comune di
PRATO
Codice Fiscale: **84006890481**

Progetto: **Mercato Metropolitano**

POR FESR 2014-2020 - Progetto di Innovazione Urbana (P.I.U.)

Titolo: Fascicolo dei calcoli

Fase: **Progetto esecutivo**

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Rilievo fabbricati
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Tavola: **n. S04**

Scala: **----**

Spazio riservato agli uffici:

data: **Novembre 2017**

PIU – PROGETTO INNOVAZIONE URBANA

OPERAZIONE MERCATO METROPOLITANO

A9 –FASCICOLO DEI CALCOLI

INTERVENTI DI RINFORZO STRUTTURALE

(OTTOBRE 2017)

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.

- 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

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 <m>	Lz <m>	Kt <daN/cmc>
1	Libero	L	L	L	L	L	L				
2	Incastro	B	B	B	B	B	B				

ELENCO COSTANTI ELASTICHE NODALI

Simbologia

Nodo = Numero del nodo
Kx = Costante elastica in dir. X
Ky = Costante elastica in dir. Y
Kz = Costante elastica in dir. Z
KRx = Costante elastica intorno all'asse X
KRy = Costante elastica intorno all'asse Y

Nodo	Kx <daN/cm>	Ky <daN/cm>	Kz <daN/cm>	KRx <daNm/rad>	KRy <daNm/rad>

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 <m>	Y <m>	Z <m>	Imp.	Vn	Nodo	X <m>	Y <m>	Z <m>	Imp.	Vn	Nodo	X <m>	Y <m>	Z <m>	Imp.	Vn
-1390	34.53	23.45	6.77	0	1	-1389	24.65	23.45	6.77	0	1	-1388	14.85	23.45	6.77	0	1
-1387	4.98	23.45	6.77	0	1												
-1386	34.53	21.10	6.77	0	1	-1385	24.65	21.10	6.77	0	1	-1384	14.85	21.10	6.77	0	1
-1383	4.98	21.10	6.77	0	1												
-1382	34.53	18.75	6.77	0	1	-1381	24.65	18.75	6.77	0	1	-1380	14.85	18.75	6.77	0	1
-1379	4.98	18.75	6.77	0	1												
-1378	34.53	16.43	6.77	0	1	-1377	24.65	16.43	6.77	0	1	-1376	14.85	16.43	6.77	0	1
-1375	4.98	16.43	6.77	0	1												
-1374	34.53	14.10	6.77	0	1	-1373	24.65	14.10	6.77	0	1	-1372	14.85	14.10	6.77	0	1
-1371	4.98	14.10	6.77	0	1												
-1370	34.53	11.78	6.77	0	1	-1369	24.65	11.78	6.77	0	1	-1368	14.85	11.78	6.77	0	1
-1367	4.98	11.78	6.77	0	1												
-1366	34.53	9.45	6.77	0	1	-1365	24.65	9.45	6.77	0	1	-1364	14.85	9.45	6.77	0	1
-1363	4.98	9.45	6.77	0	1												
-1362	34.53	7.13	6.77	0	1	-1361	24.65	7.13	6.77	0	1	-1360	14.85	7.13	6.77	0	1
-1359	4.98	7.13	6.77	0	1												
-1358	34.53	4.80	6.77	0	1	-1357	24.65	4.80	6.77	0	1	-1356	14.85	4.80	6.77	0	1
-1355	4.98	4.80	6.77	0	1												
-1354	34.53	2.40	6.77	0	1	-1353	24.65	2.40	6.77	0	1	-1352	14.85	2.40	6.77	0	1
-1351	4.98	2.40	6.77	0	1												
-1350	34.53	0.00	6.77	0	1	-1349	24.65	0.00	6.77	0	1	-1348	14.85	0.00	6.77	0	1
-1347	4.98	0.00	6.77	0	1												
-1346	34.88	23.45	6.71	0	1	-1345	34.18	23.45	6.71	0	1	-1344	5.33	23.45	6.71	0	1
-1343	4.63	23.45	6.71	0	1												
-1342	34.88	21.10	6.71	0	1	-1341	34.18	21.10	6.71	0	1	-1340	5.33	21.10	6.71	0	1
-1339	4.63	21.10	6.71	0	1												
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-1335	4.63	18.75	6.71	0	1												
-1334	34.88	16.43	6.71	0	1	-1333	34.18	16.43	6.71	0	1	-1332	5.33	16.43	6.71	0	1
-1331	4.63	16.43	6.71	0	1												
-1330	34.88	14.10	6.71	0	1	-1329	34.18	14.10	6.71	0	1	-1328	5.33	14.10	6.71	0	1
-1327	4.63	14.10	6.71	0	1												
-1326	34.88	11.78	6.71	0	1	-1325	34.18	11.78	6.71	0	1	-1324	5.33	11.78	6.71	0	1
-1323	4.63	11.78	6.71	0	1												
-1322	34.88	9.45	6.71	0	1	-1321	34.18	9.45	6.71	0	1	-1320	5.33	9.45	6.71	0	1
-1319	4.63	9.45	6.71	0	1												
-1318	34.88	7.13	6.71	0	1	-1317	34.18	7.13	6.71	0	1	-1316	5.33	7.13	6.71	0	1
-1315	4.63	7.13	6.71	0	1												
-1314	34.88	4.80	6.71	0	1	-1313	34.18	4.80	6.71	0	1	-1312	5.33	4.80	6.71	0	1
-1311	4.63	4.80	6.71	0	1												
-1310	34.88	2.40	6.71	0	1	-1309	34.18	2.40	6.71	0	1	-1308	5.33	2.40	6.71	0	1
-1307	4.63	2.40	6.71	0	1												
-1306	34.88	0.00	6.71	0	1	-1305	34.18	0.00	6.71	0	1	-1304	5.33	0.00	6.71	0	1
-1303	4.63	0.00	6.71	0	1												
-1302	24.99	23.45	6.71	0	1	-1301	24.31	23.45	6.71	0	1	-1300	15.19	23.45	6.71	0	1
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-1294	24.99	18.75	6.71	0	1	-1293	24.31	18.75	6.71	0	1	-1292	15.19	18.75	6.71	0	1
-1291	14.51	18.75	6.71	0	1												
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 -222 28.77  9.45 4.99    0  1    -221 20.54  9.45 4.99    0  1    -220 18.96  9.45 4.99    0  1    -
219 10.73  9.45 4.99    0  1
 -218 28.77  7.13 4.99    0  1    -217 20.54  7.13 4.99    0  1    -216 18.96  7.13 4.99    0  1    -
215 10.73  7.13 4.99    0  1
 -214 28.77  4.80 4.99    0  1    -213 20.54  4.80 4.99    0  1    -212 18.96  4.80 4.99    0  1    -
211 10.73  4.80 4.99    0  1
 -210 28.77  2.40 4.99    0  1    -209 20.54  2.40 4.99    0  1    -208 18.96  2.40 4.99    0  1    -
207 10.73  2.40 4.99    0  1
 -206 28.77  0.00 4.99    0  1    -205 20.54  0.00 4.99    0  1    -204 18.96  0.00 4.99    0  1    -
203 10.73  0.00 4.99    0  1
 -202 38.98 23.45 4.78    0  1    -201 30.07 23.45 4.78    0  1    -200  9.43 23.45 4.78    0  1    -
199  0.52 23.45 4.78    0  1
 -198 38.98 21.10 4.78    0  1    -197 30.07 21.10 4.78    0  1    -196  9.43 21.10 4.78    0  1    -
195  0.52 21.10 4.78    0  1
 -194 38.98 18.75 4.78    0  1    -193 30.07 18.75 4.78    0  1    -192  9.43 18.75 4.78    0  1    -
191  0.52 18.75 4.78    0  1
 -190 38.98 16.43 4.78    0  1    -189 30.07 16.43 4.78    0  1    -188  9.43 16.43 4.78    0  1    -
187  0.52 16.43 4.78    0  1
 -186 38.98 14.10 4.78    0  1    -185 30.07 14.10 4.78    0  1    -184  9.43 14.10 4.78    0  1    -
183  0.52 14.10 4.78    0  1
 -182 38.98 11.78 4.78    0  1    -181 30.07 11.78 4.78    0  1    -180  9.43 11.78 4.78    0  1    -
179  0.52 11.78 4.78    0  1
 -178 38.98  9.45 4.78    0  1    -177 30.07  9.45 4.78    0  1    -176  9.43  9.45 4.78    0  1    -
175  0.52  9.45 4.78    0  1
 -174 38.98  7.13 4.78    0  1    -173 30.07  7.13 4.78    0  1    -172  9.43  7.13 4.78    0  1    -
171  0.52  7.13 4.78    0  1
 -170 38.98  4.80 4.78    0  1    -169 30.07  4.80 4.78    0  1    -168  9.43  4.80 4.78    0  1    -
167  0.52  4.80 4.78    0  1
 -166 38.98  2.40 4.78    0  1    -165 30.07  2.40 4.78    0  1    -164  9.43  2.40 4.78    0  1    -
163  0.52  2.40 4.78    0  1
 -162 38.98  0.00 4.78    0  1    -161 30.07  0.00 4.78    0  1    -160  9.43  0.00 4.78    0  1    -
159  0.52  0.00 4.78    0  1
 -158 29.04 23.45 4.77    0  1    -157 20.26 23.45 4.77    0  1    -156 19.24 23.45 4.77    0  1    -
155 10.46 23.45 4.77    0  1
 -154 29.04 21.10 4.77    0  1    -153 20.26 21.10 4.77    0  1    -152 19.24 21.10 4.77    0  1    -
151 10.46 21.10 4.77    0  1
 -150 29.04 18.75 4.77    0  1    -149 20.26 18.75 4.77    0  1    -148 19.24 18.75 4.77    0  1    -
147 10.46 18.75 4.77    0  1
 -146 29.04 16.43 4.77    0  1    -145 20.26 16.43 4.77    0  1    -144 19.24 16.43 4.77    0  1    -
143 10.46 16.43 4.77    0  1
 -142 29.04 14.10 4.77    0  1    -141 20.26 14.10 4.77    0  1    -140 19.24 14.10 4.77    0  1    -
139 10.46 14.10 4.77    0  1
 -138 29.04 11.78 4.77    0  1    -137 20.26 11.78 4.77    0  1    -136 19.24 11.78 4.77    0  1    -
135 10.46 11.78 4.77    0  1
 -134 29.04  9.45 4.77    0  1    -133 20.26  9.45 4.77    0  1    -132 19.24  9.45 4.77    0  1    -
131 10.46  9.45 4.77    0  1
 -130 29.04  7.13 4.77    0  1    -129 20.26  7.13 4.77    0  1    -128 19.24  7.13 4.77    0  1    -
127 10.46  7.13 4.77    0  1
 -126 29.04  4.80 4.77    0  1    -125 20.26  4.80 4.77    0  1    -124 19.24  4.80 4.77    0  1    -
123 10.46  4.80 4.77    0  1
 -122 29.04  2.40 4.77    0  1    -121 20.26  2.40 4.77    0  1    -120 19.24  2.40 4.77    0  1    -
```

```
119 10.46  2.40 4.77    0  1
 -118 29.04  0.00 4.77    0  1    -117 20.26  0.00 4.77    0  1    -116 19.24  0.00 4.77    0  1    -
115 10.46  0.00 4.77    0  1
 -114 39.24 23.45 4.54    0  1    -113 29.81 23.45 4.54    0  1    -112  9.69 23.45 4.54    0  1    -
111  0.26 23.45 4.54    0  1
 -110 39.24 21.10 4.54    0  1    -109 29.81 21.10 4.54    0  1    -108  9.69 21.10 4.54    0  1    -
107  0.26 21.10 4.54    0  1
 -106 39.24 18.75 4.54    0  1    -105 29.81 18.75 4.54    0  1    -104  9.69 18.75 4.54    0  1    -
103  0.26 18.75 4.54    0  1
 -102 39.24 16.43 4.54    0  1    -101 29.81 16.43 4.54    0  1    -100  9.69 16.43 4.54    0  1     -
99  0.26 16.43 4.54    0  1
  -98 39.24 14.10 4.54    0  1     -97 29.81 14.10 4.54    0  1     -96  9.69 14.10 4.54    0  1     -
95  0.26 14.10 4.54    0  1
  -94 39.24 11.78 4.54    0  1     -93 29.81 11.78 4.54    0  1     -92  9.69 11.78 4.54    0  1     -
91  0.26 11.78 4.54    0  1
  -90 39.24  9.45 4.54    0  1     -89 29.81  9.45 4.54    0  1     -88  9.69  9.45 4.54    0  1     -
87  0.26  9.45 4.54    0  1
  -86 39.24  7.13 4.54    0  1     -85 29.81  7.13 4.54    0  1     -84  9.69  7.13 4.54    0  1     -
83  0.26  7.13 4.54    0  1
  -82 39.24  4.80 4.54    0  1     -81 29.81  4.80 4.54    0  1     -80  9.69  4.80 4.54    0  1     -
79  0.26  4.80 4.54    0  1
  -78 39.24  2.40 4.54    0  1     -77 29.81  2.40 4.54    0  1     -76  9.69  2.40 4.54    0  1     -
75  0.26  2.40 4.54    0  1
  -74 39.24  0.00 4.54    0  1     -73 29.81  0.00 4.54    0  1     -72  9.69  0.00 4.54    0  1     -
71  0.26  0.00 4.54    0  1
  -70 29.30 23.45 4.54    0  1     -69 20.00 23.45 4.54    0  1     -68 19.50 23.45 4.54    0  1     -
67 10.21 23.45 4.54    0  1
  -66 29.30 21.10 4.54    0  1     -65 20.00 21.10 4.54    0  1     -64 19.50 21.10 4.54    0  1     -
63 10.21 21.10 4.54    0  1
  -62 29.30 18.75 4.54    0  1     -61 20.00 18.75 4.54    0  1     -60 19.50 18.75 4.54    0  1     -
59 10.21 18.75 4.54    0  1
  -58 29.30 16.43 4.54    0  1     -57 20.00 16.43 4.54    0  1     -56 19.50 16.43 4.54    0  1     -
55 10.21 16.43 4.54    0  1
  -54 29.30 14.10 4.54    0  1     -53 20.00 14.10 4.54    0  1     -52 19.50 14.10 4.54    0  1     -
51 10.21 14.10 4.54    0  1
  -50 29.30 11.78 4.54    0  1     -49 20.00 11.78 4.54    0  1     -48 19.50 11.78 4.54    0  1     -
47 10.21 11.78 4.54    0  1
  -46 29.30  9.45 4.54    0  1     -45 20.00  9.45 4.54    0  1     -44 19.50  9.45 4.54    0  1     -
43 10.21  9.45 4.54    0  1
  -42 29.30  7.13 4.54    0  1     -41 20.00  7.13 4.54    0  1     -40 19.50  7.13 4.54    0  1     -
39 10.21  7.13 4.54    0  1
  -38 29.30  4.80 4.54    0  1     -37 20.00  4.80 4.54    0  1     -36 19.50  4.80 4.54    0  1     -
35 10.21  4.80 4.54    0  1
  -34 29.30  2.40 4.54    0  1     -33 20.00  2.40 4.54    0  1     -32 19.50  2.40 4.54    0  1     -
31 10.21  2.40 4.54    0  1
  -30 29.30  0.00 4.54    0  1     -29 20.00  0.00 4.54    0  1     -28 19.50  0.00 4.54    0  1     -
27 10.21  0.00 4.54    0  1
  -26 39.50 21.10 4.30    1  1     -25 29.55 21.10 4.30    1  1     -24 19.75 21.10 4.30    1  1     -
23  9.95 21.10 4.30    1  1
  -22  0.00 21.10 4.30    1  1     -21 39.50 16.43 4.30    1  1     -20 29.55 16.43 4.30    1  1     -
19 19.75 16.43 4.30    1  1
  -18  9.95 16.43 4.30    1  1     -17  0.00 16.43 4.30    1  1     -16 39.50 11.78 4.30    1  1     -
15 29.55 11.78 4.30    1  1
  -14 19.75 11.78 4.30    1  1     -13  9.95 11.78 4.30    1  1     -12  0.00 11.78 4.30    1  1     -
11 39.50  7.13 4.30    1  1
  -10 29.55  7.13 4.30    1  1      -9 19.75  7.13 4.30    1  1      -8  9.95  7.13 4.30    1  1      -
7  0.00  7.13 4.30    1  1
   -6 39.50  2.40 4.30    1  1      -5 29.55  2.40 4.30    1  1      -4 19.75  2.40 4.30    1  1      -
3  9.95  2.40 4.30    1  1
   -2  0.00  2.40 4.30    1  1       1  0.00  0.00 0.00    0  2       2  9.95  0.00 0.00    0  2
3 19.75  0.00 0.00    0  2
    4 29.55  0.00 0.00    0  2       5 39.50  0.00 0.00    0  2       6  0.00  4.80 0.00    0  2
7 39.50  4.80 0.00    0  2
    8  9.95  4.80 0.00    0  2       9 19.75  4.80 0.00    0  2      10 29.55  4.80 0.00    0  2
11  0.00  9.45 0.00    0  2
   12 39.50  9.45 0.00    0  2      13  9.95  9.45 0.00    0  2      14 19.75  9.45 0.00    0  2
15 29.55  9.45 0.00    0  2
   16  0.00 14.10 0.00    0  2      17 39.50 14.10 0.00    0  2      18  9.95 14.10 0.00    0  2
19 19.75 14.10 0.00    0  2
   20 29.55 14.10 0.00    0  2      21  0.00 18.75 0.00    0  2      22  9.95 18.75 0.00    0  2
23 19.75 18.75 0.00    0  2
   24 29.55 18.75 0.00    0  2      25 39.50 18.75 0.00    0  2      26  0.00 23.45 0.00    0  2
27  9.95 23.45 0.00    0  2
```

```
   28 19.75 23.45 0.00    0  2      29 29.55 23.45 0.00    0  2      30 39.50 23.45 0.00    0  2
101  0.00  0.00 4.30    1  1
  102  9.95  0.00 4.30    1  1     103 19.75  0.00 4.30    1  1     104 29.55  0.00 4.30    1  1
105 39.50  0.00 4.30    1  1
  106  0.00  4.80 4.30    1  1     107 39.50  4.80 4.30    1  1     108  9.95  4.80 4.30    1  1
109 19.75  4.80 4.30    1  1
  110 29.55  4.80 4.30    1  1     111  0.00  9.45 4.30    1  1     112 39.50  9.45 4.30    1  1
113  9.95  9.45 4.30    1  1
  114 19.75  9.45 4.30    1  1     115 29.55  9.45 4.30    1  1     116  0.00 14.10 4.30    1  1
117 39.50 14.10 4.30    1  1
  118  9.95 14.10 4.30    1  1     119 19.75 14.10 4.30    1  1     120 29.55 14.10 4.30    1  1
121  0.00 18.75 4.30    1  1
  122  9.95 18.75 4.30    1  1     123 19.75 18.75 4.30    1  1     124 29.55 18.75 4.30    1  1
125 39.50 18.75 4.30    1  1
  126  0.00 23.45 4.30    1  1     127  9.95 23.45 4.30    1  1     128 19.75 23.45 4.30    1  1
129 29.55 23.45 4.30    1  1
  130 39.50 23.45 4.30    1  1
```

ELENCO MATERIALI

Simbologia

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

Mat.	Comm.	P <daN/mc>	E <daN/cmq>	G <daN/cmq>	ν	α
1	Calcestruzzo	2500	300000.00	130000.00	0.1	1.000000E-05
2	Acciaio	7850	2100000.00	800000.00	0.3	1.000000E-05

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 = Sezione a C
- Cdx = C destra
- Cir. = Circolare
- Cir.c = Circolare cava
- I = Sezione a I
- L = Sezione a 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 = Sezione a T
- U = Sezione a U
- Ur = U rovescia
- V = Sezione a V
- Vr = V rovescia

```
              Z = Sezione a Z
              Zdx = Z destra
              Ts = T stondata
              Ls = L stondata
              Cs = C stondata
              Is = I stondata
              Dis. = Disegnata
Mem.        = Membratura
              G = Generica
              T = Trave
              P = Pilastro
Ver.        = Verifica prevista
              N = Nessuna
              C = Cemento armato
              A = Acciaio
              L = Legno
B           = Base
H           = Altezza
R           = Raggio
Ma          = Numero del materiale
C           = Numero del criterio di progetto
Crit. C.I. = Criterio di progetto collegamento iniziale
Crit. C.F. = Criterio di progetto collegamento finale
```

Sez.	Comm.	Tipo	Mem.	Ver.	B <cm>	H <cm>	R <cm>	Ma	C	Crit. C.I.	Crit. C.F.
1	P30X30	R	P	C	30.00	30.00		1	1		
2	T30X60	R	T	C	30.00	60.00		1	1		
3	T30X30	R	T	C	30.00	30.00		1	1		
4	P40X40	R	P	C	40.00	40.00		1	2		
6	CATENE	Cir.	T	A			2.50	2	2	2	2
11	P30X40	R	P	C	30.00	40.00		1	2		

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	

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. <grad>	FF	Dy1 <cm>	Dy2 <cm>	Dz1 <cm>	Dz2 <cm>	Kt <daN/cmc>
1	1	101	1	1		0.00	11	0.00	0.00	0.00	0.00	
2	2	102	11	1		0.00	44	0.00	0.00	0.00	0.00	
3	3	103	11	1		0.00	44	0.00	0.00	0.00	0.00	
4	4	104	11	1		0.00	44	0.00	0.00	0.00	0.00	
5	5	105	1	1		0.00	77	0.00	0.00	0.00	0.00	
6	6	106	1	1		0.00	22	0.00	0.00	0.00	0.00	
7	7	107	1	1		0.00	88	0.00	0.00	0.00	0.00	
8	8	108	4	1		0.00	55	0.00	0.00	0.00	0.00	
9	9	109	4	1		0.00	55	0.00	0.00	0.00	0.00	
10	10	110	4	1		0.00	55	0.00	0.00	0.00	0.00	
11	11	111	1	1		0.00	22	0.00	0.00	0.00	0.00	
12	12	112	1	1		0.00	88	0.00	0.00	0.00	0.00	
13	13	113	4	1		0.00	55	0.00	0.00	0.00	0.00	
14	14	114	4	1		0.00	55	0.00	0.00	0.00	0.00	
15	15	115	4	1		0.00	55	0.00	0.00	0.00	0.00	
16	16	116	1	1		0.00	22	0.00	0.00	0.00	0.00	
17	17	117	1	1		0.00	88	0.00	0.00	0.00	0.00	
18	18	118	4	1		0.00	55	0.00	0.00	0.00	0.00	
19	19	119	4	1		0.00	55	0.00	0.00	0.00	0.00	
20	20	120	4	1		0.00	55	0.00	0.00	0.00	0.00	
21	21	121	1	1		0.00	22	0.00	0.00	0.00	0.00	
22	22	122	4	1		0.00	55	0.00	0.00	0.00	0.00	
23	23	123	4	1		0.00	55	0.00	0.00	0.00	0.00	
24	24	124	4	1		0.00	55	0.00	0.00	0.00	0.00	
25	25	125	1	1		0.00	88	0.00	0.00	0.00	0.00	
26	26	126	1	1		0.00	33	0.00	0.00	0.00	0.00	
27	27	127	11	1		0.00	66	0.00	0.00	0.00	0.00	
28	28	128	11	1		0.00	66	0.00	0.00	0.00	0.00	
29	29	129	11	1		0.00	66	0.00	0.00	0.00	0.00	
30	30	130	1	1		0.00	99	0.00	0.00	0.00	0.00	
101	101	102	3	1		0.00	11	0.00	0.00	0.00	0.00	
101	102	103	3	1		0.00	11	0.00	0.00	0.00	0.00	
101	103	104	3	1		0.00	11	0.00	0.00	0.00	0.00	
101	104	105	3	1		0.00	11	0.00	0.00	0.00	0.00	
102	-2	-3	6	4		0.00	11	0.00	0.00	0.00	0.00	
102	-3	-4	6	4		0.00	11	0.00	0.00	0.00	0.00	
102	-5	-4	6	4		0.00	11	0.00	0.00	0.00	0.00	
102	-5	-6	6	4		0.00	11	0.00	0.00	0.00	0.00	
103	106	108	6	4		0.00	11	0.00	0.00	0.00	0.00	
103	108	109	6	4		0.00	11	0.00	0.00	0.00	0.00	
103	109	110	6	4		0.00	11	0.00	0.00	0.00	0.00	
103	110	107	6	4		0.00	11	0.00	0.00	0.00	0.00	
104	-7	-8	6	4		0.00	11	0.00	0.00	0.00	0.00	
104	-8	-9	6	4		0.00	11	0.00	0.00	0.00	0.00	
104	-9	-10	6	4		0.00	11	0.00	0.00	0.00	0.00	
104	-10	-11	6	4		0.00	11	0.00	0.00	0.00	0.00	
105	111	113	6	4		0.00	11	0.00	0.00	0.00	0.00	
105	113	114	6	4		0.00	11	0.00	0.00	0.00	0.00	
105	114	115	6	4		0.00	11	0.00	0.00	0.00	0.00	
105	115	112	6	4		0.00	11	0.00	0.00	0.00	0.00	
106	-12	-13	6	4		0.00	11	0.00	0.00	0.00	0.00	
106	-13	-14	6	4		0.00	11	0.00	0.00	0.00	0.00	
106	-14	-15	6	4		0.00	11	0.00	0.00	0.00	0.00	
106	-15	-16	6	4		0.00	11	0.00	0.00	0.00	0.00	
107	116	118	6	4		0.00	11	0.00	0.00	0.00	0.00	

107	118	119	6	4	0.00	11	0.00	0.00	0.00	0.00
107	119	120	6	4	0.00	11	0.00	0.00	0.00	0.00
107	120	117	6	4	0.00	11	0.00	0.00	0.00	0.00
108	-18	-17	6	4	0.00	11	0.00	0.00	0.00	0.00
108	-19	-18	6	4	0.00	11	0.00	0.00	0.00	0.00
108	-20	-19	6	4	0.00	11	0.00	0.00	0.00	0.00
108	-21	-20	6	4	0.00	11	0.00	0.00	0.00	0.00
109	121	122	6	4	0.00	11	0.00	0.00	0.00	0.00
109	122	123	6	4	0.00	11	0.00	0.00	0.00	0.00
109	123	124	6	4	0.00	11	0.00	0.00	0.00	0.00
109	124	125	6	4	0.00	11	0.00	0.00	0.00	0.00
110	-23	-22	6	4	0.00	11	0.00	0.00	0.00	0.00
110	-24	-23	6	4	0.00	11	0.00	0.00	0.00	0.00
110	-25	-24	6	4	0.00	11	0.00	0.00	0.00	0.00
110	-26	-25	6	4	0.00	11	0.00	0.00	0.00	0.00
111	126	127	3	1	0.00	33	0.00	0.00	0.00	0.00
111	127	128	3	1	0.00	33	0.00	0.00	0.00	0.00
111	128	129	3	1	0.00	33	0.00	0.00	0.00	0.00
111	129	130	3	1	0.00	33	0.00	0.00	0.00	0.00
113	102	-3	2	1	0.00	22	0.00	0.00	0.00	0.00
113	-3	108	2	1	0.00	22	0.00	0.00	0.00	0.00
113	108	-8	2	1	0.00	22	0.00	0.00	0.00	0.00
113	-8	113	2	1	0.00	22	0.00	0.00	0.00	0.00
113	113	-13	2	1	0.00	22	0.00	0.00	0.00	0.00
113	-13	118	2	1	0.00	22	0.00	0.00	0.00	0.00
113	118	-18	2	1	0.00	22	0.00	0.00	0.00	0.00
113	-18	122	2	1	0.00	22	0.00	0.00	0.00	0.00
113	122	-23	2	1	0.00	22	0.00	0.00	0.00	0.00
113	-23	127	2	1	0.00	22	0.00	0.00	0.00	0.00
114	103	-4	2	1	0.00	22	0.00	0.00	0.00	0.00
114	-4	109	2	1	0.00	22	0.00	0.00	0.00	0.00
114	109	-9	2	1	0.00	22	0.00	0.00	0.00	0.00
114	-9	114	2	1	0.00	22	0.00	0.00	0.00	0.00
114	114	-14	2	1	0.00	22	0.00	0.00	0.00	0.00
114	-14	119	2	1	0.00	22	0.00	0.00	0.00	0.00
114	119	-19	2	1	0.00	22	0.00	0.00	0.00	0.00
114	-19	123	2	1	0.00	22	0.00	0.00	0.00	0.00
114	123	-24	2	1	0.00	22	0.00	0.00	0.00	0.00
114	-24	128	2	1	0.00	22	0.00	0.00	0.00	0.00
115	104	-5	2	1	0.00	22	0.00	0.00	0.00	0.00
115	-5	110	2	1	0.00	22	0.00	0.00	0.00	0.00
115	110	-10	2	1	0.00	22	0.00	0.00	0.00	0.00
115	-10	115	2	1	0.00	22	0.00	0.00	0.00	0.00
115	115	-15	2	1	0.00	22	0.00	0.00	0.00	0.00
115	-15	120	2	1	0.00	22	0.00	0.00	0.00	0.00
115	120	-20	2	1	0.00	22	0.00	0.00	0.00	0.00
115	-20	124	2	1	0.00	22	0.00	0.00	0.00	0.00
115	124	-25	2	1	0.00	22	0.00	0.00	0.00	0.00
115	-25	129	2	1	0.00	22	0.00	0.00	0.00	0.00
116	105	-6	2	1	0.00	11	0.00	0.00	0.00	0.00
116	-6	107	2	1	0.00	11	0.00	0.00	0.00	0.00
116	107	-11	2	1	0.00	11	0.00	0.00	0.00	0.00
116	-11	112	2	1	0.00	11	0.00	0.00	0.00	0.00
116	112	-16	2	1	0.00	11	0.00	0.00	0.00	0.00
116	-16	117	2	1	0.00	11	0.00	0.00	0.00	0.00
116	117	-21	2	1	0.00	11	0.00	0.00	0.00	0.00
116	-21	125	2	1	0.00	11	0.00	0.00	0.00	0.00
116	-26	125	2	1	0.00	33	0.00	0.00	0.00	0.00
116	-26	130	2	1	0.00	11	0.00	0.00	0.00	0.00
144	101	-2	2	1	0.00	33	0.00	0.00	0.00	0.00
144	-2	106	2	1	0.00	33	0.00	0.00	0.00	0.00
144	106	-7	2	1	0.00	33	0.00	0.00	0.00	0.00
144	-7	111	2	1	0.00	33	0.00	0.00	0.00	0.00
144	111	-12	2	1	0.00	33	0.00	0.00	0.00	0.00
144	-12	116	2	1	0.00	33	0.00	0.00	0.00	0.00
144	116	-17	2	1	0.00	33	0.00	0.00	0.00	0.00
144	-17	121	2	1	0.00	33	0.00	0.00	0.00	0.00
144	121	-22	2	1	0.00	33	0.00	0.00	0.00	0.00
144	-22	126	2	1	0.00	33	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 = Membranale e Flessionale
M = Membranale
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
X = Pannello X-LAM
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. <cm>	Kt <daN/cmc>
1	VOLTE	F	G	1	3	12.00	

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 <cm>	Dy2 <cm>	Kt <daN/cmc>	NN	Bid.	Tb	FF	Dy1 <cm>	Dy2 <cm>	Kt <daN/cmc>	NN
165	1	11	0.00	0.00		101 -71 -75 -2	165	1	11	0.00	0.00		-87 -175 -179 -91
165	1	11	0.00	0.00		-91 -179 -183 -95	165	1	11	0.00	0.00		-195 -107 -103 -191
165	1	11	0.00	0.00		-111 126 -22 -107	165	1	11	0.00	0.00		116 -95 -99 -17
165	1	11	0.00	0.00		-7 -83 -87 111	165	1	11	0.00	0.00		-17 -99 -103 121
165	1	11	0.00	0.00		-83 -171 -175 -87	165	1	11	0.00	0.00		-79 -167 -171 -83
165	1	11	0.00	0.00		106 -79 -83 -7	165	1	11	0.00	0.00		-2 -75 -79 106
165	1	11	0.00	0.00		-71 -159 -163 -75	165	1	11	0.00	0.00		-107 -22 121 -103
165	1	11	0.00	0.00		-95 -183 -187 -99	165	1	11	0.00	0.00		-199 -111 -107 -195
165	1	11	0.00	0.00		-75 -163 -167 -79	165	1	11	0.00	0.00		-99 -187 -191 -103
165	1	11	0.00	0.00		111 -87 -91 -12	165	1	11	0.00	0.00		-12 -91 -95 116
166	1	11	0.00	0.00		-271 -359 -363 -275	166	1	11	0.00	0.00		-195 -283 -287 -199
166	1	11	0.00	0.00		-247 -335 -339 -251	166	1	11	0.00	0.00		-159 -247 -251 -163
166	1	11	0.00	0.00		-183 -271 -275 -187	166	1	11	0.00	0.00		-163 -251 -

255 -167
 166 1 11 0.00 0.00   -171 -259 -263 -175   166 1 11 0.00 0.00   -279 -367 -
371 -283
 166 1 11 0.00 0.00   -251 -339 -343 -255   166 1 11 0.00 0.00   -263 -351 -
355 -267
 166 1 11 0.00 0.00   -267 -355 -359 -271   166 1 11 0.00 0.00   -259 -347 -
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 166 1 11 0.00 0.00   -255 -343 -347 -259   166 1 11 0.00 0.00   -187 -275 -
279 -191
 166 1 11 0.00 0.00   -175 -263 -267 -179   166 1 11 0.00 0.00   -167 -255 -
259 -171
 166 1 11 0.00 0.00   -179 -267 -271 -183   166 1 11 0.00 0.00   -283 -371 -
375 -287
 166 1 11 0.00 0.00   -191 -279 -283 -195   166 1 11 0.00 0.00   -275 -363 -
367 -279
 167 1 11 0.00 0.00   -427 -515 -519 -431   167 1 11 0.00 0.00   -423 -511 -
515 -427
 167 1 11 0.00 0.00   -435 -523 -527 -439   167 1 11 0.00 0.00   -363 -451 -
455 -367
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551 -463
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539 -451
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 217  1 11 0.00 0.00           -797 -885 -889 -801        217  1 11 0.00 0.00           -693 -781 -
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-1237 -1149
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-1066 -1154
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-1166 -1254
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-166
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-94
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-106
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-174
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530 -526
 228  1 11 0.00 0.00            -362 -366 -454 -450         228  1 11 0.00 0.00            -346 -350 -
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462 -458
 228  1 11 0.00 0.00            -374 -378 -466 -462         228  1 11 0.00 0.00            -518 -430 -
434 -522
```

CONDIZIONI DI CARICO ELEMENTARI:

Simbologia

```
CCE      = Numero della condizione di carico elementare
Comm.    = Commento
Tipo CCE = Tipo di CCE per calcolo agli stati limite
Sic.     = Contributo alla sicurezza
           F = a favore
           S = a sfavore
           A = ambigua
Var.     = Tipo di variabilità
           B = di base
           I = indipendente
           A = ambigua
Dir.     = Direzione del vento
Tipo     = Tipologia di pressione vento
           M = Massimizzata
           E = Esterna
           I = Interna
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
```

Condizioni di carico elementari

CCE	Comm.	Tipo CCE	Sic.	Var.	Dir. <grad>	Tipo	Mx	My	Mz	Jpx	Jpy	Jpz
1	PS	1 D.M. 08 Permanenti strutturali	S	--	--	--	1.00	1.00	0.00	0.00	0.00	1.00
2	PNS	2 D.M. 08 Permanenti non strutturali	S	--	--	--	1.00	1.00	0.00	0.00	0.00	1.00
3	NEV	11 D.M. 08 Variabili Neve (a quota <= 1000 m s.l.m.)	S	B	--	--	1.00	1.00	0.00	0.00	0.00	1.00
4	ESE	19 D.M. 08 Variabili Categoria H - Coperture	S	I	--	--	1.00	1.00	0.00	0.00	0.00	1.00

ELENCO CARICHI ASTE

CONDIZIONE DI CARICO 1: PS

ELENCO PESO PROPRIO ASTE

Simbologia

```
Sez.  = Numero della sezione
Comm. = Commento
A     = Area
Mat.  = Materiale
P     = Peso specifico
```

PL = Peso specifico a metro lineare

Sez.	Comm.	A <cmq>	Mat.	P <daN/mc>	PL <daN/m>	Sez.	Comm.	A <cmq>	Mat.	P <daN/mc>	PL <daN/m>
1	P30X30	900.000000	Calcestruzzo	2500.00	225.00	2	T30X60	1800.000000	Calcestruzzo	2500.00	450.00
3	T30X30	900.000000	Calcestruzzo	2500.00	225.00	4	P40X40	1600.000000	Calcestruzzo	2500.00	400.00
6	CATENE	19.635000	Acciaio	7850.00	15.41	11	P30X40	1200.000000	Calcestruzzo	2500.00	300.00

ELENCO PESO PROPRIO BIDIMENSIONALI

Simbologia

Tb = Numero del tipo muro/elemento bidimensionale
Comm. = Commento
Spess. = Spessore
Mat. = Materiale
P = Peso specifico
PQ = Peso specifico per unità di superficie

Tb	Comm.	Spess. <cm>	Mat.	P <daN/mc>	PQ <daN/mq>
1	VOLTE	12.00	Calcestruzzo	2500.00	300.00

ELENCO CARICHI ELEMENTI BIDIMENSIONALI

CONDIZIONE DI CARICO 2: PNS

CARICHI UNIFORMI

Simbologia

Bid. = Numero del muro/elemento bidimensionale
N1 = Nodo1
N2 = Nodo2
N3 = Nodo3
N4 = Nodo4
T = Tipo di carico
PP = Peso proprio
VE = Vento
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>	Bid.	N1	N2	N3	N4	T	DC	Qx <daN/mq>	Qy <daN/mq>	Qz <daN/mq>
165	101	-71	-75	-2	M	G	0.00	0.00	30.00	165	-87	-175	-179	-91	M	G	0.00	0.00	30.00
165	-91	-179	-183	-95	M	G	0.00	0.00	30.00	165	-195	-107	-103	-191	M	G	0.00	0.00	30.00
165	-111	126	-22	-107	M	G	0.00	0.00	30.00	165	116	-95	-99	-17	M	G	0.00	0.00	30.00
165	-7	-83	-87	111	M	G	0.00	0.00	30.00	165	-17	-99	-103	121	M	G	0.00	0.00	30.00
165	-83	-171	-175	-87	M	G	0.00	0.00	30.00	165	-79	-167	-171	-83	M	G			

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0.00     0.00    30.00
 165   106   -79   -83    -7 M G      0.00     0.00    30.00    165    -2   -75   -79   106 M G
0.00     0.00    30.00
 165   -71  -159  -163   -75 M G      0.00     0.00    30.00    165  -107   -22   121  -103 M G
0.00     0.00    30.00
 165   -95  -183  -187   -99 M G      0.00     0.00    30.00    165  -199  -111  -107  -195 M G
0.00     0.00    30.00
 165   -75  -163  -167   -79 M G      0.00     0.00    30.00    165   -99  -187  -191  -103 M G
0.00     0.00    30.00
 165   111   -87   -91   -12 M G      0.00     0.00    30.00    165   -12   -91   -95   116 M G
0.00     0.00    30.00
 166  -271  -359  -363  -275 M G      0.00     0.00    30.00    166  -195  -283  -287  -199 M G
0.00     0.00    30.00
 166  -247  -335  -339  -251 M G      0.00     0.00    30.00    166  -159  -247  -251  -163 M G
0.00     0.00    30.00
 166  -183  -271  -275  -187 M G      0.00     0.00    30.00    166  -163  -251  -255  -167 M G
0.00     0.00    30.00
 166  -171  -259  -263  -175 M G      0.00     0.00    30.00    166  -279  -367  -371  -283 M G
0.00     0.00    30.00
 166  -251  -339  -343  -255 M G      0.00     0.00    30.00    166  -263  -351  -355  -267 M G
0.00     0.00    30.00
 166  -267  -355  -359  -271 M G      0.00     0.00    30.00    166  -259  -347  -351  -263 M G
0.00     0.00    30.00
 166  -255  -343  -347  -259 M G      0.00     0.00    30.00    166  -187  -275  -279  -191 M G
0.00     0.00    30.00
 166  -175  -263  -267  -179 M G      0.00     0.00    30.00    166  -167  -255  -259  -171 M G
0.00     0.00    30.00
 166  -179  -267  -271  -183 M G      0.00     0.00    30.00    166  -283  -371  -375  -287 M G
0.00     0.00    30.00
 166  -191  -279  -283  -195 M G      0.00     0.00    30.00    166  -275  -363  -367  -279 M G
0.00     0.00    30.00
 167  -427  -515  -519  -431 M G      0.00     0.00    30.00    167  -423  -511  -515  -427 M G
0.00     0.00    30.00
 167  -435  -523  -527  -439 M G      0.00     0.00    30.00    167  -363  -451  -455  -367 M G
0.00     0.00    30.00
 167  -455  -543  -547  -459 M G      0.00     0.00    30.00    167  -459  -547  -551  -463 M G
0.00     0.00    30.00
 167  -335  -423  -427  -339 M G      0.00     0.00    30.00    167  -447  -535  -539  -451 M G
0.00     0.00    30.00
 167  -339  -427  -431  -343 M G      0.00     0.00    30.00    167  -439  -527  -531  -443 M G
0.00     0.00    30.00
 167  -451  -539  -543  -455 M G      0.00     0.00    30.00    167  -343  -431  -435  -347 M G
0.00     0.00    30.00
 167  -351  -439  -443  -355 M G      0.00     0.00    30.00    167  -355  -443  -447  -359 M G
0.00     0.00    30.00
 167  -347  -435  -439  -351 M G      0.00     0.00    30.00    167  -431  -519  -523  -435 M G
0.00     0.00    30.00
 167  -371  -459  -463  -375 M G      0.00     0.00    30.00    167  -367  -455  -459  -371 M G
0.00     0.00    30.00
 167  -443  -531  -535  -447 M G      0.00     0.00    30.00    167  -359  -447  -451  -363 M G
0.00     0.00    30.00
 168  -547  -635  -639  -551 M G      0.00     0.00    30.00    168  -515  -603  -607  -519 M G
0.00     0.00    30.00
 168  -527  -615  -619  -531 M G      0.00     0.00    30.00    168  -619  -707  -711  -623 M G
0.00     0.00    30.00
 168  -543  -631  -635  -547 M G      0.00     0.00    30.00    168  -539  -627  -631  -543 M G
0.00     0.00    30.00
 168  -535  -623  -627  -539 M G      0.00     0.00    30.00    168  -523  -611  -615  -527 M G
0.00     0.00    30.00
 168  -615  -703  -707  -619 M G      0.00     0.00    30.00    168  -623  -711  -715  -627 M G
0.00     0.00    30.00
 168  -635  -723  -727  -639 M G      0.00     0.00    30.00    168  -631  -719  -723  -635 M G
0.00     0.00    30.00
 168  -511  -599  -603  -515 M G      0.00     0.00    30.00    168  -519  -607  -611  -523 M G
0.00     0.00    30.00
 168  -627  -715  -719  -631 M G      0.00     0.00    30.00    168  -531  -619  -623  -535 M G
0.00     0.00    30.00
 168  -607  -695  -699  -611 M G      0.00     0.00    30.00    168  -599  -687  -691  -603 M G
0.00     0.00    30.00
 168  -611  -699  -703  -615 M G      0.00     0.00    30.00    168  -603  -691  -695  -607 M G
0.00     0.00    30.00
 169  -807  -895  -899  -811 M G      0.00     0.00    30.00    169  -775  -863  -867  -779 M G
0.00     0.00    30.00
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 169  -787  -875  -879  -791 M G      0.00     0.00    30.00    169  -811  -899  -903  -815 M G
0.00     0.00    30.00
 169  -695  -783  -787  -699 M G      0.00     0.00    30.00    169  -783  -871  -875  -787 M G
0.00     0.00    30.00
 169  -691  -779  -783  -695 M G      0.00     0.00    30.00    169  -723  -811  -815  -727 M G
0.00     0.00    30.00
 169  -707  -795  -799  -711 M G      0.00     0.00    30.00    169  -703  -791  -795  -707 M G
0.00     0.00    30.00
 169  -711  -799  -803  -715 M G      0.00     0.00    30.00    169  -719  -807  -811  -723 M G
0.00     0.00    30.00
 169  -699  -787  -791  -703 M G      0.00     0.00    30.00    169  -791  -879  -883  -795 M G
0.00     0.00    30.00
 169  -803  -891  -895  -807 M G      0.00     0.00    30.00    169  -779  -867  -871  -783 M G
0.00     0.00    30.00
 169  -715  -803  -807  -719 M G      0.00     0.00    30.00    169  -687  -775  -779  -691 M G
0.00     0.00    30.00
 169  -795  -883  -887  -799 M G      0.00     0.00    30.00    169  -799  -887  -891  -803 M G
0.00     0.00    30.00
 170  -967 -1055 -1059  -971 M G      0.00     0.00    30.00    170  -863  -951  -955  -867 M G
0.00     0.00    30.00
 170  -887  -975  -979  -891 M G      0.00     0.00    30.00    170  -891  -979  -983  -895 M G
0.00     0.00    30.00
 170  -971 -1059 -1063  -975 M G      0.00     0.00    30.00    170  -963 -1051 -1055  -967 M G
0.00     0.00    30.00
 170  -899  -987  -991  -903 M G      0.00     0.00    30.00    170  -871  -959  -963  -875 M G
0.00     0.00    30.00
 170  -987 -1075 -1079  -991 M G      0.00     0.00    30.00    170  -983 -1071 -1075  -987 M G
0.00     0.00    30.00
 170  -895  -983  -987  -899 M G      0.00     0.00    30.00    170  -879  -967  -971  -883 M G
0.00     0.00    30.00
 170  -951 -1039 -1043  -955 M G      0.00     0.00    30.00    170  -955 -1043 -1047  -959 M G
0.00     0.00    30.00
 170  -875  -963  -967  -879 M G      0.00     0.00    30.00    170  -975 -1063 -1067  -979 M G
0.00     0.00    30.00
 170  -979 -1067 -1071  -983 M G      0.00     0.00    30.00    170  -959 -1047 -1051  -963 M G
0.00     0.00    30.00
 170  -867  -955  -959  -871 M G      0.00     0.00    30.00    170  -883  -971  -975  -887 M G
0.00     0.00    30.00
 171 -1043 -1131 -1135 -1047 M G      0.00     0.00    30.00    171 -1051 -1139 -1143 -1055 M G
0.00     0.00    30.00
 171 -1135 -1223 -1227 -1139 M G      0.00     0.00    30.00    171 -1039 -1127 -1131 -1043 M G
0.00     0.00    30.00
 171 -1067 -1155 -1159 -1071 M G      0.00     0.00    30.00    171 -1075 -1163 -1167 -1079 M G
0.00     0.00    30.00
 171 -1151 -1239 -1243 -1155 M G      0.00     0.00    30.00    171 -1127 -1215 -1219 -1131 M G
0.00     0.00    30.00
 171 -1047 -1135 -1139 -1051 M G      0.00     0.00    30.00    171 -1143 -1231 -1235 -1147 M G
0.00     0.00    30.00
 171 -1147 -1235 -1239 -1151 M G      0.00     0.00    30.00    171 -1139 -1227 -1231 -1143 M G
0.00     0.00    30.00
 171 -1159 -1247 -1251 -1163 M G      0.00     0.00    30.00    171 -1063 -1151 -1155 -1067 M G
0.00     0.00    30.00
 171 -1055 -1143 -1147 -1059 M G      0.00     0.00    30.00    171 -1071 -1159 -1163 -1075 M G
0.00     0.00    30.00
 171 -1155 -1243 -1247 -1159 M G      0.00     0.00    30.00    171 -1163 -1251 -1255 -1167 M G
0.00     0.00    30.00
 171 -1059 -1147 -1151 -1063 M G      0.00     0.00    30.00    171 -1131 -1219 -1223 -1135 M G
0.00     0.00    30.00
 172 -1331 -1375 -1379 -1335 M G      0.00     0.00    30.00    172 -1231 -1319 -1323 -1235 M G
0.00     0.00    30.00
 172 -1339 -1383 -1387 -1343 M G      0.00     0.00    30.00    172 -1215 -1303 -1307 -1219 M G
0.00     0.00    30.00
 172 -1303 -1347 -1351 -1307 M G      0.00     0.00    30.00    172 -1315 -1359 -1363 -1319 M G
0.00     0.00    30.00
 172 -1243 -1331 -1335 -1247 M G      0.00     0.00    30.00    172 -1335 -1379 -1383 -1339 M G
0.00     0.00    30.00
 172 -1247 -1335 -1339 -1251 M G      0.00     0.00    30.00    172 -1319 -1363 -1367 -1323 M G
0.00     0.00    30.00
 172 -1235 -1323 -1327 -1239 M G      0.00     0.00    30.00    172 -1223 -1311 -1315 -1227 M G
0.00     0.00    30.00
 172 -1311 -1355 -1359 -1315 M G      0.00     0.00    30.00    172 -1307 -1351 -1355 -1311 M G
0.00     0.00    30.00
 172 -1251 -1339 -1343 -1255 M G      0.00     0.00    30.00    172 -1327 -1371 -1375 -1331 M G
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0.00     0.00    30.00
 172 -1227 -1315 -1319 -1231 M G      0.00     0.00    30.00    172 -1219 -1307 -1311 -1223 M G
0.00     0.00    30.00
 172 -1239 -1327 -1331 -1243 M G      0.00     0.00    30.00    172 -1323 -1367 -1371 -1327 M G
0.00     0.00    30.00
 173 -1371 -1328 -1332 -1375 M G      0.00     0.00    30.00    173 -1383 -1340 -1344 -1387 M G
0.00     0.00    30.00
 173 -1324 -1236 -1240 -1328 M G      0.00     0.00    30.00    173 -1363 -1320 -1324 -1367 M G
0.00     0.00    30.00
 173 -1379 -1336 -1340 -1383 M G      0.00     0.00    30.00    173 -1320 -1232 -1236 -1324 M G
0.00     0.00    30.00
 173 -1351 -1308 -1312 -1355 M G      0.00     0.00    30.00    173 -1359 -1316 -1320 -1363 M G
0.00     0.00    30.00
 173 -1355 -1312 -1316 -1359 M G      0.00     0.00    30.00    173 -1308 -1220 -1224 -1312 M G
0.00     0.00    30.00
 173 -1316 -1228 -1232 -1320 M G      0.00     0.00    30.00    173 -1304 -1216 -1220 -1308 M G
0.00     0.00    30.00
 173 -1336 -1248 -1252 -1340 M G      0.00     0.00    30.00    173 -1375 -1332 -1336 -1379 M G
0.00     0.00    30.00
 173 -1367 -1324 -1328 -1371 M G      0.00     0.00    30.00    173 -1328 -1240 -1244 -1332 M G
0.00     0.00    30.00
 173 -1347 -1304 -1308 -1351 M G      0.00     0.00    30.00    173 -1312 -1224 -1228 -1316 M G
0.00     0.00    30.00
 173 -1332 -1244 -1248 -1336 M G      0.00     0.00    30.00    173 -1340 -1252 -1256 -1344 M G
0.00     0.00    30.00
 174 -1240 -1152 -1156 -1244 M G      0.00     0.00    30.00    174 -1224 -1136 -1140 -1228 M G
0.00     0.00    30.00
 174 -1132 -1044 -1048 -1136 M G      0.00     0.00    30.00    174 -1140 -1052 -1056 -1144 M G
0.00     0.00    30.00
 174 -1128 -1040 -1044 -1132 M G      0.00     0.00    30.00    174 -1160 -1072 -1076 -1164 M G
0.00     0.00    30.00
 174 -1252 -1164 -1168 -1256 M G      0.00     0.00    30.00    174 -1220 -1132 -1136 -1224 M G
0.00     0.00    30.00
 174 -1164 -1076 -1080 -1168 M G      0.00     0.00    30.00    174 -1236 -1148 -1152 -1240 M G
0.00     0.00    30.00
 174 -1248 -1160 -1164 -1252 M G      0.00     0.00    30.00    174 -1136 -1048 -1052 -1140 M G
0.00     0.00    30.00
 174 -1228 -1140 -1144 -1232 M G      0.00     0.00    30.00    174 -1244 -1156 -1160 -1248 M G
0.00     0.00    30.00
 174 -1156 -1068 -1072 -1160 M G      0.00     0.00    30.00    174 -1232 -1144 -1148 -1236 M G
0.00     0.00    30.00
 174 -1144 -1056 -1060 -1148 M G      0.00     0.00    30.00    174 -1216 -1128 -1132 -1220 M G
0.00     0.00    30.00
 174 -1148 -1060 -1064 -1152 M G      0.00     0.00    30.00    174 -1152 -1064 -1068 -1156 M G
0.00     0.00    30.00
 175  -868  -780  -784  -872 M G      0.00     0.00    30.00    175  -872  -784  -788  -876 M G
0.00     0.00    30.00
 175  -792  -704  -708  -796 M G      0.00     0.00    30.00    175  -884  -796  -800  -888 M G
0.00     0.00    30.00
 175  -776  -688  -692  -780 M G      0.00     0.00    30.00    175  -888  -800  -804  -892 M G
0.00     0.00    30.00
 175  -800  -712  -716  -804 M G      0.00     0.00    30.00    175  -896  -808  -812  -900 M G
0.00     0.00    30.00
 175  -864  -776  -780  -868 M G      0.00     0.00    30.00    175  -900  -812  -816  -904 M G
0.00     0.00    30.00
 175  -892  -804  -808  -896 M G      0.00     0.00    30.00    175  -780  -692  -696  -784 M G
0.00     0.00    30.00
 175  -876  -788  -792  -880 M G      0.00     0.00    30.00    175  -796  -708  -712  -800 M G
0.00     0.00    30.00
 175  -784  -696  -700  -788 M G      0.00     0.00    30.00    175  -808  -720  -724  -812 M G
0.00     0.00    30.00
 175  -804  -716  -720  -808 M G      0.00     0.00    30.00    175  -788  -700  -704  -792 M G
0.00     0.00    30.00
 175  -812  -724  -728  -816 M G      0.00     0.00    30.00    175  -880  -792  -796  -884 M G
0.00     0.00    30.00
 176  -964  -876  -880  -968 M G      0.00     0.00    30.00    176 -1052  -964  -968 -1056 M G
0.00     0.00    30.00
 176 -1064  -976  -980 -1068 M G      0.00     0.00    30.00    176 -1076  -988  -992 -1080 M G
0.00     0.00    30.00
 176 -1068  -980  -984 -1072 M G      0.00     0.00    30.00    176 -1048  -960  -964 -1052 M G
0.00     0.00    30.00
 176  -980  -892  -896  -984 M G      0.00     0.00    30.00    176  -984  -896  -900  -988 M G
0.00     0.00    30.00
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 176  -976  -888  -892  -980 M G      0.00     0.00    30.00    176 -1040  -952  -956 -1044 M G
0.00     0.00    30.00
 176  -988  -900  -904  -992 M G      0.00     0.00    30.00    176  -960  -872  -876  -964 M G
0.00     0.00    30.00
 176  -956  -868  -872  -960 M G      0.00     0.00    30.00    176 -1060  -972  -976 -1064 M G
0.00     0.00    30.00
 176  -968  -880  -884  -972 M G      0.00     0.00    30.00    176 -1056  -968  -972 -1060 M G
0.00     0.00    30.00
 176  -952  -864  -868  -956 M G      0.00     0.00    30.00    176  -972  -884  -888  -976 M G
0.00     0.00    30.00
 176 -1072  -984  -988 -1076 M G      0.00     0.00    30.00    176 -1044  -956  -960 -1048 M G
0.00     0.00    30.00
 177  -612  -616  -704  -700 M G      0.00     0.00    30.00    177  -524  -528  -616  -612 M G
0.00     0.00    30.00
 177  -600  -512  -516  -604 M G      0.00     0.00    30.00    177  -632  -636  -724  -720 M G
0.00     0.00    30.00
 177  -540  -544  -632  -628 M G      0.00     0.00    30.00    177  -624  -628  -716  -712 M G
0.00     0.00    30.00
 177  -520  -524  -612  -608 M G      0.00     0.00    30.00    177  -532  -536  -624  -620 M G
0.00     0.00    30.00
 177  -620  -624  -712  -708 M G      0.00     0.00    30.00    177  -688  -600  -604  -692 M G
0.00     0.00    30.00
 177  -528  -532  -620  -616 M G      0.00     0.00    30.00    177  -608  -612  -700  -696 M G
0.00     0.00    30.00
 177  -604  -516  -520  -608 M G      0.00     0.00    30.00    177  -692  -604  -608  -696 M G
0.00     0.00    30.00
 177  -628  -632  -720  -716 M G      0.00     0.00    30.00    177  -544  -548  -636  -632 M G
0.00     0.00    30.00
 177  -616  -620  -708  -704 M G      0.00     0.00    30.00    177  -536  -540  -628  -624 M G
0.00     0.00    30.00
 177  -548  -552  -640  -636 M G      0.00     0.00    30.00    177  -636  -640  -728  -724 M G
0.00     0.00    30.00
 178  -168   -80   -84  -172 M G      0.00     0.00    30.00    178  -164   -76   -80  -168 M G
0.00     0.00    30.00
 178   -23  -108  -104   122 M G      0.00     0.00    30.00    178  -112  -200  -196  -108 M G
0.00     0.00    30.00
 178  -184   -96  -100  -188 M G      0.00     0.00    30.00    178   -92   -13   118   -96 M G
0.00     0.00    30.00
 178  -188  -100  -104  -192 M G      0.00     0.00    30.00    178   -72   102    -3   -76 M G
0.00     0.00    30.00
 178   -84    -8   113   -88 M G      0.00     0.00    30.00    178   -76    -3   108   -80 M G
0.00     0.00    30.00
 178   127  -112  -108   -23 M G      0.00     0.00    30.00    178  -100   -18   122  -104 M G
0.00     0.00    30.00
 178   -88   113   -13   -92 M G      0.00     0.00    30.00    178   -96   118   -18  -100 M G
0.00     0.00    30.00
 178  -108  -196  -192  -104 M G      0.00     0.00    30.00    178  -176   -88   -92  -180 M G
0.00     0.00    30.00
 178   -80   108    -8   -84 M G      0.00     0.00    30.00    178  -180   -92   -96  -184 M G
0.00     0.00    30.00
 178  -160   -72   -76  -164 M G      0.00     0.00    30.00    178  -172   -84   -88  -176 M G
0.00     0.00    30.00
 179  -360  -272  -276  -364 M G      0.00     0.00    30.00    179  -368  -280  -284  -372 M G
0.00     0.00    30.00
 179  -344  -256  -260  -348 M G      0.00     0.00    30.00    179  -348  -260  -264  -352 M G
0.00     0.00    30.00
 179  -252  -164  -168  -256 M G      0.00     0.00    30.00    179  -276  -188  -192  -280 M G
0.00     0.00    30.00
 179  -356  -268  -272  -360 M G      0.00     0.00    30.00    179  -256  -168  -172  -260 M G
0.00     0.00    30.00
 179  -352  -264  -268  -356 M G      0.00     0.00    30.00    179  -364  -276  -280  -368 M G
0.00     0.00    30.00
 179  -272  -184  -188  -276 M G      0.00     0.00    30.00    179  -260  -172  -176  -264 M G
0.00     0.00    30.00
 179  -248  -160  -164  -252 M G      0.00     0.00    30.00    179  -340  -252  -256  -344 M G
0.00     0.00    30.00
 179  -268  -180  -184  -272 M G      0.00     0.00    30.00    179  -264  -176  -180  -268 M G
0.00     0.00    30.00
 179  -280  -192  -196  -284 M G      0.00     0.00    30.00    179  -284  -196  -200  -288 M G
0.00     0.00    30.00
 179  -372  -284  -288  -376 M G      0.00     0.00    30.00    179  -336  -248  -252  -340 M G
0.00     0.00    30.00
 180  -352  -356  -444  -440 M G      0.00     0.00    30.00    180  -432  -436  -524  -520 M G
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0.00     0.00    30.00
 180  -368  -372  -460  -456 M G      0.00     0.00    30.00    180  -372  -376  -464  -460 M G
0.00     0.00    30.00
 180  -440  -444  -532  -528 M G      0.00     0.00    30.00    180  -456  -460  -548  -544 M G
0.00     0.00    30.00
 180  -364  -368  -456  -452 M G      0.00     0.00    30.00    180  -516  -428  -432  -520 M G
0.00     0.00    30.00
 180  -452  -456  -544  -540 M G      0.00     0.00    30.00    180  -436  -440  -528  -524 M G
0.00     0.00    30.00
 180  -360  -364  -452  -448 M G      0.00     0.00    30.00    180  -448  -452  -540  -536 M G
0.00     0.00    30.00
 180  -428  -340  -344  -432 M G      0.00     0.00    30.00    180  -344  -348  -436  -432 M G
0.00     0.00    30.00
 180  -348  -352  -440  -436 M G      0.00     0.00    30.00    180  -460  -464  -552  -548 M G
0.00     0.00    30.00
 180  -512  -424  -428  -516 M G      0.00     0.00    30.00    180  -444  -448  -536  -532 M G
0.00     0.00    30.00
 180  -424  -336  -340  -428 M G      0.00     0.00    30.00    180  -356  -360  -448  -444 M G
0.00     0.00    30.00
 181   102   -27   -31    -3 M G      0.00     0.00    30.00    181  -155   -67   -63  -151 M G
0.00     0.00    30.00
 181   -35   -39    -8   108 M G      0.00     0.00    30.00    181   -27  -115  -119   -31 M G
0.00     0.00    30.00
 181  -135  -139   -51   -47 M G      0.00     0.00    30.00    181    -3   -31   -35   108 M G
0.00     0.00    30.00
 181   -51   -55   -18   118 M G      0.00     0.00    30.00    181  -127  -131   -43   -39 M G
0.00     0.00    30.00
 181   -43   -47   -13   113 M G      0.00     0.00    30.00    181  -139  -143   -55   -51 M G
0.00     0.00    30.00
 181  -143  -147   -59   -55 M G      0.00     0.00    30.00    181   -55   -59   122   -18 M G
0.00     0.00    30.00
 181   -31  -119  -123   -35 M G      0.00     0.00    30.00    181  -123  -127   -39   -35 M G
0.00     0.00    30.00
 181  -131  -135   -47   -43 M G      0.00     0.00    30.00    181  -151   -63   -59  -147 M G
0.00     0.00    30.00
 181   -67   127   -23   -63 M G      0.00     0.00    30.00    181   -63   -23   122   -59 M G
0.00     0.00    30.00
 181   -47   -51   118   -13 M G      0.00     0.00    30.00    181   -39   -43   113    -8 M G
0.00     0.00    30.00
 182  -131  -219  -223  -135 M G      0.00     0.00    30.00    182  -123  -211  -215  -127 M G
0.00     0.00    30.00
 182  -227  -315  -319  -231 M G      0.00     0.00    30.00    182  -143  -231  -235  -147 M G
0.00     0.00    30.00
 182  -239  -327  -331  -243 M G      0.00     0.00    30.00    182  -207  -295  -299  -211 M G
0.00     0.00    30.00
 182  -223  -311  -315  -227 M G      0.00     0.00    30.00    182  -115  -203  -207  -119 M G
0.00     0.00    30.00
 182  -235  -323  -327  -239 M G      0.00     0.00    30.00    182  -135  -223  -227  -139 M G
0.00     0.00    30.00
 182  -219  -307  -311  -223 M G      0.00     0.00    30.00    182  -215  -303  -307  -219 M G
0.00     0.00    30.00
 182  -151  -239  -243  -155 M G      0.00     0.00    30.00    182  -119  -207  -211  -123 M G
0.00     0.00    30.00
 182  -203  -291  -295  -207 M G      0.00     0.00    30.00    182  -211  -299  -303  -215 M G
0.00     0.00    30.00
 182  -231  -319  -323  -235 M G      0.00     0.00    30.00    182  -127  -215  -219  -131 M G
0.00     0.00    30.00
 182  -147  -235  -239  -151 M G      0.00     0.00    30.00    182  -139  -227  -231  -143 M G
0.00     0.00    30.00
 183  -307  -395  -399  -311 M G      0.00     0.00    30.00    183  -415  -503  -507  -419 M G
0.00     0.00    30.00
 183  -327  -415  -419  -331 M G      0.00     0.00    30.00    183  -411  -499  -503  -415 M G
0.00     0.00    30.00
 183  -379  -467  -471  -383 M G      0.00     0.00    30.00    183  -407  -495  -499  -411 M G
0.00     0.00    30.00
 183  -295  -383  -387  -299 M G      0.00     0.00    30.00    183  -315  -403  -407  -319 M G
0.00     0.00    30.00
 183  -395  -483  -487  -399 M G      0.00     0.00    30.00    183  -399  -487  -491  -403 M G
0.00     0.00    30.00
 183  -299  -387  -391  -303 M G      0.00     0.00    30.00    183  -319  -407  -411  -323 M G
0.00     0.00    30.00
 183  -311  -399  -403  -315 M G      0.00     0.00    30.00    183  -323  -411  -415  -327 M G
0.00     0.00    30.00
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 183  -391  -479  -483  -395 M G      0.00     0.00    30.00    183  -303  -391  -395  -307 M G
0.00     0.00    30.00
 183  -383  -471  -475  -387 M G      0.00     0.00    30.00    183  -403  -491  -495  -407 M G
0.00     0.00    30.00
 183  -291  -379  -383  -295 M G      0.00     0.00    30.00    183  -387  -475  -479  -391 M G
0.00     0.00    30.00
 184  -571  -659  -663  -575 M G      0.00     0.00    30.00    184  -579  -667  -671  -583 M G
0.00     0.00    30.00
 184  -495  -583  -587  -499 M G      0.00     0.00    30.00    184  -475  -563  -567  -479 M G
0.00     0.00    30.00
 184  -483  -571  -575  -487 M G      0.00     0.00    30.00    184  -487  -575  -579  -491 M G
0.00     0.00    30.00
 184  -471  -559  -563  -475 M G      0.00     0.00    30.00    184  -575  -663  -667  -579 M G
0.00     0.00    30.00
 184  -563  -651  -655  -567 M G      0.00     0.00    30.00    184  -587  -675  -679  -591 M G
0.00     0.00    30.00
 184  -555  -643  -647  -559 M G      0.00     0.00    30.00    184  -559  -647  -651  -563 M G
0.00     0.00    30.00
 184  -583  -671  -675  -587 M G      0.00     0.00    30.00    184  -503  -591  -595  -507 M G
0.00     0.00    30.00
 184  -467  -555  -559  -471 M G      0.00     0.00    30.00    184  -479  -567  -571  -483 M G
0.00     0.00    30.00
 184  -491  -579  -583  -495 M G      0.00     0.00    30.00    184  -567  -655  -659  -571 M G
0.00     0.00    30.00
 184  -591  -679  -683  -595 M G      0.00     0.00    30.00    184  -499  -587  -591  -503 M G
0.00     0.00    30.00
 185  -731  -819  -823  -735 M G      0.00     0.00    30.00    185  -739  -827  -831  -743 M G
0.00     0.00    30.00
 185  -651  -739  -743  -655 M G      0.00     0.00    30.00    185  -767  -855  -859  -771 M G
0.00     0.00    30.00
 185  -735  -823  -827  -739 M G      0.00     0.00    30.00    185  -667  -755  -759  -671 M G
0.00     0.00    30.00
 185  -679  -767  -771  -683 M G      0.00     0.00    30.00    185  -671  -759  -763  -675 M G
0.00     0.00    30.00
 185  -659  -747  -751  -663 M G      0.00     0.00    30.00    185  -759  -847  -851  -763 M G
0.00     0.00    30.00
 185  -643  -731  -735  -647 M G      0.00     0.00    30.00    185  -755  -843  -847  -759 M G
0.00     0.00    30.00
 185  -647  -735  -739  -651 M G      0.00     0.00    30.00    185  -743  -831  -835  -747 M G
0.00     0.00    30.00
 185  -747  -835  -839  -751 M G      0.00     0.00    30.00    185  -675  -763  -767  -679 M G
0.00     0.00    30.00
 185  -655  -743  -747  -659 M G      0.00     0.00    30.00    185  -663  -751  -755  -667 M G
0.00     0.00    30.00
 185  -751  -839  -843  -755 M G      0.00     0.00    30.00    185  -763  -851  -855  -767 M G
0.00     0.00    30.00
 186  -819  -907  -911  -823 M G      0.00     0.00    30.00    186  -847  -935  -939  -851 M G
0.00     0.00    30.00
 186  -935 -1023 -1027  -939 M G      0.00     0.00    30.00    186  -831  -919  -923  -835 M G
0.00     0.00    30.00
 186  -843  -931  -935  -847 M G      0.00     0.00    30.00    186  -931 -1019 -1023  -935 M G
0.00     0.00    30.00
 186  -907  -995  -999  -911 M G      0.00     0.00    30.00    186  -911  -999 -1003  -915 M G
0.00     0.00    30.00
 186  -919 -1007 -1011  -923 M G      0.00     0.00    30.00    186  -835  -923  -927  -839 M G
0.00     0.00    30.00
 186  -823  -911  -915  -827 M G      0.00     0.00    30.00    186  -839  -927  -931  -843 M G
0.00     0.00    30.00
 186  -915 -1003 -1007  -919 M G      0.00     0.00    30.00    186  -927 -1015 -1019  -931 M G
0.00     0.00    30.00
 186  -855  -943  -947  -859 M G      0.00     0.00    30.00    186  -939 -1027 -1031  -943 M G
0.00     0.00    30.00
 186  -943 -1031 -1035  -947 M G      0.00     0.00    30.00    186  -923 -1011 -1015  -927 M G
0.00     0.00    30.00
 186  -827  -915  -919  -831 M G      0.00     0.00    30.00    186  -851  -939  -943  -855 M G
0.00     0.00    30.00
 187 -1087 -1175 -1179 -1091 M G      0.00     0.00    30.00    187 -1027 -1115 -1119 -1031 M G
0.00     0.00    30.00
 187 -1031 -1119 -1123 -1035 M G      0.00     0.00    30.00    187 -1023 -1111 -1115 -1027 M G
0.00     0.00    30.00
 187 -1007 -1095 -1099 -1011 M G      0.00     0.00    30.00    187 -1091 -1179 -1183 -1095 M G
0.00     0.00    30.00
 187 -1095 -1183 -1187 -1099 M G      0.00     0.00    30.00    187  -995 -1083 -1087  -999 M G
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0.00     0.00    30.00
 187 -1111 -1199 -1203 -1115 M G      0.00     0.00    30.00    187 -1083 -1171 -1175 -1087 M G
0.00     0.00    30.00
 187 -1011 -1099 -1103 -1015 M G      0.00     0.00    30.00    187 -1103 -1191 -1195 -1107 M G
0.00     0.00    30.00
 187 -1107 -1195 -1199 -1111 M G      0.00     0.00    30.00    187 -1019 -1107 -1111 -1023 M G
0.00     0.00    30.00
 187 -1015 -1103 -1107 -1019 M G      0.00     0.00    30.00    187 -1099 -1187 -1191 -1103 M G
0.00     0.00    30.00
 187  -999 -1087 -1091 -1003 M G      0.00     0.00    30.00    187 -1119 -1207 -1211 -1123 M G
0.00     0.00    30.00
 187 -1003 -1091 -1095 -1007 M G      0.00     0.00    30.00    187 -1115 -1203 -1207 -1119 M G
0.00     0.00    30.00
 188 -1175 -1263 -1267 -1179 M G      0.00     0.00    30.00    188 -1183 -1271 -1275 -1187 M G
0.00     0.00    30.00
 188 -1203 -1291 -1295 -1207 M G      0.00     0.00    30.00    188 -1291 -1380 -1384 -1295 M G
0.00     0.00    30.00
 188 -1191 -1279 -1283 -1195 M G      0.00     0.00    30.00    188 -1179 -1267 -1271 -1183 M G
0.00     0.00    30.00
 188 -1187 -1275 -1279 -1191 M G      0.00     0.00    30.00    188 -1259 -1348 -1352 -1263 M G
0.00     0.00    30.00
 188 -1263 -1352 -1356 -1267 M G      0.00     0.00    30.00    188 -1279 -1368 -1372 -1283 M G
0.00     0.00    30.00
 188 -1287 -1376 -1380 -1291 M G      0.00     0.00    30.00    188 -1171 -1259 -1263 -1175 M G
0.00     0.00    30.00
 188 -1295 -1384 -1388 -1299 M G      0.00     0.00    30.00    188 -1207 -1295 -1299 -1211 M G
0.00     0.00    30.00
 188 -1271 -1360 -1364 -1275 M G      0.00     0.00    30.00    188 -1195 -1283 -1287 -1199 M G
0.00     0.00    30.00
 188 -1267 -1356 -1360 -1271 M G      0.00     0.00    30.00    188 -1283 -1372 -1376 -1287 M G
0.00     0.00    30.00
 188 -1199 -1287 -1291 -1203 M G      0.00     0.00    30.00    188 -1275 -1364 -1368 -1279 M G
0.00     0.00    30.00
 189 -1296 -1208 -1212 -1300 M G      0.00     0.00    30.00    189 -1264 -1176 -1180 -1268 M G
0.00     0.00    30.00
 189 -1260 -1172 -1176 -1264 M G      0.00     0.00    30.00    189 -1276 -1188 -1192 -1280 M G
0.00     0.00    30.00
 189 -1288 -1200 -1204 -1292 M G      0.00     0.00    30.00    189 -1292 -1204 -1208 -1296 M G
0.00     0.00    30.00
 189 -1352 -1264 -1268 -1356 M G      0.00     0.00    30.00    189 -1272 -1184 -1188 -1276 M G
0.00     0.00    30.00
 189 -1284 -1196 -1200 -1288 M G      0.00     0.00    30.00    189 -1348 -1260 -1264 -1352 M G
0.00     0.00    30.00
 189 -1360 -1272 -1276 -1364 M G      0.00     0.00    30.00    189 -1268 -1180 -1184 -1272 M G
0.00     0.00    30.00
 189 -1380 -1292 -1296 -1384 M G      0.00     0.00    30.00    189 -1376 -1288 -1292 -1380 M G
0.00     0.00    30.00
 189 -1384 -1296 -1300 -1388 M G      0.00     0.00    30.00    189 -1280 -1192 -1196 -1284 M G
0.00     0.00    30.00
 189 -1356 -1268 -1272 -1360 M G      0.00     0.00    30.00    189 -1372 -1284 -1288 -1376 M G
0.00     0.00    30.00
 189 -1368 -1280 -1284 -1372 M G      0.00     0.00    30.00    189 -1364 -1276 -1280 -1368 M G
0.00     0.00    30.00
 190 -1184 -1096 -1100 -1188 M G      0.00     0.00    30.00    190 -1088 -1000 -1004 -1092 M G
0.00     0.00    30.00
 190 -1192 -1104 -1108 -1196 M G      0.00     0.00    30.00    190 -1116 -1028 -1032 -1120 M G
0.00     0.00    30.00
 190 -1092 -1004 -1008 -1096 M G      0.00     0.00    30.00    190 -1096 -1008 -1012 -1100 M G
0.00     0.00    30.00
 190 -1204 -1116 -1120 -1208 M G      0.00     0.00    30.00    190 -1176 -1088 -1092 -1180 M G
0.00     0.00    30.00
 190 -1084  -996 -1000 -1088 M G      0.00     0.00    30.00    190 -1120 -1032 -1036 -1124 M G
0.00     0.00    30.00
 190 -1196 -1108 -1112 -1200 M G      0.00     0.00    30.00    190 -1188 -1100 -1104 -1192 M G
0.00     0.00    30.00
 190 -1180 -1092 -1096 -1184 M G      0.00     0.00    30.00    190 -1104 -1016 -1020 -1108 M G
0.00     0.00    30.00
 190 -1100 -1012 -1016 -1104 M G      0.00     0.00    30.00    190 -1200 -1112 -1116 -1204 M G
0.00     0.00    30.00
 190 -1208 -1120 -1124 -1212 M G      0.00     0.00    30.00    190 -1112 -1024 -1028 -1116 M G
0.00     0.00    30.00
 190 -1172 -1084 -1088 -1176 M G      0.00     0.00    30.00    190 -1108 -1020 -1024 -1112 M G
0.00     0.00    30.00
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 191 -1016  -928  -932 -1020 M G      0.00     0.00    30.00    191 -1008  -920  -924 -1012 M G
0.00     0.00    30.00
 191  -916  -828  -832  -920 M G      0.00     0.00    30.00    191  -944  -856  -860  -948 M G
0.00     0.00    30.00
 191 -1024  -936  -940 -1028 M G      0.00     0.00    30.00    191 -1032  -944  -948 -1036 M G
0.00     0.00    30.00
 191  -996  -908  -912 -1000 M G      0.00     0.00    30.00    191  -924  -836  -840  -928 M G
0.00     0.00    30.00
 191  -920  -832  -836  -924 M G      0.00     0.00    30.00    191 -1020  -932  -936 -1024 M G
0.00     0.00    30.00
 191 -1000  -912  -916 -1004 M G      0.00     0.00    30.00    191  -908  -820  -824  -912 M G
0.00     0.00    30.00
 191  -940  -852  -856  -944 M G      0.00     0.00    30.00    191 -1028  -940  -944 -1032 M G
0.00     0.00    30.00
 191 -1012  -924  -928 -1016 M G      0.00     0.00    30.00    191  -932  -844  -848  -936 M G
0.00     0.00    30.00
 191  -936  -848  -852  -940 M G      0.00     0.00    30.00    191  -912  -824  -828  -916 M G
0.00     0.00    30.00
 191  -928  -840  -844  -932 M G      0.00     0.00    30.00    191 -1004  -916  -920 -1008 M G
0.00     0.00    30.00
 192  -836  -748  -752  -840 M G      0.00     0.00    30.00    192  -840  -752  -756  -844 M G
0.00     0.00    30.00
 192  -756  -668  -672  -760 M G      0.00     0.00    30.00    192  -848  -760  -764  -852 M G
0.00     0.00    30.00
 192  -852  -764  -768  -856 M G      0.00     0.00    30.00    192  -736  -648  -652  -740 M G
0.00     0.00    30.00
 192  -744  -656  -660  -748 M G      0.00     0.00    30.00    192  -820  -732  -736  -824 M G
0.00     0.00    30.00
 192  -768  -680  -684  -772 M G      0.00     0.00    30.00    192  -832  -744  -748  -836 M G
0.00     0.00    30.00
 192  -740  -652  -656  -744 M G      0.00     0.00    30.00    192  -752  -664  -668  -756 M G
0.00     0.00    30.00
 192  -856  -768  -772  -860 M G      0.00     0.00    30.00    192  -824  -736  -740  -828 M G
0.00     0.00    30.00
 192  -732  -644  -648  -736 M G      0.00     0.00    30.00    192  -748  -660  -664  -752 M G
0.00     0.00    30.00
 192  -844  -756  -760  -848 M G      0.00     0.00    30.00    192  -828  -740  -744  -832 M G
0.00     0.00    30.00
 192  -760  -672  -676  -764 M G      0.00     0.00    30.00    192  -764  -676  -680  -768 M G
0.00     0.00    30.00
 193  -660  -572  -576  -664 M G      0.00     0.00    30.00    193  -668  -580  -584  -672 M G
0.00     0.00    30.00
 193  -584  -496  -500  -588 M G      0.00     0.00    30.00    193  -648  -560  -564  -652 M G
0.00     0.00    30.00
 193  -556  -468  -472  -560 M G      0.00     0.00    30.00    193  -676  -588  -592  -680 M G
0.00     0.00    30.00
 193  -580  -492  -496  -584 M G      0.00     0.00    30.00    193  -656  -568  -572  -660 M G
0.00     0.00    30.00
 193  -652  -564  -568  -656 M G      0.00     0.00    30.00    193  -588  -500  -504  -592 M G
0.00     0.00    30.00
 193  -664  -576  -580  -668 M G      0.00     0.00    30.00    193  -672  -584  -588  -676 M G
0.00     0.00    30.00
 193  -680  -592  -596  -684 M G      0.00     0.00    30.00    193  -592  -504  -508  -596 M G
0.00     0.00    30.00
 193  -564  -476  -480  -568 M G      0.00     0.00    30.00    193  -568  -480  -484  -572 M G
0.00     0.00    30.00
 193  -576  -488  -492  -580 M G      0.00     0.00    30.00    193  -572  -484  -488  -576 M G
0.00     0.00    30.00
 193  -644  -556  -560  -648 M G      0.00     0.00    30.00    193  -560  -472  -476  -564 M G
0.00     0.00    30.00
 194  -500  -412  -416  -504 M G      0.00     0.00    30.00    194  -404  -316  -320  -408 M G
0.00     0.00    30.00
 194  -504  -416  -420  -508 M G      0.00     0.00    30.00    194  -416  -328  -332  -420 M G
0.00     0.00    30.00
 194  -496  -408  -412  -500 M G      0.00     0.00    30.00    194  -384  -296  -300  -388 M G
0.00     0.00    30.00
 194  -484  -396  -400  -488 M G      0.00     0.00    30.00    194  -480  -392  -396  -484 M G
0.00     0.00    30.00
 194  -492  -404  -408  -496 M G      0.00     0.00    30.00    194  -392  -304  -308  -396 M G
0.00     0.00    30.00
 194  -380  -292  -296  -384 M G      0.00     0.00    30.00    194  -472  -384  -388  -476 M G
0.00     0.00    30.00
 194  -408  -320  -324  -412 M G      0.00     0.00    30.00    194  -476  -388  -392  -480 M G
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0.00     0.00    30.00
 194  -468  -380  -384  -472 M G      0.00     0.00    30.00    194  -488  -400  -404  -492 M G
0.00     0.00    30.00
 194  -388  -300  -304  -392 M G      0.00     0.00    30.00    194  -400  -312  -316  -404 M G
0.00     0.00    30.00
 194  -412  -324  -328  -416 M G      0.00     0.00    30.00    194  -396  -308  -312  -400 M G
0.00     0.00    30.00
 195  -204  -116  -120  -208 M G      0.00     0.00    30.00    195  -232  -144  -148  -236 M G
0.00     0.00    30.00
 195  -300  -212  -216  -304 M G      0.00     0.00    30.00    195  -328  -240  -244  -332 M G
0.00     0.00    30.00
 195  -208  -120  -124  -212 M G      0.00     0.00    30.00    195  -316  -228  -232  -320 M G
0.00     0.00    30.00
 195  -236  -148  -152  -240 M G      0.00     0.00    30.00    195  -324  -236  -240  -328 M G
0.00     0.00    30.00
 195  -304  -216  -220  -308 M G      0.00     0.00    30.00    195  -240  -152  -156  -244 M G
0.00     0.00    30.00
 195  -216  -128  -132  -220 M G      0.00     0.00    30.00    195  -308  -220  -224  -312 M G
0.00     0.00    30.00
 195  -296  -208  -212  -300 M G      0.00     0.00    30.00    195  -224  -136  -140  -228 M G
0.00     0.00    30.00
 195  -212  -124  -128  -216 M G      0.00     0.00    30.00    195  -320  -232  -236  -324 M G
0.00     0.00    30.00
 195  -312  -224  -228  -316 M G      0.00     0.00    30.00    195  -220  -132  -136  -224 M G
0.00     0.00    30.00
 195  -292  -204  -208  -296 M G      0.00     0.00    30.00    195  -228  -140  -144  -232 M G
0.00     0.00    30.00
 196   -28   103    -4   -32 M G      0.00     0.00    30.00    196  -128   -40   -44  -132 M G
0.00     0.00    30.00
 196   -36   109    -9   -40 M G      0.00     0.00    30.00    196  -136   -48   -52  -140 M G
0.00     0.00    30.00
 196  -140   -52   -56  -144 M G      0.00     0.00    30.00    196  -120   -32   -36  -124 M G
0.00     0.00    30.00
 196   -56   -19   123   -60 M G      0.00     0.00    30.00    196   -32    -4   109   -36 M G
0.00     0.00    30.00
 196   -40    -9   114   -44 M G      0.00     0.00    30.00    196  -144   -56   -60  -148 M G
0.00     0.00    30.00
 196   -52   119   -19   -56 M G      0.00     0.00    30.00    196  -116   -28   -32  -120 M G
0.00     0.00    30.00
 196   -24   -64   -60   123 M G      0.00     0.00    30.00    196   -68  -156  -152   -64 M G
0.00     0.00    30.00
 196   -64  -152  -148   -60 M G      0.00     0.00    30.00    196   -44   114   -14   -48 M G
0.00     0.00    30.00
 196  -124   -36   -40  -128 M G      0.00     0.00    30.00    196  -132   -44   -48  -136 M G
0.00     0.00    30.00
 196   128   -68   -64   -24 M G      0.00     0.00    30.00    196   -48   -14   119   -52 M G
0.00     0.00    30.00
 197   -33  -121  -125   -37 M G      0.00     0.00    30.00    197   -29  -117  -121   -33 M G
0.00     0.00    30.00
 197   -69   128   -24   -65 M G      0.00     0.00    30.00    197   -65   -24   123   -61 M G
0.00     0.00    30.00
 197   -37   -41    -9   109 M G      0.00     0.00    30.00    197  -137  -141   -53   -49 M G
0.00     0.00    30.00
 197    -4   -33   -37   109 M G      0.00     0.00    30.00    197  -145  -149   -61   -57 M G
0.00     0.00    30.00
 197   -49   -53   119   -14 M G      0.00     0.00    30.00    197  -153   -65   -61  -149 M G
0.00     0.00    30.00
 197  -133  -137   -49   -45 M G      0.00     0.00    30.00    197   -53   -57   -19   119 M G
0.00     0.00    30.00
 197   103   -29   -33    -4 M G      0.00     0.00    30.00    197  -157   -69   -65  -153 M G
0.00     0.00    30.00
 197  -129  -133   -45   -41 M G      0.00     0.00    30.00    197  -125  -129   -41   -37 M G
0.00     0.00    30.00
 197   -41   -45   114    -9 M G      0.00     0.00    30.00    197   -45   -49   -14   114 M G
0.00     0.00    30.00
 197   -57   -61   123   -19 M G      0.00     0.00    30.00    197  -141  -145   -57   -53 M G
0.00     0.00    30.00
 198  -121  -209  -213  -125 M G      0.00     0.00    30.00    198  -137  -225  -229  -141 M G
0.00     0.00    30.00
 198  -213  -301  -305  -217 M G      0.00     0.00    30.00    198  -133  -221  -225  -137 M G
0.00     0.00    30.00
 198  -129  -217  -221  -133 M G      0.00     0.00    30.00    198  -117  -205  -209  -121 M G
0.00     0.00    30.00
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198 -217 -305 -309 -221 M G 0.00 0.00 30.00 198 -141 -229 -233 -145 M G
0.00 0.00 30.00
198 -125 -213 -217 -129 M G 0.00 0.00 30.00 198 -209 -297 -301 -213 M G
0.00 0.00 30.00
198 -233 -321 -325 -237 M G 0.00 0.00 30.00 198 -205 -293 -297 -209 M G
0.00 0.00 30.00
198 -229 -317 -321 -233 M G 0.00 0.00 30.00 198 -149 -237 -241 -153 M G
0.00 0.00 30.00
198 -145 -233 -237 -149 M G 0.00 0.00 30.00 198 -225 -313 -317 -229 M G
0.00 0.00 30.00
198 -241 -329 -333 -245 M G 0.00 0.00 30.00 198 -221 -309 -313 -225 M G
0.00 0.00 30.00
198 -237 -325 -329 -241 M G 0.00 0.00 30.00 198 -153 -241 -245 -157 M G
0.00 0.00 30.00
199 -293 -381 -385 -297 M G 0.00 0.00 30.00 199 -309 -397 -401 -313 M G
0.00 0.00 30.00
199 -409 -497 -501 -413 M G 0.00 0.00 30.00 199 -381 -469 -473 -385 M G
0.00 0.00 30.00
199 -405 -493 -497 -409 M G 0.00 0.00 30.00 199 -321 -409 -413 -325 M G
0.00 0.00 30.00
199 -385 -473 -477 -389 M G 0.00 0.00 30.00 199 -301 -389 -393 -305 M G
0.00 0.00 30.00
199 -325 -413 -417 -329 M G 0.00 0.00 30.00 199 -389 -477 -481 -393 M G
0.00 0.00 30.00
199 -297 -385 -389 -301 M G 0.00 0.00 30.00 199 -317 -405 -409 -321 M G
0.00 0.00 30.00
199 -401 -489 -493 -405 M G 0.00 0.00 30.00 199 -417 -505 -509 -421 M G
0.00 0.00 30.00
199 -397 -485 -489 -401 M G 0.00 0.00 30.00 199 -313 -401 -405 -317 M G
0.00 0.00 30.00
199 -305 -393 -397 -309 M G 0.00 0.00 30.00 199 -413 -501 -505 -417 M G
0.00 0.00 30.00
199 -393 -481 -485 -397 M G 0.00 0.00 30.00 199 -329 -417 -421 -333 M G
0.00 0.00 30.00
200 -505 -593 -597 -509 M G 0.00 0.00 30.00 200 -557 -645 -649 -561 M G
0.00 0.00 30.00
200 -469 -557 -561 -473 M G 0.00 0.00 30.00 200 -473 -561 -565 -477 M G
0.00 0.00 30.00
200 -585 -673 -677 -589 M G 0.00 0.00 30.00 200 -561 -649 -653 -565 M G
0.00 0.00 30.00
200 -593 -681 -685 -597 M G 0.00 0.00 30.00 200 -501 -589 -593 -505 M G
0.00 0.00 30.00
200 -569 -657 -661 -573 M G 0.00 0.00 30.00 200 -573 -661 -665 -577 M G
0.00 0.00 30.00
200 -577 -665 -669 -581 M G 0.00 0.00 30.00 200 -481 -569 -573 -485 M G
0.00 0.00 30.00
200 -497 -585 -589 -501 M G 0.00 0.00 30.00 200 -489 -577 -581 -493 M G
0.00 0.00 30.00
200 -485 -573 -577 -489 M G 0.00 0.00 30.00 200 -589 -677 -681 -593 M G
0.00 0.00 30.00
200 -493 -581 -585 -497 M G 0.00 0.00 30.00 200 -565 -653 -657 -569 M G
0.00 0.00 30.00
200 -477 -565 -569 -481 M G 0.00 0.00 30.00 200 -581 -669 -673 -585 M G
0.00 0.00 30.00
201 -769 -857 -861 -773 M G 0.00 0.00 30.00 201 -669 -757 -761 -673 M G
0.00 0.00 30.00
201 -649 -737 -741 -653 M G 0.00 0.00 30.00 201 -665 -753 -757 -669 M G
0.00 0.00 30.00
201 -733 -821 -825 -737 M G 0.00 0.00 30.00 201 -741 -829 -833 -745 M G
0.00 0.00 30.00
201 -657 -745 -749 -661 M G 0.00 0.00 30.00 201 -749 -837 -841 -753 M G
0.00 0.00 30.00
201 -745 -833 -837 -749 M G 0.00 0.00 30.00 201 -673 -761 -765 -677 M G
0.00 0.00 30.00
201 -757 -845 -849 -761 M G 0.00 0.00 30.00 201 -761 -849 -853 -765 M G
0.00 0.00 30.00
201 -681 -769 -773 -685 M G 0.00 0.00 30.00 201 -765 -853 -857 -769 M G
0.00 0.00 30.00
201 -661 -749 -753 -665 M G 0.00 0.00 30.00 201 -653 -741 -745 -657 M G
0.00 0.00 30.00
201 -645 -733 -737 -649 M G 0.00 0.00 30.00 201 -737 -825 -829 -741 M G
0.00 0.00 30.00
201 -753 -841 -845 -757 M G 0.00 0.00 30.00 201 -677 -765 -769 -681 M G

