza d'onda = L / m, risulta:		
$N_{cr} = \pi^2 E J (1/\lambda^2 + \lambda^2 \beta / (\pi^4 E J))$		
Al variare di λ si ottiene il minimo N_{cr} con: $d(N_{cr}/d\lambda)=0$, che porge:		
$\lambda^* = (EJ/\beta)^{1/4}$		
$N_{cr} = N_{cr}(\lambda^*) = 2 (\beta EJ)^{1/2}$		
Calcolo di N_{cr}		
K_{h_int} = coefficiente di reazione laterale del terreno se mono-palo = N/cm ³	5.29	
K_{h_rig} = coefficiente di reazione laterale del terreno se palificata = N/cm ³	5.29	
$K_h = (K_{h_int}$ se mono-Palo; K_{h_rig} se Palificata) = N/cm ³	5.29	
D= dimensione adottata = d = mm	800.00	
β = reazione laterale terreno per unità di spostamento laterale e per unità di lunghezza = $k_h D$ = N/mm ²	4.23	
$f_{ck} = 0.83 R_{ck} = \text{N/mm}^2$	33.20	
$R_{ck} = \text{N/mm}^2$	40.00	
$E_{cm} = 22.000 [(f_{cm}/10)^{0.3} = 22.000 [(f_{ck}+8)/10]^{0.3} = \text{N/mm}^2$	33,642.78	
E= Modulo di elasticità (utente) = N/mm ²	33,350.00	
E= Modulo di elasticità adottato = N/mm ²	33,350.00	
$J = \pi d^4 / 64 = \text{mm}^4$	20,106,192,982.97	
J = Momento di inerzia (utente) = mm ⁴	-	
J= Momento di inerzia adottato = mm ⁴	20,106,192,982.97	
$N_{cr} = 2 (\beta EJ)^{1/2} = \text{kN}$	106,540.73	
N_{cr} (utente) = kN	-	
N_{cr} (adottato) = kN	106,540.73	
VERIFICA (Analisi Elastica)		
$N_{Ed} = \text{kN}$	1,503.19	
$N_{cr} = N_{cr}$ (adottato) = kN	106,540.73	
$\alpha_{cr} = N_{cr} / N_{Ed} =$	70.88	
Fs =	5.00	
Analisi elastica: $\alpha_{cr} \geq F_s$?	ok	



- G) La verifica a portanza trasversale del palo si effettua sulla falsariga del procedimento svolto nel caso di verifica a stabilità. Infatti, siccome la palificata attraversa strati di terreno di tipologia diversa (coerente ed incoerente), sono stati opportunamente ottenuti valori mediati relativi alle caratteristiche geotecniche (peso specifico, coesione non drenata), modellando di fatto il palo come se fosse inserito all'interno di un terreno equivalente: è stato infatti ottenuto un valore di coesione e di peso specifico medio relativo agli strati di terreno attraversati dal palo, valore che è stato poi redistribuito lungo tutta la luce dell'opera, essendo la somma degli spessori degli strati di terreno coerenti ed incoerenti inferiore alla lunghezza totale del palo. La portanza trasversale finale è quindi data dalla somma delle portanza tra terreni coerenti ed incoerenti. Di seguito si riportano i risultati ottenuti dalle analisi.

VERIFICA SLU-GEO PER CARICO LIMITE TRASVERSALE DI UN PALO CON ROTAZIONE IN TESTA IMPEDITA, TERRENI COESIVI.									
Solicitazioni su mono-Palo o Palificata ?				mono-Palo					
				Coefficienti parziali Azioni, Materiali, Resistenze					
				A1, A2		M1	R1, R2, R3		
				perm. γ_{G1} (se fav.)	var. γ_{G2} (se fav.)	γ_{M1}	$\gamma_{R1}, \gamma_{R2}, \gamma_{R3}$		
SLU: combinazioni NON SISMICHE tipo: $\gamma_{G1} G_k + \gamma_{G2} G_k + \gamma_{Q1} Q_k + \sum_{i=2, n} \gamma_{Qi} \psi_{0i} Q_{ki}$				1.30 (1.00)	1.50 (0.00)	1.00	1.00		
App. 1 Comb. 1 (STR): A1+M1+R1				1.00 (1.00)	1.30 (0.00)	1.00	1.60		
Comb. 2 (GEO): A2+M1+R2				1.00 (1.00)	1.30 (0.00)	1.00	1.60		
App. 2 Comb. unica (STR, GEO): A1+M1+R3				1.30 (1.00)	1.50 (0.00)	1.00	1.30		
SLU: combinazioni SISMICHE tipo: $E + G_k + G_{k1} + \sum_{i=2, n} (\psi_{0i} Q_{ki})$									
App. 1 Comb. 1 (STR): A1+M1+R1				1.00	1.00	1.00	1.00		
Comb. 2 (GEO): A2+M1+R2				1.00	1.00	1.00	1.60		
App. 2 Comb. unica (STR, GEO): A1+M1+R3				1.00	1.00	1.00	1.30		
Approccio scelto nel calcolo Azioni su mono-Palo o Palificata (1 opp. 2)				2					
Relativa Comb. GEO associata all'Approccio scelto:				unica					
				$\gamma_{G1} =$ 1.00					
				$\gamma_{R1} =$ 1.30					
Relativa Comb. associata all'Approccio scelto:				mono-Palo					
All'interno dell'app. scelto, a seguire i valori, per la comb. associata				Verifiche SLU_STR	Verifiche SLU_GEO unica	Verifiche SLU_STR	Verifiche SLU_GEO unica		
Verifiche SLU-GEO portanza limite SLU trasversale					Verifiche SLU_GEO		Verifiche SLU_GEO		
V (V_G se palificata) tra combin. non sismiche e sismiche = kN					438.59		-		
M_k = Momento di plasticizzazione della sezione (Broms) = M_{k0} calcolato per mono-Palo									
a) $N=0$					-				
$M_{k0} =$ kNm =					597.65				
b) N associato alla combinazione in cui opera V : $N =$ kN =					1,142.07				
$M_{k0} =$ kNm =					844.47				
Palificata									
a) $N=0$							-		
$M_{k0} =$ kNm =							-		
N associato alla combinazione in cui opera V							-		
b) $N_{max} =$ kN							-		
$M_{k0} =$ kNm =							-		
c) $N_{min} =$ kN							-		
$M_{k0} =$ kNm =							-		
Fattori di correlazione ξ per il calcolo della resistenza caratteristica, condotto per via analitica (n = n.o verticali indagate)									
n	1	2	3	4	5	7	≥ 10		
ξ_1	1.70	1.65	1.60	1.55	1.50	1.45	1.40		
ξ_2	1.70	1.55	1.48	1.42	1.34	1.28	1.21		
n = (1, 2, 3, 4, 5, 7, ≥ 10) 1									
$\xi_1 =$ 1.70									
$\xi_2 =$ 1.70									
d = diametro sezione palo = m 0.80									
$L_{palo} = L$ = Lunghezza del palo = m 14.00									
Coesione non drenata media = $c_{u, med} =$ kN/mq 63.15									
Coesione non drenata minima = $c_{u, min} =$ kN/mq 57.25									
Coesione non drenata media di progetto = $c_{u, med} / \gamma_{G1} =$ kN/mq 63.15									
Coesione non drenata minima di progetto = $c_{u, min} / \gamma_{G1} =$ kN/mq 57.25									
									
mono-Palo: calcolo effettuato per ciascuno dei 2 valori del Momento di plasticizzazione:									
M_k = Momento di plasticizzazione della sezione = $M_{k0} =$ kNm				a)	b)				
				597.65	844.47				
P. corto: $H1 = 9 c_u d^2 (L/d - 1.5)$				$H1_{med} (c_u = c_{u, med}) =$ kN	5,819.90	5,819.90			
				$H1_{min} (c_u = c_{u, min}) =$ kN	5,276.16	5,276.16			
P. intermedio: $H2 = -9 c_u d^2 (L/d + 1.5) + 9 c_u d^2 [2 (L/d)^2 + 4/9 M/c_u d^3 + 4.5]^{1/2}$				$H2_{med} (c_u = c_{u, med}) =$ kN	2,184.03	2,208.67			
				$H2_{min} (c_u = c_{u, min}) =$ kN	1,985.56	2,010.18			
P. lungo: $H3 = -13.5 c_u d^2 + c_u d^2 (182.25 + 36 M/c_u d^3)^{1/2}$				$H3_{med} (c_u = c_{u, med}) =$ kN	631.10	808.47			
				$H3_{min} (c_u = c_{u, min}) =$ kN	614.45	784.83			
$H_{med} = \min (H1_{med}; H2_{med}; H3_{med}) =$ kN					631.10	808.47			
$H_{min} = \min (H1_{min}; H2_{min}; H3_{min}) =$ kN					614.45	784.83			
$H_k = \min (H_{med}/\xi_1; H_{min}/\xi_2) =$ kN					361.44	461.66			
$R_{G, d} = H_k = H_k/\gamma_{R1} =$ kN					278.03	355.12			
				a	b				
Si procede alla verifica con il seguente $R_{G, d}$:									
a opp. b ?					b				
$R_{G, d} =$ kN					355.12				
$F_{G, d} = V =$ kN					438.59				
$R_{G, d} / F_{G, d} =$					0.81				
$F_{G, d} \leq R_{G, d} ?$					Noi				

H) La verifica a portanza verticale del palo si effettua dapprima scegliendo il tipo di modello matematico per il calcolo dei parametri di portanza alla base e la tipologia di infissione, che determina le definizioni di coefficienti di sicurezza differenti. Si inseriscono poi le caratteristiche degli spessori di terreno attraversati dal palo, dapprima introducendo i parametri medi e poi i parametri minimi; è così possibile ottenere i valori di portanza di base e laterale del terreno.


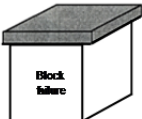
PALI SOGGETTI A CARICHI ASSIALI							
Solicitazioni su mono-Palo o Palificata ?		mono-Palo					
D = Diametro sezione palo = m		0.80					
Tecnologia, tipologia Diametro palo (e valori di calcolo N_d) :		Trivel. GD (Nq AGI/1984)					
Tecnologia palo :		Trivellati					
z_t = Quota testa Palo da p.c. = m		1.00					
z_w = Quota falda da p.c. = m		2.00					
q_k = kN/m ²		25.00					
Applicare il fattore γ di riduzione capacità portante di base =		si					
N_d = Numero strati =		Numero Strati					
A_p = Area Palo = $\pi(D/2)^2$ = m ²		0.50265					
L_{palo} = $\sum_{i=1}^n S_p$ strati = m		14.00					
Coefficienti parziali (A.R)							
Approccio e Combinazioni		Azioni (A1, A2)		Resistenze (R1, R2, R3) base e, laterale per pali soggetti a carichi assiali			
		pem. γ_G (se fav.)	var. γ_Q (se fav.)	γ_b	γ_s	γ_d	
SLU: combinazioni NON SISMICHE							
App. 1	Comb. 1 (STR): A1+M1+R1	1.30 (1.00)	1.50 (0.00)	1.00	1.00	1.00	
	Comb. 2 (GEO): A2+M1+R2	1.00 (1.00)	1.30 (0.00)	1.70	1.45	1.60	
App. 2	Comb. unica (STR, GEO): A1+M1+R3	1.30 (1.00)	1.50 (0.00)	1.35	1.15	1.25	
SLU: combinazioni SISMICHE							
App. 1	Comb. 1 (STR): A1+M1+R1	1.00	1.00	1.00	1.00	1.00	
	Comb. 2 (GEO): A2+M1+R2	1.00	1.00	1.70	1.45	1.60	
App. 2	Comb. unica (STR, GEO): A1+M1+R3	1.00	1.00	1.35	1.15	1.25	
roccia scelta nel calcolo Azioni su mono-Palo o Palificata (1 opp. 2)		2					
Relativa Comb. GEO associata all'Approccio scelto:		unica					
				γ_b	γ_s	γ_d	
γ da associare nel calcolo delle resistenze:				1.35	1.15	1.25	
N_d = azione assiale max di progetto a compressione (positiva) = kN		1,503.19					
N_d = azione assiale max di progetto a trazione (negativa) = kN		-					
Fattori di correlazione γ per il calcolo della resistenza caratteristica, condotto per via analitica (n = n.o verticali indagate)							
n	1	2	3	4	5	7	≥10
γ_s	1.70	1.65	1.60	1.55	1.50	1.45	1.40
γ_d	1.70	1.55	1.48	1.42	1.34	1.28	1.21
$n = (1, 2, 3, 4, 5, 7, \geq 10)$		1					
γ_s =		1.70					
γ_d =		1.70					

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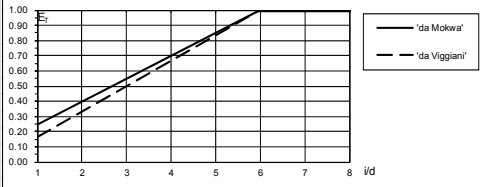
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CALCOLO DELLA RESISTENZA DI PROGETTO (CAPACITA' PORTANTE)				
CARICO ASSIALE DI PROGETTO				
N_p = azione assiale max di progetto = kN	1,503.19	-		
	($N_p \geq 0$)	($N_p \leq 0$)		
$\gamma_s =$	1.00	1.00		
Valore assunto per $N_{d1,p} = \Sigma (Q_{k,j,att,p,s}) \cdot \gamma_s =$ kN	a)medi	a)medi		
$N_{d1,p} = \Sigma (Q_{k,j,att,p,s}) \cdot \gamma_s =$ kN	-	-		
$N_{d1,p} = \gamma_g \cdot \Sigma (Q_{k,j,att,p,s}) \cdot \gamma_s =$ kN	-	-		
	($N_{d1,p} \geq 0$)	($N_{d1,p} \leq 0$)		
$N_d = N_p + N_{d1,p} =$ kN	1,503.19	-		
	($N_d > 0$; sempre di compr.)	($N_d > 0$ opp. < 0)		
RESISTENZA CARATTERISTICA				
	per N_{d1}	per N_{d2}		
$R_{sk} = \text{Min}(R_{s,cal med}/\gamma_s; R_{s,cal med}/\gamma_s) =$ kN	2,121.90	-		
$R_{sk} = \text{Min}(R_{s,cal med}/\gamma_s; R_{s,cal med}/\gamma_s) =$ kN	887.03	-		
$R_{sk} = R_{sk} + R_{sk} =$ kN	3,008.93	-		
RESISTENZA DI PROGETTO (CAPACITA' PORTANTE)				
Per $N_{d1} > 0$: $R_{cd} = R_{sk}/\gamma_s + R_{sk}/\gamma_s =$ kN	2,343.11			
Per $N_{d1} > 0$: $R_{cd} = R_{sk}/\gamma_s + R_{sk}/\gamma_s =$ kN	-			
Per $N_{d1} < 0$: $R_{cd} = R_{sk}/\gamma_s + R_{sk}/\gamma_s =$ kN	-			
VERIFICA per $N_{d1} > 0$				
$R_{cd}/N_{d1} =$	1.56			
$R_{cd} \geq N_{d1}$?	ok			
VERIFICA per $N_{d2} > 0$				
$R_{cd}/N_{d2} =$	-			
$R_{cd} \geq N_{d2}$?	-			
VERIFICA per $N_{d2} < 0$				
$R_{cd}/ N_{d2} =$	-			
$R_{cd} \geq N_{d2} $?	-			

- I) Per il calcolo della portanza della palificata innanzitutto è necessario inserirne le caratteristiche geometriche (numero di pali, dimensioni in pianta, interassi ecc.); successivamente si sceglie per quali tipi di terreno effettuare le verifiche (terreni coerenti, incoerenti, entrambi). Nel caso in esame è stato scelto, a favore di sicurezza, di considerare per la portanza verticale solo l'effetto dei terreni incoerenti, assumendo un coefficiente di efficienza del gruppo di pali pari a 0.66, ovvero abbattendo la resistenza del singolo palo alla portanza verticale del 34%. Anche per quanto riguarda la portanza trasversale è stato scelto di verificare solo l'effetto indotto dai terreni incoerenti: è possibile scegliere tra l'approccio definito come MECCANISMI DI COLLASSO, dove la resistenza è valutata come il minimo tra la resistenza limite trasversale del singolo palo, moltiplicata per il numero di pali, e la resistenza del blocco, valutata con la relazione di Broms per palo corto, opportunamente calibrata per la palificata, oppure l'approccio MECCANISMO DI EFFICIENZA TRASVERSALE, dove la resistenza è valutata come il minimo tra la resistenza limite trasversale del singolo palo, moltiplicata per il numero di pali ed un coefficiente di efficienza in funzione del rapporto tra interasse e diametro del palo. Di seguito si riportano i risultati ottenuti.

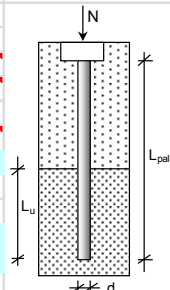
PORTANZA LIMITE SLU-GEO DELLA PALIFICATA PER EFFETTO DI GRUPPO			
NTC 6.4.3.1 ed EC7 7.7.1(4) Portanza limite SLU-GEO della palificata per effetto di gruppo			
<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>Individual pile failure</p> </div> <div style="text-align: center;">  <p>Block failure</p> </div> </div>			
1) Collasso per rottura del singolo palo		2) Collasso per rottura del blocco	
Solicitazioni su mono-Palo o Palificata ?		Palificata	
Dimensioni della palificata intesa come blocco			
B = m		9.00	
H (H>B) = m		17.90	
L = altezza della palificata = m		14.00	
n _p = numero di pali della Palificata =		28.00	
i = interasse dei pali = m		2.40	
m = numero di file di pali		4.00	
n = n.o di pali in una fila =		7.00	
Per la portata verticale si verifica su terreni: coerenti, incoerenti, entrambi ?		incoerenti	
Per la portata trasversale si verifica su terreni: coerenti, incoerenti, entrambi ?		entrambi	

Per portata VERTICALE della palificata			
Terreni incoerenti			
Collasso per rottura del singolo palo			
Resistenza limite verticale del singolo palo = R _{cd} = kN		2,343.11	
n _p = numero di pali della Palificata =		28.00	
Resistenza limite verticale palificata = R' = n _p x R _{cd} = kN		65,607.05	
Resistenza limite verticale palificata = R'' = kN		-	
Resistenza limite verticale palificata adottata = R _d = kN		65,607.05	
Efficienza di gruppo = E _g =		0.66	
Resistenza limite verticale palificata inclusiva effetti di gruppo = R _{d,eff} = E _g R _d = kN		43,300.65	
Verifica			
N _d = Forza verticale di progetto (di compressione) sulla palificata = kN		27,611.80	
R _{d,eff} / N _d =		1.57	
N _d ≤ R _{d,eff} ?		ok	

Per portata TRASVERSALE della palificata.			
Terreni incoerenti			
Dati a seguire dalla verifica SLU-GEO per carico limite trasversale di un palo con rotazione in testa impedita, su terreni incoerenti			
	$\gamma_1 \cdot \gamma_{d1} =$	1.00	
	$\gamma_{T1} =$	1.30	
	$\zeta_{d1} =$	1.70	
	$\zeta_{d1} =$	1.70	
	d = diametro sezione palo = m	0.80	
	L _{palo} = Lunghezza del palo = m	14.00	
	Peso di unità di volume γ (se falda $\gamma = \gamma'$) = kN/m ³ =	7.85	
	Angolo medio di attrito del terreno = $\phi'_{med} =$	45.11	
	Angolo minimo di attrito del terreno = $\phi'_{min} =$	44.29	
	Peso di unità di volume di progetto $\gamma_d = \gamma' / \gamma_1 =$ kN/m ³ =	7.85	
	Angolo medio di attrito del terreno, di progetto = $\phi'_{med,d} = \phi'_{med} / \gamma_{d1} =$	45.11	
	Angolo minimo di attrito del terreno, di progetto = $\phi'_{min,d} = \phi'_{min} / \gamma_{d1} =$	44.29	
	Coeff. medio di spinta passiva $k_{p,med,d} = (1 + \sin \phi'_{med,d}) / (1 - \sin \phi'_{med,d}) =$	5.86	
	Coeff. minimo di spinta passiva $k_{p,min,d} = (1 + \sin \phi'_{min,d}) / (1 - \sin \phi'_{min,d}) =$	5.63	
A) MECCANISMI DI COLLASSO			
1) Collasso per rottura del singolo palo			
	Resistenza limite trasversale del singolo palo = $R_{y,d} =$ kN	250.97	
	n_p = numero di pali della Palificata =	28.00	
	Resistenza limite trasversale palificata = $R'_1 = n_p \times R_{y,d} =$ kN	7,027.09	
	Resistenza limite trasversale palificata = $R'' =$ kN	-	
	Resistenza limite trasversale palificata adottata = $R_1 =$ kN	7,027.09	
2) Collasso per rottura del blocco			
Relazione di Broms per Palo corto: $H = 1,5 k_p \gamma_d d L^2 = 1,5 k_p \gamma_d d^3 (L/d)^2$			
a) Forza in direzione X, direzione perpendicolare al lato B della palificata			
	d = B = m	9.00	
	$H_{med} = H(k_p = k_{p,med,d}) = 1,5 k_{p,med,d} \gamma_d B^3 (L/B)^2 =$ kN	121,722.66	
	$H_{min} = H(k_p = k_{p,min,d}) = 1,5 k_{p,min,d} \gamma_d B^3 (L/B)^2 =$ kN	116,918.24	
	$H_k = \text{Min}(H_{med}/\zeta_{d1}; H_{min}/\zeta_{d1}) =$ kN	68,775.43	
	Resistenza limite trasversale palificata: $R_{2,X} = H_k / \gamma_{T1} =$ kN	52,904.18	
b) Forza in direzione Y, direzione perpendicolare al lato H della palificata			
	d = H = m	17.90	
	$H_{med} = H(k_p = k_{p,med,d}) = 1,5 k_{p,med,d} \gamma_d H^3 (L/H)^2 =$ kN	242,092.85	
	$H_{min} = H(k_p = k_{p,min,d}) = 1,5 k_{p,min,d} \gamma_d H^3 (L/H)^2 =$ kN	232,537.38	
	$H_k = \text{Min}(H_{med}/\zeta_{d1}; H_{min}/\zeta_{d1}) =$ kN	136,786.70	
	Resistenza limite trasversale palificata: $R_{2,Y} = H_k / \gamma_{T1} =$ kN	105,220.54	
	Resistenza limite trasversale palificata: $R_2 = \text{min}(R_{2,X}, R_{2,Y}) =$ kN	52,904.18	
	A) Resistenza limite trasversale palificata = $R_{y,d,cal} = \text{min}(R_1, R_2) =$ kN	7,027.09	
B) MECCANISMO DI EFFICIENZA TRASVERSALE			
Collasso per rottura del singolo palo			
	Resistenza limite trasversale del singolo palo = $R_{y,d} =$ kN	250.97	
	n_p = numero di pali della Palificata =	28.00	
	Resistenza limite trasversale palificata = $R'_1 = n_p \times R_{y,d} =$ kN	7,027.09	
	Resistenza limite trasversale palificata = $R'' =$ kN	-	
	Resistenza limite trasversale palificata adottata = $R_d =$ kN	7,027.09	
Metodi per calcolo Efficienza trasversale della palificata			
1) MOKWA			
i/d =	1.00	6.00	
$E_T =$	0.25	1.00	
	i/d (in progetto) =	3.00	
	i/d =	-	
	i/d (adottato) =	3.00	
E_T (calcolato per i/d adottato) = Efficienza Trasversale della palificata =		0.550	
2) VIGGIANI			
i/d =	3.00	6.00	
$E_T =$	0.50	1.00	
	i/d (in progetto) =	3.00	
	i/d =	-	
	i/d (adottato) =	3.00	
E_T (calcolato per i/d adottato) = Efficienza Trasversale della palificata =		0.500	
	3) Minimo tra 1) e 2)	0.500	
			
4) ALTRO			
E_T = Efficienza Trasversale della palificata =		-	
Metodo scelto per adottare l'efficienza trasversale della palificata:			
$E_{T,ad} =$ Efficienza Trasversale adottata della palificata =		3)Minimo tra 1) e 2)	0.500
B) Resistenza limite trasversale palificata inclusiva effetti di gruppo = $R_{y,d,cal} = E_{T,ad} R_d =$ kN			3,513.55
C) Minimo tra A) e B): kN			
			3,513.55
Meccanismo adottato ?			
$R_{y,d,cal} = R_{y,d,cal}$ adottata = kN		C)Minimo tra A) e B)	3,513.55
Verifica			
$F_{y,d} = V =$ Forza trasversale di progetto sulla palificata = kN			2,196.65
$R_{y,d,cal} / F_{y,d} =$			1.60
$F_{y,d} \leq R_{y,d,cal} ?$			ok

J) Per la valutazione dei cedimenti verticali si riportano i risultati ottenuti nel caso di analisi del mono-palo e di palificata

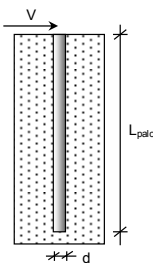
VERIFICA SLE PER CEDIMENTO VERTICALE		
Presenza di mono-Palo o Palificata ?	mono-Palo	
N= Carico verticale agente in Combinazione SLE :		
N = N _{max} = carico assiale max su mono-Palo = kN	889.89	
N = N _{medio} = carico assiale medio su singolo palo della Palificata = kN	-	
d = diametro sezione palo = m	0.80	
d = diametro sezione palo = m	-	
d = diametro sezione palo (adottato)=	0.80	
L = Lunghezza per valutare il coefficiente I _w = m	14.00	
E = Modulo di deformazione elastica del terreno = N/mm ²	83.25	
In presenza di Palificata:		
i = interesse dei pali della Palificata = m	2.40	
L _{palo} = Lunghezza del palo = m	14.00	
n _p = numero di pali della Palificata =	-	
n _p = numero di pali della Palificata	-	
n _p = numero di pali della Palificata (adottato)=	-	
CEDIMENTO VERTICALE MASSIMO $\delta_{max,palo}$ DEL MONO PALO:		
I _w = Coefficiente di influenza = $0,5 + \log(L / D) \Rightarrow$	1.74	
I _w = Coefficiente di influenza =	-	
I _w = Coefficiente di influenza (adottato) =	1.74	
$\delta_{max,palo} = I_w N_{max} / (E L) = mm$	1.33	
Verifica sul MONO PALO		
E _d = Cedimento verticale massimo su mono-palo, dovuto al carico agente in progetto = $\delta_{max,palo} = mm$	1.33	
C _d = Cedimento verticale limite ammesso in progetto su mono-palo = mm	50.00	
E _d ≤ C _d	ok	



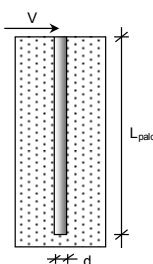
CEDIMENTO VERTICALE MASSIMO $\delta_{max,Palif}$ DELLA PALIFICATA:		
I _w = Coefficiente di influenza = $0,5 + \log(L / D) \Rightarrow$	1.74	
I _w = Coefficiente di influenza =	-	
I _w = Coefficiente di influenza (adottato) =	1.74	
$\delta_{medio,palo} = I_w N_{medio} / (E L) = mm$	1.04	
$R = (n_p / i) / L_{palo}^{1/2} \Rightarrow$	2.19	
R _{g,max} = coeff. di riduzione di gruppo = $0,5 / R + 0,13 / R^2 \Rightarrow$	0.26	
R_{g,max} = coeff. di riduzione di gruppo per calcolo $\delta_{max,Palif}$ =	-	
R _{g,max} = coeff. di riduzione di gruppo (adottato)=	0.26	
$\delta_{max,Palif} = R_g \delta = (n_p R_{g,max}) \delta_{medio,palo} = mm$	7.45	
CEDIMENTO VERTICALE MEDIO PIU' PROBABILE $\delta_{med,Palif}$ DELLA PALIFICATA:		
R _g = coeff. di riduzione di gruppo = $0,3 R^{-1/2} \Rightarrow$	0.12	
R_g = coeff. di riduzione di gruppo per calcolo $\delta_{med,Palif}$ =	-	
R _g = coeff. di riduzione di gruppo (adottato)=	0.12	
$\delta_{med,Palif} = R_g \delta = (n_p R_g) \delta_{medio,palo} = mm$	3.41	
CEDIMENTO VERTICALE DIFFERENZIALE MASSIMO $\Delta_{max,Palif}$ DELLA PALIFICATA:		
R _{ds,max} = coeff. di riduzione di gruppo = $0,36 R^{0,32} \Rightarrow$	0.46	
R_{ds,max} = coeff. di riduzione di gruppo per calcolo $\Delta_{max,Palif}$ =	-	
R _{ds,max} = coeff. di riduzione di gruppo (adottato)=	0.46	
$\Delta_{max,Palif} = R_{ds,max} \delta_{med,Palif} = mm$	1.58	
Verifiche sulla PALIFICATA		
E _d = Cedimento verticale massimo sulla palificata, dovuto al carico agente in progetto = $\delta_{max,Palif} = mm$	7.45	
C _d = Corrispondente cedimento verticale limite, ammesso in progetto sulla palificata= mm	50.00	
E _d ≤ C _d ?	ok	
E _d = Cedimento verticale medio più probabile sulla palificata, dovuto al carico in progetto = $\delta_{med,Palif} = mm$	3.41	
C _d = Corrispondente cedimento verticale limite, ammesso in progetto sulla palificata= mm	30.00	
E _d ≤ C _d ?	ok	
E _d = Cedimento verticale differenziale massimo sulla palificata, dovuto al carico in progetto = $\Delta_{max,Palif} = mm$	1.58	
C _d = Corrispondente cedimento verticale differenziale limite, ammesso in progetto sulla palificata= mm	10.00	
E _d ≤ C _d ?	ok	

K) Per la valutazione dei cedimenti orizzontali si riportano i risultati ottenuti nel caso di analisi del mono-palo e di palificata

VERIFICA SLE DELLO SPOSTAMENTO TRASVERSALE DI UN PALO CON ROTAZIONE IN TESTA IMPEDITA.			
Presenza di mono-Palo o Palificata ?		mono-Palo	
V= Carico orizzontale agente in Combinazione SLE = kN	291.45		
V= Carico orizzontale agente in Combinazione SLE = kN	-		
V= Carico orizzontale agente in Combinazione SLE (adottato) = kN	291.45		
d = diametro sezione palo = m	0.80		
d = diametro sezione palo = m	-		
d = diametro sezione palo (adottato)=	0.80		
L _{palo} = Lunghezza del palo = m	14.00		
In presenza di Palificata:			
n _p = numero di pali della Palificata =	-		
n _p = numero di pali della Palificata	-		
n _p = numero di pali della Palificata (adottato)=	-		
K _{h, int} = coefficiente di reazione laterale del terreno = N/cm ³ =	5.29		
r = fattore di riduzione di K _{h, int} in presenza di Palificata (Poulos e Davis, 1980) =	-		
r = fattore di riduzione=	-		
r = fattore di riduzione (adottato)=	-		
K _{h, rid} = coefficiente di reazione laterale del terreno (Palificata)= r K _{h, int} = N/cm ³	-		
K _h = (K _{h, int} se mono-Palo; K _{h, rid} se Palificata)= N/cm ³	5.29		
f _{ck} = 0,83 R _{ck} = N/mm ²	33.20		
R _{ck} = N/mm ²	40.00		
E _{cm} = 22.000 [f _{cm} /10] ^{0.3} = 22.000 [(f _{ck} +8) /10] ^{0.3} =N/mm ²	33,642.78		
J _p = π d ⁴ / 64 = cm ⁴	2,010,619.30		
λ = lunghezza elastica= (4 E _{cm} J _p / K _h d) ^{1/4} = cm	502.84		
VERIFICA SPOSTAMENTO TRASVERSALE DEL mono-Palo (spost. medio se Palificata)			
postamento trasversale max dovuto al carico agente in progetto= spostamento y(z=0) = mm	13.696		
C _d = spostamento trasversale limite ammesso in progetto = mm	20.00		
E _d ≤ C _d ?	ok		



VERIFICA SLE DELLO SPOSTAMENTO TRASVERSALE DI UN PALO CON ROTAZIONE IN TESTA IMPEDITA.			
Presenza di mono-Palo o Palificata ?		Palificata	
V= Carico orizzontale agente in Combinazione SLE = kN	52.30		
V= Carico orizzontale agente in Combinazione SLE = kN	-		
V= Carico orizzontale agente in Combinazione SLE (adottato) = kN	52.30		
d = diametro sezione palo = m	0.80		
d = diametro sezione palo = m	-		
d = diametro sezione palo (adottato)=	0.80		
L _{palo} = Lunghezza del palo = m	14.00		
In presenza di Palificata:			
n _p = numero di pali della Palificata =	28.00		
n _p = numero di pali della Palificata	-		
n _p = numero di pali della Palificata (adottato)=	28.00		
K _{h, int} = coefficiente di reazione laterale del terreno = N/cm ³ =	5.29		
r = fattore di riduzione di K _{h, int} in presenza di Palificata (Poulos e Davis, 1980) =	0.25		
r = fattore di riduzione=	-		
r = fattore di riduzione (adottato)=	0.25		
K _{h, rid} = coefficiente di reazione laterale del terreno (Palificata)= r K _{h, int} = N/cm ³	1.32		
K _h = (K _{h, int} se mono-Palo; K _{h, rid} se Palificata)= N/cm ³	1.32		
f _{ck} = 0,83 R _{ck} = N/mm ²	33.20		
R _{ck} = N/mm ²	40.00		
E _{cm} = 22.000 [f _{cm} /10] ^{0.3} = 22.000 [(f _{ck} +8) /10] ^{0.3} =N/mm ²	33,642.78		
J _p = π d ⁴ / 64 = cm ⁴	2,010,619.30		
λ = lunghezza elastica= (4 E _{cm} J _p / K _h d) ^{1/4} = cm	711.13		
VERIFICA SPOSTAMENTO TRASVERSALE DEL mono-Palo (spost. medio se Palificata)			
postamento trasversale max dovuto al carico agente in progetto= spostamento y(z=0) = mm	6.952		
C _d = spostamento trasversale limite ammesso in progetto = mm	20.00		
E _d ≤ C _d ?	ok		



4.11 Sfiatore laterale

4.11.1 Introduzione

L'analisi della struttura dello sfioratore è stata effettuata considerando lo scenario idrico peggiore, ovvero considerando un tempo di ritorno pari a 500 anni; in questo modo, nota la spinta dell'acqua, è stato possibile determinare le sollecitazioni e le armature necessarie per il manufatto di sfioro e per i pali di fondazione.

L'analisi dei pali è stata svolta sfruttando un foglio di calcolo opportunamente sviluppato per le verifiche strutturali e geotecniche di fondazioni profonde.

L'iter seguito per le verifiche è stato il seguente:

- A) Inserimento dei parametri del terreno definiti tramite analisi MASW, per la determina dell'effetto di interazione cinematica sul palo dovuto al passaggio da uno strato all'altro di terreno;
- B) Inserimento delle sollecitazioni di progetto: quest'ultime sono state ricavate da un apposito foglio di calcolo, inserendo le condizioni di carico descritte precedentemente. In particolare sono state inserite le azioni tali per cui risultasse:
 - o N_{MAX} , con i relativi momenti M_x e M_y
 - o N_{MIN} , con i relativi momenti M_x e M_y
 - o Massima media geometrica tra M_x e M_y , con la relativa azione assiale N
 - o Minima media geometrica tra M_x e M_y , con la relativa azione assiale N
 - o Massima media geometrica tra V_x e V_y , con la relativa azione assiale N
- C) Verifiche strutturali a presso/tenso – flessione ed a taglio, con inserimento delle caratteristiche geometriche del palo, tipo di materiali utilizzati, armature longitudinali e trasversali per determinare le resistenze di progetto;
- D) Verifica strutturale a stabilità laterale del palo, con inserimento di coefficienti di reazione laterale per simulare l'effetto stabilizzante del terreno;
- E) Verifica geotecnica per portanza trasversale del terreno per terreni coerenti o incoerenti;
- F) Verifica geotecnica per portanza verticale del terreno per terreni coerenti o incoerenti;
- G) Verifiche SLE nei riguardi di spostamenti limite trasversali e verticali;

Non sono state effettuate in questo caso verifiche di tipo globale ma solo sul singolo palo.

4.11.2 Analisi

Le azioni sullo sfioratore sono state determinate secondo lo scenario $T = 500$ anni precedentemente descritto, e che prevede una quota del fronte d'acqua superiore di 38 cm rispetto alla sommità del manufatto.

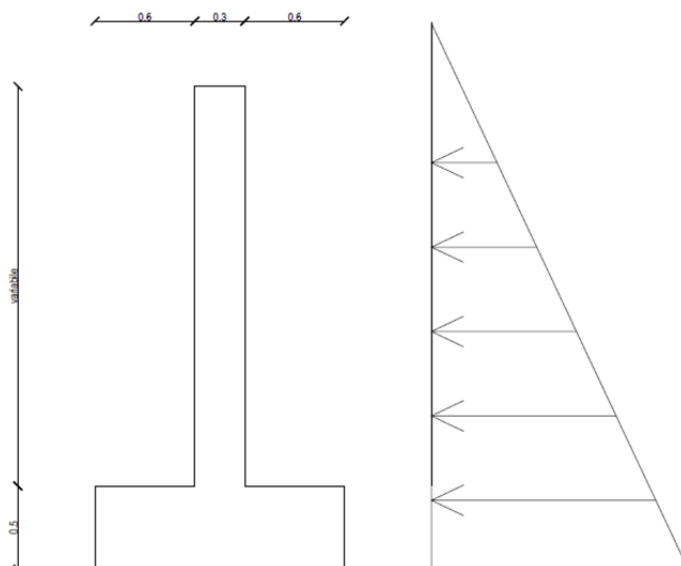
Per quanto riguarda lo sfioratore sono state considerate le seguenti ipotesi di calcolo:

- Spessore in testa	0.30 m
- Altezza sfioratore	2.40 m
- Altezza fondazione	0.50 m
- Lunghezza ciabatte	0.60 m
- Altezza sfioro acqua al di sopra muro	0.38 m
- Diametro pali	0.70 m

- Altezza pali	14.0 m
- Interasse tra i pali	2.40 m
- Peso specifico acqua	1100 daN/m ³
- Peso specifico cls	2500 daN/m ³
- Peso specifico terreno	1700 daN/m ³
- Coefficiente amplificativo acqua	1.50
- Coefficiente amplificativo cls	1.35
- Coefficiente amplificativo terreno	1.35

Da ciò si ricavano le seguenti azioni sul singolo palo:

- $N_{\max} = 53777.7$ daN
- $N_{\min} = 38163.3$ daN
- $M_{\max} = 23289.8$ daNm
- $M_{\min} = 0.0$ daNm
- $T_{\max} = 21301.6$ daN



A livello strutturale il paramento dello sfioratore viene verificato come se fosse una mensola incastrata alla base: considerando una distribuzione triangolare della spinta dell'acqua, si ottiene un valore di momento e taglio rispettivamente pari a $M = 5908.4$ daNm/m e $T = 6375.9$ daN/m. Avendo un'altezza utile di 240 mm si ottiene un'armatura minima pari a 699.6 mm²/m, pertanto verranno inseriti 5 Φ 14 / m (770 mm² / m). A livello di taglio resistente si ricava un valore di $k = 1.91$ (NTC §4.1.2.1.3.1) e di conseguenza un valore di $v_{\min} = 0.52$, pertanto il taglio resistente risulta essere pari a 12571.4 daN/m. Le verifiche risultano quindi soddisfatte.

La fondazione invece è stata considerata alla stregua di trave in semplice appoggio, di luce $l=2.40$ m, soggetta ad un carico massimo $q = 53777.7$ daN / 2.4 m = 22407.4 daN/m; si ottiene pertanto un momento e taglio rispettivamente pari a $M = 16133.3$ daNm e $T = 26888.8$ daN. Avendo un'altezza utile di 440 mm si ottiene un'armatura minima pari a 1041.9 mm², pertanto verranno inseriti 9 Φ 14 (1386 mm²). A livello di taglio resistente si ricava un valore di $k = 1.67$ (NTC §4.1.2.1.3.1) e di conseguenza un valore di $v_{\min} = 0.43$, pertanto il taglio resistente risulta essere pari a 28307.3 daN. Le verifiche risultano quindi soddisfatte.

Si riportano ora i calcoli effettuati con i relativi risultati per ciascuno dei punti precedentemente descritti in relazione alle verifiche sul singolo palo.

- A) Si considera l'azione cinematica, cioè l'effetto dovuto al passaggio tra uno strato di terreno e l'altro; inserendo i dati relativi alle caratteristiche del singolo palo (diametro 0.70 m, lunghezza 14 m, modulo elastico 33350 MPa) e relativi alle caratteristiche dei terreni attraversati, ricavati dalle prove MASW, si ricava un valore di momento di interazione cinematica, per terreno catalogato di tipo C e seguendo le indicazioni del modello di Nikolaou et Alt, pari a 10001 daNm. Questo valore sarà utilizzato nelle verifiche strutturali successive.

Si considera l'interazione cinematica (M) ?	si
d = diametro palo= m	0.70
L = lunghezza palo= m	14.00
E_p = modulo elastico di rigidezza assiale del palo= N/mm ²	33,350.00
STRATO 1	
tipo strato:	-
h_1 = altezza strato= m	15.00
$V_{s,1}$ = velocità delle onde di taglio= m/s	127.00
ρ_1 = densità (massa per unità di volume)= $\text{kN s}^2/\text{m}^4$	17.50
ν_1 = coeff. di poisson=	0.20
STRATO 2	
tipo strato:	-
h_2 = altezza strato= m	18.20
$V_{s,2}$ = velocità delle onde di taglio= m/s	329.00
ρ_2 = densità (massa per unità di volume)= $\text{kN s}^2/\text{m}^4$	25.00
ν_2 = coeff. di poisson=	0.23
ACCELERAZIONE SISMICA DEL SITO	
a_y/g = (accelerazione massima attesa su sito di riferimento rigido) / g =	0.065
F_0 = fattore amplif. spettrale massima, su sito di rif. rigido (se $F_0 < 2.2$ occorre adottare 2.2) =	2.664
$V_{s,30} = V_{s,1}$ = m/s	127.00
Categoria di sottosuolo di progetto =	C
A: $S_g =$	1.000
B: $S_g =$	1.200
C: $S_g =$	1.500
D: $S_g =$	1.800
E: $S_g =$	1.600
S_g = effetto amplificazione stratigrafica sul sottosuolo in progetto:	1.500
Categoria topografica in progetto =	T1
S_T = effetto dell'amplificazione topografica (1.0 se T1; 1.2 se T2; 1.2 se T3; 1.4 se T4) =	1.000
$S = S_g S_T =$	1.500
Accelerazione massima al sito / g = $a_{max}/g = S a_y/g =$	0.098
Accelerazione massima al sito = $a_{max} = (S a_y/g) g = \text{m/sec}^2$	0.956
G_1 = Modulo di taglio dello strato 1 = $\rho_1 V_{s,1}^2 = \text{N/mm}^2$	282.26
E_1 = Modulo di Young dello strato 1 = $2(1 + \nu_1) G_1 = \text{N/mm}^2$	677.42
G_2 = Modulo di taglio dello strato 2 = $\rho_2 V_{s,2}^2 = \text{N/mm}^2$	2,706.03
E_2 = Modulo di Young dello strato 2 = $2(1 + \nu_2) G_2 = \text{N/mm}^2$	6,656.82
Rapporto di snellezza = $L/d =$	20.00
J_p = Momento di inerzia del palo = $\pi d^4 / 64 = \text{m}^4$	0.0118
$E_p / E_1 =$	49.23
L_a = Lunghezza attiva = $1.5 d (E_p / E_1)^{0.25} =$	2.78
$h_1 > L_a$?	si
(L'equazione a seguire per M è valida a rigore quando $h_1 > L_a$, ovvero quando l'interfaccia tra i due strati si trova a una profondità superiore alla Lunghezza attiva del palo)	
$V_{s,2} / V_{s,1} =$	2.59
τ_c = Tensione di taglio all'interfaccia (contatto) tra i due strati = $a_{max} \rho_1 h_1 = \text{kN/m}^2$	251.07
Momento all'interfaccia (contatto) tra i due strati in condizioni di moto stazionario: $M = 0.042 \tau_c d^3 (L/d)^{0.30} (E_p / E_1)^{0.65} (V_{s,2} / V_{s,1})^{0.50} = \text{kNm}$	180.01
VALUTAZIONE DEL FATTORE δ DI RIDUZIONE DEL MOMENTO funzione del numero di cicli effettivi e del periodo dominante dell'accelerogramma	
Valutazione 1) per δ :	
N_e = n.o di cicli effettivi dell'accelerogramma =	-
Periodo naturale del deposito prossimo ai periodi predominanti dell'eccitaz. sismica: $\delta = 0.04 N_e + 0.23 =$	0.23
Periodo naturale del deposito che si allontana dai periodi predominanti dell'eccitaz. sismica: $\delta = 0.015 N_e + 0.17 =$	0.17
δ scelto in base ai due valori calcolati =	-
Valutazione 2) per δ :	
δ nel campo dei valori frequenti (variabile in genere tra 0.17 e 0.50); risulta $\delta =$	0.50
Valutazione adottata per $\delta =$	2)
$\delta = \delta$ adottato =	0.50
M_{CIN} = Momento cinematico all'interfaccia tra i 2 strati (NIKOLAOU et Alt., 2001) = $\delta M = \text{kNm}$	90.01
τ_{ff} = tensione tangenziale all'interfaccia da analisi di free-field = kN/m^2	-
M_{CIN} = Momento cinematico all'interfaccia tra i 2 strati (MAIORANO et Alt., 2009): $0.071 \tau_{ff} d^3 (L/d)^{0.30} (E_p / E_1)^{0.65} (V_{s,2} / V_{s,1})^{0.50} = \text{kNm}$	-
Valore adottato per M_{CIN} =	NIKOLAOU et Alt 2001
M_{CIN} = Momento cinematico all'interfaccia tra i 2 strati = valore adottato = kNm	90.01
M_{NERZ} (su monopalo o singolo palo della palificata) = kNm	10.00
Moto cinematico e inerziale: in fase oppure sfasati?	fase
M_{RIS} = Momento risultante (su monopalo o singolo palo della palificata) = kNm	100.01

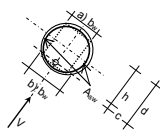
B) Inserimento delle azioni sollecitanti, riportate in precedenza.

Sollecitazioni su mono-Palo o Palificata ?		mono-Palo			
1) PER VERIFICHE SLU					
		Coefficienti parziali Azioni (A1, A2)			
		perm. γ_G (se fav.)	var. γ_Q (se fav.)		
SLU: combinazioni NON SISMICHE tipo: $\gamma_{G1} G_1 + \gamma_{G2} G_2 + \gamma_{Q1} Q_{k1} + \sum_{i=2,n} (\gamma_{Qi} \Psi_{0i} Q_{ki})$					
App. 1	Comb. 1 (STR): A1+M1+R1	1,30 (1,00)	1,50 (0,00)		
	Comb. 2 (GEO): A2+M1+R2	1,00 (1,00)	1,30 (0,00)		
App. 2	Comb. unica (STR, GEO): A1+M1+R3	1,30 (1,00)	1,50 (0,00)		
SLU: combinazioni SISMICHE tipo: $E + G_k + G_{k2} + \sum_i (\Psi_{Si} Q_{ki})$					
App. 1	Comb. 1 (STR): A1+M1+R1	1,00	1,00		
	Comb. 2 (GEO): A2+M1+R2	1,00	1,00		
App. 2	Comb. unica (STR, GEO): A1+M1+R3	1,00	1,00		
Approccio scelto nel calcolo Azioni su mono-Palo o Palificata (1 opp. 2)		2			
		mono-Palo		Palificata	
Relativa Comb. associata all'Approccio scelto: All'interno dell'app. scelto, riportare, per la comb. associata, i valori a seguire:		Verifiche SLU_STR unica	Verifiche SLU_GEO unica	Verifiche SLU_STR unica	Verifiche SLU_GEO unica
Ai fini di SLU_STR (N,M); resistenza SLU (N,M) dei pali		Verifiche SLU_STR		Verifiche SLU_STR	
N compressione (+), tra terne non sismiche e sismiche					
	N=N _{adm} = kN	381.63			
	M _x = kNm	-			
	M _y = kNm	-			
	N=N _{adm} = kN	537.77			
	M _x = kNm	232.89			
	M _y = kNm	-			
	N= kN	381.63			
	M _x = kNm	-			
	M _y = kNm	-			
{ (M _x ² + M _y ²) ^{1/2} } = min	N= kN	537.77			
	M _x = kNm	-			
	M _y = kNm	-			
{ (M _x ² + M _y ²) ^{1/2} } = max	N= kN	537.77			
	M _x = kNm	232.89			
	M _y = kNm	-			
N trazione (-), tra terne non sismiche e sismiche		Verifiche SLU_STR		Verifiche SLU_STR	
	N=N _{adm} = kN	-		-	
	M _x = kNm	-		-	
	M _y = kNm	-		-	
	N=N _{adm} = kN	-		-	
	M _x = kNm	-		-	
	M _y = kNm	-		-	
	N= kN	-		-	
	M _x = kNm	-		-	
	M _y = kNm	-		-	
{ (M _x ² + M _y ²) ^{1/2} } = min	N= kN	-		-	
	M _x = kNm	-		-	
	M _y = kNm	-		-	
{ (M _x ² + M _y ²) ^{1/2} } = max	N= kN	-		-	
	M _x = kNm	-		-	
	M _y = kNm	-		-	
Interazione cinematica		Verifiche SLU_STR		Verifiche SLU_STR	
M _{03N} (su monopalo o singolo palo della palificata) = kNm		90.01		90.01	
M _{03ER2} (su monopalo o singolo palo della palificata) = kNm		10.00		10.00	
M _{03G} (su monopalo o singolo palo della palificata) = kNm		100.01		100.01	
N (tra le combinazioni SLU_STR sismiche) = kN		381.63			
	M _x = kNm			-	
	M _y = kNm			-	
Ai fini di SLU_STR (V); resistenza SLU a Taglio dei pali		Verifiche SLU_STR		Verifiche SLU_STR	
V tra combin. non sismiche e sismiche = max { (V _x ² + V _y ²) ^{1/2} } = kN		213.01			
Ai fini di SLU_STR (N), st. eq. el; stab. equilibrio elastico dei pali		Verifiche SLU_STR		Verifiche SLU_STR	
N= N di compressione (+) = kN		537.77			
	M _x = kNm				
	M _y = kNm			-	
Ai fini di SLU_GEO_qlim_trasv_t.c e SLU_GEO_qlim_trasv_t.i; portanza limite SLU trasversale		Verifiche SLU_GEO		Verifiche SLU_GEO	
V tra combin. non sismiche e sismiche = kN		213.01			
M _{pl} = Momento di plasticizzazione della sezione (Broms)= M _{03G} ; calcolato per					
a) N=0		-			
b) N associato alla combinazione in cui opera V : N= kN		537.77			
	M _x = kNm				
	M _y = kNm				
Ai fini di SLU_GEO_qlim_vert; portanza limite SLU verticale		Verifiche SLU_GEO		Verifiche SLU_GEO	
N= N di compressione (+) tra terne non sismiche e sismiche = kN		537.77			
	M _x = kNm				
	M _y = kNm			-	
N= N di trazione (-) tra terne non sismiche e sismiche = kN		-		-	
	M _x = kNm			-	
	M _y = kNm			-	
Ai fini di SLU_GEO_Group; portanze limiti SLU palificata per effetto di gruppo				Verifiche SLU_GEO	
V tra combin. non sismiche e sismiche = kN				-	
Valore (utente) = kN				-	
Valore adottato = kN				-	
N= N di compressione (+) tra terne non sismiche e sismiche = kN				-	
Valore (utente) = kN				-	
Valore adottato = kN				-	
2) PER VERIFICHE SLE					
SLE: combinazioni NON SISMICHE tipo QUASI PERM. $G_k + G_{k2} + \Psi_{01} Q_{k1} + \sum_i (\Psi_{0i} Q_{ki})$; per SLE combinazioni non sismiche, di regola solo questa per cedimenti e spostamenti					
SLE: combinazioni NON SISMICHE tipo FREQUENTE $G_k + G_{k2} + \Psi_{11} Q_{k1} + \sum_i (\Psi_{1i} Q_{ki})$					
SLE: combinazioni SISMICHE tipo: $E + G_k + G_{k2} + \sum_i (\Psi_{2i} Q_{ki})$					
Riportare, per le comb. considerate i valori a seguire:		mono-Palo		Palificata	
Ai fini di SLE_ced_vert; cedimento max SLE verticale		Verifiche SLE		Verifiche SLE	
N= N di compressione (+) = kN		381.63			
	M _x = kNm				
	M _y = kNm			-	
Ai fini di SLE_sp_trasv; spostamento max SLE trasversale		Verifiche SLE		Verifiche SLE	
V tra combin. non sismiche e sismiche: $V = \max \{ (V_x^2 + V_y^2)^{1/2} \}$ = kN		142.00			

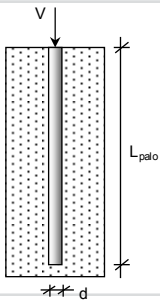
- C) Verifiche strutturali a presso-tenso flessione: vengono inserite le caratteristiche geometriche e meccaniche dei singoli pali, il numero ed il diametro delle armature longitudinali, determinando quindi il valore di momento resistente della sezione. In sintesi, sono stati scelti pali di diametro 0.70 m armati con 14 Φ 20 longitudinalmente.

[illegible]

D) Verifiche strutturali a taglio: vengono inserite le caratteristiche delle armature trasversali (diametro, passo) e si sceglie se valutare la resistenza del palo secondo i dettami delle NTC '08 al paragrafo §4.1.2.1.3.1, oppure se progettare le staffature resistenti a taglio. In definitiva vengono utilizzate staffe $\Phi 10$ passo 15 cm.

 <p>a) max inerzia: $b_w = 0.581 d$ b) min corda: $b_w = 2 \cdot [(d/2)^2 - (d/2 - c)^2]^{1/2}$</p>	
Cls	
f_{cd} N/mm ²	33.20
R_{ct} N/mm ²	40.00
γ_s	1.50
$f_{ctd} = \alpha_{ct} \cdot f_{ct} \cdot \gamma_s = 0.85 \cdot f_{ct} \cdot \gamma_s$ N/mm ²	18.81
$f_{td} = 0.30 \cdot f_{ctd}^{2/3}$ N/mm ²	3.10
$f_{ctd,20} = 0.7 \cdot f_{td}$ N/mm ²	2.17
$f_{td} = f_{ctd,20} / \gamma_s$ N/mm ²	1.45
Acciaio	
f_{yd} N/mm ²	450.00
γ_s	1.15
$f_{yk} = f_{yk} / \gamma_s$ N/mm ²	391.30
E_s N/mm ²	200,000.00
$\epsilon_{yk} = f_{yk} / E_s$	0.001957
Sollecitazioni	
Presenza di mono-Palo o Palificata ?	mono-Palo
V = kN	213.01
V = kN	-
V (adottato) = kN	213.01
d= diametro sezione palo = mm	700.00
$A_c = \pi(d/2)^2$ mm ²	384,845.10
c = dist. da bordo a baricentro barre strato = mm	-
strato 1° : $c_{s,1}$ = mm	75.00
strato 2° : $c_{s,2}$ = mm	-
strato 3° : $c_{s,3}$ = mm	-
c_{medio} = mm	75.00
c_{max} = mm	-
c (adottato) = mm	75.00
$h = d - c$ = mm	628.00
Per b_w si utilizza il criterio a) max inerzia, b) min corda, c) Min a) b)	c) Min a) b)
b_w = mm	406.70
Si procede alle verifiche senza staffature resistenti a taglio?	si
Si procede al dimensionamento con staffature resistenti a taglio?	si
l_p = lunghezza palo= m	14.00
$V_c = A_c \cdot l_p \cdot m \cdot c$	5.39
Verifica senza staffature resistenti a taglio	
V (adottato) = V_{ed} = kN	213.0
$k = \min [1 + (200/h)^2, 2]$	1.564
N_{ed} = forza assiale di calcolo di compressione (positiva)= kN	-
$\alpha_{cp} = \min [(N_{ed}/A_c) : 0.2 \cdot f_{cd}]$ N/mm ²	-
$A_{s,1}$ mm ²	2,002.00
$\rho_1 = \min [A_{s,1}/(b_w \cdot h); 0.02]$	0.0078
$V_{res,1} = 0.035 \cdot k^{1/2} \cdot f_{ctd} \cdot b_w \cdot h$ N/mm ²	0.395
$V_{res,2} = [V_{res,1} + 0.15 \cdot \alpha_{cp}] \cdot b_w \cdot h$ kN	100.8
$V_{res,3} = [0.18 \cdot k \cdot (100 \cdot \rho_1 \cdot f_{yk})^{1/3} / \gamma_s + 0.15 \cdot \alpha_{cp}] \cdot b_w \cdot h$ kN	142.1
$V_{res} = \max [V_{res,1}; V_{res,2}; V_{res,3}]$ kN	142.1
$V_{ed} \leq V_{res}$?	No !
Dimensionamento con staffature resistenti a taglio	
Per gli N_{ed} , si pone $\alpha_{cp} = 1$?	si
N (kN)	-
$\alpha_{cp} = N/A_c$ N/mm ²	-
1) $\alpha_{cp} \cdot [1 + \alpha_{cp}/f_{cd}]$ se $0 \leq \alpha_{cp} \leq 0.25 f_{cd}$; 1.25 se $0.25 f_{cd} < \alpha_{cp} \leq 0.5 f_{cd}$; $2.5 \cdot (1 - \alpha_{cp}/f_{cd})$ se $0.5 f_{cd} < \alpha_{cp} \leq f_{cd}$	-
2) α_{cp} pari al minimo tra quelli valutati per tutti gli N di compress.	-
Procedere con la valutazione 1) oppure 2) ?	1)
α_{cp} adottato.	1.000
V (adottato) = V_{ed} = kN	213.0
s (passo staffe adottato)= mm	150.00
n_b (n.o. bracci delle staffe adottato) =	2.00
Diametri adottati per le staffe:	
1° perimetro: ϕ_1 = mm	10.00
$A1_{\phi_1} = \pi(\phi_1/2)^2$ = mm ²	78.54
2° perimetro: ϕ_2 = mm	-
$A1_{\phi_2} = \pi(\phi_2/2)^2$ = mm ²	-
3° perimetro: ϕ_3 = mm	-
$A1_{\phi_3} = \pi(\phi_3/2)^2$ = mm ²	-
$A_{sw} = n_b [A1_{\phi_1} + A1_{\phi_2} + A1_{\phi_3}]$ = mm ²	157.08
$A_{sw} \cdot f_{yk} / b_w \cdot s$ =	1.01
$1/2 \cdot \alpha_{cp} \cdot 0.5 \cdot f_{cd}$ =	4.70
Controllo che $\cot \theta \geq 1$ (gs45°): con $\theta_{max} = 45^\circ$: $A_{sw} \cdot f_{yk} / b_w \cdot s \leq 1/2 \cdot \alpha_{cp} \cdot 0.5 \cdot f_{cd}$?	ok
$\theta' = \arcsin (A_{sw} \cdot f_{yk} / b_w \cdot s \cdot \alpha_{cp} \cdot 0.5 \cdot f_{cd})^{1/2}$ = °	19.10
Controllo che $\cot \theta \geq 2.5$ ($\theta \geq \theta_{min} = 21.8^\circ$): se $\theta \geq \theta_{min}$, si assume $\theta = \theta'$; se $\theta < \theta_{min}$, si assume $\theta = 21.8^\circ$: θ adottato = θ = °	21.80
$V_{res,4} = 0.9 \cdot h \cdot b_w \cdot \alpha_{cp} \cdot (0.5 \cdot f_{cd}) \cdot \cot \theta / (1 + \cot^2 \theta) = 0.9 \cdot h \cdot b_w \cdot \alpha_{cp} \cdot (0.5 \cdot f_{cd}) / (\cot \theta + \tan \theta)$ kN	579.1
$V_{res,5} = [V_{res,4} \text{ se } \theta' < 21.8^\circ \text{ e } \theta = 21.8^\circ; \text{ altrimenti } \min(V_{res,1}; V_{res,2}; V_{res,3})]$ kN	745.8
$V_{ed} \leq V_{res}$?	ok
Prescrizioni armature	
Attivare prescrizioni armature ?	si
ϕ_{min} (diametro min. delle barre longitudinali)=mm	14.00
ϕ_{max} (diametro max delle barre longitudinali)=mm	14.00
s_{max} = passo max staffe = min(12 ϕ_{min} ; 250 mm) =mm	168.00
$s \leq s_{max}$?	ok
ϕ_{min} = diametro min. staffa = max(6 mm; $1/4 \cdot \phi_{min}$) =mm	6.00
1° perimetro: $\phi_1 \geq \phi_{min}$?	ok
2° perimetro: $\phi_2 \geq \phi_{min}$?	-
3° perimetro: $\phi_3 \geq \phi_{min}$?	-

- E) La verifica a stabilità del palo si effettua inserendo, oltre alle caratteristiche geometriche dell'opera, anche il coefficiente di reazione laterale del mono-palo, valutato attraverso la formulazione di Davisson (1970) $k_{h_int} = 67 \frac{c_u}{D}$, dove $D = 0.70\text{m}$ e $c_u = 63.15 \text{ KN/m}^2$; quest'ultimo valore di coesione non drenata è stato ottenuto dall'analisi delle informazioni geotecniche a disposizione, in particolare è stato opportunamente ottenuto un valore mediato, modellando di fatto il palo come se fosse inserito all'interno di un terreno equivalente: è stato infatti dapprima ottenuto un valore di coesione medio relativo agli strati di terreno attraversati dal palo, valore che è stato poi redistribuito lungo tutta la luce dell'opera, essendo la somma degli spessori degli strati di terreno dotati di coesione non drenata inferiore alla lunghezza totale del palo. Di seguito si riportano i risultati ottenuti dalle analisi.

VERIFICA SLU CON FORZA DI COMPRESSIONE PER LA STABILITA' DELL'EQUILIBRIO ELASTICO		
Presenza di mono-Palo o Palificate ?	mono-Palo	
d = diametro sezione palo = m	0.70	
d = diametro (utente) = m	-	
d=diámetro adottato = m	0.70	
N= Carico verticale agente in Combinazione SLU :		
N = N _{max} = carico assiale max su mono-Palo = kN	537.77	
N = N _{pmax} = carico assiale max su singolo palo della Palificata = kN	-	
N = N _{Ed} =kN	537.77	
Calcolo del carico critico elastico		
Carico critico di asta caricata da N e vincolata lateralmente a un mezzo elastico;		
Relazione da Timoshenko, Gere, in Theory of elastic stability (1961):		
$N_{cr} = (\pi^2 E J / L^2) [m^2 + \beta L^4 / (\pi^4 E J)]$		
Con m = n.o di semionde della deformata sinusoidale caricata dal carico di punta,		
posto λ =semilunghezza d'onda= L / m, risulta:		
$N_{cr} = \pi^2 E J (1/\lambda^2 + \lambda^2 \beta / (\pi^4 E J))$		
Al variare di λ si ottiene il minimo N _{cr} con: d (N _{cr} /d λ)=0, che porge:		
$\lambda^* = (EJ/\beta)^{1/4}$		
$N_{cr} = N_{cr}(\lambda^*) = 2 (\beta EJ)^{1/2}$		
Calcolo di N_{cr}		
K_{h_int}= coefficiente di reazione laterale del terreno se mono-palo = N/cm³	6.04	
K_{h_rid}= coefficiente di reazione laterale del terreno se palificata = N/cm³	-	
K _h = (K _{h_int} se mono-Palo; K _{h_rid} se Palificata)= N/cm ³	6.04	
D= dimensione adottata = d = mm	700.00	
β = reazione laterale terreno per unità di spostamento laterale e per unità di lunghezza= k _h D= N/mm ²	4.23	
$f_{ck} = 0.83 R_{ck} = \text{N/mm}^2$	33.20	
R_{ck}= N/mm²	40.00	
$E_{cm} = 22.000 [(f_{cm}/10)^{0.3} = 22.000 [(f_{ck}+8)/10]^{0.3} = \text{N/mm}^2$	33,642.78	
E= Modulo di elasticità (utente) = N/mm²	33,350.00	
E= Modulo di elasticità adottato= N/mm ²	33,350.00	
$J = \pi d^4 / 64 = \text{mm}^4$	11,785,881,189.48	
J = Momento di inerzia (utente) = mm⁴	-	
J= Momento di inerzia adottato= mm ⁴	11,785,881,189.48	
$N_{cr} = 2 (\beta EJ)^{1/2} = \text{kN}$	81,531.69	
N_{cr} (utente) = kN	-	
N _{cr} (adottato) = kN	81,531.69	
VERIFICA (Analisi Elastica)		
N _{Ed} =kN	537.77	
N _{cr} = N _{cr} (adottato) = kN	81,531.69	
$\alpha_{cr} = N_{cr} / N_{Ed} =$	151.61	
F_s =	5.00	
Analisi elastica: $\alpha_{cr} \geq F_s$?	ok	

VERIFICA SLU-GEO PER CARICO LIMITE TRASVERSALE DI UN PALO CON ROTAZIONE IN TESTA IMPEDITA. TERRENI INCOERENTI.									
Sollecitazioni su mono-Palo o Palificata ?					mono-Palo				
					Coefficienti parziali Azioni, Materiali, Resistenze				
					A1, A2		M1		R1, R2, R3
					perm. γ_G (se fav.)		var. γ_Q (se fav.)		$\gamma_1, \gamma_{\phi'}$
									γ_T
SLU: combinazioni NON SISMICHE tipo: $\gamma_{G1} \cdot G_1 + \gamma_{G2} \cdot G_2 + \gamma_{Q1} \cdot Q_{k1} + \Sigma_{i=2,n} (\gamma_{Qi} \cdot \Psi_{0i} \cdot Q_{ki})$					1,30 (1,00)		1,50 (0,00)		1,00
App. 1 Comb. 1 (STR): A1+M1+R1					1,00 (1,00)		1,30 (0,00)		1,00
Comb. 2 (GEO): A2+M1+R2					1,30 (1,00)		1,50 (0,00)		1,00
App. 2 Comb. unica (STR, GEO): A1+M1+R3									1,30
SLU: combinazioni SISMICHE tipo: E + G ₁ + G ₂ + Σ _i (γ _{Qi} Q _{ki})					1,00		1,00		1,00
App. 1 Comb. 1 (STR): A1+M1+R1					1,00		1,00		1,00
Comb. 2 (GEO): A2+M1+R2					1,00		1,00		1,60
App. 2 Comb. unica (STR, GEO): A1+M1+R3					1,00		1,00		1,30
Approccio scelto nel calcolo Azioni su mono-Palo o Palificata (1 opp. 2)					2				
Relativa Comb. GEO associata all'Approccio scelto:					unica				
$\gamma_1, \gamma_{\phi'}$					1,00				
γ_T					1,30				
Relativa Comb. associata all'Approccio scelto:									
All'interno dell'app. scelto, a seguire i valori, per la comb. associata.									
Verifiche SLU-GEO					mono-Palo		Palificata		
portanza limite SLU trasversale					Verifiche SLU_STR		Verifiche SLU_GEO unica		
V (V _φ se palificata) tra combin. non sismiche e sismiche = kN					Verifiche SLU_GEO unica		Verifiche SLU_GEO unica		
M _y = Momento di plasticizzazione della sezione (Broms) = M _{B0}					213.01				
calcolato per									
mono-Palo									
a) N=0					-				
M _{B0} = kNm =					440.46				
b) N associato alla combinazione in cui opera V: N = kN =					537.77				
M _{B0} = kNm =					543.10				
Palificata									
a) N=0							-		
M _{B0} = kNm =							-		
N associato alla combinazione in cui opera V:									
b) N _{plim} = kN							-		
M _{B0} = kNm =							-		
c) N _{plim} = kN							-		
M _{B0} = kNm =							-		
Fattori di correlazione ξ per il calcolo della resistenza caratteristica, condotto per via analitica (n = n.o verticali indagate)									
n	1	2	3	4	5	7	≥10		
ξ ₁	1.70	1.65	1.60	1.55	1.50	1.45	1.40		
ξ ₄	1.70	1.55	1.48	1.42	1.34	1.28	1.21		
n = (1, 2, 3, 4, 5, 7, ≥10)					1				
ξ ₁ =					1.70				
ξ ₄ =					1.70				
d = diametro sezione palo = m					0.70				
L _{palo} = L = Lunghezza del palo = m					14.00				
Peso di unità di volume γ (se falda γ = γ') = kN/m ³ =					7.85				
Angolo medio di attrito del terreno = φ' _{med} = °					45.11				
Angolo minimo di attrito del terreno = φ' _{min} = °					44.29				
Peso di unità di volume di progetto γ _d = γ'/γ ₁ = kN/m ³ =					7.85				
Angolo medio di attrito del terreno, di progetto = φ' _{med,d} = φ' _{med} /γ' _{φ'} = °					45.11				
Angolo minimo di attrito del terreno, di progetto = φ' _{min,d} = φ' _{min} /γ' _{φ'} = °					44.29				
Coeff. medio di spinta passiva K _{p,med,d} = (1 + sin φ' _{med,d}) / (1 - sin φ' _{med,d}) =					5.86				
Coeff. minimo di spinta passiva K _{p,min,d} = (1 + sin φ' _{min,d}) / (1 - sin φ' _{min,d}) =					5.63				
mono-Palo: calcolo effettuato per ciascuno dei 2 valori del Momento di plasticizzazione:					a)				
M _y = Momento di plasticizzazione della sezione = M _{B0} = kNm					440.46				
					b)				
					543.10				
P. corto: H1 = 1,5 K _p γ _d d ³ (L/d) ²					H1 _{med} (K _p = K _{p,med,d}) = kN				
					9.467.32				
					9.467.32				
					9.093.64				
P. intermedio: H2 = 1/2 K _p γ _d d ³ (L/d) ² + M _y /L					H2 _{med} (K _p = K _{p,med,d}) = kN				
					3.187.23				
					3.194.57				
					3.062.67				
					3.070.01				
P. lungo: H3 = K _p γ _d d ³ [(3.676 M _y / K _p γ _d d ⁴) ^{1/3} + 1]					H3 _{med} (K _p = K _{p,med,d}) = kN				
					438.68				
					504.42				
					497.70				
H _{med} = min (H1 _{med} , H2 _{med} , H3 _{med}) = kN					438.68				
					504.42				
					P. lungo				
H _{min} = min (H1 _{min} , H2 _{min} , H3 _{min}) = kN					432.83				
					497.70				
					P. lungo				
H _k = Min (H _{med} /ξ ₁ ; H _{min} /ξ ₄) = kN					254.60				
					292.76				
R _{y,d} = H _d = H _k /γ _T = kN					195.85				
					225.20				
					a				
Si procede alla verifica con il seguente R _{y,d} :					b				
a opp. b ?					b				
R _{y,d} = kN					225.20				
F _{y,d} = V = kN					213.01				
R _{y,d} / F _{y,d} =					1.06				
F _{y,d} ≤ R _{y,d} ?					ok				

Sommando il contributo garantito dai terreni coerenti (F.S. = 1.24) con quello garantito dai terreni incoerenti (F.S. = 1.06), si ottiene un coefficiente di sicurezza pari a 2.30, pertanto la verifica risulta soddisfatta.

- G) La verifica a portanza verticale del palo si effettua dapprima scegliendo il tipo di modello matematico per il calcolo dei parametri di portanza alla base e la tipologia di infissione, che determina le definizioni di coefficienti di sicurezza differenti. Si inseriscono poi le caratteristiche degli spessori di terreno attraversati dal palo, dapprima introducendo i parametri medi e poi i parametri minimi; è così possibile ottenere i valori di portanza di base e laterale del terreno.

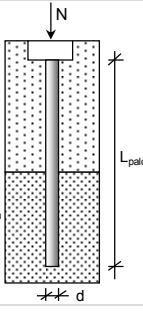
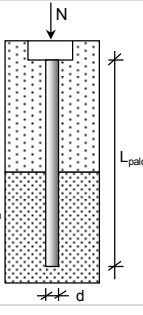
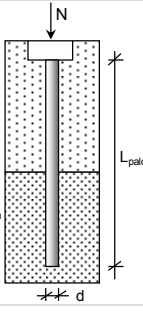
PALI SOGGETTI A CARICHI ASSIALI								
Solicitazioni su mono-Palo o Palificata ?		mono-Palo						
D = Diametro sezione palo = m		0.70						
Tecnologia, tipologia Diametro palo (e valori di calcolo N_d) :		Trivel. GD (Nq AGI1984)						
Tecnologia palo :		Trivellati						
z_1 = Quota testa Palo da p.c. = m		1.00						
z_2 = Quota fondo da p.c. = m		2.00						
q_{sk} = kN/mq		25.00						
Applicare il fattore χ di riduzione capacità portante di base =		si						
N_{st} = Numero strati =		Numero Strati					4.00	
A_p = Area Palo = $\pi(D/2)^2$ = mq							0.38485	
L_{palo} = $\sum_{i=1}^{N_{st}} S_i$ strati = m				14.00				
Coefficienti parziali (A, R)								
Azioni (A1, A2)		Resistenze (R1, R2, R3) base e, laterale per pali soggetti a carichi assiali						
perm. γ_0 (se fav.)		var. γ_0 (se fav.)		γ_b	γ_n	γ_{nl}		
SLU: combinazioni NON SISMICHE								
App. 1	Comb. 1 (STR): A1+M1+R1	1.30 (1.00)	1.50 (0.00)	1.00	1.00	1.00		
	Comb. 2 (GEO): A2+M1+R2	1.00 (1.00)	1.30 (0.00)	1.70	1.45	1.60		
App. 2	Comb. unica (STR, GEO): A1+M1+R3	1.30 (1.00)	1.50 (0.00)	1.35	1.15	1.25		
SLU: combinazioni SISMICHE								
App. 1	Comb. 1 (STR): A1+M1+R1	1.00	1.00	1.00	1.00	1.00		
	Comb. 2 (GEO): A2+M1+R2	1.00	1.00	1.70	1.45	1.60		
App. 2	Comb. unica (STR, GEO): A1+M1+R3	1.00	1.00	1.35	1.15	1.25		
roccia scelta nel calcolo Azioni su mono-Palo o Palificata (1 opp. 2)		2						
Relativa Comb. GEO associata all'Approccio scelto:		unica						
γ da associare nel calcolo delle resistenze:				γ_b	γ_n	γ_{nl}		
				1.35	1.15	1.25		
N_d = azione assiale max di progetto a compressione (positiva) = kN		537.77						
N_d = azione assiale max di progetto a trazione (negativa) = kN		-						
Fattori di correlazione ξ_i per il calcolo della resistenza caratteristica, condotto per via analitica (n = n.o verticali indagate)								
n	1	2	3	4	5	7		
ξ_3	1.70	1.65	1.60	1.55	1.50	1.45		
ξ_4	1.70	1.55	1.48	1.42	1.34	1.28		
$n = (1, 2, 3, 4, 5, 7, \geq 10)$		1						
ξ_5 =		1.70						
ξ_n =		1.70						

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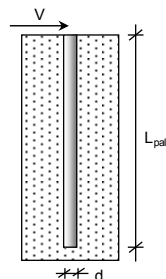
CALCOLO DELLA RESISTENZA DI PROGETTO (CAPACITA' PORTANTE)			
CARICO ASSIALE DI PROGETTO			
$N_g = \text{azione assiale max di progetto} = kN$	537.77	-	
	($N_g \geq 0$)	($N_g \leq 0$)	
$\gamma_s =$	1.00	1.00	
Valore assunto per $N_{d1,N} = \Sigma (Q_{s,1,att,p,1} \cdot \gamma_s) = kN$	a)medi	a)medi	
$N_{d1,N} = \Sigma (Q_{s,1,att,p,1} \cdot \gamma_s) = kN$	-	-	
$N_{d1,N} = \Sigma (Q_{s,1,att,p,1} \cdot \gamma_s) = kN$	-	-	
	($N_{d1,N} \geq 0$)	($N_{d1,N} \leq 0$)	
$N_d = N_g + N_{d1,N} = kN$	537.77	-	
	($N_d > 0$; sempre di compr.)	($N_d > 0$ opp. < 0)	
RESISTENZA CARATTERISTICA			
	per N_{d1}	per N_{d2}	
$R_{ck} = \text{Min}(R_{s,cal med}/\gamma_s; R_{s,cal med}/\gamma_{st}) = kN$	1.665.40	-	
$R_{sk} = \text{Min}(R_{s,cal med}/\gamma_s; R_{s,cal med}/\gamma_{st}) = kN$	776.15	-	
$R_{ck} = R_{sk} + R_{sk} = kN$	2.441.56	-	
RESISTENZA DI PROGETTO (CAPACITA' PORTANTE)			
Per $N_{d1} > 0$: $R_{d1} = R_{sk}/\gamma_s + R_{sk}/\gamma_{st} = kN$	1.908.55		
Per $N_{d1} > 0$: $R_{d1} = R_{sk}/\gamma_s + R_{sk}/\gamma_{st} = kN$	-		
Per $N_{d1} < 0$: $R_{d1} = R_{sk}/\gamma_s + R_{sk}/\gamma_{st} = kN$	-		
VERIFICA per $N_{d1} > 0$			
$R_{d1} / N_{d1} =$	3.55		
$R_{d1} \geq N_{d1} ?$	ok		
VERIFICA per $N_{d2} > 0$			
$R_{d2} / N_{d2} =$	-		
$R_{d2} \geq N_{d2} ?$	-		
VERIFICA per $N_{d2} < 0$			
$R_{d2} / N_{d2} =$	-		
$R_{d2} \geq N_{d2} ?$	-		

H) Per la valutazione dei cedimenti verticali si riportano i risultati ottenuti nel caso di analisi del mono-palo

VERIFICA SLE PER CEDIMENTO VERTICALE		
Presenza di mono-Palo o Palificata ?	mono-Palo	
N= Carico verticale agente in Combinazione SLE :		
N = N _{max} = carico assiale max su mono-Palo = kN	381.63	
N = N _{medio} = carico assiale medio su singolo palo della Palificata = kN	-	
d = diametro sezione palo = m	0.70	
d = diametro sezione palo = m	-	
d = diametro sezione palo (adottato)=	0.70	
L = Lunghezza per valutare il coefficiente I _w = m	14.00	
E = Modulo di deformazione elastica del terreno = N/mm ²	83.25	
In presenza di Palificata:		
i = interasse dei pali della Palificata = m	2.40	
L _{palo} = Lunghezza del palo = m	14.00	
n _p = numero di pali della Palificata =	-	
n _p = numero di pali della Palificata	-	
n _p = numero di pali della Palificata (adottato)=	-	
CEDIMENTO VERTICALE MASSIMO δ_{max,palo} DEL MONO PALO:		
I _w = Coefficiente di influenza = 0,5 + Log(L / D) =	1.80	
I _w = Coefficiente di influenza =	-	
I _w = Coefficiente di influenza (adottato) =	1.80	
δ _{max,palo} = I _w N _{max} / (E L) = mm	0.59	
Verifica sul MONO PALO		
E _d = Cedimento verticale massimo su mono-palo, dovuto al carico agente in progetto = δ _{max,palo} = mm	0.59	
C _d = Cedimento verticale limite ammesso in progetto su mono-palo = mm	50.00	
E _d ≤ C _d	ok	

- I) Per la valutazione dei cedimenti orizzontali si riportano i risultati ottenuti nel caso di analisi del mono-palo

VERIFICA SLE DELLO SPOSTAMENTO TRASVERSALE DI UN PALO CON ROTAZIONE IN TESTA IMPEDITA.			
Presenza di mono-Palo o Palificata ?		mono-Palo	
V= Carico orizzontale agente in Combinazione SLE = kN		142.00	
V= Carico orizzontale agente in Combinazione SLE = kN		-	
V= Carico orizzontale agente in Combinazione SLE (adottato) = kN		142.00	
d = diametro sezione palo = m		0.70	
d = diametro sezione palo = m		-	
d = diametro sezione palo (adottato) =		0.70	
L _{palo} = Lunghezza del palo = m		14.00	
In presenza di Palificata:			
n _p = numero di pali della Palificata =		-	
n _p = numero di pali della Palificata		-	
n _p = numero di pali della Palificata (adottato) =		-	
K _{h, int} = coefficiente di reazione laterale del terreno = N/cm ³ =		6.04	
r = fattore di riduzione di K _{h, int} in presenza di Palificata (Poulos e Davis, 1980) =		-	
r = fattore di riduzione =		-	
r = fattore di riduzione (adottato) =		-	
K _{h, rid} = coefficiente di reazione laterale del terreno (Palificata) = r K _{h, int} = N/cm ³		-	
K _h = (K _{h, int} se mono-Palo; K _{h, rid} se Palificata) = N/cm ³		6.04	
f _{ck} = 0,83 R _{ck} = N/mm ²		33.20	
R _{ck} = N/mm ²		40.00	
E _{cm} = 22.000 [f _{cm} /10] ^{0.3} = 22.000 [(f _{ck} +8) /10] ^{0.3} = N/mm ²		33,642.78	
J _p = π d ⁴ / 64 = cm ⁴		1,178,588.12	
λ = lunghezza elastica = (4 E _{cm} J _p / K _h d) ^{1/4} = cm		440.09	
VERIFICA SPOSTAMENTO TRASVERSALE DEL mono-Palo (spost. medio se Palificata)			
postamento trasversale max dovuto al carico agente in progetto = spostamento y(z=0) = mm		7.631	
C _d = spostamento trasversale limite ammesso in progetto = mm		20.00	
E _d ≤ C _d ?		ok	



Il Progettista

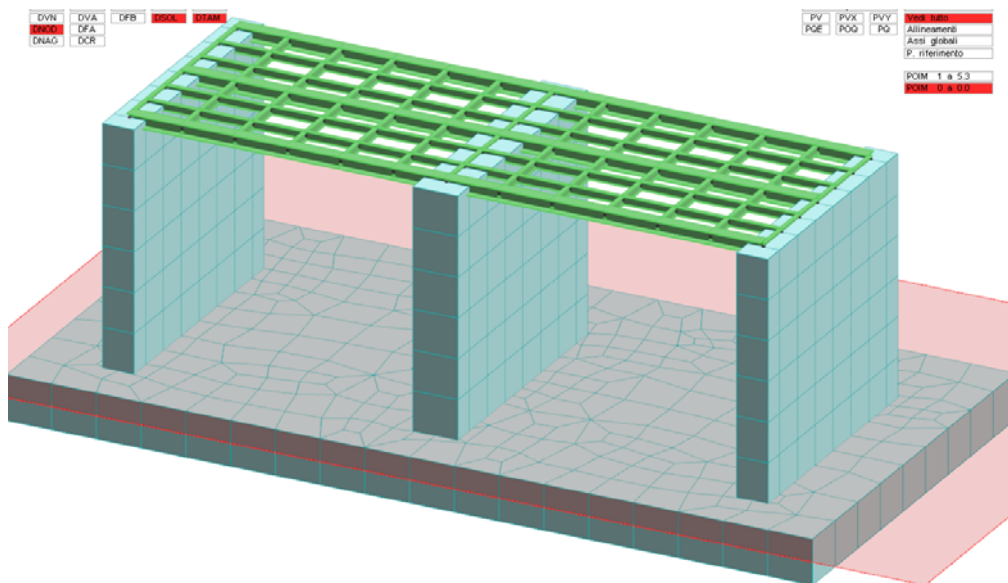
Sommario

Introduzione.....	3
Sistemi di riferimento	3
Rotazioni e momenti	3
Normativa di riferimento	3
Unità di misura	4
Geometria.....	4
Elenco vincoli nodi	4
Elenco nodi	4
Elenco materiali	7
Elenco sezioni aste	7
Elenco vincoli aste	8
Elenco aste	8
Elenco tipi elementi bidimensionali	10
Elenco elementi bidimensionali	11
Carichi.....	14
Condizioni di carico elementari	14
Elenco carichi nodi Condizione di carico n. 5: Variabile piena T=200 Carichi concentrati	14
Elenco carichi nodi Condizione di carico n. 6: Variabile piena T=500 Carichi concentrati	15
Elenco carichi aste Condizione di carico n. 1: Permanenti strutturali Carichi distribuiti	15
Elenco carichi aste Condizione di carico n. 2: Permanenti non strutturali Carichi distribuiti	16
Elenco carichi aste Condizione di carico n. 3: Variabili folla Carichi distribuiti	17
Elenco carichi aste Condizione di carico n. 4: Variabili temperatura Carichi distribuiti	18
Elenco carichi elementi bidimensionali Condizione di carico n. 1: Permanenti strutturali Carichi uniformi ..	18
Elenco carichi elementi bidimensionali Condizione di carico n. 2: Permanenti non strutturali Carichi uniformi ..	25
Elenco carichi elementi bidimensionali Condizione di carico n. 2: Permanenti non strutturali Carichi idrostatici ..	27
Elenco carichi elementi bidimensionali Condizione di carico n. 3: Variabili folla Carichi uniformi	28
Elenco carichi elementi bidimensionali Condizione di carico n. 5: Variabile piena T=200 Carichi uniformi ..	28
Elenco carichi elementi bidimensionali Condizione di carico n. 6: Variabile piena T=500 Carichi uniformi ..	30
Risultati del calcolo.....	32
Parametri di calcolo	32
Figura numero 1: Spettro SLD	35
Figura numero 2: Spettro SLV	35
Spostamenti dei nodi allo stato limite ultimo	39
Reazioni vincolari	53
Sollecitazioni aste	54
Sollecitazioni elementi bidimensionali	64
Criteri di progetto utilizzati.....	99
Aste in acciaio	99
Pareti	101
Solette/Platee	103
Verifiche e armature solette/platee.....	105
Armatura soletta a quota 0.00	106
Verifiche aste in acciaio.....	106
Verifiche e armature pareti.....	169
Figura numero 3: Riferimenti sezione	171
Parete 102	171
Parete 103	172
Parete 104	173

La presente relazione riguarda la realizzazione di un ponte ciclopedonale a scavalco del torrente Lambro, attrezzato con doppie paratoie fluviali per controllo della portata di piena, per conto del Parco Regionale della Valle del Lambro. La struttura progettata prevede un impalcato costituente il ponte, composto da travi d'acciaio HEB280 e HEA280, con profili trasversali IPE 180 secondari e controventi diagonali $\Phi 20$, necessari a sostenere carichi in direzione trasversale all'asse dell'impalcato.

L'impalcato posa su spalle e su una pila centrale realizzate in cemento armato, aventi il compito anche di trasmettere in fondazione i carichi dovuti alla spinta dell'acqua che si genera allorquando entrino in azione una coppia di paratie di regolamentazione del flusso idrico.

Le fondazioni poggiano su pali trivellati di diametro 80 cm lunghi 14 m in accordo con la relazione geotecnica "Progetto definitivo opere strutturali relative all'intervento Area di laminazione di Inverigo - Interventi Idraulici e di riqualificazione fluviale nei territori di Inverigo, Nibionno e Veduggio con Colzano" dell'Aprile 2014 realizzata dal Dott. Geol. Pietro Alborghetti.



Introduzione

Sistemi di riferimento

Le coordinate, i carichi concentrati, i cedimenti, le reazioni vincolari e gli spostamenti dei NODI sono riferiti ad una terna destra cartesiana globale con l'asse Z verticale rivolto verso l'alto.

I carichi in coordinate locali e le sollecitazioni delle ASTE sono riferite ad una terna destra cartesiana locale così definita:

- origine nel nodo iniziale dell'asta;
- asse X coincidente con l'asse dell'asta e con verso dal nodo iniziale al nodo finale;
- immaginando la trave a sezione rettangolare l'asse Y è parallelo alla base e l'asse Z è parallelo all'altezza. La rotazione dell'asta comporta quindi una rotazione di tutta la terna locale.

Si può immaginare la terna locale di un'asta comunque disposta nello spazio come derivante da quella globale dopo una serie di trasformazioni:

- una rotazione intorno all'asse Z che porti l'asse X a coincidere con la proiezione dell'asse dell'asta sul piano orizzontale;
- una traslazione lungo il nuovo asse X così definito in modo da portare l'origine a coincidere con la proiezione del nodo iniziale dell'asta sul piano orizzontale;
- una traslazione lungo l'asse Z che porti l'origine a coincidere con il nodo iniziale dell'asta;
- una rotazione intorno all'asse Y così definito che porti l'asse X a coincidere con l'asse dell'asta;
- una rotazione intorno all'asse X così definito pari alla rotazione dell'asta.

In pratica le travi prive di rotazione avranno sempre l'asse Z rivolto verso l'alto e l'asse Y nel piano del solaio, mentre i pilastri privi di rotazione avranno l'asse Y parallelo all'asse Y globale e l'asse Z parallelo ma controverso all'asse X globale. Da notare quindi che per i pilastri la "base" è il lato parallelo a Y.

Le sollecitazioni ed i carichi in coordinate locali negli ELEMENTI BIDIMENSIONALI e nei MURI sono riferiti ad una terna destra cartesiana locale così definita:

- origine nel primo nodo dell'elemento;
- asse X coincidente con la congiungente il primo ed il secondo nodo dell'elemento;
- asse Y definito come prodotto vettoriale fra il versore dell'asse X e il versore della congiungente il primo e il quarto nodo. Asse Z a formare con gli altri due una terna destrorsa.

Praticamente un elemento verticale con l'asse X locale coincidente con l'asse X globale ha anche gli altri assi locali coincidenti con quelli globali.

Rotazioni e momenti

Seguendo il principio adottato per tutti i carichi che sono positivi se CONTROVERSI agli assi, anche i momenti concentrati e le rotazioni impresse in coordinate globali risultano positivi se CONTROVERSI al segno positivo delle rotazioni. Il segno positivo dei momenti e delle rotazioni è quello orario per l'osservatore posto nell'origine: X ruota su Y, Y ruota su Z, Z ruota su X. In pratica è sufficiente adottare la regola della mano destra: col pollice rivolto nella direzione dell'asse, la rotazione che porta a chiudere il palmo della mano corrisponde al segno positivo.

Normativa di riferimento

La normativa di riferimento è la seguente:

- Legge n. 64 del 2/2/1974 - Provvedimenti per le costruzioni con particolari prescrizioni per le zone sismiche.
- D.M. del 24/1/1986 - Norme tecniche relative alle costruzioni sismiche.
- Legge n. 1086 del 5/11/1971 - Norme per la disciplina delle opere di conglomerato cementizio armato, normale e precompresso ed a struttura metallica.
- D.M. del 14/2/1992 - Norme tecniche per l'esecuzione delle opere in c.a. normale e precompresso e per le strutture metalliche.
- D.M. del 9/1/1996 - Norme tecniche per l'esecuzione delle opere in c.a. normale e precompresso e per le strutture metalliche.
- D.M. del 16/1/1996 - Norme tecniche per le costruzioni in zone sismiche.
- Circolare n. 21745 del 30/7/1981 - Legge n. 219 del 14/5/1981 - Art. 10 - Istruzioni relative al rafforzamento degli edifici in muratura danneggiati dal sisma.
- Regione Autonoma Friuli Venezia Giulia - Legge Regionale n. 30 del 20/6/1977 - Documentazione tecnica per la progettazione e direzione delle opere di riparazione degli edifici - Documento Tecnico n. 2 - Raccomandazioni per la riparazione strutturale degli edifici in muratura.
- D.M. del 20/11/1987 - Norme Tecniche per la progettazione, esecuzione e collaudo degli edifici in muratura e per il loro consolidamento.
- Norme Tecniche C.N.R. n. 10011-85 del 18/4/1985 - Costruzioni di acciaio - Istruzioni per il calcolo, l'esecuzione, il collaudo e la manutenzione.
- Norme Tecniche C.N.R. n. 10025-84 del 14/12/1984 - Istruzioni per il progetto, l'esecuzione ed il controllo delle strutture prefabbricate in conglomerato cementizio e per le strutture costruite con sistemi industrializzati di acciaio - Istruzioni per il calcolo, l'esecuzione, il collaudo e la manutenzione.

Relazione di calcolo

- Circolare n. 65 del 10/4/1997 - Istruzioni per l'applicazione delle "Norme tecniche per le costruzioni in zone sismiche" di cui al D.M. del 16/1/1996.
- Eurocodice 5 - Progettazione delle strutture di legno.
- DIN 1052 - Metodi di verifica per il legno.
- D.M. del 14/1/2008 - Norme tecniche per le costruzioni. Le verifiche degli elementi di fondazione sono eseguite utilizzando l'Approccio 2.
- Circolare n. 617 del 2/2/2009 - Istruzioni per l'applicazione delle "Nuove norme tecniche per le costruzioni" di cui al D.M. del 14/1/2008.
- Documento Tecnico CNR-DT 200 R1/2012 - Istruzioni per la Progettazione, l'Esecuzione ed il Controllo di Interventi di Consolidamento Statico mediante l'utilizzo di Compositi Fibrorinforzati.
- Eurocodice 3 - Progettazione delle strutture in acciaio.

Unità di misura

Le unità di misura adottate sono le seguenti:

- lunghezze : m
- forze : daN
- masse : kg
- temperature : gradi centigradi
- angoli : gradi sessadecimali o radianti

Geometria

Elenco vincoli nodi

Simbologia

Vn = Numero del vincolo nodo
Comm. = Commento
Sx = Spostamento in dir. X (L=libero, B=bloccato, E=elastico)
Sy = Spostamento in dir. Y (L=libero, B=bloccato, E=elastico)
Sz = Spostamento in dir. Z (L=libero, B=bloccato, E=elastico)
Rx = Rotazione intorno all'asse X (L=libera, B=bloccata, E=elastica)
Ry = Rotazione intorno all'asse Y (L=libera, B=bloccata, E=elastica)
Rz = Rotazione intorno all'asse Z (L=libera, B=bloccata, E=elastica)
RL = Rotazione libera
Ly = Lunghezza (dir. Y locale)
Lz = Larghezza (dir. Z locale)
Kt = Coeff. di sottofondo su suolo elastico alla Winkler

Vn	Comm.	Sx	Sy	Sz	Rx	Ry	Rz	RL	Ly	Lz	Kt	Vn	Comm.	Sx	Sy	Sz	Rx	Ry	Rz	RL	Ly	Lz	Kt
									<m>	<m>	<daN/cmc>										<m>	<m>	<daN/cmc>
1	Libero	L	L	L	L	L	L					2	Incastro	B	B	B	B	B	B				

Elenco nodi

Simbologia

Nodo = Numero del nodo
X = Coordinata X del nodo
Y = Coordinata Y del nodo
Z = Coordinata Z del nodo
Imp. = Numero dell'impalcato
Vn = Numero del vincolo nodo

Nodo	X	Y	Z	Imp.	Vn	Nodo	X	Y	Z	Imp.	Vn	Nodo	X	Y	Z	Imp.	Vn
	<m>	<m>	<m>				<m>	<m>	<m>				<m>	<m>	<m>		
-502	14.04	5.24	5.30	1	1	-501	7.02	5.24	5.30	1	1	-500	0.00	5.24	5.30	1	1
-499	14.04	-0.50	5.30	1	1	-498	7.02	-0.50	5.30	1	1	-497	0.00	-0.50	5.30	1	1
-496	14.04	5.24	4.42	0	1	-495	7.02	5.24	4.42	0	1	-494	0.00	5.24	4.42	0	1
-493	14.04	4.74	4.42	0	1	-492	7.02	4.74	4.42	0	1	-491	0.00	4.74	4.42	0	1
-490	14.04	3.95	4.42	0	1	-489	7.02	3.95	4.42	0	1	-488	0.00	3.95	4.42	0	1
-487	14.04	3.16	4.42	0	1	-486	7.02	3.16	4.42	0	1	-485	0.00	3.16	4.42	0	1
-484	14.04	2.37	4.42	0	1	-483	7.02	2.37	4.42	0	1	-482	0.00	2.37	4.42	0	1
-481	14.04	1.58	4.42	0	1	-480	7.02	1.58	4.42	0	1	-479	0.00	1.58	4.42	0	1
-478	14.04	0.79	4.42	0	1	-477	7.02	0.79	4.42	0	1	-476	0.00	0.79	4.42	0	1
-475	14.04	0.00	4.42	0	1	-474	7.02	0.00	4.42	0	1	-473	0.00	0.00	4.42	0	1
-472	14.04	-0.50	4.42	0	1	-471	7.02	-0.50	4.42	0	1	-470	0.00	-0.50	4.42	0	1
-469	14.04	5.24	3.53	0	1	-468	7.02	5.24	3.53	0	1	-467	0.00	5.24	3.53	0	1
-466	14.04	4.74	3.53	0	1	-465	7.02	4.74	3.53	0	1	-464	0.00	4.74	3.53	0	1
-463	14.04	3.95	3.53	0	1	-462	7.02	3.95	3.53	0	1	-461	0.00	3.95	3.53	0	1
-460	14.04	3.16	3.53	0	1	-459	7.02	3.16	3.53	0	1	-458	0.00	3.16	3.53	0	1
-457	14.04	2.37	3.53	0	1	-456	7.02	2.37	3.53	0	1	-455	0.00	2.37	3.53	0	1

Relazione di calcolo

139	14.04	1.58	5.30	1	1	140	0.00	2.37	5.30	1	1	141	1.17	2.37	5.30	1	1
142	2.34	2.37	5.30	1	1	143	3.51	2.37	5.30	1	1	144	4.68	2.37	5.30	1	1
145	5.85	2.37	5.30	1	1	146	7.02	2.37	5.30	1	1	147	8.19	2.37	5.30	1	1
148	9.36	2.37	5.30	1	1	149	10.53	2.37	5.30	1	1	150	11.70	2.37	5.30	1	1
151	12.87	2.37	5.30	1	1	152	14.04	2.37	5.30	1	1	153	0.00	3.16	5.30	1	1
154	1.17	3.16	5.30	1	1	155	2.34	3.16	5.30	1	1	156	3.51	3.16	5.30	1	1
157	4.68	3.16	5.30	1	1	158	5.85	3.16	5.30	1	1	159	7.02	3.16	5.30	1	1
160	8.19	3.16	5.30	1	1	161	9.36	3.16	5.30	1	1	162	10.53	3.16	5.30	1	1
163	11.70	3.16	5.30	1	1	164	12.87	3.16	5.30	1	1	165	14.04	3.16	5.30	1	1
166	0.00	3.95	5.30	1	1	167	1.17	3.95	5.30	1	1	168	2.34	3.95	5.30	1	1
169	3.51	3.95	5.30	1	1	170	4.68	3.95	5.30	1	1	171	5.85	3.95	5.30	1	1
172	7.02	3.95	5.30	1	1	173	8.19	3.95	5.30	1	1	174	9.36	3.95	5.30	1	1
175	10.53	3.95	5.30	1	1	176	11.70	3.95	5.30	1	1	177	12.87	3.95	5.30	1	1
178	14.04	3.95	5.30	1	1	179	0.00	4.74	5.30	1	1	180	1.17	4.74	5.30	1	1
181	2.34	4.74	5.30	1	1	182	3.51	4.74	5.30	1	1	183	4.68	4.74	5.30	1	1
184	5.85	4.74	5.30	1	1	185	7.02	4.74	5.30	1	1	186	8.19	4.74	5.30	1	1
187	9.36	4.74	5.30	1	1	188	10.53	4.74	5.30	1	1	189	11.70	4.74	5.30	1	1
190	12.87	4.74	5.30	1	1	191	14.04	4.74	5.30	1	1						

Elenco materiali

Simbologia

Mat. = Numero del materiale
Comm. = Commento
P = Peso specifico
E = Modulo elastico
G = Modulo elastico tangenziale
v = Coeff. di Poisson
 α = Coeff. di dilatazione termica

Mat.	Comm.	P	E	G	v	α
		<daN/mc>	<daN/cm ² >	<daN/cm ² >		
1	Calcestruzzo	2500	300000.00	130000.00	0.1	1.000000E-005
2	Acciaio	7850	2100000.00	800000.00	0.3	1.000000E-005

Elenco sezioni aste

Simbologia

Sez. = Numero della sezione
Comm. = Commento
Tipo = Tipologia
2C = Doppia C lato labbri
2Cdx = Doppia C lato costola
2I = Doppia I
2L = Doppia L lato labbri
2Ldx = Doppia L lato costole
C = C
Cdx = C destra
Cir. = Circolare
Cir.c = Circolare cava
I = I
L = L
Ldx = L destra
Om. = Omega
Pg = Pi greco
Pr = Poligono regolare
Prc = Poligono regolare cavo
Pc = Per coordinate
Ia = Inerzie assegnate
R = Rettangolare
Rc = Rettangolare cava
T = T
U = U
Ur = U rovescia
V = V
Vr = V rovescia
Z = Z
Zdx = Z destra
Ts = T stondata
Ls = L stondata
Cs = C stondata
Is = I stondata
Dis. = Disegnata
Me = Membratura
G = Generica
T = Trave
P = Pilastro
Ver. = Verifica prevista
N = Nessuna

Relazione di calcolo

C = Cemento armato
 A = Acciaio
 L = Legno
 B = Base
 H = Altezza
 s = Spessore ala
 a = Spessore anima
 r = Raggio raccordo anima-ala
 rl = Raggio in testa ala
 Ma = Numero del materiale
 C = Numero del criterio di progetto
 Ccol = Numero del criterio di progetto collegamento

Sez.	Comm.	Tipo	Me	Ver.	B	H	s	a	r	rl	Ma	C	Ccol
					<cm>	<cm>	<cm>	<cm>	<cm>	<cm>			
1	HEA280	Is	T	A	28.00	27.00	1.30	0.80	2.40	0.00	2	1	1
2	HEB280	Is	T	A	28.00	28.00	1.80	1.05	2.40	0.00	2	1	1
3	IPE180	Is	T	A	9.10	18.00	0.80	0.53	0.90	0.00	2	1	1

Elenco vincoli aste

Simbologia

Va = Numero del vincolo asta
 Comm. = Commento
 Tipo = Tipologia
 SVI = Definizione di vincolamenti interni
 ELA = Vincolo su suolo elastico alla Winkler
 BIE-RTC = Biella resistente a trazione e a compressione
 BIE-RC = Biella resistente solo a compressione
 BIE-RT = Biella resistente solo a trazione
 Ni = Sforzo normale nodo iniziale (0=sbloccato, 1=bloccato)
 Tyi = Taglio in dir. Y locale nodo iniziale (0=sbloccato, 1=bloccato)
 Tzi = Taglio in dir. Z locale nodo iniziale (0=sbloccato, 1=bloccato)
 Mxi = Momento intorno all'asse X locale nodo iniziale (0=sbloccato, 1=bloccato)
 Myi = Momento intorno all'asse Y locale nodo iniziale (0=sbloccato, 1=bloccato)
 Mzi = Momento intorno all'asse Z locale nodo iniziale (0=sbloccato, 1=bloccato)
 Nf = Sforzo normale nodo finale (0=sbloccato, 1=bloccato)
 Tyf = Taglio in dir. Y locale nodo finale (0=sbloccato, 1=bloccato)
 Tzf = Taglio in dir. Z locale nodo finale (0=sbloccato, 1=bloccato)
 Mxf = Momento intorno all'asse X locale nodo finale (0=sbloccato, 1=bloccato)
 Myf = Momento intorno all'asse Y locale nodo finale (0=sbloccato, 1=bloccato)
 Mzf = Momento intorno all'asse Z locale nodo finale (0=sbloccato, 1=bloccato)
 Kt = Coeff. di sottofondo su suolo elastico alla Winkler

Va	Comm.	Tipo	Ni	Tyi	Tzi	Mxi	Myi	Mzi	Nf	Tyf	Tzf	Mxf	Myf	Mzf	Kt
															<daN/cmc>
1	Inc+Inc	SVI	1	1	1	1	1	1	1	1	1	1	1	1	
4	Cer+Cer	SVI	1	1	1	0	0	0	1	1	1	1	0	0	
5	Inc+CerY	SVI	1	1	1	1	1	1	1	1	1	1	0	1	
6	CerY+Inc	SVI	1	1	1	1	0	1	1	1	1	1	1	1	

Elenco aste

Simbologia

Asta = Numero dell'asta
 N1 = Nodo iniziale
 N2 = Nodo finale
 Sez. = Numero della sezione
 Va = Numero del vincolo asta
 Par. = Numero dei parametri aggiuntivi
 Rot. = Rotazione
 FF = Filo fisso
 Dy1 = Scost. filo fisso Y1
 Dy2 = Scost. filo fisso Y2
 Dz1 = Scost. filo fisso Z1
 Dz2 = Scost. filo fisso Z2
 Kt = Coeff. di sottofondo su suolo elastico alla Winkler

Asta	N1	N2	Sez.	Va	Par.	Rot.	FF	Dy1	Dy2	Dz1	Dz2	Kt
						<grad>		<cm>	<cm>	<cm>	<cm>	<daN/cmc>
101	101	102	1	6		0.00	44	0.00	0.00	0.00	0.00	
101	102	103	1	1		0.00	44	0.00	0.00	0.00	0.00	
101	103	104	1	1		0.00	44	0.00	0.00	0.00	0.00	
101	104	105	1	1		0.00	44	0.00	0.00	0.00	0.00	
101	105	106	1	1		0.00	44	0.00	0.00	0.00	0.00	
101	106	107	1	5		0.00	44	0.00	0.00	0.00	0.00	
101	107	108	1	6		0.00	44	0.00	0.00	0.00	0.00	
101	108	109	1	1		0.00	44	0.00	0.00	0.00	0.00	
101	109	110	1	1		0.00	44	0.00	0.00	0.00	0.00	

Relazione di calcolo

101	110	111	1	1	0.00	44	0.00	0.00	0.00	0.00
101	111	112	1	1	0.00	44	0.00	0.00	0.00	0.00
101	112	113	1	5	0.00	44	0.00	0.00	0.00	0.00
102	114	115	3	4	0.00	44	0.00	0.00	0.00	0.00
102	115	116	3	4	0.00	44	0.00	0.00	0.00	0.00
102	116	117	3	4	0.00	44	0.00	0.00	0.00	0.00
102	117	118	3	4	0.00	44	0.00	0.00	0.00	0.00
102	118	119	3	4	0.00	44	0.00	0.00	0.00	0.00
102	119	120	3	4	0.00	44	0.00	0.00	0.00	0.00
102	120	121	3	4	0.00	44	0.00	0.00	0.00	0.00
102	121	122	3	4	0.00	44	0.00	0.00	0.00	0.00
102	122	123	3	4	0.00	44	0.00	0.00	0.00	0.00
102	123	124	3	4	0.00	44	0.00	0.00	0.00	0.00
102	124	125	3	4	0.00	44	0.00	0.00	0.00	0.00
102	125	126	3	4	0.00	44	0.00	0.00	0.00	0.00
103	127	128	3	4	0.00	44	0.00	0.00	0.00	0.00
103	128	129	3	4	0.00	44	0.00	0.00	0.00	0.00
103	129	130	3	4	0.00	44	0.00	0.00	0.00	0.00
103	130	131	3	4	0.00	44	0.00	0.00	0.00	0.00
103	131	132	3	4	0.00	44	0.00	0.00	0.00	0.00
103	132	133	3	4	0.00	44	0.00	0.00	0.00	0.00
103	133	134	3	4	0.00	44	0.00	0.00	0.00	0.00
103	134	135	3	4	0.00	44	0.00	0.00	0.00	0.00
103	135	136	3	4	0.00	44	0.00	0.00	0.00	0.00
103	136	137	3	4	0.00	44	0.00	0.00	0.00	0.00
103	137	138	3	4	0.00	44	0.00	0.00	0.00	0.00
103	138	139	3	4	0.00	44	0.00	0.00	0.00	0.00
104	140	141	2	6	0.00	44	0.00	0.00	0.00	0.00
104	141	142	2	1	0.00	44	0.00	0.00	0.00	0.00
104	142	143	2	1	0.00	44	0.00	0.00	0.00	0.00
104	143	144	2	1	0.00	44	0.00	0.00	0.00	0.00
104	144	145	2	1	0.00	44	0.00	0.00	0.00	0.00
104	145	146	2	5	0.00	44	0.00	0.00	0.00	0.00
104	146	147	2	6	0.00	44	0.00	0.00	0.00	0.00
104	147	148	2	1	0.00	44	0.00	0.00	0.00	0.00
104	148	149	2	1	0.00	44	0.00	0.00	0.00	0.00
104	149	150	2	1	0.00	44	0.00	0.00	0.00	0.00
104	150	151	2	1	0.00	44	0.00	0.00	0.00	0.00
104	151	152	2	5	0.00	44	0.00	0.00	0.00	0.00
105	153	154	3	4	0.00	44	0.00	0.00	0.00	0.00
105	154	155	3	4	0.00	44	0.00	0.00	0.00	0.00
105	155	156	3	4	0.00	44	0.00	0.00	0.00	0.00
105	156	157	3	4	0.00	44	0.00	0.00	0.00	0.00
105	157	158	3	4	0.00	44	0.00	0.00	0.00	0.00
105	158	159	3	4	0.00	44	0.00	0.00	0.00	0.00
105	159	160	3	4	0.00	44	0.00	0.00	0.00	0.00
105	160	161	3	4	0.00	44	0.00	0.00	0.00	0.00
105	161	162	3	4	0.00	44	0.00	0.00	0.00	0.00
105	162	163	3	4	0.00	44	0.00	0.00	0.00	0.00
105	163	164	3	4	0.00	44	0.00	0.00	0.00	0.00
105	164	165	3	4	0.00	44	0.00	0.00	0.00	0.00
106	166	167	3	4	0.00	44	0.00	0.00	0.00	0.00
106	167	168	3	4	0.00	44	0.00	0.00	0.00	0.00
106	168	169	3	4	0.00	44	0.00	0.00	0.00	0.00
106	169	170	3	4	0.00	44	0.00	0.00	0.00	0.00
106	170	171	3	4	0.00	44	0.00	0.00	0.00	0.00
106	171	172	3	4	0.00	44	0.00	0.00	0.00	0.00
106	172	173	3	4	0.00	44	0.00	0.00	0.00	0.00
106	173	174	3	4	0.00	44	0.00	0.00	0.00	0.00
106	174	175	3	4	0.00	44	0.00	0.00	0.00	0.00
106	175	176	3	4	0.00	44	0.00	0.00	0.00	0.00
106	176	177	3	4	0.00	44	0.00	0.00	0.00	0.00
106	177	178	3	4	0.00	44	0.00	0.00	0.00	0.00
107	179	180	1	6	0.00	44	0.00	0.00	0.00	0.00
107	180	181	1	1	0.00	44	0.00	0.00	0.00	0.00
107	181	182	1	1	0.00	44	0.00	0.00	0.00	0.00
107	182	183	1	1	0.00	44	0.00	0.00	0.00	0.00
107	183	184	1	1	0.00	44	0.00	0.00	0.00	0.00
107	184	185	1	5	0.00	44	0.00	0.00	0.00	0.00
107	185	186	1	6	0.00	44	0.00	0.00	0.00	0.00
107	186	187	1	1	0.00	44	0.00	0.00	0.00	0.00
107	187	188	1	1	0.00	44	0.00	0.00	0.00	0.00
107	188	189	1	1	0.00	44	0.00	0.00	0.00	0.00
107	189	190	1	1	0.00	44	0.00	0.00	0.00	0.00
107	190	191	1	5	0.00	44	0.00	0.00	0.00	0.00
108	101	114	3	1	0.00	44	0.00	0.00	0.00	0.00
108	114	127	3	1	0.00	44	0.00	0.00	0.00	0.00
108	127	140	3	1	0.00	44	0.00	0.00	0.00	0.00
108	140	153	3	1	0.00	44	0.00	0.00	0.00	0.00
108	153	166	3	1	0.00	44	0.00	0.00	0.00	0.00
108	166	179	3	1	0.00	44	0.00	0.00	0.00	0.00
109	102	115	3	6	0.00	44	0.00	0.00	0.00	0.00

Relazione di calcolo

109	115	128	3	1	0.00	44	0.00	0.00	0.00	0.00
109	128	141	3	5	0.00	44	0.00	0.00	0.00	0.00
109	141	154	3	6	0.00	44	0.00	0.00	0.00	0.00
109	154	167	3	1	0.00	44	0.00	0.00	0.00	0.00
109	167	180	3	5	0.00	44	0.00	0.00	0.00	0.00
110	103	116	3	6	0.00	44	0.00	0.00	0.00	0.00
110	116	129	3	1	0.00	44	0.00	0.00	0.00	0.00
110	129	142	3	5	0.00	44	0.00	0.00	0.00	0.00
110	142	155	3	6	0.00	44	0.00	0.00	0.00	0.00
110	155	168	3	1	0.00	44	0.00	0.00	0.00	0.00
110	168	181	3	5	0.00	44	0.00	0.00	0.00	0.00
111	104	117	3	6	0.00	44	0.00	0.00	0.00	0.00
111	117	130	3	1	0.00	44	0.00	0.00	0.00	0.00
111	130	143	3	5	0.00	44	0.00	0.00	0.00	0.00
111	143	156	3	6	0.00	44	0.00	0.00	0.00	0.00
111	156	169	3	1	0.00	44	0.00	0.00	0.00	0.00
111	169	182	3	5	0.00	44	0.00	0.00	0.00	0.00
112	105	118	3	6	0.00	44	0.00	0.00	0.00	0.00
112	118	131	3	1	0.00	44	0.00	0.00	0.00	0.00
112	131	144	3	5	0.00	44	0.00	0.00	0.00	0.00
112	144	157	3	6	0.00	44	0.00	0.00	0.00	0.00
112	157	170	3	1	0.00	44	0.00	0.00	0.00	0.00
112	170	183	3	5	0.00	44	0.00	0.00	0.00	0.00
113	106	119	3	6	0.00	44	0.00	0.00	0.00	0.00
113	119	132	3	1	0.00	44	0.00	0.00	0.00	0.00
113	132	145	3	5	0.00	44	0.00	0.00	0.00	0.00
113	145	158	3	6	0.00	44	0.00	0.00	0.00	0.00
113	158	171	3	1	0.00	44	0.00	0.00	0.00	0.00
113	171	184	3	5	0.00	44	0.00	0.00	0.00	0.00
114	107	120	3	1	0.00	44	0.00	0.00	0.00	0.00
114	120	133	3	1	0.00	44	0.00	0.00	0.00	0.00
114	133	146	3	1	0.00	44	0.00	0.00	0.00	0.00
114	146	159	3	1	0.00	44	0.00	0.00	0.00	0.00
114	159	172	3	1	0.00	44	0.00	0.00	0.00	0.00
114	172	185	3	1	0.00	44	0.00	0.00	0.00	0.00
115	108	121	3	6	0.00	44	0.00	0.00	0.00	0.00
115	121	134	3	1	0.00	44	0.00	0.00	0.00	0.00
115	134	147	3	5	0.00	44	0.00	0.00	0.00	0.00
115	147	160	3	6	0.00	44	0.00	0.00	0.00	0.00
115	160	173	3	1	0.00	44	0.00	0.00	0.00	0.00
115	173	186	3	5	0.00	44	0.00	0.00	0.00	0.00
116	109	122	3	6	0.00	44	0.00	0.00	0.00	0.00
116	122	135	3	1	0.00	44	0.00	0.00	0.00	0.00
116	135	148	3	5	0.00	44	0.00	0.00	0.00	0.00
116	148	161	3	6	0.00	44	0.00	0.00	0.00	0.00
116	161	174	3	1	0.00	44	0.00	0.00	0.00	0.00
116	174	187	3	5	0.00	44	0.00	0.00	0.00	0.00
117	110	123	3	6	0.00	44	0.00	0.00	0.00	0.00
117	123	136	3	1	0.00	44	0.00	0.00	0.00	0.00
117	136	149	3	5	0.00	44	0.00	0.00	0.00	0.00
117	149	162	3	6	0.00	44	0.00	0.00	0.00	0.00
117	162	175	3	1	0.00	44	0.00	0.00	0.00	0.00
117	175	188	3	5	0.00	44	0.00	0.00	0.00	0.00
118	111	124	3	6	0.00	44	0.00	0.00	0.00	0.00
118	124	137	3	1	0.00	44	0.00	0.00	0.00	0.00
118	137	150	3	5	0.00	44	0.00	0.00	0.00	0.00
118	150	163	3	6	0.00	44	0.00	0.00	0.00	0.00
118	163	176	3	1	0.00	44	0.00	0.00	0.00	0.00
118	176	189	3	5	0.00	44	0.00	0.00	0.00	0.00
119	112	125	3	6	0.00	44	0.00	0.00	0.00	0.00
119	125	138	3	1	0.00	44	0.00	0.00	0.00	0.00
119	138	151	3	5	0.00	44	0.00	0.00	0.00	0.00
119	151	164	3	6	0.00	44	0.00	0.00	0.00	0.00
119	164	177	3	1	0.00	44	0.00	0.00	0.00	0.00
119	177	190	3	5	0.00	44	0.00	0.00	0.00	0.00
120	113	126	3	1	0.00	44	0.00	0.00	0.00	0.00
120	126	139	3	1	0.00	44	0.00	0.00	0.00	0.00
120	139	152	3	1	0.00	44	0.00	0.00	0.00	0.00
120	152	165	3	1	0.00	44	0.00	0.00	0.00	0.00
120	165	178	3	1	0.00	44	0.00	0.00	0.00	0.00
120	178	191	3	1	0.00	44	0.00	0.00	0.00	0.00

Elenco tipi elementi bidimensionali

Simbologia

Tb = Numero del tipo muro/elemento bidimensionale
Comm. = Commento
Tipo = Tipologia
F = Flessionale
M = Membranale

Relazione di calcolo

W-RC = Winkler resistente solo a compressione
 W-RTC = Winkler resistente a trazione e a compressione
 Uso = Utilizzo
 G = Generico
 P = Parete
 S = Soletta/Platea
 N = Nucleo
 M = Muratura ordinaria
 L = Pilastro
 MA = Muratura armata
 Mat. = Numero del materiale
 Crit. = Numero del criterio di progetto
 Spess. = Spessore
 Kt = Coeff. di sottofondo su suolo elastico alla Winkler

Tb	Comm.	Tipo	Uso	Mat.	Crit.	Spess.	Kt	Tb	Comm.	Tipo	Uso	Mat.	Crit.	Spess.	Kt
						<cm>	<daN/cmc>							<cm>	<daN/cmc>
1	Spalla	F	P		1	1	70.00	2	Pila	F	P		1	1	100.00
3	Fondazione	F	S		1	1	100.00								

Elenco elementi bidimensionali

Simbologia

Bid. = Numero del muro/elemento bidimensionale
 Tb = Numero del tipo muro/elemento bidimensionale
 FF = Filo fisso
 Dy1 = Scost. filo fisso Y1
 Dy2 = Scost. filo fisso Y2
 Kt = Coeff. di sottofondo su suolo elastico alla Winkler
 NN = Nodi

Bid.	Tb	FF	Dy1	Dy2	Kt	NN	Bid.	Tb	FF	Dy1	Dy2	Kt	NN
					<cm>	<daN/cmc>						<cm>	<daN/cmc>
102	2	22	0.00	0.00	-196	-170 -378 -381	102	2	22	0.00	0.00	-235	-196 -381 -384
102	2	22	0.00	0.00	-257	-235 -384 -387	102	2	22	0.00	0.00	-170	-147 -375 -378
102	2	22	0.00	0.00	-147	-121 -372 -375	102	2	22	0.00	0.00	-121	-99 -369 -372
102	2	22	0.00	0.00	-99	-67 -366 -369	102	2	22	0.00	0.00	-67	-50 -363 -366
102	2	22	0.00	0.00	-468	-465 -492 -495	102	2	22	0.00	0.00	-495	-492 185 -501
102	2	22	0.00	0.00	-384	-381 -408 -411	102	2	22	0.00	0.00	-411	-408 -435 -438
102	2	22	0.00	0.00	-438	-435 -462 -465	102	2	22	0.00	0.00	-465	-462 -489 -492
102	2	22	0.00	0.00	-492	-489 172 185	102	2	22	0.00	0.00	-381	-378 -405 -408
102	2	22	0.00	0.00	-408	-405 -432 -435	102	2	22	0.00	0.00	-435	-432 -459 -462
102	2	22	0.00	0.00	-462	-459 -486 -489	102	2	22	0.00	0.00	-489	-486 159 172
102	2	22	0.00	0.00	-378	-375 -402 -405	102	2	22	0.00	0.00	-405	-402 -429 -432
102	2	22	0.00	0.00	-432	-429 -456 -459	102	2	22	0.00	0.00	-459	-456 -483 -486
102	2	22	0.00	0.00	-486	-483 146 159	102	2	22	0.00	0.00	-375	-372 -399 -402
102	2	22	0.00	0.00	-402	-399 -426 -429	102	2	22	0.00	0.00	-429	-426 -453 -456
102	2	22	0.00	0.00	-456	-453 -480 -483	102	2	22	0.00	0.00	-483	-480 133 146
102	2	22	0.00	0.00	-372	-369 -396 -399	102	2	22	0.00	0.00	-399	-396 -423 -426
102	2	22	0.00	0.00	-426	-423 -450 -453	102	2	22	0.00	0.00	-453	-450 -477 -480
102	2	22	0.00	0.00	-480	-477 120 133	102	2	22	0.00	0.00	-369	-366 -393 -396
102	2	22	0.00	0.00	-396	-393 -420 -423	102	2	22	0.00	0.00	-423	-420 -447 -450
102	2	22	0.00	0.00	-450	-447 -474 -477	102	2	22	0.00	0.00	-477	-474 107 120
102	2	22	0.00	0.00	-366	-363 -390 -393	102	2	22	0.00	0.00	-393	-390 -417 -420
102	2	22	0.00	0.00	-420	-417 -444 -447	102	2	22	0.00	0.00	-447	-444 -471 -474
102	2	22	0.00	0.00	-474	-471 -498 107	102	2	22	0.00	0.00	-441	-438 -465 -468
102	2	22	0.00	0.00	-387	-384 -411 -414	102	2	22	0.00	0.00	-414	-411 -438 -441
103	1	22	0.00	0.00	-413	-410 -437 -440	103	1	22	0.00	0.00	-494	-491 179 -500
103	1	22	0.00	0.00	-440	-437 -464 -467	103	1	22	0.00	0.00	-467	-464 -491 -494
103	1	22	0.00	0.00	-386	-383 -410 -413	103	1	22	0.00	0.00	-464	-461 -488 -491
103	1	22	0.00	0.00	-491	-488 166 179	103	1	22	0.00	0.00	-380	-377 -404 -407
103	1	22	0.00	0.00	-407	-404 -431 -434	103	1	22	0.00	0.00	-434	-431 -458 -461
103	1	22	0.00	0.00	-461	-458 -485 -488	103	1	22	0.00	0.00	-488	-485 153 166
103	1	22	0.00	0.00	-377	-374 -401 -404	103	1	22	0.00	0.00	-404	-401 -428 -431
103	1	22	0.00	0.00	-431	-428 -455 -458	103	1	22	0.00	0.00	-458	-455 -482 -485
103	1	22	0.00	0.00	-383	-380 -407 -410	103	1	22	0.00	0.00	-410	-407 -434 -437
103	1	22	0.00	0.00	-437	-434 -461 -464	103	1	22	0.00	0.00	-256	-233 -383 -386
103	1	22	0.00	0.00	-233	-193 -380 -383	103	1	22	0.00	0.00	-193	-169 -377 -380
103	1	22	0.00	0.00	-169	-146 -374 -377	103	1	22	0.00	0.00	-146	-118 -371 -374
103	1	22	0.00	0.00	-118	-98 -368 -371	103	1	22	0.00	0.00	-98	-66 -365 -368
103	1	22	0.00	0.00	-66	-49 -362 -365	103	1	22	0.00	0.00	-395	-392 -419 -422
103	1	22	0.00	0.00	-422	-419 -446 -449	103	1	22	0.00	0.00	-449	-446 -473 -476
103	1	22	0.00	0.00	-476	-473 101 114	103	1	22	0.00	0.00	-365	-362 -389 -392
103	1	22	0.00	0.00	-392	-389 -416 -419	103	1	22	0.00	0.00	-419	-416 -443 -446
103	1	22	0.00	0.00	-446	-443 -470 -473	103	1	22	0.00	0.00	-473	-470 -497 101
103	1	22	0.00	0.00	-455	-452 -479 -482	103	1	22	0.00	0.00	-482	-479 127 140
103	1	22	0.00	0.00	-371	-368 -395 -398	103	1	22	0.00	0.00	-398	-395 -422 -425
103	1	22	0.00	0.00	-425	-422 -449 -452	103	1	22	0.00	0.00	-452	-449 -476 -479
103	1	22	0.00	0.00	-479	-476 114 127	103	1	22	0.00	0.00	-368	-365 -392 -395
103	1	22	0.00	0.00	-374	-371 -398 -401	103	1	22	0.00	0.00	-401	-398 -425 -428

Relazione di calcolo

401	3	11	0.00	0.00	-38	-10	-11	-47	401	3	11	0.00	0.00	-55	-79	-87	-47
401	3	11	0.00	0.00	-78	-79	-55	-53	401	3	11	0.00	0.00	-78	-53	-39	-85
401	3	11	0.00	0.00	-39	-53	-23	-12	401	3	11	0.00	0.00	-53	-55	-25	-23
401	3	11	0.00	0.00	-12	-23	-25	-11	401	3	11	0.00	0.00	-55	-47	-11	-25
401	3	11	0.00	0.00	-87	-79	-104	-116	401	3	11	0.00	0.00	-79	-78	-106	-104
401	3	11	0.00	0.00	-116	-104	-106	-122	401	3	11	0.00	0.00	-78	-85	-122	-106
401	3	11	0.00	0.00	-39	-12	-13	-34	401	3	11	0.00	0.00	-39	-34	-73	-85
401	3	11	0.00	0.00	-34	-13	-14	-31	401	3	11	0.00	0.00	-34	-31	-62	-73
401	3	11	0.00	0.00	-15	-16	-40	-32	401	3	11	0.00	0.00	-15	-32	-31	-14
401	3	11	0.00	0.00	-32	-40	-70	-60	401	3	11	0.00	0.00	-32	-60	-62	-31
401	3	11	0.00	0.00	-129	-131	-110	-108	401	3	11	0.00	0.00	-129	-108	-97	-123
401	3	11	0.00	0.00	-108	-91	-89	-97	401	3	11	0.00	0.00	-91	-62	-60	-89
401	3	11	0.00	0.00	-89	-60	-70	-97	401	3	11	0.00	0.00	-91	-108	-110	-93
401	3	11	0.00	0.00	-91	-93	-73	-62	401	3	11	0.00	0.00	-73	-93	-95	-85
401	3	11	0.00	0.00	-93	-110	-112	-95	401	3	11	0.00	0.00	-85	-95	-112	-122
401	3	11	0.00	0.00	-110	-131	-122	-112	401	3	11	0.00	0.00	-17	-27	-21	-16
401	3	11	0.00	0.00	-27	-51	-45	-21	401	3	11	0.00	0.00	-21	-45	-40	-16
401	3	11	0.00	0.00	-45	-51	-68	-75	401	3	11	0.00	0.00	-45	-75	-70	-40
401	3	11	0.00	0.00	-127	-123	-97	-102	401	3	11	0.00	0.00	-127	-102	-100	-124
401	3	11	0.00	0.00	-102	-97	-70	-75	401	3	11	0.00	0.00	-102	-75	-68	-100
401	3	11	0.00	0.00	-41	-27	-17	-18	401	3	11	0.00	0.00	-41	-18	-19	-43
401	3	11	0.00	0.00	-100	-68	-65	-86	401	3	11	0.00	0.00	-68	-51	-57	-65
401	3	11	0.00	0.00	-86	-65	-57	-41	401	3	11	0.00	0.00	-51	-27	-41	-57
401	3	11	0.00	0.00	-86	-125	-124	-100	401	3	11	0.00	0.00	-86	-41	-43	-81
401	3	11	0.00	0.00	-86	-81	-114	-125	401	3	11	0.00	0.00	-200	-199	-171	-173
401	3	11	0.00	0.00	-200	-173	-185	-210	401	3	11	0.00	0.00	-173	-171	-148	-150
401	3	11	0.00	0.00	-173	-150	-145	-185	401	3	11	0.00	0.00	-150	-148	-124	-125
401	3	11	0.00	0.00	-150	-125	-114	-145									

Carichi

Condizioni di carico elementari

Simbologia

CCE	= Numero della condizione di carico elementare
Comm.	= Commento
Mx	= Moltiplicatore della massa in dir. X
My	= Moltiplicatore della massa in dir. Y
Mz	= Moltiplicatore della massa in dir. Z
Jpx	= Moltiplicatore del momento d'inerzia intorno all'asse X
Jpy	= Moltiplicatore del momento d'inerzia intorno all'asse Y
Jpz	= Moltiplicatore del momento d'inerzia intorno all'asse Z
Tipo CCE	= Tipo di CCE per calcolo agli stati limite
Sicurezza	= Contributo alla sicurezza
	F = a favore
	S = a sfavore
	A = ambigua
Variabilità	= Tipo di variabilità
	B = di base
	I = indipendente
	A = ambigua

CCE	Comm.	Mx	My	Mz	Jpx	Jpy	Jpz	Tipo CCE	Sicurezza	Variabilità
1	Permanenti strutturali	1.00	1.00	0.00	0.00	0.00	1.00	21 D.M. 08 Permanenti strutturali PONTI	S	--
2	Permanenti non strutturali	1.00	1.00	0.00	0.00	0.00	1.00	2 D.M. 08 Permanenti non strutturali	S	--
3	Variabili folla	1.00	1.00	0.00	0.00	0.00	1.00	20 D.M. 08 Variabile Folla schema 5	S	B
4	Variabili temperatura	1.00	1.00	0.00	0.00	0.00	1.00	13 D.M. 08 Variabili Variazioni termiche	S	B
5	Variabile piena T=200	1.00	1.00	0.00	0.00	0.00	1.00	22 Azione di piena	S	--
6	Variabile piena T=500	1.00	1.00	0.00	0.00	0.00	1.00	22 Azione di piena	S	--

Elenco carichi nodi

Condizione di carico n. 5: Variabile piena T=200

Carichi concentrati

Simbologia

Nodo	= Numero del nodo
Px	= Componente X della forza applicata
Py	= Componente Y della forza applicata
Pz	= Componente Z della forza applicata
Mx	= Momento intorno all'asse X
My	= Momento intorno all'asse Y
Mz	= Momento intorno all'asse Z

Nodo	Px	Py	Pz	Mx	My	Mz	Nodo	Px	Py	Pz	Mx	My	Mz
<daN>	<daN>	<daN>	<daN>	<daNm>	<daNm>	<daNm>	<daN>	<daN>	<daN>	<daN>	<daNm>	<daNm>	<daNm>
-496	0.00	370.00	0.00	0.00	0.00	0.00	-495	0.00	740.00	0.00	0.00	0.00	0.00
-494	0.00	370.00	0.00	0.00	0.00	0.00	-469	0.00	2930.00	0.00	0.00	0.00	0.00
-468	0.00	5860.00	0.00	0.00	0.00	0.00	-467	0.00	2930.00	0.00	0.00	0.00	0.00
-442	0.00	5860.00	0.00	0.00	0.00	0.00	-441	0.00	11720.00	0.00	0.00	0.00	0.00

Relazione di calcolo

-440	0.00	5860.00	0.00	0.00	0.00	0.00	-415	0.00	8790.00	0.00	0.00	0.00	0.00
-414	0.00	17580.00	0.00	0.00	0.00	0.00	-413	0.00	8790.00	0.00	0.00	0.00	0.00
-388	0.00	11720.00	0.00	0.00	0.00	0.00	-387	0.00	23430.00	0.00	0.00	0.00	0.00
-386	0.00	11720.00	0.00	0.00	0.00	0.00	-258	0.00	6960.00	0.00	0.00	0.00	0.00
-257	0.00	13920.00	0.00	0.00	0.00	0.00	-256	0.00	6960.00	0.00	0.00	0.00	0.00

Elenco carichi nodi

Condizione di carico n. 6: Variabile piena T=500

Carichi concentrati

Nodo	Px	Py	Pz	Mx	My	Mz	Nodo	Px	Py	Pz	Mx	My	Mz
	<daN>	<daN>	<daN>	<daNm>	<daNm>	<daNm>		<daN>	<daN>	<daN>	<daNm>	<daNm>	<daNm>
-495	0.00	435.00	0.00	0.00	0.00	0.00	-494	0.00	435.00	0.00	0.00	0.00	0.00
-468	0.00	3470.00	0.00	0.00	0.00	0.00	-467	0.00	3470.00	0.00	0.00	0.00	0.00
-441	0.00	6940.00	0.00	0.00	0.00	0.00	-440	0.00	6940.00	0.00	0.00	0.00	0.00
-414	0.00	10410.00	0.00	0.00	0.00	0.00	-413	0.00	10410.00	0.00	0.00	0.00	0.00
-387	0.00	13880.00	0.00	0.00	0.00	0.00	-386	0.00	13880.00	0.00	0.00	0.00	0.00
-257	0.00	8240.00	0.00	0.00	0.00	0.00	-256	0.00	8240.00	0.00	0.00	0.00	0.00

Elenco carichi aste

Condizione di carico n. 1: Permanenti strutturali

Carichi distribuiti

Simbologia

Asta = Numero dell'asta
 N1 = Nodo iniziale
 N2 = Nodo finale
 E = Elemento provenienza del carico
 S = Solaio
 T = Tamponatura
 NE = Numero elemento di provenienza del carico
 T = Tipo di carico
 QA = Primo carico accidentale
 QA2 = Secondo carico accidentale
 QA3 = Terzo carico accidentale
 QPS = Carico permanente strutturale
 QPN = Carico permanente non strutturale
 PP = Peso proprio
 M = Manuale
 DC = Direzione del carico
 XG,YG,ZG = secondo gli assi globali
 XL,YL,ZL = secondo gli assi locali
 Xi = Distanza iniziale
 Qi = Carico iniziale
 Xf = Distanza finale
 Qf = Carico finale

Asta	N1	N2	E	NE	T	DC	Xi	Qi	Xf	Qf	Asta	N1	N2	E	NE	T	DC	Xi	Qi	Xf	Qf
							<m>	<daN/m>	<m>	<daN/m>								<m>	<daN/m>	<m>	<daN/m>
101	101	102	S	--	PP	ZG	0.00	76.35	1.17	76.35	101	102	103	S	--	PP	ZG	0.00	76.35	1.17	76.35
101	103	104	S	--	PP	ZG	0.00	76.35	1.17	76.35	101	104	105	S	--	PP	ZG	0.00	76.35	1.17	76.35
101	105	106	S	--	PP	ZG	0.00	76.35	1.17	76.35	101	106	107	S	--	PP	ZG	0.00	76.35	1.17	76.35
101	107	108	S	--	PP	ZG	0.00	76.35	1.17	76.35	101	108	109	S	--	PP	ZG	0.00	76.35	1.17	76.35
101	109	110	S	--	PP	ZG	0.00	76.35	1.17	76.35	101	110	111	S	--	PP	ZG	0.00	76.35	1.17	76.35
101	111	112	S	--	PP	ZG	0.00	76.35	1.17	76.35	101	112	113	S	--	PP	ZG	0.00	76.35	1.17	76.35
102	114	115	S	--	PP	ZG	0.00	18.80	1.17	18.80	102	115	116	S	--	PP	ZG	0.00	18.80	1.17	18.80
102	116	117	S	--	PP	ZG	0.00	18.80	1.17	18.80	102	117	118	S	--	PP	ZG	0.00	18.80	1.17	18.80
102	118	119	S	--	PP	ZG	0.00	18.80	1.17	18.80	102	119	120	S	--	PP	ZG	0.00	18.80	1.17	18.80
102	120	121	S	--	PP	ZG	0.00	18.80	1.17	18.80	102	121	122	S	--	PP	ZG	0.00	18.80	1.17	18.80
102	122	123	S	--	PP	ZG	0.00	18.80	1.17	18.80	102	123	124	S	--	PP	ZG	0.00	18.80	1.17	18.80
102	124	125	S	--	PP	ZG	0.00	18.80	1.17	18.80	102	125	126	S	--	PP	ZG	0.00	18.80	1.17	18.80
103	127	128	S	--	PP	ZG	0.00	18.80	1.17	18.80	103	128	129	S	--	PP	ZG	0.00	18.80	1.17	18.80
103	129	130	S	--	PP	ZG	0.00	18.80	1.17	18.80	103	130	131	S	--	PP	ZG	0.00	18.80	1.17	18.80
103	131	132	S	--	PP	ZG	0.00	18.80	1.17	18.80	103	132	133	S	--	PP	ZG	0.00	18.80	1.17	18.80
103	133	134	S	--	PP	ZG	0.00	18.80	1.17	18.80	103	134	135	S	--	PP	ZG	0.00	18.80	1.17	18.80
103	135	136	S	--	PP	ZG	0.00	18.80	1.17	18.80	103	136	137	S	--	PP	ZG	0.00	18.80	1.17	18.80
103	137	138	S	--	PP	ZG	0.00	18.80	1.17	18.80	103	138	139	S	--	PP	ZG	0.00	18.80	1.17	18.80
104	140	141	S	--	PP	ZG	0.00	103.12	1.17	103.12	104	141	142	S	--	PP	ZG	0.00	103.12	1.17	103.12
104	142	143	S	--	PP	ZG	0.00	103.12	1.17	103.12	104	143	144	S	--	PP	ZG	0.00	103.12	1.17	103.12
104	144	145	S	--	PP	ZG	0.00	103.12	1.17	103.12	104	145	146	S	--	PP	ZG	0.00	103.12	1.17	103.12
104	146	147	S	--	PP	ZG	0.00	103.12	1.17	103.12	104	147	148	S	--	PP	ZG	0.00	103.12	1.17	103.12
104	148	149	S	--	PP	ZG	0.00	103.12	1.17	103.12	104	149	150	S	--	PP	ZG	0.00	103.12	1.17	103.12
104	150	151	S	--	PP	ZG	0.00	103.12	1.17	103.12	104	151	152	S	--	PP	ZG	0.00	103.12	1.17	103.12
105	153	154	S	--	PP	ZG	0.00	18.80	1.17	18.80	105	154	155	S	--	PP	ZG	0.00	18.80	1.17	18.80
105	155	156	S	--	PP	ZG	0.00	18.80	1.17	18.80	105	156	157	S	--	PP	ZG	0.00	18.80	1.17	18.80
105	157	158	S	--	PP	ZG	0.00	18.80	1.17	18.80	105	158	159	S	--	PP	ZG	0.00	18.80	1.17	18.80
105	159	160	S	--	PP	ZG	0.00	18.80	1.17	18.80	105	160	161	S	--	PP	ZG	0.00	18.80	1.17	18.80
105	161	162	S	--	PP	ZG	0.00	18.80	1.17	18.80	105	162	163	S	--	PP	ZG	0.00	18.80	1.17	18.80
105	163	164	S	--	PP	ZG	0.00	18.80	1.17	18.80	105	164	165	S	--	PP	ZG	0.00	18.80	1.17	18.80

Relazione di calcolo

106	166	167 S -- PP ZG 0.00	18.80 1.17	18.80	106	167	168 S -- PP ZG 0.00	18.80 1.17	18.80
106	168	169 S -- PP ZG 0.00	18.80 1.17	18.80	106	169	170 S -- PP ZG 0.00	18.80 1.17	18.80
106	170	171 S -- PP ZG 0.00	18.80 1.17	18.80	106	171	172 S -- PP ZG 0.00	18.80 1.17	18.80
106	172	173 S -- PP ZG 0.00	18.80 1.17	18.80	106	173	174 S -- PP ZG 0.00	18.80 1.17	18.80
106	174	175 S -- PP ZG 0.00	18.80 1.17	18.80	106	175	176 S -- PP ZG 0.00	18.80 1.17	18.80
106	176	177 S -- PP ZG 0.00	18.80 1.17	18.80	106	177	178 S -- PP ZG 0.00	18.80 1.17	18.80
107	179	180 S -- PP ZG 0.00	76.35 1.17	76.35	107	180	181 S -- PP ZG 0.00	76.35 1.17	76.35
107	181	182 S -- PP ZG 0.00	76.35 1.17	76.35	107	182	183 S -- PP ZG 0.00	76.35 1.17	76.35
107	183	184 S -- PP ZG 0.00	76.35 1.17	76.35	107	184	185 S -- PP ZG 0.00	76.35 1.17	76.35
107	185	186 S -- PP ZG 0.00	76.35 1.17	76.35	107	186	187 S -- PP ZG 0.00	76.35 1.17	76.35
107	187	188 S -- PP ZG 0.00	76.35 1.17	76.35	107	188	189 S -- PP ZG 0.00	76.35 1.17	76.35
107	189	190 S -- PP ZG 0.00	76.35 1.17	76.35	107	190	191 S -- PP ZG 0.00	76.35 1.17	76.35
108	101	114 S -- PP ZG 0.00	18.80 0.79	18.80	108	114	127 S -- PP ZG 0.00	18.80 0.79	18.80
108	127	140 S -- PP ZG 0.00	18.80 0.79	18.80	108	140	153 S -- PP ZG 0.00	18.80 0.79	18.80
108	153	166 S -- PP ZG 0.00	18.80 0.79	18.80	108	166	179 S -- PP ZG 0.00	18.80 0.79	18.80
109	102	115 S -- PP ZG 0.00	18.80 0.79	18.80	109	115	128 S -- PP ZG 0.00	18.80 0.79	18.80
109	128	141 S -- PP ZG 0.00	18.80 0.79	18.80	109	141	154 S -- PP ZG 0.00	18.80 0.79	18.80
109	154	167 S -- PP ZG 0.00	18.80 0.79	18.80	109	167	180 S -- PP ZG 0.00	18.80 0.79	18.80
110	103	116 S -- PP ZG 0.00	18.80 0.79	18.80	110	116	129 S -- PP ZG 0.00	18.80 0.79	18.80
110	129	142 S -- PP ZG 0.00	18.80 0.79	18.80	110	142	155 S -- PP ZG 0.00	18.80 0.79	18.80
110	155	168 S -- PP ZG 0.00	18.80 0.79	18.80	110	168	181 S -- PP ZG 0.00	18.80 0.79	18.80
111	104	117 S -- PP ZG 0.00	18.80 0.79	18.80	111	117	130 S -- PP ZG 0.00	18.80 0.79	18.80
111	130	143 S -- PP ZG 0.00	18.80 0.79	18.80	111	143	156 S -- PP ZG 0.00	18.80 0.79	18.80
111	156	169 S -- PP ZG 0.00	18.80 0.79	18.80	111	169	182 S -- PP ZG 0.00	18.80 0.79	18.80
112	105	118 S -- PP ZG 0.00	18.80 0.79	18.80	112	118	131 S -- PP ZG 0.00	18.80 0.79	18.80
112	131	144 S -- PP ZG 0.00	18.80 0.79	18.80	112	144	157 S -- PP ZG 0.00	18.80 0.79	18.80
112	157	170 S -- PP ZG 0.00	18.80 0.79	18.80	112	170	183 S -- PP ZG 0.00	18.80 0.79	18.80
113	106	119 S -- PP ZG 0.00	18.80 0.79	18.80	113	119	132 S -- PP ZG 0.00	18.80 0.79	18.80
113	132	145 S -- PP ZG 0.00	18.80 0.79	18.80	113	145	158 S -- PP ZG 0.00	18.80 0.79	18.80
113	158	171 S -- PP ZG 0.00	18.80 0.79	18.80	113	171	184 S -- PP ZG 0.00	18.80 0.79	18.80
114	107	120 S -- PP ZG 0.00	18.80 0.79	18.80	114	120	133 S -- PP ZG 0.00	18.80 0.79	18.80
114	133	146 S -- PP ZG 0.00	18.80 0.79	18.80	114	146	159 S -- PP ZG 0.00	18.80 0.79	18.80
114	159	172 S -- PP ZG 0.00	18.80 0.79	18.80	114	172	185 S -- PP ZG 0.00	18.80 0.79	18.80
115	108	121 S -- PP ZG 0.00	18.80 0.79	18.80	115	121	134 S -- PP ZG 0.00	18.80 0.79	18.80
115	134	147 S -- PP ZG 0.00	18.80 0.79	18.80	115	147	160 S -- PP ZG 0.00	18.80 0.79	18.80
115	160	173 S -- PP ZG 0.00	18.80 0.79	18.80	115	173	186 S -- PP ZG 0.00	18.80 0.79	18.80
116	109	122 S -- PP ZG 0.00	18.80 0.79	18.80	116	122	135 S -- PP ZG 0.00	18.80 0.79	18.80
116	135	148 S -- PP ZG 0.00	18.80 0.79	18.80	116	148	161 S -- PP ZG 0.00	18.80 0.79	18.80
116	161	174 S -- PP ZG 0.00	18.80 0.79	18.80	116	174	187 S -- PP ZG 0.00	18.80 0.79	18.80
117	110	123 S -- PP ZG 0.00	18.80 0.79	18.80	117	123	136 S -- PP ZG 0.00	18.80 0.79	18.80
117	136	149 S -- PP ZG 0.00	18.80 0.79	18.80	117	149	162 S -- PP ZG 0.00	18.80 0.79	18.80
117	162	175 S -- PP ZG 0.00	18.80 0.79	18.80	117	175	188 S -- PP ZG 0.00	18.80 0.79	18.80
118	111	124 S -- PP ZG 0.00	18.80 0.79	18.80	118	124	137 S -- PP ZG 0.00	18.80 0.79	18.80
118	137	150 S -- PP ZG 0.00	18.80 0.79	18.80	118	150	163 S -- PP ZG 0.00	18.80 0.79	18.80
118	163	176 S -- PP ZG 0.00	18.80 0.79	18.80	118	176	189 S -- PP ZG 0.00	18.80 0.79	18.80
119	112	125 S -- PP ZG 0.00	18.80 0.79	18.80	119	125	138 S -- PP ZG 0.00	18.80 0.79	18.80
119	138	151 S -- PP ZG 0.00	18.80 0.79	18.80	119	151	164 S -- PP ZG 0.00	18.80 0.79	18.80
119	164	177 S -- PP ZG 0.00	18.80 0.79	18.80	119	177	190 S -- PP ZG 0.00	18.80 0.79	18.80
120	113	126 S -- PP ZG 0.00	18.80 0.79	18.80	120	126	139 S -- PP ZG 0.00	18.80 0.79	18.80
120	139	152 S -- PP ZG 0.00	18.80 0.79	18.80	120	152	165 S -- PP ZG 0.00	18.80 0.79	18.80
120	165	178 S -- PP ZG 0.00	18.80 0.79	18.80	120	178	191 S -- PP ZG 0.00	18.80 0.79	18.80

Elenco carichi aste

Condizione di carico n. 2: Permanenti non strutturali

Carichi distribuiti

Asta	N1	N2	E	N	T	DC	Xi	Qi	Xf	Qf	Asta	N1	N2	E	N	T	DC	Xi	Qi	Xf	Qf
							<m>	<daN/m>	<m>	<daN/m>								<m>	<daN/m>	<m>	<daN/m>
101	101	102 S -- M ZG 0.00					35.60	1.17	35.60		101	101	102 S -- M ZG 0.00				50.00	1.17	50.00		
101	102	103 S -- M ZG 0.00					35.60	1.17	35.60		101	102	103 S -- M ZG 0.00				50.00	1.17	50.00		
101	103	104 S -- M ZG 0.00					35.60	1.17	35.60		101	103	104 S -- M ZG 0.00				50.00	1.17	50.00		
101	104	105 S -- M ZG 0.00					35.60	1.17	35.60		101	104	105 S -- M ZG 0.00				50.00	1.17	50.00		
101	105	106 S -- M ZG 0.00					35.60	1.17	35.60		101	105	106 S -- M ZG 0.00				50.00	1.17	50.00		
101	106	107 S -- M ZG 0.00					35.60	1.17	35.60		101	106	107 S -- M ZG 0.00				50.00	1.17	50.00		
101	107	108 S -- M ZG 0.00					35.60	1.17	35.60		101	107	108 S -- M ZG 0.00				50.00	1.17	50.00		
101	108	109 S -- M ZG 0.00					35.60	1.17	35.60		101	108	109 S -- M ZG 0.00				50.00	1.17	50.00		
101	109	110 S -- M ZG 0.00					35.60	1.17	35.60		101	109	110 S -- M ZG 0.00				50.00	1.17	50.00		
101	110	111 S -- M ZG 0.00					35.60	1.17	35.60		101	110	111 S -- M ZG 0.00				50.00	1.17	50.00		
101	111	112 S -- M ZG 0.00					35.60	1.17	35.60		101	111	112 S -- M ZG 0.00				50.00	1.17	50.00		
101	112	113 S -- M ZG 0.00					35.60	1.17	35.60		101	112	113 S -- M ZG 0.00				50.00	1.17	50.00		
102	114	115 S -- M ZG 0.00					71.10	1.17	71.10		102	115	116 S -- M ZG 0.00				71.10	1.17	71.10		
102	116	117 S -- M ZG 0.00					71.10	1.17	71.10		102	117	118 S -- M ZG 0.00				71.10	1.17	71.10		
102	118	119 S -- M ZG 0.00					71.10	1.17	71.10		102	119	120 S -- M ZG 0.00				71.10	1.17	71.10		
102	120	121 S -- M ZG 0.00					71.10	1.17	71.10		102	121	122 S -- M ZG 0.00				71.10	1.17	71.10		
102	122	123 S -- M ZG 0.00					71.10	1.17	71.10		102	123	124 S -- M ZG 0.00				71.10	1.17	71.10		
102	124	125 S -- M ZG 0.00					71.10	1.17	71.10		102	125	126 S -- M ZG 0.00				71.10	1.17	71.10		
103	127	128 S -- M ZG 0.00					71.10	1.17	71.10		103	128	129 S -- M ZG 0.00				71.10	1.17	71.10		
103	129	130 S -- M ZG 0.00					71.10	1.17	71.10		103	130	131 S -- M ZG 0.00				71.10	1.17	71.10		
103	131	132 S -- M ZG 0.00					71.10	1.17	71.10		103	132	133 S -- M ZG 0.00				71.10	1.17	71.10		
103	133	134 S -- M ZG 0.00					71.10	1.17	71.10		103	134	135 S -- M ZG 0.00				71.10	1.17	71.10		
103	135	136 S -- M ZG 0.00					71.10	1.17	71.10		103	136	137 S -- M ZG 0.00				71.10	1.17	71.10		

Elenco carichi aste**Condizione di carico n. 4: Variabili temperatura****Carichi distribuiti****Simbologia**

Asta = Numero dell'asta

N1 = Nodo iniziale

N2 = Nodo finale

DT = Incremento di temperatura

Gy = Gradiente termico in dir. Y

Gz = Gradiente termico in dir. Z

Asta	N1	N2	DT	Gy	Gz	Asta	N1	N2	DT	Gy	Gz	Asta	N1	N2	DT	Gy	Gz
			<°C>	<°C/m>	<°C/m>				<°C>	<°C/m>	<°C/m>				<°C>	<°C/m>	<°C/m>
101	101	102	30.00			101	102	103	30.00			101	103	104	30.00		
101	104	105	30.00			101	105	106	30.00			101	106	107	30.00		
101	107	108	30.00			101	108	109	30.00			101	109	110	30.00		
101	110	111	30.00			101	111	112	30.00			101	112	113	30.00		
102	114	115	30.00			102	115	116	30.00			102	116	117	30.00		
102	117	118	30.00			102	118	119	30.00			102	119	120	30.00		
102	120	121	30.00			102	121	122	30.00			102	122	123	30.00		
102	123	124	30.00			102	124	125	30.00			102	125	126	30.00		
103	127	128	30.00			103	128	129	30.00			103	129	130	30.00		
103	130	131	30.00			103	131	132	30.00			103	132	133	30.00		
103	133	134	30.00			103	134	135	30.00			103	135	136	30.00		
103	136	137	30.00			103	137	138	30.00			103	138	139	30.00		
104	140	141	30.00			104	141	142	30.00			104	142	143	30.00		
104	143	144	30.00			104	144	145	30.00			104	145	146	30.00		
104	146	147	30.00			104	147	148	30.00			104	148	149	30.00		
104	149	150	30.00			104	150	151	30.00			104	151	152	30.00		
105	153	154	30.00			105	154	155	30.00			105	155	156	30.00		
105	156	157	30.00			105	157	158	30.00			105	158	159	30.00		
105	159	160	30.00			105	160	161	30.00			105	161	162	30.00		
105	162	163	30.00			105	163	164	30.00			105	164	165	30.00		
106	166	167	30.00			106	167	168	30.00			106	168	169	30.00		
106	169	170	30.00			106	170	171	30.00			106	171	172	30.00		
106	172	173	30.00			106	173	174	30.00			106	174	175	30.00		
106	175	176	30.00			106	176	177	30.00			106	177	178	30.00		
107	179	180	30.00			107	180	181	30.00			107	181	182	30.00		
107	182	183	30.00			107	183	184	30.00			107	184	185	30.00		
107	185	186	30.00			107	186	187	30.00			107	187	188	30.00		
107	188	189	30.00			107	189	190	30.00			107	190	191	30.00		
108	101	114	30.00			108	114	127	30.00			108	127	140	30.00		
108	140	153	30.00			108	153	166	30.00			108	166	179	30.00		
109	102	115	30.00			109	115	128	30.00			109	128	141	30.00		
109	141	154	30.00			109	154	167	30.00			109	167	180	30.00		
110	103	116	30.00			110	116	129	30.00			110	129	142	30.00		
110	142	155	30.00			110	155	168	30.00			110	168	181	30.00		
111	104	117	30.00			111	117	130	30.00			111	130	143	30.00		
111	143	156	30.00			111	156	169	30.00			111	169	182	30.00		
112	105	118	30.00			112	118	131	30.00			112	131	144	30.00		
112	144	157	30.00			112	157	170	30.00			112	170	183	30.00		
113	106	119	30.00			113	119	132	30.00			113	132	145	30.00		
113	145	158	30.00			113	158	171	30.00			113	171	184	30.00		
114	107	120	30.00			114	120	133	30.00			114	133	146	30.00		
114	146	159	30.00			114	159	172	30.00			114	172	185	30.00		
115	108	121	30.00			115	121	134	30.00			115	134	147	30.00		
115	147	160	30.00			115	160	173	30.00			115	173	186	30.00		
116	109	122	30.00			116	122	135	30.00			116	135	148	30.00		
116	148	161	30.00			116	161	174	30.00			116	174	187	30.00		
117	110	123	30.00			117	123	136	30.00			117	136	149	30.00		
117	149	162	30.00			117	162	175	30.00			117	175	188	30.00		
118	111	124	30.00			118	124	137	30.00			118	137	150	30.00		
118	150	163	30.00			118	163	176	30.00			118	176	189	30.00		
119	112	125	30.00			119	125	138	30.00			119	138	151	30.00		
119	151	164	30.00			119	164	177	30.00			119	177	190	30.00		
120	113	126	30.00			120	126	139	30.00			120	139	152	30.00		
120	152	165	30.00			120	165	178	30.00			120	178	191	30.00		

Elenco carichi elementi bidimensionali**Condizione di carico n. 1: Permanenti strutturali****Carichi uniformi****Simbologia**

Bid. = Numero del muro/elemento bidimensionale

N1 = Nodo1

N2 = Nodo2

Relazione di calcolo

N3 = Nodo3
 N4 = Nodo4
 T = Tipo di carico
 PP = Peso proprio
 M = Manuale
 DC = Direzione del carico
 G = secondo gli assi globali
 L = secondo gli assi locali
 Qx = Carico in dir. X
 Qy = Carico in dir. Y
 Qz = Carico in dir. Z

Bid.	N1	N2	N3	N4	T	DC	Qx <daN/mq>	Qy <daN/mq>	Qz <daN/mq>
102	-196	-170	-378	-381	PP	G	0.00	0.00	2500.00
102	-235	-196	-381	-384	PP	G	0.00	0.00	2500.00
102	-257	-235	-384	-387	PP	G	0.00	0.00	2500.00
102	-170	-147	-375	-378	PP	G	0.00	0.00	2500.00
102	-147	-121	-372	-375	PP	G	0.00	0.00	2500.00
102	-121	-99	-369	-372	PP	G	0.00	0.00	2500.00
102	-99	-67	-366	-369	PP	G	0.00	0.00	2500.00
102	-67	-50	-363	-366	PP	G	0.00	0.00	2500.00
102	-468	-465	-492	-495	PP	G	0.00	0.00	2500.00
102	-495	-492	185	-501	PP	G	0.00	0.00	2500.00
102	-384	-381	-408	-411	PP	G	0.00	0.00	2500.00
102	-411	-408	-435	-438	PP	G	0.00	0.00	2500.00
102	-438	-435	-462	-465	PP	G	0.00	0.00	2500.00
102	-465	-462	-489	-492	PP	G	0.00	0.00	2500.00
102	-492	-489	172	185	PP	G	0.00	0.00	2500.00
102	-381	-378	-405	-408	PP	G	0.00	0.00	2500.00
102	-408	-405	-432	-435	PP	G	0.00	0.00	2500.00
102	-435	-432	-459	-462	PP	G	0.00	0.00	2500.00
102	-462	-459	-486	-489	PP	G	0.00	0.00	2500.00
102	-489	-486	159	172	PP	G	0.00	0.00	2500.00
102	-378	-375	-402	-405	PP	G	0.00	0.00	2500.00
102	-405	-402	-429	-432	PP	G	0.00	0.00	2500.00
102	-432	-429	-456	-459	PP	G	0.00	0.00	2500.00
102	-459	-456	-483	-486	PP	G	0.00	0.00	2500.00
102	-486	-483	146	159	PP	G	0.00	0.00	2500.00
102	-375	-372	-399	-402	PP	G	0.00	0.00	2500.00
102	-402	-399	-426	-429	PP	G	0.00	0.00	2500.00
102	-429	-426	-453	-456	PP	G	0.00	0.00	2500.00
102	-456	-453	-480	-483	PP	G	0.00	0.00	2500.00
102	-483	-480	133	146	PP	G	0.00	0.00	2500.00
102	-372	-369	-396	-399	PP	G	0.00	0.00	2500.00
102	-399	-396	-423	-426	PP	G	0.00	0.00	2500.00
102	-426	-423	-450	-453	PP	G	0.00	0.00	2500.00
102	-453	-450	-477	-480	PP	G	0.00	0.00	2500.00
102	-480	-477	120	133	PP	G	0.00	0.00	2500.00
102	-369	-366	-393	-396	PP	G	0.00	0.00	2500.00
102	-396	-393	-420	-423	PP	G	0.00	0.00	2500.00
102	-423	-420	-447	-450	PP	G	0.00	0.00	2500.00
102	-450	-447	-474	-477	PP	G	0.00	0.00	2500.00
102	-477	-474	107	120	PP	G	0.00	0.00	2500.00
102	-366	-363	-390	-393	PP	G	0.00	0.00	2500.00
102	-393	-390	-417	-420	PP	G	0.00	0.00	2500.00
102	-420	-417	-444	-447	PP	G	0.00	0.00	2500.00
102	-447	-444	-471	-474	PP	G	0.00	0.00	2500.00
102	-474	-471	-498	107	PP	G	0.00	0.00	2500.00
102	-441	-438	-465	-468	PP	G	0.00	0.00	2500.00
102	-387	-384	-411	-414	PP	G	0.00	0.00	2500.00
102	-414	-411	-438	-441	PP	G	0.00	0.00	2500.00
103	-413	-410	-437	-440	PP	G	0.00	0.00	1750.00
103	-494	-491	179	-500	PP	G	0.00	0.00	1750.00
103	-440	-437	-464	-467	PP	G	0.00	0.00	1750.00
103	-467	-464	-491	-494	PP	G	0.00	0.00	1750.00
103	-386	-383	-410	-413	PP	G	0.00	0.00	1750.00
103	-464	-461	-488	-491	PP	G	0.00	0.00	1750.00
103	-491	-488	166	179	PP	G	0.00	0.00	1750.00
103	-380	-377	-404	-407	PP	G	0.00	0.00	1750.00
103	-407	-404	-431	-434	PP	G	0.00	0.00	1750.00
103	-434	-431	-458	-461	PP	G	0.00	0.00	1750.00
103	-461	-458	-485	-488	PP	G	0.00	0.00	1750.00
103	-488	-485	153	166	PP	G	0.00	0.00	1750.00
103	-377	-374	-401	-404	PP	G	0.00	0.00	1750.00
103	-404	-401	-428	-431	PP	G	0.00	0.00	1750.00
103	-431	-428	-455	-458	PP	G	0.00	0.00	1750.00
103	-458	-455	-482	-485	PP	G	0.00	0.00	1750.00
103	-383	-380	-407	-410	PP	G	0.00	0.00	1750.00
103	-410	-407	-434	-437	PP	G	0.00	0.00	1750.00
103	-437	-434	-461	-464	PP	G	0.00	0.00	1750.00
103	-256	-233	-383	-386	PP	G	0.00	0.00	1750.00

Relazione di calcolo

103	-233	-193	-380	-383	PP	G	0.00	0.00	1750.00
103	-193	-169	-377	-380	PP	G	0.00	0.00	1750.00
103	-169	-146	-374	-377	PP	G	0.00	0.00	1750.00
103	-146	-118	-371	-374	PP	G	0.00	0.00	1750.00
103	-118	-98	-368	-371	PP	G	0.00	0.00	1750.00
103	-98	-66	-365	-368	PP	G	0.00	0.00	1750.00
103	-66	-49	-362	-365	PP	G	0.00	0.00	1750.00
103	-395	-392	-419	-422	PP	G	0.00	0.00	1750.00
103	-422	-419	-446	-449	PP	G	0.00	0.00	1750.00
103	-449	-446	-473	-476	PP	G	0.00	0.00	1750.00
103	-476	-473	101	114	PP	G	0.00	0.00	1750.00
103	-365	-362	-389	-392	PP	G	0.00	0.00	1750.00
103	-392	-389	-416	-419	PP	G	0.00	0.00	1750.00
103	-419	-416	-443	-446	PP	G	0.00	0.00	1750.00
103	-446	-443	-470	-473	PP	G	0.00	0.00	1750.00
103	-473	-470	-497	101	PP	G	0.00	0.00	1750.00
103	-455	-452	-479	-482	PP	G	0.00	0.00	1750.00
103	-482	-479	127	140	PP	G	0.00	0.00	1750.00
103	-371	-368	-395	-398	PP	G	0.00	0.00	1750.00
103	-398	-395	-422	-425	PP	G	0.00	0.00	1750.00
103	-425	-422	-449	-452	PP	G	0.00	0.00	1750.00
103	-452	-449	-476	-479	PP	G	0.00	0.00	1750.00
103	-479	-476	114	127	PP	G	0.00	0.00	1750.00
103	-368	-365	-392	-395	PP	G	0.00	0.00	1750.00
103	-374	-371	-398	-401	PP	G	0.00	0.00	1750.00
103	-401	-398	-425	-428	PP	G	0.00	0.00	1750.00
103	-485	-482	140	153	PP	G	0.00	0.00	1750.00
103	-428	-425	-452	-455	PP	G	0.00	0.00	1750.00
104	-493	-490	178	191	PP	G	0.00	0.00	1750.00
104	-382	-379	-406	-409	PP	G	0.00	0.00	1750.00
104	-415	-412	-439	-442	PP	G	0.00	0.00	1750.00
104	-442	-439	-466	-469	PP	G	0.00	0.00	1750.00
104	-469	-466	-493	-496	PP	G	0.00	0.00	1750.00
104	-496	-493	191	-502	PP	G	0.00	0.00	1750.00
104	-385	-382	-409	-412	PP	G	0.00	0.00	1750.00
104	-412	-409	-436	-439	PP	G	0.00	0.00	1750.00
104	-439	-436	-463	-466	PP	G	0.00	0.00	1750.00
104	-466	-463	-490	-493	PP	G	0.00	0.00	1750.00
104	-457	-454	-481	-484	PP	G	0.00	0.00	1750.00
104	-484	-481	139	152	PP	G	0.00	0.00	1750.00
104	-373	-370	-397	-400	PP	G	0.00	0.00	1750.00
104	-400	-397	-424	-427	PP	G	0.00	0.00	1750.00
104	-427	-424	-451	-454	PP	G	0.00	0.00	1750.00
104	-454	-451	-478	-481	PP	G	0.00	0.00	1750.00
104	-481	-478	126	139	PP	G	0.00	0.00	1750.00
104	-370	-367	-394	-397	PP	G	0.00	0.00	1750.00
104	-397	-394	-421	-424	PP	G	0.00	0.00	1750.00
104	-424	-421	-448	-451	PP	G	0.00	0.00	1750.00
104	-451	-448	-475	-478	PP	G	0.00	0.00	1750.00
104	-478	-475	113	126	PP	G	0.00	0.00	1750.00
104	-367	-364	-391	-394	PP	G	0.00	0.00	1750.00
104	-394	-391	-418	-421	PP	G	0.00	0.00	1750.00
104	-421	-418	-445	-448	PP	G	0.00	0.00	1750.00
104	-448	-445	-472	-475	PP	G	0.00	0.00	1750.00
104	-475	-472	-499	113	PP	G	0.00	0.00	1750.00
104	-409	-406	-433	-436	PP	G	0.00	0.00	1750.00
104	-436	-433	-460	-463	PP	G	0.00	0.00	1750.00
104	-463	-460	-487	-490	PP	G	0.00	0.00	1750.00
104	-490	-487	165	178	PP	G	0.00	0.00	1750.00
104	-379	-376	-403	-406	PP	G	0.00	0.00	1750.00
104	-406	-403	-430	-433	PP	G	0.00	0.00	1750.00
104	-433	-430	-457	-460	PP	G	0.00	0.00	1750.00
104	-460	-457	-484	-487	PP	G	0.00	0.00	1750.00
104	-487	-484	152	165	PP	G	0.00	0.00	1750.00
104	-376	-373	-400	-403	PP	G	0.00	0.00	1750.00
104	-403	-400	-427	-430	PP	G	0.00	0.00	1750.00
104	-430	-427	-454	-457	PP	G	0.00	0.00	1750.00
104	-258	-237	-385	-388	PP	G	0.00	0.00	1750.00
104	-237	-199	-382	-385	PP	G	0.00	0.00	1750.00
104	-199	-171	-379	-382	PP	G	0.00	0.00	1750.00
104	-171	-148	-376	-379	PP	G	0.00	0.00	1750.00
104	-148	-124	-373	-376	PP	G	0.00	0.00	1750.00
104	-124	-100	-370	-373	PP	G	0.00	0.00	1750.00
104	-100	-68	-367	-370	PP	G	0.00	0.00	1750.00
104	-68	-51	-364	-367	PP	G	0.00	0.00	1750.00
104	-388	-385	-412	-415	PP	G	0.00	0.00	1750.00
401	-126	-118	-98	-101	PP	G	0.00	0.00	2500.00
401	-126	-101	-96	-119	PP	G	0.00	0.00	2500.00
401	-101	-98	-66	-74	PP	G	0.00	0.00	2500.00
401	-101	-74	-69	-96	PP	G	0.00	0.00	2500.00
401	-74	-66	-49	-44	PP	G	0.00	0.00	2500.00
401	-74	-44	-36	-69	PP	G	0.00	0.00	2500.00

Relazione di calcolo

401	-36	-44	-20	-4 PP G	0.00	0.00	2500.00
401	-44	-49	-26	-20 PP G	0.00	0.00	2500.00
401	-20	-26	-3	-4 PP G	0.00	0.00	2500.00
401	-37	-84	-72	-33 PP G	0.00	0.00	2500.00
401	-37	-33	-7	-8 PP G	0.00	0.00	2500.00
401	-33	-72	-61	-30 PP G	0.00	0.00	2500.00
401	-33	-30	-6	-7 PP G	0.00	0.00	2500.00
401	-59	-69	-36	-29 PP G	0.00	0.00	2500.00
401	-59	-29	-30	-61 PP G	0.00	0.00	2500.00
401	-29	-36	-4	-5 PP G	0.00	0.00	2500.00
401	-29	-5	-6	-30 PP G	0.00	0.00	2500.00
401	-92	-109	-107	-90 PP G	0.00	0.00	2500.00
401	-92	-90	-61	-72 PP G	0.00	0.00	2500.00
401	-69	-59	-88	-96 PP G	0.00	0.00	2500.00
401	-59	-61	-90	-88 PP G	0.00	0.00	2500.00
401	-88	-90	-107	-96 PP G	0.00	0.00	2500.00
401	-107	-109	-130	-128 PP G	0.00	0.00	2500.00
401	-107	-128	-119	-96 PP G	0.00	0.00	2500.00
401	-130	-109	-111	-120 PP G	0.00	0.00	2500.00
401	-109	-92	-94	-111 PP G	0.00	0.00	2500.00
401	-120	-111	-94	-84 PP G	0.00	0.00	2500.00
401	-92	-72	-84	-94 PP G	0.00	0.00	2500.00
401	-192	-209	-184	-172 PP G	0.00	0.00	2500.00
401	-192	-172	-169	-193 PP G	0.00	0.00	2500.00
401	-172	-184	-144	-149 PP G	0.00	0.00	2500.00
401	-172	-149	-146	-169 PP G	0.00	0.00	2500.00
401	-149	-144	-113	-117 PP G	0.00	0.00	2500.00
401	-149	-117	-118	-146 PP G	0.00	0.00	2500.00
401	-80	-42	-35	-83 PP G	0.00	0.00	2500.00
401	-80	-83	-117	-113 PP G	0.00	0.00	2500.00
401	-26	-49	-56	-35 PP G	0.00	0.00	2500.00
401	-49	-66	-64	-56 PP G	0.00	0.00	2500.00
401	-35	-56	-64	-83 PP G	0.00	0.00	2500.00
401	-66	-98	-83	-64 PP G	0.00	0.00	2500.00
401	-98	-118	-117	-83 PP G	0.00	0.00	2500.00
401	-35	-42	-1	-2 PP G	0.00	0.00	2500.00
401	-35	-2	-3	-26 PP G	0.00	0.00	2500.00
401	-195	-217	-223	-188 PP G	0.00	0.00	2500.00
401	-195	-188	-157	-159 PP G	0.00	0.00	2500.00
401	-188	-223	-221	-186 PP G	0.00	0.00	2500.00
401	-188	-186	-155	-157 PP G	0.00	0.00	2500.00
401	-217	-246	-244	-223 PP G	0.00	0.00	2500.00
401	-246	-279	-267	-244 PP G	0.00	0.00	2500.00
401	-244	-267	-263	-223 PP G	0.00	0.00	2500.00
401	-263	-252	-221	-223 PP G	0.00	0.00	2500.00
401	-157	-155	-128	-130 PP G	0.00	0.00	2500.00
401	-157	-130	-120	-159 PP G	0.00	0.00	2500.00
401	-234	-240	-215	-203 PP G	0.00	0.00	2500.00
401	-240	-242	-213	-215 PP G	0.00	0.00	2500.00
401	-215	-213	-190	-203 PP G	0.00	0.00	2500.00
401	-203	-196	-235	-234 PP G	0.00	0.00	2500.00
401	-240	-234	-265	-273 PP G	0.00	0.00	2500.00
401	-240	-273	-275	-242 PP G	0.00	0.00	2500.00
401	-234	-235	-257	-265 PP G	0.00	0.00	2500.00
401	-246	-217	-213	-242 PP G	0.00	0.00	2500.00
401	-246	-242	-275	-279 PP G	0.00	0.00	2500.00
401	-217	-195	-190	-213 PP G	0.00	0.00	2500.00
401	-115	-138	-136	-120 PP G	0.00	0.00	2500.00
401	-138	-163	-161	-136 PP G	0.00	0.00	2500.00
401	-136	-161	-159	-120 PP G	0.00	0.00	2500.00
401	-159	-161	-180	-195 PP G	0.00	0.00	2500.00
401	-161	-163	-182	-180 PP G	0.00	0.00	2500.00
401	-180	-182	-190	-195 PP G	0.00	0.00	2500.00
401	-147	-142	-134	-121 PP G	0.00	0.00	2500.00
401	-142	-140	-132	-134 PP G	0.00	0.00	2500.00
401	-121	-134	-132	-115 PP G	0.00	0.00	2500.00
401	-140	-138	-115	-132 PP G	0.00	0.00	2500.00
401	-178	-167	-164	-170 PP G	0.00	0.00	2500.00
401	-167	-140	-142	-164 PP G	0.00	0.00	2500.00
401	-164	-142	-147	-170 PP G	0.00	0.00	2500.00
401	-170	-196	-203	-178 PP G	0.00	0.00	2500.00
401	-167	-178	-182	-163 PP G	0.00	0.00	2500.00
401	-167	-163	-138	-140 PP G	0.00	0.00	2500.00
401	-178	-203	-190	-182 PP G	0.00	0.00	2500.00
401	-194	-205	-207	-201 PP G	0.00	0.00	2500.00
401	-205	-227	-231	-207 PP G	0.00	0.00	2500.00
401	-207	-231	-229	-201 PP G	0.00	0.00	2500.00
401	-186	-221	-227	-205 PP G	0.00	0.00	2500.00
401	-186	-205	-194	-176 PP G	0.00	0.00	2500.00
401	-176	-153	-155	-186 PP G	0.00	0.00	2500.00
401	-261	-259	-229	-231 PP G	0.00	0.00	2500.00
401	-261	-231	-227	-254 PP G	0.00	0.00	2500.00

Relazione di calcolo

401	-227	-221	-252	-254	PP	G	0.00	0.00	2500.00
401	-229	-259	-256	-233	PP	G	0.00	0.00	2500.00
401	-229	-233	-193	-201	PP	G	0.00	0.00	2500.00
401	-169	-146	-151	-174	PP	G	0.00	0.00	2500.00
401	-169	-174	-201	-193	PP	G	0.00	0.00	2500.00
401	-174	-151	-153	-176	PP	G	0.00	0.00	2500.00
401	-174	-176	-194	-201	PP	G	0.00	0.00	2500.00
401	-126	-151	-146	-118	PP	G	0.00	0.00	2500.00
401	-153	-151	-126	-119	PP	G	0.00	0.00	2500.00
401	-153	-119	-128	-155	PP	G	0.00	0.00	2500.00
401	-322	-308	-337	-350	PP	G	0.00	0.00	2500.00
401	-308	-306	-335	-337	PP	G	0.00	0.00	2500.00
401	-350	-337	-335	-351	PP	G	0.00	0.00	2500.00
401	-306	-312	-351	-335	PP	G	0.00	0.00	2500.00
401	-322	-304	-302	-308	PP	G	0.00	0.00	2500.00
401	-304	-285	-281	-302	PP	G	0.00	0.00	2500.00
401	-308	-302	-281	-279	PP	G	0.00	0.00	2500.00
401	-285	-267	-279	-281	PP	G	0.00	0.00	2500.00
401	-279	-275	-306	-308	PP	G	0.00	0.00	2500.00
401	-275	-273	-312	-306	PP	G	0.00	0.00	2500.00
401	-285	-300	-263	-267	PP	G	0.00	0.00	2500.00
401	-285	-304	-310	-300	PP	G	0.00	0.00	2500.00
401	-304	-322	-333	-310	PP	G	0.00	0.00	2500.00
401	-310	-333	-331	-300	PP	G	0.00	0.00	2500.00
401	-333	-322	-350	-349	PP	G	0.00	0.00	2500.00
401	-333	-349	-348	-331	PP	G	0.00	0.00	2500.00
401	-273	-265	-283	-312	PP	G	0.00	0.00	2500.00
401	-265	-257	-287	-283	PP	G	0.00	0.00	2500.00
401	-283	-287	-323	-312	PP	G	0.00	0.00	2500.00
401	-323	-352	-351	-312	PP	G	0.00	0.00	2500.00
401	-296	-329	-321	-292	PP	G	0.00	0.00	2500.00
401	-296	-292	-254	-252	PP	G	0.00	0.00	2500.00
401	-329	-347	-346	-321	PP	G	0.00	0.00	2500.00
401	-300	-331	-329	-296	PP	G	0.00	0.00	2500.00
401	-300	-296	-252	-263	PP	G	0.00	0.00	2500.00
401	-331	-348	-347	-329	PP	G	0.00	0.00	2500.00
401	-294	-256	-259	-290	PP	G	0.00	0.00	2500.00
401	-294	-290	-318	-327	PP	G	0.00	0.00	2500.00
401	-261	-254	-292	-288	PP	G	0.00	0.00	2500.00
401	-261	-288	-290	-259	PP	G	0.00	0.00	2500.00
401	-288	-292	-321	-316	PP	G	0.00	0.00	2500.00
401	-288	-316	-318	-290	PP	G	0.00	0.00	2500.00
401	-327	-318	-341	-345	PP	G	0.00	0.00	2500.00
401	-318	-316	-339	-341	PP	G	0.00	0.00	2500.00
401	-345	-341	-339	-346	PP	G	0.00	0.00	2500.00
401	-316	-321	-346	-339	PP	G	0.00	0.00	2500.00
401	-320	-327	-345	-344	PP	G	0.00	0.00	2500.00
401	-320	-344	-343	-314	PP	G	0.00	0.00	2500.00
401	-277	-320	-314	-269	PP	G	0.00	0.00	2500.00
401	-277	-271	-298	-320	PP	G	0.00	0.00	2500.00
401	-271	-256	-294	-298	PP	G	0.00	0.00	2500.00
401	-298	-294	-327	-320	PP	G	0.00	0.00	2500.00
401	-271	-277	-248	-238	PP	G	0.00	0.00	2500.00
401	-271	-238	-233	-256	PP	G	0.00	0.00	2500.00
401	-233	-238	-211	-193	PP	G	0.00	0.00	2500.00
401	-238	-248	-219	-211	PP	G	0.00	0.00	2500.00
401	-211	-219	-192	-193	PP	G	0.00	0.00	2500.00
401	-192	-219	-225	-209	PP	G	0.00	0.00	2500.00
401	-219	-248	-250	-225	PP	G	0.00	0.00	2500.00
401	-209	-225	-250	-269	PP	G	0.00	0.00	2500.00
401	-248	-277	-269	-250	PP	G	0.00	0.00	2500.00
401	-84	-77	-105	-120	PP	G	0.00	0.00	2500.00
401	-77	-76	-103	-105	PP	G	0.00	0.00	2500.00
401	-120	-105	-103	-115	PP	G	0.00	0.00	2500.00
401	-76	-82	-115	-103	PP	G	0.00	0.00	2500.00
401	-77	-84	-37	-52	PP	G	0.00	0.00	2500.00
401	-77	-52	-54	-76	PP	G	0.00	0.00	2500.00
401	-54	-46	-82	-76	PP	G	0.00	0.00	2500.00
401	-46	-54	-24	-9	PP	G	0.00	0.00	2500.00
401	-54	-52	-22	-24	PP	G	0.00	0.00	2500.00
401	-9	-24	-22	-8	PP	G	0.00	0.00	2500.00
401	-52	-37	-8	-22	PP	G	0.00	0.00	2500.00
401	-46	-48	-63	-82	PP	G	0.00	0.00	2500.00
401	-48	-50	-67	-63	PP	G	0.00	0.00	2500.00
401	-63	-67	-99	-82	PP	G	0.00	0.00	2500.00
401	-99	-121	-115	-82	PP	G	0.00	0.00	2500.00
401	-10	-38	-28	-9	PP	G	0.00	0.00	2500.00
401	-38	-50	-48	-28	PP	G	0.00	0.00	2500.00
401	-28	-48	-46	-9	PP	G	0.00	0.00	2500.00
401	-274	-266	-236	-241	PP	G	0.00	0.00	2500.00
401	-274	-241	-243	-276	PP	G	0.00	0.00	2500.00
401	-266	-257	-235	-236	PP	G	0.00	0.00	2500.00

Relazione di calcolo

401 -204 -236 -235 -196 PP G	0.00	0.00	2500.00
401 -191 -214 -216 -204 PP G	0.00	0.00	2500.00
401 -214 -243 -241 -216 PP G	0.00	0.00	2500.00
401 -216 -241 -236 -204 PP G	0.00	0.00	2500.00
401 -218 -214 -191 -197 PP G	0.00	0.00	2500.00
401 -243 -214 -218 -247 PP G	0.00	0.00	2500.00
401 -243 -247 -280 -276 PP G	0.00	0.00	2500.00
401 -166 -183 -179 -168 PP G	0.00	0.00	2500.00
401 -166 -168 -141 -139 PP G	0.00	0.00	2500.00
401 -183 -191 -204 -179 PP G	0.00	0.00	2500.00
401 -147 -143 -165 -170 PP G	0.00	0.00	2500.00
401 -143 -141 -168 -165 PP G	0.00	0.00	2500.00
401 -165 -168 -179 -170 PP G	0.00	0.00	2500.00
401 -179 -204 -196 -170 PP G	0.00	0.00	2500.00
401 -139 -141 -133 -116 PP G	0.00	0.00	2500.00
401 -141 -143 -135 -133 PP G	0.00	0.00	2500.00
401 -116 -133 -135 -121 PP G	0.00	0.00	2500.00
401 -143 -147 -121 -135 PP G	0.00	0.00	2500.00
401 -191 -183 -181 -197 PP G	0.00	0.00	2500.00
401 -183 -166 -162 -181 PP G	0.00	0.00	2500.00
401 -181 -162 -160 -197 PP G	0.00	0.00	2500.00
401 -160 -162 -137 -122 PP G	0.00	0.00	2500.00
401 -162 -166 -139 -137 PP G	0.00	0.00	2500.00
401 -137 -139 -116 -122 PP G	0.00	0.00	2500.00
401 -197 -160 -158 -189 PP G	0.00	0.00	2500.00
401 -197 -189 -224 -218 PP G	0.00	0.00	2500.00
401 -189 -158 -156 -187 PP G	0.00	0.00	2500.00
401 -189 -187 -222 -224 PP G	0.00	0.00	2500.00
401 -264 -268 -245 -224 PP G	0.00	0.00	2500.00
401 -268 -280 -247 -245 PP G	0.00	0.00	2500.00
401 -245 -247 -218 -224 PP G	0.00	0.00	2500.00
401 -224 -222 -253 -264 PP G	0.00	0.00	2500.00
401 -158 -160 -122 -131 PP G	0.00	0.00	2500.00
401 -158 -131 -129 -156 PP G	0.00	0.00	2500.00
401 -177 -154 -152 -175 PP G	0.00	0.00	2500.00
401 -177 -175 -202 -198 PP G	0.00	0.00	2500.00
401 -175 -152 -148 -171 PP G	0.00	0.00	2500.00
401 -175 -171 -199 -202 PP G	0.00	0.00	2500.00
401 -187 -177 -198 -206 PP G	0.00	0.00	2500.00
401 -187 -206 -228 -222 PP G	0.00	0.00	2500.00
401 -230 -232 -208 -202 PP G	0.00	0.00	2500.00
401 -232 -228 -206 -208 PP G	0.00	0.00	2500.00
401 -208 -206 -198 -202 PP G	0.00	0.00	2500.00
401 -187 -156 -154 -177 PP G	0.00	0.00	2500.00
401 -262 -255 -228 -232 PP G	0.00	0.00	2500.00
401 -262 -232 -230 -260 PP G	0.00	0.00	2500.00
401 -255 -253 -222 -228 PP G	0.00	0.00	2500.00
401 -230 -202 -199 -237 PP G	0.00	0.00	2500.00
401 -230 -237 -258 -260 PP G	0.00	0.00	2500.00
401 -154 -156 -129 -123 PP G	0.00	0.00	2500.00
401 -154 -123 -127 -152 PP G	0.00	0.00	2500.00
401 -127 -124 -148 -152 PP G	0.00	0.00	2500.00
401 -325 -317 -340 -358 PP G	0.00	0.00	2500.00
401 -317 -319 -342 -340 PP G	0.00	0.00	2500.00
401 -358 -340 -342 -359 PP G	0.00	0.00	2500.00
401 -319 -328 -359 -342 PP G	0.00	0.00	2500.00
401 -295 -328 -319 -291 PP G	0.00	0.00	2500.00
401 -295 -291 -260 -258 PP G	0.00	0.00	2500.00
401 -317 -325 -293 -289 PP G	0.00	0.00	2500.00
401 -317 -289 -291 -319 PP G	0.00	0.00	2500.00
401 -289 -293 -255 -262 PP G	0.00	0.00	2500.00
401 -289 -262 -260 -291 PP G	0.00	0.00	2500.00
401 -297 -330 -332 -301 PP G	0.00	0.00	2500.00
401 -297 -301 -264 -253 PP G	0.00	0.00	2500.00
401 -330 -357 -356 -332 PP G	0.00	0.00	2500.00
401 -297 -253 -255 -293 PP G	0.00	0.00	2500.00
401 -297 -293 -325 -330 PP G	0.00	0.00	2500.00
401 -325 -358 -357 -330 PP G	0.00	0.00	2500.00
401 -332 -334 -311 -301 PP G	0.00	0.00	2500.00
401 -334 -324 -305 -311 PP G	0.00	0.00	2500.00
401 -311 -305 -286 -301 PP G	0.00	0.00	2500.00
401 -286 -268 -264 -301 PP G	0.00	0.00	2500.00
401 -334 -332 -356 -355 PP G	0.00	0.00	2500.00
401 -334 -355 -354 -324 PP G	0.00	0.00	2500.00
401 -268 -286 -282 -280 PP G	0.00	0.00	2500.00
401 -286 -305 -303 -282 PP G	0.00	0.00	2500.00
401 -280 -282 -303 -309 PP G	0.00	0.00	2500.00
401 -305 -324 -309 -303 PP G	0.00	0.00	2500.00
401 -309 -307 -276 -280 PP G	0.00	0.00	2500.00
401 -307 -313 -274 -276 PP G	0.00	0.00	2500.00
401 -313 -307 -336 -353 PP G	0.00	0.00	2500.00
401 -307 -309 -338 -336 PP G	0.00	0.00	2500.00

Relazione di calcolo

401	-353	-336	-338	-354	PP	G	0.00	0.00	2500.00
401	-309	-324	-354	-338	PP	G	0.00	0.00	2500.00
401	-323	-287	-284	-313	PP	G	0.00	0.00	2500.00
401	-287	-257	-266	-284	PP	G	0.00	0.00	2500.00
401	-284	-266	-274	-313	PP	G	0.00	0.00	2500.00
401	-313	-353	-352	-323	PP	G	0.00	0.00	2500.00
401	-328	-295	-299	-326	PP	G	0.00	0.00	2500.00
401	-295	-258	-272	-299	PP	G	0.00	0.00	2500.00
401	-299	-272	-278	-326	PP	G	0.00	0.00	2500.00
401	-278	-270	-315	-326	PP	G	0.00	0.00	2500.00
401	-326	-315	-361	-360	PP	G	0.00	0.00	2500.00
401	-326	-360	-359	-328	PP	G	0.00	0.00	2500.00
401	-200	-220	-212	-199	PP	G	0.00	0.00	2500.00
401	-220	-249	-239	-212	PP	G	0.00	0.00	2500.00
401	-212	-239	-237	-199	PP	G	0.00	0.00	2500.00
401	-239	-249	-278	-272	PP	G	0.00	0.00	2500.00
401	-239	-272	-258	-237	PP	G	0.00	0.00	2500.00
401	-278	-249	-251	-270	PP	G	0.00	0.00	2500.00
401	-249	-220	-226	-251	PP	G	0.00	0.00	2500.00
401	-270	-251	-226	-210	PP	G	0.00	0.00	2500.00
401	-220	-200	-210	-226	PP	G	0.00	0.00	2500.00
401	-99	-87	-116	-121	PP	G	0.00	0.00	2500.00
401	-99	-67	-71	-87	PP	G	0.00	0.00	2500.00
401	-67	-50	-58	-71	PP	G	0.00	0.00	2500.00
401	-87	-71	-58	-47	PP	G	0.00	0.00	2500.00
401	-50	-38	-47	-58	PP	G	0.00	0.00	2500.00
401	-38	-10	-11	-47	PP	G	0.00	0.00	2500.00
401	-55	-79	-87	-47	PP	G	0.00	0.00	2500.00
401	-78	-79	-55	-53	PP	G	0.00	0.00	2500.00
401	-78	-53	-39	-85	PP	G	0.00	0.00	2500.00
401	-39	-53	-23	-12	PP	G	0.00	0.00	2500.00
401	-53	-55	-25	-23	PP	G	0.00	0.00	2500.00
401	-12	-23	-25	-11	PP	G	0.00	0.00	2500.00
401	-55	-47	-11	-25	PP	G	0.00	0.00	2500.00
401	-87	-79	-104	-116	PP	G	0.00	0.00	2500.00
401	-79	-78	-106	-104	PP	G	0.00	0.00	2500.00
401	-116	-104	-106	-122	PP	G	0.00	0.00	2500.00
401	-78	-85	-122	-106	PP	G	0.00	0.00	2500.00
401	-39	-12	-13	-34	PP	G	0.00	0.00	2500.00
401	-39	-34	-73	-85	PP	G	0.00	0.00	2500.00
401	-34	-13	-14	-31	PP	G	0.00	0.00	2500.00
401	-34	-31	-62	-73	PP	G	0.00	0.00	2500.00
401	-15	-16	-40	-32	PP	G	0.00	0.00	2500.00
401	-15	-32	-31	-14	PP	G	0.00	0.00	2500.00
401	-32	-40	-70	-60	PP	G	0.00	0.00	2500.00
401	-32	-60	-62	-31	PP	G	0.00	0.00	2500.00
401	-129	-131	-110	-108	PP	G	0.00	0.00	2500.00
401	-129	-108	-97	-123	PP	G	0.00	0.00	2500.00
401	-108	-91	-89	-97	PP	G	0.00	0.00	2500.00
401	-91	-62	-60	-89	PP	G	0.00	0.00	2500.00
401	-89	-60	-70	-97	PP	G	0.00	0.00	2500.00
401	-91	-108	-110	-93	PP	G	0.00	0.00	2500.00
401	-91	-93	-73	-62	PP	G	0.00	0.00	2500.00
401	-73	-93	-95	-85	PP	G	0.00	0.00	2500.00
401	-93	-110	-112	-95	PP	G	0.00	0.00	2500.00
401	-85	-95	-112	-122	PP	G	0.00	0.00	2500.00
401	-110	-131	-122	-112	PP	G	0.00	0.00	2500.00
401	-17	-27	-21	-16	PP	G	0.00	0.00	2500.00
401	-27	-51	-45	-21	PP	G	0.00	0.00	2500.00
401	-21	-45	-40	-16	PP	G	0.00	0.00	2500.00
401	-45	-51	-68	-75	PP	G	0.00	0.00	2500.00
401	-45	-75	-70	-40	PP	G	0.00	0.00	2500.00
401	-127	-123	-97	-102	PP	G	0.00	0.00	2500.00
401	-127	-102	-100	-124	PP	G	0.00	0.00	2500.00
401	-102	-97	-70	-75	PP	G	0.00	0.00	2500.00
401	-102	-75	-68	-100	PP	G	0.00	0.00	2500.00
401	-41	-27	-17	-18	PP	G	0.00	0.00	2500.00
401	-41	-18	-19	-43	PP	G	0.00	0.00	2500.00
401	-100	-68	-65	-86	PP	G	0.00	0.00	2500.00
401	-68	-51	-57	-65	PP	G	0.00	0.00	2500.00
401	-86	-65	-57	-41	PP	G	0.00	0.00	2500.00
401	-51	-27	-41	-57	PP	G	0.00	0.00	2500.00
401	-86	-125	-124	-100	PP	G	0.00	0.00	2500.00
401	-86	-41	-43	-81	PP	G	0.00	0.00	2500.00
401	-86	-81	-114	-125	PP	G	0.00	0.00	2500.00
401	-200	-199	-171	-173	PP	G	0.00	0.00	2500.00
401	-200	-173	-185	-210	PP	G	0.00	0.00	2500.00
401	-173	-171	-148	-150	PP	G	0.00	0.00	2500.00
401	-173	-150	-145	-185	PP	G	0.00	0.00	2500.00
401	-150	-148	-124	-125	PP	G	0.00	0.00	2500.00
401	-150	-125	-114	-145	PP	G	0.00	0.00	2500.00

Elenco carichi elementi bidimensionali

Condizione di carico n. 2: Permanenti non strutturali

Carichi uniformi

Bid.	N1	N2	N3	N4	T	DC	Qx <daN/mq>	Qy <daN/mq>	Qz <daN/mq>	Bid.	N1	N2	N3	N4	T	DC	Qx <daN/mq>	Qy <daN/mq>	Qz <daN/mq>
401	-126	-118	-98	-101	M	G	0.00	0.00	2500.00	401	-126	-101	-96	-119	M	G	0.00	0.00	2500.00
401	-101	-98	-66	-74	M	G	0.00	0.00	2500.00	401	-101	-74	-69	-96	M	G	0.00	0.00	2500.00
401	-74	-66	-49	-44	M	G	0.00	0.00	2500.00	401	-74	-44	-36	-69	M	G	0.00	0.00	2500.00
401	-36	-44	-20	-4	M	G	0.00	0.00	2500.00	401	-44	-49	-26	-20	M	G	0.00	0.00	2500.00
401	-20	-26	-3	-4	M	G	0.00	0.00	2500.00	401	-37	-84	-72	-33	M	G	0.00	0.00	2500.00
401	-37	-33	-7	-8	M	G	0.00	0.00	2500.00	401	-33	-72	-61	-30	M	G	0.00	0.00	2500.00
401	-33	-30	-6	-7	M	G	0.00	0.00	2500.00	401	-59	-69	-36	-29	M	G	0.00	0.00	2500.00
401	-59	-29	-30	-61	M	G	0.00	0.00	2500.00	401	-29	-36	-4	-5	M	G	0.00	0.00	2500.00
401	-29	-5	-6	-30	M	G	0.00	0.00	2500.00	401	-92	-109	-107	-90	M	G	0.00	0.00	2500.00
401	-92	-90	-61	-72	M	G	0.00	0.00	2500.00	401	-69	-59	-88	-96	M	G	0.00	0.00	2500.00
401	-59	-61	-90	-88	M	G	0.00	0.00	2500.00	401	-88	-90	-107	-96	M	G	0.00	0.00	2500.00
401	-107	-109	-130	-128	M	G	0.00	0.00	2500.00	401	-107	-128	-119	-96	M	G	0.00	0.00	2500.00
401	-130	-109	-111	-120	M	G	0.00	0.00	2500.00	401	-109	-92	-94	-111	M	G	0.00	0.00	2500.00
401	-120	-111	-94	-84	M	G	0.00	0.00	2500.00	401	-92	-72	-84	-94	M	G	0.00	0.00	2500.00
401	-192	-209	-184	-172	M	G	0.00	0.00	2500.00	401	-192	-172	-169	-193	M	G	0.00	0.00	2500.00
401	-172	-184	-144	-149	M	G	0.00	0.00	2500.00	401	-172	-149	-146	-169	M	G	0.00	0.00	2500.00
401	-149	-144	-113	-117	M	G	0.00	0.00	2500.00	401	-149	-117	-118	-146	M	G	0.00	0.00	2500.00
401	-80	-42	-35	-83	M	G	0.00	0.00	2500.00	401	-80	-83	-117	-113	M	G	0.00	0.00	2500.00
401	-26	-49	-56	-35	M	G	0.00	0.00	2500.00	401	-49	-66	-64	-56	M	G	0.00	0.00	2500.00
401	-35	-56	-64	-83	M	G	0.00	0.00	2500.00	401	-66	-98	-83	-64	M	G	0.00	0.00	2500.00
401	-98	-118	-117	-83	M	G	0.00	0.00	2500.00	401	-35	-42	-1	-2	M	G	0.00	0.00	2500.00
401	-35	-2	-3	-26	M	G	0.00	0.00	2500.00	401	-195	-217	-223	-188	M	G	0.00	0.00	2500.00
401	-195	-188	-157	-159	M	G	0.00	0.00	2500.00	401	-188	-223	-221	-186	M	G	0.00	0.00	2500.00
401	-188	-186	-155	-157	M	G	0.00	0.00	2500.00	401	-217	-246	-244	-223	M	G	0.00	0.00	2500.00
401	-246	-279	-267	-244	M	G	0.00	0.00	2500.00	401	-244	-267	-263	-223	M	G	0.00	0.00	2500.00
401	-263	-252	-221	-223	M	G	0.00	0.00	2500.00	401	-157	-155	-128	-130	M	G	0.00	0.00	2500.00
401	-157	-130	-120	-159	M	G	0.00	0.00	2500.00	401	-234	-240	-215	-203	M	G	0.00	0.00	2500.00
401	-240	-242	-213	-215	M	G	0.00	0.00	2500.00	401	-215	-213	-190	-203	M	G	0.00	0.00	2500.00
401	-203	-196	-235	-234	M	G	0.00	0.00	2500.00	401	-240	-234	-265	-273	M	G	0.00	0.00	2500.00
401	-240	-273	-275	-242	M	G	0.00	0.00	2500.00	401	-234	-235	-257	-265	M	G	0.00	0.00	2500.00
401	-246	-217	-213	-242	M	G	0.00	0.00	2500.00	401	-246	-242	-275	-279	M	G	0.00	0.00	2500.00
401	-217	-195	-190	-213	M	G	0.00	0.00	2500.00	401	-115	-138	-136	-120	M	G	0.00	0.00	2500.00
401	-138	-163	-161	-136	M	G	0.00	0.00	2500.00	401	-136	-161	-159	-120	M	G	0.00	0.00	2500.00
401	-159	-161	-180	-195	M	G	0.00	0.00	2500.00	401	-161	-163	-182	-180	M	G	0.00	0.00	2500.00
401	-180	-182	-190	-195	M	G	0.00	0.00	2500.00	401	-147	-142	-134	-121	M	G	0.00	0.00	2500.00
401	-142	-140	-132	-134	M	G	0.00	0.00	2500.00	401	-121	-134	-132	-115	M	G	0.00	0.00	2500.00
401	-140	-138	-115	-132	M	G	0.00	0.00	2500.00	401	-178	-167	-164	-170	M	G	0.00	0.00	2500.00
401	-167	-140	-142	-164	M	G	0.00	0.00	2500.00	401	-164	-142	-147	-170	M	G	0.00	0.00	2500.00
401	-170	-196	-203	-178	M	G	0.00	0.00	2500.00	401	-167	-178	-182	-163	M	G	0.00	0.00	2500.00
401	-167	-163	-138	-140	M	G	0.00	0.00	2500.00	401	-178	-203	-190	-182	M	G	0.00	0.00	2500.00
401	-194	-205	-207	-201	M	G	0.00	0.00	2500.00	401	-205	-227	-231	-207	M	G	0.00	0.00	2500.00
401	-207	-231	-229	-201	M	G	0.00	0.00	2500.00	401	-186	-221	-227	-205	M	G	0.00	0.00	2500.00
401	-186	-205	-194	-176	M	G	0.00	0.00	2500.00	401	-176	-153	-155	-186	M	G	0.00	0.00	2500.00
401	-261	-259	-229	-231	M	G	0.00	0.00	2500.00	401	-261	-231	-227	-254	M	G	0.00	0.00	2500.00
401	-227	-221	-252	-254	M	G	0.00	0.00	2500.00	401	-229	-259	-256	-233	M	G	0.00	0.00	2500.00
401	-229	-233	-193	-201	M	G	0.00	0.00	2500.00	401	-169	-146	-151	-174	M	G	0.00	0.00	2500.00
401	-169	-174	-201	-193	M	G	0.00	0.00	2500.00	401	-174	-151	-153	-176	M	G	0.00	0.00	2500.00
401	-174	-176	-194	-201	M	G	0.00	0.00	2500.00	401	-126	-151	-146	-118	M	G	0.00	0.00	2500.00
401	-153	-151	-126	-119	M	G	0.00	0.00	2500.00	401	-153	-119	-128	-155	M	G	0.00	0.00	2500.00
401	-322	-308	-337	-350	M	G	0.00	0.00	2500.00	401	-308	-306	-335	-337	M	G	0.00	0.00	2500.00
401	-350	-337	-335	-351	M	G	0.00	0.00	2500.00	401	-306	-312	-351	-335	M	G	0.00	0.00	2500.00
401	-322	-304	-302	-308	M	G	0.00	0.00	2500.00	401	-304	-285	-281	-302	M	G	0.00	0.00	2500.00
401	-308	-302	-281	-279	M	G	0.00	0.00	2500.00	401	-285	-267	-279	-281	M	G	0.00	0.00	2500.00
401	-279	-275	-306	-308	M	G	0.00	0.00	2500.00	401	-275	-273	-312	-306	M	G	0.00	0.00	2500.00
401	-285	-300	-263	-267	M	G	0.00	0.00	2500.00	401	-285	-304	-310	-300	M	G	0.00	0.00	2500.00
401	-304	-322	-333	-310	M	G	0.00	0.00	2500.00	401	-310	-333	-331	-300	M	G	0.00	0.00	2500.00
401	-333	-322	-350	-349	M	G	0.00	0.00	2500.00	401	-333	-349	-348	-331	M	G	0.00	0.00	2500.00
401	-273	-265	-283	-312	M	G	0.00	0.00	2500.00	401	-265	-257	-287	-283	M	G	0.00	0.00	2500.00
401	-283	-287	-323	-312	M	G	0.00	0.00	2500.00	401	-323	-352	-351	-312	M	G	0.00	0.00	2500.00
401	-296	-329	-321	-292	M	G	0.00	0.00	2500.00	401	-296	-292	-254	-252	M	G	0.00	0.00	2500.00
401	-329	-347	-346	-321	M	G	0.00	0.00	2500.00	401	-300	-331	-329	-296	M	G	0.00	0.00	2500.00
401	-300	-296	-252	-263	M	G	0.00	0.00	2500.00	401	-331	-348	-347	-329	M	G	0.00	0.00	2500.00
401	-294	-256	-259	-290	M	G	0.00	0.00	2500.00	401	-294	-290	-318	-327	M	G	0.00	0.00	2500.00
401	-261	-254	-292	-288	M	G	0.00	0.00	2500.00	401	-261	-288	-290	-259	M	G	0.00	0.00	2500.00
401	-288	-292	-321	-316	M	G	0.00	0.00	2500.00	401	-288	-316	-318	-290	M	G	0.00	0.00	2500.00
401	-327	-318	-341	-345	M	G	0.00	0.00	2500.00	401	-318	-316	-339	-341	M	G	0.00	0.00	2500.00
401	-345	-341	-339	-346	M	G	0.00	0.00	2500.00	401	-316	-321	-346	-339	M	G	0.00	0.00	2500.00
401	-320	-327	-345	-344	M	G	0.00	0.00	2500.00	401	-320	-344	-343	-314	M	G	0.00	0.00	2500.00
401	-277	-320	-314	-269	M	G	0.00	0.00	2500.00	401	-277	-271	-298	-320	M	G	0.00	0.00	2500.00
401	-271	-256	-294	-298	M	G	0.00	0.00	2500.00	401	-298	-294	-327	-320	M	G	0.00	0.00	2500.00
401	-271	-277	-248	-238	M	G	0.00	0.00	2500.00	401	-271	-238	-233	-256	M	G	0.00	0.00	2500.00
401	-233	-238	-211	-193	M	G	0.00	0.00	2500.00	401	-238	-248	-219	-211	M	G	0.00	0.00	2500.00
401	-211	-219	-192	-193	M	G	0.00	0.00	2500.00	401	-192	-219	-225	-209	M	G	0.00	0.00	2500.00
401	-219	-248	-250	-225	M	G	0.00	0.00	2500.00	401	-209	-225	-250	-269	M	G	0.00	0.00	2500.00

Relazione di calcolo

401 -248 -277 -269 -250 MG	0.00	0.00	2500.00	401 -84 -77 -105 -120 MG	0.00	0.00	2500.00
401 -77 -76 -103 -105 MG	0.00	0.00	2500.00	401 -120 -105 -103 -115 MG	0.00	0.00	2500.00
401 -76 -82 -115 -103 MG	0.00	0.00	2500.00	401 -77 -84 -37 -52 MG	0.00	0.00	2500.00
401 -77 -52 -54 -76 MG	0.00	0.00	2500.00	401 -54 -46 -82 -76 MG	0.00	0.00	2500.00
401 -46 -54 -24 -9 MG	0.00	0.00	2500.00	401 -54 -52 -22 -24 MG	0.00	0.00	2500.00
401 -9 -24 -22 -8 MG	0.00	0.00	2500.00	401 -52 -37 -8 -22 MG	0.00	0.00	2500.00
401 -46 -48 -63 -82 MG	0.00	0.00	2500.00	401 -48 -50 -67 -63 MG	0.00	0.00	2500.00
401 -63 -67 -99 -82 MG	0.00	0.00	2500.00	401 -99 -121 -115 -82 MG	0.00	0.00	2500.00
401 -10 -38 -28 -9 MG	0.00	0.00	2500.00	401 -38 -50 -48 -28 MG	0.00	0.00	2500.00
401 -28 -48 -46 -9 MG	0.00	0.00	2500.00	401 -274 -266 -236 -241 MG	0.00	0.00	2500.00
401 -274 -241 -243 -276 MG	0.00	0.00	2500.00	401 -266 -257 -235 -236 MG	0.00	0.00	2500.00
401 -204 -236 -235 -196 MG	0.00	0.00	2500.00	401 -191 -214 -216 -204 MG	0.00	0.00	2500.00
401 -214 -243 -241 -216 MG	0.00	0.00	2500.00	401 -216 -241 -236 -204 MG	0.00	0.00	2500.00
401 -218 -214 -191 -197 MG	0.00	0.00	2500.00	401 -243 -214 -218 -247 MG	0.00	0.00	2500.00
401 -243 -247 -280 -276 MG	0.00	0.00	2500.00	401 -166 -183 -179 -168 MG	0.00	0.00	2500.00
401 -166 -168 -141 -139 MG	0.00	0.00	2500.00	401 -183 -191 -204 -179 MG	0.00	0.00	2500.00
401 -147 -143 -165 -170 MG	0.00	0.00	2500.00	401 -143 -141 -168 -165 MG	0.00	0.00	2500.00
401 -165 -168 -179 -170 MG	0.00	0.00	2500.00	401 -179 -204 -196 -170 MG	0.00	0.00	2500.00
401 -139 -141 -133 -116 MG	0.00	0.00	2500.00	401 -141 -143 -135 -133 MG	0.00	0.00	2500.00
401 -116 -133 -135 -121 MG	0.00	0.00	2500.00	401 -143 -147 -121 -135 MG	0.00	0.00	2500.00
401 -191 -183 -181 -197 MG	0.00	0.00	2500.00	401 -183 -166 -162 -181 MG	0.00	0.00	2500.00
401 -181 -162 -160 -197 MG	0.00	0.00	2500.00	401 -160 -162 -137 -122 MG	0.00	0.00	2500.00
401 -162 -166 -139 -137 MG	0.00	0.00	2500.00	401 -137 -139 -116 -122 MG	0.00	0.00	2500.00
401 -197 -160 -158 -189 MG	0.00	0.00	2500.00	401 -197 -189 -224 -218 MG	0.00	0.00	2500.00
401 -189 -158 -156 -187 MG	0.00	0.00	2500.00	401 -189 -187 -222 -224 MG	0.00	0.00	2500.00
401 -264 -268 -245 -224 MG	0.00	0.00	2500.00	401 -268 -280 -247 -245 MG	0.00	0.00	2500.00
401 -245 -247 -218 -224 MG	0.00	0.00	2500.00	401 -224 -222 -253 -264 MG	0.00	0.00	2500.00
401 -158 -160 -122 -131 MG	0.00	0.00	2500.00	401 -158 -131 -129 -156 MG	0.00	0.00	2500.00
401 -177 -154 -152 -175 MG	0.00	0.00	2500.00	401 -177 -175 -202 -198 MG	0.00	0.00	2500.00
401 -175 -152 -148 -171 MG	0.00	0.00	2500.00	401 -175 -171 -199 -202 MG	0.00	0.00	2500.00
401 -187 -177 -198 -206 MG	0.00	0.00	2500.00	401 -187 -206 -228 -222 MG	0.00	0.00	2500.00
401 -230 -232 -208 -202 MG	0.00	0.00	2500.00	401 -232 -228 -206 -208 MG	0.00	0.00	2500.00
401 -208 -206 -198 -202 MG	0.00	0.00	2500.00	401 -187 -156 -154 -177 MG	0.00	0.00	2500.00
401 -262 -255 -228 -232 MG	0.00	0.00	2500.00	401 -262 -232 -230 -260 MG	0.00	0.00	2500.00
401 -255 -253 -222 -228 MG	0.00	0.00	2500.00	401 -230 -202 -199 -237 MG	0.00	0.00	2500.00
401 -230 -237 -258 -260 MG	0.00	0.00	2500.00	401 -154 -156 -129 -123 MG	0.00	0.00	2500.00
401 -154 -123 -127 -152 MG	0.00	0.00	2500.00	401 -127 -124 -148 -152 MG	0.00	0.00	2500.00
401 -325 -317 -340 -358 MG	0.00	0.00	2500.00	401 -317 -319 -342 -340 MG	0.00	0.00	2500.00
401 -358 -340 -342 -359 MG	0.00	0.00	2500.00	401 -319 -328 -359 -342 MG	0.00	0.00	2500.00
401 -295 -328 -319 -291 MG	0.00	0.00	2500.00	401 -295 -291 -260 -258 MG	0.00	0.00	2500.00
401 -317 -325 -293 -289 MG	0.00	0.00	2500.00	401 -317 -289 -291 -319 MG	0.00	0.00	2500.00
401 -289 -293 -255 -262 MG	0.00	0.00	2500.00	401 -289 -262 -260 -291 MG	0.00	0.00	2500.00
401 -297 -330 -332 -301 MG	0.00	0.00	2500.00	401 -297 -301 -264 -253 MG	0.00	0.00	2500.00
401 -330 -357 -356 -332 MG	0.00	0.00	2500.00	401 -297 -253 -255 -293 MG	0.00	0.00	2500.00
401 -297 -293 -325 -330 MG	0.00	0.00	2500.00	401 -325 -358 -357 -330 MG	0.00	0.00	2500.00
401 -332 -334 -311 -301 MG	0.00	0.00	2500.00	401 -334 -324 -305 -311 MG	0.00	0.00	2500.00
401 -311 -305 -286 -301 MG	0.00	0.00	2500.00	401 -286 -268 -264 -301 MG	0.00	0.00	2500.00
401 -334 -332 -356 -355 MG	0.00	0.00	2500.00	401 -334 -355 -354 -324 MG	0.00	0.00	2500.00
401 -268 -286 -282 -280 MG	0.00	0.00	2500.00	401 -286 -305 -303 -282 MG	0.00	0.00	2500.00
401 -280 -282 -303 -309 MG	0.00	0.00	2500.00	401 -305 -324 -309 -303 MG	0.00	0.00	2500.00
401 -309 -307 -276 -280 MG	0.00	0.00	2500.00	401 -307 -313 -274 -276 MG	0.00	0.00	2500.00
401 -313 -307 -336 -353 MG	0.00	0.00	2500.00	401 -307 -309 -338 -336 MG	0.00	0.00	2500.00
401 -353 -336 -338 -354 MG	0.00	0.00	2500.00	401 -309 -324 -354 -338 MG	0.00	0.00	2500.00
401 -323 -287 -284 -313 MG	0.00	0.00	2500.00	401 -287 -257 -266 -284 MG	0.00	0.00	2500.00
401 -284 -266 -274 -313 MG	0.00	0.00	2500.00	401 -313 -353 -352 -323 MG	0.00	0.00	2500.00
401 -328 -295 -299 -326 MG	0.00	0.00	2500.00	401 -295 -258 -272 -299 MG	0.00	0.00	2500.00
401 -299 -272 -278 -326 MG	0.00	0.00	2500.00	401 -278 -270 -315 -326 MG	0.00	0.00	2500.00
401 -326 -315 -361 -360 MG	0.00	0.00	2500.00	401 -326 -360 -359 -328 MG	0.00	0.00	2500.00
401 -200 -220 -212 -199 MG	0.00	0.00	2500.00	401 -220 -249 -239 -212 MG	0.00	0.00	2500.00
401 -212 -239 -237 -199 MG	0.00	0.00	2500.00	401 -239 -249 -278 -272 MG	0.00	0.00	2500.00
401 -239 -272 -258 -237 MG	0.00	0.00	2500.00	401 -278 -249 -251 -270 MG	0.00	0.00	2500.00
401 -249 -220 -226 -251 MG	0.00	0.00	2500.00	401 -270 -251 -226 -210 MG	0.00	0.00	2500.00
401 -220 -200 -210 -226 MG	0.00	0.00	2500.00	401 -99 -87 -116 -121 MG	0.00	0.00	2500.00
401 -99 -67 -71 -87 MG	0.00	0.00	2500.00	401 -67 -50 -58 -71 MG	0.00	0.00	2500.00
401 -87 -71 -58 -47 MG	0.00	0.00	2500.00	401 -50 -38 -47 -58 MG	0.00	0.00	2500.00
401 -38 -10 -11 -47 MG	0.00	0.00	2500.00	401 -55 -79 -87 -47 MG	0.00	0.00	2500.00
401 -78 -79 -55 -53 MG	0.00	0.00	2500.00	401 -78 -53 -39 -85 MG	0.00	0.00	2500.00
401 -39 -53 -23 -12 MG	0.00	0.00	2500.00	401 -53 -55 -25 -23 MG	0.00	0.00	2500.00
401 -12 -23 -25 -11 MG	0.00	0.00	2500.00	401 -55 -47 -11 -25 MG	0.00	0.00	2500.00
401 -87 -79 -104 -116 MG	0.00	0.00	2500.00	401 -79 -78 -106 -104 MG	0.00	0.00	2500.00
401 -116 -104 -106 -122 MG	0.00	0.00	2500.00	401 -78 -85 -122 -106 MG	0.00	0.00	2500.00
401 -39 -12 -13 -34 MG	0.00	0.00	2500.00	401 -39 -34 -73 -85 MG	0.00	0.00	2500.00
401 -34 -13 -14 -31 MG	0.00	0.00	2500.00	401 -34 -31 -62 -73 MG	0.00	0.00	2500.00
401 -15 -16 -40 -32 MG	0.00	0.00	2500.00	401 -15 -32 -31 -14 MG	0.00	0.00	2500.00
401 -32 -40 -70 -60 MG	0.00	0.00	2500.00	401 -32 -60 -62 -31 MG	0.00	0.00	2500.00
401 -129 -131 -110 -108 MG	0.00	0.00	2500.00	401 -129 -108 -97 -123 MG	0.00	0.00	2500.00
401 -108 -91 -89 -97 MG	0.00	0.00	2500.00	401 -91 -62 -60 -89 MG	0.00	0.00	2500.00
401 -89 -60 -70 -97 MG	0.00	0.00	2500.00	401 -91 -108 -110 -93 MG	0.00	0.00	2500.00
401 -91 -93 -73 -62 MG	0.00	0.00	2500.00	401 -73 -93 -95 -85 MG	0.00	0.00	2500.00
401 -93 -110 -112 -95 MG	0.00	0.00	2500.00	401 -85 -95 -112 -122 MG	0.00	0.00	2500.00
401 -110 -131 -122 -112 MG	0.00	0.00	2500.00	401 -17 -27 -21 -16 MG	0.00	0.00	2500.00
401 -27 -51 -45 -21 MG	0.00	0.00	2500.00	401 -21 -45 -40 -16 MG	0.00	0.00	2500.00

Relazione di calcolo

401	-45	-51	-68	-75	MG	0.00	0.00	2500.00	401	-45	-75	-70	-40	MG	0.00	0.00	2500.00
401	-127	-123	-97	-102	MG	0.00	0.00	2500.00	401	-127	-102	-100	-124	MG	0.00	0.00	2500.00
401	-102	-97	-70	-75	MG	0.00	0.00	2500.00	401	-102	-75	-68	-100	MG	0.00	0.00	2500.00
401	-41	-27	-17	-18	MG	0.00	0.00	2500.00	401	-41	-18	-19	-43	MG	0.00	0.00	2500.00
401	-100	-68	-65	-86	MG	0.00	0.00	2500.00	401	-68	-51	-57	-65	MG	0.00	0.00	2500.00
401	-86	-65	-57	-41	MG	0.00	0.00	2500.00	401	-51	-27	-41	-57	MG	0.00	0.00	2500.00
401	-86	-125	-124	-100	MG	0.00	0.00	2500.00	401	-86	-41	-43	-81	MG	0.00	0.00	2500.00
401	-86	-81	-114	-125	MG	0.00	0.00	2500.00	401	-200	-199	-171	-173	MG	0.00	0.00	2500.00
401	-200	-173	-185	-210	MG	0.00	0.00	2500.00	401	-173	-171	-148	-150	MG	0.00	0.00	2500.00
401	-173	-150	-145	-185	MG	0.00	0.00	2500.00	401	-150	-148	-124	-125	MG	0.00	0.00	2500.00
401	-150	-125	-114	-145	MG	0.00	0.00	2500.00									

Elenco carichi elementi bidimensionali

Condizione di carico n. 2: Permanenti non strutturali

Carichi idrostatici

Simbologia

Bid. = Numero del muro/elemento bidimensionale

N1 = Nodo1

N2 = Nodo2

N3 = Nodo3

N4 = Nodo4

Zi = Coordinata Z globale d'inizio carico

QYi = Componente iniziale del carico in direzione Y locale dell'elemento bidimensionale

MY = Coordinata Z globale di fine carico

QYf = Componente finale del carico in direzione Y locale dell'elemento bidimensionale

Bid.	N1	N2	N3	N4	Zi	QYi	MY	QYf	Bid.	N1	N2	N3	N4	Zi	QYi	MY	QYf
					<m>	<daN/m>	<m>	<daN/m>						<m>	<daN/m>	<m>	<daN/m>
103	-413	-410	-437	-440	0.00	-3200.00	5.30	0.00	103	-494	-491	179	-500	0.00	-3200.00	5.30	0.00
103	-440	-437	-464	-467	0.00	-3200.00	5.30	0.00	103	-467	-464	-491	-494	0.00	-3200.00	5.30	0.00
103	-386	-383	-410	-413	0.00	-3200.00	5.30	0.00	103	-464	-461	-488	-491	0.00	-3200.00	5.30	0.00
103	-491	-488	166	179	0.00	-3200.00	5.30	0.00	103	-380	-377	-404	-407	0.00	-3200.00	5.30	0.00
103	-407	-404	-431	-434	0.00	-3200.00	5.30	0.00	103	-434	-431	-458	-461	0.00	-3200.00	5.30	0.00
103	-461	-458	-485	-488	0.00	-3200.00	5.30	0.00	103	-488	-485	153	166	0.00	-3200.00	5.30	0.00
103	-377	-374	-401	-404	0.00	-3200.00	5.30	0.00	103	-404	-401	-428	-431	0.00	-3200.00	5.30	0.00
103	-431	-428	-455	-458	0.00	-3200.00	5.30	0.00	103	-458	-455	-482	-485	0.00	-3200.00	5.30	0.00
103	-383	-380	-407	-410	0.00	-3200.00	5.30	0.00	103	-410	-407	-434	-437	0.00	-3200.00	5.30	0.00
103	-437	-434	-461	-464	0.00	-3200.00	5.30	0.00	103	-256	-233	-383	-386	0.00	-3200.00	5.30	0.00
103	-233	-193	-380	-383	0.00	-3200.00	5.30	0.00	103	-193	-169	-377	-380	0.00	-3200.00	5.30	0.00
103	-169	-146	-374	-377	0.00	-3200.00	5.30	0.00	103	-146	-118	-371	-374	0.00	-3200.00	5.30	0.00
103	-118	-98	-368	-371	0.00	-3200.00	5.30	0.00	103	-98	-66	-365	-368	0.00	-3200.00	5.30	0.00
103	-66	-49	-362	-365	0.00	-3200.00	5.30	0.00	103	-395	-392	-419	-422	0.00	-3200.00	5.30	0.00
103	-422	-419	-446	-449	0.00	-3200.00	5.30	0.00	103	-449	-446	-473	-476	0.00	-3200.00	5.30	0.00
103	-476	-473	101	114	0.00	-3200.00	5.30	0.00	103	-365	-362	-389	-392	0.00	-3200.00	5.30	0.00
103	-392	-389	-416	-419	0.00	-3200.00	5.30	0.00	103	-419	-416	-443	-446	0.00	-3200.00	5.30	0.00
103	-446	-443	-470	-473	0.00	-3200.00	5.30	0.00	103	-473	-470	-497	101	0.00	-3200.00	5.30	0.00
103	-455	-452	-479	-482	0.00	-3200.00	5.30	0.00	103	-482	-479	127	140	0.00	-3200.00	5.30	0.00
103	-371	-368	-395	-398	0.00	-3200.00	5.30	0.00	103	-398	-395	-422	-425	0.00	-3200.00	5.30	0.00
103	-425	-422	-449	-452	0.00	-3200.00	5.30	0.00	103	-452	-449	-476	-479	0.00	-3200.00	5.30	0.00
103	-479	-476	114	127	0.00	-3200.00	5.30	0.00	103	-368	-365	-392	-395	0.00	-3200.00	5.30	0.00
103	-374	-371	-398	-401	0.00	-3200.00	5.30	0.00	103	-401	-398	-425	-428	0.00	-3200.00	5.30	0.00
103	-485	-482	140	153	0.00	-3200.00	5.30	0.00	103	-428	-425	-452	-455	0.00	-3200.00	5.30	0.00
104	-493	-490	178	191	0.00	3200.00	5.30	0.00	104	-382	-379	-406	-409	0.00	3200.00	5.30	0.00
104	-415	-412	-439	-442	0.00	3200.00	5.30	0.00	104	-442	-439	-466	-469	0.00	3200.00	5.30	0.00
104	-469	-466	-493	-496	0.00	3200.00	5.30	0.00	104	-496	-493	191	-502	0.00	3200.00	5.30	0.00
104	-385	-382	-409	-412	0.00	3200.00	5.30	0.00	104	-412	-409	-436	-439	0.00	3200.00	5.30	0.00
104	-439	-436	-463	-466	0.00	3200.00	5.30	0.00	104	-466	-463	-490	-493	0.00	3200.00	5.30	0.00
104	-457	-454	-481	-484	0.00	3200.00	5.30	0.00	104	-484	-481	139	152	0.00	3200.00	5.30	0.00
104	-373	-370	-397	-400	0.00	3200.00	5.30	0.00	104	-400	-397	-424	-427	0.00	3200.00	5.30	0.00
104	-427	-424	-451	-454	0.00	3200.00	5.30	0.00	104	-454	-451	-478	-481	0.00	3200.00	5.30	0.00
104	-481	-478	126	139	0.00	3200.00	5.30	0.00	104	-370	-367	-394	-397	0.00	3200.00	5.30	0.00
104	-397	-394	-421	-424	0.00	3200.00	5.30	0.00	104	-424	-421	-448	-451	0.00	3200.00	5.30	0.00
104	-451	-448	-475	-478	0.00	3200.00	5.30	0.00	104	-478	-475	113	126	0.00	3200.00	5.30	0.00
104	-367	-364	-391	-394	0.00	3200.00	5.30	0.00	104	-394	-391	-418	-421	0.00	3200.00	5.30	0.00
104	-421	-418	-445	-448	0.00	3200.00	5.30	0.00	104	-448	-445	-472	-475	0.00	3200.00	5.30	0.00
104	-475	-472	-499	113	0.00	3200.00	5.30	0.00	104	-409	-406	-433	-436	0.00	3200.00	5.30	0.00
104	-436	-433	-460	-463	0.00	3200.00	5.30	0.00	104	-463	-460	-487	-490	0.00	3200.00	5.30	0.00
104	-490	-487	165	178	0.00	3200.00	5.30	0.00	104	-379	-376	-403	-406	0.00	3200.00	5.30	0.00
104	-406	-403	-430	-433	0.00	3200.00	5.30	0.00	104	-433	-430	-457	-460	0.00	3200.00	5.30	0.00
104	-460	-457	-484	-487	0.00	3200.00	5.30	0.00	104	-487	-484	152	165	0.00	3200.00	5.30	0.00
104	-376	-373	-400	-403	0.00	3200.00	5.30	0.00	104	-403	-400	-427	-430	0.00	3200.00	5.30	0.00
104	-430	-427	-454	-457	0.00	3200.00	5.30	0.00	104	-258	-237	-385	-388	0.00	3200.00	5.30	0.00
104	-237	-199	-382	-385	0.00	3200.00	5.30	0.00	104	-199	-171	-379	-382	0.00	3200.00	5.30	0.00
104	-171	-148	-376	-379	0.00	3200.00	5.30	0.00	104	-148	-124	-373	-376	0.00	3200.00	5.30	0.00
104	-124	-100	-370	-373	0.00	3200.00	5.30	0.00	104	-100	-68	-367	-370	0.00	3200.00	5.30	0.00
104	-68	-51	-364	-367	0.00	3200.00	5.30	0.00	104	-388	-385	-412	-415	0.00	3200.00	5.30	0.00

Elenco carichi elementi bidimensionali
Condizione di carico n. 3: Variabili folla
Carichi uniformi

Bid.	N1	N2	N3	N4	T DC	Qx	Qy	Qz	Bid.	N1	N2	N3	N4	T DC	Qx	Qy	Qz
						<daN/mq>	<daN/mq>	<daN/mq>							<daN/mq>	<daN/mq>	<daN/mq>
103	-413	-410	-437	-440	MG	-1000.00	0.00	0.00	103	-494	-491	179	-500	MG	-1000.00	0.00	0.00
103	-440	-437	-464	-467	MG	-1000.00	0.00	0.00	103	-467	-464	-491	-494	MG	-1000.00	0.00	0.00
103	-386	-383	-410	-413	MG	-1000.00	0.00	0.00	103	-464	-461	-488	-491	MG	-1000.00	0.00	0.00
103	-491	-488	166	179	MG	-1000.00	0.00	0.00	103	-380	-377	-404	-407	MG	-1000.00	0.00	0.00
103	-407	-404	-431	-434	MG	-1000.00	0.00	0.00	103	-434	-431	-458	-461	MG	-1000.00	0.00	0.00
103	-461	-458	-485	-488	MG	-1000.00	0.00	0.00	103	-488	-485	153	166	MG	-1000.00	0.00	0.00
103	-377	-374	-401	-404	MG	-1000.00	0.00	0.00	103	-404	-401	-428	-431	MG	-1000.00	0.00	0.00
103	-431	-428	-455	-458	MG	-1000.00	0.00	0.00	103	-458	-455	-482	-485	MG	-1000.00	0.00	0.00
103	-383	-380	-407	-410	MG	-1000.00	0.00	0.00	103	-410	-407	-434	-437	MG	-1000.00	0.00	0.00
103	-437	-434	-461	-464	MG	-1000.00	0.00	0.00	103	-256	-233	-383	-386	MG	-1000.00	0.00	0.00
103	-233	-193	-380	-383	MG	-1000.00	0.00	0.00	103	-193	-169	-377	-380	MG	-1000.00	0.00	0.00
103	-169	-146	-374	-377	MG	-1000.00	0.00	0.00	103	-146	-118	-371	-374	MG	-1000.00	0.00	0.00
103	-118	-98	-368	-371	MG	-1000.00	0.00	0.00	103	-98	-66	-365	-368	MG	-1000.00	0.00	0.00
103	-66	-49	-362	-365	MG	-1000.00	0.00	0.00	103	-395	-392	-419	-422	MG	-1000.00	0.00	0.00
103	-422	-419	-446	-449	MG	-1000.00	0.00	0.00	103	-449	-446	-473	-476	MG	-1000.00	0.00	0.00
103	-476	-473	101	114	MG	-1000.00	0.00	0.00	103	-365	-362	-389	-392	MG	-1000.00	0.00	0.00
103	-392	-389	-416	-419	MG	-1000.00	0.00	0.00	103	-419	-416	-443	-446	MG	-1000.00	0.00	0.00
103	-446	-443	-470	-473	MG	-1000.00	0.00	0.00	103	-473	-470	-497	-500	MG	-1000.00	0.00	0.00
103	-455	-452	-479	-482	MG	-1000.00	0.00	0.00	103	-482	-479	127	140	MG	-1000.00	0.00	0.00
103	-371	-368	-395	-398	MG	-1000.00	0.00	0.00	103	-398	-395	-422	-425	MG	-1000.00	0.00	0.00
103	-425	-422	-449	-452	MG	-1000.00	0.00	0.00	103	-452	-449	-476	-479	MG	-1000.00	0.00	0.00
103	-479	-476	114	127	MG	-1000.00	0.00	0.00	103	-368	-365	-392	-395	MG	-1000.00	0.00	0.00
103	-374	-371	-398	-401	MG	-1000.00	0.00	0.00	103	-401	-398	-425	-428	MG	-1000.00	0.00	0.00
103	-485	-482	140	153	MG	-1000.00	0.00	0.00	103	-428	-425	-452	-455	MG	-1000.00	0.00	0.00
104	-493	-490	178	191	MG	1000.00	0.00	0.00	104	-382	-379	-406	-409	MG	1000.00	0.00	0.00
104	-415	-412	-439	-442	MG	1000.00	0.00	0.00	104	-442	-439	-466	-469	MG	1000.00	0.00	0.00
104	-469	-466	-493	-496	MG	1000.00	0.00	0.00	104	-496	-493	191	-502	MG	1000.00	0.00	0.00
104	-385	-382	-409	-412	MG	1000.00	0.00	0.00	104	-412	-409	-436	-439	MG	1000.00	0.00	0.00
104	-439	-436	-463	-466	MG	1000.00	0.00	0.00	104	-466	-463	-490	-493	MG	1000.00	0.00	0.00
104	-457	-454	-481	-484	MG	1000.00	0.00	0.00	104	-484	-481	139	152	MG	1000.00	0.00	0.00
104	-373	-370	-397	-400	MG	1000.00	0.00	0.00	104	-400	-397	-424	-427	MG	1000.00	0.00	0.00
104	-427	-424	-451	-454	MG	1000.00	0.00	0.00	104	-454	-451	-478	-481	MG	1000.00	0.00	0.00
104	-481	-478	126	139	MG	1000.00	0.00	0.00	104	-370	-367	-394	-397	MG	1000.00	0.00	0.00
104	-397	-394	-421	-424	MG	1000.00	0.00	0.00	104	-424	-421	-448	-451	MG	1000.00	0.00	0.00
104	-451	-448	-475	-478	MG	1000.00	0.00	0.00	104	-478	-475	113	126	MG	1000.00	0.00	0.00
104	-367	-364	-391	-394	MG	1000.00	0.00	0.00	104	-394	-391	-418	-421	MG	1000.00	0.00	0.00
104	-421	-418	-445	-448	MG	1000.00	0.00	0.00	104	-448	-445	-472	-475	MG	1000.00	0.00	0.00
104	-475	-472	-499	-502	MG	1000.00	0.00	0.00	104	-409	-406	-433	-436	MG	1000.00	0.00	0.00
104	-436	-433	-460	-463	MG	1000.00	0.00	0.00	104	-463	-460	-487	-490	MG	1000.00	0.00	0.00
104	-490	-487	165	178	MG	1000.00	0.00	0.00	104	-379	-376	-403	-406	MG	1000.00	0.00	0.00
104	-406	-403	-430	-433	MG	1000.00	0.00	0.00	104	-433	-430	-457	-460	MG	1000.00	0.00	0.00
104	-460	-457	-484	-487	MG	1000.00	0.00	0.00	104	-487	-484	152	165	MG	1000.00	0.00	0.00
104	-376	-373	-400	-403	MG	1000.00	0.00	0.00	104	-403	-400	-427	-430	MG	1000.00	0.00	0.00
104	-430	-427	-454	-457	MG	1000.00	0.00	0.00	104	-258	-237	-385	-388	MG	1000.00	0.00	0.00
104	-237	-199	-382	-385	MG	1000.00	0.00	0.00	104	-199	-171	-379	-382	MG	1000.00	0.00	0.00
104	-171	-148	-376	-379	MG	1000.00	0.00	0.00	104	-148	-124	-373	-376	MG	1000.00	0.00	0.00
104	-124	-100	-370	-373	MG	1000.00	0.00	0.00	104	-100	-68	-367	-370	MG	1000.00	0.00	0.00
104	-68	-51	-364	-367	MG	1000.00	0.00	0.00	104	-388	-385	-412	-415	MG	1000.00	0.00	0.00

Elenco carichi elementi bidimensionali
Condizione di carico n. 5: Variabile piena T=200
Carichi uniformi

Bid.	N1	N2	N3	N4	T DC	Qx	Qy	Qz	Bid.	N1	N2	N3	N4	T DC	Qx	Qy	Qz
						<daN/mq>	<daN/mq>	<daN/mq>							<daN/mq>	<daN/mq>	<daN/mq>
401	-126	-118	-98	-101	MG	0.00	0.00	2800.00	401	-126	-101	-96	-119	MG	0.00	0.00	2800.00
401	-101	-98	-66	-74	MG	0.00	0.00	2800.00	401	-101	-74	-69	-96	MG	0.00	0.00	2800.00
401	-74	-66	-49	-44	MG	0.00	0.00	2800.00	401	-74	-44	-36	-69	MG	0.00	0.00	2800.00
401	-36	-44	-20	-4	MG	0.00	0.00	2800.00	401	-44	-49	-26	-20	MG	0.00	0.00	2800.00
401	-20	-26	-3	-4	MG	0.00	0.00	2800.00	401	-37	-84	-72	-33	MG	0.00	0.00	2800.00
401	-37	-33	-7	-8	MG	0.00	0.00	2800.00	401	-33	-72	-61	-30	MG	0.00	0.00	2800.00
401	-33	-30	-6	-7	MG	0.00	0.00	2800.00	401	-59	-69	-36	-29	MG	0.00	0.00	2800.00
401	-59	-29	-30	-61	MG	0.00	0.00	2800.00	401	-29	-36	-4	-5	MG	0.00	0.00	2800.00
401	-29	-5	-6	-30	MG	0.00	0.00	2800.00	401	-92	-109	-107	-90	MG	0.00	0.00	2800.00
401	-92	-90	-61	-72	MG	0.00	0.00	2800.00	401	-69	-59	-88	-96	MG	0.00	0.00	2800.00
401	-59	-61	-90	-88	MG	0.00	0.00	2800.00	401	-88	-90	-107	-96	MG	0.00	0.00	2800.00
401	-107	-109	-130	-128	MG	0.00	0.00	2800.00	401	-107	-128	-119	-96	MG	0.00	0.00	2800.00
401	-130	-109	-111	-120	MG	0.00	0.00	2800.00	401	-109	-92	-94	-111	MG	0.00	0.00	2800.00
401	-120	-111	-94	-84	MG	0.00	0.00	2800.00	401	-92	-72	-84	-94	MG	0.00	0.00	2800.00
401	-192	-209	-184	-172	MG	0.00	0.00	2800.00	401	-192	-172	-169	-193	MG	0.00	0.00	2800.00
401	-172	-184	-144	-149	MG	0.00	0.00	2800.00	401	-172	-149	-146	-169	MG	0.00	0.00	2800.00
401	-149	-144	-113	-117	MG	0.00	0.00	2800.00	401	-149	-117	-118	-146	MG	0.00	0.00	2800.00
401	-80	-42	-35	-83	MG	0.00	0.00	2800.00	401	-80	-83	-117	-113	MG	0.00	0.00	2800.00
401	-26	-49	-56	-35	MG	0.00	0.00	2800.00	401	-49	-66	-64	-56	MG	0.00	0.00	2800.00
401	-35	-56	-64	-83	MG	0.00	0.00	2800.00	401	-66	-98	-83	-64	MG	0.00	0.00	2800.00
401	-98	-118	-117	-83	MG	0.00	0.00	2800.00	401	-35	-42	-1	-2	MG	0.00	0.00	2800.00

Relazione di calcolo

401 -35 -2 -3 -26 MG	0.00	0.00	2800.00	401 -195 -217 -223 -188 MG	0.00	0.00	2800.00
401 -195 -188 -157 -159 MG	0.00	0.00	2800.00	401 -188 -223 -221 -186 MG	0.00	0.00	2800.00
401 -188 -186 -155 -157 MG	0.00	0.00	2800.00	401 -217 -246 -244 -223 MG	0.00	0.00	2800.00
401 -246 -279 -267 -244 MG	0.00	0.00	2800.00	401 -244 -267 -263 -223 MG	0.00	0.00	2800.00
401 -263 -252 -221 -223 MG	0.00	0.00	2800.00	401 -157 -155 -128 -130 MG	0.00	0.00	2800.00
401 -157 -130 -120 -159 MG	0.00	0.00	2800.00	401 -234 -240 -215 -203 MG	0.00	0.00	2800.00
401 -240 -242 -213 -215 MG	0.00	0.00	2800.00	401 -215 -213 -190 -203 MG	0.00	0.00	2800.00
401 -203 -196 -235 -234 MG	0.00	0.00	2800.00	401 -240 -234 -265 -273 MG	0.00	0.00	2800.00
401 -240 -273 -275 -242 MG	0.00	0.00	2800.00	401 -234 -235 -257 -265 MG	0.00	0.00	2800.00
401 -246 -217 -213 -242 MG	0.00	0.00	2800.00	401 -246 -242 -275 -279 MG	0.00	0.00	2800.00
401 -217 -195 -190 -213 MG	0.00	0.00	2800.00	401 -115 -138 -136 -120 MG	0.00	0.00	2800.00
401 -138 -163 -161 -136 MG	0.00	0.00	2800.00	401 -136 -161 -159 -120 MG	0.00	0.00	2800.00
401 -159 -161 -180 -195 MG	0.00	0.00	2800.00	401 -161 -163 -182 -180 MG	0.00	0.00	2800.00
401 -180 -182 -190 -195 MG	0.00	0.00	2800.00	401 -147 -142 -134 -121 MG	0.00	0.00	2800.00
401 -142 -140 -132 -134 MG	0.00	0.00	2800.00	401 -121 -134 -132 -115 MG	0.00	0.00	2800.00
401 -140 -138 -115 -132 MG	0.00	0.00	2800.00	401 -178 -167 -164 -170 MG	0.00	0.00	2800.00
401 -167 -140 -142 -164 MG	0.00	0.00	2800.00	401 -164 -142 -147 -170 MG	0.00	0.00	2800.00
401 -170 -196 -203 -178 MG	0.00	0.00	2800.00	401 -167 -178 -182 -163 MG	0.00	0.00	2800.00
401 -167 -163 -138 -140 MG	0.00	0.00	2800.00	401 -178 -203 -190 -182 MG	0.00	0.00	2800.00
401 -194 -205 -207 -201 MG	0.00	0.00	2800.00	401 -205 -227 -231 -207 MG	0.00	0.00	2800.00
401 -207 -231 -229 -201 MG	0.00	0.00	2800.00	401 -186 -221 -227 -205 MG	0.00	0.00	2800.00
401 -186 -205 -194 -176 MG	0.00	0.00	2800.00	401 -176 -153 -155 -186 MG	0.00	0.00	2800.00
401 -261 -259 -229 -231 MG	0.00	0.00	2800.00	401 -261 -231 -227 -254 MG	0.00	0.00	2800.00
401 -227 -221 -252 -254 MG	0.00	0.00	2800.00	401 -229 -259 -256 -233 MG	0.00	0.00	2800.00
401 -229 -233 -193 -201 MG	0.00	0.00	2800.00	401 -169 -146 -151 -174 MG	0.00	0.00	2800.00
401 -169 -174 -201 -193 MG	0.00	0.00	2800.00	401 -174 -151 -153 -176 MG	0.00	0.00	2800.00
401 -174 -176 -194 -201 MG	0.00	0.00	2800.00	401 -126 -151 -146 -118 MG	0.00	0.00	2800.00
401 -153 -151 -126 -119 MG	0.00	0.00	2800.00	401 -153 -119 -128 -155 MG	0.00	0.00	2800.00
401 -322 -308 -337 -350 MG	0.00	0.00	2800.00	401 -308 -306 -335 -337 MG	0.00	0.00	2800.00
401 -350 -337 -335 -351 MG	0.00	0.00	2800.00	401 -306 -312 -351 -335 MG	0.00	0.00	2800.00
401 -322 -304 -302 -308 MG	0.00	0.00	2800.00	401 -304 -285 -281 -302 MG	0.00	0.00	2800.00
401 -308 -302 -281 -279 MG	0.00	0.00	2800.00	401 -285 -267 -279 -281 MG	0.00	0.00	2800.00
401 -279 -275 -306 -308 MG	0.00	0.00	2800.00	401 -275 -273 -312 -306 MG	0.00	0.00	2800.00
401 -285 -300 -263 -267 MG	0.00	0.00	2800.00	401 -285 -304 -310 -300 MG	0.00	0.00	2800.00
401 -304 -322 -333 -310 MG	0.00	0.00	2800.00	401 -310 -333 -331 -300 MG	0.00	0.00	2800.00
401 -333 -322 -350 -349 MG	0.00	0.00	2800.00	401 -333 -349 -348 -331 MG	0.00	0.00	2800.00
401 -273 -265 -283 -312 MG	0.00	0.00	2800.00	401 -265 -257 -287 -283 MG	0.00	0.00	2800.00
401 -283 -287 -323 -312 MG	0.00	0.00	2800.00	401 -323 -352 -351 -312 MG	0.00	0.00	2800.00
401 -296 -329 -321 -292 MG	0.00	0.00	2800.00	401 -296 -292 -254 -252 MG	0.00	0.00	2800.00
401 -329 -347 -346 -321 MG	0.00	0.00	2800.00	401 -300 -331 -329 -296 MG	0.00	0.00	2800.00
401 -300 -296 -252 -263 MG	0.00	0.00	2800.00	401 -331 -348 -347 -329 MG	0.00	0.00	2800.00
401 -294 -256 -259 -290 MG	0.00	0.00	2800.00	401 -294 -290 -318 -327 MG	0.00	0.00	2800.00
401 -261 -254 -292 -288 MG	0.00	0.00	2800.00	401 -261 -288 -290 -259 MG	0.00	0.00	2800.00
401 -288 -292 -321 -316 MG	0.00	0.00	2800.00	401 -288 -316 -318 -290 MG	0.00	0.00	2800.00
401 -327 -318 -341 -345 MG	0.00	0.00	2800.00	401 -318 -316 -339 -341 MG	0.00	0.00	2800.00
401 -345 -341 -339 -346 MG	0.00	0.00	2800.00	401 -316 -321 -346 -339 MG	0.00	0.00	2800.00
401 -320 -327 -345 -344 MG	0.00	0.00	2800.00	401 -320 -344 -343 -314 MG	0.00	0.00	2800.00
401 -277 -320 -314 -269 MG	0.00	0.00	2800.00	401 -277 -271 -298 -320 MG	0.00	0.00	2800.00
401 -271 -256 -294 -298 MG	0.00	0.00	2800.00	401 -298 -294 -327 -320 MG	0.00	0.00	2800.00
401 -271 -277 -248 -238 MG	0.00	0.00	2800.00	401 -271 -238 -233 -256 MG	0.00	0.00	2800.00
401 -233 -238 -211 -193 MG	0.00	0.00	2800.00	401 -238 -248 -219 -211 MG	0.00	0.00	2800.00
401 -211 -219 -192 -193 MG	0.00	0.00	2800.00	401 -192 -219 -225 -209 MG	0.00	0.00	2800.00
401 -219 -248 -250 -225 MG	0.00	0.00	2800.00	401 -209 -225 -250 -269 MG	0.00	0.00	2800.00
401 -248 -277 -269 -250 MG	0.00	0.00	2800.00	401 -84 -77 -105 -120 MG	0.00	0.00	2800.00
401 -77 -76 -103 -105 MG	0.00	0.00	2800.00	401 -120 -105 -103 -115 MG	0.00	0.00	2800.00
401 -76 -82 -115 -103 MG	0.00	0.00	2800.00	401 -77 -84 -37 -52 MG	0.00	0.00	2800.00
401 -77 -52 -54 -76 MG	0.00	0.00	2800.00	401 -54 -46 -82 -76 MG	0.00	0.00	2800.00
401 -46 -54 -24 -9 MG	0.00	0.00	2800.00	401 -54 -52 -22 -24 MG	0.00	0.00	2800.00
401 -9 -24 -22 -8 MG	0.00	0.00	2800.00	401 -52 -37 -8 -22 MG	0.00	0.00	2800.00
401 -46 -48 -63 -82 MG	0.00	0.00	2800.00	401 -48 -50 -67 -63 MG	0.00	0.00	2800.00
401 -63 -67 -99 -82 MG	0.00	0.00	2800.00	401 -99 -121 -115 -82 MG	0.00	0.00	2800.00
401 -10 -38 -28 -9 MG	0.00	0.00	2800.00	401 -38 -50 -48 -28 MG	0.00	0.00	2800.00
401 -28 -48 -46 -9 MG	0.00	0.00	2800.00	401 -274 -266 -236 -241 MG	0.00	0.00	2800.00
401 -274 -241 -243 -276 MG	0.00	0.00	2800.00	401 -266 -257 -235 -236 MG	0.00	0.00	2800.00
401 -204 -236 -235 -196 MG	0.00	0.00	2800.00	401 -191 -214 -216 -204 MG	0.00	0.00	2800.00
401 -214 -243 -241 -216 MG	0.00	0.00	2800.00	401 -216 -241 -236 -204 MG	0.00	0.00	2800.00
401 -218 -214 -191 -197 MG	0.00	0.00	2800.00	401 -243 -214 -218 -247 MG	0.00	0.00	2800.00
401 -243 -247 -280 -276 MG	0.00	0.00	2800.00	401 -166 -183 -179 -168 MG	0.00	0.00	2800.00
401 -166 -168 -141 -139 MG	0.00	0.00	2800.00	401 -183 -191 -204 -179 MG	0.00	0.00	2800.00
401 -147 -143 -165 -170 MG	0.00	0.00	2800.00	401 -143 -141 -168 -165 MG	0.00	0.00	2800.00
401 -165 -168 -179 -170 MG	0.00	0.00	2800.00	401 -179 -204 -196 -170 MG	0.00	0.00	2800.00
401 -139 -141 -133 -116 MG	0.00	0.00	2800.00	401 -141 -143 -135 -133 MG	0.00	0.00	2800.00
401 -116 -133 -135 -121 MG	0.00	0.00	2800.00	401 -143 -147 -121 -135 MG	0.00	0.00	2800.00
401 -191 -183 -181 -197 MG	0.00	0.00	2800.00	401 -183 -166 -162 -181 MG	0.00	0.00	2800.00
401 -181 -162 -160 -197 MG	0.00	0.00	2800.00	401 -160 -162 -137 -122 MG	0.00	0.00	2800.00
401 -162 -166 -139 -137 MG	0.00	0.00	2800.00	401 -137 -139 -116 -122 MG	0.00	0.00	2800.00
401 -197 -160 -158 -189 MG	0.00	0.00	2800.00	401 -197 -189 -224 -218 MG	0.00	0.00	2800.00
401 -189 -158 -156 -187 MG	0.00	0.00	2800.00	401 -189 -187 -222 -224 MG	0.00	0.00	2800.00
401 -264 -268 -245 -224 MG	0.00	0.00	2800.00	401 -268 -280 -247 -245 MG	0.00	0.00	2800.00
401 -245 -247 -218 -224 MG	0.00	0.00	2800.00	401 -224 -222 -253 -264 MG	0.00	0.00	2800.00
401 -158 -160 -122 -131 MG	0.00	0.00	2800.00	401 -158 -131 -129 -156 MG	0.00	0.00	2800.00
401 -177 -154 -152 -175 MG	0.00	0.00	2800.00	401 -177 -175 -202 -198 MG	0.00	0.00	2800.00

Relazione di calcolo

401 -175 -152 -148 -171 MG	0.00	0.00	2800.00	401 -175 -171 -199 -202 MG	0.00	0.00	2800.00
401 -187 -177 -198 -206 MG	0.00	0.00	2800.00	401 -187 -206 -228 -222 MG	0.00	0.00	2800.00
401 -230 -232 -208 -202 MG	0.00	0.00	2800.00	401 -232 -228 -206 -208 MG	0.00	0.00	2800.00
401 -208 -206 -198 -202 MG	0.00	0.00	2800.00	401 -187 -156 -154 -177 MG	0.00	0.00	2800.00
401 -262 -255 -228 -232 MG	0.00	0.00	2800.00	401 -262 -232 -230 -260 MG	0.00	0.00	2800.00
401 -255 -253 -222 -228 MG	0.00	0.00	2800.00	401 -230 -202 -199 -237 MG	0.00	0.00	2800.00
401 -230 -237 -258 -260 MG	0.00	0.00	2800.00	401 -154 -156 -129 -123 MG	0.00	0.00	2800.00
401 -154 -123 -127 -152 MG	0.00	0.00	2800.00	401 -127 -124 -148 -152 MG	0.00	0.00	2800.00
401 -325 -317 -340 -358 MG	0.00	0.00	2800.00	401 -289 -262 -260 -291 MG	0.00	0.00	2800.00
401 -358 -340 -342 -359 MG	0.00	0.00	2800.00	401 -319 -328 -359 -342 MG	0.00	0.00	2800.00
401 -295 -328 -319 -291 MG	0.00	0.00	2800.00	401 -295 -291 -260 -258 MG	0.00	0.00	2800.00
401 -317 -325 -293 -289 MG	0.00	0.00	2800.00	401 -317 -289 -291 -319 MG	0.00	0.00	2800.00
401 -289 -293 -255 -262 MG	0.00	0.00	2800.00	401 -289 -262 -260 -291 MG	0.00	0.00	2800.00
401 -297 -330 -332 -301 MG	0.00	0.00	2800.00	401 -297 -301 -264 -253 MG	0.00	0.00	2800.00
401 -330 -357 -356 -332 MG	0.00	0.00	2800.00	401 -297 -253 -255 -293 MG	0.00	0.00	2800.00
401 -297 -293 -325 -330 MG	0.00	0.00	2800.00	401 -325 -358 -357 -330 MG	0.00	0.00	2800.00
401 -332 -334 -311 -301 MG	0.00	0.00	2800.00	401 -334 -324 -305 -311 MG	0.00	0.00	2800.00
401 -311 -305 -286 -301 MG	0.00	0.00	2800.00	401 -286 -268 -264 -301 MG	0.00	0.00	2800.00
401 -334 -332 -356 -355 MG	0.00	0.00	2800.00	401 -334 -355 -354 -324 MG	0.00	0.00	2800.00
401 -268 -286 -282 -280 MG	0.00	0.00	2800.00	401 -286 -305 -303 -282 MG	0.00	0.00	2800.00
401 -280 -282 -303 -309 MG	0.00	0.00	2800.00	401 -305 -324 -309 -303 MG	0.00	0.00	2800.00
401 -309 -307 -276 -280 MG	0.00	0.00	2800.00	401 -307 -313 -274 -276 MG	0.00	0.00	2800.00
401 -313 -307 -336 -353 MG	0.00	0.00	2800.00	401 -307 -309 -338 -336 MG	0.00	0.00	2800.00
401 -353 -336 -338 -354 MG	0.00	0.00	2800.00	401 -309 -324 -354 -338 MG	0.00	0.00	2800.00
401 -323 -287 -284 -313 MG	0.00	0.00	2800.00	401 -287 -257 -266 -284 MG	0.00	0.00	2800.00
401 -284 -266 -274 -313 MG	0.00	0.00	2800.00	401 -313 -353 -352 -323 MG	0.00	0.00	2800.00
401 -328 -295 -299 -326 MG	0.00	0.00	2800.00	401 -295 -258 -272 -299 MG	0.00	0.00	2800.00
401 -299 -272 -278 -326 MG	0.00	0.00	2800.00	401 -278 -270 -315 -326 MG	0.00	0.00	2800.00
401 -326 -315 -361 -360 MG	0.00	0.00	2800.00	401 -326 -360 -359 -328 MG	0.00	0.00	2800.00
401 -200 -220 -212 -199 MG	0.00	0.00	2800.00	401 -220 -249 -239 -212 MG	0.00	0.00	2800.00
401 -212 -239 -237 -199 MG	0.00	0.00	2800.00	401 -239 -249 -278 -272 MG	0.00	0.00	2800.00
401 -239 -272 -258 -237 MG	0.00	0.00	2800.00	401 -278 -249 -251 -270 MG	0.00	0.00	2800.00
401 -249 -220 -226 -251 MG	0.00	0.00	2800.00	401 -270 -251 -226 -210 MG	0.00	0.00	2800.00
401 -220 -200 -210 -226 MG	0.00	0.00	2800.00	401 -99 -87 -116 -121 MG	0.00	0.00	2800.00
401 -99 -67 -71 -87 MG	0.00	0.00	2800.00	401 -67 -50 -58 -71 MG	0.00	0.00	2800.00
401 -87 -71 -58 -47 MG	0.00	0.00	2800.00	401 -50 -38 -47 -58 MG	0.00	0.00	2800.00
401 -38 -10 -11 -47 MG	0.00	0.00	2800.00	401 -55 -79 -87 -47 MG	0.00	0.00	2800.00
401 -78 -79 -55 -53 MG	0.00	0.00	2800.00	401 -78 -53 -39 -85 MG	0.00	0.00	2800.00
401 -39 -53 -23 -12 MG	0.00	0.00	2800.00	401 -53 -55 -25 -23 MG	0.00	0.00	2800.00
401 -12 -23 -25 -11 MG	0.00	0.00	2800.00	401 -55 -47 -11 -25 MG	0.00	0.00	2800.00
401 -87 -79 -104 -116 MG	0.00	0.00	2800.00	401 -79 -78 -106 -104 MG	0.00	0.00	2800.00
401 -116 -104 -106 -122 MG	0.00	0.00	2800.00	401 -78 -85 -122 -106 MG	0.00	0.00	2800.00
401 -39 -12 -13 -34 MG	0.00	0.00	2800.00	401 -39 -34 -73 -85 MG	0.00	0.00	2800.00
401 -34 -13 -14 -31 MG	0.00	0.00	2800.00	401 -34 -31 -62 -73 MG	0.00	0.00	2800.00
401 -15 -16 -40 -32 MG	0.00	0.00	2800.00	401 -15 -32 -31 -14 MG	0.00	0.00	2800.00
401 -32 -40 -70 -60 MG	0.00	0.00	2800.00	401 -32 -60 -62 -31 MG	0.00	0.00	2800.00
401 -129 -131 -110 -108 MG	0.00	0.00	2800.00	401 -129 -108 -97 -123 MG	0.00	0.00	2800.00
401 -108 -91 -89 -97 MG	0.00	0.00	2800.00	401 -91 -62 -60 -89 MG	0.00	0.00	2800.00
401 -89 -60 -70 -97 MG	0.00	0.00	2800.00	401 -91 -108 -110 -93 MG	0.00	0.00	2800.00
401 -91 -93 -73 -62 MG	0.00	0.00	2800.00	401 -73 -93 -95 -85 MG	0.00	0.00	2800.00
401 -93 -110 -112 -95 MG	0.00	0.00	2800.00	401 -85 -95 -112 -122 MG	0.00	0.00	2800.00
401 -110 -131 -122 -112 MG	0.00	0.00	2800.00	401 -17 -27 -21 -16 MG	0.00	0.00	2800.00
401 -27 -51 -45 -21 MG	0.00	0.00	2800.00	401 -21 -45 -40 -16 MG	0.00	0.00	2800.00
401 -45 -51 -68 -75 MG	0.00	0.00	2800.00	401 -45 -75 -70 -40 MG	0.00	0.00	2800.00
401 -127 -123 -97 -102 MG	0.00	0.00	2800.00	401 -127 -102 -100 -124 MG	0.00	0.00	2800.00
401 -102 -97 -70 -75 MG	0.00	0.00	2800.00	401 -102 -75 -68 -100 MG	0.00	0.00	2800.00
401 -41 -27 -17 -18 MG	0.00	0.00	2800.00	401 -41 -18 -19 -43 MG	0.00	0.00	2800.00
401 -100 -68 -65 -86 MG	0.00	0.00	2800.00	401 -68 -51 -57 -65 MG	0.00	0.00	2800.00
401 -86 -65 -57 -41 MG	0.00	0.00	2800.00	401 -51 -27 -41 -57 MG	0.00	0.00	2800.00
401 -86 -125 -124 -100 MG	0.00	0.00	2800.00	401 -86 -41 -43 -81 MG	0.00	0.00	2800.00
401 -86 -81 -114 -125 MG	0.00	0.00	2800.00	401 -200 -199 -171 -173 MG	0.00	0.00	2800.00
401 -200 -173 -185 -210 MG	0.00	0.00	2800.00	401 -173 -171 -148 -150 MG	0.00	0.00	2800.00
401 -173 -150 -145 -185 MG	0.00	0.00	2800.00	401 -150 -148 -124 -125 MG	0.00	0.00	2800.00
401 -150 -125 -114 -145 MG	0.00	0.00	2800.00				

Elenco carichi elementi bidimensionali

Condizione di carico n. 6: Variabile piena T=500

Carichi uniformi

Bid.	N1	N2	N3	N4	T DC	Qx <daN/mq>	Qy <daN/mq>	Qz <daN/mq>	Bid.	N1	N2	N3	N4	T DC	Qx <daN/mq>	Qy <daN/mq>	Qz <daN/mq>
401	-126	-118	-98	-101	MG	0.00	0.00	2800.00	401	-126	-101	-96	-119	MG	0.00	0.00	2800.00
401	-101	-98	-66	-74	MG	0.00	0.00	2800.00	401	-101	-74	-69	-96	MG	0.00	0.00	2800.00
401	-74	-66	-49	-44	MG	0.00	0.00	2800.00	401	-74	-44	-36	-69	MG	0.00	0.00	2800.00
401	-36	-44	-20	-4	MG	0.00	0.00	2800.00	401	-44	-49	-26	-20	MG	0.00	0.00	2800.00
401	-20	-26	-3	-4	MG	0.00	0.00	2800.00	401	-37	-84	-72	-33	MG	0.00	0.00	2800.00
401	-37	-33	-7	-8	MG	0.00	0.00	2800.00	401	-33	-72	-61	-30	MG	0.00	0.00	2800.00
401	-33	-30	-6	-7	MG	0.00	0.00	2800.00	401	-59	-69	-36	-29	MG	0.00	0.00	2800.00
401	-59	-29	-30	-61	MG	0.00	0.00	2800.00	401	-29	-36	-4	-5	MG	0.00	0.00	2800.00
401	-29	-5	-6	-30	MG	0.00	0.00	2800.00	401	-92	-109	-107	-90	MG	0.00	0.00	2800.00
401	-92	-90	-61	-72	MG	0.00	0.00	2800.00	401	-69	-59	-88	-96	MG	0.00	0.00	2800.00

Relazione di calcolo

401	-59	-61	-90	-88 MG	0.00	0.00	2800.00	401	-88	-90	-107	-96 MG	0.00	0.00	2800.00
401	-107	-109	-130	-128 MG	0.00	0.00	2800.00	401	-107	-128	-119	-96 MG	0.00	0.00	2800.00
401	-130	-109	-111	-120 MG	0.00	0.00	2800.00	401	-109	-92	-94	-111 MG	0.00	0.00	2800.00
401	-120	-111	-94	-84 MG	0.00	0.00	2800.00	401	-92	-72	-84	-94 MG	0.00	0.00	2800.00
401	-192	-209	-184	-172 MG	0.00	0.00	2800.00	401	-192	-172	-169	-193 MG	0.00	0.00	2800.00
401	-172	-184	-144	-149 MG	0.00	0.00	2800.00	401	-172	-149	-146	-169 MG	0.00	0.00	2800.00
401	-149	-144	-113	-117 MG	0.00	0.00	2800.00	401	-149	-117	-118	-146 MG	0.00	0.00	2800.00
401	-80	-42	-35	-83 MG	0.00	0.00	2800.00	401	-80	-83	-117	-113 MG	0.00	0.00	2800.00
401	-26	-49	-56	-35 MG	0.00	0.00	2800.00	401	-49	-66	-64	-56 MG	0.00	0.00	2800.00
401	-35	-56	-64	-83 MG	0.00	0.00	2800.00	401	-66	-98	-83	-64 MG	0.00	0.00	2800.00
401	-98	-118	-117	-83 MG	0.00	0.00	2800.00	401	-35	-42	-1	-2 MG	0.00	0.00	2800.00
401	-35	-2	-3	-26 MG	0.00	0.00	2800.00	401	-195	-217	-223	-188 MG	0.00	0.00	2800.00
401	-195	-188	-157	-159 MG	0.00	0.00	2800.00	401	-188	-223	-221	-186 MG	0.00	0.00	2800.00
401	-188	-186	-155	-157 MG	0.00	0.00	2800.00	401	-217	-246	-244	-223 MG	0.00	0.00	2800.00
401	-246	-279	-267	-244 MG	0.00	0.00	2800.00	401	-244	-267	-263	-223 MG	0.00	0.00	2800.00
401	-263	-252	-221	-223 MG	0.00	0.00	2800.00	401	-157	-155	-128	-130 MG	0.00	0.00	2800.00
401	-157	-130	-120	-159 MG	0.00	0.00	2800.00	401	-234	-240	-215	-203 MG	0.00	0.00	2800.00
401	-240	-242	-213	-215 MG	0.00	0.00	2800.00	401	-215	-213	-190	-203 MG	0.00	0.00	2800.00
401	-203	-196	-235	-234 MG	0.00	0.00	2800.00	401	-240	-234	-265	-273 MG	0.00	0.00	2800.00
401	-240	-273	-275	-242 MG	0.00	0.00	2800.00	401	-234	-235	-257	-265 MG	0.00	0.00	2800.00
401	-246	-217	-213	-242 MG	0.00	0.00	2800.00	401	-246	-242	-275	-279 MG	0.00	0.00	2800.00
401	-217	-195	-190	-213 MG	0.00	0.00	2800.00	401	-115	-138	-136	-120 MG	0.00	0.00	2800.00
401	-138	-163	-161	-136 MG	0.00	0.00	2800.00	401	-136	-161	-159	-120 MG	0.00	0.00	2800.00
401	-159	-161	-180	-195 MG	0.00	0.00	2800.00	401	-161	-163	-182	-180 MG	0.00	0.00	2800.00
401	-180	-182	-190	-195 MG	0.00	0.00	2800.00	401	-147	-142	-134	-121 MG	0.00	0.00	2800.00
401	-142	-140	-132	-134 MG	0.00	0.00	2800.00	401	-121	-134	-132	-115 MG	0.00	0.00	2800.00
401	-140	-138	-115	-132 MG	0.00	0.00	2800.00	401	-178	-167	-164	-170 MG	0.00	0.00	2800.00
401	-167	-140	-142	-164 MG	0.00	0.00	2800.00	401	-164	-142	-147	-170 MG	0.00	0.00	2800.00
401	-170	-196	-203	-178 MG	0.00	0.00	2800.00	401	-167	-178	-182	-163 MG	0.00	0.00	2800.00
401	-167	-163	-138	-140 MG	0.00	0.00	2800.00	401	-178	-203	-190	-182 MG	0.00	0.00	2800.00
401	-194	-205	-207	-201 MG	0.00	0.00	2800.00	401	-205	-227	-231	-207 MG	0.00	0.00	2800.00
401	-207	-231	-229	-201 MG	0.00	0.00	2800.00	401	-186	-221	-227	-205 MG	0.00	0.00	2800.00
401	-186	-205	-194	-176 MG	0.00	0.00	2800.00	401	-176	-153	-155	-186 MG	0.00	0.00	2800.00
401	-261	-259	-229	-231 MG	0.00	0.00	2800.00	401	-261	-231	-227	-254 MG	0.00	0.00	2800.00
401	-227	-221	-252	-254 MG	0.00	0.00	2800.00	401	-229	-259	-256	-233 MG	0.00	0.00	2800.00
401	-229	-233	-193	-201 MG	0.00	0.00	2800.00	401	-169	-146	-151	-174 MG	0.00	0.00	2800.00
401	-169	-174	-201	-193 MG	0.00	0.00	2800.00	401	-174	-151	-153	-176 MG	0.00	0.00	2800.00
401	-174	-176	-194	-201 MG	0.00	0.00	2800.00	401	-126	-151	-146	-118 MG	0.00	0.00	2800.00
401	-153	-151	-126	-119 MG	0.00	0.00	2800.00	401	-153	-119	-128	-155 MG	0.00	0.00	2800.00
401	-322	-308	-337	-350 MG	0.00	0.00	2800.00	401	-308	-306	-335	-337 MG	0.00	0.00	2800.00
401	-350	-337	-335	-351 MG	0.00	0.00	2800.00	401	-306	-312	-351	-335 MG	0.00	0.00	2800.00
401	-322	-304	-302	-308 MG	0.00	0.00	2800.00	401	-304	-285	-281	-302 MG	0.00	0.00	2800.00
401	-308	-302	-281	-279 MG	0.00	0.00	2800.00	401	-285	-267	-279	-281 MG	0.00	0.00	2800.00
401	-279	-275	-306	-308 MG	0.00	0.00	2800.00	401	-275	-273	-312	-306 MG	0.00	0.00	2800.00
401	-285	-300	-263	-267 MG	0.00	0.00	2800.00	401	-285	-304	-310	-300 MG	0.00	0.00	2800.00
401	-304	-322	-333	-310 MG	0.00	0.00	2800.00	401	-310	-333	-331	-300 MG	0.00	0.00	2800.00
401	-333	-322	-350	-349 MG	0.00	0.00	2800.00	401	-333	-349	-348	-331 MG	0.00	0.00	2800.00
401	-273	-265	-283	-312 MG	0.00	0.00	2800.00	401	-265	-257	-287	-283 MG	0.00	0.00	2800.00
401	-283	-287	-323	-312 MG	0.00	0.00	2800.00	401	-323	-352	-351	-312 MG	0.00	0.00	2800.00
401	-296	-329	-321	-292 MG	0.00	0.00	2800.00	401	-296	-292	-254	-252 MG	0.00	0.00	2800.00
401	-329	-347	-346	-321 MG	0.00	0.00	2800.00	401	-300	-331	-329	-296 MG	0.00	0.00	2800.00
401	-300	-296	-252	-263 MG	0.00	0.00	2800.00	401	-331	-348	-347	-329 MG	0.00	0.00	2800.00
401	-294	-256	-259	-290 MG	0.00	0.00	2800.00	401	-294	-290	-318	-327 MG	0.00	0.00	2800.00
401	-261	-254	-292	-288 MG	0.00	0.00	2800.00	401	-261	-288	-290	-259 MG	0.00	0.00	2800.00
401	-288	-292	-321	-316 MG	0.00	0.00	2800.00	401	-288	-316	-318	-290 MG	0.00	0.00	2800.00
401	-327	-318	-341	-345 MG	0.00	0.00	2800.00	401	-318	-316	-339	-341 MG	0.00	0.00	2800.00
401	-345	-341	-339	-346 MG	0.00	0.00	2800.00	401	-316	-321	-346	-339 MG	0.00	0.00	2800.00
401	-320	-327	-345	-344 MG	0.00	0.00	2800.00	401	-320	-344	-343	-314 MG	0.00	0.00	2800.00
401	-277	-320	-314	-269 MG	0.00	0.00	2800.00	401	-277	-271	-298	-320 MG	0.00	0.00	2800.00
401	-271	-256	-294	-298 MG	0.00	0.00	2800.00	401	-298	-294	-327	-320 MG	0.00	0.00	2800.00
401	-271	-277	-248	-238 MG	0.00	0.00	2800.00	401	-271	-238	-233	-256 MG	0.00	0.00	2800.00
401	-233	-238	-211	-193 MG	0.00	0.00	2800.00	401	-238	-248	-219	-211 MG	0.00	0.00	2800.00
401	-211	-219	-192	-193 MG	0.00	0.00	2800.00	401	-192	-219	-225	-209 MG	0.00	0.00	2800.00
401	-219	-248	-250	-225 MG	0.00	0.00	2800.00	401	-209	-225	-250	-269 MG	0.00	0.00	2800.00
401	-248	-277	-269	-250 MG	0.00	0.00	2800.00	401	-84	-77	-105	-120 MG	0.00	0.00	2800.00
401	-77	-76	-103	-105 MG	0.00	0.00	2800.00	401	-120	-105	-103	-115 MG	0.00	0.00	2800.00
401	-76	-82	-115	-103 MG	0.00	0.00	2800.00	401	-77	-84	-37	-52 MG	0.00	0.00	2800.00
401	-77	-52	-54	-76 MG	0.00	0.00	2800.00	401	-54	-46	-82	-76 MG	0.00	0.00	2800.00
401	-46	-54	-24	-9 MG	0.00	0.00	2800.00	401	-54	-52	-22	-24 MG	0.00	0.00	2800.00
401	-9	-24	-22	-8 MG	0.00	0.00	2800.00	401	-52	-37	-8	-22 MG	0.00	0.00	2800.00
401	-46	-48	-63	-82 MG	0.00	0.00	2800.00	401	-48	-50	-67	-63 MG	0.00	0.00	2800.00
401	-63	-67	-99	-82 MG	0.00	0.00	2800.00	401	-99	-121	-115	-82 MG	0.00	0.00	2800.00
401	-10	-38	-28	-9 MG	0.00	0.00	2800.00	401	-38	-50	-48	-28 MG	0.00	0.00	2800.00
401	-28	-48	-46	-9 MG	0.00	0.00	2800.00	401	-274	-266	-236	-241 MG	0.00	0.00	2800.00
401	-274	-241	-243	-276 MG	0.00	0.00	2800.00	401	-266	-257	-235	-236 MG	0.00	0.00	2800.00
401	-204	-236	-235	-196 MG	0.00	0.00	2800.00	401	-191	-214	-216	-204 MG	0.00	0.00	2800.00
401	-214	-243	-241	-216 MG	0.00	0.00	2800.00	401	-216	-241	-236	-204 MG	0.00	0.00	2800.00
401	-218	-214	-191	-197 MG	0.00	0.00	2800.00	401	-243	-214	-218	-247 MG	0.00	0.00	2800.00
401	-243	-247	-280	-276 MG	0.00	0.00	2800.00	401	-166	-183	-179	-168 MG	0.00	0.00	2800.00
401	-166	-168	-141	-139 MG	0.00	0.00	2800.00	401	-183	-191	-204	-179 MG	0.00	0.00	2800.00
401	-147	-143	-165	-170 MG	0.00	0.00	2800.00	401	-143	-141	-168	-165 MG	0.00	0.00	2800.00
401	-165	-168	-179	-170 MG	0.00	0.00	2800.00	401	-179	-204	-196	-170 MG	0.00	0.00	2800.00

Relazione di calcolo

401 -139 -141 -133 -116 MG	0.00	0.00	2800.00	401 -141 -143 -135 -133 MG	0.00	0.00	2800.00
401 -116 -133 -135 -121 MG	0.00	0.00	2800.00	401 -143 -147 -121 -135 MG	0.00	0.00	2800.00
401 -191 -183 -181 -197 MG	0.00	0.00	2800.00	401 -183 -166 -162 -181 MG	0.00	0.00	2800.00
401 -181 -162 -160 -197 MG	0.00	0.00	2800.00	401 -160 -162 -137 -122 MG	0.00	0.00	2800.00
401 -162 -166 -139 -137 MG	0.00	0.00	2800.00	401 -137 -139 -116 -122 MG	0.00	0.00	2800.00
401 -197 -160 -158 -189 MG	0.00	0.00	2800.00	401 -197 -189 -224 -218 MG	0.00	0.00	2800.00
401 -189 -158 -156 -187 MG	0.00	0.00	2800.00	401 -189 -187 -222 -224 MG	0.00	0.00	2800.00
401 -264 -268 -245 -224 MG	0.00	0.00	2800.00	401 -268 -280 -247 -245 MG	0.00	0.00	2800.00
401 -245 -247 -218 -224 MG	0.00	0.00	2800.00	401 -224 -222 -253 -264 MG	0.00	0.00	2800.00
401 -158 -160 -122 -131 MG	0.00	0.00	2800.00	401 -158 -131 -129 -156 MG	0.00	0.00	2800.00
401 -177 -154 -152 -175 MG	0.00	0.00	2800.00	401 -177 -175 -202 -198 MG	0.00	0.00	2800.00
401 -175 -152 -148 -171 MG	0.00	0.00	2800.00	401 -175 -171 -199 -202 MG	0.00	0.00	2800.00
401 -187 -177 -198 -206 MG	0.00	0.00	2800.00	401 -187 -206 -228 -222 MG	0.00	0.00	2800.00
401 -230 -232 -208 -202 MG	0.00	0.00	2800.00	401 -232 -228 -206 -208 MG	0.00	0.00	2800.00
401 -208 -206 -198 -202 MG	0.00	0.00	2800.00	401 -187 -156 -154 -177 MG	0.00	0.00	2800.00
401 -262 -255 -228 -232 MG	0.00	0.00	2800.00	401 -262 -232 -230 -260 MG	0.00	0.00	2800.00
401 -255 -253 -222 -228 MG	0.00	0.00	2800.00	401 -230 -202 -199 -237 MG	0.00	0.00	2800.00
401 -230 -237 -258 -260 MG	0.00	0.00	2800.00	401 -154 -156 -129 -123 MG	0.00	0.00	2800.00
401 -154 -123 -127 -152 MG	0.00	0.00	2800.00	401 -127 -124 -148 -152 MG	0.00	0.00	2800.00
401 -325 -317 -340 -358 MG	0.00	0.00	2800.00	401 -317 -319 -342 -340 MG	0.00	0.00	2800.00
401 -358 -340 -342 -359 MG	0.00	0.00	2800.00	401 -319 -328 -359 -342 MG	0.00	0.00	2800.00
401 -295 -328 -319 -291 MG	0.00	0.00	2800.00	401 -295 -291 -260 -258 MG	0.00	0.00	2800.00
401 -317 -325 -293 -289 MG	0.00	0.00	2800.00	401 -317 -289 -291 -319 MG	0.00	0.00	2800.00
401 -289 -293 -255 -262 MG	0.00	0.00	2800.00	401 -289 -262 -260 -291 MG	0.00	0.00	2800.00
401 -297 -330 -332 -301 MG	0.00	0.00	2800.00	401 -297 -301 -264 -253 MG	0.00	0.00	2800.00
401 -330 -357 -356 -332 MG	0.00	0.00	2800.00	401 -297 -253 -255 -293 MG	0.00	0.00	2800.00
401 -297 -293 -325 -330 MG	0.00	0.00	2800.00	401 -325 -358 -357 -330 MG	0.00	0.00	2800.00
401 -332 -334 -311 -301 MG	0.00	0.00	2800.00	401 -334 -324 -305 -311 MG	0.00	0.00	2800.00
401 -311 -305 -286 -301 MG	0.00	0.00	2800.00	401 -286 -268 -264 -301 MG	0.00	0.00	2800.00
401 -334 -332 -356 -355 MG	0.00	0.00	2800.00	401 -334 -355 -354 -324 MG	0.00	0.00	2800.00
401 -268 -286 -282 -280 MG	0.00	0.00	2800.00	401 -286 -305 -303 -282 MG	0.00	0.00	2800.00
401 -280 -282 -303 -309 MG	0.00	0.00	2800.00	401 -305 -324 -309 -303 MG	0.00	0.00	2800.00
401 -309 -307 -276 -280 MG	0.00	0.00	2800.00	401 -307 -313 -274 -276 MG	0.00	0.00	2800.00
401 -313 -307 -336 -353 MG	0.00	0.00	2800.00	401 -307 -309 -338 -336 MG	0.00	0.00	2800.00
401 -353 -336 -338 -354 MG	0.00	0.00	2800.00	401 -309 -324 -354 -338 MG	0.00	0.00	2800.00
401 -323 -287 -284 -313 MG	0.00	0.00	2800.00	401 -287 -257 -266 -284 MG	0.00	0.00	2800.00
401 -284 -266 -274 -313 MG	0.00	0.00	2800.00	401 -313 -353 -352 -323 MG	0.00	0.00	2800.00
401 -328 -295 -299 -326 MG	0.00	0.00	2800.00	401 -295 -258 -272 -299 MG	0.00	0.00	2800.00
401 -299 -272 -278 -326 MG	0.00	0.00	2800.00	401 -278 -270 -315 -326 MG	0.00	0.00	2800.00
401 -326 -315 -361 -360 MG	0.00	0.00	2800.00	401 -326 -360 -359 -328 MG	0.00	0.00	2800.00
401 -200 -220 -212 -199 MG	0.00	0.00	2800.00	401 -220 -249 -239 -212 MG	0.00	0.00	2800.00
401 -212 -239 -237 -199 MG	0.00	0.00	2800.00	401 -239 -249 -278 -272 MG	0.00	0.00	2800.00
401 -239 -272 -258 -237 MG	0.00	0.00	2800.00	401 -278 -249 -251 -270 MG	0.00	0.00	2800.00
401 -249 -220 -226 -251 MG	0.00	0.00	2800.00	401 -270 -251 -226 -210 MG	0.00	0.00	2800.00
401 -220 -200 -210 -226 MG	0.00	0.00	2800.00	401 -99 -87 -116 -121 MG	0.00	0.00	2800.00
401 -99 -67 -71 -87 MG	0.00	0.00	2800.00	401 -67 -50 -58 -71 MG	0.00	0.00	2800.00
401 -87 -71 -58 -47 MG	0.00	0.00	2800.00	401 -50 -38 -47 -58 MG	0.00	0.00	2800.00
401 -38 -10 -11 -47 MG	0.00	0.00	2800.00	401 -55 -79 -87 -47 MG	0.00	0.00	2800.00
401 -78 -79 -55 -53 MG	0.00	0.00	2800.00	401 -78 -53 -39 -85 MG	0.00	0.00	2800.00
401 -39 -53 -23 -12 MG	0.00	0.00	2800.00	401 -53 -55 -25 -23 MG	0.00	0.00	2800.00
401 -12 -23 -25 -11 MG	0.00	0.00	2800.00	401 -55 -47 -11 -25 MG	0.00	0.00	2800.00
401 -87 -79 -104 -116 MG	0.00	0.00	2800.00	401 -79 -78 -106 -104 MG	0.00	0.00	2800.00
401 -116 -104 -106 -122 MG	0.00	0.00	2800.00	401 -78 -85 -122 -106 MG	0.00	0.00	2800.00
401 -39 -12 -13 -34 MG	0.00	0.00	2800.00	401 -39 -34 -73 -85 MG	0.00	0.00	2800.00
401 -34 -13 -14 -31 MG	0.00	0.00	2800.00	401 -34 -31 -62 -73 MG	0.00	0.00	2800.00
401 -15 -16 -40 -32 MG	0.00	0.00	2800.00	401 -15 -32 -31 -14 MG	0.00	0.00	2800.00
401 -32 -40 -70 -60 MG	0.00	0.00	2800.00	401 -32 -60 -62 -31 MG	0.00	0.00	2800.00
401 -129 -131 -110 -108 MG	0.00	0.00	2800.00	401 -129 -108 -97 -123 MG	0.00	0.00	2800.00
401 -108 -91 -89 -97 MG	0.00	0.00	2800.00	401 -91 -62 -60 -89 MG	0.00	0.00	2800.00
401 -89 -60 -70 -97 MG	0.00	0.00	2800.00	401 -91 -108 -110 -93 MG	0.00	0.00	2800.00
401 -91 -93 -73 -62 MG	0.00	0.00	2800.00	401 -73 -93 -95 -85 MG	0.00	0.00	2800.00
401 -93 -110 -112 -95 MG	0.00	0.00	2800.00	401 -85 -95 -112 -122 MG	0.00	0.00	2800.00
401 -110 -131 -122 -112 MG	0.00	0.00	2800.00	401 -17 -27 -21 -16 MG	0.00	0.00	2800.00
401 -27 -51 -45 -21 MG	0.00	0.00	2800.00	401 -21 -45 -40 -16 MG	0.00	0.00	2800.00
401 -45 -51 -68 -75 MG	0.00	0.00	2800.00	401 -45 -75 -70 -40 MG	0.00	0.00	2800.00
401 -127 -123 -97 -102 MG	0.00	0.00	2800.00	401 -127 -102 -100 -124 MG	0.00	0.00	2800.00
401 -102 -97 -70 -75 MG	0.00	0.00	2800.00	401 -102 -75 -68 -100 MG	0.00	0.00	2800.00
401 -41 -27 -17 -18 MG	0.00	0.00	2800.00	401 -41 -18 -19 -43 MG	0.00	0.00	2800.00
401 -100 -68 -65 -86 MG	0.00	0.00	2800.00	401 -68 -51 -57 -65 MG	0.00	0.00	2800.00
401 -86 -65 -57 -41 MG	0.00	0.00	2800.00	401 -51 -27 -41 -57 MG	0.00	0.00	2800.00
401 -86 -125 -124 -100 MG	0.00	0.00	2800.00	401 -86 -41 -43 -81 MG	0.00	0.00	2800.00
401 -86 -81 -114 -125 MG	0.00	0.00	2800.00	401 -200 -199 -171 -173 MG	0.00	0.00	2800.00
401 -200 -173 -185 -210 MG	0.00	0.00	2800.00	401 -173 -171 -148 -150 MG	0.00	0.00	2800.00
401 -173 -150 -145 -185 MG	0.00	0.00	2800.00	401 -150 -148 -124 -125 MG	0.00	0.00	2800.00
401 -150 -125 -114 -145 MG	0.00	0.00	2800.00				

Risultati del calcolo

Parametri di calcolo

La modellazione della struttura e la rielaborazione dei risultati del calcolo sono stati effettuati con:

Relazione di calcolo

ModeSt ver. 8.80, prodotto da Tecnisoft s.a.s. - Prato

La struttura è stata calcolata utilizzando come solutore agli elementi finiti:
Xfinest ver. 2015, prodotto da Ce.A.S. S.r.l. - Milano

Tipo di normativa: stati limite D.M. 08
Tipo di calcolo: analisi sismica dinamica
Vincoli esterni: Considera sempre vincoli assegnati in modellazione
Schematizzazione piani rigidi: metodo Master-Slave
Modalità di recupero masse secondarie: trasferire all'impalcato più vicino con modifica XY baricentro

Generazione combinazioni

- Lineari: si
- Valuta spostamenti e non sollecitazioni: no
- Buckling: no

Opzioni di calcolo

- Sono state considerate infinitamente rigide le zone di connessione fra travi, pilastri ed elementi bidimensionali con una riduzione del 20%
- Calcolo con offset rigidi dai nodi: no
- Uniformare i carichi variabili: no
- Massimizzare i carichi variabili: no
- Minimo carico da considerare: 0.00 <daN/m>
- Recupero carichi zone rigide: taglio e momento flettente
- Modalità di combinazione momento torcente: disaccoppiare le azioni

Opzioni del solutore

- Tipo di elemento bidimensionale: QF46
- Calcolo sforzo nei nodi: No
- Trascura deformabilità a taglio delle aste: Sì
- Analisi dinamica con metodo di Lanczos: Sì
- Check sequenza di Sturm: Sì
- Analisi non lineare con Newton modificato: No
- Usa formulazione secante per buckling: No
- Trascura buckling torsionale: No
- Soluzione matrice con metodo ver. 5.1: No

Dati struttura

- Zona sismica: zona 4
- Sito di costruzione: LON. 9.23529 LAT. 45.73292
Contenuto tra ID reticolo: 11152 11151 10930 10929

Simbologia

TCC = Tipo di combinazione di carico
SLU = Stato limite ultimo
SLU S = Stato limite ultimo (azione sismica)
SLE R = Stato limite d'esercizio, combinazione rara
SLE F = Stato limite d'esercizio, combinazione frequente
SLE Q = Stato limite d'esercizio, combinazione quasi permanente
SLD = Stato limite di danno
SLV = Stato limite di salvaguardia della vita
SLC = Stato limite di prevenzione del collasso
SLO = Stato limite di operatività
SLU I = Stato limite di resistenza al fuoco
 T_R = Periodo di ritorno <anni>
 A_g = Accelerazione orizzontale massima al sito <g>
FO = Valore massimo del fattore di amplificazione dello spettro in accelerazione orizzontale
TC* = Periodo di inizio del tratto a velocità costante dello spettro in accelerazione orizzontale <sec>
 S_s = Coefficiente di amplificazione stratigrafica
 C_c = Coefficiente funzione della categoria del suolo

TCC	T_R	A_g	FO	TC*	S_s	C_c
SLD	151	0.0345	2.61	0.23	1.50	1.71
SLV	1424	0.0653	2.70	0.31	1.50	1.55

- Tipo di opera: Grande opera
- Vita nominale V_N : 100.00
- Classe d'uso: Classe III
- SL Esercizio: SLO-Pvr no, SLD-Pvr 63.00
- SL Ultimi: SLV-Pvr 10.00, SLC-Pvr no
- Classe di duttilità: Classe B
- Quota di riferimento: 0.00 <m>
- Altezza della struttura: 5.30 <m>
- Numero piani edificio: 1
- Coefficiente θ : 0.00
- Edificio regolare in altezza: si

Relazione di calcolo

- Edificio regolare in pianta: si
- Forze orizzontali convenzionali per stati limite non sismici: 1.00%
- Genera stati limite per verifiche di resistenza al fuoco: no

Dati di piano

Simbologia

Imp. = Numero dell'impalcato
Lx = Dimensione del piano in dir. X
Ly = Dimensione del piano in dir. Y
Ex = Eccentricità in dir. X
Ey = Eccentricità in dir. Y
Ea = Eccentricità complessiva

Imp.	Lx	Ly	Ex	Ey	Ea
	<m>	<m>	<m>	<m>	<m>
1	14.04	5.74	0.70	0.29	0.76

Dati di calcolo

- Categoria del suolo di fondazione: C
- Tipologia edificio: c.a. a pendolo inverso

Coeff. C_1	0.05
Periodo T_1	0.17465
Coeff. λ SLD	1.00
Coeff. λ SLV	1.00
Rapporto di sovrarresistenza (α_u/α_1)	--
Valore di riferimento del fattore di struttura (q_0)	1.50
Fattore riduttivo (K_w)	1.00
Fattore riduttivo regolarità in altezza (KR)	1.00
Fattore di struttura (q)	1.50

- Categoria topografica: T1 - Superficie pianeggiante, pendii e rilievi isolati con inclinazione media $i \leq 15^\circ$
- Coeff. amplificazione topografica S_T : 1.00
- Fattore di struttura per sisma verticale (q_v): 1.50
- Modalità di calcolo modi di vibrare: Autovalori
Numero modi: 3
- Modi da considerare: tali da movimentare una percentuale di massa pari a 85.00%
- Trascura modi con massa movimentata minore di: no
- Smorzamento spettro: 5.00

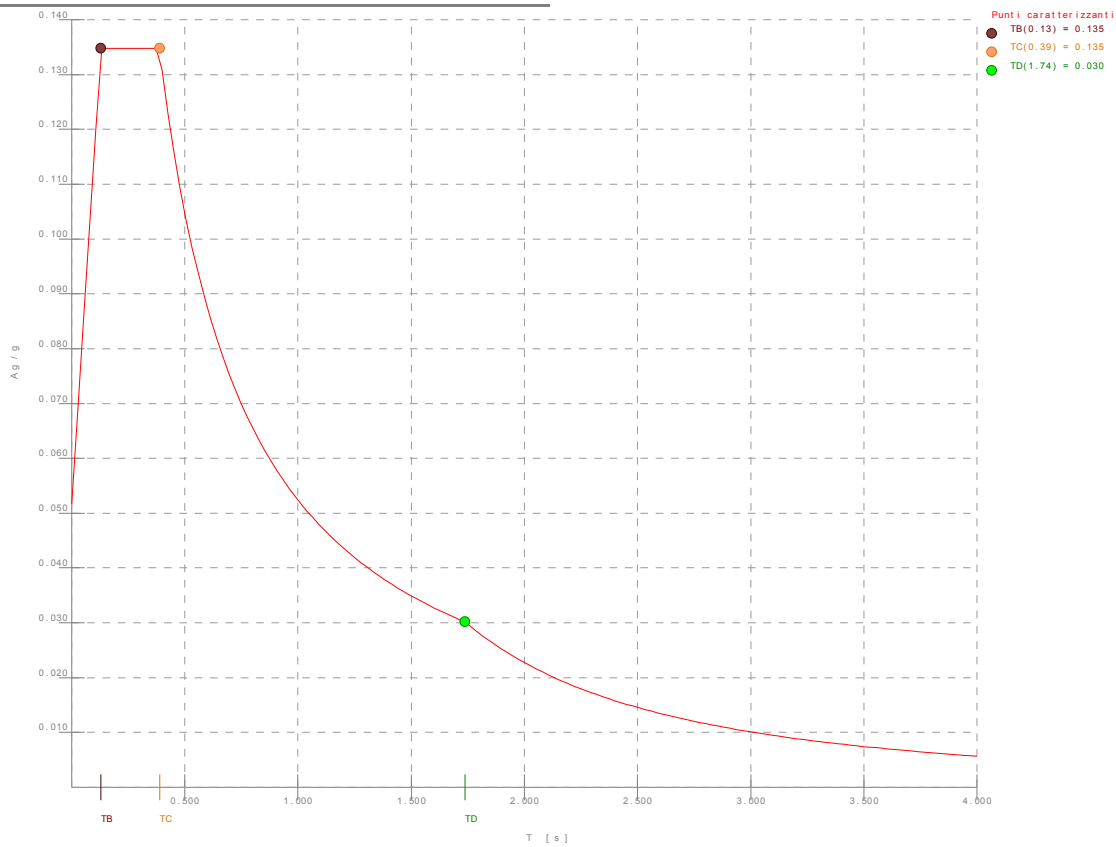


Figura numero 1: Spettro SLD

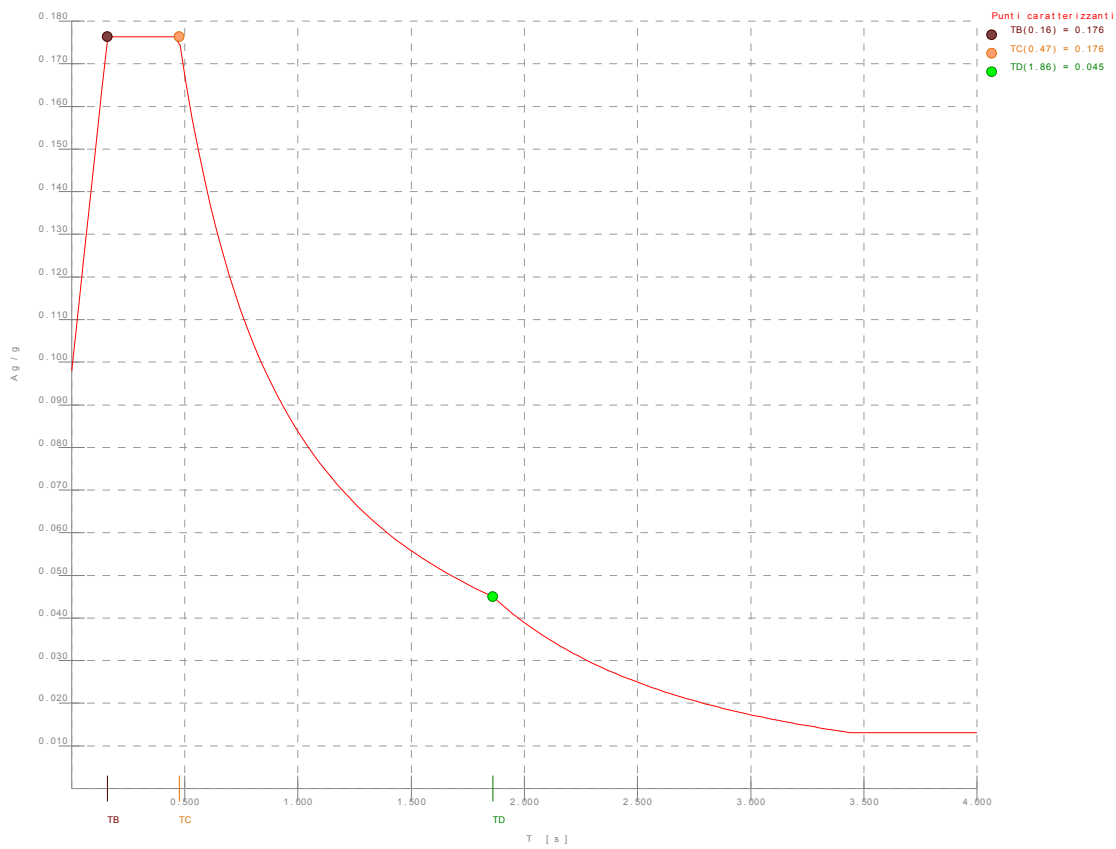


Figura numero 2: Spettro SLV

- Angolo di ingresso del sisma: 0.00 <grad>

Condizioni di carico elementari

Relazione di calcolo

Simbologia

CCE	= Numero della condizione di carico elementare
Comm.	= Commento
Mx	= Moltiplicatore della massa in dir. X
My	= Moltiplicatore della massa in dir. Y
Mz	= Moltiplicatore della massa in dir. Z
Jpx	= Moltiplicatore del momento d'inerzia intorno all'asse X
Jpy	= Moltiplicatore del momento d'inerzia intorno all'asse Y
Jpz	= Moltiplicatore del momento d'inerzia intorno all'asse Z
Tipo CCE	= Tipo di CCE per calcolo agli stati limite
Sicurezza	= Contributo alla sicurezza
	F = a favore
	S = a sfavore
	A = ambigua
Variabilità	= Tipo di variabilità
	B = di base
	I = indipendente
	A = ambigua

CCE	Comm.	Mx	My	Mz	Jpx	Jpy	Jpz	Tipo	CCE	Sicurezza	Variabilità
1	Permanenti strutturali	1.00	1.00	0.00	0.00	0.00	1.00	21	S	--	
2	Permanenti non strutturali	1.00	1.00	0.00	0.00	0.00	1.00	2	S	--	
3	Variabili folla	1.00	1.00	0.00	0.00	0.00	1.00	20	S	B	
4	Variabili temperatura	1.00	1.00	0.00	0.00	0.00	1.00	13	S	B	
5	Variabile piena T=200	1.00	1.00	0.00	0.00	0.00	1.00	22	S	--	
6	Variabile piena T=500	1.00	1.00	0.00	0.00	0.00	1.00	22	S	--	

Elenco tipi cce definiti

Simbologia

Tipo CCE	= Tipo condizione di carico elementare
Comm.	= Commento
Tipo	= Tipologia
	G = Permanente
	Q = Variabile
	I = Da ignorare
	A = Azione eccezionale
	P = Precompressione
Durata	= Durata del carico
	N = Non definita
	P = Permanente
	L = Lunga
	M = Media
	B = Breve
	I = Istantanea
$\gamma_{min.}$	= Coeff. $\gamma_{min.}$
γ_{max}	= Coeff. γ_{max}
ψ_0	= Coeff. ψ_0
ψ_1	= Coeff. ψ_1
ψ_2	= Coeff. ψ_2
$\psi_{0,s}$	= Coeff. ψ_0 sismico (D.M. 96)

Tipo	CCE	Comm.	Tipo	Durata	$\gamma_{min.}$	γ_{max}	ψ_0	ψ_1	ψ_2	$\psi_{0,s}$
1	D.M. 08	Permanenti strutturali	G	N	1.00	1.35				
2	D.M. 08	Permanenti non strutturali	G	N	0.00	1.50				
3	D.M. 08	Variabili Categoria A Ambienti ad uso residenziale	Q	N	0.00	1.50	0.70	0.50	0.30	0.00
4	D.M. 08	Variabili Categoria B Uffici	Q	N	0.00	1.50	0.70	0.50	0.30	0.00
5	D.M. 08	Variabili Categoria C Ambienti suscettibili di affollamento	Q	N	0.00	1.50	0.70	0.70	0.60	0.00
6	D.M. 08	Variabili Categoria D Ambienti ad uso commerciale	Q	N	0.00	1.50	0.70	0.70	0.60	0.00
7	D.M. 08	Variabili Categoria E Biblioteche, archivi, magazzini e ambienti ad uso industriale	Q	N	0.00	1.50	1.00	0.90	0.80	0.00
8	D.M. 08	Variabili Categoria F Rimesse e parcheggi (per autoveicoli di peso ≤ 30 kN)	Q	N	0.00	1.50	0.70	0.70	0.60	0.00
9	D.M. 08	Variabili Categoria G Rimesse e parcheggi (per autoveicoli di peso > 30 kN)	Q	N	0.00	1.50	0.70	0.50	0.30	0.00
10	D.M. 08	Variabili Vento	Q	N	0.00	1.50	0.60	0.20	0.00	0.00
11	D.M. 08	Variabili Neve (a quota ≤ 1000 m s.l.m.)	Q	N	0.00	1.50	0.50	0.20	0.00	0.00
12	D.M. 08	Variabili Neve (a quota > 1000 m s.l.m.)	Q	N	0.00	1.50	0.70	0.50	0.20	0.00
13	D.M. 08	Variabili Variazioni termiche	Q	N	0.00	1.50	0.60	0.50	0.00	0.00
14	D.M. 96	Permanenti	G	N	1.00	1.40				
15	D.M. 96	Variabili Abitazioni	Q	P	0.00	1.50	0.70	0.50	0.20	0.70
16	D.M. 96	Variabili Uffici, negozi, scuole, ecc.	Q	N	0.00	1.50	0.70	0.60	0.30	0.70
17	D.M. 96	Variabili Autorimesse	Q	N	0.00	1.50	0.70	0.70	0.60	0.70
18	D.M. 96	Variabili Vento	Q	N	0.00	1.50	0.70	0.20	0.00	0.00
19	D.M. 08	Variabili Categoria H - Coperture	Q	N	0.00	1.50	0.00	0.00	0.00	1.00
20	D.M. 08	Variabile Folla schema 5	Q	N	0.00	1.35	0.40	0.40	0.00	0.00
21	D.M. 08	Permanenti strutturali PONTI	G	N	1.00	1.35				
22		Azione di piena	A	N	0.00	1.50				

Ambienti di carico

Simbologia

N	Numero
Comm.	Commento
5	Variabile piena T=200

Relazione di calcolo

1	Permanenti strutturali
2	Permanenti non strutturali
3	Variabili folla
4	Variabili temperatura
5	Variabile piena T=200
6	Variabile piena T=500
F	azioni orizzontali convenzionali
SLU	Stato limite ultimo
SLR	Stato limite per combinazioni rare
SLF	Stato limite per combinazioni frequenti
SLQ	Stato limite per combinazioni quasi permanenti o di danno

N	Comm.	1	2	3	4	5	6	S	SLU	SLR	SLF	SLQ
1	Calcolo sismico	si	si	si	si	si	si	si	si	no	no	no
2	Calcolo statico	si	si	si	si	si	si	no	si	si	si	si

Elenco combinazioni di carico simboliche

Simbologia

CC	= Numero della combinazione delle condizioni di carico elementari
Comm.	= Commento
TCC	= Tipo di combinazione di carico
SLU	= Stato limite ultimo
SLU S	= Stato limite ultimo (azione sismica)
SLE R	= Stato limite d'esercizio, combinazione rara
SLE F	= Stato limite d'esercizio, combinazione frequente
SLE Q	= Stato limite d'esercizio, combinazione quasi permanente
SLD	= Stato limite di danno
SLV	= Stato limite di salvaguardia della vita
SLC	= Stato limite di prevenzione del collasso
SLO	= Stato limite di operatività
SLU I	= Stato limite di resistenza al fuoco

CC	Comm.	TCC	1	2	3	4	5	6	S
1	Amb. 1 (Sisma)	SLU S 1	1	ψ_2	ψ_2	ψ_2	ψ_2	1	
2	Amb. 2 (SLU)	SLU γ max γ max γ max γ max	1	1	1	1	1	1	-----
3	Amb. 2 (SLE R)	SLE R 1	1	1	1	1	1	1	-----
4	Amb. 2 (SLE F)	SLE F 1	1	ψ_1	ψ_1	1	1	1	-----
5	Amb. 2 (SLE Q)	SLE Q 1	1	ψ_2	ψ_2	1	1	1	-----

Genera le combinazioni con un solo carico di tipo variabile come di base: no

Considera sollecitazioni dinamiche con segno dei modi principali: no

Combinazioni delle cce

Simbologia

CC	= Numero della combinazione delle condizioni di carico elementari
Comm.	= Commento
TCC	= Tipo di combinazione di carico
SLU	= Stato limite ultimo
SLU S	= Stato limite ultimo (azione sismica)
SLE R	= Stato limite d'esercizio, combinazione rara
SLE F	= Stato limite d'esercizio, combinazione frequente
SLE Q	= Stato limite d'esercizio, combinazione quasi permanente
SLD	= Stato limite di danno
SLV	= Stato limite di salvaguardia della vita
SLC	= Stato limite di prevenzione del collasso
SLO	= Stato limite di operatività
SLU I	= Stato limite di resistenza al fuoco
An.	= Tipo di analisi
L	= Lineare
NL	= Non lineare
Bk	= Buckling
S	= Si
N	= No

CC	Comm.	TCC	An.	Bk	1	2	3	4	5	6	Mt	$\pm S$ X	$\pm S$ Y
1	CC 1 - Amb. 1 (SLU S) S Mt+X+0.3Y	SLV	L	N	1.00	1.00	0.00	0.00	0.00	0.00	1.00	1.00	0.30
2	CC 2 - Amb. 1 (SLE) S Mt+X+0.3Y	SLD	L	N	1.00	1.00	0.00	0.00	0.00	0.00	1.00	1.00	0.30
3	CC 3 - Amb. 1 (SLU S) S Mt+X-0.3Y	SLV	L	N	1.00	1.00	0.00	0.00	0.00	0.00	1.00	1.00	-0.30
4	CC 4 - Amb. 1 (SLE) S Mt+X-0.3Y	SLD	L	N	1.00	1.00	0.00	0.00	0.00	0.00	1.00	1.00	-0.30
5	CC 5 - Amb. 1 (SLU S) S Mt+0.3X+Y	SLV	L	N	1.00	1.00	0.00	0.00	0.00	0.00	1.00	0.30	1.00
6	CC 6 - Amb. 1 (SLE) S Mt+0.3X+Y	SLD	L	N	1.00	1.00	0.00	0.00	0.00	0.00	1.00	0.30	1.00
7	CC 7 - Amb. 1 (SLU S) S Mt-0.3X+Y	SLV	L	N	1.00	1.00	0.00	0.00	0.00	0.00	1.00	-0.30	1.00
8	CC 8 - Amb. 1 (SLE) S Mt-0.3X+Y	SLD	L	N	1.00	1.00	0.00	0.00	0.00	0.00	1.00	-0.30	1.00
9	CC 9 - Amb. 1 (SLU S) S -Mt+X+0.3Y	SLV	L	N	1.00	1.00	0.00	0.00	0.00	0.00	-1.00	1.00	0.30

Relazione di calcolo

10	CC	10	-	Amb.	1	(SLE)	S	-Mt+X+0.3Y	SLD	L	N	1.00	1.00	0.00	0.00	0.00	0.00	-1.00	1.00	0.30
11	CC	11	-	Amb.	1	(SLU)	S	-Mt+X-0.3Y	SLV	L	N	1.00	1.00	0.00	0.00	0.00	0.00	-1.00	1.00	-0.30
12	CC	12	-	Amb.	1	(SLE)	S	-Mt+X-0.3Y	SLD	L	N	1.00	1.00	0.00	0.00	0.00	0.00	-1.00	1.00	-0.30
13	CC	13	-	Amb.	1	(SLU)	S	-Mt+0.3X+Y	SLV	L	N	1.00	1.00	0.00	0.00	0.00	0.00	-1.00	0.30	1.00
14	CC	14	-	Amb.	1	(SLE)	S	-Mt+0.3X+Y	SLD	L	N	1.00	1.00	0.00	0.00	0.00	0.00	-1.00	0.30	1.00
15	CC	15	-	Amb.	1	(SLU)	S	-Mt-0.3X+Y	SLV	L	N	1.00	1.00	0.00	0.00	0.00	0.00	-1.00	-0.30	1.00
16	CC	16	-	Amb.	1	(SLE)	S	-Mt-0.3X+Y	SLD	L	N	1.00	1.00	0.00	0.00	0.00	0.00	-1.00	-0.30	1.00
17	CC	17	-	Amb.	2	(SLU)			SLU	L	N	1.35	1.50	1.35	1.50	0.00	0.00	0.00	0.00	0.00
18	CC	18	-	Amb.	2	(SLU)			SLU	L	N	1.35	1.50	0.00	0.00	1.50	0.00	0.00	0.00	0.00
19	CC	19	-	Amb.	2	(SLU)			SLU	L	N	1.35	1.50	0.00	0.00	0.00	1.50	0.00	0.00	0.00
20	CC	20	-	Amb.	2	(SLE)	R		SLE	R	L	N	1.00	1.00	0.00	0.00	1.00	0.00	0.00	0.00
21	CC	21	-	Amb.	2	(SLE)	R		SLE	R	L	N	1.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
22	CC	22	-	Amb.	2	(SLE)	F		SLE	F	L	N	1.00	1.00	0.40	0.50	0.00	0.00	0.00	0.00
23	CC	23	-	Amb.	2	(SLE)	Q		SLE	Q	L	N	1.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00

Elenco baricentri e masse impalcanti

Simbologia

Imp. = Numero dell'impalcato
X = Coordinata X
Y = Coordinata Y
Z = Coordinata Z
Mo = Massa orizzontale
Jpz = Momento d'inerzia polare intorno all'asse Z

Imp.	X	Y	Z	Mo	Jpz
	<m>	<m>	<m>	<kg>	<kg*mq>
1	7.02	2.37	5.30	184018.00	5647850.00

Totali masse impalcanti

Mo	Jpz
<kg>	<kg*mq>
184018.00	5647850.00

Elenco forze sismiche di impalcato allo SLD

Simbologia

Imp. = Numero dell'impalcato
cx = Coeff. c in dir. X
cy = Coeff. c in dir. Y
Mz = Momento intorno all'asse Z

Imp.	cx	cy	Mz
			<daNm>
1	1.00	1.00	18457.30

Totali forze sismiche

Mz
<daNm>
18457.30

Elenco forze sismiche di impalcato allo SLV

Imp.	cx	cy	Mz
			<daNm>
1	1.00	1.00	24132.30

Totali forze sismiche

Mz
<daNm>
24132.30

Elenco modi di vibrare, masse partecipanti e coefficienti di partecipazione

Simbologia

Modo = Numero del modo di vibrare
C = * indica che il modo è stato considerato
Per. = Periodo
Diff. = Minima differenza percentuale dagli altri periodi
Φx = Coefficiente di partecipazione in dir. X
Φy = Coefficiente di partecipazione in dir. Y
Φz = Coefficiente di partecipazione in dir. Z
%Mx = Percentuale massa partecipante in dir. X
%My = Percentuale massa partecipante in dir. Y

Relazione di calcolo

%Mz = Percentuale massa partecipante in dir. Z
 %Jpz = Percentuale momento d'inerzia polare partecipante intorno all'asse Z

Modo	C	Per.	Diff.	Φ_x	Φ_y	Φ_z	%Mx	%My	%Mz	%Jpz
1 *	0.13	337.47	135.65	-0.00	0.00	0.00	100.00	0.00	0.00	0.00
2 *	0.03	4.34	-0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00
3 *	0.03	4.34	-0.00	-135.65	0.00	0.00	0.00	100.00	0.00	0.00
Tot.cons.							100.00	100.00	0.00	100.00

Elenco coefficienti di risposta

Simbologia

Modo = Numero del modo di vibrare
 Sx = Coefficiente di risposta (moltiplicato per 100) in dir. X
 Sy = Coefficiente di risposta (moltiplicato per 100) in dir. Y

Stato limite di danno

Modo	Sx	Sy
1	13.38	13.38
2	7.04	7.04
3	6.97	6.97

Stato limite di salvaguardia della vita

Modo	Sx	Sy
1	16.12	16.12
2	11.25	11.25
3	11.19	11.19

Spostamenti dei nodi allo stato limite ultimo

Simbologia

Nodo = Numero del nodo
 Sx = Spostamento in dir. X
 CC = Numero della combinazione delle condizioni di carico elementari
 Sy = Spostamento in dir. Y
 Sz = Spostamento in dir. Z
 Rx = Rotazione intorno all'asse X
 Ry = Rotazione intorno all'asse Y
 Rz = Rotazione intorno all'asse Z

Nodo	Sx	CC	Sy	CC	Sz	CC	Rx	CC	Ry	CC	Rz	CC
	<cm>		<cm>		<cm>		<rad>		<rad>		<rad>	
-502 Max	0.15	9	0.01	5	0.00	13	0.00	13	0.00	9	0.00	19
-502 Min.	-0.15	1	-0.01	13	-0.01	5	0.00	5	0.00	1	0.00	9
-501 Max	0.15	9	0.01	13	0.00	5	0.00	17	0.00	9	0.00	19
-501 Min.	-0.15	1	-0.01	18	-0.00	13	0.00	5	0.00	1	0.00	9
-500 Max	0.15	9	0.01	13	0.00	5	0.00	5	0.00	9	0.00	19
-500 Min.	-0.15	1	-0.01	19	-0.01	13	0.00	13	0.00	1	0.00	9
-499 Max	0.15	1	0.01	5	0.00	5	0.00	13	0.00	1	0.00	19
-499 Min.	-0.15	9	-0.01	13	-0.01	18	0.00	5	0.00	9	0.00	9
-498 Max	0.15	1	0.01	13	0.00	13	0.00	13	0.00	1	0.00	19
-498 Min.	-0.15	9	-0.01	18	-0.01	18	0.00	17	0.00	9	0.00	9
-497 Max	0.15	1	0.01	13	0.00	13	0.00	5	0.00	1	0.00	19
-497 Min.	-0.15	9	-0.01	19	-0.01	19	0.00	13	0.00	9	0.00	9
-496 Max	0.11	9	0.00	5	0.00	13	0.00	13	0.00	9	0.00	1
-496 Min.	-0.12	1	-0.00	18	-0.01	5	0.00	5	0.00	1	0.00	9
-495 Max	0.12	9	0.00	5	0.00	5	0.00	13	0.00	9	0.00	1
-495 Min.	-0.12	1	-0.00	18	-0.00	13	0.00	5	0.00	1	0.00	9
-494 Max	0.12	9	0.00	13	0.00	5	0.00	5	0.00	9	0.00	1
-494 Min.	-0.11	1	-0.01	19	-0.01	13	0.00	13	0.00	1	0.00	9
-493 Max	0.11	9	0.00	5	0.00	13	0.00	13	0.00	9	0.00	1
-493 Min.	-0.12	1	-0.00	18	-0.01	17	0.00	5	0.00	1	0.00	9
-492 Max	0.12	9	0.00	5	0.00	5	0.00	13	0.00	9	0.00	1
-492 Min.	-0.12	1	-0.00	18	-0.00	17	0.00	5	0.00	1	0.00	9
-491 Max	0.12	9	0.00	13	-0.00	5	0.00	5	0.00	9	0.00	1
-491 Min.	-0.11	1	-0.01	19	-0.01	17	0.00	13	0.00	1	0.00	9
-490 Max	0.11	9	0.00	5	-0.00	13	0.00	13	0.00	9	0.00	19
-490 Min.	-0.12	1	-0.00	18	-0.01	17	0.00	5	0.00	1	0.00	9
-489 Max	0.12	9	0.00	5	0.00	5	0.00	13	0.00	9	0.00	19
-489 Min.	-0.12	1	-0.00	18	-0.00	17	0.00	5	0.00	1	0.00	9
-488 Max	0.12	9	0.00	13	-0.00	5	0.00	5	0.00	9	0.00	19
-488 Min.	-0.11	1	-0.01	19	-0.01	17	0.00	13	0.00	1	0.00	9
-487 Max	0.11	9	0.00	5	-0.00	13	0.00	13	0.00	9	0.00	19
-487 Min.	-0.12	1	-0.00	18	-0.01	17	0.00	5	0.00	1	0.00	9
-486 Max	0.12	9	0.00	5	-0.00	13	0.00	13	0.00	9	0.00	19
-486 Min.	-0.12	1	-0.00	18	-0.00	17	0.00	5	0.00	1	0.00	9

Relazione di calcolo

-485 Max	0.12	9	0.00	13	-0.00	5	0.00	5	0.00	9	0.00	19
-485 Min.	-0.11	1	-0.01	19	-0.01	17	0.00	13	0.00	1	0.00	9
-484 Max	0.11	9	0.00	5	-0.00	9	0.00	13	0.00	1	0.00	19
-484 Min.	-0.12	1	-0.00	18	-0.01	17	0.00	5	0.00	9	0.00	13
-483 Max	0.12	9	0.00	5	-0.00	13	0.00	13	0.00	9	0.00	19
-483 Min.	-0.12	1	-0.00	18	-0.00	17	0.00	5	0.00	1	0.00	9
-482 Max	0.12	9	0.00	13	-0.00	1	0.00	5	0.00	1	0.00	19
-482 Min.	-0.11	1	-0.01	19	-0.01	17	0.00	13	0.00	9	0.00	13
-481 Max	0.11	1	0.00	5	-0.00	5	0.00	13	0.00	1	0.00	19
-481 Min.	-0.12	9	-0.00	13	-0.01	17	0.00	5	0.00	9	0.00	9
-480 Max	0.12	1	0.00	5	-0.00	13	0.00	13	0.00	1	0.00	19
-480 Min.	-0.12	9	-0.00	18	-0.00	17	0.00	5	0.00	9	0.00	9
-479 Max	0.12	1	0.00	13	-0.00	13	0.00	5	0.00	1	0.00	19
-479 Min.	-0.11	9	-0.01	19	-0.01	17	0.00	13	0.00	9	0.00	9
-478 Max	0.11	1	0.00	5	-0.00	5	0.00	13	0.00	1	0.00	19
-478 Min.	-0.12	9	-0.00	13	-0.01	18	0.00	5	0.00	9	0.00	9
-477 Max	0.12	1	0.00	5	0.00	13	0.00	13	0.00	1	0.00	19
-477 Min.	-0.12	9	-0.00	18	-0.00	17	0.00	5	0.00	9	0.00	9
-476 Max	0.12	1	0.00	13	-0.00	13	0.00	5	0.00	1	0.00	19
-476 Min.	-0.11	9	-0.01	19	-0.01	19	0.00	13	0.00	9	0.00	9
-475 Max	0.11	1	0.00	5	0.00	5	0.00	13	0.00	1	0.00	1
-475 Min.	-0.12	9	-0.00	13	-0.01	18	0.00	5	0.00	9	0.00	9
-474 Max	0.12	1	0.00	5	0.00	13	0.00	13	0.00	1	0.00	1
-474 Min.	-0.12	9	-0.00	18	-0.00	18	0.00	5	0.00	9	0.00	9
-473 Max	0.12	1	0.00	13	0.00	13	0.00	5	0.00	1	0.00	1
-473 Min.	-0.11	9	-0.01	19	-0.01	19	0.00	13	0.00	9	0.00	9
-472 Max	0.11	1	0.00	5	0.00	5	0.00	13	0.00	1	0.00	1
-472 Min.	-0.12	9	-0.00	13	-0.01	18	0.00	5	0.00	9	0.00	9
-471 Max	0.12	1	0.00	5	0.00	13	0.00	13	0.00	1	0.00	1
-471 Min.	-0.12	9	-0.00	18	-0.01	18	0.00	5	0.00	9	0.00	9
-470 Max	0.12	1	0.00	13	0.00	13	0.00	5	0.00	1	0.00	1
-470 Min.	-0.11	9	-0.01	19	-0.01	19	0.00	13	0.00	9	0.00	9
-469 Max	0.07	9	0.00	5	0.00	13	0.00	13	0.00	9	0.00	1
-469 Min.	-0.09	1	-0.00	18	-0.01	5	0.00	5	0.00	1	0.00	9
-468 Max	0.08	9	0.00	5	0.00	5	0.00	13	0.00	9	0.00	1
-468 Min.	-0.08	1	-0.00	18	-0.00	13	0.00	5	0.00	1	0.00	9
-467 Max	0.09	9	0.00	13	0.00	5	0.00	5	0.00	9	0.00	1
-467 Min.	-0.07	1	-0.01	19	-0.01	13	0.00	13	0.00	1	0.00	9
-466 Max	0.07	9	0.00	5	-0.00	13	0.00	13	0.00	9	0.00	1
-466 Min.	-0.09	1	-0.00	18	-0.01	17	0.00	5	0.00	1	0.00	9
-465 Max	0.08	9	0.00	5	0.00	5	0.00	13	0.00	9	0.00	1
-465 Min.	-0.08	1	-0.00	18	-0.00	17	0.00	5	0.00	1	0.00	9
-464 Max	0.09	9	0.00	13	-0.00	5	0.00	5	0.00	9	0.00	1
-464 Min.	-0.07	1	-0.00	19	-0.01	17	0.00	13	0.00	1	0.00	9
-463 Max	0.07	9	0.00	5	-0.00	13	0.00	13	0.00	9	0.00	1
-463 Min.	-0.09	1	-0.00	18	-0.01	17	0.00	5	0.00	1	0.00	9
-462 Max	0.08	9	0.00	5	0.00	5	0.00	13	0.00	9	0.00	1
-462 Min.	-0.08	1	-0.00	18	-0.00	17	0.00	5	0.00	1	0.00	9
-461 Max	0.09	9	0.00	13	-0.00	5	0.00	5	0.00	9	0.00	1
-461 Min.	-0.07	1	-0.00	19	-0.01	17	0.00	13	0.00	1	0.00	9
-460 Max	0.07	9	0.00	5	-0.00	13	0.00	13	0.00	9	0.00	19
-460 Min.	-0.09	1	-0.00	18	-0.01	17	0.00	5	0.00	1	0.00	9
-459 Max	0.08	9	0.00	5	-0.00	13	0.00	13	0.00	9	0.00	1
-459 Min.	-0.08	1	-0.00	18	-0.00	17	0.00	5	0.00	1	0.00	9
-458 Max	0.09	9	0.00	13	-0.00	5	0.00	5	0.00	9	0.00	19
-458 Min.	-0.07	1	-0.00	19	-0.01	17	0.00	13	0.00	1	0.00	9
-457 Max	0.07	9	0.00	5	-0.00	9	0.00	13	0.00	1	0.00	19
-457 Min.	-0.09	1	-0.00	18	-0.01	17	0.00	5	0.00	9	0.00	13
-456 Max	0.08	1	0.00	5	-0.00	13	0.00	13	0.00	9	0.00	19
-456 Min.	-0.08	9	-0.00	18	-0.00	17	0.00	5	0.00	1	0.00	9
-455 Max	0.09	9	0.00	13	-0.00	1	0.00	5	0.00	1	0.00	19
-455 Min.	-0.07	1	-0.00	19	-0.01	17	0.00	13	0.00	9	0.00	13
-454 Max	0.07	1	0.00	5	-0.00	5	0.00	13	0.00	1	0.00	19
-454 Min.	-0.09	9	-0.00	18	-0.01	18	0.00	5	0.00	9	0.00	9
-453 Max	0.08	1	0.00	5	-0.00	13	0.00	13	0.00	1	0.00	19
-453 Min.	-0.08	9	-0.00	18	-0.00	17	0.00	5	0.00	9	0.00	9
-452 Max	0.09	1	0.00	13	-0.00	13	0.00	5	0.00	1	0.00	19
-452 Min.	-0.07	9	-0.00	19	-0.01	19	0.00	13	0.00	9	0.00	9
-451 Max	0.07	1	0.00	5	-0.00	5	0.00	13	0.00	1	0.00	1
-451 Min.	-0.09	9	-0.00	18	-0.01	18	0.00	5	0.00	9	0.00	9
-450 Max	0.08	1	0.00	5	0.00	13	0.00	13	0.00	1	0.00	1
-450 Min.	-0.08	9	-0.00	18	-0.00	18	0.00	5	0.00	9	0.00	9
-449 Max	0.09	1	0.00	13	-0.00	13	0.00	5	0.00	1	0.00	1
-449 Min.	-0.07	9	-0.00	19	-0.01	19	0.00	13	0.00	9	0.00	9
-448 Max	0.07	1	0.00	5	0.00	5	0.00	13	0.00	1	0.00	1
-448 Min.	-0.09	9	-0.00	18	-0.01	18	0.00	5	0.00	9	0.00	9
-447 Max	0.08	1	0.00	5	0.00	13	0.00	13	0.00	1	0.00	1
-447 Min.	-0.08	9	-0.00	18	-0.00	18	0.00	5	0.00	9	0.00	9
-446 Max	0.09	1	0.00	13	0.00	13	0.00	5	0.00	1	0.00	1
-446 Min.	-0.07	9	-0.00	19	-0.01	19	0.00	13	0.00	9	0.00	9
-445 Max	0.07	1	0.00	5	0.00	5	0.00	13	0.00	1	0.00	1
-445 Min.	-0.09	9	-0.00	18	-0.01	18	0.00	5	0.00	9	0.00	9

Relazione di calcolo

-444 Max	0.08	1	0.00	5	0.00	13	0.00	13	0.00	1	0.00	1
-444 Min.	-0.08	9	-0.00	18	-0.00	18	0.00	5	0.00	9	0.00	9
-443 Max	0.09	1	0.00	13	0.00	13	0.00	5	0.00	1	0.00	1
-443 Min.	-0.07	9	-0.00	19	-0.01	19	0.00	13	0.00	9	0.00	9
-442 Max	0.04	9	0.00	5	0.00	13	0.00	13	0.00	9	0.00	1
-442 Min.	-0.06	1	-0.00	18	-0.01	5	0.00	5	0.00	1	0.00	9
-441 Max	0.05	9	0.00	5	0.00	5	0.00	13	0.00	9	0.00	1
-441 Min.	-0.05	1	-0.00	18	-0.00	13	0.00	5	0.00	1	0.00	9
-440 Max	0.06	9	0.00	13	0.00	5	0.00	5	0.00	9	0.00	1
-440 Min.	-0.04	1	-0.00	19	-0.01	13	0.00	13	0.00	1	0.00	9
-439 Max	0.04	9	0.00	5	-0.00	13	0.00	13	0.00	9	0.00	1
-439 Min.	-0.06	1	-0.00	18	-0.01	17	0.00	5	0.00	1	0.00	9
-438 Max	0.05	9	0.00	5	0.00	5	0.00	13	0.00	9	0.00	1
-438 Min.	-0.05	1	-0.00	18	-0.00	13	0.00	5	0.00	1	0.00	9
-437 Max	0.06	9	0.00	13	-0.00	5	0.00	5	0.00	9	0.00	1
-437 Min.	-0.04	1	-0.00	19	-0.01	17	0.00	13	0.00	1	0.00	9
-436 Max	0.04	9	0.00	5	-0.00	13	0.00	13	0.00	9	0.00	1
-436 Min.	-0.06	1	-0.00	18	-0.01	17	0.00	5	0.00	1	0.00	9
-435 Max	0.05	9	0.00	5	0.00	5	0.00	13	0.00	9	0.00	1
-435 Min.	-0.05	1	-0.00	18	-0.00	17	0.00	5	0.00	1	0.00	9
-434 Max	0.06	9	0.00	13	-0.00	5	0.00	5	0.00	9	0.00	1
-434 Min.	-0.04	1	-0.00	19	-0.01	17	0.00	13	0.00	1	0.00	9
-433 Max	0.04	9	0.00	5	-0.00	13	0.00	13	0.00	9	0.00	1
-433 Min.	-0.06	1	-0.00	18	-0.01	17	0.00	5	0.00	1	0.00	9
-432 Max	0.05	9	0.00	5	-0.00	13	0.00	13	0.00	9	0.00	1
-432 Min.	-0.05	1	-0.00	18	-0.00	17	0.00	5	0.00	1	0.00	9
-431 Max	0.06	9	0.00	13	-0.00	5	0.00	5	0.00	9	0.00	1
-431 Min.	-0.04	1	-0.00	19	-0.01	17	0.00	13	0.00	1	0.00	9
-430 Max	0.04	9	0.00	5	-0.00	9	0.00	13	0.00	9	0.00	19
-430 Min.	-0.06	1	-0.00	18	-0.00	17	0.00	5	0.00	1	0.00	13
-429 Max	0.05	1	0.00	5	-0.00	13	0.00	18	0.00	9	0.00	19
-429 Min.	-0.05	9	-0.00	18	-0.00	17	0.00	5	0.00	1	0.00	9
-428 Max	0.06	9	0.00	13	-0.00	1	0.00	5	0.00	9	0.00	19
-428 Min.	-0.04	1	-0.00	19	-0.00	17	0.00	13	0.00	1	0.00	13
-427 Max	0.04	1	0.00	5	-0.00	5	0.00	13	0.00	1	0.00	1
-427 Min.	-0.06	9	-0.00	18	-0.01	18	0.00	5	0.00	9	0.00	9
-426 Max	0.05	1	0.00	5	-0.00	13	0.00	18	0.00	1	0.00	19
-426 Min.	-0.05	9	-0.00	18	-0.00	17	0.00	5	0.00	9	0.00	9
-425 Max	0.06	1	0.00	13	-0.00	13	0.00	5	0.00	1	0.00	1
-425 Min.	-0.04	9	-0.00	19	-0.01	19	0.00	13	0.00	9	0.00	9
-424 Max	0.04	1	0.00	5	-0.00	5	0.00	13	0.00	1	0.00	1
-424 Min.	-0.06	9	-0.00	18	-0.01	18	0.00	5	0.00	9	0.00	9
-423 Max	0.05	1	0.00	5	0.00	13	0.00	18	0.00	1	0.00	1
-423 Min.	-0.05	9	-0.00	18	-0.00	18	0.00	5	0.00	9	0.00	9
-422 Max	0.06	1	0.00	13	-0.00	13	0.00	5	0.00	1	0.00	1
-422 Min.	-0.04	9	-0.00	19	-0.01	19	0.00	13	0.00	9	0.00	9
-421 Max	0.04	1	0.00	5	0.00	5	0.00	13	0.00	1	0.00	1
-421 Min.	-0.06	9	-0.00	18	-0.01	18	0.00	5	0.00	9	0.00	9
-420 Max	0.05	1	0.00	5	0.00	13	0.00	18	0.00	1	0.00	1
-420 Min.	-0.05	9	-0.00	18	-0.00	18	0.00	5	0.00	9	0.00	9
-419 Max	0.06	1	0.00	13	0.00	13	0.00	5	0.00	1	0.00	1
-419 Min.	-0.04	9	-0.00	19	-0.01	19	0.00	13	0.00	9	0.00	9
-418 Max	0.04	1	0.00	5	0.00	5	0.00	13	0.00	1	0.00	1
-418 Min.	-0.06	9	-0.00	18	-0.01	18	0.00	5	0.00	9	0.00	9
-417 Max	0.05	1	0.00	5	0.00	13	0.00	13	0.00	1	0.00	1
-417 Min.	-0.05	9	-0.00	18	-0.00	18	0.00	5	0.00	9	0.00	9
-416 Max	0.06	1	0.00	13	0.00	13	0.00	5	0.00	1	0.00	1
-416 Min.	-0.04	9	-0.00	19	-0.01	19	0.00	13	0.00	9	0.00	9
-415 Max	0.02	9	0.00	5	0.00	13	0.00	13	0.00	9	0.00	1
-415 Min.	-0.03	1	-0.00	18	-0.00	5	0.00	5	0.00	1	0.00	9
-414 Max	0.03	9	0.00	5	0.00	13	0.00	17	0.00	9	0.00	1
-414 Min.	-0.03	1	-0.00	18	-0.00	5	0.00	5	0.00	1	0.00	9
-413 Max	0.03	9	0.00	13	0.00	5	0.00	5	0.00	9	0.00	1
-413 Min.	-0.02	1	-0.00	19	-0.00	13	0.00	13	0.00	1	0.00	9
-412 Max	0.02	9	0.00	5	-0.00	13	0.00	13	0.00	9	0.00	1
-412 Min.	-0.03	1	-0.00	18	-0.00	19	0.00	5	0.00	1	0.00	9
-411 Max	0.03	9	0.00	5	0.00	13	0.00	18	0.00	9	0.00	1
-411 Min.	-0.03	1	-0.00	18	-0.00	5	0.00	5	0.00	1	0.00	9
-410 Max	0.03	9	0.00	13	-0.00	5	0.00	5	0.00	9	0.00	1
-410 Min.	-0.02	1	-0.00	19	-0.00	17	0.00	13	0.00	1	0.00	9
-409 Max	0.02	9	0.00	5	-0.00	13	0.00	18	0.00	9	0.00	1
-409 Min.	-0.03	1	-0.00	18	-0.00	19	0.00	5	0.00	1	0.00	9
-408 Max	0.03	9	0.00	5	0.00	13	0.00	13	0.00	9	0.00	1
-408 Min.	-0.03	1	-0.00	18	-0.00	17	0.00	5	0.00	1	0.00	9
-407 Max	0.03	9	0.00	13	-0.00	5	0.00	19	0.00	9	0.00	1
-407 Min.	-0.02	1	-0.00	19	-0.00	17	0.00	13	0.00	1	0.00	9
-406 Max	0.02	9	0.00	5	-0.00	13	0.00	13	0.00	9	0.00	1
-406 Min.	-0.03	1	-0.00	18	-0.00	19	0.00	5	0.00	1	0.00	9
-405 Max	0.03	9	0.00	5	-0.00	13	0.00	18	0.00	9	0.00	1
-405 Min.	-0.03	1	-0.00	18	-0.00	17	0.00	5	0.00	1	0.00	9
-404 Max	0.03	9	0.00	13	-0.00	5	0.00	5	0.00	9	0.00	1
-404 Min.	-0.02	1	-0.00	19	-0.00	17	0.00	13	0.00	1	0.00	9

Relazione di calcolo

-403 Max	0.02	9	0.00	5	-0.00	9	0.00	13	0.00	9	0.00	19
-403 Min.	-0.03	1	-0.00	18	-0.00	19	0.00	5	0.00	1	0.00	13
-402 Max	0.03	1	0.00	5	-0.00	13	0.00	13	0.00	1	0.00	19
-402 Min.	-0.03	9	-0.00	18	-0.00	17	0.00	5	0.00	9	0.00	9
-401 Max	0.03	9	0.00	13	-0.00	1	0.00	5	0.00	9	0.00	19
-401 Min.	-0.02	1	-0.00	19	-0.00	18	0.00	13	0.00	1	0.00	13
-400 Max	0.02	1	0.00	5	-0.00	5	0.00	13	0.00	1	0.00	1
-400 Min.	-0.03	9	-0.00	18	-0.00	18	0.00	5	0.00	9	0.00	9
-399 Max	0.03	1	0.00	5	-0.00	13	0.00	13	0.00	1	0.00	19
-399 Min.	-0.03	9	-0.00	18	-0.00	17	0.00	5	0.00	9	0.00	9
-398 Max	0.03	1	0.00	13	-0.00	13	0.00	5	0.00	1	0.00	1
-398 Min.	-0.02	9	-0.00	19	-0.00	19	0.00	13	0.00	9	0.00	9
-397 Max	0.02	1	0.00	5	-0.00	5	0.00	13	0.00	1	0.00	1
-397 Min.	-0.03	9	-0.00	18	-0.01	18	0.00	5	0.00	9	0.00	9
-396 Max	0.03	1	0.00	5	0.00	13	0.00	18	0.00	1	0.00	1
-396 Min.	-0.03	9	-0.00	18	-0.00	18	0.00	5	0.00	9	0.00	9
-395 Max	0.03	1	0.00	13	-0.00	13	0.00	5	0.00	1	0.00	1
-395 Min.	-0.02	9	-0.00	19	-0.01	19	0.00	13	0.00	9	0.00	9
-394 Max	0.02	1	0.00	5	0.00	5	0.00	13	0.00	1	0.00	1
-394 Min.	-0.03	9	-0.00	18	-0.01	18	0.00	5	0.00	9	0.00	9
-393 Max	0.03	1	0.00	5	0.00	13	0.00	18	0.00	1	0.00	1
-393 Min.	-0.03	9	-0.00	18	-0.00	18	0.00	5	0.00	9	0.00	9
-392 Max	0.03	1	0.00	13	0.00	13	0.00	19	0.00	1	0.00	1
-392 Min.	-0.02	9	-0.00	19	-0.01	19	0.00	13	0.00	9	0.00	9
-391 Max	0.02	1	0.00	5	0.00	5	0.00	13	0.00	1	0.00	1
-391 Min.	-0.03	9	-0.00	18	-0.01	18	0.00	5	0.00	9	0.00	9
-390 Max	0.03	1	0.00	5	0.00	13	0.00	18	0.00	1	0.00	1
-390 Min.	-0.03	9	-0.00	18	-0.00	18	0.00	5	0.00	9	0.00	9
-389 Max	0.03	1	0.00	13	0.00	13	0.00	19	0.00	1	0.00	1
-389 Min.	-0.02	9	-0.00	19	-0.01	19	0.00	13	0.00	9	0.00	9
-388 Max	0.00	9	0.00	5	0.00	13	0.00	18	0.00	9	0.00	1
-388 Min.	-0.01	1	-0.00	18	-0.00	19	0.00	5	0.00	1	0.00	9
-387 Max	0.01	9	0.00	5	0.00	13	0.00	18	0.00	9	0.00	1
-387 Min.	-0.01	1	-0.00	18	-0.00	5	0.00	5	0.00	1	0.00	9
-386 Max	0.01	9	0.00	13	0.00	5	0.00	19	0.00	9	0.00	1
-386 Min.	-0.00	1	-0.00	19	-0.00	13	0.00	13	0.00	1	0.00	9
-385 Max	0.00	9	0.00	5	-0.00	13	0.00	18	0.00	9	0.00	1
-385 Min.	-0.01	1	-0.00	18	-0.00	19	0.00	5	0.00	1	0.00	9
-384 Max	0.01	9	0.00	5	0.00	13	0.00	18	0.00	9	0.00	1
-384 Min.	-0.01	1	-0.00	18	-0.00	5	0.00	5	0.00	1	0.00	9
-383 Max	0.01	9	0.00	13	-0.00	5	0.00	19	0.00	9	0.00	1
-383 Min.	-0.00	1	-0.00	19	-0.00	17	0.00	13	0.00	1	0.00	9
-382 Max	0.00	9	0.00	5	-0.00	13	0.00	13	0.00	9	0.00	1
-382 Min.	-0.01	1	-0.00	18	-0.00	19	0.00	5	0.00	1	0.00	9
-381 Max	0.01	9	0.00	5	0.00	13	0.00	18	0.00	9	0.00	1
-381 Min.	-0.01	1	-0.00	18	-0.00	17	0.00	5	0.00	1	0.00	9
-380 Max	0.01	9	0.00	13	-0.00	5	0.00	5	0.00	9	0.00	1
-380 Min.	-0.00	1	-0.00	19	-0.00	17	0.00	13	0.00	1	0.00	9
-379 Max	0.00	9	0.00	5	-0.00	13	0.00	13	0.00	9	0.00	1
-379 Min.	-0.01	1	-0.00	18	-0.00	19	0.00	5	0.00	1	0.00	9
-378 Max	0.01	9	0.00	5	0.00	13	0.00	13	0.00	9	0.00	19
-378 Min.	-0.01	1	-0.00	18	-0.00	17	0.00	5	0.00	1	0.00	9
-377 Max	0.01	9	0.00	13	-0.00	5	0.00	19	0.00	9	0.00	1
-377 Min.	-0.00	1	-0.00	19	-0.00	17	0.00	13	0.00	1	0.00	9
-376 Max	0.00	1	0.00	5	-0.00	9	0.00	13	0.00	9	0.00	19
-376 Min.	-0.01	9	-0.00	18	-0.00	18	0.00	5	0.00	1	0.00	9
-375 Max	0.01	1	0.00	5	-0.00	13	0.00	18	0.00	1	0.00	1
-375 Min.	-0.01	9	-0.00	18	-0.00	17	0.00	5	0.00	9	0.00	9
-374 Max	0.01	1	0.00	13	-0.00	1	0.00	5	0.00	9	0.00	19
-374 Min.	-0.00	9	-0.00	19	-0.00	19	0.00	13	0.00	1	0.00	9
-373 Max	0.00	1	0.00	5	-0.00	5	0.00	13	0.00	1	0.00	1
-373 Min.	-0.01	9	-0.00	18	-0.00	18	0.00	5	0.00	9	0.00	9
-372 Max	0.01	1	0.00	5	0.00	5	0.00	18	0.00	1	0.00	19
-372 Min.	-0.01	9	-0.00	18	-0.00	18	0.00	5	0.00	9	0.00	9
-371 Max	0.01	1	0.00	13	-0.00	13	0.00	5	0.00	1	0.00	1
-371 Min.	-0.00	9	-0.00	19	-0.00	19	0.00	13	0.00	9	0.00	9
-370 Max	0.00	1	0.00	5	-0.00	5	0.00	13	0.00	1	0.00	1
-370 Min.	-0.01	9	-0.00	18	-0.00	18	0.00	5	0.00	9	0.00	9
-369 Max	0.01	1	0.00	5	0.00	13	0.00	13	0.00	1	0.00	1
-369 Min.	-0.01	9	-0.00	18	-0.00	18	0.00	17	0.00	9	0.00	9
-368 Max	0.01	1	0.00	13	-0.00	13	0.00	5	0.00	1	0.00	1
-368 Min.	-0.00	9	-0.00	19	-0.00	19	0.00	13	0.00	9	0.00	9
-367 Max	0.00	1	0.00	5	0.00	5	0.00	18	0.00	1	0.00	1
-367 Min.	-0.01	9	-0.00	18	-0.00	18	0.00	5	0.00	9	0.00	9
-366 Max	0.01	1	0.00	5	0.00	13	0.00	18	0.00	1	0.00	1
-366 Min.	-0.01	9	0.00	18	-0.00	18	0.00	5	0.00	9	0.00	9
-365 Max	0.01	1	0.00	13	0.00	13	0.00	19	0.00	1	0.00	1
-365 Min.	-0.00	9	-0.00	19	-0.01	19	0.00	13	0.00	9	0.00	9
-364 Max	0.00	1	0.00	5	0.00	5	0.00	18	0.00	1	0.00	1
-364 Min.	-0.01	9	-0.00	18	-0.01	18	0.00	5	0.00	9	0.00	9
-363 Max	0.01	1	0.00	5	0.00	13	0.00	18	0.00	1	0.00	1
-363 Min.	-0.01	9	0.00	18	-0.00	18	0.00	5	0.00	9	0.00	9