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0.00     0.00    30.00
 202  -849  -937  -941  -853 M G      0.00     0.00    30.00    202  -837  -925  -929  -841 M G
0.00     0.00    30.00
 202  -829  -917  -921  -833 M G      0.00     0.00    30.00    202  -933 -1021 -1025  -937 M G
0.00     0.00    30.00
 202  -833  -921  -925  -837 M G      0.00     0.00    30.00    202  -941 -1029 -1033  -945 M G
0.00     0.00    30.00
 202  -921 -1009 -1013  -925 M G      0.00     0.00    30.00    202  -857  -945  -949  -861 M G
0.00     0.00    30.00
 202  -913 -1001 -1005  -917 M G      0.00     0.00    30.00    202  -945 -1033 -1037  -949 M G
0.00     0.00    30.00
 202  -909  -997 -1001  -913 M G      0.00     0.00    30.00    202  -821  -909  -913  -825 M G
0.00     0.00    30.00
 202  -853  -941  -945  -857 M G      0.00     0.00    30.00    202  -929 -1017 -1021  -933 M G
0.00     0.00    30.00
 202  -917 -1005 -1009  -921 M G      0.00     0.00    30.00    202  -925 -1013 -1017  -929 M G
0.00     0.00    30.00
 202  -841  -929  -933  -845 M G      0.00     0.00    30.00    202  -825  -913  -917  -829 M G
0.00     0.00    30.00
 202  -937 -1025 -1029  -941 M G      0.00     0.00    30.00    202  -845  -933  -937  -849 M G
0.00     0.00    30.00
 203 -1021 -1109 -1113 -1025 M G      0.00     0.00    30.00    203 -1097 -1185 -1189 -1101 M G
0.00     0.00    30.00
 203 -1013 -1101 -1105 -1017 M G      0.00     0.00    30.00    203 -1005 -1093 -1097 -1009 M G
0.00     0.00    30.00
 203 -1121 -1209 -1213 -1125 M G      0.00     0.00    30.00    203 -1029 -1117 -1121 -1033 M G
0.00     0.00    30.00
 203 -1001 -1089 -1093 -1005 M G      0.00     0.00    30.00    203 -1017 -1105 -1109 -1021 M G
0.00     0.00    30.00
 203 -1093 -1181 -1185 -1097 M G      0.00     0.00    30.00    203 -1117 -1205 -1209 -1121 M G
0.00     0.00    30.00
 203 -1113 -1201 -1205 -1117 M G      0.00     0.00    30.00    203 -1033 -1121 -1125 -1037 M G
0.00     0.00    30.00
 203 -1109 -1197 -1201 -1113 M G      0.00     0.00    30.00    203  -997 -1085 -1089 -1001 M G
0.00     0.00    30.00
 203 -1025 -1113 -1117 -1029 M G      0.00     0.00    30.00    203 -1089 -1177 -1181 -1093 M G
0.00     0.00    30.00
 203 -1009 -1097 -1101 -1013 M G      0.00     0.00    30.00    203 -1085 -1173 -1177 -1089 M G
0.00     0.00    30.00
 203 -1105 -1193 -1197 -1109 M G      0.00     0.00    30.00    203 -1101 -1189 -1193 -1105 M G
0.00     0.00    30.00
 204 -1209 -1297 -1301 -1213 M G      0.00     0.00    30.00    204 -1293 -1381 -1385 -1297 M G
0.00     0.00    30.00
 204 -1265 -1353 -1357 -1269 M G      0.00     0.00    30.00    204 -1205 -1293 -1297 -1209 M G
0.00     0.00    30.00
 204 -1197 -1285 -1289 -1201 M G      0.00     0.00    30.00    204 -1273 -1361 -1365 -1277 M G
0.00     0.00    30.00
 204 -1189 -1277 -1281 -1193 M G      0.00     0.00    30.00    204 -1181 -1269 -1273 -1185 M G
0.00     0.00    30.00
 204 -1261 -1349 -1353 -1265 M G      0.00     0.00    30.00    204 -1269 -1357 -1361 -1273 M G
0.00     0.00    30.00
 204 -1177 -1265 -1269 -1181 M G      0.00     0.00    30.00    204 -1173 -1261 -1265 -1177 M G
0.00     0.00    30.00
 204 -1281 -1369 -1373 -1285 M G      0.00     0.00    30.00    204 -1297 -1385 -1389 -1301 M G
0.00     0.00    30.00
 204 -1277 -1365 -1369 -1281 M G      0.00     0.00    30.00    204 -1193 -1281 -1285 -1197 M G
0.00     0.00    30.00
 204 -1185 -1273 -1277 -1189 M G      0.00     0.00    30.00    204 -1289 -1377 -1381 -1293 M G
0.00     0.00    30.00
 204 -1201 -1289 -1293 -1205 M G      0.00     0.00    30.00    204 -1285 -1373 -1377 -1289 M G
0.00     0.00    30.00
 205 -1262 -1174 -1178 -1266 M G      0.00     0.00    30.00    205 -1290 -1202 -1206 -1294 M G
0.00     0.00    30.00
 205 -1270 -1182 -1186 -1274 M G      0.00     0.00    30.00    205 -1353 -1266 -1270 -1357 M G
0.00     0.00    30.00
 205 -1278 -1190 -1194 -1282 M G      0.00     0.00    30.00    205 -1373 -1286 -1290 -1377 M G
0.00     0.00    30.00
 205 -1361 -1274 -1278 -1365 M G      0.00     0.00    30.00    205 -1381 -1294 -1298 -1385 M G
0.00     0.00    30.00
 205 -1365 -1278 -1282 -1369 M G      0.00     0.00    30.00    205 -1385 -1298 -1302 -1389 M G
0.00     0.00    30.00
 205 -1282 -1194 -1198 -1286 M G      0.00     0.00    30.00    205 -1298 -1210 -1214 -1302 M G
0.00     0.00    30.00
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 205 -1349 -1262 -1266 -1353 M G      0.00     0.00    30.00    205 -1286 -1198 -1202 -1290 M G
0.00     0.00    30.00
 205 -1357 -1270 -1274 -1361 M G      0.00     0.00    30.00    205 -1294 -1206 -1210 -1298 M G
0.00     0.00    30.00
 205 -1266 -1178 -1182 -1270 M G      0.00     0.00    30.00    205 -1377 -1290 -1294 -1381 M G
0.00     0.00    30.00
 205 -1369 -1282 -1286 -1373 M G      0.00     0.00    30.00    205 -1274 -1186 -1190 -1278 M G
0.00     0.00    30.00
 206 -1198 -1110 -1114 -1202 M G      0.00     0.00    30.00    206 -1182 -1094 -1098 -1186 M G
0.00     0.00    30.00
 206 -1114 -1026 -1030 -1118 M G      0.00     0.00    30.00    206 -1194 -1106 -1110 -1198 M G
0.00     0.00    30.00
 206 -1210 -1122 -1126 -1214 M G      0.00     0.00    30.00    206 -1110 -1022 -1026 -1114 M G
0.00     0.00    30.00
 206 -1122 -1034 -1038 -1126 M G      0.00     0.00    30.00    206 -1102 -1014 -1018 -1106 M G
0.00     0.00    30.00
 206 -1178 -1090 -1094 -1182 M G      0.00     0.00    30.00    206 -1190 -1102 -1106 -1194 M G
0.00     0.00    30.00
 206 -1094 -1006 -1010 -1098 M G      0.00     0.00    30.00    206 -1098 -1010 -1014 -1102 M G
0.00     0.00    30.00
 206 -1086  -998 -1002 -1090 M G      0.00     0.00    30.00    206 -1174 -1086 -1090 -1178 M G
0.00     0.00    30.00
 206 -1202 -1114 -1118 -1206 M G      0.00     0.00    30.00    206 -1186 -1098 -1102 -1190 M G
0.00     0.00    30.00
 206 -1118 -1030 -1034 -1122 M G      0.00     0.00    30.00    206 -1106 -1018 -1022 -1110 M G
0.00     0.00    30.00
 206 -1090 -1002 -1006 -1094 M G      0.00     0.00    30.00    206 -1206 -1118 -1122 -1210 M G
0.00     0.00    30.00
 207  -930  -842  -846  -934 M G      0.00     0.00    30.00    207  -926  -838  -842  -930 M G
0.00     0.00    30.00
 207  -910  -822  -826  -914 M G      0.00     0.00    30.00    207  -946  -858  -862  -950 M G
0.00     0.00    30.00
 207 -1010  -922  -926 -1014 M G      0.00     0.00    30.00    207  -914  -826  -830  -918 M G
0.00     0.00    30.00
 207  -998  -910  -914 -1002 M G      0.00     0.00    30.00    207 -1034  -946  -950 -1038 M G
0.00     0.00    30.00
 207  -942  -854  -858  -946 M G      0.00     0.00    30.00    207  -934  -846  -850  -938 M G
0.00     0.00    30.00
 207 -1006  -918  -922 -1010 M G      0.00     0.00    30.00    207 -1030  -942  -946 -1034 M G
0.00     0.00    30.00
 207 -1018  -930  -934 -1022 M G      0.00     0.00    30.00    207 -1026  -938  -942 -1030 M G
0.00     0.00    30.00
 207  -918  -830  -834  -922 M G      0.00     0.00    30.00    207 -1014  -926  -930 -1018 M G
0.00     0.00    30.00
 207 -1002  -914  -918 -1006 M G      0.00     0.00    30.00    207  -922  -834  -838  -926 M G
0.00     0.00    30.00
 207 -1022  -934  -938 -1026 M G      0.00     0.00    30.00    207  -938  -850  -854  -942 M G
0.00     0.00    30.00
 208  -842  -754  -758  -846 M G      0.00     0.00    30.00    208  -826  -738  -742  -830 M G
0.00     0.00    30.00
 208  -742  -654  -658  -746 M G      0.00     0.00    30.00    208  -830  -742  -746  -834 M G
0.00     0.00    30.00
 208  -822  -734  -738  -826 M G      0.00     0.00    30.00    208  -834  -746  -750  -838 M G
0.00     0.00    30.00
 208  -746  -658  -662  -750 M G      0.00     0.00    30.00    208  -846  -758  -762  -850 M G
0.00     0.00    30.00
 208  -838  -750  -754  -842 M G      0.00     0.00    30.00    208  -766  -678  -682  -770 M G
0.00     0.00    30.00
 208  -854  -766  -770  -858 M G      0.00     0.00    30.00    208  -858  -770  -774  -862 M G
0.00     0.00    30.00
 208  -758  -670  -674  -762 M G      0.00     0.00    30.00    208  -762  -674  -678  -766 M G
0.00     0.00    30.00
 208  -850  -762  -766  -854 M G      0.00     0.00    30.00    208  -754  -666  -670  -758 M G
0.00     0.00    30.00
 208  -770  -682  -686  -774 M G      0.00     0.00    30.00    208  -750  -662  -666  -754 M G
0.00     0.00    30.00
 208  -738  -650  -654  -742 M G      0.00     0.00    30.00    208  -734  -646  -650  -738 M G
0.00     0.00    30.00
 209  -582  -494  -498  -586 M G      0.00     0.00    30.00    209  -578  -490  -494  -582 M G
0.00     0.00    30.00
 209  -586  -498  -502  -590 M G      0.00     0.00    30.00    209  -574  -486  -490  -578 M G
0.00     0.00    30.00
 209  -646  -558  -562  -650 M G      0.00     0.00    30.00    209  -674  -586  -590  -678 M G
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0.00     0.00    30.00
 209  -590  -502  -506  -594 M G      0.00     0.00    30.00    209  -562  -474  -478  -566 M G
0.00     0.00    30.00
 209  -682  -594  -598  -686 M G      0.00     0.00    30.00    209  -566  -478  -482  -570 M G
0.00     0.00    30.00
 209  -666  -578  -582  -670 M G      0.00     0.00    30.00    209  -558  -470  -474  -562 M G
0.00     0.00    30.00
 209  -654  -566  -570  -658 M G      0.00     0.00    30.00    209  -594  -506  -510  -598 M G
0.00     0.00    30.00
 209  -670  -582  -586  -674 M G      0.00     0.00    30.00    209  -570  -482  -486  -574 M G
0.00     0.00    30.00
 209  -658  -570  -574  -662 M G      0.00     0.00    30.00    209  -662  -574  -578  -666 M G
0.00     0.00    30.00
 209  -650  -562  -566  -654 M G      0.00     0.00    30.00    209  -678  -590  -594  -682 M G
0.00     0.00    30.00
 210  -398  -310  -314  -402 M G      0.00     0.00    30.00    210  -506  -418  -422  -510 M G
0.00     0.00    30.00
 210  -470  -382  -386  -474 M G      0.00     0.00    30.00    210  -490  -402  -406  -494 M G
0.00     0.00    30.00
 210  -382  -294  -298  -386 M G      0.00     0.00    30.00    210  -402  -314  -318  -406 M G
0.00     0.00    30.00
 210  -418  -330  -334  -422 M G      0.00     0.00    30.00    210  -502  -414  -418  -506 M G
0.00     0.00    30.00
 210  -474  -386  -390  -478 M G      0.00     0.00    30.00    210  -410  -322  -326  -414 M G
0.00     0.00    30.00
 210  -414  -326  -330  -418 M G      0.00     0.00    30.00    210  -482  -394  -398  -486 M G
0.00     0.00    30.00
 210  -390  -302  -306  -394 M G      0.00     0.00    30.00    210  -394  -306  -310  -398 M G
0.00     0.00    30.00
 210  -406  -318  -322  -410 M G      0.00     0.00    30.00    210  -386  -298  -302  -390 M G
0.00     0.00    30.00
 210  -494  -406  -410  -498 M G      0.00     0.00    30.00    210  -498  -410  -414  -502 M G
0.00     0.00    30.00
 210  -486  -398  -402  -490 M G      0.00     0.00    30.00    210  -478  -390  -394  -482 M G
0.00     0.00    30.00
 211  -322  -234  -238  -326 M G      0.00     0.00    30.00    211  -318  -230  -234  -322 M G
0.00     0.00    30.00
 211  -314  -226  -230  -318 M G      0.00     0.00    30.00    211  -298  -210  -214  -302 M G
0.00     0.00    30.00
 211  -222  -134  -138  -226 M G      0.00     0.00    30.00    211  -214  -126  -130  -218 M G
0.00     0.00    30.00
 211  -306  -218  -222  -310 M G      0.00     0.00    30.00    211  -330  -242  -246  -334 M G
0.00     0.00    30.00
 211  -218  -130  -134  -222 M G      0.00     0.00    30.00    211  -242  -154  -158  -246 M G
0.00     0.00    30.00
 211  -230  -142  -146  -234 M G      0.00     0.00    30.00    211  -234  -146  -150  -238 M G
0.00     0.00    30.00
 211  -206  -118  -122  -210 M G      0.00     0.00    30.00    211  -226  -138  -142  -230 M G
0.00     0.00    30.00
 211  -302  -214  -218  -306 M G      0.00     0.00    30.00    211  -310  -222  -226  -314 M G
0.00     0.00    30.00
 211  -210  -122  -126  -214 M G      0.00     0.00    30.00    211  -238  -150  -154  -242 M G
0.00     0.00    30.00
 211  -294  -206  -210  -298 M G      0.00     0.00    30.00    211  -326  -238  -242  -330 M G
0.00     0.00    30.00
 212  -146   -58   -62  -150 M G      0.00     0.00    30.00    212  -126   -38   -42  -130 M G
0.00     0.00    30.00
 212  -134   -46   -50  -138 M G      0.00     0.00    30.00    212  -130   -42   -46  -134 M G
0.00     0.00    30.00
 212   -54   120   -20   -58 M G      0.00     0.00    30.00    212   -70  -158  -154   -66 M G
0.00     0.00    30.00
 212  -138   -50   -54  -142 M G      0.00     0.00    30.00    212   -25   -66   -62   124 M G
0.00     0.00    30.00
 212   -50   -15   120   -54 M G      0.00     0.00    30.00    212   -66  -154  -150   -62 M G
0.00     0.00    30.00
 212   -46   115   -15   -50 M G      0.00     0.00    30.00    212  -122   -34   -38  -126 M G
0.00     0.00    30.00
 212   129   -70   -66   -25 M G      0.00     0.00    30.00    212   -34    -5   110   -38 M G
0.00     0.00    30.00
 212   -58   -20   124   -62 M G      0.00     0.00    30.00    212   -30   104    -5   -34 M G
0.00     0.00    30.00
 212  -118   -30   -34  -122 M G      0.00     0.00    30.00    212   -42   -10   115   -46 M G
0.00     0.00    30.00
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 212   -38   110   -10   -42 M G      0.00      0.00    30.00    212  -142   -54   -58  -146 M G
0.00      0.00    30.00
 213  -109   -25   124  -105 M G      0.00      0.00    30.00    213   120   -97  -101   -20 M G
0.00      0.00    30.00
 213  -113   129   -25  -109 M G      0.00      0.00    30.00    213   104   -73   -77    -5 M G
0.00      0.00    30.00
 213  -101  -189  -193  -105 M G      0.00      0.00    30.00    213  -197  -109  -105  -193 M G
0.00      0.00    30.00
 213   -77  -165  -169   -81 M G      0.00      0.00    30.00    213   -10   -85   -89   115 M G
0.00      0.00    30.00
 213   115   -89   -93   -15 M G      0.00      0.00    30.00    213   -85  -173  -177   -89 M G
0.00      0.00    30.00
 213    -5   -77   -81   110 M G      0.00      0.00    30.00    213   -73  -161  -165   -77 M G
0.00      0.00    30.00
 213   -15   -93   -97   120 M G      0.00      0.00    30.00    213   -81  -169  -173   -85 M G
0.00      0.00    30.00
 213   -97  -185  -189  -101 M G      0.00      0.00    30.00    213   110   -81   -85   -10 M G
0.00      0.00    30.00
 213   -20  -101  -105   124 M G      0.00      0.00    30.00    213  -201  -113  -109  -197 M G
0.00      0.00    30.00
 213   -93  -181  -185   -97 M G      0.00      0.00    30.00    213   -89  -177  -181   -93 M G
0.00      0.00    30.00
 214  -185  -273  -277  -189 M G      0.00      0.00    30.00    214  -285  -373  -377  -289 M G
0.00      0.00    30.00
 214  -253  -341  -345  -257 M G      0.00      0.00    30.00    214  -257  -345  -349  -261 M G
0.00      0.00    30.00
 214  -269  -357  -361  -273 M G      0.00      0.00    30.00    214  -193  -281  -285  -197 M G
0.00      0.00    30.00
 214  -265  -353  -357  -269 M G      0.00      0.00    30.00    214  -261  -349  -353  -265 M G
0.00      0.00    30.00
 214  -197  -285  -289  -201 M G      0.00      0.00    30.00    214  -189  -277  -281  -193 M G
0.00      0.00    30.00
 214  -277  -365  -369  -281 M G      0.00      0.00    30.00    214  -165  -253  -257  -169 M G
0.00      0.00    30.00
 214  -161  -249  -253  -165 M G      0.00      0.00    30.00    214  -181  -269  -273  -185 M G
0.00      0.00    30.00
 214  -281  -369  -373  -285 M G      0.00      0.00    30.00    214  -177  -265  -269  -181 M G
0.00      0.00    30.00
 214  -169  -257  -261  -173 M G      0.00      0.00    30.00    214  -249  -337  -341  -253 M G
0.00      0.00    30.00
 214  -173  -261  -265  -177 M G      0.00      0.00    30.00    214  -273  -361  -365  -277 M G
0.00      0.00    30.00
 215  -449  -537  -541  -453 M G      0.00      0.00    30.00    215  -365  -453  -457  -369 M G
0.00      0.00    30.00
 215  -369  -457  -461  -373 M G      0.00      0.00    30.00    215  -461  -549  -553  -465 M G
0.00      0.00    30.00
 215  -441  -529  -533  -445 M G      0.00      0.00    30.00    215  -445  -533  -537  -449 M G
0.00      0.00    30.00
 215  -373  -461  -465  -377 M G      0.00      0.00    30.00    215  -457  -545  -549  -461 M G
0.00      0.00    30.00
 215  -337  -425  -429  -341 M G      0.00      0.00    30.00    215  -433  -521  -525  -437 M G
0.00      0.00    30.00
 215  -437  -525  -529  -441 M G      0.00      0.00    30.00    215  -341  -429  -433  -345 M G
0.00      0.00    30.00
 215  -425  -513  -517  -429 M G      0.00      0.00    30.00    215  -349  -437  -441  -353 M G
0.00      0.00    30.00
 215  -345  -433  -437  -349 M G      0.00      0.00    30.00    215  -361  -449  -453  -365 M G
0.00      0.00    30.00
 215  -353  -441  -445  -357 M G      0.00      0.00    30.00    215  -453  -541  -545  -457 M G
0.00      0.00    30.00
 215  -357  -445  -449  -361 M G      0.00      0.00    30.00    215  -429  -517  -521  -433 M G
0.00      0.00    30.00
 216  -533  -621  -625  -537 M G      0.00      0.00    30.00    216  -513  -601  -605  -517 M G
0.00      0.00    30.00
 216  -625  -713  -717  -629 M G      0.00      0.00    30.00    216  -525  -613  -617  -529 M G
0.00      0.00    30.00
 216  -545  -633  -637  -549 M G      0.00      0.00    30.00    216  -521  -609  -613  -525 M G
0.00      0.00    30.00
 216  -537  -625  -629  -541 M G      0.00      0.00    30.00    216  -617  -705  -709  -621 M G
0.00      0.00    30.00
 216  -637  -725  -729  -641 M G      0.00      0.00    30.00    216  -549  -637  -641  -553 M G
0.00      0.00    30.00
 216  -633  -721  -725  -637 M G      0.00      0.00    30.00    216  -605  -693  -697  -609 M G
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0.00     0.00    30.00
 216  -609  -697  -701  -613 M G      0.00     0.00    30.00    216  -621  -709  -713  -625 M G
0.00     0.00    30.00
 216  -629  -717  -721  -633 M G      0.00     0.00    30.00    216  -601  -689  -693  -605 M G
0.00     0.00    30.00
 216  -541  -629  -633  -545 M G      0.00     0.00    30.00    216  -529  -617  -621  -533 M G
0.00     0.00    30.00
 216  -517  -605  -609  -521 M G      0.00     0.00    30.00    216  -613  -701  -705  -617 M G
0.00     0.00    30.00
 217  -697  -785  -789  -701 M G      0.00     0.00    30.00    217  -805  -893  -897  -809 M G
0.00     0.00    30.00
 217  -717  -805  -809  -721 M G      0.00     0.00    30.00    217  -789  -877  -881  -793 M G
0.00     0.00    30.00
 217  -725  -813  -817  -729 M G      0.00     0.00    30.00    217  -793  -881  -885  -797 M G
0.00     0.00    30.00
 217  -797  -885  -889  -801 M G      0.00     0.00    30.00    217  -693  -781  -785  -697 M G
0.00     0.00    30.00
 217  -721  -809  -813  -725 M G      0.00     0.00    30.00    217  -709  -797  -801  -713 M G
0.00     0.00    30.00
 217  -705  -793  -797  -709 M G      0.00     0.00    30.00    217  -713  -801  -805  -717 M G
0.00     0.00    30.00
 217  -701  -789  -793  -705 M G      0.00     0.00    30.00    217  -785  -873  -877  -789 M G
0.00     0.00    30.00
 217  -809  -897  -901  -813 M G      0.00     0.00    30.00    217  -801  -889  -893  -805 M G
0.00     0.00    30.00
 217  -689  -777  -781  -693 M G      0.00     0.00    30.00    217  -777  -865  -869  -781 M G
0.00     0.00    30.00
 217  -813  -901  -905  -817 M G      0.00     0.00    30.00    217  -781  -869  -873  -785 M G
0.00     0.00    30.00
 218  -873  -961  -965  -877 M G      0.00     0.00    30.00    218  -881  -969  -973  -885 M G
0.00     0.00    30.00
 218  -893  -981  -985  -897 M G      0.00     0.00    30.00    218  -885  -973  -977  -889 M G
0.00     0.00    30.00
 218  -877  -965  -969  -881 M G      0.00     0.00    30.00    218  -865  -953  -957  -869 M G
0.00     0.00    30.00
 218  -985 -1073 -1077  -989 M G      0.00     0.00    30.00    218  -901  -989  -993  -905 M G
0.00     0.00    30.00
 218  -977 -1065 -1069  -981 M G      0.00     0.00    30.00    218  -989 -1077 -1081  -993 M G
0.00     0.00    30.00
 218  -869  -957  -961  -873 M G      0.00     0.00    30.00    218  -953 -1041 -1045  -957 M G
0.00     0.00    30.00
 218  -889  -977  -981  -893 M G      0.00     0.00    30.00    218  -981 -1069 -1073  -985 M G
0.00     0.00    30.00
 218  -897  -985  -989  -901 M G      0.00     0.00    30.00    218  -957 -1045 -1049  -961 M G
0.00     0.00    30.00
 218  -961 -1049 -1053  -965 M G      0.00     0.00    30.00    218  -965 -1053 -1057  -969 M G
0.00     0.00    30.00
 218  -973 -1061 -1065  -977 M G      0.00     0.00    30.00    218  -969 -1057 -1061  -973 M G
0.00     0.00    30.00
 219 -1065 -1153 -1157 -1069 M G      0.00     0.00    30.00    219 -1165 -1253 -1257 -1169 M G
0.00     0.00    30.00
 219 -1053 -1141 -1145 -1057 M G      0.00     0.00    30.00    219 -1137 -1225 -1229 -1141 M G
0.00     0.00    30.00
 219 -1141 -1229 -1233 -1145 M G      0.00     0.00    30.00    219 -1073 -1161 -1165 -1077 M G
0.00     0.00    30.00
 219 -1157 -1245 -1249 -1161 M G      0.00     0.00    30.00    219 -1069 -1157 -1161 -1073 M G
0.00     0.00    30.00
 219 -1049 -1137 -1141 -1053 M G      0.00     0.00    30.00    219 -1161 -1249 -1253 -1165 M G
0.00     0.00    30.00
 219 -1133 -1221 -1225 -1137 M G      0.00     0.00    30.00    219 -1145 -1233 -1237 -1149 M G
0.00     0.00    30.00
 219 -1041 -1129 -1133 -1045 M G      0.00     0.00    30.00    219 -1077 -1165 -1169 -1081 M G
0.00     0.00    30.00
 219 -1129 -1217 -1221 -1133 M G      0.00     0.00    30.00    219 -1061 -1149 -1153 -1065 M G
0.00     0.00    30.00
 219 -1045 -1133 -1137 -1049 M G      0.00     0.00    30.00    219 -1153 -1241 -1245 -1157 M G
0.00     0.00    30.00
 219 -1057 -1145 -1149 -1061 M G      0.00     0.00    30.00    219 -1149 -1237 -1241 -1153 M G
0.00     0.00    30.00
 220 -1329 -1374 -1378 -1333 M G      0.00     0.00    30.00    220 -1313 -1358 -1362 -1317 M G
0.00     0.00    30.00
 220 -1317 -1362 -1366 -1321 M G      0.00     0.00    30.00    220 -1253 -1341 -1345 -1257 M G
0.00     0.00    30.00
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 220 -1333 -1378 -1382 -1337 M G      0.00     0.00    30.00    220 -1229 -1317 -1321 -1233 M G
0.00     0.00    30.00
 220 -1249 -1337 -1341 -1253 M G      0.00     0.00    30.00    220 -1245 -1333 -1337 -1249 M G
0.00     0.00    30.00
 220 -1217 -1305 -1309 -1221 M G      0.00     0.00    30.00    220 -1321 -1366 -1370 -1325 M G
0.00     0.00    30.00
 220 -1325 -1370 -1374 -1329 M G      0.00     0.00    30.00    220 -1221 -1309 -1313 -1225 M G
0.00     0.00    30.00
 220 -1337 -1382 -1386 -1341 M G      0.00     0.00    30.00    220 -1341 -1386 -1390 -1345 M G
0.00     0.00    30.00
 220 -1225 -1313 -1317 -1229 M G      0.00     0.00    30.00    220 -1241 -1329 -1333 -1245 M G
0.00     0.00    30.00
 220 -1237 -1325 -1329 -1241 M G      0.00     0.00    30.00    220 -1305 -1350 -1354 -1309 M G
0.00     0.00    30.00
 220 -1309 -1354 -1358 -1313 M G      0.00     0.00    30.00    220 -1233 -1321 -1325 -1237 M G
0.00     0.00    30.00
 221 -1362 -1318 -1322 -1366 M G      0.00     0.00    30.00    221 -1386 -1342 -1346 -1390 M G
0.00     0.00    30.00
 221 -1338 -1250 -1254 -1342 M G      0.00     0.00    30.00    221 -1342 -1254 -1258 -1346 M G
0.00     0.00    30.00
 221 -1314 -1226 -1230 -1318 M G      0.00     0.00    30.00    221 -1306 -1218 -1222 -1310 M G
0.00     0.00    30.00
 221 -1366 -1322 -1326 -1370 M G      0.00     0.00    30.00    221 -1322 -1234 -1238 -1326 M G
0.00     0.00    30.00
 221 -1310 -1222 -1226 -1314 M G      0.00     0.00    30.00    221 -1374 -1330 -1334 -1378 M G
0.00     0.00    30.00
 221 -1358 -1314 -1318 -1362 M G      0.00     0.00    30.00    221 -1370 -1326 -1330 -1374 M G
0.00     0.00    30.00
 221 -1382 -1338 -1342 -1386 M G      0.00     0.00    30.00    221 -1318 -1230 -1234 -1322 M G
0.00     0.00    30.00
 221 -1354 -1310 -1314 -1358 M G      0.00     0.00    30.00    221 -1330 -1242 -1246 -1334 M G
0.00     0.00    30.00
 221 -1326 -1238 -1242 -1330 M G      0.00     0.00    30.00    221 -1334 -1246 -1250 -1338 M G
0.00     0.00    30.00
 221 -1350 -1306 -1310 -1354 M G      0.00     0.00    30.00    221 -1378 -1334 -1338 -1382 M G
0.00     0.00    30.00
 222 -1142 -1054 -1058 -1146 M G      0.00     0.00    30.00    222 -1138 -1050 -1054 -1142 M G
0.00     0.00    30.00
 222 -1254 -1166 -1170 -1258 M G      0.00     0.00    30.00    222 -1226 -1138 -1142 -1230 M G
0.00     0.00    30.00
 222 -1230 -1142 -1146 -1234 M G      0.00     0.00    30.00    222 -1234 -1146 -1150 -1238 M G
0.00     0.00    30.00
 222 -1246 -1158 -1162 -1250 M G      0.00     0.00    30.00    222 -1222 -1134 -1138 -1226 M G
0.00     0.00    30.00
 222 -1162 -1074 -1078 -1166 M G      0.00     0.00    30.00    222 -1166 -1078 -1082 -1170 M G
0.00     0.00    30.00
 222 -1158 -1070 -1074 -1162 M G      0.00     0.00    30.00    222 -1150 -1062 -1066 -1154 M G
0.00     0.00    30.00
 222 -1154 -1066 -1070 -1158 M G      0.00     0.00    30.00    222 -1250 -1162 -1166 -1254 M G
0.00     0.00    30.00
 222 -1130 -1042 -1046 -1134 M G      0.00     0.00    30.00    222 -1218 -1130 -1134 -1222 M G
0.00     0.00    30.00
 222 -1146 -1058 -1062 -1150 M G      0.00     0.00    30.00    222 -1134 -1046 -1050 -1138 M G
0.00     0.00    30.00
 222 -1238 -1150 -1154 -1242 M G      0.00     0.00    30.00    222 -1242 -1154 -1158 -1246 M G
0.00     0.00    30.00
 223  -782  -694  -698  -786 M G      0.00     0.00    30.00    223  -890  -802  -806  -894 M G
0.00     0.00    30.00
 223  -882  -794  -798  -886 M G      0.00     0.00    30.00    223  -778  -690  -694  -782 M G
0.00     0.00    30.00
 223  -802  -714  -718  -806 M G      0.00     0.00    30.00    223  -870  -782  -786  -874 M G
0.00     0.00    30.00
 223  -874  -786  -790  -878 M G      0.00     0.00    30.00    223  -790  -702  -706  -794 M G
0.00     0.00    30.00
 223  -806  -718  -722  -810 M G      0.00     0.00    30.00    223  -898  -810  -814  -902 M G
0.00     0.00    30.00
 223  -810  -722  -726  -814 M G      0.00     0.00    30.00    223  -894  -806  -810  -898 M G
0.00     0.00    30.00
 223  -794  -706  -710  -798 M G      0.00     0.00    30.00    223  -878  -790  -794  -882 M G
0.00     0.00    30.00
 223  -886  -798  -802  -890 M G      0.00     0.00    30.00    223  -786  -698  -702  -790 M G
0.00     0.00    30.00
 223  -798  -710  -714  -802 M G      0.00     0.00    30.00    223  -902  -814  -818  -906 M G
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0.00     0.00    30.00
 223  -814  -726  -730  -818 M G      0.00     0.00    30.00    223  -866  -778  -782  -870 M G
0.00     0.00    30.00
 224 -1066  -978  -982 -1070 M G      0.00     0.00    30.00    224 -1058  -970  -974 -1062 M G
0.00     0.00    30.00
 224 -1074  -986  -990 -1078 M G      0.00     0.00    30.00    224 -1078  -990  -994 -1082 M G
0.00     0.00    30.00
 224 -1050  -962  -966 -1054 M G      0.00     0.00    30.00    224  -974  -886  -890  -978 M G
0.00     0.00    30.00
 224  -958  -870  -874  -962 M G      0.00     0.00    30.00    224  -986  -898  -902  -990 M G
0.00     0.00    30.00
 224  -962  -874  -878  -966 M G      0.00     0.00    30.00    224  -970  -882  -886  -974 M G
0.00     0.00    30.00
 224  -978  -890  -894  -982 M G      0.00     0.00    30.00    224 -1070  -982  -986 -1074 M G
0.00     0.00    30.00
 224 -1042  -954  -958 -1046 M G      0.00     0.00    30.00    224  -990  -902  -906  -994 M G
0.00     0.00    30.00
 224  -966  -878  -882  -970 M G      0.00     0.00    30.00    224 -1054  -966  -970 -1058 M G
0.00     0.00    30.00
 224 -1062  -974  -978 -1066 M G      0.00     0.00    30.00    224 -1046  -958  -962 -1050 M G
0.00     0.00    30.00
 224  -982  -894  -898  -986 M G      0.00     0.00    30.00    224  -954  -866  -870  -958 M G
0.00     0.00    30.00
 225  -618  -622  -710  -706 M G      0.00     0.00    30.00    225  -630  -634  -722  -718 M G
0.00     0.00    30.00
 225  -626  -630  -718  -714 M G      0.00     0.00    30.00    225  -638  -642  -730  -726 M G
0.00     0.00    30.00
 225  -522  -526  -614  -610 M G      0.00     0.00    30.00    225  -550  -554  -642  -638 M G
0.00     0.00    30.00
 225  -546  -550  -638  -634 M G      0.00     0.00    30.00    225  -694  -606  -610  -698 M G
0.00     0.00    30.00
 225  -530  -534  -622  -618 M G      0.00     0.00    30.00    225  -526  -530  -618  -614 M G
0.00     0.00    30.00
 225  -614  -618  -706  -702 M G      0.00     0.00    30.00    225  -606  -518  -522  -610 M G
0.00     0.00    30.00
 225  -534  -538  -626  -622 M G      0.00     0.00    30.00    225  -542  -546  -634  -630 M G
0.00     0.00    30.00
 225  -634  -638  -726  -722 M G      0.00     0.00    30.00    225  -538  -542  -630  -626 M G
0.00     0.00    30.00
 225  -610  -614  -702  -698 M G      0.00     0.00    30.00    225  -602  -514  -518  -606 M G
0.00     0.00    30.00
 225  -622  -626  -714  -710 M G      0.00     0.00    30.00    225  -690  -602  -606  -694 M G
0.00     0.00    30.00
 226  -178   -90   -94  -182 M G      0.00     0.00    30.00    226  -162   -74   -78  -166 M G
0.00     0.00    30.00
 226  -102   -21   125  -106 M G      0.00     0.00    30.00    226   -90   112   -16   -94 M G
0.00     0.00    30.00
 226   -94   -16   117   -98 M G      0.00     0.00    30.00    226   125   -26  -110  -106 M G
0.00     0.00    30.00
 226   -74   105    -6   -78 M G      0.00     0.00    30.00    226  -174   -86   -90  -178 M G
0.00     0.00    30.00
 226  -182   -94   -98  -186 M G      0.00     0.00    30.00    226   -86   -11   112   -90 M G
0.00     0.00    30.00
 226  -106  -110  -198  -194 M G      0.00     0.00    30.00    226   -26   130  -114  -110 M G
0.00     0.00    30.00
 226   -98   117   -21  -102 M G      0.00     0.00    30.00    226   -78    -6   107   -82 M G
0.00     0.00    30.00
 226  -166   -78   -82  -170 M G      0.00     0.00    30.00    226  -110  -114  -202  -198 M G
0.00     0.00    30.00
 226  -186   -98  -102  -190 M G      0.00     0.00    30.00    226  -190  -102  -106  -194 M G
0.00     0.00    30.00
 226   -82   107   -11   -86 M G      0.00     0.00    30.00    226  -170   -82   -86  -174 M G
0.00     0.00    30.00
 227  -366  -278  -282  -370 M G      0.00     0.00    30.00    227  -282  -194  -198  -286 M G
0.00     0.00    30.00
 227  -286  -198  -202  -290 M G      0.00     0.00    30.00    227  -370  -282  -286  -374 M G
0.00     0.00    30.00
 227  -354  -266  -270  -358 M G      0.00     0.00    30.00    227  -262  -174  -178  -266 M G
0.00     0.00    30.00
 227  -350  -262  -266  -354 M G      0.00     0.00    30.00    227  -374  -286  -290  -378 M G
0.00     0.00    30.00
 227  -346  -258  -262  -350 M G      0.00     0.00    30.00    227  -270  -182  -186  -274 M G
0.00     0.00    30.00
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227	-338	-250	-254	-342	M	G	0.00	0.00	30.00	227	-342	-254	-258	-346	M	G	0.00	0.00	30.00
227	-274	-186	-190	-278	M	G	0.00	0.00	30.00	227	-278	-190	-194	-282	M	G	0.00	0.00	30.00
227	-362	-274	-278	-366	M	G	0.00	0.00	30.00	227	-258	-170	-174	-262	M	G	0.00	0.00	30.00
227	-358	-270	-274	-362	M	G	0.00	0.00	30.00	227	-250	-162	-166	-254	M	G	0.00	0.00	30.00
227	-254	-166	-170	-258	M	G	0.00	0.00	30.00	227	-266	-178	-182	-270	M	G	0.00	0.00	30.00
228	-354	-358	-446	-442	M	G	0.00	0.00	30.00	228	-462	-466	-554	-550	M	G	0.00	0.00	30.00
228	-430	-342	-346	-434	M	G	0.00	0.00	30.00	228	-514	-426	-430	-518	M	G	0.00	0.00	30.00
228	-426	-338	-342	-430	M	G	0.00	0.00	30.00	228	-366	-370	-458	-454	M	G	0.00	0.00	30.00
228	-450	-454	-542	-538	M	G	0.00	0.00	30.00	228	-458	-462	-550	-546	M	G	0.00	0.00	30.00
228	-434	-438	-526	-522	M	G	0.00	0.00	30.00	228	-442	-446	-534	-530	M	G	0.00	0.00	30.00
228	-358	-362	-450	-446	M	G	0.00	0.00	30.00	228	-446	-450	-538	-534	M	G	0.00	0.00	30.00
228	-350	-354	-442	-438	M	G	0.00	0.00	30.00	228	-438	-442	-530	-526	M	G	0.00	0.00	30.00
228	-362	-366	-454	-450	M	G	0.00	0.00	30.00	228	-346	-350	-438	-434	M	G	0.00	0.00	30.00
228	-454	-458	-546	-542	M	G	0.00	0.00	30.00	228	-370	-374	-462	-458	M	G	0.00	0.00	30.00
228	-374	-378	-466	-462	M	G	0.00	0.00	30.00	228	-518	-430	-434	-522	M	G	0.00	0.00	30.00

ELENCO CARICHI ELEMENTI BIDIMENSIONALI

CONDIZIONE DI CARICO 3: NEV

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>
165	101	-71	-75	-2	M	G	0.00	0.00	80.00	165	-87	-175	-179	-91	M	G	0.00	0.00	80.00
165	-91	-179	-183	-95	M	G	0.00	0.00	80.00	165	-195	-107	-103	-191	M	G	0.00	0.00	80.00
165	-111	126	-22	-107	M	G	0.00	0.00	80.00	165	116	-95	-99	-17	M	G	0.00	0.00	80.00
165	-7	-83	-87	111	M	G	0.00	0.00	80.00	165	-17	-99	-103	121	M	G	0.00	0.00	80.00
165	-83	-171	-175	-87	M	G	0.00	0.00	80.00	165	-79	-167	-171	-83	M	G	0.00	0.00	80.00
165	106	-79	-83	-7	M	G	0.00	0.00	80.00	165	-2	-75	-79	106	M	G	0.00	0.00	80.00
165	-71	-159	-163	-75	M	G	0.00	0.00	80.00	165	-107	-22	121	-103	M	G	0.00	0.00	80.00
165	-95	-183	-187	-99	M	G	0.00	0.00	80.00	165	-199	-111	-107	-195	M	G	0.00	0.00	80.00
165	-75	-163	-167	-79	M	G	0.00	0.00	80.00	165	-99	-187	-191	-103	M	G	0.00	0.00	80.00
165	111	-87	-91	-12	M	G	0.00	0.00	80.00	165	-12	-91	-95	116	M	G	0.00	0.00	80.00
166	-271	-359	-363	-275	M	G	0.00	0.00	80.00	166	-195	-283	-287	-199	M	G	0.00	0.00	80.00
166	-247	-335	-339	-251	M	G	0.00	0.00	80.00	166	-159	-247	-251	-163	M	G	0.00	0.00	80.00
166	-183	-271	-275	-187	M	G	0.00	0.00	80.00	166	-163	-251	-255	-167	M	G	0.00	0.00	80.00
166	-171	-259	-263	-175	M	G	0.00	0.00	80.00	166	-279	-367	-371	-283	M	G	0.00	0.00	80.00
166	-251	-339	-343	-255	M	G	0.00	0.00	80.00	166	-263	-351	-355	-267	M	G	0.00	0.00	80.00

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 166  -267  -355  -359  -271 M G      0.00     0.00    80.00    166  -259  -347  -351  -263 M G
0.00     0.00    80.00
 166  -255  -343  -347  -259 M G      0.00     0.00    80.00    166  -187  -275  -279  -191 M G
0.00     0.00    80.00
 166  -175  -263  -267  -179 M G      0.00     0.00    80.00    166  -167  -255  -259  -171 M G
0.00     0.00    80.00
 166  -179  -267  -271  -183 M G      0.00     0.00    80.00    166  -283  -371  -375  -287 M G
0.00     0.00    80.00
 166  -191  -279  -283  -195 M G      0.00     0.00    80.00    166  -275  -363  -367  -279 M G
0.00     0.00    80.00
 167  -427  -515  -519  -431 M G      0.00     0.00    80.00    167  -423  -511  -515  -427 M G
0.00     0.00    80.00
 167  -435  -523  -527  -439 M G      0.00     0.00    80.00    167  -363  -451  -455  -367 M G
0.00     0.00    80.00
 167  -455  -543  -547  -459 M G      0.00     0.00    80.00    167  -459  -547  -551  -463 M G
0.00     0.00    80.00
 167  -335  -423  -427  -339 M G      0.00     0.00    80.00    167  -447  -535  -539  -451 M G
0.00     0.00    80.00
 167  -339  -427  -431  -343 M G      0.00     0.00    80.00    167  -439  -527  -531  -443 M G
0.00     0.00    80.00
 167  -451  -539  -543  -455 M G      0.00     0.00    80.00    167  -343  -431  -435  -347 M G
0.00     0.00    80.00
 167  -351  -439  -443  -355 M G      0.00     0.00    80.00    167  -355  -443  -447  -359 M G
0.00     0.00    80.00
 167  -347  -435  -439  -351 M G      0.00     0.00    80.00    167  -431  -519  -523  -435 M G
0.00     0.00    80.00
 167  -371  -459  -463  -375 M G      0.00     0.00    80.00    167  -367  -455  -459  -371 M G
0.00     0.00    80.00
 167  -443  -531  -535  -447 M G      0.00     0.00    80.00    167  -359  -447  -451  -363 M G
0.00     0.00    80.00
 168  -547  -635  -639  -551 M G      0.00     0.00    80.00    168  -515  -603  -607  -519 M G
0.00     0.00    80.00
 168  -527  -615  -619  -531 M G      0.00     0.00    80.00    168  -619  -707  -711  -623 M G
0.00     0.00    80.00
 168  -543  -631  -635  -547 M G      0.00     0.00    80.00    168  -539  -627  -631  -543 M G
0.00     0.00    80.00
 168  -535  -623  -627  -539 M G      0.00     0.00    80.00    168  -523  -611  -615  -527 M G
0.00     0.00    80.00
 168  -615  -703  -707  -619 M G      0.00     0.00    80.00    168  -623  -711  -715  -627 M G
0.00     0.00    80.00
 168  -635  -723  -727  -639 M G      0.00     0.00    80.00    168  -631  -719  -723  -635 M G
0.00     0.00    80.00
 168  -511  -599  -603  -515 M G      0.00     0.00    80.00    168  -519  -607  -611  -523 M G
0.00     0.00    80.00
 168  -627  -715  -719  -631 M G      0.00     0.00    80.00    168  -531  -619  -623  -535 M G
0.00     0.00    80.00
 168  -607  -695  -699  -611 M G      0.00     0.00    80.00    168  -599  -687  -691  -603 M G
0.00     0.00    80.00
 168  -611  -699  -703  -615 M G      0.00     0.00    80.00    168  -603  -691  -695  -607 M G
0.00     0.00    80.00
 169  -807  -895  -899  -811 M G      0.00     0.00    80.00    169  -775  -863  -867  -779 M G
0.00     0.00    80.00
 169  -787  -875  -879  -791 M G      0.00     0.00    80.00    169  -811  -899  -903  -815 M G
0.00     0.00    80.00
 169  -695  -783  -787  -699 M G      0.00     0.00    80.00    169  -783  -871  -875  -787 M G
0.00     0.00    80.00
 169  -691  -779  -783  -695 M G      0.00     0.00    80.00    169  -723  -811  -815  -727 M G
0.00     0.00    80.00
 169  -707  -795  -799  -711 M G      0.00     0.00    80.00    169  -703  -791  -795  -707 M G
0.00     0.00    80.00
 169  -711  -799  -803  -715 M G      0.00     0.00    80.00    169  -719  -807  -811  -723 M G
0.00     0.00    80.00
 169  -699  -787  -791  -703 M G      0.00     0.00    80.00    169  -791  -879  -883  -795 M G
0.00     0.00    80.00
 169  -803  -891  -895  -807 M G      0.00     0.00    80.00    169  -779  -867  -871  -783 M G
0.00     0.00    80.00
 169  -715  -803  -807  -719 M G      0.00     0.00    80.00    169  -687  -775  -779  -691 M G
0.00     0.00    80.00
 169  -795  -883  -887  -799 M G      0.00     0.00    80.00    169  -799  -887  -891  -803 M G
0.00     0.00    80.00
 170  -967 -1055 -1059  -971 M G      0.00     0.00    80.00    170  -863  -951  -955  -867 M G
0.00     0.00    80.00
 170  -887  -975  -979  -891 M G      0.00     0.00    80.00    170  -891  -979  -983  -895 M G
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0.00     0.00    80.00
 170  -971 -1059 -1063  -975 M G      0.00     0.00    80.00    170  -963 -1051 -1055  -967 M G
0.00     0.00    80.00
 170  -899  -987  -991  -903 M G      0.00     0.00    80.00    170  -871  -959  -963  -875 M G
0.00     0.00    80.00
 170  -987 -1075 -1079  -991 M G      0.00     0.00    80.00    170  -983 -1071 -1075  -987 M G
0.00     0.00    80.00
 170  -895  -983  -987  -899 M G      0.00     0.00    80.00    170  -879  -967  -971  -883 M G
0.00     0.00    80.00
 170  -951 -1039 -1043  -955 M G      0.00     0.00    80.00    170  -955 -1043 -1047  -959 M G
0.00     0.00    80.00
 170  -875  -963  -967  -879 M G      0.00     0.00    80.00    170  -975 -1063 -1067  -979 M G
0.00     0.00    80.00
 170  -979 -1067 -1071  -983 M G      0.00     0.00    80.00    170  -959 -1047 -1051  -963 M G
0.00     0.00    80.00
 170  -867  -955  -959  -871 M G      0.00     0.00    80.00    170  -883  -971  -975  -887 M G
0.00     0.00    80.00
 171 -1043 -1131 -1135 -1047 M G      0.00     0.00    80.00    171 -1051 -1139 -1143 -1055 M G
0.00     0.00    80.00
 171 -1135 -1223 -1227 -1139 M G      0.00     0.00    80.00    171 -1039 -1127 -1131 -1043 M G
0.00     0.00    80.00
 171 -1067 -1155 -1159 -1071 M G      0.00     0.00    80.00    171 -1075 -1163 -1167 -1079 M G
0.00     0.00    80.00
 171 -1151 -1239 -1243 -1155 M G      0.00     0.00    80.00    171 -1127 -1215 -1219 -1131 M G
0.00     0.00    80.00
 171 -1047 -1135 -1139 -1051 M G      0.00     0.00    80.00    171 -1143 -1231 -1235 -1147 M G
0.00     0.00    80.00
 171 -1147 -1235 -1239 -1151 M G      0.00     0.00    80.00    171 -1139 -1227 -1231 -1143 M G
0.00     0.00    80.00
 171 -1159 -1247 -1251 -1163 M G      0.00     0.00    80.00    171 -1063 -1151 -1155 -1067 M G
0.00     0.00    80.00
 171 -1055 -1143 -1147 -1059 M G      0.00     0.00    80.00    171 -1071 -1159 -1163 -1075 M G
0.00     0.00    80.00
 171 -1155 -1243 -1247 -1159 M G      0.00     0.00    80.00    171 -1163 -1251 -1255 -1167 M G
0.00     0.00    80.00
 171 -1059 -1147 -1151 -1063 M G      0.00     0.00    80.00    171 -1131 -1219 -1223 -1135 M G
0.00     0.00    80.00
 172 -1331 -1375 -1379 -1335 M G      0.00     0.00    80.00    172 -1231 -1319 -1323 -1235 M G
0.00     0.00    80.00
 172 -1339 -1383 -1387 -1343 M G      0.00     0.00    80.00    172 -1215 -1303 -1307 -1219 M G
0.00     0.00    80.00
 172 -1303 -1347 -1351 -1307 M G      0.00     0.00    80.00    172 -1315 -1359 -1363 -1319 M G
0.00     0.00    80.00
 172 -1243 -1331 -1335 -1247 M G      0.00     0.00    80.00    172 -1335 -1379 -1383 -1339 M G
0.00     0.00    80.00
 172 -1247 -1335 -1339 -1251 M G      0.00     0.00    80.00    172 -1319 -1363 -1367 -1323 M G
0.00     0.00    80.00
 172 -1235 -1323 -1327 -1239 M G      0.00     0.00    80.00    172 -1223 -1311 -1315 -1227 M G
0.00     0.00    80.00
 172 -1311 -1355 -1359 -1315 M G      0.00     0.00    80.00    172 -1307 -1351 -1355 -1311 M G
0.00     0.00    80.00
 172 -1251 -1339 -1343 -1255 M G      0.00     0.00    80.00    172 -1327 -1371 -1375 -1331 M G
0.00     0.00    80.00
 172 -1227 -1315 -1319 -1231 M G      0.00     0.00    80.00    172 -1219 -1307 -1311 -1223 M G
0.00     0.00    80.00
 172 -1239 -1327 -1331 -1243 M G      0.00     0.00    80.00    172 -1323 -1367 -1371 -1327 M G
0.00     0.00    80.00
 173 -1371 -1328 -1332 -1375 M G      0.00     0.00    80.00    173 -1383 -1340 -1344 -1387 M G
0.00     0.00    80.00
 173 -1324 -1236 -1240 -1328 M G      0.00     0.00    80.00    173 -1363 -1320 -1324 -1367 M G
0.00     0.00    80.00
 173 -1379 -1336 -1340 -1383 M G      0.00     0.00    80.00    173 -1320 -1232 -1236 -1324 M G
0.00     0.00    80.00
 173 -1351 -1308 -1312 -1355 M G      0.00     0.00    80.00    173 -1359 -1316 -1320 -1363 M G
0.00     0.00    80.00
 173 -1355 -1312 -1316 -1359 M G      0.00     0.00    80.00    173 -1308 -1220 -1224 -1312 M G
0.00     0.00    80.00
 173 -1316 -1228 -1232 -1320 M G      0.00     0.00    80.00    173 -1304 -1216 -1220 -1308 M G
0.00     0.00    80.00
 173 -1336 -1248 -1252 -1340 M G      0.00     0.00    80.00    173 -1375 -1332 -1336 -1379 M G
0.00     0.00    80.00
 173 -1367 -1324 -1328 -1371 M G      0.00     0.00    80.00    173 -1328 -1240 -1244 -1332 M G
0.00     0.00    80.00
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 173 -1347 -1304 -1308 -1351 M G      0.00     0.00    80.00    173 -1312 -1224 -1228 -1316 M G
0.00     0.00    80.00
 173 -1332 -1244 -1248 -1336 M G      0.00     0.00    80.00    173 -1340 -1252 -1256 -1344 M G
0.00     0.00    80.00
 174 -1240 -1152 -1156 -1244 M G      0.00     0.00    80.00    174 -1224 -1136 -1140 -1228 M G
0.00     0.00    80.00
 174 -1132 -1044 -1048 -1136 M G      0.00     0.00    80.00    174 -1140 -1052 -1056 -1144 M G
0.00     0.00    80.00
 174 -1128 -1040 -1044 -1132 M G      0.00     0.00    80.00    174 -1160 -1072 -1076 -1164 M G
0.00     0.00    80.00
 174 -1252 -1164 -1168 -1256 M G      0.00     0.00    80.00    174 -1220 -1132 -1136 -1224 M G
0.00     0.00    80.00
 174 -1164 -1076 -1080 -1168 M G      0.00     0.00    80.00    174 -1236 -1148 -1152 -1240 M G
0.00     0.00    80.00
 174 -1248 -1160 -1164 -1252 M G      0.00     0.00    80.00    174 -1136 -1048 -1052 -1140 M G
0.00     0.00    80.00
 174 -1228 -1140 -1144 -1232 M G      0.00     0.00    80.00    174 -1244 -1156 -1160 -1248 M G
0.00     0.00    80.00
 174 -1156 -1068 -1072 -1160 M G      0.00     0.00    80.00    174 -1232 -1144 -1148 -1236 M G
0.00     0.00    80.00
 174 -1144 -1056 -1060 -1148 M G      0.00     0.00    80.00    174 -1216 -1128 -1132 -1220 M G
0.00     0.00    80.00
 174 -1148 -1060 -1064 -1152 M G      0.00     0.00    80.00    174 -1152 -1064 -1068 -1156 M G
0.00     0.00    80.00
 175  -868  -780  -784  -872 M G      0.00     0.00    80.00    175  -872  -784  -788  -876 M G
0.00     0.00    80.00
 175  -792  -704  -708  -796 M G      0.00     0.00    80.00    175  -884  -796  -800  -888 M G
0.00     0.00    80.00
 175  -776  -688  -692  -780 M G      0.00     0.00    80.00    175  -888  -800  -804  -892 M G
0.00     0.00    80.00
 175  -800  -712  -716  -804 M G      0.00     0.00    80.00    175  -896  -808  -812  -900 M G
0.00     0.00    80.00
 175  -864  -776  -780  -868 M G      0.00     0.00    80.00    175  -900  -812  -816  -904 M G
0.00     0.00    80.00
 175  -892  -804  -808  -896 M G      0.00     0.00    80.00    175  -780  -692  -696  -784 M G
0.00     0.00    80.00
 175  -876  -788  -792  -880 M G      0.00     0.00    80.00    175  -796  -708  -712  -800 M G
0.00     0.00    80.00
 175  -784  -696  -700  -788 M G      0.00     0.00    80.00    175  -808  -720  -724  -812 M G
0.00     0.00    80.00
 175  -804  -716  -720  -808 M G      0.00     0.00    80.00    175  -788  -700  -704  -792 M G
0.00     0.00    80.00
 175  -812  -724  -728  -816 M G      0.00     0.00    80.00    175  -880  -792  -796  -884 M G
0.00     0.00    80.00
 176  -964  -876  -880  -968 M G      0.00     0.00    80.00    176 -1052  -964  -968 -1056 M G
0.00     0.00    80.00
 176 -1064  -976  -980 -1068 M G      0.00     0.00    80.00    176 -1076  -988  -992 -1080 M G
0.00     0.00    80.00
 176 -1068  -980  -984 -1072 M G      0.00     0.00    80.00    176 -1048  -960  -964 -1052 M G
0.00     0.00    80.00
 176  -980  -892  -896  -984 M G      0.00     0.00    80.00    176  -984  -896  -900  -988 M G
0.00     0.00    80.00
 176  -976  -888  -892  -980 M G      0.00     0.00    80.00    176 -1040  -952  -956 -1044 M G
0.00     0.00    80.00
 176  -988  -900  -904  -992 M G      0.00     0.00    80.00    176  -960  -872  -876  -964 M G
0.00     0.00    80.00
 176  -956  -868  -872  -960 M G      0.00     0.00    80.00    176 -1060  -972  -976 -1064 M G
0.00     0.00    80.00
 176  -968  -880  -884  -972 M G      0.00     0.00    80.00    176 -1056  -968  -972 -1060 M G
0.00     0.00    80.00
 176  -952  -864  -868  -956 M G      0.00     0.00    80.00    176  -972  -884  -888  -976 M G
0.00     0.00    80.00
 176 -1072  -984  -988 -1076 M G      0.00     0.00    80.00    176 -1044  -956  -960 -1048 M G
0.00     0.00    80.00
 177  -612  -616  -704  -700 M G      0.00     0.00    80.00    177  -524  -528  -616  -612 M G
0.00     0.00    80.00
 177  -600  -512  -516  -604 M G      0.00     0.00    80.00    177  -632  -636  -724  -720 M G
0.00     0.00    80.00
 177  -540  -544  -632  -628 M G      0.00     0.00    80.00    177  -624  -628  -716  -712 M G
0.00     0.00    80.00
 177  -520  -524  -612  -608 M G      0.00     0.00    80.00    177  -532  -536  -624  -620 M G
0.00     0.00    80.00
 177  -620  -624  -712  -708 M G      0.00     0.00    80.00    177  -688  -600  -604  -692 M G
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0.00     0.00    80.00
 177  -528  -532  -620  -616 M G      0.00     0.00    80.00    177  -608  -612  -700  -696 M G
0.00     0.00    80.00
 177  -604  -516  -520  -608 M G      0.00     0.00    80.00    177  -692  -604  -608  -696 M G
0.00     0.00    80.00
 177  -628  -632  -720  -716 M G      0.00     0.00    80.00    177  -544  -548  -636  -632 M G
0.00     0.00    80.00
 177  -616  -620  -708  -704 M G      0.00     0.00    80.00    177  -536  -540  -628  -624 M G
0.00     0.00    80.00
 177  -548  -552  -640  -636 M G      0.00     0.00    80.00    177  -636  -640  -728  -724 M G
0.00     0.00    80.00
 178  -168   -80   -84  -172 M G      0.00     0.00    80.00    178  -164   -76   -80  -168 M G
0.00     0.00    80.00
 178   -23  -108  -104   122 M G      0.00     0.00    80.00    178  -112  -200  -196  -108 M G
0.00     0.00    80.00
 178  -184   -96  -100  -188 M G      0.00     0.00    80.00    178   -92   -13   118   -96 M G
0.00     0.00    80.00
 178  -188  -100  -104  -192 M G      0.00     0.00    80.00    178   -72   102    -3   -76 M G
0.00     0.00    80.00
 178   -84    -8   113   -88 M G      0.00     0.00    80.00    178   -76    -3   108   -80 M G
0.00     0.00    80.00
 178   127  -112  -108   -23 M G      0.00     0.00    80.00    178  -100   -18   122  -104 M G
0.00     0.00    80.00
 178   -88   113   -13   -92 M G      0.00     0.00    80.00    178   -96   118   -18  -100 M G
0.00     0.00    80.00
 178  -108  -196  -192  -104 M G      0.00     0.00    80.00    178  -176   -88   -92  -180 M G
0.00     0.00    80.00
 178   -80   108    -8   -84 M G      0.00     0.00    80.00    178  -180   -92   -96  -184 M G
0.00     0.00    80.00
 178  -160   -72   -76  -164 M G      0.00     0.00    80.00    178  -172   -84   -88  -176 M G
0.00     0.00    80.00
 179  -360  -272  -276  -364 M G      0.00     0.00    80.00    179  -368  -280  -284  -372 M G
0.00     0.00    80.00
 179  -344  -256  -260  -348 M G      0.00     0.00    80.00    179  -348  -260  -264  -352 M G
0.00     0.00    80.00
 179  -252  -164  -168  -256 M G      0.00     0.00    80.00    179  -276  -188  -192  -280 M G
0.00     0.00    80.00
 179  -356  -268  -272  -360 M G      0.00     0.00    80.00    179  -256  -168  -172  -260 M G
0.00     0.00    80.00
 179  -352  -264  -268  -356 M G      0.00     0.00    80.00    179  -364  -276  -280  -368 M G
0.00     0.00    80.00
 179  -272  -184  -188  -276 M G      0.00     0.00    80.00    179  -260  -172  -176  -264 M G
0.00     0.00    80.00
 179  -248  -160  -164  -252 M G      0.00     0.00    80.00    179  -340  -252  -256  -344 M G
0.00     0.00    80.00
 179  -268  -180  -184  -272 M G      0.00     0.00    80.00    179  -264  -176  -180  -268 M G
0.00     0.00    80.00
 179  -280  -192  -196  -284 M G      0.00     0.00    80.00    179  -284  -196  -200  -288 M G
0.00     0.00    80.00
 179  -372  -284  -288  -376 M G      0.00     0.00    80.00    179  -336  -248  -252  -340 M G
0.00     0.00    80.00
 180  -352  -356  -444  -440 M G      0.00     0.00    80.00    180  -432  -436  -524  -520 M G
0.00     0.00    80.00
 180  -368  -372  -460  -456 M G      0.00     0.00    80.00    180  -372  -376  -464  -460 M G
0.00     0.00    80.00
 180  -440  -444  -532  -528 M G      0.00     0.00    80.00    180  -456  -460  -548  -544 M G
0.00     0.00    80.00
 180  -364  -368  -456  -452 M G      0.00     0.00    80.00    180  -516  -428  -432  -520 M G
0.00     0.00    80.00
 180  -452  -456  -544  -540 M G      0.00     0.00    80.00    180  -436  -440  -528  -524 M G
0.00     0.00    80.00
 180  -360  -364  -452  -448 M G      0.00     0.00    80.00    180  -448  -452  -540  -536 M G
0.00     0.00    80.00
 180  -428  -340  -344  -432 M G      0.00     0.00    80.00    180  -344  -348  -436  -432 M G
0.00     0.00    80.00
 180  -348  -352  -440  -436 M G      0.00     0.00    80.00    180  -460  -464  -552  -548 M G
0.00     0.00    80.00
 180  -512  -424  -428  -516 M G      0.00     0.00    80.00    180  -444  -448  -536  -532 M G
0.00     0.00    80.00
 180  -424  -336  -340  -428 M G      0.00     0.00    80.00    180  -356  -360  -448  -444 M G
0.00     0.00    80.00
 181   102   -27   -31    -3 M G      0.00     0.00    80.00    181  -155   -67   -63  -151 M G
0.00     0.00    80.00
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 181   -35   -39    -8   108 M G      0.00     0.00    80.00    181   -27  -115  -119   -31 M G
0.00     0.00    80.00
 181  -135  -139   -51   -47 M G      0.00     0.00    80.00    181    -3   -31   -35   108 M G
0.00     0.00    80.00
 181   -51   -55   -18   118 M G      0.00     0.00    80.00    181  -127  -131   -43   -39 M G
0.00     0.00    80.00
 181   -43   -47   -13   113 M G      0.00     0.00    80.00    181  -139  -143   -55   -51 M G
0.00     0.00    80.00
 181  -143  -147   -59   -55 M G      0.00     0.00    80.00    181   -55   -59   122   -18 M G
0.00     0.00    80.00
 181   -31  -119  -123   -35 M G      0.00     0.00    80.00    181  -123  -127   -39   -35 M G
0.00     0.00    80.00
 181  -131  -135   -47   -43 M G      0.00     0.00    80.00    181  -151   -63   -59  -147 M G
0.00     0.00    80.00
 181   -67   127   -23   -63 M G      0.00     0.00    80.00    181   -63   -23   122   -59 M G
0.00     0.00    80.00
 181   -47   -51   118   -13 M G      0.00     0.00    80.00    181   -39   -43   113    -8 M G
0.00     0.00    80.00
 182  -131  -219  -223  -135 M G      0.00     0.00    80.00    182  -123  -211  -215  -127 M G
0.00     0.00    80.00
 182  -227  -315  -319  -231 M G      0.00     0.00    80.00    182  -143  -231  -235  -147 M G
0.00     0.00    80.00
 182  -239  -327  -331  -243 M G      0.00     0.00    80.00    182  -207  -295  -299  -211 M G
0.00     0.00    80.00
 182  -223  -311  -315  -227 M G      0.00     0.00    80.00    182  -115  -203  -207  -119 M G
0.00     0.00    80.00
 182  -235  -323  -327  -239 M G      0.00     0.00    80.00    182  -135  -223  -227  -139 M G
0.00     0.00    80.00
 182  -219  -307  -311  -223 M G      0.00     0.00    80.00    182  -215  -303  -307  -219 M G
0.00     0.00    80.00
 182  -151  -239  -243  -155 M G      0.00     0.00    80.00    182  -119  -207  -211  -123 M G
0.00     0.00    80.00
 182  -203  -291  -295  -207 M G      0.00     0.00    80.00    182  -211  -299  -303  -215 M G
0.00     0.00    80.00
 182  -231  -319  -323  -235 M G      0.00     0.00    80.00    182  -127  -215  -219  -131 M G
0.00     0.00    80.00
 182  -147  -235  -239  -151 M G      0.00     0.00    80.00    182  -139  -227  -231  -143 M G
0.00     0.00    80.00
 183  -307  -395  -399  -311 M G      0.00     0.00    80.00    183  -415  -503  -507  -419 M G
0.00     0.00    80.00
 183  -327  -415  -419  -331 M G      0.00     0.00    80.00    183  -411  -499  -503  -415 M G
0.00     0.00    80.00
 183  -379  -467  -471  -383 M G      0.00     0.00    80.00    183  -407  -495  -499  -411 M G
0.00     0.00    80.00
 183  -295  -383  -387  -299 M G      0.00     0.00    80.00    183  -315  -403  -407  -319 M G
0.00     0.00    80.00
 183  -395  -483  -487  -399 M G      0.00     0.00    80.00    183  -399  -487  -491  -403 M G
0.00     0.00    80.00
 183  -299  -387  -391  -303 M G      0.00     0.00    80.00    183  -319  -407  -411  -323 M G
0.00     0.00    80.00
 183  -311  -399  -403  -315 M G      0.00     0.00    80.00    183  -323  -411  -415  -327 M G
0.00     0.00    80.00
 183  -391  -479  -483  -395 M G      0.00     0.00    80.00    183  -303  -391  -395  -307 M G
0.00     0.00    80.00
 183  -383  -471  -475  -387 M G      0.00     0.00    80.00    183  -403  -491  -495  -407 M G
0.00     0.00    80.00
 183  -291  -379  -383  -295 M G      0.00     0.00    80.00    183  -387  -475  -479  -391 M G
0.00     0.00    80.00
 184  -571  -659  -663  -575 M G      0.00     0.00    80.00    184  -579  -667  -671  -583 M G
0.00     0.00    80.00
 184  -495  -583  -587  -499 M G      0.00     0.00    80.00    184  -475  -563  -567  -479 M G
0.00     0.00    80.00
 184  -483  -571  -575  -487 M G      0.00     0.00    80.00    184  -487  -575  -579  -491 M G
0.00     0.00    80.00
 184  -471  -559  -563  -475 M G      0.00     0.00    80.00    184  -575  -663  -667  -579 M G
0.00     0.00    80.00
 184  -563  -651  -655  -567 M G      0.00     0.00    80.00    184  -587  -675  -679  -591 M G
0.00     0.00    80.00
 184  -555  -643  -647  -559 M G      0.00     0.00    80.00    184  -559  -647  -651  -563 M G
0.00     0.00    80.00
 184  -583  -671  -675  -587 M G      0.00     0.00    80.00    184  -503  -591  -595  -507 M G
0.00     0.00    80.00
 184  -467  -555  -559  -471 M G      0.00     0.00    80.00    184  -479  -567  -571  -483 M G
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0.00     0.00    80.00
 184  -491  -579  -583  -495 M G      0.00     0.00    80.00    184  -567  -655  -659  -571 M G
0.00     0.00    80.00
 184  -591  -679  -683  -595 M G      0.00     0.00    80.00    184  -499  -587  -591  -503 M G
0.00     0.00    80.00
 185  -731  -819  -823  -735 M G      0.00     0.00    80.00    185  -739  -827  -831  -743 M G
0.00     0.00    80.00
 185  -651  -739  -743  -655 M G      0.00     0.00    80.00    185  -767  -855  -859  -771 M G
0.00     0.00    80.00
 185  -735  -823  -827  -739 M G      0.00     0.00    80.00    185  -667  -755  -759  -671 M G
0.00     0.00    80.00
 185  -679  -767  -771  -683 M G      0.00     0.00    80.00    185  -671  -759  -763  -675 M G
0.00     0.00    80.00
 185  -659  -747  -751  -663 M G      0.00     0.00    80.00    185  -759  -847  -851  -763 M G
0.00     0.00    80.00
 185  -643  -731  -735  -647 M G      0.00     0.00    80.00    185  -755  -843  -847  -759 M G
0.00     0.00    80.00
 185  -647  -735  -739  -651 M G      0.00     0.00    80.00    185  -743  -831  -835  -747 M G
0.00     0.00    80.00
 185  -747  -835  -839  -751 M G      0.00     0.00    80.00    185  -675  -763  -767  -679 M G
0.00     0.00    80.00
 185  -655  -743  -747  -659 M G      0.00     0.00    80.00    185  -663  -751  -755  -667 M G
0.00     0.00    80.00
 185  -751  -839  -843  -755 M G      0.00     0.00    80.00    185  -763  -851  -855  -767 M G
0.00     0.00    80.00
 186  -819  -907  -911  -823 M G      0.00     0.00    80.00    186  -847  -935  -939  -851 M G
0.00     0.00    80.00
 186  -935 -1023 -1027  -939 M G      0.00     0.00    80.00    186  -831  -919  -923  -835 M G
0.00     0.00    80.00
 186  -843  -931  -935  -847 M G      0.00     0.00    80.00    186  -931 -1019 -1023  -935 M G
0.00     0.00    80.00
 186  -907  -995  -999  -911 M G      0.00     0.00    80.00    186  -911  -999 -1003  -915 M G
0.00     0.00    80.00
 186  -919 -1007 -1011  -923 M G      0.00     0.00    80.00    186  -835  -923  -927  -839 M G
0.00     0.00    80.00
 186  -823  -911  -915  -827 M G      0.00     0.00    80.00    186  -839  -927  -931  -843 M G
0.00     0.00    80.00
 186  -915 -1003 -1007  -919 M G      0.00     0.00    80.00    186  -927 -1015 -1019  -931 M G
0.00     0.00    80.00
 186  -855  -943  -947  -859 M G      0.00     0.00    80.00    186  -939 -1027 -1031  -943 M G
0.00     0.00    80.00
 186  -943 -1031 -1035  -947 M G      0.00     0.00    80.00    186  -923 -1011 -1015  -927 M G
0.00     0.00    80.00
 186  -827  -915  -919  -831 M G      0.00     0.00    80.00    186  -851  -939  -943  -855 M G
0.00     0.00    80.00
 187 -1087 -1175 -1179 -1091 M G      0.00     0.00    80.00    187 -1027 -1115 -1119 -1031 M G
0.00     0.00    80.00
 187 -1031 -1119 -1123 -1035 M G      0.00     0.00    80.00    187 -1023 -1111 -1115 -1027 M G
0.00     0.00    80.00
 187 -1007 -1095 -1099 -1011 M G      0.00     0.00    80.00    187 -1091 -1179 -1183 -1095 M G
0.00     0.00    80.00
 187 -1095 -1183 -1187 -1099 M G      0.00     0.00    80.00    187  -995 -1083 -1087  -999 M G
0.00     0.00    80.00
 187 -1111 -1199 -1203 -1115 M G      0.00     0.00    80.00    187 -1083 -1171 -1175 -1087 M G
0.00     0.00    80.00
 187 -1011 -1099 -1103 -1015 M G      0.00     0.00    80.00    187 -1103 -1191 -1195 -1107 M G
0.00     0.00    80.00
 187 -1107 -1195 -1199 -1111 M G      0.00     0.00    80.00    187 -1019 -1107 -1111 -1023 M G
0.00     0.00    80.00
 187 -1015 -1103 -1107 -1019 M G      0.00     0.00    80.00    187 -1099 -1187 -1191 -1103 M G
0.00     0.00    80.00
 187  -999 -1087 -1091 -1003 M G      0.00     0.00    80.00    187 -1119 -1207 -1211 -1123 M G
0.00     0.00    80.00
 187 -1003 -1091 -1095 -1007 M G      0.00     0.00    80.00    187 -1115 -1203 -1207 -1119 M G
0.00     0.00    80.00
 188 -1175 -1263 -1267 -1179 M G      0.00     0.00    80.00    188 -1183 -1271 -1275 -1187 M G
0.00     0.00    80.00
 188 -1203 -1291 -1295 -1207 M G      0.00     0.00    80.00    188 -1291 -1380 -1384 -1295 M G
0.00     0.00    80.00
 188 -1191 -1279 -1283 -1195 M G      0.00     0.00    80.00    188 -1179 -1267 -1271 -1183 M G
0.00     0.00    80.00
 188 -1187 -1275 -1279 -1191 M G      0.00     0.00    80.00    188 -1259 -1348 -1352 -1263 M G
0.00     0.00    80.00
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 188 -1263 -1352 -1356 -1267 M G      0.00     0.00    80.00    188 -1279 -1368 -1372 -1283 M G
0.00     0.00    80.00
 188 -1287 -1376 -1380 -1291 M G      0.00     0.00    80.00    188 -1171 -1259 -1263 -1175 M G
0.00     0.00    80.00
 188 -1295 -1384 -1388 -1299 M G      0.00     0.00    80.00    188 -1207 -1295 -1299 -1211 M G
0.00     0.00    80.00
 188 -1271 -1360 -1364 -1275 M G      0.00     0.00    80.00    188 -1195 -1283 -1287 -1199 M G
0.00     0.00    80.00
 188 -1267 -1356 -1360 -1271 M G      0.00     0.00    80.00    188 -1283 -1372 -1376 -1287 M G
0.00     0.00    80.00
 188 -1199 -1287 -1291 -1203 M G      0.00     0.00    80.00    188 -1275 -1364 -1368 -1279 M G
0.00     0.00    80.00
 189 -1296 -1208 -1212 -1300 M G      0.00     0.00    80.00    189 -1264 -1176 -1180 -1268 M G
0.00     0.00    80.00
 189 -1260 -1172 -1176 -1264 M G      0.00     0.00    80.00    189 -1276 -1188 -1192 -1280 M G
0.00     0.00    80.00
 189 -1288 -1200 -1204 -1292 M G      0.00     0.00    80.00    189 -1292 -1204 -1208 -1296 M G
0.00     0.00    80.00
 189 -1352 -1264 -1268 -1356 M G      0.00     0.00    80.00    189 -1272 -1184 -1188 -1276 M G
0.00     0.00    80.00
 189 -1284 -1196 -1200 -1288 M G      0.00     0.00    80.00    189 -1348 -1260 -1264 -1352 M G
0.00     0.00    80.00
 189 -1360 -1272 -1276 -1364 M G      0.00     0.00    80.00    189 -1268 -1180 -1184 -1272 M G
0.00     0.00    80.00
 189 -1380 -1292 -1296 -1384 M G      0.00     0.00    80.00    189 -1376 -1288 -1292 -1380 M G
0.00     0.00    80.00
 189 -1384 -1296 -1300 -1388 M G      0.00     0.00    80.00    189 -1280 -1192 -1196 -1284 M G
0.00     0.00    80.00
 189 -1356 -1268 -1272 -1360 M G      0.00     0.00    80.00    189 -1372 -1284 -1288 -1376 M G
0.00     0.00    80.00
 189 -1368 -1280 -1284 -1372 M G      0.00     0.00    80.00    189 -1364 -1276 -1280 -1368 M G
0.00     0.00    80.00
 190 -1184 -1096 -1100 -1188 M G      0.00     0.00    80.00    190 -1088 -1000 -1004 -1092 M G
0.00     0.00    80.00
 190 -1192 -1104 -1108 -1196 M G      0.00     0.00    80.00    190 -1116 -1028 -1032 -1120 M G
0.00     0.00    80.00
 190 -1092 -1004 -1008 -1096 M G      0.00     0.00    80.00    190 -1096 -1008 -1012 -1100 M G
0.00     0.00    80.00
 190 -1204 -1116 -1120 -1208 M G      0.00     0.00    80.00    190 -1176 -1088 -1092 -1180 M G
0.00     0.00    80.00
 190 -1084  -996 -1000 -1088 M G      0.00     0.00    80.00    190 -1120 -1032 -1036 -1124 M G
0.00     0.00    80.00
 190 -1196 -1108 -1112 -1200 M G      0.00     0.00    80.00    190 -1188 -1100 -1104 -1192 M G
0.00     0.00    80.00
 190 -1180 -1092 -1096 -1184 M G      0.00     0.00    80.00    190 -1104 -1016 -1020 -1108 M G
0.00     0.00    80.00
 190 -1100 -1012 -1016 -1104 M G      0.00     0.00    80.00    190 -1200 -1112 -1116 -1204 M G
0.00     0.00    80.00
 190 -1208 -1120 -1124 -1212 M G      0.00     0.00    80.00    190 -1112 -1024 -1028 -1116 M G
0.00     0.00    80.00
 190 -1172 -1084 -1088 -1176 M G      0.00     0.00    80.00    190 -1108 -1020 -1024 -1112 M G
0.00     0.00    80.00
 191 -1016  -928  -932 -1020 M G      0.00     0.00    80.00    191 -1008  -920  -924 -1012 M G
0.00     0.00    80.00
 191  -916  -828  -832  -920 M G      0.00     0.00    80.00    191  -944  -856  -860  -948 M G
0.00     0.00    80.00
 191 -1024  -936  -940 -1028 M G      0.00     0.00    80.00    191 -1032  -944  -948 -1036 M G
0.00     0.00    80.00
 191  -996  -908  -912 -1000 M G      0.00     0.00    80.00    191  -924  -836  -840  -928 M G
0.00     0.00    80.00
 191  -920  -832  -836  -924 M G      0.00     0.00    80.00    191 -1020  -932  -936 -1024 M G
0.00     0.00    80.00
 191 -1000  -912  -916 -1004 M G      0.00     0.00    80.00    191  -908  -820  -824  -912 M G
0.00     0.00    80.00
 191  -940  -852  -856  -944 M G      0.00     0.00    80.00    191 -1028  -940  -944 -1032 M G
0.00     0.00    80.00
 191 -1012  -924  -928 -1016 M G      0.00     0.00    80.00    191  -932  -844  -848  -936 M G
0.00     0.00    80.00
 191  -936  -848  -852  -940 M G      0.00     0.00    80.00    191  -912  -824  -828  -916 M G
0.00     0.00    80.00
 191  -928  -840  -844  -932 M G      0.00     0.00    80.00    191 -1004  -916  -920 -1008 M G
0.00     0.00    80.00
 192  -836  -748  -752  -840 M G      0.00     0.00    80.00    192  -840  -752  -756  -844 M G
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0.00     0.00    80.00
 192  -756  -668  -672  -760 M G      0.00     0.00    80.00    192  -848  -760  -764  -852 M G
0.00     0.00    80.00
 192  -852  -764  -768  -856 M G      0.00     0.00    80.00    192  -736  -648  -652  -740 M G
0.00     0.00    80.00
 192  -744  -656  -660  -748 M G      0.00     0.00    80.00    192  -820  -732  -736  -824 M G
0.00     0.00    80.00
 192  -768  -680  -684  -772 M G      0.00     0.00    80.00    192  -832  -744  -748  -836 M G
0.00     0.00    80.00
 192  -740  -652  -656  -744 M G      0.00     0.00    80.00    192  -752  -664  -668  -756 M G
0.00     0.00    80.00
 192  -856  -768  -772  -860 M G      0.00     0.00    80.00    192  -824  -736  -740  -828 M G
0.00     0.00    80.00
 192  -732  -644  -648  -736 M G      0.00     0.00    80.00    192  -748  -660  -664  -752 M G
0.00     0.00    80.00
 192  -844  -756  -760  -848 M G      0.00     0.00    80.00    192  -828  -740  -744  -832 M G
0.00     0.00    80.00
 192  -760  -672  -676  -764 M G      0.00     0.00    80.00    192  -764  -676  -680  -768 M G
0.00     0.00    80.00
 193  -660  -572  -576  -664 M G      0.00     0.00    80.00    193  -668  -580  -584  -672 M G
0.00     0.00    80.00
 193  -584  -496  -500  -588 M G      0.00     0.00    80.00    193  -648  -560  -564  -652 M G
0.00     0.00    80.00
 193  -556  -468  -472  -560 M G      0.00     0.00    80.00    193  -676  -588  -592  -680 M G
0.00     0.00    80.00
 193  -580  -492  -496  -584 M G      0.00     0.00    80.00    193  -656  -568  -572  -660 M G
0.00     0.00    80.00
 193  -652  -564  -568  -656 M G      0.00     0.00    80.00    193  -588  -500  -504  -592 M G
0.00     0.00    80.00
 193  -664  -576  -580  -668 M G      0.00     0.00    80.00    193  -672  -584  -588  -676 M G
0.00     0.00    80.00
 193  -680  -592  -596  -684 M G      0.00     0.00    80.00    193  -592  -504  -508  -596 M G
0.00     0.00    80.00
 193  -564  -476  -480  -568 M G      0.00     0.00    80.00    193  -568  -480  -484  -572 M G
0.00     0.00    80.00
 193  -576  -488  -492  -580 M G      0.00     0.00    80.00    193  -572  -484  -488  -576 M G
0.00     0.00    80.00
 193  -644  -556  -560  -648 M G      0.00     0.00    80.00    193  -560  -472  -476  -564 M G
0.00     0.00    80.00
 194  -500  -412  -416  -504 M G      0.00     0.00    80.00    194  -404  -316  -320  -408 M G
0.00     0.00    80.00
 194  -504  -416  -420  -508 M G      0.00     0.00    80.00    194  -416  -328  -332  -420 M G
0.00     0.00    80.00
 194  -496  -408  -412  -500 M G      0.00     0.00    80.00    194  -384  -296  -300  -388 M G
0.00     0.00    80.00
 194  -484  -396  -400  -488 M G      0.00     0.00    80.00    194  -480  -392  -396  -484 M G
0.00     0.00    80.00
 194  -492  -404  -408  -496 M G      0.00     0.00    80.00    194  -392  -304  -308  -396 M G
0.00     0.00    80.00
 194  -380  -292  -296  -384 M G      0.00     0.00    80.00    194  -472  -384  -388  -476 M G
0.00     0.00    80.00
 194  -408  -320  -324  -412 M G      0.00     0.00    80.00    194  -476  -388  -392  -480 M G
0.00     0.00    80.00
 194  -468  -380  -384  -472 M G      0.00     0.00    80.00    194  -488  -400  -404  -492 M G
0.00     0.00    80.00
 194  -388  -300  -304  -392 M G      0.00     0.00    80.00    194  -400  -312  -316  -404 M G
0.00     0.00    80.00
 194  -412  -324  -328  -416 M G      0.00     0.00    80.00    194  -396  -308  -312  -400 M G
0.00     0.00    80.00
 195  -204  -116  -120  -208 M G      0.00     0.00    80.00    195  -232  -144  -148  -236 M G
0.00     0.00    80.00
 195  -300  -212  -216  -304 M G      0.00     0.00    80.00    195  -328  -240  -244  -332 M G
0.00     0.00    80.00
 195  -208  -120  -124  -212 M G      0.00     0.00    80.00    195  -316  -228  -232  -320 M G
0.00     0.00    80.00
 195  -236  -148  -152  -240 M G      0.00     0.00    80.00    195  -324  -236  -240  -328 M G
0.00     0.00    80.00
 195  -304  -216  -220  -308 M G      0.00     0.00    80.00    195  -240  -152  -156  -244 M G
0.00     0.00    80.00
 195  -216  -128  -132  -220 M G      0.00     0.00    80.00    195  -308  -220  -224  -312 M G
0.00     0.00    80.00
 195  -296  -208  -212  -300 M G      0.00     0.00    80.00    195  -224  -136  -140  -228 M G
0.00     0.00    80.00
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 195  -212  -124  -128  -216 M G      0.00     0.00    80.00    195  -320  -232  -236  -324 M G
0.00     0.00    80.00
 195  -312  -224  -228  -316 M G      0.00     0.00    80.00    195  -220  -132  -136  -224 M G
0.00     0.00    80.00
 195  -292  -204  -208  -296 M G      0.00     0.00    80.00    195  -228  -140  -144  -232 M G
0.00     0.00    80.00
 196   -28   103    -4   -32 M G      0.00     0.00    80.00    196  -128   -40   -44  -132 M G
0.00     0.00    80.00
 196   -36   109    -9   -40 M G      0.00     0.00    80.00    196  -136   -48   -52  -140 M G
0.00     0.00    80.00
 196  -140   -52   -56  -144 M G      0.00     0.00    80.00    196  -120   -32   -36  -124 M G
0.00     0.00    80.00
 196   -56   -19   123   -60 M G      0.00     0.00    80.00    196   -32    -4   109   -36 M G
0.00     0.00    80.00
 196   -40    -9   114   -44 M G      0.00     0.00    80.00    196  -144   -56   -60  -148 M G
0.00     0.00    80.00
 196   -52   119   -19   -56 M G      0.00     0.00    80.00    196  -116   -28   -32  -120 M G
0.00     0.00    80.00
 196   -24   -64   -60   123 M G      0.00     0.00    80.00    196   -68  -156  -152   -64 M G
0.00     0.00    80.00
 196   -64  -152  -148   -60 M G      0.00     0.00    80.00    196   -44   114   -14   -48 M G
0.00     0.00    80.00
 196  -124   -36   -40  -128 M G      0.00     0.00    80.00    196  -132   -44   -48  -136 M G
0.00     0.00    80.00
 196   128   -68   -64   -24 M G      0.00     0.00    80.00    196   -48   -14   119   -52 M G
0.00     0.00    80.00
 197   -33  -121  -125   -37 M G      0.00     0.00    80.00    197   -29  -117  -121   -33 M G
0.00     0.00    80.00
 197   -69   128   -24   -65 M G      0.00     0.00    80.00    197   -65   -24   123   -61 M G
0.00     0.00    80.00
 197   -37   -41    -9   109 M G      0.00     0.00    80.00    197  -137  -141   -53   -49 M G
0.00     0.00    80.00
 197    -4   -33   -37   109 M G      0.00     0.00    80.00    197  -145  -149   -61   -57 M G
0.00     0.00    80.00
 197   -49   -53   119   -14 M G      0.00     0.00    80.00    197  -153   -65   -61  -149 M G
0.00     0.00    80.00
 197  -133  -137   -49   -45 M G      0.00     0.00    80.00    197   -53   -57   -19   119 M G
0.00     0.00    80.00
 197   103   -29   -33    -4 M G      0.00     0.00    80.00    197  -157   -69   -65  -153 M G
0.00     0.00    80.00
 197  -129  -133   -45   -41 M G      0.00     0.00    80.00    197  -125  -129   -41   -37 M G
0.00     0.00    80.00
 197   -41   -45   114    -9 M G      0.00     0.00    80.00    197   -45   -49   -14   114 M G
0.00     0.00    80.00
 197   -57   -61   123   -19 M G      0.00     0.00    80.00    197  -141  -145   -57   -53 M G
0.00     0.00    80.00
 198  -121  -209  -213  -125 M G      0.00     0.00    80.00    198  -137  -225  -229  -141 M G
0.00     0.00    80.00
 198  -213  -301  -305  -217 M G      0.00     0.00    80.00    198  -133  -221  -225  -137 M G
0.00     0.00    80.00
 198  -129  -217  -221  -133 M G      0.00     0.00    80.00    198  -117  -205  -209  -121 M G
0.00     0.00    80.00
 198  -217  -305  -309  -221 M G      0.00     0.00    80.00    198  -141  -229  -233  -145 M G
0.00     0.00    80.00
 198  -125  -213  -217  -129 M G      0.00     0.00    80.00    198  -209  -297  -301  -213 M G
0.00     0.00    80.00
 198  -233  -321  -325  -237 M G      0.00     0.00    80.00    198  -205  -293  -297  -209 M G
0.00     0.00    80.00
 198  -229  -317  -321  -233 M G      0.00     0.00    80.00    198  -149  -237  -241  -153 M G
0.00     0.00    80.00
 198  -145  -233  -237  -149 M G      0.00     0.00    80.00    198  -225  -313  -317  -229 M G
0.00     0.00    80.00
 198  -241  -329  -333  -245 M G      0.00     0.00    80.00    198  -221  -309  -313  -225 M G
0.00     0.00    80.00
 198  -237  -325  -329  -241 M G      0.00     0.00    80.00    198  -153  -241  -245  -157 M G
0.00     0.00    80.00
 199  -293  -381  -385  -297 M G      0.00     0.00    80.00    199  -309  -397  -401  -313 M G
0.00     0.00    80.00
 199  -409  -497  -501  -413 M G      0.00     0.00    80.00    199  -381  -469  -473  -385 M G
0.00     0.00    80.00
 199  -405  -493  -497  -409 M G      0.00     0.00    80.00    199  -321  -409  -413  -325 M G
0.00     0.00    80.00
 199  -385  -473  -477  -389 M G      0.00     0.00    80.00    199  -301  -389  -393  -305 M G
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0.00     0.00    80.00
 199  -325  -413  -417  -329 M G      0.00     0.00    80.00    199  -389  -477  -481  -393 M G
0.00     0.00    80.00
 199  -297  -385  -389  -301 M G      0.00     0.00    80.00    199  -317  -405  -409  -321 M G
0.00     0.00    80.00
 199  -401  -489  -493  -405 M G      0.00     0.00    80.00    199  -417  -505  -509  -421 M G
0.00     0.00    80.00
 199  -397  -485  -489  -401 M G      0.00     0.00    80.00    199  -313  -401  -405  -317 M G
0.00     0.00    80.00
 199  -305  -393  -397  -309 M G      0.00     0.00    80.00    199  -413  -501  -505  -417 M G
0.00     0.00    80.00
 199  -393  -481  -485  -397 M G      0.00     0.00    80.00    199  -329  -417  -421  -333 M G
0.00     0.00    80.00
 200  -505  -593  -597  -509 M G      0.00     0.00    80.00    200  -557  -645  -649  -561 M G
0.00     0.00    80.00
 200  -469  -557  -561  -473 M G      0.00     0.00    80.00    200  -473  -561  -565  -477 M G
0.00     0.00    80.00
 200  -585  -673  -677  -589 M G      0.00     0.00    80.00    200  -561  -649  -653  -565 M G
0.00     0.00    80.00
 200  -593  -681  -685  -597 M G      0.00     0.00    80.00    200  -501  -589  -593  -505 M G
0.00     0.00    80.00
 200  -569  -657  -661  -573 M G      0.00     0.00    80.00    200  -573  -661  -665  -577 M G
0.00     0.00    80.00
 200  -577  -665  -669  -581 M G      0.00     0.00    80.00    200  -481  -569  -573  -485 M G
0.00     0.00    80.00
 200  -497  -585  -589  -501 M G      0.00     0.00    80.00    200  -489  -577  -581  -493 M G
0.00     0.00    80.00
 200  -485  -573  -577  -489 M G      0.00     0.00    80.00    200  -589  -677  -681  -593 M G
0.00     0.00    80.00
 200  -493  -581  -585  -497 M G      0.00     0.00    80.00    200  -565  -653  -657  -569 M G
0.00     0.00    80.00
 200  -477  -565  -569  -481 M G      0.00     0.00    80.00    200  -581  -669  -673  -585 M G
0.00     0.00    80.00
 201  -769  -857  -861  -773 M G      0.00     0.00    80.00    201  -669  -757  -761  -673 M G
0.00     0.00    80.00
 201  -649  -737  -741  -653 M G      0.00     0.00    80.00    201  -665  -753  -757  -669 M G
0.00     0.00    80.00
 201  -733  -821  -825  -737 M G      0.00     0.00    80.00    201  -741  -829  -833  -745 M G
0.00     0.00    80.00
 201  -657  -745  -749  -661 M G      0.00     0.00    80.00    201  -749  -837  -841  -753 M G
0.00     0.00    80.00
 201  -745  -833  -837  -749 M G      0.00     0.00    80.00    201  -673  -761  -765  -677 M G
0.00     0.00    80.00
 201  -757  -845  -849  -761 M G      0.00     0.00    80.00    201  -761  -849  -853  -765 M G
0.00     0.00    80.00
 201  -681  -769  -773  -685 M G      0.00     0.00    80.00    201  -765  -853  -857  -769 M G
0.00     0.00    80.00
 201  -661  -749  -753  -665 M G      0.00     0.00    80.00    201  -653  -741  -745  -657 M G
0.00     0.00    80.00
 201  -645  -733  -737  -649 M G      0.00     0.00    80.00    201  -737  -825  -829  -741 M G
0.00     0.00    80.00
 201  -753  -841  -845  -757 M G      0.00     0.00    80.00    201  -677  -765  -769  -681 M G
0.00     0.00    80.00
 202  -849  -937  -941  -853 M G      0.00     0.00    80.00    202  -837  -925  -929  -841 M G
0.00     0.00    80.00
 202  -829  -917  -921  -833 M G      0.00     0.00    80.00    202  -933 -1021 -1025  -937 M G
0.00     0.00    80.00
 202  -833  -921  -925  -837 M G      0.00     0.00    80.00    202  -941 -1029 -1033  -945 M G
0.00     0.00    80.00
 202  -921 -1009 -1013  -925 M G      0.00     0.00    80.00    202  -857  -945  -949  -861 M G
0.00     0.00    80.00
 202  -913 -1001 -1005  -917 M G      0.00     0.00    80.00    202  -945 -1033 -1037  -949 M G
0.00     0.00    80.00
 202  -909  -997 -1001  -913 M G      0.00     0.00    80.00    202  -821  -909  -913  -825 M G
0.00     0.00    80.00
 202  -853  -941  -945  -857 M G      0.00     0.00    80.00    202  -929 -1017 -1021  -933 M G
0.00     0.00    80.00
 202  -917 -1005 -1009  -921 M G      0.00     0.00    80.00    202  -925 -1013 -1017  -929 M G
0.00     0.00    80.00
 202  -841  -929  -933  -845 M G      0.00     0.00    80.00    202  -825  -913  -917  -829 M G
0.00     0.00    80.00
 202  -937 -1025 -1029  -941 M G      0.00     0.00    80.00    202  -845  -933  -937  -849 M G
0.00     0.00    80.00
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 203 -1021 -1109 -1113 -1025 M G      0.00     0.00    80.00    203 -1097 -1185 -1189 -1101 M G
0.00     0.00    80.00
 203 -1013 -1101 -1105 -1017 M G      0.00     0.00    80.00    203 -1005 -1093 -1097 -1009 M G
0.00     0.00    80.00
 203 -1121 -1209 -1213 -1125 M G      0.00     0.00    80.00    203 -1029 -1117 -1121 -1033 M G
0.00     0.00    80.00
 203 -1001 -1089 -1093 -1005 M G      0.00     0.00    80.00    203 -1017 -1105 -1109 -1021 M G
0.00     0.00    80.00
 203 -1093 -1181 -1185 -1097 M G      0.00     0.00    80.00    203 -1117 -1205 -1209 -1121 M G
0.00     0.00    80.00
 203 -1113 -1201 -1205 -1117 M G      0.00     0.00    80.00    203 -1033 -1121 -1125 -1037 M G
0.00     0.00    80.00
 203 -1109 -1197 -1201 -1113 M G      0.00     0.00    80.00    203  -997 -1085 -1089 -1001 M G
0.00     0.00    80.00
 203 -1025 -1113 -1117 -1029 M G      0.00     0.00    80.00    203 -1089 -1177 -1181 -1093 M G
0.00     0.00    80.00
 203 -1009 -1097 -1101 -1013 M G      0.00     0.00    80.00    203 -1085 -1173 -1177 -1089 M G
0.00     0.00    80.00
 203 -1105 -1193 -1197 -1109 M G      0.00     0.00    80.00    203 -1101 -1189 -1193 -1105 M G
0.00     0.00    80.00
 204 -1209 -1297 -1301 -1213 M G      0.00     0.00    80.00    204 -1293 -1381 -1385 -1297 M G
0.00     0.00    80.00
 204 -1265 -1353 -1357 -1269 M G      0.00     0.00    80.00    204 -1205 -1293 -1297 -1209 M G
0.00     0.00    80.00
 204 -1197 -1285 -1289 -1201 M G      0.00     0.00    80.00    204 -1273 -1361 -1365 -1277 M G
0.00     0.00    80.00
 204 -1189 -1277 -1281 -1193 M G      0.00     0.00    80.00    204 -1181 -1269 -1273 -1185 M G
0.00     0.00    80.00
 204 -1261 -1349 -1353 -1265 M G      0.00     0.00    80.00    204 -1269 -1357 -1361 -1273 M G
0.00     0.00    80.00
 204 -1177 -1265 -1269 -1181 M G      0.00     0.00    80.00    204 -1173 -1261 -1265 -1177 M G
0.00     0.00    80.00
 204 -1281 -1369 -1373 -1285 M G      0.00     0.00    80.00    204 -1297 -1385 -1389 -1301 M G
0.00     0.00    80.00
 204 -1277 -1365 -1369 -1281 M G      0.00     0.00    80.00    204 -1193 -1281 -1285 -1197 M G
0.00     0.00    80.00
 204 -1185 -1273 -1277 -1189 M G      0.00     0.00    80.00    204 -1289 -1377 -1381 -1293 M G
0.00     0.00    80.00
 204 -1201 -1289 -1293 -1205 M G      0.00     0.00    80.00    204 -1285 -1373 -1377 -1289 M G
0.00     0.00    80.00
 205 -1262 -1174 -1178 -1266 M G      0.00     0.00    80.00    205 -1290 -1202 -1206 -1294 M G
0.00     0.00    80.00
 205 -1270 -1182 -1186 -1274 M G      0.00     0.00    80.00    205 -1353 -1266 -1270 -1357 M G
0.00     0.00    80.00
 205 -1278 -1190 -1194 -1282 M G      0.00     0.00    80.00    205 -1373 -1286 -1290 -1377 M G
0.00     0.00    80.00
 205 -1361 -1274 -1278 -1365 M G      0.00     0.00    80.00    205 -1381 -1294 -1298 -1385 M G
0.00     0.00    80.00
 205 -1365 -1278 -1282 -1369 M G      0.00     0.00    80.00    205 -1385 -1298 -1302 -1389 M G
0.00     0.00    80.00
 205 -1282 -1194 -1198 -1286 M G      0.00     0.00    80.00    205 -1298 -1210 -1214 -1302 M G
0.00     0.00    80.00
 205 -1349 -1262 -1266 -1353 M G      0.00     0.00    80.00    205 -1286 -1198 -1202 -1290 M G
0.00     0.00    80.00
 205 -1357 -1270 -1274 -1361 M G      0.00     0.00    80.00    205 -1294 -1206 -1210 -1298 M G
0.00     0.00    80.00
 205 -1266 -1178 -1182 -1270 M G      0.00     0.00    80.00    205 -1377 -1290 -1294 -1381 M G
0.00     0.00    80.00
 205 -1369 -1282 -1286 -1373 M G      0.00     0.00    80.00    205 -1274 -1186 -1190 -1278 M G
0.00     0.00    80.00
 206 -1198 -1110 -1114 -1202 M G      0.00     0.00    80.00    206 -1182 -1094 -1098 -1186 M G
0.00     0.00    80.00
 206 -1114 -1026 -1030 -1118 M G      0.00     0.00    80.00    206 -1194 -1106 -1110 -1198 M G
0.00     0.00    80.00
 206 -1210 -1122 -1126 -1214 M G      0.00     0.00    80.00    206 -1110 -1022 -1026 -1114 M G
0.00     0.00    80.00
 206 -1122 -1034 -1038 -1126 M G      0.00     0.00    80.00    206 -1102 -1014 -1018 -1106 M G
0.00     0.00    80.00
 206 -1178 -1090 -1094 -1182 M G      0.00     0.00    80.00    206 -1190 -1102 -1106 -1194 M G
0.00     0.00    80.00
 206 -1094 -1006 -1010 -1098 M G      0.00     0.00    80.00    206 -1098 -1010 -1014 -1102 M G
0.00     0.00    80.00
 206 -1086  -998 -1002 -1090 M G      0.00     0.00    80.00    206 -1174 -1086 -1090 -1178 M G
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0.00     0.00    80.00
 206 -1202 -1114 -1118 -1206 M G      0.00     0.00    80.00    206 -1186 -1098 -1102 -1190 M G
0.00     0.00    80.00
 206 -1118 -1030 -1034 -1122 M G      0.00     0.00    80.00    206 -1106 -1018 -1022 -1110 M G
0.00     0.00    80.00
 206 -1090 -1002 -1006 -1094 M G      0.00     0.00    80.00    206 -1206 -1118 -1122 -1210 M G
0.00     0.00    80.00
 207  -930  -842  -846  -934 M G      0.00     0.00    80.00    207  -926  -838  -842  -930 M G
0.00     0.00    80.00
 207  -910  -822  -826  -914 M G      0.00     0.00    80.00    207  -946  -858  -862  -950 M G
0.00     0.00    80.00
 207 -1010  -922  -926 -1014 M G      0.00     0.00    80.00    207  -914  -826  -830  -918 M G
0.00     0.00    80.00
 207  -998  -910  -914 -1002 M G      0.00     0.00    80.00    207 -1034  -946  -950 -1038 M G
0.00     0.00    80.00
 207  -942  -854  -858  -946 M G      0.00     0.00    80.00    207  -934  -846  -850  -938 M G
0.00     0.00    80.00
 207 -1006  -918  -922 -1010 M G      0.00     0.00    80.00    207 -1030  -942  -946 -1034 M G
0.00     0.00    80.00
 207 -1018  -930  -934 -1022 M G      0.00     0.00    80.00    207 -1026  -938  -942 -1030 M G
0.00     0.00    80.00
 207  -918  -830  -834  -922 M G      0.00     0.00    80.00    207 -1014  -926  -930 -1018 M G
0.00     0.00    80.00
 207 -1002  -914  -918 -1006 M G      0.00     0.00    80.00    207  -922  -834  -838  -926 M G
0.00     0.00    80.00
 207 -1022  -934  -938 -1026 M G      0.00     0.00    80.00    207  -938  -850  -854  -942 M G
0.00     0.00    80.00
 208  -842  -754  -758  -846 M G      0.00     0.00    80.00    208  -826  -738  -742  -830 M G
0.00     0.00    80.00
 208  -742  -654  -658  -746 M G      0.00     0.00    80.00    208  -830  -742  -746  -834 M G
0.00     0.00    80.00
 208  -822  -734  -738  -826 M G      0.00     0.00    80.00    208  -834  -746  -750  -838 M G
0.00     0.00    80.00
 208  -746  -658  -662  -750 M G      0.00     0.00    80.00    208  -846  -758  -762  -850 M G
0.00     0.00    80.00
 208  -838  -750  -754  -842 M G      0.00     0.00    80.00    208  -766  -678  -682  -770 M G
0.00     0.00    80.00
 208  -854  -766  -770  -858 M G      0.00     0.00    80.00    208  -858  -770  -774  -862 M G
0.00     0.00    80.00
 208  -758  -670  -674  -762 M G      0.00     0.00    80.00    208  -762  -674  -678  -766 M G
0.00     0.00    80.00
 208  -850  -762  -766  -854 M G      0.00     0.00    80.00    208  -754  -666  -670  -758 M G
0.00     0.00    80.00
 208  -770  -682  -686  -774 M G      0.00     0.00    80.00    208  -750  -662  -666  -754 M G
0.00     0.00    80.00
 208  -738  -650  -654  -742 M G      0.00     0.00    80.00    208  -734  -646  -650  -738 M G
0.00     0.00    80.00
 209  -582  -494  -498  -586 M G      0.00     0.00    80.00    209  -578  -490  -494  -582 M G
0.00     0.00    80.00
 209  -586  -498  -502  -590 M G      0.00     0.00    80.00    209  -574  -486  -490  -578 M G
0.00     0.00    80.00
 209  -646  -558  -562  -650 M G      0.00     0.00    80.00    209  -674  -586  -590  -678 M G
0.00     0.00    80.00
 209  -590  -502  -506  -594 M G      0.00     0.00    80.00    209  -562  -474  -478  -566 M G
0.00     0.00    80.00
 209  -682  -594  -598  -686 M G      0.00     0.00    80.00    209  -566  -478  -482  -570 M G
0.00     0.00    80.00
 209  -666  -578  -582  -670 M G      0.00     0.00    80.00    209  -558  -470  -474  -562 M G
0.00     0.00    80.00
 209  -654  -566  -570  -658 M G      0.00     0.00    80.00    209  -594  -506  -510  -598 M G
0.00     0.00    80.00
 209  -670  -582  -586  -674 M G      0.00     0.00    80.00    209  -570  -482  -486  -574 M G
0.00     0.00    80.00
 209  -658  -570  -574  -662 M G      0.00     0.00    80.00    209  -662  -574  -578  -666 M G
0.00     0.00    80.00
 209  -650  -562  -566  -654 M G      0.00     0.00    80.00    209  -678  -590  -594  -682 M G
0.00     0.00    80.00
 210  -398  -310  -314  -402 M G      0.00     0.00    80.00    210  -506  -418  -422  -510 M G
0.00     0.00    80.00
 210  -470  -382  -386  -474 M G      0.00     0.00    80.00    210  -490  -402  -406  -494 M G
0.00     0.00    80.00
 210  -382  -294  -298  -386 M G      0.00     0.00    80.00    210  -402  -314  -318  -406 M G
0.00     0.00    80.00
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 210  -418  -330  -334  -422 M G      0.00     0.00    80.00    210  -502  -414  -418  -506 M G
0.00     0.00    80.00
 210  -474  -386  -390  -478 M G      0.00     0.00    80.00    210  -410  -322  -326  -414 M G
0.00     0.00    80.00
 210  -414  -326  -330  -418 M G      0.00     0.00    80.00    210  -482  -394  -398  -486 M G
0.00     0.00    80.00
 210  -390  -302  -306  -394 M G      0.00     0.00    80.00    210  -394  -306  -310  -398 M G
0.00     0.00    80.00
 210  -406  -318  -322  -410 M G      0.00     0.00    80.00    210  -386  -298  -302  -390 M G
0.00     0.00    80.00
 210  -494  -406  -410  -498 M G      0.00     0.00    80.00    210  -498  -410  -414  -502 M G
0.00     0.00    80.00
 210  -486  -398  -402  -490 M G      0.00     0.00    80.00    210  -478  -390  -394  -482 M G
0.00     0.00    80.00
 211  -322  -234  -238  -326 M G      0.00     0.00    80.00    211  -318  -230  -234  -322 M G
0.00     0.00    80.00
 211  -314  -226  -230  -318 M G      0.00     0.00    80.00    211  -298  -210  -214  -302 M G
0.00     0.00    80.00
 211  -222  -134  -138  -226 M G      0.00     0.00    80.00    211  -214  -126  -130  -218 M G
0.00     0.00    80.00
 211  -306  -218  -222  -310 M G      0.00     0.00    80.00    211  -330  -242  -246  -334 M G
0.00     0.00    80.00
 211  -218  -130  -134  -222 M G      0.00     0.00    80.00    211  -242  -154  -158  -246 M G
0.00     0.00    80.00
 211  -230  -142  -146  -234 M G      0.00     0.00    80.00    211  -234  -146  -150  -238 M G
0.00     0.00    80.00
 211  -206  -118  -122  -210 M G      0.00     0.00    80.00    211  -226  -138  -142  -230 M G
0.00     0.00    80.00
 211  -302  -214  -218  -306 M G      0.00     0.00    80.00    211  -310  -222  -226  -314 M G
0.00     0.00    80.00
 211  -210  -122  -126  -214 M G      0.00     0.00    80.00    211  -238  -150  -154  -242 M G
0.00     0.00    80.00
 211  -294  -206  -210  -298 M G      0.00     0.00    80.00    211  -326  -238  -242  -330 M G
0.00     0.00    80.00
 212  -146   -58   -62  -150 M G      0.00     0.00    80.00    212  -126   -38   -42  -130 M G
0.00     0.00    80.00
 212  -134   -46   -50  -138 M G      0.00     0.00    80.00    212  -130   -42   -46  -134 M G
0.00     0.00    80.00
 212   -54   120   -20   -58 M G      0.00     0.00    80.00    212   -70  -158  -154   -66 M G
0.00     0.00    80.00
 212  -138   -50   -54  -142 M G      0.00     0.00    80.00    212   -25   -66   -62   124 M G
0.00     0.00    80.00
 212   -50   -15   120   -54 M G      0.00     0.00    80.00    212   -66  -154  -150   -62 M G
0.00     0.00    80.00
 212   -46   115   -15   -50 M G      0.00     0.00    80.00    212  -122   -34   -38  -126 M G
0.00     0.00    80.00
 212   129   -70   -66   -25 M G      0.00     0.00    80.00    212   -34    -5   110   -38 M G
0.00     0.00    80.00
 212   -58   -20   124   -62 M G      0.00     0.00    80.00    212   -30   104    -5   -34 M G
0.00     0.00    80.00
 212  -118   -30   -34  -122 M G      0.00     0.00    80.00    212   -42   -10   115   -46 M G
0.00     0.00    80.00
 212   -38   110   -10   -42 M G      0.00     0.00    80.00    212  -142   -54   -58  -146 M G
0.00     0.00    80.00
 213  -109   -25   124  -105 M G      0.00     0.00    80.00    213   120   -97  -101   -20 M G
0.00     0.00    80.00
 213  -113   129   -25  -109 M G      0.00     0.00    80.00    213   104   -73   -77    -5 M G
0.00     0.00    80.00
 213  -101  -189  -193  -105 M G      0.00     0.00    80.00    213  -197  -109  -105  -193 M G
0.00     0.00    80.00
 213   -77  -165  -169   -81 M G      0.00     0.00    80.00    213   -10   -85   -89   115 M G
0.00     0.00    80.00
 213   115   -89   -93   -15 M G      0.00     0.00    80.00    213   -85  -173  -177   -89 M G
0.00     0.00    80.00
 213    -5   -77   -81   110 M G      0.00     0.00    80.00    213   -73  -161  -165   -77 M G
0.00     0.00    80.00
 213   -15   -93   -97   120 M G      0.00     0.00    80.00    213   -81  -169  -173   -85 M G
0.00     0.00    80.00
 213   -97  -185  -189  -101 M G      0.00     0.00    80.00    213   110   -81   -85   -10 M G
0.00     0.00    80.00
 213   -20  -101  -105   124 M G      0.00     0.00    80.00    213  -201  -113  -109  -197 M G
0.00     0.00    80.00
 213   -93  -181  -185   -97 M G      0.00     0.00    80.00    213   -89  -177  -181   -93 M G
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0.00     0.00    80.00
 214  -185  -273  -277  -189 M G      0.00     0.00    80.00    214  -285  -373  -377  -289 M G
0.00     0.00    80.00
 214  -253  -341  -345  -257 M G      0.00     0.00    80.00    214  -257  -345  -349  -261 M G
0.00     0.00    80.00
 214  -269  -357  -361  -273 M G      0.00     0.00    80.00    214  -193  -281  -285  -197 M G
0.00     0.00    80.00
 214  -265  -353  -357  -269 M G      0.00     0.00    80.00    214  -261  -349  -353  -265 M G
0.00     0.00    80.00
 214  -197  -285  -289  -201 M G      0.00     0.00    80.00    214  -189  -277  -281  -193 M G
0.00     0.00    80.00
 214  -277  -365  -369  -281 M G      0.00     0.00    80.00    214  -165  -253  -257  -169 M G
0.00     0.00    80.00
 214  -161  -249  -253  -165 M G      0.00     0.00    80.00    214  -181  -269  -273  -185 M G
0.00     0.00    80.00
 214  -281  -369  -373  -285 M G      0.00     0.00    80.00    214  -177  -265  -269  -181 M G
0.00     0.00    80.00
 214  -169  -257  -261  -173 M G      0.00     0.00    80.00    214  -249  -337  -341  -253 M G
0.00     0.00    80.00
 214  -173  -261  -265  -177 M G      0.00     0.00    80.00    214  -273  -361  -365  -277 M G
0.00     0.00    80.00
 215  -449  -537  -541  -453 M G      0.00     0.00    80.00    215  -365  -453  -457  -369 M G
0.00     0.00    80.00
 215  -369  -457  -461  -373 M G      0.00     0.00    80.00    215  -461  -549  -553  -465 M G
0.00     0.00    80.00
 215  -441  -529  -533  -445 M G      0.00     0.00    80.00    215  -445  -533  -537  -449 M G
0.00     0.00    80.00
 215  -373  -461  -465  -377 M G      0.00     0.00    80.00    215  -457  -545  -549  -461 M G
0.00     0.00    80.00
 215  -337  -425  -429  -341 M G      0.00     0.00    80.00    215  -433  -521  -525  -437 M G
0.00     0.00    80.00
 215  -437  -525  -529  -441 M G      0.00     0.00    80.00    215  -341  -429  -433  -345 M G
0.00     0.00    80.00
 215  -425  -513  -517  -429 M G      0.00     0.00    80.00    215  -349  -437  -441  -353 M G
0.00     0.00    80.00
 215  -345  -433  -437  -349 M G      0.00     0.00    80.00    215  -361  -449  -453  -365 M G
0.00     0.00    80.00
 215  -353  -441  -445  -357 M G      0.00     0.00    80.00    215  -453  -541  -545  -457 M G
0.00     0.00    80.00
 215  -357  -445  -449  -361 M G      0.00     0.00    80.00    215  -429  -517  -521  -433 M G
0.00     0.00    80.00
 216  -533  -621  -625  -537 M G      0.00     0.00    80.00    216  -513  -601  -605  -517 M G
0.00     0.00    80.00
 216  -625  -713  -717  -629 M G      0.00     0.00    80.00    216  -525  -613  -617  -529 M G
0.00     0.00    80.00
 216  -545  -633  -637  -549 M G      0.00     0.00    80.00    216  -521  -609  -613  -525 M G
0.00     0.00    80.00
 216  -537  -625  -629  -541 M G      0.00     0.00    80.00    216  -617  -705  -709  -621 M G
0.00     0.00    80.00
 216  -637  -725  -729  -641 M G      0.00     0.00    80.00    216  -549  -637  -641  -553 M G
0.00     0.00    80.00
 216  -633  -721  -725  -637 M G      0.00     0.00    80.00    216  -605  -693  -697  -609 M G
0.00     0.00    80.00
 216  -609  -697  -701  -613 M G      0.00     0.00    80.00    216  -621  -709  -713  -625 M G
0.00     0.00    80.00
 216  -629  -717  -721  -633 M G      0.00     0.00    80.00    216  -601  -689  -693  -605 M G
0.00     0.00    80.00
 216  -541  -629  -633  -545 M G      0.00     0.00    80.00    216  -529  -617  -621  -533 M G
0.00     0.00    80.00
 216  -517  -605  -609  -521 M G      0.00     0.00    80.00    216  -613  -701  -705  -617 M G
0.00     0.00    80.00
 217  -697  -785  -789  -701 M G      0.00     0.00    80.00    217  -805  -893  -897  -809 M G
0.00     0.00    80.00
 217  -717  -805  -809  -721 M G      0.00     0.00    80.00    217  -789  -877  -881  -793 M G
0.00     0.00    80.00
 217  -725  -813  -817  -729 M G      0.00     0.00    80.00    217  -793  -881  -885  -797 M G
0.00     0.00    80.00
 217  -797  -885  -889  -801 M G      0.00     0.00    80.00    217  -693  -781  -785  -697 M G
0.00     0.00    80.00
 217  -721  -809  -813  -725 M G      0.00     0.00    80.00    217  -709  -797  -801  -713 M G
0.00     0.00    80.00
 217  -705  -793  -797  -709 M G      0.00     0.00    80.00    217  -713  -801  -805  -717 M G
0.00     0.00    80.00
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 217  -701  -789  -793  -705 M G      0.00     0.00    80.00    217  -785  -873  -877  -789 M G
0.00     0.00    80.00
 217  -809  -897  -901  -813 M G      0.00     0.00    80.00    217  -801  -889  -893  -805 M G
0.00     0.00    80.00
 217  -689  -777  -781  -693 M G      0.00     0.00    80.00    217  -777  -865  -869  -781 M G
0.00     0.00    80.00
 217  -813  -901  -905  -817 M G      0.00     0.00    80.00    217  -781  -869  -873  -785 M G
0.00     0.00    80.00
 218  -873  -961  -965  -877 M G      0.00     0.00    80.00    218  -881  -969  -973  -885 M G
0.00     0.00    80.00
 218  -893  -981  -985  -897 M G      0.00     0.00    80.00    218  -885  -973  -977  -889 M G
0.00     0.00    80.00
 218  -877  -965  -969  -881 M G      0.00     0.00    80.00    218  -865  -953  -957  -869 M G
0.00     0.00    80.00
 218  -985 -1073 -1077  -989 M G      0.00     0.00    80.00    218  -901  -989  -993  -905 M G
0.00     0.00    80.00
 218  -977 -1065 -1069  -981 M G      0.00     0.00    80.00    218  -989 -1077 -1081  -993 M G
0.00     0.00    80.00
 218  -869  -957  -961  -873 M G      0.00     0.00    80.00    218  -953 -1041 -1045  -957 M G
0.00     0.00    80.00
 218  -889  -977  -981  -893 M G      0.00     0.00    80.00    218  -981 -1069 -1073  -985 M G
0.00     0.00    80.00
 218  -897  -985  -989  -901 M G      0.00     0.00    80.00    218  -957 -1045 -1049  -961 M G
0.00     0.00    80.00
 218  -961 -1049 -1053  -965 M G      0.00     0.00    80.00    218  -965 -1053 -1057  -969 M G
0.00     0.00    80.00
 218  -973 -1061 -1065  -977 M G      0.00     0.00    80.00    218  -969 -1057 -1061  -973 M G
0.00     0.00    80.00
 219 -1065 -1153 -1157 -1069 M G      0.00     0.00    80.00    219 -1165 -1253 -1257 -1169 M G
0.00     0.00    80.00
 219 -1053 -1141 -1145 -1057 M G      0.00     0.00    80.00    219 -1137 -1225 -1229 -1141 M G
0.00     0.00    80.00
 219 -1141 -1229 -1233 -1145 M G      0.00     0.00    80.00    219 -1073 -1161 -1165 -1077 M G
0.00     0.00    80.00
 219 -1157 -1245 -1249 -1161 M G      0.00     0.00    80.00    219 -1069 -1157 -1161 -1073 M G
0.00     0.00    80.00
 219 -1049 -1137 -1141 -1053 M G      0.00     0.00    80.00    219 -1161 -1249 -1253 -1165 M G
0.00     0.00    80.00
 219 -1133 -1221 -1225 -1137 M G      0.00     0.00    80.00    219 -1145 -1233 -1237 -1149 M G
0.00     0.00    80.00
 219 -1041 -1129 -1133 -1045 M G      0.00     0.00    80.00    219 -1077 -1165 -1169 -1081 M G
0.00     0.00    80.00
 219 -1129 -1217 -1221 -1133 M G      0.00     0.00    80.00    219 -1061 -1149 -1153 -1065 M G
0.00     0.00    80.00
 219 -1045 -1133 -1137 -1049 M G      0.00     0.00    80.00    219 -1153 -1241 -1245 -1157 M G
0.00     0.00    80.00
 219 -1057 -1145 -1149 -1061 M G      0.00     0.00    80.00    219 -1149 -1237 -1241 -1153 M G
0.00     0.00    80.00
 220 -1329 -1374 -1378 -1333 M G      0.00     0.00    80.00    220 -1313 -1358 -1362 -1317 M G
0.00     0.00    80.00
 220 -1317 -1362 -1366 -1321 M G      0.00     0.00    80.00    220 -1253 -1341 -1345 -1257 M G
0.00     0.00    80.00
 220 -1333 -1378 -1382 -1337 M G      0.00     0.00    80.00    220 -1229 -1317 -1321 -1233 M G
0.00     0.00    80.00
 220 -1249 -1337 -1341 -1253 M G      0.00     0.00    80.00    220 -1245 -1333 -1337 -1249 M G
0.00     0.00    80.00
 220 -1217 -1305 -1309 -1221 M G      0.00     0.00    80.00    220 -1321 -1366 -1370 -1325 M G
0.00     0.00    80.00
 220 -1325 -1370 -1374 -1329 M G      0.00     0.00    80.00    220 -1221 -1309 -1313 -1225 M G
0.00     0.00    80.00
 220 -1337 -1382 -1386 -1341 M G      0.00     0.00    80.00    220 -1341 -1386 -1390 -1345 M G
0.00     0.00    80.00
 220 -1225 -1313 -1317 -1229 M G      0.00     0.00    80.00    220 -1241 -1329 -1333 -1245 M G
0.00     0.00    80.00
 220 -1237 -1325 -1329 -1241 M G      0.00     0.00    80.00    220 -1305 -1350 -1354 -1309 M G
0.00     0.00    80.00
 220 -1309 -1354 -1358 -1313 M G      0.00     0.00    80.00    220 -1233 -1321 -1325 -1237 M G
0.00     0.00    80.00
 221 -1362 -1318 -1322 -1366 M G      0.00     0.00    80.00    221 -1386 -1342 -1346 -1390 M G
0.00     0.00    80.00
 221 -1338 -1250 -1254 -1342 M G      0.00     0.00    80.00    221 -1342 -1254 -1258 -1346 M G
0.00     0.00    80.00
 221 -1314 -1226 -1230 -1318 M G      0.00     0.00    80.00    221 -1306 -1218 -1222 -1310 M G
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0.00     0.00    80.00
 221 -1366 -1322 -1326 -1370 M G      0.00     0.00    80.00    221 -1322 -1234 -1238 -1326 M G
0.00     0.00    80.00
 221 -1310 -1222 -1226 -1314 M G      0.00     0.00    80.00    221 -1374 -1330 -1334 -1378 M G
0.00     0.00    80.00
 221 -1358 -1314 -1318 -1362 M G      0.00     0.00    80.00    221 -1370 -1326 -1330 -1374 M G
0.00     0.00    80.00
 221 -1382 -1338 -1342 -1386 M G      0.00     0.00    80.00    221 -1318 -1230 -1234 -1322 M G
0.00     0.00    80.00
 221 -1354 -1310 -1314 -1358 M G      0.00     0.00    80.00    221 -1330 -1242 -1246 -1334 M G
0.00     0.00    80.00
 221 -1326 -1238 -1242 -1330 M G      0.00     0.00    80.00    221 -1334 -1246 -1250 -1338 M G
0.00     0.00    80.00
 221 -1350 -1306 -1310 -1354 M G      0.00     0.00    80.00    221 -1378 -1334 -1338 -1382 M G
0.00     0.00    80.00
 222 -1142 -1054 -1058 -1146 M G      0.00     0.00    80.00    222 -1138 -1050 -1054 -1142 M G
0.00     0.00    80.00
 222 -1254 -1166 -1170 -1258 M G      0.00     0.00    80.00    222 -1226 -1138 -1142 -1230 M G
0.00     0.00    80.00
 222 -1230 -1142 -1146 -1234 M G      0.00     0.00    80.00    222 -1234 -1146 -1150 -1238 M G
0.00     0.00    80.00
 222 -1246 -1158 -1162 -1250 M G      0.00     0.00    80.00    222 -1222 -1134 -1138 -1226 M G
0.00     0.00    80.00
 222 -1162 -1074 -1078 -1166 M G      0.00     0.00    80.00    222 -1166 -1078 -1082 -1170 M G
0.00     0.00    80.00
 222 -1158 -1070 -1074 -1162 M G      0.00     0.00    80.00    222 -1150 -1062 -1066 -1154 M G
0.00     0.00    80.00
 222 -1154 -1066 -1070 -1158 M G      0.00     0.00    80.00    222 -1250 -1162 -1166 -1254 M G
0.00     0.00    80.00
 222 -1130 -1042 -1046 -1134 M G      0.00     0.00    80.00    222 -1218 -1130 -1134 -1222 M G
0.00     0.00    80.00
 222 -1146 -1058 -1062 -1150 M G      0.00     0.00    80.00    222 -1134 -1046 -1050 -1138 M G
0.00     0.00    80.00
 222 -1238 -1150 -1154 -1242 M G      0.00     0.00    80.00    222 -1242 -1154 -1158 -1246 M G
0.00     0.00    80.00
 223  -782  -694  -698  -786 M G      0.00     0.00    80.00    223  -890  -802  -806  -894 M G
0.00     0.00    80.00
 223  -882  -794  -798  -886 M G      0.00     0.00    80.00    223  -778  -690  -694  -782 M G
0.00     0.00    80.00
 223  -802  -714  -718  -806 M G      0.00     0.00    80.00    223  -870  -782  -786  -874 M G
0.00     0.00    80.00
 223  -874  -786  -790  -878 M G      0.00     0.00    80.00    223  -790  -702  -706  -794 M G
0.00     0.00    80.00
 223  -806  -718  -722  -810 M G      0.00     0.00    80.00    223  -898  -810  -814  -902 M G
0.00     0.00    80.00
 223  -810  -722  -726  -814 M G      0.00     0.00    80.00    223  -894  -806  -810  -898 M G
0.00     0.00    80.00
 223  -794  -706  -710  -798 M G      0.00     0.00    80.00    223  -878  -790  -794  -882 M G
0.00     0.00    80.00
 223  -886  -798  -802  -890 M G      0.00     0.00    80.00    223  -786  -698  -702  -790 M G
0.00     0.00    80.00
 223  -798  -710  -714  -802 M G      0.00     0.00    80.00    223  -902  -814  -818  -906 M G
0.00     0.00    80.00
 223  -814  -726  -730  -818 M G      0.00     0.00    80.00    223  -866  -778  -782  -870 M G
0.00     0.00    80.00
 224 -1066  -978  -982 -1070 M G      0.00     0.00    80.00    224 -1058  -970  -974 -1062 M G
0.00     0.00    80.00
 224 -1074  -986  -990 -1078 M G      0.00     0.00    80.00    224 -1078  -990  -994 -1082 M G
0.00     0.00    80.00
 224 -1050  -962  -966 -1054 M G      0.00     0.00    80.00    224  -974  -886  -890  -978 M G
0.00     0.00    80.00
 224  -958  -870  -874  -962 M G      0.00     0.00    80.00    224  -986  -898  -902  -990 M G
0.00     0.00    80.00
 224  -962  -874  -878  -966 M G      0.00     0.00    80.00    224  -970  -882  -886  -974 M G
0.00     0.00    80.00
 224  -978  -890  -894  -982 M G      0.00     0.00    80.00    224 -1070  -982  -986 -1074 M G
0.00     0.00    80.00
 224 -1042  -954  -958 -1046 M G      0.00     0.00    80.00    224  -990  -902  -906  -994 M G
0.00     0.00    80.00
 224  -966  -878  -882  -970 M G      0.00     0.00    80.00    224 -1054  -966  -970 -1058 M G
0.00     0.00    80.00
 224 -1062  -974  -978 -1066 M G      0.00     0.00    80.00    224 -1046  -958  -962 -1050 M G
0.00     0.00    80.00
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 224  -982  -894  -898  -986 M G      0.00     0.00    80.00    224  -954  -866  -870  -958 M G
0.00     0.00    80.00
 225  -618  -622  -710  -706 M G      0.00     0.00    80.00    225  -630  -634  -722  -718 M G
0.00     0.00    80.00
 225  -626  -630  -718  -714 M G      0.00     0.00    80.00    225  -638  -642  -730  -726 M G
0.00     0.00    80.00
 225  -522  -526  -614  -610 M G      0.00     0.00    80.00    225  -550  -554  -642  -638 M G
0.00     0.00    80.00
 225  -546  -550  -638  -634 M G      0.00     0.00    80.00    225  -694  -606  -610  -698 M G
0.00     0.00    80.00
 225  -530  -534  -622  -618 M G      0.00     0.00    80.00    225  -526  -530  -618  -614 M G
0.00     0.00    80.00
 225  -614  -618  -706  -702 M G      0.00     0.00    80.00    225  -606  -518  -522  -610 M G
0.00     0.00    80.00
 225  -534  -538  -626  -622 M G      0.00     0.00    80.00    225  -542  -546  -634  -630 M G
0.00     0.00    80.00
 225  -634  -638  -726  -722 M G      0.00     0.00    80.00    225  -538  -542  -630  -626 M G
0.00     0.00    80.00
 225  -610  -614  -702  -698 M G      0.00     0.00    80.00    225  -602  -514  -518  -606 M G
0.00     0.00    80.00
 225  -622  -626  -714  -710 M G      0.00     0.00    80.00    225  -690  -602  -606  -694 M G
0.00     0.00    80.00
 226  -178   -90   -94  -182 M G      0.00     0.00    80.00    226  -162   -74   -78  -166 M G
0.00     0.00    80.00
 226  -102   -21   125  -106 M G      0.00     0.00    80.00    226   -90   112   -16   -94 M G
0.00     0.00    80.00
 226   -94   -16   117   -98 M G      0.00     0.00    80.00    226   125   -26  -110  -106 M G
0.00     0.00    80.00
 226   -74   105    -6   -78 M G      0.00     0.00    80.00    226  -174   -86   -90  -178 M G
0.00     0.00    80.00
 226  -182   -94   -98  -186 M G      0.00     0.00    80.00    226   -86   -11   112   -90 M G
0.00     0.00    80.00
 226  -106  -110  -198  -194 M G      0.00     0.00    80.00    226   -26   130  -114  -110 M G
0.00     0.00    80.00
 226   -98   117   -21  -102 M G      0.00     0.00    80.00    226   -78    -6   107   -82 M G
0.00     0.00    80.00
 226  -166   -78   -82  -170 M G      0.00     0.00    80.00    226  -110  -114  -202  -198 M G
0.00     0.00    80.00
 226  -186   -98  -102  -190 M G      0.00     0.00    80.00    226  -190  -102  -106  -194 M G
0.00     0.00    80.00
 226   -82   107   -11   -86 M G      0.00     0.00    80.00    226  -170   -82   -86  -174 M G
0.00     0.00    80.00
 227  -366  -278  -282  -370 M G      0.00     0.00    80.00    227  -282  -194  -198  -286 M G
0.00     0.00    80.00
 227  -286  -198  -202  -290 M G      0.00     0.00    80.00    227  -370  -282  -286  -374 M G
0.00     0.00    80.00
 227  -354  -266  -270  -358 M G      0.00     0.00    80.00    227  -262  -174  -178  -266 M G
0.00     0.00    80.00
 227  -350  -262  -266  -354 M G      0.00     0.00    80.00    227  -374  -286  -290  -378 M G
0.00     0.00    80.00
 227  -346  -258  -262  -350 M G      0.00     0.00    80.00    227  -270  -182  -186  -274 M G
0.00     0.00    80.00
 227  -338  -250  -254  -342 M G      0.00     0.00    80.00    227  -342  -254  -258  -346 M G
0.00     0.00    80.00
 227  -274  -186  -190  -278 M G      0.00     0.00    80.00    227  -278  -190  -194  -282 M G
0.00     0.00    80.00
 227  -362  -274  -278  -366 M G      0.00     0.00    80.00    227  -258  -170  -174  -262 M G
0.00     0.00    80.00
 227  -358  -270  -274  -362 M G      0.00     0.00    80.00    227  -250  -162  -166  -254 M G
0.00     0.00    80.00
 227  -254  -166  -170  -258 M G      0.00     0.00    80.00    227  -266  -178  -182  -270 M G
0.00     0.00    80.00
 228  -354  -358  -446  -442 M G      0.00     0.00    80.00    228  -462  -466  -554  -550 M G
0.00     0.00    80.00
 228  -430  -342  -346  -434 M G      0.00     0.00    80.00    228  -514  -426  -430  -518 M G
0.00     0.00    80.00
 228  -426  -338  -342  -430 M G      0.00     0.00    80.00    228  -366  -370  -458  -454 M G
0.00     0.00    80.00
 228  -450  -454  -542  -538 M G      0.00     0.00    80.00    228  -458  -462  -550  -546 M G
0.00     0.00    80.00
 228  -434  -438  -526  -522 M G      0.00     0.00    80.00    228  -442  -446  -534  -530 M G
0.00     0.00    80.00
 228  -358  -362  -450  -446 M G      0.00     0.00    80.00    228  -446  -450  -538  -534 M G
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0.00 0.00 80.00
228 -350 -354 -442 -438 M G 0.00 0.00 80.00 228 -438 -442 -530 -526 M G
0.00 0.00 80.00
228 -362 -366 -454 -450 M G 0.00 0.00 80.00 228 -346 -350 -438 -434 M G
0.00 0.00 80.00
228 -454 -458 -546 -542 M G 0.00 0.00 80.00 228 -370 -374 -462 -458 M G
0.00 0.00 80.00
228 -374 -378 -466 -462 M G 0.00 0.00 80.00 228 -518 -430 -434 -522 M G
0.00 0.00 80.00