Relazione di calcolo

-362 Max	0.01	1	0.00	13	0.00	13	0.00	19	0.00	1	0.00	1
-362 Min.	-0.00	9	-0.00	19	-0.01	19	0.00	13	0.00	9	0.00	9
-361 Max	0.00	17	0.00	1	0.00	5	0.00	1	0.00	18	0.00	18
-361 Min.	0.00	20	0.00	17	-0.00	18	0.00	18	0.00	1	0.00	5
-360 Max	0.00	5	0.00	5	0.00	5	0.00	5	0.00	13	0.00	1
-360 Min.	0.00	18	0.00	18	-0.00	18	0.00	18	0.00	19	0.00	9
-359 Max	0.00	9	0.00	5	0.00	5	0.00	5	0.00	9	0.00	5
-359 Min.	0.00	17	0.00	18	-0.00	18	0.00	18	0.00	19	0.00	18
-358 Max	0.00	18	0.00	5	-0.00	5	0.00	5	0.00	5	0.00	1
-358 Min.	0.00	17	0.00	18	-0.00	18	0.00	18	0.00	18	0.00	18
-357 Max	0.00	18	0.00	17	-0.00	5	0.00	17	0.00	1	0.00	1
-357 Min.	0.00	19	0.00	18	-0.00	18	0.00	13	0.00	18	0.00	18
-356 Max	0.00	20	0.00	17	-0.00	5	0.00	17	0.00	19	0.00	9
-356 Min.	0.00	19	0.00	18	-0.00	18	0.00	13	0.00	1	0.00	1
-355 Max	0.00	9	0.00	17	-0.00	5	0.00	5	0.00	18	0.00	19
-355 Min.	0.00	19	0.00	18	-0.00	18	0.00	18	0.00	1	0.00	9
-354 Max	0.00	9	0.00	13	-0.00	5	0.00	1	0.00	9	0.00	1
-354 Min.	0.00	18	0.00	18	-0.00	18	0.00	18	0.00	1	0.00	9
-353 Max	0.00	9	0.00	13	0.00	5	0.00	9	0.00	19	0.00	18
-353 Min.	0.00	19	0.00	18	-0.00	18	0.00	18	0.00	5	0.00	9
-352 Max	0.00	9	0.00	5	0.00	5	0.00	5	0.00	9	0.00	1
-352 Min.	0.00	19	0.00	18	-0.00	18	0.00	18	0.00	1	0.00	9
-351 Max	0.00	18	0.00	5	0.00	13	0.00	1	0.00	13	0.00	1
-351 Min.	0.00	1	0.00	18	-0.00	18	0.00	18	0.00	19	0.00	18
-350 Max	0.00	18	0.00	5	-0.00	13	0.00	9	0.00	9	0.00	1
-350 Min.	0.00	1	0.00	18	-0.00	18	0.00	18	0.00	1	0.00	9
-349 Max	0.00	17	0.00	17	-0.00	13	0.00	13	0.00	9	0.00	19
-349 Min.	0.00	21	0.00	19	-0.00	18	0.00	18	0.00	18	0.00	9
-348 Max	0.00	17	0.00	17	-0.00	13	0.00	17	0.00	9	0.00	9
-348 Min.	0.00	19	0.00	19	-0.00	18	0.00	5	0.00	19	0.00	1
-347 Max	0.00	17	0.00	17	-0.00	13	0.00	17	0.00	18	0.00	19
-347 Min.	0.00	19	0.00	19	-0.00	19	0.00	5	0.00	9	0.00	9
-346 Max	0.00	17	0.00	13	-0.00	13	0.00	13	0.00	19	0.00	19
-346 Min.	0.00	19	0.00	19	-0.00	19	0.00	19	0.00	13	0.00	9
-345 Max	0.00	17	0.00	13	0.00	13	0.00	13	0.00	18	0.00	19
-345 Min.	0.00	21	0.00	19	-0.00	19	0.00	19	0.00	1	0.00	13
-344 Max	0.00	19	0.00	13	0.00	13	0.00	13	0.00	18	0.00	1
-344 Min.	0.00	13	0.00	19	-0.00	19	0.00	19	0.00	5	0.00	9
-343 Max	0.00	21	0.00	9	0.00	13	0.00	9	0.00	9	0.00	13
-343 Min.	0.00	17	0.00	17	-0.00	19	0.00	19	0.00	19	0.00	19
-342 Max	0.00	20	0.00	5	0.00	13	0.00	5	0.00	5	0.00	1
-342 Min.	0.00	17	0.00	18	-0.00	19	0.00	18	0.00	18	0.00	9
-341 Max	0.00	17	0.00	13	0.00	5	0.00	13	0.00	19	0.00	1
-341 Min.	0.00	21	0.00	19	-0.00	18	0.00	19	0.00	13	0.00	9
-340 Max	0.00	18	0.00	5	0.00	13	0.00	5	0.00	5	0.00	1
-340 Min.	0.00	17	0.00	18	-0.00	19	0.00	18	0.00	13	0.00	18
-339 Max	0.00	17	0.00	13	0.00	5	0.00	13	0.00	19	0.00	19
-339 Min.	0.00	19	0.00	19	-0.00	18	0.00	19	0.00	13	0.00	9
-338 Max	0.00	9	0.00	13	0.00	1	0.00	1	0.00	9	0.00	18
-338 Min.	0.00	18	0.00	18	-0.00	19	0.00	18	0.00	19	0.00	9
-337 Max	0.00	18	0.00	5	0.00	9	0.00	9	0.00	19	0.00	1
-337 Min.	0.00	1	0.00	18	-0.00	19	0.00	18	0.00	1	0.00	18
-336 Max	0.00	9	0.00	13	0.00	1	0.00	9	0.00	18	0.00	1
-336 Min.	0.00	18	0.00	18	-0.00	19	0.00	18	0.00	5	0.00	18
-335 Max	0.00	18	0.00	5	0.00	9	0.00	1	0.00	13	0.00	18
-335 Min.	0.00	1	0.00	18	-0.00	19	0.00	18	0.00	18	0.00	9
-334 Max	0.00	9	0.00	17	-0.00	5	0.00	1	0.00	18	0.00	1
-334 Min.	0.00	19	0.00	18	-0.00	18	0.00	9	0.00	1	0.00	18
-333 Max	0.00	17	0.00	17	-0.00	13	0.00	9	0.00	9	0.00	18
-333 Min.	0.00	1	0.00	18	-0.00	18	0.00	1	0.00	18	0.00	9
-332 Max	0.00	9	0.00	17	-0.00	1	0.00	19	0.00	19	0.00	17
-332 Min.	0.00	17	0.00	18	-0.00	18	0.00	13	0.00	9	0.00	18
-331 Max	0.00	17	0.00	17	-0.00	9	0.00	19	0.00	1	0.00	19
-331 Min.	0.00	21	0.00	19	-0.00	18	0.00	5	0.00	18	0.00	17
-330 Max	0.00	20	0.00	17	-0.00	9	0.00	19	0.00	5	0.00	9
-330 Min.	0.00	17	0.00	18	-0.00	18	0.00	13	0.00	18	0.00	1
-329 Max	0.00	17	0.00	17	-0.00	1	0.00	17	0.00	18	0.00	9
-329 Min.	0.00	21	0.00	19	-0.00	18	0.00	5	0.00	13	0.00	1
-328 Max	0.00	1	0.00	5	0.00	13	0.00	5	0.00	9	0.00	1
-328 Min.	0.00	17	0.00	18	-0.00	19	0.00	13	0.00	19	0.00	9
-327 Max	0.00	19	0.00	13	0.00	5	0.00	13	0.00	18	0.00	1
-327 Min.	0.00	9	0.00	19	-0.00	18	0.00	5	0.00	1	0.00	9
-319 Max	0.00	9	0.00	5	0.00	13	0.00	5	0.00	5	0.00	1
-319 Min.	0.00	17	0.00	18	-0.00	19	0.00	13	0.00	13	0.00	9
-318 Max	0.00	17	0.00	13	0.00	5	0.00	13	0.00	5	0.00	1
-318 Min.	0.00	1	0.00	19	-0.00	18	0.00	5	0.00	13	0.00	9
-317 Max	0.00	20	0.00	5	0.00	13	0.00	19	0.00	19	0.00	1
-317 Min.	0.00	17	0.00	18	-0.00	19	0.00	13	0.00	13	0.00	9
-316 Max	0.00	17	0.00	13	0.00	5	0.00	17	0.00	5	0.00	1
-316 Min.	0.00	21	0.00	19	-0.00	18	0.00	5	0.00	18	0.00	9
-315 Max	0.00	1	0.00	5	0.00	1	0.00	19	0.00	18	0.00	1
-315 Min.	0.00	18	0.00	18	-0.00	18	0.00	13	0.00	1	0.00	18

Relazione di calcolo

-314 Max	0.00	19	0.00	13	0.00	9	0.00	13	0.00	9	0.00	19
-314 Min.	0.00	9	0.00	19	-0.00	19	0.00	5	0.00	19	0.00	9
-313 Max	0.00	9	0.00	13	0.00	1	0.00	13	0.00	18	0.00	1
-313 Min.	0.00	18	0.00	18	-0.00	19	0.00	5	0.00	1	0.00	18
-312 Max	0.00	18	0.00	17	0.00	9	0.00	5	0.00	9	0.00	18
-312 Min.	0.00	1	0.00	18	-0.00	19	0.00	13	0.00	18	0.00	9
-311 Max	0.00	9	0.00	17	-0.00	5	0.00	19	0.00	18	0.00	19
-311 Min.	0.00	19	0.00	18	-0.00	18	0.00	9	0.00	1	0.00	9
-310 Max	0.00	17	0.00	17	-0.00	13	0.00	19	0.00	9	0.00	1
-310 Min.	0.00	1	0.00	18	-0.00	18	0.00	1	0.00	18	0.00	17
-309 Max	0.00	9	0.00	5	0.00	1	0.00	19	0.00	1	0.00	9
-309 Min.	0.00	19	0.00	18	-0.00	19	0.00	1	0.00	9	0.00	18
-308 Max	0.00	18	0.00	13	0.00	9	0.00	19	0.00	1	0.00	18
-308 Min.	0.00	1	0.00	18	-0.00	19	0.00	9	0.00	9	0.00	1
-307 Max	0.00	9	0.00	13	0.00	1	0.00	9	0.00	18	0.00	18
-307 Min.	0.00	18	0.00	18	-0.00	19	0.00	1	0.00	5	0.00	9
-306 Max	0.00	18	0.00	5	0.00	9	0.00	1	0.00	13	0.00	1
-306 Min.	0.00	1	0.00	18	-0.00	19	0.00	9	0.00	18	0.00	18
-305 Max	0.00	9	0.00	5	-0.00	1	0.00	19	0.00	18	0.00	1
-305 Min.	0.00	19	0.00	18	-0.00	18	0.00	9	0.00	1	0.00	18
-304 Max	0.00	18	0.00	13	-0.00	9	0.00	19	0.00	9	0.00	18
-304 Min.	0.00	1	0.00	18	-0.00	19	0.00	1	0.00	18	0.00	9
-303 Max	0.00	9	0.00	5	0.00	1	0.00	19	0.00	18	0.00	1
-303 Min.	0.00	19	0.00	18	-0.00	19	0.00	1	0.00	1	0.00	9
-302 Max	0.00	18	0.00	13	0.00	9	0.00	19	0.00	9	0.00	1
-302 Min.	0.00	1	0.00	18	-0.00	19	0.00	9	0.00	18	0.00	9
-301 Max	0.00	9	0.00	17	-0.00	1	0.00	19	0.00	19	0.00	1
-301 Min.	0.00	17	0.00	18	-0.00	18	0.00	13	0.00	9	0.00	9
-300 Max	0.00	17	0.00	17	-0.00	9	0.00	19	0.00	1	0.00	1
-300 Min.	0.00	1	0.00	19	-0.00	18	0.00	5	0.00	18	0.00	9
-299 Max	0.00	1	0.00	5	0.00	13	0.00	19	0.00	13	0.00	1
-299 Min.	0.00	17	0.00	18	-0.00	19	0.00	13	0.00	19	0.00	9
-298 Max	0.00	17	0.00	13	0.00	5	0.00	17	0.00	17	0.00	1
-298 Min.	0.00	9	0.00	19	-0.00	18	0.00	5	0.00	5	0.00	9
-297 Max	0.00	9	0.00	17	-0.00	9	0.00	19	0.00	5	0.00	17
-297 Min.	0.00	17	0.00	18	-0.00	19	0.00	9	0.00	18	0.00	18
-296 Max	0.00	17	0.00	17	-0.00	1	0.00	18	0.00	19	0.00	19
-296 Min.	0.00	21	0.00	19	-0.00	18	0.00	1	0.00	13	0.00	17
-295 Max	0.00	9	0.00	5	0.00	13	0.00	19	0.00	9	0.00	1
-295 Min.	0.00	17	0.00	18	-0.00	19	0.00	13	0.00	19	0.00	9
-294 Max	0.00	17	0.00	13	0.00	5	0.00	13	0.00	18	0.00	1
-294 Min.	0.00	1	0.00	19	-0.00	18	0.00	5	0.00	1	0.00	9
-293 Max	0.00	20	0.00	17	-0.00	9	0.00	19	0.00	5	0.00	9
-293 Min.	0.00	17	0.00	18	-0.00	19	0.00	9	0.00	18	0.00	1
-292 Max	0.00	17	0.00	17	-0.00	1	0.00	18	0.00	19	0.00	9
-292 Min.	0.00	21	0.00	19	-0.00	18	0.00	1	0.00	13	0.00	1
-291 Max	0.00	20	0.00	5	-0.00	13	0.00	19	0.00	1	0.00	1
-291 Min.	0.00	17	0.00	18	-0.00	19	0.00	13	0.00	18	0.00	9
-290 Max	0.00	17	0.00	13	-0.00	5	0.00	17	0.00	19	0.00	1
-290 Min.	0.00	21	0.00	19	-0.00	18	0.00	5	0.00	9	0.00	9
-289 Max	0.00	9	0.00	5	0.00	13	0.00	19	0.00	5	0.00	1
-289 Min.	0.00	17	0.00	18	-0.00	19	0.00	13	0.00	18	0.00	18
-288 Max	0.00	17	0.00	13	0.00	5	0.00	17	0.00	19	0.00	19
-288 Min.	0.00	1	0.00	19	-0.00	18	0.00	5	0.00	13	0.00	9
-287 Max	0.00	9	0.00	5	0.00	13	0.00	17	0.00	9	0.00	1
-287 Min.	0.00	1	0.00	18	-0.00	19	0.00	13	0.00	1	0.00	9
-286 Max	0.00	9	0.00	17	-0.00	1	0.00	19	0.00	18	0.00	19
-286 Min.	0.00	19	0.00	18	-0.00	18	0.00	9	0.00	9	0.00	9
-285 Max	0.00	17	0.00	17	-0.00	9	0.00	19	0.00	1	0.00	1
-285 Min.	0.00	1	0.00	18	-0.00	19	0.00	1	0.00	18	0.00	9
-284 Max	0.00	9	0.00	13	0.00	5	0.00	13	0.00	9	0.00	1
-284 Min.	0.00	18	0.00	18	-0.00	19	0.00	5	0.00	1	0.00	9
-283 Max	0.00	18	0.00	5	0.00	13	0.00	5	0.00	9	0.00	1
-283 Min.	0.00	1	0.00	18	-0.00	19	0.00	13	0.00	1	0.00	9
-282 Max	0.00	9	0.00	5	-0.00	1	0.00	19	0.00	18	0.00	1
-282 Min.	0.00	19	0.00	18	-0.00	19	0.00	9	0.00	9	0.00	18
-281 Max	0.00	18	0.00	13	-0.00	9	0.00	19	0.00	1	0.00	18
-281 Min.	0.00	1	0.00	18	-0.00	19	0.00	1	0.00	18	0.00	9
-280 Max	0.00	9	0.00	5	-0.00	1	0.00	19	0.00	18	0.00	1
-280 Min.	0.00	19	0.00	18	-0.00	19	0.00	1	0.00	9	0.00	9
-279 Max	0.00	18	0.00	13	-0.00	9	0.00	19	0.00	1	0.00	1
-279 Min.	0.00	1	0.00	18	-0.00	19	0.00	9	0.00	18	0.00	9
-278 Max	0.00	1	0.00	5	0.00	13	0.00	19	0.00	13	0.00	1
-278 Min.	0.00	17	0.00	18	-0.00	19	0.00	13	0.00	5	0.00	9
-277 Max	0.00	17	0.00	13	0.00	5	0.00	18	0.00	13	0.00	1
-277 Min.	0.00	9	0.00	19	-0.00	18	0.00	5	0.00	5	0.00	9
-276 Max	0.00	9	0.00	5	0.00	1	0.00	9	0.00	18	0.00	1
-276 Min.	0.00	18	0.00	18	-0.00	19	0.00	1	0.00	9	0.00	18
-275 Max	0.00	18	0.00	13	0.00	9	0.00	1	0.00	1	0.00	18
-275 Min.	0.00	1	0.00	18	-0.00	19	0.00	9	0.00	18	0.00	9
-274 Max	0.00	9	0.00	13	0.00	1	0.00	9	0.00	18	0.00	1
-274 Min.	0.00	18	0.00	18	-0.00	19	0.00	1	0.00	1	0.00	9

Relazione di calcolo

-273 Max	0.00	18	0.00	5	0.00	9	0.00	1	0.00	9	0.00	1
-273 Min.	0.00	1	0.00	18	-0.00	19	0.00	9	0.00	18	0.00	9
-272 Max	0.00	1	0.00	5	0.00	13	0.00	17	0.00	9	0.00	18
-272 Min.	0.00	17	0.00	18	-0.00	19	0.00	13	0.00	17	0.00	1
-271 Max	0.00	17	0.00	13	0.00	5	0.00	17	0.00	17	0.00	9
-271 Min.	0.00	9	0.00	19	-0.00	18	0.00	5	0.00	1	0.00	19
-270 Max	0.00	1	0.00	5	0.00	9	0.00	19	0.00	13	0.00	18
-270 Min.	0.00	17	0.00	18	-0.00	19	0.00	9	0.00	5	0.00	5
-269 Max	0.00	17	0.00	13	0.00	1	0.00	18	0.00	13	0.00	13
-269 Min.	0.00	9	0.00	19	-0.00	18	0.00	1	0.00	5	0.00	19
-268 Max	0.00	9	0.00	17	-0.00	1	0.00	19	0.00	18	0.00	1
-268 Min.	0.00	17	0.00	18	-0.00	19	0.00	9	0.00	9	0.00	9
-267 Max	0.00	17	0.00	17	-0.00	9	0.00	19	0.00	1	0.00	1
-267 Min.	0.00	1	0.00	18	-0.00	19	0.00	1	0.00	18	0.00	9
-266 Max	0.00	9	0.00	13	0.00	1	0.00	5	0.00	9	0.00	18
-266 Min.	0.00	18	0.00	18	-0.00	19	0.00	18	0.00	1	0.00	9
-265 Max	0.00	18	0.00	5	0.00	9	0.00	13	0.00	9	0.00	1
-265 Min.	0.00	1	0.00	18	-0.00	19	0.00	18	0.00	1	0.00	18
-264 Max	0.00	9	0.00	17	-0.00	1	0.00	1	0.00	19	0.00	19
-264 Min.	0.00	17	0.00	18	-0.00	18	0.00	18	0.00	9	0.00	9
-263 Max	0.00	17	0.00	17	-0.00	9	0.00	9	0.00	1	0.00	1
-263 Min.	0.00	1	0.00	19	-0.00	18	0.00	18	0.00	18	0.00	17
-262 Max	0.00	9	0.00	5	-0.00	13	0.00	17	0.00	5	0.00	1
-262 Min.	0.00	17	0.00	18	-0.00	19	0.00	13	0.00	18	0.00	9
-261 Max	0.00	17	0.00	13	-0.00	5	0.00	17	0.00	19	0.00	1
-261 Min.	0.00	1	0.00	19	-0.00	18	0.00	5	0.00	13	0.00	9
-260 Max	0.00	9	0.00	5	-0.00	13	0.00	17	0.00	1	0.00	1
-260 Min.	0.00	17	0.00	18	-0.00	19	0.00	13	0.00	18	0.00	18
-259 Max	0.00	17	0.00	13	-0.00	5	0.00	17	0.00	19	0.00	19
-259 Min.	0.00	1	0.00	19	-0.00	17	0.00	5	0.00	9	0.00	9
-258 Max	0.00	9	0.00	5	-0.00	13	0.00	17	0.00	9	0.00	1
-258 Min.	0.00	17	0.00	18	-0.00	19	0.00	13	0.00	1	0.00	9
-257 Max	0.00	9	0.00	5	0.00	13	0.00	5	0.00	9	0.00	1
-257 Min.	0.00	1	0.00	18	-0.00	17	0.00	18	0.00	1	0.00	9
-256 Max	0.00	17	0.00	13	-0.00	5	0.00	17	0.00	9	0.00	1
-256 Min.	0.00	1	0.00	19	-0.00	17	0.00	5	0.00	1	0.00	9
-255 Max	0.00	9	0.00	5	-0.00	9	0.00	17	0.00	5	0.00	17
-255 Min.	0.00	17	0.00	18	-0.00	19	0.00	9	0.00	18	0.00	18
-254 Max	0.00	17	0.00	13	-0.00	1	0.00	17	0.00	19	0.00	19
-254 Min.	0.00	1	0.00	19	-0.00	18	0.00	1	0.00	13	0.00	17
-253 Max	0.00	9	0.00	17	-0.00	9	0.00	1	0.00	1	0.00	1
-253 Min.	0.00	17	0.00	18	-0.00	19	0.00	9	0.00	18	0.00	9
-252 Max	0.00	17	0.00	17	-0.00	1	0.00	9	0.00	19	0.00	1
-252 Min.	0.00	1	0.00	19	-0.00	18	0.00	1	0.00	9	0.00	9
-251 Max	0.00	9	0.00	5	0.00	9	0.00	1	0.00	13	0.00	1
-251 Min.	0.00	17	0.00	18	-0.00	19	0.00	19	0.00	5	0.00	9
-250 Max	0.00	17	0.00	13	0.00	1	0.00	9	0.00	13	0.00	1
-250 Min.	0.00	1	0.00	19	-0.00	18	0.00	1	0.00	5	0.00	9
-249 Max	0.00	1	0.00	5	0.00	13	0.00	22	0.00	13	0.00	18
-249 Min.	0.00	17	0.00	18	-0.00	19	0.00	19	0.00	17	0.00	1
-248 Max	0.00	17	0.00	13	0.00	5	0.00	22	0.00	17	0.00	9
-248 Min.	0.00	9	0.00	19	-0.00	18	0.00	18	0.00	5	0.00	19
-247 Max	0.00	9	0.00	5	-0.00	1	0.00	5	0.00	18	0.00	1
-247 Min.	0.00	1	0.00	18	-0.00	19	0.00	19	0.00	9	0.00	9
-246 Max	0.00	9	0.00	13	-0.00	9	0.00	13	0.00	1	0.00	1
-246 Min.	0.00	1	0.00	18	-0.00	19	0.00	19	0.00	18	0.00	9
-245 Max	0.00	9	0.00	5	-0.00	1	0.00	1	0.00	18	0.00	19
-245 Min.	0.00	17	0.00	18	-0.00	19	0.00	19	0.00	9	0.00	9
-244 Max	0.00	17	0.00	13	-0.00	9	0.00	9	0.00	1	0.00	1
-244 Min.	0.00	1	0.00	18	-0.00	19	0.00	19	0.00	18	0.00	9
-243 Max	0.00	9	0.00	5	0.00	1	0.00	1	0.00	18	0.00	1
-243 Min.	0.00	1	0.00	18	-0.00	19	0.00	19	0.00	9	0.00	9
-242 Max	0.00	9	0.00	13	0.00	9	0.00	9	0.00	1	0.00	1
-242 Min.	0.00	1	0.00	18	-0.00	19	0.00	19	0.00	18	0.00	9
-241 Max	0.00	9	0.00	5	0.00	1	0.00	9	0.00	18	0.00	1
-241 Min.	0.00	1	0.00	18	-0.00	19	0.00	1	0.00	5	0.00	9
-240 Max	0.00	9	0.00	13	0.00	9	0.00	1	0.00	13	0.00	1
-240 Min.	0.00	1	0.00	18	-0.00	19	0.00	9	0.00	18	0.00	9
-239 Max	0.00	1	0.00	5	0.00	13	0.00	9	0.00	9	0.00	1
-239 Min.	0.00	17	0.00	18	-0.00	19	0.00	19	0.00	17	0.00	9
-238 Max	0.00	17	0.00	13	0.00	5	0.00	1	0.00	17	0.00	1
-238 Min.	0.00	9	0.00	19	-0.00	17	0.00	9	0.00	1	0.00	9
-237 Max	0.00	9	0.00	5	-0.00	13	0.00	18	0.00	9	0.00	1
-237 Min.	0.00	17	0.00	18	-0.00	19	0.00	5	0.00	1	0.00	9
-236 Max	0.00	18	0.00	5	0.00	1	0.00	9	0.00	9	0.00	1
-236 Min.	0.00	1	0.00	18	-0.00	9	0.00	1	0.00	1	0.00	9
-235 Max	0.00	9	0.00	5	0.00	13	0.00	13	0.00	9	0.00	1
-235 Min.	0.00	1	0.00	18	-0.00	17	0.00	17	0.00	1	0.00	9
-234 Max	0.00	9	0.00	13	0.00	9	0.00	1	0.00	9	0.00	1
-234 Min.	0.00	18	0.00	18	-0.00	1	0.00	9	0.00	1	0.00	9
-233 Max	0.00	17	0.00	13	-0.00	5	0.00	19	0.00	9	0.00	1
-233 Min.	0.00	1	0.00	19	-0.00	17	0.00	13	0.00	1	0.00	9

Relazione di calcolo

-232 Max	0.00	9	0.00	5	-0.00	9	0.00	13	0.00	5	0.00	17
-232 Min.	0.00	17	0.00	18	-0.00	19	0.00	19	0.00	18	0.00	18
-231 Max	0.00	17	0.00	13	-0.00	1	0.00	5	0.00	19	0.00	19
-231 Min.	0.00	1	0.00	19	-0.00	18	0.00	18	0.00	13	0.00	17
-230 Max	0.00	9	0.00	5	-0.00	13	0.00	13	0.00	1	0.00	1
-230 Min.	0.00	17	0.00	18	-0.00	19	0.00	19	0.00	9	0.00	9
-229 Max	0.00	17	0.00	13	-0.00	5	0.00	5	0.00	1	0.00	1
-229 Min.	0.00	1	0.00	19	-0.00	17	0.00	13	0.00	9	0.00	9
-228 Max	0.00	9	0.00	5	-0.00	9	0.00	13	0.00	5	0.00	1
-228 Min.	0.00	17	0.00	18	-0.00	19	0.00	19	0.00	18	0.00	18
-227 Max	0.00	17	0.00	13	-0.00	1	0.00	5	0.00	19	0.00	19
-227 Min.	0.00	1	0.00	19	-0.00	18	0.00	18	0.00	13	0.00	9
-226 Max	0.00	9	0.00	5	0.00	9	0.00	13	0.00	13	0.00	1
-226 Min.	0.00	17	0.00	18	-0.00	19	0.00	19	0.00	5	0.00	18
-225 Max	0.00	17	0.00	13	0.00	1	0.00	5	0.00	13	0.00	19
-225 Min.	0.00	1	0.00	19	-0.00	18	0.00	18	0.00	5	0.00	9
-224 Max	0.00	9	0.00	17	-0.00	1	0.00	1	0.00	18	0.00	1
-224 Min.	0.00	17	0.00	18	-0.00	18	0.00	19	0.00	9	0.00	9
-223 Max	0.00	17	0.00	17	-0.00	9	0.00	9	0.00	1	0.00	1
-223 Min.	0.00	1	0.00	18	-0.00	18	0.00	19	0.00	18	0.00	9
-222 Max	0.00	9	0.00	5	-0.00	9	0.00	13	0.00	1	0.00	19
-222 Min.	0.00	17	0.00	18	-0.00	19	0.00	19	0.00	18	0.00	9
-221 Max	0.00	17	0.00	13	-0.00	1	0.00	5	0.00	19	0.00	1
-221 Min.	0.00	1	0.00	19	-0.00	18	0.00	18	0.00	9	0.00	9
-220 Max	0.00	1	0.00	5	0.00	9	0.00	9	0.00	13	0.00	17
-220 Min.	0.00	17	0.00	18	-0.00	19	0.00	19	0.00	17	0.00	9
-219 Max	0.00	17	0.00	13	0.00	1	0.00	1	0.00	17	0.00	1
-219 Min.	0.00	9	0.00	19	-0.00	18	0.00	18	0.00	5	0.00	17
-218 Max	0.00	9	0.00	5	0.00	1	0.00	1	0.00	18	0.00	19
-218 Min.	0.00	1	0.00	18	-0.00	19	0.00	19	0.00	9	0.00	9
-217 Max	0.00	9	0.00	13	0.00	9	0.00	9	0.00	1	0.00	1
-217 Min.	0.00	1	0.00	18	-0.00	19	0.00	19	0.00	18	0.00	18
-216 Max	0.00	9	0.00	5	0.00	1	0.00	1	0.00	18	0.00	18
-216 Min.	0.00	1	0.00	18	-0.00	19	0.00	9	0.00	5	0.00	9
-215 Max	0.00	9	0.00	13	0.00	9	0.00	9	0.00	13	0.00	1
-215 Min.	0.00	1	0.00	18	-0.00	19	0.00	1	0.00	18	0.00	18
-214 Max	0.00	9	0.00	5	0.00	1	0.00	1	0.00	1	0.00	1
-214 Min.	0.00	1	0.00	18	-0.00	19	0.00	19	0.00	9	0.00	18
-213 Max	0.00	9	0.00	13	0.00	9	0.00	9	0.00	1	0.00	18
-213 Min.	0.00	1	0.00	18	-0.00	19	0.00	19	0.00	9	0.00	9
-212 Max	0.00	1	0.00	5	0.00	13	0.00	13	0.00	9	0.00	9
-212 Min.	0.00	17	0.00	18	-0.00	19	0.00	19	0.00	1	0.00	1
-211 Max	0.00	17	0.00	13	0.00	5	0.00	5	0.00	9	0.00	9
-211 Min.	0.00	9	0.00	19	-0.00	17	0.00	13	0.00	1	0.00	1
-210 Max	0.00	9	0.00	5	0.00	9	0.00	13	0.00	18	0.00	17
-210 Min.	0.00	17	0.00	18	-0.00	19	0.00	19	0.00	1	0.00	18
-209 Max	0.00	17	0.00	13	0.00	1	0.00	5	0.00	9	0.00	19
-209 Min.	0.00	1	0.00	19	-0.00	18	0.00	18	0.00	19	0.00	17
-208 Max	0.00	9	0.00	5	0.00	9	0.00	13	0.00	5	0.00	1
-208 Min.	0.00	17	0.00	18	-0.00	19	0.00	19	0.00	18	0.00	18
-207 Max	0.00	17	0.00	13	0.00	1	0.00	5	0.00	19	0.00	19
-207 Min.	0.00	1	0.00	19	-0.00	18	0.00	18	0.00	13	0.00	9
-206 Max	0.00	9	0.00	5	0.00	9	0.00	13	0.00	5	0.00	18
-206 Min.	0.00	17	0.00	18	-0.00	19	0.00	19	0.00	18	0.00	5
-205 Max	0.00	17	0.00	13	0.00	1	0.00	5	0.00	19	0.00	13
-205 Min.	0.00	1	0.00	19	-0.00	18	0.00	18	0.00	13	0.00	19
-204 Max	0.00	9	0.00	5	0.00	1	0.00	5	0.00	9	0.00	1
-204 Min.	0.00	1	0.00	18	-0.00	19	0.00	13	0.00	1	0.00	18
-203 Max	0.00	9	0.00	13	0.00	9	0.00	13	0.00	9	0.00	18
-203 Min.	0.00	1	0.00	18	-0.00	19	0.00	5	0.00	1	0.00	9
-202 Max	0.00	9	0.00	5	-0.00	9	0.00	13	0.00	19	0.00	1
-202 Min.	0.00	17	0.00	18	-0.00	19	0.00	5	0.00	13	0.00	18
-201 Max	0.00	17	0.00	13	-0.00	1	0.00	5	0.00	5	0.00	19
-201 Min.	0.00	1	0.00	19	-0.00	18	0.00	13	0.00	17	0.00	9
-199 Max	0.00	9	0.00	5	-0.00	13	0.00	18	0.00	9	0.00	1
-199 Min.	0.00	17	0.00	18	-0.00	19	0.00	5	0.00	1	0.00	9
-193 Max	0.00	17	0.00	13	-0.00	5	0.00	19	0.00	9	0.00	1
-193 Min.	0.00	1	0.00	19	-0.00	17	0.00	13	0.00	1	0.00	9
-191 Max	0.00	9	0.00	5	0.00	1	0.00	1	0.00	1	0.00	18
-191 Min.	0.00	1	0.00	18	-0.00	19	0.00	9	0.00	9	0.00	9
-190 Max	0.00	9	0.00	13	0.00	9	0.00	9	0.00	1	0.00	1
-190 Min.	0.00	1	0.00	18	-0.00	19	0.00	19	0.00	9	0.00	18
-189 Max	0.00	9	0.00	5	-0.00	1	0.00	13	0.00	19	0.00	1
-189 Min.	0.00	17	0.00	18	-0.00	18	0.00	19	0.00	9	0.00	9
-188 Max	0.00	17	0.00	13	-0.00	9	0.00	5	0.00	1	0.00	19
-188 Min.	0.00	1	0.00	18	-0.00	18	0.00	19	0.00	18	0.00	9
-187 Max	0.00	9	0.00	5	-0.00	9	0.00	9	0.00	1	0.00	1
-187 Min.	0.00	17	0.00	18	-0.00	19	0.00	19	0.00	18	0.00	9
-186 Max	0.00	17	0.00	13	-0.00	1	0.00	1	0.00	19	0.00	1
-186 Min.	0.00	1	0.00	19	-0.00	18	0.00	18	0.00	9	0.00	9
-185 Max	0.00	1	0.00	1	0.00	1	0.00	18	0.00	13	0.00	18
-185 Min.	0.00	17	0.00	18	0.00	18	0.00	9	0.00	17	0.00	1

Relazione di calcolo

-184 Max	0.00	17	0.00	9	0.00	9	0.00	19	0.00	17	0.00	9
-184 Min.	0.00	9	0.00	19	0.00	19	0.00	1	0.00	5	0.00	19
-183 Max	0.00	9	0.00	5	0.00	1	0.00	18	0.00	1	0.00	1
-183 Min.	0.00	1	0.00	18	-0.00	19	0.00	9	0.00	9	0.00	18
-182 Max	0.00	9	0.00	13	0.00	9	0.00	18	0.00	1	0.00	18
-182 Min.	0.00	1	0.00	18	-0.00	19	0.00	1	0.00	9	0.00	9
-181 Max	0.00	9	0.00	5	0.00	1	0.00	18	0.00	1	0.00	18
-181 Min.	0.00	1	0.00	18	-0.00	19	0.00	9	0.00	9	0.00	9
-180 Max	0.00	9	0.00	13	0.00	9	0.00	18	0.00	1	0.00	1
-180 Min.	0.00	1	0.00	18	-0.00	19	0.00	1	0.00	9	0.00	18
-179 Max	0.00	9	0.00	5	0.00	1	0.00	18	0.00	9	0.00	18
-179 Min.	0.00	1	0.00	18	-0.00	9	0.00	13	0.00	1	0.00	9
-178 Max	0.00	9	0.00	13	0.00	9	0.00	18	0.00	9	0.00	1
-178 Min.	0.00	1	0.00	18	-0.00	1	0.00	5	0.00	1	0.00	18
-177 Max	0.00	9	0.00	5	-0.00	9	0.00	18	0.00	5	0.00	1
-177 Min.	0.00	17	0.00	18	-0.00	19	0.00	1	0.00	18	0.00	17
-176 Max	0.00	17	0.00	13	-0.00	1	0.00	19	0.00	19	0.00	17
-176 Min.	0.00	1	0.00	19	-0.00	18	0.00	9	0.00	13	0.00	9
-175 Max	0.00	1	0.00	5	-0.00	9	0.00	18	0.00	1	0.00	18
-175 Min.	0.00	17	0.00	18	-0.00	19	0.00	5	0.00	9	0.00	1
-174 Max	0.00	17	0.00	13	-0.00	1	0.00	19	0.00	1	0.00	9
-174 Min.	0.00	9	0.00	19	-0.00	18	0.00	13	0.00	9	0.00	19
-173 Max	0.00	9	0.00	5	0.00	9	0.00	18	0.00	9	0.00	1
-173 Min.	0.00	17	0.00	18	-0.00	19	0.00	1	0.00	17	0.00	17
-172 Max	0.00	17	0.00	13	0.00	1	0.00	19	0.00	17	0.00	17
-172 Min.	0.00	1	0.00	19	-0.00	18	0.00	9	0.00	1	0.00	9
-171 Max	0.00	9	0.00	5	-0.00	13	0.00	13	0.00	9	0.00	17
-171 Min.	0.00	17	0.00	18	-0.00	19	0.00	5	0.00	1	0.00	20
-170 Max	0.00	9	0.00	5	0.00	13	0.00	18	0.00	9	0.00	1
-170 Min.	0.00	1	0.00	18	-0.00	19	0.00	13	0.00	1	0.00	9
-169 Max	0.00	17	0.00	13	-0.00	5	0.00	5	0.00	9	0.00	21
-169 Min.	0.00	1	0.00	19	-0.00	18	0.00	13	0.00	1	0.00	17
-168 Max	0.00	9	0.00	5	0.00	1	0.00	18	0.00	9	0.00	1
-168 Min.	0.00	1	0.00	18	-0.00	9	0.00	13	0.00	1	0.00	9
-167 Max	0.00	9	0.00	13	0.00	9	0.00	13	0.00	9	0.00	1
-167 Min.	0.00	1	0.00	18	-0.00	1	0.00	5	0.00	1	0.00	9
-166 Max	0.00	9	0.00	5	0.00	1	0.00	5	0.00	1	0.00	1
-166 Min.	0.00	1	0.00	18	-0.00	19	0.00	13	0.00	9	0.00	9
-165 Max	0.00	9	0.00	5	0.00	1	0.00	1	0.00	9	0.00	1
-165 Min.	0.00	1	0.00	18	-0.00	19	0.00	9	0.00	1	0.00	9
-164 Max	0.00	9	0.00	13	0.00	9	0.00	9	0.00	9	0.00	1
-164 Min.	0.00	1	0.00	18	-0.00	19	0.00	1	0.00	1	0.00	9
-163 Max	0.00	9	0.00	13	0.00	9	0.00	13	0.00	1	0.00	1
-163 Min.	0.00	1	0.00	18	-0.00	19	0.00	5	0.00	9	0.00	18
-162 Max	0.00	9	0.00	5	0.00	1	0.00	5	0.00	1	0.00	1
-162 Min.	0.00	1	0.00	18	-0.00	19	0.00	13	0.00	9	0.00	18
-161 Max	0.00	9	0.00	13	0.00	9	0.00	13	0.00	1	0.00	18
-161 Min.	0.00	1	0.00	18	-0.00	19	0.00	5	0.00	9	0.00	9
-160 Max	0.00	9	0.00	5	0.00	1	0.00	5	0.00	18	0.00	19
-160 Min.	0.00	1	0.00	18	-0.00	18	0.00	19	0.00	9	0.00	9
-159 Max	0.00	9	0.00	13	0.00	9	0.00	13	0.00	1	0.00	1
-159 Min.	0.00	1	0.00	18	-0.00	19	0.00	19	0.00	18	0.00	9
-158 Max	0.00	9	0.00	5	-0.00	1	0.00	9	0.00	19	0.00	18
-158 Min.	0.00	17	0.00	18	-0.00	18	0.00	19	0.00	9	0.00	5
-157 Max	0.00	17	0.00	13	-0.00	9	0.00	1	0.00	1	0.00	13
-157 Min.	0.00	1	0.00	19	-0.00	18	0.00	18	0.00	18	0.00	18
-156 Max	0.00	1	0.00	5	-0.00	9	0.00	13	0.00	1	0.00	1
-156 Min.	0.00	17	0.00	18	-0.00	19	0.00	19	0.00	18	0.00	18
-155 Max	0.00	17	0.00	13	-0.00	1	0.00	5	0.00	19	0.00	19
-155 Min.	0.00	9	0.00	19	-0.00	18	0.00	18	0.00	9	0.00	9
-154 Max	0.00	1	0.00	5	-0.00	9	0.00	9	0.00	17	0.00	18
-154 Min.	0.00	17	0.00	18	-0.00	19	0.00	19	0.00	19	0.00	9
-153 Max	0.00	17	0.00	13	-0.00	1	0.00	1	0.00	18	0.00	1
-153 Min.	0.00	9	0.00	19	-0.00	19	0.00	18	0.00	17	0.00	18
-152 Max	0.00	9	0.00	5	-0.00	9	0.00	13	0.00	1	0.00	18
-152 Min.	0.00	17	0.00	18	-0.00	18	0.00	19	0.00	9	0.00	5
-151 Max	0.00	17	0.00	13	-0.00	1	0.00	5	0.00	1	0.00	13
-151 Min.	0.00	1	0.00	19	-0.00	19	0.00	13	0.00	9	0.00	19
-150 Max	0.00	9	0.00	5	0.00	9	0.00	9	0.00	1	0.00	17
-150 Min.	0.00	17	0.00	18	-0.00	18	0.00	19	0.00	17	0.00	9
-149 Max	0.00	17	0.00	13	0.00	1	0.00	1	0.00	17	0.00	1
-149 Min.	0.00	1	0.00	19	-0.00	19	0.00	18	0.00	9	0.00	17
-148 Max	0.00	1	0.00	5	-0.00	9	0.00	13	0.00	9	0.00	1
-148 Min.	0.00	17	0.00	18	-0.00	18	0.00	5	0.00	1	0.00	18
-147 Max	0.00	1	0.00	5	-0.00	13	0.00	13	0.00	1	0.00	1
-147 Min.	0.00	9	0.00	18	-0.00	18	0.00	19	0.00	9	0.00	9
-146 Max	0.00	17	0.00	13	-0.00	1	0.00	5	0.00	9	0.00	19
-146 Min.	0.00	9	0.00	19	-0.00	19	0.00	13	0.00	1	0.00	9
-145 Max	0.00	9	0.00	17	0.00	9	0.00	9	0.00	13	0.00	20
-145 Min.	0.00	17	0.00	18	-0.00	19	0.00	19	0.00	17	0.00	17
-144 Max	0.00	17	0.00	17	0.00	1	0.00	1	0.00	17	0.00	17
-144 Min.	0.00	1	0.00	19	0.00	18	0.00	19	0.00	5	0.00	19

Relazione di calcolo

-143 Max	0.00	1	0.00	5	0.00	1	0.00	1	0.00	9	0.00	18
-143 Min.	0.00	9	0.00	18	-0.00	18	0.00	9	0.00	1	0.00	9
-142 Max	0.00	1	0.00	13	0.00	9	0.00	9	0.00	9	0.00	1
-142 Min.	0.00	9	0.00	18	-0.00	18	0.00	1	0.00	1	0.00	18
-141 Max	0.00	1	0.00	5	0.00	1	0.00	5	0.00	9	0.00	1
-141 Min.	0.00	9	0.00	18	-0.00	18	0.00	13	0.00	1	0.00	9
-140 Max	0.00	1	0.00	13	0.00	9	0.00	13	0.00	9	0.00	1
-140 Min.	0.00	9	0.00	18	-0.00	18	0.00	5	0.00	1	0.00	9
-139 Max	0.00	1	0.00	5	0.00	1	0.00	5	0.00	19	0.00	1
-139 Min.	0.00	9	0.00	18	-0.00	18	0.00	13	0.00	17	0.00	9
-138 Max	0.00	1	0.00	13	0.00	9	0.00	13	0.00	17	0.00	1
-138 Min.	0.00	9	0.00	18	-0.00	18	0.00	5	0.00	19	0.00	9
-137 Max	0.00	1	0.00	5	0.00	1	0.00	1	0.00	9	0.00	19
-137 Min.	0.00	9	0.00	18	-0.00	18	0.00	19	0.00	1	0.00	9
-136 Max	0.00	1	0.00	13	0.00	9	0.00	9	0.00	9	0.00	5
-136 Min.	0.00	9	0.00	18	-0.00	18	0.00	19	0.00	1	0.00	18
-135 Max	0.00	1	0.00	5	0.00	9	0.00	1	0.00	1	0.00	1
-135 Min.	0.00	9	0.00	18	-0.00	18	0.00	19	0.00	9	0.00	18
-134 Max	0.00	1	0.00	13	0.00	1	0.00	9	0.00	1	0.00	18
-134 Min.	0.00	9	0.00	18	-0.00	18	0.00	19	0.00	9	0.00	9
-133 Max	0.00	1	0.00	5	0.00	9	0.00	5	0.00	1	0.00	1
-133 Min.	0.00	9	0.00	18	-0.00	18	0.00	13	0.00	9	0.00	9
-132 Max	0.00	1	0.00	13	0.00	1	0.00	13	0.00	1	0.00	1
-132 Min.	0.00	9	0.00	18	-0.00	18	0.00	5	0.00	9	0.00	9
-131 Max	0.00	1	0.00	5	-0.00	9	0.00	1	0.00	18	0.00	1
-131 Min.	0.00	17	0.00	18	-0.00	19	0.00	18	0.00	1	0.00	18
-130 Max	0.00	17	0.00	13	-0.00	1	0.00	9	0.00	9	0.00	19
-130 Min.	0.00	9	0.00	18	-0.00	18	0.00	19	0.00	19	0.00	9
-129 Max	0.00	1	0.00	5	-0.00	1	0.00	9	0.00	9	0.00	18
-129 Min.	0.00	17	0.00	18	-0.00	18	0.00	19	0.00	19	0.00	5
-128 Max	0.00	17	0.00	13	-0.00	9	0.00	1	0.00	18	0.00	13
-128 Min.	0.00	9	0.00	19	-0.00	19	0.00	18	0.00	1	0.00	18
-127 Max	0.00	1	0.00	5	-0.00	1	0.00	13	0.00	18	0.00	5
-127 Min.	0.00	17	0.00	18	-0.00	18	0.00	5	0.00	1	0.00	18
-126 Max	0.00	17	0.00	13	-0.00	9	0.00	5	0.00	9	0.00	19
-126 Min.	0.00	9	0.00	19	-0.00	19	0.00	13	0.00	19	0.00	13
-124 Max	0.00	1	0.00	5	-0.00	5	0.00	13	0.00	1	0.00	18
-124 Min.	0.00	17	0.00	18	-0.00	18	0.00	5	0.00	9	0.00	9
-118 Max	0.00	17	0.00	13	-0.00	13	0.00	5	0.00	1	0.00	1
-118 Min.	0.00	9	0.00	19	-0.00	19	0.00	13	0.00	9	0.00	18
-116 Max	0.00	1	0.00	5	0.00	9	0.00	18	0.00	1	0.00	1
-116 Min.	0.00	9	0.00	18	-0.00	18	0.00	13	0.00	9	0.00	18
-115 Max	0.00	1	0.00	13	0.00	1	0.00	18	0.00	1	0.00	18
-115 Min.	0.00	9	0.00	18	-0.00	18	0.00	5	0.00	9	0.00	9
-114 Max	0.00	1	0.00	5	0.00	1	0.00	18	0.00	19	0.00	5
-114 Min.	0.00	17	0.00	18	-0.00	18	0.00	5	0.00	9	0.00	18
-113 Max	0.00	17	0.00	13	0.00	9	0.00	19	0.00	1	0.00	19
-113 Min.	0.00	9	0.00	19	-0.00	18	0.00	13	0.00	18	0.00	13
-112 Max	0.00	1	0.00	5	-0.00	9	0.00	19	0.00	19	0.00	5
-112 Min.	0.00	17	0.00	18	-0.00	19	0.00	9	0.00	1	0.00	18
-111 Max	0.00	17	0.00	13	-0.00	1	0.00	18	0.00	9	0.00	18
-111 Min.	0.00	9	0.00	18	-0.00	18	0.00	1	0.00	19	0.00	13
-110 Max	0.00	1	0.00	5	-0.00	9	0.00	19	0.00	18	0.00	18
-110 Min.	0.00	17	0.00	18	-0.00	19	0.00	9	0.00	1	0.00	1
-109 Max	0.00	17	0.00	13	-0.00	1	0.00	18	0.00	9	0.00	9
-109 Min.	0.00	9	0.00	19	-0.00	18	0.00	1	0.00	19	0.00	18
-108 Max	0.00	1	0.00	5	-0.00	1	0.00	13	0.00	9	0.00	17
-108 Min.	0.00	17	0.00	18	-0.00	18	0.00	5	0.00	19	0.00	9
-107 Max	0.00	17	0.00	13	-0.00	9	0.00	5	0.00	18	0.00	1
-107 Min.	0.00	9	0.00	19	-0.00	19	0.00	13	0.00	1	0.00	17
-106 Max	0.00	1	0.00	5	0.00	9	0.00	18	0.00	9	0.00	1
-106 Min.	0.00	9	0.00	18	-0.00	18	0.00	9	0.00	1	0.00	18
-105 Max	0.00	1	0.00	13	0.00	1	0.00	18	0.00	9	0.00	18
-105 Min.	0.00	9	0.00	18	-0.00	18	0.00	1	0.00	1	0.00	13
-104 Max	0.00	1	0.00	5	0.00	9	0.00	18	0.00	5	0.00	1
-104 Min.	0.00	9	0.00	18	-0.00	18	0.00	13	0.00	13	0.00	9
-103 Max	0.00	1	0.00	13	0.00	1	0.00	18	0.00	5	0.00	1
-103 Min.	0.00	9	0.00	18	-0.00	18	0.00	5	0.00	13	0.00	9
-102 Max	0.00	1	0.00	5	-0.00	1	0.00	18	0.00	13	0.00	9
-102 Min.	0.00	17	0.00	18	-0.00	18	0.00	5	0.00	5	0.00	1
-101 Max	0.00	17	0.00	13	-0.00	9	0.00	19	0.00	13	0.00	9
-101 Min.	0.00	9	0.00	19	-0.00	19	0.00	13	0.00	19	0.00	19
-100 Max	0.00	1	0.00	5	-0.00	5	0.00	13	0.00	1	0.00	1
-100 Min.	0.00	17	0.00	18	-0.00	18	0.00	5	0.00	9	0.00	9
-99 Max	0.00	1	0.00	5	0.00	5	0.00	18	0.00	1	0.00	1
-99 Min.	0.00	9	0.00	18	-0.00	18	0.00	13	0.00	9	0.00	9
-98 Max	0.00	17	0.00	13	-0.00	13	0.00	5	0.00	1	0.00	1
-98 Min.	0.00	9	0.00	19	-0.00	19	0.00	13	0.00	9	0.00	9
-97 Max	0.00	1	0.00	5	-0.00	1	0.00	18	0.00	13	0.00	20
-97 Min.	0.00	17	0.00	18	-0.00	18	0.00	1	0.00	19	0.00	17
-96 Max	0.00	17	0.00	13	-0.00	9	0.00	19	0.00	18	0.00	17
-96 Min.	0.00	9	0.00	19	-0.00	19	0.00	9	0.00	5	0.00	20

Relazione di calcolo

-95 Max	0.00	1	0.00	5	-0.00	9	0.00	19	0.00	19	0.00	18
-95 Min.	0.00	17	0.00	18	-0.00	19	0.00	9	0.00	1	0.00	17
-94 Max	0.00	17	0.00	13	-0.00	1	0.00	18	0.00	9	0.00	17
-94 Min.	0.00	9	0.00	18	-0.00	18	0.00	1	0.00	19	0.00	18
-93 Max	0.00	1	0.00	5	-0.00	9	0.00	19	0.00	18	0.00	1
-93 Min.	0.00	17	0.00	18	-0.00	19	0.00	9	0.00	1	0.00	9
-92 Max	0.00	17	0.00	13	-0.00	1	0.00	19	0.00	9	0.00	1
-92 Min.	0.00	9	0.00	18	-0.00	19	0.00	1	0.00	19	0.00	9
-91 Max	0.00	1	0.00	5	-0.00	1	0.00	5	0.00	9	0.00	20
-91 Min.	0.00	17	0.00	18	-0.00	19	0.00	17	0.00	1	0.00	17
-90 Max	0.00	17	0.00	13	-0.00	9	0.00	13	0.00	9	0.00	17
-90 Min.	0.00	9	0.00	19	-0.00	19	0.00	17	0.00	1	0.00	20
-89 Max	0.00	1	0.00	5	-0.00	1	0.00	1	0.00	9	0.00	1
-89 Min.	0.00	17	0.00	18	-0.00	18	0.00	18	0.00	19	0.00	9
-88 Max	0.00	17	0.00	13	-0.00	9	0.00	9	0.00	18	0.00	1
-88 Min.	0.00	9	0.00	19	-0.00	19	0.00	18	0.00	1	0.00	9
-87 Max	0.00	1	0.00	5	0.00	9	0.00	9	0.00	1	0.00	1
-87 Min.	0.00	9	0.00	18	-0.00	18	0.00	1	0.00	9	0.00	9
-86 Max	0.00	1	0.00	5	0.00	1	0.00	18	0.00	5	0.00	1
-86 Min.	0.00	17	0.00	18	-0.00	18	0.00	5	0.00	18	0.00	9
-85 Max	0.00	1	0.00	5	-0.00	9	0.00	1	0.00	19	0.00	1
-85 Min.	0.00	9	0.00	18	-0.00	18	0.00	18	0.00	9	0.00	9
-84 Max	0.00	1	0.00	13	-0.00	1	0.00	9	0.00	9	0.00	1
-84 Min.	0.00	9	0.00	18	-0.00	18	0.00	18	0.00	19	0.00	9
-83 Max	0.00	17	0.00	13	0.00	9	0.00	19	0.00	19	0.00	1
-83 Min.	0.00	9	0.00	19	-0.00	19	0.00	13	0.00	13	0.00	9
-82 Max	0.00	1	0.00	13	0.00	1	0.00	9	0.00	1	0.00	1
-82 Min.	0.00	9	0.00	18	-0.00	18	0.00	1	0.00	9	0.00	9
-81 Max	0.00	1	0.00	17	0.00	9	0.00	1	0.00	5	0.00	18
-81 Min.	0.00	17	0.00	18	0.00	19	0.00	18	0.00	18	0.00	5
-80 Max	0.00	17	0.00	17	0.00	1	0.00	9	0.00	19	0.00	13
-80 Min.	0.00	9	0.00	19	0.00	18	0.00	19	0.00	13	0.00	19
-79 Max	0.00	1	0.00	5	0.00	9	0.00	1	0.00	9	0.00	1
-79 Min.	0.00	9	0.00	18	-0.00	18	0.00	9	0.00	1	0.00	9
-78 Max	0.00	1	0.00	5	0.00	9	0.00	1	0.00	9	0.00	1
-78 Min.	0.00	9	0.00	18	-0.00	18	0.00	9	0.00	1	0.00	9
-77 Max	0.00	1	0.00	13	0.00	1	0.00	9	0.00	9	0.00	1
-77 Min.	0.00	9	0.00	18	-0.00	18	0.00	1	0.00	1	0.00	9
-76 Max	0.00	1	0.00	13	0.00	1	0.00	9	0.00	9	0.00	1
-76 Min.	0.00	9	0.00	18	-0.00	18	0.00	1	0.00	1	0.00	9
-75 Max	0.00	1	0.00	5	-0.00	5	0.00	9	0.00	9	0.00	9
-75 Min.	0.00	17	0.00	18	-0.00	18	0.00	17	0.00	1	0.00	1
-74 Max	0.00	17	0.00	13	-0.00	13	0.00	1	0.00	9	0.00	9
-74 Min.	0.00	9	0.00	19	-0.00	19	0.00	17	0.00	1	0.00	1
-73 Max	0.00	1	0.00	5	-0.00	9	0.00	1	0.00	19	0.00	18
-73 Min.	0.00	17	0.00	18	-0.00	19	0.00	18	0.00	1	0.00	17
-72 Max	0.00	17	0.00	13	-0.00	1	0.00	9	0.00	9	0.00	17
-72 Min.	0.00	9	0.00	18	-0.00	19	0.00	18	0.00	19	0.00	18
-71 Max	0.00	1	0.00	5	0.00	9	0.00	1	0.00	1	0.00	1
-71 Min.	0.00	9	0.00	18	-0.00	18	0.00	18	0.00	9	0.00	9
-70 Max	0.00	1	0.00	5	-0.00	1	0.00	1	0.00	13	0.00	1
-70 Min.	0.00	17	0.00	18	-0.00	18	0.00	18	0.00	19	0.00	9
-69 Max	0.00	17	0.00	13	-0.00	9	0.00	9	0.00	13	0.00	1
-69 Min.	0.00	9	0.00	19	-0.00	19	0.00	19	0.00	5	0.00	9
-68 Max	0.00	1	0.00	5	0.00	5	0.00	1	0.00	1	0.00	1
-68 Min.	0.00	17	0.00	18	-0.00	18	0.00	17	0.00	9	0.00	9
-67 Max	0.00	1	0.00	5	0.00	13	0.00	13	0.00	1	0.00	1
-67 Min.	0.00	9	0.00	18	-0.00	18	0.00	18	0.00	9	0.00	9
-66 Max	0.00	17	0.00	13	0.00	13	0.00	9	0.00	1	0.00	1
-66 Min.	0.00	9	0.00	19	-0.00	19	0.00	17	0.00	9	0.00	9
-65 Max	0.00	1	0.00	5	0.00	5	0.00	13	0.00	1	0.00	1
-65 Min.	0.00	17	0.00	18	-0.00	18	0.00	17	0.00	18	0.00	9
-64 Max	0.00	17	0.00	13	0.00	13	0.00	5	0.00	19	0.00	1
-64 Min.	0.00	9	0.00	19	-0.00	19	0.00	17	0.00	9	0.00	9
-63 Max	0.00	1	0.00	5	0.00	1	0.00	13	0.00	1	0.00	1
-63 Min.	0.00	9	0.00	18	-0.00	18	0.00	18	0.00	9	0.00	9
-62 Max	0.00	1	0.00	5	-0.00	9	0.00	1	0.00	9	0.00	1
-62 Min.	0.00	17	0.00	18	-0.00	19	0.00	18	0.00	1	0.00	9
-61 Max	0.00	17	0.00	13	-0.00	1	0.00	9	0.00	9	0.00	1
-61 Min.	0.00	9	0.00	19	-0.00	19	0.00	18	0.00	1	0.00	9
-60 Max	0.00	1	0.00	5	-0.00	1	0.00	1	0.00	9	0.00	1
-60 Min.	0.00	17	0.00	18	-0.00	18	0.00	18	0.00	19	0.00	17
-59 Max	0.00	17	0.00	13	-0.00	9	0.00	9	0.00	18	0.00	19
-59 Min.	0.00	9	0.00	19	-0.00	19	0.00	19	0.00	1	0.00	9
-58 Max	0.00	1	0.00	13	0.00	9	0.00	13	0.00	1	0.00	1
-58 Min.	0.00	9	0.00	18	-0.00	18	0.00	18	0.00	9	0.00	9
-57 Max	0.00	1	0.00	5	0.00	5	0.00	5	0.00	1	0.00	1
-57 Min.	0.00	17	0.00	18	-0.00	18	0.00	18	0.00	18	0.00	9
-56 Max	0.00	17	0.00	13	0.00	13	0.00	13	0.00	19	0.00	1
-56 Min.	0.00	9	0.00	19	-0.00	19	0.00	19	0.00	9	0.00	9
-55 Max	0.00	1	0.00	13	0.00	9	0.00	9	0.00	5	0.00	1
-55 Min.	0.00	9	0.00	18	-0.00	18	0.00	1	0.00	18	0.00	9

Relazione di calcolo

-54 Max	0.00	1	0.00	5	0.00	1	0.00	1	0.00	18	0.00	1
-54 Min.	0.00	9	0.00	18	-0.00	18	0.00	9	0.00	1	0.00	9
-53 Max	0.00	1	0.00	5	0.00	9	0.00	9	0.00	9	0.00	1
-53 Min.	0.00	9	0.00	18	-0.00	18	0.00	18	0.00	18	0.00	9
-52 Max	0.00	1	0.00	13	0.00	1	0.00	1	0.00	18	0.00	1
-52 Min.	0.00	9	0.00	18	-0.00	18	0.00	18	0.00	1	0.00	9
-51 Max	0.00	1	0.00	5	0.00	5	0.00	5	0.00	1	0.00	9
-51 Min.	0.00	17	0.00	18	-0.00	18	0.00	18	0.00	9	0.00	1
-50 Max	0.00	1	0.00	5	0.00	13	0.00	13	0.00	1	0.00	1
-50 Min.	0.00	9	0.00	18	-0.00	18	0.00	18	0.00	9	0.00	9
-49 Max	0.00	17	0.00	13	0.00	13	0.00	13	0.00	1	0.00	9
-49 Min.	0.00	9	0.00	19	-0.00	19	0.00	19	0.00	9	0.00	1
-48 Max	0.00	1	0.00	5	0.00	1	0.00	13	0.00	1	0.00	1
-48 Min.	0.00	9	0.00	18	-0.00	18	0.00	18	0.00	9	0.00	9
-47 Max	0.00	1	0.00	13	0.00	9	0.00	13	0.00	1	0.00	1
-47 Min.	0.00	9	0.00	18	-0.00	18	0.00	5	0.00	9	0.00	9
-46 Max	0.00	1	0.00	5	0.00	1	0.00	1	0.00	1	0.00	1
-46 Min.	0.00	9	0.00	18	-0.00	18	0.00	9	0.00	9	0.00	9
-45 Max	0.00	1	0.00	5	0.00	5	0.00	5	0.00	18	0.00	1
-45 Min.	0.00	17	0.00	18	-0.00	18	0.00	18	0.00	5	0.00	9
-44 Max	0.00	17	0.00	13	0.00	13	0.00	13	0.00	13	0.00	1
-44 Min.	0.00	9	0.00	19	-0.00	19	0.00	19	0.00	19	0.00	9
-43 Max	0.00	9	0.00	17	0.00	9	0.00	1	0.00	19	0.00	1
-43 Min.	0.00	17	0.00	20	-0.00	19	0.00	9	0.00	9	0.00	18
-42 Max	0.00	17	0.00	17	0.00	1	0.00	9	0.00	1	0.00	19
-42 Min.	0.00	1	0.00	21	-0.00	18	0.00	1	0.00	18	0.00	9
-34 Max	0.00	1	0.00	5	-0.00	13	0.00	5	0.00	19	0.00	1
-34 Min.	0.00	17	0.00	18	-0.00	19	0.00	13	0.00	9	0.00	9
-33 Max	0.00	17	0.00	13	-0.00	5	0.00	13	0.00	1	0.00	1
-33 Min.	0.00	9	0.00	18	-0.00	19	0.00	5	0.00	19	0.00	9
-32 Max	0.00	1	0.00	5	-0.00	1	0.00	1	0.00	13	0.00	9
-32 Min.	0.00	17	0.00	18	-0.00	18	0.00	9	0.00	19	0.00	1
-31 Max	0.00	1	0.00	5	-0.00	9	0.00	5	0.00	18	0.00	1
-31 Min.	0.00	17	0.00	18	-0.00	19	0.00	18	0.00	1	0.00	17
-30 Max	0.00	19	0.00	13	-0.00	1	0.00	13	0.00	9	0.00	19
-30 Min.	0.00	9	0.00	19	-0.00	19	0.00	17	0.00	19	0.00	9
-29 Max	0.00	19	0.00	13	-0.00	9	0.00	9	0.00	18	0.00	9
-29 Min.	0.00	9	0.00	19	-0.00	19	0.00	1	0.00	5	0.00	1
-28 Max	0.00	1	0.00	5	0.00	1	0.00	5	0.00	1	0.00	1
-28 Min.	0.00	9	0.00	18	-0.00	18	0.00	13	0.00	9	0.00	9
-27 Max	0.00	9	0.00	5	0.00	5	0.00	5	0.00	1	0.00	9
-27 Min.	0.00	17	0.00	18	-0.00	18	0.00	13	0.00	18	0.00	1
-26 Max	0.00	17	0.00	13	0.00	13	0.00	13	0.00	19	0.00	9
-26 Min.	0.00	1	0.00	19	-0.00	19	0.00	19	0.00	9	0.00	1
-25 Max	0.00	1	0.00	13	0.00	9	0.00	9	0.00	5	0.00	1
-25 Min.	0.00	9	0.00	18	-0.00	18	0.00	1	0.00	18	0.00	9
-24 Max	0.00	1	0.00	5	0.00	1	0.00	9	0.00	18	0.00	1
-24 Min.	0.00	9	0.00	18	-0.00	18	0.00	1	0.00	13	0.00	9
-23 Max	0.00	1	0.00	13	0.00	9	0.00	19	0.00	1	0.00	20
-23 Min.	0.00	9	0.00	18	-0.00	18	0.00	9	0.00	9	0.00	17
-22 Max	0.00	1	0.00	5	0.00	1	0.00	19	0.00	9	0.00	5
-22 Min.	0.00	9	0.00	18	-0.00	18	0.00	1	0.00	1	0.00	18
-21 Max	0.00	1	0.00	5	0.00	5	0.00	5	0.00	9	0.00	1
-21 Min.	0.00	17	0.00	18	-0.00	18	0.00	13	0.00	1	0.00	9
-20 Max	0.00	17	0.00	13	0.00	13	0.00	13	0.00	9	0.00	1
-20 Min.	0.00	9	0.00	19	-0.00	19	0.00	5	0.00	19	0.00	9
-19 Max	0.00	18	0.00	17	0.00	13	0.00	18	0.00	5	0.00	18
-19 Min.	0.00	5	0.00	1	-0.00	19	0.00	1	0.00	13	0.00	5
-18 Max	0.00	18	0.00	5	0.00	5	0.00	19	0.00	5	0.00	9
-18 Min.	0.00	5	0.00	18	-0.00	18	0.00	13	0.00	18	0.00	1
-17 Max	0.00	1	0.00	5	0.00	5	0.00	5	0.00	1	0.00	1
-17 Min.	0.00	17	0.00	18	-0.00	18	0.00	13	0.00	18	0.00	9
-16 Max	0.00	5	0.00	5	-0.00	1	0.00	19	0.00	13	0.00	5
-16 Min.	0.00	18	0.00	18	-0.00	18	0.00	13	0.00	5	0.00	18
-15 Max	0.00	1	0.00	5	-0.00	13	0.00	19	0.00	13	0.00	17
-15 Min.	0.00	18	0.00	18	-0.00	19	0.00	9	0.00	19	0.00	9
-14 Max	0.00	1	0.00	5	-0.00	13	0.00	19	0.00	18	0.00	9
-14 Min.	0.00	17	0.00	18	-0.00	19	0.00	13	0.00	9	0.00	1
-13 Max	0.00	1	0.00	1	-0.00	13	0.00	19	0.00	19	0.00	19
-13 Min.	0.00	17	0.00	18	-0.00	19	0.00	13	0.00	9	0.00	17
-12 Max	0.00	1	0.00	13	0.00	9	0.00	19	0.00	1	0.00	1
-12 Min.	0.00	9	0.00	18	-0.00	19	0.00	13	0.00	9	0.00	9
-11 Max	0.00	1	0.00	13	0.00	9	0.00	9	0.00	18	0.00	18
-11 Min.	0.00	9	0.00	18	-0.00	19	0.00	1	0.00	9	0.00	1
-10 Max	0.00	1	0.00	5	0.00	5	0.00	19	0.00	1	0.00	1
-10 Min.	0.00	9	0.00	18	-0.00	18	0.00	5	0.00	9	0.00	9
-9 Max	0.00	1	0.00	5	0.00	1	0.00	1	0.00	1	0.00	1
-9 Min.	0.00	9	0.00	18	-0.00	18	0.00	9	0.00	19	0.00	18
-8 Max	0.00	1	0.00	5	0.00	1	0.00	19	0.00	1	0.00	1
-8 Min.	0.00	9	0.00	18	-0.00	18	0.00	5	0.00	9	0.00	9
-7 Max	0.00	19	0.00	9	-0.00	5	0.00	19	0.00	1	0.00	19
-7 Min.	0.00	9	0.00	19	-0.00	19	0.00	5	0.00	19	0.00	20

Relazione di calcolo

-6 Max	0.00	19	0.00	13	-0.00	5	0.00	19	0.00	1	0.00	9
-6 Min.	0.00	9	0.00	19	-0.00	19	0.00	5	0.00	18	0.00	1
-5 Max	0.00	19	0.00	13	-0.00	5	0.00	19	0.00	18	0.00	21
-5 Min.	0.00	9	0.00	19	-0.00	19	0.00	1	0.00	5	0.00	17
-4 Max	0.00	19	0.00	13	-0.00	9	0.00	18	0.00	13	0.00	19
-4 Min.	0.00	13	0.00	19	-0.00	19	0.00	5	0.00	5	0.00	13
-3 Max	0.00	17	0.00	13	0.00	13	0.00	13	0.00	19	0.00	1
-3 Min.	0.00	9	0.00	19	-0.00	19	0.00	19	0.00	9	0.00	9
-2 Max	0.00	13	0.00	13	0.00	13	0.00	18	0.00	19	0.00	9
-2 Min.	0.00	19	0.00	19	-0.00	19	0.00	5	0.00	13	0.00	1
-1 Max	0.00	13	0.00	17	0.00	5	0.00	19	0.00	5	0.00	13
-1 Min.	0.00	19	0.00	9	0.00	18	0.00	9	0.00	13	0.00	19
101 Max	0.15	1	0.01	13	0.00	13	0.00	5	0.00	1	0.00	19
101 Min.	-0.15	9	-0.01	19	-0.01	19	0.00	13	0.00	9	0.00	9
102 Max	0.15	1	0.01	13	-0.06	9	0.00	5	0.01	17	0.00	19
102 Min.	-0.15	9	-0.01	5	-0.53	17	0.00	13	0.00	1	0.00	9
103 Max	0.15	1	0.01	13	-0.15	9	0.00	5	0.00	17	0.00	19
103 Min.	-0.15	9	-0.01	5	-1.10	17	0.00	13	0.00	1	0.00	9
104 Max	0.15	1	0.01	13	-0.17	9	0.00	5	0.00	9	0.00	19
104 Min.	-0.15	9	-0.01	5	-1.29	17	0.00	13	0.00	17	0.00	9
105 Max	0.15	1	0.01	13	-0.13	9	0.00	5	0.00	9	0.00	19
105 Min.	-0.15	9	-0.01	5	-1.04	17	0.00	13	-0.00	17	0.00	9
106 Max	0.15	1	0.01	13	-0.04	9	0.00	5	0.00	9	0.00	19
106 Min.	-0.15	9	-0.01	18	-0.44	17	0.00	13	-0.01	17	0.00	9
107 Max	0.15	1	0.01	13	0.00	13	0.00	13	0.00	1	0.00	19
107 Min.	-0.15	9	-0.01	18	-0.00	18	0.00	5	0.00	9	0.00	9
108 Max	0.15	1	0.01	5	-0.04	1	0.00	13	0.01	17	0.00	19
108 Min.	-0.15	9	-0.01	18	-0.44	17	0.00	5	0.00	1	0.00	9
109 Max	0.15	1	0.01	5	-0.13	1	0.00	13	0.00	17	0.00	19
109 Min.	-0.15	9	-0.01	13	-1.04	17	0.00	5	0.00	1	0.00	9
110 Max	0.15	1	0.01	5	-0.17	1	0.00	13	0.00	17	0.00	19
110 Min.	-0.15	9	-0.01	13	-1.29	17	0.00	5	0.00	1	0.00	9
111 Max	0.15	1	0.01	5	-0.15	1	0.00	13	0.00	9	0.00	19
111 Min.	-0.15	9	-0.01	13	-1.10	17	0.00	5	-0.00	17	0.00	9
112 Max	0.15	1	0.01	5	-0.06	1	0.00	13	0.00	9	0.00	19
112 Min.	-0.15	9	-0.01	13	-0.53	17	0.00	5	-0.01	17	0.00	9
113 Max	0.15	1	0.01	5	0.00	5	0.00	13	0.00	1	0.00	19
113 Min.	-0.15	9	-0.01	13	-0.01	18	0.00	5	0.00	9	0.00	9
114 Max	0.15	1	0.01	13	-0.00	13	0.00	5	0.00	1	0.00	19
114 Min.	-0.15	9	-0.01	19	-0.01	19	0.00	13	0.00	9	0.00	9
115 Max	0.15	1	0.01	13	-0.08	9	0.00	5	0.01	17	0.00	19
115 Min.	-0.15	9	-0.01	5	-0.77	17	-0.00	17	0.00	1	0.00	9
116 Max	0.15	1	0.01	13	-0.17	9	0.00	5	0.00	17	0.00	19
116 Min.	-0.15	9	-0.01	5	-1.43	17	-0.00	17	0.00	1	0.00	9
117 Max	0.15	1	0.01	13	-0.19	9	0.00	5	0.00	9	0.00	19
117 Min.	-0.15	9	-0.01	5	-1.65	17	-0.00	17	0.00	17	0.00	9
118 Max	0.15	1	0.01	13	-0.15	9	0.00	5	0.00	9	0.00	19
118 Min.	-0.15	9	-0.01	5	-1.37	17	-0.00	17	-0.00	17	0.00	9
119 Max	0.15	1	0.01	13	-0.06	9	0.00	5	0.00	9	0.00	19
119 Min.	-0.15	9	-0.01	18	-0.66	17	-0.00	17	-0.01	17	0.00	9
120 Max	0.15	1	0.01	13	0.00	13	0.00	13	0.00	1	0.00	19
120 Min.	-0.15	9	-0.01	18	-0.00	17	0.00	5	0.00	9	0.00	9
121 Max	0.15	1	0.01	5	-0.06	1	0.00	13	0.01	17	0.00	19
121 Min.	-0.15	9	-0.01	18	-0.66	17	-0.00	17	0.00	1	0.00	9
122 Max	0.15	1	0.01	5	-0.15	1	0.00	13	0.00	17	0.00	19
122 Min.	-0.15	9	-0.01	13	-1.37	17	-0.00	17	0.00	1	0.00	9
123 Max	0.15	1	0.01	5	-0.19	1	0.00	13	0.00	17	0.00	19
123 Min.	-0.15	9	-0.01	13	-1.65	17	-0.00	17	0.00	1	0.00	9
124 Max	0.15	1	0.01	5	-0.17	1	0.00	13	0.00	9	0.00	19
124 Min.	-0.15	9	-0.01	13	-1.43	17	-0.00	17	-0.00	17	0.00	9
125 Max	0.15	1	0.01	5	-0.08	1	0.00	13	0.00	9	0.00	19
125 Min.	-0.15	9	-0.01	13	-0.77	17	-0.00	17	-0.01	17	0.00	9
126 Max	0.15	1	0.01	5	-0.00	5	0.00	13	0.00	1	0.00	19
126 Min.	-0.15	9	-0.01	13	-0.01	18	0.00	5	0.00	9	0.00	9
127 Max	0.15	1	0.01	13	-0.00	13	0.00	5	0.00	1	0.00	19
127 Min.	-0.15	9	-0.01	19	-0.01	17	0.00	13	0.00	9	0.00	9
128 Max	0.15	1	0.01	13	-0.08	9	0.00	17	0.01	17	0.00	19
128 Min.	-0.15	9	-0.01	5	-0.83	17	0.00	13	0.00	1	0.00	9
129 Max	0.15	1	0.01	13	-0.17	9	0.00	18	0.00	17	0.00	19
129 Min.	-0.15	9	-0.01	5	-1.56	17	0.00	17	0.00	1	0.00	9
130 Max	0.15	1	0.01	13	-0.20	9	0.00	18	0.00	9	0.00	19
130 Min.	-0.15	9	-0.01	5	-1.79	17	0.00	17	0.00	17	0.00	9
131 Max	0.15	1	0.01	13	-0.16	9	0.00	18	0.00	9	0.00	19
131 Min.	-0.15	9	-0.01	5	-1.49	17	0.00	22	-0.00	17	0.00	9
132 Max	0.15	1	0.01	13	-0.06	9	0.00	17	0.00	9	0.00	19
132 Min.	-0.15	9	-0.01	18	-0.71	17	0.00	13	-0.01	17	0.00	9
133 Max	0.15	1	0.01	13	-0.00	13	0.00	13	0.00	1	0.00	19
133 Min.	-0.15	9	-0.01	18	-0.00	17	0.00	5	0.00	9	0.00	9
134 Max	0.15	1	0.01	5	-0.06	1	0.00	17	0.01	17	0.00	19
134 Min.	-0.15	9	-0.01	18	-0.71	17	0.00	5	0.00	1	0.00	9
135 Max	0.15	1	0.01	5	-0.16	1	0.00	18	0.00	17	0.00	19
135 Min.	-0.15	9	-0.01	13	-1.49	17	0.00	22	0.00	1	0.00	9

Relazione di calcolo

136 Max	0.15	1	0.01	5	-0.20	1	0.00	18	0.00	17	0.00	19
136 Min.	-0.15	9	-0.01	13	-1.79	17	0.00	17	0.00	1	0.00	9
137 Max	0.15	1	0.01	5	-0.17	1	0.00	18	0.00	9	0.00	19
137 Min.	-0.15	9	-0.01	13	-1.56	17	0.00	17	-0.00	17	0.00	9
138 Max	0.15	1	0.01	5	-0.08	1	0.00	17	0.00	9	0.00	19
138 Min.	-0.15	9	-0.01	13	-0.83	17	0.00	5	-0.01	17	0.00	9
139 Max	0.15	1	0.01	5	-0.00	5	0.00	13	0.00	1	0.00	19
139 Min.	-0.15	9	-0.01	13	-0.01	17	0.00	5	0.00	9	0.00	9
140 Max	0.15	9	0.01	13	-0.00	1	0.00	5	0.00	1	0.00	19
140 Min.	-0.15	1	-0.01	19	-0.01	17	0.00	13	0.00	9	0.00	9
141 Max	0.15	9	0.01	13	-0.07	1	0.00	5	0.01	17	0.00	19
141 Min.	-0.15	1	-0.01	5	-0.71	17	0.00	13	0.00	9	0.00	9
142 Max	0.15	9	0.01	13	-0.15	1	0.00	5	0.00	17	0.00	19
142 Min.	-0.15	1	-0.01	5	-1.47	17	0.00	13	0.00	9	0.00	9
143 Max	0.15	9	0.01	13	-0.18	1	0.00	5	0.00	1	0.00	19
143 Min.	-0.15	1	-0.01	5	-1.73	17	0.00	13	0.00	17	0.00	9
144 Max	0.15	9	0.01	13	-0.14	1	0.00	5	0.00	1	0.00	19
144 Min.	-0.15	1	-0.01	5	-1.40	17	0.00	13	-0.01	17	0.00	9
145 Max	0.15	9	0.01	13	-0.05	1	0.00	5	0.00	1	0.00	19
145 Min.	-0.15	1	-0.01	18	-0.59	17	0.00	13	-0.01	17	0.00	9
146 Max	0.15	9	0.01	13	-0.00	13	0.00	13	0.00	9	0.00	19
146 Min.	-0.15	1	-0.01	18	-0.01	17	0.00	5	0.00	1	0.00	9
147 Max	0.15	9	0.01	5	-0.05	9	0.00	13	0.01	17	0.00	19
147 Min.	-0.15	1	-0.01	18	-0.59	17	0.00	5	0.00	9	0.00	9
148 Max	0.15	9	0.01	5	-0.14	9	0.00	13	0.01	17	0.00	19
148 Min.	-0.15	1	-0.01	13	-1.40	17	0.00	5	0.00	9	0.00	9
149 Max	0.15	9	0.01	5	-0.18	9	0.00	13	0.00	17	0.00	19
149 Min.	-0.15	1	-0.01	13	-1.73	17	0.00	5	0.00	9	0.00	9
150 Max	0.15	9	0.01	5	-0.15	9	0.00	13	0.00	1	0.00	19
150 Min.	-0.15	1	-0.01	13	-1.47	17	0.00	5	-0.00	17	0.00	9
151 Max	0.15	9	0.01	5	-0.07	9	0.00	13	0.00	1	0.00	19
151 Min.	-0.15	1	-0.01	13	-0.71	17	0.00	5	-0.01	17	0.00	9
152 Max	0.15	9	0.01	5	-0.00	9	0.00	13	0.00	1	0.00	19
152 Min.	-0.15	1	-0.01	13	-0.01	17	0.00	5	0.00	9	0.00	9
153 Max	0.15	9	0.01	13	-0.00	5	0.00	5	0.00	9	0.00	19
153 Min.	-0.15	1	-0.01	19	-0.01	17	0.00	13	0.00	1	0.00	9
154 Max	0.15	9	0.01	13	-0.08	1	0.00	5	0.01	17	0.00	19
154 Min.	-0.15	1	-0.01	5	-0.83	17	0.00	17	0.00	9	0.00	9
155 Max	0.15	9	0.01	13	-0.17	1	0.00	17	0.00	17	0.00	19
155 Min.	-0.15	1	-0.01	5	-1.56	17	0.00	19	0.00	9	0.00	9
156 Max	0.15	9	0.01	13	-0.20	1	0.00	17	0.00	1	0.00	19
156 Min.	-0.15	1	-0.01	5	-1.79	17	0.00	19	0.00	17	0.00	9
157 Max	0.15	9	0.01	13	-0.16	1	0.00	22	0.00	1	0.00	19
157 Min.	-0.15	1	-0.01	5	-1.49	17	0.00	19	-0.00	17	0.00	9
158 Max	0.15	9	0.01	13	-0.06	1	0.00	5	0.00	1	0.00	19
158 Min.	-0.15	1	-0.01	18	-0.71	17	0.00	17	-0.01	17	0.00	9
159 Max	0.15	9	0.01	13	-0.00	13	0.00	13	0.00	9	0.00	19
159 Min.	-0.15	1	-0.01	18	-0.00	17	0.00	5	0.00	1	0.00	9
160 Max	0.15	9	0.01	5	-0.06	9	0.00	13	0.01	17	0.00	19
160 Min.	-0.15	1	-0.01	18	-0.71	17	0.00	17	0.00	9	0.00	9
161 Max	0.15	9	0.01	5	-0.16	9	0.00	22	0.00	17	0.00	19
161 Min.	-0.15	1	-0.01	13	-1.49	17	0.00	19	0.00	9	0.00	9
162 Max	0.15	9	0.01	5	-0.20	9	0.00	17	0.00	17	0.00	19
162 Min.	-0.15	1	-0.01	13	-1.79	17	0.00	19	0.00	9	0.00	9
163 Max	0.15	9	0.01	5	-0.17	9	0.00	17	0.00	1	0.00	19
163 Min.	-0.15	1	-0.01	13	-1.56	17	0.00	19	-0.00	17	0.00	9
164 Max	0.15	9	0.01	5	-0.08	9	0.00	13	0.00	1	0.00	19
164 Min.	-0.15	1	-0.01	13	-0.83	17	0.00	17	-0.01	17	0.00	9
165 Max	0.15	9	0.01	5	-0.00	13	0.00	13	0.00	9	0.00	19
165 Min.	-0.15	1	-0.01	13	-0.01	17	0.00	5	0.00	1	0.00	9
166 Max	0.15	9	0.01	13	-0.00	5	0.00	5	0.00	9	0.00	19
166 Min.	-0.15	1	-0.01	19	-0.01	17	0.00	13	0.00	1	0.00	9
167 Max	0.15	9	0.01	13	-0.08	1	0.00	17	0.01	17	0.00	19
167 Min.	-0.15	1	-0.01	5	-0.77	17	0.00	13	0.00	9	0.00	9
168 Max	0.15	9	0.01	13	-0.17	1	0.00	17	0.00	17	0.00	19
168 Min.	-0.15	1	-0.01	5	-1.43	17	0.00	13	0.00	9	0.00	9
169 Max	0.15	9	0.01	13	-0.19	1	0.00	17	0.00	1	0.00	19
169 Min.	-0.15	1	-0.01	5	-1.65	17	0.00	13	0.00	17	0.00	9
170 Max	0.15	9	0.01	13	-0.15	1	0.00	17	0.00	1	0.00	19
170 Min.	-0.15	1	-0.01	5	-1.37	17	0.00	13	-0.00	17	0.00	9
171 Max	0.15	9	0.01	13	-0.06	1	0.00	17	0.00	1	0.00	19
171 Min.	-0.15	1	-0.01	18	-0.66	17	0.00	13	-0.01	17	0.00	9
172 Max	0.15	9	0.01	13	0.00	5	0.00	13	0.00	9	0.00	19
172 Min.	-0.15	1	-0.01	18	-0.00	17	0.00	5	0.00	1	0.00	9
173 Max	0.15	9	0.01	5	-0.06	9	0.00	17	0.01	17	0.00	19
173 Min.	-0.15	1	-0.01	18	-0.66	17	0.00	5	0.00	9	0.00	9
174 Max	0.15	9	0.01	5	-0.15	9	0.00	17	0.00	17	0.00	19
174 Min.	-0.15	1	-0.01	13	-1.37	17	0.00	5	0.00	9	0.00	9
175 Max	0.15	9	0.01	5	-0.19	9	0.00	17	0.00	17	0.00	19
175 Min.	-0.15	1	-0.01	13	-1.65	17	0.00	5	0.00	9	0.00	9
176 Max	0.15	9	0.01	5	-0.17	9	0.00	17	0.00	1	0.00	19
176 Min.	-0.15	1	-0.01	13	-1.43	17	0.00	5	-0.00	17	0.00	9

Relazione di calcolo

177 Max	0.15	9	0.01	5	-0.08	9	0.00	17	0.00	1	0.00	19
177 Min.	-0.15	1	-0.01	13	-0.77	17	0.00	5	-0.01	17	0.00	9
178 Max	0.15	9	0.01	5	-0.00	13	0.00	13	0.00	9	0.00	19
178 Min.	-0.15	1	-0.01	13	-0.01	17	0.00	5	0.00	1	0.00	9
179 Max	0.15	9	0.01	13	-0.00	5	0.00	5	0.00	9	0.00	19
179 Min.	-0.15	1	-0.01	19	-0.01	17	0.00	13	0.00	1	0.00	9
180 Max	0.15	9	0.01	13	-0.06	1	0.00	5	0.01	17	0.00	19
180 Min.	-0.15	1	-0.01	5	-0.53	17	0.00	13	0.00	9	0.00	9
181 Max	0.15	9	0.01	13	-0.15	1	0.00	5	0.00	17	0.00	19
181 Min.	-0.15	1	-0.01	5	-1.10	17	0.00	13	0.00	9	0.00	9
182 Max	0.15	9	0.01	13	-0.17	1	0.00	5	0.00	1	0.00	19
182 Min.	-0.15	1	-0.01	5	-1.29	17	0.00	13	0.00	17	0.00	9
183 Max	0.15	9	0.01	13	-0.13	1	0.00	5	0.00	1	0.00	19
183 Min.	-0.15	1	-0.01	5	-1.04	17	0.00	13	-0.00	17	0.00	9
184 Max	0.15	9	0.01	13	-0.04	1	0.00	5	0.00	1	0.00	19
184 Min.	-0.15	1	-0.01	18	-0.44	17	0.00	13	-0.01	17	0.00	9
185 Max	0.15	9	0.01	13	0.00	5	0.00	13	0.00	9	0.00	19
185 Min.	-0.15	1	-0.01	18	-0.00	17	0.00	5	0.00	1	0.00	9
186 Max	0.15	9	0.01	5	-0.04	9	0.00	13	0.01	17	0.00	19
186 Min.	-0.15	1	-0.01	18	-0.44	17	0.00	5	0.00	9	0.00	9
187 Max	0.15	9	0.01	5	-0.13	9	0.00	13	0.00	17	0.00	19
187 Min.	-0.15	1	-0.01	13	-1.04	17	0.00	5	0.00	9	0.00	9
188 Max	0.15	9	0.01	5	-0.17	9	0.00	13	0.00	17	0.00	19
188 Min.	-0.15	1	-0.01	13	-1.29	17	0.00	5	0.00	9	0.00	9
189 Max	0.15	9	0.01	5	-0.15	9	0.00	13	0.00	1	0.00	19
189 Min.	-0.15	1	-0.01	13	-1.10	17	0.00	5	-0.00	17	0.00	9
190 Max	0.15	9	0.01	5	-0.06	9	0.00	13	0.00	1	0.00	19
190 Min.	-0.15	1	-0.01	13	-0.53	17	0.00	5	-0.01	17	0.00	9
191 Max	0.15	9	0.01	5	-0.00	13	0.00	13	0.00	9	0.00	19
191 Min.	-0.15	1	-0.01	13	-0.01	17	0.00	5	0.00	1	0.00	9

Min = -1.79
Max = 0.83

Reazioni vincolari

Simbologia

Nodo = Numero del nodo
Rx = Reazione vincolare (forza) in dir. X
CC = Numero della combinazione delle condizioni di carico elementari
Ry = Reazione vincolare (forza) in dir. Y
Rz = Reazione vincolare (forza) in dir. Z
Mx = Reazione vincolare (momento) intorno all'asse X
My = Reazione vincolare (momento) intorno all'asse Y
Mz = Reazione vincolare (momento) intorno all'asse Z

Nodo	Rx	CC	Ry	CC	Rz	CC	Mx	CC	My	CC	Mz	CC
	<daN>		<daN>		<daN>		<daNm>		<daNm>		<daNm>	
-326 Max	3540.11	18	7701.91	18	49153.80	19	-1044.03	13	4197.34	19	30.83	17
-326 Min.	1229.37	1	-33.21	5	20794.90	13	-3055.65	19	1781.04	13	-24.96	18
-325 Max	3057.35	17	4574.15	18	74888.00	19	-1230.38	13	5963.20	18	32.02	18
-325 Min.	616.53	20	-1970.14	17	32610.40	9	-3134.52	17	1582.30	5	3.87	1
-324 Max	1529.51	19	2481.49	18	69488.60	19	-246.60	9	-1483.75	1	-1.00	9
-324 Min.	357.53	9	-408.19	17	29724.70	1	-1037.32	17	-5083.59	18	-37.17	18
-323 Max	215.39	19	11050.30	18	52061.40	19	1131.77	18	892.71	1	39.53	9
-323 Min.	-149.36	9	134.26	5	24430.70	13	-2306.67	17	-892.45	9	-39.47	1
-322 Max	-357.64	1	2480.70	18	69774.50	19	-246.67	1	5083.41	18	37.35	18
-322 Min.	-1379.17	18	-408.58	17	29724.80	9	-1037.51	17	1483.59	9	0.99	1
-321 Max	-340.58	21	5558.17	19	71791.20	18	-1161.97	21	-1582.13	13	-3.80	9
-321 Min.	-3057.17	17	-1970.66	17	32611.70	1	-3134.63	17	-6060.19	19	-36.64	19
-320 Max	-1229.21	9	8851.65	19	45669.80	18	-972.82	21	-1781.30	5	32.28	19
-320 Min.	-3712.51	19	-33.57	13	20795.20	5	-2766.86	17	-3856.02	17	-30.82	17
-200 Max	14362.90	17	11108.70	18	62108.30	19	1471.27	19	9808.17	17	94.61	17
-200 Min.	5557.60	1	-739.38	5	24369.90	9	121.44	20	4537.69	13	18.81	1
-198 Max	9814.36	17	6630.83	18	97327.40	19	224.85	5	2697.97	18	68.12	17
-198 Min.	3722.93	9	-1488.95	5	42363.60	9	-904.53	18	-1014.56	17	15.78	9
-197 Max	1512.85	17	3005.24	18	81182.80	19	533.07	9	-1527.76	9	74.36	18
-197 Min.	150.46	9	-365.65	5	32452.50	1	-160.74	1	-7871.85	18	-21.15	1
-196 Max	6151.01	1	43859.50	18	103596.00	17	1102.94	5	17639.10	1	345.27	9
-196 Min.	-6149.91	9	-3750.25	5	52994.20	13	-2280.27	18	-17633.40	9	-344.01	1
-195 Max	-150.18	1	2999.57	18	81368.90	19	532.23	1	7871.22	18	21.29	9
-195 Min.	-1511.74	17	-366.23	13	32455.30	9	-159.57	9	1527.94	1	-74.05	18
-194 Max	-3722.32	1	7859.98	19	92309.00	18	225.26	13	1014.95	17	-15.74	1
-194 Min.	-9813.42	17	-1488.89	13	42364.90	1	-1035.54	19	-2815.81	19	-68.10	17
-192 Max	-5557.07	9	12887.10	19	56088.90	18	1259.82	13	-4538.34	5	-18.78	9
-192 Min.	-14362.10	17	-740.01	13	24369.40	1	-36.14	19	-9808.65	17	-94.58	17
-125 Max	16519.70	17	8104.07	18	65325.30	18	498.24	5	10663.80	18	58.65	17
-125 Min.	6333.51	1	-1347.91	5	24141.80	1	-1572.43	18	5351.45	1	20.36	21
-123 Max	11916.90	17	7663.96	18	102458.00	18	1419.16	19	2804.84	19	-2.81	9
-123 Min.	4469.93	1	-618.10	5	43499.70	1	230.53	13	-1143.73	17	-32.64	17

Relazione di calcolo

-122 Max	1865.22	17	2829.08	18	78197.90	18	209.21	13	-490.75	1	3.91	9
-122 Min.	84.44	1	-234.49	5	29754.60	9	-125.65	18	-6168.92	19	-8.65	1
-121 Max	6948.73	9	25525.80	18	126569.00	18	762.44	13	19245.70	9	49.03	9
-121 Min.	-6926.12	1	-4238.11	5	56703.30	13	-2387.20	18	-19193.90	1	-72.92	19
-120 Max	-79.09	9	2800.03	18	78129.40	18	221.86	5	6190.25	19	9.68	9
-120 Min.	-1852.63	17	-230.03	13	29736.10	1	-87.24	18	494.22	9	-4.29	1
-119 Max	-4468.81	9	8742.60	19	102912.00	19	1381.15	13	1146.20	17	33.25	17
-119 Min.	-11914.10	17	-618.09	13	43487.80	9	231.97	5	-1944.09	18	3.72	1
-117 Max	-6332.70	9	9469.50	19	65779.40	19	498.65	13	-5350.64	9	-21.84	20
-117 Min.	-16518.60	17	-1347.88	13	24144.10	9	-1695.58	19	-10827.40	19	-58.64	17
-41 Max	7222.04	17	3785.52	18	56561.90	18	2995.49	18	9047.89	18	-16.95	1
-41 Min.	2827.08	20	-1516.58	5	20210.40	5	667.33	5	2701.15	5	-132.09	18
-40 Max	5965.65	17	6112.10	18	81932.00	18	2372.75	17	3320.09	19	6.59	9
-40 Min.	2325.53	1	428.22	5	33113.30	1	728.33	1	60.81	13	-51.90	1
-39 Max	1409.79	17	1837.97	18	68940.20	18	1492.72	18	-1084.94	9	18.80	17
-39 Min.	188.76	1	-88.64	5	27600.90	9	105.11	1	-4686.79	19	2.33	1
-38 Max	531.00	9	7757.23	18	79127.80	18	2633.89	18	3118.83	9	11.91	9
-38 Min.	-611.50	1	-654.95	13	26373.40	13	-125.83	5	-3233.88	1	-22.59	18
-37 Max	-165.75	9	1797.07	18	69101.20	18	1361.07	18	4566.42	19	-0.09	9
-37 Min.	-1376.93	17	-87.53	13	27552.20	1	82.76	9	977.46	1	-18.42	1
-36 Max	-2323.94	9	6732.64	19	82622.60	19	2370.21	17	-60.70	5	51.85	9
-36 Min.	-5962.47	17	427.81	13	33099.60	9	726.25	9	-1780.38	18	-6.58	1
-35 Max	-2791.10	21	4516.00	19	57253.60	19	3117.20	19	-2700.40	13	138.62	19
-35 Min.	-7221.34	17	-1516.53	13	20210.80	13	667.35	13	-9359.45	19	16.94	9

Sollecitazioni aste

Simbologia

Asta = Numero dell'asta
N1 = Nodol
N2 = Nodo2
X = Coordinata progressiva rispetto al nodo iniziale
N = Sforzo normale
CC = Numero della combinazione delle condizioni di carico elementari
Ty = Taglio in dir. Y
Mz = Momento flettente intorno all'asse Z
Tz = Taglio in dir. Z
My = Momento flettente intorno all'asse Y
Mx = Momento torcente intorno all'asse X

Asta	N1	N2	X	N	CC	Ty	CC	Mz	CC	Tz	CC	My	CC	Mx	CC
			<cm>	<daN>		<daN>		<daNm>		<daN>		<daNm>		<daNm>	
101	101	102 Max	35.00	0.00	1	0.00	19	0.00	13	5638.62	17	0.00	1	0.00	13
101	101	102 Max	117.00	0.00	1	0.00	19	0.00	5	5011.54	17	4366.56	17	0.00	13
101	101	102 Min.	35.00	-91917.70	17	0.00	13	0.00	19	794.45	21	0.00	1	-0.00	19
101	101	102 Min.	117.00	-91917.70	17	0.00	13	0.00	13	661.65	21	597.00	21	-0.00	19
101	102	103 Max	0.00	0.00	1	0.00	19	0.00	18	3788.93	17	4366.86	17	0.00	13
101	102	103 Max	117.00	0.00	1	0.00	19	0.00	19	2894.20	17	8276.49	17	0.00	13
101	102	103 Min.	0.00	-91917.70	17	0.00	18	0.00	13	549.92	21	597.00	1	-0.00	19
101	102	103 Min.	117.00	-91917.70	17	0.00	18	0.00	5	360.43	21	1129.56	21	-0.00	19
101	103	104 Max	0.00	0.00	1	0.00	5	0.00	13	1461.84	17	8276.65	17	0.00	13
101	103	104 Max	117.00	0.00	1	0.00	5	0.00	5	567.11	17	9463.59	17	0.00	13
101	103	104 Min.	0.00	-91917.70	17	0.00	19	0.00	18	232.97	21	1129.56	1	-0.00	19
101	103	104 Min.	117.00	-91917.70	17	0.00	19	0.00	18	43.49	21	1291.29	21	-0.00	19
101	104	105 Max	0.00	0.00	1	0.00	5	0.00	18	-83.97	9	9463.58	17	0.00	13
101	104	105 Max	117.00	0.00	1	0.00	5	0.00	18	-273.46	9	7927.83	17	0.00	13
101	104	105 Min.	0.00	-91917.70	17	0.00	19	0.00	19	-865.24	17	1291.29	1	-0.00	19
101	104	105 Min.	117.00	-91917.70	17	0.00	19	0.00	19	-1759.97	17	1082.19	21	-0.00	19
101	105	106 Max	0.00	0.00	1	0.00	18	0.00	13	-400.92	9	7927.64	17	0.00	13
101	105	106 Max	117.00	0.00	1	0.00	18	0.00	18	-590.40	9	3669.20	17	0.00	13
101	105	106 Min.	0.00	-91917.70	17	0.00	5	0.00	18	-3192.33	17	1082.19	1	-0.00	19
101	105	106 Min.	117.00	-91917.70	17	0.00	5	0.00	5	-4087.06	17	502.26	21	-0.00	19
101	106	107 Max	0.00	0.00	1	0.00	13	0.00	18	-695.39	9	3668.90	17	0.00	13
101	106	107 Max	67.00	0.00	1	0.00	13	0.00	18	-803.90	9	0.00	9	0.00	13
101	106	107 Min.	0.00	-91917.70	17	0.00	19	0.00	19	-5219.78	17	502.26	9	-0.00	19
101	106	107 Min.	67.00	-91917.70	17	0.00	19	0.00	19	-5732.15	17	0.00	17	-0.00	19
101	107	108 Max	50.00	0.00	1	0.00	18	0.00	18	5732.15	17	0.00	1	0.00	13
101	107	108 Max	117.00	0.00	1	0.00	18	0.00	18	5219.78	17	3668.89	17	0.00	13
101	107	108 Min.	50.00	-91917.70	17	0.00	13	0.00	5	803.90	21	0.00	1	-0.00	19
101	107	108 Min.	117.00	-91917.70	17	0.00	13	0.00	13	695.39	21	502.26	21	-0.00	19
101	108	109 Max	0.00	0.00	1	0.00	18	0.00	13	4087.06	17	3669.20	17	0.00	13
101	108	109 Max	117.00	0.00	1	0.00	18	0.00	18	3192.33	17	7927.64	17	0.00	13
101	108	109 Min.	0.00	-91917.70	17	0.00	5	0.00	18	590.40	21	502.26	9	-0.00	19
101	108	109 Min.	117.00	-91917.70	17	0.00	5	0.00	5	400.92	21	1082.19	21	-0.00	19
101	109	110 Max	0.00	0.00	1	0.00	5	0.00	18	1759.97	17	7927.83	17	0.00	13
101	109	110 Max	117.00	0.00	1	0.00	5	0.00	18	865.24	17	9463.58	17	0.00	13
101	109	110 Min.	0.00	-91917.70	17	0.00	19	0.00	13	273.46	21	1082.19	1	-0.00	19
101	109	110 Min.	117.00	-91917.70	17	0.00	19	0.00	19	83.97	21	1291.29	21	-0.00	19
101	110	111 Max	0.00	0.00	1	0.00	5	0.00	13	-43.49	9	9463.59	17	0.00	13
101	110	111 Max	117.00	0.00	1	0.00	5	0.00	13	-232.97	9	8276.66	17	0.00	13

Relazione di calcolo

101	110	111 Min.	0.00	-91917.70	17	0.00	18	0.00	5	-567.11	17	1291.29	1	-0.00	19
101	110	111 Min.	117.00	-91917.70	17	0.00	18	0.00	18	-1461.84	17	1129.56	21	-0.00	19
101	111	112 Max	0.00	0.00	1	0.00	13	0.00	18	-360.43	9	8276.49	17	0.00	13
101	111	112 Max	117.00	0.00	1	0.00	13	0.00	18	-549.92	9	4366.86	17	0.00	13
101	111	112 Min.	0.00	-91917.70	17	0.00	18	0.00	19	-2894.20	17	1129.56	1	-0.00	19
101	111	112 Min.	117.00	-91917.70	17	0.00	18	0.00	5	-3788.93	17	597.00	21	-0.00	19
101	112	113 Max	0.00	0.00	1	0.00	18	0.00	5	-661.65	9	4366.56	17	0.00	13
101	112	113 Max	82.00	0.00	1	0.00	18	0.00	18	-794.45	9	0.00	17	0.00	13
101	112	113 Min.	0.00	-91917.70	17	0.00	19	0.00	18	-5011.54	17	597.00	9	-0.00	19
101	112	113 Min.	82.00	-91917.70	17	0.00	19	0.00	13	-5638.62	17	0.00	21	-0.00	19
102	114	115 Max	35.00	0.00	1	0.00	1	0.00	1	491.40	17	0.00	1	0.00	1
102	114	115 Max	76.00									100.74	17		
102	114	115 Max	117.00	0.00	1	0.00	1	0.00	1	-36.86	1	0.00	17	0.00	1
102	114	115 Min.	35.00	-22630.70	17	0.00	1	0.00	1	36.86	1	0.00	1	0.00	1
102	114	115 Min.	76.00									7.56	1		
102	114	115 Min.	117.00	-22630.70	17	0.00	1	0.00	1	-491.40	17	0.00	1	0.00	1
102	115	116 Max	0.00	0.00	1	0.00	1	0.00	1	701.14	17	0.00	1	0.00	1
102	115	116 Max	57.80									205.05	17		
102	115	116 Max	117.00	0.00	1	0.00	1	0.00	1	-52.59	1	0.00	17	0.00	1
102	115	116 Min.	0.00	-22630.70	17	0.00	1	0.00	1	52.59	1	0.00	17	0.00	1
102	115	116 Min.	58.02									15.38	1		
102	115	116 Min.	117.00	-22630.70	17	0.00	1	0.00	1	-701.14	17	0.00	1	0.00	1
102	116	117 Max	0.00	0.00	1	0.00	1	0.00	1	701.14	17	0.00	1	0.00	1
102	116	117 Max	57.80									205.05	17		
102	116	117 Max	117.00	0.00	1	0.00	1	0.00	1	-52.59	1	0.00	1	0.00	1
102	116	117 Min.	0.00	-22630.70	17	0.00	1	0.00	1	52.59	1	0.00	17	0.00	1
102	116	117 Min.	58.50									15.38	1		
102	116	117 Min.	117.00	-22630.70	17	0.00	1	0.00	1	-701.14	17	0.00	17	0.00	1
102	117	118 Max	0.00	0.00	1	0.00	1	0.00	1	701.14	17	0.00	1	0.00	1
102	117	118 Max	58.50									205.08	17		
102	117	118 Max	117.00	0.00	1	0.00	1	0.00	1	-52.59	1	0.00	17	0.00	1
102	117	118 Min.	0.00	-22630.70	17	0.00	1	0.00	1	52.59	1	0.00	17	0.00	1
102	117	118 Min.	58.50									15.38	1		
102	117	118 Min.	117.00	-22630.70	17	0.00	1	0.00	1	-701.14	17	0.00	1	0.00	1
102	118	119 Max	0.00	0.00	1	0.00	1	0.00	1	701.14	17	0.00	1	0.00	1
102	118	119 Max	57.80									205.05	17		
102	118	119 Max	117.00	0.00	1	0.00	1	0.00	1	-52.59	1	0.00	1	0.00	1
102	118	119 Min.	0.00	-22630.70	17	0.00	1	0.00	1	52.59	1	0.00	17	0.00	1
102	118	119 Min.	58.50									15.38	1		
102	118	119 Min.	117.00	-22630.70	17	0.00	1	0.00	1	-701.14	17	0.00	17	0.00	1
102	119	120 Max	0.00	0.00	1	0.00	1	0.00	1	401.51	17	0.00	1	0.00	1
102	119	120 Max	33.10									67.24	17		
102	119	120 Max	67.00	0.00	1	0.00	1	0.00	1	-30.12	1	0.00	18	0.00	1
102	119	120 Min.	0.00	-22630.70	17	0.00	1	0.00	1	30.12	1	0.00	1	0.00	1
102	119	120 Min.	33.23									5.04	1		
102	119	120 Min.	67.00	-22630.70	17	0.00	1	0.00	1	-401.51	17	0.00	17	0.00	1
102	120	121 Max	50.00	0.00	1	0.00	1	0.00	1	401.51	17	0.00	1	0.00	1
102	120	121 Max	83.50									67.25	17		
102	120	121 Max	117.00	0.00	1	0.00	1	0.00	1	-30.12	1	0.00	17	0.00	1
102	120	121 Min.	50.00	-22630.70	17	0.00	1	0.00	1	30.12	1	0.00	1	0.00	1
102	120	121 Min.	83.50									5.04	1		
102	120	121 Min.	117.00	-22630.70	17	0.00	1	0.00	1	-401.51	17	0.00	1	0.00	1
102	121	122 Max	0.00	0.00	1	0.00	1	0.00	1	701.14	17	0.00	1	0.00	1
102	121	122 Max	57.80									205.05	17		
102	121	122 Max	117.00	0.00	1	0.00	1	0.00	1	-52.59	1	0.00	1	0.00	1
102	121	122 Min.	0.00	-22630.70	17	0.00	1	0.00	1	52.59	1	0.00	17	0.00	1
102	121	122 Min.	58.50									15.38	1		
102	121	122 Min.	117.00	-22630.70	17	0.00	1	0.00	1	-701.14	17	0.00	17	0.00	1
102	122	123 Max	0.00	0.00	1	0.00	1	0.00	1	701.14	17	0.00	1	0.00	1
102	122	123 Max	57.80									205.05	17		
102	122	123 Max	117.00	0.00	1	0.00	1	0.00	1	-52.59	1	0.00	1	0.00	1
102	122	123 Min.	0.00	-22630.70	17	0.00	1	0.00	1	52.59	1	0.00	17	0.00	1
102	122	123 Min.	58.50									15.38	1		
102	122	123 Min.	117.00	-22630.70	17	0.00	1	0.00	1	-701.14	17	0.00	17	0.00	1
102	123	124 Max	0.00	0.00	1	0.00	1	0.00	1	701.14	17	0.00	1	0.00	1
102	123	124 Max	57.80									205.05	17		
102	123	124 Max	117.00	0.00	1	0.00	1	0.00	1	-52.59	1	0.00	1	0.00	1
102	123	124 Min.	0.00	-22630.70	17	0.00	1	0.00	1	52.59	1	0.00	17	0.00	1
102	123	124 Min.	58.50									15.38	1		
102	123	124 Min.	117.00	-22630.70	17	0.00	1	0.00	1	-701.14	17	0.00	17	0.00	1
102	124	125 Max	0.00	0.00	1	0.00	1	0.00	1	701.14	17	0.00	1	0.00	1
102	124	125 Max	57.80									205.05	17		
102	124	125 Max	117.00	0.00	1	0.00	1	0.00	1	-52.59	1	0.00	1	0.00	1
102	124	125 Min.	0.00	-22630.70	17	0.00	1	0.00	1	52.59	1	0.00	17	0.00	1
102	124	125 Min.	58.50									15.38	1		
102	124	125 Min.	117.00	-22630.70	17	0.00	1	0.00	1	-701.14	17	0.00	17	0.00	1
102	125	126 Max	0.00	0.00	1	0.00	1	0.00	1	491.40	17	0.00	1	0.00	1
102	125	126 Max	41.00									100.74	17		
102	125	126 Max	82.00	0.00	1	0.00	1	0.00	1	-36.86	1	0.00	17	0.00	1
102	125	126 Min.	0.00	-22630.70	17	0.00	1	0.00	1	36.86	1	0.00	1	0.00	1
102	125	126 Min.	41.00									7.56	1		
102	125	126 Min.	82.00	-22630.70	17	0.00	1	0.00	1	-491.40	17	0.00	1	0.00	1

Relazione di calcolo

103	127	128 Max	35.00	0.00	1	0.00	1	0.00	1	491.40	17	0.00	1	0.00	1
103	127	128 Max	76.00									100.74	17		
103	127	128 Max	117.00	0.00	1	0.00	1	0.00	1	-36.86	1	0.00	17	0.00	1
103	127	128 Min.	35.00	-22630.70	17	0.00	1	0.00	1	36.86	1	0.00	1	0.00	1
103	127	128 Min.	76.00									7.56	1		
103	127	128 Min.	117.00	-22630.70	17	0.00	1	0.00	1	-491.40	17	0.00	1	0.00	1
103	128	129 Max	0.00	0.00	1	0.00	1	0.00	1	701.14	17	0.00	1	0.00	1
103	128	129 Max	57.80									205.05	17		
103	128	129 Max	117.00	0.00	1	0.00	1	0.00	1	-52.59	1	0.00	17	0.00	1
103	128	129 Min.	0.00	-22630.70	17	0.00	1	0.00	1	52.59	1	0.00	17	0.00	1
103	128	129 Min.	58.02									15.38	1		
103	128	129 Min.	117.00	-22630.70	17	0.00	1	0.00	1	-701.14	17	0.00	1	0.00	1
103	129	130 Max	0.00	0.00	1	0.00	1	0.00	1	701.14	17	0.00	1	0.00	1
103	129	130 Max	57.80									205.05	17		
103	129	130 Max	117.00	0.00	1	0.00	1	0.00	1	-52.59	1	0.00	1	0.00	1
103	129	130 Min.	0.00	-22630.70	17	0.00	1	0.00	1	52.59	1	0.00	17	0.00	1
103	129	130 Min.	58.50									15.38	1		
103	129	130 Min.	117.00	-22630.70	17	0.00	1	0.00	1	-701.14	17	0.00	17	0.00	1
103	130	131 Max	0.00	0.00	1	0.00	1	0.00	1	701.14	17	0.00	1	0.00	1
103	130	131 Max	58.50									205.08	17		
103	130	131 Max	117.00	0.00	1	0.00	1	0.00	1	-52.59	1	0.00	17	0.00	1
103	130	131 Min.	0.00	-22630.70	17	0.00	1	0.00	1	52.59	1	0.00	17	0.00	1
103	130	131 Min.	58.50									15.38	1		
103	130	131 Min.	117.00	-22630.70	17	0.00	1	0.00	1	-701.14	17	0.00	1	0.00	1
103	131	132 Max	0.00	0.00	1	0.00	1	0.00	1	701.14	17	0.00	1	0.00	1
103	131	132 Max	57.80									205.05	17		
103	131	132 Max	117.00	0.00	1	0.00	1	0.00	1	-52.59	1	0.00	1	0.00	1
103	131	132 Min.	0.00	-22630.70	17	0.00	1	0.00	1	52.59	1	0.00	17	0.00	1
103	131	132 Min.	58.50									15.38	1		
103	131	132 Min.	117.00	-22630.70	17	0.00	1	0.00	1	-701.14	17	0.00	17	0.00	1
103	132	133 Max	0.00	0.00	1	0.00	1	0.00	1	401.51	17	0.00	1	0.00	1
103	132	133 Max	33.10									67.24	17		
103	132	133 Max	67.00	0.00	1	0.00	1	0.00	1	-30.12	1	0.00	18	0.00	1
103	132	133 Min.	0.00	-22630.70	17	0.00	1	0.00	1	30.12	1	0.00	1	0.00	1
103	132	133 Min.	33.23									5.04	1		
103	132	133 Min.	67.00	-22630.70	17	0.00	1	0.00	1	-401.51	17	0.00	17	0.00	1
103	133	134 Max	50.00	0.00	1	0.00	1	0.00	1	401.51	17	0.00	1	0.00	1
103	133	134 Max	83.50									67.25	17		
103	133	134 Max	117.00	0.00	1	0.00	1	0.00	1	-30.12	1	0.00	17	0.00	1
103	133	134 Min.	50.00	-22630.70	17	0.00	1	0.00	1	30.12	1	0.00	1	0.00	1
103	133	134 Min.	83.50									5.04	1		
103	133	134 Min.	117.00	-22630.70	17	0.00	1	0.00	1	-401.51	17	0.00	1	0.00	1
103	134	135 Max	0.00	0.00	1	0.00	1	0.00	1	701.14	17	0.00	1	0.00	1
103	134	135 Max	57.80									205.05	17		
103	134	135 Max	117.00	0.00	1	0.00	1	0.00	1	-52.59	1	0.00	1	0.00	1
103	134	135 Min.	0.00	-22630.70	17	0.00	1	0.00	1	52.59	1	0.00	17	0.00	1
103	134	135 Min.	58.50									15.38	1		
103	134	135 Min.	117.00	-22630.70	17	0.00	1	0.00	1	-701.14	17	0.00	17	0.00	1
103	135	136 Max	0.00	0.00	1	0.00	1	0.00	1	701.14	17	0.00	1	0.00	1
103	135	136 Max	57.80									205.05	17		
103	135	136 Max	117.00	0.00	1	0.00	1	0.00	1	-52.59	1	0.00	1	0.00	1
103	135	136 Min.	0.00	-22630.70	17	0.00	1	0.00	1	52.59	1	0.00	17	0.00	1
103	135	136 Min.	58.50									15.38	1		
103	135	136 Min.	117.00	-22630.70	17	0.00	1	0.00	1	-701.14	17	0.00	17	0.00	1
103	136	137 Max	0.00	0.00	1	0.00	1	0.00	1	701.14	17	0.00	1	0.00	1
103	136	137 Max	57.80									205.05	17		
103	136	137 Max	117.00	0.00	1	0.00	1	0.00	1	-52.59	1	0.00	1	0.00	1
103	136	137 Min.	0.00	-22630.70	17	0.00	1	0.00	1	52.59	1	0.00	17	0.00	1
103	136	137 Min.	58.50									15.38	1		
103	136	137 Min.	117.00	-22630.70	17	0.00	1	0.00	1	-701.14	17	0.00	17	0.00	1
103	137	138 Max	0.00	0.00	1	0.00	1	0.00	1	701.14	17	0.00	1	0.00	1
103	137	138 Max	57.80									205.05	17		
103	137	138 Max	117.00	0.00	1	0.00	1	0.00	1	-52.59	1	0.00	1	0.00	1
103	137	138 Min.	0.00	-22630.70	17	0.00	1	0.00	1	52.59	1	0.00	17	0.00	1
103	137	138 Min.	58.50									15.38	1		
103	137	138 Min.	117.00	-22630.70	17	0.00	1	0.00	1	-701.14	17	0.00	17	0.00	1
103	138	139 Max	0.00	0.00	1	0.00	1	0.00	1	491.40	17	0.00	1	0.00	1
103	138	139 Max	41.00									100.74	17		
103	138	139 Max	82.00	0.00	1	0.00	1	0.00	1	-36.86	1	0.00	17	0.00	1
103	138	139 Min.	0.00	-22630.70	17	0.00	1	0.00	1	36.86	1	0.00	1	0.00	1
103	138	139 Min.	41.00									7.56	1		
103	138	139 Min.	82.00	-22630.70	17	0.00	1	0.00	1	-491.40	17	0.00	1	0.00	1
104	140	141 Max	35.00	0.00	1	0.00	19	0.00	13	10607.50	17	0.00	1	0.00	13
104	140	141 Max	117.00	0.00	1	0.00	19	0.00	19	9531.34	17	8256.92	17	0.00	13
104	140	141 Min.	35.00	-124143.00	17	0.00	13	0.00	18	1127.12	1	0.00	1	-0.00	19
104	140	141 Min.	117.00	-124143.00	17	0.00	13	0.00	13	984.25	1	865.66	1	-0.00	19
104	141	142 Max	0.00	0.00	1	0.00	18	0.00	19	7086.12	17	8256.33	17	0.00	13
104	141	142 Max	117.00	0.00	1	0.00	18	0.00	18	5550.65	17	15648.80	17	0.00	13
104	141	142 Min.	0.00	-124143.00	17	0.00	19	0.00	13	760.80	1	865.66	1	-0.00	19
104	141	142 Min.	117.00	-124143.00	17	0.00	19	0.00	19	556.96	1	1636.55	1	-0.00	19
104	142	143 Max	0.00	0.00	1	0.00	19	0.00	18	2685.95	17	15648.50	17	0.00	13
104	142	143 Max	117.00	0.00	1	0.00	19	0.00	19	1150.48	17	17892.80	17	0.00	13

Relazione di calcolo

104	142	143 Min.	0.00	-124143.00	17	0.00	18	0.00	5	302.04	1	1636.54	1	-0.00	19
104	142	143 Min.	117.00	-124143.00	17	0.00	18	0.00	13	98.20	1	1870.68	1	-0.00	19
104	143	144 Max	0.00	0.00	1	0.00	13	0.00	19	-156.72	1	17892.80	17	0.00	13
104	143	144 Max	117.00	0.00	1	0.00	13	0.00	13	-360.56	1	14988.90	17	0.00	13
104	143	144 Min.	0.00	-124143.00	17	0.00	19	0.00	13	-1714.23	17	1870.68	1	-0.00	19
104	143	144 Min.	117.00	-124143.00	17	0.00	19	0.00	19	-3249.70	17	1568.07	1	-0.00	19
104	144	145 Max	0.00	0.00	1	0.00	19	0.00	19	-615.48	1	14989.30	17	0.00	13
104	144	145 Max	117.00	0.00	1	0.00	19	0.00	19	-819.32	1	6937.21	17	0.00	13
104	144	145 Min.	0.00	-124143.00	17	0.00	5	0.00	18	-6114.40	17	1568.08	1	-0.00	19
104	144	145 Min.	117.00	-124143.00	17	0.00	5	0.00	13	-7649.87	17	728.72	1	-0.00	19
104	145	146 Max	0.00	0.00	1	0.00	5	0.00	13	-1029.29	1	6937.82	17	0.00	13
104	145	146 Max	67.00	0.00	1	0.00	5	0.00	5	-1146.02	1	0.00	18	0.00	13
104	145	146 Min.	0.00	-124143.00	17	0.00	13	0.00	19	-9915.31	17	728.73	1	-0.00	19
104	145	146 Min.	67.00	-124143.00	17	0.00	13	0.00	13	-10794.60	17	0.00	17	-0.00	19
104	146	147 Max	50.00	0.00	1	0.00	19	0.00	13	10794.60	17	0.00	1	0.00	13
104	146	147 Max	117.00	0.00	1	0.00	19	0.00	19	9915.31	17	6937.82	17	0.00	13
104	146	147 Min.	50.00	-124143.00	17	0.00	18	0.00	19	1146.02	1	0.00	1	-0.01	19
104	146	147 Min.	117.00	-124143.00	17	0.00	18	0.00	18	1029.29	1	728.73	1	-0.01	19
104	147	148 Max	0.00	0.00	1	0.00	18	0.00	13	7649.87	17	6937.21	17	0.00	13
104	147	148 Max	117.00	0.00	1	0.00	18	0.00	19	6114.40	17	14989.30	17	0.00	13
104	147	148 Min.	0.00	-124143.00	17	0.00	5	0.00	18	819.32	1	728.72	1	-0.01	19
104	147	148 Min.	117.00	-124143.00	17	0.00	5	0.00	5	615.48	1	1568.08	1	-0.01	19
104	148	149 Max	0.00	0.00	1	0.00	13	0.00	19	3249.70	17	14988.90	17	0.00	13
104	148	149 Max	117.00	0.00	1	0.00	13	0.00	13	1714.23	17	17892.80	17	0.00	13
104	148	149 Min.	0.00	-124143.00	17	0.00	18	0.00	13	360.56	1	1568.07	1	-0.01	19
104	148	149 Min.	117.00	-124143.00	17	0.00	18	0.00	18	156.72	1	1870.68	1	-0.01	19
104	149	150 Max	0.00	0.00	1	0.00	5	0.00	18	-98.20	1	17892.80	17	0.00	13
104	149	150 Max	117.00	0.00	1	0.00	5	0.00	18	-302.04	1	15648.50	17	0.00	13
104	149	150 Min.	0.00	-124143.00	17	0.00	18	0.00	13	-1150.48	17	1870.68	1	-0.01	19
104	149	150 Min.	117.00	-124143.00	17	0.00	18	0.00	13	-2685.95	17	1636.54	1	-0.01	19
104	150	151 Max	0.00	0.00	1	0.00	13	0.00	18	-556.96	1	15648.80	17	0.00	13
104	150	151 Max	117.00	0.00	1	0.00	13	0.00	19	-760.80	1	8256.33	17	0.00	13
104	150	151 Min.	0.00	-124143.00	17	0.00	18	0.00	13	-5550.65	17	1636.54	1	-0.01	19
104	150	151 Min.	117.00	-124143.00	17	0.00	18	0.00	18	-7086.12	17	865.66	1	-0.01	19
104	151	152 Max	0.00	0.00	1	0.00	18	0.00	19	-984.25	1	8256.92	17	0.00	13
104	151	152 Max	82.00	0.00	1	0.00	18	0.00	18	-1127.12	1	0.00	17	0.00	13
104	151	152 Min.	0.00	-124143.00	17	0.00	19	0.00	18	-9531.34	17	865.66	1	-0.01	19
104	151	152 Min.	82.00	-124143.00	17	0.00	19	0.00	13	-10607.50	17	0.00	1	-0.01	19
105	153	154 Max	35.00	0.00	1	0.00	1	0.00	1	491.40	17	0.00	1	0.00	1
105	153	154 Max	76.00									100.74	17		
105	153	154 Max	117.00	0.00	1	0.00	1	0.00	1	-36.86	1	0.00	17	0.00	1
105	153	154 Min.	35.00	-22630.70	17	0.00	1	0.00	1	36.86	1	0.00	1	0.00	1
105	153	154 Min.	76.00									7.56	1		
105	153	154 Min.	117.00	-22630.70	17	0.00	1	0.00	1	-491.40	17	0.00	1	0.00	1
105	154	155 Max	0.00	0.00	1	0.00	1	0.00	1	701.14	17	0.00	1	0.00	1
105	154	155 Max	57.80									205.05	17		
105	154	155 Max	117.00	0.00	1	0.00	1	0.00	1	-52.59	1	0.00	17	0.00	1
105	154	155 Min.	0.00	-22630.70	17	0.00	1	0.00	1	52.59	1	0.00	17	0.00	1
105	154	155 Min.	58.02									15.38	1		
105	154	155 Min.	117.00	-22630.70	17	0.00	1	0.00	1	-701.14	17	0.00	1	0.00	1
105	155	156 Max	0.00	0.00	1	0.00	1	0.00	1	701.14	17	0.00	1	0.00	1
105	155	156 Max	57.80									205.05	17		
105	155	156 Max	117.00	0.00	1	0.00	1	0.00	1	-52.59	1	0.00	1	0.00	1
105	155	156 Min.	0.00	-22630.70	17	0.00	1	0.00	1	52.59	1	0.00	17	0.00	1
105	155	156 Min.	58.50									15.38	1		
105	155	156 Min.	117.00	-22630.70	17	0.00	1	0.00	1	-701.14	17	0.00	17	0.00	1
105	156	157 Max	0.00	0.00	1	0.00	1	0.00	1	701.14	17	0.00	1	0.00	1
105	156	157 Max	58.50									205.08	17		
105	156	157 Max	117.00	0.00	1	0.00	1	0.00	1	-52.59	1	0.00	17	0.00	1
105	156	157 Min.	0.00	-22630.70	17	0.00	1	0.00	1	52.59	1	0.00	17	0.00	1
105	156	157 Min.	58.50									15.38	1		
105	156	157 Min.	117.00	-22630.70	17	0.00	1	0.00	1	-701.14	17	0.00	1	0.00	1
105	157	158 Max	0.00	0.00	1	0.00	1	0.00	1	701.14	17	0.00	1	0.00	1
105	157	158 Max	57.80									205.05	17		
105	157	158 Max	117.00	0.00	1	0.00	1	0.00	1	-52.59	1	0.00	1	0.00	1
105	157	158 Min.	0.00	-22630.70	17	0.00	1	0.00	1	52.59	1	0.00	17	0.00	1
105	157	158 Min.	58.50									15.38	1		
105	157	158 Min.	117.00	-22630.70	17	0.00	1	0.00	1	-701.14	17	0.00	17	0.00	1
105	158	159 Max	0.00	0.00	1	0.00	1	0.00	1	401.51	17	0.00	1	0.00	1
105	158	159 Max	33.10									67.24	17		
105	158	159 Max	67.00	0.00	1	0.00	1	0.00	1	-30.12	1	0.00	18	0.00	1
105	158	159 Min.	0.00	-22630.70	17	0.00	1	0.00	1	30.12	1	0.00	1	0.00	1
105	158	159 Min.	33.23									5.04	1		
105	158	159 Min.	67.00	-22630.70	17	0.00	1	0.00	1	-401.51	17	0.00	17	0.00	1
105	159	160 Max	50.00	0.00	1	0.00	1	0.00	1	401.51	17	0.00	1	0.00	1
105	159	160 Max	83.50									67.25	17		
105	159	160 Max	117.00	0.00	1	0.00	1	0.00	1	-30.12	1	0.00	17	0.00	1
105	159	160 Min.	50.00	-22630.70	17	0.00	1	0.00	1	30.12	1	0.00	1	0.00	1
105	159	160 Min.	83.50									5.04	1		
105	159	160 Min.	117.00	-22630.70	17	0.00	1	0.00	1	-401.51	17	0.00	1	0.00	1
105	160	161 Max	0.00	0.00	1	0.00	1	0.00	1	701.14	17	0.00	1	0.00	1
105	160	161 Max	57.80									205.05	17		

Relazione di calcolo

105	160	161	Max	117.00	0.00	1	0.00	1	0.00	1	-52.59	1	0.00	1	0.00	1
105	160	161	Min.	0.00	-22630.70	17	0.00	1	0.00	1	52.59	1	0.00	17	0.00	1
105	160	161	Min.	58.50									15.38	1		
105	160	161	Min.	117.00	-22630.70	17	0.00	1	0.00	1	-701.14	17	0.00	17	0.00	1
105	161	162	Max	0.00	0.00	1	0.00	1	0.00	1	701.14	17	0.00	1	0.00	1
105	161	162	Max	57.80									205.05	17		
105	161	162	Max	117.00	0.00	1	0.00	1	0.00	1	-52.59	1	0.00	1	0.00	1
105	161	162	Min.	0.00	-22630.70	17	0.00	1	0.00	1	52.59	1	0.00	17	0.00	1
105	161	162	Min.	58.50									15.38	1		
105	161	162	Min.	117.00	-22630.70	17	0.00	1	0.00	1	-701.14	17	0.00	17	0.00	1
105	162	163	Max	0.00	0.00	1	0.00	1	0.00	1	701.14	17	0.00	1	0.00	1
105	162	163	Max	57.80									205.05	17		
105	162	163	Max	117.00	0.00	1	0.00	1	0.00	1	-52.59	1	0.00	1	0.00	1
105	162	163	Min.	0.00	-22630.70	17	0.00	1	0.00	1	52.59	1	0.00	17	0.00	1
105	162	163	Min.	58.50									15.38	1		
105	162	163	Min.	117.00	-22630.70	17	0.00	1	0.00	1	-701.14	17	0.00	17	0.00	1
105	163	164	Max	0.00	0.00	1	0.00	1	0.00	1	701.14	17	0.00	1	0.00	1
105	163	164	Max	57.80									205.05	17		
105	163	164	Max	117.00	0.00	1	0.00	1	0.00	1	-52.59	1	0.00	1	0.00	1
105	163	164	Min.	0.00	-22630.70	17	0.00	1	0.00	1	52.59	1	0.00	17	0.00	1
105	163	164	Min.	58.50									15.38	1		
105	163	164	Min.	117.00	-22630.70	17	0.00	1	0.00	1	-701.14	17	0.00	17	0.00	1
105	164	165	Max	0.00	0.00	1	0.00	1	0.00	1	491.40	17	0.00	1	0.00	1
105	164	165	Max	41.00									100.74	17		
105	164	165	Max	82.00	0.00	1	0.00	1	0.00	1	-36.86	1	0.00	17	0.00	1
105	164	165	Min.	0.00	-22630.70	17	0.00	1	0.00	1	36.86	1	0.00	1	0.00	1
105	164	165	Min.	41.00									7.56	1		
105	164	165	Min.	82.00	-22630.70	17	0.00	1	0.00	1	-491.40	17	0.00	1	0.00	1
106	166	167	Max	35.00	0.00	1	0.00	1	0.00	1	491.40	17	0.00	1	0.00	1
106	166	167	Max	76.00									100.74	17		
106	166	167	Max	117.00	0.00	1	0.00	1	0.00	1	-36.86	1	0.00	17	0.00	1
106	166	167	Min.	35.00	-22630.70	17	0.00	1	0.00	1	36.86	1	0.00	1	0.00	1
106	166	167	Min.	76.00									7.56	1		
106	166	167	Min.	117.00	-22630.70	17	0.00	1	0.00	1	-491.40	17	0.00	1	0.00	1
106	167	168	Max	0.00	0.00	1	0.00	1	0.00	1	701.14	17	0.00	1	0.00	1
106	167	168	Max	57.80									205.05	17		
106	167	168	Max	117.00	0.00	1	0.00	1	0.00	1	-52.59	1	0.00	17	0.00	1
106	167	168	Min.	0.00	-22630.70	17	0.00	1	0.00	1	52.59	1	0.00	17	0.00	1
106	167	168	Min.	58.02									15.38	1		
106	167	168	Min.	117.00	-22630.70	17	0.00	1	0.00	1	-701.14	17	0.00	1	0.00	1
106	168	169	Max	0.00	0.00	1	0.00	1	0.00	1	701.14	17	0.00	1	0.00	1
106	168	169	Max	57.80									205.05	17		
106	168	169	Max	117.00	0.00	1	0.00	1	0.00	1	-52.59	1	0.00	1	0.00	1
106	168	169	Min.	0.00	-22630.70	17	0.00	1	0.00	1	52.59	1	0.00	17	0.00	1
106	168	169	Min.	58.50									15.38	1		
106	168	169	Min.	117.00	-22630.70	17	0.00	1	0.00	1	-701.14	17	0.00	17	0.00	1
106	169	170	Max	0.00	0.00	1	0.00	1	0.00	1	701.14	17	0.00	1	0.00	1
106	169	170	Max	58.50									205.08	17		
106	169	170	Max	117.00	0.00	1	0.00	1	0.00	1	-52.59	1	0.00	17	0.00	1
106	169	170	Min.	0.00	-22630.70	17	0.00	1	0.00	1	52.59	1	0.00	17	0.00	1
106	169	170	Min.	58.50									15.38	1		
106	169	170	Min.	117.00	-22630.70	17	0.00	1	0.00	1	-701.14	17	0.00	1	0.00	1
106	170	171	Max	0.00	0.00	1	0.00	1	0.00	1	701.14	17	0.00	1	0.00	1
106	170	171	Max	57.80									205.05	17		
106	170	171	Max	117.00	0.00	1	0.00	1	0.00	1	-52.59	1	0.00	1	0.00	1
106	170	171	Min.	0.00	-22630.70	17	0.00	1	0.00	1	52.59	1	0.00	17	0.00	1
106	170	171	Min.	58.50									15.38	1		
106	170	171	Min.	117.00	-22630.70	17	0.00	1	0.00	1	-701.14	17	0.00	17	0.00	1
106	171	172	Max	0.00	0.00	1	0.00	1	0.00	1	401.51	17	0.00	1	0.00	1
106	171	172	Max	33.10									67.24	17		
106	171	172	Max	67.00	0.00	1	0.00	1	0.00	1	-30.12	1	0.00	18	0.00	1
106	171	172	Min.	0.00	-22630.70	17	0.00	1	0.00	1	30.12	1	0.00	1	0.00	1
106	171	172	Min.	33.23									5.04	1		
106	171	172	Min.	67.00	-22630.70	17	0.00	1	0.00	1	-401.51	17	0.00	17	0.00	1
106	172	173	Max	50.00	0.00	1	0.00	1	0.00	1	401.51	17	0.00	1	0.00	1
106	172	173	Max	83.50									67.25	17		
106	172	173	Max	117.00	0.00	1	0.00	1	0.00	1	-30.12	1	0.00	17	0.00	1
106	172	173	Min.	50.00	-22630.70	17	0.00	1	0.00	1	30.12	1	0.00	1	0.00	1
106	172	173	Min.	83.50									5.04	1		
106	172	173	Min.	117.00	-22630.70	17	0.00	1	0.00	1	-401.51	17	0.00	1	0.00	1
106	173	174	Max	0.00	0.00	1	0.00	1	0.00	1	701.14	17	0.00	1	0.00	1
106	173	174	Max	57.80									205.05	17		
106	173	174	Max	117.00	0.00	1	0.00	1	0.00	1	-52.59	1	0.00	1	0.00	1
106	173	174	Min.	0.00	-22630.70	17	0.00	1	0.00	1	52.59	1	0.00	17	0.00	1
106	173	174	Min.	58.50									15.38	1		
106	173	174	Min.	117.00	-22630.70	17	0.00	1	0.00	1	-701.14	17	0.00	17	0.00	1
106	174	175	Max	0.00	0.00	1	0.00	1	0.00	1	701.14	17	0.00	1	0.00	1
106	174	175	Max	57.80									205.05	17		
106	174	175	Max	117.00	0.00	1	0.00	1	0.00	1	-52.59	1	0.00	1	0.00	1
106	174	175	Min.	0.00	-22630.70	17	0.00	1	0.00	1	52.59	1	0.00	17	0.00	1
106	174	175	Min.	58.50									15.38	1		
106	174	175	Min.	117.00	-22630.70	17	0.00	1	0.00	1	-701.14	17	0.00	17	0.00	1

Relazione di calcolo

106	175	176	Max	0.00	0.00	1	0.00	1	0.00	1	701.14	17	0.00	1	0.00	1
106	175	176	Max	57.80									205.05	17		
106	175	176	Max	117.00	0.00	1	0.00	1	0.00	1	-52.59	1	0.00	1	0.00	1
106	175	176	Min.	0.00	-22630.70	17	0.00	1	0.00	1	52.59	1	0.00	17	0.00	1
106	175	176	Min.	58.50									15.38	1		
106	175	176	Min.	117.00	-22630.70	17	0.00	1	0.00	1	-701.14	17	0.00	17	0.00	1
106	176	177	Max	0.00	0.00	1	0.00	1	0.00	1	701.14	17	0.00	1	0.00	1
106	176	177	Max	57.80									205.05	17		
106	176	177	Max	117.00	0.00	1	0.00	1	0.00	1	-52.59	1	0.00	1	0.00	1
106	176	177	Min.	0.00	-22630.70	17	0.00	1	0.00	1	52.59	1	0.00	17	0.00	1
106	176	177	Min.	58.50									15.38	1		
106	176	177	Min.	117.00	-22630.70	17	0.00	1	0.00	1	-701.14	17	0.00	17	0.00	1
106	177	178	Max	0.00	0.00	1	0.00	1	0.00	1	491.40	17	0.00	1	0.00	1
106	177	178	Max	41.00									100.74	17		
106	177	178	Max	82.00	0.00	1	0.00	1	0.00	1	-36.86	1	0.00	17	0.00	1
106	177	178	Min.	0.00	-22630.70	17	0.00	1	0.00	1	36.86	1	0.00	1	0.00	1
106	177	178	Min.	41.00									7.56	1		
106	177	178	Min.	82.00	-22630.70	17	0.00	1	0.00	1	-491.40	17	0.00	1	0.00	1
107	179	180	Max	35.00	0.00	1	0.00	19	0.00	13	5638.62	17	0.00	1	0.00	13
107	179	180	Max	117.00	0.00	1	0.00	19	0.00	5	5011.54	17	4366.56	17	0.00	13
107	179	180	Min.	35.00	-91917.70	17	0.00	13	0.00	19	794.45	9	0.00	1	0.00	19
107	179	180	Min.	117.00	-91917.70	17	0.00	13	0.00	13	661.65	9	597.00	9	0.00	19
107	180	181	Max	0.00	0.00	1	0.00	19	0.00	18	3788.93	17	4366.86	17	0.00	13
107	180	181	Max	117.00	0.00	1	0.00	19	0.00	19	2894.20	17	8276.49	17	0.00	13
107	180	181	Min.	0.00	-91917.70	17	0.00	18	0.00	13	549.92	9	597.00	21	0.00	19
107	180	181	Min.	117.00	-91917.70	17	0.00	18	0.00	5	360.43	9	1129.56	1	0.00	19
107	181	182	Max	0.00	0.00	1	0.00	5	0.00	13	1461.84	17	8276.65	17	0.00	13
107	181	182	Max	117.00	0.00	1	0.00	5	0.00	5	567.11	17	9463.59	17	0.00	13
107	181	182	Min.	0.00	-91917.70	17	0.00	19	0.00	18	232.97	9	1129.56	21	0.00	19
107	181	182	Min.	117.00	-91917.70	17	0.00	19	0.00	18	43.49	9	1291.29	1	0.00	19
107	182	183	Max	0.00	0.00	1	0.00	5	0.00	18	-83.97	21	9463.58	17	0.00	13
107	182	183	Max	117.00	0.00	1	0.00	5	0.00	18	-273.46	21	7927.83	17	0.00	13
107	182	183	Min.	0.00	-91917.70	17	0.00	19	0.00	19	-865.24	17	1291.29	21	0.00	19
107	182	183	Min.	117.00	-91917.70	17	0.00	19	0.00	19	-1759.97	17	1082.19	1	0.00	19
107	183	184	Max	0.00	0.00	1	0.00	18	0.00	13	-400.92	21	7927.64	17	0.00	13
107	183	184	Max	117.00	0.00	1	0.00	18	0.00	18	-590.40	1	3669.20	17	0.00	13
107	183	184	Min.	0.00	-91917.70	17	0.00	5	0.00	18	-3192.33	17	1082.19	21	0.00	19
107	183	184	Min.	117.00	-91917.70	17	0.00	5	0.00	5	-4087.06	17	502.26	9	0.00	19
107	184	185	Max	0.00	0.00	1	0.00	13	0.00	18	-695.39	1	3668.90	17	0.00	13
107	184	185	Max	67.00	0.00	1	0.00	13	0.00	18	-803.90	1	0.00	1	0.00	13
107	184	185	Min.	0.00	-91917.70	17	0.00	19	0.00	19	-5219.78	17	502.26	21	0.00	19
107	184	185	Min.	67.00	-91917.70	17	0.00	19	0.00	19	-5732.15	17	0.00	17	0.00	19
107	185	186	Max	50.00	0.00	1	0.00	18	0.00	18	5732.15	17	0.00	1	0.00	13
107	185	186	Max	117.00	0.00	1	0.00	18	0.00	18	5219.78	17	3668.89	17	0.00	13
107	185	186	Min.	50.00	-91917.70	17	0.00	13	0.00	5	803.90	9	0.00	1	-0.00	19
107	185	186	Min.	117.00	-91917.70	17	0.00	13	0.00	13	695.39	9	502.26	9	-0.00	19
107	186	187	Max	0.00	0.00	1	0.00	18	0.00	13	4087.06	17	3669.20	17	0.00	13
107	186	187	Max	117.00	0.00	1	0.00	18	0.00	18	3192.33	17	7927.64	17	0.00	13
107	186	187	Min.	0.00	-91917.70	17	0.00	5	0.00	18	590.40	9	502.26	1	-0.00	19
107	186	187	Min.	117.00	-91917.70	17	0.00	5	0.00	5	400.92	9	1082.19	1	-0.00	19
107	187	188	Max	0.00	0.00	1	0.00	5	0.00	18	1759.97	17	7927.83	17	0.00	13
107	187	188	Max	117.00	0.00	1	0.00	5	0.00	18	865.24	17	9463.58	17	0.00	13
107	187	188	Min.	0.00	-91917.70	17	0.00	19	0.00	13	273.46	9	1082.19	21	-0.00	19
107	187	188	Min.	117.00	-91917.70	17	0.00	19	0.00	19	83.97	9	1291.29	1	-0.00	19
107	188	189	Max	0.00	0.00	1	0.00	5	0.00	13	-43.49	21	9463.59	17	0.00	13
107	188	189	Max	117.00	0.00	1	0.00	5	0.00	13	-232.97	21	8276.66	17	0.00	13
107	188	189	Min.	0.00	-91917.70	17	0.00	18	0.00	5	-567.11	17	1291.29	21	-0.00	19
107	188	189	Min.	117.00	-91917.70	17	0.00	18	0.00	18	-1461.84	17	1129.56	1	-0.00	19
107	189	190	Max	0.00	0.00	1	0.00	13	0.00	18	-360.43	1	8276.49	17	0.00	13
107	189	190	Max	117.00	0.00	1	0.00	13	0.00	18	-549.92	1	4366.86	17	0.00	13
107	189	190	Min.	0.00	-91917.70	17	0.00	18	0.00	19	-2894.20	17	1129.56	21	-0.00	19
107	189	190	Min.	117.00	-91917.70	17	0.00	18	0.00	5	-3788.93	17	597.00	1	-0.00	19
107	190	191	Max	0.00	0.00	1	0.00	18	0.00	5	-661.65	1	4366.56	17	0.00	13
107	190	191	Max	82.00	0.00	1	0.00	18	0.00	18	-794.45	1	0.00	17	0.00	13
107	190	191	Min.	0.00	-91917.70	17	0.00	19	0.00	18	-5011.54	17	597.00	1	-0.00	19
107	190	191	Min.	82.00	-91917.70	17	0.00	19	0.00	13	-5638.62	17	0.00	21	-0.00	19
108	101	114	Max	0.00	0.00	1	0.00	1	0.00	1	8.75	13	5.01	17	0.00	9
108	101	114	Max	10.33									2.10	19		
108	101	114	Max	79.00	0.00	1	0.00	1	0.00	1	-6.10	13	-0.10	13	0.00	9
108	101	114	Min.	0.00	-22630.70	17	0.00	1	0.00	1	-1.48	17	-1.15	13	-0.01	17
108	101	114	Min.	14.63									0.23	5		
108	101	114	Min.	79.00	-22630.70	17	0.00	1	0.00	1	-21.53	17	-4.08	17	-0.01	17
108	114	127	Max	0.00	0.00	1	0.00	1	0.00	1	10.13	17	-0.77	21	0.00	9
108	114	127	Max	29.34									0.12	19		
108	114	127	Max	79.00	0.00	1	0.00	1	0.00	1	-6.88	9	-1.28	1	0.00	9
108	114	127	Min.	0.00	-22630.70	17	0.00	1	0.00	1	5.71	21	-4.88	17	0.00	1
108	114	127	Min.	39.93									-2.85	17		
108	114	127	Min.	79.00	-22630.70	17	0.00	1	0.00	1	-12.60	19	-4.79	17	0.00	1
108	127	140	Max	0.00	0.00	1	0.00	1	0.00	1	36.10	17	-1.31	13	0.01	17
108	127	140	Max	62.45									1.25	5		
108	127	140	Max	79.00	0.00	1	0.00	1	0.00	1	16.05	17	11.07	17	0.01	17
108	127	140	Min.	0.00	-22630.70	17	0.00	1	0.00	1	9.04	21	-9.53	17	0.00	21

Relazione di calcolo

108	127	140 Min.	47.40									0.68	21		
108	127	140 Min.	79.00	-22630.70	17	0.00	1	0.00	1	-7.82	19	-0.30	19	0.00	21
108	140	153 Max	0.00	0.00	1	0.00	1	0.00	1	6.06	5	10.36	17	-0.00	9
108	140	153 Max	12.16									1.44	19		
108	140	153 Max	79.00	0.00	1	0.00	1	0.00	1	-8.79	5	-1.36	5	-0.00	9
108	140	153 Min.	0.00	-22630.70	17	0.00	1	0.00	1	-15.19	17	-0.28	5	-0.01	17
108	140	153 Min.	15.80									0.56	15		
108	140	153 Min.	79.00	-22630.70	17	0.00	1	0.00	1	-35.24	17	-9.55	17	-0.01	17
108	153	166 Max	0.00	0.00	1	0.00	1	0.00	1	10.54	17	-0.23	19	0.00	9
108	153	166 Max	40.62									0.29	13		
108	153	166 Max	79.00	0.00	1	0.00	1	0.00	1	-7.20	13	-1.09	13	0.00	9
108	153	166 Min.	0.00	-22630.70	17	0.00	1	0.00	1	3.94	21	-4.67	17	0.00	19
108	153	166 Min.	41.53									-2.48	17		
108	153	166 Min.	79.00	-22630.70	17	0.00	1	0.00	1	-15.24	19	-4.35	19	0.00	19
108	166	179 Max	0.00	0.00	1	0.00	1	0.00	1	21.66	17	-0.32	19	0.01	17
108	166	179 Max	63.20									1.46	22		
108	166	179 Max	79.00	0.00	1	0.00	1	0.00	1	1.61	17	4.70	17	0.01	17
108	166	179 Min.	0.00	-22630.70	17	0.00	1	0.00	1	5.88	21	-4.49	17	0.00	1
108	166	179 Min.	64.27									0.02	13		
108	166	179 Min.	79.00	-22630.70	17	0.00	1	0.00	1	-12.42	19	-2.21	19	0.00	1
109	102	115 Max	0.00	0.00	1	0.00	1	0.00	9	1222.61	17	0.00	1	0.30	17
109	102	115 Max	79.00	0.00	1	0.00	1	0.00	9	1202.56	17	957.94	17	0.30	17
109	102	115 Min.	0.00	-22630.70	17	0.00	1	0.00	1	111.73	1	0.00	1	0.00	9
109	102	115 Min.	79.00	-22630.70	17	0.00	1	0.00	1	96.88	1	82.40	1	0.00	9
109	115	128 Max	0.00	0.00	1	0.00	1	0.00	1	10.02	17	957.94	17	0.30	17
109	115	128 Max	38.76									959.92	17		
109	115	128 Max	79.00	0.00	1	0.00	1	0.00	1	-7.43	1	957.94	17	0.30	17
109	115	128 Min.	0.00	-22630.70	17	0.00	1	0.00	9	7.43	1	82.40	1	0.00	9
109	115	128 Min.	38.76									83.86	1		
109	115	128 Min.	79.00	-22630.70	17	0.00	1	0.00	9	-10.02	17	82.40	1	0.00	9
109	128	141 Max	0.00	0.00	1	0.00	1	0.00	1	-96.88	1	957.94	17	0.30	17
109	128	141 Max	79.00	0.00	1	0.00	1	0.00	1	-111.73	1	0.00	17	0.30	17
109	128	141 Min.	0.00	-22630.70	17	0.00	1	0.00	9	-1202.56	17	82.40	1	0.00	9
109															

Relazione di calcolo

111	117	130	Max	79.00	0.00	1	0.00	1	0.00	1	-7.43	1	1123.64	17	0.00	19
111	117	130	Min.	0.00	-22630.70	17	0.00	1	0.00	9	7.43	1	94.83	1	-0.01	17
111	117	130	Min.	38.76									96.29	1		
111	117	130	Min.	79.00	-22630.70	17	0.00	1	0.00	9	-10.02	17	94.83	1	-0.01	17
111	130	143	Max	0.00	0.00	1	0.00	1	0.00	1	-112.61	1	1123.64	17	0.00	19
111	130	143	Max	79.00	0.00	1	0.00	1	0.00	1	-127.46	1	0.00	17	0.00	19
111	130	143	Min.	0.00	-22630.70	17	0.00	1	0.00	9	-1412.30	17	94.83	1	-0.01	17
111	130	143	Min.	79.00	-22630.70	17	0.00	1	0.00	9	-1432.35	17	0.00	1	-0.01	17
111	143	156	Max	0.00	0.00	1	0.00	1	0.00	1	1432.35	17	0.00	1	0.01	17
111	143	156	Max	79.00	0.00	1	0.00	1	0.00	1	1412.30	17	1123.64	17	0.01	17
111	143	156	Min.	0.00	-22630.70	17	0.00	1	0.00	9	127.46	1	0.00	1	0.00	9
111	143	156	Min.	79.00	-22630.70	17	0.00	1	0.00	9	112.61	1	94.83	1	0.00	9
111	156	169	Max	0.00	0.00	1	0.00	1	0.00	9	10.02	17	1123.64	17	0.01	17
111	156	169	Max	38.76									1125.62	17		
111	156	169	Max	79.00	0.00	1	0.00	1	0.00	9	-7.43	1	1123.64	17	0.01	17
111	156	169	Min.	0.00	-22630.70	17	0.00	1	0.00	1	7.43	1	94.83	1	0.00	9
111	156	169	Min.	38.76									96.29	1		
111	156	169	Min.	79.00	-22630.70	17	0.00	1	0.00	1	-10.02	17	94.83	1	0.00	9
111	169	182	Max	0.00	0.00	1	0.00	1	0.00	1	-112.61	1	1123.64	17	0.01	17
111	169	182	Max	79.00	0.00	1	0.00	1	0.00	1	-127.46	1	0.00	17	0.01	17
111	169	182	Min.	0.00	-22630.70	17	0.00	1	0.00	9	-1412.30	17	94.83	1	0.00	9
111	169	182	Min.	79.00	-22630.70	17	0.00	1	0.00	9	-1432.35	17	0.00	1	0.00	9
112	105	118	Max	0.00	0.00	1	0.00	1	0.00	9	1432.35	17	0.00	1	-0.00	21
112	105	118	Max	79.00	0.00	1	0.00	1	0.00	9	1412.30	17	1123.64	17	-0.00	21
112	105	118	Min.	0.00	-22630.70	17	0.00	1	0.00	1	127.46	1	0.00	1	-0.19	17
112	105	118	Min.	79.00	-22630.70	17	0.00	1	0.00	1	112.61	1	94.83	1	-0.19	17
112	118	131	Max	0.00	0.00	1	0.00	1	0.00	1	10.02	17	1123.64	17	-0.00	21
112	118	131	Max	38.76									1125.62	17		
112	118	131	Max	79.00	0.00	1	0.00	1	0.00	1	-7.43	1	1123.64	17	-0.00	21
112	118	131	Min.	0.00	-22630.70	17	0.00	1	0.00	9	7.43	1	94.83	1	-0.19	17
112	118	131	Min.	38.76									96.29	1		
112	118	131	Min.	79.00	-22630.70	17	0.00	1	0.00	9	-10.02	17	94.83	1	-0.19	17
112	131	144	Max	0.00	0.00	1	0.00	1	0.00	1	-112.61	1	1123.64	17	-0.00	21
112	131	144	Max	79.00	0.00	1	0.00	1	0.00	1	-127.46	1	0.00	17	-0.00	21
112	131	144	Min.	0.00	-22630.70	17	0.00	1	0.00	9	-1412.30	17	94.83	1	-0.19	17
112	131	144	Min.	79.00	-22630.70	17	0.00	1	0.00	9	-1432.35	17	0.00	1	-0.19	17
112	144	157	Max	0.00	0.00	1	0.00	1	0.00	1	1432.35	17	0.00	1	0.19	17
112	144	157	Max	79.00	0.00	1	0.00	1	0.00	1	1412.30	17	1123.64	17	0.19	17
112	144	157	Min.	0.00	-22630.70	17	0.00	1	0.00	9	127.46	1	0.00	1	0.00	9
112	144	157	Min.	79.00	-22630.70	17	0.00	1	0.00	9	112.61	1	94.83	1	0.00	9
112	157	170	Max	0.00	0.00	1	0.00	1	0.00	9	10.02	17	1123.64	17	0.19	17
112	157	170	Max	38.76									1125.62	17		
112	157	170	Max	79.00	0.00	1	0.00	1	0.00	9	-7.43	1	1123.64	17	0.19	17
112	157	170	Min.	0.00	-22630.70	17	0.00	1	0.00	1	7.43	1	94.83	1	0.00	9
112	157	170	Min.	38.76									96.29	1		
112	157	170	Min.	79.00	-22630.70	17	0.00	1	0.00	1	-10.02	17	94.83	1	0.00	9
112	170	183	Max	0.00	0.00	1	0.00	1	0.00	1	-112.61	1	1123.64	17	0.19	17
112	170	183	Max	79.00	0.00	1	0.00	1	0.00	1	-127.46	1	0.00	17	0.19	17
112	170	183	Min.	0.00	-22630.70	17	0.00	1	0.00	9	-1412.30	17	94.83	1	0.00	9
112	170	183	Min.	79.00	-22630.70	17	0.00	1	0.00	9	-1432.35	17	0.00	1	0.00	9
113	106	119	Max	0.00	0.00	1	0.00	1	0.00	9	1132.72	17	0.00	1	-0.00	21
113	106	119	Max	79.00	0.00	1	0.00	1	0.00	9	1112.67	17	886.93	17	-0.00	21
113	106	119	Min.	0.00	-22630.70	17	0.00	1	0.00	1	104.98	1	0.00	1	-0.31	17
113	106	119	Min.	79.00	-22630.70	17	0.00	1	0.00	1	90.13	1	77.07	1	-0.31	17
113	119	132	Max	0.00	0.00	1	0.00	1	0.00	1	10.02	17	886.93	17	-0.00	21
113	119	132	Max	38.76									888.91	17		
113	119	132	Max	79.00	0.00	1	0.00	1	0.00	1	-7.43	1	886.93	17	-0.00	21
113	119	132	Min.	0.00	-22630.70	17	0.00	1	0.00	9	7.43	1	77.07	1	-0.31	17
113	119	132	Min.	38.76									78.54	1		
113	119	132	Min.	79.00	-22630.70	17	0.00	1	0.00	9	-10.02	17	77.07	1	-0.31	17
113	132	145	Max	0.00	0.00	1	0.00	1	0.00	1	-90.13	1	886.93	17	-0.00	21
113	132	145	Max	79.00	0.00	1	0.00	1	0.00	1	-104.98	1	0.00	17	-0.00	21
113	132	145	Min.	0.00	-22630.70	17	0.00	1	0.00	9	-1112.67	17	77.07	1	-0.31	17
113	132	145	Min.	79.00	-22630.70	17	0.00	1	0.00	9	-1132.72	17	0.00	1	-0.31	17
113	145	158	Max	0.00	0.00	1	0.00	1	0.00	1	1132.72	17	0.00	1	0.31	17
113	145	158	Max	79.00	0.00	1	0.00	1	0.00	1	1112.67	17	886.93	17	0.31	17
113	145	158	Min.	0.00	-22630.70	17	0.00	1	0.00	9	104.98	1	0.00	1	0.00	9
113	145	158	Min.	79.00	-22630.70	17	0.00	1	0.00	9	90.13	1	77.07	1	0.00	9
113	158	171	Max	0.00	0.00	1	0.00	1	0.00	9	10.02	17	886.93	17	0.31	17
113	158	171	Max	38.76									888.91	17		
113	158	171	Max	79.00	0.00	1	0.00	1	0.00	9	-7.43	1	886.93	17	0.31	17
113	158	171	Min.	0.00	-22630.70	17	0.00	1	0.00	1	7.43	1	77.07	1	0.00	9
113	158	171	Min.	38.76									78.54	1		
113	158	171	Min.	79.00	-22630.70	17	0.00	1	0.00	1	-10.02	17	77.07	1	0.00	9
113	171	184	Max	0.00	0.00	1	0.00	1	0.00	1	-90.13	1	886.93	17	0.31	17
113	171	184	Max	79.00	0.00	1	0.00	1	0.00	1	-104.98	1	0.00	17	0.31	17
113	171	184	Min.	0.00	-22630.70	17	0.00	1	0.00	9	-1112.67	17	77.07	1	0.00	9
113	171	184	Min.	79.00	-22630.70	17	0.00	1	0.00	9	-1132.72	17	0.00	1	0.00	9
114	107	120	Max	0.00	0.00	1	0.00	1	0.00	9	10.56	13	6.78	17	0.00	9
114	107	120	Max	18.53									2.06	22		
114	107	120	Max	79.00	0.00	1	0.00	1	0.00	1	-4.29	13	0.75	13	0.00	9
114	107	120	Min.	0.00	-22630.70	17	0.00	9	0.00	1	-3.13	17	-1.73	13	0.00	1

Relazione di calcolo

114	107	120 Min.	22.20									0.15	5	
114	107	120 Min.	79.00	-22630.70	17	0.00	9	0.00	9	-23.18	17	-3.61	17	0.00 1
114	120	133 Max	0.00	0.00	1	0.00	9	0.00	1	13.38	17	-1.76	20	0.00 9
114	120	133 Max	55.84									-0.03	13	
114	120	133 Max	79.00	0.00	1	0.00	9	0.00	9	-4.35	13	-0.53	13	0.00 9
114	120	133 Min.	0.00	-22630.70	17	0.00	1	0.00	9	7.61	20	-7.91	17	0.00 19
114	120	133 Min.	52.04									-4.38	17	
114	120	133 Min.	79.00	-22630.70	17	0.00	1	0.00	1	-9.98	18	-5.26	17	0.00 19
114	133	146 Max	0.00	0.00	1	0.00	9	0.00	1	51.25	17	-2.32	20	0.00 9
114	133	146 Max	78.21									2.55	15	
114	133	146 Max	79.00	0.00	1	0.00	9	0.00	9	31.20	17	18.28	17	0.00 9
114	133	146 Min.	0.00	-22630.70	17	0.00	1	0.00	9	11.19	20	-14.29	17	0.00 19
114	133	146 Min.	59.50									1.01	20	
114	133	146 Min.	79.00	-22630.70	17	0.00	1	0.00	1	-4.95	18	0.66	20	0.00 19
114	146	159 Max	0.00	0.00	1	0.00	9	0.00	1	7.48	13	13.52	17	0.00 9
114	146	159 Max	15.80									1.67	18	
114	146	159 Max	79.00	0.00	1	0.00	9	0.00	9	-7.37	13	-0.86	13	0.00 9
114	146	159 Min.	0.00	-22630.70	17	0.00	1	0.00	9	-21.53	17	-0.91	13	0.00 19
114	146	159 Min.	31.60									0.52	1	
114	146	159 Min.	79.00	-22630.70	17	0.00	1	0.00	1	-41.58	17	-11.41	17	0.00 19
114	159	172 Max	0.00	0.00	1	0.00	1	0.00	9	16.99	17	-1.58	20	0.00 9
114	159	172 Max	65.29									0.99	13	
114	159	172 Max	79.00	0.00	1	0.00	1	0.00	9	-2.46	13	0.83	13	0.00 9
114	159	172 Min.	0.00	-22630.70	17	0.00	1	0.00	1	5.71	20	-8.36	17	0.00 1
114	159	172 Min.	63.20									-2.69	17	
114	159	172 Min.	79.00	-22630.70	17	0.00	1	0.00	1	-12.99	18	-4.40	18	0.00 1
114	172	185 Max	0.00	0.00	1	0.00	1	0.00	1	34.53	17	-1.45	20	0.00 9
114	172	185 Max	67.70									2.18	19	
114	172	185 Max	79.00	0.00	1	0.00	1	0.00	1	14.48	17	10.32	17	0.00 9
114	172	185 Min.	0.00	-22630.70	17	0.00	9	0.00	9	10.18	20	-9.04	17	0.00 1
114	172	185 Min.	53.46									1.30	20	
114	172	185 Min.	79.00	-22630.70	17	0.00	9	0.00	9	-6.50	18	0.55	5	0.00 1
115	108	121 Max	0.00	0.00	1	0.00	1	0.00	9	1132.72	17	0.00	1	0.31 17
115	108	121 Max	79.00	0.00	1	0.00	1	0.00	9	1112.67	17	886.93	17	0.31 17
115	108	121 Min.	0.00	-22630.70	17	0.00	1	0.00	1	104.98	1	0.00	1	0.00 9
115	108	121 Min.	79.00	-22630.70	17	0.00	1	0.00	1	90.13	1	77.07	1	0.00 9
115	121	134 Max	0.00	0.00	1	0.00	1	0.00	1	10.02	17	886.93	17	0.31 17
115	121	134 Max	38.76									888.91	17	
115	121	134 Max	79.00	0.00	1	0.00	1	0.00	1	-7.43	1	886.93	17	0.31 17
115	121	134 Min.	0.00	-22630.70	17	0.00	1	0.00	9	7.43	1	77.07	1	0.00 9
115	121	134 Min.	38.76									78.54	1	
115	121	134 Min.	79.00	-22630.70	17	0.00	1	0.00	9	-10.02	17	77.07	1	0.00 9
115	134	147 Max	0.00	0.00	1	0.00	1	0.00	1	-90.13	1	886.93	17	0.31 17
115	134	147 Max	79.00	0.00	1	0.00	1	0.00	1	-104.98	1	0.00	17	0.31 17
115	134	147 Min.	0.00	-22630.70	17	0.00	1	0.00	9	-1112.67	17	77.07	1	0.00 9
115	134	147 Min.	79.00	-22630.70	17	0.00	1	0.00	9	-1132.72	17	0.00	1	0.00 9
115	147	160 Max	0.00	0.00	1	0.00	1	0.00	1	1132.72	17	0.00	1	-0.00 21
115	147	160 Max	79.00	0.00	1	0.00	1	0.00	1	1112.67	17	886.93	17	-0.00 21
115	147	160 Min.	0.00	-22630.70	17	0.00	1	0.00	9	104.98	1	0.00	1	-0.31 17
115	147	160 Min.	79.00	-22630.70	17	0.00	1	0.00	9	90.13	1	77.07	1	-0.31 17
115	160	173 Max	0.00	0.00	1	0.00	1	0.00	9	10.02	17	886.93	17	-0.00 21
115	160	173 Max	38.76									888.91	17	
115	160	173 Max	79.00	0.00	1	0.00	1	0.00	9	-7.43	1	886.93	17	-0.00 21
115	160	173 Min.	0.00	-22630.70	17	0.00	1	0.00	1	7.43	1	77.07	1	-0.31 17
115	160	173 Min.	38.76									78.54	1	
115	160	173 Min.	79.00	-22630.70	17	0.00	1	0.00	1	-10.02	17	77.07	1	-0.31 17
115	173	186 Max	0.00	0.00	1	0.00	1	0.00	1	-90.13	1	886.93	17	-0.00 21
115	173	186 Max	79.00	0.00	1	0.00	1	0.00	1	-104.98	1	0.00	17	-0.00 21
115	173	186 Min.	0.00	-22630.70	17	0.00	1	0.00	9	-1112.67	17	77.07	1	-0.31 17
115	173	186 Min.	79.00	-22630.70	17	0.00	1	0.00	9	-1132.72	17	0.00	1	-0.31 17
116	109	122 Max	0.00	0.00	1	0.00	1	0.00	9	1432.35	17	0.00	1	0.19 17
116	109	122 Max	79.00	0.00	1	0.00	1	0.00	9	1412.30	17	1123.64	17	0.19 17
116	109	122 Min.	0.00	-22630.70	17	0.00	1	0.00	1	127.46	1	0.00	1	0.00 9
116	109	122 Min.	79.00	-22630.70	17	0.00	1	0.00	1	112.61	1	94.83	1	0.00 9
116	122	135 Max	0.00	0.00	1	0.00	1	0.00	1	10.02	17	1123.64	17	0.19 17
116	122	135 Max	38.76									1125.62	17	
116	122	135 Max	79.00	0.00	1	0.00	1	0.00	1	-7.43	1	1123.64	17	0.19 17
116	122	135 Min.	0.00	-22630.70	17	0.00	1	0.00	9	7.43	1	94.83	1	0.00 9
116	122	135 Min.	38.76									96.29	1	
116	122	135 Min.	79.00	-22630.70	17	0.00	1	0.00	9	-10.02	17	94.83	1	0.00 9
116	135	148 Max	0.00	0.00	1	0.00	1	0.00	1	-112.61	1	1123.64	17	0.19 17
116	135	148 Max	79.00	0.00	1	0.00	1	0.00	1	-127.46	1	0.00	17	0.19 17
116	135	148 Min.	0.00	-22630.70	17	0.00	1	0.00	9	-1412.30	17	94.83	1	0.00 9
116	135	148 Min.	79.00	-22630.70	17	0.00	1	0.00	9	-1432.35	17	0.00	1	0.00 9
116	148	161 Max	0.00	0.00	1	0.00	1	0.00	1	1432.35	17	0.00	1	-0.00 21
116	148	161 Max	79.00	0.00	1	0.00	1	0.00	1	1412.30	17	1123.64	17	-0.00 21
116	148	161 Min.	0.00	-22630.70	17	0.00	1	0.00	9	127.46	1	0.00	1	-0.19 17
116	148	161 Min.	79.00	-22630.70	17	0.00	1	0.00	9	112.61	1	94.83	1	-0.19 17
116	161	174 Max	0.00	0.00	1	0.00	1	0.00	9	10.02	17	1123.64	17	-0.00 21
116	161	174 Max	38.76									1125.62	17	
116	161	174 Max	79.00	0.00	1	0.00	1	0.00	9	-7.43	1	1123.64	17	-0.00 21
116	161	174 Min.	0.00	-22630.70	17	0.00	1	0.00	1	7.43	1	94.83	1	-0.19 17

Relazione di calcolo

116	161	174 Min.	38.76								96.29	1	
116	161	174 Min.	79.00	-22630.70	17	0.00	1	0.00	1	-10.02	17	94.83	1 -0.19 17
116	174	187 Max	0.00	0.00	1	0.00	1	0.00	1	-112.61	1	1123.64	17 -0.00 21
116	174	187 Max	79.00	0.00	1	0.00	1	0.00	1	-127.46	1	0.00	17 -0.00 21
116	174	187 Min.	0.00	-22630.70	17	0.00	1	0.00	9	-1412.30	17	94.83	1 -0.19 17
116	174	187 Min.	79.00	-22630.70	17	0.00	1	0.00	9	-1432.35	17	0.00	1 -0.19 17
117	110	123 Max	0.00	0.00	1	0.00	1	0.00	9	1432.35	17	0.00	1 0.01 17
117	110	123 Max	79.00	0.00	1	0.00	1	0.00	9	1412.30	17	1123.64	17 0.01 17
117	110	123 Min.	0.00	-22630.70	17	0.00	1	0.00	1	127.46	1	0.00	1 0.00 9
117	110	123 Min.	79.00	-22630.70	17	0.00	1	0.00	1	112.61	1	94.83	1 0.00 9
117	123	136 Max	0.00	0.00	1	0.00	1	0.00	1	10.02	17	1123.64	17 0.01 17
117	123	136 Max	38.76									1125.62	17
117	123	136 Max	79.00	0.00	1	0.00	1	0.00	1	-7.43	1	1123.64	17 0.01 17
117	123	136 Min.	0.00	-22630.70	17	0.00	1	0.00	9	7.43	1	94.83	1 0.00 9
117	123	136 Min.	38.76									96.29	1
117	123	136 Min.	79.00	-22630.70	17	0.00	1	0.00	9	-10.02	17	94.83	1 0.00 9
117	136	149 Max	0.00	0.00	1	0.00	1	0.00	1	-112.61	1	1123.64	17 0.01 17
117	136	149 Max	79.00	0.00	1	0.00	1	0.00	1	-127.46	1	0.00	17 0.01 17
117	136	149 Min.	0.00	-22630.70	17	0.00	1	0.00	9	-1412.30	17	94.83	1 0.00 9
117	136	149 Min.	79.00	-22630.70	17	0.00	1	0.00	9	-1432.35	17	0.00	1 0.00 9
117	149	162 Max	0.00	0.00	1	0.00	1	0.00	1	1432.35	17	0.00	1 0.00 19
117	149	162 Max	79.00	0.00	1	0.00	1	0.00	1	1412.30	17	1123.64	17 0.00 19
117	149	162 Min.	0.00	-22630.70	17	0.00	1	0.00	9	127.46	1	0.00	1 -0.01 17
117	149	162 Min.	79.00	-22630.70	17	0.00	1	0.00	9	112.61	1	94.83	1 -0.01 17
117	162	175 Max	0.00	0.00	1	0.00	1	0.00	9	10.02	17	1123.64	17 0.00 19
117	162	175 Max	38.76									1125.62	17
117	162	175 Max	79.00	0.00	1	0.00	1	0.00	9	-7.43	1	1123.64	17 0.00 19
117	162	175 Min.	0.00	-22630.70	17	0.00	1	0.00	1	7.43	1	94.83	1 -0.01 17
117	162	175 Min.	38.76									96.29	1
117	162	175 Min.	79.00	-22630.70	17	0.00	1	0.00	1	-10.02	17	94.83	1 -0.01 17
117	175	188 Max	0.00	0.00	1	0.00	1	0.00	1	-112.61	1	1123.64	17 0.00 19
117	175	188 Max	79.00	0.00	1	0.00	1	0.00	1	-127.46	1	0.00	17 0.00 19
117	175	188 Min.	0.00	-22630.70	17	0.00	1	0.00	9	-1412.30	17	94.83	1 -0.01 17
117	175	188 Min.	79.00	-22630.70	17	0.00	1	0.00	9	-1432.35	17	0.00	1 -0.01 17
118	111	124 Max	0.00	0.00	1	0.00	1	0.00	9	1432.35	17	0.00	1 -0.00 21
118	111	124 Max	79.00	0.00	1	0.00	1	0.00	9	1412.30	17	1123.64	17 -0.00 21
118	111	124 Min.	0.00	-22630.70	17	0.00	1	0.00	1	127.46	1	0.00	1 -0.17 17
118	111	124 Min.	79.00	-22630.70	17	0.00	1	0.00	1	112.61	1	94.83	1 -0.17 17
118	124	137 Max	0.00	0.00	1	0.00	1	0.00	1	10.02	17	1123.64	17 -0.00 21
118	124	137 Max	38.76									1125.62	17
118	124	137 Max	79.00	0.00	1	0.00	1	0.00	1	-7.43	1	1123.64	17 -0.00 21
118	124	137 Min.	0.00	-22630.70	17	0.00	1	0.00	9	7.43	1	94.83	1 -0.17 17
118	124	137 Min.	38.76									96.29	1
118	124	137 Min.	79.00	-22630.70	17	0.00	1	0.00	9	-10.02	17	94.83	1 -0.17 17
118	137	150 Max	0.00	0.00	1	0.00	1	0.00	1	-112.61	1	1123.64	17 -0.00 21
118	137	150 Max	79.00	0.00	1	0.00	1	0.00	1	-127.46	1	0.00	17 -0.00 21
118	137	150 Min.	0.00	-22630.70	17	0.00	1	0.00	9	-1412.30	17	94.83	1 -0.17 17
118	137	150 Min.	79.00	-22630.70	17	0.00	1	0.00	9	-1432.35	17	0.00	1 -0.17 17
118	150	163 Max	0.00	0.00	1	0.00	1	0.00	1	1432.35	17	0.00	1 0.17 17
118	150	163 Max	79.00	0.00	1	0.00	1	0.00	1	1412.30	17	1123.64	17 0.17 17
118	150	163 Min.	0.00	-22630.70	17	0.00	1	0.00	9	127.46	1	0.00	1 0.00 9
118	150	163 Min.	79.00	-22630.70	17	0.00	1	0.00	9	112.61	1	94.83	1 0.00 9
118	163	176 Max	0.00	0.00	1	0.00	1	0.00	9	10.02	17	1123.64	17 0.17 17
118	163	176 Max	38.76									1125.62	17
118	163	176 Max	79.00	0.00	1	0.00	1	0.00	9	-7.43	1	1123.64	17 0.17 17
118	163	176 Min.	0.00	-22630.70	17	0.00	1	0.00	1	7.43	1	94.83	1 0.00 9
118	163	176 Min.	38.76									96.29	1
118	163	176 Min.	79.00	-22630.70	17	0.00	1	0.00	1	-10.02	17	94.83	1 0.00 9
118	176	189 Max	0.00	0.00	1	0.00	1	0.00	1	-112.61	1	1123.64	17 0.17 17
118	176	189 Max	79.00	0.00	1	0.00	1	0.00	1	-127.46	1	0.00	17 0.17 17
118	176	189 Min.	0.00	-22630.70	17	0.00	1	0.00	9	-1412.30	17	94.83	1 0.00 9
118	176	189 Min.	79.00	-22630.70	17	0.00	1	0.00	9	-1432.35	17	0.00	1 0.00 9
119	112	125 Max	0.00	0.00	1	0.00	1	0.00	9	1222.61	17	0.00	1 -0.00 21
119	112	125 Max	79.00	0.00	1	0.00	1	0.00	9	1202.56	17	957.94	17 -0.00 21
119	112	125 Min.	0.00	-22630.70	17	0.00	1	0.00	1	111.73	1	0.00	1 -0.30 17
119	112	125 Min.	79.00	-22630.70	17	0.00	1	0.00	1	96.88	1	82.40	1 -0.30 17
119	125	138 Max	0.00	0.00	1	0.00	1	0.00	1	10.02	17	957.94	17 -0.00 21
119	125	138 Max	38.76									959.92	17
119	125	138 Max	79.00	0.00	1	0.00	1	0.00	1	-7.43	1	957.94	17 -0.00 21
119	125	138 Min.	0.00	-22630.70	17	0.00	1	0.00	9	7.43	1	82.40	1 -0.30 17
119	125	138 Min.	38.76									83.86	1
119	125	138 Min.	79.00	-22630.70	17	0.00	1	0.00	9	-10.02	17	82.40	1 -0.30 17
119	138	151 Max	0.00	0.00	1	0.00	1	0.00	1	-96.88	1	957.94	17 -0.00 21
119	138	151 Max	79.00	0.00	1	0.00	1	0.00	1	-111.73	1	0.00	17 -0.00 21
119	138	151 Min.	0.00	-22630.70	17	0.00	1	0.00	9	-1202.56	17	82.40	1 -0.30 17
119	138	151 Min.	79.00	-22630.70	17	0.00	1	0.00	9	-1222.61	17	0.00	1 -0.30 17
119	151	164 Max	0.00	0.00	1	0.00	1	0.00	1	1222.61	17	0.00	1 0.30 17
119	151	164 Max	79.00	0.00	1	0.00	1	0.00	1	1202.56	17	957.94	17 0.30 17
119	151	164 Min.	0.00	-22630.70	17	0.00	1	0.00	9	111.73	1	0.00	1 0.00 9
119	151	164 Min.	79.00	-22630.70	17	0.00	1	0.00	9	96.88	1	82.40	1 0.00 9
119	164	177 Max	0.00	0.00	1	0.00	1	0.00	9	10.02	17	957.94	17 0.30 17
119	164	177 Max	38.76									959.92	17

Relazione di calcolo

119	164	177 Max	79.00	0.00	1	0.00	1	0.00	9	-7.43	1	957.94	17	0.30	17
119	164	177 Min.	0.00	-22630.70	17	0.00	1	0.00	1	7.43	1	82.40	1	0.00	9
119	164	177 Min.	38.76									83.86	1		
119	164	177 Min.	79.00	-22630.70	17	0.00	1	0.00	1	-10.02	17	82.40	1	0.00	9
119	177	190 Max	0.00	0.00	1	0.00	1	0.00	1	-96.88	1	957.94	17	0.30	17
119	177	190 Max	79.00	0.00	1	0.00	1	0.00	1	-111.73	1	0.00	17	0.30	17
119	177	190 Min.	0.00	-22630.70	17	0.00	1	0.00	9	-1202.56	17	82.40	1	0.00	9
119	177	190 Min.	79.00	-22630.70	17	0.00	1	0.00	9	-1222.61	17	0.00	1	0.00	9
120	113	126 Max	0.00	0.00	1	0.00	1	0.00	1	8.75	5	5.01	17	0.01	17
120	113	126 Max	12.04									1.98	18		
120	113	126 Max	79.00	0.00	1	0.00	1	0.00	1	-6.10	5	-0.10	5	0.01	17
120	113	126 Min.	0.00	-22630.70	17	0.00	1	0.00	1	-1.48	17	-1.15	5	0.00	1
120	113	126 Min.	14.62									0.23	13		
120	113	126 Min.	79.00	-22630.70	17	0.00	1	0.00	1	-21.53	17	-4.08	17	0.00	1
120	126	139 Max	0.00	0.00	1	0.00	1	0.00	1	10.54	19	-0.90	20	0.00	9
120	126	139 Max	30.99									0.07	18		
120	126	139 Max	79.00	0.00	1	0.00	1	0.00	1	-6.88	1	-1.28	9	0.00	9
120	126	139 Min.	0.00	-22630.70	17	0.00	1	0.00	1	6.03	20	-4.88	17	0.00	19
120	126	139 Min.	39.93									-2.85	17		
120	126	139 Min.	79.00	-22630.70	17	0.00	1	0.00	1	-12.14	18	-4.79	17	0.00	19
120	139	152 Max	0.00	0.00	1	0.00	1	0.00	1	36.10	17	-1.31	5	-0.00	9
120	139	152 Max	58.30									1.63	19		
120	139	152 Max	79.00	0.00	1	0.00	1	0.00	1	16.05	17	11.07	17	-0.00	9
120	139	152 Min.	0.00	-22630.70	17	0.00	1	0.00	1	9.27	5	-9.53	17	-0.01	17
120	139	152 Min.	49.23									0.74	20		
120	139	152 Min.	79.00	-22630.70	17	0.00	1	0.00	1	-7.31	18	-0.05	20	-0.01	17
120	152	165 Max	0.00	0.00	1	0.00	1	0.00	1	6.73	19	10.36	17	0.01	17
120	152	165 Max	14.85									1.31	18		
120	152	165 Max	79.00	0.00	1	0.00	1	0.00	1	-8.79	13	-1.36	13	0.01	17
120	152	165 Min.	0.00	-22630.70	17	0.00	1	0.00	1	-15.19	17	-0.28	13	0.00	21
120	152	165 Min.	15.80									0.56	7		
120	152	165 Min.	79.00	-22630.70	17	0.00	1	0.00	1	-35.24	17	-9.55	17	0.00	21
120	165	178 Max	0.00	0.00	1	0.00	1	0.00	1	10.54	17	-0.41	20	0.00	9
120	165	178 Max	40.92									0.37	19		
120	165	178 Max	79.00	0.00	1	0.00	1	0.00	1	-7.20	21	-1.09	21	0.00	9
120	165	178 Min.	0.00	-22630.70	17	0.00	1	0.00	1	4.50	20	-4.67	17	0.00	1
120	165	178 Min.	41.53									-2.48	17		
120	165	178 Min.	79.00	-22630.70	17	0.00	1	0.00	1	-14.39	18	-4.27	17	0.00	1
120	178	191 Max	0.00	0.00	1	0.00	1	0.00	1	21.66	17	-0.38	13	0.00	9
120	178	191 Max	63.20									1.46	22		
120	178	191 Max	79.00	0.00	1	0.00	1	0.00	1	1.61	17	4.70	17	0.00	9
120	178	191 Min.	0.00	-22630.70	17	0.00	1	0.00	1	6.18	20	-4.49	17	-0.01	17
120	178	191 Min.	64.27									0.02	5		
120	178	191 Min.	79.00	-22630.70	17	0.00	1	0.00	1	-11.97	18	-2.04	18	-0.01	17

Sollecitazioni elementi bidimensionali

Simbologia

Bid. = Numero del muro/elemento bidimensionale

Nodo = Numero del nodo

σ_{xx} = Tensione normale sulle facce perp. all'asse X

CC = Numero della combinazione delle condizioni di carico elementari

σ_{zz} = Tensione normale sulle facce perp. all'asse Z

τ_{xz} = Tensione in dir. Z sulle facce perp. all'asse X

M_{xx} = Momento che provoca variazione di tensione sulle facce perp. all'asse X

M_{zz} = Momento che provoca variazione di tensione sulle facce perp. all'asse Z

M_{xz} = Momento che provoca variazione di tensione tangenziale sulle facce perp. all'asse X

τ_{zy} = Tensione in dir. Y sulle facce perp. all'asse Z

τ_{xy} = Tensione in dir. Y sulle facce perp. all'asse X

Bid.	Nodo	σ_{xx} <daN/mq>	CC	σ_{zz} <daN/mq>	CC	τ_{xz} <daN/mq>	CC	M _{xx} <daNm/m>	CC	M _{zz} <daNm/m>	CC	M _{xz} <daNm/m>	CC	τ_{zy} <daN/mq>	CC	τ_{xy} <daN/mq>	CC
102 Max	-196	-68.02	13	-15883.50	20	4175.43	18	1574.96	1	15328.40	1	1292.11	9	4693.02	9	668.43	9
102 Max	-170	-68.02	13	-15883.50	20	4175.43	18	1574.96	1	15328.40	1	1292.11	9	4693.02	9	668.43	9
102 Max	-378	-68.02	13	-15883.50	20	4175.43	18	1574.96	1	15328.40	1	1292.11	9	4693.02	9	668.43	9
102 Max	-381	-68.02	13	-15883.50	20	4175.43	18	1574.96	1	15328.40	1	1292.11	9	4693.02	9	668.43	9
102 Min.	-196	-2819.66	18	-37676.10	17	-17875.60	17	-1573.10	9	-15322.10	9	-1290.73	1	-4695.08	1	-666.46	1
102 Min.	-170	-2819.66	18	-37676.10	17	-17875.60	17	-1573.10	9	-15322.10	9	-1290.73	1	-4695.08	1	-666.46	1
102 Min.	-378	-2819.66	18	-37676.10	17	-17875.60	17	-1573.10	9	-15322.10	9	-1290.73	1	-4695.08	1	-666.46	1
102 Min.	-381	-2819.66	18	-37676.10	17	-17875.60	17	-1573.10	9	-15322.10	9	-1290.73	1	-4695.08	1	-666.46	1
102 Max	-235	-300.29	5	-14064.30	20	35170.40	18	1108.25	1	15165.10	1	821.75	9	4292.31	9	1455.72	9
102 Max	-196	-300.29	5	-14064.30	20	35170.40	18	1108.25	1	15165.10	1	821.75	9	4292.31	9	1455.72	9
102 Max	-381	-300.29	5	-14064.30	20	35170.40	18	1108.25	1	15165.10	1	821.75	9	4292.31	9	1455.72	9
102 Max	-384	-300.29	5	-14064.30	20	35170.40	18	1108.25	1	15165.10	1	821.75	9	4292.31	9	1455.72	9
102 Min.	-235	-21690.00	18	-36867.20	17	8535.49	5	-1107.89	9	-15160.20	9	-821.27	1	-4292.85	1	-1454.34	1
102 Min.	-196	-21690.00	18	-36867.20	17	8535.49	5	-1107.89	9	-15160.20	9	-821.27	1	-4292.85	1	-1454.34	1
102 Min.	-381	-21690.00	18	-36867.20	17	8535.49	5	-1107.89	9	-15160.20	9	-821.27	1	-4292.85	1	-1454.34	1
102 Min.	-384	-21690.00	18	-36867.20	17	8535.49	5	-1107.89	9	-15160.20	9	-821.27	1	-4292.85	1	-1454.34	1
102 Max	-257	375.81	13	21492.60	18	20183.50	18	220.30	1	13390.70	1	860.74	9	208.13	9	1026.26	9
102 Max	-235	375.81	13	21492.60	18	20183.50	18	220.30	1	13390.70	1	860.74	9	208.13	9	1026.26	9
102 Max	-384	375.81	13	21492.60	18	20183.50	18	220.30	1	13390.70	1	860.74	9	208.13	9	1026.26	9
102 Max	-387	375.81	13	21492.60	18	20183.50	18	220.30	1	13390.70	1	860.74	9	208.13	9	1026.26	9
102 Min.	-257	-23345.90	18	-9540.96	5	-1290.01	5	-220.17	9	-13386.80	9	-860.16	1	-358.33	19	-1025.19	1
102 Min.	-235	-23345.90	18	-9540.96	5	-1290.01	5	-220.17	9	-13386.80	9	-860.16	1	-358.33	19	-1025.19	1
102 Min.	-384	-23345.90	18	-9540.96	5	-1290.01	5	-220.17	9	-13386.80	9	-860.16	1	-358.33	19	-1025.19	1
102 Min.	-387	-23345.90	18	-9540.96	5	-1290.01	5	-220.17	9	-13386.80	9	-860.16	1	-358.33	19	-1025.19	1

Relazione di calcolo

102 Max	-170	-741.08	13	4084.62	18	14354.50	18	894.60	1	12411.90	1	113.20	9	240.78	9	194.96	9
102 Max	-147	-741.08	13	4084.62	18	14354.50	18	894.60	1	12411.90	1	113.20	9	240.78	9	194.96	9
102 Max	-375	-741.08	13	4084.62	18	14354.50	18	894.60	1	12411.90	1	113.20	9	240.78	9	194.96	9
102 Max	-378	-741.08	13	4084.62	18	14354.50	18	894.60	1	12411.90	1	113.20	9	240.78	9	194.96	9
102 Min.	-170	-6208.45	18	-6328.89	17	-2653.12	5	-892.20	9	-12404.60	9	-111.46	1	-243.46	1	-190.99	1
102 Min.	-147	-6208.45	18	-6328.89	17	-2653.12	5	-892.20	9	-12404.60	9	-111.46	1	-243.46	1	-190.99	1
102 Min.	-375	-6208.45	18	-6328.89	17	-2653.12	5	-892.20	9	-12404.60	9	-111.46	1	-243.46	1	-190.99	1
102 Min.	-378	-6208.45	18	-6328.89	17	-2653.12	5	-892.20	9	-12404.60	9	-111.46	1	-243.46	1	-190.99	1
102 Max	-147	-234.99	13	-17437.10	5	32141.80	18	1630.48	1	15414.50	9	1162.77	9	4878.68	1	982.53	9
102 Max	-121	-234.99	13	-17437.10	5	32141.80	18	1630.48	1	15414.50	9	1162.77	9	4878.68	1	982.53	9
102 Max	-372	-234.99	13	-17437.10	5	32141.80	18	1630.48	1	15414.50	9	1162.77	9	4878.68	1	982.53	9
102 Max	-375	-234.99	13	-17437.10	5	32141.80	18	1630.48	1	15414.50	9	1162.77	9	4878.68	1	982.53	9
102 Min.	-147	-10332.30	18	-36340.90	17	6819.92	5	-1627.97	9	-15402.30	1	-1159.38	1	-4891.84	9	-978.36	1
102 Min.	-121	-10332.30	18	-36340.90	17	6819.92	5	-1627.97	9	-15402.30	1	-1159.38	1	-4891.84	9	-978.36	1
102 Min.	-372	-10332.30	18	-36340.90	17	6819.92	5	-1627.97	9	-15402.30	1	-1159.38	1	-4891.84	9	-978.36	1
102 Min.	-375	-10332.30	18	-36340.90	17	6819.92	5	-1627.97	9	-15402.30	1	-1159.38	1	-4891.84	9	-978.36	1
102 Max	-121	-1260.61	13	-17164.40	13	-5808.90	20	1560.40	9	15389.10	9	1199.79	9	5053.37	1	1281.84	9
102 Max	-99	-1260.61	13	-17164.40	13	-5808.90	20	1560.40	9	15389.10	9	1199.79	9	5053.37	1	1281.84	9
102 Max	-369	-1260.61	13	-17164.40	13	-5808.90	20	1560.40	9	15389.10	9	1199.79	9	5053.37	1	1281.84	9
102 Max	-372	-1260.61	13	-17164.40	13	-5808.90	20	1560.40	9	15389.10	9	1199.79	9	5053.37	1	1281.84	9
102 Min.	-121	-2314.51	17	-37909.00	17	-15569.90	17	-1550.64	1	-15381.80	1	-1189.83	1	-5071.37	9	-1276.84	1
102 Min.	-99	-2314.51	17	-37909.00	17	-15569.90	17	-1550.64	1	-15381.80	1	-1189.83	1	-5071.37	9	-1276.84	1
102 Min.	-369	-2314.51	17	-37909.00	17	-15569.90	17	-1550.64	1	-15381.80	1	-1189.83	1	-5071.37	9	-1276.84	1
102 Min.	-372	-2314.51	17	-37909.00	17	-15569.90	17	-1550.64	1	-15381.80	1	-1189.83	1	-5071.37	9	-1276.84	1
102 Max	-99	-691.22	13	-438.35	5	6651.06	18	590.55	9	12584.50	9	274.81	9	868.22	1	774.89	9
102 Max	-67	-691.22	13	-438.35	5	6651.06	18	590.55	9	12584.50	9	274.81	9	868.22	1	774.89	9
102 Max	-366	-691.22	13	-438.35	5	6651.06	18	590.55	9	12584.50	9	274.81	9	868.22	1	774.89	9
102 Max	-369	-691.22	13	-438.35	5	6651.06	18	590.55	9	12584.50	9	274.81	9	868.22	1	774.89	9
102 Min.	-99	-4591.03	18	-10453.40	17	-1979.21	13	-585.01	1	-12605.20	1	-263.59	1	-866.50	9	-763.01	1
102 Min.	-67	-4591.03	18	-10453.40	17	-1979.21	13	-585.01	1	-12605.20	1	-263.59	1	-866.50	9	-763.01	1
102 Min.	-366	-4591.03	18	-10453.40	17	-1979.21	13	-585.01	1	-12605.20	1	-263.59	1	-866.50	9	-763.01	1
102 Min.	-369	-4591.03	18	-10453.40	17	-1979.21	13	-585.01	1	-12605.20	1	-263.59	1	-866.50	9	-763.01	1
102 Max	-67	-237.31	13	-5055.59	13	16143.90	18	231.57	9	13842.40	9	681.48	9	2126.95	1	1051.65	9
102 Max	-50	-237.31	13	-5055.59	13	16143.90	18	231.57	9	13842.40	9	681.48	9	2126.95	1	1051.65	9
102 Max	-363	-237.31	13	-5055.59	13	16143.90	18	231.57	9	13842.40	9	681.48	9	2126.95	1	1051.65	9
102 Max	-366	-237.31	13	-5055.59	13	16143.90	18	231.57	9	13842.40	9	681.48	9	2126.95	1	1051.65	9
102 Min.	-67	-5635.09	18	-44036.40	18	2151.31	13	-233.69	1	-13908.30	1	-667.18	1	-2067.24	9	-1053.89	1
102 Min.	-50	-5635.09	18	-44036.40	18	2151.31	13	-233.69	1	-13908.30	1	-667.18	1	-2067.24	9	-1053.89	1
102 Min.	-363	-5635.09	18	-44036.40	18	2151.31	13	-233.69	1	-13908.30	1	-667.18	1	-2067.24	9	-1053.89	1
102 Min.	-366	-5635.09	18	-44036.40	18	2151.31	13	-233.69	1	-13908.30	1	-667.18	1	-2067.24	9	-1053.89	1
102 Max	-468	735.47	17	-2674.40	5	742.74	17	19.00	1	3946.91	1	210.86	9	3611.41	9	49.67	1
102 Max	-465	735.47	17	-2674.40	5	742.74	17	19.00	1	3946.91	1	210.86	9	3611.41	9	49.67	1
102 Max	-492	735.47	17	-2674.40	5	742.74	17	19.00	1	3946.91	1	210.86	9	3611.41	9	49.67	1
102 Max	-495	735.47	17	-2674.40	5	742.74	17	19.00	1	3946.91	1	210.86	9	3611.41	9	49.67	1
102 Min.	-468	-4789.97	18	-14515.40	17	-1035.97	18	-18.89	9	-3946.38	9	-211.31	1	-3613.52	1	-49.49	9
102 Min.	-465	-4789.97	18	-14515.40	17	-1035.97	18	-18.89	9	-3946.38	9	-211.31	1	-3613.52	1	-49.49	9
102 Min.	-492	-4789.97	18	-14515.40	17	-1035.97	18	-18.89	9	-3946.38	9	-211.31	1	-3613.52	1	-49.49	9
102 Min.	-495	-4789.97	18	-14515.40	17	-1035.97	18	-18.89	9	-3946.38	9	-211.31	1	-3613.52	1	-49.49	9
102 Max	-495	686.17	17	-1814.79	5	-86.15	5	7.42	1	1314.64	1	234.78	9	3687.09	9	11.74	1
102 Max	-492	686.17	17	-1814.79	5	-86.15	5	7.42	1	1314.64	1	234.78	9	3687.09	9	11.74	1
102 Max	185	686.17	17	-1814.79	5	-86.15	5	7.42	1	1314.64	1	234.78	9	3687.09	9	11.74	1
102 Max	-501	686.17	17	-1814.79	5	-86.15	5	7.42	1	1314.64	1	234.78	9	3687.09	9	11.74	1
102 Min.	-495	73.37	20	-11019.00	17	-3300.30	17	-7.38	9	-1314.51	9	-235.42	1	-3689.49	1	-11.68	9
102 Min.	-492	73.37	20	-11019.00	17	-3300.30	17	-7.38	9	-1314.51	9	-235.42	1	-3689.49	1	-11.68	9
102 Min.	185	73.37	20	-11019.00	17	-3300.30	17	-7.38	9	-1314.51	9	-235.42	1	-3689.49	1	-11.68	9
102 Min.	-501	73.37	20	-11019.00	17	-3300.30	17	-7.38	9	-1314.51	9	-235.42	1	-3689.49	1	-11.68	9
102 Max	-384	3972.53	17	-7029.69	20	11085.50	18	585.47	1	11858.70	1	351.49	9	3210.51	9	981.26	9
102 Max	-381	3972.53	17	-7029.69	20	11085.50	18	585.47	1	11858.70	1	351.49	9	3210.51	9	981.26	9
102 Max	-408	3972.53	17	-7029.69	20	11085.50	18	585.47	1	11858.70	1	351.49	9	3210.51	9	981.26	9
102 Max	-411	3972.53	17	-7029.69	20	11085.50	18	585.47	1	11858.70	1	351.49	9	3210.51	9	981.26	9
102 Min.	-384	-21151.80	18	-25694.90	17	138.63	5	-584.66	9	-11854.90	9	-350.46	1	-3211.71	1	-979.97	1
102 Min.	-381	-21151.80	18	-25694.90	17	138.63	5	-584.66	9	-11854.90	9	-350.46	1	-3211.71	1	-979.97	1
102 Min.	-408	-21151.80	18	-25694.90	17	138.63	5	-584.66	9	-11854.90	9	-350.46	1	-3211.71	1	-979.97	1
102 Min.	-411	-21151.80	18	-25694.90	17	138.63	5	-584.66	9	-11854.90	9	-350.46	1	-3211.71	1	-979.97	1
102 Max	-411	1163.63	17	-5017.71	5	1838.06	5	326.72	1	9161.39	1	54.16	9	2886.92	9	88.83	9
102 Max	-408	1163.63	17	-5017.71	5	1838.06	5	326.72	1	9161.39	1	54.16	9	2886.92	9	88.83	9
102 Max	-435	1163.63	17	-5017.71	5	1838.06	5	326.72	1	9161.39	1	54.16	9	2886.92	9	88.83	9
102 Max	-438	1163.63	17	-5017.71	5	1838.06	5	326.72	1	9161.39	1	54.16	9	2886.92	9	88.83	9
102 Min.	-411	-22425.10	18	-19478.40	17	-440.58	13	-325.85	9	-9159.16	9	-169.47	19	-2888.38	1	-88.32	1
102 Min.	-408	-22425.10	18	-19478.40	17	-440.58	13	-325.85	9	-9159.16	9	-169.47	19	-2888.38	1	-88.32	1
102 Min.	-435	-22425.10	18	-19478.40	17	-440.58	13	-325.85	9	-9159.16	9	-169.47	19	-2888.38	1	-88.32	1
102 Min.	-438	-22425.10	18	-19478.40	17	-440.58	13	-325.85	9	-9159.16	9	-169.47	19	-2888.38	1	-88.32	1
102 Max	-438	3.47	13	-4142.71	5	1466.63	5	184.95	1	6555.25	1	202.13	9	2904.15	9	130.89	9
102 Max	-435	3.47	13	-4142.71	5	1466.63	5	184.95	1	6555.25	1	202.13	9	2904.15	9	130.89	9
102 Max	-462	3.47	13	-414													

Relazione di calcolo

102 Min.	-405	-17059.90	18	-21260.60	17	-1724.16	13	-616.36	9	-9063.12	9	-182.75	19	-2917.95	1	-259.33	1
102 Min.	-432	-17059.90	18	-21260.60	17	-1724.16	13	-616.36	9	-9063.12	9	-182.75	19	-2917.95	1	-259.33	1
102 Min.	-435	-17059.90	18	-21260.60	17	-1724.16	13	-616.36	9	-9063.12	9	-182.75	19	-2917.95	1	-259.33	1
102 Max	-435	950.96	17	-5327.29	13	2142.16	5	354.39	1	6468.09	1	116.48	9	2862.54	9	80.95	9
102 Max	-432	950.96	17	-5327.29	13	2142.16	5	354.39	1	6468.09	1	116.48	9	2862.54	9	80.95	9
102 Max	-459	950.96	17	-5327.29	13	2142.16	5	354.39	1	6468.09	1	116.48	9	2862.54	9	80.95	9
102 Max	-462	950.96	17	-5327.29	13	2142.16	5	354.39	1	6468.09	1	116.48	9	2862.54	9	80.95	9
102 Min.	-435	-11804.00	18	-17412.20	17	-1756.12	13	-352.69	9	-6467.98	9	-200.14	19	-2863.87	1	-81.13	1
102 Min.	-432	-11804.00	18	-17412.20	17	-1756.12	13	-352.69	9	-6467.98	9	-200.14	19	-2863.87	1	-81.13	1
102 Min.	-459	-11804.00	18	-17412.20	17	-1756.12	13	-352.69	9	-6467.98	9	-200.14	19	-2863.87	1	-81.13	1
102 Min.	-462	-11804.00	18	-17412.20	17	-1756.12	13	-352.69	9	-6467.98	9	-200.14	19	-2863.87	1	-81.13	1
102 Max	-462	-63.85	5	-3638.85	13	1946.01	5	197.02	1	3873.57	1	198.37	9	2803.26	9	39.29	9
102 Max	-459	-63.85	5	-3638.85	13	1946.01	5	197.02	1	3873.57	1	198.37	9	2803.26	9	39.29	9
102 Max	-486	-63.85	5	-3638.85	13	1946.01	5	197.02	1	3873.57	1	198.37	9	2803.26	9	39.29	9
102 Max	-489	-63.85	5	-3638.85	13	1946.01	5	197.02	1	3873.57	1	198.37	9	2803.26	9	39.29	9
102 Min.	-462	-6375.03	18	-14295.20	17	-1970.11	13	-195.97	9	-3873.79	9	-208.87	19	-2803.99	1	-39.49	1
102 Min.	-459	-6375.03	18	-14295.20	17	-1970.11	13	-195.97	9	-3873.79	9	-208.87	19	-2803.99	1	-39.49	1
102 Min.	-486	-6375.03	18	-14295.20	17	-1970.11	13	-195.97	9	-3873.79	9	-208.87	19	-2803.99	1	-39.49	1
102 Min.	-489	-6375.03	18	-14295.20	17	-1970.11	13	-195.97	9	-3873.79	9	-208.87	19	-2803.99	1	-39.49	1
102 Max	-489	-144.09	5	-1036.33	13	1898.11	5	61.86	1	1290.73	1	234.03	9	2779.20	9	12.80	9
102 Max	-486	-144.09	5	-1036.33	13	1898.11	5	61.86	1	1290.73	1	234.03	9	2779.20	9	12.80	9
102 Max	159	-144.09	5	-1036.33	13	1898.11	5	61.86	1	1290.73	1	234.03	9	2779.20	9	12.80	9
102 Max	172	-144.09	5	-1036.33	13	1898.11	5	61.86	1	1290.73	1	234.03	9	2779.20	9	12.80	9
102 Min.	-489	-1955.06	18	-3997.53	17	-2019.62	13	-61.52	9	-1290.85	9	-235.84	1	-2779.66	1	-12.87	1
102 Min.	-486	-1955.06	18	-3997.53	17	-2019.62	13	-61.52	9	-1290.85	9	-235.84	1	-2779.66	1	-12.87	1
102 Min.	159	-1955.06	18	-3997.53	17	-2019.62	13	-61.52	9	-1290.85	9	-235.84	1	-2779.66	1	-12.87	1
102 Min.	172	-1955.06	18	-3997.53	17	-2019.62	13	-61.52	9	-1290.85	9	-235.84	1	-2779.66	1	-12.87	1
102 Max	-378	-2314.79	13	-8336.22	20	13675.60	18	1161.48	1	11740.40	1	110.19	9	2894.79	9	77.56	9
102 Max	-375	-2314.79	13	-8336.22	20	13675.60	18	1161.48	1	11740.40	1	110.19	9	2894.79	9	77.56	9
102 Max	-402	-2314.79	13	-8336.22	20	13675.60	18	1161.48	1	11740.40	1	110.19	9	2894.79	9	77.56	9
102 Max	-405	-2314.79	13	-8336.22	20	13675.60	18	1161.48	1	11740.40	1	110.19	9	2894.79	9	77.56	9
102 Min.	-378	-15222.30	18	-23117.20	17	-3104.14	5	-1158.14	9	-11737.30	9	-145.73	19	-2899.06	1	-80.59	19
102 Min.	-375	-15222.30	18	-23117.20	17	-3104.14	5	-1158.14	9	-11737.30	9	-145.73	19	-2899.06	1	-80.59	19
102 Min.	-402	-15222.30	18	-23117.20	17	-3104.14	5	-1158.14	9	-11737.30	9	-145.73	19	-2899.06	1	-80.59	19
102 Min.	-405	-15222.30	18	-23117.20	17	-3104.14	5	-1158.14	9	-11737.30	9	-145.73	19	-2899.06	1	-80.59	19
102 Max	-405	1430.19	17	-7203.36	20	6971.93	18	662.12	1	9026.43	1	60.25	9	3069.87	9	42.39	9
102 Max	-402	1430.19	17	-7203.36	20	6971.93	18	662.12	1	9026.43	1	60.25	9	3069.87	9	42.39	9
102 Max	-429	1430.19	17	-7203.36	20	6971.93	18	662.12	1	9026.43	1	60.25	9	3069.87	9	42.39	9
102 Max	-432	1430.19	17	-7203.36	20	6971.93	18	662.12	1	9026.43	1	60.25	9	3069.87	9	42.39	9
102 Min.	-405	-10948.50	18	-21448.30	17	-2476.37	13	-658.88	9	-9026.58	9	-184.57	19	-3072.56	1	-47.23	19
102 Min.	-402	-10948.50	18	-21448.30	17	-2476.37	13	-658.88	9	-9026.58	9	-184.57	19	-3072.56	1	-47.23	19
102 Min.	-429	-10948.50	18	-21448.30	17	-2476.37	13	-658.88	9	-9026.58	9	-184.57	19	-3072.56	1	-47.23	19
102 Min.	-432	-10948.50	18	-21448.30	17	-2476.37	13	-658.88	9	-9026.58	9	-184.57	19	-3072.56	1	-47.23	19
102 Max	-432	675.73	17	-5679.46	20	2457.99	18	469.26	1	6394.32	1	83.30	9	2870.25	9	11.73	9
102 Max	-429	675.73	17	-5679.46	20	2457.99	18	469.26	1	6394.32	1	83.30	9	2870.25	9	11.73	9
102 Max	-456	675.73	17	-5679.46	20	2457.99	18	469.26	1	6394.32	1	83.30	9	2870.25	9	11.73	9
102 Max	-459	675.73	17	-5679.46	20	2457.99	18	469.26	1	6394.32	1	83.30	9	2870.25	9	11.73	9
102 Min.	-432	-9040.84	18	-18353.90	17	-2366.20	13	-466.90	9	-6395.38	9	-203.27	19	-2871.38	1	-23.64	19
102 Min.	-429	-9040.84	18	-18353.90	17	-2366.20	13	-466.90	9	-6395.38	9	-203.27	19	-2871.38	1	-23.64	19
102 Min.	-456	-9040.84	18	-18353.90	17	-2366.20	13	-466.90	9	-6395.38	9	-203.27	19	-2871.38	1	-23.64	19
102 Min.	-459	-9040.84	18	-18353.90	17	-2366.20	13	-466.90	9	-6395.38	9	-203.27	19	-2871.38	1	-23.64	19
102 Max	-459	1394.32	17	-4257.87	20	2137.00	5	248.19	1	3839.44	1	121.94	9	2816.66	9	6.40	9
102 Max	-456	1394.32	17	-4257.87	20	2137.00	5	248.19	1	3839.44	1	121.94	9	2816.66	9	6.40	9
102 Max	-483	1394.32	17	-4257.87	20	2137.00	5	248.19	1	3839.44	1	121.94	9	2816.66	9	6.40	9
102 Max	-486	1394.32	17	-4257.87	20	2137.00	5	248.19	1	3839.44	1	121.94	9	2816.66	9	6.40	9
102 Min.	-459	-5032.18	18	-15702.80	17	-2495.38	13	-246.87	9	-3840.24	9	-211.36	19	-2817.14	1	-11.03	19
102 Min.	-456	-5032.18	18	-15702.80	17	-2495.38	13	-246.87	9	-3840.24	9	-211.36	19	-2817.14	1	-11.03	19
102 Min.	-483	-5032.18	18	-15702.80	17	-2495.38	13	-246.87	9	-3840.24	9	-211.36	19	-2817.14	1	-11.03	19
102 Min.	-486	-5032.18	18	-15702.80	17	-2495.38	13	-246.87	9	-3840.24	9	-211.36	19	-2817.14	1	-11.03	19
102 Max	-486	110.23	17	-2748.99	13	1381.35	5	78.53	1	1279.93	1	138.41	9	2791.12	9	2.03	9
102 Max	-483	110.23	17	-2748.99	13	1381.35	5	78.53	1	1279.93	1	138.41	9	2791.12	9	2.03	9
102 Max	146	110.23	17	-2748.99	13	1381.35	5	78.53	1	1279.93	1	138.41	9	2791.12	9	2.03	9
102 Max	159	110.23	17	-2748.99	13	1381.35	5	78.53	1	1279.93	1	138.41	9	2791.12	9	2.03	9
102 Min.	-486	-1621.31	18	-17247.30	17	-7478.54	17	-78.11	9	-1280.21	9	-214.43	19	-2791.37	1	-3.18	19
102 Min.	-483	-1621.31	18	-17247.30	17	-7478.54	17	-78.11	9	-1280.21	9	-214.43	19	-2791.37	1	-3.18	19
102 Min.	146	-1621.31	18	-17247.30	17	-7478.54	17	-78.11	9	-1280.21	9	-214.43	19	-2791.37	1	-3.18	19
102 Min.	159	-1621.31	18	-17247.30	17	-7478.54	17	-78.11	9	-1280.21	9	-214.43	19	-2791.37	1	-3.18	19
102 Max	-375	1380.82	17	-10753.50	13	13326.30	18	1012.23	9	11533.90	9	128.85	9	3262.49	1	809.21	9
102 Max	-372	1380.82	17	-10753.50	13	13326.30	18	1012.23	9	11533.90	9	128.85	9	3262.49	1	809.21	9
102 Max	-399	1380.82	17	-10753.50	13	13326.30	18	1012.23	9	11533.90	9	128.85	9	3262.49	1	809.21	9
102 Max	-402	1380.82	17	-10753.50	13	13326.30	18	1012.23	9	11533.90	9	128.85	9	3262.49	1	809.21	9
102 Min.	-375	-4119.72	18	-24741.10	17	-964.26	13	-1007.21	1	-11533.10	1	-143.82	19	-3269.64	9	-810.13	1
102 Min.	-372	-4119.72	18	-24741.10	17	-964.26	13	-1007.21	1	-11533.10	1	-143.82	19	-3269.64	9	-810.13	1
102 Min.	-399	-4119.72	18	-24741.10	17	-964.26	13	-1007.21	1	-11533.10	1	-143.82	19	-3269.64	9	-810.13	1
102 Min.	-402	-4119.72	18	-24													

Relazione di calcolo

102 Max	-396	1928.87	17	-9844.02	13	6091.63	18	894.40	9	11522.80	9	193.26	9	3286.10	1	1158.03	9
102 Max	-399	1928.87	17	-9844.02	13	6091.63	18	894.40	9	11522.80	9	193.26	9	3286.10	1	1158.03	9
102 Min.	-372	-3094.33	18	-25194.00	17	-3080.28	13	-890.57	1	-11527.60	1	-190.19	1	-3291.69	9	-1170.21	1
102 Min.	-369	-3094.33	18	-25194.00	17	-3080.28	13	-890.57	1	-11527.60	1	-190.19	1	-3291.69	9	-1170.21	1
102 Min.	-396	-3094.33	18	-25194.00	17	-3080.28	13	-890.57	1	-11527.60	1	-190.19	1	-3291.69	9	-1170.21	1
102 Min.	-399	-3094.33	18	-25194.00	17	-3080.28	13	-890.57	1	-11527.60	1	-190.19	1	-3291.69	9	-1170.21	1
102 Max	-399	350.38	17	-7026.33	13	5845.43	18	623.57	9	8919.97	9	123.20	9	2852.13	1	98.23	9
102 Max	-396	350.38	17	-7026.33	13	5845.43	18	623.57	9	8919.97	9	123.20	9	2852.13	1	98.23	9
102 Max	-423	350.38	17	-7026.33	13	5845.43	18	623.57	9	8919.97	9	123.20	9	2852.13	1	98.23	9
102 Max	-426	350.38	17	-7026.33	13	5845.43	18	623.57	9	8919.97	9	123.20	9	2852.13	1	98.23	9
102 Min.	-399	-3939.62	18	-20761.90	17	-2386.23	13	-620.36	1	-8925.43	1	-184.64	19	-2851.03	9	-103.61	1
102 Min.	-396	-3939.62	18	-20761.90	17	-2386.23	13	-620.36	1	-8925.43	1	-184.64	19	-2851.03	9	-103.61	1
102 Min.	-423	-3939.62	18	-20761.90	17	-2386.23	13	-620.36	1	-8925.43	1	-184.64	19	-2851.03	9	-103.61	1
102 Min.	-426	-3939.62	18	-20761.90	17	-2386.23	13	-620.36	1	-8925.43	1	-184.64	19	-2851.03	9	-103.61	1
102 Max	-426	931.85	17	-5263.25	13	2322.22	18	353.21	9	6409.58	9	57.30	9	2816.15	1	130.07	9
102 Max	-423	931.85	17	-5263.25	13	2322.22	18	353.21	9	6409.58	9	57.30	9	2816.15	1	130.07	9
102 Max	-450	931.85	17	-5263.25	13	2322.22	18	353.21	9	6409.58	9	57.30	9	2816.15	1	130.07	9
102 Max	-453	931.85	17	-5263.25	13	2322.22	18	353.21	9	6409.58	9	57.30	9	2816.15	1	130.07	9
102 Min.	-426	-2681.52	18	-17338.90	17	-2452.13	5	-351.56	1	-6412.58	1	-202.91	19	-2815.32	9	-132.04	1
102 Min.	-423	-2681.52	18	-17338.90	17	-2452.13	5	-351.56	1	-6412.58	1	-202.91	19	-2815.32	9	-132.04	1
102 Min.	-450	-2681.52	18	-17338.90	17	-2452.13	5	-351.56	1	-6412.58	1	-202.91	19	-2815.32	9	-132.04	1
102 Min.	-453	-2681.52	18	-17338.90	17	-2452.13	5	-351.56	1	-6412.58	1	-202.91	19	-2815.32	9	-132.04	1
102 Max	-453	15.31	5	-3510.10	13	1599.88	13	189.28	9	3849.97	9	103.46	9	2779.01	1	60.59	9
102 Max	-450	15.31	5	-3510.10	13	1599.88	13	189.28	9	3849.97	9	103.46	9	2779.01	1	60.59	9
102 Max	-477	15.31	5	-3510.10	13	1599.88	13	189.28	9	3849.97	9	103.46	9	2779.01	1	60.59	9
102 Max	-480	15.31	5	-3510.10	13	1599.88	13	189.28	9	3849.97	9	103.46	9	2779.01	1	60.59	9
102 Min.	-453	-2157.15	18	-14114.10	17	-2262.91	5	-188.47	1	-3851.51	1	-211.01	19	-2778.46	9	-61.39	1
102 Min.	-450	-2157.15	18	-14114.10	17	-2262.91	5	-188.47	1	-3851.51	1	-211.01	19	-2778.46	9	-61.39	1
102 Min.	-477	-2157.15	18	-14114.10	17	-2262.91	5	-188.47	1	-3851.51	1	-211.01	19	-2778.46	9	-61.39	1
102 Min.	-480	-2157.15	18	-14114.10	17	-2262.91	5	-188.47	1	-3851.51	1	-211.01	19	-2778.46	9	-61.39	1
102 Max	-480	-130.75	5	-995.10	13	1657.85	13	59.70	9	1284.17	9	131.66	9	2762.25	1	17.26	9
102 Max	-477	-130.75	5	-995.10	13	1657.85	13	59.70	9	1284.17	9	131.66	9	2762.25	1	17.26	9
102 Max	-420	-130.75	5	-995.10	13	1657.85	13	59.70	9	1284.17	9	131.66	9	2762.25	1	17.26	9
102 Max	133	-130.75	5	-995.10	13	1657.85	13	59.70	9	1284.17	9	131.66	9	2762.25	1	17.26	9
102 Min.	-480	-1433.16	17	-3928.43	17	-2206.70	5	-59.45	1	-1284.65	1	-214.20	19	-2761.76	9	-17.50	1
102 Min.	-477	-1433.16	17	-3928.43	17	-2206.70	5	-59.45	1	-1284.65	1	-214.20	19	-2761.76	9	-17.50	1
102 Min.	120	-1433.16	17	-3928.43	17	-2206.70	5	-59.45	1	-1284.65	1	-214.20	19	-2761.76	9	-17.50	1
102 Min.	133	-1433.16	17	-3928.43	17	-2206.70	5	-59.45	1	-1284.65	1	-214.20	19	-2761.76	9	-17.50	1
102 Max	-369	-1364.72	13	-5851.74	13	5523.40	18	615.48	9	11578.10	9	126.50	9	2646.99	1	710.44	9
102 Max	-366	-1364.72	13	-5851.74	13	5523.40	18	615.48	9	11578.10	9	126.50	9	2646.99	1	710.44	9
102 Max	-393	-1364.72	13	-5851.74	13	5523.40	18	615.48	9	11578.10	9	126.50	9	2646.99	1	710.44	9
102 Max	-396	-1364.72	13	-5851.74	13	5523.40	18	615.48	9	11578.10	9	126.50	9	2646.99	1	710.44	9
102 Min.	-369	-6836.97	18	-21768.90	17	-2738.21	13	-614.20	1	-11592.60	1	-141.85	19	-2637.07	9	-733.56	1
102 Min.	-366	-6836.97	18	-21768.90	17	-2738.21	13	-614.20	1	-11592.60	1	-141.85	19	-2637.07	9	-733.56	1
102 Min.	-393	-6836.97	18	-21768.90	17	-2738.21	13	-614.20	1	-11592.60	1	-141.85	19	-2637.07	9	-733.56	1
102 Min.	-396	-6836.97	18	-21768.90	17	-2738.21	13	-614.20	1	-11592.60	1	-141.85	19	-2637.07	9	-733.56	1
102 Max	-396	1234.38	17	-4915.12	5	2831.72	18	263.69	9	9050.90	9	91.06	9	2870.71	1	306.90	9
102 Max	-393	1234.38	17	-4915.12	5	2831.72	18	263.69	9	9050.90	9	91.06	9	2870.71	1	306.90	9
102 Max	-420	1234.38	17	-4915.12	5	2831.72	18	263.69	9	9050.90	9	91.06	9	2870.71	1	306.90	9
102 Max	-423	1234.38	17	-4915.12	5	2831.72	18	263.69	9	9050.90	9	91.06	9	2870.71	1	306.90	9
102 Min.	-396	-327.42	18	-19219.00	17	-1979.65	5	-262.32	1	-9057.65	1	-174.16	19	-2865.60	9	-310.44	1
102 Min.	-393	-327.42	18	-19219.00	17	-1979.65	5	-262.32	1	-9057.65	1	-174.16	19	-2865.60	9	-310.44	1
102 Min.	-420	-327.42	18	-19219.00	17	-1979.65	5	-262.32	1	-9057.65	1	-174.16	19	-2865.60	9	-310.44	1
102 Min.	-423	-327.42	18	-19219.00	17	-1979.65	5	-262.32	1	-9057.65	1	-174.16	19	-2865.60	9	-310.44	1
102 Max	-423	106.49	5	-3696.16	5	981.01	18	184.84	9	6463.86	9	120.40	9	2818.48	1	128.05	9
102 Max	-420	106.49	5	-3696.16	5	981.01	18	184.84	9	6463.86	9	120.40	9	2818.48	1	128.05	9
102 Max	-447	106.49	5	-3696.16	5	981.01	18	184.84	9	6463.86	9	120.40	9	2818.48	1	128.05	9
102 Max	-450	106.49	5	-3696.16	5	981.01	18	184.84	9	6463.86	9	120.40	9	2818.48	1	128.05	9
102 Min.	-423	-1050.71	18	-16066.20	17	-1774.81	5	-184.20	1	-6467.17	1	-189.52	19	-2815.84	9	-129.16	1
102 Min.	-420	-1050.71	18	-16066.20	17	-1774.81	5	-184.20	1	-6467.17	1	-189.52	19	-2815.84	9	-129.16	1
102 Min.	-447	-1050.71	18	-16066.20	17	-1774.81	5	-184.20	1	-6467.17	1	-189.52	19	-2815.84	9	-129.16	1
102 Min.	-450	-1050.71	18	-16066.20	17	-1774.81	5	-184.20	1	-6467.17	1	-189.52	19	-2815.84	9	-129.16	1
102 Max	-450	232.81	17	-2633.48	5	855.99	13	94.50	9	3888.60	9	203.45	9	2837.92	1	68.29	9
102 Max	-447	232.81	17	-2633.48	5	855.99	13	94.50	9	3888.60	9	203.45	9	2837.92	1	68.29	9
102 Max	-474	232.81	17	-2633.48	5	855.99	13	94.50	9	3888.60	9	203.45	9	2837.92	1	68.29	9
102 Max	-477	232.81	17	-2633.48	5	855.99	13	94.50	9	3888.60	9	203.45	9	2837.92	1	68.29	9
102 Min.	-450	-599.96	18	-12261.40	17	-1567.73	5	-94.16	1	-3890.27	1	-207.31	1	-2835.90	9	-68.89	1
102 Min.	-447	-599.96	18	-12261.40	17	-1567.73	5	-94.16	1	-3890.27	1	-207.31	1	-2835.90	9	-68.89	1
102 Min.	-474	-599.96	18	-12261.40	17	-1567.73	5	-94.16	1	-3890.27	1	-207.31	1	-2835.90	9	-68.89	1
102 Min.	-477	-599.96	18	-12261.40	17	-1567.73	5	-94.16	1	-3890.27	1	-207.31	1	-2835.90	9	-68.89	1
102 Max	-477	28.30	5	-2020.71	5	304.09	13	29.51	9	1296.18	9	241.28	9	2837.62	1	22.12	9
102 Max	-474	28.30	5	-2020.71	5	304.09	13	29.51	9	1296.18	9	241.28	9	2837.62	1	22.12	9
102 Max	107	28.30	5	-2020.71	5	304.09	13	29.51	9	1296.18	9	241.28	9	2837.62	1	22.12	9
102 Max	120	28.30	5	-2020.71	5	304.09	13	29.51	9	1296.18	9	241.28	9	2837.62	1	22.12	9
102 Min.	-477	-245.33	18	-12358.40	17	-4725.49	17	-29.40	1	-1296.68	1	-245.15	1				

Relazione di calcolo

102 Min.	-474	11.84	20	-13863.90	17	-856.51	17	-21.27	1	-3906.60	1	-164.06	1	-3417.81	9	-40.56	9
102 Max	-474	727.67	17	-1707.95	5	3192.38	17	6.02	9	1302.31	9	183.58	9	3501.77	1	13.86	1
102 Max	-471	727.67	17	-1707.95	5	3192.38	17	6.02	9	1302.31	9	183.58	9	3501.77	1	13.86	1
102 Max	-498	727.67	17	-1707.95	5	3192.38	17	6.02	9	1302.31	9	183.58	9	3501.77	1	13.86	1
102 Max	107	727.67	17	-1707.95	5	3192.38	17	6.02	9	1302.31	9	183.58	9	3501.77	1	13.86	1
102 Min.	-474	103.46	20	-10809.20	17	27.98	5	-6.00	1	-1302.82	1	-185.76	1	-3493.66	9	-13.91	9
102 Min.	-471	103.46	20	-10809.20	17	27.98	5	-6.00	1	-1302.82	1	-185.76	1	-3493.66	9	-13.91	9
102 Min.	-498	103.46	20	-10809.20	17	27.98	5	-6.00	1	-1302.82	1	-185.76	1	-3493.66	9	-13.91	9
102 Min.	107	103.46	20	-10809.20	17	27.98	5	-6.00	1	-1302.82	1	-185.76	1	-3493.66	9	-13.91	9
102 Max	-441	-188.10	13	-3228.96	5	469.09	5	52.96	1	6587.52	1	152.18	9	3449.70	9	47.83	1
102 Max	-438	-188.10	13	-3228.96	5	469.09	5	52.96	1	6587.52	1	152.18	9	3449.70	9	47.83	1
102 Max	-465	-188.10	13	-3228.96	5	469.09	5	52.96	1	6587.52	1	152.18	9	3449.70	9	47.83	1
102 Max	-468	-188.10	13	-3228.96	5	469.09	5	52.96	1	6587.52	1	152.18	9	3449.70	9	47.83	1
102 Min.	-441	-15205.10	18	-16428.70	17	-1044.32	18	-52.79	9	-6586.20	9	-152.29	1	-3451.24	1	-47.57	9
102 Min.	-438	-15205.10	18	-16428.70	17	-1044.32	18	-52.79	9	-6586.20	9	-152.29	1	-3451.24	1	-47.57	9
102 Min.	-465	-15205.10	18	-16428.70	17	-1044.32	18	-52.79	9	-6586.20	9	-152.29	1	-3451.24	1	-47.57	9
102 Min.	-468	-15205.10	18	-16428.70	17	-1044.32	18	-52.79	9	-6586.20	9	-152.29	1	-3451.24	1	-47.57	9
102 Max	-387	-85.06	13	-2108.90	5	4069.24	19	287.05	1	11916.20	1	32.38	9	2433.18	9	310.32	1
102 Max	-384	-85.06	13	-2108.90	5	4069.24	19	287.05	1	11916.20	1	32.38	9	2433.18	9	310.32	1
102 Max	-411	-85.06	13	-2108.90	5	4069.24	19	287.05	1	11916.20	1	32.38	9	2433.18	9	310.32	1
102 Max	-414	-85.06	13	-2108.90	5	4069.24	19	287.05	1	11916.20	1	32.38	9	2433.18	9	310.32	1
102 Min.	-387	-36551.70	18	-17463.40	17	2183.44	5	-286.88	9	-11912.40	9	-80.98	19	-2432.79	1	-310.03	9
102 Min.	-384	-36551.70	18	-17463.40	17	2183.44	5	-286.88	9	-11912.40	9	-80.98	19	-2432.79	1	-310.03	9
102 Min.	-411	-36551.70	18	-17463.40	17	2183.44	5	-286.88	9	-11912.40	9	-80.98	19	-2432.79	1	-310.03	9
102 Min.	-414	-36551.70	18	-17463.40	17	2183.44	5	-286.88	9	-11912.40	9	-80.98	19	-2432.79	1	-310.03	9
102 Max	-414	1015.79	17	-3763.90	5	497.84	5	26.06	1	9288.70	1	29.80	9	3222.93	9	202.24	1
102 Max	-411	1015.79	17	-3763.90	5	497.84	5	26.06	1	9288.70	1	29.80	9	3222.93	9	202.24	1
102 Max	-438	1015.79	17	-3763.90	5	497.84	5	26.06	1	9288.70	1	29.80	9	3222.93	9	202.24	1
102 Max	-441	1015.79	17	-3763.90	5	497.84	5	26.06	1	9288.70	1	29.80	9	3222.93	9	202.24	1
102 Min.	-414	-23423.10	18	-18945.40	17	-278.33	18	-25.89	9	-9286.16	9	-91.31	19	-3223.67	1	-201.87	9
102 Min.	-411	-23423.10	18	-18945.40	17	-278.33	18	-25.89	9	-9286.16	9	-91.31	19	-3223.67	1	-201.87	9
102 Min.	-438	-23423.10	18	-18945.40	17	-278.33	18	-25.89	9	-9286.16	9	-91.31	19	-3223.67	1	-201.87	9
102 Min.	-441	-23423.10	18	-18945.40	17	-278.33	18	-25.89	9	-9286.16	9	-91.31	19	-3223.67	1	-201.87	9
103 Max	-413	53.91	17	-3109.44	5	405.00	5	111.92	17	5859.08	1	137.59	17	4327.27	17	197.78	1
103 Max	-410	53.91	17	-3109.44	5	405.00	5	111.92	17	5859.08	1	137.59	17	4327.27	17	197.78	1
103 Max	-437	53.91	17	-3109.44	5	405.00	5	111.92	17	5859.08	1	137.59	17	4327.27	17	197.78	1
103 Max	-440	53.91	17	-3109.44	5	405.00	5	111.92	17	5859.08	1	137.59	17	4327.27	17	197.78	1
103 Min.	-413	-20664.30	19	-16803.30	17	-554.90	13	21.76	9	-881.69	9	31.40	1	69.21	1	-27.85	9
103 Min.	-410	-20664.30	19	-16803.30	17	-554.90	13	21.76	9	-881.69	9	31.40	1	69.21	1	-27.85	9
103 Min.	-437	-20664.30	19	-16803.30	17	-554.90	13	21.76	9	-881.69	9	31.40	1	69.21	1	-27.85	9
103 Min.	-440	-20664.30	19	-16803.30	17	-554.90	13	21.76	9	-881.69	9	31.40	1	69.21	1	-27.85	9
103 Max	-494	480.68	17	-1231.99	5	161.96	19	6.67	1	1058.03	1	-28.13	9	-987.06	9	-26.61	1
103 Max	-491	480.68	17	-1231.99	5	161.96	19	6.67	1	1058.03	1	-28.13	9	-987.06	9	-26.61	1
103 Max	179	480.68	17	-1231.99	5	161.96	19	6.67	1	1058.03	1	-28.13	9	-987.06	9	-26.61	1
103 Max	-500	480.68	17	-1231.99	5	161.96	19	6.67	1	1058.03	1	-28.13	9	-987.06	9	-26.61	1
103 Min.	-494	46.05	21	-7955.53	17	-2209.66	17	-15.15	17	97.38	9	-543.47	17	-8299.95	17	-360.07	17
103 Min.	-491	46.05	21	-7955.53	17	-2209.66	17	-15.15	17	97.38	9	-543.47	17	-8299.95	17	-360.07	17
103 Min.	179	46.05	21	-7955.53	17	-2209.66	17	-15.15	17	97.38	9	-543.47	17	-8299.95	17	-360.07	17
103 Min.	-500	46.05	21	-7955.53	17	-2209.66	17	-15.15	17	97.38	9	-543.47	17	-8299.95	17	-360.07	17
103 Max	-440	-46.69	5	-2366.87	5	464.56	5	109.74	17	6403.07	17	58.53	9	1267.11	9	431.45	17
103 Max	-437	-46.69	5	-2366.87	5	464.56	5	109.74	17	6403.07	17	58.53	9	1267.11	9	431.45	17
103 Max	-464	-46.69	5	-2366.87	5	464.56	5	109.74	17	6403.07	17	58.53	9	1267.11	9	431.45	17
103 Max	-467	-46.69	5	-2366.87	5	464.56	5	109.74	17	6403.07	17	58.53	9	1267.11	9	431.45	17
103 Min.	-440	-12594.10	19	-13469.50	17	-785.35	19	29.45	9	377.39	9	-72.83	1	-2381.09	1	97.19	9
103 Min.	-437	-12594.10	19	-13469.50	17	-785.35	19	29.45	9	377.39	9	-72.83	1	-2381.09	1	97.19	9
103 Min.	-464	-12594.10	19	-13469.50	17	-785.35	19	29.45	9	377.39	9	-72.83	1	-2381.09	1	97.19	9
103 Min.	-467	-12594.10	19	-13469.50	17	-785.35	19	29.45	9	377.39	9	-72.83	1	-2381.09	1	97.19	9
103 Max	-467	443.88	17	-1837.21	5	553.96	5	112.78	17	4585.45	17	44.20	9	-265.84	9	72.00	1
103 Max	-464	443.88	17	-1837.21	5	553.96	5	112.78	17	4585.45	17	44.20	9	-265.84	9	72.00	1
103 Max	-491	443.88	17	-1837.21	5	553.96	5	112.78	17	4585.45	17	44.20	9	-265.84	9	72.00	1
103 Max	-494	443.88	17	-1837.21	5	553.96	5	112.78	17	4585.45	17	44.20	9	-265.84	9	72.00	1
103 Min.	-467	-4147.13	19	-11131.40	17	-785.46	19	25.72	9	568.88	9	-133.60	1	-5574.98	17	-14.94	17
103 Min.	-464	-4147.13	19	-11131.40	17	-785.46	19	25.72	9	568.88	9	-133.60	1	-5574.98	17	-14.94	17
103 Min.	-491	-4147.13	19	-11131.40	17	-785.46	19	25.72	9	568.88	9	-133.60	1	-5574.98	17	-14.94	17
103 Min.	-494	-4147.13	19	-11131.40	17	-785.46	19	25.72	9	568.88	9	-133.60	1	-5574.98	17	-14.94	17
103 Max	-386	-10.05	5	-4055.37	5	339.82	5	101.46	17	5045.31	1	256.70	17	10523.00	17	246.35	17
103 Max	-383	-10.05	5	-4055.37	5	339.82	5	101.46	17	5045.31	1	256.70	17	10523.00	17	246.35	17
103 Max	-410	-10.05	5	-4055.37	5	339.82	5	101.46	17	5045.31	1	256.70	17	10523.00	17	246.35	17
103 Max	-413	-10.05	5	-4055.37	5	339.82	5	101.46	17	5045.31	1	256.70	17	10523.00	17	246.35	17
103 Min.	-386	-31113.60	19	-20914.00	17	-770.60	13	10.36	9	-3606.56	9	74.32	1	3254.96	1	103.37	9
103 Min.	-383	-31113.60	19	-20914.00	17	-770.60	13	10.36	9	-3606.56	9	74.32	1	3254.96	1	103.37	9
103 Min.	-410	-31113.60	19	-20914.00	17	-770.60	13	10.36	9	-3606.56	9	74.32	1	3254.96	1	103.37	9
103 Min.	-413	-31113.60	19	-20914.00	17	-770.60	13	10.36	9	-3606.56	9	74.32	1	3254.96	1	103.37	9
103 Max	-464	-3.66	17	-2235.28	5	1516.15	5	322.86	17	4616.63	17	42.01	9	-338.67	9	661.49	17
103 Max	-461	-3.66	17	-2235.28	5	1516.15	5	322.86	17	4616.63	17	42.01	9	-338.67	9	661.49	17
103 Max	-488	-3.66	17	-2235.28	5	1516.15	5	322.86	17								

Relazione di calcolo

103 Min.	-434	-10788.10	19	-13909.90	17	-2213.43	13	98.84	9	367.56	9	-61.88	19	-2040.90	1	8.56	1
103 Min.	-431	-10788.10	19	-13909.90	17	-2213.43	13	98.84	9	367.56	9	-61.88	19	-2040.90	1	8.56	1
103 Min.	-458	-10788.10	19	-13909.90	17	-2213.43	13	98.84	9	367.56	9	-61.88	19	-2040.90	1	8.56	1
103 Min.	-461	-10788.10	19	-13909.90	17	-2213.43	13	98.84	9	367.56	9	-61.88	19	-2040.90	1	8.56	1
103 Max	-461	-218.87	1	-3012.89	5	2297.80	5	402.32	17	4387.58	17	40.58	9	-382.44	9	51.51	9
103 Max	-458	-218.87	1	-3012.89	5	2297.80	5	402.32	17	4387.58	17	40.58	9	-382.44	9	51.51	9
103 Max	-485	-218.87	1	-3012.89	5	2297.80	5	402.32	17	4387.58	17	40.58	9	-382.44	9	51.51	9
103 Max	-488	-218.87	1	-3012.89	5	2297.80	5	402.32	17	4387.58	17	40.58	9	-382.44	9	51.51	9
103 Min.	-461	-5591.29	19	-11009.70	17	-2143.62	13	92.99	9	549.14	9	-95.84	19	-4601.78	17	-178.99	17
103 Min.	-458	-5591.29	19	-11009.70	17	-2143.62	13	92.99	9	549.14	9	-95.84	19	-4601.78	17	-178.99	17
103 Min.	-485	-5591.29	19	-11009.70	17	-2143.62	13	92.99	9	549.14	9	-95.84	19	-4601.78	17	-178.99	17
103 Min.	-488	-5591.29	19	-11009.70	17	-2143.62	13	92.99	9	549.14	9	-95.84	19	-4601.78	17	-178.99	17
103 Max	-488	-158.59	9	-890.86	5	2356.99	5	146.33	17	1605.22	17	38.34	9	-710.71	9	11.61	9
103 Max	-485	-158.59	9	-890.86	5	2356.99	5	146.33	17	1605.22	17	38.34	9	-710.71	9	11.61	9
103 Max	153	-158.59	9	-890.86	5	2356.99	5	146.33	17	1605.22	17	38.34	9	-710.71	9	11.61	9
103 Max	166	-158.59	9	-890.86	5	2356.99	5	146.33	17	1605.22	17	38.34	9	-710.71	9	11.61	9
103 Min.	-488	-1735.94	19	-3084.19	17	-2088.49	13	36.64	9	244.89	9	-116.86	19	-4605.21	17	-165.79	17
103 Min.	-485	-1735.94	19	-3084.19	17	-2088.49	13	36.64	9	244.89	9	-116.86	19	-4605.21	17	-165.79	17
103 Min.	153	-1735.94	19	-3084.19	17	-2088.49	13	36.64	9	244.89	9	-116.86	19	-4605.21	17	-165.79	17
103 Min.	166	-1735.94	19	-3084.19	17	-2088.49	13	36.64	9	244.89	9	-116.86	19	-4605.21	17	-165.79	17
103 Max	-377	-658.59	5	-8006.62	21	10688.90	19	466.13	1	4983.64	1	29.79	9	9300.73	17	64.75	9
103 Max	-374	-658.59	5	-8006.62	21	10688.90	19	466.13	1	4983.64	1	29.79	9	9300.73	17	64.75	9
103 Max	-401	-658.59	5	-8006.62	21	10688.90	19	466.13	1	4983.64	1	29.79	9	9300.73	17	64.75	9
103 Max	-404	-658.59	5	-8006.62	21	10688.90	19	466.13	1	4983.64	1	29.79	9	9300.73	17	64.75	9
103 Min.	-377	-10776.60	19	-18938.30	17	-2153.84	13	-301.31	9	-3499.50	9	-43.99	19	2449.39	1	-67.64	1
103 Min.	-374	-10776.60	19	-18938.30	17	-2153.84	13	-301.31	9	-3499.50	9	-43.99	19	2449.39	1	-67.64	1
103 Min.	-401	-10776.60	19	-18938.30	17	-2153.84	13	-301.31	9	-3499.50	9	-43.99	19	2449.39	1	-67.64	1
103 Min.	-404	-10776.60	19	-18938.30	17	-2153.84	13	-301.31	9	-3499.50	9	-43.99	19	2449.39	1	-67.64	1
103 Max	-404	-481.67	5	-6095.39	21	6500.71	19	512.04	17	5720.80	1	27.09	9	3588.32	17	53.03	9
103 Max	-401	-481.67	5	-6095.39	21	6500.71	19	512.04	17	5720.80	1	27.09	9	3588.32	17	53.03	9
103 Max	-428	-481.67	5	-6095.39	21	6500.71	19	512.04	17	5720.80	1	27.09	9	3588.32	17	53.03	9
103 Max	-431	-481.67	5	-6095.39	21	6500.71	19	512.04	17	5720.80	1	27.09	9	3588.32	17	53.03	9
103 Min.	-404	-11137.10	19	-16618.40	17	-2456.30	13	-27.67	9	-839.00	9	-54.53	19	-141.09	1	-27.33	1
103 Min.	-401	-11137.10	19	-16618.40	17	-2456.30	13	-27.67	9	-839.00	9	-54.53	19	-141.09	1	-27.33	1
103 Min.	-428	-11137.10	19	-16618.40	17	-2456.30	13	-27.67	9	-839.00	9	-54.53	19	-141.09	1	-27.33	1
103 Min.	-431	-11137.10	19	-16618.40	17	-2456.30	13	-27.67	9	-839.00	9	-54.53	19	-141.09	1	-27.33	1
103 Max	-431	-297.31	1	-4909.15	21	2911.27	19	551.30	17	6255.35	17	18.25	9	950.89	9	247.95	17
103 Max	-428	-297.31	1	-4909.15	21	2911.27	19	551.30	17	6255.35	17	18.25	9	950.89	9	247.95	17
103 Max	-455	-297.31	1	-4909.15	21	2911.27	19	551.30	17	6255.35	17	18.25	9	950.89	9	247.95	17
103 Max	-458	-297.31	1	-4909.15	21	2911.27	19	551.30	17	6255.35	17	18.25	9	950.89	9	247.95	17
103 Min.	-431	-8575.04	19	-14251.50	17	-2523.65	13	92.32	9	374.99	9	-70.53	19	-2042.87	1	20.24	1
103 Min.	-428	-8575.04	19	-14251.50	17	-2523.65	13	92.32	9	374.99	9	-70.53	19	-2042.87	1	20.24	1
103 Min.	-455	-8575.04	19	-14251.50	17	-2523.65	13	92.32	9	374.99	9	-70.53	19	-2042.87	1	20.24	1
103 Min.	-458	-8575.04	19	-14251.50	17	-2523.65	13	92.32	9	374.99	9	-70.53	19	-2042.87	1	20.24	1
103 Max	-458	422.66	17	-3702.80	21	2699.62	5	335.06	17	4527.91	17	111.90	17	-396.71	9	-83.38	9
103 Max	-455	422.66	17	-3702.80	21	2699.62	5	335.06	17	4527.91	17	111.90	17	-396.71	9	-83.38	9
103 Max	-482	422.66	17	-3702.80	21	2699.62	5	335.06	17	4527.91	17	111.90	17	-396.71	9	-83.38	9
103 Max	-485	422.66	17	-3702.80	21	2699.62	5	335.06	17	4527.91	17	111.90	17	-396.71	9	-83.38	9
103 Min.	-458	-4813.33	19	-11922.80	17	-2565.62	13	88.62	9	571.67	9	-64.52	19	-4818.23	17	-960.21	17
103 Min.	-455	-4813.33	19	-11922.80	17	-2565.62	13	88.62	9	571.67	9	-64.52	19	-4818.23	17	-960.21	17
103 Min.	-482	-4813.33	19	-11922.80	17	-2565.62	13	88.62	9	571.67	9	-64.52	19	-4818.23	17	-960.21	17
103 Min.	-485	-4813.33	19	-11922.80	17	-2565.62	13	88.62	9	571.67	9	-64.52	19	-4818.23	17	-960.21	17
103 Max	-383	-137.12	5	-4576.44	21	8301.46	19	252.81	1	4996.77	1	174.01	17	9182.55	17	381.04	9
103 Max	-380	-137.12	5	-4576.44	21	8301.46	19	252.81	1	4996.77	1	174.01	17	9182.55	17	381.04	9
103 Max	-407	-137.12	5	-4576.44	21	8301.46	19	252.81	1	4996.77	1	174.01	17	9182.55	17	381.04	9
103 Max	-410	-137.12	5	-4576.44	21	8301.46	19	252.81	1	4996.77	1	174.01	17	9182.55	17	381.04	9
103 Min.	-383	-22856.50	19	-20364.90	17	-2628.63	13	-132.57	9	-3587.77	9	-12.67	1	2514.32	1	-70.01	1
103 Min.	-380	-22856.50	19	-20364.90	17	-2628.63	13	-132.57	9	-3587.77	9	-12.67	1	2514.32	1	-70.01	1
103 Min.	-407	-22856.50	19	-20364.90	17	-2628.63	13	-132.57	9	-3587.77	9	-12.67	1	2514.32	1	-70.01	1
103 Min.	-410	-22856.50	19	-20364.90	17	-2628.63	13	-132.57	9	-3587.77	9	-12.67	1	2514.32	1	-70.01	1
103 Max	-410	-99.51	5	-4497.24	5	1284.32	5	323.05	17	5811.90	1	136.98	17	3565.98	17	224.57	17
103 Max	-407	-99.51	5	-4497.24	5	1284.32	5	323.05	17	5811.90	1	136.98	17	3565.98	17	224.57	17
103 Max	-434	-99.51	5	-4497.24	5	1284.32	5	323.05	17	5811.90	1	136.98	17	3565.98	17	224.57	17
103 Max	-437	-99.51	5	-4497.24	5	1284.32	5	323.05	17	5811.90	1	136.98	17	3565.98	17	224.57	17
103 Min.	-410	-19853.80	19	-16972.10	17	-1669.10	13	34.07	9	-874.13	9	16.13	21	-83.59	1	-10.46	1
103 Min.	-407	-19853.80	19	-16972.10	17	-1669.10	13	34.07	9	-874.13	9	16.13	21	-83.59	1	-10.46	1
103 Min.	-434	-19853.80	19	-16972.10	17	-1669.10	13	34.07	9	-874.13	9	16.13	21	-83.59	1	-10.46	1
103 Min.	-437	-19853.80	19	-16972.10	17	-1669.10	13	34.07	9	-874.13	9	16.13	21	-83.59	1	-10.46	1
103 Max	-437	-113.28	5	-3373.72	5	1422.00	5	346.87	17	6310.95	17	66.26	9	925.90	9	174.52	9
103 Max	-434	-113.28	5	-3373.72	5	1422.00	5	346.87	17	6310.95	17	66.26	9	925.90	9	174.52	9
103 Max	-461	-113.28	5	-3373.72	5	1422.00	5	346.87	17	6310.95	17	66.26	9	925.90	9	174.52	9
103 Max	-464	-113.28	5	-3373.72	5	1422.00	5	346.87	17	6310.95	17	66.26	9	925.90	9	174.52	9
103 Min.	-437	-11909.00	19	-13785.60	17	-1403.45	13	73.33	9	369.51	9	-69.47	19	-2008.68	1	41.45	1
103 Min.	-434	-11909.00	19	-13785.60	17	-1403.45	13	73.33	9	369.51	9	-69.47	19	-2008.68	1	41.45	1
103 Min.	-461	-11909.00	19	-13785.60	17	-1403.45	13	73.33	9	369.51	9	-69.47	19	-2008.68</			

Relazione di calcolo

103 Max	-118	-908.02	13	-11195.90	13	11240.20	19	273.21	1	2509.65	1	-21.38	9	15705.70	17	84.48	18
103 Max	-371	-908.02	13	-11195.90	13	11240.20	19	273.21	1	2509.65	1	-21.38	9	15705.70	17	84.48	18
103 Max	-374	-908.02	13	-11195.90	13	11240.20	19	273.21	1	2509.65	1	-21.38	9	15705.70	17	84.48	18
103 Min.	-146	-5549.34	19	-21583.50	17	-1644.21	13	-749.63	9	-8047.57	9	-147.42	19	5423.95	1	-25.43	17
103 Min.	-118	-5549.34	19	-21583.50	17	-1644.21	13	-749.63	9	-8047.57	9	-147.42	19	5423.95	1	-25.43	17
103 Min.	-371	-5549.34	19	-21583.50	17	-1644.21	13	-749.63	9	-8047.57	9	-147.42	19	5423.95	1	-25.43	17
103 Min.	-374	-5549.34	19	-21583.50	17	-1644.21	13	-749.63	9	-8047.57	9	-147.42	19	5423.95	1	-25.43	17
103 Max	-118	-549.89	13	-9997.07	13	10947.20	19	219.15	9	2460.85	9	148.54	18	15819.60	17	198.26	9
103 Max	-98	-549.89	13	-9997.07	13	10947.20	19	219.15	9	2460.85	9	148.54	18	15819.60	17	198.26	9
103 Max	-368	-549.89	13	-9997.07	13	10947.20	19	219.15	9	2460.85	9	148.54	18	15819.60	17	198.26	9
103 Max	-371	-549.89	13	-9997.07	13	10947.20	19	219.15	9	2460.85	9	148.54	18	15819.60	17	198.26	9
103 Min.	-118	-5931.57	19	-22165.80	17	-985.07	13	-753.55	1	-8067.40	1	50.07	1	5431.61	9	-271.17	1
103 Min.	-98	-5931.57	19	-22165.80	17	-985.07	13	-753.55	1	-8067.40	1	50.07	1	5431.61	9	-271.17	1
103 Min.	-368	-5931.57	19	-22165.80	17	-985.07	13	-753.55	1	-8067.40	1	50.07	1	5431.61	9	-271.17	1
103 Min.	-371	-5931.57	19	-22165.80	17	-985.07	13	-753.55	1	-8067.40	1	50.07	1	5431.61	9	-271.17	1
103 Max	-98	-191.17	13	-7574.88	13	9259.14	19	100.48	9	2146.34	9	88.53	9	16233.60	17	674.69	9
103 Max	-66	-191.17	13	-7574.88	13	9259.14	19	100.48	9	2146.34	9	88.53	9	16233.60	17	674.69	9
103 Max	-365	-191.17	13	-7574.88	13	9259.14	19	100.48	9	2146.34	9	88.53	9	16233.60	17	674.69	9
103 Max	-368	-191.17	13	-7574.88	13	9259.14	19	100.48	9	2146.34	9	88.53	9	16233.60	17	674.69	9
103 Min.	-98	-5089.26	19	-26828.90	19	-1308.72	13	-634.61	1	-8164.15	1	-111.96	1	6079.62	9	-298.03	1
103 Min.	-66	-5089.26	19	-26828.90	19	-1308.72	13	-634.61	1	-8164.15	1	-111.96	1	6079.62	9	-298.03	1
103 Min.	-365	-5089.26	19	-26828.90	19	-1308.72	13	-634.61	1	-8164.15	1	-111.96	1	6079.62	9	-298.03	1
103 Min.	-368	-5089.26	19	-26828.90	19	-1308.72	13	-634.61	1	-8164.15	1	-111.96	1	6079.62	9	-298.03	1
103 Max	-66	-242.43	13	-5893.43	13	11427.40	19	53.76	9	2074.35	9	278.14	9	17399.40	17	632.25	9
103 Max	-49	-242.43	13	-5893.43	13	11427.40	19	53.76	9	2074.35	9	278.14	9	17399.40	17	632.25	9
103 Max	-362	-242.43	13	-5893.43	13	11427.40	19	53.76	9	2074.35	9	278.14	9	17399.40	17	632.25	9
103 Max	-365	-242.43	13	-5893.43	13	11427.40	19	53.76	9	2074.35	9	278.14	9	17399.40	17	632.25	9
103 Min.	-66	-4905.35	19	-47189.90	19	248.17	13	-314.35	1	-8391.39	1	-155.34	1	7238.14	9	-645.95	1
103 Min.	-49	-4905.35	19	-47189.90	19	248.17	13	-314.35	1	-8391.39	1	-155.34	1	7238.14	9	-645.95	1
103 Min.	-362	-4905.35	19	-47189.90	19	248.17	13	-314.35	1	-8391.39	1	-155.34	1	7238.14	9	-645.95	1
103 Min.	-365	-4905.35	19	-47189.90	19	248.17	13	-314.35	1	-8391.39	1	-155.34	1	7238.14	9	-645.95	1
103 Max	-395	-35.15	13	-4895.24	13	4583.41	19	311.16	17	5799.52	9	-48.76	13	3575.55	17	-17.53	9
103 Max	-392	-35.15	13	-4895.24	13	4583.41	19	311.16	17	5799.52	9	-48.76	13	3575.55	17	-17.53	9
103 Max	-419	-35.15	13	-4895.24	13	4583.41	19	311.16	17	5799.52	9	-48.76	13	3575.55	17	-17.53	9
103 Max	-422	-35.15	13	-4895.24	13	4583.41	19	311.16	17	5799.52	9	-48.76	13	3575.55	17	-17.53	9
103 Min.	-395	-1516.25	19	-17716.60	17	-1191.62	13	25.85	1	-887.35	1	-163.87	19	-82.20	9	-276.17	17
103 Min.	-392	-1516.25	19	-17716.60	17	-1191.62	13	25.85	1	-887.35	1	-163.87	19	-82.20	9	-276.17	17
103 Min.	-419	-1516.25	19	-17716.60	17	-1191.62	13	25.85	1	-887.35	1	-163.87	19	-82.20	9	-276.17	17
103 Min.	-422	-1516.25	19	-17716.60	17	-1191.62	13	25.85	1	-887.35	1	-163.87	19	-82.20	9	-276.17	17
103 Max	-422	-105.65	13	-3661.40	13	2258.47	19	344.28	17	6297.22	17	59.72	9	940.07	1	-38.35	9
103 Max	-419	-105.65	13	-3661.40	13	2258.47	19	344.28	17	6297.22	17	59.72	9	940.07	1	-38.35	9
103 Max	-446	-105.65	13	-3661.40	13	2258.47	19	344.28	17	6297.22	17	59.72	9	940.07	1	-38.35	9
103 Max	-449	-105.65	13	-3661.40	13	2258.47	19	344.28	17	6297.22	17	59.72	9	940.07	1	-38.35	9
103 Min.	-422	-1317.36	19	-14299.10	17	-1296.99	13	70.77	1	360.83	1	-81.48	19	-1997.12	9	-169.99	1
103 Min.	-419	-1317.36	19	-14299.10	17	-1296.99	13	70.77	1	360.83	1	-81.48	19	-1997.12	9	-169.99	1
103 Min.	-446	-1317.36	19	-14299.10	17	-1296.99	13	70.77	1	360.83	1	-81.48	19	-1997.12	9	-169.99	1
103 Min.	-449	-1317.36	19	-14299.10	17	-1296.99	13	70.77	1	360.83	1	-81.48	19	-1997.12	9	-169.99	1
103 Max	-449	-1.57	17	-2413.01	13	1442.88	5	320.76	17	4611.74	17	172.01	17	-332.30	1	-126.90	9
103 Max	-446	-1.57	17	-2413.01	13	1442.88	5	320.76	17	4611.74	17	172.01	17	-332.30	1	-126.90	9
103 Max	-473	-1.57	17	-2413.01	13	1442.88	5	320.76	17	4611.74	17	172.01	17	-332.30	1	-126.90	9
103 Max	-476	-1.57	17	-2413.01	13	1442.88	5	320.76	17	4611.74	17	172.01	17	-332.30	1	-126.90	9
103 Min.	-449	-709.20	19	-10257.40	17	-1375.56	13	68.39	1	570.85	1	-51.21	1	-4224.13	17	-662.89	17
103 Min.	-446	-709.20	19	-10257.40	17	-1375.56	13	68.39	1	570.85	1	-51.21	1	-4224.13	17	-662.89	17
103 Min.	-473	-709.20	19	-10257.40	17	-1375.56	13	68.39	1	570.85	1	-51.21	1	-4224.13	17	-662.89	17
103 Min.	-476	-709.20	19	-10257.40	17	-1375.56	13	68.39	1	570.85	1	-51.21	1	-4224.13	17	-662.89	17
103 Max	-476	-7.22	1	-1589.96	13	971.38	5	63.27	17	1061.46	9	121.84	9	-1141.14	1	-110.36	9
103 Max	-473	-7.22	1	-1589.96	13	971.38	5	63.27	17	1061.46	9	121.84	9	-1141.14	1	-110.36	9
103 Max	101	-7.22	1	-1589.96	13	971.38	5	63.27	17	1061.46	9	121.84	9	-1141.14	1	-110.36	9
103 Max	114	-7.22	1	-1589.96	13	971.38	5	63.27	17	1061.46	9	121.84	9	-1141.14	1	-110.36	9
103 Min.	-476	-237.64	19	-9088.71	17	-2953.18	17	17.53	1	107.61	1	-183.65	17	-7911.92	17	-660.50	17
103 Min.	-473	-237.64	19	-9088.71	17	-2953.18	17	17.53	1	107.61	1	-183.65	17	-7911.92	17	-660.50	17
103 Min.	101	-237.64	19	-9088.71	17	-2953.18	17	17.53	1	107.61	1	-183.65	17	-7911.92	17	-660.50	17
103 Min.	114	-237.64	19	-9088.71	17	-2953.18	17	17.53	1	107.61	1	-183.65	17	-7911.92	17	-660.50	17
103 Max	-365	-69.28	13	-4533.58	13	2596.05	19	74.24	9	4990.27	9	-72.54	9	10548.90	17	-29.93	1
103 Max	-362	-69.28	13	-4533.58	13	2596.05	19	74.24	9	4990.27	9	-72.54	9	10548.90	17	-29.93	1
103 Max	-389	-69.28	13	-4533.58	13	2596.05	19	74.24	9	4990.27	9	-72.54	9	10548.90	17	-29.93	1
103 Max	-392	-69.28	13	-4533.58	13	2596.05	19	74.24	9	4990.27	9	-72.54	9	10548.90	17	-29.93	1
103 Min.	-365	-703.47	19	-26960.70	19	-402.55	13	-2.34	1	-3656.79	1	-252.56	17	3297.99	9	-137.79	17
103 Min.	-362	-703.47	19	-26960.70	19	-402.55	13	-2.34	1	-3656.79	1	-252.56	17	3297.99	9	-137.79	17
103 Min.	-389	-703.47	19	-26960.70	19	-402.55	13	-2.34	1	-3656.79	1	-252.56	17	3297.99	9	-137.79	17
103 Min.	-392	-703.47	19	-26960.70	19	-402.55	13	-2.34	1	-3656.79	1	-252.56	17	3297.99	9	-137.79	17
103 Max	-392	102.05	17	-3593.73	13	1488.97	19	112.79	17	5842.41	9	-31.88	9	4390.54	17	24.96	1
103 Max	-389	102.05	17	-3593.73	13	1488.97	19	112.79	17	5842.41	9	-31.88	9	4390.54	17	24.96	1
103 Max	-416	102.05	17	-3593.73	13	1488.97	19	112.79	17	5842.41	9	-31.88	9	4390.54	17	24.96	1
103 Max	-419	102.05	17	-3593.73	13	1488.97	19	112.79									

Relazione di calcolo

103 Min.	-479	-3444.58	19	-11985.40	17	-2421.16	13	88.08	1	570.69	1	-129.33	17	-4815.10	17	79.87	1
103 Min.	-482	-3444.58	19	-11985.40	17	-2421.16	13	88.08	1	570.69	1	-129.33	17	-4815.10	17	79.87	1
103 Max	-482	-40.40	9	-2169.93	13	5245.05	17	73.92	9	1014.30	9	578.36	17	-1247.83	1	1223.66	17
103 Max	-479	-40.40	9	-2169.93	13	5245.05	17	73.92	9	1014.30	9	578.36	17	-1247.83	1	1223.66	17
103 Max	127	-40.40	9	-2169.93	13	5245.05	17	73.92	9	1014.30	9	578.36	17	-1247.83	1	1223.66	17
103 Max	140	-40.40	9	-2169.93	13	5245.05	17	73.92	9	1014.30	9	578.36	17	-1247.83	1	1223.66	17
103 Min.	-482	-1175.72	19	-12284.80	17	-1959.19	13	-52.39	17	68.32	17	10.18	21	-9256.73	17	125.47	1
103 Min.	-479	-1175.72	19	-12284.80	17	-1959.19	13	-52.39	17	68.32	17	10.18	21	-9256.73	17	125.47	1
103 Min.	127	-1175.72	19	-12284.80	17	-1959.19	13	-52.39	17	68.32	17	10.18	21	-9256.73	17	125.47	1
103 Min.	140	-1175.72	19	-12284.80	17	-1959.19	13	-52.39	17	68.32	17	10.18	21	-9256.73	17	125.47	1
103 Max	-371	-279.42	13	-7968.99	13	9615.37	19	405.65	9	4948.54	9	35.67	9	9206.07	17	-8.51	9
103 Max	-368	-279.42	13	-7968.99	13	9615.37	19	405.65	9	4948.54	9	35.67	9	9206.07	17	-8.51	9
103 Max	-395	-279.42	13	-7968.99	13	9615.37	19	405.65	9	4948.54	9	35.67	9	9206.07	17	-8.51	9
103 Max	-398	-279.42	13	-7968.99	13	9615.37	19	405.65	9	4948.54	9	35.67	9	9206.07	17	-8.51	9
103 Min.	-371	-6049.94	19	-19571.40	17	-1590.51	13	-264.67	1	-3537.38	1	-99.21	19	2442.52	9	-412.19	19
103 Min.	-368	-6049.94	19	-19571.40	17	-1590.51	13	-264.67	1	-3537.38	1	-99.21	19	2442.52	9	-412.19	19
103 Min.	-395	-6049.94	19	-19571.40	17	-1590.51	13	-264.67	1	-3537.38	1	-99.21	19	2442.52	9	-412.19	19
103 Min.	-398	-6049.94	19	-19571.40	17	-1590.51	13	-264.67	1	-3537.38	1	-99.21	19	2442.52	9	-412.19	19
103 Max	-398	-255.34	13	-6330.94	13	6925.25	19	457.82	17	5734.11	9	7.49	9	3637.37	17	40.10	9
103 Max	-395	-255.34	13	-6330.94	13	6925.25	19	457.82	17	5734.11	9	7.49	9	3637.37	17	40.10	9
103 Max	-422	-255.34	13	-6330.94	13	6925.25	19	457.82	17	5734.11	9	7.49	9	3637.37	17	40.10	9
103 Max	-425	-255.34	13	-6330.94	13	6925.25	19	457.82	17	5734.11	9	7.49	9	3637.37	17	40.10	9
103 Min.	-398	-4862.22	19	-17284.10	17	-1829.27	13	-2.98	1	-869.60	1	-103.37	19	-90.39	9	-124.29	1
103 Min.	-395	-4862.22	19	-17284.10	17	-1829.27	13	-2.98	1	-869.60	1	-103.37	19	-90.39	9	-124.29	1
103 Min.	-422	-4862.22	19	-17284.10	17	-1829.27	13	-2.98	1	-869.60	1	-103.37	19	-90.39	9	-124.29	1
103 Min.	-425	-4862.22	19	-17284.10	17	-1829.27	13	-2.98	1	-869.60	1	-103.37	19	-90.39	9	-124.29	1
103 Max	-425	-135.29	13	-4702.91	13	3623.04	19	537.67	17	6243.29	17	22.31	9	933.05	1	-20.58	9
103 Max	-422	-135.29	13	-4702.91	13	3623.04	19	537.67	17	6243.29	17	22.31	9	933.05	1	-20.58	9
103 Max	-449	-135.29	13	-4702.91	13	3623.04	19	537.67	17	6243.29	17	22.31	9	933.05	1	-20.58	9
103 Max	-452	-135.29	13	-4702.91	13	3623.04	19	537.67	17	6243.29	17	22.31	9	933.05	1	-20.58	9
103 Min.	-425	-3253.34	19	-14235.20	17	-2003.85	13	95.45	1	362.85	1	-88.08	19	-2034.21	9	-114.04	1
103 Min.	-422	-3253.34	19	-14235.20	17	-2003.85	13	95.45	1	362.85	1	-88.08	19	-2034.21	9	-114.04	1
103 Min.	-449	-3253.34	19	-14235.20	17	-2003.85	13	95.45	1	362.85	1	-88.08	19	-2034.21	9	-114.04	1
103 Min.	-452	-3253.34	19	-14235.20	17	-2003.85	13	95.45	1	362.85	1	-88.08	19	-2034.21	9	-114.04	1
103 Max	-452	-213.92	9	-3126.65	13	2390.37	5	399.69	17	4384.55	17	61.62	9	-378.05	1	173.98	17
103 Max	-449	-213.92	9	-3126.65	13	2390.37	5	399.69	17	4384.55	17	61.62	9	-378.05	1	173.98	17
103 Max	-476	-213.92	9	-3126.65	13	2390.37	5	399.69	17	4384.55	17	61.62	9	-378.05	1	173.98	17
103 Max	-479	-213.92	9	-3126.65	13	2390.37	5	399.69	17	4384.55	17	61.62	9	-378.05	1	173.98	17
103 Min.	-452	-2201.02	19	-11200.10	17	-2071.33	13	90.95	1	547.13	1	-65.62	19	-4595.44	17	-54.25	1
103 Min.	-449	-2201.02	19	-11200.10	17	-2071.33	13	90.95	1	547.13	1	-65.62	19	-4595.44	17	-54.25	1
103 Min.	-476	-2201.02	19	-11200.10	17	-2071.33	13	90.95	1	547.13	1	-65.62	19	-4595.44	17	-54.25	1
103 Min.	-479	-2201.02	19	-11200.10	17	-2071.33	13	90.95	1	547.13	1	-65.62	19	-4595.44	17	-54.25	1
103 Max	-479	-157.10	9	-927.66	13	2329.44	5	145.63	17	1604.37	17	85.06	9	-707.75	1	164.87	17
103 Max	-476	-157.10	9	-927.66	13	2329.44	5	145.63	17	1604.37	17	85.06	9	-707.75	1	164.87	17
103 Max	114	-157.10	9	-927.66	13	2329.44	5	145.63	17	1604.37	17	85.06	9	-707.75	1	164.87	17
103 Max	127	-157.10	9	-927.66	13	2329.44	5	145.63	17	1604.37	17	85.06	9	-707.75	1	164.87	17
103 Min.	-479	-1103.24	17	-3146.56	17	-2123.71	13	36.09	1	244.32	1	-49.54	1	-4600.81	17	-12.07	1
103 Min.	-476	-1103.24	17	-3146.56	17	-2123.71	13	36.09	1	244.32	1	-49.54	1	-4600.81	17	-12.07	1
103 Min.	114	-1103.24	17	-3146.56	17	-2123.71	13	36.09	1	244.32	1	-49.54	1	-4600.81	17	-12.07	1
103 Min.	127	-1103.24	17	-3146.56	17	-2123.71	13	36.09	1	244.32	1	-49.54	1	-4600.81	17	-12.07	1
103 Max	-368	-179.61	13	-6310.49	13	8729.39	19	244.80	9	4976.23	9	33.52	9	9306.84	17	98.74	9
103 Max	-365	-179.61	13	-6310.49	13	8729.39	19	244.80	9	4976.23	9	33.52	9	9306.84	17	98.74	9
103 Max	-392	-179.61	13	-6310.49	13	8729.39	19	244.80	9	4976.23	9	33.52	9	9306.84	17	98.74	9
103 Max	-395	-179.61	13	-6310.49	13	8729.39	19	244.80	9	4976.23	9	33.52	9	9306.84	17	98.74	9
103 Min.	-368	-4253.24	19	-24156.50	19	-988.80	13	-147.74	1	-3618.47	1	-150.28	1	2580.24	9	-367.24	1
103 Min.	-365	-4253.24	19	-24156.50	19	-988.80	13	-147.74	1	-3618.47	1	-150.28	1	2580.24	9	-367.24	1
103 Min.	-392	-4253.24	19	-24156.50	19	-988.80	13	-147.74	1	-3618.47	1	-150.28	1	2580.24	9	-367.24	1
103 Min.	-395	-4253.24	19	-24156.50	19	-988.80	13	-147.74	1	-3618.47	1	-150.28	1	2580.24	9	-367.24	1
103 Max	-374	-636.28	13	-9486.01	13	10212.10	19	465.44	1	4957.41	9	33.11	9	9279.28	17	207.71	18
103 Max	-371	-636.28	13	-9486.01	13	10212.10	19	465.44	1	4957.41	9	33.11	9	9279.28	17	207.71	18
103 Max	-398	-636.28	13	-9486.01	13	10212.10	19	465.44	1	4957.41	9	33.11	9	9279.28	17	207.71	18
103 Max	-401	-636.28	13	-9486.01	13	10212.10	19	465.44	1	4957.41	9	33.11	9	9279.28	17	207.71	18
103 Min.	-374	-7997.76	19	-19206.40	17	-1888.29	13	-317.16	9	-3519.78	1	-23.34	19	2427.67	1	76.79	1
103 Min.	-371	-7997.76	19	-19206.40	17	-1888.29	13	-317.16	9	-3519.78	1	-23.34	19	2427.67	1	76.79	1
103 Min.	-398	-7997.76	19	-19206.40	17	-1888.29	13	-317.16	9	-3519.78	1	-23.34	19	2427.67	1	76.79	1
103 Min.	-401	-7997.76	19	-19206.40	17	-1888.29	13	-317.16	9	-3519.78	1	-23.34	19	2427.67	1	76.79	1
103 Max	-401	-444.20	13	-7595.13	13	7159.85	19	520.49	17	5713.92	9	16.88	9	3620.61	17	-12.33	9
103 Max	-398	-444.20	13	-7595.13	13	7159.85	19	520.49	17	5713.92	9	16.88	9	3620.61	17	-12.33	9
103 Max	-425	-444.20	13	-7595.13	13	7159.85	19	520.49	17	5713.92	9	16.88	9	3620.61	17	-12.33	9
103 Max	-428	-444.20	13	-7595.13	13	7159.85	19	520.49	17	5713.92	9	16.88	9	3620.61	17	-12.33	9
103 Min.	-401	-7811.96	19	-16756.50	17	-2235.77	13	-24.06	1	-845.33	1	-70.32	19	-119.83	9	-115.17	19
103 Min.	-398	-7811.96	19	-16756.50	17	-2235.77	13	-24.06	1	-845.33	1	-70.32	19	-119.83	9	-115.17	19
103 Min.	-425	-7811.96	19	-16756.50	17	-2235.77	13	-24.06	1	-845.33	1	-70.32	19	-119.83	9	-115.17	19
103 Min.	-428	-7811.96	19	-16756.50	17	-2235.77	13	-24.06	1	-845.33	1	-70.32	19	-119.83	9	-115.17	19
103 Max	-485	-39.29	9	-2156.11	5	2238.31	5	74.08	1	1014.41	1	-40.01					

Relazione di calcolo

104 Max	-442	53.91	17	-3106.29	13	405.28	13	-21.75	1	882.65	1	-31.39	9	-69.62	9	27.88	1
104 Min.	-415	-17449.60	18	-16800.90	17	-554.87	5	-111.91	17	-5858.12	9	-137.58	17	-4327.81	17	-197.74	9
104 Min.	-412	-17449.60	18	-16800.90	17	-554.87	5	-111.91	17	-5858.12	9	-137.58	17	-4327.81	17	-197.74	9
104 Min.	-439	-17449.60	18	-16800.90	17	-554.87	5	-111.91	17	-5858.12	9	-137.58	17	-4327.81	17	-197.74	9
104 Min.	-442	-17449.60	18	-16800.90	17	-554.87	5	-111.91	17	-5858.12	9	-137.58	17	-4327.81	17	-197.74	9
104 Max	-442	-46.69	13	-2366.41	13	464.83	13	-29.44	1	-376.70	1	72.83	9	2380.63	9	-97.18	1
104 Max	-439	-46.69	13	-2366.41	13	464.83	13	-29.44	1	-376.70	1	72.83	9	2380.63	9	-97.18	1
104 Max	-466	-46.69	13	-2366.41	13	464.83	13	-29.44	1	-376.70	1	72.83	9	2380.63	9	-97.18	1
104 Max	-469	-46.69	13	-2366.41	13	464.83	13	-29.44	1	-376.70	1	72.83	9	2380.63	9	-97.18	1
104 Min.	-442	-10644.50	18	-13467.90	17	-603.46	18	-109.74	17	-6402.16	17	-58.54	1	-1267.55	1	-431.44	17
104 Min.	-439	-10644.50	18	-13467.90	17	-603.46	18	-109.74	17	-6402.16	17	-58.54	1	-1267.55	1	-431.44	17
104 Min.	-466	-10644.50	18	-13467.90	17	-603.46	18	-109.74	17	-6402.16	17	-58.54	1	-1267.55	1	-431.44	17
104 Min.	-469	-10644.50	18	-13467.90	17	-603.46	18	-109.74	17	-6402.16	17	-58.54	1	-1267.55	1	-431.44	17
104 Max	-469	443.88	17	-1837.04	13	553.99	13	-25.72	1	-568.46	1	133.59	9	5574.35	17	14.95	17
104 Max	-466	443.88	17	-1837.04	13	553.99	13	-25.72	1	-568.46	1	133.59	9	5574.35	17	14.95	17
104 Max	-493	443.88	17	-1837.04	13	553.99	13	-25.72	1	-568.46	1	133.59	9	5574.35	17	14.95	17
104 Max	-496	443.88	17	-1837.04	13	553.99	13	-25.72	1	-568.46	1	133.59	9	5574.35	17	14.95	17
104 Min.	-469	-3491.07	18	-11130.40	17	-582.30	18	-112.78	17	-4584.90	17	-44.21	1	265.38	1	-71.99	9
104 Min.	-466	-3491.07	18	-11130.40	17	-582.30	18	-112.78	17	-4584.90	17	-44.21	1	265.38	1	-71.99	9
104 Min.	-493	-3491.07	18	-11130.40	17	-582.30	18	-112.78	17	-4584.90	17	-44.21	1	265.38	1	-71.99	9
104 Min.	-496	-3491.07	18	-11130.40	17	-582.30	18	-112.78	17	-4584.90	17	-44.21	1	265.38	1	-71.99	9
104 Max	-496	480.68	17	-1231.93	13	154.26	13	15.15	17	-97.24	1	543.45	17	8299.30	17	360.08	17
104 Max	-493	480.68	17	-1231.93	13	154.26	13	15.15	17	-97.24	1	543.45	17	8299.30	17	360.08	17
104 Max	191	480.68	17	-1231.93	13	154.26	13	15.15	17	-97.24	1	543.45	17	8299.30	17	360.08	17
104 Max	-502	480.68	17	-1231.93	13	154.26	13	15.15	17	-97.24	1	543.45	17	8299.30	17	360.08	17
104 Min.	-496	46.92	20	-7955.20	17	-2209.47	17	-6.67	9	-1057.89	9	28.12	1	986.58	1	26.62	9
104 Min.	-493	46.92	20	-7955.20	17	-2209.47	17	-6.67	9	-1057.89	9	28.12	1	986.58	1	26.62	9
104 Min.	191	46.92	20	-7955.20	17	-2209.47	17	-6.67	9	-1057.89	9	28.12	1	986.58	1	26.62	9
104 Min.	-502	46.92	20	-7955.20	17	-2209.47	17	-6.67	9	-1057.89	9	28.12	1	986.58	1	26.62	9
104 Max	-385	-136.80	13	-5130.62	20	7089.47	18	132.62	1	3588.99	1	12.70	9	-2514.74	9	70.07	9
104 Max	-382	-136.80	13	-5130.62	20	7089.47	18	132.62	1	3588.99	1	12.70	9	-2514.74	9	70.07	9
104 Max	-409	-136.80	13	-5130.62	20	7089.47	18	132.62	1	3588.99	1	12.70	9	-2514.74	9	70.07	9
104 Max	-412	-136.80	13	-5130.62	20	7089.47	18	132.62	1	3588.99	1	12.70	9	-2514.74	9	70.07	9
104 Min.	-385	-19376.60	18	-20362.60	17	-2628.52	5	-252.75	9	-4995.54	9	-176.40	19	-9183.11	17	-380.97	1
104 Min.	-382	-19376.60	18	-20362.60	17	-2628.52	5	-252.75	9	-4995.54	9	-176.40	19	-9183.11	17	-380.97	1
104 Min.	-409	-19376.60	18	-20362.60	17	-2628.52	5	-252.75	9	-4995.54	9	-176.40	19	-9183.11	17	-380.97	1
104 Min.	-412	-19376.60	18	-20362.60	17	-2628.52	5	-252.75	9	-4995.54	9	-176.40	19	-9183.11	17	-380.97	1
104 Max	-412	-99.48	13	-4496.06	13	1285.19	13	-34.04	1	875.08	1	-41.45	9	83.17	9	10.50	9
104 Max	-409	-99.48	13	-4496.06	13	1285.19	13	-34.04	1	875.08	1	-41.45	9	83.17	9	10.50	9
104 Max	-436	-99.48	13	-4496.06	13	1285.19	13	-34.04	1	875.08	1	-41.45	9	83.17	9	10.50	9
104 Max	-439	-99.48	13	-4496.06	13	1285.19	13	-34.04	1	875.08	1	-41.45	9	83.17	9	10.50	9
104 Min.	-412	-16786.40	18	-16970.40	17	-1669.01	5	-323.01	17	-5810.94	9	-151.86	19	-3566.54	17	-224.53	17
104 Min.	-409	-16786.40	18	-16970.40	17	-1669.01	5	-323.01	17	-5810.94	9	-151.86	19	-3566.54	17	-224.53	17
104 Min.	-436	-16786.40	18	-16970.40	17	-1669.01	5	-323.01	17	-5810.94	9	-151.86	19	-3566.54	17	-224.53	17
104 Min.	-439	-16786.40	18	-16970.40	17	-1669.01	5	-323.01	17	-5810.94	9	-151.86	19	-3566.54	17	-224.53	17
104 Max	-439	-113.26	13	-3373.49	13	1422.83	13	-73.31	1	-368.83	1	68.57	9	2008.26	9	-41.43	9
104 Max	-436	-113.26	13	-3373.49	13	1422.83	13	-73.31	1	-368.83	1	68.57	9	2008.26	9	-41.43	9
104 Max	-463	-113.26	13	-3373.49	13	1422.83	13	-73.31	1	-368.83	1	68.57	9	2008.26	9	-41.43	9
104 Max	-466	-113.26	13	-3373.49	13	1422.83	13	-73.31	1	-368.83	1	68.57	9	2008.26	9	-41.43	9
104 Min.	-439	-10080.90	18	-13784.40	17	-1403.37	5	-346.85	17	-6310.04	17	-66.83	19	-926.31	1	-174.50	1
104 Min.	-436	-10080.90	18	-13784.40	17	-1403.37	5	-346.85	17	-6310.04	17	-66.83	19	-926.31	1	-174.50	1
104 Min.	-463	-10080.90	18	-13784.40	17	-1403.37	5	-346.85	17	-6310.04	17	-66.83	19	-926.31	1	-174.50	1
104 Min.	-466	-10080.90	18	-13784.40	17	-1403.37	5	-346.85	17	-6310.04	17	-66.83	19	-926.31	1	-174.50	1
104 Max	-466	-3.65	17	-2235.15	13	1516.27	13	-69.98	1	-573.59	1	187.19	17	4232.95	17	-126.21	9
104 Max	-463	-3.65	17	-2235.15	13	1516.27	13	-69.98	1	-573.59	1	187.19	17	4232.95	17	-126.21	9
104 Max	-490	-3.65	17	-2235.15	13	1516.27	13	-69.98	1	-573.59	1	187.19	17	4232.95	17	-126.21	9
104 Max	-493	-3.65	17	-2235.15	13	1516.27	13	-69.98	1	-573.59	1	187.19	17	4232.95	17	-126.21	9
104 Min.	-466	-4218.08	18	-9945.94	17	-1285.19	5	-322.85	17	-4616.08	17	-42.01	1	338.26	1	-661.48	17
104 Min.	-463	-4218.08	18	-9945.94	17	-1285.19	5	-322.85	17	-4616.08	17	-42.01	1	338.26	1	-661.48	17
104 Min.	-490	-4218.08	18	-9945.94	17	-1285.19	5	-322.85	17	-4616.08	17	-42.01	1	338.26	1	-661.48	17
104 Min.	-493	-4218.08	18	-9945.94	17	-1285.19	5	-322.85	17	-4616.08	17	-42.01	1	338.26	1	-661.48	17
104 Max	-457	430.85	17	-3822.54	5	2853.20	13	-88.05	9	-570.28	9	129.37	17	4814.54	17	-79.87	9
104 Max	-454	430.85	17	-3822.54	5	2853.20	13	-88.05	9	-570.28	9	129.37	17	4814.54	17	-79.87	9
104 Max	-481	430.85	17	-3822.54	5	2853.20	13	-88.05	9	-570.28	9	129.37	17	4814.54	17	-79.87	9
104 Max	-484	430.85	17	-3822.54	5	2853.20	13	-88.05	9	-570.28	9	129.37	17	4814.54	17	-79.87	9
104 Min.	-457	-2922.20	18	-11985.50	17	-2419.65	5	-334.39	17	-4526.06	17	-48.25	19	394.23	9	-953.54	17
104 Min.	-454	-2922.20	18	-11985.50	17	-2419.65	5	-334.39	17	-4526.06	17	-48.25	19	394.23	9	-953.54	17
104 Min.	-481	-2922.20	18	-11985.50	17	-2419.65	5	-334.39	17	-4526.06	17	-48.25	19	394.23	9	-953.54	17
104 Min.	-484	-2922.20	18	-11985.50	17	-2419.65	5	-334.39	17	-4526.06	17	-48.25	19	394.23	9	-953.54	17
104 Max	-484	-40.40	1	-2169.94	5	5246.22	17	52.40	17	-68.14	17	-28.15	9	9256.17	17	-125.47	9
104 Max	-481	-40.40	1	-2169.94	5	5246.22	17	52.40	17	-68.14	17	-28.15	9	9256.17	17	-125.47	9
104 Max	139	-40.40	1	-2169.94	5	5246.22	17	52.40	17	-68.14	17	-28.15	9	9256.17	17	-125.47	9
104 Max	152	-40.40	1	-2169.94	5	5246.22	17	52.40	17	-68.14	17	-28.15	9	9256.17	17	-125.47	9
104 Min.	-484	-1002.18	18	-12284.80	17	-1957.68	5	-73.92	1	-1014.17	1	-578.32	17	1247.40	9	-1223.66	17
104 Min.	-481	-1002.18	18	-12284.80	17	-1957.68	5	-73.92	1	-1014.17	1	-578.32	17	1247.40	9		

Relazione di calcolo

104 Max	-481	-156.08	21	-927.86	5	2329.61	13	-36.09	9	-244.18	9	49.58	9	4600.26	17	12.07	9
104 Max	-478	-156.08	21	-927.86	5	2329.61	13	-36.09	9	-244.18	9	49.58	9	4600.26	17	12.07	9
104 Max	126	-156.08	21	-927.86	5	2329.61	13	-36.09	9	-244.18	9	49.58	9	4600.26	17	12.07	9
104 Max	139	-156.08	21	-927.86	5	2329.61	13	-36.09	9	-244.18	9	49.58	9	4600.26	17	12.07	9
104 Min.	-481	-1103.24	17	-3146.72	17	-2122.43	5	-145.62	17	-1604.19	17	-99.54	19	707.33	9	-164.88	17
104 Min.	-478	-1103.24	17	-3146.72	17	-2122.43	5	-145.62	17	-1604.19	17	-99.54	19	707.33	9	-164.88	17
104 Min.	126	-1103.24	17	-3146.72	17	-2122.43	5	-145.62	17	-1604.19	17	-99.54	19	707.33	9	-164.88	17
104 Min.	139	-1103.24	17	-3146.72	17	-2122.43	5	-145.62	17	-1604.19	17	-99.54	19	707.33	9	-164.88	17
104 Max	-370	-180.01	5	-6313.47	5	7799.57	18	147.80	9	3619.72	9	150.28	9	-2580.70	1	367.11	9
104 Max	-367	-180.01	5	-6313.47	5	7799.57	18	147.80	9	3619.72	9	150.28	9	-2580.70	1	367.11	9
104 Max	-394	-180.01	5	-6313.47	5	7799.57	18	147.80	9	3619.72	9	150.28	9	-2580.70	1	367.11	9
104 Max	-397	-180.01	5	-6313.47	5	7799.57	18	147.80	9	3619.72	9	150.28	9	-2580.70	1	367.11	9
104 Min.	-370	-3842.64	18	-23452.60	18	-987.66	5	-244.76	1	-4975.01	1	-33.52	1	-9307.45	17	-98.78	1
104 Min.	-367	-3842.64	18	-23452.60	18	-987.66	5	-244.76	1	-4975.01	1	-33.52	1	-9307.45	17	-98.78	1
104 Min.	-394	-3842.64	18	-23452.60	18	-987.66	5	-244.76	1	-4975.01	1	-33.52	1	-9307.45	17	-98.78	1
104 Min.	-397	-3842.64	18	-23452.60	18	-987.66	5	-244.76	1	-4975.01	1	-33.52	1	-9307.45	17	-98.78	1
104 Max	-397	-35.19	5	-4897.55	5	4112.22	18	-25.82	9	888.32	9	144.34	17	81.79	1	276.12	17
104 Max	-394	-35.19	5	-4897.55	5	4112.22	18	-25.82	9	888.32	9	144.34	17	81.79	1	276.12	17
104 Max	-421	-35.19	5	-4897.55	5	4112.22	18	-25.82	9	888.32	9	144.34	17	81.79	1	276.12	17
104 Max	-424	-35.19	5	-4897.55	5	4112.22	18	-25.82	9	888.32	9	144.34	17	81.79	1	276.12	17
104 Min.	-397	-1305.30	18	-17718.30	17	-1190.75	5	-311.11	17	-5798.57	1	24.94	21	-3576.12	17	17.50	1
104 Min.	-394	-1305.30	18	-17718.30	17	-1190.75	5	-311.11	17	-5798.57	1	24.94	21	-3576.12	17	17.50	1
104 Min.	-421	-1305.30	18	-17718.30	17	-1190.75	5	-311.11	17	-5798.57	1	24.94	21	-3576.12	17	17.50	1
104 Min.	-424	-1305.30	18	-17718.30	17	-1190.75	5	-311.11	17	-5798.57	1	24.94	21	-3576.12	17	17.50	1
104 Max	-424	-105.67	5	-3663.05	5	2102.72	18	-70.75	9	-360.13	9	73.55	9	1996.70	1	169.97	9
104 Max	-421	-105.67	5	-3663.05	5	2102.72	18	-70.75	9	-360.13	9	73.55	9	1996.70	1	169.97	9
104 Max	-448	-105.67	5	-3663.05	5	2102.72	18	-70.75	9	-360.13	9	73.55	9	1996.70	1	169.97	9
104 Max	-451	-105.67	5	-3663.05	5	2102.72	18	-70.75	9	-360.13	9	73.55	9	1996.70	1	169.97	9
104 Min.	-424	-1143.67	18	-14300.40	17	-1296.17	5	-344.25	17	-6296.31	17	-59.68	1	-940.50	9	38.33	1
104 Min.	-421	-1143.67	18	-14300.40	17	-1296.17	5	-344.25	17	-6296.31	17	-59.68	1	-940.50	9	38.33	1
104 Min.	-448	-1143.67	18	-14300.40	17	-1296.17	5	-344.25	17	-6296.31	17	-59.68	1	-940.50	9	38.33	1
104 Min.	-451	-1143.67	18	-14300.40	17	-1296.17	5	-344.25	17	-6296.31	17	-59.68	1	-940.50	9	38.33	1
104 Max	-451	-1.57	17	-2414.00	5	1442.99	13	-68.38	9	-570.43	9	51.26	9	4223.57	17	662.87	17
104 Max	-448	-1.57	17	-2414.00	5	1442.99	13	-68.38	9	-570.43	9	51.26	9	4223.57	17	662.87	17
104 Max	-475	-1.57	17	-2414.00	5	1442.99	13	-68.38	9	-570.43	9	51.26	9	4223.57	17	662.87	17
104 Max	-478	-1.57	17	-2414.00	5	1442.99	13	-68.38	9	-570.43	9	51.26	9	4223.57	17	662.87	17
104 Min.	-451	-602.46	18	-10258.10	17	-1374.76	5	-320.74	17	-4611.19	17	-171.95	17	331.88	9	126.89	1
104 Min.	-448	-602.46	18	-10258.10	17	-1374.76	5	-320.74	17	-4611.19	17	-171.95	17	331.88	9	126.89	1
104 Min.	-475	-602.46	18	-10258.10	17	-1374.76	5	-320.74	17	-4611.19	17	-171.95	17	331.88	9	126.89	1
104 Min.	-478	-602.46	18	-10258.10	17	-1374.76	5	-320.74	17	-4611.19	17	-171.95	17	331.88	9	126.89	1
104 Max	-478	-7.22	9	-1590.29	5	971.49	13	-17.53	9	-107.47	9	183.72	17	7911.36	17	660.50	17
104 Max	-475	-7.22	9	-1590.29	5	971.49	13	-17.53	9	-107.47	9	183.72	17	7911.36	17	660.50	17
104 Max	113	-7.22	9	-1590.29	5	971.49	13	-17.53	9	-107.47	9	183.72	17	7911.36	17	660.50	17
104 Max	126	-7.22	9	-1590.29	5	971.49	13	-17.53	9	-107.47	9	183.72	17	7911.36	17	660.50	17
104 Min.	-478	-202.22	18	-9088.97	17	-2952.56	17	-63.26	17	-1061.33	1	-121.80	1	1140.72	9	110.36	1
104 Min.	-475	-202.22	18	-9088.97	17	-2952.56	17	-63.26	17	-1061.33	1	-121.80	1	1140.72	9	110.36	1
104 Min.	113	-202.22	18	-9088.97	17	-2952.56	17	-63.26	17	-1061.33	1	-121.80	1	1140.72	9	110.36	1
104 Min.	126	-202.22	18	-9088.97	17	-2952.56	17	-63.26	17	-1061.33	1	-121.80	1	1140.72	9	110.36	1
104 Max	-367	-69.36	5	-4537.77	5	2302.98	18	2.35	9	3658.06	9	252.58	17	-3298.36	1	137.69	17
104 Max	-364	-69.36	5	-4537.77	5	2302.98	18	2.35	9	3658.06	9	252.58	17	-3298.36	1	137.69	17
104 Max	-391	-69.36	5	-4537.77	5	2302.98	18	2.35	9	3658.06	9	252.58	17	-3298.36	1	137.69	17
104 Max	-394	-69.36	5	-4537.77	5	2302.98	18	2.35	9	3658.06	9	252.58	17	-3298.36	1	137.69	17
104 Min.	-367	-651.84	18	-26115.70	18	-402.18	5	-74.21	1	-4989.06	1	72.55	1	-10549.40	17	29.93	9
104 Min.	-364	-651.84	18	-26115.70	18	-402.18	5	-74.21	1	-4989.06	1	72.55	1	-10549.40	17	29.93	9
104 Min.	-391	-651.84	18	-26115.70	18	-402.18	5	-74.21	1	-4989.06	1	72.55	1	-10549.40	17	29.93	9
104 Min.	-394	-651.84	18	-26115.70	18	-402.18	5	-74.21	1	-4989.06	1	72.55	1	-10549.40	17	29.93	9
104 Max	-394	102.06	17	-3596.81	5	1336.82	18	-20.99	9	903.88	9	133.91	17	-113.36	1	200.82	1
104 Max	-391	102.06	17	-3596.81	5	1336.82	18	-20.99	9	903.88	9	133.91	17	-113.36	1	200.82	1
104 Max	-418	102.06	17	-3596.81	5	1336.82	18	-20.99	9	903.88	9	133.91	17	-113.36	1	200.82	1
104 Max	-421	102.06	17	-3596.81	5	1336.82	18	-20.99	9	903.88	9	133.91	17	-113.36	1	200.82	1
104 Min.	-394	-51.85	18	-17712.60	17	-379.74	5	-112.78	17	-5841.45	1	31.89	1	-4391.24	17	-25.00	9
104 Min.	-391	-51.85	18	-17712.60	17	-379.74	5	-112.78	17	-5841.45	1	31.89	1	-4391.24	17	-25.00	9
104 Min.	-418	-51.85	18	-17712.60	17	-379.74	5	-112.78	17	-5841.45	1	31.89	1	-4391.24	17	-25.00	9
104 Min.	-421	-51.85	18	-17712.60	17	-379.74	5	-112.78	17	-5841.45	1	31.89	1	-4391.24	17	-25.00	9
104 Max	-421	-54.57	5	-2746.06	5	606.92	18	-27.96	9	-368.44	9	63.76	9	2351.23	1	432.40	17
104 Max	-418	-54.57	5	-2746.06	5	606.92	18	-27.96	9	-368.44	9	63.76	9	2351.23	1	432.40	17
104 Max	-445	-54.57	5	-2746.06	5	606.92	18	-27.96	9	-368.44	9	63.76	9	2351.23	1	432.40	17
104 Max	-448	-54.57	5	-2746.06	5	606.92	18	-27.96	9	-368.44	9	63.76	9	2351.23	1	432.40	17
104 Min.	-421	-310.32	17	-14148.10	17	-420.60	5	-107.35	17	-6389.83	17	-66.22	1	-1293.53	9	97.32	9
104 Min.	-418	-310.32	17	-14148.10	17	-420.60	5	-107.35	17	-6389.83	17	-66.22	1	-1293.53	9	97.32	9
104 Min.	-445	-310.32	17	-14148.10	17	-420.60	5	-107.35	17	-6389.83	17	-66.22	1	-1293.53	9	97.32	9
104 Min.	-448	-310.32	17	-14148.10	17	-420.60	5	-107.35	17	-6389.83	17	-66.22	1	-1293.53	9	97.32	9
104 Max	-448	446.95	17	-2073.57	5	381.81	13	-25.44	9	-564.08	9	49.90	9	5522.18	17	70.36	1
104 Max	-445	446.95	17	-2073.57	5	381.81	13	-25.44	9	-564.08	9	49.90	9	5522.18	17	70.36	1
104 Max	-472	446.95	17	-2073.57	5	381.81	13	-25.44	9	-564.08	9	49.90	9	5522.18	17	70.36	1
104 Max	-475	446.95	17	-2073.57	5	381.81	13	-25.44	9	-564.08							

Relazione di calcolo

104 Min.	-460	-4769.77	18	-11009.30	17	-2142.35	5	-402.30	17	-4387.04	17	-48.54	19	382.02	1	-51.50	1
104 Min.	-487	-4769.77	18	-11009.30	17	-2142.35	5	-402.30	17	-4387.04	17	-48.54	19	382.02	1	-51.50	1
104 Min.	-490	-4769.77	18	-11009.30	17	-2142.35	5	-402.30	17	-4387.04	17	-48.54	19	382.02	1	-51.50	1
104 Max	-490	-158.60	1	-890.83	13	2357.16	13	-36.63	1	-244.75	1	95.90	9	4604.65	17	165.79	17
104 Max	-487	-158.60	1	-890.83	13	2357.16	13	-36.63	1	-244.75	1	95.90	9	4604.65	17	165.79	17
104 Max	165	-158.60	1	-890.83	13	2357.16	13	-36.63	1	-244.75	1	95.90	9	4604.65	17	165.79	17
104 Max	178	-158.60	1	-890.83	13	2357.16	13	-36.63	1	-244.75	1	95.90	9	4604.65	17	165.79	17
104 Min.	-490	-1502.08	18	-3084.04	17	-2087.21	5	-146.32	17	-1605.04	17	-38.33	1	710.29	1	-11.61	1
104 Min.	-487	-1502.08	18	-3084.04	17	-2087.21	5	-146.32	17	-1605.04	17	-38.33	1	710.29	1	-11.61	1
104 Min.	165	-1502.08	18	-3084.04	17	-2087.21	5	-146.32	17	-1605.04	17	-38.33	1	710.29	1	-11.61	1
104 Min.	178	-1502.08	18	-3084.04	17	-2087.21	5	-146.32	17	-1605.04	17	-38.33	1	710.29	1	-11.61	1
104 Max	-379	-658.49	13	-8291.73	20	9296.71	18	301.42	1	3500.72	1	20.92	9	-2449.86	9	67.68	9
104 Max	-376	-658.49	13	-8291.73	20	9296.71	18	301.42	1	3500.72	1	20.92	9	-2449.86	9	67.68	9
104 Max	-403	-658.49	13	-8291.73	20	9296.71	18	301.42	1	3500.72	1	20.92	9	-2449.86	9	67.68	9
104 Max	-406	-658.49	13	-8291.73	20	9296.71	18	301.42	1	3500.72	1	20.92	9	-2449.86	9	67.68	9
104 Min.	-379	-9241.36	18	-18938.00	17	-2153.72	5	-466.01	9	-4982.42	9	-57.62	19	-9301.36	17	-64.77	1
104 Min.	-376	-9241.36	18	-18938.00	17	-2153.72	5	-466.01	9	-4982.42	9	-57.62	19	-9301.36	17	-64.77	1
104 Min.	-403	-9241.36	18	-18938.00	17	-2153.72	5	-466.01	9	-4982.42	9	-57.62	19	-9301.36	17	-64.77	1
104 Min.	-406	-9241.36	18	-18938.00	17	-2153.72	5	-466.01	9	-4982.42	9	-57.62	19	-9301.36	17	-64.77	1
104 Max	-406	-481.62	13	-6376.26	20	5799.96	18	27.74	1	839.94	1	19.84	9	140.64	9	27.35	9
104 Max	-403	-481.62	13	-6376.26	20	5799.96	18	27.74	1	839.94	1	19.84	9	140.64	9	27.35	9
104 Max	-430	-481.62	13	-6376.26	20	5799.96	18	27.74	1	839.94	1	19.84	9	140.64	9	27.35	9
104 Max	-433	-481.62	13	-6376.26	20	5799.96	18	27.74	1	839.94	1	19.84	9	140.64	9	27.35	9
104 Min.	-406	-9504.83	18	-16618.10	17	-2455.75	5	-511.94	17	-5719.87	9	-70.94	19	-3588.91	17	-53.02	1
104 Min.	-403	-9504.83	18	-16618.10	17	-2455.75	5	-511.94	17	-5719.87	9	-70.94	19	-3588.91	17	-53.02	1
104 Min.	-430	-9504.83	18	-16618.10	17	-2455.75	5	-511.94	17	-5719.87	9	-70.94	19	-3588.91	17	-53.02	1
104 Min.	-433	-9504.83	18	-16618.10	17	-2455.75	5	-511.94	17	-5719.87	9	-70.94	19	-3588.91	17	-53.02	1
104 Max	-433	-296.33	21	-5072.50	20	2796.03	18	-92.27	1	-374.32	1	19.12	9	2042.44	9	-20.23	9
104 Max	-430	-296.33	21	-5072.50	20	2796.03	18	-92.27	1	-374.32	1	19.12	9	2042.44	9	-20.23	9
104 Max	-457	-296.33	21	-5072.50	20	2796.03	18	-92.27	1	-374.32	1	19.12	9	2042.44	9	-20.23	9
104 Max	-460	-296.33	21	-5072.50	20	2796.03	18	-92.27	1	-374.32	1	19.12	9	2042.44	9	-20.23	9
104 Min.	-433	-7302.22	18	-14251.30	17	-2522.15	5	-551.24	17	-6254.46	17	-69.88	19	-951.32	1	-247.94	17
104 Min.	-430	-7302.22	18	-14251.30	17	-2522.15	5	-551.24	17	-6254.46	17	-69.88	19	-951.32	1	-247.94	17
104 Min.	-457	-7302.22	18	-14251.30	17	-2522.15	5	-551.24	17	-6254.46	17	-69.88	19	-951.32	1	-247.94	17
104 Min.	-460	-7302.22	18	-14251.30	17	-2522.15	5	-551.24	17	-6254.46	17	-69.88	19	-951.32	1	-247.94	17
104 Max	-460	422.65	17	-3742.64	20	2699.83	13	-88.60	1	-571.27	1	21.40	9	4817.67	17	960.22	17
104 Max	-457	422.65	17	-3742.64	20	2699.83	13	-88.60	1	-571.27	1	21.40	9	4817.67	17	960.22	17
104 Max	-484	422.65	17	-3742.64	20	2699.83	13	-88.60	1	-571.27	1	21.40	9	4817.67	17	960.22	17
104 Max	-487	422.65	17	-3742.64	20	2699.83	13	-88.60	1	-571.27	1	21.40	9	4817.67	17	960.22	17
104 Min.	-460	-4080.17	18	-11922.60	17	-2564.11	5	-335.02	17	-4527.37	17	-111.88	17	396.29	1	83.38	1
104 Min.	-457	-4080.17	18	-11922.60	17	-2564.11	5	-335.02	17	-4527.37	17	-111.88	17	396.29	1	83.38	1
104 Min.	-484	-4080.17	18	-11922.60	17	-2564.11	5	-335.02	17	-4527.37	17	-111.88	17	396.29	1	83.38	1
104 Min.	-487	-4080.17	18	-11922.60	17	-2564.11	5	-335.02	17	-4527.37	17	-111.88	17	396.29	1	83.38	1
104 Max	-487	-38.01	21	-2156.11	13	2238.51	13	52.03	17	-68.39	17	597.16	17	9257.85	17	1225.89	17
104 Max	-484	-38.01	21	-2156.11	13	2238.51	13	52.03	17	-68.39	17	597.16	17	9257.85	17	1225.89	17
104 Max	152	-38.01	21	-2156.11	13	2238.51	13	52.03	17	-68.39	17	597.16	17	9257.85	17	1225.89	17
104 Max	165	-38.01	21	-2156.11	13	2238.51	13	52.03	17	-68.39	17	597.16	17	9257.85	17	1225.89	17
104 Min.	-487	-1274.27	18	-12263.10	17	-4767.65	17	-74.07	9	-1014.28	9	22.98	21	1248.61	1	126.71	1
104 Min.	-484	-1274.27	18	-12263.10	17	-4767.65	17	-74.07	9	-1014.28	9	22.98	21	1248.61	1	126.71	1
104 Min.	152	-1274.27	18	-12263.10	17	-4767.65	17	-74.07	9	-1014.28	9	22.98	21	1248.61	1	126.71	1
104 Min.	165	-1274.27	18	-12263.10	17	-4767.65	17	-74.07	9	-1014.28	9	22.98	21	1248.61	1	126.71	1
104 Max	-376	-636.38	5	-9486.06	5	8934.53	18	317.27	1	3521.00	9	9.16	9	-2428.14	9	-76.83	9
104 Max	-373	-636.38	5	-9486.06	5	8934.53	18	317.27	1	3521.00	9	9.16	9	-2428.14	9	-76.83	9
104 Max	-400	-636.38	5	-9486.06	5	8934.53	18	317.27	1	3521.00	9	9.16	9	-2428.14	9	-76.83	9
104 Max	-403	-636.38	5	-9486.06	5	8934.53	18	317.27	1	3521.00	9	9.16	9	-2428.14	9	-76.83	9
104 Min.	-376	-6942.66	18	-19206.70	17	-1887.07	5	-465.33	9	-4956.20	1	-74.99	19	-9279.92	17	-232.50	19
104 Min.	-373	-6942.66	18	-19206.70	17	-1887.07	5	-465.33	9	-4956.20	1	-74.99	19	-9279.92	17	-232.50	19
104 Min.	-400	-6942.66	18	-19206.70	17	-1887.07	5	-465.33	9	-4956.20	1	-74.99	19	-9279.92	17	-232.50	19
104 Min.	-403	-6942.66	18	-19206.70	17	-1887.07	5	-465.33	9	-4956.20	1	-74.99	19	-9279.92	17	-232.50	19
104 Max	-403	-444.28	5	-7595.17	5	6398.40	18	24.13	9	846.28	9	25.64	9	119.38	1	94.68	9
104 Max	-400	-444.28	5	-7595.17	5	6398.40	18	24.13	9	846.28	9	25.64	9	119.38	1	94.68	9
104 Max	-427	-444.28	5	-7595.17	5	6398.40	18	24.13	9	846.28	9	25.64	9	119.38	1	94.68	9
104 Max	-430	-444.28	5	-7595.17	5	6398.40	18	24.13	9	846.28	9	25.64	9	119.38	1	94.68	9
104 Min.	-403	-6723.49	18	-16756.80	17	-2234.35	5	-520.38	17	-5712.99	1	-58.08	19	-3621.21	17	12.32	1
104 Min.	-400	-6723.49	18	-16756.80	17	-2234.35	5	-520.38	17	-5712.99	1	-58.08	19	-3621.21	17	12.32	1
104 Min.	-427	-6723.49	18	-16756.80	17	-2234.35	5	-520.38	17	-5712.99	1	-58.08	19	-3621.21	17	12.32	1
104 Min.	-430	-6723.49	18	-16756.80	17	-2234.35	5	-520.38	17	-5712.99	1	-58.08	19	-3621.21	17	12.32	1
104 Max	-430	-284.06	5	-5733.64	5	3647.04	18	-89.30	9	-373.31	9	29.79	17	2044.27	1	260.19	17
104 Max	-427	-284.06	5	-5733.64	5	3647.04	18	-89.30	9	-373.31	9	29.79	17	2044.27	1	260.19	17
104 Max	-454	-284.06	5	-5733.64	5	3647.04	18	-89.30	9	-373.31	9	29.79	17	2044.27	1	260.19	17
104 Max	-457	-284.06	5	-5733.64	5	3647.04	18	-89.30	9	-373.31	9	29.79	17	2044.27	1	260.19	17
104 Min.	-430	-5105.72	18	-14372.90	17	-2419.45	5	-546.85	17	-6253.47	17	-57.03	19	-951.52	9	29.21	1
104 Min.	-427	-5105.72	18	-14372.90	17	-2419.45	5	-546.85	17	-6253.47	17	-57.03	19	-951.52	9	29.21	1
104 Min.	-454	-5105.72	18	-14372.90	17	-2419.45	5	-546.85	17	-6253.47	17	-57.03	19	-951.52	9	29.21	1
104 Min.	-457	-5105.72	18	-14372.90	17	-2419.45	5	-546.85	17	-6253.47	17	-57.03	19	-951.52	9	29.21	

Relazione di calcolo

104 Max	-373	-908.10	5	-11196.00	5	9666.23	18	749.78	1	8049.11	1	121.64	18	-5424.42	9	25.59	17
104 Max	-376	-908.10	5	-11196.00	5	9666.23	18	749.78	1	8049.11	1	121.64	18	-5424.42	9	25.59	17
104 Min.	-148	-4921.46	18	-21584.00	17	-1643.30	5	-273.04	9	-2508.15	9	21.37	1	-15706.40	17	-132.94	19
104 Min.	-124	-4921.46	18	-21584.00	17	-1643.30	5	-273.04	9	-2508.15	9	21.37	1	-15706.40	17	-132.94	19
104 Min.	-373	-4921.46	18	-21584.00	17	-1643.30	5	-273.04	9	-2508.15	9	21.37	1	-15706.40	17	-132.94	19
104 Min.	-376	-4921.46	18	-21584.00	17	-1643.30	5	-273.04	9	-2508.15	9	21.37	1	-15706.40	17	-132.94	19
104 Max	-124	-550.19	5	-9997.16	5	9619.51	18	753.69	9	8068.95	9	-50.08	9	-5432.11	1	271.40	9
104 Max	-100	-550.19	5	-9997.16	5	9619.51	18	753.69	9	8068.95	9	-50.08	9	-5432.11	1	271.40	9
104 Max	-370	-550.19	5	-9997.16	5	9619.51	18	753.69	9	8068.95	9	-50.08	9	-5432.11	1	271.40	9
104 Max	-373	-550.19	5	-9997.16	5	9619.51	18	753.69	9	8068.95	9	-50.08	9	-5432.11	1	271.40	9
104 Min.	-124	-5305.01	18	-22166.80	17	-984.99	5	-219.04	1	-2459.37	1	-160.85	19	-15820.30	17	-198.36	1
104 Min.	-100	-5305.01	18	-22166.80	17	-984.99	5	-219.04	1	-2459.37	1	-160.85	19	-15820.30	17	-198.36	1
104 Min.	-370	-5305.01	18	-22166.80	17	-984.99	5	-219.04	1	-2459.37	1	-160.85	19	-15820.30	17	-198.36	1
104 Min.	-373	-5305.01	18	-22166.80	17	-984.99	5	-219.04	1	-2459.37	1	-160.85	19	-15820.30	17	-198.36	1
104 Max	-100	-191.40	5	-7575.12	5	8096.67	18	634.71	9	8165.65	9	111.91	9	-6080.06	1	298.30	9
104 Max	-68	-191.40	5	-7575.12	5	8096.67	18	634.71	9	8165.65	9	111.91	9	-6080.06	1	298.30	9
104 Max	-367	-191.40	5	-7575.12	5	8096.67	18	634.71	9	8165.65	9	111.91	9	-6080.06	1	298.30	9
104 Max	-370	-191.40	5	-7575.12	5	8096.67	18	634.71	9	8165.65	9	111.91	9	-6080.06	1	298.30	9
104 Min.	-100	-4605.40	18	-25910.80	18	-1307.65	5	-100.30	1	-2144.87	1	-88.55	1	-16234.20	17	-674.88	1
104 Min.	-68	-4605.40	18	-25910.80	18	-1307.65	5	-100.30	1	-2144.87	1	-88.55	1	-16234.20	17	-674.88	1
104 Min.	-367	-4605.40	18	-25910.80	18	-1307.65	5	-100.30	1	-2144.87	1	-88.55	1	-16234.20	17	-674.88	1
104 Min.	-370	-4605.40	18	-25910.80	18	-1307.65	5	-100.30	1	-2144.87	1	-88.55	1	-16234.20	17	-674.88	1
104 Max	-68	-242.96	5	-5899.75	5	10455.40	18	314.42	9	8392.94	9	155.25	9	-7238.50	1	646.38	9
104 Max	-51	-242.96	5	-5899.75	5	10455.40	18	314.42	9	8392.94	9	155.25	9	-7238.50	1	646.38	9
104 Max	-364	-242.96	5	-5899.75	5	10455.40	18	314.42	9	8392.94	9	155.25	9	-7238.50	1	646.38	9
104 Max	-367	-242.96	5	-5899.75	5	10455.40	18	314.42	9	8392.94	9	155.25	9	-7238.50	1	646.38	9
104 Min.	-68	-4496.40	18	-44654.40	18	249.49	5	-53.79	1	-2072.85	1	-278.20	1	-17399.80	17	-632.49	1
104 Min.	-51	-4496.40	18	-44654.40	18	249.49	5	-53.79	1	-2072.85	1	-278.20	1	-17399.80	17	-632.49	1
104 Min.	-364	-4496.40	18	-44654.40	18	249.49	5	-53.79	1	-2072.85	1	-278.20	1	-17399.80	17	-632.49	1
104 Min.	-367	-4496.40	18	-44654.40	18	249.49	5	-53.79	1	-2072.85	1	-278.20	1	-17399.80	17	-632.49	1
104 Max	-388	-9.99	13	-4051.15	13	340.15	13	-10.35	1	3607.78	1	-74.30	9	-3255.29	9	-103.37	1
104 Max	-385	-9.99	13	-4051.15	13	340.15	13	-10.35	1	3607.78	1	-74.30	9	-3255.29	9	-103.37	1
104 Max	-412	-9.99	13	-4051.15	13	340.15	13	-10.35	1	3607.78	1	-74.30	9	-3255.29	9	-103.37	1
104 Max	-415	-9.99	13	-4051.15	13	340.15	13	-10.35	1	3607.78	1	-74.30	9	-3255.29	9	-103.37	1
104 Min.	-388	-26281.10	18	-20910.90	17	-770.55	5	-101.45	17	-5044.08	9	-256.67	17	-10523.40	17	-246.37	17
104 Min.	-385	-26281.10	18	-20910.90	17	-770.55	5	-101.45	17	-5044.08	9	-256.67	17	-10523.40	17	-246.37	17
104 Min.	-412	-26281.10	18	-20910.90	17	-770.55	5	-101.45	17	-5044.08	9	-256.67	17	-10523.40	17	-246.37	17
104 Min.	-415	-26281.10	18	-20910.90	17	-770.55	5	-101.45	17	-5044.08	9	-256.67	17	-10523.40	17	-246.37	17
401 Max	-126	-2538.54	1	189.83	13	3097.13	19	9570.50	17	537.92	17	488.79	17	2206.93	19	14813.00	19
401 Max	-118	-2538.54	1	189.83	13	3097.13	19	9570.50	17	537.92	17	488.79	17	2206.93	19	14813.00	19
401 Max	-98	-2538.54	1	189.83	13	3097.13	19	9570.50	17	537.92	17	488.79	17	2206.93	19	14813.00	19
401 Max	-101	-2538.54	1	189.83	13	3097.13	19	9570.50	17	537.92	17	488.79	17	2206.93	19	14813.00	19
401 Min.	-126	-6812.91	17	-2619.31	19	-519.84	13	2938.77	9	-35.18	13	183.36	5	165.95	13	5520.46	9
401 Min.	-118	-6812.91	17	-2619.31	19	-519.84	13	2938.77	9	-35.18	13	183.36	5	165.95	13	5520.46	9
401 Min.	-98	-6812.91	17	-2619.31	19	-519.84	13	2938.77	9	-35.18	13	183.36	5	165.95	13	5520.46	9
401 Min.	-101	-6812.91	17	-2619.31	19	-519.84	13	2938.77	9	-35.18	13	183.36	5	165.95	13	5520.46	9
401 Max	-126	1839.33	19	-2747.77	1	1139.45	17	-1123.52	9	-1759.01	9	-426.65	5	-10915.20	9	25510.70	19
401 Max	-101	1839.33	19	-2747.77	1	1139.45	17	-1123.52	9	-1759.01	9	-426.65	5	-10915.20	9	25510.70	19
401 Max	-96	1839.33	19	-2747.77	1	1139.45	17	-1123.52	9	-1759.01	9	-426.65	5	-10915.20	9	25510.70	19
401 Max	-119	1839.33	19	-2747.77	1	1139.45	17	-1123.52	9	-1759.01	9	-426.65	5	-10915.20	9	25510.70	19
401 Min.	-126	48.29	13	-7259.93	17	-2387.83	19	-2620.76	19	-4832.42	19	-1169.84	18	-27131.10	19	10322.20	9
401 Min.	-101	48.29	13	-7259.93	17	-2387.83	19	-2620.76	19	-4832.42	19	-1169.84	18	-27131.10	19	10322.20	9
401 Min.	-96	48.29	13	-7259.93	17	-2387.83	19	-2620.76	19	-4832.42	19	-1169.84	18	-27131.10	19	10322.20	9
401 Min.	-119	48.29	13	-7259.93	17	-2387.83	19	-2620.76	19	-4832.42	19	-1169.84	18	-27131.10	19	10322.20	9
401 Max	-101	-2398.07	1	61.35	13	3311.91	19	7046.75	17	2954.69	19	289.59	9	2327.08	19	14080.90	19
401 Max	-98	-2398.07	1	61.35	13	3311.91	19	7046.75	17	2954.69	19	289.59	9	2327.08	19	14080.90	19
401 Max	-66	-2398.07	1	61.35	13	3311.91	19	7046.75	17	2954.69	19	289.59	9	2327.08	19	14080.90	19
401 Max	-74	-2398.07	1	61.35	13	3311.91	19	7046.75	17	2954.69	19	289.59	9	2327.08	19	14080.90	19
401 Min.	-101	-6215.89	17	-1688.29	19	-134.59	13	1290.34	9	818.71	9	2.86	1	-60.27	13	4007.89	9
401 Min.	-98	-6215.89	17	-1688.29	19	-134.59	13	1290.34	9	818.71	9	2.86	1	-60.27	13	4007.89	9
401 Min.	-66	-6215.89	17	-1688.29	19	-134.59	13	1290.34	9	818.71	9	2.86	1	-60.27	13	4007.89	9
401 Min.	-74	-6215.89	17	-1688.29	19	-134.59	13	1290.34	9	818.71	9	2.86	1	-60.27	13	4007.89	9
401 Max	-101	19.87	9	-1225.34	9	-26.23	13	4856.24	19	-524.04	9	485.75	19	-81.94	9	473.66	19
401 Max	-74	19.87	9	-1225.34	9	-26.23	13	4856.24	19	-524.04	9	485.75	19	-81.94	9	473.66	19
401 Max	-69	19.87	9	-1225.34	9	-26.23	13	4856.24	19	-524.04	9	485.75	19	-81.94	9	473.66	19
401 Max	-96	19.87	9	-1225.34	9	-26.23	13	4856.24	19	-524.04	9	485.75	19	-81.94	9	473.66	19
401 Min.	-101	-507.52	19	-3120.64	17	-2286.09	19	1828.07	9	-2648.48	19	-87.06	13	-3256.96	17	22.93	13
401 Min.	-74	-507.52	19	-3120.64	17	-2286.09	19	1828.07	9	-2648.48	19	-87.06	13	-3256.96	17	22.93	13
401 Min.	-69	-507.52	19	-3120.64	17	-2286.09	19	1828.07	9	-2648.48	19	-87.06	13	-3256.96	17	22.93	13
401 Min.	-96	-507.52	19	-3120.64	17	-2286.09	19	1828.07	9	-2648.48	19	-87.06	13	-3256.96	17	22.93	13
401 Max	-74	-1834.34	21	24.47	13	4934.73	19	7112.54	19	3261.53	19	-419.65	9	-1813.77	9	12194.40	19
401 Max	-66	-1834.34	21	24.47	13	4934.73	19	7112.54	19	3261.53	19	-419.65	9	-1813.77	9	12194.40	19
401 Max	-49	-1834.34	21	24.47	13	4934.73	19	7112.54	19	3261.53	19	-419.65	9	-1813.77	9	12194.40	19
401 Max	-44	-1834.34	21	24.47	13	4934.73	19	7112.54	19	3261.53	19	-419.65	9	-1813.77	9	12194.40	19

Relazione di calcolo

401 Min.	-4	84.07	13	-604.65	19	-24.03	13	371.61	13	-734.72	18	841.86	13	1280.06	5	1060.11	13
401 Max	-37	-75.91	13	-291.58	13	-162.33	9	-323.27	9	-1263.38	1	-135.16	9	13815.70	18	15270.20	18
401 Max	-84	-75.91	13	-291.58	13	-162.33	9	-323.27	9	-1263.38	1	-135.16	9	13815.70	18	15270.20	18
401 Max	-72	-75.91	13	-291.58	13	-162.33	9	-323.27	9	-1263.38	1	-135.16	9	13815.70	18	15270.20	18
401 Max	-33	-75.91	13	-291.58	13	-162.33	9	-323.27	9	-1263.38	1	-135.16	9	13815.70	18	15270.20	18
401 Min.	-37	-736.95	18	-653.30	17	-639.97	19	-790.73	19	-3153.48	18	-545.35	19	6033.55	5	6169.22	1
401 Min.	-84	-736.95	18	-653.30	17	-639.97	19	-790.73	19	-3153.48	18	-545.35	19	6033.55	5	6169.22	1
401 Min.	-72	-736.95	18	-653.30	17	-639.97	19	-790.73	19	-3153.48	18	-545.35	19	6033.55	5	6169.22	1
401 Min.	-33	-736.95	18	-653.30	17	-639.97	19	-790.73	19	-3153.48	18	-545.35	19	6033.55	5	6169.22	1
401 Max	-37	-239.12	13	423.81	18	80.46	18	-2231.98	1	-1126.90	5	463.86	18	13713.30	18	11492.70	18
401 Max	-33	-239.12	13	423.81	18	80.46	18	-2231.98	1	-1126.90	5	463.86	18	13713.30	18	11492.70	18
401 Max	-7	-239.12	13	423.81	18	80.46	18	-2231.98	1	-1126.90	5	463.86	18	13713.30	18	11492.70	18
401 Max	-8	-239.12	13	423.81	18	80.46	18	-2231.98	1	-1126.90	5	463.86	18	13713.30	18	11492.70	18
401 Min.	-37	-957.76	18	9.83	13	-46.26	1	-5356.16	18	-2665.50	19	133.54	9	5674.69	1	5019.29	1
401 Min.	-33	-957.76	18	9.83	13	-46.26	1	-5356.16	18	-2665.50	19	133.54	9	5674.69	1	5019.29	1
401 Min.	-7	-957.76	18	9.83	13	-46.26	1	-5356.16	18	-2665.50	19	133.54	9	5674.69	1	5019.29	1
401 Min.	-8	-957.76	18	9.83	13	-46.26	1	-5356.16	18	-2665.50	19	133.54	9	5674.69	1	5019.29	1
401 Max	-33	-19.88	13	-292.63	13	-156.15	9	442.61	18	4246.01	19	1303.02	18	4190.73	18	1122.38	19
401 Max	-72	-19.88	13	-292.63	13	-156.15	9	442.61	18	4246.01	19	1303.02	18	4190.73	18	1122.38	19
401 Max	-61	-19.88	13	-292.63	13	-156.15	9	442.61	18	4246.01	19	1303.02	18	4190.73	18	1122.38	19
401 Max	-30	-19.88	13	-292.63	13	-156.15	9	442.61	18	4246.01	19	1303.02	18	4190.73	18	1122.38	19
401 Min.	-33	-213.84	19	-696.90	19	-463.02	17	188.32	13	1761.26	1	492.85	1	1806.70	1	397.00	1
401 Min.	-72	-213.84	19	-696.90	19	-463.02	17	188.32	13	1761.26	1	492.85	1	1806.70	1	397.00	1
401 Min.	-61	-213.84	19	-696.90	19	-463.02	17	188.32	13	1761.26	1	492.85	1	1806.70	1	397.00	1
401 Min.	-30	-213.84	19	-696.90	19	-463.02	17	188.32	13	1761.26	1	492.85	1	1806.70	1	397.00	1
401 Max	-33	-171.46	13	98.13	17	259.81	18	4085.45	19	-111.99	1	794.62	19	-161.50	1	6169.08	18
401 Max	-30	-171.46	13	98.13	17	259.81	18	4085.45	19	-111.99	1	794.62	19	-161.50	1	6169.08	18
401 Max	-6	-171.46	13	98.13	17	259.81	18	4085.45	19	-111.99	1	794.62	19	-161.50	1	6169.08	18
401 Max	-7	-171.46	13	98.13	17	259.81	18	4085.45	19	-111.99	1	794.62	19	-161.50	1	6169.08	18
401 Min.	-33	-613.87	18	-40.65	18	52.48	13	1734.18	1	-334.01	18	330.94	9	-633.96	18	2629.31	1
401 Min.	-30	-613.87	18	-40.65	18	52.48	13	1734.18	1	-334.01	18	330.94	9	-633.96	18	2629.31	1
401 Min.	-6	-613.87	18	-40.65	18	52.48	13	1734.18	1	-334.01	18	330.94	9	-633.96	18	2629.31	1
401 Min.	-7	-613.87	18	-40.65	18	52.48	13	1734.18	1	-334.01	18	330.94	9	-633.96	18	2629.31	1
401 Max	-59	-59.41	21	127.69	13	1582.27	17	-1774.96	13	-1143.05	9	823.02	19	-8602.13	9	-7679.39	9
401 Max	-69	-59.41	21	127.69	13	1582.27	17	-1774.96	13	-1143.05	9	823.02	19	-8602.13	9	-7679.39	9
401 Max	-36	-59.41	21	127.69	13	1582.27	17	-1774.96	13	-1143.05	9	823.02	19	-8602.13	9	-7679.39	9
401 Max	-29	-59.41	21	127.69	13	1582.27	17	-1774.96	13	-1143.05	9	823.02	19	-8602.13	9	-7679.39	9
401 Min.	-59	-360.71	17	-1576.29	19	583.77	9	-4275.41	19	-2666.55	19	272.37	13	-21520.60	19	-17617.70	19
401 Min.	-69	-360.71	17	-1576.29	19	583.77	9	-4275.41	19	-2666.55	19	272.37	13	-21520.60	19	-17617.70	19
401 Min.	-36	-360.71	17	-1576.29	19	583.77	9	-4275.41	19	-2666.55	19	272.37	13	-21520.60	19	-17617.70	19
401 Min.	-29	-360.71	17	-1576.29	19	583.77	9	-4275.41	19	-2666.55	19	272.37	13	-21520.60	19	-17617.70	19
401 Max	-59	28.67	17	-287.45	13	-154.15	9	131.60	17	4446.99	18	-517.38	9	4677.59	19	-192.02	5
401 Max	-29	28.67	17	-287.45	13	-154.15	9	131.60	17	4446.99	18	-517.38	9	4677.59	19	-192.02	5
401 Max	-30	28.67	17	-287.45	13	-154.15	9	131.60	17	4446.99	18	-517.38	9	4677.59	19	-192.02	5
401 Max	-61	28.67	17	-287.45	13	-154.15	9	131.60	17	4446.99	18	-517.38	9	4677.59	19	-192.02	5
401 Min.	-59	-57.70	18	-722.27	18	-454.61	17	33.01	9	1846.63	5	-1306.18	19	2006.23	9	-639.49	18
401 Min.	-29	-57.70	18	-722.27	18	-454.61	17	33.01	9	1846.63	5	-1306.18	19	2006.23	9	-639.49	18
401 Min.	-30	-57.70	18	-722.27	18	-454.61	17	33.01	9	1846.63	5	-1306.18	19	2006.23	9	-639.49	18
401 Min.	-61	-57.70	18	-722.27	18	-454.61	17	33.01	9	1846.63	5	-1306.18	19	2006.23	9	-639.49	18
401 Max	-29	153.50	9	1077.20	19	-157.32	13	-1901.07	13	-1300.27	1	-399.55	13	12464.60	19	-6886.16	9
401 Max	-36	153.50	9	1077.20	19	-157.32	13	-1901.07	13	-1300.27	1	-399.55	13	12464.60	19	-6886.16	9
401 Max	-4	153.50	9	1077.20	19	-157.32	13	-1901.07	13	-1300.27	1	-399.55	13	12464.60	19	-6886.16	9
401 Max	-5	153.50	9	1077.20	19	-157.32	13	-1901.07	13	-1300.27	1	-399.55	13	12464.60	19	-6886.16	9
401 Min.	-29	-213.21	18	12.08	13	-798.51	19	-4616.17	19	-3069.83	19	-1141.04	19	5123.59	9	-16043.20	19
401 Min.	-36	-213.21	18	12.08	13	-798.51	19	-4616.17	19	-3069.83	19	-1141.04	19	5123.59	9	-16043.20	19
401 Min.	-4	-213.21	18	12.08	13	-798.51	19	-4616.17	19	-3069.83	19	-1141.04	19	5123.59	9	-16043.20	19
401 Min.	-5	-213.21	18	12.08	13	-798.51	19	-4616.17	19	-3069.83	19	-1141.04	19	5123.59	9	-16043.20	19
401 Max	-29	-122.89	13	-50.83	13	9.43	18	-119.58	9	5066.01	18	20.31	9	5118.75	19	-781.56	9
401 Max	-5	-122.89	13	-50.83	13	9.43	18	-119.58	9	5066.01	18	20.31	9	5118.75	19	-781.56	9
401 Max	-6	-122.89	13	-50.83	13	9.43	18	-119.58	9	5066.01	18	20.31	9	5118.75	19	-781.56	9
401 Max	-30	-122.89	13	-50.83	13	9.43	18	-119.58	9	5066.01	18	20.31	9	5118.75	19	-781.56	9
401 Min.	-29	-764.53	19	-333.73	18	-75.01	17	-332.35	19	2165.48	1	-58.84	1	2185.81	9	-2054.39	19
401 Min.	-5	-764.53	19	-333.73	18	-75.01	17	-332.35	19	2165.48	1	-58.84	1	2185.81	9	-2054.39	19
401 Min.	-6	-764.53	19	-333.73	18	-75.01	17	-332.35	19	2165.48	1	-58.84	1	2185.81	9	-2054.39	19
401 Min.	-30	-764.53	19	-333.73	18	-75.01	17	-332.35	19	2165.48	1	-58.84	1	2185.81	9	-2054.39	19
401 Max	-92	152.71	17	-271.72	21	105.36	17	500.03	19	3771.13	19	435.12	19	-241.72	9	-924.38	9
401 Max	-109	152.71	17	-271.72	21	105.36	17	500.03	19	3771.13	19	435.12	19	-241.72	9	-924.38	9
401 Max	-107	152.71	17	-271.72	21	105.36	17	500.03	19	3771.13	19	435.12	19	-241.72	9	-924.38	9
401 Max	-90	152.71	17	-271.72	21	105.36	17	500.03	19	3771.13	19	435.12	19	-241.72	9	-924.38	9
401 Min.	-92	-210.19	19	-715.13	17	2.71	21	182.75	13	1543.46	5	156.46	9	-689.92	19	-2183.59	19
401 Min.	-109	-210.19	19	-715.13	17	2.71	21	182.75	13	1543.46	5	156.46	9	-689.92	19	-2183.59	19
401 Min.	-107	-210.19	19	-715.13	17	2.71	21	182.75	13	1543.46	5	156.46	9	-689.92	19	-2183.59	19
401 Min.	-90	-210.19	19	-715.13	17	2.71	21	182.75	13	1543.46	5	156.46	9	-689.92	19	-2183.59	19
401 Max	-92	-459.05	9	35.21	13	434.83	19	3522.18	19	1247.24	18	-89.87	1	-458.39	1	2821.91	18
401 Max	-90	-459.05	9	35.21	13	434.83	19	3522.18	19	1247.24	18	-89.87	1	-458.			