ELENCO CARICHI ELEMENTI BIDIMENSIONALI

CONDIZIONE DI CARICO 4: ESE

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>
165	101	-71	-75	-2	M	G	0.00	0.00	50.00	165	-87	-175	-179	-91	M	G	0.00	0.00	50.00
165	-91	-179	-183	-95	M	G	0.00	0.00	50.00	165	-195	-107	-103	-191	M	G	0.00	0.00	50.00
165	-111	126	-22	-107	M	G	0.00	0.00	50.00	165	116	-95	-99	-17	M	G	0.00	0.00	50.00
165	-7	-83	-87	111	M	G	0.00	0.00	50.00	165	-17	-99	-103	121	M	G	0.00	0.00	50.00
165	-83	-171	-175	-87	M	G	0.00	0.00	50.00	165	-79	-167	-171	-83	M	G	0.00	0.00	50.00
165	106	-79	-83	-7	M	G	0.00	0.00	50.00	165	-2	-75	-79	106	M	G	0.00	0.00	50.00
165	-71	-159	-163	-75	M	G	0.00	0.00	50.00	165	-107	-22	121	-103	M	G	0.00	0.00	50.00
165	-95	-183	-187	-99	M	G	0.00	0.00	50.00	165	-199	-111	-107	-195	M	G	0.00	0.00	50.00
165	-75	-163	-167	-79	M	G	0.00	0.00	50.00	165	-99	-187	-191	-103	M	G	0.00	0.00	50.00
165	111	-87	-91	-12	M	G	0.00	0.00	50.00	165	-12	-91	-95	116	M	G	0.00	0.00	50.00
166	-271	-359	-363	-275	M	G	0.00	0.00	50.00	166	-195	-283	-287	-199	M	G	0.00	0.00	50.00
166	-247	-335	-339	-251	M	G	0.00	0.00	50.00	166	-159	-247	-251	-163	M	G	0.00	0.00	50.00
166	-183	-271	-275	-187	M	G	0.00	0.00	50.00	166	-163	-251	-255	-167	M	G	0.00	0.00	50.00
166	-171	-259	-263	-175	M	G	0.00	0.00	50.00	166	-279	-367	-371	-283	M	G	0.00	0.00	50.00
166	-251	-339	-343	-255	M	G	0.00	0.00	50.00	166	-263	-351	-355	-267	M	G	0.00	0.00	50.00
166	-267	-355	-359	-271	M	G	0.00	0.00	50.00	166	-259	-347	-351	-263	M	G	0.00	0.00	50.00
166	-255	-343	-347	-259	M	G	0.00	0.00	50.00	166	-187	-275	-279	-191	M	G	0.00	0.00	50.00
166	-175	-263	-267	-179	M	G	0.00	0.00	50.00	166	-167	-255	-259	-171	M	G	0.00	0.00	50.00
166	-179	-267	-271	-183	M	G	0.00	0.00	50.00	166	-283	-371	-375	-287	M	G	0.00	0.00	50.00
166	-191	-279	-283	-195	M	G	0.00	0.00	50.00	166	-275	-363	-367	-279	M	G	0.00	0.00	50.00
167	-427	-515	-519	-431	M	G	0.00	0.00	50.00	167	-423	-511	-515	-427	M	G	0.00	0.00	50.00
167	-435	-523	-527	-439	M	G	0.00	0.00	50.00	167	-363	-451	-455	-367	M	G	0.00	0.00	50.00
167	-455	-543	-547	-459	M	G	0.00	0.00	50.00	167	-459	-547	-551	-463	M	G	0.00	0.00	50.00
167	-335	-423	-427	-339	M	G	0.00	0.00	50.00	167	-447	-535	-539	-451	M	G	0.00	0.00	50.00
167	-339	-427	-431	-343	M	G	0.00	0.00	50.00	167	-439	-527	-531	-443	M	G	0.00	0.00	50.00
167	-451	-539	-543	-455	M	G	0.00	0.00	50.00	167	-343	-431	-435	-347	M	G			

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0.00     0.00    50.00
 167  -351  -439  -443  -355 M G      0.00     0.00    50.00    167  -355  -443  -447  -359 M G
0.00     0.00    50.00
 167  -347  -435  -439  -351 M G      0.00     0.00    50.00    167  -431  -519  -523  -435 M G
0.00     0.00    50.00
 167  -371  -459  -463  -375 M G      0.00     0.00    50.00    167  -367  -455  -459  -371 M G
0.00     0.00    50.00
 167  -443  -531  -535  -447 M G      0.00     0.00    50.00    167  -359  -447  -451  -363 M G
0.00     0.00    50.00
 168  -547  -635  -639  -551 M G      0.00     0.00    50.00    168  -515  -603  -607  -519 M G
0.00     0.00    50.00
 168  -527  -615  -619  -531 M G      0.00     0.00    50.00    168  -619  -707  -711  -623 M G
0.00     0.00    50.00
 168  -543  -631  -635  -547 M G      0.00     0.00    50.00    168  -539  -627  -631  -543 M G
0.00     0.00    50.00
 168  -535  -623  -627  -539 M G      0.00     0.00    50.00    168  -523  -611  -615  -527 M G
0.00     0.00    50.00
 168  -615  -703  -707  -619 M G      0.00     0.00    50.00    168  -623  -711  -715  -627 M G
0.00     0.00    50.00
 168  -635  -723  -727  -639 M G      0.00     0.00    50.00    168  -631  -719  -723  -635 M G
0.00     0.00    50.00
 168  -511  -599  -603  -515 M G      0.00     0.00    50.00    168  -519  -607  -611  -523 M G
0.00     0.00    50.00
 168  -627  -715  -719  -631 M G      0.00     0.00    50.00    168  -531  -619  -623  -535 M G
0.00     0.00    50.00
 168  -607  -695  -699  -611 M G      0.00     0.00    50.00    168  -599  -687  -691  -603 M G
0.00     0.00    50.00
 168  -611  -699  -703  -615 M G      0.00     0.00    50.00    168  -603  -691  -695  -607 M G
0.00     0.00    50.00
 169  -807  -895  -899  -811 M G      0.00     0.00    50.00    169  -775  -863  -867  -779 M G
0.00     0.00    50.00
 169  -787  -875  -879  -791 M G      0.00     0.00    50.00    169  -811  -899  -903  -815 M G
0.00     0.00    50.00
 169  -695  -783  -787  -699 M G      0.00     0.00    50.00    169  -783  -871  -875  -787 M G
0.00     0.00    50.00
 169  -691  -779  -783  -695 M G      0.00     0.00    50.00    169  -723  -811  -815  -727 M G
0.00     0.00    50.00
 169  -707  -795  -799  -711 M G      0.00     0.00    50.00    169  -703  -791  -795  -707 M G
0.00     0.00    50.00
 169  -711  -799  -803  -715 M G      0.00     0.00    50.00    169  -719  -807  -811  -723 M G
0.00     0.00    50.00
 169  -699  -787  -791  -703 M G      0.00     0.00    50.00    169  -791  -879  -883  -795 M G
0.00     0.00    50.00
 169  -803  -891  -895  -807 M G      0.00     0.00    50.00    169  -779  -867  -871  -783 M G
0.00     0.00    50.00
 169  -715  -803  -807  -719 M G      0.00     0.00    50.00    169  -687  -775  -779  -691 M G
0.00     0.00    50.00
 169  -795  -883  -887  -799 M G      0.00     0.00    50.00    169  -799  -887  -891  -803 M G
0.00     0.00    50.00
 170  -967 -1055 -1059  -971 M G      0.00     0.00    50.00    170  -863  -951  -955  -867 M G
0.00     0.00    50.00
 170  -887  -975  -979  -891 M G      0.00     0.00    50.00    170  -891  -979  -983  -895 M G
0.00     0.00    50.00
 170  -971 -1059 -1063  -975 M G      0.00     0.00    50.00    170  -963 -1051 -1055  -967 M G
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 170  -899  -987  -991  -903 M G      0.00     0.00    50.00    170  -871  -959  -963  -875 M G
0.00     0.00    50.00
 170  -987 -1075 -1079  -991 M G      0.00     0.00    50.00    170  -983 -1071 -1075  -987 M G
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 170  -895  -983  -987  -899 M G      0.00     0.00    50.00    170  -879  -967  -971  -883 M G
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 170  -951 -1039 -1043  -955 M G      0.00     0.00    50.00    170  -955 -1043 -1047  -959 M G
0.00     0.00    50.00
 170  -875  -963  -967  -879 M G      0.00     0.00    50.00    170  -975 -1063 -1067  -979 M G
0.00     0.00    50.00
 170  -979 -1067 -1071  -983 M G      0.00     0.00    50.00    170  -959 -1047 -1051  -963 M G
0.00     0.00    50.00
 170  -867  -955  -959  -871 M G      0.00     0.00    50.00    170  -883  -971  -975  -887 M G
0.00     0.00    50.00
 171 -1043 -1131 -1135 -1047 M G      0.00     0.00    50.00    171 -1051 -1139 -1143 -1055 M G
0.00     0.00    50.00
 171 -1135 -1223 -1227 -1139 M G      0.00     0.00    50.00    171 -1039 -1127 -1131 -1043 M G
0.00     0.00    50.00
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171 -1067 -1155 -1159 -1071 M G 0.00 0.00 50.00 171 -1075 -1163 -1167 -1079 M G
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171 -1151 -1239 -1243 -1155 M G 0.00 0.00 50.00 171 -1127 -1215 -1219 -1131 M G
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171 -1047 -1135 -1139 -1051 M G 0.00 0.00 50.00 171 -1143 -1231 -1235 -1147 M G
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171 -1159 -1247 -1251 -1163 M G 0.00 0.00 50.00 171 -1063 -1151 -1155 -1067 M G
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171 -1155 -1243 -1247 -1159 M G 0.00 0.00 50.00 171 -1163 -1251 -1255 -1167 M G
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171 -1059 -1147 -1151 -1063 M G 0.00 0.00 50.00 171 -1131 -1219 -1223 -1135 M G
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172 -1331 -1375 -1379 -1335 M G 0.00 0.00 50.00 172 -1231 -1319 -1323 -1235 M G
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172 -1339 -1383 -1387 -1343 M G 0.00 0.00 50.00 172 -1215 -1303 -1307 -1219 M G
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172 -1235 -1323 -1327 -1239 M G 0.00 0.00 50.00 172 -1223 -1311 -1315 -1227 M G
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172 -1227 -1315 -1319 -1231 M G 0.00 0.00 50.00 172 -1219 -1307 -1311 -1223 M G
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172 -1239 -1327 -1331 -1243 M G 0.00 0.00 50.00 172 -1323 -1367 -1371 -1327 M G
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173 -1371 -1328 -1332 -1375 M G 0.00 0.00 50.00 173 -1383 -1340 -1344 -1387 M G
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173 -1324 -1236 -1240 -1328 M G 0.00 0.00 50.00 173 -1363 -1320 -1324 -1367 M G
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173 -1379 -1336 -1340 -1383 M G 0.00 0.00 50.00 173 -1320 -1232 -1236 -1324 M G
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173 -1351 -1308 -1312 -1355 M G 0.00 0.00 50.00 173 -1359 -1316 -1320 -1363 M G
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173 -1355 -1312 -1316 -1359 M G 0.00 0.00 50.00 173 -1308 -1220 -1224 -1312 M G
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173 -1316 -1228 -1232 -1320 M G 0.00 0.00 50.00 173 -1304 -1216 -1220 -1308 M G
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173 -1336 -1248 -1252 -1340 M G 0.00 0.00 50.00 173 -1375 -1332 -1336 -1379 M G
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173 -1367 -1324 -1328 -1371 M G 0.00 0.00 50.00 173 -1328 -1240 -1244 -1332 M G
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173 -1347 -1304 -1308 -1351 M G 0.00 0.00 50.00 173 -1312 -1224 -1228 -1316 M G
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173 -1332 -1244 -1248 -1336 M G 0.00 0.00 50.00 173 -1340 -1252 -1256 -1344 M G
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174 -1240 -1152 -1156 -1244 M G 0.00 0.00 50.00 174 -1224 -1136 -1140 -1228 M G
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174 -1132 -1044 -1048 -1136 M G 0.00 0.00 50.00 174 -1140 -1052 -1056 -1144 M G
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174 -1128 -1040 -1044 -1132 M G 0.00 0.00 50.00 174 -1160 -1072 -1076 -1164 M G
0.00 0.00 50.00
174 -1252 -1164 -1168 -1256 M G 0.00 0.00 50.00 174 -1220 -1132 -1136 -1224 M G
0.00 0.00 50.00
174 -1164 -1076 -1080 -1168 M G 0.00 0.00 50.00 174 -1236 -1148 -1152 -1240 M G
0.00 0.00 50.00
174 -1248 -1160 -1164 -1252 M G 0.00 0.00 50.00 174 -1136 -1048 -1052 -1140 M G
0.00 0.00 50.00
174 -1228 -1140 -1144 -1232 M G 0.00 0.00 50.00 174 -1244 -1156 -1160 -1248 M G
0.00 0.00 50.00
174 -1156 -1068 -1072 -1160 M G 0.00 0.00 50.00 174 -1232 -1144 -1148 -1236 M G
0.00 0.00 50.00
174 -1144 -1056 -1060 -1148 M G 0.00 0.00 50.00 174 -1216 -1128 -1132 -1220 M G

```
0.00     0.00    50.00
 174 -1148 -1060 -1064 -1152 M G      0.00     0.00    50.00    174 -1152 -1064 -1068 -1156 M G
0.00     0.00    50.00
 175  -868  -780  -784  -872 M G      0.00     0.00    50.00    175  -872  -784  -788  -876 M G
0.00     0.00    50.00
 175  -792  -704  -708  -796 M G      0.00     0.00    50.00    175  -884  -796  -800  -888 M G
0.00     0.00    50.00
 175  -776  -688  -692  -780 M G      0.00     0.00    50.00    175  -888  -800  -804  -892 M G
0.00     0.00    50.00
 175  -800  -712  -716  -804 M G      0.00     0.00    50.00    175  -896  -808  -812  -900 M G
0.00     0.00    50.00
 175  -864  -776  -780  -868 M G      0.00     0.00    50.00    175  -900  -812  -816  -904 M G
0.00     0.00    50.00
 175  -892  -804  -808  -896 M G      0.00     0.00    50.00    175  -780  -692  -696  -784 M G
0.00     0.00    50.00
 175  -876  -788  -792  -880 M G      0.00     0.00    50.00    175  -796  -708  -712  -800 M G
0.00     0.00    50.00
 175  -784  -696  -700  -788 M G      0.00     0.00    50.00    175  -808  -720  -724  -812 M G
0.00     0.00    50.00
 175  -804  -716  -720  -808 M G      0.00     0.00    50.00    175  -788  -700  -704  -792 M G
0.00     0.00    50.00
 175  -812  -724  -728  -816 M G      0.00     0.00    50.00    175  -880  -792  -796  -884 M G
0.00     0.00    50.00
 176  -964  -876  -880  -968 M G      0.00     0.00    50.00    176 -1052  -964  -968 -1056 M G
0.00     0.00    50.00
 176 -1064  -976  -980 -1068 M G      0.00     0.00    50.00    176 -1076  -988  -992 -1080 M G
0.00     0.00    50.00
 176 -1068  -980  -984 -1072 M G      0.00     0.00    50.00    176 -1048  -960  -964 -1052 M G
0.00     0.00    50.00
 176  -980  -892  -896  -984 M G      0.00     0.00    50.00    176  -984  -896  -900  -988 M G
0.00     0.00    50.00
 176  -976  -888  -892  -980 M G      0.00     0.00    50.00    176 -1040  -952  -956 -1044 M G
0.00     0.00    50.00
 176  -988  -900  -904  -992 M G      0.00     0.00    50.00    176  -960  -872  -876  -964 M G
0.00     0.00    50.00
 176  -956  -868  -872  -960 M G      0.00     0.00    50.00    176 -1060  -972  -976 -1064 M G
0.00     0.00    50.00
 176  -968  -880  -884  -972 M G      0.00     0.00    50.00    176 -1056  -968  -972 -1060 M G
0.00     0.00    50.00
 176  -952  -864  -868  -956 M G      0.00     0.00    50.00    176  -972  -884  -888  -976 M G
0.00     0.00    50.00
 176 -1072  -984  -988 -1076 M G      0.00     0.00    50.00    176 -1044  -956  -960 -1048 M G
0.00     0.00    50.00
 177  -612  -616  -704  -700 M G      0.00     0.00    50.00    177  -524  -528  -616  -612 M G
0.00     0.00    50.00
 177  -600  -512  -516  -604 M G      0.00     0.00    50.00    177  -632  -636  -724  -720 M G
0.00     0.00    50.00
 177  -540  -544  -632  -628 M G      0.00     0.00    50.00    177  -624  -628  -716  -712 M G
0.00     0.00    50.00
 177  -520  -524  -612  -608 M G      0.00     0.00    50.00    177  -532  -536  -624  -620 M G
0.00     0.00    50.00
 177  -620  -624  -712  -708 M G      0.00     0.00    50.00    177  -688  -600  -604  -692 M G
0.00     0.00    50.00
 177  -528  -532  -620  -616 M G      0.00     0.00    50.00    177  -608  -612  -700  -696 M G
0.00     0.00    50.00
 177  -604  -516  -520  -608 M G      0.00     0.00    50.00    177  -692  -604  -608  -696 M G
0.00     0.00    50.00
 177  -628  -632  -720  -716 M G      0.00     0.00    50.00    177  -544  -548  -636  -632 M G
0.00     0.00    50.00
 177  -616  -620  -708  -704 M G      0.00     0.00    50.00    177  -536  -540  -628  -624 M G
0.00     0.00    50.00
 177  -548  -552  -640  -636 M G      0.00     0.00    50.00    177  -636  -640  -728  -724 M G
0.00     0.00    50.00
 178  -168   -80   -84  -172 M G      0.00     0.00    50.00    178  -164   -76   -80  -168 M G
0.00     0.00    50.00
 178   -23  -108  -104   122 M G      0.00     0.00    50.00    178  -112  -200  -196  -108 M G
0.00     0.00    50.00
 178  -184   -96  -100  -188 M G      0.00     0.00    50.00    178   -92   -13   118   -96 M G
0.00     0.00    50.00
 178  -188  -100  -104  -192 M G      0.00     0.00    50.00    178   -72   102    -3   -76 M G
0.00     0.00    50.00
 178   -84    -8   113   -88 M G      0.00     0.00    50.00    178   -76    -3   108   -80 M G
0.00     0.00    50.00
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 178   127  -112  -108   -23 M G      0.00     0.00    50.00    178  -100   -18   122  -104 M G
0.00     0.00    50.00
 178   -88   113   -13   -92 M G      0.00     0.00    50.00    178   -96   118   -18  -100 M G
0.00     0.00    50.00
 178  -108  -196  -192  -104 M G      0.00     0.00    50.00    178  -176   -88   -92  -180 M G
0.00     0.00    50.00
 178   -80   108    -8   -84 M G      0.00     0.00    50.00    178  -180   -92   -96  -184 M G
0.00     0.00    50.00
 178  -160   -72   -76  -164 M G      0.00     0.00    50.00    178  -172   -84   -88  -176 M G
0.00     0.00    50.00
 179  -360  -272  -276  -364 M G      0.00     0.00    50.00    179  -368  -280  -284  -372 M G
0.00     0.00    50.00
 179  -344  -256  -260  -348 M G      0.00     0.00    50.00    179  -348  -260  -264  -352 M G
0.00     0.00    50.00
 179  -252  -164  -168  -256 M G      0.00     0.00    50.00    179  -276  -188  -192  -280 M G
0.00     0.00    50.00
 179  -356  -268  -272  -360 M G      0.00     0.00    50.00    179  -256  -168  -172  -260 M G
0.00     0.00    50.00
 179  -352  -264  -268  -356 M G      0.00     0.00    50.00    179  -364  -276  -280  -368 M G
0.00     0.00    50.00
 179  -272  -184  -188  -276 M G      0.00     0.00    50.00    179  -260  -172  -176  -264 M G
0.00     0.00    50.00
 179  -248  -160  -164  -252 M G      0.00     0.00    50.00    179  -340  -252  -256  -344 M G
0.00     0.00    50.00
 179  -268  -180  -184  -272 M G      0.00     0.00    50.00    179  -264  -176  -180  -268 M G
0.00     0.00    50.00
 179  -280  -192  -196  -284 M G      0.00     0.00    50.00    179  -284  -196  -200  -288 M G
0.00     0.00    50.00
 179  -372  -284  -288  -376 M G      0.00     0.00    50.00    179  -336  -248  -252  -340 M G
0.00     0.00    50.00
 180  -352  -356  -444  -440 M G      0.00     0.00    50.00    180  -432  -436  -524  -520 M G
0.00     0.00    50.00
 180  -368  -372  -460  -456 M G      0.00     0.00    50.00    180  -372  -376  -464  -460 M G
0.00     0.00    50.00
 180  -440  -444  -532  -528 M G      0.00     0.00    50.00    180  -456  -460  -548  -544 M G
0.00     0.00    50.00
 180  -364  -368  -456  -452 M G      0.00     0.00    50.00    180  -516  -428  -432  -520 M G
0.00     0.00    50.00
 180  -452  -456  -544  -540 M G      0.00     0.00    50.00    180  -436  -440  -528  -524 M G
0.00     0.00    50.00
 180  -360  -364  -452  -448 M G      0.00     0.00    50.00    180  -448  -452  -540  -536 M G
0.00     0.00    50.00
 180  -428  -340  -344  -432 M G      0.00     0.00    50.00    180  -344  -348  -436  -432 M G
0.00     0.00    50.00
 180  -348  -352  -440  -436 M G      0.00     0.00    50.00    180  -460  -464  -552  -548 M G
0.00     0.00    50.00
 180  -512  -424  -428  -516 M G      0.00     0.00    50.00    180  -444  -448  -536  -532 M G
0.00     0.00    50.00
 180  -424  -336  -340  -428 M G      0.00     0.00    50.00    180  -356  -360  -448  -444 M G
0.00     0.00    50.00
 181   102   -27   -31    -3 M G      0.00     0.00    50.00    181  -155   -67   -63  -151 M G
0.00     0.00    50.00
 181   -35   -39    -8   108 M G      0.00     0.00    50.00    181   -27  -115  -119   -31 M G
0.00     0.00    50.00
 181  -135  -139   -51   -47 M G      0.00     0.00    50.00    181    -3   -31   -35   108 M G
0.00     0.00    50.00
 181   -51   -55   -18   118 M G      0.00     0.00    50.00    181  -127  -131   -43   -39 M G
0.00     0.00    50.00
 181   -43   -47   -13   113 M G      0.00     0.00    50.00    181  -139  -143   -55   -51 M G
0.00     0.00    50.00
 181  -143  -147   -59   -55 M G      0.00     0.00    50.00    181   -55   -59   122   -18 M G
0.00     0.00    50.00
 181   -31  -119  -123   -35 M G      0.00     0.00    50.00    181  -123  -127   -39   -35 M G
0.00     0.00    50.00
 181  -131  -135   -47   -43 M G      0.00     0.00    50.00    181  -151   -63   -59  -147 M G
0.00     0.00    50.00
 181   -67   127   -23   -63 M G      0.00     0.00    50.00    181   -63   -23   122   -59 M G
0.00     0.00    50.00
 181   -47   -51   118   -13 M G      0.00     0.00    50.00    181   -39   -43   113    -8 M G
0.00     0.00    50.00
 182  -131  -219  -223  -135 M G      0.00     0.00    50.00    182  -123  -211  -215  -127 M G
0.00     0.00    50.00
 182  -227  -315  -319  -231 M G      0.00     0.00    50.00    182  -143  -231  -235  -147 M G
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0.00     0.00    50.00
 182  -239  -327  -331  -243 M G      0.00     0.00    50.00    182  -207  -295  -299  -211 M G
0.00     0.00    50.00
 182  -223  -311  -315  -227 M G      0.00     0.00    50.00    182  -115  -203  -207  -119 M G
0.00     0.00    50.00
 182  -235  -323  -327  -239 M G      0.00     0.00    50.00    182  -135  -223  -227  -139 M G
0.00     0.00    50.00
 182  -219  -307  -311  -223 M G      0.00     0.00    50.00    182  -215  -303  -307  -219 M G
0.00     0.00    50.00
 182  -151  -239  -243  -155 M G      0.00     0.00    50.00    182  -119  -207  -211  -123 M G
0.00     0.00    50.00
 182  -203  -291  -295  -207 M G      0.00     0.00    50.00    182  -211  -299  -303  -215 M G
0.00     0.00    50.00
 182  -231  -319  -323  -235 M G      0.00     0.00    50.00    182  -127  -215  -219  -131 M G
0.00     0.00    50.00
 182  -147  -235  -239  -151 M G      0.00     0.00    50.00    182  -139  -227  -231  -143 M G
0.00     0.00    50.00
 183  -307  -395  -399  -311 M G      0.00     0.00    50.00    183  -415  -503  -507  -419 M G
0.00     0.00    50.00
 183  -327  -415  -419  -331 M G      0.00     0.00    50.00    183  -411  -499  -503  -415 M G
0.00     0.00    50.00
 183  -379  -467  -471  -383 M G      0.00     0.00    50.00    183  -407  -495  -499  -411 M G
0.00     0.00    50.00
 183  -295  -383  -387  -299 M G      0.00     0.00    50.00    183  -315  -403  -407  -319 M G
0.00     0.00    50.00
 183  -395  -483  -487  -399 M G      0.00     0.00    50.00    183  -399  -487  -491  -403 M G
0.00     0.00    50.00
 183  -299  -387  -391  -303 M G      0.00     0.00    50.00    183  -319  -407  -411  -323 M G
0.00     0.00    50.00
 183  -311  -399  -403  -315 M G      0.00     0.00    50.00    183  -323  -411  -415  -327 M G
0.00     0.00    50.00
 183  -391  -479  -483  -395 M G      0.00     0.00    50.00    183  -303  -391  -395  -307 M G
0.00     0.00    50.00
 183  -383  -471  -475  -387 M G      0.00     0.00    50.00    183  -403  -491  -495  -407 M G
0.00     0.00    50.00
 183  -291  -379  -383  -295 M G      0.00     0.00    50.00    183  -387  -475  -479  -391 M G
0.00     0.00    50.00
 184  -571  -659  -663  -575 M G      0.00     0.00    50.00    184  -579  -667  -671  -583 M G
0.00     0.00    50.00
 184  -495  -583  -587  -499 M G      0.00     0.00    50.00    184  -475  -563  -567  -479 M G
0.00     0.00    50.00
 184  -483  -571  -575  -487 M G      0.00     0.00    50.00    184  -487  -575  -579  -491 M G
0.00     0.00    50.00
 184  -471  -559  -563  -475 M G      0.00     0.00    50.00    184  -575  -663  -667  -579 M G
0.00     0.00    50.00
 184  -563  -651  -655  -567 M G      0.00     0.00    50.00    184  -587  -675  -679  -591 M G
0.00     0.00    50.00
 184  -555  -643  -647  -559 M G      0.00     0.00    50.00    184  -559  -647  -651  -563 M G
0.00     0.00    50.00
 184  -583  -671  -675  -587 M G      0.00     0.00    50.00    184  -503  -591  -595  -507 M G
0.00     0.00    50.00
 184  -467  -555  -559  -471 M G      0.00     0.00    50.00    184  -479  -567  -571  -483 M G
0.00     0.00    50.00
 184  -491  -579  -583  -495 M G      0.00     0.00    50.00    184  -567  -655  -659  -571 M G
0.00     0.00    50.00
 184  -591  -679  -683  -595 M G      0.00     0.00    50.00    184  -499  -587  -591  -503 M G
0.00     0.00    50.00
 185  -731  -819  -823  -735 M G      0.00     0.00    50.00    185  -739  -827  -831  -743 M G
0.00     0.00    50.00
 185  -651  -739  -743  -655 M G      0.00     0.00    50.00    185  -767  -855  -859  -771 M G
0.00     0.00    50.00
 185  -735  -823  -827  -739 M G      0.00     0.00    50.00    185  -667  -755  -759  -671 M G
0.00     0.00    50.00
 185  -679  -767  -771  -683 M G      0.00     0.00    50.00    185  -671  -759  -763  -675 M G
0.00     0.00    50.00
 185  -659  -747  -751  -663 M G      0.00     0.00    50.00    185  -759  -847  -851  -763 M G
0.00     0.00    50.00
 185  -643  -731  -735  -647 M G      0.00     0.00    50.00    185  -755  -843  -847  -759 M G
0.00     0.00    50.00
 185  -647  -735  -739  -651 M G      0.00     0.00    50.00    185  -743  -831  -835  -747 M G
0.00     0.00    50.00
 185  -747  -835  -839  -751 M G      0.00     0.00    50.00    185  -675  -763  -767  -679 M G
0.00     0.00    50.00
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 185  -655  -743  -747  -659 M G      0.00     0.00    50.00    185  -663  -751  -755  -667 M G
0.00     0.00    50.00
 185  -751  -839  -843  -755 M G      0.00     0.00    50.00    185  -763  -851  -855  -767 M G
0.00     0.00    50.00
 186  -819  -907  -911  -823 M G      0.00     0.00    50.00    186  -847  -935  -939  -851 M G
0.00     0.00    50.00
 186  -935 -1023 -1027  -939 M G      0.00     0.00    50.00    186  -831  -919  -923  -835 M G
0.00     0.00    50.00
 186  -843  -931  -935  -847 M G      0.00     0.00    50.00    186  -931 -1019 -1023  -935 M G
0.00     0.00    50.00
 186  -907  -995  -999  -911 M G      0.00     0.00    50.00    186  -911  -999 -1003  -915 M G
0.00     0.00    50.00
 186  -919 -1007 -1011  -923 M G      0.00     0.00    50.00    186  -835  -923  -927  -839 M G
0.00     0.00    50.00
 186  -823  -911  -915  -827 M G      0.00     0.00    50.00    186  -839  -927  -931  -843 M G
0.00     0.00    50.00
 186  -915 -1003 -1007  -919 M G      0.00     0.00    50.00    186  -927 -1015 -1019  -931 M G
0.00     0.00    50.00
 186  -855  -943  -947  -859 M G      0.00     0.00    50.00    186  -939 -1027 -1031  -943 M G
0.00     0.00    50.00
 186  -943 -1031 -1035  -947 M G      0.00     0.00    50.00    186  -923 -1011 -1015  -927 M G
0.00     0.00    50.00
 186  -827  -915  -919  -831 M G      0.00     0.00    50.00    186  -851  -939  -943  -855 M G
0.00     0.00    50.00
 187 -1087 -1175 -1179 -1091 M G      0.00     0.00    50.00    187 -1027 -1115 -1119 -1031 M G
0.00     0.00    50.00
 187 -1031 -1119 -1123 -1035 M G      0.00     0.00    50.00    187 -1023 -1111 -1115 -1027 M G
0.00     0.00    50.00
 187 -1007 -1095 -1099 -1011 M G      0.00     0.00    50.00    187 -1091 -1179 -1183 -1095 M G
0.00     0.00    50.00
 187 -1095 -1183 -1187 -1099 M G      0.00     0.00    50.00    187  -995 -1083 -1087  -999 M G
0.00     0.00    50.00
 187 -1111 -1199 -1203 -1115 M G      0.00     0.00    50.00    187 -1083 -1171 -1175 -1087 M G
0.00     0.00    50.00
 187 -1011 -1099 -1103 -1015 M G      0.00     0.00    50.00    187 -1103 -1191 -1195 -1107 M G
0.00     0.00    50.00
 187 -1107 -1195 -1199 -1111 M G      0.00     0.00    50.00    187 -1019 -1107 -1111 -1023 M G
0.00     0.00    50.00
 187 -1015 -1103 -1107 -1019 M G      0.00     0.00    50.00    187 -1099 -1187 -1191 -1103 M G
0.00     0.00    50.00
 187  -999 -1087 -1091 -1003 M G      0.00     0.00    50.00    187 -1119 -1207 -1211 -1123 M G
0.00     0.00    50.00
 187 -1003 -1091 -1095 -1007 M G      0.00     0.00    50.00    187 -1115 -1203 -1207 -1119 M G
0.00     0.00    50.00
 188 -1175 -1263 -1267 -1179 M G      0.00     0.00    50.00    188 -1183 -1271 -1275 -1187 M G
0.00     0.00    50.00
 188 -1203 -1291 -1295 -1207 M G      0.00     0.00    50.00    188 -1291 -1380 -1384 -1295 M G
0.00     0.00    50.00
 188 -1191 -1279 -1283 -1195 M G      0.00     0.00    50.00    188 -1179 -1267 -1271 -1183 M G
0.00     0.00    50.00
 188 -1187 -1275 -1279 -1191 M G      0.00     0.00    50.00    188 -1259 -1348 -1352 -1263 M G
0.00     0.00    50.00
 188 -1263 -1352 -1356 -1267 M G      0.00     0.00    50.00    188 -1279 -1368 -1372 -1283 M G
0.00     0.00    50.00
 188 -1287 -1376 -1380 -1291 M G      0.00     0.00    50.00    188 -1171 -1259 -1263 -1175 M G
0.00     0.00    50.00
 188 -1295 -1384 -1388 -1299 M G      0.00     0.00    50.00    188 -1207 -1295 -1299 -1211 M G
0.00     0.00    50.00
 188 -1271 -1360 -1364 -1275 M G      0.00     0.00    50.00    188 -1195 -1283 -1287 -1199 M G
0.00     0.00    50.00
 188 -1267 -1356 -1360 -1271 M G      0.00     0.00    50.00    188 -1283 -1372 -1376 -1287 M G
0.00     0.00    50.00
 188 -1199 -1287 -1291 -1203 M G      0.00     0.00    50.00    188 -1275 -1364 -1368 -1279 M G
0.00     0.00    50.00
 189 -1296 -1208 -1212 -1300 M G      0.00     0.00    50.00    189 -1264 -1176 -1180 -1268 M G
0.00     0.00    50.00
 189 -1260 -1172 -1176 -1264 M G      0.00     0.00    50.00    189 -1276 -1188 -1192 -1280 M G
0.00     0.00    50.00
 189 -1288 -1200 -1204 -1292 M G      0.00     0.00    50.00    189 -1292 -1204 -1208 -1296 M G
0.00     0.00    50.00
 189 -1352 -1264 -1268 -1356 M G      0.00     0.00    50.00    189 -1272 -1184 -1188 -1276 M G
0.00     0.00    50.00
 189 -1284 -1196 -1200 -1288 M G      0.00     0.00    50.00    189 -1348 -1260 -1264 -1352 M G
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0.00     0.00    50.00
 189 -1360 -1272 -1276 -1364 M G      0.00     0.00    50.00    189 -1268 -1180 -1184 -1272 M G
0.00     0.00    50.00
 189 -1380 -1292 -1296 -1384 M G      0.00     0.00    50.00    189 -1376 -1288 -1292 -1380 M G
0.00     0.00    50.00
 189 -1384 -1296 -1300 -1388 M G      0.00     0.00    50.00    189 -1280 -1192 -1196 -1284 M G
0.00     0.00    50.00
 189 -1356 -1268 -1272 -1360 M G      0.00     0.00    50.00    189 -1372 -1284 -1288 -1376 M G
0.00     0.00    50.00
 189 -1368 -1280 -1284 -1372 M G      0.00     0.00    50.00    189 -1364 -1276 -1280 -1368 M G
0.00     0.00    50.00
 190 -1184 -1096 -1100 -1188 M G      0.00     0.00    50.00    190 -1088 -1000 -1004 -1092 M G
0.00     0.00    50.00
 190 -1192 -1104 -1108 -1196 M G      0.00     0.00    50.00    190 -1116 -1028 -1032 -1120 M G
0.00     0.00    50.00
 190 -1092 -1004 -1008 -1096 M G      0.00     0.00    50.00    190 -1096 -1008 -1012 -1100 M G
0.00     0.00    50.00
 190 -1204 -1116 -1120 -1208 M G      0.00     0.00    50.00    190 -1176 -1088 -1092 -1180 M G
0.00     0.00    50.00
 190 -1084  -996 -1000 -1088 M G      0.00     0.00    50.00    190 -1120 -1032 -1036 -1124 M G
0.00     0.00    50.00
 190 -1196 -1108 -1112 -1200 M G      0.00     0.00    50.00    190 -1188 -1100 -1104 -1192 M G
0.00     0.00    50.00
 190 -1180 -1092 -1096 -1184 M G      0.00     0.00    50.00    190 -1104 -1016 -1020 -1108 M G
0.00     0.00    50.00
 190 -1100 -1012 -1016 -1104 M G      0.00     0.00    50.00    190 -1200 -1112 -1116 -1204 M G
0.00     0.00    50.00
 190 -1208 -1120 -1124 -1212 M G      0.00     0.00    50.00    190 -1112 -1024 -1028 -1116 M G
0.00     0.00    50.00
 190 -1172 -1084 -1088 -1176 M G      0.00     0.00    50.00    190 -1108 -1020 -1024 -1112 M G
0.00     0.00    50.00
 191 -1016  -928  -932 -1020 M G      0.00     0.00    50.00    191 -1008  -920  -924 -1012 M G
0.00     0.00    50.00
 191  -916  -828  -832  -920 M G      0.00     0.00    50.00    191  -944  -856  -860  -948 M G
0.00     0.00    50.00
 191 -1024  -936  -940 -1028 M G      0.00     0.00    50.00    191 -1032  -944  -948 -1036 M G
0.00     0.00    50.00
 191  -996  -908  -912 -1000 M G      0.00     0.00    50.00    191  -924  -836  -840  -928 M G
0.00     0.00    50.00
 191  -920  -832  -836  -924 M G      0.00     0.00    50.00    191 -1020  -932  -936 -1024 M G
0.00     0.00    50.00
 191 -1000  -912  -916 -1004 M G      0.00     0.00    50.00    191  -908  -820  -824  -912 M G
0.00     0.00    50.00
 191  -940  -852  -856  -944 M G      0.00     0.00    50.00    191 -1028  -940  -944 -1032 M G
0.00     0.00    50.00
 191 -1012  -924  -928 -1016 M G      0.00     0.00    50.00    191  -932  -844  -848  -936 M G
0.00     0.00    50.00
 191  -936  -848  -852  -940 M G      0.00     0.00    50.00    191  -912  -824  -828  -916 M G
0.00     0.00    50.00
 191  -928  -840  -844  -932 M G      0.00     0.00    50.00    191 -1004  -916  -920 -1008 M G
0.00     0.00    50.00
 192  -836  -748  -752  -840 M G      0.00     0.00    50.00    192  -840  -752  -756  -844 M G
0.00     0.00    50.00
 192  -756  -668  -672  -760 M G      0.00     0.00    50.00    192  -848  -760  -764  -852 M G
0.00     0.00    50.00
 192  -852  -764  -768  -856 M G      0.00     0.00    50.00    192  -736  -648  -652  -740 M G
0.00     0.00    50.00
 192  -744  -656  -660  -748 M G      0.00     0.00    50.00    192  -820  -732  -736  -824 M G
0.00     0.00    50.00
 192  -768  -680  -684  -772 M G      0.00     0.00    50.00    192  -832  -744  -748  -836 M G
0.00     0.00    50.00
 192  -740  -652  -656  -744 M G      0.00     0.00    50.00    192  -752  -664  -668  -756 M G
0.00     0.00    50.00
 192  -856  -768  -772  -860 M G      0.00     0.00    50.00    192  -824  -736  -740  -828 M G
0.00     0.00    50.00
 192  -732  -644  -648  -736 M G      0.00     0.00    50.00    192  -748  -660  -664  -752 M G
0.00     0.00    50.00
 192  -844  -756  -760  -848 M G      0.00     0.00    50.00    192  -828  -740  -744  -832 M G
0.00     0.00    50.00
 192  -760  -672  -676  -764 M G      0.00     0.00    50.00    192  -764  -676  -680  -768 M G
0.00     0.00    50.00
 193  -660  -572  -576  -664 M G      0.00     0.00    50.00    193  -668  -580  -584  -672 M G
0.00     0.00    50.00
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 193  -584  -496  -500  -588 M G      0.00     0.00    50.00    193  -648  -560  -564  -652 M G
0.00     0.00    50.00
 193  -556  -468  -472  -560 M G      0.00     0.00    50.00    193  -676  -588  -592  -680 M G
0.00     0.00    50.00
 193  -580  -492  -496  -584 M G      0.00     0.00    50.00    193  -656  -568  -572  -660 M G
0.00     0.00    50.00
 193  -652  -564  -568  -656 M G      0.00     0.00    50.00    193  -588  -500  -504  -592 M G
0.00     0.00    50.00
 193  -664  -576  -580  -668 M G      0.00     0.00    50.00    193  -672  -584  -588  -676 M G
0.00     0.00    50.00
 193  -680  -592  -596  -684 M G      0.00     0.00    50.00    193  -592  -504  -508  -596 M G
0.00     0.00    50.00
 193  -564  -476  -480  -568 M G      0.00     0.00    50.00    193  -568  -480  -484  -572 M G
0.00     0.00    50.00
 193  -576  -488  -492  -580 M G      0.00     0.00    50.00    193  -572  -484  -488  -576 M G
0.00     0.00    50.00
 193  -644  -556  -560  -648 M G      0.00     0.00    50.00    193  -560  -472  -476  -564 M G
0.00     0.00    50.00
 194  -500  -412  -416  -504 M G      0.00     0.00    50.00    194  -404  -316  -320  -408 M G
0.00     0.00    50.00
 194  -504  -416  -420  -508 M G      0.00     0.00    50.00    194  -416  -328  -332  -420 M G
0.00     0.00    50.00
 194  -496  -408  -412  -500 M G      0.00     0.00    50.00    194  -384  -296  -300  -388 M G
0.00     0.00    50.00
 194  -484  -396  -400  -488 M G      0.00     0.00    50.00    194  -480  -392  -396  -484 M G
0.00     0.00    50.00
 194  -492  -404  -408  -496 M G      0.00     0.00    50.00    194  -392  -304  -308  -396 M G
0.00     0.00    50.00
 194  -380  -292  -296  -384 M G      0.00     0.00    50.00    194  -472  -384  -388  -476 M G
0.00     0.00    50.00
 194  -408  -320  -324  -412 M G      0.00     0.00    50.00    194  -476  -388  -392  -480 M G
0.00     0.00    50.00
 194  -468  -380  -384  -472 M G      0.00     0.00    50.00    194  -488  -400  -404  -492 M G
0.00     0.00    50.00
 194  -388  -300  -304  -392 M G      0.00     0.00    50.00    194  -400  -312  -316  -404 M G
0.00     0.00    50.00
 194  -412  -324  -328  -416 M G      0.00     0.00    50.00    194  -396  -308  -312  -400 M G
0.00     0.00    50.00
 195  -204  -116  -120  -208 M G      0.00     0.00    50.00    195  -232  -144  -148  -236 M G
0.00     0.00    50.00
 195  -300  -212  -216  -304 M G      0.00     0.00    50.00    195  -328  -240  -244  -332 M G
0.00     0.00    50.00
 195  -208  -120  -124  -212 M G      0.00     0.00    50.00    195  -316  -228  -232  -320 M G
0.00     0.00    50.00
 195  -236  -148  -152  -240 M G      0.00     0.00    50.00    195  -324  -236  -240  -328 M G
0.00     0.00    50.00
 195  -304  -216  -220  -308 M G      0.00     0.00    50.00    195  -240  -152  -156  -244 M G
0.00     0.00    50.00
 195  -216  -128  -132  -220 M G      0.00     0.00    50.00    195  -308  -220  -224  -312 M G
0.00     0.00    50.00
 195  -296  -208  -212  -300 M G      0.00     0.00    50.00    195  -224  -136  -140  -228 M G
0.00     0.00    50.00
 195  -212  -124  -128  -216 M G      0.00     0.00    50.00    195  -320  -232  -236  -324 M G
0.00     0.00    50.00
 195  -312  -224  -228  -316 M G      0.00     0.00    50.00    195  -220  -132  -136  -224 M G
0.00     0.00    50.00
 195  -292  -204  -208  -296 M G      0.00     0.00    50.00    195  -228  -140  -144  -232 M G
0.00     0.00    50.00
 196   -28   103    -4   -32 M G      0.00     0.00    50.00    196  -128   -40   -44  -132 M G
0.00     0.00    50.00
 196   -36   109    -9   -40 M G      0.00     0.00    50.00    196  -136   -48   -52  -140 M G
0.00     0.00    50.00
 196  -140   -52   -56  -144 M G      0.00     0.00    50.00    196  -120   -32   -36  -124 M G
0.00     0.00    50.00
 196   -56   -19   123   -60 M G      0.00     0.00    50.00    196   -32    -4   109   -36 M G
0.00     0.00    50.00
 196   -40    -9   114   -44 M G      0.00     0.00    50.00    196  -144   -56   -60  -148 M G
0.00     0.00    50.00
 196   -52   119   -19   -56 M G      0.00     0.00    50.00    196  -116   -28   -32  -120 M G
0.00     0.00    50.00
 196   -24   -64   -60   123 M G      0.00     0.00    50.00    196   -68  -156  -152   -64 M G
0.00     0.00    50.00
 196   -64  -152  -148   -60 M G      0.00     0.00    50.00    196   -44   114   -14   -48 M G
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0.00     0.00    50.00
 196  -124   -36   -40  -128 M G      0.00     0.00    50.00    196  -132   -44   -48  -136 M G
0.00     0.00    50.00
 196   128   -68   -64   -24 M G      0.00     0.00    50.00    196   -48   -14   119   -52 M G
0.00     0.00    50.00
 197   -33  -121  -125   -37 M G      0.00     0.00    50.00    197   -29  -117  -121   -33 M G
0.00     0.00    50.00
 197   -69   128   -24   -65 M G      0.00     0.00    50.00    197   -65   -24   123   -61 M G
0.00     0.00    50.00
 197   -37   -41    -9   109 M G      0.00     0.00    50.00    197  -137  -141   -53   -49 M G
0.00     0.00    50.00
 197    -4   -33   -37   109 M G      0.00     0.00    50.00    197  -145  -149   -61   -57 M G
0.00     0.00    50.00
 197   -49   -53   119   -14 M G      0.00     0.00    50.00    197  -153   -65   -61  -149 M G
0.00     0.00    50.00
 197  -133  -137   -49   -45 M G      0.00     0.00    50.00    197   -53   -57   -19   119 M G
0.00     0.00    50.00
 197   103   -29   -33    -4 M G      0.00     0.00    50.00    197  -157   -69   -65  -153 M G
0.00     0.00    50.00
 197  -129  -133   -45   -41 M G      0.00     0.00    50.00    197  -125  -129   -41   -37 M G
0.00     0.00    50.00
 197   -41   -45   114    -9 M G      0.00     0.00    50.00    197   -45   -49   -14   114 M G
0.00     0.00    50.00
 197   -57   -61   123   -19 M G      0.00     0.00    50.00    197  -141  -145   -57   -53 M G
0.00     0.00    50.00
 198  -121  -209  -213  -125 M G      0.00     0.00    50.00    198  -137  -225  -229  -141 M G
0.00     0.00    50.00
 198  -213  -301  -305  -217 M G      0.00     0.00    50.00    198  -133  -221  -225  -137 M G
0.00     0.00    50.00
 198  -129  -217  -221  -133 M G      0.00     0.00    50.00    198  -117  -205  -209  -121 M G
0.00     0.00    50.00
 198  -217  -305  -309  -221 M G      0.00     0.00    50.00    198  -141  -229  -233  -145 M G
0.00     0.00    50.00
 198  -125  -213  -217  -129 M G      0.00     0.00    50.00    198  -209  -297  -301  -213 M G
0.00     0.00    50.00
 198  -233  -321  -325  -237 M G      0.00     0.00    50.00    198  -205  -293  -297  -209 M G
0.00     0.00    50.00
 198  -229  -317  -321  -233 M G      0.00     0.00    50.00    198  -149  -237  -241  -153 M G
0.00     0.00    50.00
 198  -145  -233  -237  -149 M G      0.00     0.00    50.00    198  -225  -313  -317  -229 M G
0.00     0.00    50.00
 198  -241  -329  -333  -245 M G      0.00     0.00    50.00    198  -221  -309  -313  -225 M G
0.00     0.00    50.00
 198  -237  -325  -329  -241 M G      0.00     0.00    50.00    198  -153  -241  -245  -157 M G
0.00     0.00    50.00
 199  -293  -381  -385  -297 M G      0.00     0.00    50.00    199  -309  -397  -401  -313 M G
0.00     0.00    50.00
 199  -409  -497  -501  -413 M G      0.00     0.00    50.00    199  -381  -469  -473  -385 M G
0.00     0.00    50.00
 199  -405  -493  -497  -409 M G      0.00     0.00    50.00    199  -321  -409  -413  -325 M G
0.00     0.00    50.00
 199  -385  -473  -477  -389 M G      0.00     0.00    50.00    199  -301  -389  -393  -305 M G
0.00     0.00    50.00
 199  -325  -413  -417  -329 M G      0.00     0.00    50.00    199  -389  -477  -481  -393 M G
0.00     0.00    50.00
 199  -297  -385  -389  -301 M G      0.00     0.00    50.00    199  -317  -405  -409  -321 M G
0.00     0.00    50.00
 199  -401  -489  -493  -405 M G      0.00     0.00    50.00    199  -417  -505  -509  -421 M G
0.00     0.00    50.00
 199  -397  -485  -489  -401 M G      0.00     0.00    50.00    199  -313  -401  -405  -317 M G
0.00     0.00    50.00
 199  -305  -393  -397  -309 M G      0.00     0.00    50.00    199  -413  -501  -505  -417 M G
0.00     0.00    50.00
 199  -393  -481  -485  -397 M G      0.00     0.00    50.00    199  -329  -417  -421  -333 M G
0.00     0.00    50.00
 200  -505  -593  -597  -509 M G      0.00     0.00    50.00    200  -557  -645  -649  -561 M G
0.00     0.00    50.00
 200  -469  -557  -561  -473 M G      0.00     0.00    50.00    200  -473  -561  -565  -477 M G
0.00     0.00    50.00
 200  -585  -673  -677  -589 M G      0.00     0.00    50.00    200  -561  -649  -653  -565 M G
0.00     0.00    50.00
 200  -593  -681  -685  -597 M G      0.00     0.00    50.00    200  -501  -589  -593  -505 M G
0.00     0.00    50.00
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 200  -569  -657  -661  -573 M G      0.00     0.00    50.00    200  -573  -661  -665  -577 M G
0.00     0.00    50.00
 200  -577  -665  -669  -581 M G      0.00     0.00    50.00    200  -481  -569  -573  -485 M G
0.00     0.00    50.00
 200  -497  -585  -589  -501 M G      0.00     0.00    50.00    200  -489  -577  -581  -493 M G
0.00     0.00    50.00
 200  -485  -573  -577  -489 M G      0.00     0.00    50.00    200  -589  -677  -681  -593 M G
0.00     0.00    50.00
 200  -493  -581  -585  -497 M G      0.00     0.00    50.00    200  -565  -653  -657  -569 M G
0.00     0.00    50.00
 200  -477  -565  -569  -481 M G      0.00     0.00    50.00    200  -581  -669  -673  -585 M G
0.00     0.00    50.00
 201  -769  -857  -861  -773 M G      0.00     0.00    50.00    201  -669  -757  -761  -673 M G
0.00     0.00    50.00
 201  -649  -737  -741  -653 M G      0.00     0.00    50.00    201  -665  -753  -757  -669 M G
0.00     0.00    50.00
 201  -733  -821  -825  -737 M G      0.00     0.00    50.00    201  -741  -829  -833  -745 M G
0.00     0.00    50.00
 201  -657  -745  -749  -661 M G      0.00     0.00    50.00    201  -749  -837  -841  -753 M G
0.00     0.00    50.00
 201  -745  -833  -837  -749 M G      0.00     0.00    50.00    201  -673  -761  -765  -677 M G
0.00     0.00    50.00
 201  -757  -845  -849  -761 M G      0.00     0.00    50.00    201  -761  -849  -853  -765 M G
0.00     0.00    50.00
 201  -681  -769  -773  -685 M G      0.00     0.00    50.00    201  -765  -853  -857  -769 M G
0.00     0.00    50.00
 201  -661  -749  -753  -665 M G      0.00     0.00    50.00    201  -653  -741  -745  -657 M G
0.00     0.00    50.00
 201  -645  -733  -737  -649 M G      0.00     0.00    50.00    201  -737  -825  -829  -741 M G
0.00     0.00    50.00
 201  -753  -841  -845  -757 M G      0.00     0.00    50.00    201  -677  -765  -769  -681 M G
0.00     0.00    50.00
 202  -849  -937  -941  -853 M G      0.00     0.00    50.00    202  -837  -925  -929  -841 M G
0.00     0.00    50.00
 202  -829  -917  -921  -833 M G      0.00     0.00    50.00    202  -933 -1021 -1025  -937 M G
0.00     0.00    50.00
 202  -833  -921  -925  -837 M G      0.00     0.00    50.00    202  -941 -1029 -1033  -945 M G
0.00     0.00    50.00
 202  -921 -1009 -1013  -925 M G      0.00     0.00    50.00    202  -857  -945  -949  -861 M G
0.00     0.00    50.00
 202  -913 -1001 -1005  -917 M G      0.00     0.00    50.00    202  -945 -1033 -1037  -949 M G
0.00     0.00    50.00
 202  -909  -997 -1001  -913 M G      0.00     0.00    50.00    202  -821  -909  -913  -825 M G
0.00     0.00    50.00
 202  -853  -941  -945  -857 M G      0.00     0.00    50.00    202  -929 -1017 -1021  -933 M G
0.00     0.00    50.00
 202  -917 -1005 -1009  -921 M G      0.00     0.00    50.00    202  -925 -1013 -1017  -929 M G
0.00     0.00    50.00
 202  -841  -929  -933  -845 M G      0.00     0.00    50.00    202  -825  -913  -917  -829 M G
0.00     0.00    50.00
 202  -937 -1025 -1029  -941 M G      0.00     0.00    50.00    202  -845  -933  -937  -849 M G
0.00     0.00    50.00
 203 -1021 -1109 -1113 -1025 M G      0.00     0.00    50.00    203 -1097 -1185 -1189 -1101 M G
0.00     0.00    50.00
 203 -1013 -1101 -1105 -1017 M G      0.00     0.00    50.00    203 -1005 -1093 -1097 -1009 M G
0.00     0.00    50.00
 203 -1121 -1209 -1213 -1125 M G      0.00     0.00    50.00    203 -1029 -1117 -1121 -1033 M G
0.00     0.00    50.00
 203 -1001 -1089 -1093 -1005 M G      0.00     0.00    50.00    203 -1017 -1105 -1109 -1021 M G
0.00     0.00    50.00
 203 -1093 -1181 -1185 -1097 M G      0.00     0.00    50.00    203 -1117 -1205 -1209 -1121 M G
0.00     0.00    50.00
 203 -1113 -1201 -1205 -1117 M G      0.00     0.00    50.00    203 -1033 -1121 -1125 -1037 M G
0.00     0.00    50.00
 203 -1109 -1197 -1201 -1113 M G      0.00     0.00    50.00    203  -997 -1085 -1089 -1001 M G
0.00     0.00    50.00
 203 -1025 -1113 -1117 -1029 M G      0.00     0.00    50.00    203 -1089 -1177 -1181 -1093 M G
0.00     0.00    50.00
 203 -1009 -1097 -1101 -1013 M G      0.00     0.00    50.00    203 -1085 -1173 -1177 -1089 M G
0.00     0.00    50.00
 203 -1105 -1193 -1197 -1109 M G      0.00     0.00    50.00    203 -1101 -1189 -1193 -1105 M G
0.00     0.00    50.00
 204 -1209 -1297 -1301 -1213 M G      0.00     0.00    50.00    204 -1293 -1381 -1385 -1297 M G
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0.00     0.00    50.00
 204 -1265 -1353 -1357 -1269 M G      0.00     0.00    50.00    204 -1205 -1293 -1297 -1209 M G
0.00     0.00    50.00
 204 -1197 -1285 -1289 -1201 M G      0.00     0.00    50.00    204 -1273 -1361 -1365 -1277 M G
0.00     0.00    50.00
 204 -1189 -1277 -1281 -1193 M G      0.00     0.00    50.00    204 -1181 -1269 -1273 -1185 M G
0.00     0.00    50.00
 204 -1261 -1349 -1353 -1265 M G      0.00     0.00    50.00    204 -1269 -1357 -1361 -1273 M G
0.00     0.00    50.00
 204 -1177 -1265 -1269 -1181 M G      0.00     0.00    50.00    204 -1173 -1261 -1265 -1177 M G
0.00     0.00    50.00
 204 -1281 -1369 -1373 -1285 M G      0.00     0.00    50.00    204 -1297 -1385 -1389 -1301 M G
0.00     0.00    50.00
 204 -1277 -1365 -1369 -1281 M G      0.00     0.00    50.00    204 -1193 -1281 -1285 -1197 M G
0.00     0.00    50.00
 204 -1185 -1273 -1277 -1189 M G      0.00     0.00    50.00    204 -1289 -1377 -1381 -1293 M G
0.00     0.00    50.00
 204 -1201 -1289 -1293 -1205 M G      0.00     0.00    50.00    204 -1285 -1373 -1377 -1289 M G
0.00     0.00    50.00
 205 -1262 -1174 -1178 -1266 M G      0.00     0.00    50.00    205 -1290 -1202 -1206 -1294 M G
0.00     0.00    50.00
 205 -1270 -1182 -1186 -1274 M G      0.00     0.00    50.00    205 -1353 -1266 -1270 -1357 M G
0.00     0.00    50.00
 205 -1278 -1190 -1194 -1282 M G      0.00     0.00    50.00    205 -1373 -1286 -1290 -1377 M G
0.00     0.00    50.00
 205 -1361 -1274 -1278 -1365 M G      0.00     0.00    50.00    205 -1381 -1294 -1298 -1385 M G
0.00     0.00    50.00
 205 -1365 -1278 -1282 -1369 M G      0.00     0.00    50.00    205 -1385 -1298 -1302 -1389 M G
0.00     0.00    50.00
 205 -1282 -1194 -1198 -1286 M G      0.00     0.00    50.00    205 -1298 -1210 -1214 -1302 M G
0.00     0.00    50.00
 205 -1349 -1262 -1266 -1353 M G      0.00     0.00    50.00    205 -1286 -1198 -1202 -1290 M G
0.00     0.00    50.00
 205 -1357 -1270 -1274 -1361 M G      0.00     0.00    50.00    205 -1294 -1206 -1210 -1298 M G
0.00     0.00    50.00
 205 -1266 -1178 -1182 -1270 M G      0.00     0.00    50.00    205 -1377 -1290 -1294 -1381 M G
0.00     0.00    50.00
 205 -1369 -1282 -1286 -1373 M G      0.00     0.00    50.00    205 -1274 -1186 -1190 -1278 M G
0.00     0.00    50.00
 206 -1198 -1110 -1114 -1202 M G      0.00     0.00    50.00    206 -1182 -1094 -1098 -1186 M G
0.00     0.00    50.00
 206 -1114 -1026 -1030 -1118 M G      0.00     0.00    50.00    206 -1194 -1106 -1110 -1198 M G
0.00     0.00    50.00
 206 -1210 -1122 -1126 -1214 M G      0.00     0.00    50.00    206 -1110 -1022 -1026 -1114 M G
0.00     0.00    50.00
 206 -1122 -1034 -1038 -1126 M G      0.00     0.00    50.00    206 -1102 -1014 -1018 -1106 M G
0.00     0.00    50.00
 206 -1178 -1090 -1094 -1182 M G      0.00     0.00    50.00    206 -1190 -1102 -1106 -1194 M G
0.00     0.00    50.00
 206 -1094 -1006 -1010 -1098 M G      0.00     0.00    50.00    206 -1098 -1010 -1014 -1102 M G
0.00     0.00    50.00
 206 -1086  -998 -1002 -1090 M G      0.00     0.00    50.00    206 -1174 -1086 -1090 -1178 M G
0.00     0.00    50.00
 206 -1202 -1114 -1118 -1206 M G      0.00     0.00    50.00    206 -1186 -1098 -1102 -1190 M G
0.00     0.00    50.00
 206 -1118 -1030 -1034 -1122 M G      0.00     0.00    50.00    206 -1106 -1018 -1022 -1110 M G
0.00     0.00    50.00
 206 -1090 -1002 -1006 -1094 M G      0.00     0.00    50.00    206 -1206 -1118 -1122 -1210 M G
0.00     0.00    50.00
 207  -930  -842  -846  -934 M G      0.00     0.00    50.00    207  -926  -838  -842  -930 M G
0.00     0.00    50.00
 207  -910  -822  -826  -914 M G      0.00     0.00    50.00    207  -946  -858  -862  -950 M G
0.00     0.00    50.00
 207 -1010  -922  -926 -1014 M G      0.00     0.00    50.00    207  -914  -826  -830  -918 M G
0.00     0.00    50.00
 207  -998  -910  -914 -1002 M G      0.00     0.00    50.00    207 -1034  -946  -950 -1038 M G
0.00     0.00    50.00
 207  -942  -854  -858  -946 M G      0.00     0.00    50.00    207  -934  -846  -850  -938 M G
0.00     0.00    50.00
 207 -1006  -918  -922 -1010 M G      0.00     0.00    50.00    207 -1030  -942  -946 -1034 M G
0.00     0.00    50.00
 207 -1018  -930  -934 -1022 M G      0.00     0.00    50.00    207 -1026  -938  -942 -1030 M G