Relazione di calcolo

401 Min.	-107	-920.18	17	-838.85	19	141.38	9	2503.72	1	-287.04	17	-334.32	19	1075.02	13	123.19	9
401 Min.	-109	-920.18	17	-838.85	19	141.38	9	2503.72	1	-287.04	17	-334.32	19	1075.02	13	123.19	9
401 Min.	-130	-920.18	17	-838.85	19	141.38	9	2503.72	1	-287.04	17	-334.32	19	1075.02	13	123.19	9
401 Min.	-128	-920.18	17	-838.85	19	141.38	9	2503.72	1	-287.04	17	-334.32	19	1075.02	13	123.19	9
401 Max	-107	845.97	19	417.96	17	1243.34	17	-1014.77	9	-783.80	13	1028.62	19	-8377.34	9	-5628.94	9
401 Max	-128	845.97	19	417.96	17	1243.34	17	-1014.77	9	-783.80	13	1028.62	19	-8377.34	9	-5628.94	9
401 Max	-119	845.97	19	417.96	17	1243.34	17	-1014.77	9	-783.80	13	1028.62	19	-8377.34	9	-5628.94	9
401 Max	-96	845.97	19	417.96	17	1243.34	17	-1014.77	9	-783.80	13	1028.62	19	-8377.34	9	-5628.94	9
401 Min.	-107	26.79	13	103.79	9	462.01	9	-2450.89	19	-1929.44	19	374.84	9	-19511.10	19	-13586.20	19
401 Min.	-128	26.79	13	103.79	9	462.01	9	-2450.89	19	-1929.44	19	374.84	9	-19511.10	19	-13586.20	19
401 Min.	-119	26.79	13	103.79	9	462.01	9	-2450.89	19	-1929.44	19	374.84	9	-19511.10	19	-13586.20	19
401 Min.	-96	26.79	13	103.79	9	462.01	9	-2450.89	19	-1929.44	19	374.84	9	-19511.10	19	-13586.20	19
401 Max	-130	188.07	19	-501.51	9	64.41	9	-864.74	1	-509.55	9	173.72	19	-8122.68	1	7145.09	18
401 Max	-109	188.07	19	-501.51	9	64.41	9	-864.74	1	-509.55	9	173.72	19	-8122.68	1	7145.09	18
401 Max	-111	188.07	19	-501.51	9	64.41	9	-864.74	1	-509.55	9	173.72	19	-8122.68	1	7145.09	18
401 Max	-120	188.07	19	-501.51	9	64.41	9	-864.74	1	-509.55	9	173.72	19	-8122.68	1	7145.09	18
401 Min.	-130	41.06	9	-1472.97	17	-269.99	18	-2174.44	18	-1311.65	18	26.77	1	-18886.20	18	3014.34	1
401 Min.	-109	41.06	9	-1472.97	17	-269.99	18	-2174.44	18	-1311.65	18	26.77	1	-18886.20	18	3014.34	1
401 Min.	-111	41.06	9	-1472.97	17	-269.99	18	-2174.44	18	-1311.65	18	26.77	1	-18886.20	18	3014.34	1
401 Min.	-120	41.06	9	-1472.97	17	-269.99	18	-2174.44	18	-1311.65	18	26.77	1	-18886.20	18	3014.34	1
401 Max	-109	-27.95	13	-418.85	1	-83.29	13	925.05	19	3291.73	19	-253.97	1	-3159.63	1	1182.56	19
401 Max	-92	-27.95	13	-418.85	1	-83.29	13	925.05	19	3291.73	19	-253.97	1	-3159.63	1	1182.56	19
401 Max	-94	-27.95	13	-418.85	1	-83.29	13	925.05	19	3291.73	19	-253.97	1	-3159.63	1	1182.56	19
401 Max	-111	-27.95	13	-418.85	1	-83.29	13	925.05	19	3291.73	19	-253.97	1	-3159.63	1	1182.56	19
401 Min.	-109	-402.01	19	-1001.07	17	-443.17	19	373.03	9	1352.22	1	-771.17	18	-7289.53	18	478.31	1
401 Min.	-92	-402.01	19	-1001.07	17	-443.17	19	373.03	9	1352.22	1	-771.17	18	-7289.53	18	478.31	1
401 Min.	-94	-402.01	19	-1001.07	17	-443.17	19	373.03	9	1352.22	1	-771.17	18	-7289.53	18	478.31	1
401 Min.	-111	-402.01	19	-1001.07	17	-443.17	19	373.03	9	1352.22	1	-771.17	18	-7289.53	18	478.31	1
401 Max	-120	-204.97	20	-90.82	9	810.04	18	-1469.55	1	-3.41	9	2073.01	18	4227.15	18	18012.50	18
401 Max	-111	-204.97	20	-90.82	9	810.04	18	-1469.55	1	-3.41	9	2073.01	18	4227.15	18	18012.50	18
401 Max	-94	-204.97	20	-90.82	9	810.04	18	-1469.55	1	-3.41	9	2073.01	18	4227.15	18	18012.50	18
401 Max	-84	-204.97	20	-90.82	9	810.04	18	-1469.55	1	-3.41	9	2073.01	18	4227.15	18	18012.50	18
401 Min.	-120	-798.58	17	-348.00	19	179.35	13	-3432.35	18	-253.47	18	822.85	9	1377.26	1	7510.91	1
401 Min.	-111	-798.58	17	-348.00	19	179.35	13	-3432.35	18	-253.47	18	822.85	9	1377.26	1	7510.91	1
401 Min.	-94	-798.58	17	-348.00	19	179.35	13	-3432.35	18	-253.47	18	822.85	9	1377.26	1	7510.91	1
401 Min.	-84	-798.58	17	-348.00	19	179.35	13	-3432.35	18	-253.47	18	822.85	9	1377.26	1	7510.91	1
401 Max	-92	-71.48	9	-63.67	1	-47.50	9	1348.90	19	902.60	19	112.10	9	-680.86	1	1591.27	18
401 Max	-72	-71.48	9	-63.67	1	-47.50	9	1348.90	19	902.60	19	112.10	9	-680.86	1	1591.27	18
401 Max	-84	-71.48	9	-63.67	1	-47.50	9	1348.90	19	902.60	19	112.10	9	-680.86	1	1591.27	18
401 Max	-94	-71.48	9	-63.67	1	-47.50	9	1348.90	19	902.60	19	112.10	9	-680.86	1	1591.27	18
401 Min.	-92	-327.42	19	-393.40	17	-257.51	19	538.67	1	125.72	1	-218.09	1	-1700.20	18	576.45	9
401 Min.	-72	-327.42	19	-393.40	17	-257.51	19	538.67	1	125.72	1	-218.09	1	-1700.20	18	576.45	9
401 Min.	-84	-327.42	19	-393.40	17	-257.51	19	538.67	1	125.72	1	-218.09	1	-1700.20	18	576.45	9
401 Min.	-94	-327.42	19	-393.40	17	-257.51	19	538.67	1	125.72	1	-218.09	1	-1700.20	18	576.45	9
401 Max	-192	-95.21	13	552.77	19	-902.59	9	-1294.00	1	-155.48	9	1581.18	17	12540.30	18	5359.83	18
401 Max	-209	-95.21	13	552.77	19	-902.59	9	-1294.00	1	-155.48	9	1581.18	17	12540.30	18	5359.83	18
401 Max	-184	-95.21	13	552.77	19	-902.59	9	-1294.00	1	-155.48	9	1581.18	17	12540.30	18	5359.83	18
401 Max	-172	-95.21	13	552.77	19	-902.59	9	-1294.00	1	-155.48	9	1581.18	17	12540.30	18	5359.83	18
401 Min.	-192	-399.80	19	-1592.47	17	-2736.61	19	-3042.20	19	-932.96	18	897.05	5	4880.04	1	2311.91	1
401 Min.	-209	-399.80	19	-1592.47	17	-2736.61	19	-3042.20	19	-932.96	18	897.05	5	4880.04	1	2311.91	1
401 Min.	-184	-399.80	19	-1592.47	17	-2736.61	19	-3042.20	19	-932.96	18	897.05	5	4880.04	1	2311.91	1
401 Min.	-172	-399.80	19	-1592.47	17	-2736.61	19	-3042.20	19	-932.96	18	897.05	5	4880.04	1	2311.91	1
401 Max	-192	3570.50	19	7516.87	17	8383.50	19	-706.10	9	402.73	9	-41.77	9	12031.70	18	12236.20	18
401 Max	-172	3570.50	19	7516.87	17	8383.50	19	-706.10	9	402.73	9	-41.77	9	12031.70	18	12236.20	18
401 Max	-169	3570.50	19	7516.87	17	8383.50	19	-706.10	9	402.73	9	-41.77	9	12031.70	18	12236.20	18
401 Max	-193	3570.50	19	7516.87	17	8383.50	19	-706.10	9	402.73	9	-41.77	9	12031.70	18	12236.20	18
401 Min.	-192	234.75	13	2686.66	21	959.29	13	-1586.77	18	-2681.58	1	-786.42	17	4884.66	1	5031.29	1
401 Min.	-172	234.75	13	2686.66	21	959.29	13	-1586.77	18	-2681.58	1	-786.42	17	4884.66	1	5031.29	1
401 Min.	-169	234.75	13	2686.66	21	959.29	13	-1586.77	18	-2681.58	1	-786.42	17	4884.66	1	5031.29	1
401 Min.	-193	234.75	13	2686.66	21	959.29	13	-1586.77	18	-2681.58	1	-786.42	17	4884.66	1	5031.29	1
401 Max	-172	3554.97	17	-525.34	1	519.48	17	-857.33	1	3117.86	19	-150.58	5	524.85	18	27.58	1
401 Max	-184	3554.97	17	-525.34	1	519.48	17	-857.33	1	3117.86	19	-150.58	5	524.85	18	27.58	1
401 Max	-144	3554.97	17	-525.34	1	519.48	17	-857.33	1	3117.86	19	-150.58	5	524.85	18	27.58	1
401 Max	-149	3554.97	17	-525.34	1	519.48	17	-857.33	1	3117.86	19	-150.58	5	524.85	18	27.58	1
401 Min.	-172	1371.27	9	-1485.66	17	-579.40	19	-1932.97	19	1188.08	1	-408.33	17	230.60	5	-1681.79	9
401 Min.	-184	1371.27	9	-1485.66	17	-579.40	19	-1932.97	19	1188.08	1	-408.33	17	230.60	5	-1681.79	9
401 Min.	-144	1371.27	9	-1485.66	17	-579.40	19	-1932.97	19	1188.08	1	-408.33	17	230.60	5	-1681.79	9
401 Min.	-149	1371.27	9	-1485.66	17	-579.40	19	-1932.97	19	1188.08	1	-408.33	17	230.60	5	-1681.79	9
401 Max	-172	1639.29	17	3964.82	17	4680.16	19	2655.23	19	2070.41	9	281.76	13	3824.32	9	709.73	19
401 Max	-149	1639.29	17	3964.82	17	4680.16	19	2655.23	19	2070.41	9	281.76	13	3824.32	9	709.73	19
401 Max	-146	1639.29	17	3964.82	17	4680.16	19	2655.23	19	2070.41	9	281.76	13	3824.32	9	709.73	19
401 Max	-169	1639.29	17	3964.82	17	4680.16	19	2655.23	19	2070.41	9	281.76	13	3824.32	9	709.73	19
401 Min.	-172	-290.65	19	1514.70	1	-520.82	13	920.95	1	-1299.41	1	-244.65	19	-312.56	1	-178.83	13
401 Min.	-149	-290.65	19	1514.70	1	-520.82	13	920.95	1	-1299.41	1	-244.65	19	-312.56	1	-178.83	13
401 Min.	-146	-290.65	19	1514.70	1	-5											

Relazione di calcolo

401 Max	-49	1156.44	17	3609.18	17	-153.18	21	-1377.36	9	396.11	1	2140.22	19	-5258.83	13	14640.10	19
401 Max	-56	1156.44	17	3609.18	17	-153.18	21	-1377.36	9	396.11	1	2140.22	19	-5258.83	13	14640.10	19
401 Max	-35	1156.44	17	3609.18	17	-153.18	21	-1377.36	9	396.11	1	2140.22	19	-5258.83	13	14640.10	19
401 Min.	-26	-2476.71	19	1548.16	13	-3125.24	17	-3056.61	19	-857.51	9	455.83	9	-19652.50	19	3534.64	13
401 Min.	-49	-2476.71	19	1548.16	13	-3125.24	17	-3056.61	19	-857.51	9	455.83	9	-19652.50	19	3534.64	13
401 Min.	-56	-2476.71	19	1548.16	13	-3125.24	17	-3056.61	19	-857.51	9	455.83	9	-19652.50	19	3534.64	13
401 Min.	-35	-2476.71	19	1548.16	13	-3125.24	17	-3056.61	19	-857.51	9	455.83	9	-19652.50	19	3534.64	13
401 Max	-49	358.33	13	6108.48	17	1557.17	19	2788.07	19	3835.46	19	1002.90	17	-1298.17	13	3512.73	18
401 Max	-66	358.33	13	6108.48	17	1557.17	19	2788.07	19	3835.46	19	1002.90	17	-1298.17	13	3512.73	18
401 Max	-64	358.33	13	6108.48	17	1557.17	19	2788.07	19	3835.46	19	1002.90	17	-1298.17	13	3512.73	18
401 Max	-56	358.33	13	6108.48	17	1557.17	19	2788.07	19	3835.46	19	1002.90	17	-1298.17	13	3512.73	18
401 Min.	-49	-1860.21	19	2564.96	9	-1885.77	17	116.16	13	-1210.26	9	-45.77	9	-11590.90	19	1472.33	9
401 Min.	-66	-1860.21	19	2564.96	9	-1885.77	17	116.16	13	-1210.26	9	-45.77	9	-11590.90	19	1472.33	9
401 Min.	-56	-1860.21	19	2564.96	9	-1885.77	17	116.16	13	-1210.26	9	-45.77	9	-11590.90	19	1472.33	9
401 Max	-35	5810.98	17	61.24	19	251.35	13	-1412.65	9	1585.53	19	980.67	19	3735.39	18	20169.60	19
401 Max	-56	5810.98	17	61.24	19	251.35	13	-1412.65	9	1585.53	19	980.67	19	3735.39	18	20169.60	19
401 Max	-64	5810.98	17	61.24	19	251.35	13	-1412.65	9	1585.53	19	980.67	19	3735.39	18	20169.60	19
401 Max	-83	5810.98	17	61.24	19	251.35	13	-1412.65	9	1585.53	19	980.67	19	3735.39	18	20169.60	19
401 Min.	-35	622.65	21	-549.11	17	-3016.37	19	-4605.37	19	379.98	13	35.61	9	1475.66	1	5191.91	9
401 Min.	-56	622.65	21	-549.11	17	-3016.37	19	-4605.37	19	379.98	13	35.61	9	1475.66	1	5191.91	9
401 Min.	-64	622.65	21	-549.11	17	-3016.37	19	-4605.37	19	379.98	13	35.61	9	1475.66	1	5191.91	9
401 Min.	-83	622.65	21	-549.11	17	-3016.37	19	-4605.37	19	379.98	13	35.61	9	1475.66	1	5191.91	9
401 Max	-66	1656.75	17	3896.93	17	2972.67	19	2065.89	19	2535.06	1	460.90	17	1210.08	9	1725.33	18
401 Max	-98	1656.75	17	3896.93	17	2972.67	19	2065.89	19	2535.06	1	460.90	17	1210.08	9	1725.33	18
401 Max	-83	1656.75	17	3896.93	17	2972.67	19	2065.89	19	2535.06	1	460.90	17	1210.08	9	1725.33	18
401 Max	-64	1656.75	17	3896.93	17	2972.67	19	2065.89	19	2535.06	1	460.90	17	1210.08	9	1725.33	18
401 Min.	-66	-643.32	19	1431.28	1	-563.73	13	404.97	13	-1510.02	9	179.54	1	-4778.87	19	854.71	5
401 Min.	-98	-643.32	19	1431.28	1	-563.73	13	404.97	13	-1510.02	9	179.54	1	-4778.87	19	854.71	5
401 Min.	-83	-643.32	19	1431.28	1	-563.73	13	404.97	13	-1510.02	9	179.54	1	-4778.87	19	854.71	5
401 Min.	-64	-643.32	19	1431.28	1	-563.73	13	404.97	13	-1510.02	9	179.54	1	-4778.87	19	854.71	5
401 Max	-98	251.85	5	8883.73	17	5274.00	19	162.28	1	368.57	1	155.26	13	-5063.66	9	-2781.12	13
401 Max	-118	251.85	5	8883.73	17	5274.00	19	162.28	1	368.57	1	155.26	13	-5063.66	9	-2781.12	13
401 Max	-117	251.85	5	8883.73	17	5274.00	19	162.28	1	368.57	1	155.26	13	-5063.66	9	-2781.12	13
401 Max	-83	251.85	5	8883.73	17	5274.00	19	162.28	1	368.57	1	155.26	13	-5063.66	9	-2781.12	13
401 Min.	-98	-220.59	19	3296.10	9	133.91	13	-318.97	9	-2896.58	9	-653.96	19	-17768.90	19	-9089.01	19
401 Min.	-118	-220.59	19	3296.10	9	133.91	13	-318.97	9	-2896.58	9	-653.96	19	-17768.90	19	-9089.01	19
401 Min.	-117	-220.59	19	3296.10	9	133.91	13	-318.97	9	-2896.58	9	-653.96	19	-17768.90	19	-9089.01	19
401 Min.	-83	-220.59	19	3296.10	9	133.91	13	-318.97	9	-2896.58	9	-653.96	19	-17768.90	19	-9089.01	19
401 Max	-35	-0.51	13	386.91	19	-90.46	21	-1012.55	9	-927.81	9	1334.43	19	7344.88	19	3519.51	18
401 Max	-42	-0.51	13	386.91	19	-90.46	21	-1012.55	9	-927.81	9	1334.43	19	7344.88	19	3519.51	18
401 Max	-1	-0.51	13	386.91	19	-90.46	21	-1012.55	9	-927.81	9	1334.43	19	7344.88	19	3519.51	18
401 Max	-2	-0.51	13	386.91	19	-90.46	21	-1012.55	9	-927.81	9	1334.43	19	7344.88	19	3519.51	18
401 Min.	-35	-280.37	19	-38.57	13	-526.84	17	-2776.75	19	-2266.27	19	448.68	13	2938.42	13	1360.86	1
401 Min.	-42	-280.37	19	-38.57	13	-526.84	17	-2776.75	19	-2266.27	19	448.68	13	2938.42	13	1360.86	1
401 Min.	-1	-280.37	19	-38.57	13	-526.84	17	-2776.75	19	-2266.27	19	448.68	13	2938.42	13	1360.86	1
401 Min.	-2	-280.37	19	-38.57	13	-526.84	17	-2776.75	19	-2266.27	19	448.68	13	2938.42	13	1360.86	1
401 Max	-35	1214.93	19	1511.40	17	1976.03	19	-660.06	5	-434.85	1	1378.03	19	10280.00	19	8420.25	19
401 Max	-2	1214.93	19	1511.40	17	1976.03	19	-660.06	5	-434.85	1	1378.03	19	10280.00	19	8420.25	19
401 Max	-3	1214.93	19	1511.40	17	1976.03	19	-660.06	5	-434.85	1	1378.03	19	10280.00	19	8420.25	19
401 Max	-26	1214.93	19	1511.40	17	1976.03	19	-660.06	5	-434.85	1	1378.03	19	10280.00	19	8420.25	19
401 Min.	-35	-44.84	13	638.52	9	85.05	13	-1591.32	18	-1122.95	18	475.90	13	3180.82	13	3301.85	13
401 Min.	-2	-44.84	13	638.52	9	85.05	13	-1591.32	18	-1122.95	18	475.90	13	3180.82	13	3301.85	13
401 Min.	-3	-44.84	13	638.52	9	85.05	13	-1591.32	18	-1122.95	18	475.90	13	3180.82	13	3301.85	13
401 Min.	-26	-44.84	13	638.52	9	85.05	13	-1591.32	18	-1122.95	18	475.90	13	3180.82	13	3301.85	13
401 Max	-195	200.92	17	-469.63	1	19.00	9	-1496.85	9	-1182.33	5	162.74	1	20843.20	19	17967.40	19
401 Max	-217	200.92	17	-469.63	1	19.00	9	-1496.85	9	-1182.33	5	162.74	1	20843.20	19	17967.40	19
401 Max	-223	200.92	17	-469.63	1	19.00	9	-1496.85	9	-1182.33	5	162.74	1	20843.20	19	17967.40	19
401 Max	-188	200.92	17	-469.63	1	19.00	9	-1496.85	9	-1182.33	5	162.74	1	20843.20	19	17967.40	19
401 Min.	-195	-440.21	18	-1263.45	17	-251.81	19	-3556.78	19	-2592.06	19	-111.14	18	8945.08	9	7430.41	9
401 Min.	-217	-440.21	18	-1263.45	17	-251.81	19	-3556.78	19	-2592.06	19	-111.14	18	8945.08	9	7430.41	9
401 Min.	-223	-440.21	18	-1263.45	17	-251.81	19	-3556.78	19	-2592.06	19	-111.14	18	8945.08	9	7430.41	9
401 Min.	-188	-440.21	18	-1263.45	17	-251.81	19	-3556.78	19	-2592.06	19	-111.14	18	8945.08	9	7430.41	9
401 Max	-195	-496.70	1	345.00	18	352.41	18	-675.22	1	-116.30	1	279.48	9	7826.36	19	15630.30	19
401 Max	-188	-496.70	1	345.00	18	352.41	18	-675.22	1	-116.30	1	279.48	9	7826.36	19	15630.30	19
401 Max	-157	-496.70	1	345.00	18	352.41	18	-675.22	1	-116.30	1	279.48	9	7826.36	19	15630.30	19
401 Max	-159	-496.70	1	345.00	18	352.41	18	-675.22	1	-116.30	1	279.48	9	7826.36	19	15630.30	19
401 Min.	-195	-1244.07	17	-52.43	9	-96.25	9	-1529.74	19	-354.54	18	10.24	1	2961.26	9	6675.60	9
401 Min.	-188	-1244.07	17	-52.43	9	-96.25	9	-1529.74	19	-354.54	18	10.24	1	2961.26	9	6675.60	9
401 Min.	-157	-1244.07	17	-52.43	9	-96.25	9	-1529.74	19	-354.54	18	10.24	1	2961.26	9	6675.60	9
401 Min.	-159	-1244.07	17	-52.43	9	-96.25	9	-1529.74	19	-354.54	18	10.24	1	2961.26	9	6675.60	9
401 Max	-188	145.01	18	-423.93	1	321.83	17	-183.76	1	5731.79	18	-1.89	5	-162.15	5	-228.47	1
401 Max	-223	145.01	18	-423.93	1	321.83	17	-183.76	1	5731.79	18	-1.89	5	-162.15	5	-228.47	1
401 Max	-221	145.01	18	-423.93	1	321.83	17	-183.76	1	5731.79	18	-1.89	5	-162.15	5	-228.47	1
401 Max	-186	145.01	18	-423.93	1	321.83	17	-183.76	1	5731.79	18	-1.89	5	-162.15	5		

Relazione di calcolo

401 Min.	-263	-34.14	18	-757.86	17	-59.15	19	1049.16	1	482.06	9	192.03	9	1782.65	9	912.57	9
401 Min.	-223	-34.14	18	-757.86	17	-59.15	19	1049.16	1	482.06	9	192.03	9	1782.65	9	912.57	9
401 Max	-263	-452.88	1	202.84	19	105.35	19	4461.60	18	1964.82	18	-61.64	9	-901.62	5	1365.11	19
401 Max	-252	-452.88	1	202.84	19	105.35	19	4461.60	18	1964.82	18	-61.64	9	-901.62	5	1365.11	19
401 Max	-221	-452.88	1	202.84	19	105.35	19	4461.60	18	1964.82	18	-61.64	9	-901.62	5	1365.11	19
401 Max	-223	-452.88	1	202.84	19	105.35	19	4461.60	18	1964.82	18	-61.64	9	-901.62	5	1365.11	19
401 Min.	-263	-1086.72	17	64.72	13	-114.95	17	1654.19	13	897.41	5	-244.81	19	-1946.97	18	511.89	9
401 Min.	-252	-1086.72	17	64.72	13	-114.95	17	1654.19	13	897.41	5	-244.81	19	-1946.97	18	511.89	9
401 Min.	-221	-1086.72	17	64.72	13	-114.95	17	1654.19	13	897.41	5	-244.81	19	-1946.97	18	511.89	9
401 Min.	-223	-1086.72	17	64.72	13	-114.95	17	1654.19	13	897.41	5	-244.81	19	-1946.97	18	511.89	9
401 Max	-157	-613.30	9	306.48	18	632.48	19	5603.25	18	917.39	18	132.82	17	2141.19	19	800.59	19
401 Max	-155	-613.30	9	306.48	18	632.48	19	5603.25	18	917.39	18	132.82	17	2141.19	19	800.59	19
401 Max	-128	-613.30	9	306.48	18	632.48	19	5603.25	18	917.39	18	132.82	17	2141.19	19	800.59	19
401 Max	-130	-613.30	9	306.48	18	632.48	19	5603.25	18	917.39	18	132.82	17	2141.19	19	800.59	19
401 Min.	-157	-1505.54	17	36.99	13	123.18	9	2255.93	9	393.56	1	-5.68	19	1025.34	1	325.50	13
401 Min.	-155	-1505.54	17	36.99	13	123.18	9	2255.93	9	393.56	1	-5.68	19	1025.34	1	325.50	13
401 Min.	-128	-1505.54	17	36.99	13	123.18	9	2255.93	9	393.56	1	-5.68	19	1025.34	1	325.50	13
401 Min.	-130	-1505.54	17	36.99	13	123.18	9	2255.93	9	393.56	1	-5.68	19	1025.34	1	325.50	13
401 Max	-157	87.86	13	-487.63	9	-23.42	9	-54.65	5	-646.87	9	41.74	1	-5611.01	1	-4081.98	9
401 Max	-130	87.86	13	-487.63	9	-23.42	9	-54.65	5	-646.87	9	41.74	1	-5611.01	1	-4081.98	9
401 Max	-120	87.86	13	-487.63	9	-23.42	9	-54.65	5	-646.87	9	41.74	1	-5611.01	1	-4081.98	9
401 Max	-159	87.86	13	-487.63	9	-23.42	9	-54.65	5	-646.87	9	41.74	1	-5611.01	1	-4081.98	9
401 Min.	-157	-551.52	18	-1134.48	17	-393.27	19	-118.52	19	-1513.59	19	-284.49	18	-13021.00	18	-10486.70	18
401 Min.	-130	-551.52	18	-1134.48	17	-393.27	19	-118.52	19	-1513.59	19	-284.49	18	-13021.00	18	-10486.70	18
401 Min.	-120	-551.52	18	-1134.48	17	-393.27	19	-118.52	19	-1513.59	19	-284.49	18	-13021.00	18	-10486.70	18
401 Min.	-159	-551.52	18	-1134.48	17	-393.27	19	-118.52	19	-1513.59	19	-284.49	18	-13021.00	18	-10486.70	18
401 Max	-234	-15.67	9	230.84	18	149.97	13	2397.52	1	505.74	1	568.87	18	1264.27	18	3077.83	18
401 Max	-240	-15.67	9	230.84	18	149.97	13	2397.52	1	505.74	1	568.87	18	1264.27	18	3077.83	18
401 Max	-215	-15.67	9	230.84	18	149.97	13	2397.52	1	505.74	1	568.87	18	1264.27	18	3077.83	18
401 Max	-203	-15.67	9	230.84	18	149.97	13	2397.52	1	505.74	1	568.87	18	1264.27	18	3077.83	18
401 Min.	-234	-959.28	18	-293.20	5	-2031.81	18	-580.94	9	-124.71	9	-481.84	9	-1106.22	1	-973.77	1
401 Min.	-240	-959.28	18	-293.20	5	-2031.81	18	-580.94	9	-124.71	9	-481.84	9	-1106.22	1	-973.77	1
401 Min.	-215	-959.28	18	-293.20	5	-2031.81	18	-580.94	9	-124.71	9	-481.84	9	-1106.22	1	-973.77	1
401 Min.	-203	-959.28	18	-293.20	5	-2031.81	18	-580.94	9	-124.71	9	-481.84	9	-1106.22	1	-973.77	1
401 Max	-240	-55.05	9	156.68	18	142.20	13	868.00	1	1105.87	19	1261.79	18	-1506.39	9	-568.96	9
401 Max	-242	-55.05	9	156.68	18	142.20	13	868.00	1	1105.87	19	1261.79	18	-1506.39	9	-568.96	9
401 Max	-213	-55.05	9	156.68	18	142.20	13	868.00	1	1105.87	19	1261.79	18	-1506.39	9	-568.96	9
401 Max	-215	-55.05	9	156.68	18	142.20	13	868.00	1	1105.87	19	1261.79	18	-1506.39	9	-568.96	9
401 Min.	-240	-779.34	18	-112.03	13	-1474.66	18	-493.18	9	483.98	9	330.72	13	-3526.42	19	-3864.82	19
401 Min.	-242	-779.34	18	-112.03	13	-1474.66	18	-493.18	9	483.98	9	330.72	13	-3526.42	19	-3864.82	19
401 Min.	-213	-779.34	18	-112.03	13	-1474.66	18	-493.18	9	483.98	9	330.72	13	-3526.42	19	-3864.82	19
401 Min.	-215	-779.34	18	-112.03	13	-1474.66	18	-493.18	9	483.98	9	330.72	13	-3526.42	19	-3864.82	19
401 Max	-215	-52.52	9	105.20	18	144.11	13	2801.45	19	-14.36	1	1223.05	18	1351.06	18	-635.17	9
401 Max	-213	-52.52	9	105.20	18	144.11	13	2801.45	19	-14.36	1	1223.05	18	1351.06	18	-635.17	9
401 Max	-190	-52.52	9	105.20	18	144.11	13	2801.45	19	-14.36	1	1223.05	18	1351.06	18	-635.17	9
401 Max	-203	-52.52	9	105.20	18	144.11	13	2801.45	19	-14.36	1	1223.05	18	1351.06	18	-635.17	9
401 Min.	-215	-1088.81	18	-155.80	13	-2213.86	18	253.96	9	-413.56	18	147.29	13	15.11	1	-3834.33	19
401 Min.	-213	-1088.81	18	-155.80	13	-2213.86	18	253.96	9	-413.56	18	147.29	13	15.11	1	-3834.33	19
401 Min.	-190	-1088.81	18	-155.80	13	-2213.86	18	253.96	9	-413.56	18	147.29	13	15.11	1	-3834.33	19
401 Min.	-203	-1088.81	18	-155.80	13	-2213.86	18	253.96	9	-413.56	18	147.29	13	15.11	1	-3834.33	19
401 Max	-203	917.38	18	-991.32	13	51.14	9	1326.87	1	-415.88	1	1071.14	1	12299.60	17	-4753.96	1
401 Max	-196	917.38	18	-991.32	13	51.14	9	1326.87	1	-415.88	1	1071.14	1	12299.60	17	-4753.96	1
401 Max	-235	917.38	18	-991.32	13	51.14	9	1326.87	1	-415.88	1	1071.14	1	12299.60	17	-4753.96	1
401 Max	-234	917.38	18	-991.32	13	51.14	9	1326.87	1	-415.88	1	1071.14	1	12299.60	17	-4753.96	1
401 Min.	-203	-71.68	1	-12864.20	18	-633.93	19	-2746.95	9	-1678.07	9	-1805.13	9	5016.01	20	-12965.60	19
401 Min.	-196	-71.68	1	-12864.20	18	-633.93	19	-2746.95	9	-1678.07	9	-1805.13	9	5016.01	20	-12965.60	19
401 Min.	-235	-71.68	1	-12864.20	18	-633.93	19	-2746.95	9	-1678.07	9	-1805.13	9	5016.01	20	-12965.60	19
401 Min.	-234	-71.68	1	-12864.20	18	-633.93	19	-2746.95	9	-1678.07	9	-1805.13	9	5016.01	20	-12965.60	19
401 Max	-240	140.72	9	-141.18	1	18.04	9	1967.52	1	1684.24	17	61.95	1	1553.84	17	1241.76	1
401 Max	-234	140.72	9	-141.18	1	18.04	9	1967.52	1	1684.24	17	61.95	1	1553.84	17	1241.76	1
401 Max	-265	140.72	9	-141.18	1	18.04	9	1967.52	1	1684.24	17	61.95	1	1553.84	17	1241.76	1
401 Max	-273	140.72	9	-141.18	1	18.04	9	1967.52	1	1684.24	17	61.95	1	1553.84	17	1241.76	1
401 Min.	-240	-75.52	1	-827.66	18	-670.51	18	-1249.90	9	616.06	20	-560.94	9	506.82	20	-4618.97	18
401 Min.	-234	-75.52	1	-827.66	18	-670.51	18	-1249.90	9	616.06	20	-560.94	9	506.82	20	-4618.97	18
401 Min.	-265	-75.52	1	-827.66	18	-670.51	18	-1249.90	9	616.06	20	-560.94	9	506.82	20	-4618.97	18
401 Min.	-273	-75.52	1	-827.66	18	-670.51	18	-1249.90	9	616.06	20	-560.94	9	506.82	20	-4618.97	18
401 Max	-240	94.91	18	578.17	18	1045.84	18	2137.16	19	840.46	1	340.02	19	632.96	9	282.71	17
401 Max	-273	94.91	18	578.17	18	1045.84	18	2137.16	19	840.46	1	340.02	19	632.96	9	282.71	17
401 Max	-275	94.91	18	578.17	18	1045.84	18	2137.16	19	840.46	1	340.02	19	632.96	9	282.71	17
401 Max	-242	94.91	18	578.17	18	1045.84	18	2137.16	19	840.46	1	340.02	19	632.96	9	282.71	17
401 Min.	-240	-109.86	13	-252.44	17	-15.45	13	919.84	9	-466.53	9	26.26	1	-1814.60	1	68.40	1
401 Min.	-273	-109.86	13	-252.44	17	-15.45	13	919.84	9	-466.53	9	26.26	1	-1814.60	1	68.40	1
401 Min.	-275	-109.86	13	-252.44	17	-15.45	13	919.84	9	-466.53	9	26.26	1	-1814.60	1	68.40	1
401 Min.	-242	-109.86	13	-252.44	17	-15.45	13	919.84	9	-466.53	9	26.26	1	-1814.60	1	68.40	1
401 Max	-234	128.13	9	1252.93	17	-105.89	9	4472.41	1	3542.63	17	874.16	9	1474.07	9		

Relazione di calcolo

401 Max	-120	109.48	18	495.20	1	887.51	18	-896.53	13	39.19	9	721.63	1	-3235.66	1	2784.12	19
401 Min.	-115	-370.76	17	-1026.71	18	-301.63	13	-2471.39	18	-300.82	17	-95.29	9	-13210.10	18	1083.74	9
401 Min.	-138	-370.76	17	-1026.71	18	-301.63	13	-2471.39	18	-300.82	17	-95.29	9	-13210.10	18	1083.74	9
401 Min.	-136	-370.76	17	-1026.71	18	-301.63	13	-2471.39	18	-300.82	17	-95.29	9	-13210.10	18	1083.74	9
401 Min.	-120	-370.76	17	-1026.71	18	-301.63	13	-2471.39	18	-300.82	17	-95.29	9	-13210.10	18	1083.74	9
401 Max	-138	-11.96	13	118.38	9	699.60	18	1532.46	19	809.71	1	-380.64	1	228.36	9	675.38	18
401 Max	-163	-11.96	13	118.38	9	699.60	18	1532.46	19	809.71	1	-380.64	1	228.36	9	675.38	18
401 Max	-161	-11.96	13	118.38	9	699.60	18	1532.46	19	809.71	1	-380.64	1	228.36	9	675.38	18
401 Max	-136	-11.96	13	118.38	9	699.60	18	1532.46	19	809.71	1	-380.64	1	228.36	9	675.38	18
401 Min.	-138	-160.02	5	-689.71	18	-152.66	17	382.19	9	-644.23	9	-1174.94	18	-2631.71	1	-53.31	9
401 Min.	-163	-160.02	5	-689.71	18	-152.66	17	382.19	9	-644.23	9	-1174.94	18	-2631.71	1	-53.31	9
401 Min.	-161	-160.02	5	-689.71	18	-152.66	17	382.19	9	-644.23	9	-1174.94	18	-2631.71	1	-53.31	9
401 Min.	-136	-160.02	5	-689.71	18	-152.66	17	382.19	9	-644.23	9	-1174.94	18	-2631.71	1	-53.31	9
401 Max	-136	38.73	13	-46.20	1	644.05	18	190.68	18	-1698.31	1	272.20	1	-593.72	1	13244.20	18
401 Max	-161	38.73	13	-46.20	1	644.05	18	190.68	18	-1698.31	1	272.20	1	-593.72	1	13244.20	18
401 Max	-159	38.73	13	-46.20	1	644.05	18	190.68	18	-1698.31	1	272.20	1	-593.72	1	13244.20	18
401 Max	-120	38.73	13	-46.20	1	644.05	18	190.68	18	-1698.31	1	272.20	1	-593.72	1	13244.20	18
401 Min.	-136	-998.13	18	-551.75	17	-353.94	17	-15.83	1	-4192.34	18	-292.42	9	-4380.24	18	5055.54	9
401 Min.	-161	-998.13	18	-551.75	17	-353.94	17	-15.83	1	-4192.34	18	-292.42	9	-4380.24	18	5055.54	9
401 Min.	-159	-998.13	18	-551.75	17	-353.94	17	-15.83	1	-4192.34	18	-292.42	9	-4380.24	18	5055.54	9
401 Min.	-120	-998.13	18	-551.75	17	-353.94	17	-15.83	1	-4192.34	18	-292.42	9	-4380.24	18	5055.54	9
401 Max	-159	-119.35	9	764.41	18	42.65	1	-1777.90	9	376.44	19	222.63	9	-5311.77	9	4415.45	19
401 Max	-161	-119.35	9	764.41	18	42.65	1	-1777.90	9	376.44	19	222.63	9	-5311.77	9	4415.45	19
401 Max	-180	-119.35	9	764.41	18	42.65	1	-1777.90	9	376.44	19	222.63	9	-5311.77	9	4415.45	19
401 Max	-195	-119.35	9	764.41	18	42.65	1	-1777.90	9	376.44	19	222.63	9	-5311.77	9	4415.45	19
401 Min.	-159	-907.85	18	-95.30	13	-1123.93	18	-4254.55	19	132.95	9	-292.89	1	-13980.50	19	881.49	9
401 Min.	-161	-907.85	18	-95.30	13	-1123.93	18	-4254.55	19	132.95	9	-292.89	1	-13980.50	19	881.49	9
401 Min.	-180	-907.85	18	-95.30	13	-1123.93	18	-4254.55	19	132.95	9	-292.89	1	-13980.50	19	881.49	9
401 Min.	-195	-907.85	18	-95.30	13	-1123.93	18	-4254.55	19	132.95	9	-292.89	1	-13980.50	19	881.49	9
401 Max	-161	66.02	9	-4.56	9	27.38	13	652.28	1	1746.65	18	-344.89	13	97.40	1	3644.99	19
401 Max	-163	66.02	9	-4.56	9	27.38	13	652.28	1	1746.65	18	-344.89	13	97.40	1	3644.99	19
401 Max	-182	66.02	9	-4.56	9	27.38	13	652.28	1	1746.65	18	-344.89	13	97.40	1	3644.99	19
401 Max	-180	66.02	9	-4.56	9	27.38	13	652.28	1	1746.65	18	-344.89	13	97.40	1	3644.99	19
401 Min.	-161	-479.28	1	-1174.47	18	-1438.74	18	-613.53	9	373.08	9	-840.98	19	-778.90	9	214.42	9
401 Min.	-163	-479.28	1	-1174.47	18	-1438.74	18	-613.53	9	373.08	9	-840.98	19	-778.90	9	214.42	9
401 Min.	-182	-479.28	1	-1174.47	18	-1438.74	18	-613.53	9	373.08	9	-840.98	19	-778.90	9	214.42	9
401 Min.	-180	-479.28	1	-1174.47	18	-1438.74	18	-613.53	9	373.08	9	-840.98	19	-778.90	9	214.42	9
401 Max	-180	358.17	9	-51.43	1	31.84	9	-274.57	9	-1274.60	9	-236.83	9	-2119.83	1	15719.50	19
401 Max	-182	358.17	9	-51.43	1	31.84	9	-274.57	9	-1274.60	9	-236.83	9	-2119.83	1	15719.50	19
401 Max	-190	358.17	9	-51.43	1	31.84	9	-274.57	9	-1274.60	9	-236.83	9	-2119.83	1	15719.50	19
401 Max	-195	358.17	9	-51.43	1	31.84	9	-274.57	9	-1274.60	9	-236.83	9	-2119.83	1	15719.50	19
401 Min.	-180	-390.75	1	-217.90	18	-1836.10	18	-749.71	17	-2953.07	19	-754.72	19	-5717.98	18	4875.72	9
401 Min.	-182	-390.75	1	-217.90	18	-1836.10	18	-749.71	17	-2953.07	19	-754.72	19	-5717.98	18	4875.72	9
401 Min.	-190	-390.75	1	-217.90	18	-1836.10	18	-749.71	17	-2953.07	19	-754.72	19	-5717.98	18	4875.72	9
401 Min.	-195	-390.75	1	-217.90	18	-1836.10	18	-749.71	17	-2953.07	19	-754.72	19	-5717.98	18	4875.72	9
401 Max	-147	1129.95	18	498.20	13	-103.48	1	2718.69	9	-484.13	1	1668.77	1	-7739.21	9	7349.72	18
401 Max	-142	1129.95	18	498.20	13	-103.48	1	2718.69	9	-484.13	1	1668.77	1	-7739.21	9	7349.72	18
401 Max	-134	1129.95	18	498.20	13	-103.48	1	2718.69	9	-484.13	1	1668.77	1	-7739.21	9	7349.72	18
401 Max	-121	1129.95	18	498.20	13	-103.48	1	2718.69	9	-484.13	1	1668.77	1	-7739.21	9	7349.72	18
401 Min.	-147	-448.45	9	-10851.70	18	-4052.80	18	-4824.70	1	-1073.79	19	-1761.73	9	-16714.00	18	207.65	9
401 Min.	-142	-448.45	9	-10851.70	18	-4052.80	18	-4824.70	1	-1073.79	19	-1761.73	9	-16714.00	18	207.65	9
401 Min.	-134	-448.45	9	-10851.70	18	-4052.80	18	-4824.70	1	-1073.79	19	-1761.73	9	-16714.00	18	207.65	9
401 Min.	-121	-448.45	9	-10851.70	18	-4052.80	18	-4824.70	1	-1073.79	19	-1761.73	9	-16714.00	18	207.65	9
401 Max	-142	282.24	9	570.89	13	331.80	9	3429.28	1	744.79	18	-293.85	1	-913.65	9	3355.80	1
401 Max	-140	282.24	9	570.89	13	331.80	9	3429.28	1	744.79	18	-293.85	1	-913.65	9	3355.80	1
401 Max	-132	282.24	9	570.89	13	331.80	9	3429.28	1	744.79	18	-293.85	1	-913.65	9	3355.80	1
401 Max	-134	282.24	9	570.89	13	331.80	9	3429.28	1	744.79	18	-293.85	1	-913.65	9	3355.80	1
401 Min.	-142	-1231.97	18	-2134.31	18	-1025.57	18	-2586.72	9	316.18	9	-1260.62	18	-5790.62	18	-1937.35	9
401 Min.	-140	-1231.97	18	-2134.31	18	-1025.57	18	-2586.72	9	316.18	9	-1260.62	18	-5790.62	18	-1937.35	9
401 Min.	-132	-1231.97	18	-2134.31	18	-1025.57	18	-2586.72	9	316.18	9	-1260.62	18	-5790.62	18	-1937.35	9
401 Min.	-134	-1231.97	18	-2134.31	18	-1025.57	18	-2586.72	9	316.18	9	-1260.62	18	-5790.62	18	-1937.35	9
401 Max	-121	304.28	9	-28.03	13	2357.87	18	-274.04	9	721.02	1	1575.02	18	3947.87	18	17573.70	18
401 Max	-134	304.28	9	-28.03	13	2357.87	18	-274.04	9	721.02	1	1575.02	18	3947.87	18	17573.70	18
401 Max	-132	304.28	9	-28.03	13	2357.87	18	-274.04	9	721.02	1	1575.02	18	3947.87	18	17573.70	18
401 Max	-115	304.28	9	-28.03	13	2357.87	18	-274.04	9	721.02	1	1575.02	18	3947.87	18	17573.70	18
401 Min.	-121	-2431.34	18	-2982.60	18	-255.87	1	-2267.71	19	-1835.27	9	816.50	9	540.97	1	6514.19	1
401 Min.	-134	-2431.34	18	-2982.60	18	-255.87	1	-2267.71	19	-1835.27	9	816.50	9	540.97	1	6514.19	1
401 Min.	-132	-2431.34	18	-2982.60	18	-255.87	1	-2267.71	19	-1835.27	9	816.50	9	540.97	1	6514.19	1
401 Min.	-115	-2431.34	18	-2982.60	18	-255.87	1	-2267.71	19	-1835.27	9	816.50	9	540.97	1	6514.19	1
401 Max	-140	161.91	13	-98.41	5	154.79	17	1482.15	1	-224.74	9	-219.40	1	350.16	9	4350.64	18
401 Max	-138	161.91	13	-98.41	5	154.79	17	1482.15	1	-224.74	9	-219.40	1	350.16	9	4350.64	18
401 Max	-115	161.91	13	-98.41	5	154.79	17	1482.15	1	-224.74	9	-219.40	1	350.16	9	4350.64	18
401 Max	-132	161.91	13	-98.41	5	154.79	17	1482.15	1	-224.74	9	-219.40	1	350.16	9	4350.64	18
401 Min.	-140	-1092.49	18	-262.67	17	-59.34	18	-750.33	9	-1115.58	18	-860.37	18	-708.44	1	302.72	1
401 Min.	-138	-1092.49	18	-262.67	17	-59.34	18	-750.33	9	-1115.58	18	-860.37	18	-708.			

Relazione di calcolo

401 Max	-167	-160.83	9	1122.90	18	254.99	18	1105.37	18	2105.90	1	-233.41	9	2540.31	9	-1301.28	1
401 Max	-178	-160.83	9	1122.90	18	254.99	18	1105.37	18	2105.90	1	-233.41	9	2540.31	9	-1301.28	1
401 Max	-182	-160.83	9	1122.90	18	254.99	18	1105.37	18	2105.90	1	-233.41	9	2540.31	9	-1301.28	1
401 Max	-163	-160.83	9	1122.90	18	254.99	18	1105.37	18	2105.90	1	-233.41	9	2540.31	9	-1301.28	1
401 Min.	-167	-743.69	18	-337.85	1	-32.99	9	212.20	9	-1277.85	9	-459.91	19	-2436.41	1	-3170.26	19
401 Min.	-178	-743.69	18	-337.85	1	-32.99	9	212.20	9	-1277.85	9	-459.91	19	-2436.41	1	-3170.26	19
401 Min.	-182	-743.69	18	-337.85	1	-32.99	9	212.20	9	-1277.85	9	-459.91	19	-2436.41	1	-3170.26	19
401 Min.	-163	-743.69	18	-337.85	1	-32.99	9	212.20	9	-1277.85	9	-459.91	19	-2436.41	1	-3170.26	19
401 Max	-167	552.10	9	10.78	9	224.48	13	2405.15	1	1193.86	19	-76.85	1	-35.73	9	1744.94	9
401 Max	-163	552.10	9	10.78	9	224.48	13	2405.15	1	1193.86	19	-76.85	1	-35.73	9	1744.94	9
401 Max	-138	552.10	9	10.78	9	224.48	13	2405.15	1	1193.86	19	-76.85	1	-35.73	9	1744.94	9
401 Max	-140	552.10	9	10.78	9	224.48	13	2405.15	1	1193.86	19	-76.85	1	-35.73	9	1744.94	9
401 Min.	-167	-676.76	18	-730.95	18	-589.43	18	-1304.64	9	292.31	9	-236.07	17	-1979.64	18	-3637.39	1
401 Min.	-163	-676.76	18	-730.95	18	-589.43	18	-1304.64	9	292.31	9	-236.07	17	-1979.64	18	-3637.39	1
401 Min.	-138	-676.76	18	-730.95	18	-589.43	18	-1304.64	9	292.31	9	-236.07	17	-1979.64	18	-3637.39	1
401 Min.	-140	-676.76	18	-730.95	18	-589.43	18	-1304.64	9	292.31	9	-236.07	17	-1979.64	18	-3637.39	1
401 Max	-178	52.92	9	-44.23	9	2519.59	18	-347.56	1	2788.89	19	141.74	9	1677.70	9	1567.81	1
401 Max	-203	52.92	9	-44.23	9	2519.59	18	-347.56	1	2788.89	19	141.74	9	1677.70	9	1567.81	1
401 Max	-190	52.92	9	-44.23	9	2519.59	18	-347.56	1	2788.89	19	141.74	9	1677.70	9	1567.81	1
401 Max	-182	52.92	9	-44.23	9	2519.59	18	-347.56	1	2788.89	19	141.74	9	1677.70	9	1567.81	1
401 Min.	-178	-2041.75	18	-463.77	17	-35.70	13	-1091.16	19	21.13	9	-304.99	18	-1286.27	1	-777.34	9
401 Min.	-203	-2041.75	18	-463.77	17	-35.70	13	-1091.16	19	21.13	9	-304.99	18	-1286.27	1	-777.34	9
401 Min.	-190	-2041.75	18	-463.77	17	-35.70	13	-1091.16	19	21.13	9	-304.99	18	-1286.27	1	-777.34	9
401 Min.	-182	-2041.75	18	-463.77	17	-35.70	13	-1091.16	19	21.13	9	-304.99	18	-1286.27	1	-777.34	9
401 Max	-194	263.23	19	-664.44	13	5939.96	17	-4685.42	5	-2741.02	5	385.93	13	58609.60	18	11279.90	19
401 Max	-205	263.23	19	-664.44	13	5939.96	17	-4685.42	5	-2741.02	5	385.93	13	58609.60	18	11279.90	19
401 Max	-207	263.23	19	-664.44	13	5939.96	17	-4685.42	5	-2741.02	5	385.93	13	58609.60	18	11279.90	19
401 Max	-201	263.23	19	-664.44	13	5939.96	17	-4685.42	5	-2741.02	5	385.93	13	58609.60	18	11279.90	19
401 Min.	-194	-1548.71	17	-11252.00	19	2306.34	1	-10232.80	18	-5253.45	17	-1137.61	19	27563.20	1	3638.83	9
401 Min.	-205	-1548.71	17	-11252.00	19	2306.34	1	-10232.80	18	-5253.45	17	-1137.61	19	27563.20	1	3638.83	9
401 Min.	-207	-1548.71	17	-11252.00	19	2306.34	1	-10232.80	18	-5253.45	17	-1137.61	19	27563.20	1	3638.83	9
401 Min.	-201	-1548.71	17	-11252.00	19	2306.34	1	-10232.80	18	-5253.45	17	-1137.61	19	27563.20	1	3638.83	9
401 Max	-205	855.90	17	-981.58	21	96.73	13	-103.46	13	-3079.26	5	749.13	19	2615.24	17	20510.60	18
401 Max	-227	855.90	17	-981.58	21	96.73	13	-103.46	13	-3079.26	5	749.13	19	2615.24	17	20510.60	18
401 Max	-231	855.90	17	-981.58	21	96.73	13	-103.46	13	-3079.26	5	749.13	19	2615.24	17	20510.60	18
401 Max	-207	855.90	17	-981.58	21	96.73	13	-103.46	13	-3079.26	5	749.13	19	2615.24	17	20510.60	18
401 Min.	-205	-1590.08	19	-2663.22	17	-1372.75	19	-776.35	19	-6360.30	18	114.81	13	-18.44	19	9595.72	1
401 Min.	-227	-1590.08	19	-2663.22	17	-1372.75	19	-776.35	19	-6360.30	18	114.81	13	-18.44	19	9595.72	1
401 Min.	-231	-1590.08	19	-2663.22	17	-1372.75	19	-776.35	19	-6360.30	18	114.81	13	-18.44	19	9595.72	1
401 Min.	-207	-1590.08	19	-2663.22	17	-1372.75	19	-776.35	19	-6360.30	18	114.81	13	-18.44	19	9595.72	1
401 Max	-207	345.12	17	-2376.24	9	602.63	13	-321.46	13	87.18	1	3215.63	19	17797.60	17	10574.20	18
401 Max	-231	345.12	17	-2376.24	9	602.63	13	-321.46	13	87.18	1	3215.63	19	17797.60	17	10574.20	18
401 Max	-229	345.12	17	-2376.24	9	602.63	13	-321.46	13	87.18	1	3215.63	19	17797.60	17	10574.20	18
401 Max	-201	345.12	17	-2376.24	9	602.63	13	-321.46	13	87.18	1	3215.63	19	17797.60	17	10574.20	18
401 Min.	-207	-464.90	19	-6052.01	17	-5433.73	19	-1332.53	19	-1617.09	18	1307.43	13	8018.34	1	5269.85	5
401 Min.	-231	-464.90	19	-6052.01	17	-5433.73	19	-1332.53	19	-1617.09	18	1307.43	13	8018.34	1	5269.85	5
401 Min.	-229	-464.90	19	-6052.01	17	-5433.73	19	-1332.53	19	-1617.09	18	1307.43	13	8018.34	1	5269.85	5
401 Min.	-201	-464.90	19	-6052.01	17	-5433.73	19	-1332.53	19	-1617.09	18	1307.43	13	8018.34	1	5269.85	5
401 Max	-186	218.62	17	-343.25	13	-115.90	13	-168.28	13	1865.31	19	-833.46	1	-6443.78	1	9386.69	18
401 Max	-221	218.62	17	-343.25	13	-115.90	13	-168.28	13	1865.31	19	-833.46	1	-6443.78	1	9386.69	18
401 Max	-227	218.62	17	-343.25	13	-115.90	13	-168.28	13	1865.31	19	-833.46	1	-6443.78	1	9386.69	18
401 Max	-205	218.62	17	-343.25	13	-115.90	13	-168.28	13	1865.31	19	-833.46	1	-6443.78	1	9386.69	18
401 Min.	-186	-64.50	19	-1147.88	19	-611.07	19	-436.66	19	397.55	13	-1755.44	18	-14538.80	18	4344.46	1
401 Min.	-221	-64.50	19	-1147.88	19	-611.07	19	-436.66	19	397.55	13	-1755.44	18	-14538.80	18	4344.46	1
401 Min.	-227	-64.50	19	-1147.88	19	-611.07	19	-436.66	19	397.55	13	-1755.44	18	-14538.80	18	4344.46	1
401 Min.	-205	-64.50	19	-1147.88	19	-611.07	19	-436.66	19	397.55	13	-1755.44	18	-14538.80	18	4344.46	1
401 Max	-186	3125.76	19	-292.46	21	431.86	17	-1276.71	13	-3436.58	1	-108.22	9	-4137.17	5	-17116.70	1
401 Max	-205	3125.76	19	-292.46	21	431.86	17	-1276.71	13	-3436.58	1	-108.22	9	-4137.17	5	-17116.70	1
401 Max	-194	3125.76	19	-292.46	21	431.86	17	-1276.71	13	-3436.58	1	-108.22	9	-4137.17	5	-17116.70	1
401 Max	-176	3125.76	19	-292.46	21	431.86	17	-1276.71	13	-3436.58	1	-108.22	9	-4137.17	5	-17116.70	1
401 Min.	-186	979.57	9	-1388.03	17	-643.71	19	-3179.43	19	-7352.41	18	-639.08	19	-9556.01	18	-38388.10	18
401 Min.	-205	979.57	9	-1388.03	17	-643.71	19	-3179.43	19	-7352.41	18	-639.08	19	-9556.01	18	-38388.10	18
401 Min.	-194	979.57	9	-1388.03	17	-643.71	19	-3179.43	19	-7352.41	18	-639.08	19	-9556.01	18	-38388.10	18
401 Min.	-176	979.57	9	-1388.03	17	-643.71	19	-3179.43	19	-7352.41	18	-639.08	19	-9556.01	18	-38388.10	18
401 Max	-176	478.95	17	-1283.39	1	558.72	17	2723.18	19	-158.47	19	1134.16	19	4862.20	19	3197.01	18
401 Max	-153	478.95	17	-1283.39	1	558.72	17	2723.18	19	-158.47	19	1134.16	19	4862.20	19	3197.01	18
401 Max	-155	478.95	17	-1283.39	1	558.72	17	2723.18	19	-158.47	19	1134.16	19	4862.20	19	3197.01	18
401 Max	-186	478.95	17	-1283.39	1	558.72	17	2723.18	19	-158.47	19	1134.16	19	4862.20	19	3197.01	18
401 Min.	-176	173.66	9	-3313.57	17	-265.37	19	1160.57	1	-878.08	17	441.44	13	1619.21	9	1415.61	1
401 Min.	-153	173.66	9	-3313.57	17	-265.37	19	1160.57	1	-878.08	17	441.44	13	1619.21	9	1415.61	1
401 Min.	-155	173.66	9	-3313.57	17	-265.37	19	1160.57	1	-878.08	17	441.44	13	1619.21	9	1415.61	1
401 Min.	-186	173.66	9	-3313.57	17	-265.37	19	1160.57	1	-878.08	17	441.44	13	1619.21	9	1415.61	1
401 Max	-261	-1492.53	1	1248.57	19	2815.94	19	1208.03	17	3392.42	17	-413.53	1	-410.23	1	8406.04	17
401 Max	-259	-1492.53	1	1248.57	19	2815.94	19	1208.03									

Relazione di calcolo

401 Min.	-233	-7054.63	19	-414.56	13	-1528.75	17	2677.04	1	-518.77	19	82.53	1	-381.14	9	5037.94	1
401 Min.	-193	-7054.63	19	-414.56	13	-1528.75	17	2677.04	1	-518.77	19	82.53	1	-381.14	9	5037.94	1
401 Min.	-201	-7054.63	19	-414.56	13	-1528.75	17	2677.04	1	-518.77	19	82.53	1	-381.14	9	5037.94	1
401 Max	-169	-77.46	1	-2488.41	9	471.46	13	2239.03	19	7546.72	17	161.50	19	-4519.10	1	-54.11	5
401 Max	-146	-77.46	1	-2488.41	9	471.46	13	2239.03	19	7546.72	17	161.50	19	-4519.10	1	-54.11	5
401 Max	-151	-77.46	1	-2488.41	9	471.46	13	2239.03	19	7546.72	17	161.50	19	-4519.10	1	-54.11	5
401 Max	-174	-77.46	1	-2488.41	9	471.46	13	2239.03	19	7546.72	17	161.50	19	-4519.10	1	-54.11	5
401 Min.	-169	-2278.60	19	-6386.00	17	-4587.12	19	890.28	1	1689.48	1	-156.61	13	-12656.70	17	-539.58	13
401 Min.	-146	-2278.60	19	-6386.00	17	-4587.12	19	890.28	1	1689.48	1	-156.61	13	-12656.70	17	-539.58	13
401 Min.	-151	-2278.60	19	-6386.00	17	-4587.12	19	890.28	1	1689.48	1	-156.61	13	-12656.70	17	-539.58	13
401 Min.	-174	-2278.60	19	-6386.00	17	-4587.12	19	890.28	1	1689.48	1	-156.61	13	-12656.70	17	-539.58	13
401 Max	-169	-2289.49	21	349.36	17	4658.20	19	9241.73	17	491.82	17	-14.92	13	263.75	13	-5662.33	1
401 Max	-174	-2289.49	21	349.36	17	4658.20	19	9241.73	17	491.82	17	-14.92	13	263.75	13	-5662.33	1
401 Max	-201	-2289.49	21	349.36	17	4658.20	19	9241.73	17	491.82	17	-14.92	13	263.75	13	-5662.33	1
401 Max	-193	-2289.49	21	349.36	17	4658.20	19	9241.73	17	491.82	17	-14.92	13	263.75	13	-5662.33	1
401 Min.	-169	-7104.98	17	-2994.91	19	-644.08	13	2689.39	1	-35.52	1	-237.84	17	-1456.76	19	-15051.20	17
401 Min.	-174	-7104.98	17	-2994.91	19	-644.08	13	2689.39	1	-35.52	1	-237.84	17	-1456.76	19	-15051.20	17
401 Min.	-201	-7104.98	17	-2994.91	19	-644.08	13	2689.39	1	-35.52	1	-237.84	17	-1456.76	19	-15051.20	17
401 Min.	-193	-7104.98	17	-2994.91	19	-644.08	13	2689.39	1	-35.52	1	-237.84	17	-1456.76	19	-15051.20	17
401 Max	-174	-145.30	1	-1358.48	9	398.13	13	4415.99	19	-67.04	1	784.09	19	-927.23	1	2572.94	19
401 Max	-151	-145.30	1	-1358.48	9	398.13	13	4415.99	19	-67.04	1	784.09	19	-927.23	1	2572.94	19
401 Max	-153	-145.30	1	-1358.48	9	398.13	13	4415.99	19	-67.04	1	784.09	19	-927.23	1	2572.94	19
401 Max	-176	-145.30	1	-1358.48	9	398.13	13	4415.99	19	-67.04	1	784.09	19	-927.23	1	2572.94	19
401 Min.	-174	-936.20	19	-3527.15	17	-3039.47	19	1900.33	1	-2059.32	18	0.46	13	-4817.21	17	1068.38	9
401 Min.	-151	-936.20	19	-3527.15	17	-3039.47	19	1900.33	1	-2059.32	18	0.46	13	-4817.21	17	1068.38	9
401 Min.	-153	-936.20	19	-3527.15	17	-3039.47	19	1900.33	1	-2059.32	18	0.46	13	-4817.21	17	1068.38	9
401 Min.	-176	-936.20	19	-3527.15	17	-3039.47	19	1900.33	1	-2059.32	18	0.46	13	-4817.21	17	1068.38	9
401 Max	-174	-3074.38	21	1465.05	19	4473.50	19	-1414.68	1	-1644.98	1	1331.66	18	-10535.80	1	-14443.20	1
401 Max	-176	-3074.38	21	1465.05	19	4473.50	19	-1414.68	1	-1644.98	1	1331.66	18	-10535.80	1	-14443.20	1
401 Max	-194	-3074.38	21	1465.05	19	4473.50	19	-1414.68	1	-1644.98	1	1331.66	18	-10535.80	1	-14443.20	1
401 Max	-201	-3074.38	21	1465.05	19	4473.50	19	-1414.68	1	-1644.98	1	1331.66	18	-10535.80	1	-14443.20	1
401 Min.	-174	-8958.30	17	78.37	13	-1280.46	17	-3330.39	18	-3516.64	18	493.02	5	-23738.80	18	-30762.90	18
401 Min.	-176	-8958.30	17	78.37	13	-1280.46	17	-3330.39	18	-3516.64	18	493.02	5	-23738.80	18	-30762.90	18
401 Min.	-194	-8958.30	17	78.37	13	-1280.46	17	-3330.39	18	-3516.64	18	493.02	5	-23738.80	18	-30762.90	18
401 Min.	-201	-8958.30	17	78.37	13	-1280.46	17	-3330.39	18	-3516.64	18	493.02	5	-23738.80	18	-30762.90	18
401 Max	-126	217.68	5	-2679.75	9	65.60	13	643.85	17	9762.60	17	660.66	19	14863.80	17	1493.92	17
401 Max	-151	217.68	5	-2679.75	9	65.60	13	643.85	17	9762.60	17	660.66	19	14863.80	17	1493.92	17
401 Max	-146	217.68	5	-2679.75	9	65.60	13	643.85	17	9762.60	17	660.66	19	14863.80	17	1493.92	17
401 Max	-118	217.68	5	-2679.75	9	65.60	13	643.85	17	9762.60	17	660.66	19	14863.80	17	1493.92	17
401 Min.	-126	-938.49	19	-7125.05	17	-4530.13	19	78.29	1	3118.64	9	83.97	13	5921.13	9	433.79	5
401 Min.	-151	-938.49	19	-7125.05	17	-4530.13	19	78.29	1	3118.64	9	83.97	13	5921.13	9	433.79	5
401 Min.	-146	-938.49	19	-7125.05	17	-4530.13	19	78.29	1	3118.64	9	83.97	13	5921.13	9	433.79	5
401 Min.	-118	-938.49	19	-7125.05	17	-4530.13	19	78.29	1	3118.64	9	83.97	13	5921.13	9	433.79	5
401 Max	-153	-2512.67	1	25.70	13	5941.58	19	-1648.69	9	-1012.87	5	-206.47	13	-11387.20	9	22193.20	19
401 Max	-151	-2512.67	1	25.70	13	5941.58	19	-1648.69	9	-1012.87	5	-206.47	13	-11387.20	9	22193.20	19
401 Max	-126	-2512.67	1	25.70	13	5941.58	19	-1648.69	9	-1012.87	5	-206.47	13	-11387.20	9	22193.20	19
401 Max	-119	-2512.67	1	25.70	13	5941.58	19	-1648.69	9	-1012.87	5	-206.47	13	-11387.20	9	22193.20	19
401 Min.	-153	-6773.25	17	-5171.38	19	1119.89	13	-4847.24	19	-2046.90	18	-1512.86	19	-26004.90	19	9243.43	9
401 Min.	-151	-6773.25	17	-5171.38	19	1119.89	13	-4847.24	19	-2046.90	18	-1512.86	19	-26004.90	19	9243.43	9
401 Min.	-126	-6773.25	17	-5171.38	19	1119.89	13	-4847.24	19	-2046.90	18	-1512.86	19	-26004.90	19	9243.43	9
401 Min.	-119	-6773.25	17	-5171.38	19	1119.89	13	-4847.24	19	-2046.90	18	-1512.86	19	-26004.90	19	9243.43	9
401 Max	-153	625.01	17	-522.08	9	-564.77	9	-575.66	1	-1206.07	5	-467.43	1	12699.80	19	-8039.72	9
401 Max	-119	625.01	17	-522.08	9	-564.77	9	-575.66	1	-1206.07	5	-467.43	1	12699.80	19	-8039.72	9
401 Max	-128	625.01	17	-522.08	9	-564.77	9	-575.66	1	-1206.07	5	-467.43	1	12699.80	19	-8039.72	9
401 Max	-155	625.01	17	-522.08	9	-564.77	9	-575.66	1	-1206.07	5	-467.43	1	12699.80	19	-8039.72	9
401 Min.	-153	-1419.09	19	-1293.06	17	-1655.63	19	-1274.97	18	-2307.80	19	-984.78	17	5506.39	13	-18575.20	19
401 Min.	-119	-1419.09	19	-1293.06	17	-1655.63	19	-1274.97	18	-2307.80	19	-984.78	17	5506.39	13	-18575.20	19
401 Min.	-128	-1419.09	19	-1293.06	17	-1655.63	19	-1274.97	18	-2307.80	19	-984.78	17	5506.39	13	-18575.20	19
401 Min.	-155	-1419.09	19	-1293.06	17	-1655.63	19	-1274.97	18	-2307.80	19	-984.78	17	5506.39	13	-18575.20	19
401 Max	-322	1746.65	18	139.79	17	459.83	18	-1832.43	9	-1033.05	13	1803.59	18	19512.40	19	24179.50	19
401 Max	-308	1746.65	18	139.79	17	459.83	18	-1832.43	9	-1033.05	13	1803.59	18	19512.40	19	24179.50	19
401 Max	-337	1746.65	18	139.79	17	459.83	18	-1832.43	9	-1033.05	13	1803.59	18	19512.40	19	24179.50	19
401 Max	-350	1746.65	18	139.79	17	459.83	18	-1832.43	9	-1033.05	13	1803.59	18	19512.40	19	24179.50	19
401 Min.	-322	-60.76	5	-1042.54	18	76.82	1	-4405.97	19	-2826.68	18	661.62	13	8244.37	9	10036.70	9
401 Min.	-308	-60.76	5	-1042.54	18	76.82	1	-4405.97	19	-2826.68	18	661.62	13	8244.37	9	10036.70	9
401 Min.	-337	-60.76	5	-1042.54	18	76.82	1	-4405.97	19	-2826.68	18	661.62	13	8244.37	9	10036.70	9
401 Min.	-350	-60.76	5	-1042.54	18	76.82	1	-4405.97	19	-2826.68	18	661.62	13	8244.37	9	10036.70	9
401 Max	-308	735.29	18	271.00	18	-68.56	1	748.56	18	-1446.39	9	-65.48	5	-2035.05	9	9188.51	19
401 Max	-306	735.29	18	271.00	18	-68.56	1	748.56	18	-1446.39	9	-65.48	5	-2035.05	9	9188.51	19
401 Max	-335	735.29	18	271.00	18	-68.56	1	748.56	18	-1446.39	9	-65.48	5	-2035.05	9	9188.51	19
401 Max	-337	735.29	18	271.00	18	-68.56	1	748.56	18	-1446.39	9	-65.48	5	-2035.05	9	9188.51	19
401 Min.	-308	-6.76	5	-162.30	17	-1409.64	18	145.31	9	-3517.27	18	-948.61	18	-5168.28	19	3703.03	9
401 Min.	-306	-6.76	5	-162.30	17	-1409.64	18	145.31	9	-3517.27	18	-948.61	18	-5168.28	19	3703.03	9
401 Min.	-335	-6.76	5	-162													

Relazione di calcolo

401 Max	-281	-177.61	1	1422.14	18	-23.51	1	-2109.27	9	321.89	18	1368.85	19	14909.00	19	6066.93	18
401 Max	-279	-177.61	1	1422.14	18	-23.51	1	-2109.27	9	321.89	18	1368.85	19	14909.00	19	6066.93	18
401 Min.	-308	-506.07	18	-73.95	5	-477.02	18	-4817.55	19	-96.55	1	569.30	9	6187.64	9	2515.50	9
401 Min.	-302	-506.07	18	-73.95	5	-477.02	18	-4817.55	19	-96.55	1	569.30	9	6187.64	9	2515.50	9
401 Min.	-281	-506.07	18	-73.95	5	-477.02	18	-4817.55	19	-96.55	1	569.30	9	6187.64	9	2515.50	9
401 Min.	-279	-506.07	18	-73.95	5	-477.02	18	-4817.55	19	-96.55	1	569.30	9	6187.64	9	2515.50	9
401 Max	-285	356.89	18	-106.15	21	264.98	18	2488.07	19	-585.09	1	-505.18	9	-2554.20	9	5947.85	19
401 Max	-267	356.89	18	-106.15	21	264.98	18	2488.07	19	-585.09	1	-505.18	9	-2554.20	9	5947.85	19
401 Max	-279	356.89	18	-106.15	21	264.98	18	2488.07	19	-585.09	1	-505.18	9	-2554.20	9	5947.85	19
401 Max	-281	356.89	18	-106.15	21	264.98	18	2488.07	19	-585.09	1	-505.18	9	-2554.20	9	5947.85	19
401 Min.	-285	-21.43	13	-614.42	17	56.79	1	1090.52	1	-1247.08	19	-1333.00	19	-6084.41	19	2443.66	9
401 Min.	-267	-21.43	13	-614.42	17	56.79	1	1090.52	1	-1247.08	19	-1333.00	19	-6084.41	19	2443.66	9
401 Min.	-279	-21.43	13	-614.42	17	56.79	1	1090.52	1	-1247.08	19	-1333.00	19	-6084.41	19	2443.66	9
401 Min.	-281	-21.43	13	-614.42	17	56.79	1	1090.52	1	-1247.08	19	-1333.00	19	-6084.41	19	2443.66	9
401 Max	-279	515.38	18	466.22	18	-40.32	1	-207.30	1	1169.31	19	-476.71	1	-3219.88	9	4800.11	19
401 Max	-275	515.38	18	466.22	18	-40.32	1	-207.30	1	1169.31	19	-476.71	1	-3219.88	9	4800.11	19
401 Max	-306	515.38	18	466.22	18	-40.32	1	-207.30	1	1169.31	19	-476.71	1	-3219.88	9	4800.11	19
401 Max	-308	515.38	18	466.22	18	-40.32	1	-207.30	1	1169.31	19	-476.71	1	-3219.88	9	4800.11	19
401 Min.	-279	-242.59	17	-80.44	13	-1294.01	18	-556.40	17	535.21	13	-1842.34	18	-8167.56	19	1708.31	9
401 Min.	-275	-242.59	17	-80.44	13	-1294.01	18	-556.40	17	535.21	13	-1842.34	18	-8167.56	19	1708.31	9
401 Min.	-306	-242.59	17	-80.44	13	-1294.01	18	-556.40	17	535.21	13	-1842.34	18	-8167.56	19	1708.31	9
401 Min.	-308	-242.59	17	-80.44	13	-1294.01	18	-556.40	17	535.21	13	-1842.34	18	-8167.56	19	1708.31	9
401 Max	-275	926.19	18	225.72	18	-52.26	1	1777.75	18	662.72	17	170.10	17	-440.93	9	926.65	1
401 Max	-273	926.19	18	225.72	18	-52.26	1	1777.75	18	662.72	17	170.10	17	-440.93	9	926.65	1
401 Max	-312	926.19	18	225.72	18	-52.26	1	1777.75	18	662.72	17	170.10	17	-440.93	9	926.65	1
401 Max	-306	926.19	18	225.72	18	-52.26	1	1777.75	18	662.72	17	170.10	17	-440.93	9	926.65	1
401 Min.	-275	-128.06	17	-71.90	13	-1424.30	18	249.13	9	156.15	20	-521.18	18	-2208.28	19	-431.10	9
401 Min.	-273	-128.06	17	-71.90	13	-1424.30	18	249.13	9	156.15	20	-521.18	18	-2208.28	19	-431.10	9
401 Min.	-312	-128.06	17	-71.90	13	-1424.30	18	249.13	9	156.15	20	-521.18	18	-2208.28	19	-431.10	9
401 Min.	-306	-128.06	17	-71.90	13	-1424.30	18	249.13	9	156.15	20	-521.18	18	-2208.28	19	-431.10	9
401 Max	-285	-45.52	20	4.40	19	-63.57	21	2660.83	18	2633.36	19	589.30	18	3304.83	19	4705.78	19
401 Max	-300	-45.52	20	4.40	19	-63.57	21	2660.83	18	2633.36	19	589.30	18	3304.83	19	4705.78	19
401 Max	-263	-45.52	20	4.40	19	-63.57	21	2660.83	18	2633.36	19	589.30	18	3304.83	19	4705.78	19
401 Max	-267	-45.52	20	4.40	19	-63.57	21	2660.83	18	2633.36	19	589.30	18	3304.83	19	4705.78	19
401 Min.	-285	-485.01	17	-201.79	17	-498.16	17	872.83	9	1128.00	1	174.52	9	1377.33	13	2054.78	9
401 Min.	-300	-485.01	17	-201.79	17	-498.16	17	872.83	9	1128.00	1	174.52	9	1377.33	13	2054.78	9
401 Min.	-263	-485.01	17	-201.79	17	-498.16	17	872.83	9	1128.00	1	174.52	9	1377.33	13	2054.78	9
401 Min.	-267	-485.01	17	-201.79	17	-498.16	17	872.83	9	1128.00	1	174.52	9	1377.33	13	2054.78	9
401 Max	-285	-38.97	21	354.03	18	398.46	17	2217.93	19	686.58	18	-419.66	13	3356.12	19	-4380.37	9
401 Max	-304	-38.97	21	354.03	18	398.46	17	2217.93	19	686.58	18	-419.66	13	3356.12	19	-4380.37	9
401 Max	-310	-38.97	21	354.03	18	398.46	17	2217.93	19	686.58	18	-419.66	13	3356.12	19	-4380.37	9
401 Max	-300	-38.97	21	354.03	18	398.46	17	2217.93	19	686.58	18	-419.66	13	3356.12	19	-4380.37	9
401 Min.	-285	-700.73	17	-4.07	1	49.50	21	887.99	9	63.40	1	-1251.78	18	1487.38	13	-10152.70	19
401 Min.	-304	-700.73	17	-4.07	1	49.50	21	887.99	9	63.40	1	-1251.78	18	1487.38	13	-10152.70	19
401 Min.	-310	-700.73	17	-4.07	1	49.50	21	887.99	9	63.40	1	-1251.78	18	1487.38	13	-10152.70	19
401 Min.	-300	-700.73	17	-4.07	1	49.50	21	887.99	9	63.40	1	-1251.78	18	1487.38	13	-10152.70	19
401 Max	-304	72.44	19	76.84	17	635.35	18	-2100.07	1	-1621.89	9	81.79	9	10698.70	18	-12135.30	9
401 Max	-322	72.44	19	76.84	17	635.35	18	-2100.07	1	-1621.89	9	81.79	9	10698.70	18	-12135.30	9
401 Max	-333	72.44	19	76.84	17	635.35	18	-2100.07	1	-1621.89	9	81.79	9	10698.70	18	-12135.30	9
401 Max	-310	72.44	19	76.84	17	635.35	18	-2100.07	1	-1621.89	9	81.79	9	10698.70	18	-12135.30	9
401 Min.	-304	-996.50	17	13.92	21	166.47	1	-4912.53	18	-3944.64	19	-85.84	1	4473.93	9	-28183.90	19
401 Min.	-322	-996.50	17	13.92	21	166.47	1	-4912.53	18	-3944.64	19	-85.84	1	4473.93	9	-28183.90	19
401 Min.	-333	-996.50	17	13.92	21	166.47	1	-4912.53	18	-3944.64	19	-85.84	1	4473.93	9	-28183.90	19
401 Min.	-310	-996.50	17	13.92	21	166.47	1	-4912.53	18	-3944.64	19	-85.84	1	4473.93	9	-28183.90	19
401 Max	-310	35.09	18	138.36	18	448.68	17	257.49	19	3630.51	18	-753.34	9	7063.12	19	-1281.21	9
401 Max	-333	35.09	18	138.36	18	448.68	17	257.49	19	3630.51	18	-753.34	9	7063.12	19	-1281.21	9
401 Max	-331	35.09	18	138.36	18	448.68	17	257.49	19	3630.51	18	-753.34	9	7063.12	19	-1281.21	9
401 Max	-300	35.09	18	138.36	18	448.68	17	257.49	19	3630.51	18	-753.34	9	7063.12	19	-1281.21	9
401 Min.	-310	-137.99	17	-294.50	17	55.46	21	105.92	1	1427.27	9	-1963.92	19	3056.19	9	-3140.70	18
401 Min.	-333	-137.99	17	-294.50	17	55.46	21	105.92	1	1427.27	9	-1963.92	19	3056.19	9	-3140.70	18
401 Min.	-331	-137.99	17	-294.50	17	55.46	21	105.92	1	1427.27	9	-1963.92	19	3056.19	9	-3140.70	18
401 Min.	-300	-137.99	17	-294.50	17	55.46	21	105.92	1	1427.27	9	-1963.92	19	3056.19	9	-3140.70	18
401 Max	-333	299.76	18	87.86	17	419.74	18	-2195.31	9	-1031.11	13	-558.61	1	9802.30	18	-7181.18	9
401 Max	-322	299.76	18	87.86	17	419.74	18	-2195.31	9	-1031.11	13	-558.61	1	9802.30	18	-7181.18	9
401 Max	-350	299.76	18	87.86	17	419.74	18	-2195.31	9	-1031.11	13	-558.61	1	9802.30	18	-7181.18	9
401 Max	-349	299.76	18	87.86	17	419.74	18	-2195.31	9	-1031.11	13	-558.61	1	9802.30	18	-7181.18	9
401 Min.	-333	-449.52	17	-592.65	18	-177.80	17	-5038.38	19	-2684.25	18	-1270.15	19	4169.40	9	-16641.80	19
401 Min.	-322	-449.52	17	-592.65	18	-177.80	17	-5038.38	19	-2684.25	18	-1270.15	19	4169.40	9	-16641.80	19
401 Min.	-350	-449.52	17	-592.65	18	-177.80	17	-5038.38	19	-2684.25	18	-1270.15	19	4169.40	9	-16641.80	19
401 Min.	-349	-449.52	17	-592.65	18	-177.80	17	-5038.38	19	-2684.25	18	-1270.15	19	4169.40	9	-16641.80	19
401 Max	-333	336.60	18	289.39	18	211.81	17	-24.13	9	4856.76	18	-135.88	9	6325.40	19	-1126.10	9
401 Max	-349	336.60	18	289.39	18	211.81	17	-24.13	9	4856.76	18	-135.88	9	6325.40	19	-1126.10	9
401 Max	-348	336.60	18	289.39	18	211.81	17	-24.13	9	4856.76	18	-135.88	9	6325.40	19	-1126.10	9
401 Max	-331	336.60	18	289.39	18	211.81	17	-24.13	9	4856.76	18	-135.88	9	6325.40	19	-1126.10	9
401 Min.	-333	-17.86	5	-126.64	17	-1											

Relazione di calcolo

401 Min.	-312	-4.40	1	-1096.77	18	-1178.02	18	-3342.46	19	-1650.99	18	462.47	9	5365.26	9	2549.89	1
401 Max	-296	1610.53	19	3.80	9	1066.11	17	-1378.21	1	-1312.75	5	541.41	17	-7880.37	1	-8820.83	1
401 Max	-329	1610.53	19	3.80	9	1066.11	17	-1378.21	1	-1312.75	5	541.41	17	-7880.37	1	-8820.83	1
401 Max	-321	1610.53	19	3.80	9	1066.11	17	-1378.21	1	-1312.75	5	541.41	17	-7880.37	1	-8820.83	1
401 Max	-292	1610.53	19	3.80	9	1066.11	17	-1378.21	1	-1312.75	5	541.41	17	-7880.37	1	-8820.83	1
401 Min.	-296	-239.32	13	-100.79	19	163.97	21	-3093.83	18	-2809.09	18	194.29	21	-18045.70	18	-19562.00	18
401 Min.	-329	-239.32	13	-100.79	19	163.97	21	-3093.83	18	-2809.09	18	194.29	21	-18045.70	18	-19562.00	18
401 Min.	-321	-239.32	13	-100.79	19	163.97	21	-3093.83	18	-2809.09	18	194.29	21	-18045.70	18	-19562.00	18
401 Min.	-292	-239.32	13	-100.79	19	163.97	21	-3093.83	18	-2809.09	18	194.29	21	-18045.70	18	-19562.00	18
401 Max	-296	-323.30	21	627.78	19	6.93	19	1452.48	19	3076.58	18	-519.09	1	3814.73	18	-1906.83	9
401 Max	-292	-323.30	21	627.78	19	6.93	19	1452.48	19	3076.58	18	-519.09	1	3814.73	18	-1906.83	9
401 Max	-254	-323.30	21	627.78	19	6.93	19	1452.48	19	3076.58	18	-519.09	1	3814.73	18	-1906.83	9
401 Max	-252	-323.30	21	627.78	19	6.93	19	1452.48	19	3076.58	18	-519.09	1	3814.73	18	-1906.83	9
401 Min.	-296	-1473.26	17	19.95	13	-671.40	17	125.14	13	1454.58	5	-1071.24	18	1635.35	1	-4694.85	18
401 Min.	-292	-1473.26	17	19.95	13	-671.40	17	125.14	13	1454.58	5	-1071.24	18	1635.35	1	-4694.85	18
401 Min.	-254	-1473.26	17	19.95	13	-671.40	17	125.14	13	1454.58	5	-1071.24	18	1635.35	1	-4694.85	18
401 Min.	-252	-1473.26	17	19.95	13	-671.40	17	125.14	13	1454.58	5	-1071.24	18	1635.35	1	-4694.85	18
401 Max	-329	157.95	13	607.61	18	401.82	19	-941.00	13	-1818.45	5	-416.72	5	-6773.73	1	10628.20	18
401 Max	-347	157.95	13	607.61	18	401.82	19	-941.00	13	-1818.45	5	-416.72	5	-6773.73	1	10628.20	18
401 Max	-346	157.95	13	607.61	18	401.82	19	-941.00	13	-1818.45	5	-416.72	5	-6773.73	1	10628.20	18
401 Max	-321	157.95	13	607.61	18	401.82	19	-941.00	13	-1818.45	5	-416.72	5	-6773.73	1	10628.20	18
401 Min.	-329	-1064.56	19	146.81	1	-273.41	17	-2569.51	19	-4094.53	18	-876.69	18	-15388.10	18	4665.66	1
401 Min.	-347	-1064.56	19	146.81	1	-273.41	17	-2569.51	19	-4094.53	18	-876.69	18	-15388.10	18	4665.66	1
401 Min.	-346	-1064.56	19	146.81	1	-273.41	17	-2569.51	19	-4094.53	18	-876.69	18	-15388.10	18	4665.66	1
401 Min.	-321	-1064.56	19	146.81	1	-273.41	17	-2569.51	19	-4094.53	18	-876.69	18	-15388.10	18	4665.66	1
401 Max	-300	178.12	17	108.71	18	248.96	17	914.43	18	4758.89	19	1964.09	18	-816.09	5	-215.67	13
401 Max	-331	178.12	17	108.71	18	248.96	17	914.43	18	4758.89	19	1964.09	18	-816.09	5	-215.67	13
401 Max	-329	178.12	17	108.71	18	248.96	17	914.43	18	4758.89	19	1964.09	18	-816.09	5	-215.67	13
401 Max	-296	178.12	17	108.71	18	248.96	17	914.43	18	4758.89	19	1964.09	18	-816.09	5	-215.67	13
401 Min.	-300	19.59	21	-646.69	17	13.78	21	429.03	1	1848.95	13	822.17	1	-1822.80	18	-913.64	19
401 Min.	-331	19.59	21	-646.69	17	13.78	21	429.03	1	1848.95	13	822.17	1	-1822.80	18	-913.64	19
401 Min.	-329	19.59	21	-646.69	17	13.78	21	429.03	1	1848.95	13	822.17	1	-1822.80	18	-913.64	19
401 Min.	-296	19.59	21	-646.69	17	13.78	21	429.03	1	1848.95	13	822.17	1	-1822.80	18	-913.64	19
401 Max	-300	-152.90	20	235.16	18	-60.25	21	4413.13	18	2014.90	18	-167.55	1	1917.40	18	-640.64	5
401 Max	-296	-152.90	20	235.16	18	-60.25	21	4413.13	18	2014.90	18	-167.55	1	1917.40	18	-640.64	5
401 Max	-252	-152.90	20	235.16	18	-60.25	21	4413.13	18	2014.90	18	-167.55	1	1917.40	18	-640.64	5
401 Max	-263	-152.90	20	235.16	18	-60.25	21	4413.13	18	2014.90	18	-167.55	1	1917.40	18	-640.64	5
401 Min.	-300	-895.10	17	87.04	9	-372.77	17	1611.16	13	938.93	5	-438.94	18	762.02	9	-1418.05	18
401 Min.	-296	-895.10	17	87.04	9	-372.77	17	1611.16	13	938.93	5	-438.94	18	762.02	9	-1418.05	18
401 Min.	-252	-895.10	17	87.04	9	-372.77	17	1611.16	13	938.93	5	-438.94	18	762.02	9	-1418.05	18
401 Min.	-263	-895.10	17	87.04	9	-372.77	17	1611.16	13	938.93	5	-438.94	18	762.02	9	-1418.05	18
401 Max	-331	456.67	19	358.68	18	127.22	18	-118.15	1	5512.55	18	29.62	9	-2062.79	1	-640.98	1
401 Max	-348	456.67	19	358.68	18	127.22	18	-118.15	1	5512.55	18	29.62	9	-2062.79	1	-640.98	1
401 Max	-347	456.67	19	358.68	18	127.22	18	-118.15	1	5512.55	18	29.62	9	-2062.79	1	-640.98	1
401 Max	-329	456.67	19	358.68	18	127.22	18	-118.15	1	5512.55	18	29.62	9	-2062.79	1	-640.98	1
401 Min.	-331	-253.94	17	43.16	1	46.77	1	-238.61	18	2336.83	9	-163.38	19	-4772.37	18	-1455.36	18
401 Min.	-348	-253.94	17	43.16	1	46.77	1	-238.61	18	2336.83	9	-163.38	19	-4772.37	18	-1455.36	18
401 Min.	-347	-253.94	17	43.16	1	46.77	1	-238.61	18	2336.83	9	-163.38	19	-4772.37	18	-1455.36	18
401 Min.	-329	-253.94	17	43.16	1	46.77	1	-238.61	18	2336.83	9	-163.38	19	-4772.37	18	-1455.36	18
401 Max	-294	8272.21	19	-812.95	1	2460.25	17	1633.96	17	3990.63	17	56.36	9	655.52	19	5753.06	17
401 Max	-256	8272.21	19	-812.95	1	2460.25	17	1633.96	17	3990.63	17	56.36	9	655.52	19	5753.06	17
401 Max	-259	8272.21	19	-812.95	1	2460.25	17	1633.96	17	3990.63	17	56.36	9	655.52	19	5753.06	17
401 Max	-290	8272.21	19	-812.95	1	2460.25	17	1633.96	17	3990.63	17	56.36	9	655.52	19	5753.06	17
401 Min.	-294	-825.61	13	-2024.97	17	-3529.98	19	547.66	21	1267.92	1	-1028.91	19	-4427.54	17	568.81	19
401 Min.	-256	-825.61	13	-2024.97	17	-3529.98	19	547.66	21	1267.92	1	-1028.91	19	-4427.54	17	568.81	19
401 Min.	-259	-825.61	13	-2024.97	17	-3529.98	19	547.66	21	1267.92	1	-1028.91	19	-4427.54	17	568.81	19
401 Min.	-290	-825.61	13	-2024.97	17	-3529.98	19	547.66	21	1267.92	1	-1028.91	19	-4427.54	17	568.81	19
401 Max	-294	243.38	17	3430.83	19	-157.58	21	2508.03	17	-448.94	5	699.99	19	-1215.77	21	77.96	9
401 Max	-290	243.38	17	3430.83	19	-157.58	21	2508.03	17	-448.94	5	699.99	19	-1215.77	21	77.96	9
401 Max	-318	243.38	17	3430.83	19	-157.58	21	2508.03	17	-448.94	5	699.99	19	-1215.77	21	77.96	9
401 Max	-327	243.38	17	3430.83	19	-157.58	21	2508.03	17	-448.94	5	699.99	19	-1215.77	21	77.96	9
401 Min.	-294	-1012.84	19	-610.13	17	-965.53	17	1309.61	5	-942.50	18	122.49	9	-2922.33	17	-683.23	19
401 Min.	-290	-1012.84	19	-610.13	17	-965.53	17	1309.61	5	-942.50	18	122.49	9	-2922.33	17	-683.23	19
401 Min.	-318	-1012.84	19	-610.13	17	-965.53	17	1309.61	5	-942.50	18	122.49	9	-2922.33	17	-683.23	19
401 Min.	-327	-1012.84	19	-610.13	17	-965.53	17	1309.61	5	-942.50	18	122.49	9	-2922.33	17	-683.23	19
401 Max	-261	-562.77	9	1538.27	19	824.34	19	-1129.00	1	3493.46	18	-178.62	21	-3089.79	1	2549.25	19
401 Max	-254	-562.77	9	1538.27	19	824.34	19	-1129.00	1	3493.46	18	-178.62	21	-3089.79	1	2549.25	19
401 Max	-292	-562.77	9	1538.27	19	824.34	19	-1129.00	1	3493.46	18	-178.62	21	-3089.79	1	2549.25	19
401 Max	-288	-562.77	9	1538.27	19	824.34	19	-1129.00	1	3493.46	18	-178.62	21	-3089.79	1	2549.25	19
401 Min.	-261	-1276.76	17	-570.56	17	-1387.39	17	-2714.57	18	1671.34	5	-630.94	17	-6836.52	18	-286.34	9
401 Min.	-254	-1276.76	17	-570.56	17	-1387.39	17	-2714.57	18	1671.34	5	-630.94	17	-6836.52	18	-286.34	9
401 Min.	-292	-1276.76	17	-570.56	17	-1387.39	17	-2714.57	18	1671.34	5	-630.94	17	-6836.52	18	-286.34	9
401 Min.	-288	-1276.76	17	-570.56	17	-1387.39	17	-2714.57	18	1671.34	5	-630.94	17	-6836.52	18	-286.34	9
401 Max	-261	1274.86	19	-144.93	21	2074.15	17	2175.78	17	789.38	17	-68.22	13				

Relazione di calcolo

401 Min.	-318	-1205.29	19	-222.70	13	-653.55	17	816.32	5	-4000.94	18	-1042.36	17	-1050.93	18	-9271.25	18
401 Min.	-316	-1205.29	19	-222.70	13	-653.55	17	816.32	5	-4000.94	18	-1042.36	17	-1050.93	18	-9271.25	18
401 Min.	-339	-1205.29	19	-222.70	13	-653.55	17	816.32	5	-4000.94	18	-1042.36	17	-1050.93	18	-9271.25	18
401 Min.	-341	-1205.29	19	-222.70	13	-653.55	17	816.32	5	-4000.94	18	-1042.36	17	-1050.93	18	-9271.25	18
401 Max	-345	146.68	13	308.78	17	348.08	17	246.35	17	-1367.49	1	1444.69	18	-172.56	13	-2595.69	1
401 Max	-341	146.68	13	308.78	17	348.08	17	246.35	17	-1367.49	1	1444.69	18	-172.56	13	-2595.69	1
401 Max	-339	146.68	13	308.78	17	348.08	17	246.35	17	-1367.49	1	1444.69	18	-172.56	13	-2595.69	1
401 Max	-346	146.68	13	308.78	17	348.08	17	246.35	17	-1367.49	1	1444.69	18	-172.56	13	-2595.69	1
401 Min.	-345	-994.98	19	-101.84	19	-1365.18	19	47.65	21	-3144.07	18	719.03	5	-1043.33	19	-5788.63	18
401 Min.	-341	-994.98	19	-101.84	19	-1365.18	19	47.65	21	-3144.07	18	719.03	5	-1043.33	19	-5788.63	18
401 Min.	-339	-994.98	19	-101.84	19	-1365.18	19	47.65	21	-3144.07	18	719.03	5	-1043.33	19	-5788.63	18
401 Min.	-346	-994.98	19	-101.84	19	-1365.18	19	47.65	21	-3144.07	18	719.03	5	-1043.33	19	-5788.63	18
401 Max	-316	251.84	19	317.94	17	2558.05	19	-1676.56	5	-1697.76	13	-1168.78	5	11514.90	18	-10201.80	5
401 Max	-321	251.84	19	317.94	17	2558.05	19	-1676.56	5	-1697.76	13	-1168.78	5	11514.90	18	-10201.80	5
401 Max	-346	251.84	19	317.94	17	2558.05	19	-1676.56	5	-1697.76	13	-1168.78	5	11514.90	18	-10201.80	5
401 Max	-339	251.84	19	317.94	17	2558.05	19	-1676.56	5	-1697.76	13	-1168.78	5	11514.90	18	-10201.80	5
401 Min.	-316	-1362.60	17	-1107.15	19	-374.79	13	-3405.69	18	-4191.24	19	-2308.26	18	5103.32	1	-21885.70	18
401 Min.	-321	-1362.60	17	-1107.15	19	-374.79	13	-3405.69	18	-4191.24	19	-2308.26	18	5103.32	1	-21885.70	18
401 Min.	-346	-1362.60	17	-1107.15	19	-374.79	13	-3405.69	18	-4191.24	19	-2308.26	18	5103.32	1	-21885.70	18
401 Min.	-339	-1362.60	17	-1107.15	19	-374.79	13	-3405.69	18	-4191.24	19	-2308.26	18	5103.32	1	-21885.70	18
401 Max	-320	932.03	17	40.27	19	88.08	13	-180.35	13	-1052.11	5	752.29	17	4535.72	19	9037.59	18
401 Max	-327	932.03	17	40.27	19	88.08	13	-180.35	13	-1052.11	5	752.29	17	4535.72	19	9037.59	18
401 Max	-345	932.03	17	40.27	19	88.08	13	-180.35	13	-1052.11	5	752.29	17	4535.72	19	9037.59	18
401 Max	-344	932.03	17	40.27	19	88.08	13	-180.35	13	-1052.11	5	752.29	17	4535.72	19	9037.59	18
401 Min.	-320	-688.99	19	-159.30	17	-1867.84	19	-637.61	19	-2333.67	18	375.24	5	1898.52	13	4160.37	5
401 Min.	-327	-688.99	19	-159.30	17	-1867.84	19	-637.61	19	-2333.67	18	375.24	5	1898.52	13	4160.37	5
401 Min.	-345	-688.99	19	-159.30	17	-1867.84	19	-637.61	19	-2333.67	18	375.24	5	1898.52	13	4160.37	5
401 Min.	-344	-688.99	19	-159.30	17	-1867.84	19	-637.61	19	-2333.67	18	375.24	5	1898.52	13	4160.37	5
401 Max	-320	327.51	17	-69.06	5	-98.89	13	-1312.12	1	-707.22	9	956.50	18	6153.19	18	4629.29	18
401 Max	-344	327.51	17	-69.06	5	-98.89	13	-1312.12	1	-707.22	9	956.50	18	6153.19	18	4629.29	18
401 Max	-343	327.51	17	-69.06	5	-98.89	13	-1312.12	1	-707.22	9	956.50	18	6153.19	18	4629.29	18
401 Max	-314	327.51	17	-69.06	5	-98.89	13	-1312.12	1	-707.22	9	956.50	18	6153.19	18	4629.29	18
401 Min.	-320	81.81	21	-150.86	17	-794.51	19	-3111.21	18	-1891.16	19	416.12	1	2614.65	1	2062.15	5
401 Min.	-344	81.81	21	-150.86	17	-794.51	19	-3111.21	18	-1891.16	19	416.12	1	2614.65	1	2062.15	5
401 Min.	-343	81.81	21	-150.86	17	-794.51	19	-3111.21	18	-1891.16	19	416.12	1	2614.65	1	2062.15	5
401 Min.	-314	81.81	21	-150.86	17	-794.51	19	-3111.21	18	-1891.16	19	416.12	1	2614.65	1	2062.15	5
401 Max	-277	2049.81	19	-44.07	9	1098.56	19	-369.23	1	-878.20	5	-510.12	5	4487.16	19	-3989.83	1
401 Max	-320	2049.81	19	-44.07	9	1098.56	19	-369.23	1	-878.20	5	-510.12	5	4487.16	19	-3989.83	1
401 Max	-314	2049.81	19	-44.07	9	1098.56	19	-369.23	1	-878.20	5	-510.12	5	4487.16	19	-3989.83	1
401 Max	-269	2049.81	19	-44.07	9	1098.56	19	-369.23	1	-878.20	5	-510.12	5	4487.16	19	-3989.83	1
401 Min.	-277	-287.66	13	-305.06	19	408.49	9	-929.42	19	-1982.64	18	-1065.98	17	1873.06	9	-9616.72	18
401 Min.	-320	-287.66	13	-305.06	19	408.49	9	-929.42	19	-1982.64	18	-1065.98	17	1873.06	9	-9616.72	18
401 Min.	-314	-287.66	13	-305.06	19	408.49	9	-929.42	19	-1982.64	18	-1065.98	17	1873.06	9	-9616.72	18
401 Min.	-269	-287.66	13	-305.06	19	408.49	9	-929.42	19	-1982.64	18	-1065.98	17	1873.06	9	-9616.72	18
401 Max	-277	3221.56	19	2941.15	19	-448.14	13	-1206.30	1	40.67	9	989.68	17	-4164.41	1	7510.13	18
401 Max	-271	3221.56	19	2941.15	19	-448.14	13	-1206.30	1	40.67	9	989.68	17	-4164.41	1	7510.13	18
401 Max	-298	3221.56	19	2941.15	19	-448.14	13	-1206.30	1	40.67	9	989.68	17	-4164.41	1	7510.13	18
401 Max	-320	3221.56	19	2941.15	19	-448.14	13	-1206.30	1	40.67	9	989.68	17	-4164.41	1	7510.13	18
401 Min.	-277	570.60	13	-127.57	13	-5675.05	19	-2620.82	18	-682.24	19	-136.53	19	-9219.05	18	3828.47	5
401 Min.	-271	570.60	13	-127.57	13	-5675.05	19	-2620.82	18	-682.24	19	-136.53	19	-9219.05	18	3828.47	5
401 Min.	-298	570.60	13	-127.57	13	-5675.05	19	-2620.82	18	-682.24	19	-136.53	19	-9219.05	18	3828.47	5
401 Min.	-320	570.60	13	-127.57	13	-5675.05	19	-2620.82	18	-682.24	19	-136.53	19	-9219.05	18	3828.47	5
401 Max	-271	3069.37	19	5507.94	19	-191.20	13	1667.91	9	2128.95	17	1048.77	17	-614.92	19	4115.09	17
401 Max	-256	3069.37	19	5507.94	19	-191.20	13	1667.91	9	2128.95	17	1048.77	17	-614.92	19	4115.09	17
401 Max	-294	3069.37	19	5507.94	19	-191.20	13	1667.91	9	2128.95	17	1048.77	17	-614.92	19	4115.09	17
401 Max	-298	3069.37	19	5507.94	19	-191.20	13	1667.91	9	2128.95	17	1048.77	17	-614.92	19	4115.09	17
401 Min.	-271	590.63	9	-790.32	13	-8036.80	19	54.53	1	785.31	21	2.28	19	-3917.28	17	-298.14	19
401 Min.	-256	590.63	9	-790.32	13	-8036.80	19	54.53	1	785.31	21	2.28	19	-3917.28	17	-298.14	19
401 Min.	-294	590.63	9	-790.32	13	-8036.80	19	54.53	1	785.31	21	2.28	19	-3917.28	17	-298.14	19
401 Min.	-298	590.63	9	-790.32	13	-8036.80	19	54.53	1	785.31	21	2.28	19	-3917.28	17	-298.14	19
401 Max	-298	2322.98	19	3168.85	19	-253.02	13	-426.65	1	-1064.46	1	1286.81	17	-2335.60	5	11983.90	18
401 Max	-294	2322.98	19	3168.85	19	-253.02	13	-426.65	1	-1064.46	1	1286.81	17	-2335.60	5	11983.90	18
401 Max	-327	2322.98	19	3168.85	19	-253.02	13	-426.65	1	-1064.46	1	1286.81	17	-2335.60	5	11983.90	18
401 Max	-320	2322.98	19	3168.85	19	-253.02	13	-426.65	1	-1064.46	1	1286.81	17	-2335.60	5	11983.90	18
401 Min.	-298	552.09	13	-322.51	13	-4791.23	19	-1036.75	18	-2361.18	18	313.85	21	-4470.79	18	5953.36	5
401 Min.	-294	552.09	13	-322.51	13	-4791.23	19	-1036.75	18	-2361.18	18	313.85	21	-4470.79	18	5953.36	5
401 Min.	-327	552.09	13	-322.51	13	-4791.23	19	-1036.75	18	-2361.18	18	313.85	21	-4470.79	18	5953.36	5
401 Min.	-320	552.09	13	-322.51	13	-4791.23	19	-1036.75	18	-2361.18	18	313.85	21	-4470.79	18	5953.36	5
401 Max	-271	2903.78	19	182.68	19	23.05	13	-167.57	9	2724.48	17	-90.17	9	-70.29	9	981.19	19
401 Max	-277	2903.78	19	182.68	19	23.05	13	-167.57	9	2724.48	17	-90.17	9	-70.29	9	981.19	19
401 Max	-248	2903.78	19	182.68	19	23.05	13	-167.57	9	2724.48	17	-90.17	9	-70.29	9	981.19	19
401 Max	-238	2903.78	19	182.68	19	23.05	13	-167.57	9	2724.48	17	-90.17	9	-70.29	9	981.19	19
401 Min.	-271	868.10	13	-217.96	17	-3436.60	19	-1314.80	17	1377.07	5	-476.85	18	-859.88	17	-1850.55	9
401 Min.	-277	868.10	13	-217.96	17	-3436.60	19	-13									

Relazione di calcolo

401 Max	-219	154.78	13	529.21	19	-1456.71	9	-914.08	5	-1524.90	5	1917.09	17	3860.61	19	15901.90	18
401 Max	-225	154.78	13	529.21	19	-1456.71	9	-914.08	5	-1524.90	5	1917.09	17	3860.61	19	15901.90	18
401 Max	-209	154.78	13	529.21	19	-1456.71	9	-914.08	5	-1524.90	5	1917.09	17	3860.61	19	15901.90	18
401 Min.	-212	-5240.45	19	27.76	13	-3654.48	17	-1913.76	18	-3354.17	18	901.66	5	1031.08	9	7165.47	1
401 Min.	-219	-5240.45	19	27.76	13	-3654.48	17	-1913.76	18	-3354.17	18	901.66	5	1031.08	9	7165.47	1
401 Min.	-225	-5240.45	19	27.76	13	-3654.48	17	-1913.76	18	-3354.17	18	901.66	5	1031.08	9	7165.47	1
401 Min.	-209	-5240.45	19	27.76	13	-3654.48	17	-1913.76	18	-3354.17	18	901.66	5	1031.08	9	7165.47	1
401 Max	-219	-288.76	13	2759.79	17	1741.87	19	2405.75	18	-1239.62	1	245.90	9	171.01	1	5960.78	18
401 Max	-248	-288.76	13	2759.79	17	1741.87	19	2405.75	18	-1239.62	1	245.90	9	171.01	1	5960.78	18
401 Max	-250	-288.76	13	2759.79	17	1741.87	19	2405.75	18	-1239.62	1	245.90	9	171.01	1	5960.78	18
401 Max	-225	-288.76	13	2759.79	17	1741.87	19	2405.75	18	-1239.62	1	245.90	9	171.01	1	5960.78	18
401 Min.	-219	-2439.02	19	1107.19	9	-152.05	13	1109.34	1	-2580.75	18	-14.07	1	-1680.24	9	2913.11	5
401 Min.	-248	-2439.02	19	1107.19	9	-152.05	13	1109.34	1	-2580.75	18	-14.07	1	-1680.24	9	2913.11	5
401 Min.	-250	-2439.02	19	1107.19	9	-152.05	13	1109.34	1	-2580.75	18	-14.07	1	-1680.24	9	2913.11	5
401 Min.	-225	-2439.02	19	1107.19	9	-152.05	13	1109.34	1	-2580.75	18	-14.07	1	-1680.24	9	2913.11	5
401 Max	-209	1035.06	19	-656.86	1	129.79	19	-650.38	1	1559.90	18	1040.78	18	3459.90	18	161.01	1
401 Max	-225	1035.06	19	-656.86	1	129.79	19	-650.38	1	1559.90	18	1040.78	18	3459.90	18	161.01	1
401 Max	-250	1035.06	19	-656.86	1	129.79	19	-650.38	1	1559.90	18	1040.78	18	3459.90	18	161.01	1
401 Max	-269	1035.06	19	-656.86	1	129.79	19	-650.38	1	1559.90	18	1040.78	18	3459.90	18	161.01	1
401 Min.	-209	72.10	13	-1553.88	17	-666.46	17	-1590.52	18	734.32	5	516.70	5	1675.80	5	-348.88	9
401 Min.	-225	72.10	13	-1553.88	17	-666.46	17	-1590.52	18	734.32	5	516.70	5	1675.80	5	-348.88	9
401 Min.	-250	72.10	13	-1553.88	17	-666.46	17	-1590.52	18	734.32	5	516.70	5	1675.80	5	-348.88	9
401 Min.	-269	72.10	13	-1553.88	17	-666.46	17	-1590.52	18	734.32	5	516.70	5	1675.80	5	-348.88	9
401 Max	-248	606.42	19	557.69	17	1277.28	19	2865.16	18	-100.21	9	-403.38	5	26.31	1	1077.57	19
401 Max	-277	606.42	19	557.69	17	1277.28	19	2865.16	18	-100.21	9	-403.38	5	26.31	1	1077.57	19
401 Max	-269	606.42	19	557.69	17	1277.28	19	2865.16	18	-100.21	9	-403.38	5	26.31	1	1077.57	19
401 Max	-250	606.42	19	557.69	17	1277.28	19	2865.16	18	-100.21	9	-403.38	5	26.31	1	1077.57	19
401 Min.	-248	-296.10	17	233.41	9	200.47	13	1356.19	5	-459.70	18	-821.68	17	-810.60	9	228.35	9
401 Min.	-277	-296.10	17	233.41	9	200.47	13	1356.19	5	-459.70	18	-821.68	17	-810.60	9	228.35	9
401 Min.	-269	-296.10	17	233.41	9	200.47	13	1356.19	5	-459.70	18	-821.68	17	-810.60	9	228.35	9
401 Min.	-250	-296.10	17	233.41	9	200.47	13	1356.19	5	-459.70	18	-821.68	17	-810.60	9	228.35	9
401 Max	-84	-2.14	1	407.26	18	16.89	13	-1651.80	1	743.48	18	96.18	9	-5134.30	1	3189.77	18
401 Max	-77	-2.14	1	407.26	18	16.89	13	-1651.80	1	743.48	18	96.18	9	-5134.30	1	3189.77	18
401 Max	-105	-2.14	1	407.26	18	16.89	13	-1651.80	1	743.48	18	96.18	9	-5134.30	1	3189.77	18
401 Max	-120	-2.14	1	407.26	18	16.89	13	-1651.80	1	743.48	18	96.18	9	-5134.30	1	3189.77	18
401 Min.	-84	-530.95	18	-40.95	13	-761.75	18	-4188.82	18	156.21	1	-281.51	1	-13057.00	18	155.09	1
401 Min.	-77	-530.95	18	-40.95	13	-761.75	18	-4188.82	18	156.21	1	-281.51	1	-13057.00	18	155.09	1
401 Min.	-105	-530.95	18	-40.95	13	-761.75	18	-4188.82	18	156.21	1	-281.51	1	-13057.00	18	155.09	1
401 Min.	-120	-530.95	18	-40.95	13	-761.75	18	-4188.82	18	156.21	1	-281.51	1	-13057.00	18	155.09	1
401 Max	-77	120.25	1	102.67	17	125.23	13	90.83	9	2440.83	18	-266.58	13	128.60	1	3923.95	18
401 Max	-76	120.25	1	102.67	17	125.23	13	90.83	9	2440.83	18	-266.58	13	128.60	1	3923.95	18
401 Max	-103	120.25	1	102.67	17	125.23	13	90.83	9	2440.83	18	-266.58	13	128.60	1	3923.95	18
401 Max	-105	120.25	1	102.67	17	125.23	13	90.83	9	2440.83	18	-266.58	13	128.60	1	3923.95	18
401 Min.	-77	-390.62	9	-398.41	18	-872.36	18	-910.13	18	752.08	1	-628.74	19	-296.70	9	468.17	1
401 Min.	-76	-390.62	9	-398.41	18	-872.36	18	-910.13	18	752.08	1	-628.74	19	-296.70	9	468.17	1
401 Min.	-103	-390.62	9	-398.41	18	-872.36	18	-910.13	18	752.08	1	-628.74	19	-296.70	9	468.17	1
401 Min.	-105	-390.62	9	-398.41	18	-872.36	18	-910.13	18	752.08	1	-628.74	19	-296.70	9	468.17	1
401 Max	-120	956.57	18	86.72	9	458.59	18	-331.73	1	334.15	9	616.85	19	4748.30	18	13663.20	18
401 Max	-105	956.57	18	86.72	9	458.59	18	-331.73	1	334.15	9	616.85	19	4748.30	18	13663.20	18
401 Max	-103	956.57	18	86.72	9	458.59	18	-331.73	1	334.15	9	616.85	19	4748.30	18	13663.20	18
401 Max	-115	956.57	18	86.72	9	458.59	18	-331.73	1	334.15	9	616.85	19	4748.30	18	13663.20	18
401 Min.	-120	-162.73	9	-1406.69	18	-353.13	9	-1266.47	18	-646.76	1	73.43	1	534.95	1	3769.03	1
401 Min.	-105	-162.73	9	-1406.69	18	-353.13	9	-1266.47	18	-646.76	1	73.43	1	534.95	1	3769.03	1
401 Min.	-103	-162.73	9	-1406.69	18	-353.13	9	-1266.47	18	-646.76	1	73.43	1	534.95	1	3769.03	1
401 Min.	-115	-162.73	9	-1406.69	18	-353.13	9	-1266.47	18	-646.76	1	73.43	1	534.95	1	3769.03	1
401 Max	-76	308.18	1	276.84	17	114.91	13	1752.14	9	954.42	18	290.48	1	1592.16	1	3923.19	9
401 Max	-82	308.18	1	276.84	17	114.91	13	1752.14	9	954.42	18	290.48	1	1592.16	1	3923.19	9
401 Max	-115	308.18	1	276.84	17	114.91	13	1752.14	9	954.42	18	290.48	1	1592.16	1	3923.19	9
401 Max	-103	308.18	1	276.84	17	114.91	13	1752.14	9	954.42	18	290.48	1	1592.16	1	3923.19	9
401 Min.	-76	-479.06	9	-799.27	18	-1000.57	18	-888.19	1	133.27	1	-227.97	9	-1313.15	9	-943.94	1
401 Min.	-82	-479.06	9	-799.27	18	-1000.57	18	-888.19	1	133.27	1	-227.97	9	-1313.15	9	-943.94	1
401 Min.	-115	-479.06	9	-799.27	18	-1000.57	18	-888.19	1	133.27	1	-227.97	9	-1313.15	9	-943.94	1
401 Min.	-103	-479.06	9	-799.27	18	-1000.57	18	-888.19	1	133.27	1	-227.97	9	-1313.15	9	-943.94	1
401 Max	-77	-24.13	1	132.16	13	381.45	1	-1747.67	1	-86.28	9	270.00	1	-6602.82	1	-1887.34	1
401 Max	-84	-24.13	1	132.16	13	381.45	1	-1747.67	1	-86.28	9	270.00	1	-6602.82	1	-1887.34	1
401 Max	-37	-24.13	1	132.16	13	381.45	1	-1747.67	1	-86.28	9	270.00	1	-6602.82	1	-1887.34	1
401 Max	-52	-24.13	1	132.16	13	381.45	1	-1747.67	1	-86.28	9	270.00	1	-6602.82	1	-1887.34	1
401 Min.	-77	-332.71	17	-846.69	18	-183.05	18	-4603.62	18	-377.08	18	-324.28	9	-17595.90	18	-6844.88	18
401 Min.	-84	-332.71	17	-846.69	18	-183.05	18	-4603.62	18	-377.08	18	-324.28	9	-17595.90	18	-6844.88	18
401 Min.	-37	-332.71	17	-846.69	18	-183.05	18	-4603.62	18	-377.08	18	-324.28	9	-17595.90	18	-6844.88	18
401 Min.	-52	-332.71	17	-846.69	18	-183.05	18	-4603.62	18	-377.08	18	-324.28	9	-17595.90	18	-6844.88	18
401 Max	-77	46.80	9	207.77	1	422.99	18	665.49	18	612.08	9	-398.29	1	5527.50	18	-583.36	1
401 Max	-52	46.80	9	207.77	1	422.99	18	665.49	18	612.08	9	-398.29	1	5527.50	18	-583.36	1
401 Max	-54	46.80	9	207.77	1	422.99	18	665.49	18	612.08	9	-398.29	1	5527.50	18	-583.36	1
401 Max	-76	46.80	9	207.77	1	422.99	18	665.49	18	612.08	9	-398.29	1	5527.50	18	-583.36	1
4																	

Relazione di calcolo

401 Min.	-22	-21.70	13	-473.55	18	-149.25	17	-225.27	1	-2089.76	18	733.54	1	-1642.19	19	-4670.78	18
401 Min.	-8	-21.70	13	-473.55	18	-149.25	17	-225.27	1	-2089.76	18	733.54	1	-1642.19	19	-4670.78	18
401 Max	-52	266.66	1	519.64	18	28.05	9	-1171.07	1	-1360.33	5	-648.44	5	13207.20	18	-5739.20	1
401 Max	-37	266.66	1	519.64	18	28.05	9	-1171.07	1	-1360.33	5	-648.44	5	13207.20	18	-5739.20	1
401 Max	-8	266.66	1	519.64	18	28.05	9	-1171.07	1	-1360.33	5	-648.44	5	13207.20	18	-5739.20	1
401 Max	-22	266.66	1	519.64	18	28.05	9	-1171.07	1	-1360.33	5	-648.44	5	13207.20	18	-5739.20	1
401 Min.	-52	-678.91	18	-46.97	13	-300.13	19	-3721.34	18	-3246.07	19	-1510.47	19	4937.24	1	-16821.40	18
401 Min.	-37	-678.91	18	-46.97	13	-300.13	19	-3721.34	18	-3246.07	19	-1510.47	19	4937.24	1	-16821.40	18
401 Min.	-8	-678.91	18	-46.97	13	-300.13	19	-3721.34	18	-3246.07	19	-1510.47	19	4937.24	1	-16821.40	18
401 Min.	-22	-678.91	18	-46.97	13	-300.13	19	-3721.34	18	-3246.07	19	-1510.47	19	4937.24	1	-16821.40	18
401 Max	-46	522.49	1	229.55	9	521.64	1	2761.69	9	1829.54	18	-193.50	9	6922.04	18	2922.37	9
401 Max	-48	522.49	1	229.55	9	521.64	1	2761.69	9	1829.54	18	-193.50	9	6922.04	18	2922.37	9
401 Max	-63	522.49	1	229.55	9	521.64	1	2761.69	9	1829.54	18	-193.50	9	6922.04	18	2922.37	9
401 Max	-82	522.49	1	229.55	9	521.64	1	2761.69	9	1829.54	18	-193.50	9	6922.04	18	2922.37	9
401 Min.	-46	-599.86	18	-635.20	18	-44.55	9	-2493.75	1	256.74	5	-1100.49	18	1166.28	1	-3496.91	1
401 Min.	-48	-599.86	18	-635.20	18	-44.55	9	-2493.75	1	256.74	5	-1100.49	18	1166.28	1	-3496.91	1
401 Min.	-63	-599.86	18	-635.20	18	-44.55	9	-2493.75	1	256.74	5	-1100.49	18	1166.28	1	-3496.91	1
401 Min.	-82	-599.86	18	-635.20	18	-44.55	9	-2493.75	1	256.74	5	-1100.49	18	1166.28	1	-3496.91	1
401 Max	-48	59.78	1	1493.96	17	218.35	1	4550.93	9	2487.21	18	668.24	9	12682.20	18	3792.95	9
401 Max	-50	59.78	1	1493.96	17	218.35	1	4550.93	9	2487.21	18	668.24	9	12682.20	18	3792.95	9
401 Max	-67	59.78	1	1493.96	17	218.35	1	4550.93	9	2487.21	18	668.24	9	12682.20	18	3792.95	9
401 Max	-63	59.78	1	1493.96	17	218.35	1	4550.93	9	2487.21	18	668.24	9	12682.20	18	3792.95	9
401 Min.	-48	-724.05	9	-1052.17	18	-2461.07	18	-5322.57	1	266.10	5	-1559.17	1	3711.26	1	-3387.54	1
401 Min.	-50	-724.05	9	-1052.17	18	-2461.07	18	-5322.57	1	266.10	5	-1559.17	1	3711.26	1	-3387.54	1
401 Min.	-67	-724.05	9	-1052.17	18	-2461.07	18	-5322.57	1	266.10	5	-1559.17	1	3711.26	1	-3387.54	1
401 Min.	-63	-724.05	9	-1052.17	18	-2461.07	18	-5322.57	1	266.10	5	-1559.17	1	3711.26	1	-3387.54	1
401 Max	-63	801.91	1	2472.08	17	580.62	13	5603.88	9	5301.54	18	708.18	1	2073.97	17	6598.57	9
401 Max	-67	801.91	1	2472.08	17	580.62	13	5603.88	9	5301.54	18	708.18	1	2073.97	17	6598.57	9
401 Max	-99	801.91	1	2472.08	17	580.62	13	5603.88	9	5301.54	18	708.18	1	2073.97	17	6598.57	9
401 Max	-82	801.91	1	2472.08	17	580.62	13	5603.88	9	5301.54	18	708.18	1	2073.97	17	6598.57	9
401 Min.	-63	-1215.01	9	1279.82	5	-1373.41	18	-4962.37	1	1604.27	5	-564.78	9	642.55	1	-4024.27	1
401 Min.	-67	-1215.01	9	1279.82	5	-1373.41	18	-4962.37	1	1604.27	5	-564.78	9	642.55	1	-4024.27	1
401 Min.	-99	-1215.01	9	1279.82	5	-1373.41	18	-4962.37	1	1604.27	5	-564.78	9	642.55	1	-4024.27	1
401 Min.	-82	-1215.01	9	1279.82	5	-1373.41	18	-4962.37	1	1604.27	5	-564.78	9	642.55	1	-4024.27	1
401 Max	-99	973.67	18	270.38	1	1.00	1	-305.38	9	2878.10	9	488.01	9	7488.38	19	-5120.14	5
401 Max	-121	973.67	18	270.38	1	1.00	1	-305.38	9	2878.10	9	488.01	9	7488.38	19	-5120.14	5
401 Max	-115	973.67	18	270.38	1	1.00	1	-305.38	9	2878.10	9	488.01	9	7488.38	19	-5120.14	5
401 Max	-82	973.67	18	270.38	1	1.00	1	-305.38	9	2878.10	9	488.01	9	7488.38	19	-5120.14	5
401 Min.	-99	-1028.43	17	-570.21	9	-811.29	9	-1152.97	18	-2930.72	1	-1361.14	1	1643.13	9	-14997.70	18
401 Min.	-121	-1028.43	17	-570.21	9	-811.29	9	-1152.97	18	-2930.72	1	-1361.14	1	1643.13	9	-14997.70	18
401 Min.	-115	-1028.43	17	-570.21	9	-811.29	9	-1152.97	18	-2930.72	1	-1361.14	1	1643.13	9	-14997.70	18
401 Min.	-82	-1028.43	17	-570.21	9	-811.29	9	-1152.97	18	-2930.72	1	-1361.14	1	1643.13	9	-14997.70	18
401 Max	-10	128.88	18	487.85	18	136.84	5	-1390.99	13	-832.30	9	-493.35	13	14579.20	18	-2851.36	9
401 Max	-38	128.88	18	487.85	18	136.84	5	-1390.99	13	-832.30	9	-493.35	13	14579.20	18	-2851.36	9
401 Max	-28	128.88	18	487.85	18	136.84	5	-1390.99	13	-832.30	9	-493.35	13	14579.20	18	-2851.36	9
401 Max	-9	128.88	18	487.85	18	136.84	5	-1390.99	13	-832.30	9	-493.35	13	14579.20	18	-2851.36	9
401 Min.	-10	-81.10	17	-222.72	5	-688.05	18	-3369.17	18	-2157.41	19	-1474.19	18	5021.44	1	-7616.80	18
401 Min.	-38	-81.10	17	-222.72	5	-688.05	18	-3369.17	18	-2157.41	19	-1474.19	18	5021.44	1	-7616.80	18
401 Min.	-28	-81.10	17	-222.72	5	-688.05	18	-3369.17	18	-2157.41	19	-1474.19	18	5021.44	1	-7616.80	18
401 Min.	-9	-81.10	17	-222.72	5	-688.05	18	-3369.17	18	-2157.41	19	-1474.19	18	5021.44	1	-7616.80	18
401 Max	-38	371.53	5	570.60	9	418.12	13	-2015.54	9	-1010.71	1	2059.76	1	31941.80	18	37653.30	18
401 Max	-50	371.53	5	570.60	9	418.12	13	-2015.54	9	-1010.71	1	2059.76	1	31941.80	18	37653.30	18
401 Max	-48	371.53	5	570.60	9	418.12	13	-2015.54	9	-1010.71	1	2059.76	1	31941.80	18	37653.30	18
401 Max	-28	371.53	5	570.60	9	418.12	13	-2015.54	9	-1010.71	1	2059.76	1	31941.80	18	37653.30	18
401 Min.	-38	-6859.41	18	-789.11	1	-954.97	18	-7380.55	18	-3128.91	19	-2179.40	9	11447.10	5	9165.45	5
401 Min.	-50	-6859.41	18	-789.11	1	-954.97	18	-7380.55	18	-3128.91	19	-2179.40	9	11447.10	5	9165.45	5
401 Min.	-48	-6859.41	18	-789.11	1	-954.97	18	-7380.55	18	-3128.91	19	-2179.40	9	11447.10	5	9165.45	5
401 Min.	-28	-6859.41	18	-789.11	1	-954.97	18	-7380.55	18	-3128.91	19	-2179.40	9	11447.10	5	9165.45	5
401 Max	-28	274.12	1	-73.03	20	499.05	18	-681.86	9	1949.98	18	230.76	1	8033.79	18	1466.27	9
401 Max	-48	274.12	1	-73.03	20	499.05	18	-681.86	9	1949.98	18	230.76	1	8033.79	18	1466.27	9
401 Max	-46	274.12	1	-73.03	20	499.05	18	-681.86	9	1949.98	18	230.76	1	8033.79	18	1466.27	9
401 Max	-9	274.12	1	-73.03	20	499.05	18	-681.86	9	1949.98	18	230.76	1	8033.79	18	1466.27	9
401 Min.	-28	-176.22	18	-334.26	17	-15.21	5	-2163.45	18	0.60	1	-732.37	9	3221.02	1	-1593.95	1
401 Min.	-48	-176.22	18	-334.26	17	-15.21	5	-2163.45	18	0.60	1	-732.37	9	3221.02	1	-1593.95	1
401 Min.	-46	-176.22	18	-334.26	17	-15.21	5	-2163.45	18	0.60	1	-732.37	9	3221.02	1	-1593.95	1
401 Min.	-9	-176.22	18	-334.26	17	-15.21	5	-2163.45	18	0.60	1	-732.37	9	3221.02	1	-1593.95	1
401 Max	-274	159.11	19	-141.33	9	648.37	18	1965.33	9	1665.61	17	612.12	1	-433.51	20	1222.49	9
401 Max	-266	159.11	19	-141.33	9	648.37	18	1965.33	9	1665.61	17	612.12	1	-433.51	20	1222.49	9
401 Max	-236	159.11	19	-141.33	9	648.37	18	1965.33	9	1665.61	17	612.12	1	-433.51	20	1222.49	9
401 Max	-241	159.11	19	-141.33	9	648.37	18	1965.33	9	1665.61	17	612.12	1	-433.51	20	1222.49	9
401 Min.	-274	-75.70	9	-858.18	18	-21.27	1	-1224.28	1	609.98	20	-81.16	9	-1525.53	17	-4634.42	18
401 Min.	-266	-75.70	9	-858.18	18	-21.27	1	-1224.28	1	609.98	20	-81.16	9	-1525.53	17	-4634.42	18
401 Min.	-236	-75.70	9	-858.18	18	-21.27	1	-1224.28	1	609.98	20	-81.16	9	-1525.53	17	-4634.42	18
401 Min.	-241	-75.70	9	-858.18	18	-21.27	1	-1224.28	1	609.98	20	-81.16	9	-1525.53	17	-4634.42	18
401 Max	-274	100.50	18	572.36	18	15.41	5	2121.84	19	840.20	9	-24.81	9	632.59			

Relazione di calcolo

401 Max	-216	28.50	18	-55.52	1	139.37	5	1188.81	19	826.81	9	1248.84	18	3650.01	19	3671.73	19
401 Min.	-214	-99.52	5	-650.50	18	-1510.07	18	515.17	1	-521.05	1	293.94	1	502.62	1	1529.66	1
401 Min.	-243	-99.52	5	-650.50	18	-1510.07	18	515.17	1	-521.05	1	293.94	1	502.62	1	1529.66	1
401 Min.	-241	-99.52	5	-650.50	18	-1510.07	18	515.17	1	-521.05	1	293.94	1	502.62	1	1529.66	1
401 Min.	-216	-99.52	5	-650.50	18	-1510.07	18	515.17	1	-521.05	1	293.94	1	502.62	1	1529.66	1
401 Max	-216	663.13	18	-7.15	1	141.64	5	497.05	9	2405.13	9	392.47	18	1089.06	9	991.68	9
401 Max	-241	663.13	18	-7.15	1	141.64	5	497.05	9	2405.13	9	392.47	18	1089.06	9	991.68	9
401 Max	-236	663.13	18	-7.15	1	141.64	5	497.05	9	2405.13	9	392.47	18	1089.06	9	991.68	9
401 Max	-204	663.13	18	-7.15	1	141.64	5	497.05	9	2405.13	9	392.47	18	1089.06	9	991.68	9
401 Min.	-216	-319.78	13	-1391.63	18	-1852.54	18	-45.58	1	-660.30	1	-418.49	1	-3199.79	18	-916.78	18
401 Min.	-241	-319.78	13	-1391.63	18	-1852.54	18	-45.58	1	-660.30	1	-418.49	1	-3199.79	18	-916.78	18
401 Min.	-236	-319.78	13	-1391.63	18	-1852.54	18	-45.58	1	-660.30	1	-418.49	1	-3199.79	18	-916.78	18
401 Min.	-204	-319.78	13	-1391.63	18	-1852.54	18	-45.58	1	-660.30	1	-418.49	1	-3199.79	18	-916.78	18
401 Max	-218	124.36	1	67.00	5	1306.66	18	-1355.53	1	-1852.41	1	-636.33	13	-8262.78	1	16924.60	19
401 Max	-214	124.36	1	67.00	5	1306.66	18	-1355.53	1	-1852.41	1	-636.33	13	-8262.78	1	16924.60	19
401 Max	-191	124.36	1	67.00	5	1306.66	18	-1355.53	1	-1852.41	1	-636.33	13	-8262.78	1	16924.60	19
401 Max	-197	124.36	1	67.00	5	1306.66	18	-1355.53	1	-1852.41	1	-636.33	13	-8262.78	1	16924.60	19
401 Min.	-218	-496.56	18	-1076.23	18	-255.57	17	-3175.38	19	-4341.92	19	-2133.15	18	-20326.90	19	5670.41	1
401 Min.	-214	-496.56	18	-1076.23	18	-255.57	17	-3175.38	19	-4341.92	19	-2133.15	18	-20326.90	19	5670.41	1
401 Min.	-191	-496.56	18	-1076.23	18	-255.57	17	-3175.38	19	-4341.92	19	-2133.15	18	-20326.90	19	5670.41	1
401 Min.	-197	-496.56	18	-1076.23	18	-255.57	17	-3175.38	19	-4341.92	19	-2133.15	18	-20326.90	19	5670.41	1
401 Max	-243	75.79	17	-214.60	20	43.06	5	2104.85	19	-1339.84	13	1127.03	18	-642.55	1	-3529.96	1
401 Max	-214	75.79	17	-214.60	20	43.06	5	2104.85	19	-1339.84	13	1127.03	18	-642.55	1	-3529.96	1
401 Max	-218	75.79	17	-214.60	20	43.06	5	2104.85	19	-1339.84	13	1127.03	18	-642.55	1	-3529.96	1
401 Max	-247	75.79	17	-214.60	20	43.06	5	2104.85	19	-1339.84	13	1127.03	18	-642.55	1	-3529.96	1
401 Min.	-243	-464.82	18	-624.15	17	-924.47	18	853.27	1	-2917.62	19	301.92	1	-2919.09	19	-8518.92	19
401 Min.	-214	-464.82	18	-624.15	17	-924.47	18	853.27	1	-2917.62	19	301.92	1	-2919.09	19	-8518.92	19
401 Min.	-218	-464.82	18	-624.15	17	-924.47	18	853.27	1	-2917.62	19	301.92	1	-2919.09	19	-8518.92	19
401 Min.	-247	-464.82	18	-624.15	17	-924.47	18	853.27	1	-2917.62	19	301.92	1	-2919.09	19	-8518.92	19
401 Max	-243	-14.01	20	82.20	18	928.19	18	-666.43	9	3831.28	19	-13.97	1	-304.07	1	101.65	1
401 Max	-247	-14.01	20	82.20	18	928.19	18	-666.43	9	3831.28	19	-13.97	1	-304.07	1	101.65	1
401 Max	-280	-14.01	20	82.20	18	928.19	18	-666.43	9	3831.28	19	-13.97	1	-304.07	1	101.65	1
401 Max	-276	-14.01	20	82.20	18	928.19	18	-666.43	9	3831.28	19	-13.97	1	-304.07	1	101.65	1
401 Min.	-243	-421.65	17	-47.80	5	-12.36	9	-1511.07	19	1624.46	1	-280.63	9	-982.21	18	-1154.77	9
401 Min.	-247	-421.65	17	-47.80	5	-12.36	9	-1511.07	19	1624.46	1	-280.63	9	-982.21	18	-1154.77	9
401 Min.	-280	-421.65	17	-47.80	5	-12.36	9	-1511.07	19	1624.46	1	-280.63	9	-982.21	18	-1154.77	9
401 Min.	-276	-421.65	17	-47.80	5	-12.36	9	-1511.07	19	1624.46	1	-280.63	9	-982.21	18	-1154.77	9
401 Max	-166	-135.07	13	941.07	18	54.51	1	912.78	18	2140.10	9	538.24	1	1964.13	9	-756.12	9
401 Max	-183	-135.07	13	941.07	18	54.51	1	912.78	18	2140.10	9	538.24	1	1964.13	9	-756.12	9
401 Max	-179	-135.07	13	941.07	18	54.51	1	912.78	18	2140.10	9	538.24	1	1964.13	9	-756.12	9
401 Max	-168	-135.07	13	941.07	18	54.51	1	912.78	18	2140.10	9	538.24	1	1964.13	9	-756.12	9
401 Min.	-166	-559.42	18	-319.64	9	-609.35	18	46.74	1	-1111.91	1	-73.50	9	-2770.19	1	-3024.94	19
401 Min.	-183	-559.42	18	-319.64	9	-609.35	18	46.74	1	-1111.91	1	-73.50	9	-2770.19	1	-3024.94	19
401 Min.	-179	-559.42	18	-319.64	9	-609.35	18	46.74	1	-1111.91	1	-73.50	9	-2770.19	1	-3024.94	19
401 Min.	-168	-559.42	18	-319.64	9	-609.35	18	46.74	1	-1111.91	1	-73.50	9	-2770.19	1	-3024.94	19
401 Max	-166	535.35	1	10.71	1	590.28	18	2415.86	9	1176.41	19	239.33	17	30.25	1	3587.89	9
401 Max	-168	535.35	1	10.71	1	590.28	18	2415.86	9	1176.41	19	239.33	17	30.25	1	3587.89	9
401 Max	-141	535.35	1	10.71	1	590.28	18	2415.86	9	1176.41	19	239.33	17	30.25	1	3587.89	9
401 Max	-139	535.35	1	10.71	1	590.28	18	2415.86	9	1176.41	19	239.33	17	30.25	1	3587.89	9
401 Min.	-166	-631.51	18	-766.02	18	-247.99	1	-1298.88	1	282.99	1	109.84	13	-2018.05	18	-1748.19	1
401 Min.	-168	-631.51	18	-766.02	18	-247.99	1	-1298.88	1	282.99	1	109.84	13	-2018.05	18	-1748.19	1
401 Min.	-141	-631.51	18	-766.02	18	-247.99	1	-1298.88	1	282.99	1	109.84	13	-2018.05	18	-1748.19	1
401 Min.	-139	-631.51	18	-766.02	18	-247.99	1	-1298.88	1	282.99	1	109.84	13	-2018.05	18	-1748.19	1
401 Max	-183	151.83	9	-146.35	1	102.43	5	-167.31	9	2657.34	18	-62.23	1	1107.44	9	1885.96	9
401 Max	-191	151.83	9	-146.35	1	102.43	5	-167.31	9	2657.34	18	-62.23	1	1107.44	9	1885.96	9
401 Max	-204	151.83	9	-146.35	1	102.43	5	-167.31	9	2657.34	18	-62.23	1	1107.44	9	1885.96	9
401 Max	-179	151.83	9	-146.35	1	102.43	5	-167.31	9	2657.34	18	-62.23	1	1107.44	9	1885.96	9
401 Min.	-183	-890.62	18	-1542.49	18	-2631.27	18	-975.41	19	38.58	1	-775.59	9	-1319.03	1	-1027.46	1
401 Min.	-191	-890.62	18	-1542.49	18	-2631.27	18	-975.41	19	38.58	1	-775.59	9	-1319.03	1	-1027.46	1
401 Min.	-204	-890.62	18	-1542.49	18	-2631.27	18	-975.41	19	38.58	1	-775.59	9	-1319.03	1	-1027.46	1
401 Min.	-179	-890.62	18	-1542.49	18	-2631.27	18	-975.41	19	38.58	1	-775.59	9	-1319.03	1	-1027.46	1
401 Max	-147	345.14	1	3880.59	17	4658.53	18	6328.04	9	3715.52	18	176.52	1	1764.85	19	3987.63	1
401 Max	-143	345.14	1	3880.59	17	4658.53	18	6328.04	9	3715.52	18	176.52	1	1764.85	19	3987.63	1
401 Max	-165	345.14	1	3880.59	17	4658.53	18	6328.04	9	3715.52	18	176.52	1	1764.85	19	3987.63	1
401 Max	-170	345.14	1	3880.59	17	4658.53	18	6328.04	9	3715.52	18	176.52	1	1764.85	19	3987.63	1
401 Min.	-147	-1425.04	9	1846.24	20	-541.29	5	-6186.45	1	1604.43	9	-370.80	9	654.04	5	-7188.36	9
401 Min.	-143	-1425.04	9	1846.24	20	-541.29	5	-6186.45	1	1604.43	9	-370.80	9	654.04	5	-7188.36	9
401 Min.	-165	-1425.04	9	1846.24	20	-541.29	5	-6186.45	1	1604.43	9	-370.80	9	654.04	5	-7188.36	9
401 Min.	-170	-1425.04	9	1846.24	20	-541.29	5	-6186.45	1	1604.43	9	-370.80	9	654.04	5	-7188.36	9
401 Max	-143	728.70	9	134.10	5	1581.57	18	3616.16	9	1796.91	18	167.65	17	2505.95	18	3551.30	1
401 Max	-141	728.70	9	134.10	5	1581.57	18	3616.16	9	1796.91	18	167.65	17	2505.95	18	3551.30	1
401 Max	-168	728.70	9	134.10	5	1581.57	18	3616.16	9	1796.91	18	167.65	17	2505.95	18	3551.30	1
401 Max	-165	728.70	9	134.10	5	1581.57	18	3616.16	9	1796.91	18	167.65	17	2505.95	18	3551.30	1
401 Min.	-143	-356.55	1	-2054.00	18	-355.08	5	-3285.29	1	765.03	1	21.45	9	796.47	1	-4094.33	9
401 Min.	-141	-356.55	1	-2054.00	18	-355.08	5	-3285.29	1	765.03	1	21.45	9	796.47	1	-4094.33	9
401 Min.</																	

Relazione di calcolo

401 Max	-116	18.76	5	368.36	1	2240.74	18	532.08	9	-109.68	1	1654.87	18	-6657.32	9	469.03	9
401 Max	-133	18.76	5	368.36	1	2240.74	18	532.08	9	-109.68	1	1654.87	18	-6657.32	9	469.03	9
401 Max	-135	18.76	5	368.36	1	2240.74	18	532.08	9	-109.68	1	1654.87	18	-6657.32	9	469.03	9
401 Max	-121	18.76	5	368.36	1	2240.74	18	532.08	9	-109.68	1	1654.87	18	-6657.32	9	469.03	9
401 Min.	-116	-3484.20	18	-1962.95	18	-216.60	9	-2011.58	1	-1917.49	19	625.17	1	-17902.70	18	-2221.41	18
401 Min.	-133	-3484.20	18	-1962.95	18	-216.60	9	-2011.58	1	-1917.49	19	625.17	1	-17902.70	18	-2221.41	18
401 Min.	-135	-3484.20	18	-1962.95	18	-216.60	9	-2011.58	1	-1917.49	19	625.17	1	-17902.70	18	-2221.41	18
401 Min.	-121	-3484.20	18	-1962.95	18	-216.60	9	-2011.58	1	-1917.49	19	625.17	1	-17902.70	18	-2221.41	18
401 Max	-143	1256.81	18	483.05	5	3848.48	18	2670.82	1	-426.77	9	1829.06	1	-7658.60	1	-408.36	1
401 Max	-147	1256.81	18	483.05	5	3848.48	18	2670.82	1	-426.77	9	1829.06	1	-7658.60	1	-408.36	1
401 Max	-121	1256.81	18	483.05	5	3848.48	18	2670.82	1	-426.77	9	1829.06	1	-7658.60	1	-408.36	1
401 Max	-135	1256.81	18	483.05	5	3848.48	18	2670.82	1	-426.77	9	1829.06	1	-7658.60	1	-408.36	1
401 Min.	-143	-415.77	1	-10973.80	18	90.17	9	-4773.82	9	-1070.70	19	-1720.20	9	-16590.90	18	-7669.91	18
401 Min.	-147	-415.77	1	-10973.80	18	90.17	9	-4773.82	9	-1070.70	19	-1720.20	9	-16590.90	18	-7669.91	18
401 Min.	-121	-415.77	1	-10973.80	18	90.17	9	-4773.82	9	-1070.70	19	-1720.20	9	-16590.90	18	-7669.91	18
401 Min.	-135	-415.77	1	-10973.80	18	90.17	9	-4773.82	9	-1070.70	19	-1720.20	9	-16590.90	18	-7669.91	18
401 Max	-191	1070.68	18	122.00	1	128.70	9	-775.96	1	-685.22	5	-490.99	1	-3760.57	1	11035.70	19
401 Max	-183	1070.68	18	122.00	1	128.70	9	-775.96	1	-685.22	5	-490.99	1	-3760.57	1	11035.70	19
401 Max	-181	1070.68	18	122.00	1	128.70	9	-775.96	1	-685.22	5	-490.99	1	-3760.57	1	11035.70	19
401 Max	-197	1070.68	18	122.00	1	128.70	9	-775.96	1	-685.22	5	-490.99	1	-3760.57	1	11035.70	19
401 Min.	-191	-154.90	5	-1244.72	18	-1434.96	18	-2132.34	18	-1315.06	19	-1392.15	19	-12487.30	19	3756.30	1
401 Min.	-183	-154.90	5	-1244.72	18	-1434.96	18	-2132.34	18	-1315.06	19	-1392.15	19	-12487.30	19	3756.30	1
401 Min.	-181	-154.90	5	-1244.72	18	-1434.96	18	-2132.34	18	-1315.06	19	-1392.15	19	-12487.30	19	3756.30	1
401 Min.	-197	-154.90	5	-1244.72	18	-1434.96	18	-2132.34	18	-1315.06	19	-1392.15	19	-12487.30	19	3756.30	1
401 Max	-183	6.87	1	51.99	1	38.51	5	1806.47	18	614.11	9	-310.54	5	-216.74	1	912.00	1
401 Max	-166	6.87	1	51.99	1	38.51	5	1806.47	18	614.11	9	-310.54	5	-216.74	1	912.00	1
401 Max	-162	6.87	1	51.99	1	38.51	5	1806.47	18	614.11	9	-310.54	5	-216.74	1	912.00	1
401 Max	-181	6.87	1	51.99	1	38.51	5	1806.47	18	614.11	9	-310.54	5	-216.74	1	912.00	1
401 Min.	-183	-1052.17	18	-477.20	9	-1482.86	18	401.99	1	-641.18	1	-767.48	19	-3599.82	18	-88.96	9
401 Min.	-166	-1052.17	18	-477.20	9	-1482.86	18	401.99	1	-641.18	1	-767.48	19	-3599.82	18	-88.96	9
401 Min.	-162	-1052.17	18	-477.20	9	-1482.86	18	401.99	1	-641.18	1	-767.48	19	-3599.82	18	-88.96	9
401 Min.	-181	-1052.17	18	-477.20	9	-1482.86	18	401.99	1	-641.18	1	-767.48	19	-3599.82	18	-88.96	9
401 Max	-181	761.61	18	-117.64	1	41.05	9	373.21	19	-1776.35	1	215.30	1	-897.65	1	13952.30	19
401 Max	-162	761.61	18	-117.64	1	41.05	9	373.21	19	-1776.35	1	215.30	1	-897.65	1	13952.30	19
401 Max	-160	761.61	18	-117.64	1	41.05	9	373.21	19	-1776.35	1	215.30	1	-897.65	1	13952.30	19
401 Max	-197	761.61	18	-117.64	1	41.05	9	373.21	19	-1776.35	1	215.30	1	-897.65	1	13952.30	19
401 Min.	-181	-94.95	5	-901.19	18	-1133.08	18	132.07	1	-4247.87	19	-298.85	9	-4437.06	19	5309.16	1
401 Min.	-162	-94.95	5	-901.19	18	-1133.08	18	132.07	1	-4247.87	19	-298.85	9	-4437.06	19	5309.16	1
401 Min.	-160	-94.95	5	-901.19	18	-1133.08	18	132.07	1	-4247.87	19	-298.85	9	-4437.06	19	5309.16	1
401 Min.	-197	-94.95	5	-901.19	18	-1133.08	18	132.07	1	-4247.87	19	-298.85	9	-4437.06	19	5309.16	1
401 Max	-160	-46.92	9	40.25	5	643.00	18	-1698.36	9	192.35	18	280.06	9	-5054.04	1	4327.01	18
401 Max	-162	-46.92	9	40.25	5	643.00	18	-1698.36	9	192.35	18	280.06	9	-5054.04	1	4327.01	18
401 Max	-137	-46.92	9	40.25	5	643.00	18	-1698.36	9	192.35	18	280.06	9	-5054.04	1	4327.01	18
401 Max	-122	-46.92	9	40.25	5	643.00	18	-1698.36	9	192.35	18	280.06	9	-5054.04	1	4327.01	18
401 Min.	-160	-552.00	17	-1003.79	18	-350.69	17	-4192.22	18	-14.52	9	-287.20	1	-13249.40	18	575.26	9
401 Min.	-162	-552.00	17	-1003.79	18	-350.69	17	-4192.22	18	-14.52	9	-287.20	1	-13249.40	18	575.26	9
401 Min.	-137	-552.00	17	-1003.79	18	-350.69	17	-4192.22	18	-14.52	9	-287.20	1	-13249.40	18	575.26	9
401 Min.	-122	-552.00	17	-1003.79	18	-350.69	17	-4192.22	18	-14.52	9	-287.20	1	-13249.40	18	575.26	9
401 Max	-162	91.89	1	-8.81	5	748.38	18	735.86	9	1742.78	19	-334.79	13	75.99	1	2587.62	9
401 Max	-166	91.89	1	-8.81	5	748.38	18	735.86	9	1742.78	19	-334.79	13	75.99	1	2587.62	9
401 Max	-139	91.89	1	-8.81	5	748.38	18	735.86	9	1742.78	19	-334.79	13	75.99	1	2587.62	9
401 Max	-137	91.89	1	-8.81	5	748.38	18	735.86	9	1742.78	19	-334.79	13	75.99	1	2587.62	9
401 Min.	-162	-549.29	18	-229.15	18	-163.83	5	-733.49	1	477.20	1	-1038.78	18	-908.38	18	-222.84	1
401 Min.	-166	-549.29	18	-229.15	18	-163.83	5	-733.49	1	477.20	1	-1038.78	18	-908.38	18	-222.84	1
401 Min.	-139	-549.29	18	-229.15	18	-163.83	5	-733.49	1	477.20	1	-1038.78	18	-908.38	18	-222.84	1
401 Min.	-137	-549.29	18	-229.15	18	-163.83	5	-733.49	1	477.20	1	-1038.78	18	-908.38	18	-222.84	1
401 Max	-137	441.72	9	-87.87	5	1020.09	18	220.69	1	-997.96	5	556.79	9	-1708.57	1	12612.60	18
401 Max	-139	441.72	9	-87.87	5	1020.09	18	220.69	1	-997.96	5	556.79	9	-1708.57	1	12612.60	18
401 Max	-116	441.72	9	-87.87	5	1020.09	18	220.69	1	-997.96	5	556.79	9	-1708.57	1	12612.60	18
401 Max	-122	441.72	9	-87.87	5	1020.09	18	220.69	1	-997.96	5	556.79	9	-1708.57	1	12612.60	18
401 Min.	-137	-742.28	18	-271.53	17	-350.16	17	-306.06	9	-2548.72	18	-207.95	1	-4636.20	18	3009.07	9
401 Min.	-139	-742.28	18	-271.53	17	-350.16	17	-306.06	9	-2548.72	18	-207.95	1	-4636.20	18	3009.07	9
401 Min.	-116	-742.28	18	-271.53	17	-350.16	17	-306.06	9	-2548.72	18	-207.95	1	-4636.20	18	3009.07	9
401 Min.	-122	-742.28	18	-271.53	17	-350.16	17	-306.06	9	-2548.72	18	-207.95	1	-4636.20	18	3009.07	9
401 Max	-197	421.35	18	-484.78	9	-108.18	9	-130.15	9	-599.93	9	2.71	1	11421.80	18	13202.50	19
401 Max	-160	421.35	18	-484.78	9	-108.18	9	-130.15	9	-599.93	9	2.71	1	11421.80	18	13202.50	19
401 Max	-158	421.35	18	-484.78	9	-108.18	9	-130.15	9	-599.93	9	2.71	1	11421.80	18	13202.50	19
401 Max	-189	421.35	18	-484.78	9	-108.18	9	-130.15	9	-599.93	9	2.71	1	11421.80	18	13202.50	19
401 Min.	-197	-187.35	17	-1040.56	17	-464.23	17	-351.96	18	-1546.56	19	-242.10	18	4963.97	1	5294.53	1
401 Min.	-160	-187.35	17	-1040.56	17	-464.23	17	-351.96	18	-1546.56	19	-242.10	18	4963.97	1	5294.53	1
401 Min.	-158	-187.35	17	-1040.56	17	-464.23	17	-351.96	18	-1546.56	19	-242.10	18	4963.97	1	5294.53	1
401 Min.	-189	-187.35	17	-1040.56	17	-464.23	17	-351.96	18	-1546.56	19	-242.10	18	4963.97	1	5294.53	1
401 Max	-197	-455.99	9	146.87	17	-71.09	1	-1168.73	9	-1520.60	1	225.08	9	20923.40	19	17755.60	18
401 Max	-189	-455.99	9	146.87	17	-71.09	1	-1168.73	9	-1520.60	1	225.08	9	20923.40	19	17755.60	18
401 Max	-224	-455.99	9	146.87	17	-71.09	1	-1168.73	9	-1520.60	1	225.08	9	20923.40	19		

Relazione di calcolo

401 Min.	-280	-647.57	17	-15.10	9	-28.70	9	-968.00	19	1750.89	1	-1616.27	19	-622.94	19	-2447.62	18
401 Min.	-247	-647.57	17	-15.10	9	-28.70	9	-968.00	19	1750.89	1	-1616.27	19	-622.94	19	-2447.62	18
401 Min.	-245	-647.57	17	-15.10	9	-28.70	9	-968.00	19	1750.89	1	-1616.27	19	-622.94	19	-2447.62	18
401 Max	-245	-236.74	20	56.05	17	180.68	19	-179.04	9	3510.88	19	801.22	19	-3812.25	1	-1854.38	1
401 Max	-247	-236.74	20	56.05	17	180.68	19	-179.04	9	3510.88	19	801.22	19	-3812.25	1	-1854.38	1
401 Max	-218	-236.74	20	56.05	17	180.68	19	-179.04	9	3510.88	19	801.22	19	-3812.25	1	-1854.38	1
401 Max	-224	-236.74	20	56.05	17	180.68	19	-179.04	9	3510.88	19	801.22	19	-3812.25	1	-1854.38	1
401 Min.	-245	-723.80	17	-352.28	18	11.84	9	-648.85	17	1440.63	1	346.37	1	-9018.17	19	-4598.56	18
401 Min.	-247	-723.80	17	-352.28	18	11.84	9	-648.85	17	1440.63	1	346.37	1	-9018.17	19	-4598.56	18
401 Min.	-218	-723.80	17	-352.28	18	11.84	9	-648.85	17	1440.63	1	346.37	1	-9018.17	19	-4598.56	18
401 Min.	-224	-723.80	17	-352.28	18	11.84	9	-648.85	17	1440.63	1	346.37	1	-9018.17	19	-4598.56	18
401 Max	-224	-453.36	9	198.97	18	103.77	17	4457.38	18	2053.46	19	255.40	18	1987.92	19	1307.22	18
401 Max	-222	-453.36	9	198.97	18	103.77	17	4457.38	18	2053.46	19	255.40	18	1987.92	19	1307.22	18
401 Max	-253	-453.36	9	198.97	18	103.77	17	4457.38	18	2053.46	19	255.40	18	1987.92	19	1307.22	18
401 Max	-264	-453.36	9	198.97	18	103.77	17	4457.38	18	2053.46	19	255.40	18	1987.92	19	1307.22	18
401 Min.	-224	-1088.78	17	65.88	5	-97.10	18	1652.99	5	899.15	13	68.65	5	906.87	13	503.46	1
401 Min.	-222	-1088.78	17	65.88	5	-97.10	18	1652.99	5	899.15	13	68.65	5	906.87	13	503.46	1
401 Min.	-253	-1088.78	17	65.88	5	-97.10	18	1652.99	5	899.15	13	68.65	5	906.87	13	503.46	1
401 Min.	-264	-1088.78	17	65.88	5	-97.10	18	1652.99	5	899.15	13	68.65	5	906.87	13	503.46	1
401 Max	-158	-483.46	1	78.00	5	-52.60	1	-622.94	1	-66.19	13	1.26	9	-4373.63	1	-5384.98	9
401 Max	-160	-483.46	1	78.00	5	-52.60	1	-622.94	1	-66.19	13	1.26	9	-4373.63	1	-5384.98	9
401 Max	-122	-483.46	1	78.00	5	-52.60	1	-622.94	1	-66.19	13	1.26	9	-4373.63	1	-5384.98	9
401 Max	-131	-483.46	1	78.00	5	-52.60	1	-622.94	1	-66.19	13	1.26	9	-4373.63	1	-5384.98	9
401 Min.	-158	-1102.98	17	-584.02	18	-333.95	17	-1475.62	19	-159.77	19	-356.29	18	-11161.40	18	-12459.40	19
401 Min.	-160	-1102.98	17	-584.02	18	-333.95	17	-1475.62	19	-159.77	19	-356.29	18	-11161.40	18	-12459.40	19
401 Min.	-122	-1102.98	17	-584.02	18	-333.95	17	-1475.62	19	-159.77	19	-356.29	18	-11161.40	18	-12459.40	19
401 Min.	-131	-1102.98	17	-584.02	18	-333.95	17	-1475.62	19	-159.77	19	-356.29	18	-11161.40	18	-12459.40	19
401 Max	-158	351.22	18	-621.47	1	490.22	18	947.98	19	5598.05	18	232.06	17	707.03	18	2205.75	19
401 Max	-131	351.22	18	-621.47	1	490.22	18	947.98	19	5598.05	18	232.06	17	707.03	18	2205.75	19
401 Max	-129	351.22	18	-621.47	1	490.22	18	947.98	19	5598.05	18	232.06	17	707.03	18	2205.75	19
401 Max	-156	351.22	18	-621.47	1	490.22	18	947.98	19	5598.05	18	232.06	17	707.03	18	2205.75	19
401 Min.	-158	45.74	5	-1531.70	17	97.36	1	396.24	9	2252.38	1	77.57	9	279.62	5	1037.36	9
401 Min.	-131	45.74	5	-1531.70	17	97.36	1	396.24	9	2252.38	1	77.57	9	279.62	5	1037.36	9
401 Min.	-129	45.74	5	-1531.70	17	97.36	1	396.24	9	2252.38	1	77.57	9	279.62	5	1037.36	9
401 Min.	-156	45.74	5	-1531.70	17	97.36	1	396.24	9	2252.38	1	77.57	9	279.62	5	1037.36	9
401 Max	-177	-149.36	9	-1362.37	9	2623.75	18	4439.69	19	-76.69	9	56.20	5	4848.08	17	2519.06	18
401 Max	-154	-149.36	9	-1362.37	9	2623.75	18	4439.69	19	-76.69	9	56.20	5	4848.08	17	2519.06	18
401 Max	-152	-149.36	9	-1362.37	9	2623.75	18	4439.69	19	-76.69	9	56.20	5	4848.08	17	2519.06	18
401 Max	-175	-149.36	9	-1362.37	9	2623.75	18	4439.69	19	-76.69	9	56.20	5	4848.08	17	2519.06	18
401 Min.	-177	-938.97	18	-3530.42	17	-371.33	5	1908.91	9	-2091.60	19	-628.23	18	947.18	9	1048.03	1
401 Min.	-154	-938.97	18	-3530.42	17	-371.33	5	1908.91	9	-2091.60	19	-628.23	18	947.18	9	1048.03	1
401 Min.	-152	-938.97	18	-3530.42	17	-371.33	5	1908.91	9	-2091.60	19	-628.23	18	947.18	9	1048.03	1
401 Min.	-175	-938.97	18	-3530.42	17	-371.33	5	1908.91	9	-2091.60	19	-628.23	18	947.18	9	1048.03	1
401 Max	-177	-3246.51	9	2076.62	18	2290.50	17	-1538.94	9	-1500.01	1	-494.36	13	-12058.10	9	30453.30	19
401 Max	-175	-3246.51	9	2076.62	18	2290.50	17	-1538.94	9	-1500.01	1	-494.36	13	-12058.10	9	30453.30	19
401 Max	-202	-3246.51	9	2076.62	18	2290.50	17	-1538.94	9	-1500.01	1	-494.36	13	-12058.10	9	30453.30	19
401 Max	-198	-3246.51	9	2076.62	18	2290.50	17	-1538.94	9	-1500.01	1	-494.36	13	-12058.10	9	30453.30	19
401 Min.	-177	-8564.35	17	-213.98	5	-2941.90	18	-4061.27	19	-3291.39	19	-1714.20	19	-27487.90	19	13198.00	9
401 Min.	-175	-8564.35	17	-213.98	5	-2941.90	18	-4061.27	19	-3291.39	19	-1714.20	19	-27487.90	19	13198.00	9
401 Min.	-202	-8564.35	17	-213.98	5	-2941.90	18	-4061.27	19	-3291.39	19	-1714.20	19	-27487.90	19	13198.00	9
401 Min.	-198	-8564.35	17	-213.98	5	-2941.90	18	-4061.27	19	-3291.39	19	-1714.20	19	-27487.90	19	13198.00	9
401 Max	-175	-77.45	9	-2488.30	1	3944.93	18	2227.91	18	7547.18	17	157.70	5	12657.80	17	-51.98	13
401 Max	-152	-77.45	9	-2488.30	1	3944.93	18	2227.91	18	7547.18	17	157.70	5	12657.80	17	-51.98	13
401 Max	-148	-77.45	9	-2488.30	1	3944.93	18	2227.91	18	7547.18	17	157.70	5	12657.80	17	-51.98	13
401 Max	-171	-77.45	9	-2488.30	1	3944.93	18	2227.91	18	7547.18	17	157.70	5	12657.80	17	-51.98	13
401 Min.	-175	-1966.71	18	-6385.98	17	-472.10	5	890.32	9	1689.66	9	-142.32	18	4519.79	9	-536.82	5
401 Min.	-152	-1966.71	18	-6385.98	17	-472.10	5	890.32	9	1689.66	9	-142.32	18	4519.79	9	-536.82	5
401 Min.	-148	-1966.71	18	-6385.98	17	-472.10	5	890.32	9	1689.66	9	-142.32	18	4519.79	9	-536.82	5
401 Min.	-171	-1966.71	18	-6385.98	17	-472.10	5	890.32	9	1689.66	9	-142.32	18	4519.79	9	-536.82	5
401 Max	-175	-2368.94	20	357.11	17	581.05	5	9232.41	17	501.54	17	376.22	17	402.14	5	15056.10	17
401 Max	-171	-2368.94	20	357.11	17	581.05	5	9232.41	17	501.54	17	376.22	17	402.14	5	15056.10	17
401 Max	-199	-2368.94	20	357.11	17	581.05	5	9232.41	17	501.54	17	376.22	17	402.14	5	15056.10	17
401 Max	-202	-2368.94	20	357.11	17	581.05	5	9232.41	17	501.54	17	376.22	17	402.14	5	15056.10	17
401 Min.	-175	-7112.58	17	-2629.32	18	-3985.70	18	2685.64	9	-108.33	19	77.23	1	-1171.23	18	5667.13	9
401 Min.	-171	-7112.58	17	-2629.32	18	-3985.70	18	2685.64	9	-108.33	19	77.23	1	-1171.23	18	5667.13	9
401 Min.	-199	-7112.58	17	-2629.32	18	-3985.70	18	2685.64	9	-108.33	19	77.23	1	-1171.23	18	5667.13	9
401 Min.	-202	-7112.58	17	-2629.32	18	-3985.70	18	2685.64	9	-108.33	19	77.23	1	-1171.23	18	5667.13	9
401 Max	-187	975.41	17	1878.97	18	2112.64	17	-2754.99	9	-2023.19	9	2154.27	19	-9603.41	9	-14810.60	9
401 Max	-177	975.41	17	1878.97	18	2112.64	17	-2754.99	9	-2023.19	9	2154.27	19	-9603.41	9	-14810.60	9
401 Max	-198	975.41	17	1878.97	18	2112.64	17	-2754.99	9	-2023.19	9	2154.27	19	-9603.41	9	-14810.60	9
401 Max	-206	975.41	17	1878.97	18	2112.64	17	-2754.99	9	-2023.19	9	2154.27	19	-9603.41	9	-14810.60	9
401 Min.	-187	352.81	9	-18.50	5	775.08	9	-6076.41	19	-4608.56	19	1023.26	9	-22081.30	19	-34131.60	19
401 Min.	-177	352.81	9	-18.50	5	775.08	9	-6076.41	19	-4608.56	19	1023.26	9	-22081.30	19	-34131.60	19
401 Min.	-198	352.81	9	-18.50	5	775.08	9	-6076.41	19	-4608.56	19	1023.26	9	-22081.30	19	-34131.60	19
401 Min																	

Relazione di calcolo

401 Max	-154	559.14	17	-1301.02	9	501.89	18	2954.99	18	-333.68	20	-189.98	5	-1370.49	1	3870.31	19
401 Max	-177	559.14	17	-1301.02	9	501.89	18	2954.99	18	-333.68	20	-189.98	5	-1370.49	1	3870.31	19
401 Min.	-187	208.28	1	-3393.20	17	-106.34	5	1260.43	9	-1031.39	17	-718.77	18	-4414.48	18	1700.64	9
401 Min.	-156	208.28	1	-3393.20	17	-106.34	5	1260.43	9	-1031.39	17	-718.77	18	-4414.48	18	1700.64	9
401 Min.	-154	208.28	1	-3393.20	17	-106.34	5	1260.43	9	-1031.39	17	-718.77	18	-4414.48	18	1700.64	9
401 Min.	-177	208.28	1	-3393.20	17	-106.34	5	1260.43	9	-1031.39	17	-718.77	18	-4414.48	18	1700.64	9
401 Max	-262	-1028.14	20	213.23	17	965.28	17	-1142.83	13	4382.59	19	797.23	19	-2624.56	13	1720.53	18
401 Max	-255	-1028.14	20	213.23	17	965.28	17	-1142.83	13	4382.59	19	797.23	19	-2624.56	13	1720.53	18
401 Max	-228	-1028.14	20	213.23	17	965.28	17	-1142.83	13	4382.59	19	797.23	19	-2624.56	13	1720.53	18
401 Max	-232	-1028.14	20	213.23	17	965.28	17	-1142.83	13	4382.59	19	797.23	19	-2624.56	13	1720.53	18
401 Min.	-262	-2557.61	17	59.14	20	-792.01	18	-2809.40	19	1859.65	13	416.43	13	-5932.32	19	-830.30	1
401 Min.	-255	-2557.61	17	59.14	20	-792.01	18	-2809.40	19	1859.65	13	416.43	13	-5932.32	19	-830.30	1
401 Min.	-228	-2557.61	17	59.14	20	-792.01	18	-2809.40	19	1859.65	13	416.43	13	-5932.32	19	-830.30	1
401 Min.	-232	-2557.61	17	59.14	20	-792.01	18	-2809.40	19	1859.65	13	416.43	13	-5932.32	19	-830.30	1
401 Max	-262	523.50	18	-1368.66	20	2598.69	18	4246.85	19	1094.51	1	-285.00	13	8257.94	17	-1004.28	9
401 Max	-232	523.50	18	-1368.66	20	2598.69	18	4246.85	19	1094.51	1	-285.00	13	8257.94	17	-1004.28	9
401 Max	-230	523.50	18	-1368.66	20	2598.69	18	4246.85	19	1094.51	1	-285.00	13	8257.94	17	-1004.28	9
401 Max	-260	523.50	18	-1368.66	20	2598.69	18	4246.85	19	1094.51	1	-285.00	13	8257.94	17	-1004.28	9
401 Min.	-262	-70.28	5	-3824.06	17	-1045.49	17	1742.74	13	-515.08	9	-564.26	18	2725.67	9	-3217.58	19
401 Min.	-232	-70.28	5	-3824.06	17	-1045.49	17	1742.74	13	-515.08	9	-564.26	18	2725.67	9	-3217.58	19
401 Min.	-230	-70.28	5	-3824.06	17	-1045.49	17	1742.74	13	-515.08	9	-564.26	18	2725.67	9	-3217.58	19
401 Min.	-260	-70.28	5	-3824.06	17	-1045.49	17	1742.74	13	-515.08	9	-564.26	18	2725.67	9	-3217.58	19
401 Max	-255	-676.60	20	434.51	17	193.22	17	1885.81	18	3365.10	19	-281.55	13	-1386.01	9	5104.63	18
401 Max	-253	-676.60	20	434.51	17	193.22	17	1885.81	18	3365.10	19	-281.55	13	-1386.01	9	5104.63	18
401 Max	-222	-676.60	20	434.51	17	193.22	17	1885.81	18	3365.10	19	-281.55	13	-1386.01	9	5104.63	18
401 Max	-228	-676.60	20	434.51	17	193.22	17	1885.81	18	3365.10	19	-281.55	13	-1386.01	9	5104.63	18
401 Min.	-255	-1656.98	17	172.13	1	-162.94	18	283.03	5	1443.42	9	-694.28	19	-3100.91	19	1981.52	1
401 Min.	-253	-1656.98	17	172.13	1	-162.94	18	283.03	5	1443.42	9	-694.28	19	-3100.91	19	1981.52	1
401 Min.	-222	-1656.98	17	172.13	1	-162.94	18	283.03	5	1443.42	9	-694.28	19	-3100.91	19	1981.52	1
401 Min.	-228	-1656.98	17	172.13	1	-162.94	18	283.03	5	1443.42	9	-694.28	19	-3100.91	19	1981.52	1
401 Max	-230	20.68	5	-1668.88	20	5628.73	18	1375.49	17	8528.72	17	-1006.75	9	13577.60	17	-1953.50	13
401 Max	-202	20.68	5	-1668.88	20	5628.73	18	1375.49	17	8528.72	17	-1006.75	9	13577.60	17	-1953.50	13
401 Max	-199	20.68	5	-1668.88	20	5628.73	18	1375.49	17	8528.72	17	-1006.75	9	13577.60	17	-1953.50	13
401 Max	-237	20.68	5	-1668.88	20	5628.73	18	1375.49	17	8528.72	17	-1006.75	9	13577.60	17	-1953.50	13
401 Min.	-230	-2639.41	18	-6781.41	17	190.30	5	278.60	9	2257.01	9	-2644.86	18	4586.98	9	-5575.66	17
401 Min.	-202	-2639.41	18	-6781.41	17	190.30	5	278.60	9	2257.01	9	-2644.86	18	4586.98	9	-5575.66	17
401 Min.	-199	-2639.41	18	-6781.41	17	190.30	5	278.60	9	2257.01	9	-2644.86	18	4586.98	9	-5575.66	17
401 Min.	-237	-2639.41	18	-6781.41	17	190.30	5	278.60	9	2257.01	9	-2644.86	18	4586.98	9	-5575.66	17
401 Max	-230	-1803.57	5	2315.22	18	2533.46	17	6651.37	17	3688.15	19	403.07	1	-663.33	9	9574.95	17
401 Max	-237	-1803.57	5	2315.22	18	2533.46	17	6651.37	17	3688.15	19	403.07	1	-663.33	9	9574.95	17
401 Max	-258	-1803.57	5	2315.22	18	2533.46	17	6651.37	17	3688.15	19	403.07	1	-663.33	9	9574.95	17
401 Max	-260	-1803.57	5	2315.22	18	2533.46	17	6651.37	17	3688.15	19	403.07	1	-663.33	9	9574.95	17
401 Min.	-230	-5819.56	18	-828.70	5	-3568.63	18	1490.79	9	1348.46	13	-636.62	9	-3019.79	17	1942.62	20
401 Min.	-237	-5819.56	18	-828.70	5	-3568.63	18	1490.79	9	1348.46	13	-636.62	9	-3019.79	17	1942.62	20
401 Min.	-258	-5819.56	18	-828.70	5	-3568.63	18	1490.79	9	1348.46	13	-636.62	9	-3019.79	17	1942.62	20
401 Min.	-260	-5819.56	18	-828.70	5	-3568.63	18	1490.79	9	1348.46	13	-636.62	9	-3019.79	17	1942.62	20
401 Max	-154	40.82	1	-98.23	5	-675.61	9	-709.03	1	-970.88	9	-560.02	9	-5515.39	1	18501.80	18
401 Max	-156	40.82	1	-98.23	5	-675.61	9	-709.03	1	-970.88	9	-560.02	9	-5515.39	1	18501.80	18
401 Max	-129	40.82	1	-98.23	5	-675.61	9	-709.03	1	-970.88	9	-560.02	9	-5515.39	1	18501.80	18
401 Max	-123	40.82	1	-98.23	5	-675.61	9	-709.03	1	-970.88	9	-560.02	9	-5515.39	1	18501.80	18
401 Min.	-154	-85.14	18	-2214.06	18	-1809.32	17	-1583.85	18	-2067.56	19	-1066.77	17	-12760.50	18	8062.80	1
401 Min.	-156	-85.14	18	-2214.06	18	-1809.32	17	-1583.85	18	-2067.56	19	-1066.77	17	-12760.50	18	8062.80	1
401 Min.	-129	-85.14	18	-2214.06	18	-1809.32	17	-1583.85	18	-2067.56	19	-1066.77	17	-12760.50	18	8062.80	1
401 Min.	-123	-85.14	18	-2214.06	18	-1809.32	17	-1583.85	18	-2067.56	19	-1066.77	17	-12760.50	18	8062.80	1
401 Max	-154	533.12	17	-3065.47	1	4557.84	18	-1411.91	1	-1344.81	1	-408.82	5	29008.20	18	-7864.34	9
401 Max	-123	533.12	17	-3065.47	1	4557.84	18	-1411.91	1	-1344.81	1	-408.82	5	29008.20	18	-7864.34	9
401 Max	-127	533.12	17	-3065.47	1	4557.84	18	-1411.91	1	-1344.81	1	-408.82	5	29008.20	18	-7864.34	9
401 Max	-152	533.12	17	-3065.47	1	4557.84	18	-1411.91	1	-1344.81	1	-408.82	5	29008.20	18	-7864.34	9
401 Min.	-154	-1270.56	18	-8250.17	17	-32.51	5	-3190.54	18	-3660.46	18	-2012.47	18	12327.10	1	-17814.10	18
401 Min.	-123	-1270.56	18	-8250.17	17	-32.51	5	-3190.54	18	-3660.46	18	-2012.47	18	12327.10	1	-17814.10	18
401 Min.	-127	-1270.56	18	-8250.17	17	-32.51	5	-3190.54	18	-3660.46	18	-2012.47	18	12327.10	1	-17814.10	18
401 Min.	-152	-1270.56	18	-8250.17	17	-32.51	5	-3190.54	18	-3660.46	18	-2012.47	18	12327.10	1	-17814.10	18
401 Max	-127	-2648.59	1	96.31	9	-134.65	5	9689.66	17	717.31	17	1203.05	18	2435.73	17	14740.30	17
401 Max	-124	-2648.59	1	96.31	9	-134.65	5	9689.66	17	717.31	17	1203.05	18	2435.73	17	14740.30	17
401 Max	-148	-2648.59	1	96.31	9	-134.65	5	9689.66	17	717.31	17	1203.05	18	2435.73	17	14740.30	17
401 Max	-152	-2648.59	1	96.31	9	-134.65	5	9689.66	17	717.31	17	1203.05	18	2435.73	17	14740.30	17
401 Min.	-127	-6984.63	17	-1284.56	18	-4250.40	18	3095.01	1	114.26	9	284.49	1	867.21	9	5860.18	1
401 Min.	-124	-6984.63	17	-1284.56	18	-4250.40	18	3095.01	1	114.26	9	284.49	1	867.21	9	5860.18	1
401 Min.	-148	-6984.63	17	-1284.56	18	-4250.40	18	3095.01	1	114.26	9	284.49	1	867.21	9	5860.18	1
401 Min.	-152	-6984.63	17	-1284.56	18	-4250.40	18	3095.01	1	114.26	9	284.49	1	867.21	9	5860.18	1
401 Max	-325	-161.80	20	266.53	17	437.75	5	-1518.97	13	-1891.65	1	2676.57	19	10006.10	18	24196.40	19
401 Max	-317	-161.80	20	266.53	17	437.75	5	-1518.97	13	-1891.65	1	2676.57	19	10006.10	18	24196.40	19
401 Max	-340	-161.80	20	266.53	17	437.75	5	-1518.97	13	-1891.65	1	2676.57	19	10006.10	18	24196.40	19
401 Max	-358	-															

Relazione di calcolo

401 Min.	-291	-346.25	5	-785.30	18	-1055.50	17	-1081.80	18	1340.44	13	-371.81	1	-1167.00	19	-3029.22	19
401 Max	-295	-307.34	1	7727.90	18	2593.61	17	3671.38	17	2376.19	19	-42.58	1	6459.85	17	296.46	18
401 Max	-291	-307.34	1	7727.90	18	2593.61	17	3671.38	17	2376.19	19	-42.58	1	6459.85	17	296.46	18
401 Max	-260	-307.34	1	7727.90	18	2593.61	17	3671.38	17	2376.19	19	-42.58	1	6459.85	17	296.46	18
401 Max	-258	-307.34	1	7727.90	18	2593.61	17	3671.38	17	2376.19	19	-42.58	1	6459.85	17	296.46	18
401 Min.	-295	-2012.38	18	-1380.21	5	-1060.80	18	1205.45	20	874.00	13	-1141.96	18	1013.15	20	-3311.06	17
401 Min.	-291	-2012.38	18	-1380.21	5	-1060.80	18	1205.45	20	874.00	13	-1141.96	18	1013.15	20	-3311.06	17
401 Min.	-260	-2012.38	18	-1380.21	5	-1060.80	18	1205.45	20	874.00	13	-1141.96	18	1013.15	20	-3311.06	17
401 Min.	-258	-2012.38	18	-1380.21	5	-1060.80	18	1205.45	20	874.00	13	-1141.96	18	1013.15	20	-3311.06	17
401 Max	-317	-2.82	18	2447.85	18	2234.67	17	-2160.39	13	-2210.44	9	151.32	5	28063.50	19	-9514.13	13
401 Max	-325	-2.82	18	2447.85	18	2234.67	17	-2160.39	13	-2210.44	9	151.32	5	28063.50	19	-9514.13	13
401 Max	-293	-2.82	18	2447.85	18	2234.67	17	-2160.39	13	-2210.44	9	151.32	5	28063.50	19	-9514.13	13
401 Max	-289	-2.82	18	2447.85	18	2234.67	17	-2160.39	13	-2210.44	9	151.32	5	28063.50	19	-9514.13	13
401 Min.	-317	-2286.97	17	-627.61	17	-2018.28	18	-5073.09	19	-5079.99	19	-1563.87	18	12104.00	9	-22015.10	19
401 Min.	-325	-2286.97	17	-627.61	17	-2018.28	18	-5073.09	19	-5079.99	19	-1563.87	18	12104.00	9	-22015.10	19
401 Min.	-293	-2286.97	17	-627.61	17	-2018.28	18	-5073.09	19	-5079.99	19	-1563.87	18	12104.00	9	-22015.10	19
401 Min.	-289	-2286.97	17	-627.61	17	-2018.28	18	-5073.09	19	-5079.99	19	-1563.87	18	12104.00	9	-22015.10	19
401 Max	-317	1371.61	18	513.81	18	2057.77	18	-593.87	5	1864.10	19	1149.83	18	10496.00	19	5081.13	19
401 Max	-289	1371.61	18	513.81	18	2057.77	18	-593.87	5	1864.10	19	1149.83	18	10496.00	19	5081.13	19
401 Max	-291	1371.61	18	513.81	18	2057.77	18	-593.87	5	1864.10	19	1149.83	18	10496.00	19	5081.13	19
401 Max	-319	1371.61	18	513.81	18	2057.77	18	-593.87	5	1864.10	19	1149.83	18	10496.00	19	5081.13	19
401 Min.	-317	-124.34	5	-1678.12	17	-1603.18	17	-1927.92	18	704.39	9	-48.25	5	4454.25	13	2097.30	9
401 Min.	-289	-124.34	5	-1678.12	17	-1603.18	17	-1927.92	18	704.39	9	-48.25	5	4454.25	13	2097.30	9
401 Min.	-291	-124.34	5	-1678.12	17	-1603.18	17	-1927.92	18	704.39	9	-48.25	5	4454.25	13	2097.30	9
401 Min.	-319	-124.34	5	-1678.12	17	-1603.18	17	-1927.92	18	704.39	9	-48.25	5	4454.25	13	2097.30	9
401 Max	-289	-641.65	20	1164.86	18	1314.40	17	-1160.61	9	3984.31	19	256.13	17	7617.73	19	1877.63	18
401 Max	-293	-641.65	20	1164.86	18	1314.40	17	-1160.61	9	3984.31	19	256.13	17	7617.73	19	1877.63	18
401 Max	-255	-641.65	20	1164.86	18	1314.40	17	-1160.61	9	3984.31	19	256.13	17	7617.73	19	1877.63	18
401 Max	-262	-641.65	20	1164.86	18	1314.40	17	-1160.61	9	3984.31	19	256.13	17	7617.73	19	1877.63	18
401 Min.	-289	-1491.38	17	-355.80	17	-724.64	18	-3018.77	19	1689.09	13	-243.00	18	3143.83	9	-624.15	1
401 Min.	-293	-1491.38	17	-355.80	17	-724.64	18	-3018.77	19	1689.09	13	-243.00	18	3143.83	9	-624.15	1
401 Min.	-255	-1491.38	17	-355.80	17	-724.64	18	-3018.77	19	1689.09	13	-243.00	18	3143.83	9	-624.15	1
401 Min.	-262	-1491.38	17	-355.80	17	-724.64	18	-3018.77	19	1689.09	13	-243.00	18	3143.83	9	-624.15	1
401 Max	-289	1029.43	18	-279.52	20	1911.52	18	2671.34	19	793.89	17	1285.87	18	7348.18	19	6888.81	19
401 Max	-262	1029.43	18	-279.52	20	1911.52	18	2671.34	19	793.89	17	1285.87	18	7348.18	19	6888.81	19
401 Max	-260	1029.43	18	-279.52	20	1911.52	18	2671.34	19	793.89	17	1285.87	18	7348.18	19	6888.81	19
401 Max	-291	1029.43	18	-279.52	20	1911.52	18	2671.34	19	793.89	17	1285.87	18	7348.18	19	6888.81	19
401 Min.	-289	-389.63	17	-2478.59	17	-2059.70	17	1055.28	13	-250.55	9	78.39	5	3047.61	13	2712.05	9
401 Min.	-262	-389.63	17	-2478.59	17	-2059.70	17	1055.28	13	-250.55	9	78.39	5	3047.61	13	2712.05	9
401 Min.	-260	-389.63	17	-2478.59	17	-2059.70	17	1055.28	13	-250.55	9	78.39	5	3047.61	13	2712.05	9
401 Min.	-291	-389.63	17	-2478.59	17	-2059.70	17	1055.28	13	-250.55	9	78.39	5	3047.61	13	2712.05	9
401 Max	-297	138.17	17	117.01	18	-37.96	20	744.46	19	5009.99	18	-703.84	9	1929.45	19	-153.05	5
401 Max	-330	138.17	17	117.01	18	-37.96	20	744.46	19	5009.99	18	-703.84	9	1929.45	19	-153.05	5
401 Max	-332	138.17	17	117.01	18	-37.96	20	744.46	19	5009.99	18	-703.84	9	1929.45	19	-153.05	5
401 Max	-301	138.17	17	117.01	18	-37.96	20	744.46	19	5009.99	18	-703.84	9	1929.45	19	-153.05	5
401 Min.	-297	32.06	20	-606.78	17	-305.59	17	318.95	9	1970.76	5	-1731.63	19	837.77	13	-775.94	18
401 Min.	-330	32.06	20	-606.78	17	-305.59	17	318.95	9	1970.76	5	-1731.63	19	837.77	13	-775.94	18
401 Min.	-332	32.06	20	-606.78	17	-305.59	17	318.95	9	1970.76	5	-1731.63	19	837.77	13	-775.94	18
401 Min.	-301	32.06	20	-606.78	17	-305.59	17	318.95	9	1970.76	5	-1731.63	19	837.77	13	-775.94	18
401 Max	-297	-149.52	20	230.53	18	394.37	17	4429.40	18	2112.06	19	425.33	19	1889.61	18	1523.37	19
401 Max	-301	-149.52	20	230.53	18	394.37	17	4429.40	18	2112.06	19	425.33	19	1889.61	18	1523.37	19
401 Max	-264	-149.52	20	230.53	18	394.37	17	4429.40	18	2112.06	19	425.33	19	1889.61	18	1523.37	19
401 Max	-253	-149.52	20	230.53	18	394.37	17	4429.40	18	2112.06	19	425.33	19	1889.61	18	1523.37	19
401 Min.	-297	-880.18	17	81.32	1	88.99	20	1619.47	5	931.66	13	152.24	9	748.66	1	656.15	13
401 Min.	-301	-880.18	17	81.32	1	88.99	20	1619.47	5	931.66	13	152.24	9	748.66	1	656.15	13
401 Min.	-264	-880.18	17	81.32	1	88.99	20	1619.47	5	931.66	13	152.24	9	748.66	1	656.15	13
401 Min.	-253	-880.18	17	81.32	1	88.99	20	1619.47	5	931.66	13	152.24	9	748.66	1	656.15	13
401 Max	-330	367.94	18	329.86	18	-61.90	9	-100.14	13	5472.12	18	-214.11	9	4631.17	19	-868.69	9
401 Max	-357	367.94	18	329.86	18	-61.90	9	-100.14	13	5472.12	18	-214.11	9	4631.17	19	-868.69	9
401 Max	-356	367.94	18	329.86	18	-61.90	9	-100.14	13	5472.12	18	-214.11	9	4631.17	19	-868.69	9
401 Max	-332	367.94	18	329.86	18	-61.90	9	-100.14	13	5472.12	18	-214.11	9	4631.17	19	-868.69	9
401 Min.	-330	-220.57	17	30.79	9	-167.66	17	-232.32	19	2314.56	1	-555.68	19	1977.73	9	-2054.33	19
401 Min.	-357	-220.57	17	30.79	9	-167.66	17	-232.32	19	2314.56	1	-555.68	19	1977.73	9	-2054.33	19
401 Min.	-356	-220.57	17	30.79	9	-167.66	17	-232.32	19	2314.56	1	-555.68	19	1977.73	9	-2054.33	19
401 Min.	-332	-220.57	17	30.79	9	-167.66	17	-232.32	19	2314.56	1	-555.68	19	1977.73	9	-2054.33	19
401 Max	-297	576.21	18	-362.85	20	-16.35	20	3466.25	19	1313.15	18	-465.32	9	-1815.02	1	4165.17	19
401 Max	-253	576.21	18	-362.85	20	-16.35	20	3466.25	19	1313.15	18	-465.32	9	-1815.02	1	4165.17	19
401 Max	-255	576.21	18	-362.85	20	-16.35	20	3466.25	19	1313.15	18	-465.32	9	-1815.02	1	4165.17	19
401 Max	-293	576.21	18	-362.85	20	-16.35	20	3466.25	19	1313.15	18	-465.32	9	-1815.02	1	4165.17	19
401 Min.	-297	50.09	5	-1531.67	17	-593.98	17	1500.99	13	69.61	5	-1064.80	19	-4513.98	18	1730.96	9
401 Min.	-253	50.09	5	-1531.67	17	-593.98	17	1500.99	13	69.61	5	-1064.80	19	-4513.98	18	1730.96	9
401 Min.	-255	50.09	5	-1531.67	17	-593.98	17	1500.99	13	69.61	5	-1064.80	19	-4513.98	18	1730.96	9
401 Min.	-293	50.09	5	-1531.67	17	-593.98	17	1500.99	13	69.61	5	-1064.80	19	-4513.98	18	1730.96	9
401 Max	-297	367.68	19	1202.38	18												