0.00     0.00    50.00
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 207  -918  -830  -834  -922 M G      0.00     0.00    50.00    207 -1014  -926  -930 -1018 M G
0.00     0.00    50.00
 207 -1002  -914  -918 -1006 M G      0.00     0.00    50.00    207  -922  -834  -838  -926 M G
0.00     0.00    50.00
 207 -1022  -934  -938 -1026 M G      0.00     0.00    50.00    207  -938  -850  -854  -942 M G
0.00     0.00    50.00
 208  -842  -754  -758  -846 M G      0.00     0.00    50.00    208  -826  -738  -742  -830 M G
0.00     0.00    50.00
 208  -742  -654  -658  -746 M G      0.00     0.00    50.00    208  -830  -742  -746  -834 M G
0.00     0.00    50.00
 208  -822  -734  -738  -826 M G      0.00     0.00    50.00    208  -834  -746  -750  -838 M G
0.00     0.00    50.00
 208  -746  -658  -662  -750 M G      0.00     0.00    50.00    208  -846  -758  -762  -850 M G
0.00     0.00    50.00
 208  -838  -750  -754  -842 M G      0.00     0.00    50.00    208  -766  -678  -682  -770 M G
0.00     0.00    50.00
 208  -854  -766  -770  -858 M G      0.00     0.00    50.00    208  -858  -770  -774  -862 M G
0.00     0.00    50.00
 208  -758  -670  -674  -762 M G      0.00     0.00    50.00    208  -762  -674  -678  -766 M G
0.00     0.00    50.00
 208  -850  -762  -766  -854 M G      0.00     0.00    50.00    208  -754  -666  -670  -758 M G
0.00     0.00    50.00
 208  -770  -682  -686  -774 M G      0.00     0.00    50.00    208  -750  -662  -666  -754 M G
0.00     0.00    50.00
 208  -738  -650  -654  -742 M G      0.00     0.00    50.00    208  -734  -646  -650  -738 M G
0.00     0.00    50.00
 209  -582  -494  -498  -586 M G      0.00     0.00    50.00    209  -578  -490  -494  -582 M G
0.00     0.00    50.00
 209  -586  -498  -502  -590 M G      0.00     0.00    50.00    209  -574  -486  -490  -578 M G
0.00     0.00    50.00
 209  -646  -558  -562  -650 M G      0.00     0.00    50.00    209  -674  -586  -590  -678 M G
0.00     0.00    50.00
 209  -590  -502  -506  -594 M G      0.00     0.00    50.00    209  -562  -474  -478  -566 M G
0.00     0.00    50.00
 209  -682  -594  -598  -686 M G      0.00     0.00    50.00    209  -566  -478  -482  -570 M G
0.00     0.00    50.00
 209  -666  -578  -582  -670 M G      0.00     0.00    50.00    209  -558  -470  -474  -562 M G
0.00     0.00    50.00
 209  -654  -566  -570  -658 M G      0.00     0.00    50.00    209  -594  -506  -510  -598 M G
0.00     0.00    50.00
 209  -670  -582  -586  -674 M G      0.00     0.00    50.00    209  -570  -482  -486  -574 M G
0.00     0.00    50.00
 209  -658  -570  -574  -662 M G      0.00     0.00    50.00    209  -662  -574  -578  -666 M G
0.00     0.00    50.00
 209  -650  -562  -566  -654 M G      0.00     0.00    50.00    209  -678  -590  -594  -682 M G
0.00     0.00    50.00
 210  -398  -310  -314  -402 M G      0.00     0.00    50.00    210  -506  -418  -422  -510 M G
0.00     0.00    50.00
 210  -470  -382  -386  -474 M G      0.00     0.00    50.00    210  -490  -402  -406  -494 M G
0.00     0.00    50.00
 210  -382  -294  -298  -386 M G      0.00     0.00    50.00    210  -402  -314  -318  -406 M G
0.00     0.00    50.00
 210  -418  -330  -334  -422 M G      0.00     0.00    50.00    210  -502  -414  -418  -506 M G
0.00     0.00    50.00
 210  -474  -386  -390  -478 M G      0.00     0.00    50.00    210  -410  -322  -326  -414 M G
0.00     0.00    50.00
 210  -414  -326  -330  -418 M G      0.00     0.00    50.00    210  -482  -394  -398  -486 M G
0.00     0.00    50.00
 210  -390  -302  -306  -394 M G      0.00     0.00    50.00    210  -394  -306  -310  -398 M G
0.00     0.00    50.00
 210  -406  -318  -322  -410 M G      0.00     0.00    50.00    210  -386  -298  -302  -390 M G
0.00     0.00    50.00
 210  -494  -406  -410  -498 M G      0.00     0.00    50.00    210  -498  -410  -414  -502 M G
0.00     0.00    50.00
 210  -486  -398  -402  -490 M G      0.00     0.00    50.00    210  -478  -390  -394  -482 M G
0.00     0.00    50.00
 211  -322  -234  -238  -326 M G      0.00     0.00    50.00    211  -318  -230  -234  -322 M G
0.00     0.00    50.00
 211  -314  -226  -230  -318 M G      0.00     0.00    50.00    211  -298  -210  -214  -302 M G
0.00     0.00    50.00
 211  -222  -134  -138  -226 M G      0.00     0.00    50.00    211  -214  -126  -130  -218 M G
0.00     0.00    50.00
 211  -306  -218  -222  -310 M G      0.00     0.00    50.00    211  -330  -242  -246  -334 M G
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0.00     0.00    50.00
 211  -218  -130  -134  -222 M G      0.00     0.00    50.00    211  -242  -154  -158  -246 M G
0.00     0.00    50.00
 211  -230  -142  -146  -234 M G      0.00     0.00    50.00    211  -234  -146  -150  -238 M G
0.00     0.00    50.00
 211  -206  -118  -122  -210 M G      0.00     0.00    50.00    211  -226  -138  -142  -230 M G
0.00     0.00    50.00
 211  -302  -214  -218  -306 M G      0.00     0.00    50.00    211  -310  -222  -226  -314 M G
0.00     0.00    50.00
 211  -210  -122  -126  -214 M G      0.00     0.00    50.00    211  -238  -150  -154  -242 M G
0.00     0.00    50.00
 211  -294  -206  -210  -298 M G      0.00     0.00    50.00    211  -326  -238  -242  -330 M G
0.00     0.00    50.00
 212  -146   -58   -62  -150 M G      0.00     0.00    50.00    212  -126   -38   -42  -130 M G
0.00     0.00    50.00
 212  -134   -46   -50  -138 M G      0.00     0.00    50.00    212  -130   -42   -46  -134 M G
0.00     0.00    50.00
 212   -54   120   -20   -58 M G      0.00     0.00    50.00    212   -70  -158  -154   -66 M G
0.00     0.00    50.00
 212  -138   -50   -54  -142 M G      0.00     0.00    50.00    212   -25   -66   -62   124 M G
0.00     0.00    50.00
 212   -50   -15   120   -54 M G      0.00     0.00    50.00    212   -66  -154  -150   -62 M G
0.00     0.00    50.00
 212   -46   115   -15   -50 M G      0.00     0.00    50.00    212  -122   -34   -38  -126 M G
0.00     0.00    50.00
 212   129   -70   -66   -25 M G      0.00     0.00    50.00    212   -34    -5   110   -38 M G
0.00     0.00    50.00
 212   -58   -20   124   -62 M G      0.00     0.00    50.00    212   -30   104    -5   -34 M G
0.00     0.00    50.00
 212  -118   -30   -34  -122 M G      0.00     0.00    50.00    212   -42   -10   115   -46 M G
0.00     0.00    50.00
 212   -38   110   -10   -42 M G      0.00     0.00    50.00    212  -142   -54   -58  -146 M G
0.00     0.00    50.00
 213  -109   -25   124  -105 M G      0.00     0.00    50.00    213   120   -97  -101   -20 M G
0.00     0.00    50.00
 213  -113   129   -25  -109 M G      0.00     0.00    50.00    213   104   -73   -77    -5 M G
0.00     0.00    50.00
 213  -101  -189  -193  -105 M G      0.00     0.00    50.00    213  -197  -109  -105  -193 M G
0.00     0.00    50.00
 213   -77  -165  -169   -81 M G      0.00     0.00    50.00    213   -10   -85   -89   115 M G
0.00     0.00    50.00
 213   115   -89   -93   -15 M G      0.00     0.00    50.00    213   -85  -173  -177   -89 M G
0.00     0.00    50.00
 213    -5   -77   -81   110 M G      0.00     0.00    50.00    213   -73  -161  -165   -77 M G
0.00     0.00    50.00
 213   -15   -93   -97   120 M G      0.00     0.00    50.00    213   -81  -169  -173   -85 M G
0.00     0.00    50.00
 213   -97  -185  -189  -101 M G      0.00     0.00    50.00    213   110   -81   -85   -10 M G
0.00     0.00    50.00
 213   -20  -101  -105   124 M G      0.00     0.00    50.00    213  -201  -113  -109  -197 M G
0.00     0.00    50.00
 213   -93  -181  -185   -97 M G      0.00     0.00    50.00    213   -89  -177  -181   -93 M G
0.00     0.00    50.00
 214  -185  -273  -277  -189 M G      0.00     0.00    50.00    214  -285  -373  -377  -289 M G
0.00     0.00    50.00
 214  -253  -341  -345  -257 M G      0.00     0.00    50.00    214  -257  -345  -349  -261 M G
0.00     0.00    50.00
 214  -269  -357  -361  -273 M G      0.00     0.00    50.00    214  -193  -281  -285  -197 M G
0.00     0.00    50.00
 214  -265  -353  -357  -269 M G      0.00     0.00    50.00    214  -261  -349  -353  -265 M G
0.00     0.00    50.00
 214  -197  -285  -289  -201 M G      0.00     0.00    50.00    214  -189  -277  -281  -193 M G
0.00     0.00    50.00
 214  -277  -365  -369  -281 M G      0.00     0.00    50.00    214  -165  -253  -257  -169 M G
0.00     0.00    50.00
 214  -161  -249  -253  -165 M G      0.00     0.00    50.00    214  -181  -269  -273  -185 M G
0.00     0.00    50.00
 214  -281  -369  -373  -285 M G      0.00     0.00    50.00    214  -177  -265  -269  -181 M G
0.00     0.00    50.00
 214  -169  -257  -261  -173 M G      0.00     0.00    50.00    214  -249  -337  -341  -253 M G
0.00     0.00    50.00
 214  -173  -261  -265  -177 M G      0.00     0.00    50.00    214  -273  -361  -365  -277 M G
0.00     0.00    50.00
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 215  -449  -537  -541  -453 M G      0.00     0.00    50.00    215  -365  -453  -457  -369 M G
0.00     0.00    50.00
 215  -369  -457  -461  -373 M G      0.00     0.00    50.00    215  -461  -549  -553  -465 M G
0.00     0.00    50.00
 215  -441  -529  -533  -445 M G      0.00     0.00    50.00    215  -445  -533  -537  -449 M G
0.00     0.00    50.00
 215  -373  -461  -465  -377 M G      0.00     0.00    50.00    215  -457  -545  -549  -461 M G
0.00     0.00    50.00
 215  -337  -425  -429  -341 M G      0.00     0.00    50.00    215  -433  -521  -525  -437 M G
0.00     0.00    50.00
 215  -437  -525  -529  -441 M G      0.00     0.00    50.00    215  -341  -429  -433  -345 M G
0.00     0.00    50.00
 215  -425  -513  -517  -429 M G      0.00     0.00    50.00    215  -349  -437  -441  -353 M G
0.00     0.00    50.00
 215  -345  -433  -437  -349 M G      0.00     0.00    50.00    215  -361  -449  -453  -365 M G
0.00     0.00    50.00
 215  -353  -441  -445  -357 M G      0.00     0.00    50.00    215  -453  -541  -545  -457 M G
0.00     0.00    50.00
 215  -357  -445  -449  -361 M G      0.00     0.00    50.00    215  -429  -517  -521  -433 M G
0.00     0.00    50.00
 216  -533  -621  -625  -537 M G      0.00     0.00    50.00    216  -513  -601  -605  -517 M G
0.00     0.00    50.00
 216  -625  -713  -717  -629 M G      0.00     0.00    50.00    216  -525  -613  -617  -529 M G
0.00     0.00    50.00
 216  -545  -633  -637  -549 M G      0.00     0.00    50.00    216  -521  -609  -613  -525 M G
0.00     0.00    50.00
 216  -537  -625  -629  -541 M G      0.00     0.00    50.00    216  -617  -705  -709  -621 M G
0.00     0.00    50.00
 216  -637  -725  -729  -641 M G      0.00     0.00    50.00    216  -549  -637  -641  -553 M G
0.00     0.00    50.00
 216  -633  -721  -725  -637 M G      0.00     0.00    50.00    216  -605  -693  -697  -609 M G
0.00     0.00    50.00
 216  -609  -697  -701  -613 M G      0.00     0.00    50.00    216  -621  -709  -713  -625 M G
0.00     0.00    50.00
 216  -629  -717  -721  -633 M G      0.00     0.00    50.00    216  -601  -689  -693  -605 M G
0.00     0.00    50.00
 216  -541  -629  -633  -545 M G      0.00     0.00    50.00    216  -529  -617  -621  -533 M G
0.00     0.00    50.00
 216  -517  -605  -609  -521 M G      0.00     0.00    50.00    216  -613  -701  -705  -617 M G
0.00     0.00    50.00
 217  -697  -785  -789  -701 M G      0.00     0.00    50.00    217  -805  -893  -897  -809 M G
0.00     0.00    50.00
 217  -717  -805  -809  -721 M G      0.00     0.00    50.00    217  -789  -877  -881  -793 M G
0.00     0.00    50.00
 217  -725  -813  -817  -729 M G      0.00     0.00    50.00    217  -793  -881  -885  -797 M G
0.00     0.00    50.00
 217  -797  -885  -889  -801 M G      0.00     0.00    50.00    217  -693  -781  -785  -697 M G
0.00     0.00    50.00
 217  -721  -809  -813  -725 M G      0.00     0.00    50.00    217  -709  -797  -801  -713 M G
0.00     0.00    50.00
 217  -705  -793  -797  -709 M G      0.00     0.00    50.00    217  -713  -801  -805  -717 M G
0.00     0.00    50.00
 217  -701  -789  -793  -705 M G      0.00     0.00    50.00    217  -785  -873  -877  -789 M G
0.00     0.00    50.00
 217  -809  -897  -901  -813 M G      0.00     0.00    50.00    217  -801  -889  -893  -805 M G
0.00     0.00    50.00
 217  -689  -777  -781  -693 M G      0.00     0.00    50.00    217  -777  -865  -869  -781 M G
0.00     0.00    50.00
 217  -813  -901  -905  -817 M G      0.00     0.00    50.00    217  -781  -869  -873  -785 M G
0.00     0.00    50.00
 218  -873  -961  -965  -877 M G      0.00     0.00    50.00    218  -881  -969  -973  -885 M G
0.00     0.00    50.00
 218  -893  -981  -985  -897 M G      0.00     0.00    50.00    218  -885  -973  -977  -889 M G
0.00     0.00    50.00
 218  -877  -965  -969  -881 M G      0.00     0.00    50.00    218  -865  -953  -957  -869 M G
0.00     0.00    50.00
 218  -985 -1073 -1077  -989 M G      0.00     0.00    50.00    218  -901  -989  -993  -905 M G
0.00     0.00    50.00
 218  -977 -1065 -1069  -981 M G      0.00     0.00    50.00    218  -989 -1077 -1081  -993 M G
0.00     0.00    50.00
 218  -869  -957  -961  -873 M G      0.00     0.00    50.00    218  -953 -1041 -1045  -957 M G
0.00     0.00    50.00
 218  -889  -977  -981  -893 M G      0.00     0.00    50.00    218  -981 -1069 -1073  -985 M G
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0.00     0.00    50.00
 218  -897  -985  -989  -901 M G      0.00     0.00    50.00    218  -957 -1045 -1049  -961 M G
0.00     0.00    50.00
 218  -961 -1049 -1053  -965 M G      0.00     0.00    50.00    218  -965 -1053 -1057  -969 M G
0.00     0.00    50.00
 218  -973 -1061 -1065  -977 M G      0.00     0.00    50.00    218  -969 -1057 -1061  -973 M G
0.00     0.00    50.00
 219 -1065 -1153 -1157 -1069 M G      0.00     0.00    50.00    219 -1165 -1253 -1257 -1169 M G
0.00     0.00    50.00
 219 -1053 -1141 -1145 -1057 M G      0.00     0.00    50.00    219 -1137 -1225 -1229 -1141 M G
0.00     0.00    50.00
 219 -1141 -1229 -1233 -1145 M G      0.00     0.00    50.00    219 -1073 -1161 -1165 -1077 M G
0.00     0.00    50.00
 219 -1157 -1245 -1249 -1161 M G      0.00     0.00    50.00    219 -1069 -1157 -1161 -1073 M G
0.00     0.00    50.00
 219 -1049 -1137 -1141 -1053 M G      0.00     0.00    50.00    219 -1161 -1249 -1253 -1165 M G
0.00     0.00    50.00
 219 -1133 -1221 -1225 -1137 M G      0.00     0.00    50.00    219 -1145 -1233 -1237 -1149 M G
0.00     0.00    50.00
 219 -1041 -1129 -1133 -1045 M G      0.00     0.00    50.00    219 -1077 -1165 -1169 -1081 M G
0.00     0.00    50.00
 219 -1129 -1217 -1221 -1133 M G      0.00     0.00    50.00    219 -1061 -1149 -1153 -1065 M G
0.00     0.00    50.00
 219 -1045 -1133 -1137 -1049 M G      0.00     0.00    50.00    219 -1153 -1241 -1245 -1157 M G
0.00     0.00    50.00
 219 -1057 -1145 -1149 -1061 M G      0.00     0.00    50.00    219 -1149 -1237 -1241 -1153 M G
0.00     0.00    50.00
 220 -1329 -1374 -1378 -1333 M G      0.00     0.00    50.00    220 -1313 -1358 -1362 -1317 M G
0.00     0.00    50.00
 220 -1317 -1362 -1366 -1321 M G      0.00     0.00    50.00    220 -1253 -1341 -1345 -1257 M G
0.00     0.00    50.00
 220 -1333 -1378 -1382 -1337 M G      0.00     0.00    50.00    220 -1229 -1317 -1321 -1233 M G
0.00     0.00    50.00
 220 -1249 -1337 -1341 -1253 M G      0.00     0.00    50.00    220 -1245 -1333 -1337 -1249 M G
0.00     0.00    50.00
 220 -1217 -1305 -1309 -1221 M G      0.00     0.00    50.00    220 -1321 -1366 -1370 -1325 M G
0.00     0.00    50.00
 220 -1325 -1370 -1374 -1329 M G      0.00     0.00    50.00    220 -1221 -1309 -1313 -1225 M G
0.00     0.00    50.00
 220 -1337 -1382 -1386 -1341 M G      0.00     0.00    50.00    220 -1341 -1386 -1390 -1345 M G
0.00     0.00    50.00
 220 -1225 -1313 -1317 -1229 M G      0.00     0.00    50.00    220 -1241 -1329 -1333 -1245 M G
0.00     0.00    50.00
 220 -1237 -1325 -1329 -1241 M G      0.00     0.00    50.00    220 -1305 -1350 -1354 -1309 M G
0.00     0.00    50.00
 220 -1309 -1354 -1358 -1313 M G      0.00     0.00    50.00    220 -1233 -1321 -1325 -1237 M G
0.00     0.00    50.00
 221 -1362 -1318 -1322 -1366 M G      0.00     0.00    50.00    221 -1386 -1342 -1346 -1390 M G
0.00     0.00    50.00
 221 -1338 -1250 -1254 -1342 M G      0.00     0.00    50.00    221 -1342 -1254 -1258 -1346 M G
0.00     0.00    50.00
 221 -1314 -1226 -1230 -1318 M G      0.00     0.00    50.00    221 -1306 -1218 -1222 -1310 M G
0.00     0.00    50.00
 221 -1366 -1322 -1326 -1370 M G      0.00     0.00    50.00    221 -1322 -1234 -1238 -1326 M G
0.00     0.00    50.00
 221 -1310 -1222 -1226 -1314 M G      0.00     0.00    50.00    221 -1374 -1330 -1334 -1378 M G
0.00     0.00    50.00
 221 -1358 -1314 -1318 -1362 M G      0.00     0.00    50.00    221 -1370 -1326 -1330 -1374 M G
0.00     0.00    50.00
 221 -1382 -1338 -1342 -1386 M G      0.00     0.00    50.00    221 -1318 -1230 -1234 -1322 M G
0.00     0.00    50.00
 221 -1354 -1310 -1314 -1358 M G      0.00     0.00    50.00    221 -1330 -1242 -1246 -1334 M G
0.00     0.00    50.00
 221 -1326 -1238 -1242 -1330 M G      0.00     0.00    50.00    221 -1334 -1246 -1250 -1338 M G
0.00     0.00    50.00
 221 -1350 -1306 -1310 -1354 M G      0.00     0.00    50.00    221 -1378 -1334 -1338 -1382 M G
0.00     0.00    50.00
 222 -1142 -1054 -1058 -1146 M G      0.00     0.00    50.00    222 -1138 -1050 -1054 -1142 M G
0.00     0.00    50.00
 222 -1254 -1166 -1170 -1258 M G      0.00     0.00    50.00    222 -1226 -1138 -1142 -1230 M G
0.00     0.00    50.00
 222 -1230 -1142 -1146 -1234 M G      0.00     0.00    50.00    222 -1234 -1146 -1150 -1238 M G
0.00     0.00    50.00
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 222 -1246 -1158 -1162 -1250 M G      0.00     0.00    50.00    222 -1222 -1134 -1138 -1226 M G
0.00     0.00    50.00
 222 -1162 -1074 -1078 -1166 M G      0.00     0.00    50.00    222 -1166 -1078 -1082 -1170 M G
0.00     0.00    50.00
 222 -1158 -1070 -1074 -1162 M G      0.00     0.00    50.00    222 -1150 -1062 -1066 -1154 M G
0.00     0.00    50.00
 222 -1154 -1066 -1070 -1158 M G      0.00     0.00    50.00    222 -1250 -1162 -1166 -1254 M G
0.00     0.00    50.00
 222 -1130 -1042 -1046 -1134 M G      0.00     0.00    50.00    222 -1218 -1130 -1134 -1222 M G
0.00     0.00    50.00
 222 -1146 -1058 -1062 -1150 M G      0.00     0.00    50.00    222 -1134 -1046 -1050 -1138 M G
0.00     0.00    50.00
 222 -1238 -1150 -1154 -1242 M G      0.00     0.00    50.00    222 -1242 -1154 -1158 -1246 M G
0.00     0.00    50.00
 223  -782  -694  -698  -786 M G      0.00     0.00    50.00    223  -890  -802  -806  -894 M G
0.00     0.00    50.00
 223  -882  -794  -798  -886 M G      0.00     0.00    50.00    223  -778  -690  -694  -782 M G
0.00     0.00    50.00
 223  -802  -714  -718  -806 M G      0.00     0.00    50.00    223  -870  -782  -786  -874 M G
0.00     0.00    50.00
 223  -874  -786  -790  -878 M G      0.00     0.00    50.00    223  -790  -702  -706  -794 M G
0.00     0.00    50.00
 223  -806  -718  -722  -810 M G      0.00     0.00    50.00    223  -898  -810  -814  -902 M G
0.00     0.00    50.00
 223  -810  -722  -726  -814 M G      0.00     0.00    50.00    223  -894  -806  -810  -898 M G
0.00     0.00    50.00
 223  -794  -706  -710  -798 M G      0.00     0.00    50.00    223  -878  -790  -794  -882 M G
0.00     0.00    50.00
 223  -886  -798  -802  -890 M G      0.00     0.00    50.00    223  -786  -698  -702  -790 M G
0.00     0.00    50.00
 223  -798  -710  -714  -802 M G      0.00     0.00    50.00    223  -902  -814  -818  -906 M G
0.00     0.00    50.00
 223  -814  -726  -730  -818 M G      0.00     0.00    50.00    223  -866  -778  -782  -870 M G
0.00     0.00    50.00
 224 -1066  -978  -982 -1070 M G      0.00     0.00    50.00    224 -1058  -970  -974 -1062 M G
0.00     0.00    50.00
 224 -1074  -986  -990 -1078 M G      0.00     0.00    50.00    224 -1078  -990  -994 -1082 M G
0.00     0.00    50.00
 224 -1050  -962  -966 -1054 M G      0.00     0.00    50.00    224  -974  -886  -890  -978 M G
0.00     0.00    50.00
 224  -958  -870  -874  -962 M G      0.00     0.00    50.00    224  -986  -898  -902  -990 M G
0.00     0.00    50.00
 224  -962  -874  -878  -966 M G      0.00     0.00    50.00    224  -970  -882  -886  -974 M G
0.00     0.00    50.00
 224  -978  -890  -894  -982 M G      0.00     0.00    50.00    224 -1070  -982  -986 -1074 M G
0.00     0.00    50.00
 224 -1042  -954  -958 -1046 M G      0.00     0.00    50.00    224  -990  -902  -906  -994 M G
0.00     0.00    50.00
 224  -966  -878  -882  -970 M G      0.00     0.00    50.00    224 -1054  -966  -970 -1058 M G
0.00     0.00    50.00
 224 -1062  -974  -978 -1066 M G      0.00     0.00    50.00    224 -1046  -958  -962 -1050 M G
0.00     0.00    50.00
 224  -982  -894  -898  -986 M G      0.00     0.00    50.00    224  -954  -866  -870  -958 M G
0.00     0.00    50.00
 225  -618  -622  -710  -706 M G      0.00     0.00    50.00    225  -630  -634  -722  -718 M G
0.00     0.00    50.00
 225  -626  -630  -718  -714 M G      0.00     0.00    50.00    225  -638  -642  -730  -726 M G
0.00     0.00    50.00
 225  -522  -526  -614  -610 M G      0.00     0.00    50.00    225  -550  -554  -642  -638 M G
0.00     0.00    50.00
 225  -546  -550  -638  -634 M G      0.00     0.00    50.00    225  -694  -606  -610  -698 M G
0.00     0.00    50.00
 225  -530  -534  -622  -618 M G      0.00     0.00    50.00    225  -526  -530  -618  -614 M G
0.00     0.00    50.00
 225  -614  -618  -706  -702 M G      0.00     0.00    50.00    225  -606  -518  -522  -610 M G
0.00     0.00    50.00
 225  -534  -538  -626  -622 M G      0.00     0.00    50.00    225  -542  -546  -634  -630 M G
0.00     0.00    50.00
 225  -634  -638  -726  -722 M G      0.00     0.00    50.00    225  -538  -542  -630  -626 M G
0.00     0.00    50.00
 225  -610  -614  -702  -698 M G      0.00     0.00    50.00    225  -602  -514  -518  -606 M G
0.00     0.00    50.00
 225  -622  -626  -714  -710 M G      0.00     0.00    50.00    225  -690  -602  -606  -694 M G
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0.00 0.00 50.00
226 -178 -90 -94 -182 M G 0.00 0.00 50.00 226 -162 -74 -78 -166 M G
0.00 0.00 50.00
226 -102 -21 125 -106 M G 0.00 0.00 50.00 226 -90 112 -16 -94 M G
0.00 0.00 50.00
226 -94 -16 117 -98 M G 0.00 0.00 50.00 226 125 -26 -110 -106 M G
0.00 0.00 50.00
226 -74 105 -6 -78 M G 0.00 0.00 50.00 226 -174 -86 -90 -178 M G
0.00 0.00 50.00
226 -182 -94 -98 -186 M G 0.00 0.00 50.00 226 -86 -11 112 -90 M G
0.00 0.00 50.00
226 -106 -110 -198 -194 M G 0.00 0.00 50.00 226 -26 130 -114 -110 M G
0.00 0.00 50.00
226 -98 117 -21 -102 M G 0.00 0.00 50.00 226 -78 -6 107 -82 M G
0.00 0.00 50.00
226 -166 -78 -82 -170 M G 0.00 0.00 50.00 226 -110 -114 -202 -198 M G
0.00 0.00 50.00
226 -186 -98 -102 -190 M G 0.00 0.00 50.00 226 -190 -102 -106 -194 M G
0.00 0.00 50.00
226 -82 107 -11 -86 M G 0.00 0.00 50.00 226 -170 -82 -86 -174 M G
0.00 0.00 50.00
227 -366 -278 -282 -370 M G 0.00 0.00 50.00 227 -282 -194 -198 -286 M G
0.00 0.00 50.00
227 -286 -198 -202 -290 M G 0.00 0.00 50.00 227 -370 -282 -286 -374 M G
0.00 0.00 50.00
227 -354 -266 -270 -358 M G 0.00 0.00 50.00 227 -262 -174 -178 -266 M G
0.00 0.00 50.00
227 -350 -262 -266 -354 M G 0.00 0.00 50.00 227 -374 -286 -290 -378 M G
0.00 0.00 50.00
227 -346 -258 -262 -350 M G 0.00 0.00 50.00 227 -270 -182 -186 -274 M G
0.00 0.00 50.00
227 -338 -250 -254 -342 M G 0.00 0.00 50.00 227 -342 -254 -258 -346 M G
0.00 0.00 50.00
227 -274 -186 -190 -278 M G 0.00 0.00 50.00 227 -278 -190 -194 -282 M G
0.00 0.00 50.00
227 -362 -274 -278 -366 M G 0.00 0.00 50.00 227 -258 -170 -174 -262 M G
0.00 0.00 50.00
227 -358 -270 -274 -362 M G 0.00 0.00 50.00 227 -250 -162 -166 -254 M G
0.00 0.00 50.00
227 -254 -166 -170 -258 M G 0.00 0.00 50.00 227 -266 -178 -182 -270 M G
0.00 0.00 50.00
228 -354 -358 -446 -442 M G 0.00 0.00 50.00 228 -462 -466 -554 -550 M G
0.00 0.00 50.00
228 -430 -342 -346 -434 M G 0.00 0.00 50.00 228 -514 -426 -430 -518 M G
0.00 0.00 50.00
228 -426 -338 -342 -430 M G 0.00 0.00 50.00 228 -366 -370 -458 -454 M G
0.00 0.00 50.00
228 -450 -454 -542 -538 M G 0.00 0.00 50.00 228 -458 -462 -550 -546 M G
0.00 0.00 50.00
228 -434 -438 -526 -522 M G 0.00 0.00 50.00 228 -442 -446 -534 -530 M G
0.00 0.00 50.00
228 -358 -362 -450 -446 M G 0.00 0.00 50.00 228 -446 -450 -538 -534 M G
0.00 0.00 50.00
228 -350 -354 -442 -438 M G 0.00 0.00 50.00 228 -438 -442 -530 -526 M G
0.00 0.00 50.00
228 -362 -366 -454 -450 M G 0.00 0.00 50.00 228 -346 -350 -438 -434 M G
0.00 0.00 50.00
228 -454 -458 -546 -542 M G 0.00 0.00 50.00 228 -370 -374 -462 -458 M G
0.00 0.00 50.00
228 -374 -378 -466 -462 M G 0.00 0.00 50.00 228 -518 -430 -434 -522 M G
0.00 0.00 50.00

PARAMETRI DI CALCOLO
La modellazione della struttura e la rielaborazione dei risultati del calcolo sono stati effettuati con:
ModeSt ver. 8.14, prodotto da Tecnisoft s.a.s. - Prato

La struttura è stata calcolata utilizzando come solutore agli elementi finiti:
Xfinest ver. 2014, 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: nessun impalcato rigido
Modalità di recupero masse secondarie: trasferire all'impalcato più vicino con modifica XY baricentro

Generazione combinazioni
- Lineari: Sì
- 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: No
- Analisi dinamica con metodo di Lanczos: Sì
- Check sequenza di Sturm: Sì
- Soluzione matrice con metodo ver. 5.1: No
- Analisi non lineare con Newton modificato: No
- Usa formulazione secante per buckling: No
- Trascura buckling torsionale: No

Dati struttura
- Zona sismica: zona 2
- Sito di costruzione: prato LON. 11.10220 LAT. 43.87770
  Contenuto tra ID reticolo: 19613 19612 19391 19390

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>
Ag = Accelerazione orizzontale massima al sito
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	Ag <g>	FO	TC*	S_S	C_C
SLD	75	0.0709	2.54	0.27	1.20	1.43
SLV	712	0.1633	2.41	0.31	1.20	1.39

- Edificio esistente: No
- Tipo di opera: Opera ordinaria
- Vita nominale V_N: 50.00
- 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: 6.77 <m>
- Numero piani edificio: 1
- Coefficiente θ: 0.00
- Edificio regolare in altezza: Sì
- Edificio regolare in pianta: Sì
- 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 <m>	Ly <m>	Ex <m>	Ey <m>	Ea <m>
1	39.50	23.45	1.98	1.17	2.30

Dati di calcolo
- Categoria del suolo di fondazione: B
- Tipologia edificio: c.a. o prefabbricato a telaio a più piani e più campate
Coeff. C_1: 0.075
Periodo T_1: 0.31478
Coeff. λ SLD: 1.00
Coeff. λ SLV: 1.00
Rapporto di sovraresistenza (α_u/α_1): 1.30
Valore di riferimento del fattore di struttura (q_0): 3.90
Fattore riduttivo (K_w): 1.00
Fattore riduttivo regolarità in altezza (KR): 1.00
Fattore di struttura (q): 2.00

- Categoria topografica: T1 - Superficie pianeggiante, pendii e rilievi isolati con inclinazione media i<=15°
- Coeff. amplificazione topografica S_T: 1.00
- Fattore di struttura per sisma verticale (qv): 1.50
- Modalità di calcolo modi di vibrare: Autovalori
- Numero modi: 4
- 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%

- Angolo di ingresso del sisma: 0.00 <grad>

CONDIZIONI DI CARICO ELEMENTARI:

Simbologia

CCE = Numero della condizione di carico elementare
Comm. = Commento
Tipo CCE = Tipo di CCE per calcolo agli stati limite
Sic. = Contributo alla sicurezza
  F = a favore
  S = a sfavore
  A = ambigua
Var. = Tipo di variabilità
  B = di base
  I = indipendente
  A = ambigua
Dir. = Direzione del vento
Tipo = Tipologia di pressione vento
  M = Massimizzata
  E = Esterna
  I = Interna
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

CCE	Comm.	Tipo CCE	Sic.	Var.	Dir. <grad>	Tipo	Mx	My	Mz	Jpx	Jpy	Jpz
1	PS	1	S	--	--	--	1.00	1.00	0.00	0.00	0.00	1.00
2	PNS	2	S	--	--	--	1.00	1.00	0.00	0.00	0.00	1.00
3	NEV	11	S	B	--	--	1.00	1.00	0.00	0.00	0.00	1.00
4	ESE	19	S	I	--	--	1.00	1.00	0.00	0.00	0.00	1.00

ELENCO TIPI CCE DEFINITI:

Simbologia

Tipo CCE = Tipo condizione di carico elementare
Comm. = Commento
Tipo = Tipologia
- G = Permanente
- Qv = Variabile vento
- 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

γ 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	γ min.	γ max	ψ_0	ψ_1	ψ_2	$\psi_{0,s}$
1	D.M. 08 Permanenti strutturali	G	N	1.00	1.30				
2	D.M. 08 Permanenti non strutturali	G	N	0.00	1.50				
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
19	D.M. 08 Variabili Categoria H - Coperture	Q	N	0.00	1.50	0.00	0.00	0.00	1.00

AMBIENTI DI CARICO:

Simbologia

N = Numero
Comm. = Commento
- 1 = PS
- 2 = PNS
- 3 = NEV
- 4 = ESE

F = azioni orizzontali convenzionali
SLU = Stato limite ultimo
SLR = Stato limite per combinazioni rare
SLF = Stato limite per combinazioni frequenti
SLQ/D = Stato limite per combinazioni quasi permanenti o di danno
- S = Sì
- N = No

N	Comm.	1	2	3	4	F	S	SLU	SLR	SLF	SLQ
1	Calcolo sismico	S	S	N	N	N	S	S	N	N	N
2	Calcolo statico	S	S	S	S	S	N	S	S	S	S

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	F	S
1	Amb. 1 (Sisma)	SLU S	1	1	-----	-----	-----	1
2	Amb. 2 (SLU)	SLU	γ max	γ max	γ max	ψ_0*γ max	1	-----
3	Amb. 2 (SLE R)	SLE R	1	1	1	ψ_0	1	-----
4	Amb. 2 (SLE F)	SLE F	1	1	ψ_1	ψ_2	1	-----
5	Amb. 2 (SLE Q)	SLE Q	1	1	ψ_2	ψ_2	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 = Sì
N = No

CC	Comm.	TCC	An.	Bk	1	2	3	4	F X	F Y	±S X	±S Y
1	CC 1 - Amb. 1 (SLU S) S +X+0.3Y	SLV	L	N	1.00	1.00	0.00	0.00	0.00	0.00	1.00	0.30
2	CC 2 - Amb. 1 (SLE) S +X+0.3Y	SLD	L	N	1.00	1.00	0.00	0.00	0.00	0.00	1.00	0.30
3	CC 3 - Amb. 1 (SLU S) S +X-0.3Y	SLV	L	N	1.00	1.00	0.00	0.00	0.00	0.00	1.00	-0.30
4	CC 4 - Amb. 1 (SLE) S +X-0.3Y	SLD	L	N	1.00	1.00	0.00	0.00	0.00	0.00	1.00	-0.30
5	CC 5 - Amb. 1 (SLU S) S +0.3X+Y	SLV	L	N	1.00	1.00	0.00	0.00	0.00	0.00	0.30	1.00
6	CC 6 - Amb. 1 (SLE) S +0.3X+Y	SLD	L	N	1.00	1.00	0.00	0.00	0.00	0.00	0.30	1.00
7	CC 7 - Amb. 1 (SLU S) S -0.3X+Y	SLV	L	N	1.00	1.00	0.00	0.00	0.00	0.00	-0.30	1.00
8	CC 8 - Amb. 1 (SLE) S -0.3X+Y	SLD	L	N	1.00	1.00	0.00	0.00	0.00	0.00	-0.30	1.00
9	CC 9 - Amb. 2 (SLU) F X	SLU	L	N	1.30	1.50	1.50	0.00	1.00	0.00	0.00	0.00
10	CC 10 - Amb. 2 (SLU) F -X	SLU	L	N	1.30	1.50	1.50	0.00	-1.00	0.00	0.00	0.00
11	CC 11 - Amb. 2 (SLU) F Y	SLU	L	N	1.30	1.50	1.50	0.00	0.00	1.00	0.00	0.00
12	CC 12 - Amb. 2 (SLU) F -Y	SLU	L	N	1.30	1.50	1.50	0.00	0.00	-1.00	0.00	0.00
13	CC 13 - Amb. 2 (SLE R) F X	SLE R	L	N	1.00	1.00	1.00	0.00	1.00	0.00	0.00	0.00
14	CC 14 - Amb. 2 (SLE R) F -X	SLE R	L	N	1.00	1.00	1.00	0.00	-1.00	0.00	0.00	0.00
15	CC 15 - Amb. 2 (SLE R) F Y	SLE R	L	N	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00

16	CC 16 - Amb. 2 (SLE R) F -Y	SLE R	L	N	1.00	1.00	1.00	0.00	0.00	-1.00	0.00	0.00
17	CC 17 - Amb. 2 (SLE F) F X	SLE F	L	N	1.00	1.00	0.20	0.00	1.00	0.00	0.00	0.00
18	CC 18 - Amb. 2 (SLE F) F -X	SLE F	L	N	1.00	1.00	0.20	0.00	-1.00	0.00	0.00	0.00
19	CC 19 - Amb. 2 (SLE F) F Y	SLE F	L	N	1.00	1.00	0.20	0.00	0.00	1.00	0.00	0.00
20	CC 20 - Amb. 2 (SLE F) F -Y	SLE F	L	N	1.00	1.00	0.20	0.00	0.00	-1.00	0.00	0.00
21	CC 21 - Amb. 2 (SLE Q) F X	SLE Q	L	N	1.00	1.00	0.00	0.00	1.00	0.00	0.00	0.00
22	CC 22 - Amb. 2 (SLE Q) F -X	SLE Q	L	N	1.00	1.00	0.00	0.00	-1.00	0.00	0.00	0.00
23	CC 23 - Amb. 2 (SLE Q) F Y	SLE Q	L	N	1.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
24	CC 24 - Amb. 2 (SLE Q) F -Y	SLE Q	L	N	1.00	1.00	0.00	0.00	0.00	-1.00	0.00	0.00

ELENCO BARICENTRI E MASSE IMPALCATI:

Simbologia

Nodo = Numero del nodo
Mo = Massa orizzontale

Nodo	Mo <kg>	Nodo	Mo <kg>	Nodo	Mo <kg>	Nodo	Mo <kg>	Nodo	Mo <kg>	Nodo	Mo <kg>	Nodo	Mo <kg>	Nodo	Mo <kg>
-1390	139.39	-1389	136.82	-1388	136.82	-1387	139.38	-1386	278.77	-1385	273.64	-1384	273.64	-1383	278.77
-1382	277.29	-1381	272.19	-1380	272.19	-1379	277.29	-1378	275.81	-1377	270.73	-1376	270.73	-1375	275.81
-1374	275.81	-1373	270.73	-1372	270.73	-1371	275.81	-1370	275.81	-1369	270.73	-1368	270.73	-1367	275.81
-1366	275.81	-1365	270.73	-1364	270.73	-1363	275.81	-1362	275.81	-1361	270.73	-1360	270.73	-1359	275.81
-1358	280.25	-1357	275.10	-1356	275.10	-1355	280.25	-1354	284.70	-1353	279.47	-1352	279.47	-1351	284.70
-1350	142.35	-1349	139.73	-1348	139.73	-1347	142.35	-1346	138.41	-1345	140.36	-1344	138.41	-1343	140.36
-1342	276.82	-1341	280.72	-1340	276.82	-1339	280.72	-1338	275.35	-1337	279.23	-1336	275.35	-1335	279.23
-1334	273.88	-1333	277.73	-1332	273.88	-1331	277.73	-1330	273.88	-1329	277.73	-1328	273.88	-1327	277.73
-1326	273.88	-1325	277.73	-1324	273.88	-1323	277.73	-1322	273.88	-1321	277.73	-1320	273.88	-1319	277.73
-1318	273.88	-1317	277.73	-1316	273.88	-1315	277.73	-1314	278.30	-1313	282.21	-1312	278.30	-1311	282.21
-1310	282.71	-1309	286.69	-1308	282.71	-1307	286.69	-1306	141.36	-1305	143.35	-1304	141.36	-1303	143.34
-1302	136.82	-1301	136.82	-1300	136.82	-1299	136.82	-1298	273.64	-1297	273.64	-1296	273.64	-1295	273.64
-1294	272.19	-1293	272.19	-1292	272.19	-1291	272.19	-1290	270.73	-1289	270.73	-1288	270.73	-1287	270.73
-1286	270.73	-1285	270.73	-1284	270.73	-1283	270.73	-1282	270.73	-1281	270.73	-1280	270.73	-1279	270.73
-1278	270.73	-1277	270.73	-1276	270.73	-1275	270.73	-1274	270.73	-1273	270.73	-1272	270.73	-1271	270.73
-1270	275.10	-1269	275.10	-1268	275.10	-1267	275.10	-1266	279.47	-1265	279.47	-1264	279.47	-1263	279.47
-1262	139.73	-1261	139.73	-1260	139.73	-1259	139.73	-1258	138.71	-1257	139.69	-1256	138.71	-1255	139.69
-1254	277.43	-1253	279.38	-1252	277.43	-1251	279.38	-1250	275.95	-1249	277.89	-1248	275.95	-1247	277.89
-1246	274.47	-1245	276.40	-1244	274.48	-1243	276.40	-1242	274.48	-1241	276.40	-1240	274.48	-1239	276.40
-1238	274.48	-1237	276.40	-1236	274.48	-1235	276.40	-1234	274.48	-1233	276.40	-1232	274.48	-1231	276.40
-1230	274.48	-1229	276.40	-1228	274.48	-1227	276.40	-1226	278.90	-1225	280.86	-1224	278.90	-1223	280.86
-1222	283.33	-1221	285.32	-1220	283.33	-1219	285.32	-1218	141.66	-1217	142.66	-1216	141.67	-1215	142.66
-1214	138.18	-1213	138.18	-1212	138.18	-1211	138.18	-1210	276.36	-1209	276.36	-1208	276.36	-1207	276.36
-1206	274.89	-1205	274.89	-1204	274.89	-1203	274.89	-1202	273.42	-1201	273.42	-1200	273.42	-1199	273.42
-1198	273.42	-1197	273.42	-1196	273.42	-1195	273.42	-1194	273.42	-1193	273.42	-1192	273.42	-1191	273.42

-1190	273.42	-1189	273.42	-1188	273.42	-1187	273.42	-1186	273.42	-1185	273.42	-1184	273.42
-1183	273.42												
-1182	277.83	-1181	277.83	-1180	277.83	-1179	277.83	-1178	282.24	-1177	282.24	-1176	282.24
-1175	282.24												
-1174	141.12	-1173	141.12	-1172	141.12	-1171	141.12	-1170	139.02	-1169	139.02	-1168	139.02
-1167	139.02												
-1166	278.03	-1165	278.03	-1164	278.03	-1163	278.03	-1162	276.55	-1161	276.55	-1160	276.56
-1159	276.56												
-1158	275.07	-1157	275.07	-1156	275.08	-1155	275.08	-1154	275.07	-1153	275.07	-1152	275.08
-1151	275.08												
-1150	275.07	-1149	275.07	-1148	275.08	-1147	275.08	-1146	275.07	-1145	275.07	-1144	275.08
-1143	275.08												
-1142	275.07	-1141	275.07	-1140	275.08	-1139	275.08	-1138	279.51	-1137	279.51	-1136	279.51
-1135	279.51												
-1134	283.95	-1133	283.95	-1132	283.95	-1131	283.95	-1130	141.97	-1129	141.97	-1128	141.97
-1127	141.97												
-1126	139.53	-1125	139.54	-1124	139.54	-1123	139.54	-1122	279.07	-1121	279.07	-1120	279.07
-1119	279.07												
-1118	277.59	-1117	277.59	-1116	277.59	-1115	277.59	-1114	276.10	-1113	276.10	-1112	276.10
-1111	276.10												
-1110	276.10	-1109	276.10	-1108	276.10	-1107	276.10	-1106	276.10	-1105	276.10	-1104	276.10
-1103	276.10												
-1102	276.10	-1101	276.10	-1100	276.10	-1099	276.10	-1098	276.10	-1097	276.10	-1096	276.10
-1095	276.10												
-1094	280.56	-1093	280.56	-1092	280.56	-1091	280.56	-1090	285.01	-1089	285.01	-1088	285.01
-1087	285.01												
-1086	142.50	-1085	142.50	-1084	142.50	-1083	142.50	-1082	139.84	-1081	139.83	-1080	139.83
-1079	139.83												
-1078	279.67	-1077	279.67	-1076	279.67	-1075	279.67	-1074	278.18	-1073	278.18	-1072	278.18
-1071	278.18												
-1070	276.69	-1069	276.69	-1068	276.69	-1067	276.69	-1066	276.69	-1065	276.69	-1064	276.69
-1063	276.69												
-1062	276.69	-1061	276.69	-1060	276.69	-1059	276.69	-1058	276.69	-1057	276.69	-1056	276.69
-1055	276.69												
-1054	276.69	-1053	276.69	-1052	276.69	-1051	276.69	-1050	281.16	-1049	281.15	-1048	281.15
-1047	281.15												
-1046	285.62	-1045	285.62	-1044	285.62	-1043	285.62	-1042	142.81	-1041	142.81	-1040	142.81
-1039	142.81												
-1038	137.90	-1037	137.90	-1036	137.90	-1035	137.90	-1034	275.80	-1033	275.80	-1032	275.80
-1031	275.80												
-1030	274.33	-1029	274.33	-1028	274.33	-1027	274.33	-1026	272.87	-1025	272.87	-1024	272.87
-1023	272.87												
-1022	272.87	-1021	272.87	-1020	272.87	-1019	272.87	-1018	272.87	-1017	272.87	-1016	272.87
-1015	272.87												
-1014	272.87	-1013	272.87	-1012	272.87	-1011	272.87	-1010	272.87	-1009	272.87	-1008	272.87
-1007	272.87												
-1006	277.27	-1005	277.27	-1004	277.27	-1003	277.27	-1002	281.67	-1001	281.67	-1000	281.67
-999	281.67												
-998	140.83	-997	140.83	-996	140.83	-995	140.83	-994	140.65	-993	140.65	-992	140.65
-991	140.65												
-990	281.30	-989	281.30	-988	281.30	-987	281.30	-986	279.81	-985	279.80	-984	279.81
-983	279.81												
-982	278.31	-981	278.31	-980	278.31	-979	278.31	-978	278.31	-977	278.31	-976	278.31
-975	278.31												
-974	278.31	-973	278.31	-972	278.31	-971	278.31	-970	278.31	-969	278.31	-968	278.31
-967	278.31												
-966	278.31	-965	278.31	-964	278.31	-963	278.31	-962	282.80	-961	282.80	-960	282.80
-959	282.80												
-958	287.29	-957	287.29	-956	287.29	-955	287.29	-954	143.64	-953	143.64	-952	143.64
-951	143.64												
-950	136.26	-949	136.26	-948	136.26	-947	136.26	-946	272.53	-945	272.53	-944	272.53
-943	272.53												
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104 3614.27 105 2256.05 106 1795.60 107 1795.60 108 2393.92 109 2389.94 110 2393.92 111 1776.17
112 1776.17 113 2372.30 114 2368.36 115 2372.30 116 1776.17 117 1776.17 118 2372.30 119 2368.36
120 2372.30 121 1782.65 122 2379.51 123 2375.55 124 2379.51 125 1782.65 126 2243.09 127 3599.85
128 3581.25 129 3599.85 130 2243.09

TOTALI MASSE NODI:

Mo <kg>
452235.00

ELENCO PESI E FORZE FITTIZIE IMPALCATI:

Simbologia

Nodo = Numero del nodo
Peso = Peso
Fx = Forza in dir. X
Fy = Forza in dir. Y

Nodo	Peso <daN>	Fx <daN>	Fy <daN>	Nodo	Peso <daN>	Fx <daN>	Fy <daN>	Nodo	Peso <daN>	Fx <daN>	Fy <daN>	Nodo	Peso <daN>	Fx <daN>	Fy <daN>
-1390	190.60	1.91	1.91	-1389	187.10	1.87	1.87	-1388	187.10	1.87	1.87	-1387	190.60	1.91	1.91
-1386	381.21	3.81	3.81	-1385	374.20	3.74	3.74	-1384	374.20	3.74	3.74	-1383	381.21	3.81	3.81
-1382	379.18	3.79	3.79	-1381	372.21	3.72	3.72	-1380	372.21	3.72	3.72	-1379	379.18	3.79	3.79
-1378	377.15	3.77	3.77	-1377	370.22	3.70	3.70	-1376	370.22	3.70	3.70	-1375	377.15	3.77	3.77
-1374	377.15	3.77	3.77	-1373	370.22	3.70	3.70	-1372	370.22	3.70	3.70	-1371	377.15	3.77	3.77
-1370	377.15	3.77	3.77	-1369	370.22	3.70	3.70	-1368	370.22	3.70	3.70	-1367	377.15	3.77	3.77
-1366	377.15	3.77	3.77	-1365	370.22	3.70	3.70	-1364	370.22	3.70	3.70	-1363	377.15	3.77	3.77
-1362	377.15	3.77	3.77	-1361	370.22	3.70	3.70	-1360	370.22	3.70	3.70	-1359	377.15	3.77	3.77
-1358	383.24	3.83	3.83	-1357	376.19	3.76	3.76	-1356	376.19	3.76	3.76	-1355	383.23	3.83	3.83
-1354	389.32	3.89	3.89	-1353	382.16	3.82	3.82	-1352	382.16	3.82	3.82	-1351	389.32	3.89	3.89
-1350	194.66	1.95	1.95	-1349	191.08	1.91	1.91	-1348	191.08	1.91	1.91	-1347	194.66	1.95	1.95
-1346	189.27	1.89	1.89	-1345	191.94	1.92	1.92	-1344	189.27	1.89	1.89	-1343	191.94	1.92	1.92
-1342	378.54	3.79	3.79	-1341	383.87	3.84	3.84	-1340	378.54	3.79	3.79	-1339	383.87	3.84	3.84
-1338	376.53	3.77	3.77	-1337	381.83	3.82	3.82	-1336	376.53	3.77	3.77	-1335	381.83	3.82	3.82
-1334	374.52	3.75	3.75	-1333	379.79	3.80	3.80	-1332	374.52	3.75	3.75	-1331	379.79	3.80	3.80
-1330	374.52	3.75	3.75	-1329	379.79	3.80	3.80	-1328	374.52	3.75	3.75	-1327	379.79	3.80	3.80
-1326	374.52	3.75	3.75	-1325	379.79	3.80	3.80	-1324	374.52	3.75	3.75	-1323	379.79	3.80	3.80
-1322	374.52	3.75	3.75	-1321	379.79	3.80	3.80	-1320	374.52	3.75	3.75	-1319	379.79	3.80	

3.80
−1318 374.52 3.75 3.75 −1317 379.79 3.80 3.80 −1316 374.52 3.75 3.75 −1315 379.79 3.80
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−1230 375.33 3.75 3.75 −1229 377.97 3.78 3.78 −1228 375.33 3.75 3.75 −1227 377.97 3.78
3.78
−1226 381.39 3.81 3.81 −1225 384.06 3.84 3.84 −1224 381.39 3.81 3.81 −1223 384.07 3.84
3.84
−1222 387.44 3.87 3.87 −1221 390.16 3.90 3.90 −1220 387.44 3.87 3.87 −1219 390.16 3.90
3.90
−1218 193.72 1.94 1.94 −1217 195.08 1.95 1.95 −1216 193.72 1.94 1.94 −1215 195.08 1.95
1.95
−1214 188.95 1.89 1.89 −1213 188.95 1.89 1.89 −1212 188.95 1.89 1.89 −1211 188.95 1.89
1.89
−1210 377.91 3.78 3.78 −1209 377.91 3.78 3.78 −1208 377.91 3.78 3.78 −1207 377.91 3.78
3.78
−1206 375.90 3.76 3.76 −1205 375.90 3.76 3.76 −1204 375.90 3.76 3.76 −1203 375.90 3.76
3.76
−1202 373.89 3.74 3.74 −1201 373.89 3.74 3.74 −1200 373.89 3.74 3.74 −1199 373.89 3.74
3.74
−1198 373.89 3.74 3.74 −1197 373.89 3.74 3.74 −1196 373.89 3.74 3.74 −1195 373.89 3.74
3.74
−1194 373.89 3.74 3.74 −1193 373.89 3.74 3.74 −1192 373.89 3.74 3.74 −1191 373.89 3.74
3.74
−1190 373.89 3.74 3.74 −1189 373.89 3.74 3.74 −1188 373.89 3.74 3.74 −1187 373.89 3.74
3.74
−1186 373.89 3.74 3.74 −1185 373.89 3.74 3.74 −1184 373.89 3.74 3.74 −1183 373.89 3.74
3.74
−1182 379.92 3.80 3.80 −1181 379.92 3.80 3.80 −1180 379.92 3.80 3.80 −1179 379.92 3.80
3.80
−1178 385.95 3.86 3.86 −1177 385.95 3.86 3.86 −1176 385.95 3.86 3.86 −1175 385.95 3.86
3.86

-1174	192.97	1.93	1.93	-1173	192.97	1.93	1.93	-1172	192.97	1.93	1.93	-1171	192.97	1.93	1.93
-1170	190.10	1.90	1.90	-1169	190.10	1.90	1.90	-1168	190.10	1.90	1.90	-1167	190.10	1.90	1.90
-1166	380.20	3.80	3.80	-1165	380.20	3.80	3.80	-1164	380.20	3.80	3.80	-1163	380.20	3.80	3.80
-1162	378.17	3.78	3.78	-1161	378.18	3.78	3.78	-1160	378.18	3.78	3.78	-1159	378.18	3.78	3.78
-1158	376.15	3.76	3.76	-1157	376.15	3.76	3.76	-1156	376.15	3.76	3.76	-1155	376.15	3.76	3.76
-1154	376.15	3.76	3.76	-1153	376.15	3.76	3.76	-1152	376.15	3.76	3.76	-1151	376.15	3.76	3.76
-1150	376.15	3.76	3.76	-1149	376.15	3.76	3.76	-1148	376.15	3.76	3.76	-1147	376.15	3.76	3.76
-1146	376.15	3.76	3.76	-1145	376.15	3.76	3.76	-1144	376.15	3.76	3.76	-1143	376.15	3.76	3.76
-1142	376.15	3.76	3.76	-1141	376.15	3.76	3.76	-1140	376.15	3.76	3.76	-1139	376.15	3.76	3.76
-1138	382.22	3.82	3.82	-1137	382.22	3.82	3.82	-1136	382.22	3.82	3.82	-1135	382.22	3.82	3.82
-1134	388.29	3.88	3.88	-1133	388.29	3.88	3.88	-1132	388.29	3.88	3.88	-1131	388.29	3.88	3.88
-1130	194.14	1.94	1.94	-1129	194.14	1.94	1.94	-1128	194.14	1.94	1.94	-1127	194.14	1.94	1.94
-1126	190.81	1.91	1.91	-1125	190.81	1.91	1.91	-1124	190.81	1.91	1.91	-1123	190.81	1.91	1.91
-1122	381.62	3.82	3.82	-1121	381.62	3.82	3.82	-1120	381.62	3.82	3.82	-1119	381.62	3.82	3.82
-1118	379.59	3.80	3.80	-1117	379.59	3.80	3.80	-1116	379.59	3.80	3.80	-1115	379.59	3.80	3.80
-1114	377.56	3.78	3.78	-1113	377.56	3.78	3.78	-1112	377.56	3.78	3.78	-1111	377.56	3.78	3.78
-1110	377.56	3.78	3.78	-1109	377.56	3.78	3.78	-1108	377.56	3.78	3.78	-1107	377.56	3.78	3.78
-1106	377.56	3.78	3.78	-1105	377.56	3.78	3.78	-1104	377.56	3.78	3.78	-1103	377.56	3.78	3.78
-1102	377.56	3.78	3.78	-1101	377.56	3.78	3.78	-1100	377.56	3.78	3.78	-1099	377.56	3.78	3.78
-1098	377.56	3.78	3.78	-1097	377.56	3.78	3.78	-1096	377.56	3.78	3.78	-1095	377.56	3.78	3.78
-1094	383.65	3.84	3.84	-1093	383.65	3.84	3.84	-1092	383.65	3.84	3.84	-1091	383.65	3.84	3.84
-1090	389.74	3.90	3.90	-1089	389.74	3.90	3.90	-1088	389.74	3.90	3.90	-1087	389.74	3.90	3.90
-1086	194.87	1.95	1.95	-1085	194.87	1.95	1.95	-1084	194.87	1.95	1.95	-1083	194.87	1.95	1.95
-1082	191.22	1.91	1.91	-1081	191.22	1.91	1.91	-1080	191.22	1.91	1.91	-1079	191.22	1.91	1.91
-1078	382.43	3.82	3.82	-1077	382.43	3.82	3.82	-1076	382.43	3.82	3.82	-1075	382.43	3.82	3.82
-1074	380.40	3.80	3.80	-1073	380.40	3.80	3.80	-1072	380.40	3.80	3.80	-1071	380.40	3.80	3.80
-1070	378.37	3.78	3.78	-1069	378.37	3.78	3.78	-1068	378.37	3.78	3.78	-1067	378.37	3.78	3.78
-1066	378.37	3.78	3.78	-1065	378.36	3.78	3.78	-1064	378.37	3.78	3.78	-1063	378.37	3.78	3.78
-1062	378.37	3.78	3.78	-1061	378.36	3.78	3.78	-1060	378.37	3.78	3.78	-1059	378.37	3.78	3.78
-1058	378.37	3.78	3.78	-1057	378.36	3.78	3.78	-1056	378.37	3.78	3.78	-1055	378.37	3.78	3.78
-1054	378.37	3.78	3.78	-1053	378.36	3.78	3.78	-1052	378.37	3.78	3.78	-1051	378.37	3.78	3.78
-1050	384.47	3.84	3.84	-1049	384.47	3.84	3.84	-1048	384.47	3.84	3.84	-1047	384.47	3.84	3.84
-1046	390.57	3.91	3.91	-1045	390.57	3.91	3.91	-1044	390.57	3.91	3.91	-1043	390.57	3.91	3.91
-1042	195.28	1.95	1.95	-1041	195.28	1.95	1.95	-1040	195.28	1.95	1.95				

PIU – PROGETTO INNOVAZIONE URBANA

OPERAZIONE MERCATO METROPOLITANO

A9 –FASCICOLO DEI CALCOLI

NUOVO SOPPALCO METALLICO

(OTTOBRE 2017)

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.

- 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

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 <m>	Lz <m>	Kt <daN/cmc>
1	Libero	L	L	L	L	L	L				
5								Sì	1.00	1.00	1.50

ELENCO COSTANTI ELASTICHE NODALI

Simbologia

Nodo = Numero del nodo
Kx = Costante elastica in dir. X
Ky = Costante elastica in dir. Y
Kz = Costante elastica in dir. Z
KRx = Costante elastica intorno all'asse X
KRy = Costante elastica intorno all'asse Y

Nodo	Kx	Ky	Kz	KRx	KRy	Nodo	Kx	Ky	Kz	KRx	KRy

	<daN/cm>	<daN/cm>	<daN/cm>	<daNm/rad>	<daNm/rad>		<daN/cm>	<daN/cm>	<daN/cm>	<daNm/rad>	<daNm/rad>
1	--	--	15000.00	125000.00	125000.00	2	--	--	15000.00	125000.00	125000.00
3	--	--	15000.00	125000.00	125000.00	4	--	--	15000.00	125000.00	125000.00
5	--	--	15000.00	125000.00	125000.00	6	--	--	15000.00	125000.00	125000.00
7	--	--	15000.00	125000.00	125000.00	8	--	--	15000.00	125000.00	125000.00
9	--	--	15000.00	125000.00	125000.00	10	--	--	15000.00	125000.00	125000.00
11	--	--	15000.00	125000.00	125000.00	12	--	--	15000.00	125000.00	125000.00
13	--	--	15000.00	125000.00	125000.00	14	--	--	15000.00	125000.00	125000.00
15	--	--	15000.00	125000.00	125000.00	16	--	--	15000.00	125000.00	125000.00
17	--	--	15000.00	125000.00	125000.00	18	--	--	15000.00	125000.00	125000.00
19	--	--	15000.00	125000.00	125000.00	20	--	--	15000.00	125000.00	125000.00
21	--	--	15000.00	125000.00	125000.00	22	--	--	15000.00	125000.00	125000.00
23	--	--	15000.00	125000.00	125000.00	24	--	--	15000.00	125000.00	125000.00

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 <m>	Y <m>	Z <m>	Imp.	Vn	Nodo	X <m>	Y <m>	Z <m>	Imp.	Vn	Nodo	X <m>	Y <m>	Z <m>	Imp.	Vn	Nodo	X <m>	Y <m>	Z <m>	Imp.	Vn	Nodo	X <m>	Y <m>	Z <m>	Imp.	Vn
1	0.00	0.00	0.00	0	5	2	2.91	0.00	0.00	0	5	3	10.53	0.00	0.00	0	5	4	13.45	0.00	0.00	0	5						
5	0.00	4.36	0.00	0	5	6	2.91	4.36	0.00	0	5	7	10.53	4.36	0.00	0	5	8	13.45	4.36	0.00	0	5						
9	0.00	9.01	0.00	0	5	10	2.91	9.01	0.00	0	5	11	10.53	9.01	0.00	0	5	12	13.45	9.01	0.00	0	5						
13	0.00	13.66	0.00	0	5	14	2.91	13.66	0.00	0	5	15	10.53	13.66	0.00	0	5	16	13.45	13.66	0.00	0	5						
17	0.00	18.31	0.00	0	5	18	2.91	18.31	0.00	0	5	19	10.53	18.31	0.00	0	5	20	13.45	18.31	0.00	0	5						
21	0.00	21.16	0.00	0	5	22	2.91	21.16	0.00	0	5	23	10.53	22.57	0.00	0	5	24	13.45	22.57	0.00	0	5						
101	0.00	0.00	2.60	1	1	102	2.91	0.00	2.60	1	1	103	10.53	0.00	2.60	1	1	104	13.45	0.00	2.60	1	1						
105	0.00	4.36	2.60	1	1	106	2.91	4.36	2.60	1	1	107	10.53	4.36	2.60	1	1	108	13.45	4.36	2.60	1	1						
109	0.00	9.01	2.60	1	1	110	2.91	9.01	2.60	1	1	111	10.53	9.01	2.60	1	1	112	13.45	9.01	2.60	1	1						
113	0.00	13.66	2.60	1	1	114	2.91	13.66	2.60	1	1	115	10.53	13.66	2.60	1	1	116	13.45	13.66	2.60	1	1						
117	0.00	18.31	2.60	1	1	118	2.91	18.31	2.60	1	1	119	10.53	18.31	2.60	1	1	120	13.45	18.31	2.60	1	1						
121	0.00	21.16	2.60	1	1	122	2.91	21.16	2.60	1	1	123	10.53	22.57	2.60	1	1	124	13.45	22.57	2.60	1	1						
125	0.00	22.71	2.60	1	1	126	2.91	22.71	2.60	1	1																		

ELENCO MATERIALI

Simbologia