Relazione di calcolo

401 Min.	-311	-348.36	17	-242.26	17	161.67	20	577.69	1	411.39	9	-1373.82	18	3307.89	1	-7351.62	18
401 Min.	-305	-348.36	17	-242.26	17	161.67	20	577.69	1	411.39	9	-1373.82	18	3307.89	1	-7351.62	18
401 Min.	-286	-348.36	17	-242.26	17	161.67	20	577.69	1	411.39	9	-1373.82	18	3307.89	1	-7351.62	18
401 Min.	-301	-348.36	17	-242.26	17	161.67	20	577.69	1	411.39	9	-1373.82	18	3307.89	1	-7351.62	18
401 Max	-286	116.18	17	-116.14	20	-54.69	9	2235.41	19	3080.30	18	408.41	19	5594.15	18	1178.74	18
401 Max	-268	116.18	17	-116.14	20	-54.69	9	2235.41	19	3080.30	18	408.41	19	5594.15	18	1178.74	18
401 Max	-264	116.18	17	-116.14	20	-54.69	9	2235.41	19	3080.30	18	408.41	19	5594.15	18	1178.74	18
401 Max	-301	116.18	17	-116.14	20	-54.69	9	2235.41	19	3080.30	18	408.41	19	5594.15	18	1178.74	18
401 Min.	-286	43.78	9	-802.94	17	-238.99	17	989.26	13	1106.11	1	119.63	1	2438.70	5	448.50	5
401 Min.	-268	43.78	9	-802.94	17	-238.99	17	989.26	13	1106.11	1	119.63	1	2438.70	5	448.50	5
401 Min.	-264	43.78	9	-802.94	17	-238.99	17	989.26	13	1106.11	1	119.63	1	2438.70	5	448.50	5
401 Min.	-301	43.78	9	-802.94	17	-238.99	17	989.26	13	1106.11	1	119.63	1	2438.70	5	448.50	5
401 Max	-334	392.09	18	255.80	19	143.74	17	4700.81	18	109.17	19	1009.12	19	-304.08	1	6801.26	18
401 Max	-332	392.09	18	255.80	19	143.74	17	4700.81	18	109.17	19	1009.12	19	-304.08	1	6801.26	18
401 Max	-356	392.09	18	255.80	19	143.74	17	4700.81	18	109.17	19	1009.12	19	-304.08	1	6801.26	18
401 Max	-355	392.09	18	255.80	19	143.74	17	4700.81	18	109.17	19	1009.12	19	-304.08	1	6801.26	18
401 Min.	-334	-235.49	17	29.42	9	-159.80	18	1971.57	5	12.51	9	411.89	9	-757.87	18	2849.62	1
401 Min.	-332	-235.49	17	29.42	9	-159.80	18	1971.57	5	12.51	9	411.89	9	-757.87	18	2849.62	1
401 Min.	-356	-235.49	17	29.42	9	-159.80	18	1971.57	5	12.51	9	411.89	9	-757.87	18	2849.62	1
401 Min.	-355	-235.49	17	29.42	9	-159.80	18	1971.57	5	12.51	9	411.89	9	-757.87	18	2849.62	1
401 Max	-334	127.60	17	401.70	18	273.70	18	-878.47	5	-2334.34	1	-379.63	9	-6498.32	1	12109.80	18
401 Max	-355	127.60	17	401.70	18	273.70	18	-878.47	5	-2334.34	1	-379.63	9	-6498.32	1	12109.80	18
401 Max	-354	127.60	17	401.70	18	273.70	18	-878.47	5	-2334.34	1	-379.63	9	-6498.32	1	12109.80	18
401 Max	-324	127.60	17	401.70	18	273.70	18	-878.47	5	-2334.34	1	-379.63	9	-6498.32	1	12109.80	18
401 Min.	-334	-694.74	18	-489.35	17	-92.87	17	-2372.30	18	-5318.29	18	-891.76	19	-14975.30	18	5169.81	1
401 Min.	-355	-694.74	18	-489.35	17	-92.87	17	-2372.30	18	-5318.29	18	-891.76	19	-14975.30	18	5169.81	1
401 Min.	-354	-694.74	18	-489.35	17	-92.87	17	-2372.30	18	-5318.29	18	-891.76	19	-14975.30	18	5169.81	1
401 Min.	-324	-694.74	18	-489.35	17	-92.87	17	-2372.30	18	-5318.29	18	-891.76	19	-14975.30	18	5169.81	1
401 Max	-268	175.89	18	19.03	18	-115.83	9	2912.83	19	-726.80	9	173.52	9	-1662.77	1	-3106.04	1
401 Max	-286	175.89	18	19.03	18	-115.83	9	2912.83	19	-726.80	9	173.52	9	-1662.77	1	-3106.04	1
401 Max	-282	175.89	18	19.03	18	-115.83	9	2912.83	19	-726.80	9	173.52	9	-1662.77	1	-3106.04	1
401 Max	-280	175.89	18	19.03	18	-115.83	9	2912.83	19	-726.80	9	173.52	9	-1662.77	1	-3106.04	1
401 Min.	-268	-157.50	17	-444.47	17	-426.74	19	1232.01	1	-1678.57	19	-21.02	1	-4206.54	18	-7367.76	19
401 Min.	-286	-157.50	17	-444.47	17	-426.74	19	1232.01	1	-1678.57	19	-21.02	1	-4206.54	18	-7367.76	19
401 Min.	-282	-157.50	17	-444.47	17	-426.74	19	1232.01	1	-1678.57	19	-21.02	1	-4206.54	18	-7367.76	19
401 Min.	-280	-157.50	17	-444.47	17	-426.74	19	1232.01	1	-1678.57	19	-21.02	1	-4206.54	18	-7367.76	19
401 Max	-286	113.64	18	180.85	18	-87.40	9	134.67	18	-988.98	1	-939.10	9	-677.45	1	-6558.50	1
401 Max	-305	113.64	18	180.85	18	-87.40	9	134.67	18	-988.98	1	-939.10	9	-677.45	1	-6558.50	1
401 Max	-303	113.64	18	180.85	18	-87.40	9	134.67	18	-988.98	1	-939.10	9	-677.45	1	-6558.50	1
401 Max	-282	113.64	18	180.85	18	-87.40	9	134.67	18	-988.98	1	-939.10	9	-677.45	1	-6558.50	1
401 Min.	-286	-773.00	17	-28.62	9	-404.12	18	-9.66	1	-2448.80	19	-2103.35	19	-1925.41	18	-15200.50	19
401 Min.	-305	-773.00	17	-28.62	9	-404.12	18	-9.66	1	-2448.80	19	-2103.35	19	-1925.41	18	-15200.50	19
401 Min.	-303	-773.00	17	-28.62	9	-404.12	18	-9.66	1	-2448.80	19	-2103.35	19	-1925.41	18	-15200.50	19
401 Min.	-282	-773.00	17	-28.62	9	-404.12	18	-9.66	1	-2448.80	19	-2103.35	19	-1925.41	18	-15200.50	19
401 Max	-280	1357.81	18	-165.63	9	590.28	18	-877.80	1	-884.15	9	2880.60	19	-5423.56	1	-4025.16	1
401 Max	-282	1357.81	18	-165.63	9	590.28	18	-877.80	1	-884.15	9	2880.60	19	-5423.56	1	-4025.16	1
401 Max	-303	1357.81	18	-165.63	9	590.28	18	-877.80	1	-884.15	9	2880.60	19	-5423.56	1	-4025.16	1
401 Min.	-280	-75.91	9	-539.29	19	27.05	5	-2148.36	19	-2440.19	18	1284.26	5	-12602.40	19	-9904.41	19
401 Min.	-282	-75.91	9	-539.29	19	27.05	5	-2148.36	19	-2440.19	18	1284.26	5	-12602.40	19	-9904.41	19
401 Min.	-303	-75.91	9	-539.29	19	27.05	5	-2148.36	19	-2440.19	18	1284.26	5	-12602.40	19	-9904.41	19
401 Min.	-309	-75.91	9	-539.29	19	27.05	5	-2148.36	19	-2440.19	18	1284.26	5	-12602.40	19	-9904.41	19
401 Max	-305	-267.34	20	2476.76	18	115.79	17	-3198.71	1	-1753.28	1	-371.74	1	24377.70	19	-12769.90	1
401 Max	-324	-267.34	20	2476.76	18	115.79	17	-3198.71	1	-1753.28	1	-371.74	1	24377.70	19	-12769.90	1
401 Max	-309	-267.34	20	2476.76	18	115.79	17	-3198.71	1	-1753.28	1	-371.74	1	24377.70	19	-12769.90	1
401 Max	-303	-267.34	20	2476.76	18	115.79	17	-3198.71	1	-1753.28	1	-371.74	1	24377.70	19	-12769.90	1
401 Min.	-305	-999.21	17	40.65	9	-734.20	18	-7518.85	18	-4403.21	19	-961.59	18	10193.70	1	-29545.10	19
401 Min.	-324	-999.21	17	40.65	9	-734.20	18	-7518.85	18	-4403.21	19	-961.59	18	10193.70	1	-29545.10	19
401 Min.	-309	-999.21	17	40.65	9	-734.20	18	-7518.85	18	-4403.21	19	-961.59	18	10193.70	1	-29545.10	19
401 Min.	-303	-999.21	17	40.65	9	-734.20	18	-7518.85	18	-4403.21	19	-961.59	18	10193.70	1	-29545.10	19
401 Max	-309	428.90	18	552.58	18	1292.82	18	-240.90	9	1279.26	19	1787.44	18	8281.64	19	4502.79	19
401 Max	-307	428.90	18	552.58	18	1292.82	18	-240.90	9	1279.26	19	1787.44	18	8281.64	19	4502.79	19
401 Max	-276	428.90	18	552.58	18	1292.82	18	-240.90	9	1279.26	19	1787.44	18	8281.64	19	4502.79	19
401 Max	-280	428.90	18	552.58	18	1292.82	18	-240.90	9	1279.26	19	1787.44	18	8281.64	19	4502.79	19
401 Min.	-309	-258.79	17	-76.00	5	38.18	9	-672.49	19	583.68	5	446.33	9	3274.86	1	1600.21	1
401 Min.	-307	-258.79	17	-76.00	5	38.18	9	-672.49	19	583.68	5	446.33	9	3274.86	1	1600.21	1
401 Min.	-276	-258.79	17	-76.00	5	38.18	9	-672.49	19	583.68	5	446.33	9	3274.86	1	1600.21	1
401 Min.	-280	-258.79	17	-76.00	5	38.18	9	-672.49	19	583.68	5	446.33	9	3274.86	1	1600.21	1
401 Max	-307	417.74	18	734.06	18	1457.90	18	1601.21	19	617.56	17	760.68	18	2115.91	19	571.95	9
401 Max	-313	417.74	18	734.06	18	1457.90	18	1601.21	19	617.56	17	760.68	18	2115.91	19	571.95	9
401 Max	-274	417.74	18	734.06	18	1457.90	18	1601.21	19	617.56	17	760.68	18	2115.91	19	571.95	9
401 Max	-276	417.74	18	734.06	18	1457.90	18	1601.21	19	617.56	17	760.68	18	2115.91	19	571.95	9
401 Min.	-307	-199.79	17	-45.29	5	49.89	9	255.12	1	296.77	1	-129.92	5	359.33	1	-715.73	18
401 Min.	-313	-199.79	17	-45.29	5	49.89	9	255.12	1	296.77	1	-129.92	5	359.33	1	-715.73	18
401 Min.	-274	-199.79	17	-45.29	5	49.89	9	255.12	1	296.77	1	-129.92	5	359.33	1	-715.73	18
401 Min.	-276	-199.79	17	-45.29	5	49.89											

Relazione di calcolo

401 Max	-287	9985.63	18	-129.82	9	42.16	9	-1015.17	20	-859.14	5	781.88	1	7550.25	19	15112.60	19
401 Max	-284	9985.63	18	-129.82	9	42.16	9	-1015.17	20	-859.14	5	781.88	1	7550.25	19	15112.60	19
401 Max	-313	9985.63	18	-129.82	9	42.16	9	-1015.17	20	-859.14	5	781.88	1	7550.25	19	15112.60	19
401 Min.	-323	142.54	13	-1858.17	18	-94.44	19	-2193.38	17	-2614.30	18	-241.73	9	2827.11	1	7502.34	5
401 Min.	-287	142.54	13	-1858.17	18	-94.44	19	-2193.38	17	-2614.30	18	-241.73	9	2827.11	1	7502.34	5
401 Min.	-284	142.54	13	-1858.17	18	-94.44	19	-2193.38	17	-2614.30	18	-241.73	9	2827.11	1	7502.34	5
401 Min.	-313	142.54	13	-1858.17	18	-94.44	19	-2193.38	17	-2614.30	18	-241.73	9	2827.11	1	7502.34	5
401 Max	-287	14349.90	18	115.50	1	-27.45	13	2574.50	17	1509.00	9	1542.27	1	4249.62	18	5483.86	17
401 Max	-257	14349.90	18	115.50	1	-27.45	13	2574.50	17	1509.00	9	1542.27	1	4249.62	18	5483.86	17
401 Max	-266	14349.90	18	115.50	1	-27.45	13	2574.50	17	1509.00	9	1542.27	1	4249.62	18	5483.86	17
401 Max	-284	14349.90	18	115.50	1	-27.45	13	2574.50	17	1509.00	9	1542.27	1	4249.62	18	5483.86	17
401 Min.	-287	215.29	5	-2048.97	18	-6388.90	18	1114.68	20	-2727.97	18	-887.49	9	-1998.71	13	-2366.15	18
401 Min.	-257	215.29	5	-2048.97	18	-6388.90	18	1114.68	20	-2727.97	18	-887.49	9	-1998.71	13	-2366.15	18
401 Min.	-266	215.29	5	-2048.97	18	-6388.90	18	1114.68	20	-2727.97	18	-887.49	9	-1998.71	13	-2366.15	18
401 Min.	-284	215.29	5	-2048.97	18	-6388.90	18	1114.68	20	-2727.97	18	-887.49	9	-1998.71	13	-2366.15	18
401 Max	-284	1621.33	18	1855.08	18	-95.88	9	987.39	17	1008.98	9	731.60	1	5321.03	18	4047.25	9
401 Max	-266	1621.33	18	1855.08	18	-95.88	9	987.39	17	1008.98	9	731.60	1	5321.03	18	4047.25	9
401 Max	-274	1621.33	18	1855.08	18	-95.88	9	987.39	17	1008.98	9	731.60	1	5321.03	18	4047.25	9
401 Max	-313	1621.33	18	1855.08	18	-95.88	9	987.39	17	1008.98	9	731.60	1	5321.03	18	4047.25	9
401 Min.	-284	11.61	1	-124.79	17	-2189.40	18	80.91	18	-1206.87	1	-92.54	9	650.46	9	535.38	1
401 Min.	-266	11.61	1	-124.79	17	-2189.40	18	80.91	18	-1206.87	1	-92.54	9	650.46	9	535.38	1
401 Min.	-274	11.61	1	-124.79	17	-2189.40	18	80.91	18	-1206.87	1	-92.54	9	650.46	9	535.38	1
401 Min.	-313	11.61	1	-124.79	17	-2189.40	18	80.91	18	-1206.87	1	-92.54	9	650.46	9	535.38	1
401 Max	-323	-2.04	5	-110.10	9	1320.60	18	-1285.02	5	-916.28	1	-574.08	1	-4744.08	1	8209.49	19
401 Max	-353	-2.04	5	-110.10	9	1320.60	18	-1285.02	5	-916.28	1	-574.08	1	-4744.08	1	8209.49	19
401 Max	-352	-2.04	5	-110.10	9	1320.60	18	-1285.02	5	-916.28	1	-574.08	1	-4744.08	1	8209.49	19
401 Max	-323	-2.04	5	-110.10	9	1320.60	18	-1285.02	5	-916.28	1	-574.08	1	-4744.08	1	8209.49	19
401 Min.	-313	-359.84	18	-613.35	18	16.10	13	-2884.72	19	-2078.30	19	-1298.65	19	-10424.10	19	3646.33	13
401 Min.	-353	-359.84	18	-613.35	18	16.10	13	-2884.72	19	-2078.30	19	-1298.65	19	-10424.10	19	3646.33	13
401 Min.	-352	-359.84	18	-613.35	18	16.10	13	-2884.72	19	-2078.30	19	-1298.65	19	-10424.10	19	3646.33	13
401 Min.	-323	-359.84	18	-613.35	18	16.10	13	-2884.72	19	-2078.30	19	-1298.65	19	-10424.10	19	3646.33	13
401 Max	-328	4905.16	18	653.75	17	-447.40	5	-1297.78	13	-29.54	5	839.73	17	-5020.45	13	9764.13	19
401 Max	-295	4905.16	18	653.75	17	-447.40	5	-1297.78	13	-29.54	5	839.73	17	-5020.45	13	9764.13	19
401 Max	-299	4905.16	18	653.75	17	-447.40	5	-1297.78	13	-29.54	5	839.73	17	-5020.45	13	9764.13	19
401 Max	-326	4905.16	18	653.75	17	-447.40	5	-1297.78	13	-29.54	5	839.73	17	-5020.45	13	9764.13	19
401 Min.	-328	-119.91	5	-42.62	18	-3430.31	18	-2987.69	19	-886.21	18	47.44	18	-11655.50	19	3896.45	13
401 Min.	-295	-119.91	5	-42.62	18	-3430.31	18	-2987.69	19	-886.21	18	47.44	18	-11655.50	19	3896.45	13
401 Min.	-299	-119.91	5	-42.62	18	-3430.31	18	-2987.69	19	-886.21	18	47.44	18	-11655.50	19	3896.45	13
401 Min.	-326	-119.91	5	-42.62	18	-3430.31	18	-2987.69	19	-886.21	18	47.44	18	-11655.50	19	3896.45	13
401 Max	-295	8561.46	18	536.70	17	-590.08	5	2145.42	19	1891.05	19	1170.68	17	58.47	18	5204.60	19
401 Max	-258	8561.46	18	536.70	17	-590.08	5	2145.42	19	1891.05	19	1170.68	17	58.47	18	5204.60	19
401 Max	-272	8561.46	18	536.70	17	-590.08	5	2145.42	19	1891.05	19	1170.68	17	58.47	18	5204.60	19
401 Max	-299	8561.46	18	536.70	17	-590.08	5	2145.42	19	1891.05	19	1170.68	17	58.47	18	5204.60	19
401 Min.	-295	-537.95	5	-1118.15	18	-5171.54	18	667.54	13	427.78	20	39.62	9	-2802.12	19	1008.19	20
401 Min.	-258	-537.95	5	-1118.15	18	-5171.54	18	667.54	13	427.78	20	39.62	9	-2802.12	19	1008.19	20
401 Min.	-272	-537.95	5	-1118.15	18	-5171.54	18	667.54	13	427.78	20	39.62	9	-2802.12	19	1008.19	20
401 Min.	-299	-537.95	5	-1118.15	18	-5171.54	18	667.54	13	427.78	20	39.62	9	-2802.12	19	1008.19	20
401 Max	-299	5784.07	18	298.14	17	-568.04	5	-458.61	13	-851.75	1	1510.96	17	-2176.99	13	13603.60	19
401 Max	-272	5784.07	18	298.14	17	-568.04	5	-458.61	13	-851.75	1	1510.96	17	-2176.99	13	13603.60	19
401 Max	-278	5784.07	18	298.14	17	-568.04	5	-458.61	13	-851.75	1	1510.96	17	-2176.99	13	13603.60	19
401 Max	-326	5784.07	18	298.14	17	-568.04	5	-458.61	13	-851.75	1	1510.96	17	-2176.99	13	13603.60	19
401 Min.	-299	235.47	5	-296.60	18	-4026.54	18	-970.72	19	-2433.44	18	449.17	20	-5495.23	19	5262.95	9
401 Min.	-272	235.47	5	-296.60	18	-4026.54	18	-970.72	19	-2433.44	18	449.17	20	-5495.23	19	5262.95	9
401 Min.	-278	235.47	5	-296.60	18	-4026.54	18	-970.72	19	-2433.44	18	449.17	20	-5495.23	19	5262.95	9
401 Min.	-326	235.47	5	-296.60	18	-4026.54	18	-970.72	19	-2433.44	18	449.17	20	-5495.23	19	5262.95	9
401 Max	-278	-305.83	1	2157.42	18	803.19	17	-370.85	5	-766.14	13	-548.17	13	-3186.38	9	7520.94	19
401 Max	-270	-305.83	1	2157.42	18	803.19	17	-370.85	5	-766.14	13	-548.17	13	-3186.38	9	7520.94	19
401 Max	-315	-305.83	1	2157.42	18	803.19	17	-370.85	5	-766.14	13	-548.17	13	-3186.38	9	7520.94	19
401 Max	-326	-305.83	1	2157.42	18	803.19	17	-370.85	5	-766.14	13	-548.17	13	-3186.38	9	7520.94	19
401 Min.	-278	-757.92	17	-7.41	5	163.03	20	-1354.45	18	-1714.65	19	-1253.33	19	-8603.50	19	3058.41	9
401 Min.	-270	-757.92	17	-7.41	5	163.03	20	-1354.45	18	-1714.65	19	-1253.33	19	-8603.50	19	3058.41	9
401 Min.	-315	-757.92	17	-7.41	5	163.03	20	-1354.45	18	-1714.65	19	-1253.33	19	-8603.50	19	3058.41	9
401 Min.	-326	-757.92	17	-7.41	5	163.03	20	-1354.45	18	-1714.65	19	-1253.33	19	-8603.50	19	3058.41	9
401 Max	-326	400.54	18	53.29	5	-149.29	1	-1108.71	9	-912.25	1	1220.28	19	6711.84	19	3985.57	19
401 Max	-315	400.54	18	53.29	5	-149.29	1	-1108.71	9	-912.25	1	1220.28	19	6711.84	19	3985.57	19
401 Max	-361	400.54	18	53.29	5	-149.29	1	-1108.71	9	-912.25	1	1220.28	19	6711.84	19	3985.57	19
401 Max	-360	400.54	18	53.29	5	-149.29	1	-1108.71	9	-912.25	1	1220.28	19	6711.84	19	3985.57	19
401 Min.	-326	32.29	5	-401.54	18	-612.78	18	-2767.56	19	-2260.73	18	499.79	9	2907.38	9	1631.49	9
401 Min.	-315	32.29	5	-401.54	18	-612.78	18	-2767.56	19	-2260.73	18	499.79	9	2907.38	9	1631.49	9
401 Min.	-361	32.29	5	-401.54	18	-612.78	18	-2767.56	19	-2260.73	18	499.79	9	2907.38	9	1631.49	9
401 Min.	-360	32.29	5	-401.54	18	-612.78	18	-2767.56	19	-2260.73	18	499.79	9	2907.38	9	1631.49	9
401 Max	-326	11.44	5	912.28	17	239.22	5	-718.31	5	-507.24	13	1245.73	19	8130.55	19	6972.26	19
401 Max	-360	11.44	5	912.28	17	239.22	5	-718.31	5	-507.24	13	1245.73	19	8130.55	19	6972.26	19
401 Max	-359	11.44	5	912.28	17	239.22	5	-718.31	5	-507.24	13	1245.73	19	8130.55	19		

Relazione di calcolo

401 Min.	-278	860.70	1	-140.86	5	77.24	5	-1354.37	18	1384.74	13	-290.93	17	-112.58	1	-1847.47	1
401 Min.	-272	860.70	1	-140.86	5	77.24	5	-1354.37	18	1384.74	13	-290.93	17	-112.58	1	-1847.47	1
401 Max	-239	2738.64	18	3704.35	17	63.73	5	2875.20	19	2342.36	1	1628.52	17	5155.59	5	264.87	9
401 Max	-272	2738.64	18	3704.35	17	63.73	5	2875.20	19	2342.36	1	1628.52	17	5155.59	5	264.87	9
401 Max	-258	2738.64	18	3704.35	17	63.73	5	2875.20	19	2342.36	1	1628.52	17	5155.59	5	264.87	9
401 Max	-237	2738.64	18	3704.35	17	63.73	5	2875.20	19	2342.36	1	1628.52	17	5155.59	5	264.87	9
401 Min.	-239	30.11	5	788.30	20	-7305.35	18	847.42	13	-1039.04	9	359.06	9	-1985.60	18	-1337.53	18
401 Min.	-272	30.11	5	788.30	20	-7305.35	18	847.42	13	-1039.04	9	359.06	9	-1985.60	18	-1337.53	18
401 Min.	-258	30.11	5	788.30	20	-7305.35	18	847.42	13	-1039.04	9	359.06	9	-1985.60	18	-1337.53	18
401 Min.	-237	30.11	5	788.30	20	-7305.35	18	847.42	13	-1039.04	9	359.06	9	-1985.60	18	-1337.53	18
401 Max	-278	267.82	18	681.03	18	-152.30	5	3675.08	19	-172.28	9	550.80	17	99.02	9	-302.72	1
401 Max	-249	267.82	18	681.03	18	-152.30	5	3675.08	19	-172.28	9	550.80	17	99.02	9	-302.72	1
401 Max	-251	267.82	18	681.03	18	-152.30	5	3675.08	19	-172.28	9	550.80	17	99.02	9	-302.72	1
401 Max	-270	267.82	18	681.03	18	-152.30	5	3675.08	19	-172.28	9	550.80	17	99.02	9	-302.72	1
401 Min.	-278	-397.68	17	268.40	1	-1135.61	18	1420.14	13	-588.89	19	242.55	13	-785.64	1	-1101.99	18
401 Min.	-249	-397.68	17	268.40	1	-1135.61	18	1420.14	13	-588.89	19	242.55	13	-785.64	1	-1101.99	18
401 Min.	-251	-397.68	17	268.40	1	-1135.61	18	1420.14	13	-588.89	19	242.55	13	-785.64	1	-1101.99	18
401 Min.	-270	-397.68	17	268.40	1	-1135.61	18	1420.14	13	-588.89	19	242.55	13	-785.64	1	-1101.99	18
401 Max	-249	-254.00	5	2750.58	18	282.29	17	2944.65	19	-1186.96	9	-208.89	9	423.44	9	-2918.44	13
401 Max	-220	-254.00	5	2750.58	18	282.29	17	2944.65	19	-1186.96	9	-208.89	9	423.44	9	-2918.44	13
401 Max	-226	-254.00	5	2750.58	18	282.29	17	2944.65	19	-1186.96	9	-208.89	9	423.44	9	-2918.44	13
401 Max	-251	-254.00	5	2750.58	18	282.29	17	2944.65	19	-1186.96	9	-208.89	9	423.44	9	-2918.44	13
401 Min.	-249	-2393.21	18	1079.88	1	-1076.95	18	1093.45	9	-2782.54	19	-857.25	19	-1391.10	1	-6910.93	19
401 Min.	-220	-2393.21	18	1079.88	1	-1076.95	18	1093.45	9	-2782.54	19	-857.25	19	-1391.10	1	-6910.93	19
401 Min.	-226	-2393.21	18	1079.88	1	-1076.95	18	1093.45	9	-2782.54	19	-857.25	19	-1391.10	1	-6910.93	19
401 Min.	-251	-2393.21	18	1079.88	1	-1076.95	18	1093.45	9	-2782.54	19	-857.25	19	-1391.10	1	-6910.93	19
401 Max	-270	-405.73	1	745.69	18	-394.86	20	872.98	19	-157.75	1	2122.21	19	-228.92	1	-1606.67	13
401 Max	-251	-405.73	1	745.69	18	-394.86	20	872.98	19	-157.75	1	2122.21	19	-228.92	1	-1606.67	13
401 Max	-226	-405.73	1	745.69	18	-394.86	20	872.98	19	-157.75	1	2122.21	19	-228.92	1	-1606.67	13
401 Max	-210	-405.73	1	745.69	18	-394.86	20	872.98	19	-157.75	1	2122.21	19	-228.92	1	-1606.67	13
401 Min.	-270	-1014.16	18	-220.91	5	-1098.98	17	283.32	9	-683.16	18	838.37	13	-1083.24	18	-3519.18	19
401 Min.	-251	-1014.16	18	-220.91	5	-1098.98	17	283.32	9	-683.16	18	838.37	13	-1083.24	18	-3519.18	19
401 Min.	-226	-1014.16	18	-220.91	5	-1098.98	17	283.32	9	-683.16	18	838.37	13	-1083.24	18	-3519.18	19
401 Min.	-210	-1014.16	18	-220.91	5	-1098.98	17	283.32	9	-683.16	18	838.37	13	-1083.24	18	-3519.18	19
401 Max	-220	588.76	5	-262.96	20	3618.82	17	-1172.50	13	-1243.32	9	-947.40	13	5969.36	18	-6879.20	9
401 Max	-200	588.76	5	-262.96	20	3618.82	17	-1172.50	13	-1243.32	9	-947.40	13	5969.36	18	-6879.20	9
401 Max	-210	588.76	5	-262.96	20	3618.82	17	-1172.50	13	-1243.32	9	-947.40	13	5969.36	18	-6879.20	9
401 Max	-226	588.76	5	-262.96	20	3618.82	17	-1172.50	13	-1243.32	9	-947.40	13	5969.36	18	-6879.20	9
401 Min.	-220	-3680.88	18	-851.47	17	1403.43	1	-2848.97	19	-3003.52	19	-2060.17	19	2446.09	5	-17502.00	19
401 Min.	-200	-3680.88	18	-851.47	17	1403.43	1	-2848.97	19	-3003.52	19	-2060.17	19	2446.09	5	-17502.00	19
401 Min.	-210	-3680.88	18	-851.47	17	1403.43	1	-2848.97	19	-3003.52	19	-2060.17	19	2446.09	5	-17502.00	19
401 Min.	-226	-3680.88	18	-851.47	17	1403.43	1	-2848.97	19	-3003.52	19	-2060.17	19	2446.09	5	-17502.00	19
401 Max	-99	776.41	18	241.38	18	472.76	9	1446.09	1	1128.58	1	1652.49	1	-1753.97	9	14455.70	18
401 Max	-87	776.41	18	241.38	18	472.76	9	1446.09	1	1128.58	1	1652.49	1	-1753.97	9	14455.70	18
401 Max	-116	776.41	18	241.38	18	472.76	9	1446.09	1	1128.58	1	1652.49	1	-1753.97	9	14455.70	18
401 Max	-121	776.41	18	241.38	18	472.76	9	1446.09	1	1128.58	1	1652.49	1	-1753.97	9	14455.70	18
401 Min.	-99	-79.15	9	-1456.72	1	-655.62	18	-974.04	9	-2698.03	9	-1541.24	9	-8423.70	18	5488.35	1
401 Min.	-87	-79.15	9	-1456.72	1	-655.62	18	-974.04	9	-2698.03	9	-1541.24	9	-8423.70	18	5488.35	1
401 Min.	-116	-79.15	9	-1456.72	1	-655.62	18	-974.04	9	-2698.03	9	-1541.24	9	-8423.70	18	5488.35	1
401 Min.	-121	-79.15	9	-1456.72	1	-655.62	18	-974.04	9	-2698.03	9	-1541.24	9	-8423.70	18	5488.35	1
401 Max	-99	2616.14	17	739.29	9	543.78	5	5311.22	18	5636.47	1	880.53	1	4084.86	9	-851.53	9
401 Max	-67	2616.14	17	739.29	9	543.78	5	5311.22	18	5636.47	1	880.53	1	4084.86	9	-851.53	9
401 Max	-71	2616.14	17	739.29	9	543.78	5	5311.22	18	5636.47	1	880.53	1	4084.86	9	-851.53	9
401 Max	-87	2616.14	17	739.29	9	543.78	5	5311.22	18	5636.47	1	880.53	1	4084.86	9	-851.53	9
401 Min.	-99	1409.42	5	-1231.06	1	-1685.19	18	1556.06	9	-5114.47	9	-1009.10	9	-6938.30	1	-2723.77	19
401 Min.	-67	1409.42	5	-1231.06	1	-1685.19	18	1556.06	9	-5114.47	9	-1009.10	9	-6938.30	1	-2723.77	19
401 Min.	-71	1409.42	5	-1231.06	1	-1685.19	18	1556.06	9	-5114.47	9	-1009.10	9	-6938.30	1	-2723.77	19
401 Min.	-87	1409.42	5	-1231.06	1	-1685.19	18	1556.06	9	-5114.47	9	-1009.10	9	-6938.30	1	-2723.77	19
401 Max	-67	1453.68	17	935.42	18	111.81	9	2458.26	18	5216.44	1	851.47	1	2775.38	9	-4551.25	13
401 Max	-50	1453.68	17	935.42	18	111.81	9	2458.26	18	5216.44	1	851.47	1	2775.38	9	-4551.25	13
401 Max	-58	1453.68	17	935.42	18	111.81	9	2458.26	18	5216.44	1	851.47	1	2775.38	9	-4551.25	13
401 Max	-71	1453.68	17	935.42	18	111.81	9	2458.26	18	5216.44	1	851.47	1	2775.38	9	-4551.25	13
401 Min.	-67	-2161.39	18	-777.37	1	-3564.12	18	-302.80	9	-5773.78	9	-1835.13	9	-5531.44	18	-14253.50	18
401 Min.	-50	-2161.39	18	-777.37	1	-3564.12	18	-302.80	9	-5773.78	9	-1835.13	9	-5531.44	18	-14253.50	18
401 Min.	-58	-2161.39	18	-777.37	1	-3564.12	18	-302.80	9	-5773.78	9	-1835.13	9	-5531.44	18	-14253.50	18
401 Min.	-71	-2161.39	18	-777.37	1	-3564.12	18	-302.80	9	-5773.78	9	-1835.13	9	-5531.44	18	-14253.50	18
401 Max	-87	15.70	9	1050.62	9	438.24	1	1766.27	1	1995.58	1	1642.64	9	3096.19	9	-2080.57	1
401 Max	-71	15.70	9	1050.62	9	438.24	1	1766.27	1	1995.58	1	1642.64	9	3096.19	9	-2080.57	1
401 Max	-58	15.70	9	1050.62	9	438.24	1	1766.27	1	1995.58	1	1642.64	9	3096.19	9	-2080.57	1
401 Max	-47	15.70	9	1050.62	9	438.24	1	1766.27	1	1995.58	1	1642.64	9	3096.19	9	-2080.57	1
401 Min.	-87	-716.47	18	-266.22	1	-201.51	9	-570.73	9	-2865.81	9	-921.76	1	-5617.85	1	-7124.18	18
401 Min.	-71	-716.47	18	-266.22	1	-201.51	9	-570.73	9	-2865.81	9	-921.76	1	-5617.85	1	-7124.18	18
401 Min.	-58	-716.47	18	-266.22	1	-201.51	9	-570.73	9	-2865.81	9	-921.76	1	-5617.85	1	-7124.18	18
401 Min.	-47	-716.47	18	-266.22	1	-201.51	9	-570.73	9	-2865.81	9	-921.76	1	-5617.85	1	-7124.18	18
401 Max	-50	783.05															

Relazione di calcolo

401 Max	-85	-16.77	5	197.30	9	370.14	17	-228.09	1	-1482.45	9	1063.27	19	-3615.69	9	-5776.32	9
401 Min.	-78	-712.34	18	-382.48	18	-302.13	18	-627.48	19	-4251.93	18	213.52	1	-11323.60	18	-14866.50	18
401 Min.	-53	-712.34	18	-382.48	18	-302.13	18	-627.48	19	-4251.93	18	213.52	1	-11323.60	18	-14866.50	18
401 Min.	-39	-712.34	18	-382.48	18	-302.13	18	-627.48	19	-4251.93	18	213.52	1	-11323.60	18	-14866.50	18
401 Min.	-85	-712.34	18	-382.48	18	-302.13	18	-627.48	19	-4251.93	18	213.52	1	-11323.60	18	-14866.50	18
401 Max	-39	316.62	9	470.96	18	469.01	18	-1011.77	9	-1440.60	13	1573.31	18	10533.20	18	17871.20	18
401 Max	-53	316.62	9	470.96	18	469.01	18	-1011.77	9	-1440.60	13	1573.31	18	10533.20	18	17871.20	18
401 Max	-23	316.62	9	470.96	18	469.01	18	-1011.77	9	-1440.60	13	1573.31	18	10533.20	18	17871.20	18
401 Max	-12	316.62	9	470.96	18	469.01	18	-1011.77	9	-1440.60	13	1573.31	18	10533.20	18	17871.20	18
401 Min.	-39	-497.66	18	-69.45	5	5.00	1	-3268.95	18	-3464.55	19	605.03	9	4081.63	9	6193.51	9
401 Min.	-53	-497.66	18	-69.45	5	5.00	1	-3268.95	18	-3464.55	19	605.03	9	4081.63	9	6193.51	9
401 Min.	-23	-497.66	18	-69.45	5	5.00	1	-3268.95	18	-3464.55	19	605.03	9	4081.63	9	6193.51	9
401 Min.	-12	-497.66	18	-69.45	5	5.00	1	-3268.95	18	-3464.55	19	605.03	9	4081.63	9	6193.51	9
401 Max	-53	306.68	9	-1.81	1	261.78	18	1875.37	19	-1069.84	13	645.84	18	-814.66	9	7067.36	18
401 Max	-55	306.68	9	-1.81	1	261.78	18	1875.37	19	-1069.84	13	645.84	18	-814.66	9	7067.36	18
401 Max	-25	306.68	9	-1.81	1	261.78	18	1875.37	19	-1069.84	13	645.84	18	-814.66	9	7067.36	18
401 Max	-23	306.68	9	-1.81	1	261.78	18	1875.37	19	-1069.84	13	645.84	18	-814.66	9	7067.36	18
401 Min.	-53	-254.50	1	-264.56	18	-220.21	9	320.22	9	-2588.65	19	96.18	9	-2958.83	18	1563.88	9
401 Min.	-55	-254.50	1	-264.56	18	-220.21	9	320.22	9	-2588.65	19	96.18	9	-2958.83	18	1563.88	9
401 Min.	-25	-254.50	1	-264.56	18	-220.21	9	320.22	9	-2588.65	19	96.18	9	-2958.83	18	1563.88	9
401 Min.	-23	-254.50	1	-264.56	18	-220.21	9	320.22	9	-2588.65	19	96.18	9	-2958.83	18	1563.88	9
401 Max	-12	25.96	5	204.48	18	-83.15	1	-1520.06	13	1317.02	18	113.74	9	3483.44	19	42.53	1
401 Max	-23	25.96	5	204.48	18	-83.15	1	-1520.06	13	1317.02	18	113.74	9	3483.44	19	42.53	1
401 Max	-25	25.96	5	204.48	18	-83.15	1	-1520.06	13	1317.02	18	113.74	9	3483.44	19	42.53	1
401 Max	-11	25.96	5	204.48	18	-83.15	1	-1520.06	13	1317.02	18	113.74	9	3483.44	19	42.53	1
401 Min.	-12	-501.53	18	-189.61	17	-234.00	17	-3617.48	18	225.79	9	-93.05	1	1250.37	9	-499.12	9
401 Min.	-23	-501.53	18	-189.61	17	-234.00	17	-3617.48	18	225.79	9	-93.05	1	1250.37	9	-499.12	9
401 Min.	-25	-501.53	18	-189.61	17	-234.00	17	-3617.48	18	225.79	9	-93.05	1	1250.37	9	-499.12	9
401 Min.	-11	-501.53	18	-189.61	17	-234.00	17	-3617.48	18	225.79	9	-93.05	1	1250.37	9	-499.12	9
401 Max	-55	-27.64	20	148.63	13	421.43	18	2415.47	18	-328.10	1	216.96	9	-238.36	9	880.46	1
401 Max	-47	-27.64	20	148.63	13	421.43	18	2415.47	18	-328.10	1	216.96	9	-238.36	9	880.46	1
401 Max	-11	-27.64	20	148.63	13	421.43	18	2415.47	18	-328.10	1	216.96	9	-238.36	9	880.46	1
401 Max	-25	-27.64	20	148.63	13	421.43	18	2415.47	18	-328.10	1	216.96	9	-238.36	9	880.46	1
401 Min.	-55	-187.34	17	-815.78	18	-166.81	9	128.05	9	-1411.97	18	-372.07	1	-2745.73	18	-769.42	9
401 Min.	-47	-187.34	17	-815.78	18	-166.81	9	128.05	9	-1411.97	18	-372.07	1	-2745.73	18	-769.42	9
401 Min.	-11	-187.34	17	-815.78	18	-166.81	9	128.05	9	-1411.97	18	-372.07	1	-2745.73	18	-769.42	9
401 Min.	-25	-187.34	17	-815.78	18	-166.81	9	128.05	9	-1411.97	18	-372.07	1	-2745.73	18	-769.42	9
401 Max	-87	378.78	9	232.65	13	886.73	18	1841.63	1	954.83	18	74.18	5	1478.64	9	1374.49	9
401 Max	-79	378.78	9	232.65	13	886.73	18	1841.63	1	954.83	18	74.18	5	1478.64	9	1374.49	9
401 Max	-104	378.78	9	232.65	13	886.73	18	1841.63	1	954.83	18	74.18	5	1478.64	9	1374.49	9
401 Max	-116	378.78	9	232.65	13	886.73	18	1841.63	1	954.83	18	74.18	5	1478.64	9	1374.49	9
401 Min.	-87	-498.29	1	-1015.88	18	-74.51	5	-1075.45	9	116.98	13	-322.47	18	-828.59	1	-3853.62	1
401 Min.	-79	-498.29	1	-1015.88	18	-74.51	5	-1075.45	9	116.98	13	-322.47	18	-828.59	1	-3853.62	1
401 Min.	-104	-498.29	1	-1015.88	18	-74.51	5	-1075.45	9	116.98	13	-322.47	18	-828.59	1	-3853.62	1
401 Min.	-116	-498.29	1	-1015.88	18	-74.51	5	-1075.45	9	116.98	13	-322.47	18	-828.59	1	-3853.62	1
401 Max	-79	139.32	9	109.57	17	891.14	18	204.79	1	2363.18	18	827.93	19	116.09	9	-413.45	9
401 Max	-78	139.32	9	109.57	17	891.14	18	204.79	1	2363.18	18	827.93	19	116.09	9	-413.45	9
401 Max	-106	139.32	9	109.57	17	891.14	18	204.79	1	2363.18	18	827.93	19	116.09	9	-413.45	9
401 Max	-104	139.32	9	109.57	17	891.14	18	204.79	1	2363.18	18	827.93	19	116.09	9	-413.45	9
401 Min.	-79	-390.30	1	-472.00	18	-117.19	5	-811.43	9	683.24	9	371.37	5	-228.37	1	-3899.79	18
401 Min.	-78	-390.30	1	-472.00	18	-117.19	5	-811.43	9	683.24	9	371.37	5	-228.37	1	-3899.79	18
401 Min.	-106	-390.30	1	-472.00	18	-117.19	5	-811.43	9	683.24	9	371.37	5	-228.37	1	-3899.79	18
401 Min.	-104	-390.30	1	-472.00	18	-117.19	5	-811.43	9	683.24	9	371.37	5	-228.37	1	-3899.79	18
401 Max	-116	65.28	5	995.84	18	92.19	1	-89.10	1	-179.26	13	815.61	19	-3649.35	9	866.69	1
401 Max	-104	65.28	5	995.84	18	92.19	1	-89.10	1	-179.26	13	815.61	19	-3649.35	9	866.69	1
401 Max	-106	65.28	5	995.84	18	92.19	1	-89.10	1	-179.26	13	815.61	19	-3649.35	9	866.69	1
401 Max	-122	65.28	5	995.84	18	92.19	1	-89.10	1	-179.26	13	815.61	19	-3649.35	9	866.69	1
401 Min.	-116	-1423.40	18	-425.83	1	-466.36	18	-773.79	19	-805.39	18	13.92	9	-14324.40	18	-477.73	9
401 Min.	-104	-1423.40	18	-425.83	1	-466.36	18	-773.79	19	-805.39	18	13.92	9	-14324.40	18	-477.73	9
401 Min.	-106	-1423.40	18	-425.83	1	-466.36	18	-773.79	19	-805.39	18	13.92	9	-14324.40	18	-477.73	9
401 Min.	-122	-1423.40	18	-425.83	1	-466.36	18	-773.79	19	-805.39	18	13.92	9	-14324.40	18	-477.73	9
401 Max	-78	36.62	9	233.61	18	869.34	18	-1574.75	9	665.25	18	686.21	19	-5102.83	9	-741.16	9
401 Max	-85	36.62	9	233.61	18	869.34	18	-1574.75	9	665.25	18	686.21	19	-5102.83	9	-741.16	9
401 Max	-122	36.62	9	233.61	18	869.34	18	-1574.75	9	665.25	18	686.21	19	-5102.83	9	-741.16	9
401 Max	-106	36.62	9	233.61	18	869.34	18	-1574.75	9	665.25	18	686.21	19	-5102.83	9	-741.16	9
401 Min.	-78	-457.67	1	-42.30	5	9.93	5	-4099.65	18	73.05	9	184.58	1	-12695.60	18	-4719.81	18
401 Min.	-85	-457.67	1	-42.30	5	9.93	5	-4099.65	18	73.05	9	184.58	1	-12695.60	18	-4719.81	18
401 Min.	-122	-457.67	1	-42.30	5	9.93	5	-4099.65	18	73.05	9	184.58	1	-12695.60	18	-4719.81	18
401 Min.	-106	-457.67	1	-42.30	5	9.93	5	-4099.65	18	73.05	9	184.58	1	-12695.60	18	-4719.81	18
401 Max	-39	191.82	18	-207.81	1	543.80	18	-1399.92	9	-1952.39	9	1284.79	18	16171.50	19	7814.49	19
401 Max	-12	191.82	18	-207.81	1	543.80	18	-1399.92	9	-1952.39	9	1284.79	18	16171.50	19	7814.49	19
401 Max	-13	191.82	18	-207.81	1	543.80	18	-1399.92	9	-1952.39	9	1284.79	18	16171.50	19	7814.49	19
401 Max	-34	191.82	18	-207.81	1	543.80	18	-1399.92	9	-1952.39	9	1284.79	18	16171.50	19	7814.49	19
401 Min.	-39	-19.80	5	-650.70	18	80.23	5	-3347.70	19	-4535.97	19	486.29	1	6940.00	9	3136.21	9
401 Min.	-12	-19.80	5	-650.70	18	80.23	5	-3347.70	19	-4535.97	19	486.29	1	6940.00	9	3136.21	9
401 Min.	-13	-19.80	5	-650.70	18	80.23	5	-3347.70	19								

Relazione di calcolo

401 Max	-15	-122.97	5	-51.91	5	75.00	17	-118.30	1	5175.65	19	57.19	9	5087.43	18	2027.05	18
401 Max	-32	-122.97	5	-51.91	5	75.00	17	-118.30	1	5175.65	19	57.19	9	5087.43	18	2027.05	18
401 Max	-31	-122.97	5	-51.91	5	75.00	17	-118.30	1	5175.65	19	57.19	9	5087.43	18	2027.05	18
401 Max	-14	-122.97	5	-51.91	5	75.00	17	-118.30	1	5175.65	19	57.19	9	5087.43	18	2027.05	18
401 Min.	-15	-690.99	18	-322.07	18	-9.97	18	-322.66	18	2169.93	9	-21.75	1	2188.74	1	783.91	1
401 Min.	-32	-690.99	18	-322.07	18	-9.97	18	-322.66	18	2169.93	9	-21.75	1	2188.74	1	783.91	1
401 Min.	-31	-690.99	18	-322.07	18	-9.97	18	-322.66	18	2169.93	9	-21.75	1	2188.74	1	783.91	1
401 Min.	-14	-690.99	18	-322.07	18	-9.97	18	-322.66	18	2169.93	9	-21.75	1	2188.74	1	783.91	1
401 Max	-32	15.31	18	42.95	5	-593.17	1	-1737.48	5	-1181.22	1	-306.89	5	20202.70	18	-8214.97	1
401 Max	-40	15.31	18	42.95	5	-593.17	1	-1737.48	5	-1181.22	1	-306.89	5	20202.70	18	-8214.97	1
401 Max	-70	15.31	18	42.95	5	-593.17	1	-1737.48	5	-1181.22	1	-306.89	5	20202.70	18	-8214.97	1
401 Max	-60	15.31	18	42.95	5	-593.17	1	-1737.48	5	-1181.22	1	-306.89	5	20202.70	18	-8214.97	1
401 Min.	-32	-157.92	17	-1572.24	18	-1581.84	17	-4132.84	18	-2765.14	18	-884.71	18	8103.11	1	-18913.50	18
401 Min.	-40	-157.92	17	-1572.24	18	-1581.84	17	-4132.84	18	-2765.14	18	-884.71	18	8103.11	1	-18913.50	18
401 Min.	-70	-157.92	17	-1572.24	18	-1581.84	17	-4132.84	18	-2765.14	18	-884.71	18	8103.11	1	-18913.50	18
401 Min.	-60	-157.92	17	-1572.24	18	-1581.84	17	-4132.84	18	-2765.14	18	-884.71	18	8103.11	1	-18913.50	18
401 Max	-32	12.88	5	-279.67	5	470.03	17	92.16	17	4668.45	19	1189.08	18	4674.51	18	649.73	19
401 Max	-60	12.88	5	-279.67	5	470.03	17	92.16	17	4668.45	19	1189.08	18	4674.51	18	649.73	19
401 Max	-62	12.88	5	-279.67	5	470.03	17	92.16	17	4668.45	19	1189.08	18	4674.51	18	649.73	19
401 Max	-31	12.88	5	-279.67	5	470.03	17	92.16	17	4668.45	19	1189.08	18	4674.51	18	649.73	19
401 Min.	-32	-77.37	18	-690.53	18	160.77	1	12.32	1	1876.60	13	472.23	1	2019.89	1	144.53	13
401 Min.	-60	-77.37	18	-690.53	18	160.77	1	12.32	1	1876.60	13	472.23	1	2019.89	1	144.53	13
401 Min.	-62	-77.37	18	-690.53	18	160.77	1	12.32	1	1876.60	13	472.23	1	2019.89	1	144.53	13
401 Min.	-31	-77.37	18	-690.53	18	160.77	1	12.32	1	1876.60	13	472.23	1	2019.89	1	144.53	13
401 Max	-129	-416.85	1	-16.24	5	-115.44	1	6089.29	19	-153.27	13	-71.31	13	-1082.78	5	187.61	18
401 Max	-131	-416.85	1	-16.24	5	-115.44	1	6089.29	19	-153.27	13	-71.31	13	-1082.78	5	187.61	18
401 Max	-110	-416.85	1	-16.24	5	-115.44	1	6089.29	19	-153.27	13	-71.31	13	-1082.78	5	187.61	18
401 Max	-108	-416.85	1	-16.24	5	-115.44	1	6089.29	19	-153.27	13	-71.31	13	-1082.78	5	187.61	18
401 Min.	-129	-980.18	17	-714.22	18	-556.91	18	2509.25	9	-299.45	19	-198.10	19	-2695.95	18	30.71	1
401 Min.	-131	-980.18	17	-714.22	18	-556.91	18	2509.25	9	-299.45	19	-198.10	19	-2695.95	18	30.71	1
401 Min.	-110	-980.18	17	-714.22	18	-556.91	18	2509.25	9	-299.45	19	-198.10	19	-2695.95	18	30.71	1
401 Min.	-108	-980.18	17	-714.22	18	-556.91	18	2509.25	9	-299.45	19	-198.10	19	-2695.95	18	30.71	1
401 Max	-129	965.88	18	203.45	17	-458.53	1	-949.10	1	-861.68	5	-383.15	1	-7860.88	1	15154.90	18
401 Max	-108	965.88	18	203.45	17	-458.53	1	-949.10	1	-861.68	5	-383.15	1	-7860.88	1	15154.90	18
401 Max	-97	965.88	18	203.45	17	-458.53	1	-949.10	1	-861.68	5	-383.15	1	-7860.88	1	15154.90	18
401 Max	-123	965.88	18	203.45	17	-458.53	1	-949.10	1	-861.68	5	-383.15	1	-7860.88	1	15154.90	18
401 Min.	-129	119.84	5	24.37	1	-1236.76	17	-2259.90	18	-2094.49	18	-1037.63	18	-18232.20	18	6338.72	1
401 Min.	-108	119.84	5	24.37	1	-1236.76	17	-2259.90	18	-2094.49	18	-1037.63	18	-18232.20	18	6338.72	1
401 Min.	-97	119.84	5	24.37	1	-1236.76	17	-2259.90	18	-2094.49	18	-1037.63	18	-18232.20	18	6338.72	1
401 Min.	-123	119.84	5	24.37	1	-1236.76	17	-2259.90	18	-2094.49	18	-1037.63	18	-18232.20	18	6338.72	1
401 Max	-108	355.35	17	-894.56	9	724.41	17	2410.91	18	1314.04	19	-173.19	13	-560.28	1	2701.26	18
401 Max	-91	355.35	17	-894.56	9	724.41	17	2410.91	18	1314.04	19	-173.19	13	-560.28	1	2701.26	18
401 Max	-89	355.35	17	-894.56	9	724.41	17	2410.91	18	1314.04	19	-173.19	13	-560.28	1	2701.26	18
401 Max	-97	355.35	17	-894.56	9	724.41	17	2410.91	18	1314.04	19	-173.19	13	-560.28	1	2701.26	18
401 Min.	-108	5.41	20	-2228.86	17	278.95	1	932.49	1	170.05	13	-640.12	19	-1813.24	18	1212.56	1
401 Min.	-91	5.41	20	-2228.86	17	278.95	1	932.49	1	170.05	13	-640.12	19	-1813.24	18	1212.56	1
401 Min.	-89	5.41	20	-2228.86	17	278.95	1	932.49	1	170.05	13	-640.12	19	-1813.24	18	1212.56	1
401 Min.	-97	5.41	20	-2228.86	17	278.95	1	932.49	1	170.05	13	-640.12	19	-1813.24	18	1212.56	1
401 Max	-91	77.21	5	-468.52	1	757.49	17	1212.16	18	3373.49	19	211.08	17	-1676.00	5	-682.01	1
401 Max	-62	77.21	5	-468.52	1	757.49	17	1212.16	18	3373.49	19	211.08	17	-1676.00	5	-682.01	1
401 Max	-60	77.21	5	-468.52	1	757.49	17	1212.16	18	3373.49	19	211.08	17	-1676.00	5	-682.01	1
401 Max	-89	77.21	5	-468.52	1	757.49	17	1212.16	18	3373.49	19	211.08	17	-1676.00	5	-682.01	1
401 Min.	-91	-252.26	18	-1076.32	17	287.59	1	476.34	1	1227.77	13	28.80	1	-3945.15	18	-1827.00	18
401 Min.	-62	-252.26	18	-1076.32	17	287.59	1	476.34	1	1227.77	13	28.80	1	-3945.15	18	-1827.00	18
401 Min.	-60	-252.26	18	-1076.32	17	287.59	1	476.34	1	1227.77	13	28.80	1	-3945.15	18	-1827.00	18
401 Min.	-89	-252.26	18	-1076.32	17	287.59	1	476.34	1	1227.77	13	28.80	1	-3945.15	18	-1827.00	18
401 Max	-89	488.41	17	-1038.26	1	776.28	18	4577.76	18	-71.31	5	656.54	18	-817.26	9	-945.84	1
401 Max	-60	488.41	17	-1038.26	1	776.28	18	4577.76	18	-71.31	5	656.54	18	-817.26	9	-945.84	1
401 Max	-70	488.41	17	-1038.26	1	776.28	18	4577.76	18	-71.31	5	656.54	18	-817.26	9	-945.84	1
401 Max	-97	488.41	17	-1038.26	1	776.28	18	4577.76	18	-71.31	5	656.54	18	-817.26	9	-945.84	1
401 Min.	-89	106.18	20	-2550.30	17	258.19	1	1810.24	1	-658.08	18	315.80	1	-2910.20	19	-2368.62	18
401 Min.	-60	106.18	20	-2550.30	17	258.19	1	1810.24	1	-658.08	18	315.80	1	-2910.20	19	-2368.62	18
401 Min.	-70	106.18	20	-2550.30	17	258.19	1	1810.24	1	-658.08	18	315.80	1	-2910.20	19	-2368.62	18
401 Min.	-97	106.18	20	-2550.30	17	258.19	1	1810.24	1	-658.08	18	315.80	1	-2910.20	19	-2368.62	18
401 Max	-91	144.27	17	-280.50	20	136.34	17	966.99	18	3430.28	19	-490.31	9	138.93	17	-964.60	1
401 Max	-108	144.27	17	-280.50	20	136.34	17	966.99	18	3430.28	19	-490.31	9	138.93	17	-964.60	1
401 Max	-110	144.27	17	-280.50	20	136.34	17	966.99	18	3430.28	19	-490.31	9	138.93	17	-964.60	1
401 Max	-93	144.27	17	-280.50	20	136.34	17	966.99	18	3430.28	19	-490.31	9	138.93	17	-964.60	1
401 Min.	-91	-195.35	18	-704.64	17	19.40	20	387.57	5	1349.31	13	-1245.31	19	-62.67	19	-2267.79	18
401 Min.	-108	-195.35	18	-704.64	17	19.40	20	387.57	5	1349.31	13	-1245.31	19	-62.67	19	-2267.79	18
401 Min.	-110	-195.35	18	-704.64	17	19.40	20	387.57	5	1349.31	13	-1245.31	19	-62.67	19	-2267.79	18
401 Min.	-93	-195.35	18	-704.64	17	19.40	20	387.57	5	1349.31	13	-1245.31	19	-62.67	19	-2267.79	18
401 Max	-91	-445.78	1	22.02	1	-165.29	1	3601.64	19	1282.08	18	425.06	19	-504.00	9	-1144.12	9
401 Max	-93	-445.78	1	22.02	1	-165.29	1	3601.64	19	1282.08	18	425.06	19	-504.00	9	-1144.12	9
401 Max	-73	-445.78	1	22.02	1	-165.29	1	3601.64	19	1282.08	18	425.06	19	-504.00	9	-1144.12	9
401 Max																	

Relazione di calcolo

401 Min.	-131	29.85	5	-1438.43	17	-241.69	17	-2201.29	19	-1284.55	18	-90.97	9	-17882.10	19	-9426.31	19
401 Min.	-122	29.85	5	-1438.43	17	-241.69	17	-2201.29	19	-1284.55	18	-90.97	9	-17882.10	19	-9426.31	19
401 Min.	-112	29.85	5	-1438.43	17	-241.69	17	-2201.29	19	-1284.55	18	-90.97	9	-17882.10	19	-9426.31	19
401 Max	-17	27.83	5	2259.95	18	-20.84	9	-950.76	5	3218.35	18	487.27	19	-1529.78	5	-468.54	13
401 Max	-27	27.83	5	2259.95	18	-20.84	9	-950.76	5	3218.35	18	487.27	19	-1529.78	5	-468.54	13
401 Max	-21	27.83	5	2259.95	18	-20.84	9	-950.76	5	3218.35	18	487.27	19	-1529.78	5	-468.54	13
401 Max	-16	27.83	5	2259.95	18	-20.84	9	-950.76	5	3218.35	18	487.27	19	-1529.78	5	-468.54	13
401 Min.	-17	-1167.11	18	45.40	5	-129.96	17	-2123.65	18	902.61	5	78.54	9	-4177.56	18	-1330.35	19
401 Min.	-27	-1167.11	18	45.40	5	-129.96	17	-2123.65	18	902.61	5	78.54	9	-4177.56	18	-1330.35	19
401 Min.	-21	-1167.11	18	45.40	5	-129.96	17	-2123.65	18	902.61	5	78.54	9	-4177.56	18	-1330.35	19
401 Min.	-27	-1167.11	18	45.40	5	-129.96	17	-2123.65	18	902.61	5	78.54	9	-4177.56	18	-1330.35	19
401 Min.	-16	-1167.11	18	45.40	5	-129.96	17	-2123.65	18	902.61	5	78.54	9	-4177.56	18	-1330.35	19
401 Max	-27	258.41	5	-1209.50	1	3268.55	18	-92.92	13	5877.61	18	2461.68	18	-2673.84	5	6908.08	18
401 Max	-51	258.41	5	-1209.50	1	3268.55	18	-92.92	13	5877.61	18	2461.68	18	-2673.84	5	6908.08	18
401 Max	-45	258.41	5	-1209.50	1	3268.55	18	-92.92	13	5877.61	18	2461.68	18	-2673.84	5	6908.08	18
401 Max	-21	258.41	5	-1209.50	1	3268.55	18	-92.92	13	5877.61	18	2461.68	18	-2673.84	5	6908.08	18
401 Min.	-27	-1572.29	18	-2718.02	17	582.98	5	-1170.16	19	1745.75	1	586.52	1	-10160.40	18	1569.66	5
401 Min.	-51	-1572.29	18	-2718.02	17	582.98	5	-1170.16	19	1745.75	1	586.52	1	-10160.40	18	1569.66	5
401 Min.	-45	-1572.29	18	-2718.02	17	582.98	5	-1170.16	19	1745.75	1	586.52	1	-10160.40	18	1569.66	5
401 Min.	-21	-1572.29	18	-2718.02	17	582.98	5	-1170.16	19	1745.75	1	586.52	1	-10160.40	18	1569.66	5
401 Max	-21	1131.61	18	-1475.35	1	2319.21	18	-1734.19	9	-765.02	1	2558.95	18	-9787.60	5	-2956.76	1
401 Max	-45	1131.61	18	-1475.35	1	2319.21	18	-1734.19	9	-765.02	1	2558.95	18	-9787.60	5	-2956.76	1
401 Max	-40	1131.61	18	-1475.35	1	2319.21	18	-1734.19	9	-765.02	1	2558.95	18	-9787.60	5	-2956.76	1
401 Max	-16	1131.61	18	-1475.35	1	2319.21	18	-1734.19	9	-765.02	1	2558.95	18	-9787.60	5	-2956.76	1
401 Min.	-21	168.65	5	-3546.79	17	43.28	5	-4117.43	19	-2676.14	18	1010.17	5	-26131.90	18	-7918.41	18
401 Min.	-45	168.65	5	-3546.79	17	43.28	5	-4117.43	19	-2676.14	18	1010.17	5	-26131.90	18	-7918.41	18
401 Min.	-40	168.65	5	-3546.79	17	43.28	5	-4117.43	19	-2676.14	18	1010.17	5	-26131.90	18	-7918.41	18
401 Min.	-16	168.65	5	-3546.79	17	43.28	5	-4117.43	19	-2676.14	18	1010.17	5	-26131.90	18	-7918.41	18
401 Max	-45	-2319.75	1	772.35	17	-845.91	5	7487.47	18	2533.37	18	1113.59	18	3199.90	17	12409.70	18
401 Max	-51	-2319.75	1	772.35	17	-845.91	5	7487.47	18	2533.37	18	1113.59	18	3199.90	17	12409.70	18
401 Max	-68	-2319.75	1	772.35	17	-845.91	5	7487.47	18	2533.37	18	1113.59	18	3199.90	17	12409.70	18
401 Max	-75	-2319.75	1	772.35	17	-845.91	5	7487.47	18	2533.37	18	1113.59	18	3199.90	17	12409.70	18
401 Min.	-45	-5557.32	17	-320.51	18	-4177.35	18	1792.02	1	390.42	5	202.87	9	1273.21	1	3020.31	1
401 Min.	-51	-5557.32	17	-320.51	18	-4177.35	18	1792.02	1	390.42	5	202.87	9	1273.21	1	3020.31	1
401 Min.	-68	-5557.32	17	-320.51	18	-4177.35	18	1792.02	1	390.42	5	202.87	9	1273.21	1	3020.31	1
401 Min.	-75	-5557.32	17	-320.51	18	-4177.35	18	1792.02	1	390.42	5	202.87	9	1273.21	1	3020.31	1
401 Max	-45	139.91	5	-1879.83	1	4458.97	18	-773.84	13	-993.69	1	-95.75	13	-7363.89	1	23216.70	18
401 Max	-75	139.91	5	-1879.83	1	4458.97	18	-773.84	13	-993.69	1	-95.75	13	-7363.89	1	23216.70	18
401 Max	-70	139.91	5	-1879.83	1	4458.97	18	-773.84	13	-993.69	1	-95.75	13	-7363.89	1	23216.70	18
401 Max	-40	139.91	5	-1879.83	1	4458.97	18	-773.84	13	-993.69	1	-95.75	13	-7363.89	1	23216.70	18
401 Min.	-45	-2050.78	18	-4616.21	17	970.64	5	-1961.37	19	-3868.12	18	-1088.92	19	-20718.60	18	9021.34	1
401 Min.	-75	-2050.78	18	-4616.21	17	970.64	5	-1961.37	19	-3868.12	18	-1088.92	19	-20718.60	18	9021.34	1
401 Min.	-70	-2050.78	18	-4616.21	17	970.64	5	-1961.37	19	-3868.12	18	-1088.92	19	-20718.60	18	9021.34	1
401 Min.	-40	-2050.78	18	-4616.21	17	970.64	5	-1961.37	19	-3868.12	18	-1088.92	19	-20718.60	18	9021.34	1
401 Max	-127	-2726.87	1	1805.15	18	1424.89	17	-1815.79	1	-1062.44	5	-376.36	13	26272.90	18	-10534.40	1
401 Max	-123	-2726.87	1	1805.15	18	1424.89	17	-1815.79	1	-1062.44	5	-376.36	13	26272.90	18	-10534.40	1
401 Max	-97	-2726.87	1	1805.15	18	1424.89	17	-1815.79	1	-1062.44	5	-376.36	13	26272.90	18	-10534.40	1
401 Max	-102	-2726.87	1	1805.15	18	1424.89	17	-1815.79	1	-1062.44	5	-376.36	13	26272.90	18	-10534.40	1
401 Min.	-127	-7166.82	17	-25.25	5	-1714.04	18	-4864.14	18	-2520.60	18	-1521.81	19	10716.60	1	-25938.30	18
401 Min.	-123	-7166.82	17	-25.25	5	-1714.04	18	-4864.14	18	-2520.60	18	-1521.81	19	10716.60	1	-25938.30	18
401 Min.	-97	-7166.82	17	-25.25	5	-1714.04	18	-4864.14	18	-2520.60	18	-1521.81	19	10716.60	1	-25938.30	18
401 Min.	-102	-7166.82	17	-25.25	5	-1714.04	18	-4864.14	18	-2520.60	18	-1521.81	19	10716.60	1	-25938.30	18
401 Max	-127	245.60	5	-2502.11	9	2776.52	18	513.74	17	9595.66	17	128.14	5	14753.70	17	1073.75	18
401 Max	-102	245.60	5	-2502.11	9	2776.52	18	513.74	17	9595.66	17	128.14	5	14753.70	17	1073.75	18
401 Max	-100	245.60	5	-2502.11	9	2776.52	18	513.74	17	9595.66	17	128.14	5	14753.70	17	1073.75	18
401 Max	-124	245.60	5	-2502.11	9	2776.52	18	513.74	17	9595.66	17	128.14	5	14753.70	17	1073.75	18
401 Min.	-127	-2604.74	18	-6792.68	17	-290.04	5	-72.79	5	2969.30	1	-182.75	13	5533.04	1	-291.99	5
401 Min.	-102	-2604.74	18	-6792.68	17	-290.04	5	-72.79	5	2969.30	1	-182.75	13	5533.04	1	-291.99	5
401 Min.	-100	-2604.74	18	-6792.68	17	-290.04	5	-72.79	5	2969.30	1	-182.75	13	5533.04	1	-291.99	5
401 Min.	-124	-2604.74	18	-6792.68	17	-290.04	5	-72.79	5	2969.30	1	-182.75	13	5533.04	1	-291.99	5
401 Max	-102	-1223.56	1	16.02	5	-35.34	5	-522.61	1	4801.21	18	409.72	18	427.31	18	-82.80	1
401 Max	-97	-1223.56	1	16.02	5	-35.34	5	-522.61	1	4801.21	18	409.72	18	427.31	18	-82.80	1
401 Max	-70	-1223.56	1	16.02	5	-35.34	5	-522.61	1	4801.21	18	409.72	18	427.31	18	-82.80	1
401 Max	-75	-1223.56	1	16.02	5	-35.34	5	-522.61	1	4801.21	18	409.72	18	427.31	18	-82.80	1
401 Min.	-102	-3110.56	17	-464.33	18	-2047.46	18	-2648.75	18	1829.29	1	-105.58	5	15.13	5	-3258.20	17
401 Min.	-97	-3110.56	17	-464.33	18	-2047.46	18	-2648.75	18	1829.29	1	-105.58	5	15.13	5	-3258.20	17
401 Min.	-70	-3110.56	17	-464.33	18	-2047.46	18	-2648.75	18	1829.29	1	-105.58	5	15.13	5	-3258.20	17
401 Min.	-75	-3110.56	17	-464.33	18	-2047.46	18	-2648.75	18	1829.29	1	-105.58	5	15.13	5	-3258.20	17
401 Max	-102	94.41	13	-2432.37	1	2672.08	18	2930.92	18	6972.52	17	624.47	17	13446.80	18	3453.95	18
401 Max	-75	94.41	13	-2432.37	1	2672.08	18	2930.92	18	6972.52	17	624.47	17	13446.80	18	3453.95	18
401 Max	-68	94.41	13	-2432.37	1	2672.08	18	2930.92	18	6972.52	17	624.47	17	13446.80	18	3453.95	18
401 Max	-100	94.41	13	-2432.37	1	2672.08	18	2930.92	18	6972.52	17	624.47	17	13446.80	18	3453.95	18
401 Min.	-102	-907.54	18	-6304.45	17	-402.16	5	877.33	1	1232.92	1	284.89	9	3938.48	1	529.89	5
401 Min.	-75	-907.54	18	-6304.45	17	-402.16	5	877.33	1	1232.92	1	284.89	9	3			

Relazione di calcolo

401 Max	-57	1634.51	18	5024.62	17	-826.57	5	712.29	9	-1196.83	1	2502.59	18	-5417.71	1	2339.60	18
401 Max	-41	1634.51	18	5024.62	17	-826.57	5	712.29	9	-1196.83	1	2502.59	18	-5417.71	1	2339.60	18
401 Min.	-86	-226.00	5	-270.36	18	-2539.76	18	-144.44	1	-3424.79	18	653.82	1	-19926.80	18	-134.37	5
401 Min.	-65	-226.00	5	-270.36	18	-2539.76	18	-144.44	1	-3424.79	18	653.82	1	-19926.80	18	-134.37	5
401 Min.	-57	-226.00	5	-270.36	18	-2539.76	18	-144.44	1	-3424.79	18	653.82	1	-19926.80	18	-134.37	5
401 Min.	-41	-226.00	5	-270.36	18	-2539.76	18	-144.44	1	-3424.79	18	653.82	1	-19926.80	18	-134.37	5
401 Max	-51	1500.36	17	3265.35	17	3239.45	17	-1422.06	1	468.00	9	-368.86	1	-5060.26	5	-3813.37	5
401 Max	-27	1500.36	17	3265.35	17	3239.45	17	-1422.06	1	468.00	9	-368.86	1	-5060.26	5	-3813.37	5
401 Max	-41	1500.36	17	3265.35	17	3239.45	17	-1422.06	1	468.00	9	-368.86	1	-5060.26	5	-3813.37	5
401 Max	-57	1500.36	17	3265.35	17	3239.45	17	-1422.06	1	468.00	9	-368.86	1	-5060.26	5	-3813.37	5
401 Min.	-51	-1976.84	18	1353.97	5	491.23	20	-3269.24	18	-707.14	1	-1978.45	17	-18306.00	18	-15202.50	18
401 Min.	-27	-1976.84	18	1353.97	5	491.23	20	-3269.24	18	-707.14	1	-1978.45	17	-18306.00	18	-15202.50	18
401 Min.	-41	-1976.84	18	1353.97	5	491.23	20	-3269.24	18	-707.14	1	-1978.45	17	-18306.00	18	-15202.50	18
401 Min.	-57	-1976.84	18	1353.97	5	491.23	20	-3269.24	18	-707.14	1	-1978.45	17	-18306.00	18	-15202.50	18
401 Max	-86	1434.81	18	8206.83	17	-701.17	5	74.69	9	455.83	9	830.41	18	15935.00	18	-3690.54	1
401 Max	-125	1434.81	18	8206.83	17	-701.17	5	74.69	9	455.83	9	830.41	18	15935.00	18	-3690.54	1
401 Max	-124	1434.81	18	8206.83	17	-701.17	5	74.69	9	455.83	9	830.41	18	15935.00	18	-3690.54	1
401 Max	-100	1434.81	18	8206.83	17	-701.17	5	74.69	9	455.83	9	830.41	18	15935.00	18	-3690.54	1
401 Min.	-86	185.75	5	3016.59	9	-5527.48	18	-358.06	1	-2858.12	1	13.60	5	4550.49	1	-11501.50	18
401 Min.	-125	185.75	5	3016.59	9	-5527.48	18	-358.06	1	-2858.12	1	13.60	5	4550.49	1	-11501.50	18
401 Min.	-124	185.75	5	3016.59	9	-5527.48	18	-358.06	1	-2858.12	1	13.60	5	4550.49	1	-11501.50	18
401 Min.	-100	185.75	5	3016.59	9	-5527.48	18	-358.06	1	-2858.12	1	13.60	5	4550.49	1	-11501.50	18
401 Max	-86	333.66	5	269.07	18	1877.69	17	-307.92	9	-644.90	9	-752.77	5	5115.15	18	-2584.34	1
401 Max	-41	333.66	5	269.07	18	1877.69	17	-307.92	9	-644.90	9	-752.77	5	5115.15	18	-2584.34	1
401 Max	-43	333.66	5	269.07	18	1877.69	17	-307.92	9	-644.90	9	-752.77	5	5115.15	18	-2584.34	1
401 Max	-81	333.66	5	269.07	18	1877.69	17	-307.92	9	-644.90	9	-752.77	5	5115.15	18	-2584.34	1
401 Min.	-86	-1252.24	18	7.38	5	741.79	9	-715.18	19	-1704.65	19	-1821.04	18	2107.28	1	-9037.93	18
401 Min.	-41	-1252.24	18	7.38	5	741.79	9	-715.18	19	-1704.65	19	-1821.04	18	2107.28	1	-9037.93	18
401 Min.	-43	-1252.24	18	7.38	5	741.79	9	-715.18	19	-1704.65	19	-1821.04	18	2107.28	1	-9037.93	18
401 Min.	-81	-1252.24	18	7.38	5	741.79	9	-715.18	19	-1704.65	19	-1821.04	18	2107.28	1	-9037.93	18
401 Max	-86	504.12	17	201.80	18	2428.75	17	-1135.58	5	36.32	13	-608.28	5	-3164.95	1	3242.71	19
401 Max	-81	504.12	17	201.80	18	2428.75	17	-1135.58	5	36.32	13	-608.28	5	-3164.95	1	3242.71	19
401 Max	-114	504.12	17	201.80	18	2428.75	17	-1135.58	5	36.32	13	-608.28	5	-3164.95	1	3242.71	19
401 Max	-125	504.12	17	201.80	18	2428.75	17	-1135.58	5	36.32	13	-608.28	5	-3164.95	1	3242.71	19
401 Min.	-86	80.89	20	-512.60	17	956.53	1	-2701.25	18	-53.87	5	-1711.93	18	-9139.90	18	1251.01	9
401 Min.	-81	80.89	20	-512.60	17	956.53	1	-2701.25	18	-53.87	5	-1711.93	18	-9139.90	18	1251.01	9
401 Min.	-114	80.89	20	-512.60	17	956.53	1	-2701.25	18	-53.87	5	-1711.93	18	-9139.90	18	1251.01	9
401 Min.	-125	80.89	20	-512.60	17	956.53	1	-2701.25	18	-53.87	5	-1711.93	18	-9139.90	18	1251.01	9
401 Max	-200	8283.06	17	1305.57	18	7138.89	18	372.78	1	-674.69	5	-183.03	1	10572.30	18	16003.80	19
401 Max	-199	8283.06	17	1305.57	18	7138.89	18	372.78	1	-674.69	5	-183.03	1	10572.30	18	16003.80	19
401 Max	-171	8283.06	17	1305.57	18	7138.89	18	372.78	1	-674.69	5	-183.03	1	10572.30	18	16003.80	19
401 Max	-173	8283.06	17	1305.57	18	7138.89	18	372.78	1	-674.69	5	-183.03	1	10572.30	18	16003.80	19
401 Min.	-200	3142.08	1	42.46	5	512.60	5	-2823.60	9	-1543.77	19	-597.44	17	4355.31	9	5495.89	9
401 Min.	-199	3142.08	1	42.46	5	512.60	5	-2823.60	9	-1543.77	19	-597.44	17	4355.31	9	5495.89	9
401 Min.	-171	3142.08	1	42.46	5	512.60	5	-2823.60	9	-1543.77	19	-597.44	17	4355.31	9	5495.89	9
401 Min.	-173	3142.08	1	42.46	5	512.60	5	-2823.60	9	-1543.77	19	-597.44	17	4355.31	9	5495.89	9
401 Max	-200	2587.63	18	-1220.58	1	-130.75	20	-1493.76	9	247.28	17	1338.51	18	12692.70	19	6784.77	19
401 Max	-173	2587.63	18	-1220.58	1	-130.75	20	-1493.76	9	247.28	17	1338.51	18	12692.70	19	6784.77	19
401 Max	-185	2587.63	18	-1220.58	1	-130.75	20	-1493.76	9	247.28	17	1338.51	18	12692.70	19	6784.77	19
401 Max	-210	2587.63	18	-1220.58	1	-130.75	20	-1493.76	9	247.28	17	1338.51	18	12692.70	19	6784.77	19
401 Min.	-200	389.32	5	-3200.95	17	-1164.80	17	-3413.45	19	-695.72	18	711.14	13	4874.45	9	2323.49	9
401 Min.	-173	389.32	5	-3200.95	17	-1164.80	17	-3413.45	19	-695.72	18	711.14	13	4874.45	9	2323.49	9
401 Min.	-185	389.32	5	-3200.95	17	-1164.80	17	-3413.45	19	-695.72	18	711.14	13	4874.45	9	2323.49	9
401 Min.	-210	389.32	5	-3200.95	17	-1164.80	17	-3413.45	19	-695.72	18	711.14	13	4874.45	9	2323.49	9
401 Max	-173	3952.64	17	1651.79	17	3776.76	18	2092.09	1	2664.98	18	352.27	5	524.89	18	3816.17	1
401 Max	-171	3952.64	17	1651.79	17	3776.76	18	2092.09	1	2664.98	18	352.27	5	524.89	18	3816.17	1
401 Max	-148	3952.64	17	1651.79	17	3776.76	18	2092.09	1	2664.98	18	352.27	5	524.89	18	3816.17	1
401 Max	-150	3952.64	17	1651.79	17	3776.76	18	2092.09	1	2664.98	18	352.27	5	524.89	18	3816.17	1
401 Min.	-173	1489.75	1	-559.01	18	-591.05	5	-1294.88	9	915.96	9	-76.59	13	-329.93	5	-297.44	9
401 Min.	-171	1489.75	1	-559.01	18	-591.05	5	-1294.88	9	915.96	9	-76.59	13	-329.93	5	-297.44	9
401 Min.	-148	1489.75	1	-559.01	18	-591.05	5	-1294.88	9	915.96	9	-76.59	13	-329.93	5	-297.44	9
401 Min.	-150	1489.75	1	-559.01	18	-591.05	5	-1294.88	9	915.96	9	-76.59	13	-329.93	5	-297.44	9
401 Max	-173	-513.32	9	3565.92	17	-106.38	5	3079.98	19	-840.04	9	648.22	18	86.52	9	1033.68	19
401 Max	-150	-513.32	9	3565.92	17	-106.38	5	3079.98	19	-840.04	9	648.22	18	86.52	9	1033.68	19
401 Max	-145	-513.32	9	3565.92	17	-106.38	5	3079.98	19	-840.04	9	648.22	18	86.52	9	1033.68	19
401 Max	-185	-513.32	9	3565.92	17	-106.38	5	3079.98	19	-840.04	9	648.22	18	86.52	9	1033.68	19
401 Min.	-173	-1496.47	17	1394.53	1	-1147.03	18	1173.71	9	-1929.46	19	143.55	5	-1589.35	1	299.08	9
401 Min.	-150	-1496.47	17	1394.53	1	-1147.03	18	1173.71	9	-1929.46	19	143.55	5	-1589.35	1	299.08	9
401 Min.	-145	-1496.47	17	1394.53	1	-1147.03	18	1173.71	9	-1929.46	19	143.55	5	-1589.35	1	299.08	9
401 Min.	-185	-1496.47	17	1394.53	1	-1147.03	18	1173.71	9	-1929.46	19	143.55	5	-1589.35	1	299.08	9
401 Max	-150	8066.79	17	792.20	17	2316.32	18	310.33	1	-649.89	9	604.90	17	-4371.71	9	16027.70	18
401 Max	-148	8066.79	17	792.20	17	2316.32	18	310.33	1	-649.89	9	604.90	17	-4371.71	9	16027.70	18
401 Max	-124	8066.79	17	792.20	17	2316.32	18	310.33	1	-649.89	9	604.90	17	-4371.71	9	16027.70	18
401 Max	-125	8066.79	17	792.20	17	2316.32	18	310.33	1	-649.89	9	604.90	17	-4371.71	9	16027.70	18
401 Min.	-150	3050.42	9	-2576.80	18	-2617.07	17	-2792.05	9								

Stampe

Verifiche da riportare in relazione

Tutte

1

Specifici

Materiali

CNR 10011	
Tipo di acciaio	FE360
D.M. 08	
Tipo di acciaio per profilati a sezione aperta	S355
	UNI EN
	10025-2
	S235H
	UNI EN
	10210-1
Tipo di acciaio per profilati a sezione cava	
EC3	
Tipo di acciaio	S460
-Fy <daN/cm²>	4600.00
-Fu <daN/cm²>	5400.00
γ M0	1.00
γ M1	1.00
γ M2	1.25
γ Rd	1.30
γ Ov	1.25
-Considera come elemento esistente (S.L. D.M. 08/EC3)	No
-Livello di conoscenza	LC1
-Fattore di confidenza	1.35

Verifiche di resistenza

Rapporto fra area effettiva e area nominale	1.00
Rapporto fra area netta e area nominale	1.00
Coeff. di forma intorno all'asse Y	1.00
Coeff. di forma intorno all'asse Z	1.00
Verifica le bielle solo con sollecitazioni di trazione moltiplicate per	Si
Valutare la τ per torsione nei punti di spigolo (CNR 10011)	No
-Pari a	
Stati limite D.M. 08/EC3	
-Fai sempre verifiche in campo elastico	No
-Effettua le verifiche della gerarchia delle resistenze per strutture intelaiate	Si
-Usa classe 1 in pressoflessione deviata se non presente in archivio	No
Stati limite D.M. 08	
-Usa prescrizioni EC3 quando più dettagliate	Si
-Considera prescrizioni relative ai ponti	Si

Verifiche di deformabilità

Max valore del rapporto tra la luce e la freccia (totale)	300.00
Max valore del rapporto tra la luce e la freccia (solo accidentali)	300.00
Max valore del rapporto tra altezza e spostamento orizz. (aste)	300.00
Max valore del rapporto tra altezza e spostamento orizz. (membrature)	500.00
Considerare anche spostamento relativo nodi per calcolo freccia	Si
Considerare solo la verifica di deformabilità delle membrature	No
Trascura deformazione dovuta al sisma (T.A.)	No

Verifiche di stabilità asta

Riduzione lunghezza libera d'inflessione	
-Distanza fra i nodi dell'asta	x
-Distanza ridotta delle zone rigide moltiplicate per il valore	
Tipo di accoppiamento aste composte	
-Separate	
-Calastrellate	
-Imbottite	
-Automatico	x
Calcolo momento medio usando valori assoluti	Si
Interasse calastrelli o imbottiture	
-Distanza pari a <m>	
-Interasse da normativa moltiplicato per il valore	0.80
-Aste rigidamente collegate	
Curva di stabilità (D.M. 08/EC3)	Automatica
Aste laminate	Si
Sigma max amm. senza verifiche di stabilità (CNR 10011) <%>	2.00
Verifiche di stabilità globale in dir. Y locale	Si
-Coeff. β intorno all'asse Y	1.00
Verifiche di stabilità globale in dir. Z locale	Si
-Coeff. β intorno all'asse Z	1.00
Verifiche di stabilità flesso - torsionale	Si
-Coeff. per calcolo interasse ritegni torsionali	1.00
Aste inflesse (D.M. 08/EC3)	
-Coeff. Ψ per calcolo momento critico	

Relazione di calcolo

-Valuta in base ai momenti dell'asta	x	
-Utilizza valore imposto		
-Fattore correttivo di distribuzione K_c		0.94
-Snellezza di riferimento $\lambda_{LT,0}$		0.40
-Coeff. β		0.75
Aste pressoinflesse (D.M. 08/EC3)		
-Considera come molto deformabile a torsione	No	
-Fattore correttivo di distribuzione α_{mY}/C_{mY}		0.95
-Fattore correttivo di distribuzione α_{mZ}/C_{mZ}		0.95
-Fattore correttivo di distribuzione α_{mLT}/C_{mLT}		0.95
Eeguire anche le verifiche al punto 7.3.2 (CNR 10011)	Si	
Carichi sull'estradosso (CNR 10011)	Si	
Verifiche di stabilità all'imbozzamento (CNR 10011)		
-Numero irrigidimenti orizzontali anima		0.00
-Interasse irrigidimenti verticali anima		
-Numero di suddivisioni		
-Distanza non inferiore a <cm>		
-Pari alla lunghezza dell'asta	x	
-Modalità di calcolo $\sigma_{cr,id}$		
-Normativa		
-Massonet	x	
-Ballio		

Verifiche di stabilità membratura

Massimo numero aste costituenti unica membratura		1.00
Sforzo normale di verifica		
-Massimo valore fra tutte le aste	x	
-Media aritmetica dei valori di tutte le aste		
-Media pesata di tutte le aste		
Contributo eventuali sforzi di trazione	No	
Verifica nei piani principali	Si	
Incremento snellezza	Si	
Verifiche di stabilità globale in dir. Y locale	Si	
-Coeff. β calcolato in funzione dello sforzo normale		
-Coeff. β		1.00
Verifiche di stabilità globale in dir. Z locale	Si	
-Coeff. β calcolato in funzione dello sforzo normale		
-Coeff. β		1.00

Pareti

Generali

Parametri di disegno

Scala disegno pareti	50.00
Campitura disegno parete	Rada
Disegno armatura diffusa	No
Disegno prospetto e pianta	Sempre

Stampe

Tipo di relazione	Sintetica
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Specifici

Materiali

Calcestruzzo	
-Tipo di calcestruzzo	C32/40
-Rck calcestruzzo <daN/cm ² >	400.00
-Modulo elastico <daN/cm ² >	336428.00
-Resistenza caratteristica cilindrica (F_{ck}) <daN/cm ² >	332.00
-Resistenza caratteristica a trazione (F_{ctk}) <daN/cm ² >	21.69
-Riduci F_{cd} per tutte le verifiche secondo il D.M. 08	Si
- γ_c per stati limite ultimi	
-Automatico	x
-Pari a	
- $\sigma_{amm.}$ calcestruzzo <daN/cm ² >	122.50
- τ_{c0} <daN/cm ² >	7.30
- τ_{c1} <daN/cm ² >	21.10
Acciaio	
-D.M. 92/96	
-Tipo di acciaio (Fe B 22+44 k)	44
-Modulo elastico <daN/cm ² >	2.06E+006
-Tensione caratteristica di snervamento (F_{yk}) <daN/cm ² >	4300.00
-Sigma amm. acciaio <daN/cm ² >	2600.00
-Sigma amm. reti e tralicci <daN/cm ² >	2600.00
-D.M. 08	

Relazione di calcolo

-Tipo di acciaio (B450A+B450C)	B450C
-Modulo elastico <daN/cm ² >	2.06E+006
-Tensione caratteristica di snervamento (Fyk) <daN/cm ² >	4500.00
- γ_s per stati limite ultimi	
-Automatico	x
-Pari a	
Coeff. di omogeneizzazione	15.00

Parametri di calcolo

Copriferro <cm>	3.50
Fattore moltiplicativo per calcolo τ_l	1.00
Fattore moltiplicativo per calcolo τ_t	1.00
Fattore di riduzione per ancoraggio ferri	1.00
Lunghezza ancoraggi armature	
-Calcolata in funzione della σ_f	
-Imposta come multiplo del diametro	20.00
Lunghezza minima pari a <m>	0.50
-Inserire solo armatura al centro della parete	No
Modalità di progettazione e verifica armatura verticale	
-In funzione delle zone di incidenza elementi	
-In funzione delle sollecitazioni globali	x
-Inserisci armatura di rinforzo nelle zone di incidenza elementi	Si
-Dimensione minima zone di incidenza elementi	Si
-Pari a multiplo dello spessore	1.00
-Passo di verifica	1.50
-Trascura zone con pilastro inglobato	Si
-Effettuare verifiche nel piano della parete	No
-Elimina armatura diffusa nelle zone di rinforzo	Si
Elimina armatura diffusa nell'architrave	Si
-Effettuare verifiche su sezioni verticali	No
-Passo di verifica	1.00
Controllare resistenza a taglio trasversale come sezione priva di armatura a taglio	No
Min. Af armatura diffusa <cmq/m>	3.00
Considera come parete debolmente armata ai sensi D.M. 08	Si
-Modalità di valutazione parametri nel caso di sisma diverso per X e Y	
-Usa valore massimo	x
-Componi in direzione parete	
-Incremento del 50% delle forze assiali	
Sempre	x
-Solo per analisi sismiche statiche	
-Mai	
Coeff. β per controllo snellezza <m>	1.00
Rispetta i disposti del punto 7.4.4.5.2.1 solo per stati limite sismici	Si

Armatura diffusa

Considera armatura con rete elettrosaldata	No
Armatura verticale o rete	
Elenco diametri utilizzabili 1 <mm>	10
Elenco diametri utilizzabili 2 <mm>	12
Elenco diametri utilizzabili 3 <mm>	
Elenco diametri utilizzabili 4 <mm>	
Elenco diametri utilizzabili 5 <mm>	
Elenco diametri utilizzabili 6 <mm>	
Elenco diametri utilizzabili 7 <mm>	
Passi utilizzabili	
-Minimo <cm>	12.00
-Massimo <cm>	30.00
-Incremento <cm>	2.00
-Modalità di completamento armatura	
-Adattata	x
-Terminata	
-Nessuna	
Armatura orizzontale	
Elenco diametri utilizzabili 1 <mm>	8
Elenco diametri utilizzabili 2 <mm>	10
Elenco diametri utilizzabili 3 <mm>	
Elenco diametri utilizzabili 4 <mm>	
Elenco diametri utilizzabili 5 <mm>	
Elenco diametri utilizzabili 6 <mm>	
Elenco diametri utilizzabili 7 <mm>	
Passi utilizzabili	
-Minimo <cm>	10.00
-Massimo <cm>	30.00
-Incremento <cm>	2.00
Tipo di armatura orizzontale	
-Dritta	x
-Con risvolti di estremità	
-Modalità di chiusura orizzontale	
-Nessuna chiusura	
-Chiusura con ferri ad U	x

Relazione di calcolo

-Chiusura con staffe	
-Lunghezza armatura di chiusura	
-Multiplo dello spessore pari a	
-Lunghezza fissa pari a <cm>	0.50
-Tipo di ottimizzazione armatura	
-Minimizza il peso complessivo dei ferri	x
-Minimizza il numero dei ferri	

Armatura di rinforzo

Elenco diametri utilizzabili 1 <mm>	12
Elenco diametri utilizzabili 2 <mm>	14
Elenco diametri utilizzabili 3 <mm>	16
Elenco diametri utilizzabili 4 <mm>	
Elenco diametri utilizzabili 5 <mm>	
Elenco diametri utilizzabili 6 <mm>	
Elenco diametri utilizzabili 7 <mm>	
Numero minimo ferri	2.00
Interferro minimo <cm>	10.00
-Aggiungi staffe chiuse	Si
-Stesso diametro armatura diffusa orizzontale	x
-Diametro imposto	
-Stesso passo armatura diffusa orizzontale	x
-Passo imposto	

Armatura secondaria

Diametro ferri di collegamento <mm>	8.00
Numero ferri di collegamento (a mq)	6.00
Lunghezza ancoraggio ferri di collegamento <cm>	10.00

Dati per progettazione agli stati limite

Gruppo di esigenza	
-Ambiente poco aggressivo	
-Ambiente moderatamente aggressivo	x
-Ambiente molto aggressivo	
Usa dominio N-M per flessioni rette	No
-Ricerca della sicurezza con sforzo normale costante	
-Ricerca della sicurezza con eccentricità costante	
Controllo rapporto X/D	No
Barre da considerare tese per verifiche a taglio	
-Solo le barre con deformazione percentuale rispetto alla barra più tesa non inferiore al <%>	30.00
-Tutte le barre in trazione	

Solette/Platee

Generali

Parametri di progetto

Controllo resistenza a taglio allo S.L.U.	No	
Calcolo armature con metodo di Wood	No	
Accoppia pilastri per calcolo punzonamento	Si	
-Massima distanza come un moltiplicatore dello spessore		1.50

Parametri di disegno

Disposizione disegno	2A	
Particolari nel disegno principale		
-Eliminare le quotature	No	
-Eliminare le campiture	No	
-Eliminare la numerazione dei pilastri	No	
-Eliminare la numerazione delle travi e dei muri	No	
Particolari nei disegni secondari		
-Eliminare le quotature	Si	
-Eliminare le campiture	Si	
-Eliminare la numerazione dei pilastri	Si	
-Eliminare la numerazione delle travi e dei muri	Si	
Disegno armatura diffusa	No	
Posizione particolari punzonamento	In automatico	
Copriferro per calcolo lunghezza ferri <cm>		3.50
Risvoltare al bordo i ferri		
-Inferiori	Si	
-Superiori	Si	
Lunghezza risvolti ferri al bordo	Pari all'altezza meno due volte il copriferro	
Disegno particolare ferri al bordo	Si	
Scala disegno particolare ferri al bordo		20.00
Calcolo lunghezza ferri semplificato	No	

Stampe

Tipo di relazione	Sintetica
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Specifici**Materiali**

Calcestruzzo	
-Tipo di calcestruzzo	C32/40
-Rck calcestruzzo <daN/cm ² >	400.00
-Modulo elastico <daN/cm ² >	336428.00
-Resistenza caratteristica cilindrica (Fck) <daN/cm ² >	332.00
-Resistenza caratteristica a trazione (Fctk) <daN/cm ² >	21.69
-Riduci Fcd per tutte le verifiche secondo il D.M. 08	Si
- γ_c per stati limite ultimi	
-Automatico	x
-Pari a	
- $\sigma_{amm. calcestruzzo}$ <daN/cm ² >	122.50
- τ_{c0} <daN/cm ² >	7.30
- τ_{c1} <daN/cm ² >	21.10
Acciaio	
-D.M. 92/96	
-Tipo di acciaio (Fe B 22+44 k)	44
-Modulo elastico <daN/cm ² >	2.06E+006
-Tensione caratteristica di snervamento (Fyk) <daN/cm ² >	4300.00
-Sigma amm. acciaio <daN/cm ² >	2600.00
-Sigma amm. reti e tralicci <daN/cm ² >	2600.00
-D.M. 08	
-Tipo di acciaio (B450A+B450C)	B450C
-Modulo elastico <daN/cm ² >	2.06E+006
-Tensione caratteristica di snervamento (Fyk) <daN/cm ² >	4500.00
- γ_s per stati limite ultimi	
-Automatico	x
-Pari a	
Coeff. di omogeneizzazione	15.00

Armatura a flessione

Angolo d'armatura <grad>	0.00
Copriferro teorico superiore <cm>	5.00
Copriferro teorico inferiore <cm>	5.00
Tipo di progetto in doppia armatura	
-Tensione pari ai valori amm.	
-Tensione pari ai valori amm. con AfComp/AfTesa minore o pari a	1.00
-Tensione pari ai valori amm. con AfComp/AfTesa pari a	
Min. percentuale di regolamento	
-Platee di fondazione su suolo elastico	No
-Solette di elevazione	Si
Controlla min. armatura di ripartizione	No
Elenco diametri utilizzabili 1 <mm>	10
Elenco diametri utilizzabili 2 <mm>	12
Elenco diametri utilizzabili 3 <mm>	14
Elenco diametri utilizzabili 4 <mm>	16
Elenco diametri utilizzabili 5 <mm>	
Elenco diametri utilizzabili 6 <mm>	
Elenco diametri utilizzabili 7 <mm>	
Passi utilizzabili	
-Minimo <cm>	15.00
-Massimo <cm>	30.00
-Incremento <cm>	5.00
Uniformizzazione interassi armatura	No
-Sempre	
-Nella stessa direzione	
-Nella stessa posizione	
Uniformizzazione diametri armatura	No
-Sempre	
-Nella stessa direzione	
-Nella stessa posizione	
Tipo di ottimizzazione armatura a flessione	
-Minimizza il numero dei ferri	
-Minimizza il peso complessivo dei ferri	x

Ancoraggi

Fattore di riduzione per ancoraggio ferri	1.00
Lunghezza ancoraggi armature	
-Calcolata in funzione della Sigmaf	x
-Imposta come multiplo del diametro	
Lunghezza ancoraggi ferri punzonamento	
-Calcolata in funzione della Sigmaf	x
-Imposta come multiplo del diametro	

Armatura a punzonamento

Fattore di riduzione altezza soletta/platea	0.90
Modifica altezza soletta/platea	Si

Relazione di calcolo

Allargamento piastra pilastri in acciaio <cm>	5.00
Distanza dal bordo libero	
-Distanza come un moltiplicatore dello spessore	1.00
-Distanza imposta a <cm>	
Moltiplicatore altezza utile per valutare perimetro efficace (D.M. 08)	2.00
Tolleranza di posizionamento barre	
-Distanza come un moltiplicatore dello spessore	0.10
-Distanza imposta a <cm>	
Elenco diametri utilizzabili 1 <mm>	12
Elenco diametri utilizzabili 2 <mm>	14
Elenco diametri utilizzabili 3 <mm>	16
Elenco diametri utilizzabili 4 <mm>	18
Elenco diametri utilizzabili 5 <mm>	20
Elenco diametri utilizzabili 6 <mm>	
Elenco diametri utilizzabili 7 <mm>	
Passi utilizzabili	
-Minimo <cm>	10.00
-Massimo <cm>	20.00
-Incremento <cm>	2.00
Tipo di ottimizzazione armatura a punzonamento	
-Minimizza il numero dei ferri	x
-Minimizza il peso complessivo dei ferri	

Dati per progettazione agli stati limite

Gruppo di esigenza	
-Ambiente poco aggressivo	
-Ambiente moderatamente aggressivo	x
-Ambiente molto aggressivo	
Usa dominio N-M per flessioni rette	No
-Ricerca della sicurezza con sforzo normale costante	
-Ricerca della sicurezza con eccentricità costante	
Controllo rapporto X/D	No
Barre da considerare tese per verifiche a taglio	
-Solo le barre con deformazione percentuale rispetto	
Incremento <%>	30.00
-Tutte le barre in trazione	

Verifiche e armature solette/platee

Simbologia

Nodo	= Numero del nodo
X	= Coordinata X del nodo
Y	= Coordinata Y del nodo
DV	= Direzione di verifica
	XX = Verifica per momento Mxx
	YY = Verifica per momento Myy
CC	= Numero della combinazione delle condizioni di carico elementari
TCC	= Tipo di combinazione di carico
	SLU = Stato limite ultimo
	SLU S = Stato limite ultimo (azione sismica)
	SLE R = Stato limite d'esercizio, combinazione rara
	SLE F = Stato limite d'esercizio, combinazione frequente
	SLE Q = Stato limite d'esercizio, combinazione quasi permanente
	SLD = Stato limite di danno
	SLV = Stato limite di salvaguardia della vita
	SLC = Stato limite di prevenzione del collasso
	SLO = Stato limite di operatività
	SLU I = Stato limite di resistenza al fuoco
c	= Ricoprimento dell'armatura
s	= Distanza minima tra le barre
K3	= Coefficiente di forma del diagramma delle tensioni prima della fessurazione
s _{rm}	= Distanza media tra le fessure
Φ	= Diametro della barra
A _s	= Area complessiva dei ferri nell'area di calcestruzzo efficace
A _{c eff}	= Area di calcestruzzo efficace
σ _s	= Tensione nell'acciaio nella sezione fessurata
σ _{sr}	= Tensione nell'acciaio corrispondente al raggiungimento della resistenza a trazione nel calcestruzzo
ε _{sm}	= Deformazione unitaria media dell'armatura (*1000)
Wk	= Apertura delle fessure
AfE S	= Area di ferro effettiva totale presente nel punto di verifica, superiore
AfE I	= Area di ferro effettiva totale presente nel punto di verifica, inferiore
Mom	= Momento flettente
Mu	= Momento ultimo
Sic.	= Sicurezza a rottura
Vsdu	= Taglio agente nella direzione del momento ultimo
Vrdu	= Taglio ultimo assorbibile dal solo calcestruzzo
σ _c	= Tensione nel calcestruzzo

Relazione di calcolo

σ_f = Tensione nel ferro
Spess. = Spessore
Cf sup = Copriferro superiore
Cf inf = Copriferro inferiore
Cls = Tipo di calcestruzzo
Fck = Resistenza caratteristica cilindrica a compressione del calcestruzzo
Fctk = Resistenza caratteristica a trazione del calcestruzzo
Fcd = Resistenza di calcolo a compressione del calcestruzzo
Fctd = Resistenza di calcolo a trazione del calcestruzzo
Acc. = Tipo di acciaio
Fyk = Tensione caratteristica di snervamento dell'acciaio
Fyd = Resistenza di calcolo dell'acciaio

Armatura soletta a quota 0.00

Caratteristiche delle sezioni e dei materiali utilizzati

Spess.	Cf sup	Cf inf	Cls	Fck	Fctk	Fcd	Fctd	Acc.	Fyk	Fyd
<cm>	<cm>	<cm>		<daN/cm ² >	<daN/cm ² >	<daN/cm ² >	<daN/cm ² >		<daN/cm ² >	<daN/cm ² >
100.00	5.00	5.00	C32/40	332.00	21.69	188.13	14.46	B450C	4500.00	3913.04

Stato limite ultimo - Ferri longitudinali - Verifiche armatura

Nodo	X	Y	DV	CC	TCC	AfE S	AfE I	Mom	Mu	Sic.
	<m>	<m>				<cmq>	<cmq>	<daNm>	<daNm>	
-67	7.02	0.00	XX	9	SLV	7.70	7.70	-5217.62	-28240.10	5.412
-233	0.00	4.74	XX	10	SLD	7.70	7.70	3360.24	32594.60	9.700
-198	12.74	3.95	XX	19	SLU	7.70	7.70	-6024.29	-28240.10	4.688
-147	7.02	2.37	XX	2	SLD	7.70	7.70	-3254.18	-32594.60	10.016
-198	12.74	3.95	YY	19	SLU	7.70	7.70	-5624.70	-28240.10	5.021
-194	1.30	3.95	YY	14	SLD	7.70	7.70	-2824.98	-32594.60	11.538
-67	7.02	0.00	YY	18	SLU	7.70	7.70	3884.49	28240.10	7.270
-257	7.02	5.24	YY	6	SLD	7.70	7.70	2156.33	32594.60	15.116

Stato limite ultimo - Verifica a taglio del calcestruzzo

Nodo	X	Y	DV	CC	TCC	AfE S	AfE I	Vsdu	Vrdu
	<m>	<m>				<cmq>	<cmq>	<daN>	<daN>
-127	13.35	1.60	XX	18	SLU	7.70	7.70	20192.10	33757.40
-127	13.35	1.60	XX	10	SLD	7.70	7.70	11691.20	34693.10
-208	12.90	4.28	YY	19	SLU	7.70	7.70	31947.10	33757.40
-208	12.90	4.28	YY	2	SLD	7.70	7.70	16679.90	34693.10

Stato limite d'esercizio - Ferri longitudinali - Verifiche armatura

Nodo	X	Y	DV	CC	TCC	AfE S	AfE I	Mom	σ_c	σ_f
	<m>	<m>				<cmq>	<cmq>	<daNm>	<daN/cm ² >	<daN/cm ² >
-348	3.06	7.36	XX	20	SLE R	7.70	7.70	3540.17	5.40	507.76
-348	3.06	7.36	XX	23	SLE Q	7.70	7.70	2219.57	3.38	318.35
-198	12.74	3.95	XX	21	SLE R	7.70	7.70	-4210.86	6.42	603.96
-194	1.30	3.95	XX	23	SLE Q	7.70	7.70	-3012.93	4.59	432.14
-198	12.74	3.95	YY	21	SLE R	7.70	7.70	-3900.91	5.95	559.51
-198	12.74	3.95	YY	23	SLE Q	7.70	7.70	-2735.14	4.17	392.30
-67	7.02	0.00	YY	20	SLE R	7.70	7.70	2709.84	4.13	388.67
-262	12.98	5.25	YY	23	SLE Q	7.70	7.70	1909.86	2.91	273.93

Verifiche stato limite di formazione delle fessure

Nodo	X	Y	DV	CC	TCC	c	s	K3	s_{rm}	Φ	A_s	$A_{c\ eff}$	σ_s	σ_{sr}	ϵ_{sm}	Wk
	<m>	<m>				<mm>	<mm>		<mm>		<cmq>	<cmq>	<daN/cm ² >	<daN/cm ² >		<mm>
-348	3.06	7.36	XX	23	SLE F	43.00	196.00	0.21	311.83	14.00	1.54	240.76	318.35	9388.39	0.06	0.03
-229	0.59	4.67	XX	22	SLE F	43.00	196.00	0.21	311.83	14.00	1.54	240.76	351.13	9388.40	0.07	0.04
-194	1.30	3.95	XX	23	SLE Q	43.00	196.00	0.21	311.83	14.00	1.54	240.76	432.14	9388.39	0.08	0.04
-194	1.30	3.95	XX	22	SLE F	43.00	196.00	0.21	311.83	14.00	1.54	240.76	441.80	9388.40	0.09	0.05
-198	12.74	3.95	YY	23	SLE Q	43.00	196.00	0.21	311.83	14.00	1.54	240.76	392.30	9388.39	0.08	0.04
-198	12.74	3.95	YY	22	SLE F	43.00	196.00	0.21	311.83	14.00	1.54	240.76	404.95	9388.40	0.08	0.04
-262	12.98	5.25	YY	23	SLE Q	43.00	196.00	0.21	311.83	14.00	1.54	240.76	273.93	9388.40	0.05	0.03
-257	7.02	5.24	YY	22	SLE F	43.00	196.00	0.21	311.83	14.00	1.54	240.76	286.00	9388.39	0.06	0.03

Verifiche aste in acciaio

Simbologia

Sez. = Numero della sezione
Cod. = Codice
Tipo = Tipologia
2C = Doppia C lato labbri
2Cdx = Doppia C lato costola
2I = Doppia I
2L = Doppia L lato labbri
2Ldx = Doppia L lato costole
C = C
Cdx = C destra
Cir. = Circolare

Relazione di calcolo

		Cir.c = Circolare cava
		I = I
		L = L
		Ldx = L destra
		Om. = Omega
		Pg = Pi greco
		Pr = Poligono regolare
		Prc = Poligono regolare cavo
		Pc = Per coordinate
		Ia = Inerzie assegnate
		R = Rettangolare
		Rc = Rettangolare cava
		T = T
		U = U
		Ur = U rovescia
		V = V
		Vr = V rovescia
		Z = Z
		Zdx = Z destra
		Ts = T stondata
		Ls = L stondata
		Cs = C stondata
		Is = I stondata
		Dis. = Disegnata
D	<cm>	= Distanza
Area	<cmq>	= Area
Anet	<cmq>	= Area netta per compressione
Aeff	<cmq>	= Area effettiva per trazione
Jy	<cm4>	= Momento d'inerzia rispetto all'asse Y
Jz	<cm4>	= Momento d'inerzia rispetto all'asse Z
Iy	<cm>	= Raggio giratorio d'inerzia rispetto all'asse Y
Iz	<cm>	= Raggio giratorio d'inerzia rispetto all'asse Z
Wymin	<cmc>	= Modulo di resistenza minimo rispetto all'asse Y
Wzmin	<cmc>	= Modulo di resistenza minimo rispetto all'asse Z
Wy,plas	<cmc>	= Modulo di resistenza plastico intorno all'asse Y
Wz,plas	<cmc>	= Modulo di resistenza plastico intorno all'asse Z
Atag,y	<cmq>	= Area resistente a taglio in dir. Y
Atag,z	<cmq>	= Area resistente a taglio in dir. Z
Jø	<cm6>	= Costante di ingobbamento
L _{cr}	<m>	= Lunghezza di libera inflessione laterale fra ritegni torsionali
α-imp		= Coefficiente di imperfezione
K _c		= Coeff. di correzione momento flettente per stabilità laterale membrane inflesse
ψ		= Coeff. di correzione momento critico per stabilità laterale membrane inflesse
M _{cr}	<daNm>	= Momento critico per instabilità flessione torsionale
λ _{LT}		= Coefficiente di imperfezione per stabilità laterale membrane inflesse
λ _{LT,0}		= Coefficiente di imperfezione di confronto per stabilità laterale membrane inflesse
β _{LT}		= Coefficiente per calcolo Φ _{LT}
Φ _{LT}		= Coefficiente Φ per stabilità laterale membrane inflesse
f		= Fattore di modifica per il coefficiente di riduzione
λ _{LT}		= Coefficiente di riduzione per stabilità laterale membrane inflesse
My,Ed	<daNm>	= Momento flettente di calcolo intorno all'asse Y
My,b,Rd	<daNm>	= Resistenza di calcolo a flessione ridotta per stabilità laterale membrane inflesse
CC		= Numero della combinazione delle condizioni di carico elementari
N,Ed	<daN>	= Forza assiale di calcolo
Nc,Rd	<daN>	= Resistenza a compressione
My,c,Rd	<daNm>	= Resistenza di calcolo a flessione intorno all'asse Y
L		= lunghezza dell'asta
α _{my} , α _{mz} , α _{LT}		= Coefficienti correttivi per il momento flettente
λ _y		= Snellezza per inflessione intorno all'asse y(c)
N _{cr,y}	<daN>	= Sforzo normale critico euleriano per inflessione intorno all'asse y(c)
λ _y		= Snellezza adimensionale per inflessione intorno all'asse y(c)
Curva		= Curva di instabilità adottata
Φ _y		= Coefficiente Φ per inflessione intorno all'asse y(c)
λ _y		= Coefficiente γ di riduzione per instabilità intorno all'asse y(c)
λ _z		= Snellezza per inflessione intorno all'asse z(e)
N _{cr,z}	<daN>	= Sforzo normale critico euleriano per inflessione intorno all'asse z(e)
λ _z		= Snellezza adimensionale per inflessione intorno all'asse z(e)
Φ _z		= Coefficiente Φ per inflessione intorno all'asse z(e)
λ _z		= Coefficiente γ di riduzione per instabilità intorno all'asse z(e)
K _{yy} , K _{yz} , K _{zy} , K _{zz}		= Coefficienti di interazione
X ₁	<m>	= Coordinata progressiva (dal nodo iniziale dell'asta) in cui viene effettuato il progetto/verifica
N	<daN>	= Sforzo normale
T _z	<daN>	= Taglio in dir. Z
My	<daNm>	= Momento flettente intorno all'asse Y
σ _N	<daN/cm²>	= Tensione normale per sforzo normale
σ _M	<daN/cm²>	= Tensione normale per momento flettente
τ	<daN/cm²>	= Tensione tangenziale per taglio e/o torsione
σ _{1D,max}	<daN/cm²>	= Tensione ideale massima
V,Ed,G	<daN>	= Forza di taglio per azioni non sismiche
V,Ed,M	<daN>	= Forza di taglio dovuta all'applicazione dei momenti resistenti
V,Ed	<daN>	= Forza di taglio di calcolo
Vc,Rd	<daN>	= Resistenza a taglio
MN _{y,c,Rd}	<daNm>	= Resistenza di calcolo a pressoflessione intorno all'asse Y
F _{z,L}	<cm>	= Freccia in direzione Z locale
F _{z,G}	<cm>	= Freccia in direzione Z globale

Caratteristiche profilati utilizzati

Sez.	Cod.	Tipo	D	Area	Anet	Aeff	Jy	Jz	Iy	Iz	Wymin	Wzmin
			<cm>	<cmq>	<cmq>	<cmq>	<cm4>	<cm4>	<cm>	<cm>	<cm>	<cm>
1	HEA280	Is	--	97.27	97.27	97.27	13673.70	4762.65	11.86	7.00	1012.87	340.19
2	HEB280	Is	--	131.37	131.37	131.37	19270.70	6594.53	12.11	7.09	1376.48	471.04
3	IPE180	Is	--	23.95	23.95	23.95	1316.99	100.85	7.42	2.05	146.33	22.16

Caratteristiche profilati utilizzati

Sez.	Cod.	Wy,plas	Wz,plas	Atag,y	Atag,z	Jø
		<cmc>	<cmc>	<cmq>	<cmq>	<cm6>
1	HEA280	1117.45	518.72	81.59	31.75	785367.00
2	HEB280	1539.66	718.22	110.79	41.10	1130150.00
3	IPE180	166.93	34.64	16.21	11.25	7431.22

Relazione di calcolo

Asta n. 101 (101 102) HEA280 Crit. 1

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- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 3
L_{cr}=1.17 Curva b: α -imp=0.34 k_c=0.94 ψ =1.75 M_{cr}=1650930.00 λ_{LT} =0.15
 $\lambda_{LT,0}$ =0.40 β_{LT} =0.75 Φ_{LT} =0.47 β_{LT} =0.75 f=1.00 χ_{LT} =1.00
CC 18 My,Ed=-857.51 My,b,Rd=32688.00 My,Ed/My,b,Rd=0.03
- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 3
Sollecitazioni: N,Ed=-91917.70 My,Ed=-4366.56
Resistenze: N_c,Rd=313908.00 My,c,Rd=32688.00 L=117.00
 α_{my} , α_{mz} , α_{LT} = 0.95, 0.95, 0.95
L_{cr}=1.17 Curva b: α -imp=0.34 k_c=0.94 ψ =1.75 M_{cr}=1650930.00 λ_{LT} =0.15
 $\lambda_{LT,0}$ =0.40 β_{LT} =0.75 Φ_{LT} =0.47 β_{LT} =0.75 f=1.00 χ_{LT} =1.00
 λ_y =9.87 N_{cr,y}=20703000.00 λ'_y =0.13 Curva b: Φ_y =0.50 χ_y =1.00
 λ_z =16.72 N_{cr,z}=7211000.00 λ'_z =0.22 Curva c: Φ_z =0.53 χ_z =0.99
K_{yy}, K_{yz}, K_{zy}, K_{zz} = 0.97, 0.99, 0.00, 0.99
Verifica YY: 0.29 + 0.13 = 0.42
Verifica ZZ: 0.29 = 0.29
- Verifica freccia massima carichi totali - CC 20
f_{z,L}=0.07 (L/1129)
- Verifica in termini tensionali (4.2.5) - CC 17 Xl=1.17 - Classe 3
Sollecitazioni: N=-91917.70 T_z=5011.54 M_y=-4366.56
Tensioni: σ_N =-945.00 σ_M =-431.11 τ =0.00 σ_{max} =-1376.11
Tensioni: σ_N =-945.00 σ_M =0.00 τ =271.65 τ_{max} =271.65
Tensioni: σ_N =-945.00 σ_M =-431.11 τ =0.00 $\sigma_{ID,max}$ =1376.11
- Verifica a taglio dir. Z (4.2.17) - CC 1 Xl=0.35
Sollecitazioni: T_z=11558.10
V,Ed=11558.10 (V,Ed,G=794.45, V,Ed,M=10763.60) V_c,Rd=61972.50 V,Ed/V_c,Rd=0.19

Asta n. 101 (102 103) HEA280 Crit. 1

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- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 3
L_{cr}=1.17 Curva b: α -imp=0.34 k_c=0.94 ψ =1.28 M_{cr}=1206500.00 λ_{LT} =0.17
 $\lambda_{LT,0}$ =0.40 β_{LT} =0.75 Φ_{LT} =0.47 β_{LT} =0.75 f=0.99 χ_{LT} =1.00
CC 18 My,Ed=-1622.66 My,b,Rd=32688.00 My,Ed/My,b,Rd=0.05
- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 3
Sollecitazioni: N,Ed=-91917.70 My,Ed=-8276.49
Resistenze: N_c,Rd=313908.00 My,c,Rd=32688.00 L=117.00
 α_{my} , α_{mz} , α_{LT} = 0.95, 0.95, 0.95
L_{cr}=1.17 Curva b: α -imp=0.34 k_c=0.94 ψ =1.28 M_{cr}=1207080.00 λ_{LT} =0.17
 $\lambda_{LT,0}$ =0.40 β_{LT} =0.75 Φ_{LT} =0.47 β_{LT} =0.75 f=0.99 χ_{LT} =1.00
 λ_y =9.87 N_{cr,y}=20703000.00 λ'_y =0.13 Curva b: Φ_y =0.50 χ_y =1.00
 λ_z =16.72 N_{cr,z}=7211000.00 λ'_z =0.22 Curva c: Φ_z =0.53 χ_z =0.99
K_{yy}, K_{yz}, K_{zy}, K_{zz} = 0.97, 0.99, 0.00, 0.99
Verifica YY: 0.29 + 0.25 = 0.54
Verifica ZZ: 0.29 = 0.29
- Verifica freccia massima carichi totali - CC 20
f_{z,L}=0.08 (L/1501)
- Verifica in termini tensionali (4.2.5) - CC 17 Xl=1.17 - Classe 3
Sollecitazioni: N=-91917.70 T_z=2894.20 M_y=-8276.49
Tensioni: σ_N =-945.00 σ_M =-817.13 τ =0.00 σ_{max} =-1762.13
Tensioni: σ_N =-945.00 σ_M =0.00 τ =156.88 τ_{max} =156.88
Tensioni: σ_N =-945.00 σ_M =-817.13 τ =0.00 $\sigma_{ID,max}$ =1762.13

Asta n. 101 (103 104) HEA280 Crit. 1

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- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 3
L_{cr}=1.17 Curva b: α -imp=0.34 k_c=0.94 ψ =1.06 M_{cr}=1001010.00 λ_{LT} =0.19
 $\lambda_{LT,0}$ =0.40 β_{LT} =0.75 Φ_{LT} =0.48 β_{LT} =0.75 f=0.99 χ_{LT} =1.00
CC 18 My,Ed=-1855.02 My,b,Rd=32688.00 My,Ed/My,b,Rd=0.06
- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 3
Sollecitazioni: N,Ed=-91917.70 My,Ed=-9463.59
Resistenze: N_c,Rd=313908.00 My,c,Rd=32688.00 L=117.00
 α_{my} , α_{mz} , α_{LT} = 0.95, 0.95, 0.95
L_{cr}=1.17 Curva b: α -imp=0.34 k_c=0.94 ψ =1.06 M_{cr}=1001090.00 λ_{LT} =0.19
 $\lambda_{LT,0}$ =0.40 β_{LT} =0.75 Φ_{LT} =0.48 β_{LT} =0.75 f=0.99 χ_{LT} =1.00
 λ_y =9.87 N_{cr,y}=20703000.00 λ'_y =0.13 Curva b: Φ_y =0.50 χ_y =1.00
 λ_z =16.72 N_{cr,z}=7211000.00 λ'_z =0.22 Curva c: Φ_z =0.53 χ_z =0.99
K_{yy}, K_{yz}, K_{zy}, K_{zz} = 0.97, 0.99, 0.00, 0.99
Verifica YY: 0.29 + 0.28 = 0.57

Relazione di calcolo

Verifica ZZ: $0.29 = 0.29$

- Verifica freccia massima carichi totali - CC 20
 $f_{z,L}=0.03$ (L/4474)

- Verifica in termini tensionali (4.2.5) - CC 17 $X_L=1.17$ - Classe 3
Sollecitazioni: $N=-91917.70$ $T_z=567.11$ $M_y=-9463.59$
Tensioni: $\sigma_N=-945.00$ $\sigma_M=-934.34$ $\tau=0.00$ $\sigma_{\max}=-1879.34$
Tensioni: $\sigma_N=-945.00$ $\sigma_M=0.00$ $\tau=30.74$ $\tau_{\max}=30.74$
Tensioni: $\sigma_N=-945.00$ $\sigma_M=-934.34$ $\tau=0.00$ $\sigma_{ID,\max}=1879.34$

Asta n. 101 (104 105) HEA280 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 19 - Classe 3
 $L_{cr}=1.17$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=1.08$ $M_{cr}=1019570.00$ $\lambda_{LT}=0.19$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.48$ $\beta_{LT}=0.75$ $f=0.99$ $\chi_{LT}=1.00$
CC 19 $M_y,Ed=-1855.02$ $M_y,b,Rd=32688.00$ $M_y,Ed/M_y,b,Rd=0.06$

- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 3
Sollecitazioni: $N,Ed=-91917.70$ $M_y,Ed=-9463.58$
Resistenze: $N_c,Rd=313908.00$ $M_y,c,Rd=32688.00$ $L=117.00$
 $\alpha_{my}, \alpha_{mz}, \alpha_{LT} = 0.95, 0.95, 0.95$
 $L_{cr}=1.17$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=1.08$ $M_{cr}=1019740.00$ $\lambda_{LT}=0.19$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.48$ $\beta_{LT}=0.75$ $f=0.99$ $\chi_{LT}=1.00$
 $\lambda_y=9.87$ $N_{cr,y}=20703000.00$ $\lambda'_y=0.13$ Curva b: $\Phi_y=0.50$ $\chi_y=1.00$
 $\lambda_z=16.72$ $N_{cr,z}=7211010.00$ $\lambda'_z=0.22$ Curva c: $\Phi_z=0.53$ $\chi_z=0.99$
 $K_{yy}, K_{yz}, K_{zy}, K_{zz} = 0.97, 0.99, 0.00, 0.99$
Verifica YY: $0.29 + 0.28 = 0.57$
Verifica ZZ: $0.29 = 0.29$

- Verifica freccia massima carichi totali - CC 21
 $f_{z,L}=0.03$ (L/3485)

- Verifica in termini tensionali (4.2.5) - CC 17 $X_L=0.00$ - Classe 3
Sollecitazioni: $N=-91917.70$ $T_z=-865.24$ $M_y=-9463.58$
Tensioni: $\sigma_N=-945.00$ $\sigma_M=-934.34$ $\tau=0.00$ $\sigma_{\max}=-1879.33$
Tensioni: $\sigma_N=-945.00$ $\sigma_M=0.00$ $\tau=46.90$ $\tau_{\max}=46.90$
Tensioni: $\sigma_N=-945.00$ $\sigma_M=-934.34$ $\tau=0.00$ $\sigma_{ID,\max}=1879.33$

Asta n. 101 (105 106) HEA280 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 19 - Classe 3
 $L_{cr}=1.17$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=1.33$ $M_{cr}=1252230.00$ $\lambda_{LT}=0.17$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.47$ $\beta_{LT}=0.75$ $f=0.99$ $\chi_{LT}=1.00$
CC 19 $M_y,Ed=-1554.59$ $M_y,b,Rd=32688.00$ $M_y,Ed/M_y,b,Rd=0.05$

- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 3
Sollecitazioni: $N,Ed=-91917.70$ $M_y,Ed=-7927.64$
Resistenze: $N_c,Rd=313908.00$ $M_y,c,Rd=32688.00$ $L=117.00$
 $\alpha_{my}, \alpha_{mz}, \alpha_{LT} = 0.95, 0.95, 0.95$
 $L_{cr}=1.17$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=1.33$ $M_{cr}=1253090.00$ $\lambda_{LT}=0.17$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.47$ $\beta_{LT}=0.75$ $f=0.99$ $\chi_{LT}=1.00$
 $\lambda_y=9.87$ $N_{cr,y}=20703000.00$ $\lambda'_y=0.13$ Curva b: $\Phi_y=0.50$ $\chi_y=1.00$
 $\lambda_z=16.72$ $N_{cr,z}=7211000.00$ $\lambda'_z=0.22$ Curva c: $\Phi_z=0.53$ $\chi_z=0.99$
 $K_{yy}, K_{yz}, K_{zy}, K_{zz} = 0.97, 0.99, 0.00, 0.99$
Verifica YY: $0.29 + 0.24 = 0.53$
Verifica ZZ: $0.29 = 0.29$

- Verifica freccia massima carichi totali - CC 21
 $f_{z,L}=0.08$ (L/1408)

- Verifica in termini tensionali (4.2.5) - CC 17 $X_L=0.00$ - Classe 3
Sollecitazioni: $N=-91917.70$ $T_z=-3192.33$ $M_y=-7927.64$
Tensioni: $\sigma_N=-945.00$ $\sigma_M=-782.69$ $\tau=0.00$ $\sigma_{\max}=-1727.69$
Tensioni: $\sigma_N=-945.00$ $\sigma_M=0.00$ $\tau=173.04$ $\tau_{\max}=173.04$
Tensioni: $\sigma_N=-945.00$ $\sigma_M=-782.69$ $\tau=0.00$ $\sigma_{ID,\max}=1727.69$

Asta n. 101 (106 107) HEA280 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 19 - Classe 3
 $L_{cr}=1.17$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=1650930.00$ $\lambda_{LT}=0.15$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.47$ $\beta_{LT}=0.75$ $f=1.00$ $\chi_{LT}=1.00$
CC 19 $M_y,Ed=-721.36$ $M_y,b,Rd=32688.00$ $M_y,Ed/M_y,b,Rd=0.02$

- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 3
Sollecitazioni: $N,Ed=-91917.70$ $M_y,Ed=-3668.90$
Resistenze: $N_c,Rd=313908.00$ $M_y,c,Rd=32688.00$ $L=117.00$
 $\alpha_{my}, \alpha_{mz}, \alpha_{LT} = 0.95, 0.95, 0.95$

Relazione di calcolo

- $L_{cr}=1.17$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=1650930.00$ $\lambda_{LT}=0.15$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.47$ $\beta_{LT}=0.75$ $f=1.00$ $\chi_{LT}=1.00$
 $\lambda_y=9.87$ Ncr,y=20703000.00 $\lambda'_y=0.13$ Curva b: $\Phi_y=0.50$ $\chi_y=1.00$
 $\lambda_z=16.72$ Ncr,z=7211000.00 $\lambda'_z=0.22$ Curva c: $\Phi_z=0.53$ $\chi_z=0.99$
Kyy, Kyz, Kzy, Kzz = 0.97, 0.99, 0.00, 0.99
Verifica YY: $0.29 + 0.11 = 0.40$
Verifica ZZ: $0.29 = 0.29$
- Verifica freccia massima carichi totali - CC 21
 $f_{z,L}=0.06$ (L/1117)
- Verifica in termini tensionali (4.2.5) - CC 17 Xl=0.00 - Classe 3
Sollecitazioni: $N=-91917.70$ $T_z=-5219.78$ $M_y=-3668.90$
Tensioni: $\sigma_N=-945.00$ $\sigma_M=-362.23$ $\tau=0.00$ $\sigma_{max}=-1307.23$
Tensioni: $\sigma_N=-945.00$ $\sigma_M=0.00$ $\tau=282.94$ $\tau_{max}=282.94$
Tensioni: $\sigma_N=-945.00$ $\sigma_M=-362.23$ $\tau=0.00$ $\sigma_{ID,max}=1307.23$
- Verifica a taglio dir. Z (4.2.17) - CC 1 Xl=0.67
Sollecitazioni: $T_z=9959.74$
 $V_{Ed}=9959.74$ ($V_{Ed,G}=-803.90$, $V_{Ed,M}=10763.60$) $V_c,Rd=61972.50$ $V_{Ed}/V_c,Rd=0.16$
- Asta n. 101 (107 108) HEA280 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 3
 $L_{cr}=1.17$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=1650940.00$ $\lambda_{LT}=0.15$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.47$ $\beta_{LT}=0.75$ $f=1.00$ $\chi_{LT}=1.00$
CC 18 $M_y,Ed=-721.36$ $M_y,b,Rd=32688.00$ $M_y,Ed/M_y,b,Rd=0.02$
- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 3
Sollecitazioni: $N_{Ed}=-91917.70$ $M_y,Ed=-3668.89$
Resistenze: $N_{c,Rd}=313908.00$ $M_{y,c,Rd}=32688.00$ $L=117.00$
 α_{my} , α_{mz} , $\alpha_{LT} = 0.95, 0.95, 0.95$
 $L_{cr}=1.17$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=1650940.00$ $\lambda_{LT}=0.15$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.47$ $\beta_{LT}=0.75$ $f=1.00$ $\chi_{LT}=1.00$
 $\lambda_y=9.87$ Ncr,y=20703100.00 $\lambda'_y=0.13$ Curva b: $\Phi_y=0.50$ $\chi_y=1.00$
 $\lambda_z=16.72$ Ncr,z=7211010.00 $\lambda'_z=0.22$ Curva c: $\Phi_z=0.53$ $\chi_z=0.99$
Kyy, Kyz, Kzy, Kzz = 0.97, 0.99, 0.00, 0.99
Verifica YY: $0.29 + 0.11 = 0.40$
Verifica ZZ: $0.29 = 0.29$
- Verifica freccia massima carichi totali - CC 20
 $f_{z,L}=0.06$ (L/1118)
- Verifica in termini tensionali (4.2.5) - CC 17 Xl=1.17 - Classe 3
Sollecitazioni: $N=-91917.70$ $T_z=5219.78$ $M_y=-3668.89$
Tensioni: $\sigma_N=-945.00$ $\sigma_M=-362.23$ $\tau=0.00$ $\sigma_{max}=-1307.23$
Tensioni: $\sigma_N=-945.00$ $\sigma_M=0.00$ $\tau=282.94$ $\tau_{max}=282.94$
Tensioni: $\sigma_N=-945.00$ $\sigma_M=-362.23$ $\tau=0.00$ $\sigma_{ID,max}=1307.23$
- Verifica a taglio dir. Z (4.2.17) - CC 1 Xl=0.50
Sollecitazioni: $T_z=11567.50$
 $V_{Ed}=11567.50$ ($V_{Ed,G}=803.90$, $V_{Ed,M}=10763.60$) $V_c,Rd=61972.50$ $V_{Ed}/V_c,Rd=0.19$
- Asta n. 101 (108 109) HEA280 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 3
 $L_{cr}=1.17$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=1.33$ $M_{cr}=1252230.00$ $\lambda_{LT}=0.17$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.47$ $\beta_{LT}=0.75$ $f=0.99$ $\chi_{LT}=1.00$
CC 18 $M_y,Ed=-1554.59$ $M_y,b,Rd=32688.00$ $M_y,Ed/M_y,b,Rd=0.05$
- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 3
Sollecitazioni: $N_{Ed}=-91917.70$ $M_y,Ed=-7927.64$
Resistenze: $N_{c,Rd}=313908.00$ $M_{y,c,Rd}=32688.00$ $L=117.00$
 α_{my} , α_{mz} , $\alpha_{LT} = 0.95, 0.95, 0.95$
 $L_{cr}=1.17$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=1.33$ $M_{cr}=1253090.00$ $\lambda_{LT}=0.17$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.47$ $\beta_{LT}=0.75$ $f=0.99$ $\chi_{LT}=1.00$
 $\lambda_y=9.87$ Ncr,y=20703000.00 $\lambda'_y=0.13$ Curva b: $\Phi_y=0.50$ $\chi_y=1.00$
 $\lambda_z=16.72$ Ncr,z=7211000.00 $\lambda'_z=0.22$ Curva c: $\Phi_z=0.53$ $\chi_z=0.99$
Kyy, Kyz, Kzy, Kzz = 0.97, 0.99, 0.00, 0.99
Verifica YY: $0.29 + 0.24 = 0.53$
Verifica ZZ: $0.29 = 0.29$
- Verifica freccia massima carichi totali - CC 20
 $f_{z,L}=0.08$ (L/1410)
- Verifica in termini tensionali (4.2.5) - CC 17 Xl=1.17 - Classe 3
Sollecitazioni: $N=-91917.70$ $T_z=3192.33$ $M_y=-7927.64$
Tensioni: $\sigma_N=-945.00$ $\sigma_M=-782.69$ $\tau=0.00$ $\sigma_{max}=-1727.69$

Relazione di calcolo

Tensioni: $\sigma_N = -945.00$ $\sigma_M = 0.00$ $\tau = 173.04$ $\tau_{max} = 173.04$
Tensioni: $\sigma_N = -945.00$ $\sigma_M = -782.69$ $\tau = 0.00$ $\sigma_{ID,max} = 1727.69$

Asta n. 101 (109 110) HEA280 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 3
 $L_{cr} = 1.17$ Curva b: $\alpha_{imp} = 0.34$ $k_c = 0.94$ $\psi = 1.08$ $M_{cr} = 1019570.00$ $\lambda_{LT} = 0.19$
 $\lambda_{LT,0} = 0.40$ $\beta_{LT} = 0.75$ $\Phi_{LT} = 0.48$ $\beta_{LT} = 0.75$ $f = 0.99$ $\chi_{LT} = 1.00$
CC 18 $M_y, Ed = -1855.02$ $M_y, b, Rd = 32688.00$ $M_y, Ed / M_y, b, Rd = 0.06$

- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 3
Sollecitazioni: $N, Ed = -91917.70$ $M_y, Ed = -9463.58$
Resistenze: $N_c, Rd = 313908.00$ $M_y, c, Rd = 32688.00$ $L = 117.00$
 $\alpha_{my}, \alpha_{mz}, \alpha_{LT} = 0.95, 0.95, 0.95$
 $L_{cr} = 1.17$ Curva b: $\alpha_{imp} = 0.34$ $k_c = 0.94$ $\psi = 1.08$ $M_{cr} = 1019740.00$ $\lambda_{LT} = 0.19$
 $\lambda_{LT,0} = 0.40$ $\beta_{LT} = 0.75$ $\Phi_{LT} = 0.48$ $\beta_{LT} = 0.75$ $f = 0.99$ $\chi_{LT} = 1.00$
 $\lambda_y = 9.87$ $N_{cr,y} = 20703000.00$ $\lambda'_y = 0.13$ Curva b: $\Phi_y = 0.50$ $\chi_y = 1.00$
 $\lambda_z = 16.72$ $N_{cr,z} = 7211000.00$ $\lambda'_z = 0.22$ Curva c: $\Phi_z = 0.53$ $\chi_z = 0.99$
 $K_{yy}, K_{yz}, K_{zy}, K_{zz} = 0.97, 0.99, 0.00, 0.99$
Verifica YY: $0.29 + 0.28 = 0.57$
Verifica ZZ: $0.29 = 0.29$

- Verifica freccia massima carichi totali - CC 20
 $f_{z,L} = 0.03$ (L/3500)

- Verifica in termini tensionali (4.2.5) - CC 17 $X_L = 1.17$ - Classe 3
Sollecitazioni: $N = -91917.70$ $T_z = 865.24$ $M_y = -9463.58$
Tensioni: $\sigma_N = -945.00$ $\sigma_M = -934.34$ $\tau = 0.00$ $\sigma_{max} = -1879.33$
Tensioni: $\sigma_N = -945.00$ $\sigma_M = 0.00$ $\tau = 46.90$ $\tau_{max} = 46.90$
Tensioni: $\sigma_N = -945.00$ $\sigma_M = -934.34$ $\tau = 0.00$ $\sigma_{ID,max} = 1879.33$

Asta n. 101 (110 111) HEA280 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 19 - Classe 3
 $L_{cr} = 1.17$ Curva b: $\alpha_{imp} = 0.34$ $k_c = 0.94$ $\psi = 1.06$ $M_{cr} = 1001010.00$ $\lambda_{LT} = 0.19$
 $\lambda_{LT,0} = 0.40$ $\beta_{LT} = 0.75$ $\Phi_{LT} = 0.48$ $\beta_{LT} = 0.75$ $f = 0.99$ $\chi_{LT} = 1.00$
CC 19 $M_y, Ed = -1855.02$ $M_y, b, Rd = 32688.00$ $M_y, Ed / M_y, b, Rd = 0.06$

- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 3
Sollecitazioni: $N, Ed = -91917.70$ $M_y, Ed = -9463.59$
Resistenze: $N_c, Rd = 313908.00$ $M_y, c, Rd = 32688.00$ $L = 117.00$
 $\alpha_{my}, \alpha_{mz}, \alpha_{LT} = 0.95, 0.95, 0.95$
 $L_{cr} = 1.17$ Curva b: $\alpha_{imp} = 0.34$ $k_c = 0.94$ $\psi = 1.06$ $M_{cr} = 1001090.00$ $\lambda_{LT} = 0.19$
 $\lambda_{LT,0} = 0.40$ $\beta_{LT} = 0.75$ $\Phi_{LT} = 0.48$ $\beta_{LT} = 0.75$ $f = 0.99$ $\chi_{LT} = 1.00$
 $\lambda_y = 9.87$ $N_{cr,y} = 20703000.00$ $\lambda'_y = 0.13$ Curva b: $\Phi_y = 0.50$ $\chi_y = 1.00$
 $\lambda_z = 16.72$ $N_{cr,z} = 7211000.00$ $\lambda'_z = 0.22$ Curva c: $\Phi_z = 0.53$ $\chi_z = 0.99$
 $K_{yy}, K_{yz}, K_{zy}, K_{zz} = 0.97, 0.99, 0.00, 0.99$
Verifica YY: $0.29 + 0.28 = 0.57$
Verifica ZZ: $0.29 = 0.29$

- Verifica freccia massima carichi totali - CC 21
 $f_{z,L} = 0.03$ (L/4451)

- Verifica in termini tensionali (4.2.5) - CC 17 $X_L = 0.00$ - Classe 3
Sollecitazioni: $N = -91917.70$ $T_z = -567.11$ $M_y = -9463.59$
Tensioni: $\sigma_N = -945.00$ $\sigma_M = -934.34$ $\tau = 0.00$ $\sigma_{max} = -1879.34$
Tensioni: $\sigma_N = -945.00$ $\sigma_M = 0.00$ $\tau = 30.74$ $\tau_{max} = 30.74$
Tensioni: $\sigma_N = -945.00$ $\sigma_M = -934.34$ $\tau = 0.00$ $\sigma_{ID,max} = 1879.34$

Asta n. 101 (111 112) HEA280 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 19 - Classe 3
 $L_{cr} = 1.17$ Curva b: $\alpha_{imp} = 0.34$ $k_c = 0.94$ $\psi = 1.28$ $M_{cr} = 1206500.00$ $\lambda_{LT} = 0.17$
 $\lambda_{LT,0} = 0.40$ $\beta_{LT} = 0.75$ $\Phi_{LT} = 0.47$ $\beta_{LT} = 0.75$ $f = 0.99$ $\chi_{LT} = 1.00$
CC 19 $M_y, Ed = -1622.66$ $M_y, b, Rd = 32688.00$ $M_y, Ed / M_y, b, Rd = 0.05$

- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 3
Sollecitazioni: $N, Ed = -91917.70$ $M_y, Ed = -8276.49$
Resistenze: $N_c, Rd = 313908.00$ $M_y, c, Rd = 32688.00$ $L = 117.00$
 $\alpha_{my}, \alpha_{mz}, \alpha_{LT} = 0.95, 0.95, 0.95$
 $L_{cr} = 1.17$ Curva b: $\alpha_{imp} = 0.34$ $k_c = 0.94$ $\psi = 1.28$ $M_{cr} = 1207080.00$ $\lambda_{LT} = 0.17$
 $\lambda_{LT,0} = 0.40$ $\beta_{LT} = 0.75$ $\Phi_{LT} = 0.47$ $\beta_{LT} = 0.75$ $f = 0.99$ $\chi_{LT} = 1.00$
 $\lambda_y = 9.87$ $N_{cr,y} = 20703000.00$ $\lambda'_y = 0.13$ Curva b: $\Phi_y = 0.50$ $\chi_y = 1.00$
 $\lambda_z = 16.72$ $N_{cr,z} = 7211000.00$ $\lambda'_z = 0.22$ Curva c: $\Phi_z = 0.53$ $\chi_z = 0.99$
 $K_{yy}, K_{yz}, K_{zy}, K_{zz} = 0.97, 0.99, 0.00, 0.99$
Verifica YY: $0.29 + 0.25 = 0.54$
Verifica ZZ: $0.29 = 0.29$

Relazione di calcolo

- Verifica freccia massima carichi totali - CC 21
 $f_{z,L}=0.08$ (L/1498)

- Verifica in termini tensionali (4.2.5) - CC 17 $X_1=0.00$ - Classe 3
Sollecitazioni: $N=-91917.70$ $T_z=-2894.20$ $M_y=-8276.49$
Tensioni: $\sigma_N=-945.00$ $\sigma_M=-817.13$ $\tau=0.00$ $\sigma_{\max}=-1762.13$
Tensioni: $\sigma_N=-945.00$ $\sigma_M=0.00$ $\tau=156.88$ $\tau_{\max}=156.88$
Tensioni: $\sigma_N=-945.00$ $\sigma_M=-817.13$ $\tau=0.00$ $\sigma_{ID,\max}=1762.13$

Asta n. 101 (112 113) HEA280 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 19 - Classe 3
 $L_{cr}=1.17$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=1650930.00$ $\lambda_{LT}=0.15$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.47$ $\beta_{LT}=0.75$ $f=1.00$ $\chi_{LT}=1.00$
CC 19 $M_y,Ed=-857.51$ $M_y,b,Rd=32688.00$ $M_y,Ed/M_y,b,Rd=0.03$

- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 3
Sollecitazioni: $N,Ed=-91917.70$ $M_y,Ed=-4366.56$
Resistenze: $N_c,Rd=313908.00$ $M_y,c,Rd=32688.00$ $L=117.00$
 $\alpha_{my}, \alpha_{mz}, \alpha_{LT} = 0.95, 0.95, 0.95$
 $L_{cr}=1.17$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=1650930.00$ $\lambda_{LT}=0.15$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.47$ $\beta_{LT}=0.75$ $f=1.00$ $\chi_{LT}=1.00$
 $\lambda_y=9.87$ $N_{cr,y}=20703000.00$ $\lambda^*_y=0.13$ Curva b: $\Phi_y=0.50$ $\chi_y=1.00$
 $\lambda_z=16.72$ $N_{cr,z}=7211000.00$ $\lambda^*_z=0.22$ Curva c: $\Phi_z=0.53$ $\chi_z=0.99$
 $K_{yy}, K_{yz}, K_{zy}, K_{zz} = 0.97, 0.99, 0.00, 0.99$
Verifica YY: $0.29 + 0.13 = 0.42$
Verifica ZZ: $0.29 = 0.29$

- Verifica freccia massima carichi totali - CC 21
 $f_{z,L}=0.07$ (L/1128)

- Verifica in termini tensionali (4.2.5) - CC 17 $X_1=0.00$ - Classe 3
Sollecitazioni: $N=-91917.70$ $T_z=-5011.54$ $M_y=-4366.56$
Tensioni: $\sigma_N=-945.00$ $\sigma_M=-431.11$ $\tau=0.00$ $\sigma_{\max}=-1376.11$
Tensioni: $\sigma_N=-945.00$ $\sigma_M=0.00$ $\tau=271.65$ $\tau_{\max}=271.65$
Tensioni: $\sigma_N=-945.00$ $\sigma_M=-431.11$ $\tau=0.00$ $\sigma_{ID,\max}=1376.11$

- Verifica a taglio dir. Z (4.2.17) - CC 1 $X_1=0.82$
Sollecitazioni: $T_z=9969.19$
 $V,Ed=9969.19$ ($V,Ed,G=-794.45$, $V,Ed,M=10763.60$) $V_c,Rd=61972.50$ $V,Ed/V_c,Rd=0.16$

Asta n. 102 (114 115) IPE180 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 1
 $L_{cr}=1.17$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=26222.40$ $\lambda_{LT}=0.48$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.60$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=0.99$
CC 18 $M_y,Ed=-11.10$ $M_y,b,Rd=5353.59$ $M_y,Ed/M_y,b,Rd=0.00$

- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 2
Sollecitazioni: $N,Ed=-22630.70$ $M_y,Ed=-100.74$
Resistenze: $N_c,Rd=77285.90$ $M_y,c,Rd=5387.15$ $L=117.00$
 $\alpha_{my}, \alpha_{mz}, \alpha_{LT} = 0.95, 0.95, 0.95$
 $L_{cr}=1.17$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=26222.40$ $\lambda_{LT}=0.48$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.60$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=0.99$
 $\lambda_y=15.78$ $N_{cr,y}=1994020.00$ $\lambda^*_y=0.21$ Curva a: $\Phi_y=0.52$ $\chi_y=1.00$
 $\lambda_z=57.01$ $N_{cr,z}=152695.00$ $\lambda^*_z=0.75$ Curva b: $\Phi_z=0.87$ $\chi_z=0.76$
 $K_{yy}, K_{yz}, K_{zy}, K_{zz} = 0.95, 0.77, 0.00, 1.28$
Verifica YY: $0.29 + 0.02 = 0.31$
Verifica ZZ: $0.39 = 0.39$

- Verifica freccia massima carichi totali - CC 20
 $f_{z,G}=0.09$ (L/920)

- Verifica a compressione (4.2.10) - CC 17 $X_1=0.35$ - Classe 2
Sollecitazioni: $N=-22630.70$ $T_z=491.40$
 $N,Ed=-22630.70$ $N_c,Rd=-80966.20$ $N,Ed/N_c,Rd=0.28$

- Verifica a taglio dir. Z (4.2.17) - CC 1 $X_1=0.35$
Sollecitazioni: $T_z=1644.74$
 $V,Ed=1644.74$ ($V,Ed,G=36.86$, $V,Ed,M=1607.89$) $V_c,Rd=21964.00$ $V,Ed/V_c,Rd=0.07$

Asta n. 102 (115 116) IPE180 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 1
 $L_{cr}=1.17$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=26222.40$ $\lambda_{LT}=0.48$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.60$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=0.99$
CC 18 $M_y,Ed=-22.59$ $M_y,b,Rd=5353.59$ $M_y,Ed/M_y,b,Rd=0.00$

- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 2
Sollecitazioni: $N, Ed = -22630.70$ $M_y, Ed = -205.08$
Resistenze: $N_c, Rd = 77285.90$ $M_y, c, Rd = 5387.15$ $L = 117.00$
 $\alpha_{my}, \alpha_{mz}, \alpha_{LT} = 0.95, 0.95, 0.95$
 $L_{cr} = 1.17$ Curva b: $\alpha - imp = 0.34$ $k_c = 0.94$ $\psi = 1.75$ $M, cr = 26222.40$ $\lambda_{LT} = 0.48$
 $\lambda_{LT,0} = 0.40$ $\beta_{LT} = 0.75$ $\Phi_{LT} = 0.60$ $\beta_{LT} = 0.75$ $f = 0.98$ $\chi_{LT} = 0.99$
 $\lambda_y = 15.78$ $N_{cr,y} = 1994020.00$ $\lambda^*_{y} = 0.21$ Curva a: $\Phi_y = 0.52$ $\chi_y = 1.00$
 $\lambda_z = 57.01$ $N_{cr,z} = 152695.00$ $\lambda^*_{z} = 0.75$ Curva b: $\Phi_z = 0.87$ $\chi_z = 0.76$
 $K_{yy}, K_{yz}, K_{zy}, K_{zz} = 0.95, 0.77, 0.00, 1.28$
Verifica YY: $0.29 + 0.04 = 0.33$
Verifica ZZ: $0.39 = 0.39$
- Verifica freccia massima carichi totali - CC 20
 $f_{z,L} = 0.08$ (L/1448)
- Verifica a compressione (4.2.10) - CC 17 $X1 = 0.00$ - Classe 2
Sollecitazioni: $N = -22630.70$ $T_z = 701.14$
 $N, Ed = -22630.70$ $N_c, Rd = -80966.20$ $N, Ed/N_c, Rd = 0.28$
- Verifica a taglio dir. Z (4.2.17) - CC 1 $X1 = 0.00$
Sollecitazioni: $T_z = 1660.48$
 $V, Ed = 1660.48$ ($V, Ed, G = 52.59$, $V, Ed, M = 1607.89$) $V_c, Rd = 21964.00$ $V, Ed/V_c, Rd = 0.08$

Asta n. 102 (116 117) IPE180 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 1
 $L_{cr} = 1.17$ Curva b: $\alpha - imp = 0.34$ $k_c = 0.94$ $\psi = 1.75$ $M, cr = 26222.40$ $\lambda_{LT} = 0.48$
 $\lambda_{LT,0} = 0.40$ $\beta_{LT} = 0.75$ $\Phi_{LT} = 0.60$ $\beta_{LT} = 0.75$ $f = 0.98$ $\chi_{LT} = 0.99$
CC 18 $M_y, Ed = -22.59$ $M_y, b, Rd = 5353.59$ $M_y, Ed/M_y, b, Rd = 0.00$
- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 2
Sollecitazioni: $N, Ed = -22630.70$ $M_y, Ed = -205.08$
Resistenze: $N_c, Rd = 77285.90$ $M_y, c, Rd = 5387.15$ $L = 117.00$
 $\alpha_{my}, \alpha_{mz}, \alpha_{LT} = 0.95, 0.95, 0.95$
 $L_{cr} = 1.17$ Curva b: $\alpha - imp = 0.34$ $k_c = 0.94$ $\psi = 1.75$ $M, cr = 26222.40$ $\lambda_{LT} = 0.48$
 $\lambda_{LT,0} = 0.40$ $\beta_{LT} = 0.75$ $\Phi_{LT} = 0.60$ $\beta_{LT} = 0.75$ $f = 0.98$ $\chi_{LT} = 0.99$
 $\lambda_y = 15.78$ $N_{cr,y} = 1994020.00$ $\lambda^*_{y} = 0.21$ Curva a: $\Phi_y = 0.52$ $\chi_y = 1.00$
 $\lambda_z = 57.01$ $N_{cr,z} = 152695.00$ $\lambda^*_{z} = 0.75$ Curva b: $\Phi_z = 0.87$ $\chi_z = 0.76$
 $K_{yy}, K_{yz}, K_{zy}, K_{zz} = 0.95, 0.77, 0.00, 1.28$
Verifica YY: $0.29 + 0.04 = 0.33$
Verifica ZZ: $0.39 = 0.39$
- Verifica freccia massima carichi totali - CC 20
 $f_{z,L} = 0.03$ (L/4453)
- Verifica a compressione (4.2.10) - CC 17 $X1 = 0.00$ - Classe 2
Sollecitazioni: $N = -22630.70$ $T_z = 701.14$
 $N, Ed = -22630.70$ $N_c, Rd = -80966.20$ $N, Ed/N_c, Rd = 0.28$
- Verifica a taglio dir. Z (4.2.17) - CC 1 $X1 = 0.00$
Sollecitazioni: $T_z = 1660.48$
 $V, Ed = 1660.48$ ($V, Ed, G = 52.59$, $V, Ed, M = 1607.89$) $V_c, Rd = 21964.00$ $V, Ed/V_c, Rd = 0.08$

Asta n. 102 (117 118) IPE180 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 1
 $L_{cr} = 1.17$ Curva b: $\alpha - imp = 0.34$ $k_c = 0.94$ $\psi = 1.75$ $M, cr = 26222.40$ $\lambda_{LT} = 0.48$
 $\lambda_{LT,0} = 0.40$ $\beta_{LT} = 0.75$ $\Phi_{LT} = 0.60$ $\beta_{LT} = 0.75$ $f = 0.98$ $\chi_{LT} = 0.99$
CC 18 $M_y, Ed = -22.59$ $M_y, b, Rd = 5353.59$ $M_y, Ed/M_y, b, Rd = 0.00$
- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 2
Sollecitazioni: $N, Ed = -22630.70$ $M_y, Ed = -205.08$
Resistenze: $N_c, Rd = 77285.90$ $M_y, c, Rd = 5387.15$ $L = 117.00$
 $\alpha_{my}, \alpha_{mz}, \alpha_{LT} = 0.95, 0.95, 0.95$
 $L_{cr} = 1.17$ Curva b: $\alpha - imp = 0.34$ $k_c = 0.94$ $\psi = 1.75$ $M, cr = 26222.40$ $\lambda_{LT} = 0.48$
 $\lambda_{LT,0} = 0.40$ $\beta_{LT} = 0.75$ $\Phi_{LT} = 0.60$ $\beta_{LT} = 0.75$ $f = 0.98$ $\chi_{LT} = 0.99$
 $\lambda_y = 15.78$ $N_{cr,y} = 1994020.00$ $\lambda^*_{y} = 0.21$ Curva a: $\Phi_y = 0.52$ $\chi_y = 1.00$
 $\lambda_z = 57.01$ $N_{cr,z} = 152695.00$ $\lambda^*_{z} = 0.75$ Curva b: $\Phi_z = 0.87$ $\chi_z = 0.76$
 $K_{yy}, K_{yz}, K_{zy}, K_{zz} = 0.95, 0.77, 0.00, 1.28$
Verifica YY: $0.29 + 0.04 = 0.33$
Verifica ZZ: $0.39 = 0.39$
- Verifica freccia massima carichi totali - CC 21
 $f_{z,L} = 0.03$ (L/3470)
- Verifica a compressione (4.2.10) - CC 17 $X1 = 0.00$ - Classe 2
Sollecitazioni: $N = -22630.70$ $T_z = 701.14$
 $N, Ed = -22630.70$ $N_c, Rd = -80966.20$ $N, Ed/N_c, Rd = 0.28$

Relazione di calcolo

- Verifica a taglio dir. Z (4.2.17) - CC 1 Xl=0.00
Sollecitazioni: $T_z=1660.48$
 $V, Ed=1660.48$ ($V, Ed, G=52.59$, $V, Ed, M=1607.89$) $V_c, Rd=21964.00$ $V, Ed/V_c, Rd=0.08$

Asta n. 102 (118 119) IPE180 Crit. 1

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- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 1
 $L_{cr}=1.17$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M, cr=26222.40$ $\lambda_{LT}=0.48$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.60$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=0.99$
CC 18 $My, Ed=-22.59$ $My, b, Rd=5353.59$ $My, Ed/My, b, Rd=0.00$
- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 2
Sollecitazioni: $N, Ed=-22630.70$ $My, Ed=-205.08$
Resistenze: $N_c, Rd=77285.90$ $My, c, Rd=5387.15$ $L=117.00$
 α_{my} , α_{mz} , $\alpha_{LT} = 0.95$, 0.95 , 0.95
 $L_{cr}=1.17$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M, cr=26222.40$ $\lambda_{LT}=0.48$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.60$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=0.99$
 $\lambda_y=15.78$ $N_{cr,y}=1994020.00$ $\lambda^*_y=0.21$ Curva a: $\Phi_y=0.52$ $\chi_y=1.00$
 $\lambda_z=57.01$ $N_{cr,z}=152695.00$ $\lambda^*_z=0.75$ Curva b: $\Phi_z=0.87$ $\chi_z=0.76$
 K_{yy} , K_{yz} , K_{zy} , $K_{zz} = 0.95$, 0.77 , 0.00 , 1.28
Verifica YY: $0.29 + 0.04 = 0.33$
Verifica ZZ: $0.39 = 0.39$
- Verifica freccia massima carichi totali - CC 21
 $f_{z,L}=0.09$ (L/1344)
- Verifica a compressione (4.2.10) - CC 17 Xl=0.00 - Classe 2
Sollecitazioni: $N=-22630.70$ $T_z=701.14$
 $N, Ed=-22630.70$ $N_c, Rd=-80966.20$ $N, Ed/N_c, Rd=0.28$
- Verifica a taglio dir. Z (4.2.17) - CC 1 Xl=0.00
Sollecitazioni: $T_z=1660.48$
 $V, Ed=1660.48$ ($V, Ed, G=52.59$, $V, Ed, M=1607.89$) $V_c, Rd=21964.00$ $V, Ed/V_c, Rd=0.08$

Asta n. 102 (119 120) IPE180 Crit. 1

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- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 1
 $L_{cr}=1.17$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M, cr=26222.40$ $\lambda_{LT}=0.48$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.60$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=0.99$
CC 18 $My, Ed=-7.41$ $My, b, Rd=5353.59$ $My, Ed/My, b, Rd=0.00$
- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 2
Sollecitazioni: $N, Ed=-22630.70$ $My, Ed=-66.70$
Resistenze: $N_c, Rd=77285.90$ $My, c, Rd=5387.15$ $L=117.00$
 α_{my} , α_{mz} , $\alpha_{LT} = 0.95$, 0.95 , 0.95
 $L_{cr}=1.17$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M, cr=26222.40$ $\lambda_{LT}=0.48$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.60$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=0.99$
 $\lambda_y=15.78$ $N_{cr,y}=1994020.00$ $\lambda^*_y=0.21$ Curva a: $\Phi_y=0.52$ $\chi_y=1.00$
 $\lambda_z=57.01$ $N_{cr,z}=152695.00$ $\lambda^*_z=0.75$ Curva b: $\Phi_z=0.87$ $\chi_z=0.76$
 K_{yy} , K_{yz} , K_{zy} , $K_{zz} = 0.95$, 0.77 , 0.00 , 1.28
Verifica YY: $0.29 + 0.01 = 0.31$
Verifica ZZ: $0.39 = 0.39$
- Verifica freccia massima carichi totali - CC 21
 $f_{z,L}=0.08$ (L/890)
- Verifica a compressione (4.2.10) - CC 17 Xl=0.00 - Classe 2
Sollecitazioni: $N=-22630.70$ $T_z=401.51$
 $N, Ed=-22630.70$ $N_c, Rd=-80966.20$ $N, Ed/N_c, Rd=0.28$
- Verifica a taglio dir. Z (4.2.17) - CC 1 Xl=0.00
Sollecitazioni: $T_z=1638.00$
 $V, Ed=1638.00$ ($V, Ed, G=30.12$, $V, Ed, M=1607.89$) $V_c, Rd=21964.00$ $V, Ed/V_c, Rd=0.07$

Asta n. 102 (120 121) IPE180 Crit. 1

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- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 1
 $L_{cr}=1.17$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M, cr=26222.40$ $\lambda_{LT}=0.48$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.60$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=0.99$
CC 18 $My, Ed=-7.41$ $My, b, Rd=5353.59$ $My, Ed/My, b, Rd=0.00$
- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 2
Sollecitazioni: $N, Ed=-22630.70$ $My, Ed=-67.25$
Resistenze: $N_c, Rd=77285.90$ $My, c, Rd=5387.15$ $L=117.00$
 α_{my} , α_{mz} , $\alpha_{LT} = 0.95$, 0.95 , 0.95
 $L_{cr}=1.17$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M, cr=26222.40$ $\lambda_{LT}=0.48$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.60$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=0.99$
 $\lambda_y=15.78$ $N_{cr,y}=1994020.00$ $\lambda^*_y=0.21$ Curva a: $\Phi_y=0.52$ $\chi_y=1.00$

Relazione di calcolo

$\lambda_z=57.01$ Ncr,z=152695.00 $\lambda^*_z=0.75$ Curva b: $\Phi_z=0.87$ $\chi_z=0.76$
Kyy, Kyz, Kzy, Kzz = 0.95, 0.77, 0.00, 1.28
Verifica YY: 0.29 + 0.01 = 0.31
Verifica ZZ: 0.39 = 0.39

- Verifica freccia massima carichi totali - CC 20
 $f_{z,L}=0.08$ (L/890)

- Verifica a compressione (4.2.10) - CC 17 Xl=0.50 - Classe 2
Sollecitazioni: N=-22630.70 Tz=401.51
N,Ed=-22630.70 Nc,Rd=-80966.20 N,Ed/Nc,Rd=0.28

- Verifica a taglio dir. Z (4.2.17) - CC 1 Xl=0.50
Sollecitazioni: Tz=1638.00
V,Ed=1638.00 (V,Ed,G=30.12, V,Ed,M=1607.89) Vc,Rd=21964.00 V,Ed/Vc,Rd=0.07

Asta n. 102 (121 122) IPE180 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 1
 $L_{cr}=1.17$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=1.75$ M,cr=26222.40 $\lambda_{LT}=0.48$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.60$ $\beta_{LT}=0.75$ f=0.98 $\chi_{LT}=0.99$
CC 18 My,Ed=-22.59 My,b,Rd=5353.59 My,Ed/My,b,Rd=0.00

- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 2
Sollecitazioni: N,Ed=-22630.70 My,Ed=-205.08
Resistenze: Nc,Rd=77285.90 My,c,Rd=5387.15 L=117.00
 $\alpha_{my}, \alpha_{mz}, \alpha_{LT} = 0.95, 0.95, 0.95$
 $L_{cr}=1.17$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=1.75$ M,cr=26222.40 $\lambda_{LT}=0.48$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.60$ $\beta_{LT}=0.75$ f=0.98 $\chi_{LT}=0.99$
 $\lambda_y=15.78$ Ncr,y=1994020.00 $\lambda^*_y=0.21$ Curva a: $\Phi_y=0.52$ $\chi_y=1.00$
 $\lambda_z=57.01$ Ncr,z=152695.00 $\lambda^*_z=0.75$ Curva b: $\Phi_z=0.87$ $\chi_z=0.76$
Kyy, Kyz, Kzy, Kzz = 0.95, 0.77, 0.00, 1.28
Verifica YY: 0.29 + 0.04 = 0.33
Verifica ZZ: 0.39 = 0.39

- Verifica freccia massima carichi totali - CC 20
 $f_{z,L}=0.09$ (L/1345)

- Verifica a compressione (4.2.10) - CC 17 Xl=0.00 - Classe 2
Sollecitazioni: N=-22630.70 Tz=701.14
N,Ed=-22630.70 Nc,Rd=-80966.20 N,Ed/Nc,Rd=0.28

- Verifica a taglio dir. Z (4.2.17) - CC 1 Xl=0.00
Sollecitazioni: Tz=1660.48
V,Ed=1660.48 (V,Ed,G=52.59, V,Ed,M=1607.89) Vc,Rd=21964.00 V,Ed/Vc,Rd=0.08

Asta n. 102 (122 123) IPE180 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 1
 $L_{cr}=1.17$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=1.75$ M,cr=26222.40 $\lambda_{LT}=0.48$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.60$ $\beta_{LT}=0.75$ f=0.98 $\chi_{LT}=0.99$
CC 18 My,Ed=-22.59 My,b,Rd=5353.59 My,Ed/My,b,Rd=0.00

- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 2
Sollecitazioni: N,Ed=-22630.70 My,Ed=-205.08
Resistenze: Nc,Rd=77285.90 My,c,Rd=5387.15 L=117.00
 $\alpha_{my}, \alpha_{mz}, \alpha_{LT} = 0.95, 0.95, 0.95$
 $L_{cr}=1.17$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=1.75$ M,cr=26222.40 $\lambda_{LT}=0.48$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.60$ $\beta_{LT}=0.75$ f=0.98 $\chi_{LT}=0.99$
 $\lambda_y=15.78$ Ncr,y=1994020.00 $\lambda^*_y=0.21$ Curva a: $\Phi_y=0.52$ $\chi_y=1.00$
 $\lambda_z=57.01$ Ncr,z=152695.00 $\lambda^*_z=0.75$ Curva b: $\Phi_z=0.87$ $\chi_z=0.76$
Kyy, Kyz, Kzy, Kzz = 0.95, 0.77, 0.00, 1.28
Verifica YY: 0.29 + 0.04 = 0.33
Verifica ZZ: 0.39 = 0.39

- Verifica freccia massima carichi totali - CC 20
 $f_{z,L}=0.03$ (L/3475)

- Verifica a compressione (4.2.10) - CC 17 Xl=0.00 - Classe 2
Sollecitazioni: N=-22630.70 Tz=701.14
N,Ed=-22630.70 Nc,Rd=-80966.20 N,Ed/Nc,Rd=0.28

- Verifica a taglio dir. Z (4.2.17) - CC 1 Xl=0.00
Sollecitazioni: Tz=1660.48
V,Ed=1660.48 (V,Ed,G=52.59, V,Ed,M=1607.89) Vc,Rd=21964.00 V,Ed/Vc,Rd=0.08

Asta n. 102 (123 124) IPE180 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 1

Relazione di calcolo

- $L_{cr}=1.17$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=26222.40$ $\lambda_{LT}=0.48$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.60$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=0.99$
CC 18 $M_{y,Ed}=-22.59$ $M_{y,b,Rd}=5353.59$ $M_{y,Ed}/M_{y,b,Rd}=0.00$
- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 2
Sollecitazioni: $N_{Ed}=-22630.70$ $M_{y,Ed}=-205.08$
Resistenze: $N_{c,Rd}=77285.90$ $M_{y,c,Rd}=5387.15$ $L=117.00$
 $\alpha_{my}, \alpha_{mz}, \alpha_{LT} = 0.95, 0.95, 0.95$
 $L_{cr}=1.17$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=26222.40$ $\lambda_{LT}=0.48$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.60$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=0.99$
 $\lambda_y=15.78$ $N_{cr,y}=1994020.00$ $\lambda^*_y=0.21$ Curva a: $\Phi_y=0.52$ $\chi_y=1.00$
 $\lambda_z=57.01$ $N_{cr,z}=152695.00$ $\lambda^*_z=0.75$ Curva b: $\Phi_z=0.87$ $\chi_z=0.76$
 $K_{yy}, K_{yz}, K_{zy}, K_{zz} = 0.95, 0.77, 0.00, 1.28$
Verifica YY: $0.29 + 0.04 = 0.33$
Verifica ZZ: $0.39 = 0.39$
- Verifica freccia massima carichi totali - CC 21
 $f_{z,L}=0.03$ (L/4445)
- Verifica a compressione (4.2.10) - CC 17 $X_1=0.00$ - Classe 2
Sollecitazioni: $N=-22630.70$ $T_x=701.14$
 $N_{Ed}=-22630.70$ $N_{c,Rd}=-80966.20$ $N_{Ed}/N_{c,Rd}=0.28$
- Verifica a taglio dir. Z (4.2.17) - CC 1 $X_1=0.00$
Sollecitazioni: $T_x=1660.48$
 $V_{Ed}=1660.48$ ($V_{Ed,G}=52.59$, $V_{Ed,M}=1607.89$) $V_{c,Rd}=21964.00$ $V_{Ed}/V_{c,Rd}=0.08$
- Asta n. 102 (124 125) IPE180 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 1
 $L_{cr}=1.17$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=26222.40$ $\lambda_{LT}=0.48$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.60$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=0.99$
CC 18 $M_{y,Ed}=-22.59$ $M_{y,b,Rd}=5353.59$ $M_{y,Ed}/M_{y,b,Rd}=0.00$
- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 2
Sollecitazioni: $N_{Ed}=-22630.70$ $M_{y,Ed}=-205.08$
Resistenze: $N_{c,Rd}=77285.90$ $M_{y,c,Rd}=5387.15$ $L=117.00$
 $\alpha_{my}, \alpha_{mz}, \alpha_{LT} = 0.95, 0.95, 0.95$
 $L_{cr}=1.17$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=26222.40$ $\lambda_{LT}=0.48$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.60$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=0.99$
 $\lambda_y=15.78$ $N_{cr,y}=1994020.00$ $\lambda^*_y=0.21$ Curva a: $\Phi_y=0.52$ $\chi_y=1.00$
 $\lambda_z=57.01$ $N_{cr,z}=152695.00$ $\lambda^*_z=0.75$ Curva b: $\Phi_z=0.87$ $\chi_z=0.76$
 $K_{yy}, K_{yz}, K_{zy}, K_{zz} = 0.95, 0.77, 0.00, 1.28$
Verifica YY: $0.29 + 0.04 = 0.33$
Verifica ZZ: $0.39 = 0.39$
- Verifica freccia massima carichi totali - CC 21
 $f_{z,L}=0.08$ (L/1445)
- Verifica a compressione (4.2.10) - CC 17 $X_1=0.00$ - Classe 2
Sollecitazioni: $N=-22630.70$ $T_x=701.14$
 $N_{Ed}=-22630.70$ $N_{c,Rd}=-80966.20$ $N_{Ed}/N_{c,Rd}=0.28$
- Verifica a taglio dir. Z (4.2.17) - CC 1 $X_1=0.00$
Sollecitazioni: $T_x=1660.48$
 $V_{Ed}=1660.48$ ($V_{Ed,G}=52.59$, $V_{Ed,M}=1607.89$) $V_{c,Rd}=21964.00$ $V_{Ed}/V_{c,Rd}=0.08$
- Asta n. 102 (125 126) IPE180 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 1
 $L_{cr}=1.17$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=26222.40$ $\lambda_{LT}=0.48$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.60$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=0.99$
CC 18 $M_{y,Ed}=-11.10$ $M_{y,b,Rd}=5353.59$ $M_{y,Ed}/M_{y,b,Rd}=0.00$
- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 2
Sollecitazioni: $N_{Ed}=-22630.70$ $M_{y,Ed}=-100.74$
Resistenze: $N_{c,Rd}=77285.90$ $M_{y,c,Rd}=5387.15$ $L=117.00$
 $\alpha_{my}, \alpha_{mz}, \alpha_{LT} = 0.95, 0.95, 0.95$
 $L_{cr}=1.17$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=26222.40$ $\lambda_{LT}=0.48$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.60$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=0.99$
 $\lambda_y=15.78$ $N_{cr,y}=1994020.00$ $\lambda^*_y=0.21$ Curva a: $\Phi_y=0.52$ $\chi_y=1.00$
 $\lambda_z=57.01$ $N_{cr,z}=152695.00$ $\lambda^*_z=0.75$ Curva b: $\Phi_z=0.87$ $\chi_z=0.76$
 $K_{yy}, K_{yz}, K_{zy}, K_{zz} = 0.95, 0.77, 0.00, 1.28$
Verifica YY: $0.29 + 0.02 = 0.31$
Verifica ZZ: $0.39 = 0.39$
- Verifica freccia massima carichi totali - CC 20
 $f_{z,G}=0.09$ (L/920)

Relazione di calcolo

- Verifica a compressione (4.2.10) - CC 17 $X_1=0.00$ - Classe 2
Sollecitazioni: $N=-22630.70$ $T_z=491.40$
 $N,Ed=-22630.70$ $N_c,Rd=-80966.20$ $N,Ed/N_c,Rd=0.28$
- Verifica a taglio dir. Z (4.2.17) - CC 1 $X_1=0.00$
Sollecitazioni: $T_z=1644.74$
 $V,Ed=1644.74$ ($V,Ed,G=36.86$, $V,Ed,M=1607.89$) $V_c,Rd=21964.00$ $V,Ed/V_c,Rd=0.07$
- Asta n. 103 (127 128) IPE180 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 1
 $L_{cr}=1.17$ Curva b: $\alpha_{imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=26222.40$ $\lambda_{LT}=0.48$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.60$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=0.99$
CC 18 $My,Ed=-11.10$ $My,b,Rd=5353.59$ $My,Ed/My,b,Rd=0.00$
- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 2
Sollecitazioni: $N,Ed=-22630.70$ $My,Ed=-100.74$
Resistenze: $N_c,Rd=77285.90$ $My,c,Rd=5387.15$ $L=117.00$
 α_{my} , α_{mz} , $\alpha_{LT} = 0.95, 0.95, 0.95$
 $L_{cr}=1.17$ Curva b: $\alpha_{imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=26222.40$ $\lambda_{LT}=0.48$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.60$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=0.99$
 $\lambda_y=15.78$ $N_{cr,y}=1994020.00$ $\lambda_y^*=0.21$ Curva a: $\Phi_y=0.52$ $\chi_y=1.00$
 $\lambda_z=57.01$ $N_{cr,z}=152695.00$ $\lambda_z^*=0.75$ Curva b: $\Phi_z=0.87$ $\chi_z=0.76$
 K_{yy} , K_{yz} , K_{zy} , $K_{zz} = 0.95, 0.77, 0.00, 1.28$
Verifica YY: $0.29 + 0.02 = 0.31$
Verifica ZZ: $0.39 = 0.39$
- Verifica freccia massima carichi totali - CC 20
 $f_{z,g}=0.09$ (L/915)
- Verifica a compressione (4.2.10) - CC 17 $X_1=0.35$ - Classe 2
Sollecitazioni: $N=-22630.70$ $T_z=491.40$
 $N,Ed=-22630.70$ $N_c,Rd=-80966.20$ $N,Ed/N_c,Rd=0.28$
- Verifica a taglio dir. Z (4.2.17) - CC 1 $X_1=0.35$
Sollecitazioni: $T_z=1644.74$
 $V,Ed=1644.74$ ($V,Ed,G=36.86$, $V,Ed,M=1607.89$) $V_c,Rd=21964.00$ $V,Ed/V_c,Rd=0.07$
- Asta n. 103 (128 129) IPE180 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 1
 $L_{cr}=1.17$ Curva b: $\alpha_{imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=26222.40$ $\lambda_{LT}=0.48$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.60$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=0.99$
CC 18 $My,Ed=-22.59$ $My,b,Rd=5353.59$ $My,Ed/My,b,Rd=0.00$
- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 2
Sollecitazioni: $N,Ed=-22630.70$ $My,Ed=-205.08$
Resistenze: $N_c,Rd=77285.90$ $My,c,Rd=5387.15$ $L=117.00$
 α_{my} , α_{mz} , $\alpha_{LT} = 0.95, 0.95, 0.95$
 $L_{cr}=1.17$ Curva b: $\alpha_{imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=26222.40$ $\lambda_{LT}=0.48$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.60$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=0.99$
 $\lambda_y=15.78$ $N_{cr,y}=1994020.00$ $\lambda_y^*=0.21$ Curva a: $\Phi_y=0.52$ $\chi_y=1.00$
 $\lambda_z=57.01$ $N_{cr,z}=152695.00$ $\lambda_z^*=0.75$ Curva b: $\Phi_z=0.87$ $\chi_z=0.76$
 K_{yy} , K_{yz} , K_{zy} , $K_{zz} = 0.95, 0.77, 0.00, 1.28$
Verifica YY: $0.29 + 0.04 = 0.33$
Verifica ZZ: $0.39 = 0.39$
- Verifica freccia massima carichi totali - CC 20
 $f_{z,L}=0.08$ (L/1437)
- Verifica a compressione (4.2.10) - CC 17 $X_1=0.00$ - Classe 2
Sollecitazioni: $N=-22630.70$ $T_z=701.14$
 $N,Ed=-22630.70$ $N_c,Rd=-80966.20$ $N,Ed/N_c,Rd=0.28$
- Verifica a taglio dir. Z (4.2.17) - CC 1 $X_1=0.00$
Sollecitazioni: $T_z=1660.48$
 $V,Ed=1660.48$ ($V,Ed,G=52.59$, $V,Ed,M=1607.89$) $V_c,Rd=21964.00$ $V,Ed/V_c,Rd=0.08$
- Asta n. 103 (129 130) IPE180 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 1
 $L_{cr}=1.17$ Curva b: $\alpha_{imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=26222.40$ $\lambda_{LT}=0.48$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.60$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=0.99$
CC 18 $My,Ed=-22.59$ $My,b,Rd=5353.59$ $My,Ed/My,b,Rd=0.00$
- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 2
Sollecitazioni: $N,Ed=-22630.70$ $My,Ed=-205.08$
Resistenze: $N_c,Rd=77285.90$ $My,c,Rd=5387.15$ $L=117.00$