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

Mat.	Comm.	P <daN/mc>	E <daN/cmq>	G <daN/cmq>	ν	α
2	Acciaio	7850	2100000.00	800000.00	0.3	1.000000E-05

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 = Sezione a C
  Cdx = C destra
  Cir. = Circolare
  Cir.c = Circolare cava
  I = Sezione a I
  L = Sezione a 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 = Sezione a T
  U = Sezione a U
  Ur = U rovescia
  V = Sezione a V
  Vr = V rovescia
  Z = Sezione a Z
  Zdx = Z destra
  Ts = T stondata
  Ls = L stondata
  Cs = C stondata
  Is = I stondata
  Dis. = Disegnata
Mem. = Membratura
  G = Generica
  T = Trave
  P = Pilastro
Ver. = Verifica prevista
  N = Nessuna
  C = Cemento armato
  A = Acciaio
  L = Legno
B = Base
H = Altezza

s   = Spessore ala
a   = Spessore anima
r   = Raggio raccordo anima-ala
r1   = Raggio in testa ala
Ma   = Numero del materiale
C   = Numero del criterio di progetto
Crit. C.I. = Criterio di progetto collegamento iniziale
Crit. C.F. = Criterio di progetto collegamento finale

Sez.	Comm.	Tipo	Mem.	Ver.	B <cm>	H <cm>	s <cm>	a <cm>	r <cm>	r1 <cm>	Ma	C	Crit. C.I.	Crit. C.F.
1	HEA180	Is	P	A	18.00	17.10	0.95	0.60	1.50	0.00	2	1	1	2
2	HEA160	Is	T	A	16.00	15.20	0.90	0.60	1.50	0.00	2	1	2	2

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	
12	CerYZ+Inc	SVI	1	1	1	1	0	0	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
TC1 = Tipo collegamento iniziale
TC2 = Tipo collegamento finale
Kt   = Coeff. di sottofondo su suolo elastico alla Winkler

Asta	N1	N2	Sez.	Va	Par.	Rot. <grad>	FF	Dy1 <cm>	Dy2 <cm>	Dz1 <cm>	Dz2 <cm>	TC1	TC2	Kt <daN/cmc>

0	125	126		1	0.00	88	0.00	0.00	0.00	0.00	ND	ND
1	1	101	1	12	0.00	55	0.00	0.00	0.00	0.00	ND	ND
2	2	102	1	12	0.00	55	0.00	0.00	0.00	0.00	ND	ND
3	3	103	1	12	0.00	55	0.00	0.00	0.00	0.00	ND	ND
4	4	104	1	12	0.00	55	0.00	0.00	0.00	0.00	ND	ND
5	5	105	1	12	0.00	55	0.00	0.00	0.00	0.00	PF	FRM
6	6	106	1	12	0.00	55	0.00	0.00	0.00	0.00	PF	FRM
7	7	107	1	12	0.00	55	0.00	0.00	0.00	0.00	ND	ND
8	8	108	1	12	0.00	55	0.00	0.00	0.00	0.00	ND	ND
9	9	109	1	12	0.00	55	0.00	0.00	0.00	0.00	ND	ND
10	10	110	1	12	0.00	55	0.00	0.00	0.00	0.00	ND	ND
11	11	111	1	12	0.00	55	0.00	0.00	0.00	0.00	ND	ND
12	12	112	1	12	0.00	55	0.00	0.00	0.00	0.00	ND	ND
13	13	113	1	12	0.00	55	0.00	0.00	0.00	0.00	ND	ND
14	14	114	1	12	0.00	55	0.00	0.00	0.00	0.00	ND	ND
15	15	115	1	12	0.00	55	0.00	0.00	0.00	0.00	ND	ND
16	16	116	1	12	0.00	55	0.00	0.00	0.00	0.00	ND	ND
17	17	117	1	12	0.00	55	0.00	0.00	0.00	0.00	ND	ND
18	18	118	1	12	0.00	55	0.00	0.00	0.00	0.00	ND	ND
19	19	119	1	12	0.00	55	0.00	0.00	0.00	0.00	ND	ND
20	20	120	1	12	0.00	55	0.00	0.00	0.00	0.00	ND	ND
21	21	121	1	12	0.00	55	0.00	0.00	0.00	0.00	ND	ND
22	22	122	1	12	0.00	55	0.00	0.00	0.00	0.00	ND	ND
23	23	123	1	12	0.00	55	0.00	0.00	0.00	0.00	ND	ND
24	24	124	1	12	0.00	55	0.00	0.00	0.00	0.00	ND	ND
101	101	102	2	1	0.00	88	0.00	0.00	0.00	0.00	ND	ND
102	105	106	2	1	0.00	88	0.00	0.00	0.00	0.00	S	S
103	109	110	2	1	0.00	88	0.00	0.00	0.00	0.00	ND	ND
104	113	114	2	1	0.00	88	0.00	0.00	0.00	0.00	ND	ND
105	117	118	2	1	0.00	88	0.00	0.00	0.00	0.00	ND	ND
106	121	122	2	1	0.00	88	0.00	0.00	0.00	0.00	ND	ND
107	123	124	2	1	0.00	88	0.00	0.00	0.00	0.00	ND	ND
108	101	105	2	1	0.00	88	0.00	0.00	0.00	0.00	ND	ND
108	105	109	2	1	0.00	88	0.00	0.00	0.00	0.00	ND	ND
108	109	113	2	1	0.00	88	0.00	0.00	0.00	0.00	ND	ND
108	113	117	2	1	0.00	88	0.00	0.00	0.00	0.00	ND	ND
108	117	121	2	1	0.00	88	0.00	0.00	0.00	0.00	ND	ND
108	121	125	2	1	0.00	88	0.00	0.00	0.00	0.00	ND	ND
109	102	106	2	1	0.00	88	0.00	0.00	0.00	0.00	CAA	CAA
109	106	110	2	1	0.00	88	0.00	0.00	0.00	0.00	CAA	CAA
109	110	114	2	1	0.00	88	0.00	0.00	0.00	0.00	ND	ND
109	114	118	2	1	0.00	88	0.00	0.00	0.00	0.00	ND	ND
109	118	122	2	1	0.00	88	0.00	0.00	0.00	0.00	ND	ND
109	122	126	2	1	0.00	88	0.00	0.00	0.00	0.00	ND	ND
110	103	107	2	1	0.00	88	0.00	0.00	0.00	0.00	ND	ND
110	107	111	2	1	0.00	88	0.00	0.00	0.00	0.00	ND	ND
110	111	115	2	1	0.00	88	0.00	0.00	0.00	0.00	ND	ND
110	115	119	2	1	0.00	88	0.00	0.00	0.00	0.00	ND	ND
110	119	123	2	1	0.00	88	0.00	0.00	0.00	0.00	ND	ND
111	104	108	2	1	0.00	88	0.00	0.00	0.00	0.00	ND	ND
111	108	112	2	1	0.00	88	0.00	0.00	0.00	0.00	ND	ND
111	112	116	2	1	0.00	88	0.00	0.00	0.00	0.00	ND	ND
111	116	120	2	1	0.00	88	0.00	0.00	0.00	0.00	ND	ND
111	120	124	2	1	0.00	88	0.00	0.00	0.00	0.00	ND	ND
112	103	104	2	1	0.00	88	0.00	0.00	0.00	0.00	ND	ND
113	107	108	2	1	0.00	88	0.00	0.00	0.00	0.00	ND	ND
114	111	112	2	1	0.00	88	0.00	0.00	0.00	0.00	ND	ND
115	115	116	2	1	0.00	88	0.00	0.00	0.00	0.00	ND	ND
116	119	120	2	1	0.00	88	0.00	0.00	0.00	0.00	ND	ND

ELENCO TIPI SOLAI

Simbologia

Ts = Numero del tipo solaio
Comm. = Commento
Rc = Ripartizione carichi
UN = Unidirezionale
PP = A piastra perimetrale
PB = A piastra bisettrice

Qps = Carico permanente strutturale
Qpn = Carico permanente non strutturale
QA = Primo carico accidentale
QA2 = Secondo carico accidentale
QA3 = Terzo carico accidentale
Rip. ter. = Ripartizione su aste terminali
Rip. int. = Ripartizione su aste interne
Lfl = Larghezza fascia laterale
Zcv = Quota di riferimento del piano di campagna
s = Coeff. di riduzione

Ts	Comm.	Rc	Qps <daN/mq>	Qpn <daN/mq>	QA <daN/mq>	QA2 <daN/mq>	QA3 <daN/mq>	Rip. ter.	Rip. int.	Lfl <m>	Zcv <m>	s
1		UN	30.00	100.00	400.00	0.00	0.00	50.00	50.00	0.00	0.00	1.00

ELENCO SOLAI

Simbologia

Sol. = Numero del solaio
Ts = Numero del tipo solaio
Ord. = Orditura
Nodi = Nodi del solaio

Sol.	Ts	Ord. <grad>	Nodi	Sol.	Ts	Ord. <grad>	Nodi	Sol.	Ts	Ord. <grad>	Nodi
100	1	0.00	121 122 126 125	101	1	0.00	117 118 122 121	102	1	0.00	113 114 118 117
103	1	0.00	115 116 120 119	104	1	0.00	119 120 124 123	105	1	0.00	111 112 116 115
106	1	0.00	109 110 114 113	107	1	0.00	105 106 110 109	108	1	0.00	101 102 106 105
109	1	0.00	103 104 108 107	110	1	0.00	107 108 112 111				

CONDIZIONI DI CARICO ELEMENTARI:

Simbologia

CCE = Numero della condizione di carico elementare
Comm. = Commento
Tipo CCE = Tipo di CCE per calcolo agli stati limite
Sic. = Contributo alla sicurezza
  F = a favore
  S = a sfavore
  A = ambigua
Var. = Tipo di variabilità
  B = di base
  I = indipendente
  A = ambigua
Dir. = Direzione del vento
Tipo = Tipologia di pressione vento
  M = Massimizzata
  E = Esterna
  I = Interna
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

Condizioni di carico elementari

CCE	Comm.	Tipo CCE	Sic.	Var.	Dir. <grad>	Tipo	Mx	My	Mz	Jpx	Jpy	Jpz
1	Qp	1 D.M. 08 Permanenti strutturali	S	--	--	--	1.00	1.00	0.00	0.00	0.00	1.00
2	Qpn	2 D.M. 08 Permanenti non strutturali	S	--	--	--	1.00	1.00				

0.00 0.00 0.00 1.00
  3 Qe   6 D.M. 08 Variabili Categoria D Ambienti ad uso commerciale S   B   --   -- 1.00 1.00
0.00 0.00 0.00 1.00

ELENCO CARICHI ASTE

CONDIZIONE DI CARICO 1: Qp

ELENCO PESO PROPRIO ASTE

Simbologia

Sez. = Numero della sezione
Comm. = Commento
A   = Area
Mat. = Materiale
P   = Peso specifico
PL   = Peso specifico a metro lineare

Sez.	Comm.	A <cmq>	Mat.	P <daN/mc>	PL <daN/m>	Sez.	Comm.	A <cmq>	Mat.	P <daN/mc>	PL <daN/m>
1	HEA180	45.252600	Acciaio	7850.00	35.52	2	HEA160	38.772600	Acciaio	7850.00	30.44

ELENCO CARICHI ASTE

CONDIZIONE DI CARICO 1: Qp

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
       VE = Vento
       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 <m>	Qi <daN/m>	Xf <m>	Qf <daN/m>	Asta	N1	N2	E	NE	T	DC	Xi <m>	Qi <daN/m>	Xf <m>	Qf <daN/m>
108	101	105	S	108	QPS	ZG	0.00	43.65	4.36	43.65	108	105	109	S	107	QPS	ZG	0.00	43.65	4.65	43.65
108	109	113	S	106	QPS	ZG	0.00	43.65	4.65	43.65	108	113	117	S	102	QPS	ZG	0.00	43.65	4.65	43.65
108	117	121	S	101	QPS	ZG	0.00	43.65	2.85	43.65	108	121	125	S	100	QPS	ZG	0.00	43.65	1.55	43.65
109	102	106	S	108	QPS	ZG	0.00	43.65	4.36	43.65	109	106	110	S	107	QPS	ZG	0.00	43.65	4.65	43.65
109	110	114	S	106	QPS	ZG	0.00	43.65	4.65	43.65	109	114	118	S	102	QPS	ZG	0.00	43.65	4.65	43.65
109	118	122	S	101	QPS	ZG	0.00	43.65	2.85	43.65	109	122	126	S	100	QPS	ZG	0.00	43.65	1.55	

43.65
 110 103 107 S 109 QPS ZG 0.00   43.80 4.36   43.80   110 107 111 S 110 QPS ZG 0.00   43.80 4.65
43.80
 110 111 115 S 105 QPS ZG 0.00   43.80 4.65   43.80   110 115 119 S 103 QPS ZG 0.00   43.80 4.65
43.80
 110 119 123 S 104 QPS ZG 0.00   43.80 4.26   43.80   111 104 108 S 109 QPS ZG 0.00   43.80 4.36
43.80
 111 108 112 S 110 QPS ZG 0.00   43.80 4.65   43.80   111 112 116 S 105 QPS ZG 0.00   43.80 4.65
43.80
 111 116 120 S 103 QPS ZG 0.00   43.80 4.65   43.80   111 120 124 S 104 QPS ZG 0.00   43.80 4.26
43.80

ELENCO CARICHI ASTE

CONDIZIONE DI CARICO 2: Qpn

CARICHI DISTRIBUITI

Asta	N1	N2	E	NE	T	DC	Xi <m>	Qi <daN/m>	Xf <m>	Qf <daN/m>	Asta	N1	N2	E	NE	T	DC	Xi <m>	Qi <daN/m>	Xf <m>	Qf <daN/m>
108	101	105	S	108	QPN	ZG	0.00	145.50	4.36	145.50	108	105	109	S	107	QPN	ZG	0.00	145.50	4.65	145.50
108	109	113	S	106	QPN	ZG	0.00	145.50	4.65	145.50	108	113	117	S	102	QPN	ZG	0.00	145.50	4.65	145.50
108	117	121	S	101	QPN	ZG	0.00	145.50	2.85	145.50	108	121	125	S	100	QPN	ZG	0.00	145.50	1.55	145.50
109	102	106	S	108	QPN	ZG	0.00	145.50	4.36	145.50	109	106	110	S	107	QPN	ZG	0.00	145.50	4.65	145.50
109	110	114	S	106	QPN	ZG	0.00	145.50	4.65	145.50	109	114	118	S	102	QPN	ZG	0.00	145.50	4.65	145.50
109	118	122	S	101	QPN	ZG	0.00	145.50	2.85	145.50	109	122	126	S	100	QPN	ZG	0.00	145.50	1.55	145.50
110	103	107	S	109	QPN	ZG	0.00	146.00	4.36	146.00	110	107	111	S	110	QPN	ZG	0.00	146.00	4.65	146.00
110	111	115	S	105	QPN	ZG	0.00	146.00	4.65	146.00	110	115	119	S	103	QPN	ZG	0.00	146.00	4.65	146.00
110	119	123	S	104	QPN	ZG	0.00	146.00	4.26	146.00	111	104	108	S	109	QPN	ZG	0.00	146.00	4.36	146.00
111	108	112	S	110	QPN	ZG	0.00	146.00	4.65	146.00	111	112	116	S	105	QPN	ZG	0.00	146.00	4.65	146.00
111	116	120	S	103	QPN	ZG	0.00	146.00	4.65	146.00	111	120	124	S	104	QPN	ZG	0.00	146.00	4.26	146.00

ELENCO CARICHI ASTE

CONDIZIONE DI CARICO 3: Qe

CARICHI DISTRIBUITI

Asta	N1	N2	E	NE	T	DC	Xi <m>	Qi <daN/m>	Xf <m>	Qf <daN/m>	Asta	N1	N2	E	NE	T	DC	Xi <m>	Qi <daN/m>	Xf <m>	Qf <daN/m>
108	101	105	S	108	QA	ZG	0.00	582.00	4.36	582.00	108	105	109	S	107	QA	ZG	0.00	582.00	4.65	582.00
108	109	113	S	106	QA	ZG	0.00	582.00	4.65	582.00	108	113	117	S	102	QA	ZG	0.00	582.00	4.65	582.00
108	117	121	S	101	QA	ZG	0.00	582.00	2.85	582.00	108	121	125	S	100	QA	ZG	0.00	582.00	1.55	582.00
109	102	106	S	108	QA	ZG	0.00	582.00	4.36	582.00	109	106	110	S	107	QA	ZG	0.00	582.00	4.65	582.00
109	110	114	S	106	QA	ZG	0.00	582.00	4.65	582.00	109	114	118	S	102	QA	ZG	0.00	582.00	4.65	582.00
109	118	122	S	101	QA	ZG	0.00	582.00	2.85	582.00	109	122	126	S	100	QA	ZG	0.00	582.00	1.55	582.00
110	103	107	S	109	QA	ZG	0.00	584.00	4.36	584.00	110	107	111	S	110	QA	ZG	0.00	584.00	4.65	584.00
110	111	115	S	105	QA	ZG	0.00	584.00	4.65	584.00	110	115	119	S	103	QA	ZG	0.00	584.00	4.65	584.00
110	119	123	S	104	QA	ZG	0.00	584.00	4.26	584.00	111	104	108	S	109	QA	ZG	0.00	584.00	4.36	584.00
111	108	112	S	110	QA	ZG	0.00	584.00	4.65	584.00	111	112	116	S	105	QA	ZG	0.00	584.00	4.65	584.00
111	116	120	S	103	QA	ZG	0.00	584.00	4.65	584.00	111	120	124	S	104	QA	ZG	0.00	584.00	4.26	584.00

PARAMETRI DI CALCOLO
La modellazione della struttura e la rielaborazione dei risultati del calcolo sono stati effettuati con:
ModeSt ver. 8.14, prodotto da Tecnisoft s.a.s. - Prato

La struttura è stata calcolata utilizzando come solutore agli elementi finiti:

Xfinest ver. 2014, 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: Sì
- 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: No
- Analisi dinamica con metodo di Lanczos: Sì
- Check sequenza di Sturm: Sì
- Soluzione matrice con metodo ver. 5.1: No
- Analisi non lineare con Newton modificato: No
- Usa formulazione secante per buckling: No
- Trascura buckling torsionale: No

Dati struttura
- Zona sismica: zona 2
- Sito di costruzione: LON. 11.06205 LAT. 43.89612
  Contenuto tra ID reticolo: 19390 19612 19389 19611

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>
Ag = Accelerazione orizzontale massima al sito
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	Ag <g>	FO	TC*	S_S	C_C
SLD	75	0.0715	2.53	0.27	1.20	1.43
SLV	712	0.1662	2.40	0.31	1.20	1.39

- Edificio esistente: No
- Tipo di opera: Opera ordinaria
- Vita nominale V_N: 50.00
- 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: 2.60 <m>
- Numero piani edificio: 1

- Coefficiente θ: 0.00
- Edificio regolare in altezza: Sì
- Edificio regolare in pianta: Sì
- 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 <m>	Ly <m>	Ex <m>	Ey <m>	Ea <m>
1	13.45	22.71	0.67	1.14	1.32

Dati di calcolo
- Categoria del suolo di fondazione: B
- Tipologia edificio: c.a. o prefabbricato a telaio a più piani e più campate
Coeff. C_1: 0.075
Periodo T_1: 0.15365
Coeff. λ SLD: 1.00
Coeff. λ SLV: 1.00
Rapporto di sovraresistenza (α_u/α_1): 1.30
Valore di riferimento del fattore di struttura (q_0): 3.90
Fattore riduttivo (K_w): 1.00
Fattore riduttivo regolarità in altezza (KR): 1.00
Fattore di struttura (q): 2.00

- Categoria topografica: T1 - Superficie pianeggiante, pendii e rilievi isolati con inclinazione media i<=15°
- Coeff. amplificazione topografica S_T: 1.00
- Fattore di struttura per sisma verticale (qv): 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%

- Angolo di ingresso del sisma: 0.00 <grad>

CONDIZIONI DI CARICO ELEMENTARI:

Simbologia

CCE = Numero della condizione di carico elementare
Comm. = Commento
Tipo CCE = Tipo di CCE per calcolo agli stati limite
Sic. = Contributo alla sicurezza
  F = a favore
  S = a sfavore
  A = ambigua
Var. = Tipo di variabilità
  B = di base
  I = indipendente
  A = ambigua
Dir. = Direzione del vento
Tipo = Tipologia di pressione vento
  M = Massimizzata
  E = Esterna
  I = Interna
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

CCE	Comm.	Tipo CCE	Sic.	Var.	Dir. <grad>	Tipo	Mx	My	Mz	Jpx	Jpy	Jpz
1	Qp	1	S	--	--	--	1.00	1.00	0.00	0.00	0.00	1.00
2	Qpn	2	S	--	--	--	1.00	1.00	0.00	0.00	0.00	1.00
3	Qe	6	S	B	--	--	1.00	1.00	0.00	0.00	0.00	1.00

ELENCO TIPI CCE DEFINITI:

Simbologia

Tipo CCE = Tipo condizione di carico elementare
Comm. = Commento
Tipo = Tipologia
G = Permanente
Qv = Variabile vento
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
γ 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	γ min.	γ max	ψ_0	ψ_1	ψ_2	$\psi_{0,s}$
1	D.M. 08 Permanenti strutturali	G	N	1.00	1.30				
2	D.M. 08 Permanenti non strutturali	G	N	0.00	1.50				
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

AMBIENTI DI CARICO:

Simbologia

N = Numero
Comm. = Commento
1 = Qp
2 = Qpn
3 = Qe
F = azioni orizzontali convenzionali
SLU = Stato limite ultimo
SLR = Stato limite per combinazioni rare
SLF = Stato limite per combinazioni frequenti
SLQ/D = Stato limite per combinazioni quasi permanenti o di danno
S = Sì
N = No

N	Comm.	1	2	3	F	S	SLU	SLR	SLF	SLQ
1	Calcolo sismico	S	S	S	N	S	S	N	N	N
2	Calcolo statico	S	S	S	S	N	S	S	S	S

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	F	S
1	Amb. 1 (Sisma)	SLU S	1	1	ψ_2	-----	1
2	Amb. 2 (SLU)	SLU	γ max	γ max	γ max	1	-----
3	Amb. 2 (SLE R)	SLE R	1	1	1	1	-----
4	Amb. 2 (SLE F)	SLE F	1	1	ψ_1	1	-----
5	Amb. 2 (SLE Q)	SLE Q	1	1	ψ_2	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 = Sì
N = No

CC	Comm.	TCC	An.	Bk	1	2	3	F X	F Y	Mt	±S X	±S Y
1	CC 1 - Amb. 1 (SLU S) S Mt+X+0.3Y	SLV	L	N	1.00	1.00	0.60	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	0.60	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	0.60	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	0.60	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	0.60	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	0.60	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	0.60	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	0.60	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	0.60	0.00	0.00	-1.00	1.00	0.30
10	CC 10 - Amb. 1 (SLE) S -Mt+X+0.3Y	SLD	L	N	1.00	1.00	0.60	0.00	0.00	-1.00	1.00	0.30

11	CC 11 - Amb. 1 (SLU S) S -Mt+X-0.3Y	SLV		L	N	1.00	1.00	0.60	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	0.60	0.00	0.00	-1.00	1.00	-0.30
13	CC 13 - Amb. 1 (SLU S) S -Mt+0.3X+Y	SLV		L	N	1.00	1.00	0.60	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	0.60	0.00	0.00	-1.00	0.30	1.00
15	CC 15 - Amb. 1 (SLU S) S -Mt-0.3X+Y	SLV		L	N	1.00	1.00	0.60	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	0.60	0.00	0.00	-1.00	-0.30	1.00
17	CC 17 - Amb. 2 (SLU) F X	SLU		L	N	1.30	1.50	1.50	1.00	0.00	0.00	0.00	0.00
18	CC 18 - Amb. 2 (SLU) F -X	SLU		L	N	1.30	1.50	1.50	-1.00	0.00	0.00	0.00	0.00
19	CC 19 - Amb. 2 (SLU) F Y	SLU		L	N	1.30	1.50	1.50	0.00	1.00	0.00	0.00	0.00
20	CC 20 - Amb. 2 (SLU) F -Y	SLU		L	N	1.30	1.50	1.50	0.00	-1.00	0.00	0.00	0.00
21	CC 21 - Amb. 2 (SLE R) F X	SLE	R	L	N	1.00	1.00	1.00	1.00	0.00	0.00	0.00	0.00
22	CC 22 - Amb. 2 (SLE R) F -X	SLE	R	L	N	1.00	1.00	1.00	-1.00	0.00	0.00	0.00	0.00
23	CC 23 - Amb. 2 (SLE R) F Y	SLE	R	L	N	1.00	1.00	1.00	0.00	1.00	0.00	0.00	0.00
24	CC 24 - Amb. 2 (SLE R) F -Y	SLE	R	L	N	1.00	1.00	1.00	0.00	-1.00	0.00	0.00	0.00
25	CC 25 - Amb. 2 (SLE F) F X	SLE	F	L	N	1.00	1.00	0.70	1.00	0.00	0.00	0.00	0.00
26	CC 26 - Amb. 2 (SLE F) F -X	SLE	F	L	N	1.00	1.00	0.70	-1.00	0.00	0.00	0.00	0.00
27	CC 27 - Amb. 2 (SLE F) F Y	SLE	F	L	N	1.00	1.00	0.70	0.00	1.00	0.00	0.00	0.00
28	CC 28 - Amb. 2 (SLE F) F -Y	SLE	F	L	N	1.00	1.00	0.70	0.00	-1.00	0.00	0.00	0.00
29	CC 29 - Amb. 2 (SLE Q) F X	SLE	Q	L	N	1.00	1.00	0.60	1.00	0.00	0.00	0.00	0.00
30	CC 30 - Amb. 2 (SLE Q) F -X	SLE	Q	L	N	1.00	1.00	0.60	-1.00	0.00	0.00	0.00	0.00
31	CC 31 - Amb. 2 (SLE Q) F Y	SLE	Q	L	N	1.00	1.00	0.60	0.00	1.00	0.00	0.00	0.00
32	CC 32 - Amb. 2 (SLE Q) F -Y	SLE	Q	L	N	1.00	1.00	0.60	0.00	-1.00	0.00	0.00	0.00

ELENCO BARICENTRI E MASSE IMPALCATI:

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 <m>	Y <m>	Z <m>	Mo <kg>	Jpz <kg*mq>
1	6.72	11.31	2.60	54808.00	3940160.00

TOTALI MASSE IMPALCATI:

Mo <kg>	Jpz <kg*mq>
54808.00	3940160.00

ELENCO FORZE SISMICHE DI IMPALCATO

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	15395.00

TOTALI FORZE SISMICHE:

Mz <daNm>
15395.00

ELENCO FORZE SISMICHE DI IMPALCATO

Imp.	cx	cy	Mz <daNm>
1	1.00	1.00	16963.60

TOTALI FORZE SISMICHE:

Mz <daNm>
16963.60

ELENCO PESI E FORZE FITTIZIE IMPALCATI:

Simbologia

Imp. = Numero dell'impalcato
Peso = Peso
Fx = Forza in dir. X
Fy = Forza in dir. Y

Imp.	Peso <daN>	Fx <daN>	Fy <daN>
1	74885.20	748.85	748.85

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
%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	*	0.5944	32.12	-0.01	74.03	0.00	0.000	99.997	0.000	0.003
2	*	0.4499	2.71	71.58	0.12	0.00	93.479	0.000	0.000	6.520
3	*	0.4380	2.71	-18.90	0.40	0.00	6.521	0.003	0.000	93.476
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	14.14	14.14
	2	18.68	18.68
	3	19.18	19.18

Stato limite di salvaguardia della vita	Modo	Sx	Sy

1	17.14	17.14
2	22.64	22.64
3	23.25	23.25

Verifica pushover
SPOSTAMENTI DEI NODI ALLO SLU:

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 <cm>	CC	Sy <cm>	CC	Sz <cm>	CC	Rx <rad>	CC	Ry <rad>	CC	Rz <rad>	CC
1	Max	0.00	1	0.00	1	0.17	1	0.0000	1	0.0000	1	0.0000	1
1	Min.	0.00	1	0.00	1	-0.33	9	0.0000	1	0.0000	1	0.0000	1
2	Max	0.00	1	0.00	1	0.17	9	0.0000	1	0.0000	1	0.0000	1
2	Min.	0.00	1	0.00	1	-0.33	1	0.0000	1	0.0000	1	0.0000	1
3	Max	0.00	1	0.00	1	0.17	1	0.0000	1	0.0000	1	0.0000	1
3	Min.	0.00	1	0.00	1	-0.33	9	0.0000	1	0.0000	1	0.0000	1
4	Max	0.00	1	0.00	1	0.17	9	0.0000	1	0.0000	1	0.0000	1
4	Min.	0.00	1	0.00	1	-0.33	1	0.0000	1	0.0000	1	0.0000	1
5	Max	0.00	1	0.00	1	0.04	1	0.0000	1	0.0000	1	0.0000	1
5	Min.	0.00	1	0.00	1	-0.43	9	0.0000	1	0.0000	1	0.0000	1
6	Max	0.00	1	0.00	1	0.04	9	0.0000	1	0.0000	1	0.0000	1
6	Min.	0.00	1	0.00	1	-0.43	1	0.0000	1	0.0000	1	0.0000	1
7	Max	0.00	1	0.00	1	0.04	1	0.0000	1	0.0000	1	0.0000	1
7	Min.	0.00	1	0.00	1	-0.43	9	0.0000	1	0.0000	1	0.0000	1
8	Max	0.00	1	0.00	1	0.04	9	0.0000	1	0.0000	1	0.0000	1
8	Min.	0.00	1	0.00	1	-0.42	1	0.0000	1	0.0000	1	0.0000	1
9	Max	0.00	1	0.00	1	0.04	1	0.0000	1	0.0000	1	0.0000	1
9	Min.	0.00	1	0.00	1	-0.41	9	0.0000	1	0.0000	1	0.0000	1
10	Max	0.00	1	0.00	1	0.04	9	0.0000	1	0.0000	1	0.0000	1
10	Min.	0.00	1	0.00	1	-0.41	1	0.0000	1	0.0000	1	0.0000	1
11	Max	0.00	1	0.00	1	0.04	1	0.0000	1	0.0000	1	0.0000	1
11	Min.	0.00	1	0.00	1	-0.41	9	0.0000	1	0.0000	1	0.0000	1
12	Max	0.00	1	0.00	1	0.04	9	0.0000	1	0.0000	1	0.0000	1
12	Min.	0.00	1	0.00	1	-0.41	1	0.0000	1	0.0000	1	0.0000	1
13	Max	0.00	1	0.00	1	0.04	9	0.0000	1	0.0000	1	0.0000	1
13	Min.	0.00	1	0.00	1	-0.42	1	0.0000	1	0.0000	1	0.0000	1
14	Max	0.00	1	0.00	1	0.04	1	0.0000	1	0.0000	1	0.0000	1
14	Min.	0.00	1	0.00	1	-0.42	9	0.0000	1	0.0000	1	0.0000	1
15	Max	0.00	1	0.00	1	0.05	9	0.0000	1	0.0000	1	0.0000	1
15	Min.	0.00	1	0.00	1	-0.42	1	0.0000	1	0.0000	1	0.0000	1
16	Max	0.00	1	0.00	1	0.05	1	0.0000	1	0.0000	1	0.0000	1
16	Min.	0.00	1	0.00	1	-0.42	9	0.0000	1	0.0000	1	0.0000	1
17	Max	0.00	1	0.00	1	0.13	9	0.0000	1	0.0000	1	0.0000	1
17	Min.	0.00	1	0.00	1	-0.43	1	0.0000	1	0.0000	1	0.0000	1
18	Max	0.00	1	0.00	1	0.12	1	0.0000	1	0.0000	1	0.0000	1
18	Min.	0.00	1	0.00	1	-0.42	9	0.0000	1	0.0000	1	0.0000	1
19	Max	0.00	1	0.00	1	0.06	9	0.0000	1	0.0000	1	0.0000	1
19	Min.	0.00	1	0.00	1	-0.44	1	0.0000	1	0.0000	1	0.0000	1
20	Max	0.00	1	0.00	1	0.07	1	0.0000	1	0.0000	1	0.0000	1
20	Min.	0.00	1	0.00	1	-0.45	9	0.0000	1	0.0000	1	0.0000	1
21	Max	0.00	1	0.00	1	0.17	9	0.0000	1	0.0000	1	0.0000	1
21	Min.	0.00	1	0.00	1	-0.41	1	0.0000	1	0.0000	1	0.0000	1
22	Max	0.00	1	0.00	1	0.18	1	0.0000	1	0.0000	1	0.0000	1
22	Min.	0.00	1	0.00	1	-0.42	9	0.0000	1	0.0000	1	0.0000	1
23	Max	0.00	1	0.00	1	0.21	9	0.0000	1	0.0000	1	0.0000	1
23	Min.	0.00	1	0.00	1	-0.37	1	0.0000	1	0.0000	1	0.0000	1
24	Max	0.00	1	0.00	1	0.20	1	0.0000	1	0.0000	1	0.0000	1
24	Min.	0.00	1	0.00	1	-0.36	9	0.0000	1	0.0000	1	0.0000	1
101	Max	4.25	1	6.02	13	0.18	1	0.0062	5	0.0080	1	0.0010	1
101	Min.	-4.29	9	-5.90	5	-0.35	9	-0.0102	13	-0.0080	9	-0.0011	9

102	Max	4.25	1	5.89	13	0.18	9	0.0061	5	0.0079	1	0.0010	1
102	Min.	-4.29	9	-5.78	5	-0.35	1	-0.0101	13	-0.0081	9	-0.0011	9
103	Max	4.25	1	5.91	5	0.18	1	0.0061	13	0.0080	1	0.0010	1
103	Min.	-4.29	9	-5.82	13	-0.35	9	-0.0101	5	-0.0080	9	-0.0011	9
104	Max	4.25	1	6.04	5	0.18	9	0.0063	13	0.0080	1	0.0010	1
104	Min.	-4.29	9	-5.97	13	-0.34	1	-0.0103	5	-0.0081	9	-0.0011	9
105	Max	4.22	1	6.02	13	0.04	1	0.0035	5	0.0079	1	0.0010	1
105	Min.	-4.24	9	-5.90	5	-0.44	9	-0.0034	13	-0.0079	9	-0.0011	9
106	Max	4.22	1	5.89	13	0.05	9	0.0035	5	0.0079	1	0.0010	1
106	Min.	-4.24	9	-5.78	5	-0.44	1	-0.0033	13	-0.0080	9	-0.0011	9
107	Max	4.22	1	5.91	5	0.04	1	0.0035	13	0.0079	1	0.0010	1
107	Min.	-4.24	9	-5.82	13	-0.44	9	-0.0033	5	-0.0079	9	-0.0011	9
108	Max	4.22	1	6.04	5	0.05	9	0.0035	13	0.0079	1	0.0010	1
108	Min.	-4.24	9	-5.97	13	-0.44	1	-0.0034	5	-0.0080	9	-0.0011	9
109	Max	4.22	1	6.02	13	0.04	1	0.0043	5	0.0079	1	0.0010	1
109	Min.	-4.23	9	-5.90	5	-0.43	9	-0.0044	13	-0.0079	9	-0.0011	9
110	Max	4.22	1	5.89	13	0.04	9	0.0043	5	0.0079	1	0.0010	1
110	Min.	-4.23	9	-5.78	5	-0.43	1	-0.0044	13	-0.0080	9	-0.0011	9
111	Max	4.22	1	5.91	5	0.04	1	0.0043	13	0.0079	1	0.0010	1
111	Min.	-4.23	9	-5.82	13	-0.43	9	-0.0044	5	-0.0079	9	-0.0011	9
112	Max	4.22	1	6.04	5	0.04	9	0.0044	13	0.0079	1	0.0010	1
112	Min.	-4.23	9	-5.97	13	-0.43	1	-0.0044	5	-0.0080	9	-0.0011	9
113	Max	4.36	9	6.02	13	0.05	9	0.0042	5	0.0082	9	0.0010	1
113	Min.	-4.35	1	-5.90	5	-0.44	1	-0.0046	13	-0.0081	1	-0.0011	9
114	Max	4.36	9	5.89	13	0.05	1	0.0042	5	0.0081	9	0.0010	1
114	Min.	-4.35	1	-5.78	5	-0.44	9	-0.0045	13	-0.0082	1	-0.0011	9
115	Max	4.36	9	5.91	5	0.05	9	0.0043	13	0.0082	9	0.0010	1
115	Min.	-4.35	1	-5.82	13	-0.44	1	-0.0044	5	-0.0081	1	-0.0011	9
116	Max	4.36	9	6.04	5	0.05	1	0.0044	13	0.0082	9	0.0010	1
116	Min.	-4.35	1	-5.97	13	-0.44	9	-0.0044	5	-0.0082	1	-0.0011	9
117	Max	4.63	9	6.02	13	0.14	9	0.0038	5	0.0087	9	0.0010	1
117	Min.	-4.60	1	-5.90	5	-0.44	1	-0.0021	13	-0.0086	1	-0.0011	9
118	Max	4.63	9	5.89	13	0.13	1	0.0038	5	0.0087	9	0.0010	1
118	Min.	-4.60	1	-5.78	5	-0.44	9	-0.0021	13	-0.0087	1	-0.0011	9
119	Max	4.63	9	5.91	5	0.07	9	0.0033	13	0.0087	9	0.0010	1
119	Min.	-4.60	1	-5.82	13	-0.46	1	-0.0034	5	-0.0086	1	-0.0011	9
120	Max	4.63	9	6.04	5	0.07	1	0.0034	13	0.0087	9	0.0010	1
120	Min.	-4.60	1	-5.97	13	-0.47	9	-0.0035	5	-0.0087	1	-0.0011	9
121	Max	4.81	9	6.02	13	0.17	9	0.0060	5	0.0090	9	0.0010	1
121	Min.	-4.77	1	-5.90	5	-0.42	1	-0.0073	13	-0.0089	1	-0.0011	9
122	Max	4.81	9	5.89	13	0.19	1	0.0059	5	0.0090	9	0.0010	1
122	Min.	-4.77	1	-5.78	5	-0.44	9	-0.0072	13	-0.0090	1	-0.0011	9
123	Max	4.90	9	5.91	5	0.22	9	0.0098	13	0.0092	9	0.0010	1
123	Min.	-4.86	1	-5.82	13	-0.38	1	-0.0063	5	-0.0091	1	-0.0011	9
124	Max	4.90	9	6.04	5	0.20	1	0.0099	13	0.0092	9	0.0010	1
124	Min.	-4.86	1	-5.97	13	-0.37	9	-0.0064	5	-0.0091	1	-0.0011	9
125	Max	4.91	9	6.02	13	0.88	5	0.0051	5	0.0090	9	0.0010	1
125	Min.	-4.87	1	-5.90	5	-1.54	13	-0.0081	13	-0.0089	1	-0.0011	9
126	Max	4.91	9	5.89	13	0.91	5	0.0050	5	0.0090	9	0.0010	1
126	Min.	-4.87	1	-5.78	5	-1.57	13	-0.0080	13	-0.0090	1	-0.0011	9

Min = -5.97
Max = 6.04

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 <daN>	CC	Ry <daN>	CC	Rz <daN>	CC	Mx <daNm>	CC	My <daNm>	CC	Mz <daNm>	CC
1	Max	598.83	9	507.70	5	2504.89	18	0.00	1	0.00	1	0.19	9
1	Min.	-569.17	1	-204.53	13	108.99	1	0.00	1	0.00	1	-0.17	1
2	Max	586.75	9	490.91	5	2441.63	17	0.00	1	0.00	1	0.19	9

2	Min.	-581.26	1	-185.36	13	41.75	9	0.00	1	0.00	1	-0.17	1
3	Max	598.49	9	495.99	13	2520.94	18	0.00	1	0.00	1	0.19	9
3	Min.	-568.75	1	-183.86	5	77.84	1	0.00	1	0.00	1	-0.17	1
4	Max	586.31	9	516.55	13	2458.45	17	0.00	1	0.00	1	0.19	9
4	Min.	-580.93	1	-202.04	5	96.02	9	0.00	1	0.00	1	-0.17	1
5	Max	560.02	9	447.95	5	5950.39	18	0.00	1	0.00	1	0.19	9
5	Min.	-537.27	1	-496.53	13	1851.72	1	0.00	1	0.00	1	-0.17	1
6	Max	547.94	9	425.71	5	5909.70	17	0.00	1	0.00	1	0.19	9
6	Min.	-549.36	1	-471.16	13	1843.01	9	0.00	1	0.00	1	-0.17	1
7	Max	559.70	9	431.41	13	5962.89	18	0.00	1	0.00	1	0.19	9
7	Min.	-536.87	1	-470.23	5	1875.65	1	0.00	1	0.00	1	-0.17	1
8	Max	547.52	9	458.62	13	5922.18	17	0.00	1	0.00	1	0.19	9
8	Min.	-549.05	1	-494.31	5	1838.48	9	0.00	1	0.00	1	-0.17	1
9	Max	523.34	9	432.95	5	5724.75	18	0.00	1	0.00	1	0.19	9
9	Min.	-507.82	1	-465.60	13	1840.47	1	0.00	1	0.00	1	-0.17	1
10	Max	511.25	9	411.80	5	5712.09	17	0.00	1	0.00	1	0.19	9
10	Min.	-519.91	1	-441.47	13	1833.39	9	0.00	1	0.00	1	-0.17	1
11	Max	523.04	9	419.13	13	5764.97	18	0.00	1	0.00	1	0.19	9
11	Min.	-507.43	1	-438.63	5	1861.49	1	0.00	1	0.00	1	-0.17	1
12	Max	510.86	9	445.00	13	5752.40	17	0.00	1	0.00	1	0.19	9
12	Min.	-519.62	1	-461.52	5	1858.44	9	0.00	1	0.00	1	-0.17	1
13	Max	537.30	1	444.11	5	5897.88	18	0.00	1	0.00	1	0.19	9
13	Min.	-529.06	9	-453.58	13	1892.21	9	0.00	1	0.00	1	-0.17	1
14	Max	525.21	1	422.99	5	5912.06	17	0.00	1	0.00	1	0.19	9
14	Min.	-541.15	9	-429.49	13	1895.22	1	0.00	1	0.00	1	-0.17	1
15	Max	536.98	1	417.85	13	5768.57	18	0.00	1	0.00	1	0.19	9
15	Min.	-528.65	9	-439.71	5	1830.79	9	0.00	1	0.00	1	-0.17	1
16	Max	524.80	1	443.71	13	5782.70	17	0.00	1	0.00	1	0.19	9
16	Min.	-540.83	9	-462.60	5	1842.84	1	0.00	1	0.00	1	-0.17	1
17	Max	595.91	1	390.48	5	4571.43	18	0.00	1	0.00	1	0.19	9
17	Min.	-594.86	9	-577.51	13	997.98	9	0.00	1	0.00	1	-0.17	1
18	Max	583.83	1	367.65	5	4615.14	17	0.00	1	0.00	1	0.19	9
18	Min.	-606.95	9	-551.47	13	1091.21	1	0.00	1	0.00	1	-0.17	1
19	Max	595.96	1	442.21	13	5841.10	18	0.00	1	0.00	1	0.19	9
19	Min.	-594.85	9	-461.19	5	1734.71	9	0.00	1	0.00	1	-0.17	1
20	Max	583.77	1	469.48	13	5883.45	17	0.00	1	0.00	1	0.19	9
20	Min.	-607.03	9	-485.31	5	1722.72	1	0.00	1	0.00	1	-0.17	1
21	Max	635.45	1	430.36	5	3723.49	18	0.00	1	0.00	1	0.19	9
21	Min.	-639.04	9	-358.66	13	581.50	9	0.00	1	0.00	1	-0.17	1
22	Max	623.36	1	411.70	5	3778.09	17	0.00	1	0.00	1	0.19	9
22	Min.	-651.13	9	-337.38	13	489.70	1	0.00	1	0.00	1	-0.17	1
23	Max	653.86	1	178.81	13	2489.56	1	0.00	1	0.00	1	0.19	9
23	Min.	-659.50	9	-506.06	5	-110.12	9	0.00	1	0.00	1	-0.17	1
24	Max	641.67	1	199.52	13	2496.36	17	0.00	1	0.00	1	0.19	9
24	Min.	-671.68	9	-524.38	5	2.35	1	0.00	1	0.00	1	-0.17	1

SOLLECITAZIONI ASTE

Simbologia

Asta = Numero dell'asta
N1 = Nodo1
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 <cm>	N <daN>	CC	Ty <daN>	CC	Mz <daNm>	CC	Tz <daN>	CC	My <daNm>	CC	Mx <daNm>	CC
1	1	101	Max	0.00	-108.99	1	507.70	5	0.00	1	569.17	1	0.00	1	0.17	1
1	1	101	Max	260.20	-16.56	1	507.70	5	1321.05	5	569.17	1	1480.99	1	0.17	1
1	1	101	Min.	0.00	-2504.89	18	-204.53	13	0.00	1	-598.83	9	0.00	1	-0.19	9
1	1	101	Min.	260.20	-2384.73	18	-204.53	13	-532.17	13	-598.83	9	-1558.16	9	-0.19	9
2	2	102	Max	0.00	-41.75	9	490.91	5	0.00	1	581.26	1	0.00	1	0.17	1
2	2	102	Max	260.20	50.68	9	490.91	5	1277.34	5	581.26	1	1512.44	1	0.17	1
2	2	102	Min.	0.00	-2441.63	17	-185.36	13	0.00	1	-586.75	9	0.00	1	-0.19	9
2	2	102	Min.	260.20	-2321.46	17	-185.36	13	-482.31	13	-586.75	9	-1526.72	9	-0.19	9

3	3	103	Max	0.00	-77.84	1	495.99	13	0.00	1	568.75	1	0.00	1	0.17	1
3	3	103	Max	260.20	14.60	1	495.99	13	1290.57	13	568.75	1	1479.88	1	0.17	1
3	3	103	Min.	0.00	-2520.94	18	-183.86	5	0.00	1	-598.49	9	0.00	1	-0.19	9
3	3	103	Min.	260.20	-2400.78	18	-183.86	5	-478.41	5	-598.49	9	-1557.27	9	-0.19	9
4	4	104	Max	0.00	-96.02	9	516.55	13	0.00	1	580.93	1	0.00	1	0.17	1
4	4	104	Max	260.20	-3.59	9	516.55	13	1344.05	13	580.93	1	1511.57	1	0.17	1
4	4	104	Min.	0.00	-2458.45	17	-202.04	5	0.00	1	-586.31	9	0.00	1	-0.19	9
4	4	104	Min.	260.20	-2338.29	17	-202.04	5	-525.72	5	-586.31	9	-1525.57	9	-0.19	9
5	5	105	Max	0.00	-1851.72	1	447.95	5	0.00	1	537.27	1	0.00	1	0.17	1
5	5	105	Max	260.20	-1759.29	1	447.95	5	1165.58	5	537.27	1	1397.98	1	0.17	1
5	5	105	Min.	0.00	-5950.39	18	-496.53	13	0.00	1	-560.02	9	0.00	1	-0.19	9
5	5	105	Min.	260.20	-5830.23	18	-496.53	13	-1291.98	13	-560.02	9	-1457.18	9	-0.19	9
6	6	106	Max	0.00	-1843.01	9	425.71	5	0.00	1	549.36	1	0.00	1	0.17	1
6	6	106	Max	260.20	-1750.58	9	425.71	5	1107.70	5	549.36	1	1429.43	1	0.17	1
6	6	106	Min.	0.00	-5909.70	17	-471.16	13	0.00	1	-547.94	9	0.00	1	-0.19	9
6	6	106	Min.	260.20	-5789.54	17	-471.16	13	-1225.95	13	-547.94	9	-1425.73	9	-0.19	9
7	7	107	Max	0.00	-1875.65	1	431.41	13	0.00	1	536.87	1	0.00	1	0.17	1
7	7	107	Max	260.20	-1783.22	1	431.41	13	1122.52	13	536.87	1	1396.92	1	0.17	1
7	7	107	Min.	0.00	-5962.89	18	-470.23	5	0.00	1	-559.70	9	0.00	1	-0.19	9
7	7	107	Min.	260.20	-5842.73	18	-470.23	5	-1223.54	5	-559.70	9	-1456.35	9	-0.19	9
8	8	108	Max	0.00	-1838.48	9	458.62	13	0.00	1	549.05	1	0.00	1	0.17	1
8	8	108	Max	260.20	-1746.05	9	458.62	13	1193.33	13	549.05	1	1428.62	1	0.17	1
8	8	108	Min.	0.00	-5922.18	17	-494.31	5	0.00	1	-547.52	9	0.00	1	-0.19	9
8	8	108	Min.	260.20	-5802.02	17	-494.31	5	-1286.18	5	-547.52	9	-1424.66	9	-0.19	9
9	9	109	Max	0.00	-1840.47	1	432.95	5	0.00	1	507.82	1	0.00	1	0.17	1
9	9	109	Max	260.20	-1748.04	1	432.95	5	1126.54	5	507.82	1	1321.35	1	0.17	1
9	9	109	Min.	0.00	-5724.75	18	-465.60	13	0.00	1	-523.34	9	0.00	1	-0.19	9
9	9	109	Min.	260.20	-5604.59	18	-465.60	13	-1211.48	13	-523.34	9	-1361.72	9	-0.19	9
10	10	110	Max	0.00	-1833.39	9	411.80	5	0.00	1	519.91	1	0.00	1	0.17	1
10	10	110	Max	260.20	-1740.96	9	411.80	5	1071.50	5	519.91	1	1352.80	1	0.17	1
10	10	110	Min.	0.00	-5712.09	17	-441.47	13	0.00	1	-511.25	9	0.00	1	-0.19	9
10	10	110	Min.	260.20	-5591.93	17	-441.47	13	-1148.69	13	-511.25	9	-1330.27	9	-0.19	9
11	11	111	Max	0.00	-1861.49	1	419.13	13	0.00	1	507.43	1	0.00	1	0.17	1
11	11	111	Max	260.20	-1769.06	1	419.13	13	1090.57	13	507.43	1	1320.34	1	0.17	1
11	11	111	Min.	0.00	-5764.97	18	-438.63	5	0.00	1	-523.04	9	0.00	1	-0.19	9
11	11	111	Min.	260.20	-5644.81	18	-438.63	5	-1141.32	5	-523.04	9	-1360.95	9	-0.19	9
12	12	112	Max	0.00	-1858.44	9	445.00	13	0.00	1	519.62	1	0.00	1	0.17	1
12	12	112	Max	260.20	-1766.01	9	445.00	13	1157.89	13	519.62	1	1352.04	1	0.17	1
12	12	112	Min.	0.00	-5752.40	17	-461.52	5	0.00	1	-510.86	9	0.00	1	-0.19	9
12	12	112	Min.	260.20	-5632.24	17	-461.52	5	-1200.88	5	-510.86	9	-1329.26	9	-0.19	9
13	13	113	Max	0.00	-1892.21	9	444.11	5	0.00	1	529.06	9	0.00	1	0.17	1
13	13	113	Max	260.20	-1799.78	9	444.11	5	1155.56	5	529.06	9	1376.61	9	0.17	1
13	13	113	Min.	0.00	-5897.88	18	-453.58	13	0.00	1	-537.30	1	0.00	1	-0.19	9
13	13	113	Min.	260.20	-5777.72	18	-453.58	13	-1180.21	13	-537.30	1	-1398.05	1	-0.19	9
14	14	114	Max	0.00	-1895.22	1	422.99	5	0.00	1	541.15	9	0.00	1	0.17	1
14	14	114	Max	260.20	-1802.79	1	422.99	5	1100.62	5	541.15	9	1408.06	9	0.17	1
14	14	114	Min.	0.00	-5912.06	17	-429.49	13	0.00	1	-525.21	1	0.00	1	-0.19	9
14	14	114	Min.	260.20	-5791.90	17	-429.49	13	-1117.53	13	-525.21	1	-1366.60	1	-0.19	9
15	15	115	Max	0.00	-1830.79	9	417.85	13	0.00	1	528.65	9	0.00	1	0.17	1
15	15	115	Max	260.20	-1738.35	9	417.85	13	1087.23	13	528.65	9	1375.54	9	0.17	1
15	15	115	Min.	0.00	-5768.57	18	-439.71	5	0.00	1	-536.98	1	0.00	1	-0.19	9
15	15	115	Min.	260.20	-5648.41	18	-439.71	5	-1144.14	5	-536.98	1	-1397.23	1	-0.19	9
16	16	116	Max	0.00	-1842.84	1	443.71	13	0.00	1	540.83	9	0.00	1	0.17	1
16	16	116	Max	260.20	-1750.41	1	443.71	13	1154.54	13	540.83	9	1407.24	9	0.17	1
16	16	116	Min.	0.00	-5782.70	17	-462.60	5	0.00	1	-524.80	1	0.00	1	-0.19	9
16	16	116	Min.	260.20	-5662.54	17	-462.60	5	-1203.68	5	-524.80	1	-1365.54	1	-0.19	9
17	17	117	Max	0.00	-997.98	9	390.48	5	0.00	1	594.86	9	0.00	1	0.17	1
17	17	117	Max	260.20	-905.54	9	390.48	5	1016.03	5	594.86	9	1547.83	9	0.17	1
17	17	117	Min.	0.00	-4571.43	18	-577.51	13	0.00	1	-595.91	1	0.00	1	-0.19	9
17	17	117	Min.	260.20	-4451.27	18	-577.51	13	-1502.68	13	-595.91	1	-1550.57	1	-0.19	9
18	18	118	Max	0.00	-1091.21	1	367.65	5	0.00	1	606.95	9	0.00	1	0.17	1
18	18	118	Max	260.20	-998.78	1	367.65	5	956.63	5	606.95	9	1579.28	9	0.17	1
18	18	118	Min.	0.00	-4615.14	17	-551.47	13	0.00	1	-583.83	1	0.00	1	-0.19	9
18	18	118	Min.	260.20	-4494.98	17	-551.47	13	-1434.92	13	-583.83	1	-1519.12	1	-0.19	9
19	19	119	Max	0.00	-1734.71	9	442.21	13	0.00	1	594.85	9	0.00	1	0.17	1
19	19	119	Max	260.20	-1642.27	9	442.21	13	1150.63	13	594.85	9	1547.80	9	0.17	1
19	19	119	Min.	0.00	-5841.10	18	-461.19	5	0.00	1	-595.96	1	0.00	1	-0.19	9
19	19	119	Min.	260.20	-5720.94	18	-461.19	5	-1200.03	5	-595.96	1	-1550.68	1	-0.19	9
20	20	120	Max	0.00	-1722.72	1	469.48	13	0.00	1	607.03	9	0.00	1	0.17	1
20	20	120	Max	260.20	-1630.28	1	469.48	13	1221.58	13	607.03	9	1579.49	9	0.17	1
20	20	120	Min.	0.00	-5883.45	17	-485.31	5	0.00	1	-583.77	1	0.00	1	-0.19	9
20	20	120	Min.	260.20	-5763.29	17	-485.31	5	-1262.79	5	-583.77	1	-1518.98	1	-0.19	9
21	21	121	Max	0.00	-581.50	9	430.36	5	0.00	1	639.04	9	0.00	1	0.17	1

21	21	121	Max	260.20	-489.06	9	430.36	5	1119.78	5	639.04	9	1662.79	9	0.17	1
21	21	121	Min.	0.00	-3723.49	18	-358.66	13	0.00	1	-635.45	1	0.00	1	-0.19	9
21	21	121	Min.	260.20	-3603.33	18	-358.66	13	-933.24	13	-635.45	1	-1653.44	1	-0.19	9
22	22	122	Max	0.00	-489.70	1	411.70	5	0.00	1	651.13	9	0.00	1	0.17	1
22	22	122	Max	260.20	-397.27	1	411.70	5	1071.23	5	651.13	9	1694.24	9	0.17	1
22	22	122	Min.	0.00	-3778.09	17	-337.38	13	0.00	1	-623.36	1	0.00	1	-0.19	9
22	22	122	Min.	260.20	-3657.93	17	-337.38	13	-877.85	13	-623.36	1	-1621.99	1	-0.19	9
23	23	123	Max	0.00	110.12	9	178.81	13	0.00	1	659.50	9	0.00	1	0.17	1
23	23	123	Max	259.94					-902.77	8			64.75	8		
23	23	123	Max	260.20	202.55	9	178.81	13	465.26	13	659.50	9	1716.02	9	0.17	1
23	23	123	Min.	0.00	-2489.56	1	-506.06	5	0.00	1	-653.86	1	0.00	1	-0.19	9
23	23	123	Min.	259.94					0.02	8			-387.03	8		
23	23	123	Min.	260.20	-2397.13	1	-506.06	5	-1316.77	5	-653.86	1	-1701.33	1	-0.19	9
24	24	124	Max	0.00	-2.35	1	199.52	13	0.00	1	671.68	9	0.00	1	0.17	1
24	24	124	Max	260.20	90.09	1	199.52	13	519.14	13	671.68	9	1747.72	9	0.17	1
24	24	124	Min.	0.00	-2496.36	17	-524.38	5	0.00	1	-641.67	1	0.00	1	-0.19	9
24	24	124	Min.	260.20	-2376.20	17	-524.38	5	-1364.43	5	-641.67	1	-1669.64	1	-0.19	9
101	101	102	Max	8.55	0.00	1	0.00	5	0.00	9	1101.76	9	1396.69	1	0.05	9
101	101	102	Max	16.54									41.68	29		
101	101	102	Max	282.45	0.00	1	0.00	5	0.00	5	1018.39	9	1439.72	9	0.05	9
101	101	102	Min.	8.55	0.00	1	0.00	13	0.00	1	-986.97	1	-1463.82	9	-0.04	1
101	101	102	Min.	195.49									20.38	31		
101	101	102	Min.	282.45	0.00	1	0.00	13	0.00	13	-1070.33	1	-1420.79	1	-0.04	1
102	105	106	Max	8.55	0.00	1	0.00	5	0.00	9	1032.37	9	1318.58	1	0.01	9
102	105	106	Max	56.21									37.21	17		
102	105	106	Max	282.45	0.00	1	0.00	5	0.00	5	949.01	9	1344.70	9	0.01	9
102	105	106	Min.	8.55	0.00	1	0.00	13	0.00	1	-929.93	1	-1368.80	9	-0.01	1
102	105	106	Min.	176.01									17.92	31		
102	105	106	Min.	282.45	0.00	1	0.00	13	0.00	13	-1013.30	1	-1342.68	1	-0.01	1
103	109	110	Max	8.55	0.00	1	0.00	5	0.00	9	966.76	9	1246.46	1	0.02	9
103	109	110	Max	19.70									52.07	17		
103	109	110	Max	282.45	0.00	1	0.00	5	0.00	5	883.40	9	1254.85	9	0.02	9
103	109	110	Min.	8.55	0.00	1	0.00	13	0.00	1	-877.27	1	-1278.95	9	-0.02	1
103	109	110	Min.	155.36									16.64	31		
103	109	110	Min.	282.45	0.00	1	0.00	13	0.00	13	-960.63	1	-1270.55	1	-0.02	1
104	113	114	Max	8.55	0.00	1	0.00	5	0.00	9	991.73	1	1298.47	9	0.02	9
104	113	114	Max	268.94									51.59	18		
104	113	114	Max	282.45	0.00	1	0.00	5	0.00	5	908.37	1	1289.05	1	0.02	9
104	113	114	Min.	8.55	0.00	1	0.00	13	0.00	1	-915.25	9	-1313.14	1	-0.02	1
104	113	114	Min.	133.93									16.68	31		
104	113	114	Min.	282.45	0.00	1	0.00	13	0.00	13	-998.62	9	-1322.57	9	-0.02	1
105	117	118	Max	8.55	0.00	1	0.00	5	0.00	9	1096.56	1	1459.63	9	0.01	9
105	117	118	Max	235.30									37.65	18		
105	117	118	Max	282.45	0.00	1	0.00	5	0.00	5	1013.19	1	1432.60	1	0.01	9
105	117	118	Min.	8.55	0.00	1	0.00	13	0.00	1	-1032.93	9	-1456.70	1	-0.01	1
105	117	118	Min.	113.77									18.03	31		
105	117	118	Min.	282.45	0.00	1	0.00	13	0.00	13	-1116.29	9	-1483.72	9	-0.01	1
106	121	122	Max	8.55	0.00	1	0.00	5	0.00	9	1167.23	1	1567.78	9	0.03	9
106	121	122	Max	280.92									44.40	26		
106	121	122	Max	282.45	0.00	1	0.00	5	0.00	5	1083.86	1	1529.38	1	0.03	9
106	121	122	Min.	8.55	0.00	1	0.00	13	0.00	1	-1111.90	9	-1553.48	1	-0.03	1
106	121	122	Min.	100.42									19.59	31		
106	121	122	Min.	282.45	0.00	1	0.00	13	0.00	13	-1195.26	9	-1591.88	9	-0.03	1
107	123	124	Max	8.55	0.00	1	0.00	13	0.00	5	1196.24	1	1618.24	9	0.05	9
107	123	124	Max	279.12									43.76	30		
107	123	124	Max	283.45	0.00	1	0.00	13	0.00	13	1112.57	1	1574.57	1	0.05	9
107	123	124	Min.	8.55	0.00	1	0.00	5	0.00	13	-1144.34	9	-1598.89	1	-0.04	1
107	123	124	Min.	94.92									20.56	31		
107	123	124	Min.	283.45	0.00	1	0.00	5	0.00	5	-1228.01	9	-1642.55	9	-0.04	1
108	101	105	Max	9.00	0.00	1	0.00	9	0.00	1	2159.46	20	592.77	13	0.07	9
108	101	105	Max	185.54									1304.15	19		
108	101	105	Max	427.00	0.00	1	0.00	9	0.00	9	-982.90	5	-332.71	5	0.07	9
108	101	105	Min.	9.00	0.00	1	0.00	1	0.00	9	648.06	13	-1193.20	5	-0.07	1
108	101	105	Min.	122.32									101.83	13		
108	101	105	Min.	427.00	0.00	1	0.00	1	0.00	1	-2858.57	19	-2136.24	19	-0.07	1
108	105	109	Max	9.00	0.00	1	0.00	9	0.00	1	2669.33	20	-437.96	13	0.08	9
108	105	109	Max	233.77									991.17	20		
108	105	109	Max	456.00	0.00	1	0.00	9	0.00	9	-1036.16	5	-400.37	5	0.08	9
108	105	109	Min.	9.00	0.00	1	0.00	1	0.00	9	1034.29	13	-2008.81	20	-0.07	1
108	105	109	Min.	273.83									326.68	5		
108	105	109	Min.	456.00	0.00	1	0.00	1	0.00	1	-2673.23	19	-2020.56	19	-0.07	1
108	109	113	Max	9.00	0.00	1	0.00	1	0.00	9	2633.72	20	-331.88	13	0.08	9
108	109	113	Max	227.30									984.06	19		

108	109	113	Max	456.00	0.00	1	0.00	1	0.00	9	-1032.02	5	-414.89	5	0.08	9
108	109	113	Min.	9.00	0.00	1	0.00	1	0.00	1	994.52	13	-1937.59	20	-0.07	1
108	109	113	Min.	183.85									308.61	13		
108	109	113	Min.	456.00	0.00	1	0.00	1	0.00	1	-2712.01	19	-2112.62	19	-0.07	1
108	113	117	Max	9.00	0.00	1	0.00	1	0.00	9	2780.89	20	-429.51	13	0.08	9
108	113	117	Max	240.36									1179.17	19		
108	113	117	Max	456.00	0.00	1	0.00	1	0.00	1	-988.12	5	-257.89	5	0.08	9
108	113	117	Min.	9.00	0.00	1	0.00	9	0.00	1	1093.50	13	-2078.35	20	-0.07	1
108	113	117	Min.	200.36									427.59	13		
108	113	117	Min.	456.00	0.00	1	0.00	9	0.00	9	-2560.87	19	-1581.97	19	-0.07	1
108	117	121	Max	9.00	0.00	1	0.00	9	0.00	1	1645.00	20	160.96	13	0.07	9
108	117	121	Max	253.64									464.47	5		
108	117	121	Max	276.00	0.00	1	0.00	9	0.00	9	-127.17	5	450.26	5	0.07	9
108	117	121	Min.	9.00	0.00	1	0.00	1	0.00	9	140.93	13	-1237.61	5	-0.07	1
108	117	121	Min.	253.64									-1055.20	5		
108	117	121	Min.	276.00	0.00	1	0.00	1	0.00	1	-1616.27	19	-1490.17	13	-0.07	1
108	121	125	Max	9.00	0.00	1	0.00	1	0.00	9	1733.84	17	-606.21	1	0.00	1
108	121	125	Max	125.80									-24.25	1		
108	121	125	Max	155.00	0.00	1	0.00	1	0.00	1	0.00	17	0.00	1	0.00	1
108	121	125	Min.	9.00	0.00	1	0.00	9	0.00	1	830.43	1	-1265.70	17	0.00	1
108	121	125	Min.	125.80									-50.63	17		
108	121	125	Min.	155.00	0.00	1	0.00	9	0.00	9	0.00	1	0.00	17	0.00	1
109	102	106	Max	9.00	0.00	1	0.00	9	0.00	1	2162.07	20	544.77	13	0.07	9
109	102	106	Max	185.77									1302.57	19		
109	102	106	Max	427.00	0.00	1	0.00	9	0.00	9	-1000.51	5	-364.21	5	0.07	9
109	102	106	Min.	9.00	0.00	1	0.00	1	0.00	9	668.14	13	-1151.13	5	-0.07	1
109	102	106	Min.	125.89									111.07	13		
109	102	106	Min.	427.00	0.00	1	0.00	1	0.00	1	-2856.01	19	-2131.66	19	-0.07	1
109	106	110	Max	9.00	0.00	1	0.00	9	0.00	1	2670.97	20	-465.09	13	0.08	9
109	106	110	Max	233.91									991.34	20		
109	106	110	Max	456.00	0.00	1	0.00	9	0.00	9	-1047.24	5	-426.14	5	0.08	9
109	106	110	Min.	9.00	0.00	1	0.00	1	0.00	9	1046.93	13	-2012.34	20	-0.07	1
109	106	110	Min.	271.88									332.03	5		
109	106	110	Min.	456.00	0.00	1	0.00	1	0.00	1	-2671.62	19	-2016.81	19	-0.07	1
109	110	114	Max	9.00	0.00	1	0.00	1	0.00	9	2635.53	20	-362.87	13	0.08	9
109	110	114	Max	227.44									983.98	19		
109	110	114	Max	456.00	0.00	1	0.00	1	0.00	9	-1044.18	5	-442.12	5	0.08	9
109	110	114	Min.	9.00	0.00	1	0.00	1	0.00	1	1008.40	13	-1941.62	20	-0.07	1
109	110	114	Min.	186.29									316.09	13		
109	110	114	Min.	456.00	0.00	1	0.00	1	0.00	1	-2710.24	19	-2108.65	19	-0.07	1
109	114	118	Max	9.00	0.00	1	0.00	1	0.00	9	2782.49	20	-458.75	13	0.08	9
109	114	118	Max	240.49									1179.06	19		
109	114	118	Max	456.00	0.00	1	0.00	1	0.00	1	-998.89	5	-280.42	5	0.08	9
109	114	118	Min.	9.00	0.00	1	0.00	9	0.00	1	1105.79	13	-2082.15	20	-0.07	1
109	114	118	Min.	203.41									437.12	13		
109	114	118	Min.	456.00	0.00	1	0.00	9	0.00	9	-2559.30	19	-1578.69	19	-0.07	1
109	118	122	Max	9.00	0.00	1	0.00	9	0.00	1	1649.40	20	123.05	13	0.07	9
109	118	122	Max	246.79									425.94	5		
109	118	122	Max	276.00	0.00	1	0.00	9	0.00	9	-156.78	5	404.41	5	0.07	9
109	118	122	Min.	9.00	0.00	1	0.00	1	0.00	9	174.72	13	-1204.38	5	-0.07	1
109	118	122	Min.	246.79									-998.65	5		
109	118	122	Min.	276.00	0.00	1	0.00	1	0.00	1	-1611.96	19	-1437.87	13	-0.07	1
109	122	126	Max	9.00	0.00	1	0.00	1	0.00	9	1733.84	17	-606.21	1	0.00	1
109	122	126	Max	125.80									-24.25	1		
109	122	126	Max	155.00	0.00	1	0.00	1	0.00	1	0.00	17	0.00	1	0.00	1
109	122	126	Min.	9.00	0.00	1	0.00	9	0.00	1	830.43	1	-1265.70	17	0.00	1
109	122	126	Min.	125.80									-50.63	17		
109	122	126	Min.	155.00	0.00	1	0.00	9	0.00	9	0.00	1	0.00	17	0.00	1
110	103	107	Max	9.00	0.00	1	0.00	9	0.00	1	2175.65	20	541.29	5	0.08	9
110	103	107	Max	186.78									1303.70	19		
110	103	107	Max	427.00	0.00	1	0.00	9	0.00	9	-999.96	13	-358.24	13	0.08	9
110	103	107	Min.	9.00	0.00	1	0.00	1	0.00	9	672.66	5	-1163.62	13	-0.07	1
110	103	107	Min.	126.30									110.86	5		
110	103	107	Min.	427.00	0.00	1	0.00	1	0.00	1	-2859.04	19	-2126.45	19	-0.07	1
110	107	111	Max	9.00	0.00	1	0.00	9	0.00	1	2680.80	20	-468.22	5	0.08	9
110	107	111	Max	233.99									991.33	20		
110	107	111	Max	456.00	0.00	1	0.00	9	0.00	9	-1049.71	13	-426.94	13	0.08	9
110	107	111	Min.	9.00	0.00	1	0.00	1	0.00	9	1050.33	5	-2024.48	20	-0.07	1
110	107	111	Min.	272.05									330.98	13		
110	107	111	Min.	456.00	0.00	1	0.00	1	0.00	1	-2679.50	19	-2024.61	19	-0.07	1
110	111	115	Max	9.00	0.00	1	0.00	1	0.00	9	2667.14	20	-375.87	5	0.08	9
110	111	115	Max	229.31									1010.71	19		
110	111	115	Max	456.00	0.00	1	0.00	1	0.00	9	-1036.27	13	-406.92	13	0.08	9

110	111	115	Min.	9.00	0.00	1	0.00	1	0.00	1	1022.30	5	-1974.88	20	-0.07	1
110	111	115	Min.	187.80									330.68	5		
110	111	115	Min.	456.00	0.00	1	0.00	1	0.00	1	-2696.32	19	-2040.10	19	-0.07	1
110	115	119	Max	9.00	0.00	1	0.00	1	0.00	9	2667.01	20	-406.53	5	0.08	9
110	115	119	Max	229.56									1007.24	19		
110	115	119	Max	456.00	0.00	1	0.00	1	0.00	1	-1056.87	13	-476.26	13	0.08	9
110	115	119	Min.	9.00	0.00	1	0.00	9	0.00	1	1044.32	5	-1981.14	20	-0.07	1
110	115	119	Min.	192.12									336.67	5		
110	115	119	Min.	456.00	0.00	1	0.00	9	0.00	9	-2693.21	19	-2036.54	19	-0.07	1
110	119	123	Max	9.00	0.00	1	0.00	1	0.00	9	2764.96	20	-289.98	5	0.08	9
110	119	123	Max	241.06									1216.53	20		
110	119	123	Max	417.00	0.00	1	0.00	1	0.00	1	-650.10	13	526.11	13	0.08	9
110	119	123	Min.	9.00	0.00	1	0.00	9	0.00	1	943.54	5	-1991.59	20	-0.07	1
110	119	123	Min.	303.07									59.86	13		
110	119	123	Min.	417.00	0.00	1	0.00	9	0.00	9	-2152.25	19	-1189.86	5	-0.07	1
111	104	108	Max	9.00	0.00	1	0.00	9	0.00	1	2178.27	20	586.82	5	0.08	9
111	104	108	Max	186.94									1302.14	19		
111	104	108	Max	427.00	0.00	1	0.00	9	0.00	9	-978.42	13	-319.70	13	0.08	9
111	104	108	Min.	9.00	0.00	1	0.00	1	0.00	9	653.62	5	-1215.09	13	-0.07	1
111	104	108	Min.	122.93									97.98	5		
111	104	108	Min.	427.00	0.00	1	0.00	1	0.00	1	-2856.48	19	-2121.86	19	-0.07	1
111	108	112	Max	9.00	0.00	1	0.00	9	0.00	1	2682.46	20	-442.48	5	0.08	9
111	108	112	Max	234.13									991.50	20		
111	108	112	Max	456.00	0.00	1	0.00	9	0.00	9	-1036.14	13	-395.41	13	0.08	9
111	108	112	Min.	9.00	0.00	1	0.00	1	0.00	9	1038.33	5	-2028.02	20	-0.07	1
111	108	112	Min.	274.42									324.09	13		
111	108	112	Min.	456.00	0.00	1	0.00	1	0.00	1	-2677.89	19	-2020.85	19	-0.07	1
111	112	116	Max	9.00	0.00	1	0.00	1	0.00	9	2668.95	20	-346.48	5	0.08	9
111	112	116	Max	229.45									1010.66	19		
111	112	116	Max	456.00	0.00	1	0.00	1	0.00	9	-1021.41	13	-373.69	13	0.08	9
111	112	116	Min.	9.00	0.00	1	0.00	1	0.00	1	1009.15	5	-1978.92	20	-0.07	1
111	112	116	Min.	185.85									324.06	5		
111	112	116	Min.	456.00	0.00	1	0.00	1	0.00	1	-2694.55	19	-2036.14	19	-0.07	1
111	116	120	Max	9.00	0.00	1	0.00	1	0.00	9	2668.65	20	-378.66	5	0.08	9
111	116	120	Max	229.69									1007.04	19		
111	116	120	Max	456.00	0.00	1	0.00	1	0.00	1	-1043.34	13	-447.30	13	0.08	9
111	116	120	Min.	9.00	0.00	1	0.00	9	0.00	1	1032.35	5	-1984.98	20	-0.07	1
111	116	120	Min.	189.31									327.17	5		
111	116	120	Min.	456.00	0.00	1	0.00	9	0.00	9	-2691.60	19	-2033.09	19	-0.07	1
111	120	124	Max	9.00	0.00	1	0.00	1	0.00	9	2767.66	20	-255.69	5	0.08	9
111	120	124	Max	241.28									1218.08	20		
111	120	124	Max	417.00	0.00	1	0.00	1	0.00	1	-627.90	13	577.93	13	0.08	9
111	120	124	Min.	9.00	0.00	1	0.00	9	0.00	1	923.90	5	-1996.31	20	-0.07	1
111	120	124	Min.	306.96									45.99	13		
111	120	124	Min.	417.00	0.00	1	0.00	9	0.00	9	-2149.61	19	-1235.70	5	-0.07	1
112	103	104	Max	8.55	0.00	1	0.00	13	0.00	5	1097.58	9	1395.95	1	0.05	9
112	103	104	Max	17.51									41.57	29		
112	103	104	Max	283.45	0.00	1	0.00	13	0.00	13	1013.91	9	1438.96	9	0.05	9
112	103	104	Min.	8.55	0.00	1	0.00	5	0.00	13	-982.62	1	-1463.28	9	-0.04	1
112	103	104	Min.	195.74									20.44	31		
112	103	104	Min.	283.45	0.00	1	0.00	5	0.00	5	-1066.29	1	-1420.27	1	-0.04	1
113	107	108	Max	8.55	0.00	1	0.00	13	0.00	5	1028.48	9	1317.88	1	0.01	9
113	107	108	Max	9.10									45.06	21		
113	107	108	Max	283.45	0.00	1	0.00	13	0.00	13	944.81	9	1343.99	9	0.01	9
113	107	108	Min.	8.55	0.00	1	0.00	5	0.00	13	-925.82	1	-1368.30	9	-0.01	1
113	107	108	Min.	173.87									18.00	31		
113	107	108	Min.	283.45	0.00	1	0.00	5	0.00	5	-1009.49	1	-1342.20	1	-0.01	1
114	111	112	Max	8.55	0.00	1	0.00	13	0.00	5	963.14	9	1245.78	1	0.02	9
114	111	112	Max	20.71									51.95	17		
114	111	112	Max	283.45	0.00	1	0.00	13	0.00	13	879.47	9	1254.17	9	0.02	9
114	111	112	Min.	8.55	0.00	1	0.00	5	0.00	13	-873.37	1	-1278.49	9	-0.02	1
114	111	112	Min.	155.82									16.74	31		
114	111	112	Min.	283.45	0.00	1	0.00	5	0.00	5	-957.03	1	-1270.10	1	-0.02	1
115	115	116	Max	8.55	0.00	1	0.00	13	0.00	5	987.99	1	1297.75	9	0.02	9
115	115	116	Max	268.94									51.47	18		
115	115	116	Max	283.45	0.00	1	0.00	13	0.00	13	904.32	1	1288.33	1	0.02	9
115	115	116	Min.	8.55	0.00	1	0.00	5	0.00	13	-911.17	9	-1312.65	1	-0.02	1
115	115	116	Min.	134.47									16.78	31		
115	115	116	Min.	283.45	0.00	1	0.00	5	0.00	5	-994.84	9	-1322.07	9	-0.02	1
116	119	120	Max	8.55	0.00	1	0.00	13	0.00	5	1093.09	1	1459.92	9	0.01	9
116	119	120	Max	234.95									37.57	18		
116	119	120	Max	283.45	0.00	1	0.00	13	0.00	13	1009.42	1	1432.79	1	0.01	9
116	119	120	Min.	8.55	0.00	1	0.00	5	0.00	13	-1029.15	9	-1457.11	1	-0.01	1