Relazione di calcolo

$\alpha_{my}, \alpha_{mz}, \alpha_{LT} = 0.95, 0.95, 0.95$
 $L_{cr}=1.17$ Curva b: $\alpha_{imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=26222.40$ $\lambda_{LT}=0.48$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.60$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=0.99$
 $\lambda_y=15.78$ $N_{cr,y}=1994020.00$ $\lambda^*_y=0.21$ Curva a: $\Phi_y=0.52$ $\chi_y=1.00$
 $\lambda_z=57.01$ $N_{cr,z}=152695.00$ $\lambda^*_z=0.75$ Curva b: $\Phi_z=0.87$ $\chi_z=0.76$
 $K_{yy}, K_{yz}, K_{zy}, K_{zz} = 0.95, 0.77, 0.00, 1.28$
Verifica YY: $0.29 + 0.04 = 0.33$
Verifica ZZ: $0.39 = 0.39$

- Verifica freccia massima carichi totali - CC 20
 $f_{z,L}=0.03$ (L/4421)

- Verifica a compressione (4.2.10) - CC 17 $X_1=0.00$ - Classe 2
Sollecitazioni: $N=-22630.70$ $T_z=701.14$
 $N_{Ed}=-22630.70$ $N_{c,Rd}=-80966.20$ $N_{Ed}/N_{c,Rd}=0.28$

- Verifica a taglio dir. Z (4.2.17) - CC 1 $X_1=0.00$
Sollecitazioni: $T_z=1660.48$
 $V_{Ed}=1660.48$ ($V_{Ed,G}=52.59$, $V_{Ed,M}=1607.89$) $V_{c,Rd}=21964.00$ $V_{Ed}/V_{c,Rd}=0.08$

Asta n. 103 (130 131) IPE180 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 1
 $L_{cr}=1.17$ Curva b: $\alpha_{imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=26222.40$ $\lambda_{LT}=0.48$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.60$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=0.99$
CC 18 $M_{y,Ed}=-22.59$ $M_{y,b,Rd}=5353.59$ $M_{y,Ed}/M_{y,b,Rd}=0.00$

- Verifica di stabilità aste presso-inflesse (4.2.4.1.3.3.2) - CC 17 - Classe 2
Sollecitazioni: $N_{Ed}=-22630.70$ $M_{y,Ed}=-205.08$
Resistenze: $N_{c,Rd}=77285.90$ $M_{y,c,Rd}=5387.15$ $L=117.00$
 $\alpha_{my}, \alpha_{mz}, \alpha_{LT} = 0.95, 0.95, 0.95$
 $L_{cr}=1.17$ Curva b: $\alpha_{imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=26222.40$ $\lambda_{LT}=0.48$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.60$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=0.99$
 $\lambda_y=15.78$ $N_{cr,y}=1994020.00$ $\lambda^*_y=0.21$ Curva a: $\Phi_y=0.52$ $\chi_y=1.00$
 $\lambda_z=57.01$ $N_{cr,z}=152695.00$ $\lambda^*_z=0.75$ Curva b: $\Phi_z=0.87$ $\chi_z=0.76$
 $K_{yy}, K_{yz}, K_{zy}, K_{zz} = 0.95, 0.77, 0.00, 1.28$
Verifica YY: $0.29 + 0.04 = 0.33$
Verifica ZZ: $0.39 = 0.39$

- Verifica freccia massima carichi totali - CC 21
 $f_{z,L}=0.03$ (L/3446)

- Verifica a compressione (4.2.10) - CC 17 $X_1=0.00$ - Classe 2
Sollecitazioni: $N=-22630.70$ $T_z=701.14$
 $N_{Ed}=-22630.70$ $N_{c,Rd}=-80966.20$ $N_{Ed}/N_{c,Rd}=0.28$

- Verifica a taglio dir. Z (4.2.17) - CC 1 $X_1=0.00$
Sollecitazioni: $T_z=1660.48$
 $V_{Ed}=1660.48$ ($V_{Ed,G}=52.59$, $V_{Ed,M}=1607.89$) $V_{c,Rd}=21964.00$ $V_{Ed}/V_{c,Rd}=0.08$

Asta n. 103 (131 132) IPE180 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 1
 $L_{cr}=1.17$ Curva b: $\alpha_{imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=26222.40$ $\lambda_{LT}=0.48$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.60$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=0.99$
CC 18 $M_{y,Ed}=-22.59$ $M_{y,b,Rd}=5353.59$ $M_{y,Ed}/M_{y,b,Rd}=0.00$

- Verifica di stabilità aste presso-inflesse (4.2.4.1.3.3.2) - CC 17 - Classe 2
Sollecitazioni: $N_{Ed}=-22630.70$ $M_{y,Ed}=-205.08$
Resistenze: $N_{c,Rd}=77285.90$ $M_{y,c,Rd}=5387.15$ $L=117.00$
 $\alpha_{my}, \alpha_{mz}, \alpha_{LT} = 0.95, 0.95, 0.95$
 $L_{cr}=1.17$ Curva b: $\alpha_{imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=26222.40$ $\lambda_{LT}=0.48$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.60$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=0.99$
 $\lambda_y=15.78$ $N_{cr,y}=1994020.00$ $\lambda^*_y=0.21$ Curva a: $\Phi_y=0.52$ $\chi_y=1.00$
 $\lambda_z=57.01$ $N_{cr,z}=152695.00$ $\lambda^*_z=0.75$ Curva b: $\Phi_z=0.87$ $\chi_z=0.76$
 $K_{yy}, K_{yz}, K_{zy}, K_{zz} = 0.95, 0.77, 0.00, 1.28$
Verifica YY: $0.29 + 0.04 = 0.33$
Verifica ZZ: $0.39 = 0.39$

- Verifica freccia massima carichi totali - CC 20
 $f_{z,L}=0.09$ (L/1334)

- Verifica a compressione (4.2.10) - CC 17 $X_1=0.00$ - Classe 2
Sollecitazioni: $N=-22630.70$ $T_z=701.14$
 $N_{Ed}=-22630.70$ $N_{c,Rd}=-80966.20$ $N_{Ed}/N_{c,Rd}=0.28$

- Verifica a taglio dir. Z (4.2.17) - CC 1 $X_1=0.00$
Sollecitazioni: $T_z=1660.48$
 $V_{Ed}=1660.48$ ($V_{Ed,G}=52.59$, $V_{Ed,M}=1607.89$) $V_{c,Rd}=21964.00$ $V_{Ed}/V_{c,Rd}=0.08$

Asta n. 103 (132 133) IPE180 Crit. 1

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- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 1
 $L_{cr}=1.17$ Curva b: $\alpha_{imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=26222.40$ $\lambda_{LT}=0.48$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.60$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=0.99$
 CC 18 $M_{y,Ed}=-7.41$ $M_{y,b,Rd}=5353.59$ $M_{y,Ed}/M_{y,b,Rd}=0.00$
 - Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 2
 Sollecitazioni: $N_{Ed}=-22630.70$ $M_{y,Ed}=-66.70$
 Resistenze: $N_{c,Rd}=77285.90$ $M_{y,c,Rd}=5387.15$ $L=117.00$
 $\alpha_{my}, \alpha_{mz}, \alpha_{LT} = 0.95, 0.95, 0.95$
 $L_{cr}=1.17$ Curva b: $\alpha_{imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=26222.40$ $\lambda_{LT}=0.48$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.60$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=0.99$
 $\lambda_y=15.78$ $N_{cr,y}=1994020.00$ $\lambda^*_y=0.21$ Curva a: $\Phi_y=0.52$ $\chi_y=1.00$
 $\lambda_z=57.01$ $N_{cr,z}=152695.00$ $\lambda^*_z=0.75$ Curva b: $\Phi_z=0.87$ $\chi_z=0.76$
 $K_{yy}, K_{yz}, K_{zy}, K_{zz} = 0.95, 0.77, 0.00, 1.28$
 Verifica YY: $0.29 + 0.01 = 0.31$
 Verifica ZZ: $0.39 = 0.39$
 - Verifica freccia massima carichi totali - CC 21
 $f_{z,L}=0.08$ (L/885)
 - Verifica a compressione (4.2.10) - CC 17 $X1=0.00$ - Classe 2
 Sollecitazioni: $N=-22630.70$ $T_z=401.51$
 $N_{Ed}=-22630.70$ $N_{c,Rd}=-80966.20$ $N_{Ed}/N_{c,Rd}=0.28$
 - Verifica a taglio dir. Z (4.2.17) - CC 1 $X1=0.00$
 Sollecitazioni: $T_z=1638.00$
 $V_{Ed}=1638.00$ ($V_{Ed,G}=30.12$, $V_{Ed,M}=1607.89$) $V_{c,Rd}=21964.00$ $V_{Ed}/V_{c,Rd}=0.07$

Asta n. 103 (133 134) IPE180 Crit. 1

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- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 1
 $L_{cr}=1.17$ Curva b: $\alpha_{imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=26222.40$ $\lambda_{LT}=0.48$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.60$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=0.99$
 CC 18 $M_{y,Ed}=-7.41$ $M_{y,b,Rd}=5353.59$ $M_{y,Ed}/M_{y,b,Rd}=0.00$
 - Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 2
 Sollecitazioni: $N_{Ed}=-22630.70$ $M_{y,Ed}=-67.25$
 Resistenze: $N_{c,Rd}=77285.90$ $M_{y,c,Rd}=5387.15$ $L=117.00$
 $\alpha_{my}, \alpha_{mz}, \alpha_{LT} = 0.95, 0.95, 0.95$
 $L_{cr}=1.17$ Curva b: $\alpha_{imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=26222.40$ $\lambda_{LT}=0.48$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.60$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=0.99$
 $\lambda_y=15.78$ $N_{cr,y}=1994020.00$ $\lambda^*_y=0.21$ Curva a: $\Phi_y=0.52$ $\chi_y=1.00$
 $\lambda_z=57.01$ $N_{cr,z}=152695.00$ $\lambda^*_z=0.75$ Curva b: $\Phi_z=0.87$ $\chi_z=0.76$
 $K_{yy}, K_{yz}, K_{zy}, K_{zz} = 0.95, 0.77, 0.00, 1.28$
 Verifica YY: $0.29 + 0.01 = 0.31$
 Verifica ZZ: $0.39 = 0.39$
 - Verifica freccia massima carichi totali - CC 20
 $f_{z,L}=0.08$ (L/885)
 - Verifica a compressione (4.2.10) - CC 17 $X1=0.50$ - Classe 2
 Sollecitazioni: $N=-22630.70$ $T_z=401.51$
 $N_{Ed}=-22630.70$ $N_{c,Rd}=-80966.20$ $N_{Ed}/N_{c,Rd}=0.28$
 - Verifica a taglio dir. Z (4.2.17) - CC 1 $X1=0.50$
 Sollecitazioni: $T_z=1638.00$
 $V_{Ed}=1638.00$ ($V_{Ed,G}=30.12$, $V_{Ed,M}=1607.89$) $V_{c,Rd}=21964.00$ $V_{Ed}/V_{c,Rd}=0.07$

Asta n. 103 (134 135) IPE180 Crit. 1

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- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 1
 $L_{cr}=1.17$ Curva b: $\alpha_{imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=26222.40$ $\lambda_{LT}=0.48$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.60$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=0.99$
 CC 18 $M_{y,Ed}=-22.59$ $M_{y,b,Rd}=5353.59$ $M_{y,Ed}/M_{y,b,Rd}=0.00$
 - Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 2
 Sollecitazioni: $N_{Ed}=-22630.70$ $M_{y,Ed}=-205.08$
 Resistenze: $N_{c,Rd}=77285.90$ $M_{y,c,Rd}=5387.15$ $L=117.00$
 $\alpha_{my}, \alpha_{mz}, \alpha_{LT} = 0.95, 0.95, 0.95$
 $L_{cr}=1.17$ Curva b: $\alpha_{imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=26222.40$ $\lambda_{LT}=0.48$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.60$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=0.99$
 $\lambda_y=15.78$ $N_{cr,y}=1994020.00$ $\lambda^*_y=0.21$ Curva a: $\Phi_y=0.52$ $\chi_y=1.00$
 $\lambda_z=57.01$ $N_{cr,z}=152695.00$ $\lambda^*_z=0.75$ Curva b: $\Phi_z=0.87$ $\chi_z=0.76$
 $K_{yy}, K_{yz}, K_{zy}, K_{zz} = 0.95, 0.77, 0.00, 1.28$
 Verifica YY: $0.29 + 0.04 = 0.33$

Relazione di calcolo

Verifica ZZ: $0.39 = 0.39$

- Verifica freccia massima carichi totali - CC 20
 $f_{z,L}=0.09$ (L/1334)

- Verifica a compressione (4.2.10) - CC 17 $X_1=0.00$ - Classe 2
Sollecitazioni: $N=-22630.70$ $T_x=701.14$
 $N,Ed=-22630.70$ $N_c,Rd=-80966.20$ $N,Ed/N_c,Rd=0.28$

- Verifica a taglio dir. Z (4.2.17) - CC 1 $X_1=0.00$
Sollecitazioni: $T_x=1660.48$
 $V,Ed=1660.48$ ($V,Ed,G=52.59$, $V,Ed,M=1607.89$) $V_c,Rd=21964.00$ $V,Ed/V_c,Rd=0.08$

Asta n. 103 (135 136) IPE180 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 1
 $L_{cr}=1.17$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=26222.40$ $\lambda_{LT}=0.48$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.60$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=0.99$
CC 18 $My,Ed=-22.59$ $My,b,Rd=5353.59$ $My,Ed/My,b,Rd=0.00$

- Verifica di stabilità aste presso-inflesse (4.2.4.1.3.3.2) - CC 17 - Classe 2
Sollecitazioni: $N,Ed=-22630.70$ $My,Ed=-205.08$
Resistenze: $N_c,Rd=77285.90$ $My,c,Rd=5387.15$ $L=117.00$
 α_{my} , α_{mz} , $\alpha_{LT} = 0.95, 0.95, 0.95$
 $L_{cr}=1.17$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=26222.40$ $\lambda_{LT}=0.48$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.60$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=0.99$
 $\lambda_y=15.78$ $N_{cr,y}=1994020.00$ $\lambda^*_y=0.21$ Curva a: $\Phi_y=0.52$ $\chi_y=1.00$
 $\lambda_z=57.01$ $N_{cr,z}=152695.00$ $\lambda^*_z=0.75$ Curva b: $\Phi_z=0.87$ $\chi_z=0.76$
 K_{yy} , K_{yz} , K_{zy} , $K_{zz} = 0.95, 0.77, 0.00, 1.28$
Verifica YY: $0.29 + 0.04 = 0.33$
Verifica ZZ: $0.39 = 0.39$

- Verifica freccia massima carichi totali - CC 20
 $f_{z,L}=0.03$ (L/3451)

- Verifica a compressione (4.2.10) - CC 17 $X_1=0.00$ - Classe 2
Sollecitazioni: $N=-22630.70$ $T_x=701.14$
 $N,Ed=-22630.70$ $N_c,Rd=-80966.20$ $N,Ed/N_c,Rd=0.28$

- Verifica a taglio dir. Z (4.2.17) - CC 1 $X_1=0.00$
Sollecitazioni: $T_x=1660.48$
 $V,Ed=1660.48$ ($V,Ed,G=52.59$, $V,Ed,M=1607.89$) $V_c,Rd=21964.00$ $V,Ed/V_c,Rd=0.08$

Asta n. 103 (136 137) IPE180 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 1
 $L_{cr}=1.17$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=26222.40$ $\lambda_{LT}=0.48$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.60$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=0.99$
CC 18 $My,Ed=-22.59$ $My,b,Rd=5353.59$ $My,Ed/My,b,Rd=0.00$

- Verifica di stabilità aste presso-inflesse (4.2.4.1.3.3.2) - CC 17 - Classe 2
Sollecitazioni: $N,Ed=-22630.70$ $My,Ed=-205.08$
Resistenze: $N_c,Rd=77285.90$ $My,c,Rd=5387.15$ $L=117.00$
 α_{my} , α_{mz} , $\alpha_{LT} = 0.95, 0.95, 0.95$
 $L_{cr}=1.17$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=26222.40$ $\lambda_{LT}=0.48$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.60$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=0.99$
 $\lambda_y=15.78$ $N_{cr,y}=1994020.00$ $\lambda^*_y=0.21$ Curva a: $\Phi_y=0.52$ $\chi_y=1.00$
 $\lambda_z=57.01$ $N_{cr,z}=152695.00$ $\lambda^*_z=0.75$ Curva b: $\Phi_z=0.87$ $\chi_z=0.76$
 K_{yy} , K_{yz} , K_{zy} , $K_{zz} = 0.95, 0.77, 0.00, 1.28$
Verifica YY: $0.29 + 0.04 = 0.33$
Verifica ZZ: $0.39 = 0.39$

- Verifica freccia massima carichi totali - CC 21
 $f_{z,L}=0.03$ (L/4421)

- Verifica a compressione (4.2.10) - CC 17 $X_1=0.00$ - Classe 2
Sollecitazioni: $N=-22630.70$ $T_x=701.14$
 $N,Ed=-22630.70$ $N_c,Rd=-80966.20$ $N,Ed/N_c,Rd=0.28$

- Verifica a taglio dir. Z (4.2.17) - CC 1 $X_1=0.00$
Sollecitazioni: $T_x=1660.48$
 $V,Ed=1660.48$ ($V,Ed,G=52.59$, $V,Ed,M=1607.89$) $V_c,Rd=21964.00$ $V,Ed/V_c,Rd=0.08$

Asta n. 103 (137 138) IPE180 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 1
 $L_{cr}=1.17$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=26222.40$ $\lambda_{LT}=0.48$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.60$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=0.99$
CC 18 $My,Ed=-22.59$ $My,b,Rd=5353.59$ $My,Ed/My,b,Rd=0.00$

- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 2
Sollecitazioni: $N, Ed = -22630.70$ $M_y, Ed = -205.08$
Resistenze: $N_c, Rd = 77285.90$ $M_y, c, Rd = 5387.15$ $L = 117.00$
 $\alpha_{my}, \alpha_{mz}, \alpha_{LT} = 0.95, 0.95, 0.95$
 $L_{cr} = 1.17$ Curva b: $\alpha_{imp} = 0.34$ $k_c = 0.94$ $\psi = 1.75$ $M, cr = 26222.40$ $\lambda_{LT} = 0.48$
 $\lambda_{LT,0} = 0.40$ $\beta_{LT} = 0.75$ $\Phi_{LT} = 0.60$ $\beta_{LT} = 0.75$ $f = 0.98$ $\chi_{LT} = 0.99$
 $\lambda_y = 15.78$ $N_{cr,y} = 1994020.00$ $\lambda^*_{y} = 0.21$ Curva a: $\Phi_y = 0.52$ $\chi_y = 1.00$
 $\lambda_z = 57.01$ $N_{cr,z} = 152695.00$ $\lambda^*_{z} = 0.75$ Curva b: $\Phi_z = 0.87$ $\chi_z = 0.76$
 $K_{yy}, K_{yz}, K_{zy}, K_{zz} = 0.95, 0.77, 0.00, 1.28$
Verifica YY: $0.29 + 0.04 = 0.33$
Verifica ZZ: $0.39 = 0.39$
- Verifica freccia massima carichi totali - CC 20
 $f_{z,L} = 0.08$ (L/1436)
- Verifica a compressione (4.2.10) - CC 17 $X1 = 0.00$ - Classe 2
Sollecitazioni: $N = -22630.70$ $T_z = 701.14$
 $N, Ed = -22630.70$ $N_c, Rd = -80966.20$ $N, Ed/N_c, Rd = 0.28$
- Verifica a taglio dir. Z (4.2.17) - CC 1 $X1 = 0.00$
Sollecitazioni: $T_z = 1660.48$
 $V, Ed = 1660.48$ ($V, Ed, G = 52.59$, $V, Ed, M = 1607.89$) $V_c, Rd = 21964.00$ $V, Ed/V_c, Rd = 0.08$
- Asta n. 103 (138 139) IPE180 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 1
 $L_{cr} = 1.17$ Curva b: $\alpha_{imp} = 0.34$ $k_c = 0.94$ $\psi = 1.75$ $M, cr = 26222.40$ $\lambda_{LT} = 0.48$
 $\lambda_{LT,0} = 0.40$ $\beta_{LT} = 0.75$ $\Phi_{LT} = 0.60$ $\beta_{LT} = 0.75$ $f = 0.98$ $\chi_{LT} = 0.99$
CC 18 $M_y, Ed = -11.10$ $M_y, b, Rd = 5353.59$ $M_y, Ed/M_y, b, Rd = 0.00$
- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 2
Sollecitazioni: $N, Ed = -22630.70$ $M_y, Ed = -100.74$
Resistenze: $N_c, Rd = 77285.90$ $M_y, c, Rd = 5387.15$ $L = 117.00$
 $\alpha_{my}, \alpha_{mz}, \alpha_{LT} = 0.95, 0.95, 0.95$
 $L_{cr} = 1.17$ Curva b: $\alpha_{imp} = 0.34$ $k_c = 0.94$ $\psi = 1.75$ $M, cr = 26222.40$ $\lambda_{LT} = 0.48$
 $\lambda_{LT,0} = 0.40$ $\beta_{LT} = 0.75$ $\Phi_{LT} = 0.60$ $\beta_{LT} = 0.75$ $f = 0.98$ $\chi_{LT} = 0.99$
 $\lambda_y = 15.78$ $N_{cr,y} = 1994020.00$ $\lambda^*_{y} = 0.21$ Curva a: $\Phi_y = 0.52$ $\chi_y = 1.00$
 $\lambda_z = 57.01$ $N_{cr,z} = 152695.00$ $\lambda^*_{z} = 0.75$ Curva b: $\Phi_z = 0.87$ $\chi_z = 0.76$
 $K_{yy}, K_{yz}, K_{zy}, K_{zz} = 0.95, 0.77, 0.00, 1.28$
Verifica YY: $0.29 + 0.02 = 0.31$
Verifica ZZ: $0.39 = 0.39$
- Verifica freccia massima carichi totali - CC 21
 $f_{z,G} = 0.09$ (L/915)
- Verifica a compressione (4.2.10) - CC 17 $X1 = 0.00$ - Classe 2
Sollecitazioni: $N = -22630.70$ $T_z = 491.40$
 $N, Ed = -22630.70$ $N_c, Rd = -80966.20$ $N, Ed/N_c, Rd = 0.28$
- Verifica a taglio dir. Z (4.2.17) - CC 1 $X1 = 0.00$
Sollecitazioni: $T_z = 1644.74$
 $V, Ed = 1644.74$ ($V, Ed, G = 36.86$, $V, Ed, M = 1607.89$) $V_c, Rd = 21964.00$ $V, Ed/V_c, Rd = 0.07$
- Asta n. 104 (140 141) HEB280 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 1
 $L_{cr} = 1.17$ Curva b: $\alpha_{imp} = 0.34$ $k_c = 0.94$ $\psi = 1.75$ $M, cr = 2356720.00$ $\lambda_{LT} = 0.15$
 $\lambda_{LT,0} = 0.40$ $\beta_{LT} = 0.75$ $\Phi_{LT} = 0.47$ $\beta_{LT} = 0.75$ $f = 1.00$ $\chi_{LT} = 1.00$
CC 18 $M_y, Ed = -1238.82$ $M_y, b, Rd = 49689.00$ $M_y, Ed/M_y, b, Rd = 0.02$
- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 1
Sollecitazioni: $N, Ed = -124143.00$ $M_y, Ed = -8256.92$
Resistenze: $N_c, Rd = 423959.00$ $M_y, c, Rd = 49689.00$ $L = 117.00$
 $\alpha_{my}, \alpha_{mz}, \alpha_{LT} = 0.95, 0.95, 0.95$
 $L_{cr} = 1.17$ Curva b: $\alpha_{imp} = 0.34$ $k_c = 0.94$ $\psi = 1.75$ $M, cr = 2356720.00$ $\lambda_{LT} = 0.15$
 $\lambda_{LT,0} = 0.40$ $\beta_{LT} = 0.75$ $\Phi_{LT} = 0.47$ $\beta_{LT} = 0.75$ $f = 1.00$ $\chi_{LT} = 1.00$
 $\lambda_y = 9.66$ $N_{cr,y} = 29177200.00$ $\lambda^*_{y} = 0.13$ Curva b: $\Phi_y = 0.50$ $\chi_y = 1.00$
 $\lambda_z = 16.51$ $N_{cr,z} = 9984610.00$ $\lambda^*_{z} = 0.22$ Curva c: $\Phi_z = 0.53$ $\chi_z = 0.99$
 $K_{yy}, K_{yz}, K_{zy}, K_{zz} = 0.93, 0.54, 0.00, 0.90$
Verifica YY: $0.29 + 0.15 = 0.45$
Verifica ZZ: $0.29 = 0.29$
- Verifica freccia massima carichi totali - CC 21
 $f_{z,L} = 0.07$ (L/1104)
- Verifica a compressione (4.2.10) - CC 17 $X1 = 0.35$ - Classe 1
Sollecitazioni: $N = -124143.00$ $T_z = 10607.50$
 $N, Ed = -124143.00$ $N_c, Rd = -444147.00$ $N, Ed/N_c, Rd = 0.28$

Relazione di calcolo

- Verifica a taglio dir. Z (4.2.17) - CC 1 $X_1=0.35$
Sollecitazioni: $T_z=15957.60$
 $V, Ed=15957.60$ ($V, Ed, G=1127.12$, $V, Ed, M=14830.50$) $V_c, Rd=80224.50$ $V, Ed/V_c, Rd=0.20$

Asta n. 104 (141 142) HEB280 Crit. 1

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- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 1
 $L_{cr}=1.17$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=1.28$ $M, cr=1721890.00$ $\lambda_{LT}=0.18$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.47$ $\beta_{LT}=0.75$ $f=0.99$ $\chi_{LT}=1.00$
CC 18 $M_y, Ed=-2342.41$ $M_y, b, Rd=49689.00$ $M_y, Ed/M_y, b, Rd=0.05$
- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 1
Sollecitazioni: $N, Ed=-124143.00$ $M_y, Ed=-15648.80$
Resistenze: $N_c, Rd=423959.00$ $M_y, c, Rd=49689.00$ $L=117.00$
 α_{my} , α_{mz} , $\alpha_{LT} = 0.95, 0.95, 0.95$
 $L_{cr}=1.17$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=1.28$ $M, cr=1723140.00$ $\lambda_{LT}=0.18$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.47$ $\beta_{LT}=0.75$ $f=0.99$ $\chi_{LT}=1.00$
 $\lambda_y=9.66$ $N_{cr, y}=29177200.00$ $\lambda_y^*=0.13$ Curva b: $\Phi_y=0.50$ $\chi_y=1.00$
 $\lambda_z=16.51$ $N_{cr, z}=9984610.00$ $\lambda_z^*=0.22$ Curva c: $\Phi_z=0.53$ $\chi_z=0.99$
 K_{yy} , K_{yz} , K_{zy} , $K_{zz} = 0.93, 0.54, 0.00, 0.90$
Verifica YY: $0.29 + 0.29 = 0.59$
Verifica ZZ: $0.29 = 0.29$
- Verifica freccia massima carichi totali - CC 20
 $f_{z, L}=0.08$ ($L/1467$)
- Verifica a pressoflessione retta - CC 17 $X_1=1.17$ - Classe 1
Sollecitazioni: $N=-124143.00$ $T_z=5550.65$ $M_y=-15648.80$
 $M_y, Ed=-15648.80$ $M_y, c, Rd=52055.10$
 $N, Ed=-124143.00$ $N_c, Rd=444147.00$ $n = N, Ed/N_c, Rd = 0.28$
 $MN_y, c, Rd=42443.30$ $M_y, Ed/MN_y, c, Rd = 0.37$
- Verifica a taglio dir. Z (4.2.17) - CC 1 $X_1=0.00$
Sollecitazioni: $T_z=15591.30$ $M_y=-865.66$
 $V, Ed=15591.30$ ($V, Ed, G=760.80$, $V, Ed, M=14830.50$) $V_c, Rd=80224.50$ $V, Ed/V_c, Rd=0.19$

Asta n. 104 (142 143) HEB280 Crit. 1

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- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 1
 $L_{cr}=1.17$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=1.06$ $M, cr=1428890.00$ $\lambda_{LT}=0.20$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.48$ $\beta_{LT}=0.75$ $f=0.99$ $\chi_{LT}=1.00$
CC 18 $M_y, Ed=-2677.58$ $M_y, b, Rd=49689.00$ $M_y, Ed/M_y, b, Rd=0.05$
- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 1
Sollecitazioni: $N, Ed=-124143.00$ $M_y, Ed=-17892.80$
Resistenze: $N_c, Rd=423959.00$ $M_y, c, Rd=49689.00$ $L=117.00$
 α_{my} , α_{mz} , $\alpha_{LT} = 0.95, 0.95, 0.95$
 $L_{cr}=1.17$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=1.06$ $M, cr=1429060.00$ $\lambda_{LT}=0.20$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.48$ $\beta_{LT}=0.75$ $f=0.99$ $\chi_{LT}=1.00$
 $\lambda_y=9.66$ $N_{cr, y}=29177200.00$ $\lambda_y^*=0.13$ Curva b: $\Phi_y=0.50$ $\chi_y=1.00$
 $\lambda_z=16.51$ $N_{cr, z}=9984610.00$ $\lambda_z^*=0.22$ Curva c: $\Phi_z=0.53$ $\chi_z=0.99$
 K_{yy} , K_{yz} , K_{zy} , $K_{zz} = 0.93, 0.54, 0.00, 0.90$
Verifica YY: $0.29 + 0.33 = 0.63$
Verifica ZZ: $0.29 = 0.29$
- Verifica freccia massima carichi totali - CC 20
 $f_{z, L}=0.03$ ($L/4362$)
- Verifica a pressoflessione retta - CC 17 $X_1=1.17$ - Classe 1
Sollecitazioni: $N=-124143.00$ $T_z=1150.48$ $M_y=-17892.80$
 $M_y, Ed=-17892.80$ $M_y, c, Rd=52055.10$
 $N, Ed=-124143.00$ $N_c, Rd=444147.00$ $n = N, Ed/N_c, Rd = 0.28$
 $MN_y, c, Rd=42443.30$ $M_y, Ed/MN_y, c, Rd = 0.42$
- Verifica a taglio dir. Z (4.2.17) - CC 1 $X_1=0.00$
Sollecitazioni: $T_z=15132.60$ $M_y=-1636.54$
 $V, Ed=15132.60$ ($V, Ed, G=302.04$, $V, Ed, M=14830.50$) $V_c, Rd=80224.50$ $V, Ed/V_c, Rd=0.19$

Asta n. 104 (143 144) HEB280 Crit. 1

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- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 1
 $L_{cr}=1.17$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=1.08$ $M, cr=1455320.00$ $\lambda_{LT}=0.19$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.48$ $\beta_{LT}=0.75$ $f=0.99$ $\chi_{LT}=1.00$
CC 18 $M_y, Ed=-2677.58$ $M_y, b, Rd=49689.00$ $M_y, Ed/M_y, b, Rd=0.05$
- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 1
Sollecitazioni: $N, Ed=-124143.00$ $M_y, Ed=-17892.80$
Resistenze: $N_c, Rd=423959.00$ $M_y, c, Rd=49689.00$ $L=117.00$

Relazione di calcolo

$\alpha_{my}, \alpha_{mz}, \alpha_{LT} = 0.95, 0.95, 0.95$
 $L_{cr}=1.17$ Curva b: $\alpha_{-imp}=0.34$ $k_c=0.94$ $\psi=1.08$ $M_{cr}=1455690.00$ $\lambda_{LT}=0.19$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.48$ $\beta_{LT}=0.75$ $f=0.99$ $\chi_{LT}=1.00$
 $\lambda_y=9.66$ Ncr,y=29177300.00 $\lambda'_y=0.13$ Curva b: $\Phi_y=0.50$ $\chi_y=1.00$
 $\lambda_z=16.51$ Ncr,z=9984610.00 $\lambda'_z=0.22$ Curva c: $\Phi_z=0.53$ $\chi_z=0.99$
 $K_{yy}, K_{yz}, K_{zy}, K_{zz} = 0.93, 0.54, 0.00, 0.90$
 Verifica YY: $0.29 + 0.33 = 0.63$
 Verifica ZZ: $0.29 = 0.29$

- Verifica freccia massima carichi totali - CC 20
 $f_{z,L}=0.03$ (L/3412)

- Verifica a pressoflessione retta - CC 17 $X_1=0.00$ - Classe 1
 Sollecitazioni: $N=-124143.00$ $T_z=-1714.23$ $M_y=-17892.80$
 $M_y,Ed=-17892.80$ $M_y,c,Rd=52055.10$
 $N,Ed=-124143.00$ $N_c,Rd=444147.00$ $n = N,Ed/N_c,Rd = 0.28$
 $MN_y,c,Rd=42443.30$ $M_y,Ed/MN_y,c,Rd = 0.42$

- Verifica a taglio dir. Z (4.2.17) - CC 1 $X_1=0.00$
 Sollecitazioni: $T_z=14673.80$ $M_y=-1870.68$
 $V,Ed=14673.80$ ($V,Ed,G=-156.72$, $V,Ed,M=14830.50$) $V_c,Rd=80224.50$ $V,Ed/V_c,Rd=0.18$

Asta n. 104 (144 145) HEB280 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 1
 $L_{cr}=1.17$ Curva b: $\alpha_{-imp}=0.34$ $k_c=0.94$ $\psi=1.33$ $M_{cr}=1786970.00$ $\lambda_{LT}=0.17$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.47$ $\beta_{LT}=0.75$ $f=0.99$ $\chi_{LT}=1.00$
 CC 18 $M_y,Ed=-2244.36$ $M_y,b,Rd=49689.00$ $M_y,Ed/M_y,b,Rd=0.05$

- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 1
 Sollecitazioni: $N,Ed=-124143.00$ $M_y,Ed=-14989.30$
 Resistenze: $N_c,Rd=423959.00$ $M_y,c,Rd=49689.00$ $L=117.00$
 $\alpha_{my}, \alpha_{mz}, \alpha_{LT} = 0.95, 0.95, 0.95$
 $L_{cr}=1.17$ Curva b: $\alpha_{-imp}=0.34$ $k_c=0.94$ $\psi=1.33$ $M_{cr}=1788820.00$ $\lambda_{LT}=0.17$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.47$ $\beta_{LT}=0.75$ $f=0.99$ $\chi_{LT}=1.00$
 $\lambda_y=9.66$ Ncr,y=29177200.00 $\lambda'_y=0.13$ Curva b: $\Phi_y=0.50$ $\chi_y=1.00$
 $\lambda_z=16.51$ Ncr,z=9984610.00 $\lambda'_z=0.22$ Curva c: $\Phi_z=0.53$ $\chi_z=0.99$
 $K_{yy}, K_{yz}, K_{zy}, K_{zz} = 0.93, 0.54, 0.00, 0.90$
 Verifica YY: $0.29 + 0.28 = 0.57$
 Verifica ZZ: $0.29 = 0.29$

- Verifica freccia massima carichi totali - CC 20
 $f_{z,L}=0.08$ (L/1378)

- Verifica a pressoflessione retta - CC 17 $X_1=0.00$ - Classe 1
 Sollecitazioni: $N=-124143.00$ $T_z=-6114.40$ $M_y=-14989.30$
 $M_y,Ed=-14989.30$ $M_y,c,Rd=52055.10$
 $N,Ed=-124143.00$ $N_c,Rd=444147.00$ $n = N,Ed/N_c,Rd = 0.28$
 $MN_y,c,Rd=42443.30$ $M_y,Ed/MN_y,c,Rd = 0.35$

- Verifica a taglio dir. Z (4.2.17) - CC 1 $X_1=0.00$
 Sollecitazioni: $T_z=14215.00$ $M_y=-1568.08$
 $V,Ed=14215.00$ ($V,Ed,G=-615.48$, $V,Ed,M=14830.50$) $V_c,Rd=80224.50$ $V,Ed/V_c,Rd=0.18$

Asta n. 104 (145 146) HEB280 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 1
 $L_{cr}=1.17$ Curva b: $\alpha_{-imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=2356720.00$ $\lambda_{LT}=0.15$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.47$ $\beta_{LT}=0.75$ $f=1.00$ $\chi_{LT}=1.00$
 CC 18 $M_y,Ed=-1042.73$ $M_y,b,Rd=49689.00$ $M_y,Ed/M_y,b,Rd=0.02$

- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 1
 Sollecitazioni: $N,Ed=-124143.00$ $M_y,Ed=-6937.82$
 Resistenze: $N_c,Rd=423959.00$ $M_y,c,Rd=49689.00$ $L=117.00$
 $\alpha_{my}, \alpha_{mz}, \alpha_{LT} = 0.95, 0.95, 0.95$
 $L_{cr}=1.17$ Curva b: $\alpha_{-imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=2356720.00$ $\lambda_{LT}=0.15$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.47$ $\beta_{LT}=0.75$ $f=1.00$ $\chi_{LT}=1.00$
 $\lambda_y=9.66$ Ncr,y=29177200.00 $\lambda'_y=0.13$ Curva b: $\Phi_y=0.50$ $\chi_y=1.00$
 $\lambda_z=16.51$ Ncr,z=9984610.00 $\lambda'_z=0.22$ Curva c: $\Phi_z=0.53$ $\chi_z=0.99$
 $K_{yy}, K_{yz}, K_{zy}, K_{zz} = 0.93, 0.54, 0.00, 0.90$
 Verifica YY: $0.29 + 0.13 = 0.42$
 Verifica ZZ: $0.29 = 0.29$

- Verifica freccia massima carichi totali - CC 20
 $f_{z,L}=0.06$ (L/1092)

- Verifica a compressione (4.2.10) - CC 17 $X_1=0.67$ - Classe 1
 Sollecitazioni: $N=-124143.00$ $T_z=-10794.60$
 $N,Ed=-124143.00$ $N_c,Rd=-444147.00$ $N,Ed/N_c,Rd=0.28$

Relazione di calcolo

- Verifica a taglio dir. Z (4.2.17) - CC 1 Xl=0.00
Sollecitazioni: $T_z=13801.20$ $M_y=-728.73$
 $V,Ed=13801.20$ ($V,Ed,G=-1029.29$, $V,Ed,M=14830.50$) $V_c,Rd=80224.50$ $V,Ed/V_c,Rd=0.17$

Asta n. 104 (146 147) HEB280 Crit. 1

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- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 1
 $L_{cr}=1.17$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M,cr=2356720.00$ $\lambda_{LT}=0.15$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.47$ $\beta_{LT}=0.75$ $f=1.00$ $\chi_{LT}=1.00$
CC 18 $M_y,Ed=-1042.73$ $M_y,b,Rd=49689.00$ $M_y,Ed/M_y,b,Rd=0.02$
- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 1
Sollecitazioni: $N,Ed=-124143.00$ $M_y,Ed=-6937.82$
Resistenze: $N_c,Rd=423959.00$ $M_y,c,Rd=49689.00$ $L=117.00$
 α_{my} , α_{mz} , $\alpha_{LT} = 0.95, 0.95, 0.95$
 $L_{cr}=1.17$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M,cr=2356720.00$ $\lambda_{LT}=0.15$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.47$ $\beta_{LT}=0.75$ $f=1.00$ $\chi_{LT}=1.00$
 $\lambda_y=9.66$ $N_{cr,y}=29177300.00$ $\lambda^*_y=0.13$ Curva b: $\Phi_y=0.50$ $\chi_y=1.00$
 $\lambda_z=16.51$ $N_{cr,z}=9984610.00$ $\lambda^*_z=0.22$ Curva c: $\Phi_z=0.53$ $\chi_z=0.99$
 K_{yy} , K_{yz} , K_{zy} , $K_{zz} = 0.93, 0.54, 0.00, 0.90$
Verifica YY: $0.29 + 0.13 = 0.42$
Verifica ZZ: $0.29 = 0.29$
- Verifica freccia massima carichi totali - CC 20
 $f_{z,L}=0.06$ (L/1092)
- Verifica a compressione (4.2.10) - CC 17 Xl=0.50 - Classe 1
Sollecitazioni: $N=-124143.00$ $T_z=10794.60$
 $N,Ed=-124143.00$ $N_c,Rd=-444147.00$ $N,Ed/N_c,Rd=0.28$
- Verifica a taglio dir. Z (4.2.17) - CC 1 Xl=0.50
Sollecitazioni: $T_z=15976.50$
 $V,Ed=15976.50$ ($V,Ed,G=1146.02$, $V,Ed,M=14830.50$) $V_c,Rd=80224.50$ $V,Ed/V_c,Rd=0.20$

Asta n. 104 (147 148) HEB280 Crit. 1

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- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 1
 $L_{cr}=1.17$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=1.33$ $M,cr=1786970.00$ $\lambda_{LT}=0.17$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.47$ $\beta_{LT}=0.75$ $f=0.99$ $\chi_{LT}=1.00$
CC 18 $M_y,Ed=-2244.36$ $M_y,b,Rd=49689.00$ $M_y,Ed/M_y,b,Rd=0.05$
- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 1
Sollecitazioni: $N,Ed=-124143.00$ $M_y,Ed=-14989.30$
Resistenze: $N_c,Rd=423959.00$ $M_y,c,Rd=49689.00$ $L=117.00$
 α_{my} , α_{mz} , $\alpha_{LT} = 0.95, 0.95, 0.95$
 $L_{cr}=1.17$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=1.33$ $M,cr=1788820.00$ $\lambda_{LT}=0.17$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.47$ $\beta_{LT}=0.75$ $f=0.99$ $\chi_{LT}=1.00$
 $\lambda_y=9.66$ $N_{cr,y}=29177200.00$ $\lambda^*_y=0.13$ Curva b: $\Phi_y=0.50$ $\chi_y=1.00$
 $\lambda_z=16.51$ $N_{cr,z}=9984610.00$ $\lambda^*_z=0.22$ Curva c: $\Phi_z=0.53$ $\chi_z=0.99$
 K_{yy} , K_{yz} , K_{zy} , $K_{zz} = 0.93, 0.54, 0.00, 0.90$
Verifica YY: $0.29 + 0.28 = 0.57$
Verifica ZZ: $0.29 = 0.29$
- Verifica freccia massima carichi totali - CC 20
 $f_{z,L}=0.08$ (L/1378)
- Verifica a pressoflessione retta - CC 17 Xl=1.17 - Classe 1
Sollecitazioni: $N=-124143.00$ $T_z=6114.40$ $M_y=-14989.30$
 $M_y,Ed=-14989.30$ $M_y,c,Rd=52055.10$
 $N,Ed=-124143.00$ $N_c,Rd=444147.00$ $n = N,Ed/N_c,Rd = 0.28$
 $MN_y,c,Rd=42443.30$ $M_y,Ed/MN_y,c,Rd = 0.35$
- Verifica a taglio dir. Z (4.2.17) - CC 1 Xl=0.00
Sollecitazioni: $T_z=15649.80$ $M_y=-728.72$
 $V,Ed=15649.80$ ($V,Ed,G=819.32$, $V,Ed,M=14830.50$) $V_c,Rd=80224.50$ $V,Ed/V_c,Rd=0.20$

Asta n. 104 (148 149) HEB280 Crit. 1

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- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 1
 $L_{cr}=1.17$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=1.08$ $M,cr=1455320.00$ $\lambda_{LT}=0.19$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.48$ $\beta_{LT}=0.75$ $f=0.99$ $\chi_{LT}=1.00$
CC 18 $M_y,Ed=-2677.58$ $M_y,b,Rd=49689.00$ $M_y,Ed/M_y,b,Rd=0.05$
- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 1
Sollecitazioni: $N,Ed=-124143.00$ $M_y,Ed=-17892.80$
Resistenze: $N_c,Rd=423959.00$ $M_y,c,Rd=49689.00$ $L=117.00$
 α_{my} , α_{mz} , $\alpha_{LT} = 0.95, 0.95, 0.95$
 $L_{cr}=1.17$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=1.08$ $M,cr=1455690.00$ $\lambda_{LT}=0.19$

Relazione di calcolo

- $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.48$ $\beta_{LT}=0.75$ $f=0.99$ $\chi_{LT}=1.00$
 $\lambda_y=9.66$ $N_{cr,y}=29177200.00$ $\lambda^*_y=0.13$ Curva b: $\Phi_y=0.50$ $\chi_y=1.00$
 $\lambda_z=16.51$ $N_{cr,z}=9984610.00$ $\lambda^*_z=0.22$ Curva c: $\Phi_z=0.53$ $\chi_z=0.99$
 $K_{yy}, K_{yz}, K_{zy}, K_{zz} = 0.93, 0.54, 0.00, 0.90$
Verifica YY: $0.29 + 0.33 = 0.63$
Verifica ZZ: $0.29 = 0.29$
- Verifica freccia massima carichi totali - CC 20
 $f_{z,L}=0.03$ (L/3412)
- Verifica a pressoflessione retta - CC 17 $X_1=1.17$ - Classe 1
Sollecitazioni: $N=-124143.00$ $T_z=1714.23$ $M_y=-17892.80$
 $M_{y,Ed}=-17892.80$ $M_{y,c,Rd}=52055.10$
 $N_{Ed}=-124143.00$ $N_{c,Rd}=444147.00$ $n = N_{Ed}/N_{c,Rd} = 0.28$
 $M_{Ny,c,Rd}=42443.30$ $M_{y,Ed}/M_{Ny,c,Rd} = 0.42$
- Verifica a taglio dir. Z (4.2.17) - CC 1 $X_1=0.00$
Sollecitazioni: $T_z=15191.10$ $M_y=-1568.07$
 $V_{Ed}=15191.10$ ($V_{Ed,G}=360.56$, $V_{Ed,M}=14830.50$) $V_{c,Rd}=80224.50$ $V_{Ed}/V_{c,Rd}=0.19$
- Asta n. 104 (149 150) HEB280 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 1
 $L_{cr}=1.17$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=1.06$ $M_{cr}=1428890.00$ $\lambda_{LT}=0.20$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.48$ $\beta_{LT}=0.75$ $f=0.99$ $\chi_{LT}=1.00$
CC 18 $M_{y,Ed}=-2677.58$ $M_{y,b,Rd}=49689.00$ $M_{y,Ed}/M_{y,b,Rd}=0.05$
- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 1
Sollecitazioni: $N_{Ed}=-124143.00$ $M_{y,Ed}=-17892.80$
Resistenze: $N_{c,Rd}=423959.00$ $M_{y,c,Rd}=49689.00$ $L=117.00$
 $\alpha_{my}, \alpha_{mz}, \alpha_{LT} = 0.95, 0.95, 0.95$
 $L_{cr}=1.17$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=1.06$ $M_{cr}=1429060.00$ $\lambda_{LT}=0.20$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.48$ $\beta_{LT}=0.75$ $f=0.99$ $\chi_{LT}=1.00$
 $\lambda_y=9.66$ $N_{cr,y}=29177200.00$ $\lambda^*_y=0.13$ Curva b: $\Phi_y=0.50$ $\chi_y=1.00$
 $\lambda_z=16.51$ $N_{cr,z}=9984610.00$ $\lambda^*_z=0.22$ Curva c: $\Phi_z=0.53$ $\chi_z=0.99$
 $K_{yy}, K_{yz}, K_{zy}, K_{zz} = 0.93, 0.54, 0.00, 0.90$
Verifica YY: $0.29 + 0.33 = 0.63$
Verifica ZZ: $0.29 = 0.29$
- Verifica freccia massima carichi totali - CC 21
 $f_{z,L}=0.03$ (L/4362)
- Verifica a pressoflessione retta - CC 17 $X_1=0.00$ - Classe 1
Sollecitazioni: $N=-124143.00$ $T_z=-1150.48$ $M_y=-17892.80$
 $M_{y,Ed}=-17892.80$ $M_{y,c,Rd}=52055.10$
 $N_{Ed}=-124143.00$ $N_{c,Rd}=444147.00$ $n = N_{Ed}/N_{c,Rd} = 0.28$
 $M_{Ny,c,Rd}=42443.30$ $M_{y,Ed}/M_{Ny,c,Rd} = 0.42$
- Verifica a taglio dir. Z (4.2.17) - CC 1 $X_1=0.00$
Sollecitazioni: $T_z=14732.30$ $M_y=-1870.68$
 $V_{Ed}=14732.30$ ($V_{Ed,G}=-98.20$, $V_{Ed,M}=14830.50$) $V_{c,Rd}=80224.50$ $V_{Ed}/V_{c,Rd}=0.18$
- Asta n. 104 (150 151) HEB280 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 1
 $L_{cr}=1.17$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=1.28$ $M_{cr}=1721890.00$ $\lambda_{LT}=0.18$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.47$ $\beta_{LT}=0.75$ $f=0.99$ $\chi_{LT}=1.00$
CC 18 $M_{y,Ed}=-2342.41$ $M_{y,b,Rd}=49689.00$ $M_{y,Ed}/M_{y,b,Rd}=0.05$
- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 1
Sollecitazioni: $N_{Ed}=-124143.00$ $M_{y,Ed}=-15648.80$
Resistenze: $N_{c,Rd}=423959.00$ $M_{y,c,Rd}=49689.00$ $L=117.00$
 $\alpha_{my}, \alpha_{mz}, \alpha_{LT} = 0.95, 0.95, 0.95$
 $L_{cr}=1.17$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=1.28$ $M_{cr}=1723140.00$ $\lambda_{LT}=0.18$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.47$ $\beta_{LT}=0.75$ $f=0.99$ $\chi_{LT}=1.00$
 $\lambda_y=9.66$ $N_{cr,y}=29177200.00$ $\lambda^*_y=0.13$ Curva b: $\Phi_y=0.50$ $\chi_y=1.00$
 $\lambda_z=16.51$ $N_{cr,z}=9984610.00$ $\lambda^*_z=0.22$ Curva c: $\Phi_z=0.53$ $\chi_z=0.99$
 $K_{yy}, K_{yz}, K_{zy}, K_{zz} = 0.93, 0.54, 0.00, 0.90$
Verifica YY: $0.29 + 0.29 = 0.59$
Verifica ZZ: $0.29 = 0.29$
- Verifica freccia massima carichi totali - CC 20
 $f_{z,L}=0.08$ (L/1467)
- Verifica a pressoflessione retta - CC 17 $X_1=0.00$ - Classe 1
Sollecitazioni: $N=-124143.00$ $T_z=-5550.65$ $M_y=-15648.80$
 $M_{y,Ed}=-15648.80$ $M_{y,c,Rd}=52055.10$
 $N_{Ed}=-124143.00$ $N_{c,Rd}=444147.00$ $n = N_{Ed}/N_{c,Rd} = 0.28$
 $M_{Ny,c,Rd}=42443.30$ $M_{y,Ed}/M_{Ny,c,Rd} = 0.37$

Relazione di calcolo

- Verifica a taglio dir. Z (4.2.17) - CC 1 Xl=0.00
Sollecitazioni: $T_z=14273.60$ $M_y=-1636.54$
 $V,Ed=14273.60$ ($V,Ed,G=-556.96$, $V,Ed,M=14830.50$) $V_c,Rd=80224.50$ $V,Ed/V_c,Rd=0.18$

Asta n. 104 (151 152) HEB280 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 1
 $L_{cr}=1.17$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=2356720.00$ $\lambda_{LT}=0.15$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.47$ $\beta_{LT}=0.75$ $f=1.00$ $\chi_{LT}=1.00$
CC 18 $M_y,Ed=-1238.82$ $M_y,b,Rd=49689.00$ $M_y,Ed/M_y,b,Rd=0.02$

- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 1
Sollecitazioni: $N,Ed=-124143.00$ $M_y,Ed=-8256.92$
Resistenze: $N_c,Rd=423959.00$ $M_y,c,Rd=49689.00$ $L=117.00$
 α_{my} , α_{mz} , $\alpha_{LT} = 0.95, 0.95, 0.95$
 $L_{cr}=1.17$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=2356720.00$ $\lambda_{LT}=0.15$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.47$ $\beta_{LT}=0.75$ $f=1.00$ $\chi_{LT}=1.00$
 $\lambda_y=9.66$ $N_{cr,y}=29177200.00$ $\lambda^*_y=0.13$ Curva b: $\Phi_y=0.50$ $\chi_y=1.00$
 $\lambda_z=16.51$ $N_{cr,z}=9984610.00$ $\lambda^*_z=0.22$ Curva c: $\Phi_z=0.53$ $\chi_z=0.99$
 K_{yy} , K_{yz} , K_{zy} , $K_{zz} = 0.93, 0.54, 0.00, 0.90$
Verifica YY: $0.29 + 0.15 = 0.45$
Verifica ZZ: $0.29 = 0.29$

- Verifica freccia massima carichi totali - CC 21
 $f_{z,L}=0.07$ (L/1104)

- Verifica a compressione (4.2.10) - CC 17 Xl=0.82 - Classe 1
Sollecitazioni: $N=-124143.00$ $T_z=-10607.50$
 $N,Ed=-124143.00$ $N_c,Rd=-444147.00$ $N,Ed/N_c,Rd=0.28$

- Verifica a taglio dir. Z (4.2.17) - CC 1 Xl=0.00
Sollecitazioni: $T_z=13846.30$ $M_y=-865.66$
 $V,Ed=13846.30$ ($V,Ed,G=-984.25$, $V,Ed,M=14830.50$) $V_c,Rd=80224.50$ $V,Ed/V_c,Rd=0.17$

Asta n. 105 (153 154) IPE180 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 1
 $L_{cr}=1.17$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=26222.40$ $\lambda_{LT}=0.48$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.60$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=0.99$
CC 18 $M_y,Ed=-11.10$ $M_y,b,Rd=5353.59$ $M_y,Ed/M_y,b,Rd=0.00$

- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 2
Sollecitazioni: $N,Ed=-22630.70$ $M_y,Ed=-100.74$
Resistenze: $N_c,Rd=77285.90$ $M_y,c,Rd=5387.15$ $L=117.00$
 α_{my} , α_{mz} , $\alpha_{LT} = 0.95, 0.95, 0.95$
 $L_{cr}=1.17$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=26222.40$ $\lambda_{LT}=0.48$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.60$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=0.99$
 $\lambda_y=15.78$ $N_{cr,y}=1994020.00$ $\lambda^*_y=0.21$ Curva a: $\Phi_y=0.52$ $\chi_y=1.00$
 $\lambda_z=57.01$ $N_{cr,z}=152695.00$ $\lambda^*_z=0.75$ Curva b: $\Phi_z=0.87$ $\chi_z=0.76$
 K_{yy} , K_{yz} , K_{zy} , $K_{zz} = 0.95, 0.77, 0.00, 1.28$
Verifica YY: $0.29 + 0.02 = 0.31$
Verifica ZZ: $0.39 = 0.39$

- Verifica freccia massima carichi totali - CC 20
 $f_{z,G}=0.09$ (L/914)

- Verifica a compressione (4.2.10) - CC 17 Xl=0.35 - Classe 2
Sollecitazioni: $N=-22630.70$ $T_z=491.40$
 $N,Ed=-22630.70$ $N_c,Rd=-80966.20$ $N,Ed/N_c,Rd=0.28$

- Verifica a taglio dir. Z (4.2.17) - CC 1 Xl=0.35
Sollecitazioni: $T_z=1644.74$
 $V,Ed=1644.74$ ($V,Ed,G=36.86$, $V,Ed,M=1607.89$) $V_c,Rd=21964.00$ $V,Ed/V_c,Rd=0.07$

Asta n. 105 (154 155) IPE180 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 1
 $L_{cr}=1.17$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=26222.40$ $\lambda_{LT}=0.48$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.60$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=0.99$
CC 18 $M_y,Ed=-22.59$ $M_y,b,Rd=5353.59$ $M_y,Ed/M_y,b,Rd=0.00$

- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 2
Sollecitazioni: $N,Ed=-22630.70$ $M_y,Ed=-205.08$
Resistenze: $N_c,Rd=77285.90$ $M_y,c,Rd=5387.15$ $L=117.00$
 α_{my} , α_{mz} , $\alpha_{LT} = 0.95, 0.95, 0.95$
 $L_{cr}=1.17$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=26222.40$ $\lambda_{LT}=0.48$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.60$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=0.99$
 $\lambda_y=15.78$ $N_{cr,y}=1994020.00$ $\lambda^*_y=0.21$ Curva a: $\Phi_y=0.52$ $\chi_y=1.00$

Relazione di calcolo

$\lambda_z=57.01$ Ncr,z=152695.00 $\lambda^*_z=0.75$ Curva b: $\Phi_z=0.87$ $\chi_z=0.76$
Kyy, Kyz, Kzy, Kzz = 0.95, 0.77, 0.00, 1.28
Verifica YY: 0.29 + 0.04 = 0.33
Verifica ZZ: 0.39 = 0.39

- Verifica freccia massima carichi totali - CC 21
 $f_{z,L}=0.08$ (L/1435)

- Verifica a compressione (4.2.10) - CC 17 Xl=0.00 - Classe 2
Sollecitazioni: N=-22630.70 $T_z=701.14$
N,Ed=-22630.70 Nc,Rd=-80966.20 N,Ed/Nc,Rd=0.28

- Verifica a taglio dir. Z (4.2.17) - CC 1 Xl=0.00
Sollecitazioni: $T_z=1660.48$
V,Ed=1660.48 (V,Ed,G=52.59, V,Ed,M=1607.89) Vc,Rd=21964.00 V,Ed/Vc,Rd=0.08

Asta n. 105 (155 156) IPE180 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 1
 $L_{cr}=1.17$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=26222.40$ $\lambda_{LT}=0.48$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.60$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=0.99$
CC 18 My,Ed=-22.59 My,b,Rd=5353.59 My,Ed/My,b,Rd=0.00

- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 2
Sollecitazioni: N,Ed=-22630.70 My,Ed=-205.08
Resistenze: Nc,Rd=77285.90 My,c,Rd=5387.15 L=117.00
 $\alpha_{my}, \alpha_{mz}, \alpha_{LT} = 0.95, 0.95, 0.95$
 $L_{cr}=1.17$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=26222.40$ $\lambda_{LT}=0.48$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.60$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=0.99$
 $\lambda_y=15.78$ Ncr,y=1994020.00 $\lambda^*_y=0.21$ Curva a: $\Phi_y=0.52$ $\chi_y=1.00$
 $\lambda_z=57.01$ Ncr,z=152695.00 $\lambda^*_z=0.75$ Curva b: $\Phi_z=0.87$ $\chi_z=0.76$
Kyy, Kyz, Kzy, Kzz = 0.95, 0.77, 0.00, 1.28
Verifica YY: 0.29 + 0.04 = 0.33
Verifica ZZ: 0.39 = 0.39

- Verifica freccia massima carichi totali - CC 21
 $f_{z,L}=0.03$ (L/4413)

- Verifica a compressione (4.2.10) - CC 17 Xl=0.00 - Classe 2
Sollecitazioni: N=-22630.70 $T_z=701.14$
N,Ed=-22630.70 Nc,Rd=-80966.20 N,Ed/Nc,Rd=0.28

- Verifica a taglio dir. Z (4.2.17) - CC 1 Xl=0.00
Sollecitazioni: $T_z=1660.48$
V,Ed=1660.48 (V,Ed,G=52.59, V,Ed,M=1607.89) Vc,Rd=21964.00 V,Ed/Vc,Rd=0.08

Asta n. 105 (156 157) IPE180 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 1
 $L_{cr}=1.17$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=26222.40$ $\lambda_{LT}=0.48$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.60$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=0.99$
CC 18 My,Ed=-22.59 My,b,Rd=5353.59 My,Ed/My,b,Rd=0.00

- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 2
Sollecitazioni: N,Ed=-22630.70 My,Ed=-205.08
Resistenze: Nc,Rd=77285.90 My,c,Rd=5387.15 L=117.00
 $\alpha_{my}, \alpha_{mz}, \alpha_{LT} = 0.95, 0.95, 0.95$
 $L_{cr}=1.17$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=26222.40$ $\lambda_{LT}=0.48$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.60$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=0.99$
 $\lambda_y=15.78$ Ncr,y=1994020.00 $\lambda^*_y=0.21$ Curva a: $\Phi_y=0.52$ $\chi_y=1.00$
 $\lambda_z=57.01$ Ncr,z=152695.00 $\lambda^*_z=0.75$ Curva b: $\Phi_z=0.87$ $\chi_z=0.76$
Kyy, Kyz, Kzy, Kzz = 0.95, 0.77, 0.00, 1.28
Verifica YY: 0.29 + 0.04 = 0.33
Verifica ZZ: 0.39 = 0.39

- Verifica freccia massima carichi totali - CC 20
 $f_{z,L}=0.03$ (L/3451)

- Verifica a compressione (4.2.10) - CC 17 Xl=0.00 - Classe 2
Sollecitazioni: N=-22630.70 $T_z=701.14$
N,Ed=-22630.70 Nc,Rd=-80966.20 N,Ed/Nc,Rd=0.28

- Verifica a taglio dir. Z (4.2.17) - CC 1 Xl=0.00
Sollecitazioni: $T_z=1660.48$
V,Ed=1660.48 (V,Ed,G=52.59, V,Ed,M=1607.89) Vc,Rd=21964.00 V,Ed/Vc,Rd=0.08

Asta n. 105 (157 158) IPE180 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 1

Relazione di calcolo

- $L_{cr}=1.17$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=26222.40$ $\lambda_{LT}=0.48$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.60$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=0.99$
CC 18 $M_{y,Ed}=-22.59$ $M_{y,b,Rd}=5353.59$ $M_{y,Ed}/M_{y,b,Rd}=0.00$
- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 2
Sollecitazioni: $N_{Ed}=-22630.70$ $M_{y,Ed}=-205.08$
Resistenze: $N_{c,Rd}=77285.90$ $M_{y,c,Rd}=5387.15$ $L=117.00$
 α_{my} , α_{mz} , $\alpha_{LT} = 0.95, 0.95, 0.95$
 $L_{cr}=1.17$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=26222.40$ $\lambda_{LT}=0.48$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.60$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=0.99$
 $\lambda_y=15.78$ $N_{cr,y}=1994020.00$ $\lambda^*_y=0.21$ Curva a: $\Phi_y=0.52$ $\chi_y=1.00$
 $\lambda_z=57.01$ $N_{cr,z}=152695.00$ $\lambda^*_z=0.75$ Curva b: $\Phi_z=0.87$ $\chi_z=0.76$
 K_{yy} , K_{yz} , K_{zy} , $K_{zz} = 0.95, 0.77, 0.00, 1.28$
Verifica YY: $0.29 + 0.04 = 0.33$
Verifica ZZ: $0.39 = 0.39$
- Verifica freccia massima carichi totali - CC 20
 $f_{z,L}=0.09$ (L/1335)
- Verifica a compressione (4.2.10) - CC 17 $X_1=0.00$ - Classe 2
Sollecitazioni: $N_{Ed}=-22630.70$ $T_z=701.14$
 $N_{Ed}=-22630.70$ $N_{c,Rd}=80966.20$ $N_{Ed}/N_{c,Rd}=0.28$
- Verifica a taglio dir. Z (4.2.17) - CC 1 $X_1=0.00$
Sollecitazioni: $T_z=1660.48$
 $V_{Ed}=1660.48$ ($V_{Ed,G}=52.59$, $V_{Ed,M}=1607.89$) $V_{c,Rd}=21964.00$ $V_{Ed}/V_{c,Rd}=0.08$
- Asta n. 105 (158 159) IPE180 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 1
 $L_{cr}=1.17$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=26222.40$ $\lambda_{LT}=0.48$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.60$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=0.99$
CC 18 $M_{y,Ed}=-7.41$ $M_{y,b,Rd}=5353.59$ $M_{y,Ed}/M_{y,b,Rd}=0.00$
- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 2
Sollecitazioni: $N_{Ed}=-22630.70$ $M_{y,Ed}=-66.70$
Resistenze: $N_{c,Rd}=77285.90$ $M_{y,c,Rd}=5387.15$ $L=117.00$
 α_{my} , α_{mz} , $\alpha_{LT} = 0.95, 0.95, 0.95$
 $L_{cr}=1.17$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=26222.40$ $\lambda_{LT}=0.48$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.60$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=0.99$
 $\lambda_y=15.78$ $N_{cr,y}=1994020.00$ $\lambda^*_y=0.21$ Curva a: $\Phi_y=0.52$ $\chi_y=1.00$
 $\lambda_z=57.01$ $N_{cr,z}=152695.00$ $\lambda^*_z=0.75$ Curva b: $\Phi_z=0.87$ $\chi_z=0.76$
 K_{yy} , K_{yz} , K_{zy} , $K_{zz} = 0.95, 0.77, 0.00, 1.28$
Verifica YY: $0.29 + 0.01 = 0.31$
Verifica ZZ: $0.39 = 0.39$
- Verifica freccia massima carichi totali - CC 20
 $f_{z,L}=0.08$ (L/884)
- Verifica a compressione (4.2.10) - CC 17 $X_1=0.00$ - Classe 2
Sollecitazioni: $N_{Ed}=-22630.70$ $T_z=401.51$
 $N_{Ed}=-22630.70$ $N_{c,Rd}=80966.20$ $N_{Ed}/N_{c,Rd}=0.28$
- Verifica a taglio dir. Z (4.2.17) - CC 1 $X_1=0.00$
Sollecitazioni: $T_z=1638.00$
 $V_{Ed}=1638.00$ ($V_{Ed,G}=30.12$, $V_{Ed,M}=1607.89$) $V_{c,Rd}=21964.00$ $V_{Ed}/V_{c,Rd}=0.07$
- Asta n. 105 (159 160) IPE180 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 1
 $L_{cr}=1.17$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=26222.40$ $\lambda_{LT}=0.48$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.60$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=0.99$
CC 18 $M_{y,Ed}=-7.41$ $M_{y,b,Rd}=5353.59$ $M_{y,Ed}/M_{y,b,Rd}=0.00$
- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 2
Sollecitazioni: $N_{Ed}=-22630.70$ $M_{y,Ed}=-67.25$
Resistenze: $N_{c,Rd}=77285.90$ $M_{y,c,Rd}=5387.15$ $L=117.00$
 α_{my} , α_{mz} , $\alpha_{LT} = 0.95, 0.95, 0.95$
 $L_{cr}=1.17$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=26222.40$ $\lambda_{LT}=0.48$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.60$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=0.99$
 $\lambda_y=15.78$ $N_{cr,y}=1994020.00$ $\lambda^*_y=0.21$ Curva a: $\Phi_y=0.52$ $\chi_y=1.00$
 $\lambda_z=57.01$ $N_{cr,z}=152695.00$ $\lambda^*_z=0.75$ Curva b: $\Phi_z=0.87$ $\chi_z=0.76$
 K_{yy} , K_{yz} , K_{zy} , $K_{zz} = 0.95, 0.77, 0.00, 1.28$
Verifica YY: $0.29 + 0.01 = 0.31$
Verifica ZZ: $0.39 = 0.39$
- Verifica freccia massima carichi totali - CC 20
 $f_{z,L}=0.08$ (L/884)

Relazione di calcolo

- Verifica a compressione (4.2.10) - CC 17 $X_1=0.50$ - Classe 2
Sollecitazioni: $N=-22630.70$ $T_z=401.51$
 $N,Ed=-22630.70$ $N_c,Rd=-80966.20$ $N,Ed/N_c,Rd=0.28$
- Verifica a taglio dir. Z (4.2.17) - CC 1 $X_1=0.50$
Sollecitazioni: $T_z=1638.00$
 $V,Ed=1638.00$ ($V,Ed,G=30.12$, $V,Ed,M=1607.89$) $V_c,Rd=21964.00$ $V,Ed/V_c,Rd=0.07$

Asta n. 105 (160 161) IPE180 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 1
 $L_{cr}=1.17$ Curva b: $\alpha_{imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=26222.40$ $\lambda_{LT}=0.48$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.60$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=0.99$
CC 18 $My,Ed=-22.59$ $My,b,Rd=5353.59$ $My,Ed/My,b,Rd=0.00$
- Verifica di stabilità aste presso-inflesse (4.2.4.1.3.3.2) - CC 17 - Classe 2
Sollecitazioni: $N,Ed=-22630.70$ $My,Ed=-205.08$
Resistenze: $N_c,Rd=77285.90$ $My,c,Rd=5387.15$ $L=117.00$
 α_{my} , α_{mz} , $\alpha_{LT} = 0.95, 0.95, 0.95$
 $L_{cr}=1.17$ Curva b: $\alpha_{imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=26222.40$ $\lambda_{LT}=0.48$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.60$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=0.99$
 $\lambda_y=15.78$ $N_{cr,y}=1994020.00$ $\lambda_y^*=0.21$ Curva a: $\Phi_y=0.52$ $\chi_y=1.00$
 $\lambda_z=57.01$ $N_{cr,z}=152695.00$ $\lambda_z^*=0.75$ Curva b: $\Phi_z=0.87$ $\chi_z=0.76$
 K_{yy} , K_{yz} , K_{zy} , $K_{zz} = 0.95, 0.77, 0.00, 1.28$
Verifica YY: $0.29 + 0.04 = 0.33$
Verifica ZZ: $0.39 = 0.39$
- Verifica freccia massima carichi totali - CC 21
 $f_{z,L}=0.09$ (L/1334)
- Verifica a compressione (4.2.10) - CC 17 $X_1=0.00$ - Classe 2
Sollecitazioni: $N=-22630.70$ $T_z=701.14$
 $N,Ed=-22630.70$ $N_c,Rd=-80966.20$ $N,Ed/N_c,Rd=0.28$
- Verifica a taglio dir. Z (4.2.17) - CC 1 $X_1=0.00$
Sollecitazioni: $T_z=1660.48$
 $V,Ed=1660.48$ ($V,Ed,G=52.59$, $V,Ed,M=1607.89$) $V_c,Rd=21964.00$ $V,Ed/V_c,Rd=0.08$

Asta n. 105 (161 162) IPE180 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 1
 $L_{cr}=1.17$ Curva b: $\alpha_{imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=26222.40$ $\lambda_{LT}=0.48$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.60$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=0.99$
CC 18 $My,Ed=-22.59$ $My,b,Rd=5353.59$ $My,Ed/My,b,Rd=0.00$
- Verifica di stabilità aste presso-inflesse (4.2.4.1.3.3.2) - CC 17 - Classe 2
Sollecitazioni: $N,Ed=-22630.70$ $My,Ed=-205.08$
Resistenze: $N_c,Rd=77285.90$ $My,c,Rd=5387.15$ $L=117.00$
 α_{my} , α_{mz} , $\alpha_{LT} = 0.95, 0.95, 0.95$
 $L_{cr}=1.17$ Curva b: $\alpha_{imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=26222.40$ $\lambda_{LT}=0.48$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.60$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=0.99$
 $\lambda_y=15.78$ $N_{cr,y}=1994020.00$ $\lambda_y^*=0.21$ Curva a: $\Phi_y=0.52$ $\chi_y=1.00$
 $\lambda_z=57.01$ $N_{cr,z}=152695.00$ $\lambda_z^*=0.75$ Curva b: $\Phi_z=0.87$ $\chi_z=0.76$
 K_{yy} , K_{yz} , K_{zy} , $K_{zz} = 0.95, 0.77, 0.00, 1.28$
Verifica YY: $0.29 + 0.04 = 0.33$
Verifica ZZ: $0.39 = 0.39$
- Verifica freccia massima carichi totali - CC 21
 $f_{z,L}=0.03$ (L/3441)
- Verifica a compressione (4.2.10) - CC 17 $X_1=0.00$ - Classe 2
Sollecitazioni: $N=-22630.70$ $T_z=701.14$
 $N,Ed=-22630.70$ $N_c,Rd=-80966.20$ $N,Ed/N_c,Rd=0.28$
- Verifica a taglio dir. Z (4.2.17) - CC 1 $X_1=0.00$
Sollecitazioni: $T_z=1660.48$
 $V,Ed=1660.48$ ($V,Ed,G=52.59$, $V,Ed,M=1607.89$) $V_c,Rd=21964.00$ $V,Ed/V_c,Rd=0.08$

Asta n. 105 (162 163) IPE180 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 1
 $L_{cr}=1.17$ Curva b: $\alpha_{imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=26222.40$ $\lambda_{LT}=0.48$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.60$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=0.99$
CC 18 $My,Ed=-22.59$ $My,b,Rd=5353.59$ $My,Ed/My,b,Rd=0.00$
- Verifica di stabilità aste presso-inflesse (4.2.4.1.3.3.2) - CC 17 - Classe 2
Sollecitazioni: $N,Ed=-22630.70$ $My,Ed=-205.08$
Resistenze: $N_c,Rd=77285.90$ $My,c,Rd=5387.15$ $L=117.00$

Relazione di calcolo

$\alpha_{my}, \alpha_{mz}, \alpha_{LT} = 0.95, 0.95, 0.95$
 $L_{cr}=1.17$ Curva b: $\alpha_{imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=26222.40$ $\lambda_{LT}=0.48$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.60$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=0.99$
 $\lambda_y=15.78$ $N_{cr,y}=1994020.00$ $\lambda^*_y=0.21$ Curva a: $\Phi_y=0.52$ $\chi_y=1.00$
 $\lambda_z=57.01$ $N_{cr,z}=152695.00$ $\lambda^*_z=0.75$ Curva b: $\Phi_z=0.87$ $\chi_z=0.76$
 $K_{yy}, K_{yz}, K_{zy}, K_{zz} = 0.95, 0.77, 0.00, 1.28$
Verifica YY: $0.29 + 0.04 = 0.33$
Verifica ZZ: $0.39 = 0.39$

- Verifica freccia massima carichi totali - CC 20
 $f_{z,L}=0.03$ (L/4429)

- Verifica a compressione (4.2.10) - CC 17 $X_1=0.00$ - Classe 2
Sollecitazioni: $N=-22630.70$ $T_z=701.14$
 $N_{Ed}=-22630.70$ $N_{c,Rd}=-80966.20$ $N_{Ed}/N_{c,Rd}=0.28$

- Verifica a taglio dir. Z (4.2.17) - CC 1 $X_1=0.00$
Sollecitazioni: $T_z=1660.48$
 $V_{Ed}=1660.48$ ($V_{Ed,G}=52.59$, $V_{Ed,M}=1607.89$) $V_{c,Rd}=21964.00$ $V_{Ed}/V_{c,Rd}=0.08$

Asta n. 105 (163 164) IPE180 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 1
 $L_{cr}=1.17$ Curva b: $\alpha_{imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=26222.40$ $\lambda_{LT}=0.48$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.60$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=0.99$
CC 18 $M_{y,Ed}=-22.59$ $M_{y,b,Rd}=5353.59$ $M_{y,Ed}/M_{y,b,Rd}=0.00$

- Verifica di stabilità aste presso-inflesse (4.2.4.1.3.3.2) - CC 17 - Classe 2
Sollecitazioni: $N_{Ed}=-22630.70$ $M_{y,Ed}=-205.08$
Resistenze: $N_{c,Rd}=77285.90$ $M_{y,c,Rd}=5387.15$ $L=117.00$
 $\alpha_{my}, \alpha_{mz}, \alpha_{LT} = 0.95, 0.95, 0.95$
 $L_{cr}=1.17$ Curva b: $\alpha_{imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=26222.40$ $\lambda_{LT}=0.48$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.60$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=0.99$
 $\lambda_y=15.78$ $N_{cr,y}=1994020.00$ $\lambda^*_y=0.21$ Curva a: $\Phi_y=0.52$ $\chi_y=1.00$
 $\lambda_z=57.01$ $N_{cr,z}=152695.00$ $\lambda^*_z=0.75$ Curva b: $\Phi_z=0.87$ $\chi_z=0.76$
 $K_{yy}, K_{yz}, K_{zy}, K_{zz} = 0.95, 0.77, 0.00, 1.28$
Verifica YY: $0.29 + 0.04 = 0.33$
Verifica ZZ: $0.39 = 0.39$

- Verifica freccia massima carichi totali - CC 20
 $f_{z,L}=0.08$ (L/1436)

- Verifica a compressione (4.2.10) - CC 17 $X_1=0.00$ - Classe 2
Sollecitazioni: $N=-22630.70$ $T_z=701.14$
 $N_{Ed}=-22630.70$ $N_{c,Rd}=-80966.20$ $N_{Ed}/N_{c,Rd}=0.28$

- Verifica a taglio dir. Z (4.2.17) - CC 1 $X_1=0.00$
Sollecitazioni: $T_z=1660.48$
 $V_{Ed}=1660.48$ ($V_{Ed,G}=52.59$, $V_{Ed,M}=1607.89$) $V_{c,Rd}=21964.00$ $V_{Ed}/V_{c,Rd}=0.08$

Asta n. 105 (164 165) IPE180 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 1
 $L_{cr}=1.17$ Curva b: $\alpha_{imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=26222.40$ $\lambda_{LT}=0.48$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.60$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=0.99$
CC 18 $M_{y,Ed}=-11.10$ $M_{y,b,Rd}=5353.59$ $M_{y,Ed}/M_{y,b,Rd}=0.00$

- Verifica di stabilità aste presso-inflesse (4.2.4.1.3.3.2) - CC 17 - Classe 2
Sollecitazioni: $N_{Ed}=-22630.70$ $M_{y,Ed}=-100.74$
Resistenze: $N_{c,Rd}=77285.90$ $M_{y,c,Rd}=5387.15$ $L=117.00$
 $\alpha_{my}, \alpha_{mz}, \alpha_{LT} = 0.95, 0.95, 0.95$
 $L_{cr}=1.17$ Curva b: $\alpha_{imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=26222.40$ $\lambda_{LT}=0.48$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.60$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=0.99$
 $\lambda_y=15.78$ $N_{cr,y}=1994020.00$ $\lambda^*_y=0.21$ Curva a: $\Phi_y=0.52$ $\chi_y=1.00$
 $\lambda_z=57.01$ $N_{cr,z}=152695.00$ $\lambda^*_z=0.75$ Curva b: $\Phi_z=0.87$ $\chi_z=0.76$
 $K_{yy}, K_{yz}, K_{zy}, K_{zz} = 0.95, 0.77, 0.00, 1.28$
Verifica YY: $0.29 + 0.02 = 0.31$
Verifica ZZ: $0.39 = 0.39$

- Verifica freccia massima carichi totali - CC 20
 $f_{z,G}=0.09$ (L/914)

- Verifica a compressione (4.2.10) - CC 17 $X_1=0.00$ - Classe 2
Sollecitazioni: $N=-22630.70$ $T_z=491.40$
 $N_{Ed}=-22630.70$ $N_{c,Rd}=-80966.20$ $N_{Ed}/N_{c,Rd}=0.28$

- Verifica a taglio dir. Z (4.2.17) - CC 1 $X_1=0.00$
Sollecitazioni: $T_z=1644.74$
 $V_{Ed}=1644.74$ ($V_{Ed,G}=36.86$, $V_{Ed,M}=1607.89$) $V_{c,Rd}=21964.00$ $V_{Ed}/V_{c,Rd}=0.07$

Relazione di calcolo

Asta n. 106 (166 167) IPE180 Crit. 1

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- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 1
 $L_{cr}=1.17$ Curva b: $\alpha_{imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=26222.40$ $\lambda_{LT}=0.48$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.60$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=0.99$
CC 18 $M_y, Ed=-11.10$ $M_y, b, Rd=5353.59$ $M_y, Ed/M_y, b, Rd=0.00$
 - Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 2
Sollecitazioni: $N, Ed=-22630.70$ $M_y, Ed=-100.74$
Resistenze: $N_c, Rd=77285.90$ $M_y, c, Rd=5387.15$ $L=117.00$
 $\alpha_{my}, \alpha_{mz}, \alpha_{LT} = 0.95, 0.95, 0.95$
 $L_{cr}=1.17$ Curva b: $\alpha_{imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=26222.40$ $\lambda_{LT}=0.48$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.60$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=0.99$
 $\lambda_y=15.78$ $N_{cr,y}=1994020.00$ $\lambda^*_{y,0.21}$ Curva a: $\Phi_y=0.52$ $\chi_y=1.00$
 $\lambda_z=57.01$ $N_{cr,z}=152695.00$ $\lambda^*_{z,0.75}$ Curva b: $\Phi_z=0.87$ $\chi_z=0.76$
 $K_{yy}, K_{yz}, K_{zy}, K_{zz} = 0.95, 0.77, 0.00, 1.28$
Verifica YY: $0.29 + 0.02 = 0.31$
Verifica ZZ: $0.39 = 0.39$
 - Verifica freccia massima carichi totali - CC 21
 $f_{z,L}=0.09$ (L/920)
 - Verifica a compressione (4.2.10) - CC 17 $X_1=0.35$ - Classe 2
Sollecitazioni: $N=-22630.70$ $T_z=491.40$
 $N, Ed=-22630.70$ $N_c, Rd=-80966.20$ $N, Ed/N_c, Rd=0.28$
 - Verifica a taglio dir. Z (4.2.17) - CC 1 $X_1=0.35$
Sollecitazioni: $T_z=1644.74$
 $V, Ed=1644.74$ ($V, Ed, G=36.86$, $V, Ed, M=1607.89$) $V_c, Rd=21964.00$ $V, Ed/V_c, Rd=0.07$

Asta n. 106 (167 168) IPE180 Crit. 1

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- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 1
 $L_{cr}=1.17$ Curva b: $\alpha_{imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=26222.40$ $\lambda_{LT}=0.48$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.60$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=0.99$
CC 18 $M_y, Ed=-22.59$ $M_y, b, Rd=5353.59$ $M_y, Ed/M_y, b, Rd=0.00$
 - Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 2
Sollecitazioni: $N, Ed=-22630.70$ $M_y, Ed=-205.08$
Resistenze: $N_c, Rd=77285.90$ $M_y, c, Rd=5387.15$ $L=117.00$
 $\alpha_{my}, \alpha_{mz}, \alpha_{LT} = 0.95, 0.95, 0.95$
 $L_{cr}=1.17$ Curva b: $\alpha_{imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=26222.40$ $\lambda_{LT}=0.48$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.60$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=0.99$
 $\lambda_y=15.78$ $N_{cr,y}=1994020.00$ $\lambda^*_{y,0.21}$ Curva a: $\Phi_y=0.52$ $\chi_y=1.00$
 $\lambda_z=57.01$ $N_{cr,z}=152695.00$ $\lambda^*_{z,0.75}$ Curva b: $\Phi_z=0.87$ $\chi_z=0.76$
 $K_{yy}, K_{yz}, K_{zy}, K_{zz} = 0.95, 0.77, 0.00, 1.28$
Verifica YY: $0.29 + 0.04 = 0.33$
Verifica ZZ: $0.39 = 0.39$
 - Verifica freccia massima carichi totali - CC 21
 $f_{z,L}=0.08$ (L/1446)
 - Verifica a compressione (4.2.10) - CC 17 $X_1=0.00$ - Classe 2
Sollecitazioni: $N=-22630.70$ $T_z=701.14$
 $N, Ed=-22630.70$ $N_c, Rd=-80966.20$ $N, Ed/N_c, Rd=0.28$
 - Verifica a taglio dir. Z (4.2.17) - CC 1 $X_1=0.00$
Sollecitazioni: $T_z=1660.48$
 $V, Ed=1660.48$ ($V, Ed, G=52.59$, $V, Ed, M=1607.89$) $V_c, Rd=21964.00$ $V, Ed/V_c, Rd=0.08$

Asta n. 106 (168 169) IPE180 Crit. 1

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- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 1
 $L_{cr}=1.17$ Curva b: $\alpha_{imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=26222.40$ $\lambda_{LT}=0.48$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.60$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=0.99$
CC 18 $M_y, Ed=-22.59$ $M_y, b, Rd=5353.59$ $M_y, Ed/M_y, b, Rd=0.00$
 - Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 2
Sollecitazioni: $N, Ed=-22630.70$ $M_y, Ed=-205.08$
Resistenze: $N_c, Rd=77285.90$ $M_y, c, Rd=5387.15$ $L=117.00$
 $\alpha_{my}, \alpha_{mz}, \alpha_{LT} = 0.95, 0.95, 0.95$
 $L_{cr}=1.17$ Curva b: $\alpha_{imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=26222.40$ $\lambda_{LT}=0.48$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.60$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=0.99$
 $\lambda_y=15.78$ $N_{cr,y}=1994020.00$ $\lambda^*_{y,0.21}$ Curva a: $\Phi_y=0.52$ $\chi_y=1.00$
 $\lambda_z=57.01$ $N_{cr,z}=152695.00$ $\lambda^*_{z,0.75}$ Curva b: $\Phi_z=0.87$ $\chi_z=0.76$
 $K_{yy}, K_{yz}, K_{zy}, K_{zz} = 0.95, 0.77, 0.00, 1.28$
Verifica YY: $0.29 + 0.04 = 0.33$

Relazione di calcolo

Verifica ZZ: $0.39 = 0.39$

- Verifica freccia massima carichi totali - CC 21
 $f_{z,L}=0.03$ (L/4429)

- Verifica a compressione (4.2.10) - CC 17 $X_1=0.00$ - Classe 2
Sollecitazioni: $N=-22630.70$ $T_x=701.14$
 $N,Ed=-22630.70$ $N_c,Rd=-80966.20$ $N,Ed/N_c,Rd=0.28$

- Verifica a taglio dir. Z (4.2.17) - CC 1 $X_1=0.00$
Sollecitazioni: $T_x=1660.48$
 $V,Ed=1660.48$ ($V,Ed,G=52.59$, $V,Ed,M=1607.89$) $V_c,Rd=21964.00$ $V,Ed/V_c,Rd=0.08$

Asta n. 106 (169 170) IPE180 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 1
 $L_{cr}=1.17$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=26222.40$ $\lambda_{LT}=0.48$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.60$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=0.99$
CC 18 $My,Ed=-22.59$ $My,b,Rd=5353.59$ $My,Ed/My,b,Rd=0.00$

- Verifica di stabilità aste presso-inflesse (4.2.4.1.3.3.2) - CC 17 - Classe 2
Sollecitazioni: $N,Ed=-22630.70$ $My,Ed=-205.08$
Resistenze: $N_c,Rd=77285.90$ $My,c,Rd=5387.15$ $L=117.00$
 α_{my} , α_{mz} , $\alpha_{LT} = 0.95, 0.95, 0.95$
 $L_{cr}=1.17$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=26222.40$ $\lambda_{LT}=0.48$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.60$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=0.99$
 $\lambda_y=15.78$ $N_{cr,y}=1994020.00$ $\lambda^*_y=0.21$ Curva a: $\Phi_y=0.52$ $\chi_y=1.00$
 $\lambda_z=57.01$ $N_{cr,z}=152695.00$ $\lambda^*_z=0.75$ Curva b: $\Phi_z=0.87$ $\chi_z=0.76$
 K_{yy} , K_{yz} , K_{zy} , $K_{zz} = 0.95, 0.77, 0.00, 1.28$
Verifica YY: $0.29 + 0.04 = 0.33$
Verifica ZZ: $0.39 = 0.39$

- Verifica freccia massima carichi totali - CC 20
 $f_{z,L}=0.03$ (L/3475)

- Verifica a compressione (4.2.10) - CC 17 $X_1=0.00$ - Classe 2
Sollecitazioni: $N=-22630.70$ $T_x=701.14$
 $N,Ed=-22630.70$ $N_c,Rd=-80966.20$ $N,Ed/N_c,Rd=0.28$

- Verifica a taglio dir. Z (4.2.17) - CC 1 $X_1=0.00$
Sollecitazioni: $T_x=1660.48$
 $V,Ed=1660.48$ ($V,Ed,G=52.59$, $V,Ed,M=1607.89$) $V_c,Rd=21964.00$ $V,Ed/V_c,Rd=0.08$

Asta n. 106 (170 171) IPE180 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 1
 $L_{cr}=1.17$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=26222.40$ $\lambda_{LT}=0.48$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.60$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=0.99$
CC 18 $My,Ed=-22.59$ $My,b,Rd=5353.59$ $My,Ed/My,b,Rd=0.00$

- Verifica di stabilità aste presso-inflesse (4.2.4.1.3.3.2) - CC 17 - Classe 2
Sollecitazioni: $N,Ed=-22630.70$ $My,Ed=-205.08$
Resistenze: $N_c,Rd=77285.90$ $My,c,Rd=5387.15$ $L=117.00$
 α_{my} , α_{mz} , $\alpha_{LT} = 0.95, 0.95, 0.95$
 $L_{cr}=1.17$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=26222.40$ $\lambda_{LT}=0.48$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.60$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=0.99$
 $\lambda_y=15.78$ $N_{cr,y}=1994020.00$ $\lambda^*_y=0.21$ Curva a: $\Phi_y=0.52$ $\chi_y=1.00$
 $\lambda_z=57.01$ $N_{cr,z}=152695.00$ $\lambda^*_z=0.75$ Curva b: $\Phi_z=0.87$ $\chi_z=0.76$
 K_{yy} , K_{yz} , K_{zy} , $K_{zz} = 0.95, 0.77, 0.00, 1.28$
Verifica YY: $0.29 + 0.04 = 0.33$
Verifica ZZ: $0.39 = 0.39$

- Verifica freccia massima carichi totali - CC 20
 $f_{z,L}=0.09$ (L/1345)

- Verifica a compressione (4.2.10) - CC 17 $X_1=0.00$ - Classe 2
Sollecitazioni: $N=-22630.70$ $T_x=701.14$
 $N,Ed=-22630.70$ $N_c,Rd=-80966.20$ $N,Ed/N_c,Rd=0.28$

- Verifica a taglio dir. Z (4.2.17) - CC 1 $X_1=0.00$
Sollecitazioni: $T_x=1660.48$
 $V,Ed=1660.48$ ($V,Ed,G=52.59$, $V,Ed,M=1607.89$) $V_c,Rd=21964.00$ $V,Ed/V_c,Rd=0.08$

Asta n. 106 (171 172) IPE180 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 1
 $L_{cr}=1.17$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=26222.40$ $\lambda_{LT}=0.48$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.60$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=0.99$
CC 18 $My,Ed=-7.41$ $My,b,Rd=5353.59$ $My,Ed/My,b,Rd=0.00$

- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 2
 Sollecitazioni: $N, Ed = -22630.70$ $M_y, Ed = -66.70$
 Resistenze: $N_c, Rd = 77285.90$ $M_y, c, Rd = 5387.15$ $L = 117.00$
 $\alpha_{my}, \alpha_{mz}, \alpha_{LT} = 0.95, 0.95, 0.95$
 $L_{cr} = 1.17$ Curva b: $\alpha_{imp} = 0.34$ $k_c = 0.94$ $\psi = 1.75$ $M, cr = 26222.40$ $\lambda_{LT} = 0.48$
 $\lambda_{LT,0} = 0.40$ $\beta_{LT} = 0.75$ $\Phi_{LT} = 0.60$ $\beta_{LT} = 0.75$ $f = 0.98$ $\chi_{LT} = 0.99$
 $\lambda_y = 15.78$ $N_{cr,y} = 1994020.00$ $\lambda^*_y = 0.21$ Curva a: $\Phi_y = 0.52$ $\chi_y = 1.00$
 $\lambda_z = 57.01$ $N_{cr,z} = 152695.00$ $\lambda^*_z = 0.75$ Curva b: $\Phi_z = 0.87$ $\chi_z = 0.76$
 $K_{yy}, K_{yz}, K_{zy}, K_{zz} = 0.95, 0.77, 0.00, 1.28$
 Verifica YY: $0.29 + 0.01 = 0.31$
 Verifica ZZ: $0.39 = 0.39$

- Verifica freccia massima carichi totali - CC 20
 $f_{z,L} = 0.08$ (L/890)

- Verifica a compressione (4.2.10) - CC 17 $X1 = 0.00$ - Classe 2
 Sollecitazioni: $N = -22630.70$ $T_z = 401.51$
 $N, Ed = -22630.70$ $N_c, Rd = -80966.20$ $N, Ed/N_c, Rd = 0.28$

- Verifica a taglio dir. Z (4.2.17) - CC 1 $X1 = 0.00$
 Sollecitazioni: $T_z = 1638.00$
 $V, Ed = 1638.00$ ($V, Ed, G = 30.12$, $V, Ed, M = 1607.89$) $V_c, Rd = 21964.00$ $V, Ed/V_c, Rd = 0.07$

Asta n. 106 (172 173) IPE180 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 1
 $L_{cr} = 1.17$ Curva b: $\alpha_{imp} = 0.34$ $k_c = 0.94$ $\psi = 1.75$ $M, cr = 26222.40$ $\lambda_{LT} = 0.48$
 $\lambda_{LT,0} = 0.40$ $\beta_{LT} = 0.75$ $\Phi_{LT} = 0.60$ $\beta_{LT} = 0.75$ $f = 0.98$ $\chi_{LT} = 0.99$
 CC 18 $M_y, Ed = -7.41$ $M_y, b, Rd = 5353.59$ $M_y, Ed/M_y, b, Rd = 0.00$

- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 2
 Sollecitazioni: $N, Ed = -22630.70$ $M_y, Ed = -67.25$
 Resistenze: $N_c, Rd = 77285.90$ $M_y, c, Rd = 5387.15$ $L = 117.00$
 $\alpha_{my}, \alpha_{mz}, \alpha_{LT} = 0.95, 0.95, 0.95$
 $L_{cr} = 1.17$ Curva b: $\alpha_{imp} = 0.34$ $k_c = 0.94$ $\psi = 1.75$ $M, cr = 26222.40$ $\lambda_{LT} = 0.48$
 $\lambda_{LT,0} = 0.40$ $\beta_{LT} = 0.75$ $\Phi_{LT} = 0.60$ $\beta_{LT} = 0.75$ $f = 0.98$ $\chi_{LT} = 0.99$
 $\lambda_y = 15.78$ $N_{cr,y} = 1994020.00$ $\lambda^*_y = 0.21$ Curva a: $\Phi_y = 0.52$ $\chi_y = 1.00$
 $\lambda_z = 57.01$ $N_{cr,z} = 152695.00$ $\lambda^*_z = 0.75$ Curva b: $\Phi_z = 0.87$ $\chi_z = 0.76$
 $K_{yy}, K_{yz}, K_{zy}, K_{zz} = 0.95, 0.77, 0.00, 1.28$
 Verifica YY: $0.29 + 0.01 = 0.31$
 Verifica ZZ: $0.39 = 0.39$

- Verifica freccia massima carichi totali - CC 21
 $f_{z,L} = 0.08$ (L/889)

- Verifica a compressione (4.2.10) - CC 17 $X1 = 0.50$ - Classe 2
 Sollecitazioni: $N = -22630.70$ $T_z = 401.51$
 $N, Ed = -22630.70$ $N_c, Rd = -80966.20$ $N, Ed/N_c, Rd = 0.28$

- Verifica a taglio dir. Z (4.2.17) - CC 1 $X1 = 0.50$
 Sollecitazioni: $T_z = 1638.00$
 $V, Ed = 1638.00$ ($V, Ed, G = 30.12$, $V, Ed, M = 1607.89$) $V_c, Rd = 21964.00$ $V, Ed/V_c, Rd = 0.07$

Asta n. 106 (173 174) IPE180 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 1
 $L_{cr} = 1.17$ Curva b: $\alpha_{imp} = 0.34$ $k_c = 0.94$ $\psi = 1.75$ $M, cr = 26222.40$ $\lambda_{LT} = 0.48$
 $\lambda_{LT,0} = 0.40$ $\beta_{LT} = 0.75$ $\Phi_{LT} = 0.60$ $\beta_{LT} = 0.75$ $f = 0.98$ $\chi_{LT} = 0.99$
 CC 18 $M_y, Ed = -22.59$ $M_y, b, Rd = 5353.59$ $M_y, Ed/M_y, b, Rd = 0.00$

- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 2
 Sollecitazioni: $N, Ed = -22630.70$ $M_y, Ed = -205.08$
 Resistenze: $N_c, Rd = 77285.90$ $M_y, c, Rd = 5387.15$ $L = 117.00$
 $\alpha_{my}, \alpha_{mz}, \alpha_{LT} = 0.95, 0.95, 0.95$
 $L_{cr} = 1.17$ Curva b: $\alpha_{imp} = 0.34$ $k_c = 0.94$ $\psi = 1.75$ $M, cr = 26222.40$ $\lambda_{LT} = 0.48$
 $\lambda_{LT,0} = 0.40$ $\beta_{LT} = 0.75$ $\Phi_{LT} = 0.60$ $\beta_{LT} = 0.75$ $f = 0.98$ $\chi_{LT} = 0.99$
 $\lambda_y = 15.78$ $N_{cr,y} = 1994020.00$ $\lambda^*_y = 0.21$ Curva a: $\Phi_y = 0.52$ $\chi_y = 1.00$
 $\lambda_z = 57.01$ $N_{cr,z} = 152695.00$ $\lambda^*_z = 0.75$ Curva b: $\Phi_z = 0.87$ $\chi_z = 0.76$
 $K_{yy}, K_{yz}, K_{zy}, K_{zz} = 0.95, 0.77, 0.00, 1.28$
 Verifica YY: $0.29 + 0.04 = 0.33$
 Verifica ZZ: $0.39 = 0.39$

- Verifica freccia massima carichi totali - CC 21
 $f_{z,L} = 0.09$ (L/1344)

- Verifica a compressione (4.2.10) - CC 17 $X1 = 0.00$ - Classe 2
 Sollecitazioni: $N = -22630.70$ $T_z = 701.14$
 $N, Ed = -22630.70$ $N_c, Rd = -80966.20$ $N, Ed/N_c, Rd = 0.28$

Relazione di calcolo

- Verifica a taglio dir. Z (4.2.17) - CC 1 Xl=0.00
Sollecitazioni: $T_z=1660.48$
 $V, Ed=1660.48$ ($V, Ed, G=52.59$, $V, Ed, M=1607.89$) $V_c, Rd=21964.00$ $V, Ed/V_c, Rd=0.08$

Asta n. 106 (174 175) IPE180 Crit. 1

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- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 1
 $L_{cr}=1.17$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M, cr=26222.40$ $\lambda_{LT}=0.48$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.60$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=0.99$
CC 18 $M_y, Ed=-22.59$ $M_y, b, Rd=5353.59$ $M_y, Ed/M_y, b, Rd=0.00$
- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 2
Sollecitazioni: $N, Ed=-22630.70$ $M_y, Ed=-205.08$
Resistenze: $N_c, Rd=77285.90$ $M_y, c, Rd=5387.15$ $L=117.00$
 $\alpha_m, \alpha_{mz}, \alpha_{LT} = 0.95, 0.95, 0.95$
 $L_{cr}=1.17$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M, cr=26222.40$ $\lambda_{LT}=0.48$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.60$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=0.99$
 $\lambda_y=15.78$ $N_{cr, y}=1994020.00$ $\lambda^*_y=0.21$ Curva a: $\Phi_y=0.52$ $\chi_y=1.00$
 $\lambda_z=57.01$ $N_{cr, z}=152695.00$ $\lambda^*_z=0.75$ Curva b: $\Phi_z=0.87$ $\chi_z=0.76$
 $K_{yy}, K_{yz}, K_{zy}, K_{zz} = 0.95, 0.77, 0.00, 1.28$
Verifica YY: $0.29 + 0.04 = 0.33$
Verifica ZZ: $0.39 = 0.39$
- Verifica freccia massima carichi totali - CC 21
 $f_{z, L}=0.03$ (L/3465)
- Verifica a compressione (4.2.10) - CC 17 Xl=0.00 - Classe 2
Sollecitazioni: $N=-22630.70$ $T_z=701.14$
 $N, Ed=-22630.70$ $N_c, Rd=-80966.20$ $N, Ed/N_c, Rd=0.28$
- Verifica a taglio dir. Z (4.2.17) - CC 1 Xl=0.00
Sollecitazioni: $T_z=1660.48$
 $V, Ed=1660.48$ ($V, Ed, G=52.59$, $V, Ed, M=1607.89$) $V_c, Rd=21964.00$ $V, Ed/V_c, Rd=0.08$

Asta n. 106 (175 176) IPE180 Crit. 1

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- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 1
 $L_{cr}=1.17$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M, cr=26222.40$ $\lambda_{LT}=0.48$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.60$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=0.99$
CC 18 $M_y, Ed=-22.59$ $M_y, b, Rd=5353.59$ $M_y, Ed/M_y, b, Rd=0.00$
- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 2
Sollecitazioni: $N, Ed=-22630.70$ $M_y, Ed=-205.08$
Resistenze: $N_c, Rd=77285.90$ $M_y, c, Rd=5387.15$ $L=117.00$
 $\alpha_m, \alpha_{mz}, \alpha_{LT} = 0.95, 0.95, 0.95$
 $L_{cr}=1.17$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M, cr=26222.40$ $\lambda_{LT}=0.48$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.60$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=0.99$
 $\lambda_y=15.78$ $N_{cr, y}=1994020.00$ $\lambda^*_y=0.21$ Curva a: $\Phi_y=0.52$ $\chi_y=1.00$
 $\lambda_z=57.01$ $N_{cr, z}=152695.00$ $\lambda^*_z=0.75$ Curva b: $\Phi_z=0.87$ $\chi_z=0.76$
 $K_{yy}, K_{yz}, K_{zy}, K_{zz} = 0.95, 0.77, 0.00, 1.28$
Verifica YY: $0.29 + 0.04 = 0.33$
Verifica ZZ: $0.39 = 0.39$
- Verifica freccia massima carichi totali - CC 20
 $f_{z, L}=0.03$ (L/4445)
- Verifica a compressione (4.2.10) - CC 17 Xl=0.00 - Classe 2
Sollecitazioni: $N=-22630.70$ $T_z=701.14$
 $N, Ed=-22630.70$ $N_c, Rd=-80966.20$ $N, Ed/N_c, Rd=0.28$
- Verifica a taglio dir. Z (4.2.17) - CC 1 Xl=0.00
Sollecitazioni: $T_z=1660.48$
 $V, Ed=1660.48$ ($V, Ed, G=52.59$, $V, Ed, M=1607.89$) $V_c, Rd=21964.00$ $V, Ed/V_c, Rd=0.08$

Asta n. 106 (176 177) IPE180 Crit. 1

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- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 1
 $L_{cr}=1.17$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M, cr=26222.40$ $\lambda_{LT}=0.48$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.60$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=0.99$
CC 18 $M_y, Ed=-22.59$ $M_y, b, Rd=5353.59$ $M_y, Ed/M_y, b, Rd=0.00$
- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 2
Sollecitazioni: $N, Ed=-22630.70$ $M_y, Ed=-205.08$
Resistenze: $N_c, Rd=77285.90$ $M_y, c, Rd=5387.15$ $L=117.00$
 $\alpha_m, \alpha_{mz}, \alpha_{LT} = 0.95, 0.95, 0.95$
 $L_{cr}=1.17$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M, cr=26222.40$ $\lambda_{LT}=0.48$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.60$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=0.99$
 $\lambda_y=15.78$ $N_{cr, y}=1994020.00$ $\lambda^*_y=0.21$ Curva a: $\Phi_y=0.52$ $\chi_y=1.00$

Relazione di calcolo

$\lambda_z=57.01$ Ncr,z=152695.00 $\lambda^*_z=0.75$ Curva b: $\Phi_z=0.87$ $\chi_z=0.76$
Kyy, Kyz, Kzy, Kzz = 0.95, 0.77, 0.00, 1.28
Verifica YY: 0.29 + 0.04 = 0.33
Verifica ZZ: 0.39 = 0.39

- Verifica freccia massima carichi totali - CC 20
 $f_{z,L}=0.08$ (L/1448)

- Verifica a compressione (4.2.10) - CC 17 Xl=0.00 - Classe 2
Sollecitazioni: N=-22630.70 Tz=701.14
N,Ed=-22630.70 Nc,Rd=-80966.20 N,Ed/Nc,Rd=0.28

- Verifica a taglio dir. Z (4.2.17) - CC 1 Xl=0.00
Sollecitazioni: Tz=1660.48
V,Ed=1660.48 (V,Ed,G=52.59, V,Ed,M=1607.89) Vc,Rd=21964.00 V,Ed/Vc,Rd=0.08

Asta n. 106 (177 178) IPE180 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 1
Lcr=1.17 Curva b: α -imp=0.34 Kc=0.94 $\psi=1.75$ M,cr=26222.40 $\lambda_{LT}=0.48$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.60$ $\beta_{LT}=0.75$ f=0.98 $\chi_{LT}=0.99$
CC 18 My,Ed=-11.10 My,b,Rd=5353.59 My,Ed/My,b,Rd=0.00

- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 2
Sollecitazioni: N,Ed=-22630.70 My,Ed=-100.74
Resistenze: Nc,Rd=77285.90 My,c,Rd=5387.15 L=117.00
 $\alpha_{my}, \alpha_{mz}, \alpha_{LT} = 0.95, 0.95, 0.95$
Lcr=1.17 Curva b: α -imp=0.34 Kc=0.94 $\psi=1.75$ M,cr=26222.40 $\lambda_{LT}=0.48$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.60$ $\beta_{LT}=0.75$ f=0.98 $\chi_{LT}=0.99$
 $\lambda_y=15.78$ Ncr,y=1994020.00 $\lambda^*_y=0.21$ Curva a: $\Phi_y=0.52$ $\chi_y=1.00$
 $\lambda_z=57.01$ Ncr,z=152695.00 $\lambda^*_z=0.75$ Curva b: $\Phi_z=0.87$ $\chi_z=0.76$
Kyy, Kyz, Kzy, Kzz = 0.95, 0.77, 0.00, 1.28
Verifica YY: 0.29 + 0.02 = 0.31
Verifica ZZ: 0.39 = 0.39

- Verifica freccia massima carichi totali - CC 20
 $f_{z,G}=0.09$ (L/921)

- Verifica a compressione (4.2.10) - CC 17 Xl=0.00 - Classe 2
Sollecitazioni: N=-22630.70 Tz=491.40
N,Ed=-22630.70 Nc,Rd=-80966.20 N,Ed/Nc,Rd=0.28

- Verifica a taglio dir. Z (4.2.17) - CC 1 Xl=0.00
Sollecitazioni: Tz=1644.74
V,Ed=1644.74 (V,Ed,G=36.86, V,Ed,M=1607.89) Vc,Rd=21964.00 V,Ed/Vc,Rd=0.07

Asta n. 107 (179 180) HEA280 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 19 - Classe 3
Lcr=1.17 Curva b: α -imp=0.34 Kc=0.94 $\psi=1.75$ M,cr=1650930.00 $\lambda_{LT}=0.15$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.47$ $\beta_{LT}=0.75$ f=1.00 $\chi_{LT}=1.00$
CC 19 My,Ed=-857.51 My,b,Rd=32688.00 My,Ed/My,b,Rd=0.03

- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 3
Sollecitazioni: N,Ed=-91917.70 My,Ed=-4366.56
Resistenze: Nc,Rd=313908.00 My,c,Rd=32688.00 L=117.00
 $\alpha_{my}, \alpha_{mz}, \alpha_{LT} = 0.95, 0.95, 0.95$
Lcr=1.17 Curva b: α -imp=0.34 Kc=0.94 $\psi=1.75$ M,cr=1650930.00 $\lambda_{LT}=0.15$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.47$ $\beta_{LT}=0.75$ f=1.00 $\chi_{LT}=1.00$
 $\lambda_y=9.87$ Ncr,y=20703000.00 $\lambda^*_y=0.13$ Curva b: $\Phi_y=0.50$ $\chi_y=1.00$
 $\lambda_z=16.72$ Ncr,z=7211000.00 $\lambda^*_z=0.22$ Curva c: $\Phi_z=0.53$ $\chi_z=0.99$
Kyy, Kyz, Kzy, Kzz = 0.97, 0.99, 0.00, 0.99
Verifica YY: 0.29 + 0.13 = 0.42
Verifica ZZ: 0.29 = 0.29

- Verifica freccia massima carichi totali - CC 21
 $f_{z,G}=0.07$ (L/1128)

- Verifica in termini tensionali (4.2.5) - CC 17 Xl=1.17 - Classe 3
Sollecitazioni: N=-91917.70 Tz=5011.54 My=-4366.56
Tensioni: $\sigma_N=-945.00$ $\sigma_M=-431.11$ $\tau=0.00$ $\sigma_{max}=-1376.11$
Tensioni: $\sigma_N=-945.00$ $\sigma_M=0.00$ $\tau=271.65$ $\tau_{max}=271.65$
Tensioni: $\sigma_N=-945.00$ $\sigma_M=-431.11$ $\tau=0.00$ $\sigma_{ID,max}=1376.11$

- Verifica a taglio dir. Z (4.2.17) - CC 1 Xl=0.35
Sollecitazioni: Tz=11558.10
V,Ed=11558.10 (V,Ed,G=794.45, V,Ed,M=10763.60) Vc,Rd=61972.50 V,Ed/Vc,Rd=0.19

Asta n. 107 (180 181) HEA280 Crit. 1

Relazione di calcolo

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- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 19 - Classe 3
L_{cr}=1.17 Curva b: α -imp=0.34 k_c=0.94 ψ =1.28 M_{cr}=1206500.00 λ_{LT} =0.17
 $\lambda_{LT,0}$ =0.40 β_{LT} =0.75 Φ_{LT} =0.47 β_{LT} =0.75 f=0.99 χ_{LT} =1.00
CC 19 My,Ed=-1622.66 My,b,Rd=32688.00 My,Ed/My,b,Rd=0.05
- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 3
Sollecitazioni: N,Ed=-91917.70 My,Ed=-8276.49
Resistenze: N_c,Rd=313908.00 My,c,Rd=32688.00 L=117.00
 α_{my} , α_{mz} , α_{LT} = 0.95, 0.95, 0.95
L_{cr}=1.17 Curva b: α -imp=0.34 k_c=0.94 ψ =1.28 M_{cr}=1207080.00 λ_{LT} =0.17
 $\lambda_{LT,0}$ =0.40 β_{LT} =0.75 Φ_{LT} =0.47 β_{LT} =0.75 f=0.99 χ_{LT} =1.00
 λ_y =9.87 N_{cr,y}=20703000.00 λ'_y =0.13 Curva b: Φ_y =0.50 χ_y =1.00
 λ_z =16.72 N_{cr,z}=7211000.00 λ'_z =0.22 Curva c: Φ_z =0.53 χ_z =0.99
K_{yy}, K_{yz}, K_{zy}, K_{zz} = 0.97, 0.99, 0.00, 0.99
Verifica YY: 0.29 + 0.25 = 0.54
Verifica ZZ: 0.29 = 0.29
- Verifica freccia massima carichi totali - CC 21
f_{z,L}=0.08 (L/1499)
- Verifica in termini tensionali (4.2.5) - CC 17 Xl=1.17 - Classe 3
Sollecitazioni: N=-91917.70 T_z=2894.20 M_y=-8276.49
Tensioni: σ_N =-945.00 σ_M =-817.13 τ =0.00 σ_{max} =-1762.13
Tensioni: σ_N =-945.00 σ_M =0.00 τ =156.88 τ_{max} =156.88
Tensioni: σ_N =-945.00 σ_M =-817.13 τ =0.00 $\sigma_{ID,max}$ =1762.13
- Asta n. 107 (181 182) HEA280 Crit. 1
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- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 19 - Classe 3
L_{cr}=1.17 Curva b: α -imp=0.34 k_c=0.94 ψ =1.06 M_{cr}=1001010.00 λ_{LT} =0.19
 $\lambda_{LT,0}$ =0.40 β_{LT} =0.75 Φ_{LT} =0.48 β_{LT} =0.75 f=0.99 χ_{LT} =1.00
CC 19 My,Ed=-1855.02 My,b,Rd=32688.00 My,Ed/My,b,Rd=0.06
- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 3
Sollecitazioni: N,Ed=-91917.70 My,Ed=-9463.59
Resistenze: N_c,Rd=313908.00 My,c,Rd=32688.00 L=117.00
 α_{my} , α_{mz} , α_{LT} = 0.95, 0.95, 0.95
L_{cr}=1.17 Curva b: α -imp=0.34 k_c=0.94 ψ =1.06 M_{cr}=1001090.00 λ_{LT} =0.19
 $\lambda_{LT,0}$ =0.40 β_{LT} =0.75 Φ_{LT} =0.48 β_{LT} =0.75 f=0.99 χ_{LT} =1.00
 λ_y =9.87 N_{cr,y}=20703000.00 λ'_y =0.13 Curva b: Φ_y =0.50 χ_y =1.00
 λ_z =16.72 N_{cr,z}=7211000.00 λ'_z =0.22 Curva c: Φ_z =0.53 χ_z =0.99
K_{yy}, K_{yz}, K_{zy}, K_{zz} = 0.97, 0.99, 0.00, 0.99
Verifica YY: 0.29 + 0.28 = 0.57
Verifica ZZ: 0.29 = 0.29
- Verifica freccia massima carichi totali - CC 21
f_{z,L}=0.03 (L/4442)
- Verifica in termini tensionali (4.2.5) - CC 17 Xl=1.17 - Classe 3
Sollecitazioni: N=-91917.70 T_z=567.11 M_y=-9463.59
Tensioni: σ_N =-945.00 σ_M =-934.34 τ =0.00 σ_{max} =-1879.34
Tensioni: σ_N =-945.00 σ_M =0.00 τ =30.74 τ_{max} =30.74
Tensioni: σ_N =-945.00 σ_M =-934.34 τ =0.00 $\sigma_{ID,max}$ =1879.34
- Asta n. 107 (182 183) HEA280 Crit. 1
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- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 3
L_{cr}=1.17 Curva b: α -imp=0.34 k_c=0.94 ψ =1.08 M_{cr}=1019570.00 λ_{LT} =0.19
 $\lambda_{LT,0}$ =0.40 β_{LT} =0.75 Φ_{LT} =0.48 β_{LT} =0.75 f=0.99 χ_{LT} =1.00
CC 18 My,Ed=-1855.02 My,b,Rd=32688.00 My,Ed/My,b,Rd=0.06
- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 3
Sollecitazioni: N,Ed=-91917.70 My,Ed=-9463.58
Resistenze: N_c,Rd=313908.00 My,c,Rd=32688.00 L=117.00
 α_{my} , α_{mz} , α_{LT} = 0.95, 0.95, 0.95
L_{cr}=1.17 Curva b: α -imp=0.34 k_c=0.94 ψ =1.08 M_{cr}=1019740.00 λ_{LT} =0.19
 $\lambda_{LT,0}$ =0.40 β_{LT} =0.75 Φ_{LT} =0.48 β_{LT} =0.75 f=0.99 χ_{LT} =1.00
 λ_y =9.87 N_{cr,y}=20703000.00 λ'_y =0.13 Curva b: Φ_y =0.50 χ_y =1.00
 λ_z =16.72 N_{cr,z}=7211010.00 λ'_z =0.22 Curva c: Φ_z =0.53 χ_z =0.99
K_{yy}, K_{yz}, K_{zy}, K_{zz} = 0.97, 0.99, 0.00, 0.99
Verifica YY: 0.29 + 0.28 = 0.57
Verifica ZZ: 0.29 = 0.29
- Verifica freccia massima carichi totali - CC 20
f_{z,L}=0.03 (L/3500)

Relazione di calcolo

- Verifica in termini tensionali (4.2.5) - CC 17 $X_1=0.00$ - Classe 3
Sollecitazioni: $N=-91917.70$ $T_z=-865.24$ $M_y=-9463.58$
Tensioni: $\sigma_N=-945.00$ $\sigma_M=-934.34$ $\tau=0.00$ $\sigma_{\max}=-1879.33$
Tensioni: $\sigma_N=-945.00$ $\sigma_M=0.00$ $\tau=46.90$ $\tau_{\max}=46.90$
Tensioni: $\sigma_N=-945.00$ $\sigma_M=-934.34$ $\tau=0.00$ $\sigma_{ID,\max}=1879.33$

Asta n. 107 (183 184) HEA280 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 3
 $L_{cr}=1.17$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=1.33$ $M_{cr}=1252230.00$ $\lambda_{LT}=0.17$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.47$ $\beta_{LT}=0.75$ $f=0.99$ $\chi_{LT}=1.00$
CC 18 $M_y,Ed=-1554.59$ $M_y,b,Rd=32688.00$ $M_y,Ed/M_y,b,Rd=0.05$

- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 3
Sollecitazioni: $N,Ed=-91917.70$ $M_y,Ed=-7927.64$
Resistenze: $N_c,Rd=313908.00$ $M_y,c,Rd=32688.00$ $L=117.00$
 $\alpha_m, \alpha_{mz}, \alpha_{LT} = 0.95, 0.95, 0.95$
 $L_{cr}=1.17$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=1.33$ $M_{cr}=1253090.00$ $\lambda_{LT}=0.17$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.47$ $\beta_{LT}=0.75$ $f=0.99$ $\chi_{LT}=1.00$
 $\lambda_y=9.87$ $N_{cr,y}=20703000.00$ $\lambda^*_y=0.13$ Curva b: $\Phi_y=0.50$ $\chi_y=1.00$
 $\lambda_z=16.72$ $N_{cr,z}=7211000.00$ $\lambda^*_z=0.22$ Curva c: $\Phi_z=0.53$ $\chi_z=0.99$
 $K_{yy}, K_{yz}, K_{zy}, K_{zz} = 0.97, 0.99, 0.00, 0.99$
Verifica YY: $0.29 + 0.24 = 0.53$
Verifica ZZ: $0.29 = 0.29$

- Verifica freccia massima carichi totali - CC 20
 $f_{z,L}=0.08$ (L/1410)

- Verifica in termini tensionali (4.2.5) - CC 17 $X_1=0.00$ - Classe 3
Sollecitazioni: $N=-91917.70$ $T_z=-3192.33$ $M_y=-7927.64$
Tensioni: $\sigma_N=-945.00$ $\sigma_M=-782.69$ $\tau=0.00$ $\sigma_{\max}=-1727.69$
Tensioni: $\sigma_N=-945.00$ $\sigma_M=0.00$ $\tau=173.04$ $\tau_{\max}=173.04$
Tensioni: $\sigma_N=-945.00$ $\sigma_M=-782.69$ $\tau=0.00$ $\sigma_{ID,\max}=1727.69$

Asta n. 107 (184 185) HEA280 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 3
 $L_{cr}=1.17$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=1650930.00$ $\lambda_{LT}=0.15$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.47$ $\beta_{LT}=0.75$ $f=1.00$ $\chi_{LT}=1.00$
CC 18 $M_y,Ed=-721.36$ $M_y,b,Rd=32688.00$ $M_y,Ed/M_y,b,Rd=0.02$

- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 3
Sollecitazioni: $N,Ed=-91917.70$ $M_y,Ed=-3668.90$
Resistenze: $N_c,Rd=313908.00$ $M_y,c,Rd=32688.00$ $L=117.00$
 $\alpha_m, \alpha_{mz}, \alpha_{LT} = 0.95, 0.95, 0.95$
 $L_{cr}=1.17$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=1650930.00$ $\lambda_{LT}=0.15$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.47$ $\beta_{LT}=0.75$ $f=1.00$ $\chi_{LT}=1.00$
 $\lambda_y=9.87$ $N_{cr,y}=20703000.00$ $\lambda^*_y=0.13$ Curva b: $\Phi_y=0.50$ $\chi_y=1.00$
 $\lambda_z=16.72$ $N_{cr,z}=7211000.00$ $\lambda^*_z=0.22$ Curva c: $\Phi_z=0.53$ $\chi_z=0.99$
 $K_{yy}, K_{yz}, K_{zy}, K_{zz} = 0.97, 0.99, 0.00, 0.99$
Verifica YY: $0.29 + 0.11 = 0.40$
Verifica ZZ: $0.29 = 0.29$

- Verifica freccia massima carichi totali - CC 20
 $f_{z,L}=0.06$ (L/1117)

- Verifica in termini tensionali (4.2.5) - CC 17 $X_1=0.00$ - Classe 3
Sollecitazioni: $N=-91917.70$ $T_z=-5219.78$ $M_y=-3668.90$
Tensioni: $\sigma_N=-945.00$ $\sigma_M=-362.23$ $\tau=0.00$ $\sigma_{\max}=-1307.23$
Tensioni: $\sigma_N=-945.00$ $\sigma_M=0.00$ $\tau=282.94$ $\tau_{\max}=282.94$
Tensioni: $\sigma_N=-945.00$ $\sigma_M=-362.23$ $\tau=0.00$ $\sigma_{ID,\max}=1307.23$

- Verifica a taglio dir. Z (4.2.17) - CC 1 $X_1=0.67$
Sollecitazioni: $T_z=9959.74$
 $V,Ed=9959.74$ ($V,Ed,G=-803.90$, $V,Ed,M=10763.60$) $V_c,Rd=61972.50$ $V,Ed/V_c,Rd=0.16$

Asta n. 107 (185 186) HEA280 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 19 - Classe 3
 $L_{cr}=1.17$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=1650940.00$ $\lambda_{LT}=0.15$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.47$ $\beta_{LT}=0.75$ $f=1.00$ $\chi_{LT}=1.00$
CC 19 $M_y,Ed=-721.36$ $M_y,b,Rd=32688.00$ $M_y,Ed/M_y,b,Rd=0.02$

- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 3
Sollecitazioni: $N,Ed=-91917.70$ $M_y,Ed=-3668.89$
Resistenze: $N_c,Rd=313908.00$ $M_y,c,Rd=32688.00$ $L=117.00$
 $\alpha_m, \alpha_{mz}, \alpha_{LT} = 0.95, 0.95, 0.95$

Relazione di calcolo

$L_{cr}=1.17$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=1650940.00$ $\lambda_{LT}=0.15$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.47$ $\beta_{LT}=0.75$ $f=1.00$ $\chi_{LT}=1.00$
 $\lambda_y=9.87$ Ncr,y=20703100.00 $\lambda'_y=0.13$ Curva b: $\Phi_y=0.50$ $\chi_y=1.00$
 $\lambda_z=16.72$ Ncr,z=7211010.00 $\lambda'_z=0.22$ Curva c: $\Phi_z=0.53$ $\chi_z=0.99$
 $K_{yy}, K_{yz}, K_{zy}, K_{zz} = 0.97, 0.99, 0.00, 0.99$
 Verifica YY: $0.29 + 0.11 = 0.40$
 Verifica ZZ: $0.29 = 0.29$

- Verifica freccia massima carichi totali - CC 21
 $f_{z,G}=0.06$ (L/1116)

- Verifica in termini tensionali (4.2.5) - CC 17 $X1=1.17$ - Classe 3
 Sollecitazioni: $N=-91917.70$ $T_z=5219.78$ $M_y=-3668.89$
 Tensioni: $\sigma_N=-945.00$ $\sigma_M=-362.23$ $\tau=0.00$ $\sigma_{max}=-1307.23$
 Tensioni: $\sigma_N=-945.00$ $\sigma_M=0.00$ $\tau=282.94$ $\tau_{max}=282.94$
 Tensioni: $\sigma_N=-945.00$ $\sigma_M=-362.23$ $\tau=0.00$ $\sigma_{ID,max}=1307.23$

- Verifica a taglio dir. Z (4.2.17) - CC 1 $X1=0.50$
 Sollecitazioni: $T_z=11567.50$
 $V_{Ed}=11567.50$ ($V_{Ed,G}=803.90$, $V_{Ed,M}=10763.60$) $V_c,Rd=61972.50$ $V_{Ed}/V_c,Rd=0.19$

Asta n. 107 (186 187) HEA280 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 19 - Classe 3
 $L_{cr}=1.17$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=1.33$ $M_{cr}=1252230.00$ $\lambda_{LT}=0.17$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.47$ $\beta_{LT}=0.75$ $f=0.99$ $\chi_{LT}=1.00$
 CC 19 $M_y,Ed=-1554.59$ $M_y,b,Rd=32688.00$ $M_y,Ed/M_y,b,Rd=0.05$

- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 3
 Sollecitazioni: $N,Ed=-91917.70$ $M_y,Ed=-7927.64$
 Resistenze: $N_c,Rd=313908.00$ $M_y,c,Rd=32688.00$ $L=117.00$
 $\alpha_{my}, \alpha_{mz}, \alpha_{LT} = 0.95, 0.95, 0.95$
 $L_{cr}=1.17$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=1.33$ $M_{cr}=1253090.00$ $\lambda_{LT}=0.17$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.47$ $\beta_{LT}=0.75$ $f=0.99$ $\chi_{LT}=1.00$
 $\lambda_y=9.87$ Ncr,y=20703000.00 $\lambda'_y=0.13$ Curva b: $\Phi_y=0.50$ $\chi_y=1.00$
 $\lambda_z=16.72$ Ncr,z=7211000.00 $\lambda'_z=0.22$ Curva c: $\Phi_z=0.53$ $\chi_z=0.99$
 $K_{yy}, K_{yz}, K_{zy}, K_{zz} = 0.97, 0.99, 0.00, 0.99$
 Verifica YY: $0.29 + 0.24 = 0.53$
 Verifica ZZ: $0.29 = 0.29$

- Verifica freccia massima carichi totali - CC 21
 $f_{z,L}=0.08$ (L/1408)

- Verifica in termini tensionali (4.2.5) - CC 17 $X1=1.17$ - Classe 3
 Sollecitazioni: $N=-91917.70$ $T_z=3192.33$ $M_y=-7927.64$
 Tensioni: $\sigma_N=-945.00$ $\sigma_M=-782.69$ $\tau=0.00$ $\sigma_{max}=-1727.69$
 Tensioni: $\sigma_N=-945.00$ $\sigma_M=0.00$ $\tau=173.04$ $\tau_{max}=173.04$
 Tensioni: $\sigma_N=-945.00$ $\sigma_M=-782.69$ $\tau=0.00$ $\sigma_{ID,max}=1727.69$

Asta n. 107 (187 188) HEA280 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 19 - Classe 3
 $L_{cr}=1.17$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=1.08$ $M_{cr}=1019570.00$ $\lambda_{LT}=0.19$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.48$ $\beta_{LT}=0.75$ $f=0.99$ $\chi_{LT}=1.00$
 CC 19 $M_y,Ed=-1855.02$ $M_y,b,Rd=32688.00$ $M_y,Ed/M_y,b,Rd=0.06$

- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 3
 Sollecitazioni: $N,Ed=-91917.70$ $M_y,Ed=-9463.58$
 Resistenze: $N_c,Rd=313908.00$ $M_y,c,Rd=32688.00$ $L=117.00$
 $\alpha_{my}, \alpha_{mz}, \alpha_{LT} = 0.95, 0.95, 0.95$
 $L_{cr}=1.17$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=1.08$ $M_{cr}=1019740.00$ $\lambda_{LT}=0.19$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.48$ $\beta_{LT}=0.75$ $f=0.99$ $\chi_{LT}=1.00$
 $\lambda_y=9.87$ Ncr,y=20703000.00 $\lambda'_y=0.13$ Curva b: $\Phi_y=0.50$ $\chi_y=1.00$
 $\lambda_z=16.72$ Ncr,z=7211000.00 $\lambda'_z=0.22$ Curva c: $\Phi_z=0.53$ $\chi_z=0.99$
 $K_{yy}, K_{yz}, K_{zy}, K_{zz} = 0.97, 0.99, 0.00, 0.99$
 Verifica YY: $0.29 + 0.28 = 0.57$
 Verifica ZZ: $0.29 = 0.29$

- Verifica freccia massima carichi totali - CC 21
 $f_{z,L}=0.03$ (L/3485)

- Verifica in termini tensionali (4.2.5) - CC 17 $X1=1.17$ - Classe 3
 Sollecitazioni: $N=-91917.70$ $T_z=865.24$ $M_y=-9463.58$
 Tensioni: $\sigma_N=-945.00$ $\sigma_M=-934.34$ $\tau=0.00$ $\sigma_{max}=-1879.33$
 Tensioni: $\sigma_N=-945.00$ $\sigma_M=0.00$ $\tau=46.90$ $\tau_{max}=46.90$
 Tensioni: $\sigma_N=-945.00$ $\sigma_M=-934.34$ $\tau=0.00$ $\sigma_{ID,max}=1879.33$

Relazione di calcolo

Asta n. 107 (188 189) HEA280 Crit. 1

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- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 3
L_{cr}=1.17 Curva b: α -imp=0.34 k_c=0.94 ψ =1.06 M_{cr}=1001010.00 λ_{LT} =0.19
 $\lambda_{LT,0}$ =0.40 β_{LT} =0.75 Φ_{LT} =0.48 β_{LT} =0.75 f=0.99 χ_{LT} =1.00
CC 18 My,Ed=-1855.02 My,b,Rd=32688.00 My,Ed/My,b,Rd=0.06
- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 3
Sollecitazioni: N,Ed=-91917.70 My,Ed=-9463.59
Resistenze: Nc,Rd=313908.00 My,c,Rd=32688.00 L=117.00
 α_{my} , α_{mz} , α_{LT} = 0.95, 0.95, 0.95
L_{cr}=1.17 Curva b: α -imp=0.34 k_c=0.94 ψ =1.06 M_{cr}=1001090.00 λ_{LT} =0.19
 $\lambda_{LT,0}$ =0.40 β_{LT} =0.75 Φ_{LT} =0.48 β_{LT} =0.75 f=0.99 χ_{LT} =1.00
 λ_y =9.87 Ncr,y=20703000.00 λ^*_y =0.13 Curva b: Φ_y =0.50 χ_y =1.00
 λ_z =16.72 Ncr,z=7211000.00 λ^*_z =0.22 Curva c: Φ_z =0.53 χ_z =0.99
Kyy, Kyz, Kzy, Kzz = 0.97, 0.99, 0.00, 0.99
Verifica YY: 0.29 + 0.28 = 0.57
Verifica ZZ: 0.29 = 0.29
- Verifica freccia massima carichi totali - CC 20
f_{z,L}=0.03 (L/4465)

- Verifica in termini tensionali (4.2.5) - CC 17 Xl=0.00 - Classe 3
Sollecitazioni: N=-91917.70 T_z=-567.11 M_y=-9463.59
Tensioni: σ_N =-945.00 σ_M =-934.34 τ =0.00 σ_{max} =-1879.34
Tensioni: σ_N =-945.00 σ_M =0.00 τ =30.74 τ_{max} =30.74
Tensioni: σ_N =-945.00 σ_M =-934.34 τ =0.00 $\sigma_{ID,max}$ =1879.34

Asta n. 107 (189 190) HEA280 Crit. 1

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- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 3
L_{cr}=1.17 Curva b: α -imp=0.34 k_c=0.94 ψ =1.28 M_{cr}=1206500.00 λ_{LT} =0.17
 $\lambda_{LT,0}$ =0.40 β_{LT} =0.75 Φ_{LT} =0.47 β_{LT} =0.75 f=0.99 χ_{LT} =1.00
CC 18 My,Ed=-1622.66 My,b,Rd=32688.00 My,Ed/My,b,Rd=0.05
- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 3
Sollecitazioni: N,Ed=-91917.70 My,Ed=-8276.49
Resistenze: Nc,Rd=313908.00 My,c,Rd=32688.00 L=117.00
 α_{my} , α_{mz} , α_{LT} = 0.95, 0.95, 0.95
L_{cr}=1.17 Curva b: α -imp=0.34 k_c=0.94 ψ =1.28 M_{cr}=1207080.00 λ_{LT} =0.17
 $\lambda_{LT,0}$ =0.40 β_{LT} =0.75 Φ_{LT} =0.47 β_{LT} =0.75 f=0.99 χ_{LT} =1.00
 λ_y =9.87 Ncr,y=20703000.00 λ^*_y =0.13 Curva b: Φ_y =0.50 χ_y =1.00
 λ_z =16.72 Ncr,z=7211000.00 λ^*_z =0.22 Curva c: Φ_z =0.53 χ_z =0.99
Kyy, Kyz, Kzy, Kzz = 0.97, 0.99, 0.00, 0.99
Verifica YY: 0.29 + 0.25 = 0.54
Verifica ZZ: 0.29 = 0.29
- Verifica freccia massima carichi totali - CC 20
f_{z,L}=0.08 (L/1502)
- Verifica in termini tensionali (4.2.5) - CC 17 Xl=0.00 - Classe 3
Sollecitazioni: N=-91917.70 T_z=-2894.20 M_y=-8276.49
Tensioni: σ_N =-945.00 σ_M =-817.13 τ =0.00 σ_{max} =-1762.13
Tensioni: σ_N =-945.00 σ_M =0.00 τ =156.88 τ_{max} =156.88
Tensioni: σ_N =-945.00 σ_M =-817.13 τ =0.00 $\sigma_{ID,max}$ =1762.13

Asta n. 107 (190 191) HEA280 Crit. 1

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- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 3
L_{cr}=1.17 Curva b: α -imp=0.34 k_c=0.94 ψ =1.75 M_{cr}=1650930.00 λ_{LT} =0.15
 $\lambda_{LT,0}$ =0.40 β_{LT} =0.75 Φ_{LT} =0.47 β_{LT} =0.75 f=1.00 χ_{LT} =1.00
CC 18 My,Ed=-857.51 My,b,Rd=32688.00 My,Ed/My,b,Rd=0.03
- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 3
Sollecitazioni: N,Ed=-91917.70 My,Ed=-4366.56
Resistenze: Nc,Rd=313908.00 My,c,Rd=32688.00 L=117.00
 α_{my} , α_{mz} , α_{LT} = 0.95, 0.95, 0.95
L_{cr}=1.17 Curva b: α -imp=0.34 k_c=0.94 ψ =1.75 M_{cr}=1650930.00 λ_{LT} =0.15
 $\lambda_{LT,0}$ =0.40 β_{LT} =0.75 Φ_{LT} =0.47 β_{LT} =0.75 f=1.00 χ_{LT} =1.00
 λ_y =9.87 Ncr,y=20703000.00 λ^*_y =0.13 Curva b: Φ_y =0.50 χ_y =1.00
 λ_z =16.72 Ncr,z=7211000.00 λ^*_z =0.22 Curva c: Φ_z =0.53 χ_z =0.99
Kyy, Kyz, Kzy, Kzz = 0.97, 0.99, 0.00, 0.99
Verifica YY: 0.29 + 0.13 = 0.42
Verifica ZZ: 0.29 = 0.29
- Verifica freccia massima carichi totali - CC 20
f_{z,G}=0.07 (L/1129)

Relazione di calcolo

- Verifica in termini tensionali (4.2.5) - CC 17 $X_1=0.00$ - Classe 3
Sollecitazioni: $N=-91917.70$ $T_z=-5011.54$ $M_y=-4366.56$
Tensioni: $\sigma_N=-945.00$ $\sigma_M=-431.11$ $\tau=0.00$ $\sigma_{\max}=-1376.11$
Tensioni: $\sigma_N=-945.00$ $\sigma_M=0.00$ $\tau=271.65$ $\tau_{\max}=271.65$
Tensioni: $\sigma_N=-945.00$ $\sigma_M=-431.11$ $\tau=0.00$ $\sigma_{ID,\max}=1376.11$
- Verifica a taglio dir. Z (4.2.17) - CC 1 $X_1=0.82$
Sollecitazioni: $T_z=9969.19$
 $V,Ed=9969.19$ ($V,Ed,G=-794.45$, $V,Ed,M=10763.60$) $V_c,Rd=61972.50$ $V,Ed/V_c,Rd=0.16$

Asta n. 108 (101 114) IPE180 Crit. 1

- - Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 19 - Classe 1
 $L_{cr}=0.79$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=2.36$ $M_{cr}=72367.30$ $\lambda_{LT}=0.29$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.51$ $\beta_{LT}=0.75$ $f=0.99$ $\chi_{LT}=1.00$
CC 19 $M_y,Ed=3.88$ $M_y,b,Rd=5387.15$ $M_y,Ed/M_y,b,Rd=0.00$
- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 2
Sollecitazioni: $N,Ed=-22630.70$ $M_y,Ed=-5.01$
Resistenze: $N_c,Rd=77285.90$ $M_y,c,Rd=5387.15$ $L=79.00$
 α_{my} , α_{mz} , $\alpha_{LT} = 0.95, 0.95, 0.95$
 $L_{cr}=0.79$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=2.81$ $M_{cr}=86110.40$ $\lambda_{LT}=0.26$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.50$ $\beta_{LT}=0.75$ $f=0.99$ $\chi_{LT}=1.00$
 $\lambda_y=10.65$ $N_{cr,y}=4373670.00$ $\lambda^*_y=0.14$ Curva a: $\Phi_y=0.50$ $\chi_y=1.00$
 $\lambda_z=38.50$ $N_{cr,z}=334922.00$ $\lambda^*_z=0.50$ Curva b: $\Phi_z=0.68$ $\chi_z=0.88$
 K_{yy} , K_{yz} , K_{zy} , $K_{zz} = 0.93, 0.65, 0.00, 1.08$
Verifica YY: $0.29 + 0.00 = 0.29$
Verifica ZZ: $0.33 = 0.33$
- Verifica a compressione (4.2.10) - CC 17 $X_1=0.57$ - Classe 2
Sollecitazioni: $N=-22630.70$ $T_z=-16.06$
 $N,Ed=-22630.70$ $N_c,Rd=80966.20$ $N,Ed/N_c,Rd=0.28$
- Verifica a taglio dir. Z (4.2.17) - CC 1 $X_1=0.00$
Sollecitazioni: $T_z=2387.05$
 $V,Ed=2387.05$ ($V,Ed,G=5.75$, $V,Ed,M=2381.30$) $V_c,Rd=21964.00$ $V,Ed/V_c,Rd=0.11$

Asta n. 108 (114 127) IPE180 Crit. 1

- - Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 19 - Classe 1
 $L_{cr}=0.79$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=1.44$ $M_{cr}=44240.20$ $\lambda_{LT}=0.37$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.54$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=1.00$
CC 19 $M_y,Ed=3.01$ $M_y,b,Rd=5387.15$ $M_y,Ed/M_y,b,Rd=0.00$
- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 2
Sollecitazioni: $N,Ed=-22630.70$ $M_y,Ed=4.88$
Resistenze: $N_c,Rd=77285.90$ $M_y,c,Rd=5387.15$ $L=79.00$
 α_{my} , α_{mz} , $\alpha_{LT} = 0.95, 0.95, 0.95$
 $L_{cr}=0.79$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=1.01$ $M_{cr}=30941.10$ $\lambda_{LT}=0.44$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.58$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=1.00$
 $\lambda_y=10.65$ $N_{cr,y}=4373670.00$ $\lambda^*_y=0.14$ Curva a: $\Phi_y=0.50$ $\chi_y=1.00$
 $\lambda_z=38.50$ $N_{cr,z}=334922.00$ $\lambda^*_z=0.50$ Curva b: $\Phi_z=0.68$ $\chi_z=0.88$
 K_{yy} , K_{yz} , K_{zy} , $K_{zz} = 0.93, 0.65, 0.00, 1.08$
Verifica YY: $0.29 + 0.00 = 0.29$
Verifica ZZ: $0.33 = 0.33$
- Verifica a pressoflessione retta - CC 17 $X_1=0.00$ - Classe 2
Sollecitazioni: $N=-22630.70$ $T_z=10.13$ $M_y=4.88$
 $M_y,Ed=4.88$ $M_y,c,Rd=5643.68$
 $N,Ed=-22630.70$ $N_c,Rd=80966.20$ $n = N,Ed/N_c,Rd = 0.28$
 $MN_y,c,Rd=5057.53$ $M_y,Ed/MN_y,c,Rd = 0.00$
- Verifica a taglio dir. Z (4.2.17) - CC 1 $X_1=0.00$
Sollecitazioni: $T_z=2389.03$ $M_y=1.58$
 $V,Ed=2389.03$ ($V,Ed,G=7.73$, $V,Ed,M=2381.30$) $V_c,Rd=21964.00$ $V,Ed/V_c,Rd=0.11$

Asta n. 108 (127 140) IPE180 Crit. 1

- - Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 5 - Classe 1
 $L_{cr}=0.79$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=2.23$ $M_{cr}=68400.10$ $\lambda_{LT}=0.29$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.51$ $\beta_{LT}=0.75$ $f=0.99$ $\chi_{LT}=1.00$
CC 5 $M_y,Ed=2.46$ $M_y,b,Rd=5387.15$ $M_y,Ed/M_y,b,Rd=0.00$
- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 2
Sollecitazioni: $N,Ed=-22630.70$ $M_y,Ed=-11.07$
Resistenze: $N_c,Rd=77285.90$ $M_y,c,Rd=5387.15$ $L=79.00$
 α_{my} , α_{mz} , $\alpha_{LT} = 0.95, 0.95, 0.95$

Relazione di calcolo

$L_{cr}=0.79$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=2.88$ $M_{cr}=88313.90$ $\lambda_{LT}=0.26$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.50$ $\beta_{LT}=0.75$ $f=0.99$ $\chi_{LT}=1.00$
 $\lambda_y=10.65$ $N_{cr,y}=4373680.00$ $\lambda^*_y=0.14$ Curva a: $\Phi_y=0.50$ $\chi_y=1.00$
 $\lambda_z=38.50$ $N_{cr,z}=334922.00$ $\lambda^*_z=0.50$ Curva b: $\Phi_z=0.68$ $\chi_z=0.88$
 $K_{yy}, K_{yz}, K_{zy}, K_{zz} = 0.93, 0.65, 0.00, 1.08$
 Verifica YY: $0.29 + 0.00 = 0.29$
 Verifica ZZ: $0.33 = 0.33$

- Verifica a compressione (4.2.10) - CC 17 $X_1=0.29$ - Classe 2
 Sollecitazioni: $N=-22630.70$ $T_z=28.81$
 $N, Ed=-22630.70$ $N_c, Rd=-80966.20$ $N, Ed/N_c, Rd=0.28$

- Verifica a taglio dir. Z (4.2.17) - CC 1 $X_1=0.00$
 Sollecitazioni: $T_z=2391.84$ $M_y=1.88$
 $V, Ed=2391.84$ ($V, Ed, G=10.54$, $V, Ed, M=2381.30$) $V_c, Rd=21964.00$ $V, Ed/V_c, Rd=0.11$

Asta n. 108 (140 153) IPE180 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 19 - Classe 1
 $L_{cr}=0.79$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=2.09$ $M_{cr}=64089.50$ $\lambda_{LT}=0.30$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.52$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=1.00$
 CC 19 $M_y, Ed=4.23$ $M_y, b, Rd=5387.15$ $M_y, Ed/M_y, b, Rd=0.00$

- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 2
 Sollecitazioni: $N, Ed=-22630.70$ $M_y, Ed=-10.36$
 Resistenze: $N_c, Rd=77285.90$ $M_y, c, Rd=5387.15$ $L=79.00$
 $\alpha_{my}, \alpha_{mz}, \alpha_{LT} = 0.95, 0.95, 0.95$
 $L_{cr}=0.79$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=2.97$ $M_{cr}=91244.20$ $\lambda_{LT}=0.25$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.50$ $\beta_{LT}=0.75$ $f=0.99$ $\chi_{LT}=1.00$
 $\lambda_y=10.65$ $N_{cr,y}=4373670.00$ $\lambda^*_y=0.14$ Curva a: $\Phi_y=0.50$ $\chi_y=1.00$
 $\lambda_z=38.50$ $N_{cr,z}=334922.00$ $\lambda^*_z=0.50$ Curva b: $\Phi_z=0.68$ $\chi_z=0.88$
 $K_{yy}, K_{yz}, K_{zy}, K_{zz} = 0.93, 0.65, 0.00, 1.08$
 Verifica YY: $0.29 + 0.00 = 0.29$
 Verifica ZZ: $0.33 = 0.33$

- Verifica a compressione (4.2.10) - CC 17 $X_1=0.47$ - Classe 2
 Sollecitazioni: $N=-22630.70$ $T_z=-27.22$
 $N, Ed=-22630.70$ $N_c, Rd=-80966.20$ $N, Ed/N_c, Rd=0.28$

- Verifica a taglio dir. Z (4.2.17) - CC 1 $X_1=0.00$
 Sollecitazioni: $T_z=2386.13$
 $V, Ed=2386.13$ ($V, Ed, G=4.83$, $V, Ed, M=2381.30$) $V_c, Rd=21964.00$ $V, Ed/V_c, Rd=0.11$

Asta n. 108 (153 166) IPE180 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 19 - Classe 1
 $L_{cr}=0.79$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=1.69$ $M_{cr}=52006.80$ $\lambda_{LT}=0.34$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.53$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=1.00$
 CC 19 $M_y, Ed=4.35$ $M_y, b, Rd=5387.15$ $M_y, Ed/M_y, b, Rd=0.00$

- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 2
 Sollecitazioni: $N, Ed=-22630.70$ $M_y, Ed=4.67$
 Resistenze: $N_c, Rd=77285.90$ $M_y, c, Rd=5387.15$ $L=79.00$
 $\alpha_{my}, \alpha_{mz}, \alpha_{LT} = 0.95, 0.95, 0.95$
 $L_{cr}=0.79$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=1.04$ $M_{cr}=31965.90$ $\lambda_{LT}=0.43$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.57$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=1.00$
 $\lambda_y=10.65$ $N_{cr,y}=4373670.00$ $\lambda^*_y=0.14$ Curva a: $\Phi_y=0.50$ $\chi_y=1.00$
 $\lambda_z=38.50$ $N_{cr,z}=334922.00$ $\lambda^*_z=0.50$ Curva b: $\Phi_z=0.68$ $\chi_z=0.88$
 $K_{yy}, K_{yz}, K_{zy}, K_{zz} = 0.93, 0.65, 0.00, 1.08$
 Verifica YY: $0.29 + 0.00 = 0.29$
 Verifica ZZ: $0.33 = 0.33$

- Verifica a pressoflessione retta - CC 17 $X_1=0.00$ - Classe 2
 Sollecitazioni: $N=-22630.70$ $T_z=10.54$ $M_y=4.67$
 $M_y, Ed=4.67$ $M_y, c, Rd=5643.68$
 $N, Ed=-22630.70$ $N_c, Rd=80966.20$ $n = N, Ed/N_c, Rd = 0.28$
 $MN_y, c, Rd=5057.53$ $M_y, Ed/MN_y, c, Rd = 0.00$

- Verifica a taglio dir. Z (4.2.17) - CC 1 $X_1=0.00$
 Sollecitazioni: $T_z=2388.79$ $M_y=1.25$
 $V, Ed=2388.79$ ($V, Ed, G=7.49$, $V, Ed, M=2381.30$) $V_c, Rd=21964.00$ $V, Ed/V_c, Rd=0.11$

Asta n. 108 (166 179) IPE180 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 13 - Classe 1
 $L_{cr}=0.79$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=2.09$ $M_{cr}=64175.20$ $\lambda_{LT}=0.30$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.52$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=1.00$
 CC 13 $M_y, Ed=2.88$ $M_y, b, Rd=5387.15$ $M_y, Ed/M_y, b, Rd=0.00$

Relazione di calcolo

- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 2
Sollecitazioni: $N, Ed = -22630.70$ My, $Ed = -4.70$
Resistenze: $N_c, Rd = 77285.90$ My, $c, Rd = 5387.15$ L=79.00
 $\alpha_{my}, \alpha_{mz}, \alpha_{LT} = 0.95, 0.95, 0.95$
 $L_{cr} = 0.79$ Curva b: $\alpha_{imp} = 0.34$ $k_c = 0.94$ $\psi = 3.03$ M, $cr = 92934.60$ $\lambda_{LT} = 0.25$
 $\lambda_{LT,0} = 0.40$ $\beta_{LT} = 0.75$ $\Phi_{LT} = 0.50$ $\beta_{LT} = 0.75$ $f = 0.99$ $\chi_{LT} = 1.00$
 $\lambda_y = 10.65$ Ncr, $y = 4373680.00$ $\lambda_y^* = 0.14$ Curva a: $\Phi_y = 0.50$ $\chi_y = 1.00$
 $\lambda_z = 38.50$ Ncr, $z = 334922.00$ $\lambda_z^* = 0.50$ Curva b: $\Phi_z = 0.68$ $\chi_z = 0.88$
Kyy, Kyz, Kzy, Kzz = 0.93, 0.65, 0.00, 1.08
Verifica YY: $0.29 + 0.00 = 0.29$
Verifica ZZ: $0.33 = 0.33$
- Verifica a compressione (4.2.10) - CC 17 $X1 = 0.24$ - Classe 2
Sollecitazioni: $N = -22630.70$ $T_x = 15.64$
 $N, Ed = -22630.70$ $N_c, Rd = -80966.20$ $N, Ed/N_c, Rd = 0.28$
- Verifica a taglio dir. Z (4.2.17) - CC 1 $X1 = 0.00$
Sollecitazioni: $T_x = 2390.48$ $M_y = 1.63$
 $V, Ed = 2390.48$ ($V, Ed, G = 9.18$, $V, Ed, M = 2381.30$) $V_c, Rd = 21964.00$ $V, Ed/V_c, Rd = 0.11$

Asta n. 109 (102 115) IPE180 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 1
 $L_{cr} = 0.79$ Curva b: $\alpha_{imp} = 0.34$ $k_c = 0.94$ $\psi = 1.75$ M, $cr = 53716.50$ $\lambda_{LT} = 0.33$
 $\lambda_{LT,0} = 0.40$ $\beta_{LT} = 0.75$ $\Phi_{LT} = 0.53$ $\beta_{LT} = 0.75$ $f = 0.98$ $\chi_{LT} = 1.00$
CC 18 My, $Ed = -119.62$ My, $b, Rd = 5387.15$ My, $Ed/My, b, Rd = 0.02$
- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 2
Sollecitazioni: $N, Ed = -22630.70$ My, $Ed = -957.94$
Resistenze: $N_c, Rd = 77285.90$ My, $c, Rd = 5387.15$ L=79.00
 $\alpha_{my}, \alpha_{mz}, \alpha_{LT} = 0.95, 0.95, 0.95$
 $L_{cr} = 0.79$ Curva b: $\alpha_{imp} = 0.34$ $k_c = 0.94$ $\psi = 1.75$ M, $cr = 53716.50$ $\lambda_{LT} = 0.33$
 $\lambda_{LT,0} = 0.40$ $\beta_{LT} = 0.75$ $\Phi_{LT} = 0.53$ $\beta_{LT} = 0.75$ $f = 0.98$ $\chi_{LT} = 1.00$
 $\lambda_y = 10.65$ Ncr, $y = 4373670.00$ $\lambda_y^* = 0.14$ Curva a: $\Phi_y = 0.50$ $\chi_y = 1.00$
 $\lambda_z = 38.50$ Ncr, $z = 334922.00$ $\lambda_z^* = 0.50$ Curva b: $\Phi_z = 0.68$ $\chi_z = 0.88$
Kyy, Kyz, Kzy, Kzz = 0.93, 0.65, 0.00, 1.08
Verifica YY: $0.29 + 0.17 = 0.46$
Verifica ZZ: $0.33 = 0.33$
- Verifica freccia massima carichi totali - CC 20
 $f_{z,L} = 0.02$ (L/4945)
- Verifica a compressione (4.2.10) - CC 17 $X1 = 0.00$ - Classe 2
Sollecitazioni: $N = -22630.70$ $T_x = 1222.61$
 $N, Ed = -22630.70$ $N_c, Rd = -80966.20$ $N, Ed/N_c, Rd = 0.28$
- Verifica a taglio dir. Z (4.2.17) - CC 1 $X1 = 0.00$
Sollecitazioni: $T_x = 2493.03$
 $V, Ed = 2493.03$ ($V, Ed, G = 111.73$, $V, Ed, M = 2381.30$) $V_c, Rd = 21964.00$ $V, Ed/V_c, Rd = 0.11$

Asta n. 109 (115 128) IPE180 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 1
 $L_{cr} = 0.79$ Curva b: $\alpha_{imp} = 0.34$ $k_c = 0.94$ $\psi = 1.00$ M, $cr = 30695.10$ $\lambda_{LT} = 0.44$
 $\lambda_{LT,0} = 0.40$ $\beta_{LT} = 0.75$ $\Phi_{LT} = 0.58$ $\beta_{LT} = 0.75$ $f = 0.98$ $\chi_{LT} = 1.00$
CC 18 My, $Ed = -119.62$ My, $b, Rd = 5387.15$ My, $Ed/My, b, Rd = 0.02$
- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 2
Sollecitazioni: $N, Ed = -22630.70$ My, $Ed = -957.94$
Resistenze: $N_c, Rd = 77285.90$ My, $c, Rd = 5387.15$ L=79.00
 $\alpha_{my}, \alpha_{mz}, \alpha_{LT} = 0.95, 0.95, 0.95$
 $L_{cr} = 0.79$ Curva b: $\alpha_{imp} = 0.34$ $k_c = 0.94$ $\psi = 1.00$ M, $cr = 30695.10$ $\lambda_{LT} = 0.44$
 $\lambda_{LT,0} = 0.40$ $\beta_{LT} = 0.75$ $\Phi_{LT} = 0.58$ $\beta_{LT} = 0.75$ $f = 0.98$ $\chi_{LT} = 1.00$
 $\lambda_y = 10.65$ Ncr, $y = 4373670.00$ $\lambda_y^* = 0.14$ Curva a: $\Phi_y = 0.50$ $\chi_y = 1.00$
 $\lambda_z = 38.50$ Ncr, $z = 334922.00$ $\lambda_z^* = 0.50$ Curva b: $\Phi_z = 0.68$ $\chi_z = 0.88$
Kyy, Kyz, Kzy, Kzz = 0.93, 0.65, 0.00, 1.08
Verifica YY: $0.29 + 0.17 = 0.46$
Verifica ZZ: $0.33 = 0.33$
- Verifica freccia massima carichi totali - CC 20
 $f_{z,G} = 0.00$ (L/31860)
- Verifica a pressoflessione retta - CC 17 $X1 = 0.39$ - Classe 2
Sollecitazioni: $N = -22630.70$ $M_y = -959.92$
My, $Ed = -959.92$ My, $c, Rd = 5643.68$
 $N, Ed = -22630.70$ $N_c, Rd = 80966.20$ $n = N, Ed/N_c, Rd = 0.28$
MMy, $c, Rd = 5057.53$ My, $Ed/MMy, c, Rd = 0.19$
- Verifica a taglio dir. Z (4.2.17) - CC 1 $X1 = 0.00$

Relazione di calcolo

Sollecitazioni: $T_z=2388.73$ $M_y=-82.40$
 $V,Ed=2388.73$ ($V,Ed,G=7.43$, $V,Ed,M=2381.30$) $V_c,Rd=21964.00$ $V,Ed/V_c,Rd=0.11$

Asta n. 109 (128 141) IPE180 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 1
 $L_{cr}=0.79$ Curva b: $\alpha_{imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=53716.50$ $\lambda_{LT}=0.33$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.53$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=1.00$
CC 18 $M_y,Ed=-119.62$ $M_y,b,Rd=5387.15$ $M_y,Ed/M_y,b,Rd=0.02$

- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 2
Sollecitazioni: $N,Ed=-22630.70$ $M_y,Ed=-957.94$
Resistenze: $N_c,Rd=77285.90$ $M_y,c,Rd=5387.15$ $L=79.00$
 α_{my} , α_{mz} , $\alpha_{LT} = 0.95, 0.95, 0.95$
 $L_{cr}=0.79$ Curva b: $\alpha_{imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=53716.50$ $\lambda_{LT}=0.33$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.53$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=1.00$
 $\lambda_y=10.65$ $N_{cr,y}=4373680.00$ $\lambda^*_{y}=0.14$ Curva a: $\Phi_y=0.50$ $\chi_y=1.00$
 $\lambda_z=38.50$ $N_{cr,z}=334922.00$ $\lambda^*_{z}=0.50$ Curva b: $\Phi_z=0.68$ $\chi_z=0.88$
 K_{yy} , K_{yz} , K_{zy} , $K_{zz} = 0.93, 0.65, 0.00, 1.08$
Verifica YY: $0.29 + 0.17 = 0.46$
Verifica ZZ: $0.33 = 0.33$

- Verifica freccia massima carichi totali - CC 20
 $f_{z,L}=0.02$ (L/5082)

- Verifica a compressione (4.2.10) - CC 17 $X1=0.79$ - Classe 2
Sollecitazioni: $N=-22630.70$ $T_z=-1222.61$
 $N,Ed=-22630.70$ $N_c,Rd=-80966.20$ $N,Ed/N_c,Rd=0.28$

- Verifica a taglio dir. Z (4.2.17) - CC 1 $X1=0.00$
Sollecitazioni: $T_z=2284.43$ $M_y=-82.40$
 $V,Ed=2284.43$ ($V,Ed,G=-96.88$, $V,Ed,M=2381.30$) $V_c,Rd=21964.00$ $V,Ed/V_c,Rd=0.10$

Asta n. 109 (141 154) IPE180 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 1
 $L_{cr}=0.79$ Curva b: $\alpha_{imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=53716.40$ $\lambda_{LT}=0.33$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.53$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=1.00$
CC 18 $M_y,Ed=-119.62$ $M_y,b,Rd=5387.15$ $M_y,Ed/M_y,b,Rd=0.02$

- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 2
Sollecitazioni: $N,Ed=-22630.70$ $M_y,Ed=-957.94$
Resistenze: $N_c,Rd=77285.90$ $M_y,c,Rd=5387.15$ $L=79.00$
 α_{my} , α_{mz} , $\alpha_{LT} = 0.95, 0.95, 0.95$
 $L_{cr}=0.79$ Curva b: $\alpha_{imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=53716.40$ $\lambda_{LT}=0.33$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.53$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=1.00$
 $\lambda_y=10.65$ $N_{cr,y}=4373670.00$ $\lambda^*_{y}=0.14$ Curva a: $\Phi_y=0.50$ $\chi_y=1.00$
 $\lambda_z=38.50$ $N_{cr,z}=334922.00$ $\lambda^*_{z}=0.50$ Curva b: $\Phi_z=0.68$ $\chi_z=0.88$
 K_{yy} , K_{yz} , K_{zy} , $K_{zz} = 0.93, 0.65, 0.00, 1.08$
Verifica YY: $0.29 + 0.17 = 0.46$
Verifica ZZ: $0.33 = 0.33$

- Verifica freccia massima carichi totali - CC 20
 $f_{z,L}=0.01$ (L/5310)

- Verifica a compressione (4.2.10) - CC 17 $X1=0.00$ - Classe 2
Sollecitazioni: $N=-22630.70$ $T_z=1222.61$
 $N,Ed=-22630.70$ $N_c,Rd=-80966.20$ $N,Ed/N_c,Rd=0.28$

- Verifica a taglio dir. Z (4.2.17) - CC 1 $X1=0.00$
Sollecitazioni: $T_z=2493.03$
 $V,Ed=2493.03$ ($V,Ed,G=111.73$, $V,Ed,M=2381.30$) $V_c,Rd=21964.00$ $V,Ed/V_c,Rd=0.11$

Asta n. 109 (154 167) IPE180 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 1
 $L_{cr}=0.79$ Curva b: $\alpha_{imp}=0.34$ $k_c=0.94$ $\psi=1.00$ $M_{cr}=30695.10$ $\lambda_{LT}=0.44$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.58$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=1.00$
CC 18 $M_y,Ed=-119.62$ $M_y,b,Rd=5387.15$ $M_y,Ed/M_y,b,Rd=0.02$

- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 2
Sollecitazioni: $N,Ed=-22630.70$ $M_y,Ed=-957.94$
Resistenze: $N_c,Rd=77285.90$ $M_y,c,Rd=5387.15$ $L=79.00$
 α_{my} , α_{mz} , $\alpha_{LT} = 0.95, 0.95, 0.95$
 $L_{cr}=0.79$ Curva b: $\alpha_{imp}=0.34$ $k_c=0.94$ $\psi=1.00$ $M_{cr}=30695.10$ $\lambda_{LT}=0.44$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.58$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=1.00$
 $\lambda_y=10.65$ $N_{cr,y}=4373670.00$ $\lambda^*_{y}=0.14$ Curva a: $\Phi_y=0.50$ $\chi_y=1.00$
 $\lambda_z=38.50$ $N_{cr,z}=334922.00$ $\lambda^*_{z}=0.50$ Curva b: $\Phi_z=0.68$ $\chi_z=0.88$

Relazione di calcolo

Kyy, Kyz, Kzy, Kzz = 0.93, 0.65, 0.00, 1.08
 Verifica YY: $0.29 + 0.17 = 0.46$
 Verifica ZZ: $0.33 = 0.33$

- Verifica freccia massima carichi totali - CC 20
 $f_{z,L}=0.00$ (L/27891)

- Verifica a pressoflessione retta - CC 17 Xl=0.40 - Classe 2
 Sollecitazioni: $N=-22630.70$ $M_y=-959.92$
 $M_y,Ed=-959.92$ $M_y,c,Rd=5643.68$
 $N,Ed=-22630.70$ $N_c,Rd=80966.20$ $n= N,Ed/N_c,Rd = 0.28$
 $MNy,c,Rd=5057.53$ $M_y,Ed/MNy,c,Rd = 0.19$

- Verifica a taglio dir. Z (4.2.17) - CC 1 Xl=0.00
 Sollecitazioni: $T_z=2388.73$ $M_y=-82.40$
 $V,Ed=2388.73$ ($V,Ed,G=7.43$, $V,Ed,M=2381.30$) $V_c,Rd=21964.00$ $V,Ed/V_c,Rd=0.11$

Asta n. 109 (167 180) IPE180 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 1
 $L_{cr}=0.79$ Curva b: $\alpha-imp=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=53716.50$ $\lambda_{LT}=0.33$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.53$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=1.00$
 CC 18 $M_y,Ed=-119.62$ $M_y,b,Rd=5387.15$ $M_y,Ed/M_y,b,Rd=0.02$

- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 2
 Sollecitazioni: $N,Ed=-22630.70$ $M_y,Ed=-957.94$
 Resistenze: $N_c,Rd=77285.90$ $M_y,c,Rd=5387.15$ $L=79.00$
 $\alpha_m, \alpha_{mz}, \alpha_{LT} = 0.95, 0.95, 0.95$
 $L_{cr}=0.79$ Curva b: $\alpha-imp=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=53716.50$ $\lambda_{LT}=0.33$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.53$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=1.00$
 $\lambda_y=10.65$ $N_{cr,y}=4373680.00$ $\lambda^*_y=0.14$ Curva a: $\Phi_y=0.50$ $\chi_y=1.00$
 $\lambda_z=38.50$ $N_{cr,z}=334922.00$ $\lambda^*_z=0.50$ Curva b: $\Phi_z=0.68$ $\chi_z=0.88$
 Kyy, Kyz, Kzy, Kzz = 0.93, 0.65, 0.00, 1.08
 Verifica YY: $0.29 + 0.17 = 0.46$
 Verifica ZZ: $0.33 = 0.33$

- Verifica freccia massima carichi totali - CC 21
 $f_{z,L}=0.02$ (L/4760)

- Verifica a compressione (4.2.10) - CC 17 Xl=0.79 - Classe 2
 Sollecitazioni: $N=-22630.70$ $T_z=-1222.61$
 $N,Ed=-22630.70$ $N_c,Rd=-80966.20$ $N,Ed/N_c,Rd=0.28$

- Verifica a taglio dir. Z (4.2.17) - CC 1 Xl=0.00
 Sollecitazioni: $T_z=2284.43$ $M_y=-82.40$
 $V,Ed=2284.43$ ($V,Ed,G=-96.88$, $V,Ed,M=2381.30$) $V_c,Rd=21964.00$ $V,Ed/V_c,Rd=0.10$

Asta n. 110 (103 116) IPE180 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 1
 $L_{cr}=0.79$ Curva b: $\alpha-imp=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=53716.50$ $\lambda_{LT}=0.33$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.53$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=1.00$
 CC 18 $M_y,Ed=-137.87$ $M_y,b,Rd=5387.15$ $M_y,Ed/M_y,b,Rd=0.03$

- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 2
 Sollecitazioni: $N,Ed=-22630.70$ $M_y,Ed=-1123.64$
 Resistenze: $N_c,Rd=77285.90$ $M_y,c,Rd=5387.15$ $L=79.00$
 $\alpha_m, \alpha_{mz}, \alpha_{LT} = 0.95, 0.95, 0.95$
 $L_{cr}=0.79$ Curva b: $\alpha-imp=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=53716.50$ $\lambda_{LT}=0.33$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.53$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=1.00$
 $\lambda_y=10.65$ $N_{cr,y}=4373670.00$ $\lambda^*_y=0.14$ Curva a: $\Phi_y=0.50$ $\chi_y=1.00$
 $\lambda_z=38.50$ $N_{cr,z}=334922.00$ $\lambda^*_z=0.50$ Curva b: $\Phi_z=0.68$ $\chi_z=0.88$
 Kyy, Kyz, Kzy, Kzz = 0.93, 0.65, 0.00, 1.08
 Verifica YY: $0.29 + 0.19 = 0.49$
 Verifica ZZ: $0.33 = 0.33$

- Verifica freccia massima carichi totali - CC 20
 $f_{z,L}=0.02$ (L/4194)

- Verifica a compressione (4.2.10) - CC 17 Xl=0.00 - Classe 2
 Sollecitazioni: $N=-22630.70$ $T_z=1432.35$
 $N,Ed=-22630.70$ $N_c,Rd=-80966.20$ $N,Ed/N_c,Rd=0.28$

- Verifica a taglio dir. Z (4.2.17) - CC 1 Xl=0.00
 Sollecitazioni: $T_z=2508.76$
 $V,Ed=2508.76$ ($V,Ed,G=127.46$, $V,Ed,M=2381.30$) $V_c,Rd=21964.00$ $V,Ed/V_c,Rd=0.11$

Asta n. 110 (116 129) IPE180 Crit. 1

Relazione di calcolo

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 1
 $L_{cr}=0.79$ Curva b: $\alpha_{imp}=0.34$ $k_c=0.94$ $\psi=1.00$ $M_{cr}=30695.10$ $\lambda_{LT}=0.44$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.58$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=1.00$
CC 18 $M_{y,Ed}=-137.87$ $M_{y,b,Rd}=5387.15$ $M_{y,Ed}/M_{y,b,Rd}=0.03$
- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 2
Sollecitazioni: $N_{Ed}=-22630.70$ $M_{y,Ed}=-1123.64$
Resistenze: $N_{c,Rd}=77285.90$ $M_{y,c,Rd}=5387.15$ $L=79.00$
 α_{my} , α_{mz} , $\alpha_{LT} = 0.95, 0.95, 0.95$
 $L_{cr}=0.79$ Curva b: $\alpha_{imp}=0.34$ $k_c=0.94$ $\psi=1.00$ $M_{cr}=30695.10$ $\lambda_{LT}=0.44$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.58$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=1.00$
 $\lambda_y=10.65$ $N_{cr,y}=4373670.00$ $\lambda^*_y=0.14$ Curva a: $\Phi_y=0.50$ $\chi_y=1.00$
 $\lambda_z=38.50$ $N_{cr,z}=334922.00$ $\lambda^*_z=0.50$ Curva b: $\Phi_z=0.68$ $\chi_z=0.88$
 K_{yy} , K_{yz} , K_{zy} , $K_{zz} = 0.93, 0.65, 0.00, 1.08$
Verifica YY: $0.29 + 0.19 = 0.49$
Verifica ZZ: $0.33 = 0.33$
- Verifica freccia massima carichi totali - CC 20
 $f_{z,G}=0.00$ (L/25102)
- Verifica a pressoflessione retta - CC 17 $X_1=0.39$ - Classe 2
Sollecitazioni: $N=-22630.70$ $M_y=-1125.62$
 $M_{y,Ed}=-1125.62$ $M_{y,c,Rd}=5643.68$
 $N_{Ed}=-22630.70$ $N_{c,Rd}=80966.20$ $n = N_{Ed}/N_{c,Rd} = 0.28$
 $M_{Ny,c,Rd}=5057.53$ $M_{y,Ed}/M_{Ny,c,Rd} = 0.22$
- Verifica a taglio dir. Z (4.2.17) - CC 1 $X_1=0.00$
Sollecitazioni: $T_z=2388.73$ $M_y=-94.83$
 $V_{Ed}=2388.73$ ($V_{Ed,G}=7.43$, $V_{Ed,M}=2381.30$) $V_{c,Rd}=21964.00$ $V_{Ed}/V_{c,Rd}=0.11$
- Asta n. 110 (129 142) IPE180 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 1
 $L_{cr}=0.79$ Curva b: $\alpha_{imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=53716.50$ $\lambda_{LT}=0.33$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.53$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=1.00$
CC 18 $M_{y,Ed}=-137.87$ $M_{y,b,Rd}=5387.15$ $M_{y,Ed}/M_{y,b,Rd}=0.03$
- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 2
Sollecitazioni: $N_{Ed}=-22630.70$ $M_{y,Ed}=-1123.64$
Resistenze: $N_{c,Rd}=77285.90$ $M_{y,c,Rd}=5387.15$ $L=79.00$
 α_{my} , α_{mz} , $\alpha_{LT} = 0.95, 0.95, 0.95$
 $L_{cr}=0.79$ Curva b: $\alpha_{imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=53716.50$ $\lambda_{LT}=0.33$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.53$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=1.00$
 $\lambda_y=10.65$ $N_{cr,y}=4373680.00$ $\lambda^*_y=0.14$ Curva a: $\Phi_y=0.50$ $\chi_y=1.00$
 $\lambda_z=38.50$ $N_{cr,z}=334922.00$ $\lambda^*_z=0.50$ Curva b: $\Phi_z=0.68$ $\chi_z=0.88$
 K_{yy} , K_{yz} , K_{zy} , $K_{zz} = 0.93, 0.65, 0.00, 1.08$
Verifica YY: $0.29 + 0.19 = 0.49$
Verifica ZZ: $0.33 = 0.33$
- Verifica freccia massima carichi totali - CC 20
 $f_{z,L}=0.02$ (L/4589)
- Verifica a compressione (4.2.10) - CC 17 $X_1=0.79$ - Classe 2
Sollecitazioni: $N=-22630.70$ $T_z=-1432.35$
 $N_{Ed}=-22630.70$ $N_{c,Rd}=80966.20$ $N_{Ed}/N_{c,Rd}=0.28$
- Verifica a taglio dir. Z (4.2.17) - CC 1 $X_1=0.00$
Sollecitazioni: $T_z=2268.69$ $M_y=-94.83$
 $V_{Ed}=2268.69$ ($V_{Ed,G}=-112.61$, $V_{Ed,M}=2381.30$) $V_{c,Rd}=21964.00$ $V_{Ed}/V_{c,Rd}=0.10$
- Asta n. 110 (142 155) IPE180 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 1
 $L_{cr}=0.79$ Curva b: $\alpha_{imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=53716.40$ $\lambda_{LT}=0.33$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.53$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=1.00$
CC 18 $M_{y,Ed}=-137.87$ $M_{y,b,Rd}=5387.15$ $M_{y,Ed}/M_{y,b,Rd}=0.03$
- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 2
Sollecitazioni: $N_{Ed}=-22630.70$ $M_{y,Ed}=-1123.64$
Resistenze: $N_{c,Rd}=77285.90$ $M_{y,c,Rd}=5387.15$ $L=79.00$
 α_{my} , α_{mz} , $\alpha_{LT} = 0.95, 0.95, 0.95$
 $L_{cr}=0.79$ Curva b: $\alpha_{imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=53716.40$ $\lambda_{LT}=0.33$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.53$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=1.00$
 $\lambda_y=10.65$ $N_{cr,y}=4373670.00$ $\lambda^*_y=0.14$ Curva a: $\Phi_y=0.50$ $\chi_y=1.00$
 $\lambda_z=38.50$ $N_{cr,z}=334922.00$ $\lambda^*_z=0.50$ Curva b: $\Phi_z=0.68$ $\chi_z=0.88$
 K_{yy} , K_{yz} , K_{zy} , $K_{zz} = 0.93, 0.65, 0.00, 1.08$
Verifica YY: $0.29 + 0.19 = 0.49$
Verifica ZZ: $0.33 = 0.33$

Relazione di calcolo

- Verifica freccia massima carichi totali - CC 20
 $f_{z,L}=0.02$ (L/4760)
- Verifica a compressione (4.2.10) - CC 17 $X_1=0.00$ - Classe 2
Sollecitazioni: $N=-22630.70$ $T_z=1432.35$
 $N,Ed=-22630.70$ $N_c,Rd=-80966.20$ $N,Ed/N_c,Rd=0.28$
- Verifica a taglio dir. Z (4.2.17) - CC 1 $X_1=0.00$
Sollecitazioni: $T_z=2508.76$
 $V,Ed=2508.76$ ($V,Ed,G=127.46$, $V,Ed,M=2381.30$) $V_c,Rd=21964.00$ $V,Ed/V_c,Rd=0.11$

Asta n. 110 (155 168) IPE180 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 1
 $L_{cr}=0.79$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=1.00$ $M_{cr}=30695.10$ $\lambda_{LT}=0.44$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.58$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=1.00$
CC 18 $M_y,Ed=-137.87$ $M_y,b,Rd=5387.15$ $M_y,Ed/M_y,b,Rd=0.03$
- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 2
Sollecitazioni: $N,Ed=-22630.70$ $M_y,Ed=-1123.64$
Resistenze: $N_c,Rd=77285.90$ $M_y,c,Rd=5387.15$ $L=79.00$
 α_{my} , α_{mz} , $\alpha_{LT} = 0.95, 0.95, 0.95$
 $L_{cr}=0.79$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=1.00$ $M_{cr}=30695.10$ $\lambda_{LT}=0.44$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.58$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=1.00$
 $\lambda_y=10.65$ $N_{cr,y}=4373670.00$ $\lambda^*_{y}=0.14$ Curva a: $\Phi_y=0.50$ $\chi_y=1.00$
 $\lambda_z=38.50$ $N_{cr,z}=334922.00$ $\lambda^*_z=0.50$ Curva b: $\Phi_z=0.68$ $\chi_z=0.88$
 K_{yy} , K_{yz} , K_{zy} , $K_{zz} = 0.93, 0.65, 0.00, 1.08$
Verifica YY: $0.29 + 0.19 = 0.49$
Verifica ZZ: $0.33 = 0.33$
- Verifica freccia massima carichi totali - CC 20
 $f_{z,G}=0.00$ (L/22090)
- Verifica a pressoflessione retta - CC 17 $X_1=0.40$ - Classe 2
Sollecitazioni: $N=-22630.70$ $M_y=-1125.62$
 $M_y,Ed=-1125.62$ $M_y,c,Rd=5643.68$
 $N,Ed=-22630.70$ $N_c,Rd=80966.20$ $n = N,Ed/N_c,Rd = 0.28$
 $M_{Ny,c,Rd}=5057.53$ $M_y,Ed/M_{Ny,c,Rd} = 0.22$
- Verifica a taglio dir. Z (4.2.17) - CC 1 $X_1=0.00$
Sollecitazioni: $T_z=2388.73$ $M_y=-94.83$
 $V,Ed=2388.73$ ($V,Ed,G=7.43$, $V,Ed,M=2381.30$) $V_c,Rd=21964.00$ $V,Ed/V_c,Rd=0.11$

Asta n. 110 (168 181) IPE180 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 1
 $L_{cr}=0.79$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=53716.50$ $\lambda_{LT}=0.33$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.53$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=1.00$
CC 18 $M_y,Ed=-137.87$ $M_y,b,Rd=5387.15$ $M_y,Ed/M_y,b,Rd=0.03$
- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 2
Sollecitazioni: $N,Ed=-22630.70$ $M_y,Ed=-1123.64$
Resistenze: $N_c,Rd=77285.90$ $M_y,c,Rd=5387.15$ $L=79.00$
 α_{my} , α_{mz} , $\alpha_{LT} = 0.95, 0.95, 0.95$
 $L_{cr}=0.79$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=53716.50$ $\lambda_{LT}=0.33$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.53$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=1.00$
 $\lambda_y=10.65$ $N_{cr,y}=4373680.00$ $\lambda^*_{y}=0.14$ Curva a: $\Phi_y=0.50$ $\chi_y=1.00$
 $\lambda_z=38.50$ $N_{cr,z}=334922.00$ $\lambda^*_z=0.50$ Curva b: $\Phi_z=0.68$ $\chi_z=0.88$
 K_{yy} , K_{yz} , K_{zy} , $K_{zz} = 0.93, 0.65, 0.00, 1.08$
Verifica YY: $0.29 + 0.19 = 0.49$
Verifica ZZ: $0.33 = 0.33$
- Verifica freccia massima carichi totali - CC 20
 $f_{z,L}=0.02$ (L/4060)
- Verifica a compressione (4.2.10) - CC 17 $X_1=0.79$ - Classe 2
Sollecitazioni: $N=-22630.70$ $T_z=-1432.35$
 $N,Ed=-22630.70$ $N_c,Rd=-80966.20$ $N,Ed/N_c,Rd=0.28$
- Verifica a taglio dir. Z (4.2.17) - CC 1 $X_1=0.00$
Sollecitazioni: $T_z=2268.69$ $M_y=-94.83$
 $V,Ed=2268.69$ ($V,Ed,G=-112.61$, $V,Ed,M=2381.30$) $V_c,Rd=21964.00$ $V,Ed/V_c,Rd=0.10$

Asta n. 111 (104 117) IPE180 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 1
 $L_{cr}=0.79$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=53716.50$ $\lambda_{LT}=0.33$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.53$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=1.00$

Relazione di calcolo

CC 18 My,Ed=-137.87 My,b,Rd=5387.15 My,Ed/My,b,Rd=0.03

- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 2
 Sollecitazioni: N,Ed=-22630.70 My,Ed=-1123.64
 Resistenze: Nc,Rd=77285.90 My,c,Rd=5387.15 L=79.00
 $\alpha_{my}, \alpha_{mz}, \alpha_{LT} = 0.95, 0.95, 0.95$
 $L_{cr}=0.79$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=53716.50$ $\lambda_{LT}=0.33$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.53$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=1.00$
 $\lambda_y=10.65$ Ncr,y=4373670.00 $\lambda^*_y=0.14$ Curva a: $\Phi_y=0.50$ $\chi_y=1.00$
 $\lambda_z=38.50$ Ncr,z=334922.00 $\lambda^*_z=0.50$ Curva b: $\Phi_z=0.68$ $\chi_z=0.88$
 Kyy, Kyz, Kzy, Kzz = 0.93, 0.65, 0.00, 1.08
 Verifica YY: $0.29 + 0.19 = 0.49$
 Verifica ZZ: $0.33 = 0.33$

- Verifica freccia massima carichi totali - CC 21
 $f_{z,L}=0.02$ (L/4131)

- Verifica a compressione (4.2.10) - CC 17 Xl=0.00 - Classe 2
 Sollecitazioni: N=-22630.70 Tz=1432.35
 N,Ed=-22630.70 Nc,Rd=-80966.20 N,Ed/Nc,Rd=0.28

- Verifica a taglio dir. Z (4.2.17) - CC 1 Xl=0.00
 Sollecitazioni: Tz=2508.76
 V,Ed=2508.76 (V,Ed,G=127.46, V,Ed,M=2381.30) Vc,Rd=21964.00 V,Ed/Vc,Rd=0.11

Asta n. 111 (117 130) IPE180 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 1
 $L_{cr}=0.79$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=1.00$ $M_{cr}=30695.10$ $\lambda_{LT}=0.44$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.58$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=1.00$
 CC 18 My,Ed=-137.87 My,b,Rd=5387.15 My,Ed/My,b,Rd=0.03

- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 2
 Sollecitazioni: N,Ed=-22630.70 My,Ed=-1123.64
 Resistenze: Nc,Rd=77285.90 My,c,Rd=5387.15 L=79.00
 $\alpha_{my}, \alpha_{mz}, \alpha_{LT} = 0.95, 0.95, 0.95$
 $L_{cr}=0.79$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=1.00$ $M_{cr}=30695.10$ $\lambda_{LT}=0.44$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.58$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=1.00$
 $\lambda_y=10.65$ Ncr,y=4373670.00 $\lambda^*_y=0.14$ Curva a: $\Phi_y=0.50$ $\chi_y=1.00$
 $\lambda_z=38.50$ Ncr,z=334922.00 $\lambda^*_z=0.50$ Curva b: $\Phi_z=0.68$ $\chi_z=0.88$
 Kyy, Kyz, Kzy, Kzz = 0.93, 0.65, 0.00, 1.08
 Verifica YY: $0.29 + 0.19 = 0.49$
 Verifica ZZ: $0.33 = 0.33$

- Verifica freccia massima carichi totali - CC 21
 $f_{z,G}=0.00$ (L/24010)

- Verifica a pressoflessione retta - CC 17 Xl=0.39 - Classe 2
 Sollecitazioni: N=-22630.70 My=-1125.62
 My,Ed=-1125.62 My,c,Rd=5643.68
 N,Ed=-22630.70 Nc,Rd=80966.20 n= N,Ed/Nc,Rd = 0.28
 MNy,c,Rd=5057.53 My,Ed/MNy,c,Rd = 0.22

- Verifica a taglio dir. Z (4.2.17) - CC 1 Xl=0.00
 Sollecitazioni: Tz=2388.73 My=-94.83
 V,Ed=2388.73 (V,Ed,G=7.43, V,Ed,M=2381.30) Vc,Rd=21964.00 V,Ed/Vc,Rd=0.11

Asta n. 111 (130 143) IPE180 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 1
 $L_{cr}=0.79$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=53716.50$ $\lambda_{LT}=0.33$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.53$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=1.00$
 CC 18 My,Ed=-137.87 My,b,Rd=5387.15 My,Ed/My,b,Rd=0.03

- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 2
 Sollecitazioni: N,Ed=-22630.70 My,Ed=-1123.64
 Resistenze: Nc,Rd=77285.90 My,c,Rd=5387.15 L=79.00
 $\alpha_{my}, \alpha_{mz}, \alpha_{LT} = 0.95, 0.95, 0.95$
 $L_{cr}=0.79$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=53716.50$ $\lambda_{LT}=0.33$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.53$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=1.00$
 $\lambda_y=10.65$ Ncr,y=4373680.00 $\lambda^*_y=0.14$ Curva a: $\Phi_y=0.50$ $\chi_y=1.00$
 $\lambda_z=38.50$ Ncr,z=334922.00 $\lambda^*_z=0.50$ Curva b: $\Phi_z=0.68$ $\chi_z=0.88$
 Kyy, Kyz, Kzy, Kzz = 0.93, 0.65, 0.00, 1.08
 Verifica YY: $0.29 + 0.19 = 0.49$
 Verifica ZZ: $0.33 = 0.33$

- Verifica freccia massima carichi totali - CC 20
 $f_{z,L}=0.02$ (L/4653)

Relazione di calcolo

- Verifica a compressione (4.2.10) - CC 17 $X_1=0.79$ - Classe 2
Sollecitazioni: $N=-22630.70$ $T_z=-1432.35$
 $N,Ed=-22630.70$ $N_c,Rd=-80966.20$ $N,Ed/N_c,Rd=0.28$
- Verifica a taglio dir. Z (4.2.17) - CC 1 $X_1=0.00$
Sollecitazioni: $T_z=2268.69$ $M_y=-94.83$
 $V,Ed=2268.69$ ($V,Ed,G=-112.61$, $V,Ed,M=2381.30$) $V_c,Rd=21964.00$ $V,Ed/V_c,Rd=0.10$

Asta n. 111 (143 156) IPE180 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 1
 $L_{cr}=0.79$ Curva b: $\alpha_{imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=53716.40$ $\lambda_{LT}=0.33$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.53$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=1.00$
CC 18 $M_y,Ed=-137.87$ $M_y,b,Rd=5387.15$ $M_y,Ed/M_y,b,Rd=0.03$
- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 2
Sollecitazioni: $N,Ed=-22630.70$ $M_y,Ed=-1123.64$
Resistenze: $N_c,Rd=77285.90$ $M_y,c,Rd=5387.15$ $L=79.00$
 α_{my} , α_{mz} , $\alpha_{LT} = 0.95, 0.95, 0.95$
 $L_{cr}=0.79$ Curva b: $\alpha_{imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=53716.40$ $\lambda_{LT}=0.33$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.53$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=1.00$
 $\lambda_y=10.65$ $N_{cr,y}=4373670.00$ $\lambda^*_y=0.14$ Curva a: $\Phi_y=0.50$ $\chi_y=1.00$
 $\lambda_z=38.50$ $N_{cr,z}=334922.00$ $\lambda^*_z=0.50$ Curva b: $\Phi_z=0.68$ $\chi_z=0.88$
 K_{yy} , K_{yz} , K_{zy} , $K_{zz} = 0.93, 0.65, 0.00, 1.08$
Verifica YY: $0.29 + 0.19 = 0.49$
Verifica ZZ: $0.33 = 0.33$
- Verifica freccia massima carichi totali - CC 21
 $f_{z,L}=0.02$ (L/4816)
- Verifica a compressione (4.2.10) - CC 17 $X_1=0.00$ - Classe 2
Sollecitazioni: $N=-22630.70$ $T_z=1432.35$
 $N,Ed=-22630.70$ $N_c,Rd=-80966.20$ $N,Ed/N_c,Rd=0.28$
- Verifica a taglio dir. Z (4.2.17) - CC 1 $X_1=0.00$
Sollecitazioni: $T_z=2508.76$
 $V,Ed=2508.76$ ($V,Ed,G=127.46$, $V,Ed,M=2381.30$) $V_c,Rd=21964.00$ $V,Ed/V_c,Rd=0.11$

Asta n. 111 (156 169) IPE180 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 1
 $L_{cr}=0.79$ Curva b: $\alpha_{imp}=0.34$ $k_c=0.94$ $\psi=1.00$ $M_{cr}=30695.10$ $\lambda_{LT}=0.44$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.58$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=1.00$
CC 18 $M_y,Ed=-137.87$ $M_y,b,Rd=5387.15$ $M_y,Ed/M_y,b,Rd=0.03$
- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 2
Sollecitazioni: $N,Ed=-22630.70$ $M_y,Ed=-1123.64$
Resistenze: $N_c,Rd=77285.90$ $M_y,c,Rd=5387.15$ $L=79.00$
 α_{my} , α_{mz} , $\alpha_{LT} = 0.95, 0.95, 0.95$
 $L_{cr}=0.79$ Curva b: $\alpha_{imp}=0.34$ $k_c=0.94$ $\psi=1.00$ $M_{cr}=30695.10$ $\lambda_{LT}=0.44$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.58$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=1.00$
 $\lambda_y=10.65$ $N_{cr,y}=4373670.00$ $\lambda^*_y=0.14$ Curva a: $\Phi_y=0.50$ $\chi_y=1.00$
 $\lambda_z=38.50$ $N_{cr,z}=334922.00$ $\lambda^*_z=0.50$ Curva b: $\Phi_z=0.68$ $\chi_z=0.88$
 K_{yy} , K_{yz} , K_{zy} , $K_{zz} = 0.93, 0.65, 0.00, 1.08$
Verifica YY: $0.29 + 0.19 = 0.49$
Verifica ZZ: $0.33 = 0.33$
- Verifica freccia massima carichi totali - CC 20
 $f_{z,G}=0.00$ (L/21799)
- Verifica a pressoflessione retta - CC 17 $X_1=0.40$ - Classe 2
Sollecitazioni: $N=-22630.70$ $M_y=-1125.62$
 $M_y,Ed=-1125.62$ $M_y,c,Rd=5643.68$
 $N,Ed=-22630.70$ $N_c,Rd=80966.20$ $n = N,Ed/N_c,Rd = 0.28$
 $M_{Ny,c,Rd}=5057.53$ $M_y,Ed/M_{Ny,c,Rd} = 0.22$
- Verifica a taglio dir. Z (4.2.17) - CC 1 $X_1=0.00$
Sollecitazioni: $T_z=2388.73$ $M_y=-94.83$
 $V,Ed=2388.73$ ($V,Ed,G=7.43$, $V,Ed,M=2381.30$) $V_c,Rd=21964.00$ $V,Ed/V_c,Rd=0.11$

Asta n. 111 (169 182) IPE180 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 1
 $L_{cr}=0.79$ Curva b: $\alpha_{imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=53716.50$ $\lambda_{LT}=0.33$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.53$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=1.00$
CC 18 $M_y,Ed=-137.87$ $M_y,b,Rd=5387.15$ $M_y,Ed/M_y,b,Rd=0.03$
- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 2
Sollecitazioni: $N,Ed=-22630.70$ $M_y,Ed=-1123.64$

Relazione di calcolo

Resistenze: $N_c, R_d = 77285.90$ $M_y, c, R_d = 5387.15$ $L = 79.00$
 $\alpha_{my}, \alpha_{mz}, \alpha_{LT} = 0.95, 0.95, 0.95$
 $L_{cr} = 0.79$ Curva b: $\alpha - imp = 0.34$ $k_c = 0.94$ $\psi = 1.75$ $M_{cr} = 53716.50$ $\lambda_{LT} = 0.33$
 $\lambda_{LT,0} = 0.40$ $\beta_{LT} = 0.75$ $\Phi_{LT} = 0.53$ $\beta_{LT} = 0.75$ $f = 0.98$ $\chi_{LT} = 1.00$
 $\lambda_y = 10.65$ $N_{cr,y} = 4373680.00$ $\lambda_y^* = 0.14$ Curva a: $\Phi_y = 0.50$ $\chi_y = 1.00$
 $\lambda_z = 38.50$ $N_{cr,z} = 334922.00$ $\lambda_z^* = 0.50$ Curva b: $\Phi_z = 0.68$ $\chi_z = 0.88$
 $K_{yy}, K_{yz}, K_{zy}, K_{zz} = 0.93, 0.65, 0.00, 1.08$
Verifica YY: $0.29 + 0.19 = 0.49$
Verifica ZZ: $0.33 = 0.33$

- Verifica freccia massima carichi totali - CC 20
 $f_{z,L} = 0.02$ (L/4011)

- Verifica a compressione (4.2.10) - CC 17 $X_1 = 0.79$ - Classe 2
Sollecitazioni: $N = -22630.70$ $T_z = -1432.35$
 $N, Ed = -22630.70$ $N_c, R_d = -80966.20$ $N, Ed / N_c, R_d = 0.28$

- Verifica a taglio dir. Z (4.2.17) - CC 1 $X_1 = 0.00$
Sollecitazioni: $T_z = 2268.69$ $M_y = -94.83$
 $V, Ed = 2268.69$ ($V, Ed, G = -112.61$, $V, Ed, M = 2381.30$) $V_c, R_d = 21964.00$ $V, Ed / V_c, R_d = 0.10$

Asta n. 112 (105 118) IPE180 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 1
 $L_{cr} = 0.79$ Curva b: $\alpha - imp = 0.34$ $k_c = 0.94$ $\psi = 1.75$ $M_{cr} = 53716.50$ $\lambda_{LT} = 0.33$
 $\lambda_{LT,0} = 0.40$ $\beta_{LT} = 0.75$ $\Phi_{LT} = 0.53$ $\beta_{LT} = 0.75$ $f = 0.98$ $\chi_{LT} = 1.00$
CC 18 $M_y, Ed = -137.87$ $M_y, b, R_d = 5387.15$ $M_y, Ed / M_y, b, R_d = 0.03$

- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 2
Sollecitazioni: $N, Ed = -22630.70$ $M_y, Ed = -1123.64$
Resistenze: $N_c, R_d = 77285.90$ $M_y, c, R_d = 5387.15$ $L = 79.00$
 $\alpha_{my}, \alpha_{mz}, \alpha_{LT} = 0.95, 0.95, 0.95$
 $L_{cr} = 0.79$ Curva b: $\alpha - imp = 0.34$ $k_c = 0.94$ $\psi = 1.75$ $M_{cr} = 53716.50$ $\lambda_{LT} = 0.33$
 $\lambda_{LT,0} = 0.40$ $\beta_{LT} = 0.75$ $\Phi_{LT} = 0.53$ $\beta_{LT} = 0.75$ $f = 0.98$ $\chi_{LT} = 1.00$
 $\lambda_y = 10.65$ $N_{cr,y} = 4373670.00$ $\lambda_y^* = 0.14$ Curva a: $\Phi_y = 0.50$ $\chi_y = 1.00$
 $\lambda_z = 38.50$ $N_{cr,z} = 334922.00$ $\lambda_z^* = 0.50$ Curva b: $\Phi_z = 0.68$ $\chi_z = 0.88$
 $K_{yy}, K_{yz}, K_{zy}, K_{zz} = 0.93, 0.65, 0.00, 1.08$
Verifica YY: $0.29 + 0.19 = 0.49$
Verifica ZZ: $0.33 = 0.33$

- Verifica freccia massima carichi totali - CC 21
 $f_{z,L} = 0.02$ (L/4162)

- Verifica a compressione (4.2.10) - CC 17 $X_1 = 0.00$ - Classe 2
Sollecitazioni: $N = -22630.70$ $T_z = 1432.35$
 $N, Ed = -22630.70$ $N_c, R_d = -80966.20$ $N, Ed / N_c, R_d = 0.28$

- Verifica a taglio dir. Z (4.2.17) - CC 1 $X_1 = 0.00$
Sollecitazioni: $T_z = 2508.76$
 $V, Ed = 2508.76$ ($V, Ed, G = 127.46$, $V, Ed, M = 2381.30$) $V_c, R_d = 21964.00$ $V, Ed / V_c, R_d = 0.11$

Asta n. 112 (118 131) IPE180 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 1
 $L_{cr} = 0.79$ Curva b: $\alpha - imp = 0.34$ $k_c = 0.94$ $\psi = 1.00$ $M_{cr} = 30695.10$ $\lambda_{LT} = 0.44$
 $\lambda_{LT,0} = 0.40$ $\beta_{LT} = 0.75$ $\Phi_{LT} = 0.58$ $\beta_{LT} = 0.75$ $f = 0.98$ $\chi_{LT} = 1.00$
CC 18 $M_y, Ed = -137.87$ $M_y, b, R_d = 5387.15$ $M_y, Ed / M_y, b, R_d = 0.03$

- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 2
Sollecitazioni: $N, Ed = -22630.70$ $M_y, Ed = -1123.64$
Resistenze: $N_c, R_d = 77285.90$ $M_y, c, R_d = 5387.15$ $L = 79.00$
 $\alpha_{my}, \alpha_{mz}, \alpha_{LT} = 0.95, 0.95, 0.95$
 $L_{cr} = 0.79$ Curva b: $\alpha - imp = 0.34$ $k_c = 0.94$ $\psi = 1.00$ $M_{cr} = 30695.10$ $\lambda_{LT} = 0.44$
 $\lambda_{LT,0} = 0.40$ $\beta_{LT} = 0.75$ $\Phi_{LT} = 0.58$ $\beta_{LT} = 0.75$ $f = 0.98$ $\chi_{LT} = 1.00$
 $\lambda_y = 10.65$ $N_{cr,y} = 4373670.00$ $\lambda_y^* = 0.14$ Curva a: $\Phi_y = 0.50$ $\chi_y = 1.00$
 $\lambda_z = 38.50$ $N_{cr,z} = 334922.00$ $\lambda_z^* = 0.50$ Curva b: $\Phi_z = 0.68$ $\chi_z = 0.88$
 $K_{yy}, K_{yz}, K_{zy}, K_{zz} = 0.93, 0.65, 0.00, 1.08$
Verifica YY: $0.29 + 0.19 = 0.49$
Verifica ZZ: $0.33 = 0.33$

- Verifica freccia massima carichi totali - CC 21
 $f_{z,L} = 0.00$ (L/25024)

- Verifica a pressoflessione retta - CC 17 $X_1 = 0.39$ - Classe 2
Sollecitazioni: $N = -22630.70$ $M_y = -1125.62$
 $M_y, Ed = -1125.62$ $M_y, c, R_d = 5643.68$
 $N, Ed = -22630.70$ $N_c, R_d = 80966.20$ $n = N, Ed / N_c, R_d = 0.28$
 $M_{Ny}, c, R_d = 5057.53$ $M_y, Ed / M_{Ny}, c, R_d = 0.22$

Relazione di calcolo

- Verifica a taglio dir. Z (4.2.17) - CC 1 $X_1=0.00$
Sollecitazioni: $T_z=2388.73$ $M_y=-94.83$
 $V,Ed=2388.73$ ($V,Ed,G=7.43$, $V,Ed,M=2381.30$) $V_c,Rd=21964.00$ $V,Ed/V_c,Rd=0.11$
- Asta n. 112 (131 144) IPE180 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 1
 $L_{cr}=0.79$ Curva b: $\alpha_{imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=53716.50$ $\lambda_{LT}=0.33$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.53$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=1.00$
CC 18 $M_y,Ed=-137.87$ $M_y,b,Rd=5387.15$ $M_y,Ed/M_y,b,Rd=0.03$
- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 2
Sollecitazioni: $N,Ed=-22630.70$ $M_y,Ed=-1123.64$
Resistenze: $N_c,Rd=77285.90$ $M_y,c,Rd=5387.15$ $L=79.00$
 α_{my} , α_{mz} , $\alpha_{LT} = 0.95, 0.95, 0.95$
 $L_{cr}=0.79$ Curva b: $\alpha_{imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=53716.50$ $\lambda_{LT}=0.33$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.53$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=1.00$
 $\lambda_y=10.65$ $N_{cr,y}=4373680.00$ $\lambda_y^*=0.14$ Curva a: $\Phi_y=0.50$ $\chi_y=1.00$
 $\lambda_z=38.50$ $N_{cr,z}=334922.00$ $\lambda_z^*=0.50$ Curva b: $\Phi_z=0.68$ $\chi_z=0.88$
 K_{yy} , K_{yz} , K_{zy} , $K_{zz} = 0.93, 0.65, 0.00, 1.08$
Verifica YY: $0.29 + 0.19 = 0.49$
Verifica ZZ: $0.33 = 0.33$
- Verifica freccia massima carichi totali - CC 20
 $f_{z,L}=0.02$ (L/4551)
- Verifica a compressione (4.2.10) - CC 17 $X_1=0.79$ - Classe 2
Sollecitazioni: $N=-22630.70$ $T_z=-1432.35$
 $N,Ed=-22630.70$ $N_c,Rd=-80966.20$ $N,Ed/N_c,Rd=0.28$
- Verifica a taglio dir. Z (4.2.17) - CC 1 $X_1=0.00$
Sollecitazioni: $T_z=2268.69$ $M_y=-94.83$
 $V,Ed=2268.69$ ($V,Ed,G=-112.61$, $V,Ed,M=2381.30$) $V_c,Rd=21964.00$ $V,Ed/V_c,Rd=0.10$

- Asta n. 112 (144 157) IPE180 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 1
 $L_{cr}=0.79$ Curva b: $\alpha_{imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=53716.40$ $\lambda_{LT}=0.33$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.53$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=1.00$
CC 18 $M_y,Ed=-137.87$ $M_y,b,Rd=5387.15$ $M_y,Ed/M_y,b,Rd=0.03$
- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 2
Sollecitazioni: $N,Ed=-22630.70$ $M_y,Ed=-1123.64$
Resistenze: $N_c,Rd=77285.90$ $M_y,c,Rd=5387.15$ $L=79.00$
 α_{my} , α_{mz} , $\alpha_{LT} = 0.95, 0.95, 0.95$
 $L_{cr}=0.79$ Curva b: $\alpha_{imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=53716.40$ $\lambda_{LT}=0.33$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.53$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=1.00$
 $\lambda_y=10.65$ $N_{cr,y}=4373670.00$ $\lambda_y^*=0.14$ Curva a: $\Phi_y=0.50$ $\chi_y=1.00$
 $\lambda_z=38.50$ $N_{cr,z}=334922.00$ $\lambda_z^*=0.50$ Curva b: $\Phi_z=0.68$ $\chi_z=0.88$
 K_{yy} , K_{yz} , K_{zy} , $K_{zz} = 0.93, 0.65, 0.00, 1.08$
Verifica YY: $0.29 + 0.19 = 0.49$
Verifica ZZ: $0.33 = 0.33$
- Verifica freccia massima carichi totali - CC 21
 $f_{z,L}=0.02$ (L/4706)
- Verifica a compressione (4.2.10) - CC 17 $X_1=0.00$ - Classe 2
Sollecitazioni: $N=-22630.70$ $T_z=1432.35$
 $N,Ed=-22630.70$ $N_c,Rd=-80966.20$ $N,Ed/N_c,Rd=0.28$
- Verifica a taglio dir. Z (4.2.17) - CC 1 $X_1=0.00$
Sollecitazioni: $T_z=2508.76$
 $V,Ed=2508.76$ ($V,Ed,G=127.46$, $V,Ed,M=2381.30$) $V_c,Rd=21964.00$ $V,Ed/V_c,Rd=0.11$

- Asta n. 112 (157 170) IPE180 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 1
 $L_{cr}=0.79$ Curva b: $\alpha_{imp}=0.34$ $k_c=0.94$ $\psi=1.00$ $M_{cr}=30695.10$ $\lambda_{LT}=0.44$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.58$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=1.00$
CC 18 $M_y,Ed=-137.87$ $M_y,b,Rd=5387.15$ $M_y,Ed/M_y,b,Rd=0.03$
- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 2
Sollecitazioni: $N,Ed=-22630.70$ $M_y,Ed=-1123.64$
Resistenze: $N_c,Rd=77285.90$ $M_y,c,Rd=5387.15$ $L=79.00$
 α_{my} , α_{mz} , $\alpha_{LT} = 0.95, 0.95, 0.95$
 $L_{cr}=0.79$ Curva b: $\alpha_{imp}=0.34$ $k_c=0.94$ $\psi=1.00$ $M_{cr}=30695.10$ $\lambda_{LT}=0.44$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.58$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=1.00$
 $\lambda_y=10.65$ $N_{cr,y}=4373670.00$ $\lambda_y^*=0.14$ Curva a: $\Phi_y=0.50$ $\chi_y=1.00$

Relazione di calcolo

$\lambda_z=38.50$ Ncr,z=334922.00 $\lambda^*_z=0.50$ Curva b: $\Phi_z=0.68$ $\chi_z=0.88$
Kyy, Kyz, Kzy, Kzz = 0.93, 0.65, 0.00, 1.08
Verifica YY: 0.29 + 0.19 = 0.49
Verifica ZZ: 0.33 = 0.33

- Verifica freccia massima carichi totali - CC 20
 $f_{z,g}=0.00$ (L/22695)

- Verifica a pressoflessione retta - CC 17 Xl=0.40 - Classe 2
Sollecitazioni: N=-22630.70 $M_y=-1125.62$
 $M_y,Ed=-1125.62$ $M_y,c,Rd=5643.68$
N,Ed=-22630.70 Nc,Rd=80966.20 $n= N,Ed/Nc,Rd = 0.28$
 $MNy,c,Rd=5057.53$ $M_y,Ed/MNy,c,Rd = 0.22$

- Verifica a taglio dir. Z (4.2.17) - CC 1 Xl=0.00
Sollecitazioni: $T_z=2388.73$ $M_y=-94.83$
V,Ed=2388.73 (V,Ed,G=7.43, V,Ed,M=2381.30) $V_c,Rd=21964.00$ $V,Ed/V_c,Rd=0.11$

Asta n. 112 (170 183) IPE180 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 1
 $L_{cr}=0.79$ Curva b: $\alpha_{imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=53716.50$ $\lambda_{LT}=0.33$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.53$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=1.00$
CC 18 $M_y,Ed=-137.87$ $M_y,b,Rd=5387.15$ $M_y,Ed/M_y,b,Rd=0.03$

- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 2
Sollecitazioni: N,Ed=-22630.70 $M_y,Ed=-1123.64$
Resistenze: Nc,Rd=77285.90 $M_y,c,Rd=5387.15$ L=79.00
 $\alpha_{my}, \alpha_{mz}, \alpha_{LT} = 0.95, 0.95, 0.95$
 $L_{cr}=0.79$ Curva b: $\alpha_{imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=53716.50$ $\lambda_{LT}=0.33$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.53$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=1.00$
 $\lambda_y=10.65$ Ncr,y=4373680.00 $\lambda^*_y=0.14$ Curva a: $\Phi_y=0.50$ $\chi_y=1.00$
 $\lambda_z=38.50$ Ncr,z=334922.00 $\lambda^*_z=0.50$ Curva b: $\Phi_z=0.68$ $\chi_z=0.88$
Kyy, Kyz, Kzy, Kzz = 0.93, 0.65, 0.00, 1.08
Verifica YY: 0.29 + 0.19 = 0.49
Verifica ZZ: 0.33 = 0.33

- Verifica freccia massima carichi totali - CC 20
 $f_{z,L}=0.02$ (L/4060)

- Verifica a compressione (4.2.10) - CC 17 Xl=0.79 - Classe 2
Sollecitazioni: N=-22630.70 $T_z=-1432.35$
N,Ed=-22630.70 Nc,Rd=-80966.20 $N,Ed/Nc,Rd=0.28$

- Verifica a taglio dir. Z (4.2.17) - CC 1 Xl=0.00
Sollecitazioni: $T_z=2268.69$ $M_y=-94.83$
V,Ed=2268.69 (V,Ed,G=-112.61, V,Ed,M=2381.30) $V_c,Rd=21964.00$ $V,Ed/V_c,Rd=0.10$

Asta n. 113 (106 119) IPE180 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 1
 $L_{cr}=0.79$ Curva b: $\alpha_{imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=53716.50$ $\lambda_{LT}=0.33$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.53$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=1.00$
CC 18 $M_y,Ed=-111.80$ $M_y,b,Rd=5387.15$ $M_y,Ed/M_y,b,Rd=0.02$

- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 2
Sollecitazioni: N,Ed=-22630.70 $M_y,Ed=-886.93$
Resistenze: Nc,Rd=77285.90 $M_y,c,Rd=5387.15$ L=79.00
 $\alpha_{my}, \alpha_{mz}, \alpha_{LT} = 0.95, 0.95, 0.95$
 $L_{cr}=0.79$ Curva b: $\alpha_{imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=53716.50$ $\lambda_{LT}=0.33$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.53$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=1.00$
 $\lambda_y=10.65$ Ncr,y=4373670.00 $\lambda^*_y=0.14$ Curva a: $\Phi_y=0.50$ $\chi_y=1.00$
 $\lambda_z=38.50$ Ncr,z=334922.00 $\lambda^*_z=0.50$ Curva b: $\Phi_z=0.68$ $\chi_z=0.88$
Kyy, Kyz, Kzy, Kzz = 0.93, 0.65, 0.00, 1.08
Verifica YY: 0.29 + 0.15 = 0.45
Verifica ZZ: 0.33 = 0.33

- Verifica freccia massima carichi totali - CC 21
 $f_{z,L}=0.02$ (L/5259)

- Verifica a compressione (4.2.10) - CC 17 Xl=0.00 - Classe 2
Sollecitazioni: N=-22630.70 $T_z=1132.72$
N,Ed=-22630.70 Nc,Rd=-80966.20 $N,Ed/Nc,Rd=0.28$

- Verifica a taglio dir. Z (4.2.17) - CC 1 Xl=0.00
Sollecitazioni: $T_z=2486.28$
V,Ed=2486.28 (V,Ed,G=104.98, V,Ed,M=2381.30) $V_c,Rd=21964.00$ $V,Ed/V_c,Rd=0.11$

Asta n. 113 (119 132) IPE180 Crit. 1

Relazione di calcolo

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- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 1
L_{cr}=0.79 Curva b: α -imp=0.34 k_c=0.94 ψ =1.00 M_{cr}=30695.10 λ_{LT} =0.44
 $\lambda_{LT,0}$ =0.40 β_{LT} =0.75 Φ_{LT} =0.58 β_{LT} =0.75 f=0.98 χ_{LT} =1.00
CC 18 My,Ed=-111.80 My,b,Rd=5387.15 My,Ed/My,b,Rd=0.02
- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 2
Sollecitazioni: N,Ed=-22630.70 My,Ed=-886.93
Resistenze: N_c,Rd=77285.90 My,c,Rd=5387.15 L=79.00
 α_{my} , α_{mz} , α_{LT} = 0.95, 0.95, 0.95
L_{cr}=0.79 Curva b: α -imp=0.34 k_c=0.94 ψ =1.00 M_{cr}=30695.10 λ_{LT} =0.44
 $\lambda_{LT,0}$ =0.40 β_{LT} =0.75 Φ_{LT} =0.58 β_{LT} =0.75 f=0.98 χ_{LT} =1.00
 λ_y =10.65 N_{cr,y}=4373670.00 λ^*_y =0.14 Curva a: Φ_y =0.50 χ_y =1.00
 λ_z =38.50 N_{cr,z}=334922.00 λ^*_z =0.50 Curva b: Φ_z =0.68 χ_z =0.88
K_{yy}, K_{yz}, K_{zy}, K_{zz} = 0.93, 0.65, 0.00, 1.08
Verifica YY: 0.29 + 0.15 = 0.45
Verifica ZZ: 0.33 = 0.33
- Verifica freccia massima carichi totali - CC 21
f_{z,g}=0.00 (L/33811)
- Verifica a pressoflessione retta - CC 17 X1=0.39 - Classe 2
Sollecitazioni: N=-22630.70 M_y=-888.91
My,Ed=-888.91 My,c,Rd=5643.68
N,Ed=-22630.70 N_c,Rd=80966.20 n= N,Ed/N_c,Rd = 0.28
M_{Ny,c},Rd=5057.53 My,Ed/M_{Ny,c},Rd = 0.18
- Verifica a taglio dir. Z (4.2.17) - CC 1 X1=0.00
Sollecitazioni: T_z=2388.73 M_y=-77.07
V,Ed=2388.73 (V,Ed,G=7.43, V,Ed,M=2381.30) V_c,Rd=21964.00 V,Ed/V_c,Rd=0.11

Asta n. 113 (132 145) IPE180 Crit. 1

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- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 1
L_{cr}=0.79 Curva b: α -imp=0.34 k_c=0.94 ψ =1.75 M_{cr}=53716.50 λ_{LT} =0.33
 $\lambda_{LT,0}$ =0.40 β_{LT} =0.75 Φ_{LT} =0.53 β_{LT} =0.75 f=0.98 χ_{LT} =1.00
CC 18 My,Ed=-111.80 My,b,Rd=5387.15 My,Ed/My,b,Rd=0.02
- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 2
Sollecitazioni: N,Ed=-22630.70 My,Ed=-886.93
Resistenze: N_c,Rd=77285.90 My,c,Rd=5387.15 L=79.00
 α_{my} , α_{mz} , α_{LT} = 0.95, 0.95, 0.95
L_{cr}=0.79 Curva b: α -imp=0.34 k_c=0.94 ψ =1.75 M_{cr}=53716.50 λ_{LT} =0.33
 $\lambda_{LT,0}$ =0.40 β_{LT} =0.75 Φ_{LT} =0.53 β_{LT} =0.75 f=0.98 χ_{LT} =1.00
 λ_y =10.65 N_{cr,y}=4373680.00 λ^*_y =0.14 Curva a: Φ_y =0.50 χ_y =1.00
 λ_z =38.50 N_{cr,z}=334922.00 λ^*_z =0.50 Curva b: Φ_z =0.68 χ_z =0.88
K_{yy}, K_{yz}, K_{zy}, K_{zz} = 0.93, 0.65, 0.00, 1.08
Verifica YY: 0.29 + 0.15 = 0.45
Verifica ZZ: 0.33 = 0.33
- Verifica freccia massima carichi totali - CC 20
f_{z,L}=0.01 (L/5414)
- Verifica a compressione (4.2.10) - CC 17 X1=0.79 - Classe 2
Sollecitazioni: N=-22630.70 T_z=-1132.72
N,Ed=-22630.70 N_c,Rd=-80966.20 N,Ed/N_c,Rd=0.28
- Verifica a taglio dir. Z (4.2.17) - CC 1 X1=0.00
Sollecitazioni: T_z=2291.17 M_y=-77.07
V,Ed=2291.17 (V,Ed,G=-90.13, V,Ed,M=2381.30) V_c,Rd=21964.00 V,Ed/V_c,Rd=0.10

Asta n. 113 (145 158) IPE180 Crit. 1

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- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 1
L_{cr}=0.79 Curva b: α -imp=0.34 k_c=0.94 ψ =1.75 M_{cr}=53716.40 λ_{LT} =0.33
 $\lambda_{LT,0}$ =0.40 β_{LT} =0.75 Φ_{LT} =0.53 β_{LT} =0.75 f=0.98 χ_{LT} =1.00
CC 18 My,Ed=-111.80 My,b,Rd=5387.15 My,Ed/My,b,Rd=0.02
- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 2
Sollecitazioni: N,Ed=-22630.70 My,Ed=-886.93
Resistenze: N_c,Rd=77285.90 My,c,Rd=5387.15 L=79.00
 α_{my} , α_{mz} , α_{LT} = 0.95, 0.95, 0.95
L_{cr}=0.79 Curva b: α -imp=0.34 k_c=0.94 ψ =1.75 M_{cr}=53716.40 λ_{LT} =0.33
 $\lambda_{LT,0}$ =0.40 β_{LT} =0.75 Φ_{LT} =0.53 β_{LT} =0.75 f=0.98 χ_{LT} =1.00
 λ_y =10.65 N_{cr,y}=4373670.00 λ^*_y =0.14 Curva a: Φ_y =0.50 χ_y =1.00
 λ_z =38.50 N_{cr,z}=334922.00 λ^*_z =0.50 Curva b: Φ_z =0.68 χ_z =0.88
K_{yy}, K_{yz}, K_{zy}, K_{zz} = 0.93, 0.65, 0.00, 1.08
Verifica YY: 0.29 + 0.15 = 0.45

Relazione di calcolo

Verifica ZZ: $0.33 = 0.33$

- Verifica freccia massima carichi totali - CC 21
 $f_{z,L}=0.01$ (L/5597)

- Verifica a compressione (4.2.10) - CC 17 $X_1=0.00$ - Classe 2
Sollecitazioni: $N=-22630.70$ $T_x=1132.72$
 $N,Ed=-22630.70$ $N_c,Rd=-80966.20$ $N,Ed/N_c,Rd=0.28$

- Verifica a taglio dir. Z (4.2.17) - CC 1 $X_1=0.00$
Sollecitazioni: $T_x=2486.28$
 $V,Ed=2486.28$ ($V,Ed,G=104.98$, $V,Ed,M=2381.30$) $V_c,Rd=21964.00$ $V,Ed/V_c,Rd=0.11$

Asta n. 113 (158 171) IPE180 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 1
 $L_{cr}=0.79$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=1.00$ $M_{cr}=30695.10$ $\lambda_{LT}=0.44$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.58$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=1.00$
CC 18 $M_y,Ed=-111.80$ $M_y,b,Rd=5387.15$ $M_y,Ed/M_y,b,Rd=0.02$

- Verifica di stabilità aste presso-inflesse (4.2.4.1.3.3.2) - CC 17 - Classe 2
Sollecitazioni: $N,Ed=-22630.70$ $M_y,Ed=-886.93$
Resistenze: $N_c,Rd=77285.90$ $M_y,c,Rd=5387.15$ $L=79.00$
 α_{my} , α_{mz} , $\alpha_{LT} = 0.95, 0.95, 0.95$
 $L_{cr}=0.79$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=1.00$ $M_{cr}=30695.10$ $\lambda_{LT}=0.44$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.58$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=1.00$
 $\lambda_y=10.65$ $N_{cr,y}=4373670.00$ $\lambda^*_y=0.14$ Curva a: $\Phi_y=0.50$ $\chi_y=1.00$
 $\lambda_z=38.50$ $N_{cr,z}=334922.00$ $\lambda^*_z=0.50$ Curva b: $\Phi_z=0.68$ $\chi_z=0.88$
 K_{yy} , K_{yz} , K_{zy} , $K_{zz} = 0.93, 0.65, 0.00, 1.08$
Verifica YY: $0.29 + 0.15 = 0.45$
Verifica ZZ: $0.33 = 0.33$

- Verifica freccia massima carichi totali - CC 20
 $f_{z,g}=0.00$ (L/30122)

- Verifica a pressoflessione retta - CC 17 $X_1=0.40$ - Classe 2
Sollecitazioni: $N=-22630.70$ $M_y=-888.91$
 $M_y,Ed=-888.91$ $M_y,c,Rd=5643.68$
 $N,Ed=-22630.70$ $N_c,Rd=80966.20$ $n = N,Ed/N_c,Rd = 0.28$
 $M_{Ny,c,Rd}=5057.53$ $M_y,Ed/M_{Ny,c,Rd} = 0.18$

- Verifica a taglio dir. Z (4.2.17) - CC 1 $X_1=0.00$
Sollecitazioni: $T_x=2388.73$ $M_y=-77.07$
 $V,Ed=2388.73$ ($V,Ed,G=7.43$, $V,Ed,M=2381.30$) $V_c,Rd=21964.00$ $V,Ed/V_c,Rd=0.11$

Asta n. 113 (171 184) IPE180 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 1
 $L_{cr}=0.79$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=53716.50$ $\lambda_{LT}=0.33$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.53$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=1.00$
CC 18 $M_y,Ed=-111.80$ $M_y,b,Rd=5387.15$ $M_y,Ed/M_y,b,Rd=0.02$

- Verifica di stabilità aste presso-inflesse (4.2.4.1.3.3.2) - CC 17 - Classe 2
Sollecitazioni: $N,Ed=-22630.70$ $M_y,Ed=-886.93$
Resistenze: $N_c,Rd=77285.90$ $M_y,c,Rd=5387.15$ $L=79.00$
 α_{my} , α_{mz} , $\alpha_{LT} = 0.95, 0.95, 0.95$
 $L_{cr}=0.79$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=53716.50$ $\lambda_{LT}=0.33$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.53$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=1.00$
 $\lambda_y=10.65$ $N_{cr,y}=4373680.00$ $\lambda^*_y=0.14$ Curva a: $\Phi_y=0.50$ $\chi_y=1.00$
 $\lambda_z=38.50$ $N_{cr,z}=334922.00$ $\lambda^*_z=0.50$ Curva b: $\Phi_z=0.68$ $\chi_z=0.88$
 K_{yy} , K_{yz} , K_{zy} , $K_{zz} = 0.93, 0.65, 0.00, 1.08$
Verifica YY: $0.29 + 0.15 = 0.45$
Verifica ZZ: $0.33 = 0.33$

- Verifica freccia massima carichi totali - CC 20
 $f_{z,L}=0.02$ (L/5113)

- Verifica a compressione (4.2.10) - CC 17 $X_1=0.79$ - Classe 2
Sollecitazioni: $N=-22630.70$ $T_x=-1132.72$
 $N,Ed=-22630.70$ $N_c,Rd=-80966.20$ $N,Ed/N_c,Rd=0.28$

- Verifica a taglio dir. Z (4.2.17) - CC 1 $X_1=0.00$
Sollecitazioni: $T_x=2291.17$ $M_y=-77.07$
 $V,Ed=2291.17$ ($V,Ed,G=-90.13$, $V,Ed,M=2381.30$) $V_c,Rd=21964.00$ $V,Ed/V_c,Rd=0.10$

Asta n. 114 (107 120) IPE180 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 1
 $L_{cr}=0.79$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=2.46$ $M_{cr}=75451.50$ $\lambda_{LT}=0.28$

Relazione di calcolo

- $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.51$ $\beta_{LT}=0.75$ $f=0.99$ $\chi_{LT}=1.00$
CC 18 $M_{y,Ed}=2.76$ $M_{y,b,Rd}=5387.15$ $M_{y,Ed}/M_{y,b,Rd}=0.00$
- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 2
Sollecitazioni: $N_{Ed}=-22630.70$ $M_{y,Ed}=-6.78$
Resistenze: $N_{c,Rd}=77285.90$ $M_{y,c,Rd}=5387.15$ $L=79.00$
 α_{my} , α_{mz} , $\alpha_{LT} = 0.95, 0.95, 0.95$
 $L_{cr}=0.79$ Curva b: $\alpha_{imp}=0.34$ $k_c=0.94$ $\psi=2.39$ $M_{cr}=73487.10$ $\lambda_{LT}=0.28$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.51$ $\beta_{LT}=0.75$ $f=0.99$ $\chi_{LT}=1.00$
 $\lambda_y=10.65$ $N_{cr,y}=4373670.00$ $\lambda^*_{y}=0.14$ Curva a: $\Phi_y=0.50$ $\chi_y=1.00$
 $\lambda_z=38.50$ $N_{cr,z}=334922.00$ $\lambda^*_{z}=0.50$ Curva b: $\Phi_z=0.68$ $\chi_z=0.88$
 K_{yy} , K_{yz} , K_{zy} , $K_{zz} = 0.93, 0.65, 0.00, 1.08$
Verifica YY: $0.29 + 0.00 = 0.29$
Verifica ZZ: $0.33 = 0.33$
- Verifica a compressione (4.2.10) - CC 17 $X_1=0.57$ - Classe 2
Sollecitazioni: $N=-22630.70$ $T_z=-17.71$
 $N_{Ed}=-22630.70$ $N_{c,Rd}=80966.20$ $N_{Ed}/N_{c,Rd}=0.28$
- Verifica a taglio dir. Z (4.2.17) - CC 1 $X_1=0.00$
Sollecitazioni: $T_z=2388.74$
 $V_{Ed}=2388.74$ ($V_{Ed,G}=7.44$, $V_{Ed,M}=2381.30$) $V_{c,Rd}=21964.00$ $V_{Ed}/V_{c,Rd}=0.11$
- Asta n. 114 (120 133) IPE180 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 19 - Classe 1
 $L_{cr}=0.79$ Curva b: $\alpha_{imp}=0.34$ $k_c=0.94$ $\psi=1.31$ $M_{cr}=40351.40$ $\lambda_{LT}=0.38$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.55$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=1.00$
CC 19 $M_{y,Ed}=3.29$ $M_{y,b,Rd}=5387.15$ $M_{y,Ed}/M_{y,b,Rd}=0.00$
- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 2
Sollecitazioni: $N_{Ed}=-22630.70$ $M_{y,Ed}=7.91$
Resistenze: $N_{c,Rd}=77285.90$ $M_{y,c,Rd}=5387.15$ $L=79.00$
 α_{my} , α_{mz} , $\alpha_{LT} = 0.95, 0.95, 0.95$
 $L_{cr}=0.79$ Curva b: $\alpha_{imp}=0.34$ $k_c=0.94$ $\psi=1.18$ $M_{cr}=36361.00$ $\lambda_{LT}=0.40$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.56$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=1.00$
 $\lambda_y=10.65$ $N_{cr,y}=4373670.00$ $\lambda^*_{y}=0.14$ Curva a: $\Phi_y=0.50$ $\chi_y=1.00$
 $\lambda_z=38.50$ $N_{cr,z}=334922.00$ $\lambda^*_{z}=0.50$ Curva b: $\Phi_z=0.68$ $\chi_z=0.88$
 K_{yy} , K_{yz} , K_{zy} , $K_{zz} = 0.93, 0.65, 0.00, 1.08$
Verifica YY: $0.29 + 0.00 = 0.29$
Verifica ZZ: $0.33 = 0.33$
- Verifica a pressoflessione retta - CC 17 $X_1=0.00$ - Classe 2
Sollecitazioni: $N=-22630.70$ $T_z=13.38$ $M_y=7.91$
 $M_{y,Ed}=7.91$ $M_{y,c,Rd}=5643.68$
 $N_{Ed}=-22630.70$ $N_{c,Rd}=80966.20$ $n = N_{Ed}/N_{c,Rd} = 0.28$
 $MN_{y,c,Rd}=5057.53$ $M_{y,Ed}/MN_{y,c,Rd} = 0.00$
- Verifica a taglio dir. Z (4.2.17) - CC 1 $X_1=0.00$
Sollecitazioni: $T_z=2391.29$ $M_y=2.80$
 $V_{Ed}=2391.29$ ($V_{Ed,G}=9.99$, $V_{Ed,M}=2381.30$) $V_{c,Rd}=21964.00$ $V_{Ed}/V_{c,Rd}=0.11$
- Asta n. 114 (133 146) IPE180 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 19 - Classe 1
 $L_{cr}=0.79$ Curva b: $\alpha_{imp}=0.34$ $k_c=0.94$ $\psi=2.47$ $M_{cr}=75835.40$ $\lambda_{LT}=0.28$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.51$ $\beta_{LT}=0.75$ $f=0.99$ $\chi_{LT}=1.00$
CC 19 $M_{y,Ed}=3.82$ $M_{y,b,Rd}=5387.15$ $M_{y,Ed}/M_{y,b,Rd}=0.00$
- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 2
Sollecitazioni: $N_{Ed}=-22630.70$ $M_{y,Ed}=-18.28$
Resistenze: $N_{c,Rd}=77285.90$ $M_{y,c,Rd}=5387.15$ $L=79.00$
 α_{my} , α_{mz} , $\alpha_{LT} = 0.95, 0.95, 0.95$
 $L_{cr}=0.79$ Curva b: $\alpha_{imp}=0.34$ $k_c=0.94$ $\psi=2.75$ $M_{cr}=84552.70$ $\lambda_{LT}=0.26$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.50$ $\beta_{LT}=0.75$ $f=0.99$ $\chi_{LT}=1.00$
 $\lambda_y=10.65$ $N_{cr,y}=4373680.00$ $\lambda^*_{y}=0.14$ Curva a: $\Phi_y=0.50$ $\chi_y=1.00$
 $\lambda_z=38.50$ $N_{cr,z}=334922.00$ $\lambda^*_{z}=0.50$ Curva b: $\Phi_z=0.68$ $\chi_z=0.88$
 K_{yy} , K_{yz} , K_{zy} , $K_{zz} = 0.93, 0.65, 0.00, 1.08$
Verifica YY: $0.29 + 0.00 = 0.30$
Verifica ZZ: $0.33 = 0.33$
- Verifica a compressione (4.2.10) - CC 17 $X_1=0.29$ - Classe 2
Sollecitazioni: $N=-22630.70$ $T_z=43.96$
 $N_{Ed}=-22630.70$ $N_{c,Rd}=80966.20$ $N_{Ed}/N_{c,Rd}=0.28$
- Verifica a taglio dir. Z (4.2.17) - CC 1 $X_1=0.00$
Sollecitazioni: $T_z=2395.57$ $M_y=3.04$
 $V_{Ed}=2395.57$ ($V_{Ed,G}=14.27$, $V_{Ed,M}=2381.30$) $V_{c,Rd}=21964.00$ $V_{Ed}/V_{c,Rd}=0.11$

Relazione di calcolo

Asta n. 114 (146 159) IPE180 Crit. 1

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- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 1
L_{cr}=0.79 Curva b: α -imp=0.34 k_c=0.94 ψ =2.22 M_{cr}=68134.50 λ_{LT} =0.29
 $\lambda_{LT,0}$ =0.40 β_{LT} =0.75 Φ_{LT} =0.51 β_{LT} =0.75 f=0.99 χ_{LT} =1.00
CC 18 My,Ed=3.32 My,b,Rd=5387.15 My,Ed/My,b,Rd=0.00
- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 2
Sollecitazioni: N,Ed=-22630.70 My,Ed=-13.52
Resistenze: N_c,Rd=77285.90 My,c,Rd=5387.15 L=79.00
 α_{my} , α_{mz} , α_{LT} = 0.95, 0.95, 0.95
L_{cr}=0.79 Curva b: α -imp=0.34 k_c=0.94 ψ =2.85 M_{cr}=87478.30 λ_{LT} =0.26
 $\lambda_{LT,0}$ =0.40 β_{LT} =0.75 Φ_{LT} =0.50 β_{LT} =0.75 f=0.99 χ_{LT} =1.00
 λ_y =10.65 N_{cr,y}=4373670.00 λ^*_y =0.14 Curva a: Φ_y =0.50 χ_y =1.00
 λ_z =38.50 N_{cr,z}=334922.00 λ^*_z =0.50 Curva b: Φ_z =0.68 χ_z =0.88
K_{yy}, K_{yz}, K_{zy}, K_{zz} = 0.93, 0.65, 0.00, 1.08
Verifica YY: 0.29 + 0.00 = 0.30
Verifica ZZ: 0.33 = 0.33
- Verifica a compressione (4.2.10) - CC 17 X1=0.47 - Classe 2
Sollecitazioni: N=-22630.70 T_z=-33.56
N,Ed=-22630.70 N_c,Rd=-80966.20 N,Ed/N_c,Rd=0.28
- Verifica a taglio dir. Z (4.2.17) - CC 1 X1=0.00
Sollecitazioni: T_z=2388.09
V,Ed=2388.09 (V,Ed,G=6.79, V,Ed,M=2381.30) V_c,Rd=21964.00 V,Ed/V_c,Rd=0.11

Asta n. 114 (159 172) IPE180 Crit. 1

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- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 1
L_{cr}=0.79 Curva b: α -imp=0.34 k_c=0.94 ψ =1.32 M_{cr}=40640.90 λ_{LT} =0.38
 $\lambda_{LT,0}$ =0.40 β_{LT} =0.75 Φ_{LT} =0.55 β_{LT} =0.75 f=0.98 χ_{LT} =1.00
CC 18 My,Ed=4.40 My,b,Rd=5387.15 My,Ed/My,b,Rd=0.00
- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 2
Sollecitazioni: N,Ed=-22630.70 My,Ed=8.36
Resistenze: N_c,Rd=77285.90 My,c,Rd=5387.15 L=79.00
 α_{my} , α_{mz} , α_{LT} = 0.95, 0.95, 0.95
L_{cr}=0.79 Curva b: α -imp=0.34 k_c=0.94 ψ =1.43 M_{cr}=43776.50 λ_{LT} =0.37
 $\lambda_{LT,0}$ =0.40 β_{LT} =0.75 Φ_{LT} =0.55 β_{LT} =0.75 f=0.98 χ_{LT} =1.00
 λ_y =10.65 N_{cr,y}=4373670.00 λ^*_y =0.14 Curva a: Φ_y =0.50 χ_y =1.00
 λ_z =38.50 N_{cr,z}=334922.00 λ^*_z =0.50 Curva b: Φ_z =0.68 χ_z =0.88
K_{yy}, K_{yz}, K_{zy}, K_{zz} = 0.93, 0.65, 0.00, 1.08
Verifica YY: 0.29 + 0.00 = 0.29
Verifica ZZ: 0.33 = 0.33
- Verifica a pressoflessione retta - CC 17 X1=0.00 - Classe 2
Sollecitazioni: N=-22630.70 T_z=16.99 M_y=8.36
My,Ed=8.36 My,c,Rd=5643.68
N,Ed=-22630.70 N_c,Rd=80966.20 n= N,Ed/N_c,Rd = 0.28
MN_y,c,Rd=5057.53 My,Ed/MN_y,c,Rd = 0.00
- Verifica a taglio dir. Z (4.2.17) - CC 1 X1=0.00
Sollecitazioni: T_z=2392.77 M_y=2.79
V,Ed=2392.77 (V,Ed,G=11.47, V,Ed,M=2381.30) V_c,Rd=21964.00 V,Ed/V_c,Rd=0.11

Asta n. 114 (172 185) IPE180 Crit. 1

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- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 13 - Classe 1
L_{cr}=0.79 Curva b: α -imp=0.34 k_c=0.94 ψ =2.46 M_{cr}=75657.20 λ_{LT} =0.28
 $\lambda_{LT,0}$ =0.40 β_{LT} =0.75 Φ_{LT} =0.51 β_{LT} =0.75 f=0.99 χ_{LT} =1.00
CC 13 My,Ed=5.32 My,b,Rd=5387.15 My,Ed/My,b,Rd=0.00
- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 2
Sollecitazioni: N,Ed=-22630.70 My,Ed=-10.32
Resistenze: N_c,Rd=77285.90 My,c,Rd=5387.15 L=79.00
 α_{my} , α_{mz} , α_{LT} = 0.95, 0.95, 0.95
L_{cr}=0.79 Curva b: α -imp=0.34 k_c=0.94 ψ =2.90 M_{cr}=89037.20 λ_{LT} =0.26
 $\lambda_{LT,0}$ =0.40 β_{LT} =0.75 Φ_{LT} =0.50 β_{LT} =0.75 f=0.99 χ_{LT} =1.00
 λ_y =10.65 N_{cr,y}=4373680.00 λ^*_y =0.14 Curva a: Φ_y =0.50 χ_y =1.00
 λ_z =38.50 N_{cr,z}=334922.00 λ^*_z =0.50 Curva b: Φ_z =0.68 χ_z =0.88
K_{yy}, K_{yz}, K_{zy}, K_{zz} = 0.93, 0.65, 0.00, 1.08
Verifica YY: 0.29 + 0.00 = 0.29
Verifica ZZ: 0.33 = 0.33
- Verifica a compressione (4.2.10) - CC 17 X1=0.32 - Classe 2
Sollecitazioni: N=-22630.70 T_z=26.51
N,Ed=-22630.70 N_c,Rd=-80966.20 N,Ed/N_c,Rd=0.28

Relazione di calcolo

- Verifica a taglio dir. Z (4.2.17) - CC 1 Xl=0.00
Sollecitazioni: $T_z=2395.93$ $M_y=3.86$
 $V,Ed=2395.93$ ($V,Ed,G=14.63$, $V,Ed,M=2381.30$) $V_c,Rd=21964.00$ $V,Ed/V_c,Rd=0.11$

Asta n. 115 (108 121) IPE180 Crit. 1

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- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 1
 $L_{cr}=0.79$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M,cr=53716.50$ $\lambda_{LT}=0.33$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.53$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=1.00$
CC 18 $M_y,Ed=-111.80$ $M_y,b,Rd=5387.15$ $M_y,Ed/M_y,b,Rd=0.02$
- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 2
Sollecitazioni: $N,Ed=-22630.70$ $M_y,Ed=-886.93$
Resistenze: $N_c,Rd=77285.90$ $M_y,c,Rd=5387.15$ $L=79.00$
 α_{my} , α_{mz} , $\alpha_{LT} = 0.95, 0.95, 0.95$
 $L_{cr}=0.79$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M,cr=53716.50$ $\lambda_{LT}=0.33$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.53$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=1.00$
 $\lambda_y=10.65$ $N_{cr,y}=4373670.00$ $\lambda^*_y=0.14$ Curva a: $\Phi_y=0.50$ $\chi_y=1.00$
 $\lambda_z=38.50$ $N_{cr,z}=334922.00$ $\lambda^*_z=0.50$ Curva b: $\Phi_z=0.68$ $\chi_z=0.88$
 K_{yy} , K_{yz} , K_{zy} , $K_{zz} = 0.93, 0.65, 0.00, 1.08$
Verifica YY: $0.29 + 0.15 = 0.45$
Verifica ZZ: $0.33 = 0.33$
- Verifica freccia massima carichi totali - CC 21
 $f_{z,L}=0.02$ (L/5259)
- Verifica a compressione (4.2.10) - CC 17 Xl=0.00 - Classe 2
Sollecitazioni: $N=-22630.70$ $T_z=1132.72$
 $N,Ed=-22630.70$ $N_c,Rd=-80966.20$ $N,Ed/N_c,Rd=0.28$
- Verifica a taglio dir. Z (4.2.17) - CC 1 Xl=0.00
Sollecitazioni: $T_z=2486.28$
 $V,Ed=2486.28$ ($V,Ed,G=104.98$, $V,Ed,M=2381.30$) $V_c,Rd=21964.00$ $V,Ed/V_c,Rd=0.11$

Asta n. 115 (121 134) IPE180 Crit. 1

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- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 1
 $L_{cr}=0.79$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=1.00$ $M,cr=30695.10$ $\lambda_{LT}=0.44$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.58$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=1.00$
CC 18 $M_y,Ed=-111.80$ $M_y,b,Rd=5387.15$ $M_y,Ed/M_y,b,Rd=0.02$
- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 2
Sollecitazioni: $N,Ed=-22630.70$ $M_y,Ed=-886.93$
Resistenze: $N_c,Rd=77285.90$ $M_y,c,Rd=5387.15$ $L=79.00$
 α_{my} , α_{mz} , $\alpha_{LT} = 0.95, 0.95, 0.95$
 $L_{cr}=0.79$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=1.00$ $M,cr=30695.10$ $\lambda_{LT}=0.44$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.58$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=1.00$
 $\lambda_y=10.65$ $N_{cr,y}=4373670.00$ $\lambda^*_y=0.14$ Curva a: $\Phi_y=0.50$ $\chi_y=1.00$
 $\lambda_z=38.50$ $N_{cr,z}=334922.00$ $\lambda^*_z=0.50$ Curva b: $\Phi_z=0.68$ $\chi_z=0.88$
 K_{yy} , K_{yz} , K_{zy} , $K_{zz} = 0.93, 0.65, 0.00, 1.08$
Verifica YY: $0.29 + 0.15 = 0.45$
Verifica ZZ: $0.33 = 0.33$
- Verifica freccia massima carichi totali - CC 21
 $f_{z,G}=0.00$ (L/33811)
- Verifica a pressoflessione retta - CC 17 Xl=0.39 - Classe 2
Sollecitazioni: $N=-22630.70$ $M_y=-888.91$
 $M_y,Ed=-888.91$ $M_y,c,Rd=5643.68$
 $N,Ed=-22630.70$ $N_c,Rd=80966.20$ $n = N,Ed/N_c,Rd = 0.28$
 $M_{Ny,c,Rd}=5057.53$ $M_y,Ed/M_{Ny,c,Rd} = 0.18$
- Verifica a taglio dir. Z (4.2.17) - CC 1 Xl=0.00
Sollecitazioni: $T_z=2388.73$ $M_y=-77.07$
 $V,Ed=2388.73$ ($V,Ed,G=7.43$, $V,Ed,M=2381.30$) $V_c,Rd=21964.00$ $V,Ed/V_c,Rd=0.11$

Asta n. 115 (134 147) IPE180 Crit. 1

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- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 1
 $L_{cr}=0.79$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M,cr=53716.50$ $\lambda_{LT}=0.33$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.53$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=1.00$
CC 18 $M_y,Ed=-111.80$ $M_y,b,Rd=5387.15$ $M_y,Ed/M_y,b,Rd=0.02$
- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 2
Sollecitazioni: $N,Ed=-22630.70$ $M_y,Ed=-886.93$
Resistenze: $N_c,Rd=77285.90$ $M_y,c,Rd=5387.15$ $L=79.00$
 α_{my} , α_{mz} , $\alpha_{LT} = 0.95, 0.95, 0.95$
 $L_{cr}=0.79$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M,cr=53716.50$ $\lambda_{LT}=0.33$

Relazione di calcolo

$\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.53$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=1.00$
 $\lambda_y=10.65$ $N_{cr,y}=4373680.00$ $\lambda^*_y=0.14$ Curva a: $\Phi_y=0.50$ $\chi_y=1.00$
 $\lambda_z=38.50$ $N_{cr,z}=334922.00$ $\lambda^*_z=0.50$ Curva b: $\Phi_z=0.68$ $\chi_z=0.88$
 $K_{yy}, K_{yz}, K_{zy}, K_{zz} = 0.93, 0.65, 0.00, 1.08$
 Verifica YY: $0.29 + 0.15 = 0.45$
 Verifica ZZ: $0.33 = 0.33$

- Verifica freccia massima carichi totali - CC 20
 $f_{z,L}=0.01$ (L/5414)

- Verifica a compressione (4.2.10) - CC 17 $X_1=0.79$ - Classe 2
 Sollecitazioni: $N=-22630.70$ $T_z=-1132.72$
 $N,Ed=-22630.70$ $N_{c,Rd}=-80966.20$ $N,Ed/N_{c,Rd}=0.28$

- Verifica a taglio dir. Z (4.2.17) - CC 1 $X_1=0.00$
 Sollecitazioni: $T_z=2291.17$ $M_y=-77.07$
 $V,Ed=2291.17$ ($V,Ed,G=-90.13$, $V,Ed,M=2381.30$) $V_{c,Rd}=21964.00$ $V,Ed/V_{c,Rd}=0.10$

Asta n. 115 (147 160) IPE180 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 1
 $L_{cr}=0.79$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=53716.40$ $\lambda_{LT}=0.33$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.53$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=1.00$
 CC 18 $M_y,Ed=-111.80$ $M_y,b,Rd=5387.15$ $M_y,Ed/M_y,b,Rd=0.02$

- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 2
 Sollecitazioni: $N,Ed=-22630.70$ $M_y,Ed=-886.93$
 Resistenze: $N_{c,Rd}=77285.90$ $M_y,c,Rd=5387.15$ $L=79.00$
 $\alpha_{my}, \alpha_{mz}, \alpha_{LT} = 0.95, 0.95, 0.95$
 $L_{cr}=0.79$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=53716.40$ $\lambda_{LT}=0.33$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.53$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=1.00$
 $\lambda_y=10.65$ $N_{cr,y}=4373670.00$ $\lambda^*_y=0.14$ Curva a: $\Phi_y=0.50$ $\chi_y=1.00$
 $\lambda_z=38.50$ $N_{cr,z}=334922.00$ $\lambda^*_z=0.50$ Curva b: $\Phi_z=0.68$ $\chi_z=0.88$
 $K_{yy}, K_{yz}, K_{zy}, K_{zz} = 0.93, 0.65, 0.00, 1.08$
 Verifica YY: $0.29 + 0.15 = 0.45$
 Verifica ZZ: $0.33 = 0.33$

- Verifica freccia massima carichi totali - CC 21
 $f_{z,L}=0.01$ (L/5616)

- Verifica a compressione (4.2.10) - CC 17 $X_1=0.00$ - Classe 2
 Sollecitazioni: $N=-22630.70$ $T_z=1132.72$
 $N,Ed=-22630.70$ $N_{c,Rd}=-80966.20$ $N,Ed/N_{c,Rd}=0.28$

- Verifica a taglio dir. Z (4.2.17) - CC 1 $X_1=0.00$
 Sollecitazioni: $T_z=2486.28$
 $V,Ed=2486.28$ ($V,Ed,G=104.98$, $V,Ed,M=2381.30$) $V_{c,Rd}=21964.00$ $V,Ed/V_{c,Rd}=0.11$

Asta n. 115 (160 173) IPE180 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 1
 $L_{cr}=0.79$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=1.00$ $M_{cr}=30695.10$ $\lambda_{LT}=0.44$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.58$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=1.00$
 CC 18 $M_y,Ed=-111.80$ $M_y,b,Rd=5387.15$ $M_y,Ed/M_y,b,Rd=0.02$

- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 2
 Sollecitazioni: $N,Ed=-22630.70$ $M_y,Ed=-886.93$
 Resistenze: $N_{c,Rd}=77285.90$ $M_y,c,Rd=5387.15$ $L=79.00$
 $\alpha_{my}, \alpha_{mz}, \alpha_{LT} = 0.95, 0.95, 0.95$
 $L_{cr}=0.79$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=1.00$ $M_{cr}=30695.10$ $\lambda_{LT}=0.44$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.58$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=1.00$
 $\lambda_y=10.65$ $N_{cr,y}=4373670.00$ $\lambda^*_y=0.14$ Curva a: $\Phi_y=0.50$ $\chi_y=1.00$
 $\lambda_z=38.50$ $N_{cr,z}=334922.00$ $\lambda^*_z=0.50$ Curva b: $\Phi_z=0.68$ $\chi_z=0.88$
 $K_{yy}, K_{yz}, K_{zy}, K_{zz} = 0.93, 0.65, 0.00, 1.08$
 Verifica YY: $0.29 + 0.15 = 0.45$
 Verifica ZZ: $0.33 = 0.33$

- Verifica freccia massima carichi totali - CC 20
 $f_{z,G}=0.00$ (L/30122)

- Verifica a pressoflessione retta - CC 17 $X_1=0.40$ - Classe 2
 Sollecitazioni: $N=-22630.70$ $M_y=-888.91$
 $M_y,Ed=-888.91$ $M_y,c,Rd=5643.68$
 $N,Ed=-22630.70$ $N_{c,Rd}=80966.20$ $n = N,Ed/N_{c,Rd} = 0.28$
 $MN_y,c,Rd=5057.53$ $M_y,Ed/MN_y,c,Rd = 0.18$

- Verifica a taglio dir. Z (4.2.17) - CC 1 $X_1=0.00$
 Sollecitazioni: $T_z=2388.73$ $M_y=-77.07$
 $V,Ed=2388.73$ ($V,Ed,G=7.43$, $V,Ed,M=2381.30$) $V_{c,Rd}=21964.00$ $V,Ed/V_{c,Rd}=0.11$

Asta n. 115 (173 186) IPE180 Crit. 1

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- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 1
 $L_{cr}=0.79$ Curva b: $\alpha_{imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=53716.50$ $\lambda_{LT}=0.33$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.53$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=1.00$
 CC 18 $M_y, Ed=-111.80$ $M_y, b, Rd=5387.15$ $M_y, Ed/M_y, b, Rd=0.02$
 - Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 2
 Sollecitazioni: $N, Ed=-22630.70$ $M_y, Ed=-886.93$
 Resistenze: $N_c, Rd=77285.90$ $M_y, c, Rd=5387.15$ $L=79.00$
 $\alpha_{my}, \alpha_{mz}, \alpha_{LT} = 0.95, 0.95, 0.95$
 $L_{cr}=0.79$ Curva b: $\alpha_{imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=53716.50$ $\lambda_{LT}=0.33$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.53$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=1.00$
 $\lambda_y=10.65$ $N_{cr,y}=4373680.00$ $\lambda^*_{y}=0.14$ Curva a: $\Phi_y=0.50$ $\chi_y=1.00$
 $\lambda_z=38.50$ $N_{cr,z}=334922.00$ $\lambda^*_{z}=0.50$ Curva b: $\Phi_z=0.68$ $\chi_z=0.88$
 $K_{yy}, K_{yz}, K_{zy}, K_{zz} = 0.93, 0.65, 0.00, 1.08$
 Verifica YY: $0.29 + 0.15 = 0.45$
 Verifica ZZ: $0.33 = 0.33$
 - Verifica freccia massima carichi totali - CC 20
 $f_{z,L}=0.02$ (L/5113)
 - Verifica a compressione (4.2.10) - CC 17 $X_1=0.79$ - Classe 2
 Sollecitazioni: $N=-22630.70$ $T_z=-1132.72$
 $N, Ed=-22630.70$ $N_c, Rd=-80966.20$ $N, Ed/N_c, Rd=0.28$
 - Verifica a taglio dir. Z (4.2.17) - CC 1 $X_1=0.00$
 Sollecitazioni: $T_z=2291.17$ $M_y=-77.07$
 $V, Ed=2291.17$ ($V, Ed, G=-90.13$, $V, Ed, M=2381.30$) $V_c, Rd=21964.00$ $V, Ed/V_c, Rd=0.10$

Asta n. 116 (109 122) IPE180 Crit. 1

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- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 1
 $L_{cr}=0.79$ Curva b: $\alpha_{imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=53716.50$ $\lambda_{LT}=0.33$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.53$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=1.00$
 CC 18 $M_y, Ed=-137.87$ $M_y, b, Rd=5387.15$ $M_y, Ed/M_y, b, Rd=0.03$
 - Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 2
 Sollecitazioni: $N, Ed=-22630.70$ $M_y, Ed=-1123.64$
 Resistenze: $N_c, Rd=77285.90$ $M_y, c, Rd=5387.15$ $L=79.00$
 $\alpha_{my}, \alpha_{mz}, \alpha_{LT} = 0.95, 0.95, 0.95$
 $L_{cr}=0.79$ Curva b: $\alpha_{imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=53716.50$ $\lambda_{LT}=0.33$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.53$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=1.00$
 $\lambda_y=10.65$ $N_{cr,y}=4373670.00$ $\lambda^*_{y}=0.14$ Curva a: $\Phi_y=0.50$ $\chi_y=1.00$
 $\lambda_z=38.50$ $N_{cr,z}=334922.00$ $\lambda^*_{z}=0.50$ Curva b: $\Phi_z=0.68$ $\chi_z=0.88$
 $K_{yy}, K_{yz}, K_{zy}, K_{zz} = 0.93, 0.65, 0.00, 1.08$
 Verifica YY: $0.29 + 0.19 = 0.49$
 Verifica ZZ: $0.33 = 0.33$
 - Verifica freccia massima carichi totali - CC 21
 $f_{z,L}=0.02$ (L/4131)
 - Verifica a compressione (4.2.10) - CC 17 $X_1=0.00$ - Classe 2
 Sollecitazioni: $N=-22630.70$ $T_z=1432.35$
 $N, Ed=-22630.70$ $N_c, Rd=-80966.20$ $N, Ed/N_c, Rd=0.28$
 - Verifica a taglio dir. Z (4.2.17) - CC 1 $X_1=0.00$
 Sollecitazioni: $T_z=2508.76$
 $V, Ed=2508.76$ ($V, Ed, G=127.46$, $V, Ed, M=2381.30$) $V_c, Rd=21964.00$ $V, Ed/V_c, Rd=0.11$

Asta n. 116 (122 135) IPE180 Crit. 1

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- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 1
 $L_{cr}=0.79$ Curva b: $\alpha_{imp}=0.34$ $k_c=0.94$ $\psi=1.00$ $M_{cr}=30695.10$ $\lambda_{LT}=0.44$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.58$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=1.00$
 CC 18 $M_y, Ed=-137.87$ $M_y, b, Rd=5387.15$ $M_y, Ed/M_y, b, Rd=0.03$
 - Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 2
 Sollecitazioni: $N, Ed=-22630.70$ $M_y, Ed=-1123.64$
 Resistenze: $N_c, Rd=77285.90$ $M_y, c, Rd=5387.15$ $L=79.00$
 $\alpha_{my}, \alpha_{mz}, \alpha_{LT} = 0.95, 0.95, 0.95$
 $L_{cr}=0.79$ Curva b: $\alpha_{imp}=0.34$ $k_c=0.94$ $\psi=1.00$ $M_{cr}=30695.10$ $\lambda_{LT}=0.44$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.58$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=1.00$
 $\lambda_y=10.65$ $N_{cr,y}=4373670.00$ $\lambda^*_{y}=0.14$ Curva a: $\Phi_y=0.50$ $\chi_y=1.00$
 $\lambda_z=38.50$ $N_{cr,z}=334922.00$ $\lambda^*_{z}=0.50$ Curva b: $\Phi_z=0.68$ $\chi_z=0.88$
 $K_{yy}, K_{yz}, K_{zy}, K_{zz} = 0.93, 0.65, 0.00, 1.08$
 Verifica YY: $0.29 + 0.19 = 0.49$

Relazione di calcolo

Verifica ZZ: $0.33 = 0.33$

- Verifica freccia massima carichi totali - CC 21
 $f_{z,L}=0.00$ (L/24550)

- Verifica a pressoflessione retta - CC 17 $X_1=0.39$ - Classe 2
Sollecitazioni: $N=-22630.70$ $M_y=-1125.62$
 $M_y,Ed=-1125.62$ $M_y,c,Rd=5643.68$
 $N,Ed=-22630.70$ $N_c,Rd=80966.20$ $n= N,Ed/N_c,Rd = 0.28$
 $M_{Ny,c,Rd}=5057.53$ $M_y,Ed/M_{Ny,c,Rd} = 0.22$

- Verifica a taglio dir. Z (4.2.17) - CC 1 $X_1=0.00$
Sollecitazioni: $T_z=2388.73$ $M_y=-94.83$
 $V,Ed=2388.73$ ($V,Ed,G=7.43$, $V,Ed,M=2381.30$) $V_c,Rd=21964.00$ $V,Ed/V_c,Rd=0.11$

Asta n. 116 (135 148) IPE180 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 1
 $L_{cr}=0.79$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=53716.50$ $\lambda_{LT}=0.33$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.53$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=1.00$
CC 18 $M_y,Ed=-137.87$ $M_y,b,Rd=5387.15$ $M_y,Ed/M_y,b,Rd=0.03$

- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 2
Sollecitazioni: $N,Ed=-22630.70$ $M_y,Ed=-1123.64$
Resistenze: $N_c,Rd=77285.90$ $M_y,c,Rd=5387.15$ $L=79.00$
 α_{my} , α_{mz} , $\alpha_{LT} = 0.95, 0.95, 0.95$
 $L_{cr}=0.79$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=53716.50$ $\lambda_{LT}=0.33$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.53$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=1.00$
 $\lambda_y=10.65$ $N_{cr,y}=4373680.00$ $\lambda^*_y=0.14$ Curva a: $\Phi_y=0.50$ $\chi_y=1.00$
 $\lambda_z=38.50$ $N_{cr,z}=334922.00$ $\lambda^*_z=0.50$ Curva b: $\Phi_z=0.68$ $\chi_z=0.88$
 K_{yy} , K_{yz} , K_{zy} , $K_{zz} = 0.93, 0.65, 0.00, 1.08$
Verifica YY: $0.29 + 0.19 = 0.49$
Verifica ZZ: $0.33 = 0.33$

- Verifica freccia massima carichi totali - CC 20
 $f_{z,L}=0.02$ (L/4551)

- Verifica a compressione (4.2.10) - CC 17 $X_1=0.79$ - Classe 2
Sollecitazioni: $N=-22630.70$ $T_z=-1432.35$
 $N,Ed=-22630.70$ $N_c,Rd=-80966.20$ $N,Ed/N_c,Rd=0.28$

- Verifica a taglio dir. Z (4.2.17) - CC 1 $X_1=0.00$
Sollecitazioni: $T_z=2268.69$ $M_y=-94.83$
 $V,Ed=2268.69$ ($V,Ed,G=-112.61$, $V,Ed,M=2381.30$) $V_c,Rd=21964.00$ $V,Ed/V_c,Rd=0.10$

Asta n. 116 (148 161) IPE180 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 1
 $L_{cr}=0.79$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=53716.40$ $\lambda_{LT}=0.33$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.53$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=1.00$
CC 18 $M_y,Ed=-137.87$ $M_y,b,Rd=5387.15$ $M_y,Ed/M_y,b,Rd=0.03$

- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 2
Sollecitazioni: $N,Ed=-22630.70$ $M_y,Ed=-1123.64$
Resistenze: $N_c,Rd=77285.90$ $M_y,c,Rd=5387.15$ $L=79.00$
 α_{my} , α_{mz} , $\alpha_{LT} = 0.95, 0.95, 0.95$
 $L_{cr}=0.79$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=53716.40$ $\lambda_{LT}=0.33$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.53$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=1.00$
 $\lambda_y=10.65$ $N_{cr,y}=4373670.00$ $\lambda^*_y=0.14$ Curva a: $\Phi_y=0.50$ $\chi_y=1.00$
 $\lambda_z=38.50$ $N_{cr,z}=334922.00$ $\lambda^*_z=0.50$ Curva b: $\Phi_z=0.68$ $\chi_z=0.88$
 K_{yy} , K_{yz} , K_{zy} , $K_{zz} = 0.93, 0.65, 0.00, 1.08$
Verifica YY: $0.29 + 0.19 = 0.49$
Verifica ZZ: $0.33 = 0.33$

- Verifica freccia massima carichi totali - CC 21
 $f_{z,L}=0.02$ (L/4693)

- Verifica a compressione (4.2.10) - CC 17 $X_1=0.00$ - Classe 2
Sollecitazioni: $N=-22630.70$ $T_z=1432.35$
 $N,Ed=-22630.70$ $N_c,Rd=-80966.20$ $N,Ed/N_c,Rd=0.28$

- Verifica a taglio dir. Z (4.2.17) - CC 1 $X_1=0.00$
Sollecitazioni: $T_z=2508.76$
 $V,Ed=2508.76$ ($V,Ed,G=127.46$, $V,Ed,M=2381.30$) $V_c,Rd=21964.00$ $V,Ed/V_c,Rd=0.11$

Asta n. 116 (161 174) IPE180 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 1
 $L_{cr}=0.79$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=1.00$ $M_{cr}=30695.10$ $\lambda_{LT}=0.44$

Relazione di calcolo

- $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.58$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=1.00$
 CC 18 My,Ed=-137.87 My,b,Rd=5387.15 My,Ed/My,b,Rd=0.03
- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 2
 Sollecitazioni: N,Ed=-22630.70 My,Ed=-1123.64
 Resistenze: Nc,Rd=77285.90 My,c,Rd=5387.15 L=79.00
 $\alpha_{my}, \alpha_{mz}, \alpha_{LT} = 0.95, 0.95, 0.95$
 $L_{cr}=0.79$ Curva b: $\alpha_{-imp}=0.34$ $k_c=0.94$ $\psi=1.00$ $M_{cr}=30695.10$ $\lambda_{LT}=0.44$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.58$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=1.00$
 $\lambda_y=10.65$ Ncr,y=4373670.00 $\lambda^*_y=0.14$ Curva a: $\Phi_y=0.50$ $\chi_y=1.00$
 $\lambda_z=38.50$ Ncr,z=334922.00 $\lambda^*_z=0.50$ Curva b: $\Phi_z=0.68$ $\chi_z=0.88$
 $K_{yy}, K_{yz}, K_{zy}, K_{zz} = 0.93, 0.65, 0.00, 1.08$
 Verifica YY: $0.29 + 0.19 = 0.49$
 Verifica ZZ: $0.33 = 0.33$
- Verifica freccia massima carichi totali - CC 20
 $f_{z,g}=0.00$ (L/22695)
- Verifica a pressoflessione retta - CC 17 Xl=0.40 - Classe 2
 Sollecitazioni: N=-22630.70 My=-1125.62
 My,Ed=-1125.62 My,c,Rd=5643.68
 N,Ed=-22630.70 Nc,Rd=80966.20 $n = N,Ed/Nc,Rd = 0.28$
 MMy,c,Rd=5057.53 My,Ed/MMy,c,Rd = 0.22
- Verifica a taglio dir. Z (4.2.17) - CC 1 Xl=0.00
 Sollecitazioni: Tz=2388.73 My=-94.83
 V,Ed=2388.73 (V,Ed,G=7.43, V,Ed,M=2381.30) Vc,Rd=21964.00 V,Ed/Vc,Rd=0.11
- Asta n. 116 (174 187) IPE180 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 1
 $L_{cr}=0.79$ Curva b: $\alpha_{-imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=53716.50$ $\lambda_{LT}=0.33$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.53$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=1.00$
 CC 18 My,Ed=-137.87 My,b,Rd=5387.15 My,Ed/My,b,Rd=0.03
- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 2
 Sollecitazioni: N,Ed=-22630.70 My,Ed=-1123.64
 Resistenze: Nc,Rd=77285.90 My,c,Rd=5387.15 L=79.00
 $\alpha_{my}, \alpha_{mz}, \alpha_{LT} = 0.95, 0.95, 0.95$
 $L_{cr}=0.79$ Curva b: $\alpha_{-imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=53716.50$ $\lambda_{LT}=0.33$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.53$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=1.00$
 $\lambda_y=10.65$ Ncr,y=4373680.00 $\lambda^*_y=0.14$ Curva a: $\Phi_y=0.50$ $\chi_y=1.00$
 $\lambda_z=38.50$ Ncr,z=334922.00 $\lambda^*_z=0.50$ Curva b: $\Phi_z=0.68$ $\chi_z=0.88$
 $K_{yy}, K_{yz}, K_{zy}, K_{zz} = 0.93, 0.65, 0.00, 1.08$
 Verifica YY: $0.29 + 0.19 = 0.49$
 Verifica ZZ: $0.33 = 0.33$
- Verifica freccia massima carichi totali - CC 20
 $f_{z,L}=0.02$ (L/4060)
- Verifica a compressione (4.2.10) - CC 17 Xl=0.79 - Classe 2
 Sollecitazioni: N=-22630.70 Tz=-1432.35
 N,Ed=-22630.70 Nc,Rd=-80966.20 $N,Ed/Nc,Rd=0.28$
- Verifica a taglio dir. Z (4.2.17) - CC 1 Xl=0.00
 Sollecitazioni: Tz=2268.69 My=-94.83
 V,Ed=2268.69 (V,Ed,G=-112.61, V,Ed,M=2381.30) Vc,Rd=21964.00 V,Ed/Vc,Rd=0.10
- Asta n. 117 (110 123) IPE180 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 1
 $L_{cr}=0.79$ Curva b: $\alpha_{-imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=53716.50$ $\lambda_{LT}=0.33$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.53$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=1.00$
 CC 18 My,Ed=-137.87 My,b,Rd=5387.15 My,Ed/My,b,Rd=0.03
- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 2
 Sollecitazioni: N,Ed=-22630.70 My,Ed=-1123.64
 Resistenze: Nc,Rd=77285.90 My,c,Rd=5387.15 L=79.00
 $\alpha_{my}, \alpha_{mz}, \alpha_{LT} = 0.95, 0.95, 0.95$
 $L_{cr}=0.79$ Curva b: $\alpha_{-imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=53716.50$ $\lambda_{LT}=0.33$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.53$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=1.00$
 $\lambda_y=10.65$ Ncr,y=4373670.00 $\lambda^*_y=0.14$ Curva a: $\Phi_y=0.50$ $\chi_y=1.00$
 $\lambda_z=38.50$ Ncr,z=334922.00 $\lambda^*_z=0.50$ Curva b: $\Phi_z=0.68$ $\chi_z=0.88$
 $K_{yy}, K_{yz}, K_{zy}, K_{zz} = 0.93, 0.65, 0.00, 1.08$
 Verifica YY: $0.29 + 0.19 = 0.49$
 Verifica ZZ: $0.33 = 0.33$
- Verifica freccia massima carichi totali - CC 21
 $f_{z,L}=0.02$ (L/4090)

Relazione di calcolo

- Verifica a compressione (4.2.10) - CC 17 $X_1=0.00$ - Classe 2
Sollecitazioni: $N=-22630.70$ $T_x=1432.35$
 $N,Ed=-22630.70$ $N_c,Rd=-80966.20$ $N,Ed/N_c,Rd=0.28$
- Verifica a taglio dir. Z (4.2.17) - CC 1 $X_1=0.00$
Sollecitazioni: $T_x=2508.76$
 $V,Ed=2508.76$ ($V,Ed,G=127.46$, $V,Ed,M=2381.30$) $V_c,Rd=21964.00$ $V,Ed/V_c,Rd=0.11$

Asta n. 117 (123 136) IPE180 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 1
 $L_{cr}=0.79$ Curva b: $\alpha_{imp}=0.34$ $k_c=0.94$ $\psi=1.00$ $M_{cr}=30695.10$ $\lambda_{LT}=0.44$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.58$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=1.00$
CC 18 $M_y,Ed=-137.87$ $M_y,b,Rd=5387.15$ $M_y,Ed/M_y,b,Rd=0.03$
- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 2
Sollecitazioni: $N,Ed=-22630.70$ $M_y,Ed=-1123.64$
Resistenze: $N_c,Rd=77285.90$ $M_y,c,Rd=5387.15$ $L=79.00$
 α_{my} , α_{mz} , $\alpha_{LT} = 0.95, 0.95, 0.95$
 $L_{cr}=0.79$ Curva b: $\alpha_{imp}=0.34$ $k_c=0.94$ $\psi=1.00$ $M_{cr}=30695.10$ $\lambda_{LT}=0.44$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.58$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=1.00$
 $\lambda_y=10.65$ $N_{cr,y}=4373670.00$ $\lambda_y^*=0.14$ Curva a: $\Phi_y=0.50$ $\chi_y=1.00$
 $\lambda_z=38.50$ $N_{cr,z}=334922.00$ $\lambda_z^*=0.50$ Curva b: $\Phi_z=0.68$ $\chi_z=0.88$
 K_{yy} , K_{yz} , K_{zy} , $K_{zz} = 0.93, 0.65, 0.00, 1.08$
Verifica YY: $0.29 + 0.19 = 0.49$
Verifica ZZ: $0.33 = 0.33$
- Verifica freccia massima carichi totali - CC 21
 $f_{z,L}=0.00$ ($L/23271$)
- Verifica a pressoflessione retta - CC 17 $X_1=0.39$ - Classe 2
Sollecitazioni: $N=-22630.70$ $M_y=-1125.62$
 $M_y,Ed=-1125.62$ $M_y,c,Rd=5643.68$
 $N,Ed=-22630.70$ $N_c,Rd=80966.20$ $n= N,Ed/N_c,Rd = 0.28$
 $M_{Ny,c,Rd}=5057.53$ $M_y,Ed/M_{Ny,c,Rd} = 0.22$
- Verifica a taglio dir. Z (4.2.17) - CC 1 $X_1=0.00$
Sollecitazioni: $T_x=2388.73$ $M_y=-94.83$
 $V,Ed=2388.73$ ($V,Ed,G=7.43$, $V,Ed,M=2381.30$) $V_c,Rd=21964.00$ $V,Ed/V_c,Rd=0.11$

Asta n. 117 (136 149) IPE180 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 1
 $L_{cr}=0.79$ Curva b: $\alpha_{imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=53716.50$ $\lambda_{LT}=0.33$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.53$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=1.00$
CC 18 $M_y,Ed=-137.87$ $M_y,b,Rd=5387.15$ $M_y,Ed/M_y,b,Rd=0.03$
- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 2
Sollecitazioni: $N,Ed=-22630.70$ $M_y,Ed=-1123.64$
Resistenze: $N_c,Rd=77285.90$ $M_y,c,Rd=5387.15$ $L=79.00$
 α_{my} , α_{mz} , $\alpha_{LT} = 0.95, 0.95, 0.95$
 $L_{cr}=0.79$ Curva b: $\alpha_{imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=53716.50$ $\lambda_{LT}=0.33$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.53$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=1.00$
 $\lambda_y=10.65$ $N_{cr,y}=4373680.00$ $\lambda_y^*=0.14$ Curva a: $\Phi_y=0.50$ $\chi_y=1.00$
 $\lambda_z=38.50$ $N_{cr,z}=334922.00$ $\lambda_z^*=0.50$ Curva b: $\Phi_z=0.68$ $\chi_z=0.88$
 K_{yy} , K_{yz} , K_{zy} , $K_{zz} = 0.93, 0.65, 0.00, 1.08$
Verifica YY: $0.29 + 0.19 = 0.49$
Verifica ZZ: $0.33 = 0.33$
- Verifica freccia massima carichi totali - CC 20
 $f_{z,L}=0.02$ ($L/4653$)
- Verifica a compressione (4.2.10) - CC 17 $X_1=0.79$ - Classe 2
Sollecitazioni: $N=-22630.70$ $T_x=-1432.35$
 $N,Ed=-22630.70$ $N_c,Rd=-80966.20$ $N,Ed/N_c,Rd=0.28$
- Verifica a taglio dir. Z (4.2.17) - CC 1 $X_1=0.00$
Sollecitazioni: $T_x=2268.69$ $M_y=-94.83$
 $V,Ed=2268.69$ ($V,Ed,G=-112.61$, $V,Ed,M=2381.30$) $V_c,Rd=21964.00$ $V,Ed/V_c,Rd=0.10$

Asta n. 117 (149 162) IPE180 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 1
 $L_{cr}=0.79$ Curva b: $\alpha_{imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=53716.40$ $\lambda_{LT}=0.33$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.53$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=1.00$
CC 18 $M_y,Ed=-137.87$ $M_y,b,Rd=5387.15$ $M_y,Ed/M_y,b,Rd=0.03$
- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 2

Relazione di calcolo

- Sollecitazioni: $N, Ed = -22630.70 \text{ My}, Ed = -1123.64$
Resistenze: $N_c, Rd = 77285.90 \text{ My}, c, Rd = 5387.15 \text{ L} = 79.00$
 $\alpha_{my}, \alpha_{mz}, \alpha_{LT} = 0.95, 0.95, 0.95$
 $L_{cr} = 0.79$ Curva b: $\alpha - imp = 0.34 \text{ } k_c = 0.94 \text{ } \psi = 1.75 \text{ } M, cr = 53716.40 \text{ } \lambda_{LT} = 0.33$
 $\lambda_{LT,0} = 0.40 \text{ } \beta_{LT} = 0.75 \text{ } \Phi_{LT} = 0.53 \text{ } \beta_{LT} = 0.75 \text{ } f = 0.98 \text{ } \chi_{LT} = 1.00$
 $\lambda_y = 10.65 \text{ } N_{cr,y} = 4373670.00 \text{ } \lambda^*_y = 0.14$ Curva a: $\Phi_y = 0.50 \text{ } \chi_y = 1.00$
 $\lambda_z = 38.50 \text{ } N_{cr,z} = 334922.00 \text{ } \lambda^*_z = 0.50$ Curva b: $\Phi_z = 0.68 \text{ } \chi_z = 0.88$
 $K_{yy}, K_{yz}, K_{zy}, K_{zz} = 0.93, 0.65, 0.00, 1.08$
Verifica YY: $0.29 + 0.19 = 0.49$
Verifica ZZ: $0.33 = 0.33$
- Verifica freccia massima carichi totali - CC 21
 $f_{z,L} = 0.02 \text{ (L/4774)}$
- Verifica a compressione (4.2.10) - CC 17 $X1 = 0.00$ - Classe 2
Sollecitazioni: $N = -22630.70 \text{ } T_z = 1432.35$
 $N, Ed = -22630.70 \text{ } N_c, Rd = -80966.20 \text{ } N, Ed/N_c, Rd = 0.28$
- Verifica a taglio dir. Z (4.2.17) - CC 1 $X1 = 0.00$
Sollecitazioni: $T_z = 2508.76$
 $V, Ed = 2508.76 \text{ (V, Ed, G} = 127.46, \text{ V, Ed, M} = 2381.30) \text{ } V_c, Rd = 21964.00 \text{ } V, Ed/V_c, Rd = 0.11$
- Asta n. 117 (162 175) IPE180 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 1
 $L_{cr} = 0.79$ Curva b: $\alpha - imp = 0.34 \text{ } k_c = 0.94 \text{ } \psi = 1.00 \text{ } M, cr = 30695.10 \text{ } \lambda_{LT} = 0.44$
 $\lambda_{LT,0} = 0.40 \text{ } \beta_{LT} = 0.75 \text{ } \Phi_{LT} = 0.58 \text{ } \beta_{LT} = 0.75 \text{ } f = 0.98 \text{ } \chi_{LT} = 1.00$
CC 18 $My, Ed = -137.87 \text{ } My, b, Rd = 5387.15 \text{ } My, Ed/My, b, Rd = 0.03$
- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 2
Sollecitazioni: $N, Ed = -22630.70 \text{ My}, Ed = -1123.64$
Resistenze: $N_c, Rd = 77285.90 \text{ My}, c, Rd = 5387.15 \text{ L} = 79.00$
 $\alpha_{my}, \alpha_{mz}, \alpha_{LT} = 0.95, 0.95, 0.95$
 $L_{cr} = 0.79$ Curva b: $\alpha - imp = 0.34 \text{ } k_c = 0.94 \text{ } \psi = 1.00 \text{ } M, cr = 30695.10 \text{ } \lambda_{LT} = 0.44$
 $\lambda_{LT,0} = 0.40 \text{ } \beta_{LT} = 0.75 \text{ } \Phi_{LT} = 0.58 \text{ } \beta_{LT} = 0.75 \text{ } f = 0.98 \text{ } \chi_{LT} = 1.00$
 $\lambda_y = 10.65 \text{ } N_{cr,y} = 4373670.00 \text{ } \lambda^*_y = 0.14$ Curva a: $\Phi_y = 0.50 \text{ } \chi_y = 1.00$
 $\lambda_z = 38.50 \text{ } N_{cr,z} = 334922.00 \text{ } \lambda^*_z = 0.50$ Curva b: $\Phi_z = 0.68 \text{ } \chi_z = 0.88$
 $K_{yy}, K_{yz}, K_{zy}, K_{zz} = 0.93, 0.65, 0.00, 1.08$
Verifica YY: $0.29 + 0.19 = 0.49$
Verifica ZZ: $0.33 = 0.33$
- Verifica freccia massima carichi totali - CC 20
 $f_{z,G} = 0.00 \text{ (L/21799)}$
- Verifica a pressoflessione retta - CC 17 $X1 = 0.40$ - Classe 2
Sollecitazioni: $N = -22630.70 \text{ } M_y = -1125.62$
 $My, Ed = -1125.62 \text{ } My, c, Rd = 5643.68$
 $N, Ed = -22630.70 \text{ } N_c, Rd = 80966.20 \text{ } n = N, Ed/N_c, Rd = 0.28$
 $MNy, c, Rd = 5057.53 \text{ } My, Ed/MNy, c, Rd = 0.22$
- Verifica a taglio dir. Z (4.2.17) - CC 1 $X1 = 0.00$
Sollecitazioni: $T_z = 2388.73 \text{ } M_y = -94.83$
 $V, Ed = 2388.73 \text{ (V, Ed, G} = 7.43, \text{ V, Ed, M} = 2381.30) \text{ } V_c, Rd = 21964.00 \text{ } V, Ed/V_c, Rd = 0.11$
- Asta n. 117 (175 188) IPE180 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 1
 $L_{cr} = 0.79$ Curva b: $\alpha - imp = 0.34 \text{ } k_c = 0.94 \text{ } \psi = 1.75 \text{ } M, cr = 53716.50 \text{ } \lambda_{LT} = 0.33$
 $\lambda_{LT,0} = 0.40 \text{ } \beta_{LT} = 0.75 \text{ } \Phi_{LT} = 0.53 \text{ } \beta_{LT} = 0.75 \text{ } f = 0.98 \text{ } \chi_{LT} = 1.00$
CC 18 $My, Ed = -137.87 \text{ } My, b, Rd = 5387.15 \text{ } My, Ed/My, b, Rd = 0.03$
- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 2
Sollecitazioni: $N, Ed = -22630.70 \text{ My}, Ed = -1123.64$
Resistenze: $N_c, Rd = 77285.90 \text{ My}, c, Rd = 5387.15 \text{ L} = 79.00$
 $\alpha_{my}, \alpha_{mz}, \alpha_{LT} = 0.95, 0.95, 0.95$
 $L_{cr} = 0.79$ Curva b: $\alpha - imp = 0.34 \text{ } k_c = 0.94 \text{ } \psi = 1.75 \text{ } M, cr = 53716.50 \text{ } \lambda_{LT} = 0.33$
 $\lambda_{LT,0} = 0.40 \text{ } \beta_{LT} = 0.75 \text{ } \Phi_{LT} = 0.53 \text{ } \beta_{LT} = 0.75 \text{ } f = 0.98 \text{ } \chi_{LT} = 1.00$
 $\lambda_y = 10.65 \text{ } N_{cr,y} = 4373680.00 \text{ } \lambda^*_y = 0.14$ Curva a: $\Phi_y = 0.50 \text{ } \chi_y = 1.00$
 $\lambda_z = 38.50 \text{ } N_{cr,z} = 334922.00 \text{ } \lambda^*_z = 0.50$ Curva b: $\Phi_z = 0.68 \text{ } \chi_z = 0.88$
 $K_{yy}, K_{yz}, K_{zy}, K_{zz} = 0.93, 0.65, 0.00, 1.08$
Verifica YY: $0.29 + 0.19 = 0.49$
Verifica ZZ: $0.33 = 0.33$
- Verifica freccia massima carichi totali - CC 20
 $f_{z,L} = 0.02 \text{ (L/4011)}$
- Verifica a compressione (4.2.10) - CC 17 $X1 = 0.79$ - Classe 2
Sollecitazioni: $N = -22630.70 \text{ } T_z = -1432.35$
 $N, Ed = -22630.70 \text{ } N_c, Rd = -80966.20 \text{ } N, Ed/N_c, Rd = 0.28$

Relazione di calcolo

- Verifica a taglio dir. Z (4.2.17) - CC 1 Xl=0.00
Sollecitazioni: $T_z=2268.69$ $M_y=-94.83$
 $V,Ed=2268.69$ ($V,Ed,G=-112.61$, $V,Ed,M=2381.30$) $V_c,Rd=21964.00$ $V,Ed/V_c,Rd=0.10$

Asta n. 118 (111 124) IPE180 Crit. 1

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- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 1
 $L_{cr}=0.79$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M,cr=53716.50$ $\lambda_{LT}=0.33$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.53$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=1.00$
CC 18 $M_y,Ed=-137.87$ $M_y,b,Rd=5387.15$ $M_y,Ed/M_y,b,Rd=0.03$
- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 2
Sollecitazioni: $N,Ed=-22630.70$ $M_y,Ed=-1123.64$
Resistenze: $N_c,Rd=77285.90$ $M_y,c,Rd=5387.15$ $L=79.00$
 α_{my} , α_{mz} , $\alpha_{LT} = 0.95, 0.95, 0.95$
 $L_{cr}=0.79$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M,cr=53716.50$ $\lambda_{LT}=0.33$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.53$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=1.00$
 $\lambda_y=10.65$ $N_{cr,y}=4373670.00$ $\lambda^*_y=0.14$ Curva a: $\Phi_y=0.50$ $\chi_y=1.00$
 $\lambda_z=38.50$ $N_{cr,z}=334922.00$ $\lambda^*_z=0.50$ Curva b: $\Phi_z=0.68$ $\chi_z=0.88$
 K_{yy} , K_{yz} , K_{zy} , $K_{zz} = 0.93, 0.65, 0.00, 1.08$
Verifica YY: $0.29 + 0.19 = 0.49$
Verifica ZZ: $0.33 = 0.33$
- Verifica freccia massima carichi totali - CC 21
 $f_{z,L}=0.02$ (L/4121)
- Verifica a compressione (4.2.10) - CC 17 Xl=0.00 - Classe 2
Sollecitazioni: $N=-22630.70$ $T_z=1432.35$
 $N,Ed=-22630.70$ $N_c,Rd=80966.20$ $N,Ed/N_c,Rd=0.28$
- Verifica a taglio dir. Z (4.2.17) - CC 1 Xl=0.00
Sollecitazioni: $T_z=2508.76$
 $V,Ed=2508.76$ ($V,Ed,G=127.46$, $V,Ed,M=2381.30$) $V_c,Rd=21964.00$ $V,Ed/V_c,Rd=0.11$

Asta n. 118 (124 137) IPE180 Crit. 1

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- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 1
 $L_{cr}=0.79$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=1.00$ $M,cr=30695.10$ $\lambda_{LT}=0.44$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.58$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=1.00$
CC 18 $M_y,Ed=-137.87$ $M_y,b,Rd=5387.15$ $M_y,Ed/M_y,b,Rd=0.03$
- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 2
Sollecitazioni: $N,Ed=-22630.70$ $M_y,Ed=-1123.64$
Resistenze: $N_c,Rd=77285.90$ $M_y,c,Rd=5387.15$ $L=79.00$
 α_{my} , α_{mz} , $\alpha_{LT} = 0.95, 0.95, 0.95$
 $L_{cr}=0.79$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=1.00$ $M,cr=30695.10$ $\lambda_{LT}=0.44$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.58$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=1.00$
 $\lambda_y=10.65$ $N_{cr,y}=4373670.00$ $\lambda^*_y=0.14$ Curva a: $\Phi_y=0.50$ $\chi_y=1.00$
 $\lambda_z=38.50$ $N_{cr,z}=334922.00$ $\lambda^*_z=0.50$ Curva b: $\Phi_z=0.68$ $\chi_z=0.88$
 K_{yy} , K_{yz} , K_{zy} , $K_{zz} = 0.93, 0.65, 0.00, 1.08$
Verifica YY: $0.29 + 0.19 = 0.49$
Verifica ZZ: $0.33 = 0.33$
- Verifica freccia massima carichi totali - CC 21
 $f_{z,L}=0.00$ (L/23956)
- Verifica a pressoflessione retta - CC 17 Xl=0.39 - Classe 2
Sollecitazioni: $N=-22630.70$ $M_y=-1125.62$
 $M_y,Ed=-1125.62$ $M_y,c,Rd=5643.68$
 $N,Ed=-22630.70$ $N_c,Rd=80966.20$ $n = N,Ed/N_c,Rd = 0.28$
 $M_{Ny,c,Rd}=5057.53$ $M_y,Ed/M_{Ny,c,Rd} = 0.22$
- Verifica a taglio dir. Z (4.2.17) - CC 1 Xl=0.00
Sollecitazioni: $T_z=2388.73$ $M_y=-94.83$
 $V,Ed=2388.73$ ($V,Ed,G=7.43$, $V,Ed,M=2381.30$) $V_c,Rd=21964.00$ $V,Ed/V_c,Rd=0.11$

Asta n. 118 (137 150) IPE180 Crit. 1

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- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 1
 $L_{cr}=0.79$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M,cr=53716.50$ $\lambda_{LT}=0.33$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.53$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=1.00$
CC 18 $M_y,Ed=-137.87$ $M_y,b,Rd=5387.15$ $M_y,Ed/M_y,b,Rd=0.03$
- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 2
Sollecitazioni: $N,Ed=-22630.70$ $M_y,Ed=-1123.64$
Resistenze: $N_c,Rd=77285.90$ $M_y,c,Rd=5387.15$ $L=79.00$
 α_{my} , α_{mz} , $\alpha_{LT} = 0.95, 0.95, 0.95$
 $L_{cr}=0.79$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M,cr=53716.50$ $\lambda_{LT}=0.33$

Relazione di calcolo

$\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.53$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=1.00$
 $\lambda_y=10.65$ $N_{cr,y}=4373680.00$ $\lambda_y^*=0.14$ Curva a: $\Phi_y=0.50$ $\chi_y=1.00$
 $\lambda_z=38.50$ $N_{cr,z}=334922.00$ $\lambda_z^*=0.50$ Curva b: $\Phi_z=0.68$ $\chi_z=0.88$
 $K_{yy}, K_{yz}, K_{zy}, K_{zz} = 0.93, 0.65, 0.00, 1.08$
Verifica YY: $0.29 + 0.19 = 0.49$
Verifica ZZ: $0.33 = 0.33$

- Verifica freccia massima carichi totali - CC 20
 $f_{z,L}=0.02$ (L/4576)

- Verifica a compressione (4.2.10) - CC 17 $X_1=0.79$ - Classe 2
Sollecitazioni: $N=-22630.70$ $T_z=-1432.35$
 $N_{Ed}=-22630.70$ $N_{c,Rd}=-80966.20$ $N_{Ed}/N_{c,Rd}=0.28$

- Verifica a taglio dir. Z (4.2.17) - CC 1 $X_1=0.00$
Sollecitazioni: $T_z=2268.69$ $M_y=-94.83$
 $V_{Ed}=2268.69$ ($V_{Ed,G}=-112.61$, $V_{Ed,M}=2381.30$) $V_{c,Rd}=21964.00$ $V_{Ed}/V_{c,Rd}=0.10$

Asta n. 118 (150 163) IPE180 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 1
 $L_{cr}=0.79$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=53716.40$ $\lambda_{LT}=0.33$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.53$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=1.00$
CC 18 $M_{y,Ed}=-137.87$ $M_{y,b,Rd}=5387.15$ $M_{y,Ed}/M_{y,b,Rd}=0.03$

- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 2
Sollecitazioni: $N_{Ed}=-22630.70$ $M_{y,Ed}=-1123.64$
Resistenze: $N_{c,Rd}=77285.90$ $M_{y,c,Rd}=5387.15$ $L=79.00$
 $\alpha_{my}, \alpha_{mz}, \alpha_{LT} = 0.95, 0.95, 0.95$
 $L_{cr}=0.79$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=53716.40$ $\lambda_{LT}=0.33$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.53$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=1.00$
 $\lambda_y=10.65$ $N_{cr,y}=4373670.00$ $\lambda_y^*=0.14$ Curva a: $\Phi_y=0.50$ $\chi_y=1.00$
 $\lambda_z=38.50$ $N_{cr,z}=334922.00$ $\lambda_z^*=0.50$ Curva b: $\Phi_z=0.68$ $\chi_z=0.88$
 $K_{yy}, K_{yz}, K_{zy}, K_{zz} = 0.93, 0.65, 0.00, 1.08$
Verifica YY: $0.29 + 0.19 = 0.49$
Verifica ZZ: $0.33 = 0.33$

- Verifica freccia massima carichi totali - CC 21
 $f_{z,L}=0.02$ (L/4693)

- Verifica a compressione (4.2.10) - CC 17 $X_1=0.00$ - Classe 2
Sollecitazioni: $N=-22630.70$ $T_z=1432.35$
 $N_{Ed}=-22630.70$ $N_{c,Rd}=-80966.20$ $N_{Ed}/N_{c,Rd}=0.28$

- Verifica a taglio dir. Z (4.2.17) - CC 1 $X_1=0.00$
Sollecitazioni: $T_z=2508.76$
 $V_{Ed}=2508.76$ ($V_{Ed,G}=127.46$, $V_{Ed,M}=2381.30$) $V_{c,Rd}=21964.00$ $V_{Ed}/V_{c,Rd}=0.11$

Asta n. 118 (163 176) IPE180 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 1
 $L_{cr}=0.79$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=1.00$ $M_{cr}=30695.10$ $\lambda_{LT}=0.44$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.58$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=1.00$
CC 18 $M_{y,Ed}=-137.87$ $M_{y,b,Rd}=5387.15$ $M_{y,Ed}/M_{y,b,Rd}=0.03$

- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 2
Sollecitazioni: $N_{Ed}=-22630.70$ $M_{y,Ed}=-1123.64$
Resistenze: $N_{c,Rd}=77285.90$ $M_{y,c,Rd}=5387.15$ $L=79.00$
 $\alpha_{my}, \alpha_{mz}, \alpha_{LT} = 0.95, 0.95, 0.95$
 $L_{cr}=0.79$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=1.00$ $M_{cr}=30695.10$ $\lambda_{LT}=0.44$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.58$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=1.00$
 $\lambda_y=10.65$ $N_{cr,y}=4373670.00$ $\lambda_y^*=0.14$ Curva a: $\Phi_y=0.50$ $\chi_y=1.00$
 $\lambda_z=38.50$ $N_{cr,z}=334922.00$ $\lambda_z^*=0.50$ Curva b: $\Phi_z=0.68$ $\chi_z=0.88$
 $K_{yy}, K_{yz}, K_{zy}, K_{zz} = 0.93, 0.65, 0.00, 1.08$
Verifica YY: $0.29 + 0.19 = 0.49$
Verifica ZZ: $0.33 = 0.33$

- Verifica freccia massima carichi totali - CC 20
 $f_{z,G}=0.00$ (L/22090)

- Verifica a pressoflessione retta - CC 17 $X_1=0.40$ - Classe 2
Sollecitazioni: $N=-22630.70$ $M_y=-1125.62$
 $M_{y,Ed}=-1125.62$ $M_{y,c,Rd}=5643.68$
 $N_{Ed}=-22630.70$ $N_{c,Rd}=80966.20$ $n = N_{Ed}/N_{c,Rd} = 0.28$
 $M_{Ny,c,Rd}=5057.53$ $M_{y,Ed}/M_{Ny,c,Rd} = 0.22$

- Verifica a taglio dir. Z (4.2.17) - CC 1 $X_1=0.00$
Sollecitazioni: $T_z=2388.73$ $M_y=-94.83$
 $V_{Ed}=2388.73$ ($V_{Ed,G}=7.43$, $V_{Ed,M}=2381.30$) $V_{c,Rd}=21964.00$ $V_{Ed}/V_{c,Rd}=0.11$

Asta n. 118 (176 189) IPE180 Crit. 1

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- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 1
 $L_{cr}=0.79$ Curva b: $\alpha_{imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=53716.50$ $\lambda_{LT}=0.33$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.53$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=1.00$
 CC 18 $M_y, Ed=-137.87$ $M_y, b, Rd=5387.15$ $M_y, Ed/M_y, b, Rd=0.03$
 - Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 2
 Sollecitazioni: $N, Ed=-22630.70$ $M_y, Ed=-1123.64$
 Resistenze: $N_c, Rd=77285.90$ $M_y, c, Rd=5387.15$ $L=79.00$
 $\alpha_{my}, \alpha_{mz}, \alpha_{LT} = 0.95, 0.95, 0.95$
 $L_{cr}=0.79$ Curva b: $\alpha_{imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=53716.50$ $\lambda_{LT}=0.33$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.53$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=1.00$
 $\lambda_y=10.65$ $N_{cr,y}=4373680.00$ $\lambda^*_{y}=0.14$ Curva a: $\Phi_y=0.50$ $\chi_y=1.00$
 $\lambda_z=38.50$ $N_{cr,z}=334922.00$ $\lambda^*_{z}=0.50$ Curva b: $\Phi_z=0.68$ $\chi_z=0.88$
 $K_{yy}, K_{yz}, K_{zy}, K_{zz} = 0.93, 0.65, 0.00, 1.08$
 Verifica YY: $0.29 + 0.19 = 0.49$
 Verifica ZZ: $0.33 = 0.33$
 - Verifica freccia massima carichi totali - CC 20
 $f_{z,L}=0.02$ (L/4060)
 - Verifica a compressione (4.2.10) - CC 17 $X_1=0.79$ - Classe 2
 Sollecitazioni: $N=-22630.70$ $T_x=-1432.35$
 $N, Ed=-22630.70$ $N_c, Rd=-80966.20$ $N, Ed/N_c, Rd=0.28$
 - Verifica a taglio dir. Z (4.2.17) - CC 1 $X_1=0.00$
 Sollecitazioni: $T_x=2268.69$ $M_y=-94.83$
 $V, Ed=2268.69$ ($V, Ed, G=-112.61$, $V, Ed, M=2381.30$) $V_c, Rd=21964.00$ $V, Ed/V_c, Rd=0.10$

Asta n. 119 (112 125) IPE180 Crit. 1

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- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 1
 $L_{cr}=0.79$ Curva b: $\alpha_{imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=53716.50$ $\lambda_{LT}=0.33$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.53$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=1.00$
 CC 18 $M_y, Ed=-119.62$ $M_y, b, Rd=5387.15$ $M_y, Ed/M_y, b, Rd=0.02$
 - Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 2
 Sollecitazioni: $N, Ed=-22630.70$ $M_y, Ed=-957.94$
 Resistenze: $N_c, Rd=77285.90$ $M_y, c, Rd=5387.15$ $L=79.00$
 $\alpha_{my}, \alpha_{mz}, \alpha_{LT} = 0.95, 0.95, 0.95$
 $L_{cr}=0.79$ Curva b: $\alpha_{imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=53716.50$ $\lambda_{LT}=0.33$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.53$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=1.00$
 $\lambda_y=10.65$ $N_{cr,y}=4373670.00$ $\lambda^*_{y}=0.14$ Curva a: $\Phi_y=0.50$ $\chi_y=1.00$
 $\lambda_z=38.50$ $N_{cr,z}=334922.00$ $\lambda^*_{z}=0.50$ Curva b: $\Phi_z=0.68$ $\chi_z=0.88$
 $K_{yy}, K_{yz}, K_{zy}, K_{zz} = 0.93, 0.65, 0.00, 1.08$
 Verifica YY: $0.29 + 0.17 = 0.46$
 Verifica ZZ: $0.33 = 0.33$
 - Verifica freccia massima carichi totali - CC 21
 $f_{z,L}=0.02$ (L/4844)
 - Verifica a compressione (4.2.10) - CC 17 $X_1=0.00$ - Classe 2
 Sollecitazioni: $N=-22630.70$ $T_x=1222.61$
 $N, Ed=-22630.70$ $N_c, Rd=-80966.20$ $N, Ed/N_c, Rd=0.28$
 - Verifica a taglio dir. Z (4.2.17) - CC 1 $X_1=0.00$
 Sollecitazioni: $T_x=2493.03$
 $V, Ed=2493.03$ ($V, Ed, G=111.73$, $V, Ed, M=2381.30$) $V_c, Rd=21964.00$ $V, Ed/V_c, Rd=0.11$

Asta n. 119 (125 138) IPE180 Crit. 1

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- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 1
 $L_{cr}=0.79$ Curva b: $\alpha_{imp}=0.34$ $k_c=0.94$ $\psi=1.00$ $M_{cr}=30695.10$ $\lambda_{LT}=0.44$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.58$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=1.00$
 CC 18 $M_y, Ed=-119.62$ $M_y, b, Rd=5387.15$ $M_y, Ed/M_y, b, Rd=0.02$
 - Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 2
 Sollecitazioni: $N, Ed=-22630.70$ $M_y, Ed=-957.94$
 Resistenze: $N_c, Rd=77285.90$ $M_y, c, Rd=5387.15$ $L=79.00$
 $\alpha_{my}, \alpha_{mz}, \alpha_{LT} = 0.95, 0.95, 0.95$
 $L_{cr}=0.79$ Curva b: $\alpha_{imp}=0.34$ $k_c=0.94$ $\psi=1.00$ $M_{cr}=30695.10$ $\lambda_{LT}=0.44$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.58$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=1.00$
 $\lambda_y=10.65$ $N_{cr,y}=4373670.00$ $\lambda^*_{y}=0.14$ Curva a: $\Phi_y=0.50$ $\chi_y=1.00$
 $\lambda_z=38.50$ $N_{cr,z}=334922.00$ $\lambda^*_{z}=0.50$ Curva b: $\Phi_z=0.68$ $\chi_z=0.88$
 $K_{yy}, K_{yz}, K_{zy}, K_{zz} = 0.93, 0.65, 0.00, 1.08$
 Verifica YY: $0.29 + 0.17 = 0.46$

Relazione di calcolo

Verifica ZZ: $0.33 = 0.33$

- Verifica freccia massima carichi totali - CC 21
 $f_{z,L}=0.00$ (L/29503)

- Verifica a pressoflessione retta - CC 17 $X_1=0.39$ - Classe 2
Sollecitazioni: $N=-22630.70$ $M_y=-959.92$
 $M_y,Ed=-959.92$ $M_y,c,Rd=5643.68$
 $N,Ed=-22630.70$ $N_c,Rd=80966.20$ $n= N,Ed/N_c,Rd = 0.28$
 $M_{Ny,c,Rd}=5057.53$ $M_y,Ed/M_{Ny,c,Rd} = 0.19$

- Verifica a taglio dir. Z (4.2.17) - CC 1 $X_1=0.00$
Sollecitazioni: $T_z=2388.73$ $M_y=-82.40$
 $V,Ed=2388.73$ ($V,Ed,G=7.43$, $V,Ed,M=2381.30$) $V_c,Rd=21964.00$ $V,Ed/V_c,Rd=0.11$

Asta n. 119 (138 151) IPE180 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 1
 $L_{cr}=0.79$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=53716.50$ $\lambda_{LT}=0.33$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.53$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=1.00$
CC 18 $M_y,Ed=-119.62$ $M_y,b,Rd=5387.15$ $M_y,Ed/M_y,b,Rd=0.02$

- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 2
Sollecitazioni: $N,Ed=-22630.70$ $M_y,Ed=-957.94$
Resistenze: $N_c,Rd=77285.90$ $M_y,c,Rd=5387.15$ $L=79.00$
 α_{my} , α_{mz} , $\alpha_{LT} = 0.95, 0.95, 0.95$
 $L_{cr}=0.79$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=53716.50$ $\lambda_{LT}=0.33$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.53$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=1.00$
 $\lambda_y=10.65$ $N_{cr,y}=4373680.00$ $\lambda^*_y=0.14$ Curva a: $\Phi_y=0.50$ $\chi_y=1.00$
 $\lambda_z=38.50$ $N_{cr,z}=334922.00$ $\lambda^*_z=0.50$ Curva b: $\Phi_z=0.68$ $\chi_z=0.88$
 K_{yy} , K_{yz} , K_{zy} , $K_{zz} = 0.93, 0.65, 0.00, 1.08$
Verifica YY: $0.29 + 0.17 = 0.46$
Verifica ZZ: $0.33 = 0.33$

- Verifica freccia massima carichi totali - CC 20
 $f_{z,L}=0.02$ (L/5082)

- Verifica a compressione (4.2.10) - CC 17 $X_1=0.79$ - Classe 2
Sollecitazioni: $N=-22630.70$ $T_z=-1222.61$
 $N,Ed=-22630.70$ $N_c,Rd=-80966.20$ $N,Ed/N_c,Rd=0.28$

- Verifica a taglio dir. Z (4.2.17) - CC 1 $X_1=0.00$
Sollecitazioni: $T_z=2284.43$ $M_y=-82.40$
 $V,Ed=2284.43$ ($V,Ed,G=-96.88$, $V,Ed,M=2381.30$) $V_c,Rd=21964.00$ $V,Ed/V_c,Rd=0.10$

Asta n. 119 (151 164) IPE180 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 1
 $L_{cr}=0.79$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=53716.40$ $\lambda_{LT}=0.33$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.53$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=1.00$
CC 18 $M_y,Ed=-119.62$ $M_y,b,Rd=5387.15$ $M_y,Ed/M_y,b,Rd=0.02$

- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 2
Sollecitazioni: $N,Ed=-22630.70$ $M_y,Ed=-957.94$
Resistenze: $N_c,Rd=77285.90$ $M_y,c,Rd=5387.15$ $L=79.00$
 α_{my} , α_{mz} , $\alpha_{LT} = 0.95, 0.95, 0.95$
 $L_{cr}=0.79$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=53716.40$ $\lambda_{LT}=0.33$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.53$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=1.00$
 $\lambda_y=10.65$ $N_{cr,y}=4373670.00$ $\lambda^*_y=0.14$ Curva a: $\Phi_y=0.50$ $\chi_y=1.00$
 $\lambda_z=38.50$ $N_{cr,z}=334922.00$ $\lambda^*_z=0.50$ Curva b: $\Phi_z=0.68$ $\chi_z=0.88$
 K_{yy} , K_{yz} , K_{zy} , $K_{zz} = 0.93, 0.65, 0.00, 1.08$
Verifica YY: $0.29 + 0.17 = 0.46$
Verifica ZZ: $0.33 = 0.33$

- Verifica freccia massima carichi totali - CC 21
 $f_{z,L}=0.02$ (L/5226)

- Verifica a compressione (4.2.10) - CC 17 $X_1=0.00$ - Classe 2
Sollecitazioni: $N=-22630.70$ $T_z=1222.61$
 $N,Ed=-22630.70$ $N_c,Rd=-80966.20$ $N,Ed/N_c,Rd=0.28$

- Verifica a taglio dir. Z (4.2.17) - CC 1 $X_1=0.00$
Sollecitazioni: $T_z=2493.03$
 $V,Ed=2493.03$ ($V,Ed,G=111.73$, $V,Ed,M=2381.30$) $V_c,Rd=21964.00$ $V,Ed/V_c,Rd=0.11$

Asta n. 119 (164 177) IPE180 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 1
 $L_{cr}=0.79$ Curva b: $\alpha\text{-imp}=0.34$ $k_c=0.94$ $\psi=1.00$ $M_{cr}=30695.10$ $\lambda_{LT}=0.44$

Relazione di calcolo

- $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.58$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=1.00$
 CC 18 $M_y, Ed=-119.62$ $M_y, b, Rd=5387.15$ $M_y, Ed/M_y, b, Rd=0.02$
- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 2
 Sollecitazioni: $N, Ed=-22630.70$ $M_y, Ed=-957.94$
 Resistenze: $N_c, Rd=77285.90$ $M_y, c, Rd=5387.15$ $L=79.00$
 $\alpha_{my}, \alpha_{mz}, \alpha_{LT} = 0.95, 0.95, 0.95$
 $L_{cr}=0.79$ Curva b: $\alpha_{imp}=0.34$ $k_c=0.94$ $\psi=1.00$ $M_{cr}=30695.10$ $\lambda_{LT}=0.44$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.58$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=1.00$
 $\lambda_y=10.65$ $N_{cr,y}=4373670.00$ $\lambda^*_y=0.14$ Curva a: $\Phi_y=0.50$ $\chi_y=1.00$
 $\lambda_z=38.50$ $N_{cr,z}=334922.00$ $\lambda^*_z=0.50$ Curva b: $\Phi_z=0.68$ $\chi_z=0.88$
 $K_{yy}, K_{yz}, K_{zy}, K_{zz} = 0.93, 0.65, 0.00, 1.08$
 Verifica YY: $0.29 + 0.17 = 0.46$
 Verifica ZZ: $0.33 = 0.33$
- Verifica freccia massima carichi totali - CC 20
 $f_{z,L}=0.00$ (L/27931)
- Verifica a pressoflessione retta - CC 17 $X_1=0.40$ - Classe 2
 Sollecitazioni: $N=-22630.70$ $M_y=-959.92$
 $M_y, Ed=-959.92$ $M_y, c, Rd=5643.68$
 $N, Ed=-22630.70$ $N_c, Rd=80966.20$ $n = N, Ed/N_c, Rd = 0.28$
 $M_{Ny}, c, Rd=5057.53$ $M_y, Ed/M_{Ny}, c, Rd = 0.19$
- Verifica a taglio dir. Z (4.2.17) - CC 1 $X_1=0.00$
 Sollecitazioni: $T_z=2388.73$ $M_y=-82.40$
 $V, Ed=2388.73$ ($V, Ed, G=7.43$, $V, Ed, M=2381.30$) $V_c, Rd=21964.00$ $V, Ed/V_c, Rd=0.11$
- Asta n. 119 (177 190) IPE180 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 1
 $L_{cr}=0.79$ Curva b: $\alpha_{imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=53716.50$ $\lambda_{LT}=0.33$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.53$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=1.00$
 CC 18 $M_y, Ed=-119.62$ $M_y, b, Rd=5387.15$ $M_y, Ed/M_y, b, Rd=0.02$
- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 2
 Sollecitazioni: $N, Ed=-22630.70$ $M_y, Ed=-957.94$
 Resistenze: $N_c, Rd=77285.90$ $M_y, c, Rd=5387.15$ $L=79.00$
 $\alpha_{my}, \alpha_{mz}, \alpha_{LT} = 0.95, 0.95, 0.95$
 $L_{cr}=0.79$ Curva b: $\alpha_{imp}=0.34$ $k_c=0.94$ $\psi=1.75$ $M_{cr}=53716.50$ $\lambda_{LT}=0.33$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.53$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=1.00$
 $\lambda_y=10.65$ $N_{cr,y}=4373680.00$ $\lambda^*_y=0.14$ Curva a: $\Phi_y=0.50$ $\chi_y=1.00$
 $\lambda_z=38.50$ $N_{cr,z}=334922.00$ $\lambda^*_z=0.50$ Curva b: $\Phi_z=0.68$ $\chi_z=0.88$
 $K_{yy}, K_{yz}, K_{zy}, K_{zz} = 0.93, 0.65, 0.00, 1.08$
 Verifica YY: $0.29 + 0.17 = 0.46$
 Verifica ZZ: $0.33 = 0.33$
- Verifica freccia massima carichi totali - CC 20
 $f_{z,L}=0.02$ (L/4774)
- Verifica a compressione (4.2.10) - CC 17 $X_1=0.79$ - Classe 2
 Sollecitazioni: $N=-22630.70$ $T_z=-1222.61$
 $N, Ed=-22630.70$ $N_c, Rd=-80966.20$ $N, Ed/N_c, Rd=0.28$
- Verifica a taglio dir. Z (4.2.17) - CC 1 $X_1=0.00$
 Sollecitazioni: $T_z=2284.43$ $M_y=-82.40$
 $V, Ed=2284.43$ ($V, Ed, G=-96.88$, $V, Ed, M=2381.30$) $V_c, Rd=21964.00$ $V, Ed/V_c, Rd=0.10$
- Asta n. 120 (113 126) IPE180 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 1
 $L_{cr}=0.79$ Curva b: $\alpha_{imp}=0.34$ $k_c=0.94$ $\psi=2.33$ $M_{cr}=71502.50$ $\lambda_{LT}=0.29$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.51$ $\beta_{LT}=0.75$ $f=0.99$ $\chi_{LT}=1.00$
 CC 18 $M_y, Ed=3.71$ $M_y, b, Rd=5387.15$ $M_y, Ed/M_y, b, Rd=0.00$
- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 2
 Sollecitazioni: $N, Ed=-22630.70$ $M_y, Ed=-5.01$
 Resistenze: $N_c, Rd=77285.90$ $M_y, c, Rd=5387.15$ $L=79.00$
 $\alpha_{my}, \alpha_{mz}, \alpha_{LT} = 0.95, 0.95, 0.95$
 $L_{cr}=0.79$ Curva b: $\alpha_{imp}=0.34$ $k_c=0.94$ $\psi=2.81$ $M_{cr}=86111.40$ $\lambda_{LT}=0.26$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.50$ $\beta_{LT}=0.75$ $f=0.99$ $\chi_{LT}=1.00$
 $\lambda_y=10.65$ $N_{cr,y}=4373670.00$ $\lambda^*_y=0.14$ Curva a: $\Phi_y=0.50$ $\chi_y=1.00$
 $\lambda_z=38.50$ $N_{cr,z}=334922.00$ $\lambda^*_z=0.50$ Curva b: $\Phi_z=0.68$ $\chi_z=0.88$
 $K_{yy}, K_{yz}, K_{zy}, K_{zz} = 0.93, 0.65, 0.00, 1.08$
 Verifica YY: $0.29 + 0.00 = 0.29$
 Verifica ZZ: $0.33 = 0.33$
- Verifica a compressione (4.2.10) - CC 17 $X_1=0.57$ - Classe 2
 Sollecitazioni: $N=-22630.70$ $T_z=-16.06$

Relazione di calcolo

N,Ed=-22630.70 Nc,Rd=-80966.20 N,Ed/Nc,Rd=0.28

- Verifica a taglio dir. Z (4.2.17) - CC 1 Xl=0.00
Sollecitazioni: T_z=2387.05
V,Ed=2387.05 (V,Ed,G=5.75, V,Ed,M=2381.30) Vc,Rd=21964.00 V,Ed/Vc,Rd=0.11

Asta n. 120 (126 139) IPE180 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 1
L_{cr}=0.79 Curva b: α -imp=0.34 k_c=0.94 ψ =1.37 M_{cr}=42004.80 λ_{LT} =0.38
 $\lambda_{LT,0}$ =0.40 β_{LT} =0.75 Φ_{LT} =0.55 β_{LT} =0.75 f=0.98 χ_{LT} =1.00
CC 18 My,Ed=2.84 My,b,Rd=5387.15 My,Ed/My,b,Rd=0.00

- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 2
Sollecitazioni: N,Ed=-22630.70 My,Ed=4.88
Resistenze: Nc,Rd=77285.90 My,c,Rd=5387.15 L=79.00
 α_{my} , α_{mz} , α_{LT} = 0.95, 0.95, 0.95
L_{cr}=0.79 Curva b: α -imp=0.34 k_c=0.94 ψ =1.01 M_{cr}=30941.10 λ_{LT} =0.44
 $\lambda_{LT,0}$ =0.40 β_{LT} =0.75 Φ_{LT} =0.58 β_{LT} =0.75 f=0.98 χ_{LT} =1.00
 λ_y =10.65 Ncr,y=4373670.00 λ^*_y =0.14 Curva a: Φ_y =0.50 χ_y =1.00
 λ_z =38.50 Ncr,z=334922.00 λ^*_z =0.50 Curva b: Φ_z =0.68 χ_z =0.88
Kyy, Kyz, Kzy, Kzz = 0.93, 0.65, 0.00, 1.08
Verifica YY: 0.29 + 0.00 = 0.29
Verifica ZZ: 0.33 = 0.33

- Verifica a pressoflessione retta - CC 17 Xl=0.00 - Classe 2
Sollecitazioni: N=-22630.70 T_z=10.13 M_y=4.88
My,Ed=4.88 My,c,Rd=5643.68
N,Ed=-22630.70 Nc,Rd=80966.20 n= N,Ed/Nc,Rd = 0.28
MMy,c,Rd=5057.53 My,Ed/MMy,c,Rd = 0.00

- Verifica a taglio dir. Z (4.2.17) - CC 1 Xl=0.00
Sollecitazioni: T_z=2389.03 M_y=1.58
V,Ed=2389.03 (V,Ed,G=7.73, V,Ed,M=2381.30) Vc,Rd=21964.00 V,Ed/Vc,Rd=0.11

Asta n. 120 (139 152) IPE180 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 19 - Classe 1
L_{cr}=0.79 Curva b: α -imp=0.34 k_c=0.94 ψ =2.22 M_{cr}=68277.60 λ_{LT} =0.29
 $\lambda_{LT,0}$ =0.40 β_{LT} =0.75 Φ_{LT} =0.51 β_{LT} =0.75 f=0.99 χ_{LT} =1.00
CC 19 My,Ed=2.68 My,b,Rd=5387.15 My,Ed/My,b,Rd=0.00

- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 2
Sollecitazioni: N,Ed=-22630.70 My,Ed=-11.07
Resistenze: Nc,Rd=77285.90 My,c,Rd=5387.15 L=79.00
 α_{my} , α_{mz} , α_{LT} = 0.95, 0.95, 0.95
L_{cr}=0.79 Curva b: α -imp=0.34 k_c=0.94 ψ =2.88 M_{cr}=88314.10 λ_{LT} =0.26
 $\lambda_{LT,0}$ =0.40 β_{LT} =0.75 Φ_{LT} =0.50 β_{LT} =0.75 f=0.99 χ_{LT} =1.00
 λ_y =10.65 Ncr,y=4373680.00 λ^*_y =0.14 Curva a: Φ_y =0.50 χ_y =1.00
 λ_z =38.50 Ncr,z=334922.00 λ^*_z =0.50 Curva b: Φ_z =0.68 χ_z =0.88
Kyy, Kyz, Kzy, Kzz = 0.93, 0.65, 0.00, 1.08
Verifica YY: 0.29 + 0.00 = 0.29
Verifica ZZ: 0.33 = 0.33

- Verifica a compressione (4.2.10) - CC 17 Xl=0.29 - Classe 2
Sollecitazioni: N=-22630.70 T_z=28.81
N,Ed=-22630.70 Nc,Rd=-80966.20 N,Ed/Nc,Rd=0.28

- Verifica a taglio dir. Z (4.2.17) - CC 1 Xl=0.00
Sollecitazioni: T_z=2391.84 M_y=1.88
V,Ed=2391.84 (V,Ed,G=10.54, V,Ed,M=2381.30) Vc,Rd=21964.00 V,Ed/Vc,Rd=0.11

Asta n. 120 (152 165) IPE180 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 1
L_{cr}=0.79 Curva b: α -imp=0.34 k_c=0.94 ψ =2.05 M_{cr}=62829.20 λ_{LT} =0.31
 $\lambda_{LT,0}$ =0.40 β_{LT} =0.75 Φ_{LT} =0.52 β_{LT} =0.75 f=0.98 χ_{LT} =1.00
CC 18 My,Ed=3.91 My,b,Rd=5387.15 My,Ed/My,b,Rd=0.00

- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 2
Sollecitazioni: N,Ed=-22630.70 My,Ed=-10.36
Resistenze: Nc,Rd=77285.90 My,c,Rd=5387.15 L=79.00
 α_{my} , α_{mz} , α_{LT} = 0.95, 0.95, 0.95
L_{cr}=0.79 Curva b: α -imp=0.34 k_c=0.94 ψ =2.97 M_{cr}=91244.20 λ_{LT} =0.25
 $\lambda_{LT,0}$ =0.40 β_{LT} =0.75 Φ_{LT} =0.50 β_{LT} =0.75 f=0.99 χ_{LT} =1.00
 λ_y =10.65 Ncr,y=4373670.00 λ^*_y =0.14 Curva a: Φ_y =0.50 χ_y =1.00
 λ_z =38.50 Ncr,z=334922.00 λ^*_z =0.50 Curva b: Φ_z =0.68 χ_z =0.88
Kyy, Kyz, Kzy, Kzz = 0.93, 0.65, 0.00, 1.08

Relazione di calcolo

Verifica YY: $0.29 + 0.00 = 0.29$
Verifica ZZ: $0.33 = 0.33$

- Verifica a compressione (4.2.10) - CC 17 $X_l=0.47$ - Classe 2
Sollecitazioni: $N=-22630.70$ $T_z=-27.22$
 $N,Ed=-22630.70$ $N_c,Rd=-80966.20$ $N,Ed/N_c,Rd=0.28$

- Verifica a taglio dir. Z (4.2.17) - CC 1 $X_l=0.00$
Sollecitazioni: $T_z=2386.13$
 $V,Ed=2386.13$ ($V,Ed,G=4.83$, $V,Ed,M=2381.30$) $V_c,Rd=21964.00$ $V,Ed/V_c,Rd=0.11$

Asta n. 120 (165 178) IPE180 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 18 - Classe 1
 $L_{cr}=0.79$ Curva b: $\alpha_{imp}=0.34$ $k_c=0.94$ $\psi=1.63$ $M_{cr}=49982.00$ $\lambda_{LT}=0.34$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.54$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=1.00$
CC 18 $M_y,Ed=3.91$ $M_y,b,Rd=5387.15$ $M_y,Ed/M_y,b,Rd=0.00$

- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 2
Sollecitazioni: $N,Ed=-22630.70$ $M_y,Ed=4.67$
Resistenze: $N_c,Rd=77285.90$ $M_y,c,Rd=5387.15$ $L=79.00$
 α_{my} , α_{mz} , $\alpha_{LT} = 0.95, 0.95, 0.95$
 $L_{cr}=0.79$ Curva b: $\alpha_{imp}=0.34$ $k_c=0.94$ $\psi=1.04$ $M_{cr}=31965.90$ $\lambda_{LT}=0.43$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.57$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=1.00$
 $\lambda_y=10.65$ $N_{cr,y}=4373670.00$ $\lambda^*_{y}=0.14$ Curva a: $\Phi_y=0.50$ $\chi_y=1.00$
 $\lambda_z=38.50$ $N_{cr,z}=334922.00$ $\lambda^*_{z}=0.50$ Curva b: $\Phi_z=0.68$ $\chi_z=0.88$
 K_{yy} , K_{yz} , K_{zy} , $K_{zz} = 0.93, 0.65, 0.00, 1.08$
Verifica YY: $0.29 + 0.00 = 0.29$
Verifica ZZ: $0.33 = 0.33$

- Verifica a pressoflessione retta - CC 17 $X_l=0.00$ - Classe 2
Sollecitazioni: $N=-22630.70$ $T_z=10.54$ $M_y=4.67$
 $M_y,Ed=4.67$ $M_y,c,Rd=5643.68$
 $N,Ed=-22630.70$ $N_c,Rd=80966.20$ $n = N,Ed/N_c,Rd = 0.28$
 $M_{Ny,c,Rd}=5057.53$ $M_y,Ed/M_{Ny,c,Rd} = 0.00$

- Verifica a taglio dir. Z (4.2.17) - CC 1 $X_l=0.00$
Sollecitazioni: $T_z=2388.79$ $M_y=1.25$
 $V,Ed=2388.79$ ($V,Ed,G=7.49$, $V,Ed,M=2381.30$) $V_c,Rd=21964.00$ $V,Ed/V_c,Rd=0.11$

Asta n. 120 (178 191) IPE180 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 5 - Classe 1
 $L_{cr}=0.79$ Curva b: $\alpha_{imp}=0.34$ $k_c=0.94$ $\psi=2.09$ $M_{cr}=64174.50$ $\lambda_{LT}=0.30$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.52$ $\beta_{LT}=0.75$ $f=0.98$ $\chi_{LT}=1.00$
CC 5 $M_y,Ed=2.88$ $M_y,b,Rd=5387.15$ $M_y,Ed/M_y,b,Rd=0.00$

- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 17 - Classe 2
Sollecitazioni: $N,Ed=-22630.70$ $M_y,Ed=-4.70$
Resistenze: $N_c,Rd=77285.90$ $M_y,c,Rd=5387.15$ $L=79.00$
 α_{my} , α_{mz} , $\alpha_{LT} = 0.95, 0.95, 0.95$
 $L_{cr}=0.79$ Curva b: $\alpha_{imp}=0.34$ $k_c=0.94$ $\psi=3.03$ $M_{cr}=92934.30$ $\lambda_{LT}=0.25$
 $\lambda_{LT,0}=0.40$ $\beta_{LT}=0.75$ $\Phi_{LT}=0.50$ $\beta_{LT}=0.75$ $f=0.99$ $\chi_{LT}=1.00$
 $\lambda_y=10.65$ $N_{cr,y}=4373680.00$ $\lambda^*_{y}=0.14$ Curva a: $\Phi_y=0.50$ $\chi_y=1.00$
 $\lambda_z=38.50$ $N_{cr,z}=334922.00$ $\lambda^*_{z}=0.50$ Curva b: $\Phi_z=0.68$ $\chi_z=0.88$
 K_{yy} , K_{yz} , K_{zy} , $K_{zz} = 0.93, 0.65, 0.00, 1.08$
Verifica YY: $0.29 + 0.00 = 0.29$
Verifica ZZ: $0.33 = 0.33$

- Verifica a compressione (4.2.10) - CC 17 $X_l=0.24$ - Classe 2
Sollecitazioni: $N=-22630.70$ $T_z=15.64$
 $N,Ed=-22630.70$ $N_c,Rd=-80966.20$ $N,Ed/N_c,Rd=0.28$

- Verifica a taglio dir. Z (4.2.17) - CC 1 $X_l=0.00$
Sollecitazioni: $T_z=2390.48$ $M_y=1.63$
 $V,Ed=2390.48$ ($V,Ed,G=9.18$, $V,Ed,M=2381.30$) $V_c,Rd=21964.00$ $V,Ed/V_c,Rd=0.11$

Verifiche e armature pareti

Simbologia

CC = Numero della combinazione delle condizioni di carico elementari
Zona = Zona di verifica
Zv = Coordinata Z di verifica
Xi = Coordinata X iniziale
Xf = Coordinata X finale
Xv = Coordinata X di verifica
TCC = Tipo di combinazione di carico

Relazione di calcolo

SLU	= Stato limite ultimo
SLU S	= Stato limite ultimo (azione sismica)
SLE R	= Stato limite d'esercizio, combinazione rara
SLE F	= Stato limite d'esercizio, combinazione frequente
SLE Q	= Stato limite d'esercizio, combinazione quasi permanente
SLD	= Stato limite di danno
SLV	= Stato limite di salvaguardia della vita
SLC	= Stato limite di prevenzione del collasso
SLO	= Stato limite di operatività
SLU I	= Stato limite di resistenza al fuoco
N	= Sforzo normale
My	= Momento flettente intorno all'asse Y
Nu	= Sforzo normale ultimo
Myu	= Momento ultimo intorno all'asse Y
Sic.	= Sicurezza a rottura
σ_c	= Tensione nel calcestruzzo
σ_f	= Tensione nel ferro
c	= Ricoprimento dell'armatura
s	= Distanza minima tra le barre
K3	= Coefficiente di forma del diagramma delle tensioni prima della fessurazione
s_{rm}	= Distanza media tra le fessure
Φ	= Diametro della barra
A_s	= Area complessiva dei ferri nell'area di calcestruzzo efficace
$A_{c\ eff}$	= Area di calcestruzzo efficace
σ_s	= Tensione nell'acciaio nella sezione fessurata
σ_{sr}	= Tensione nell'acciaio corrispondente al raggiungimento della resistenza a trazione nel calcestruzzo
ϵ_{sm}	= Deformazione unitaria media dell'armatura (*1000)
Wk	= Apertura delle fessure
Ty	= Taglio in dir. Y
Vsdu	= Taglio agente nella direzione del momento ultimo
VRsd	= Taglio ultimo lato armatura
VRcd	= Taglio ultimo lato calcestruzzo
$V_{rd,s}$	= Taglio ultimo per scorrimento lungo piani orizzontali
V_{dd}	= Contributo effetto spinotto
V_{fd}	= Contributo resistenza per attrito
Vrdu	= Taglio ultimo assorbibile dal solo calcestruzzo
Sic.T	= Sicurezza a rottura per taglio
Sez.	= Sezione di verifica
Spess.	= Spessore
Cf	= Copriferro
Cls	= Tipo di calcestruzzo
Fck	= Resistenza caratteristica cilindrica a compressione del calcestruzzo
Fctk	= Resistenza caratteristica a trazione del calcestruzzo
Fcd	= Resistenza di calcolo a compressione del calcestruzzo
Fctd	= Resistenza di calcolo a trazione del calcestruzzo
Acc.	= Tipo di acciaio
Fyk	= Tensione caratteristica di snervamento dell'acciaio
Fyd	= Resistenza di calcolo dell'acciaio

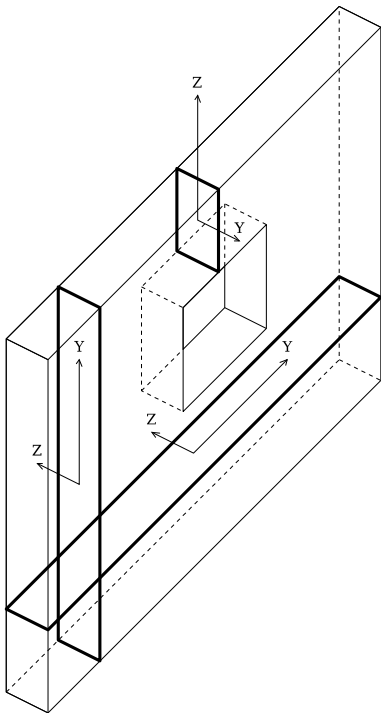


Figura numero 3: Riferimenti sezione

Parete 102

Caratteristiche delle sezioni e dei materiali utilizzati

Sez.	Spess.	Cf	Cls	Fck	Fctk	Fcd	Fctd	Acc.	Fyk	Fyd
	<cm>	<cm>		<daN/cm²>	<daN/cm²>	<daN/cm²>	<daN/cm²>		<daN/cm²>	<daN/cm²>
Oriz.	100.00	5.20	C32/40	332.00	21.69	188.13	14.46	B450C	4500.00	3913.04

Snellezza massima = 18.36 (CC 17) - Snellezza limite (4.1.2.1.7.2) = 277.30

Verifiche su sezioni orizzontali

Stato limite ultimo - Armatura a flessione

CC	TCC	Zona	Zv	Xi	Xf	N	My	Nu	Myu	Sic.
			<m>	<m>	<m>	<daN>	<daNm>	<daN>	<daNm>	
9	SLV	Diff.	0.00	0.00	5.74	-76412.50	81597.10	-76412.80	208565.00	2.556
10	SLD	Diff.	0.00	0.00	5.74	-76412.50	45247.70	-76417.50	237466.00	5.248
9	SLV	Diff.	1.33	0.00	5.74	-63736.60	66761.30	-63741.00	202782.00	3.037
10	SLD	Diff.	1.33	0.00	5.74	-63736.60	37020.80	-63740.50	231642.00	6.257
9	SLV	Diff.	2.65	0.00	5.74	-51060.80	51925.40	-51063.10	196994.00	3.794
10	SLD	Diff.	2.65	0.00	5.74	-51060.80	28794.00	-51063.90	225816.00	7.842
9	SLV	Diff.	3.98	0.00	5.74	-25709.10	22253.80	-25713.80	185412.00	8.332
10	SLD	Diff.	3.98	0.00	5.74	-25709.10	12340.30	-25711.80	214158.00	17.354
9	SLV	Diff.	5.30	0.00	5.74	-13033.30	7417.89	-13035.30	179620.00	24.214
10	SLD	Diff.	5.30	0.00	5.74	-13033.30	4113.41	-13035.80	208330.00	50.647
9	SLV	Loc.	0.00	0.00	5.74	-76344.30	81542.00	-76345.60	208528.00	2.557
10	SLD	Loc.	0.00	0.00	5.74	-76349.40	45217.10	-76354.30	237428.00	5.251

Stato limite d'esercizio - Armatura a flessione

CC	TCC	Zona	Zv	Xi	Xf	N	My	σ _c	σ _f
			<m>	<m>	<m>	<daN>	<daNm>	<daN/cm²>	<daN/cm²>
20	SLE	R Diff.	0.00	0.00	5.74	-76412.50	12.83	1.30	19.51
23	SLE	Q Diff.	0.00	0.00	5.74	-76412.50	8.59	1.30	19.51
20	SLE	R Diff.	1.33	0.00	5.74	-63736.60	10.49	1.09	16.28
23	SLE	Q Diff.	1.33	0.00	5.74	-63736.60	7.02	1.08	16.27
20	SLE	R Diff.	2.65	0.00	5.74	-51060.80	8.16	0.87	13.04
23	SLE	Q Diff.	2.65	0.00	5.74	-51060.80	5.46	0.87	13.04
20	SLE	R Diff.	3.98	0.00	5.74	-25709.10	3.50	0.44	6.56
23	SLE	Q Diff.	3.98	0.00	5.74	-25709.10	2.34	0.44	6.56
20	SLE	R Diff.	5.30	0.00	5.74	-13033.30	1.17	0.22	3.33
23	SLE	Q Diff.	5.30	0.00	5.74	-13033.30	0.78	0.22	3.33
20	SLE	R Loc.	0.00	0.00	5.74	-76289.60	12.65	1.30	19.50
20	SLE	R Loc.	5.30	0.00	5.74	-13025.00	1.16	0.22	3.33
23	SLE	Q Loc.	0.00	0.00	5.74	-76355.40	8.45	1.30	19.51

Parete 103**Caratteristiche delle sezioni e dei materiali utilizzati**

Sez.	Spess.	Cf	Cls	Fck	Fctk	Fcd	Fctd	Acc.	Fyk	Fyd
	<cm>	<cm>		<daN/cmq>	<daN/cmq>	<daN/cmq>	<daN/cmq>		<daN/cmq>	<daN/cmq>
Oriz.	70.00	5.20	C32/40	332.00	21.69	188.13	14.46	B450C	4500.00	3913.04

Snellezza massima = 26.23 (CC 17) - Snellezza limite (4.1.2.1.7.2) = 268.11

Verifiche su sezioni orizzontali**Stato limite ultimo - Armatura a flessione**

CC	TCC	Zona	Zv	Xi	Xf	N	My	Nu	Myu	Sic.
			<m>	<m>	<m>	<daN>	<daNm>	<daN>	<daNm>	
1	SLV	Diff.	0.00	0.00	5.74	-52054.70	46606.60	-52057.50	135427.00	2.906
2	SLD	Diff.	0.00	0.00	5.74	-52054.70	33279.50	-52059.30	156120.00	4.691
9	SLV	Diff.	1.33	0.00	5.74	-43181.60	-28539.90	-43183.20	-132705.00	4.650
10	SLD	Diff.	1.33	0.00	5.74	-43181.60	-17635.90	-43185.30	-153373.00	8.697
17	SLU	Diff.	2.65	0.00	5.74	-56589.90	-36110.30	-56591.10	-136818.00	3.789
10	SLD	Diff.	2.65	0.00	5.74	-25435.50	-23263.00	-25435.70	-147872.00	6.357
17	SLU	Diff.	3.98	0.00	5.74	-44611.20	-25955.50	-44613.70	-133144.00	5.130
10	SLD	Diff.	3.98	0.00	5.74	-16562.40	-15924.60	-16564.40	-145121.00	9.113
9	SLV	Diff.	5.30	0.00	5.74	-7689.29	-6214.68	-7691.78	-121818.00	19.602
10	SLD	Diff.	5.30	0.00	5.74	-7689.29	-5003.13	-7692.00	-142387.00	28.460
9	SLV	Loc.	0.00	0.15	0.85	-5332.31	5760.35	-5334.47	17457.80	3.031
10	SLD	Loc.	0.00	0.15	0.85	-6219.46	4156.17	-6224.34	20458.70	4.923
9	SLV	Loc.	0.00	0.94	1.64	-5292.27	5659.56	-5292.64	17445.00	3.082
10	SLD	Loc.	0.00	0.94	1.64	-5700.96	4044.62	-5704.71	20298.30	5.019
9	SLV	Loc.	0.00	1.73	2.43	-5631.75	5634.22	-5633.71	17549.40	3.115
10	SLD	Loc.	0.00	1.73	2.43	-5825.53	3992.99	-5828.29	20336.50	5.093
9	SLV	Loc.	0.00	2.53	3.23	-5905.44	5674.49	-5907.86	17633.20	3.107
10	SLD	Loc.	0.00	2.53	3.23	-5934.37	4034.85	-5936.75	20370.00	5.049
1	SLV	Loc.	0.00	3.31	4.01	-5434.49	5658.40	-5438.94	17489.80	3.091
2	SLD	Loc.	0.00	3.31	4.01	-5652.04	4028.60	-5655.92	20283.30	5.035
1	SLV	Loc.	0.00	4.10	4.80	-4995.87	5600.98	-4999.35	17355.30	3.099
2	SLD	Loc.	0.00	4.10	4.80	-5424.27	3985.67	-5427.13	20212.60	5.071
1	SLV	Loc.	0.00	4.89	5.59	-5058.40	5708.24	-5062.29	17374.50	3.044
2	SLD	Loc.	0.00	4.89	5.59	-5915.01	4099.52	-5918.10	20364.20	4.967

Stato limite d'esercizio - Armatura a flessione

CC	TCC	Zona	Zv	Xi	Xf	N	My	σ_c	σ_f
			<m>	<m>	<m>	<daN>	<daNm>	<daN/cmq>	<daN/cmq>
21	SLE	R Diff.	0.00	0.00	5.74	-52054.70	16468.60	6.51	121.52
23	SLE	Q Diff.	0.00	0.00	5.74	-52054.70	16693.20	6.64	127.19
20	SLE	R Diff.	1.33	0.00	5.74	-43181.60	-4250.10	1.88	26.35
23	SLE	Q Diff.	1.33	0.00	5.74	-43181.60	-4065.34	1.85	25.89
20	SLE	R Diff.	2.65	0.00	5.74	-25435.50	-15826.40	7.33	306.27
23	SLE	Q Diff.	2.65	0.00	5.74	-25435.50	-15723.80	7.28	302.75
20	SLE	R Diff.	3.98	0.00	5.74	-16562.40	-11462.60	5.36	239.27
23	SLE	Q Diff.	3.98	0.00	5.74	-16562.40	-11401.00	5.33	237.14
20	SLE	R Diff.	5.30	0.00	5.74	-7689.29	-3515.82	1.56	50.05
23	SLE	Q Diff.	5.30	0.00	5.74	-7689.29	-3495.29	1.54	49.39
21	SLE	R Loc.	0.00	0.15	0.85	-12741.90	2201.66	6.33	86.00
21	SLE	R Loc.	3.98	0.15	0.85	-2176.63	-1408.38	5.37	214.53
23	SLE	Q Loc.	0.00	0.15	0.85	-7197.47	2158.00	6.73	108.28
21	SLE	R Loc.	0.00	0.94	1.64	-8492.22	2037.38	5.91	77.27
21	SLE	R Loc.	3.98	0.94	1.64	-2201.55	-1393.38	5.24	208.04
23	SLE	Q Loc.	0.00	0.94	1.64	-6149.71	2033.72	6.57	128.43
20	SLE	R Loc.	2.65	1.73	2.43	-4442.40	-1719.91	5.83	146.61
21	SLE	R Loc.	3.98	1.73	2.43	-2067.08	-1385.21	5.17	214.50
23	SLE	Q Loc.	0.00	1.73	2.43	-6039.39	1950.19	6.24	116.66
21	SLE	R Loc.	0.00	2.53	3.23	-5968.54	1955.79	6.28	120.83
21	SLE	R Loc.	3.98	2.53	3.23	-1884.50	-1391.34	5.20	228.73
23	SLE	Q Loc.	0.00	2.53	3.23	-5969.75	1994.39	6.45	128.49
20	SLE	R Loc.	0.00	3.31	4.01	-4949.39	1984.17	6.81	179.13
21	SLE	R Loc.	2.65	3.31	4.01	-2695.02	-1732.88	6.48	261.12
23	SLE	Q Loc.	0.00	3.31	4.01	-5894.14	1999.90	6.52	133.29
20	SLE	R Loc.	0.00	4.10	4.80	-3832.65	1950.61	7.13	240.39
21	SLE	R Loc.	2.65	4.10	4.80	-2883.27	-1746.01	6.56	252.40
23	SLE	Q Loc.	0.00	4.10	4.80	-5894.36	1974.62	6.42	128.29
20	SLE	R Loc.	0.00	4.89	5.59	-1803.63	2072.59	8.40	421.41
21	SLE	R Loc.	0.00	4.89	5.59	-1250.60	2025.22	8.34	452.00
23	SLE	Q Loc.	0.00	4.89	5.59	-6856.29	2095.91	6.59	110.43

Verifiche stato limite di formazione delle fessure

CC	TCC	Zona	Zv	Xi	Xf	N	My	c	s	K3	s_{rm}	Φ	A_s	$A_{c\ eff}$	σ_s	σ_{sr}	ϵ_{sm}	Wk
			<m>	<m>	<m>	<daN>	<daNm>	<mm>	<mm>		<mm>		<cmq>	<cmq>	<daN/cmq>	<daN/cmq>		<mm>
23	SLE	Q Diff.	0.00	0.00	5.74	-52054.70	16693.20	45.00	194.35	0.16	272.65	14.00	46.18	7227.62	127.19	2295.66	0.02	0.01

Relazione di calcolo

22 SLE F Diff.	0.00	0.00	5.74	-58567.50	20444.50	45.00	194.35	0.17	276.20	14.00	46.18	7227.62	187.57	2634.11	0.04	0.02
23 SLE Q Diff.	2.65	0.00	5.74	-25435.50	-15723.80	45.00	194.35	0.18	289.70	14.00	46.18	7227.55	302.75	4488.40	0.06	0.03
22 SLE F Diff.	2.65	0.00	5.74	-31948.20	-19434.70	45.00	194.35	0.18	289.47	14.00	46.18	7227.55	369.49	4449.48	0.07	0.04
23 SLE Q Diff.	3.98	0.00	5.74	-16562.40	-11401.00	45.00	194.35	0.19	291.11	14.00	46.18	7227.55	237.14	4730.97	0.05	0.02
22 SLE F Diff.	3.98	0.00	5.74	-23075.10	-14016.30	45.00	194.35	0.18	289.44	14.00	46.18	7227.55	266.16	4445.87	0.05	0.03
23 SLE Q Diff.	5.30	0.00	5.74	-7689.29	-3495.29	45.00	194.35	0.18	284.09	14.00	46.18	7227.55	49.39	3611.02	0.01	0.00
22 SLE F Diff.	5.30	0.00	5.74	-14202.00	-3223.40	45.00	194.35	0.14	247.41	14.00	46.18	7227.55	8.89	1109.27	0.00	0.00
23 SLE Q Loc.	3.98	0.15	0.85	-2077.69	-1403.02	45.00	194.35	0.18	277.95	14.00	6.16	888.74	220.22	4393.53	0.04	0.02
22 SLE F Loc.	3.98	0.15	0.85	-2816.95	-1731.55	45.00	194.35	0.18	276.75	14.00	6.16	888.74	253.78	4192.08	0.05	0.02
23 SLE Q Loc.	3.98	0.94	1.64	-2033.79	-1387.58	45.00	194.35	0.18	279.26	14.00	6.16	895.26	218.44	4400.19	0.04	0.02
22 SLE F Loc.	3.98	0.94	1.64	-2768.79	-1702.58	45.00	194.35	0.18	277.94	14.00	6.16	895.26	248.69	4181.13	0.05	0.02
23 SLE Q Loc.	3.98	1.73	2.43	-2040.88	-1378.80	45.00	194.35	0.18	279.80	14.00	6.16	898.51	214.68	4364.94	0.04	0.02
22 SLE F Loc.	3.98	1.73	2.43	-2898.18	-1689.20	45.00	194.35	0.18	277.85	14.00	6.16	898.51	235.30	4045.94	0.05	0.02
23 SLE Q Loc.	3.98	2.53	3.23	-2032.15	-1384.10	45.00	194.35	0.18	280.03	14.00	6.16	899.07	216.32	4375.08	0.04	0.02
22 SLE F Loc.	3.98	2.53	3.23	-2944.95	-1707.07	45.00	194.35	0.18	277.91	14.00	6.16	899.07	236.34	4028.63	0.05	0.02
23 SLE Q Loc.	3.98	3.31	4.01	-2004.28	-1379.72	45.00	194.35	0.18	279.80	14.00	6.16	897.48	217.93	4408.55	0.04	0.02
22 SLE F Loc.	3.98	3.31	4.01	-2857.37	-1689.97	45.00	194.35	0.18	277.84	14.00	6.16	897.48	238.70	4085.16	0.05	0.02
23 SLE Q Loc.	3.98	4.10	4.80	-1961.17	-1389.58	45.00	194.35	0.19	279.24	14.00	6.16	892.81	224.62	4480.73	0.04	0.02
22 SLE F Loc.	3.98	4.10	4.80	-2688.65	-1704.93	45.00	194.35	0.18	277.91	14.00	6.16	892.81	255.38	4254.53	0.05	0.02
23 SLE Q Loc.	3.98	4.89	5.59	-1974.63	-1405.67	45.00	194.35	0.19	276.85	14.00	6.16	878.89	229.03	4508.27	0.04	0.02
22 SLE F Loc.	3.98	4.89	5.59	-2706.21	-1734.24	45.00	194.35	0.18	275.61	14.00	6.16	878.89	263.02	4292.97	0.05	0.02

Parete 104

Caratteristiche delle sezioni e dei materiali utilizzati

Sez.	Spess.	Cf	Cls	Fck	Fctk	Fcd	Fctd	Acc.	Fyk	Fyd
	<cm>	<cm>		<daN/cm²>	<daN/cm²>	<daN/cm²>	<daN/cm²>		<daN/cm²>	<daN/cm²>
Oriz.	70.00	5.20	C32/40	332.00	21.69	188.13	14.46	B450C	4500.00	3913.04

Snellezza massima = 26.23 (CC 17) - Snellezza limite (4.1.2.1.7.2) = 268.13

Verifiche su sezioni orizzontali

Stato limite ultimo - Armatura a flessione

CC	TCC	Zona	Zv	Xi	Xf	N	My	Nu	Myu	Sic.
			<m>	<m>	<m>	<daN>	<daNm>	<daN>	<daNm>	
9	SLV	Diff.	0.00	0.00	5.74	-52054.70	-46615.30	-52057.60	-135425.00	2.905
10	SLD	Diff.	0.00	0.00	5.74	-52054.70	-33288.10	-52058.20	-156117.00	4.690
1	SLV	Diff.	1.33	0.00	5.74	-43181.60	28532.90	-43184.70	132709.00	4.651
2	SLD	Diff.	1.33	0.00	5.74	-43181.60	17628.90	-43185.50	153377.00	8.700
17	SLU	Diff.	2.65	0.00	5.74	-56589.90	36105.10	-56592.00	136821.00	3.790
2	SLD	Diff.	2.65	0.00	5.74	-25435.50	23259.10	-25440.30	147878.00	6.358
17	SLU	Diff.	3.98	0.00	5.74	-44611.20	25952.40	-44611.80	133147.00	5.130
2	SLD	Diff.	3.98	0.00	5.74	-16562.40	15922.20	-16565.80	145126.00	9.115
1	SLV	Diff.	5.30	0.00	5.74	-7689.29	6213.90	-7690.47	121821.00	19.605
2	SLD	Diff.	5.30	0.00	5.74	-7689.29	5002.35	-7691.66	142391.00	28.465

Stato limite d'esercizio - Armatura a flessione

CC	TCC	Zona	Zv	Xi	Xf	N	My	σ _c	σ _s
			<m>	<m>	<m>	<daN>	<daNm>	<daN/cm²>	<daN/cm²>
20	SLE	R Diff.	0.00	0.00	5.74	-52054.70	-16480.20	6.52	121.81
23	SLE	Q Diff.	0.00	0.00	5.74	-52054.70	-16701.80	6.64	127.41
21	SLE	R Diff.	1.33	0.00	5.74	-43181.60	4247.82	1.88	26.35
23	SLE	Q Diff.	1.33	0.00	5.74	-43181.60	4058.31	1.84	25.87
21	SLE	R Diff.	2.65	0.00	5.74	-25435.50	15825.10	7.33	306.22
23	SLE	Q Diff.	2.65	0.00	5.74	-25435.50	15719.90	7.28	302.62
21	SLE	R Diff.	3.98	0.00	5.74	-16562.40	11461.90	5.36	239.24
23	SLE	Q Diff.	3.98	0.00	5.74	-16562.40	11398.70	5.33	237.06
21	SLE	R Diff.	5.30	0.00	5.74	-7689.29	3515.56	1.56	50.05
23	SLE	Q Diff.	5.30	0.00	5.74	-7689.29	3494.51	1.54	49.36

Verifiche stato limite di formazione delle fessure

CC	TCC	Zona	Zv	Xi	Xf	N	My	c	s	K3	s _{rm}	Φ	A _s	A _{c eff}	σ _s	σ _{sr}	ε _{sm}	W _k
			<m>	<m>	<m>	<daN>	<daNm>	<mm>	<mm>		<mm>		<cm²>	<cm²>	<daN/cm²>	<daN/cm²>		<mm>
23	SLE	Q Diff.	0.00	0.00	5.74	-52054.70	-16701.80	45.01	194.35	0.16	272.70	14.00	46.18	7227.96	127.41	2297.70	0.02	0.01
22	SLE	F Diff.	0.00	0.00	5.74	-58567.50	-20452.90	45.01	194.35	0.17	276.24	14.00	46.18	7227.96	187.80	2635.72	0.04	0.02
23	SLE	Q Diff.	2.65	0.00	5.74	-25435.50	15719.90	44.99	194.35	0.18	289.68	14.00	46.18	7227.22	302.62	4487.79	0.06	0.03
22	SLE	F Diff.	2.65	0.00	5.74	-31948.20	19430.90	44.99	194.35	0.18	289.44	14.00	46.18	7227.22	369.36	4448.98	0.07	0.04
23	SLE	Q Diff.	3.98	0.00	5.74	-16562.40	11398.70	44.99	194.35	0.19	291.09	14.00	46.18	7227.22	237.06	4730.51	0.05	0.02
22	SLE	F Diff.	3.98	0.00	5.74	-23075.10	14014.00	44.99	194.35	0.18	289.42	14.00	46.18	7227.22	266.08	4445.45	0.05	0.03
23	SLE	Q Diff.	5.30	0.00	5.74	-7689.29	3494.51	44.99	194.35	0.18	284.07	14.00	46.18	7227.22	49.36	3610.27	0.01	0.00
22	SLE	F Diff.	5.30	0.00	5.74	-14202.00	3222.64	44.99	194.35	0.14	247.37	14.00	46.18	7227.22	8.88	1108.69	0.00	0.00