```
 116 119 120 Min. 114.26                                                    18.12 31
 116 119 120 Min. 283.45     0.00  1    0.00  5     0.00  5 -1112.82  9 -1484.23  9  -0.01  1
```

ARMATURE COLLEGAMENTI

Simbologia

N	<daN>	= Sforzo normale agente sul collegamento
Ty	<daN>	= Taglio in direzione Y agente sul collegamento
Tz	<daN>	= Taglio in direzione Z agente sul collegamento
My	<daNm>	= Momento flettente intorno all'asse Y del collegamento
Ty_1	<daN>	= Taglio in direzione Y locale
Mz_1	<daNm>	= Momento torcente intorno all'asse Z
Fv,Ed	<daN>	= Taglio nei bulloni
Fv,Rd	<daN>	= Resistenza a taglio del bullone
Fb,Ed,a	<daN>	= Azione di rifollamento di progetto lato asta
Fb,Rd,a	<daN>	= Rifollamento lato asta
Fb,Ed,p	<daN>	= Rifollamento lato piastra
Fb,Rd,p	<daN>	= Resistenza a rifollamento lato piastra
Bnetta	<mm>	= Larghezza sezione al netto di eventuali fori
Hnetta	<mm>	= Altezza sezione al netto di eventuali fori
σ	<daN/cmq>	= Tensione normale
τ	<daN/cmq>	= Tensione tangenziale
Tx_1	<daN>	= Taglio in direzione X locale
N_1	<daN>	= Sforzo normale in direzione Z locale
Mx_1	<daNm>	= Momento flettente intorno all'asse X locale
LT	<m>	= Lunghezza tirafondi
σ_{cR}	<daN/cmq>	= Tensione nel calcestruzzo indotta dalla rosetta
σ_{fR}	<daN/cmq>	= Tensione nell'acciaio della rosetta per flessione
σ_c	<daN/cmq>	= Tensione nel calcestruzzo
TP	<daN>	= Azione che genera tensione tangenziale parallela
TO	<daN>	= Azione che genera tensione tangenziale ortogonale
NO	<daN>	= Azione che genera tensione normale ortogonale
τ_P	<daN/cmq>	= Tensione tangenziale parallela all'asse del cordone di saldatura
τ_O	<daN/cmq>	= Tensione tangenziale ortogonale all'asse del cordone di saldatura
σ_O	<daN/cmq>	= Tensione normale ortogonale all'asse del cordone di saldatura
σ_{ID}	<daN/cmq>	= Tensione ideale nel cordone di saldatura
Σ_T	<daN/cmq>	= Somma tensioni nel cordone di saldatura
My_1	<daNm>	= Momento flettente intorno all'asse Y locale
Tp		= Tipo di acciaio
Fyk	<daN/cmq>	= Tensione caratteristica di snervamento dell'acciaio
Fyt	<daN/cmq>	= Tensione caratteristica di rottura
CB		= Classe del bullone
Fyb	<daN/cmq>	= Tensione di snervamento dei bulloni
Ftb	<daN/cmq>	= Tensione di rottura dei bulloni

Collegamento 0006_0106Piastra 250.00 x 250.00 s=10.00 - 4 Tirafondi ϕ 16 - Profondità di infissione: 100.00
2 righe ad interasse 208.00
2 colonne ad interasse 208.00
Altezza di gola saldature: anima 7.07 - ala 7.07

Caratteristiche meccaniche	Tp	Fyk <daN/cmq>	Fyt <daN/cmq>	CB	Fyb <daN/cmq>	Ftb <daN/cmq>
S235		2350.00	3600.00	6.8	3600.00	6000.00

Tirafondi e calcestruzzo
CC 9 SLV (Collegamento 0006_0106)
Azioni sul collegamento: N=-1843.01 Ty=192.80 Tz=547.94
Sollecitazioni agenti localmente: Tx_1=192.80 Ty_1=547.94 N_1=-1843.01 Mx_1=-0.00
Taglio nei bulloni: Fv,Ed=145.22 Fv,Rd=5790.58
Rifollamento lato piastra: Fb,Ed,p=145.22 Fb,Rd,p=3955.91
Tirafondi:LT=0.18 (0.07) σ_{cR}=0.00 σ_{fR}=0.00
Compressione nel calcestruzzo: σ_c=2.95
CC 11 SLV (Collegamento 0006_0106)
Azioni sul collegamento: N=-1919.49 Ty=-59.40 Tz=545.67
Sollecitazioni agenti localmente: Tx_1=-59.40 Ty_1=545.67 N_1=-1919.49 Mx_1=-0.00

Taglio nei bulloni: Fv,Ed=137.22 Fv,Rd=5790.58
Rifollamento lato piastra: Fb,Ed,p=137.22 Fb,Rd,p=3395.93
Tirafondi:LT=0.18 (0.07) σ_{cR}=0.00 σ_{fR}=0.00
Compressione nel calcestruzzo: σ_c=3.07
CC 17 SLU (Collegamento 0006_0106)
Azioni sul collegamento: N=-5909.70 Ty=47.55 Tz=-27.61
Sollecitazioni agenti localmente: Tx_1=47.55 Ty_1=-27.61 N_1=-5909.70 Mx_1=-0.00
Taglio nei bulloni: Fv,Ed=13.75 Fv,Rd=5790.58
Rifollamento lato piastra: Fb,Ed,p=13.75 Fb,Rd,p=5045.78
Tirafondi:LT=0.18 (0.07) σ_{cR}=0.00 σ_{fR}=0.00
Compressione nel calcestruzzo: σ_c=9.46

Saldatura profilo-piastra
CC 1 SLV (Collegamento 0006_0106)
Azioni sul collegamento: N=-2059.90 Ty=-147.36 Tz=-549.36
Sollecitazioni agenti localmente: Tx_1=-147.36 Ty_1=-549.36 N_1=-2059.90
Azioni sul cordone: TP=82.54 TO=-22.14 NO=-309.49
Tensioni nel cordone: τ_P=9.57 τ_O=2.57 σ_O=35.88 σ_{ID}=37.22 Σ_T=38.45
CC 13 SLV (Collegamento 0006_0106)
Azioni sul collegamento: N=-2359.90 Ty=471.16 Tz=-85.42
Sollecitazioni agenti localmente: Tx_1=471.16 Ty_1=-85.42 N_1=-2359.90
Azioni sul cordone: TP=12.83 TO=70.79 NO=-354.57
Tensioni nel cordone: τ_P=1.49 τ_O=8.21 σ_O=41.11 σ_{ID}=41.94 Σ_T=49.31
CC 17 SLU (Collegamento 0006_0106)
Azioni sul collegamento: N=-5909.70 Ty=47.55 Tz=-27.61
Sollecitazioni agenti localmente: Tx_1=47.55 Ty_1=-27.61 N_1=-5909.70
Azioni sul cordone: TP=4.15 TO=7.14 NO=-887.91
Tensioni nel cordone: τ_P=0.48 τ_O=0.83 σ_O=102.94 σ_{ID}=102.95 Σ_T=103.77

Flessione attacco superiore piastraBnetta=250.00 Hnetta=10.00
CC 17 SLU (Collegamento 0006_0106)
Azioni sul collegamento: N=-5909.70 Ty=47.55 Tz=-27.61
Sollecitazioni agenti localmente: Ty_1=-933.73 Mx_1=-18.44
Tensioni nella sezione: σ=442.59 τ=37.35

Flessione attacco inferiore piastraBnetta=250.00 Hnetta=10.00
CC 17 SLU (Collegamento 0006_0106)
Azioni sul collegamento: N=-5909.70 Ty=47.55 Tz=-27.61
Sollecitazioni agenti localmente: Ty_1=-933.73 Mx_1=-18.44
Tensioni nella sezione: σ=442.59 τ=37.35

Flessione attacco destro piastraBnetta=250.00 Hnetta=10.00
CC 17 SLU (Collegamento 0006_0106)
Azioni sul collegamento: N=-5909.70 Ty=47.55 Tz=-27.61
Sollecitazioni agenti localmente: Ty_1=-803.72 My_1=-14.47
Tensioni nella sezione: σ=347.21 τ=32.15

Flessione attacco sinistro piastraBnetta=250.00 Hnetta=10.00
CC 17 SLU (Collegamento 0006_0106)
Azioni sul collegamento: N=-5909.70 Ty=47.55 Tz=-27.61
Sollecitazioni agenti localmente: Ty_1=-803.72 My_1=-14.47
Tensioni nella sezione: σ=347.21 τ=32.15

Collegamenti 0106_0102 0106_0110 0110_0106Piastre anima 400.00 x 100.00 s= 10.00 - 6+6 bulloni ϕ 16
3 righe ad interasse 60.00
2 colonne ad interasse 50.00
Piastre ala 400.00 x 159.00 s= 10.00 - 6+6 bulloni ϕ 16
3 righe ad interasse 60.00
2 colonne ad interasse 100.00

Caratteristiche meccaniche	Tp	Fyk	Fyt	CB	Fyb	Ftb
	<daN/cmq>	<daN/cmq>	<daN/cmq>		<daN/cmq>	
S235	2350.00	3600.00	8.8	5600.00	8000.00	

Bullonatura sull'anima
CC 19 SLU (Collegamento 0106_0102)
Azioni sul collegamento: Tz=-2962.89 My=-2393.51
Sollecitazioni agenti localmente: Ty_1=-2962.89 Mz_1=-477.09
Taglio nei bulloni: Fv,Ed=1086.37 Fv,Rd=6028.80

Azione di rifollamento di progetto lato asta: Fb,Ed,a=2172.74 Fb,Rd,a=6684.31
Rifollamento lato piastra: Fb,Ed,p=1086.37 Fb,Rd,p=5924.54

Piastra di animaBnetta=20.00 Hnetta=100.00
CC 19 SLU (Collegamento 0106_0102)
Azioni sul collegamento: Tz=-2962.89 My=-2393.51
Sollecitazioni agenti localmente: Ty_1=-2962.89 Mz_1=-477.09
Tensioni nella sezione: σ=1431.27 τ=148.15

Verifica a taglio anima forataBnetta=6.00 Hnetta=100.00
CC 19 SLU (Collegamento 0106_0102)
Azioni sul collegamento: Tz=-2962.89 My=-2393.51
Sollecitazioni agenti localmente: Ty_1=-987.63
Tensioni nella sezione: σ=0.00 τ=164.60

Bullonatura ali superiori
CC 19 SLU (Collegamento 0106_0102)
Azioni sul collegamento: Tz=-2962.89 My=-2393.51
Sollecitazioni agenti localmente: Tx_1=15473.50 Mz_1=0.00
Taglio nei bulloni: Fv,Ed=2578.91 Fv,Rd=6028.80
Azione di rifollamento di progetto lato asta: Fb,Ed,a=2578.91 Fb,Rd,a=9035.29
Rifollamento lato piastra: Fb,Ed,p=2578.91 Fb,Rd,p=-6403.77
CC 13 SLV
Azioni sul collegamento: Tz=1059.59 My=-455.93
Sollecitazioni agenti localmente: Tx_1=2947.45
Taglio nei bulloni: Fv,Ed=491.24 Fv,Rd=6028.80
Azione di rifollamento di progetto lato asta: Fb,Ed,a=491.24 Fb,Rd,a=9035.29
Rifollamento lato piastra: Fb,Ed,p=491.24 Fb,Rd,p=-6403.77

Bullonatura ali inferiori
CC 19 SLU (Collegamento 0106_0102)
Azioni sul collegamento: Tz=-2962.89 My=-2393.51
Sollecitazioni agenti localmente: Tx_1=-15473.50 Mz_1=-0.00
Taglio nei bulloni: Fv,Ed=2578.91 Fv,Rd=6028.80
Azione di rifollamento di progetto lato asta: Fb,Ed,a=2578.91 Fb,Rd,a=10672.90
Rifollamento lato piastra: Fb,Ed,p=2578.91 Fb,Rd,p=-6912.00
CC 13 SLV
Azioni sul collegamento: Tz=1059.59 My=-455.93
Sollecitazioni agenti localmente: Tx_1=-2947.45
Taglio nei bulloni: Fv,Ed=491.24 Fv,Rd=6028.80
Azione di rifollamento di progetto lato asta: Fb,Ed,a=491.24 Fb,Rd,a=10672.90
Rifollamento lato piastra: Fb,Ed,p=491.24 Fb,Rd,p=-6912.00

Piastre sulle aliBnetta=10.00 Hnetta=159.00
CC 19 SLU (Collegamento 0106_0102)
Azioni sul collegamento: Tz=-2962.89 My=-2393.51
Sollecitazioni agenti localmente: Tx_1=15473.50
Tensioni nella sezione: σ=973.17 τ=0.00

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 = Sezione a C
- Cdx = C destra
- Cir. = Circolare
- Cir.c = Circolare cava
- I = Sezione a I
- L = Sezione a 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 = Sezione a T
U = Sezione a U
Ur = U rovescia
V = Sezione a V
Vr = V rovescia
Z = Sezione a 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
Tp = Tipo di acciaio
Fyk <daN/cmq> = Tensione caratteristica di snervamento dell'acciaio
Fyt <daN/cmq> = Tensione caratteristica di rottura
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
J_ω <cm6> = Costante di ingobbamento
CC = Numero della combinazione delle condizioni di carico elementari
N,Ed <daN> = Forza assiale di calcolo
My,Ed <daNm> = Momento flettente di calcolo intorno all'asse Y
Mz,Ed <daNm> = Momento flettente di calcolo intorno all'asse Z
Nc,Rd <daN> = Resistenza a compressione
My,c,Rd <daNm> = Resistenza di calcolo a flessione intorno all'asse Y
Mz,c,Rd <daNm> = Resistenza di calcolo a flessione intorno all'asse Z
L <cm> = Lunghezza dell'asta
α_{my}, α_{mz}, α_{LT} = Coefficienti correttivi per il momento flettente
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 membrature inflesse
ψ = Coeff. di correzione momento critico per stabilità laterale membrature inflesse
M,cr <daNm> = Momento critico per instabilità flesso torsionale
λ_{LT} = Coefficiente di imperfezione per stabilità laterale membrature inflesse
$\lambda_{LT,0}$ = Coefficiente di imperfezione di confronto per stabilità laterale membrature inflesse
Φ_{LT} = Coefficiente Φ per stabilità laterale membrature inflesse
β_{LT} = Coefficiente per calcolo Φ_{LT}
f = Fattore di modifica per il coefficiente di riduzione
χ_{LT} = Coefficiente di riduzione per stabilità laterale membrature inflesse
λ_y = Snellezza per inflessione intorno all'asse y(c)
Ncr,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)
χ_y = Coefficiente χ di riduzione per instabilità intorno all'asse y(c)
λ_z = Snellezza per inflessione intorno all'asse z(e)
Ncr,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)
χ_z = Coefficiente χ di riduzione per instabilità intorno all'asse z(e)
Kyy, Kyz, Kzy, Kzz = Coefficienti di interazione
Xl <m> = Coordinata progressiva (dal nodo iniziale dell'asta) in cui viene effettuato il progetto/verifica
N <daN> = Sforzo normale

Tz <daN> = Taglio in dir. Z
My <daNm> = Momento flettente intorno all'asse Y
Ty <daN> = Taglio in dir. Y
Mz <daNm> = Momento flettente intorno all'asse Z
MNz,c,Rd <daNm> = Resistenza di calcolo a pressoflessione intorno all'asse Z
MNy,c,Rd <daNm> = Resistenza di calcolo a pressoflessione intorno all'asse Y
α = Esponente sfruttamento per flessione retta intorno all'asse y
β = Esponente sfruttamento per flessione retta intorno all'asse z
V,Ed <daN> = Forza di taglio di calcolo
Vc,Rd <daN> = Resistenza a taglio
My,b,Rd <daNm> = Resistenza di calcolo a flessione ridotta per stabilità laterale membrature inflesse
V,Ed,G <daN> = Forza di taglio per azioni non sismiche
V,Ed,M <daN> = Forza di taglio dovuta all'applicazione dei momenti resistenti
$f_{z,L}$ <cm> = Freccia in direzione Z locale
$f_{z,G}$ <cm> = Freccia in direzione Z globale
δ <cm> = Spostamento relativo asta

Caratteristiche profilati utilizzati

Sez.	Cod.	Tipo	D <cm>	Area <cmq>	Anet <cmq>	Aeff <cmq>	Jy <cm4>	Jz <cm4>	Iy <cm>	Iz <cm>	Wymin <cmc>	Wzmin <cmc>	Tp	Fyk <daN/cmq>	Fyt <daN/cmq>
1	HEA180	Is	--	45.25	45.25	45.25	2510.34	924.60	7.45	4.52	293.61	102.73	S235	2350.00	3600.00
2	HEA160	Is	--	38.77	38.77	38.77	1673.02	615.58	6.57	3.98	220.13	76.95	S235	2350.00	3600.00

Caratteristiche profilati utilizzati

Sez.	Cod.	Wy,plas <cmc>	Wz,plas <cmc>	Atag,y <cmq>	Atag,z <cmq>	Jω <cm6>
1	HEA180	326.12	156.65	37.93	14.47	60210.90
2	HEA160	246.26	117.79	32.53	13.21	31409.70

Asta n. 1 (1 101) HEA180 Crit. 1

- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 5 - Classe 1
  Sollecitazioni: N,Ed=-1665.20 My,Ed=-624.26 Mz,Ed=1321.05
  Resistenze: Nc,Rd=101280.00 My,c,Rd=7298.96 Mz,c,Rd=3505.93 L=260.20
  αmy, αmz, αLT=0.95, 0.95, 0.95
  L_{cr}=2.60 Curva b: α_{imp}=0.34 k_c=0.94 ψ=1.75 M,cr=50341.80 λ_{LT}=0.39
  $\lambda_{LT,0}$=0.40 Φ_{LT}=0.56 β_{LT}=0.75 f=0.98 χ_{LT}=1.00
  λ_y=34.94 Ncr,y=768489.00 λ^*_y=0.37 Curva b: Φ_y=0.60 χ_y=0.94
  λ_z=57.56 Ncr,z=283048.00 λ^*_z=0.61 Curva c: Φ_z=0.79 χ_z=0.78
  Kyy, Kyz, Kzy, Kzz=0.95, 0.58, 0.57, 0.96
  Verifica YY: 0.02+0.08+0.22=0.32
  Verifica ZZ: 0.02+0.05+0.36=0.43

- Verifica a pressoflessione deviata (EC3 6.41) - CC 5 Xl=2.60 - Classe 1
  Sollecitazioni: N=-378.06 T_z=239.91 M_y=-624.26 T_y=507.70 M_z=1321.05
  N,Ed=-378.06 Nc,Rd=101280.00 n=N,Ed/Nc,Rd=0.00
  Pressoflessione retta YY (4.2.34):
  My,Ed=-624.26 My,c,Rd=7298.96 MNy,c,Rd=7298.96 My,Ed/MNy,c,Rd=0.09
  Pressoflessione retta ZZ (4.2.35):
  Mz,Ed=1321.05 Mz,c,Rd=3505.93 MNz,c,Rd=3505.93 Mz,Ed/MNz,c,Rd=0.38
  α=2.00 β=1.00 $(My,Ed/MNy,c,Rd)^2+(Mz,Ed/MNz,c,Rd)^1$=0.38

- Verifica a taglio dir. Y (4.2.17) - CC 9 Xl=0.00
  Sollecitazioni: N=-423.22 T_z=-598.83 T_y=-5.43
  V,Ed=-5.43 Vc,Rd=49016.70 V,Ed/Vc,Rd=0.00

- Verifica a taglio dir. Z (4.2.17)
  V,Ed=-598.83 Vc,Rd=18701.60 V,Ed/Vc,Rd=0.03

- Verifica spostamento relativo massimo per singola asta - CC 23
  δ=0.22 (L/1167)

Asta n. 2 (2 102) HEA180 Crit. 1

- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 5 - Classe 1
  Sollecitazioni: N,Ed=-1979.11 My,Ed=-655.71 Mz,Ed=1277.34

Resistenze: Nc,Rd=101280.00 My,c,Rd=7298.96 Mz,c,Rd=3505.93 L=260.20
αmy, αmz, αLT=0.95, 0.95, 0.95
L_{cr}=2.60 Curva b: α_{imp}=0.34 k_c=0.94 ψ=1.75 M,cr=50341.80 λ_{LT}=0.39
$\lambda_{LT,0}$=0.40 Φ_{LT}=0.56 β_{LT}=0.75 f=0.98 χ_{LT}=1.00
λ_Y=34.94 Ncr,y=768489.00 λ^*_y=0.37 Curva b: Φ_y=0.60 χ_y=0.94
λ_z=57.56 Ncr,z=283048.00 λ^*_z=0.61 Curva c: Φ_z=0.79 χ_z=0.78
Kyy, Kyz, Kzy, Kzz=0.95, 0.58, 0.57, 0.96
Verifica YY: 0.02+0.09+0.21=0.32
Verifica ZZ: 0.02+0.05+0.35=0.42

- Verifica a pressoflessione deviata (EC3 6.41) - CC 5 Xl=2.60 - Classe 1
Sollecitazioni: N=-729.32 T_z=252.00 M_y=-655.71 T_y=490.91 M_z=1277.34
N,Ed=-729.32 Nc,Rd=101280.00 n=N,Ed/Nc,Rd=0.01
Pressoflessione retta YY (4.2.34):
My,Ed=-655.71 My,c,Rd=7298.96 MNy,c,Rd=7298.96 My,Ed/MNy,c,Rd=0.09
Pressoflessione retta ZZ (4.2.35):
Mz,Ed=1277.34 Mz,c,Rd=3505.93 MNz,c,Rd=3505.93 Mz,Ed/MNz,c,Rd=0.36
α=2.00 β=1.00 $(My,Ed/MNy,c,Rd)^2+(Mz,Ed/MNz,c,Rd)^1$=0.37

- Verifica a taglio dir. Y (4.2.17) - CC 9 Xl=0.00
Sollecitazioni: N=-41.75 T_z=-586.75 T_y=24.55
V,Ed=24.55 Vc,Rd=49016.70 V,Ed/Vc,Rd=0.00

- Verifica a taglio dir. Z (4.2.17)
V,Ed=-586.75 Vc,Rd=18701.60 V,Ed/Vc,Rd=0.03

- Verifica spostamento relativo massimo per singola asta - CC 23
δ=0.22 (L/1189)

Asta n. 3 (3 103) HEA180 Crit. 1

- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 13 - Classe 1
Sollecitazioni: N,Ed=-2034.85 My,Ed=701.10 Mz,Ed=1290.57
Resistenze: Nc,Rd=101280.00 My,c,Rd=7298.96 Mz,c,Rd=3505.93 L=260.20
αmy, αmz, αLT=0.95, 0.95, 0.95
L_{cr}=2.60 Curva b: α_{imp}=0.34 k_c=0.94 ψ=1.75 M,cr=50341.80 λ_{LT}=0.39
$\lambda_{LT,0}$=0.40 Φ_{LT}=0.56 β_{LT}=0.75 f=0.98 χ_{LT}=1.00
λ_Y=34.94 Ncr,y=768489.00 λ^*_y=0.37 Curva b: Φ_y=0.60 χ_y=0.94
λ_z=57.56 Ncr,z=283048.00 λ^*_z=0.61 Curva c: Φ_z=0.79 χ_z=0.78
Kyy, Kyz, Kzy, Kzz=0.95, 0.58, 0.57, 0.97
Verifica YY: 0.02+0.09+0.21=0.32
Verifica ZZ: 0.02+0.05+0.36=0.43

- Verifica a pressoflessione deviata (EC3 6.41) - CC 13 Xl=2.60 - Classe 1
Sollecitazioni: N=-749.03 T_z=-269.45 M_y=701.10 T_y=495.99 M_z=1290.57
N,Ed=-749.03 Nc,Rd=101280.00 n=N,Ed/Nc,Rd=0.01
Pressoflessione retta YY (4.2.34):
My,Ed=701.10 My,c,Rd=7298.96 MNy,c,Rd=7298.96 My,Ed/MNy,c,Rd=0.10
Pressoflessione retta ZZ (4.2.35):
Mz,Ed=1290.57 Mz,c,Rd=3505.93 MNz,c,Rd=3505.93 Mz,Ed/MNz,c,Rd=0.37
α=2.00 β=1.00 $(My,Ed/MNy,c,Rd)^2+(Mz,Ed/MNz,c,Rd)^1$=0.38

- Verifica a taglio dir. Y (4.2.17) - CC 9 Xl=0.00
Sollecitazioni: N=-488.43 T_z=-598.49 T_y=60.29
V,Ed=60.29 Vc,Rd=49016.70 V,Ed/Vc,Rd=0.00

- Verifica a taglio dir. Z (4.2.17)
V,Ed=-598.49 Vc,Rd=18701.60 V,Ed/Vc,Rd=0.03

- Verifica spostamento relativo massimo per singola asta - CC 23
δ=0.21 (L/1246)

Asta n. 4 (4 104) HEA180 Crit. 1

- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 13 - Classe 1
Sollecitazioni: N,Ed=-1628.75 My,Ed=669.41 Mz,Ed=1344.05
Resistenze: Nc,Rd=101280.00 My,c,Rd=7298.96 Mz,c,Rd=3505.93 L=260.20
αmy, αmz, αLT=0.95, 0.95, 0.95
L_{cr}=2.60 Curva b: α_{imp}=0.34 k_c=0.94 ψ=1.75 M,cr=50341.80 λ_{LT}=0.39
$\lambda_{LT,0}$=0.40 Φ_{LT}=0.56 β_{LT}=0.75 f=0.98 χ_{LT}=1.00

λ_Y=34.94 Ncr,y=768489.00 λ^*_y=0.37 Curva b: Φ_y=0.60 χ_y=0.94
λ_Z=57.56 Ncr,z=283048.00 λ^*_z=0.61 Curva c: Φ_z=0.79 χ_z=0.78
Kyy, Kyz, Kzy, Kzz=0.95, 0.58, 0.57, 0.96
Verifica YY: 0.02+0.09+0.22=0.32
Verifica ZZ: 0.02+0.05+0.37=0.44

- Verifica a pressoflessione deviata (EC3 6.41) - CC 13 Xl=2.60 - Classe 1
Sollecitazioni: N=-372.66 T_z=-257.27 M_y=669.41 T_y=516.55 M_z=1344.05
N,Ed=-372.66 Nc,Rd=101280.00 n=N,Ed/Nc,Rd=0.00
Pressoflessione retta YY (4.2.34):
My,Ed=669.41 My,c,Rd=7298.96 MNy,c,Rd=7298.96 My,Ed/MNy,c,Rd=0.09
Pressoflessione retta ZZ (4.2.35):
Mz,Ed=1344.05 Mz,c,Rd=3505.93 MNz,c,Rd=3505.93 Mz,Ed/MNz,c,Rd=0.38
α=2.00 β=1.00 $(My,Ed/MNy,c,Rd)^2+(Mz,Ed/MNz,c,Rd)^1$=0.39

- Verifica a taglio dir. Y (4.2.17) - CC 9 Xl=0.00
Sollecitazioni: N=-96.02 T_z=-586.31 T_y=60.72
V,Ed=60.72 Vc,Rd=49016.70 V,Ed/Vc,Rd=0.00

- Verifica a taglio dir. Z (4.2.17)
V,Ed=-586.31 Vc,Rd=18701.60 V,Ed/Vc,Rd=0.03

- Verifica spostamento relativo massimo per singola asta - CC 23
δ=0.21 (L/1268)

Asta n. 5 (5 105) HEA180 Crit. 1

- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 13 - Classe 1
Sollecitazioni: N,Ed=-3376.77 My,Ed=583.53 Mz,Ed=-1291.98
Resistenze: Nc,Rd=101280.00 My,c,Rd=7298.96 Mz,c,Rd=3505.93 L=260.20
αmy, αmz, αLT=0.95, 0.95, 0.95
L_{cr}=2.60 Curva b: α_{imp}=0.34 k_c=0.94 ψ=1.75 M,cr=50341.80 λ_{LT}=0.39
$\lambda_{LT,0}$=0.40 Φ_{LT}=0.56 β_{LT}=0.75 f=0.98 χ_{LT}=1.00
λ_Y=34.94 Ncr,y=768489.00 λ^*_y=0.37 Curva b: Φ_y=0.60 χ_y=0.94
λ_Z=57.56 Ncr,z=283048.00 λ^*_z=0.61 Curva c: Φ_z=0.79 χ_z=0.78
Kyy, Kyz, Kzy, Kzz=0.96, 0.59, 0.57, 0.98
Verifica YY: 0.03+0.08+0.22=0.33
Verifica ZZ: 0.03+0.05+0.36=0.44

- Verifica a pressoflessione deviata (EC3 6.41) - CC 13 Xl=2.60 - Classe 1
Sollecitazioni: N=-2533.62 T_z=-224.26 M_y=583.53 T_y=-496.53 M_z=-1291.98
N,Ed=-2533.62 Nc,Rd=101280.00 n=N,Ed/Nc,Rd=0.03
Pressoflessione retta YY (4.2.34):
My,Ed=583.53 My,c,Rd=7298.96 MNy,c,Rd=7298.96 My,Ed/MNy,c,Rd=0.08
Pressoflessione retta ZZ (4.2.35):
Mz,Ed=-1291.98 Mz,c,Rd=3505.93 MNz,c,Rd=3505.93 Mz,Ed/MNz,c,Rd=0.37
α=2.00 β=1.00 $(My,Ed/MNy,c,Rd)^2+(Mz,Ed/MNz,c,Rd)^1$=0.37

- Verifica a taglio dir. Y (4.2.17) - CC 9 Xl=0.00
Sollecitazioni: N=-2104.30 T_z=-560.02 T_y=103.68
V,Ed=103.68 Vc,Rd=49016.70 V,Ed/Vc,Rd=0.00

- Verifica a taglio dir. Z (4.2.17)
V,Ed=-560.02 Vc,Rd=18701.60 V,Ed/Vc,Rd=0.03

- Verifica spostamento relativo massimo per singola asta - CC 23
δ=0.21 (L/1267)

Asta n. 6 (6 106) HEA180 Crit. 1

- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 13 - Classe 1
Sollecitazioni: N,Ed=-3134.39 My,Ed=552.08 Mz,Ed=-1225.95
Resistenze: Nc,Rd=101280.00 My,c,Rd=7298.96 Mz,c,Rd=3505.93 L=260.20
αmy, αmz, αLT=0.95, 0.95, 0.95
L_{cr}=2.60 Curva b: α_{imp}=0.34 k_c=0.94 ψ=1.75 M,cr=50341.80 λ_{LT}=0.39
$\lambda_{LT,0}$=0.40 Φ_{LT}=0.56 β_{LT}=0.75 f=0.98 χ_{LT}=1.00
λ_Y=34.94 Ncr,y=768489.00 λ^*_y=0.37 Curva b: Φ_y=0.60 χ_y=0.94
λ_Z=57.56 Ncr,z=283048.00 λ^*_z=0.61 Curva c: Φ_z=0.79 χ_z=0.78
Kyy, Kyz, Kzy, Kzz=0.96, 0.58, 0.57, 0.97
Verifica YY: 0.03+0.07+0.20=0.31

Verifica ZZ: 0.03+0.04+0.34=0.41

- Verifica a pressoflessione deviata (EC3 6.41) - CC 13 Xl=2.60 - Classe 1
Sollecitazioni: N=-2267.47 T_z=-212.18 M_y=552.08 T_y=-471.16 M_z=-1225.95
N,Ed=-2267.47 Nc,Rd=101280.00 n=N,Ed/Nc,Rd=0.02
Pressoflessione retta YY (4.2.34):
My,Ed=552.08 My,c,Rd=7298.96 MNy,c,Rd=7298.96 My,Ed/MNy,c,Rd=0.08
Pressoflessione retta ZZ (4.2.35):
Mz,Ed=-1225.95 Mz,c,Rd=3505.93 MNz,c,Rd=3505.93 Mz,Ed/MNz,c,Rd=0.35
α=2.00 β=1.00 $(My,Ed/MNy,c,Rd)^2+(Mz,Ed/MNz,c,Rd)^1$=0.36

- Verifica a taglio dir. Y (4.2.17) - CC 1 Xl=0.00
Sollecitazioni: N=-2059.90 T_z=549.36 T_y=147.36
V,Ed=147.36 Vc,Rd=49016.70 V,Ed/Vc,Rd=0.00

- Verifica a taglio dir. Z (4.2.17)
V,Ed=549.36 Vc,Rd=18701.60 V,Ed/Vc,Rd=0.03

- Verifica spostamento relativo massimo per singola asta - CC 23
δ=0.20 (L/1312)

Asta n. 7 (7 107) HEA180 Crit. 1

- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 5 - Classe 1
Sollecitazioni: N,Ed=-3149.46 My,Ed=-523.85 Mz,Ed=-1223.54
Resistenze: Nc,Rd=101280.00 My,c,Rd=7298.96 Mz,c,Rd=3505.93 L=260.20
αmy, αmz, αLT=0.95, 0.95, 0.95
L_{cr}=2.60 Curva b: α_{imp}=0.34 k_c=0.94 ψ=1.75 M,cr=50341.80 λ_{LT}=0.39
$\lambda_{LT,0}$=0.40 Φ_{LT}=0.56 β_{LT}=0.75 f=0.98 χ_{LT}=1.00
λ_y=34.94 Ncr,y=768489.00 λ^*_y=0.37 Curva b: Φ_y=0.60 χ_y=0.94
λ_z=57.56 Ncr,z=283048.00 λ^*_z=0.61 Curva c: Φ_z=0.79 χ_z=0.78
Kyy, Kyz, Kzy, Kzz=0.96, 0.58, 0.57, 0.97
Verifica YY: 0.03+0.07+0.20=0.30
Verifica ZZ: 0.03+0.04+0.34=0.41

- Verifica a pressoflessione deviata (EC3 6.41) - CC 5 Xl=2.60 - Classe 1
Sollecitazioni: N=-2304.54 T_z=201.33 M_y=-523.85 T_y=-470.23 M_z=-1223.54
N,Ed=-2304.54 Nc,Rd=101280.00 n=N,Ed/Nc,Rd=0.02
Pressoflessione retta YY (4.2.34):
My,Ed=-523.85 My,c,Rd=7298.96 MNy,c,Rd=7298.96 My,Ed/MNy,c,Rd=0.07
Pressoflessione retta ZZ (4.2.35):
Mz,Ed=-1223.54 Mz,c,Rd=3505.93 MNz,c,Rd=3505.93 Mz,Ed/MNz,c,Rd=0.35
α=2.00 β=1.00 $(My,Ed/MNy,c,Rd)^2+(Mz,Ed/MNz,c,Rd)^1$=0.35

- Verifica a taglio dir. Y (4.2.17) - CC 9 Xl=0.00
Sollecitazioni: N=-2091.29 T_z=-559.70 T_y=-146.43
V,Ed=-146.43 Vc,Rd=49016.70 V,Ed/Vc,Rd=0.00

- Verifica a taglio dir. Z (4.2.17)
V,Ed=-559.70 Vc,Rd=18701.60 V,Ed/Vc,Rd=0.03

- Verifica spostamento relativo massimo per singola asta - CC 23
δ=0.18 (L/1447)

Asta n. 8 (8 108) HEA180 Crit. 1

- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 5 - Classe 1
Sollecitazioni: N,Ed=-3373.46 My,Ed=-555.54 Mz,Ed=-1286.18
Resistenze: Nc,Rd=101280.00 My,c,Rd=7298.96 Mz,c,Rd=3505.93 L=260.20
αmy, αmz, αLT=0.95, 0.95, 0.95
L_{cr}=2.60 Curva b: α_{imp}=0.34 k_c=0.94 ψ=1.75 M,cr=50341.80 λ_{LT}=0.39
$\lambda_{LT,0}$=0.40 Φ_{LT}=0.56 β_{LT}=0.75 f=0.98 χ_{LT}=1.00
λ_y=34.94 Ncr,y=768489.00 λ^*_y=0.37 Curva b: Φ_y=0.60 χ_y=0.94
λ_z=57.56 Ncr,z=283048.00 λ^*_z=0.61 Curva c: Φ_z=0.79 χ_z=0.78
Kyy, Kyz, Kzy, Kzz=0.96, 0.59, 0.57, 0.98
Verifica YY: 0.03+0.07+0.21=0.32
Verifica ZZ: 0.03+0.04+0.36=0.43

- Verifica a pressoflessione deviata (EC3 6.41) - CC 5 Xl=2.60 - Classe 1
Sollecitazioni: N=-2509.25 T_z=213.51 M_y=-555.54 T_y=-494.31 M_z=-1286.18
N,Ed=-2509.25 Nc,Rd=101280.00 n=N,Ed/Nc,Rd=0.02

Pressoflessione retta YY (4.2.34):
My,Ed=-555.54 My,c,Rd=7298.96 MNy,c,Rd=7298.96 My,Ed/MNy,c,Rd=0.08
Pressoflessione retta ZZ (4.2.35):
Mz,Ed=-1286.18 Mz,c,Rd=3505.93 MNz,c,Rd=3505.93 Mz,Ed/MNz,c,Rd=0.37
α=2.00 β=1.00 $(My,Ed/MNy,c,Rd)^2+(Mz,Ed/MNz,c,Rd)^1$=0.37

- Verifica a taglio dir. Y (4.2.17) - CC 1 Xl=0.00
Sollecitazioni: N=-2090.46 T_z=549.05 T_y=110.18
V,Ed=110.18 Vc,Rd=49016.70 V,Ed/Vc,Rd=0.00

- Verifica a taglio dir. Z (4.2.17)
V,Ed=549.05 Vc,Rd=18701.60 V,Ed/Vc,Rd=0.03

- Verifica spostamento relativo massimo per singola asta - CC 23
δ=0.17 (L/1506)

Asta n. 9 (9 109) HEA180 Crit. 1

- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 13 - Classe 1
Sollecitazioni: N,Ed=-3088.45 My,Ed=463.25 Mz,Ed=-1211.48
Resistenze: Nc,Rd=101280.00 My,c,Rd=7298.96 Mz,c,Rd=3505.93 L=260.20
αmy, αmz, αLT=0.95, 0.95, 0.95
L_{cr}=2.60 Curva b: α_{imp}=0.34 k_c=0.94 ψ=1.75 M,cr=50341.80 λ_{LT}=0.39
$\lambda_{LT,0}$=0.40 Φ_{LT}=0.56 β_{LT}=0.75 f=0.98 χ_{LT}=1.00
λ_Y=34.94 Ncr,y=768489.00 λ^*_y=0.37 Curva b: Φ_y=0.60 χ_y=0.94
λ_Z=57.56 Ncr,z=283048.00 λ^*_z=0.61 Curva c: Φ_z=0.79 χ_z=0.78
Kyy, Kyz, Kzy, Kzz=0.96, 0.58, 0.57, 0.97
Verifica YY: 0.03+0.06+0.20=0.29
Verifica ZZ: 0.03+0.04+0.34=0.40

- Verifica a pressoflessione deviata (EC3 6.41) - CC 13 Xl=2.60 - Classe 1
Sollecitazioni: N=-2422.68 T_z=-178.04 M_y=463.25 T_y=-465.60 M_z=-1211.48
N,Ed=-2422.68 Nc,Rd=101280.00 n=N,Ed/Nc,Rd=0.02
Pressoflessione retta YY (4.2.34):
My,Ed=463.25 My,c,Rd=7298.96 MNy,c,Rd=7298.96 My,Ed/MNy,c,Rd=0.06
Pressoflessione retta ZZ (4.2.35):
Mz,Ed=-1211.48 Mz,c,Rd=3505.93 MNz,c,Rd=3505.93 Mz,Ed/MNz,c,Rd=0.35
α=2.00 β=1.00 $(My,Ed/MNy,c,Rd)^2+(Mz,Ed/MNz,c,Rd)^1$=0.35

- Verifica a taglio dir. Y (4.2.17) - CC 9 Xl=0.00
Sollecitazioni: N=-1910.37 T_z=-523.34 T_y=105.43
V,Ed=105.43 Vc,Rd=49016.70 V,Ed/Vc,Rd=0.00

- Verifica a taglio dir. Z (4.2.17)
V,Ed=-523.34 Vc,Rd=18701.60 V,Ed/Vc,Rd=0.03

- Verifica spostamento relativo massimo per singola asta - CC 23
δ=0.20 (L/1271)

Asta n. 10 (10 110) HEA180 Crit. 1

- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 13 - Classe 1
Sollecitazioni: N,Ed=-3006.21 My,Ed=431.80 Mz,Ed=-1148.69
Resistenze: Nc,Rd=101280.00 My,c,Rd=7298.96 Mz,c,Rd=3505.93 L=260.20
αmy, αmz, αLT=0.95, 0.95, 0.95
L_{cr}=2.60 Curva b: α_{imp}=0.34 k_c=0.94 ψ=1.75 M,cr=50341.80 λ_{LT}=0.39
$\lambda_{LT,0}$=0.40 Φ_{LT}=0.56 β_{LT}=0.75 f=0.98 χ_{LT}=1.00
λ_Y=34.94 Ncr,y=768489.00 λ^*_y=0.37 Curva b: Φ_y=0.60 χ_y=0.94
λ_Z=57.56 Ncr,z=283048.00 λ^*_z=0.61 Curva c: Φ_z=0.79 χ_z=0.78
Kyy, Kyz, Kzy, Kzz=0.96, 0.58, 0.57, 0.97
Verifica YY: 0.03+0.06+0.19=0.28
Verifica ZZ: 0.03+0.03+0.32=0.38

- Verifica a pressoflessione deviata (EC3 6.41) - CC 13 Xl=2.60 - Classe 1
Sollecitazioni: N=-2347.30 T_z=-165.95 M_y=431.80 T_y=-441.47 M_z=-1148.69
N,Ed=-2347.30 Nc,Rd=101280.00 n=N,Ed/Nc,Rd=0.02
Pressoflessione retta YY (4.2.34):
My,Ed=431.80 My,c,Rd=7298.96 MNy,c,Rd=7298.96 My,Ed/MNy,c,Rd=0.06
Pressoflessione retta ZZ (4.2.35):
Mz,Ed=-1148.69 Mz,c,Rd=3505.93 MNz,c,Rd=3505.93 Mz,Ed/MNz,c,Rd=0.33
α=2.00 β=1.00 $(My,Ed/MNy,c,Rd)^2+(Mz,Ed/MNz,c,Rd)^1$=0.33

- Verifica a taglio dir. Y (4.2.17) - CC 1 Xl=0.00
  Sollecitazioni: N=-1909.00 T_z=519.91 T_y=-136.13
  V,Ed=-136.13 Vc,Rd=49016.70 V,Ed/Vc,Rd=0.00

- Verifica a taglio dir. Z (4.2.17)
  V,Ed=519.91 Vc,Rd=18701.60 V,Ed/Vc,Rd=0.03

- Verifica spostamento relativo massimo per singola asta - CC 23
  δ=0.20 (L/1316)

Asta n. 11 (11 111) HEA180 Crit. 1

- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 5 - Classe 1
  Sollecitazioni: N,Ed=-3033.70 My,Ed=-422.47 Mz,Ed=-1141.32
  Resistenze: Nc,Rd=101280.00 My,c,Rd=7298.96 Mz,c,Rd=3505.93 L=260.20
  αmy, αmz, αLT=0.95, 0.95, 0.95
  L_{cr}=2.60 Curva b: α_{imp}=0.34 k_c=0.94 ψ=1.75 M,cr=50341.80 λ_{LT}=0.39
  $\lambda_{LT,0}$=0.40 Φ_{LT}=0.56 β_{LT}=0.75 f=0.98 χ_{LT}=1.00
  λ_Y=34.94 Ncr,y=768489.00 λ^*_y=0.37 Curva b: Φ_y=0.60 χ_y=0.94
  λ_Z=57.56 Ncr,z=283048.00 λ^*_z=0.61 Curva c: Φ_z=0.79 χ_z=0.78
  Kyy, Kyz, Kzy, Kzz=0.96, 0.58, 0.57, 0.97
  Verifica YY: 0.03+0.06+0.19=0.28
  Verifica ZZ: 0.03+0.03+0.32=0.38

- Verifica a pressoflessione deviata (EC3 6.41) - CC 5 Xl=2.60 - Classe 1
  Sollecitazioni: N=-2370.68 T_z=162.36 M_y=-422.47 T_y=-438.63 M_z=-1141.32
  N,Ed=-2370.68 Nc,Rd=101280.00 n=N,Ed/Nc,Rd=0.02
  Pressoflessione retta YY (4.2.34):
   My,Ed=-422.47 My,c,Rd=7298.96 MNy,c,Rd=7298.96 My,Ed/MNy,c,Rd=0.06
  Pressoflessione retta ZZ (4.2.35):
   Mz,Ed=-1141.32 Mz,c,Rd=3505.93 MNz,c,Rd=3505.93 Mz,Ed/MNz,c,Rd=0.33
  α=2.00 β=1.00 $(My,Ed/MNy,c,Rd)^2+(Mz,Ed/MNz,c,Rd)^1$=0.33

- Verifica a taglio dir. Y (4.2.17) - CC 9 Xl=0.00
  Sollecitazioni: N=-1936.84 T_z=-523.04 T_y=-130.58
  V,Ed=-130.58 Vc,Rd=49016.70 V,Ed/Vc,Rd=0.00

- Verifica a taglio dir. Z (4.2.17)
  V,Ed=-523.04 Vc,Rd=18701.60 V,Ed/Vc,Rd=0.03

- Verifica spostamento relativo massimo per singola asta - CC 23
  δ=0.18 (L/1452)

Asta n. 12 (12 112) HEA180 Crit. 1

- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 5 - Classe 1
  Sollecitazioni: N,Ed=-3097.23 My,Ed=-454.16 Mz,Ed=-1200.88
  Resistenze: Nc,Rd=101280.00 My,c,Rd=7298.96 Mz,c,Rd=3505.93 L=260.20
  αmy, αmz, αLT=0.95, 0.95, 0.95
  L_{cr}=2.60 Curva b: α_{imp}=0.34 k_c=0.94 ψ=1.75 M,cr=50341.80 λ_{LT}=0.39
  $\lambda_{LT,0}$=0.40 Φ_{LT}=0.56 β_{LT}=0.75 f=0.98 χ_{LT}=1.00
  λ_Y=34.94 Ncr,y=768489.00 λ^*_y=0.37 Curva b: Φ_y=0.60 χ_y=0.94
  λ_Z=57.56 Ncr,z=283048.00 λ^*_z=0.61 Curva c: Φ_z=0.79 χ_z=0.78
  Kyy, Kyz, Kzy, Kzz=0.96, 0.58, 0.57, 0.97
  Verifica YY: 0.03+0.06+0.20=0.29
  Verifica ZZ: 0.03+0.04+0.33=0.40

- Verifica a pressoflessione deviata (EC3 6.41) - CC 5 Xl=2.60 - Classe 1
  Sollecitazioni: N=-2440.04 T_z=174.54 M_y=-454.16 T_y=-461.52 M_z=-1200.88
  N,Ed=-2440.04 Nc,Rd=101280.00 n=N,Ed/Nc,Rd=0.02
  Pressoflessione retta YY (4.2.34):
   My,Ed=-454.16 My,c,Rd=7298.96 MNy,c,Rd=7298.96 My,Ed/MNy,c,Rd=0.06
  Pressoflessione retta ZZ (4.2.35):
   Mz,Ed=-1200.88 Mz,c,Rd=3505.93 MNz,c,Rd=3505.93 Mz,Ed/MNz,c,Rd=0.34
  α=2.00 β=1.00 $(My,Ed/MNy,c,Rd)^2+(Mz,Ed/MNz,c,Rd)^1$=0.35

- Verifica a taglio dir. Y (4.2.17) - CC 1 Xl=0.00
  Sollecitazioni: N=-1928.03 T_z=519.62 T_y=113.53
  V,Ed=113.53 Vc,Rd=49016.70 V,Ed/Vc,Rd=0.00

- Verifica a taglio dir. Z (4.2.17)
  V,Ed=519.62 Vc,Rd=18701.60 V,Ed/Vc,Rd=0.03

- Verifica spostamento relativo massimo per singola asta - CC 23
  δ=0.17 (L/1512)

Asta n. 13 (13 113) HEA180 Crit. 1

- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 13 - Classe 1
  Sollecitazioni: N,Ed=-3110.23 My,Ed=-451.02 Mz,Ed=-1180.21
  Resistenze: Nc,Rd=101280.00 My,c,Rd=7298.96 Mz,c,Rd=3505.93 L=260.20
  αmy, αmz, αLT=0.95, 0.95, 0.95
  L_{cr}=2.60 Curva b: α_{imp}=0.34 k_c=0.94 ψ=1.75 M,cr=50341.80 λ_{LT}=0.39
  $\lambda_{LT,0}$=0.40 Φ_{LT}=0.56 β_{LT}=0.75 f=0.98 χ_{LT}=1.00
  λ_Y=34.94 Ncr,y=768489.00 λ^*_y=0.37 Curva b: Φ_y=0.60 χ_y=0.94
  λ_Z=57.56 Ncr,z=283048.00 λ^*_z=0.61 Curva c: Φ_z=0.79 χ_z=0.78
  Kyy, Kyz, Kzy, Kzz=0.96, 0.58, 0.57, 0.97
  Verifica YY: 0.03+0.06+0.20=0.29
  Verifica ZZ: 0.03+0.04+0.33=0.39

- Verifica a pressoflessione deviata (EC3 6.41) - CC 13 Xl=2.60 - Classe 1
  Sollecitazioni: N=-2418.52 T_z=173.34 M_y=-451.02 T_y=-453.58 M_z=-1180.21
  N,Ed=-2418.52 Nc,Rd=101280.00 n=N,Ed/Nc,Rd=0.02
  Pressoflessione retta YY (4.2.34):
   My,Ed=-451.02 My,c,Rd=7298.96 MNy,c,Rd=7298.96 My,Ed/MNy,c,Rd=0.06
  Pressoflessione retta ZZ (4.2.35):
   Mz,Ed=-1180.21 Mz,c,Rd=3505.93 MNz,c,Rd=3505.93 Mz,Ed/MNz,c,Rd=0.34
  α=2.00 β=1.00 $(My,Ed/MNy,c,Rd)^2+(Mz,Ed/MNz,c,Rd)^1$=0.34

- Verifica a taglio dir. Y (4.2.17) - CC 1 Xl=0.00
  Sollecitazioni: N=-1970.17 T_z=-537.30 T_y=-126.37
  V,Ed=-126.37 Vc,Rd=49016.70 V,Ed/Vc,Rd=0.00

- Verifica a taglio dir. Z (4.2.17)
  V,Ed=-537.30 Vc,Rd=18701.60 V,Ed/Vc,Rd=0.03

- Verifica spostamento relativo massimo per singola asta - CC 23
  δ=0.20 (L/1271)

Asta n. 14 (14 114) HEA180 Crit. 1

- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 13 - Classe 1
  Sollecitazioni: N,Ed=-3194.94 My,Ed=-482.47 Mz,Ed=-1117.53
  Resistenze: Nc,Rd=101280.00 My,c,Rd=7298.96 Mz,c,Rd=3505.93 L=260.20
  αmy, αmz, αLT=0.95, 0.95, 0.95
  L_{cr}=2.60 Curva b: α_{imp}=0.34 k_c=0.94 ψ=1.75 M,cr=50341.80 λ_{LT}=0.39
  $\lambda_{LT,0}$=0.40 Φ_{LT}=0.56 β_{LT}=0.75 f=0.98 χ_{LT}=1.00
  λ_Y=34.94 Ncr,y=768489.00 λ^*_y=0.37 Curva b: Φ_y=0.60 χ_y=0.94
  λ_Z=57.56 Ncr,z=283048.00 λ^*_z=0.61 Curva c: Φ_z=0.79 χ_z=0.78
  Kyy, Kyz, Kzy, Kzz=0.96, 0.58, 0.57, 0.97
  Verifica YY: 0.03+0.06+0.19=0.28
  Verifica ZZ: 0.03+0.04+0.31=0.38

- Verifica a pressoflessione deviata (EC3 6.41) - CC 13 Xl=2.60 - Classe 1
  Sollecitazioni: N=-2510.45 T_z=185.42 M_y=-482.47 T_y=-429.49 M_z=-1117.53
  N,Ed=-2510.45 Nc,Rd=101280.00 n=N,Ed/Nc,Rd=0.02
  Pressoflessione retta YY (4.2.34):
   My,Ed=-482.47 My,c,Rd=7298.96 MNy,c,Rd=7298.96 My,Ed/MNy,c,Rd=0.07
  Pressoflessione retta ZZ (4.2.35):
   Mz,Ed=-1117.53 Mz,c,Rd=3505.93 MNz,c,Rd=3505.93 Mz,Ed/MNz,c,Rd=0.32
  α=2.00 β=1.00 $(My,Ed/MNy,c,Rd)^2+(Mz,Ed/MNz,c,Rd)^1$=0.32

- Verifica a taglio dir. Y (4.2.17) - CC 9 Xl=0.00
  Sollecitazioni: N=-1980.33 T_z=541.15 T_y=117.93
  V,Ed=117.93 Vc,Rd=49016.70 V,Ed/Vc,Rd=0.00

- Verifica a taglio dir. Z (4.2.17)
  V,Ed=541.15 Vc,Rd=18701.60 V,Ed/Vc,Rd=0.03

- Verifica spostamento relativo massimo per singola asta - CC 23
  δ=0.20 (L/1316)

Asta n. 15 (15 115) HEA180 Crit. 1

- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 5 - Classe 1
  Sollecitazioni: N,Ed=-3124.29 My,Ed=472.26 Mz,Ed=-1144.14
  Resistenze: Nc,Rd=101280.00 My,c,Rd=7298.96 Mz,c,Rd=3505.93 L=260.20
  αmy, αmz, αLT=0.95, 0.95, 0.95
  L_{cr}=2.60 Curva b: α_{imp}=0.34 k_c=0.94 ψ=1.75 M,cr=50341.80 λ_{LT}=0.39
  $\lambda_{LT,0}$=0.40 Φ_{LT}=0.56 β_{LT}=0.75 f=0.98 χ_{LT}=1.00
  λ_y=34.94 Ncr,y=768489.00 λ^*_y=0.37 Curva b: Φ_y=0.60 χ_y=0.94
  λ_z=57.56 Ncr,z=283048.00 λ^*_z=0.61 Curva c: Φ_z=0.79 χ_z=0.78
  Kyy, Kyz, Kzy, Kzz=0.96, 0.58, 0.57, 0.97
  Verifica YY: 0.03+0.06+0.19=0.28
  Verifica ZZ: 0.03+0.04+0.32=0.39

- Verifica a pressoflessione deviata (EC3 6.41) - CC 5 Xl=2.60 - Classe 1
  Sollecitazioni: N=-2442.89 T_z=-181.50 M_y=472.26 T_y=-439.71 M_z=-1144.14
  N,Ed=-2442.89 Nc,Rd=101280.00 n=N,Ed/Nc,Rd=0.02
  Pressoflessione retta YY (4.2.34):
   My,Ed=472.26 My,c,Rd=7298.96 MNy,c,Rd=7298.96 My,Ed/MNy,c,Rd=0.06
  Pressoflessione retta ZZ (4.2.35):
   Mz,Ed=-1144.14 Mz,c,Rd=3505.93 MNz,c,Rd=3505.93 Mz,Ed/MNz,c,Rd=0.33
  α=2.00 β=1.00 $(My,Ed/MNy,c,Rd)^2+(Mz,Ed/MNz,c,Rd)^1$=0.33

- Verifica a taglio dir. Y (4.2.17) - CC 1 Xl=0.00
  Sollecitazioni: N=-1915.17 T_z=-536.98 T_y=109.87
  V,Ed=109.87 Vc,Rd=49016.70 V,Ed/Vc,Rd=0.00

- Verifica a taglio dir. Z (4.2.17)
  V,Ed=-536.98 Vc,Rd=18701.60 V,Ed/Vc,Rd=0.03

- Verifica spostamento relativo massimo per singola asta - CC 23
  δ=0.18 (L/1452)

Asta n. 16 (16 116) HEA180 Crit. 1

- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 5 - Classe 1
  Sollecitazioni: N,Ed=-3045.27 My,Ed=440.57 Mz,Ed=-1203.68
  Resistenze: Nc,Rd=101280.00 My,c,Rd=7298.96 Mz,c,Rd=3505.93 L=260.20
  αmy, αmz, αLT=0.95, 0.95, 0.95
  L_{cr}=2.60 Curva b: α_{imp}=0.34 k_c=0.94 ψ=1.75 M,cr=50341.80 λ_{LT}=0.39
  $\lambda_{LT,0}$=0.40 Φ_{LT}=0.56 β_{LT}=0.75 f=0.98 χ_{LT}=1.00
  λ_y=34.94 Ncr,y=768489.00 λ^*_y=0.37 Curva b: Φ_y=0.60 χ_y=0.94
  λ_z=57.56 Ncr,z=283048.00 λ^*_z=0.61 Curva c: Φ_z=0.79 χ_z=0.78
  Kyy, Kyz, Kzy, Kzz=0.96, 0.58, 0.57, 0.97
  Verifica YY: 0.03+0.06+0.20=0.29
  Verifica ZZ: 0.03+0.03+0.33=0.40

- Verifica a pressoflessione deviata (EC3 6.41) - CC 5 Xl=2.60 - Classe 1
  Sollecitazioni: N=-2372.60 T_z=-169.32 M_y=440.57 T_y=-462.60 M_z=-1203.68
  N,Ed=-2372.60 Nc,Rd=101280.00 n=N,Ed/Nc,Rd=0.02
  Pressoflessione retta YY (4.2.34):
   My,Ed=440.57 My,c,Rd=7298.96 MNy,c,Rd=7298.96 My,Ed/MNy,c,Rd=0.06
  Pressoflessione retta ZZ (4.2.35):
   Mz,Ed=-1203.68 Mz,c,Rd=3505.93 MNz,c,Rd=3505.93 Mz,Ed/MNz,c,Rd=0.34
  α=2.00 β=1.00 $(My,Ed/MNy,c,Rd)^2+(Mz,Ed/MNz,c,Rd)^1$=0.35

- Verifica a taglio dir. Y (4.2.17) - CC 9 Xl=0.00
  Sollecitazioni: N=-1921.31 T_z=540.83 T_y=-131.20
  V,Ed=-131.20 Vc,Rd=49016.70 V,Ed/Vc,Rd=0.00

- Verifica a taglio dir. Z (4.2.17)
  V,Ed=540.83 Vc,Rd=18701.60 V,Ed/Vc,Rd=0.03

- Verifica spostamento relativo massimo per singola asta - CC 23
  δ=0.17 (L/1512)

Asta n. 17 (17 117) HEA180 Crit. 1

- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 13 - Classe 1
  Sollecitazioni: N,Ed=-2694.80 My,Ed=-593.43 Mz,Ed=-1502.68

Resistenze: Nc,Rd=101280.00 My,c,Rd=7298.96 Mz,c,Rd=3505.93 L=260.20
αmy, αmz, αLT=0.95, 0.95, 0.95
L_{cr}=2.60 Curva b: α_{imp}=0.34 k_c=0.94 ψ=1.75 M,cr=50341.80 λ_{LT}=0.39
$\lambda_{LT,0}$=0.40 Φ_{LT}=0.56 β_{LT}=0.75 f=0.98 χ_{LT}=1.00
λ_Y=34.94 Ncr,y=768489.00 λ^*_y=0.37 Curva b: Φ_y=0.60 χ_y=0.94
λ_Z=57.56 Ncr,z=283048.00 λ^*_z=0.61 Curva c: Φ_z=0.79 χ_z=0.78
Kyy, Kyz, Kzy, Kzz=0.95, 0.58, 0.57, 0.97
Verifica YY: 0.03+0.08+0.25=0.35
Verifica ZZ: 0.03+0.05+0.42=0.49

- Verifica a pressoflessione deviata (EC3 6.41) - CC 13 Xl=2.60 - Classe 1
Sollecitazioni: N=-1336.28 T_z=228.06 M_y=-593.43 T_y=-577.51 M_z=-1502.68
N,Ed=-1336.28 Nc,Rd=101280.00 n=N,Ed/Nc,Rd=0.01
Pressoflessione retta YY (4.2.34):
My,Ed=-593.43 My,c,Rd=7298.96 MNy,c,Rd=7298.96 My,Ed/MNy,c,Rd=0.08
Pressoflessione retta ZZ (4.2.35):
Mz,Ed=-1502.68 Mz,c,Rd=3505.93 MNz,c,Rd=3505.93 Mz,Ed/MNz,c,Rd=0.43
α=2.00 β=1.00 $(My,Ed/MNy,c,Rd)^2+(Mz,Ed/MNz,c,Rd)^1$=0.44

- Verifica a taglio dir. Y (4.2.17) - CC 1 Xl=0.00
Sollecitazioni: N=-1302.44 T_z=-595.91 T_y=119.88
V,Ed=119.88 Vc,Rd=49016.70 V,Ed/Vc,Rd=0.00

- Verifica a taglio dir. Z (4.2.17)
V,Ed=-595.91 Vc,Rd=18701.60 V,Ed/Vc,Rd=0.03

- Verifica spostamento relativo massimo per singola asta - CC 23
δ=0.24 (L/1094)

Asta n. 18 (18 118) HEA180 Crit. 1

- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 13 - Classe 1
Sollecitazioni: N,Ed=-2973.73 My,Ed=-624.88 Mz,Ed=-1434.92
Resistenze: Nc,Rd=101280.00 My,c,Rd=7298.96 Mz,c,Rd=3505.93 L=260.20
αmy, αmz, αLT=0.95, 0.95, 0.95
L_{cr}=2.60 Curva b: α_{imp}=0.34 k_c=0.94 ψ=1.75 M,cr=50341.80 λ_{LT}=0.39
$\lambda_{LT,0}$=0.40 Φ_{LT}=0.56 β_{LT}=0.75 f=0.98 χ_{LT}=1.00
λ_Y=34.94 Ncr,y=768489.00 λ^*_y=0.37 Curva b: Φ_y=0.60 χ_y=0.94
λ_Z=57.56 Ncr,z=283048.00 λ^*_z=0.61 Curva c: Φ_z=0.79 χ_z=0.78
Kyy, Kyz, Kzy, Kzz=0.96, 0.58, 0.57, 0.97
Verifica YY: 0.03+0.08+0.24=0.35
Verifica ZZ: 0.03+0.05+0.40=0.48

- Verifica a pressoflessione deviata (EC3 6.41) - CC 13 Xl=2.60 - Classe 1
Sollecitazioni: N=-1605.76 T_z=240.15 M_y=-624.88 T_y=-551.47 M_z=-1434.92
N,Ed=-1605.76 Nc,Rd=101280.00 n=N,Ed/Nc,Rd=0.02
Pressoflessione retta YY (4.2.34):
My,Ed=-624.88 My,c,Rd=7298.96 MNy,c,Rd=7298.96 My,Ed/MNy,c,Rd=0.09
Pressoflessione retta ZZ (4.2.35):
Mz,Ed=-1434.92 Mz,c,Rd=3505.93 MNz,c,Rd=3505.93 Mz,Ed/MNz,c,Rd=0.41
α=2.00 β=1.00 $(My,Ed/MNy,c,Rd)^2+(Mz,Ed/MNz,c,Rd)^1$=0.42

- Verifica a taglio dir. Y (4.2.17) - CC 9 Xl=0.00
Sollecitazioni: N=-1293.03 T_z=606.95 T_y=38.75
V,Ed=38.75 Vc,Rd=49016.70 V,Ed/Vc,Rd=0.00

- Verifica a taglio dir. Z (4.2.17)
V,Ed=606.95 Vc,Rd=18701.60 V,Ed/Vc,Rd=0.03

- Verifica spostamento relativo massimo per singola asta - CC 23
δ=0.23 (L/1125)

Asta n. 19 (19 119) HEA180 Crit. 1

- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 5 - Classe 1
Sollecitazioni: N,Ed=-3343.04 My,Ed=596.70 Mz,Ed=-1200.03
Resistenze: Nc,Rd=101280.00 My,c,Rd=7298.96 Mz,c,Rd=3505.93 L=260.20
αmy, αmz, αLT=0.95, 0.95, 0.95
L_{cr}=2.60 Curva b: α_{imp}=0.34 k_c=0.94 ψ=1.75 M,cr=50341.80 λ_{LT}=0.39
$\lambda_{LT,0}$=0.40 Φ_{LT}=0.56 β_{LT}=0.75 f=0.98 χ_{LT}=1.00

λ_Y=34.94 Ncr,y=768489.00 λ^*_y=0.37 Curva b: Φ_y=0.60 χ_y=0.94
λ_Z=57.56 Ncr,z=283048.00 λ^*_z=0.61 Curva c: Φ_z=0.79 χ_z=0.78
Kyy, Kyz, Kzy, Kzz=0.96, 0.59, 0.57, 0.98
Verifica YY: 0.03+0.08+0.20=0.31
Verifica ZZ: 0.03+0.05+0.33=0.41

- Verifica a pressoflessione deviata (EC3 6.41) - CC 5 Xl=2.60 - Classe 1
Sollecitazioni: N=-2432.35 T_z=-229.32 M_y=596.70 T_y=-461.19 M_z=-1200.03
N,Ed=-2432.35 Nc,Rd=101280.00 n=N,Ed/Nc,Rd=0.02
Pressoflessione retta YY (4.2.34):
My,Ed=596.70 My,c,Rd=7298.96 MNy,c,Rd=7298.96 My,Ed/MNy,c,Rd=0.08
Pressoflessione retta ZZ (4.2.35):
Mz,Ed=-1200.03 Mz,c,Rd=3505.93 MNz,c,Rd=3505.93 Mz,Ed/MNz,c,Rd=0.34
α=2.00 β=1.00 $(My,Ed/MNy,c,Rd)^2+(Mz,Ed/MNz,c,Rd)^1$=0.35

- Verifica a taglio dir. Y (4.2.17) - CC 1 Xl=0.00
Sollecitazioni: N=-1958.17 T_z=-595.96 T_y=117.77
V,Ed=117.77 Vc,Rd=49016.70 V,Ed/Vc,Rd=0.00

- Verifica a taglio dir. Z (4.2.17)
V,Ed=-595.96 Vc,Rd=18701.60 V,Ed/Vc,Rd=0.03

- Verifica spostamento relativo massimo per singola asta - CC 23
δ=0.18 (L/1447)

Asta n. 20 (20 120) HEA180 Crit. 1

- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 5 - Classe 1
Sollecitazioni: N,Ed=-3134.38 My,Ed=565.00 Mz,Ed=-1262.79
Resistenze: Nc,Rd=101280.00 My,c,Rd=7298.96 Mz,c,Rd=3505.93 L=260.20
αmy, αmz, αLT=0.95, 0.95, 0.95
L_{cr}=2.60 Curva b: α_{imp}=0.34 k_c=0.94 ψ=1.75 M,cr=50341.80 λ_{LT}=0.39
$\lambda_{LT,0}$=0.40 Φ_{LT}=0.56 β_{LT}=0.75 f=0.98 χ_{LT}=1.00
λ_Y=34.94 Ncr,y=768489.00 λ^*_y=0.37 Curva b: Φ_y=0.60 χ_y=0.94
λ_Z=57.56 Ncr,z=283048.00 λ^*_z=0.61 Curva c: Φ_z=0.79 χ_z=0.78
Kyy, Kyz, Kzy, Kzz=0.96, 0.58, 0.57, 0.97
Verifica YY: 0.03+0.07+0.21=0.32
Verifica ZZ: 0.03+0.04+0.35=0.43

- Verifica a pressoflessione deviata (EC3 6.41) - CC 5 Xl=2.60 - Classe 1
Sollecitazioni: N=-2195.03 T_z=-217.14 M_y=565.00 T_y=-485.31 M_z=-1262.79
N,Ed=-2195.03 Nc,Rd=101280.00 n=N,Ed/Nc,Rd=0.02
Pressoflessione retta YY (4.2.34):
My,Ed=565.00 My,c,Rd=7298.96 MNy,c,Rd=7298.96 My,Ed/MNy,c,Rd=0.08
Pressoflessione retta ZZ (4.2.35):
Mz,Ed=-1262.79 Mz,c,Rd=3505.93 MNz,c,Rd=3505.93 Mz,Ed/MNz,c,Rd=0.36
α=2.00 β=1.00 $(My,Ed/MNy,c,Rd)^2+(Mz,Ed/MNz,c,Rd)^1$=0.37

- Verifica a taglio dir. Y (4.2.17) - CC 9 Xl=0.00
Sollecitazioni: N=-1985.71 T_z=607.03 T_y=-136.19
V,Ed=-136.19 Vc,Rd=49016.70 V,Ed/Vc,Rd=0.00

- Verifica a taglio dir. Z (4.2.17)
V,Ed=607.03 Vc,Rd=18701.60 V,Ed/Vc,Rd=0.03

- Verifica spostamento relativo massimo per singola asta - CC 23
δ=0.17 (L/1506)

Asta n. 21 (21 121) HEA180 Crit. 1

- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 5 - Classe 1
Sollecitazioni: N,Ed=-2769.23 My,Ed=677.45 Mz,Ed=1119.78
Resistenze: Nc,Rd=101280.00 My,c,Rd=7298.96 Mz,c,Rd=3505.93 L=260.20
αmy, αmz, αLT=0.95, 0.95, 0.95
L_{cr}=2.60 Curva b: α_{imp}=0.34 k_c=0.94 ψ=1.75 M,cr=50341.80 λ_{LT}=0.39
$\lambda_{LT,0}$=0.40 Φ_{LT}=0.56 β_{LT}=0.75 f=0.98 χ_{LT}=1.00
λ_Y=34.94 Ncr,y=768489.00 λ^*_y=0.37 Curva b: Φ_y=0.60 χ_y=0.94
λ_Z=57.56 Ncr,z=283048.00 λ^*_z=0.61 Curva c: Φ_z=0.79 χ_z=0.78
Kyy, Kyz, Kzy, Kzz=0.95, 0.58, 0.57, 0.97
Verifica YY: 0.03+0.09+0.19=0.30

Verifica ZZ: 0.03+0.05+0.31=0.39

- Verifica a pressoflessione deviata (EC3 6.41) - CC 5 Xl=2.60 - Classe 1
  Sollecitazioni: N=-984.87 T_z=-260.36 M_y=677.45 T_y=430.36 M_z=1119.78
  N,Ed=-984.87 Nc,Rd=101280.00 n=N,Ed/Nc,Rd=0.01
  Pressoflessione retta YY (4.2.34):
   My,Ed=677.45 My,c,Rd=7298.96 MNy,c,Rd=7298.96 My,Ed/MNy,c,Rd=0.09
  Pressoflessione retta ZZ (4.2.35):
   Mz,Ed=1119.78 Mz,c,Rd=3505.93 MNz,c,Rd=3505.93 Mz,Ed/MNz,c,Rd=0.32
  α=2.00 β=1.00 $(My,Ed/MNy,c,Rd)^2+(Mz,Ed/MNz,c,Rd)^1$=0.33

- Verifica a taglio dir. Y (4.2.17) - CC 9 Xl=0.00
  Sollecitazioni: N=-581.50 T_z=639.04 T_y=-138.13
  V,Ed=-138.13 Vc,Rd=49016.70 V,Ed/Vc,Rd=0.00

- Verifica a taglio dir. Z (4.2.17)
  V,Ed=639.04 Vc,Rd=18701.60 V,Ed/Vc,Rd=0.03

- Verifica spostamento relativo massimo per singola asta - CC 23
  δ=0.21 (L/1262)

Asta n. 22 (22 122) HEA180 Crit. 1

- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 5 - Classe 1
  Sollecitazioni: N,Ed=-2480.74 My,Ed=646.00 Mz,Ed=1071.23
  Resistenze: Nc,Rd=101280.00 My,c,Rd=7298.96 Mz,c,Rd=3505.93 L=260.20
  αmy, αmz, αLT=0.95, 0.95, 0.95
  L_{cr}=2.60 Curva b: α_{imp}=0.34 k_c=0.94 ψ=1.75 M,cr=50341.80 λ_{LT}=0.39
  $\lambda_{LT,0}$=0.40 Φ_{LT}=0.56 β_{LT}=0.75 f=0.98 χ_{LT}=1.00
  λ_Y=34.94 Ncr,y=768489.00 λ^*_y=0.37 Curva b: Φ_y=0.60 χ_y=0.94
  λ_Z=57.56 Ncr,z=283048.00 λ^*_z=0.61 Curva c: Φ_z=0.79 χ_z=0.78
  Kyy, Kyz, Kzy, Kzz=0.95, 0.58, 0.57, 0.97
  Verifica YY: 0.02+0.08+0.18=0.29
  Verifica ZZ: 0.02+0.05+0.30=0.37

- Verifica a pressoflessione deviata (EC3 6.41) - CC 5 Xl=2.60 - Classe 1
  Sollecitazioni: N=-701.45 T_z=-248.27 M_y=646.00 T_y=411.70 M_z=1071.23
  N,Ed=-701.45 Nc,Rd=101280.00 n=N,Ed/Nc,Rd=0.01
  Pressoflessione retta YY (4.2.34):
   My,Ed=646.00 My,c,Rd=7298.96 MNy,c,Rd=7298.96 My,Ed/MNy,c,Rd=0.09
  Pressoflessione retta ZZ (4.2.35):
   Mz,Ed=1071.23 Mz,c,Rd=3505.93 MNz,c,Rd=3505.93 Mz,Ed/MNz,c,Rd=0.31
  α=2.00 β=1.00 $(My,Ed/MNy,c,Rd)^2+(Mz,Ed/MNz,c,Rd)^1$=0.31

- Verifica a taglio dir. Y (4.2.17) - CC 9 Xl=0.00
  Sollecitazioni: N=-882.90 T_z=651.13 T_y=-104.84
  V,Ed=-104.84 Vc,Rd=49016.70 V,Ed/Vc,Rd=0.00

- Verifica a taglio dir. Z (4.2.17)
  V,Ed=651.13 Vc,Rd=18701.60 V,Ed/Vc,Rd=0.03

- Verifica spostamento relativo massimo per singola asta - CC 23
  δ=0.20 (L/1307)

Asta n. 23 (23 123) HEA180 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 9 - Classe 1
  L_{cr}=2.60 Curva b: α_{imp}=0.34 k_c=0.94 ψ=1.75 M,cr=50341.80 λ_{LT}=0.39
  $\lambda_{LT,0}$=0.40 β_{LT}=0.75 Φ_{LT}=0.56 β_{LT}=0.75 f=0.98 χ_{LT}=1.00
  CC 9 My,Ed=-1716.02 My,b,Rd=7298.96 My,Ed/My,b,Rd=0.24

- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 5 - Classe 1
  Sollecitazioni: N,Ed=-2047.18 My,Ed=715.22 Mz,Ed=-1316.77
  Resistenze: Nc,Rd=101280.00 My,c,Rd=7298.96 Mz,c,Rd=3505.93 L=260.20
  αmy, αmz, αLT=0.95, 0.95, 0.95
  L_{cr}=2.60 Curva b: α_{imp}=0.34 k_c=0.94 ψ=1.75 M,cr=50341.80 λ_{LT}=0.39
  $\lambda_{LT,0}$=0.40 Φ_{LT}=0.56 β_{LT}=0.75 f=0.98 χ_{LT}=1.00
  λ_Y=34.94 Ncr,y=768489.00 λ^*_y=0.37 Curva b: Φ_y=0.60 χ_y=0.94
  λ_Z=57.56 Ncr,z=283048.00 λ^*_z=0.61 Curva c: Φ_z=0.79 χ_z=0.78
  Kyy, Kyz, Kzy, Kzz=0.95, 0.58, 0.57, 0.97

Verifica YY: 0.02+0.09+0.22=0.33
Verifica ZZ: 0.02+0.06+0.36=0.44

- Verifica a pressoflessione deviata (EC3 6.41) - CC 5 Xl=2.60 - Classe 1
Sollecitazioni: N=-657.16 T_z=-274.87 M_y=715.22 T_y=-506.06 M_z=-1316.77
N,Ed=-657.16 Nc,Rd=101280.00 n=N,Ed/Nc,Rd=0.01
Pressoflessione retta YY (4.2.34):
My,Ed=715.22 My,c,Rd=7298.96 MNy,c,Rd=7298.96 My,Ed/MNy,c,Rd=0.10
Pressoflessione retta ZZ (4.2.35):
Mz,Ed=-1316.77 Mz,c,Rd=3505.93 MNz,c,Rd=3505.93 Mz,Ed/MNz,c,Rd=0.38
α=2.00 β=1.00 $(My,Ed/MNy,c,Rd)^2+(Mz,Ed/MNz,c,Rd)^1$=0.39

- Verifica a taglio dir. Y (4.2.17) - CC 9 Xl=0.00
Sollecitazioni: N=110.12 T_z=659.50 T_y=-34.02
V,Ed=-34.02 Vc,Rd=49016.70 V,Ed/Vc,Rd=0.00

- Verifica a taglio dir. Z (4.2.17)
V,Ed=659.50 Vc,Rd=18701.60 V,Ed/Vc,Rd=0.04

- Verifica spostamento relativo massimo per singola asta - CC 23
δ=0.27 (L/979)

Asta n. 24 (24 124) HEA180 Crit. 1

- Verifica di stabilità aste presso-inflesse (C4.2.4.1.3.3.2) - CC 5 - Classe 1
Sollecitazioni: N,Ed=-1686.10 My,Ed=683.53 Mz,Ed=-1364.43
Resistenze: Nc,Rd=101280.00 My,c,Rd=7298.96 Mz,c,Rd=3505.93 L=260.20
αmy, αmz, αLT=0.95, 0.95, 0.95
L_{cr}=2.60 Curva b: α_{imp}=0.34 k_c=0.94 ψ=1.75 M,cr=50341.80 λ_{LT}=0.39
$\lambda_{LT,0}$=0.40 Φ_{LT}=0.56 β_{LT}=0.75 f=0.98 χ_{LT}=1.00
λ_Y=34.94 Ncr,y=768489.00 λ^*_y=0.37 Curva b: Φ_y=0.60 χ_y=0.94
λ_Z=57.56 Ncr,z=283048.00 λ^*_z=0.61 Curva c: Φ_z=0.79 χ_z=0.78
Kyy, Kyz, Kzy, Kzz=0.95, 0.58, 0.57, 0.96
Verifica YY: 0.02+0.09+0.22=0.33
Verifica ZZ: 0.02+0.05+0.37=0.44

- Verifica a pressoflessione deviata (EC3 6.41) - CC 5 Xl=2.60 - Classe 1
Sollecitazioni: N=-346.42 T_z=-262.69 M_y=683.53 T_y=-524.38 M_z=-1364.43
N,Ed=-346.42 Nc,Rd=101280.00 n=N,Ed/Nc,Rd=0.00
Pressoflessione retta YY (4.2.34):
My,Ed=683.53 My,c,Rd=7298.96 MNy,c,Rd=7298.96 My,Ed/MNy,c,Rd=0.09
Pressoflessione retta ZZ (4.2.35):
Mz,Ed=-1364.43 Mz,c,Rd=3505.93 MNz,c,Rd=3505.93 Mz,Ed/MNz,c,Rd=0.39
α=2.00 β=1.00 $(My,Ed/MNy,c,Rd)^2+(Mz,Ed/MNz,c,Rd)^1$=0.40

- Verifica a taglio dir. Y (4.2.17) - CC 9 Xl=0.00
Sollecitazioni: N=-317.81 T_z=671.68 T_y=-3.33
V,Ed=-3.33 Vc,Rd=49016.70 V,Ed/Vc,Rd=0.00

- Verifica a taglio dir. Z (4.2.17)
V,Ed=671.68 Vc,Rd=18701.60 V,Ed/Vc,Rd=0.04

- Verifica spostamento relativo massimo per singola asta - CC 23
δ=0.26 (L/1000)

Asta n. 101 (101 102) HEA160 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 9 - Classe 1
L_{cr}=2.91 Curva b: α_{imp}=0.34 k_c=0.94 ψ=3.07 M,cr=48330.10 λ_{LT}=0.35
$\lambda_{LT,0}$=0.40 β_{LT}=0.75 Φ_{LT}=0.54 β_{LT}=0.75 f=0.98 χ_{LT}=1.00
CC 9 My,Ed=1463.82 My,b,Rd=5511.45 My,Ed/My,b,Rd=0.27

- Verifica freccia massima per soli carichi accidentali - CC 21
$f_{Z,L}$=0.00 (L/273528)

- Verifica freccia massima carichi totali - CC 22
$f_{Z,G}$=0.01 (L/42548)

- Verifica a flessione (4.2.13) - CC 9 Xl=0.09 - Classe 1
Sollecitazioni: T_z=3845.33 M_y=1463.82
My,Ed=1463.82 My,c,Rd=5511.45 My,Ed/My,c,Rd=0.27

- Verifica a taglio dir. Z (4.2.17) - CC 1 Xl=0.09
  Sollecitazioni: T_z=3845.33 M_y=-1396.69
  V,Ed=3845.33 (V,Ed,G=57.39, V,Ed,M=3787.94) Vc,Rd=17073.30 V,Ed/Vc,Rd=0.23

Asta n. 102 (105 106) HEA160 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 9 - Classe 1
  L_{cr}=2.91 Curva b: α_{imp}=0.34 k_c=0.94 ψ=3.07 M,cr=48300.60 λ_{LT}=0.35
  $\lambda_{LT,0}$=0.40 β_{LT}=0.75 Φ_{LT}=0.54 β_{LT}=0.75 f=0.98 χ_{LT}=1.00
  CC 9 My,Ed=1368.80 My,b,Rd=5511.45 My,Ed/My,b,Rd=0.25

- Verifica freccia massima carichi totali - CC 22
  $f_{Z,L}$=0.01 (L/45952)

- Verifica a flessione (4.2.13) - CC 9 Xl=0.09 - Classe 1
  Sollecitazioni: T_z=3839.15 M_y=1368.80
  My,Ed=1368.80 My,c,Rd=5511.45 My,Ed/My,c,Rd=0.25

- Verifica a taglio dir. Z (4.2.17) - CC 1 Xl=0.09
  Sollecitazioni: T_z=3839.15 M_y=-1318.58
  V,Ed=3839.15 (V,Ed,G=51.22, V,Ed,M=3787.94) Vc,Rd=17073.30 V,Ed/Vc,Rd=0.22

Asta n. 103 (109 110) HEA160 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 9 - Classe 1
  L_{cr}=2.91 Curva b: α_{imp}=0.34 k_c=0.94 ψ=3.07 M,cr=48268.70 λ_{LT}=0.35
  $\lambda_{LT,0}$=0.40 β_{LT}=0.75 Φ_{LT}=0.54 β_{LT}=0.75 f=0.98 χ_{LT}=1.00
  CC 9 My,Ed=1278.95 My,b,Rd=5511.45 My,Ed/My,b,Rd=0.23

- Verifica freccia massima carichi totali - CC 21
  $f_{Z,L}$=0.01 (L/49732)

- Verifica a flessione (4.2.13) - CC 9 Xl=0.09 - Classe 1
  Sollecitazioni: T_z=3832.68 M_y=1278.95
  My,Ed=1278.95 My,c,Rd=5511.45 My,Ed/My,c,Rd=0.23

- Verifica a taglio dir. Z (4.2.17) - CC 1 Xl=0.09
  Sollecitazioni: T_z=3832.68 M_y=-1246.46
  V,Ed=3832.68 (V,Ed,G=44.75, V,Ed,M=3787.94) Vc,Rd=17073.30 V,Ed/Vc,Rd=0.22

Asta n. 104 (113 114) HEA160 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 9 - Classe 1
  L_{cr}=2.91 Curva b: α_{imp}=0.34 k_c=0.94 ψ=3.07 M,cr=48284.70 λ_{LT}=0.35
  $\lambda_{LT,0}$=0.40 β_{LT}=0.75 Φ_{LT}=0.54 β_{LT}=0.75 f=0.98 χ_{LT}=1.00
  CC 9 My,Ed=1322.57 My,b,Rd=5511.45 My,Ed/My,b,Rd=0.24

- Verifica freccia massima carichi totali - CC 21
  $f_{Z,L}$=0.01 (L/44701)

- Verifica a flessione (4.2.13) - CC 9 Xl=2.82 - Classe 1
  Sollecitazioni: T_z=3742.81 M_y=1322.57
  My,Ed=1322.57 My,c,Rd=5511.45 My,Ed/My,c,Rd=0.24

- Verifica a taglio dir. Z (4.2.17) - CC 1 Xl=0.09
  Sollecitazioni: T_z=3826.18 M_y=-1185.19
  V,Ed=3826.18 (V,Ed,G=38.24, V,Ed,M=3787.94) Vc,Rd=17073.30 V,Ed/Vc,Rd=0.22

Asta n. 105 (117 118) HEA160 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 9 - Classe 1
  L_{cr}=2.91 Curva b: α_{imp}=0.34 k_c=0.94 ψ=3.07 M,cr=48335.80 λ_{LT}=0.35
  $\lambda_{LT,0}$=0.40 β_{LT}=0.75 Φ_{LT}=0.54 β_{LT}=0.75 f=0.98 χ_{LT}=1.00
  CC 9 My,Ed=1483.72 My,b,Rd=5511.45 My,Ed/My,b,Rd=0.27

- Verifica freccia massima carichi totali - CC 21
  $f_{Z,L}$=0.01 (L/40883)

- Verifica a flessione (4.2.13) - CC 9 Xl=2.82 - Classe 1
  Sollecitazioni: T_z=3736.39 M_y=1483.72
  My,Ed=1483.72 My,c,Rd=5511.45 My,Ed/My,c,Rd=0.27

- Verifica a taglio dir. Z (4.2.17) - CC 1 Xl=0.09
  Sollecitazioni: T_z=3819.75 M_y=-1134.79
  V,Ed=3819.75 (V,Ed,G=31.82, V,Ed,M=3787.94) Vc,Rd=17073.30 V,Ed/Vc,Rd=0.22

Asta n. 106 (121 122) HEA160 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 9 - Classe 1
  L_{cr}=2.91 Curva b: α_{imp}=0.34 k_c=0.94 ψ=3.08 M,cr=48364.20 λ_{LT}=0.35
  $\lambda_{LT,0}$=0.40 β_{LT}=0.75 Φ_{LT}=0.54 β_{LT}=0.75 f=0.98 χ_{LT}=1.00
  CC 9 My,Ed=1591.88 My,b,Rd=5511.45 My,Ed/My,b,Rd=0.29

- Verifica freccia massima carichi totali - CC 21
  $f_{Z,L}$=0.01 (L/39478)

- Verifica a flessione (4.2.13) - CC 9 Xl=2.82 - Classe 1
  Sollecitazioni: T_z=3732.23 M_y=1591.88
  My,Ed=1591.88 My,c,Rd=5511.45 My,Ed/My,c,Rd=0.29

- Verifica a taglio dir. Z (4.2.17) - CC 1 Xl=0.09
  Sollecitazioni: T_z=3815.60 M_y=-1106.30
  V,Ed=3815.60 (V,Ed,G=27.66, V,Ed,M=3787.94) Vc,Rd=17073.30 V,Ed/Vc,Rd=0.22

Asta n. 107 (123 124) HEA160 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 9 - Classe 1
  L_{cr}=2.92 Curva b: α_{imp}=0.34 k_c=0.94 ψ=3.08 M,cr=48129.90 λ_{LT}=0.35
  $\lambda_{LT,0}$=0.40 β_{LT}=0.75 Φ_{LT}=0.54 β_{LT}=0.75 f=0.98 χ_{LT}=1.00
  CC 9 My,Ed=1642.55 My,b,Rd=5511.45 My,Ed/My,b,Rd=0.30

- Verifica freccia massima per soli carichi accidentali - CC 21
  $f_{Z,L}$=0.00 (L/262048)

- Verifica freccia massima carichi totali - CC 21
  $f_{Z,L}$=0.01 (L/37557)

- Verifica a flessione (4.2.13) - CC 9 Xl=2.83 - Classe 1
  Sollecitazioni: T_z=3717.25 M_y=1642.55
  My,Ed=1642.55 My,c,Rd=5511.45 My,Ed/My,c,Rd=0.30

- Verifica a taglio dir. Z (4.2.17) - CC 1 Xl=0.09
  Sollecitazioni: T_z=3800.92 M_y=-1093.46
  V,Ed=3800.92 (V,Ed,G=25.95, V,Ed,M=3774.96) Vc,Rd=17073.30 V,Ed/Vc,Rd=0.22

Asta n. 108 (101 105) HEA160 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 19 - Classe 1
  L_{cr}=4.36 Curva b: α_{imp}=0.34 k_c=0.94 ψ=1.49 M,cr=13498.00 λ_{LT}=0.65
  $\lambda_{LT,0}$=0.40 β_{LT}=0.75 Φ_{LT}=0.70 β_{LT}=0.75 f=0.97 χ_{LT}=0.92
  CC 19 My,Ed=2136.24 My,b,Rd=5059.99 My,Ed/My,b,Rd=0.42

- Verifica freccia massima per soli carichi accidentali - CC 21
  $f_{Z,L}$=0.26 (L/1603)

- Verifica freccia massima carichi totali - CC 23
  $f_{Z,L}$=0.37 (L/1142)

- Verifica a flessione (4.2.13) - CC 19 Xl=4.27 - Classe 1
  Sollecitazioni: T_z=-2858.57 M_y=2136.24
  My,Ed=2136.24 My,c,Rd=5511.45 My,Ed/My,c,Rd=0.39

- Verifica a taglio dir. Z (4.2.17) - CC 1 Xl=0.09
  Sollecitazioni: T_z=3549.53 M_y=58.23
  V,Ed=3549.53 (V,Ed,G=1021.34, V,Ed,M=2528.19) Vc,Rd=17073.30 V,Ed/Vc,Rd=0.21

Asta n. 108 (105 109) HEA160 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 19 - Classe 1
  L_{cr}=4.65 Curva b: α_{imp}=0.34 k_c=0.94 ψ=1.02 M,cr=8485.52 λ_{LT}=0.83
  $\lambda_{LT,0}$=0.40 β_{LT}=0.75 Φ_{LT}=0.83 β_{LT}=0.75 f=0.97 χ_{LT}=0.83
  CC 19 My,Ed=2020.56 My,b,Rd=4561.21 My,Ed/My,b,Rd=0.44

- Verifica freccia massima per soli carichi accidentali - CC 21
  $f_{Z,G}$=0.17 (L/2596)

- Verifica freccia massima carichi totali - CC 24
  $f_{Z,L}$=0.24 (L/1877)

- Verifica a flessione (4.2.13) - CC 19 Xl=4.56 - Classe 1
  Sollecitazioni: T_z=-2673.23 M_y=2020.56
  My,Ed=2020.56 My,c,Rd=5511.45 My,Ed/My,c,Rd=0.37

- Verifica a taglio dir. Z (4.2.17) - CC 1 Xl=0.09
  Sollecitazioni: T_z=3640.82 M_y=807.27
  V,Ed=3640.82 (V,Ed,G=1270.30, V,Ed,M=2370.51) Vc,Rd=17073.30 V,Ed/Vc,Rd=0.21

Asta n. 108 (109 113) HEA160 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 19 - Classe 1
  L_{cr}=4.65 Curva b: α_{imp}=0.34 k_c=0.94 ψ=1.06 M,cr=8818.89 λ_{LT}=0.81
  $\lambda_{LT,0}$=0.40 β_{LT}=0.75 Φ_{LT}=0.82 β_{LT}=0.75 f=0.97 χ_{LT}=0.84
  CC 19 My,Ed=2112.62 My,b,Rd=4611.35 My,Ed/My,b,Rd=0.46

- Verifica freccia massima per soli carichi accidentali - CC 21
  $f_{Z,L}$=0.17 (L/2632)

- Verifica freccia massima carichi totali - CC 23
  $f_{Z,L}$=0.23 (L/1909)

- Verifica a flessione (4.2.13) - CC 19 Xl=4.56 - Classe 1
  Sollecitazioni: T_z=-2712.01 M_y=2112.62
  My,Ed=2112.62 My,c,Rd=5511.45 My,Ed/My,c,Rd=0.38

- Verifica a taglio dir. Z (4.2.17) - CC 1 Xl=0.09
  Sollecitazioni: T_z=3623.00 M_y=751.91
  V,Ed=3623.00 (V,Ed,G=1252.49, V,Ed,M=2370.51) Vc,Rd=17073.30 V,Ed/Vc,Rd=0.21

Asta n. 108 (113 117) HEA160 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 20 - Classe 1
  L_{cr}=4.65 Curva b: α_{imp}=0.34 k_c=0.94 ψ=1.14 M,cr=9529.35 λ_{LT}=0.78
  $\lambda_{LT,0}$=0.40 β_{LT}=0.75 Φ_{LT}=0.79 β_{LT}=0.75 f=0.97 χ_{LT}=0.85
  CC 20 My,Ed=2078.35 My,b,Rd=4706.95 My,Ed/My,b,Rd=0.44

- Verifica freccia massima per soli carichi accidentali - CC 21
  $f_{Z,L}$=0.24 (L/1857)

- Verifica freccia massima carichi totali - CC 23
  $f_{Z,L}$=0.33 (L/1340)

- Verifica a flessione (4.2.13) - CC 20 Xl=0.09 - Classe 1
  Sollecitazioni: T_z=2780.89 M_y=2078.35
  My,Ed=2078.35 My,c,Rd=5511.45 My,Ed/My,c,Rd=0.38

- Verifica a taglio dir. Z (4.2.17) - CC 1 Xl=0.09
  Sollecitazioni: T_z=3694.44 M_y=828.23
  V,Ed=3694.44 (V,Ed,G=1323.93, V,Ed,M=2370.51) Vc,Rd=17073.30 V,Ed/Vc,Rd=0.22

Asta n. 108 (117 121) HEA160 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 13 - Classe 1
  L_{cr}=2.85 Curva b: α_{imp}=0.34 k_c=0.94 ψ=1.13 M,cr=18340.40 λ_{LT}=0.56
  $\lambda_{LT,0}$=0.40 β_{LT}=0.75 Φ_{LT}=0.65 β_{LT}=0.75 f=0.97 χ_{LT}=0.96
  CC 13 My,Ed=1490.17 My,b,Rd=5288.69 My,Ed/My,b,Rd=0.28

- Verifica freccia massima per soli carichi accidentali - CC 21
  $f_{Z,L}$=0.03 (L/7691)

- Verifica freccia massima carichi totali - CC 23
  $f_{Z,L}$=0.05 (L/5257)

- Verifica a flessione (4.2.13) - CC 13 Xl=2.76 - Classe 1
  Sollecitazioni: T_z=3115.23 M_y=1490.17
  My,Ed=1490.17 My,c,Rd=5511.45 My,Ed/My,c,Rd=0.27

- Verifica a taglio dir. Z (4.2.17) - CC 1 Xl=0.09
  Sollecitazioni: T_z=4633.89 M_y=348.87
  V,Ed=4633.89 (V,Ed,G=766.21, V,Ed,M=3867.68) Vc,Rd=17073.30 V,Ed/Vc,Rd=0.27

Asta n. 108 (121 125) HEA160 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 17 - Classe 1
  L_{cr}=1.55 Curva b: α_{imp}=0.34 k_c=0.94 ψ=1.75 M,cr=76333.00 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 17 My,Ed=1265.70 My,b,Rd=5511.45 My,Ed/My,b,Rd=0.23

- Verifica freccia massima per soli carichi accidentali - CC 21
  $f_{z,L}$=0.02 (L/7063)

- Verifica freccia massima carichi totali - CC 21
  $f_{z,L}$=0.03 (L/5128)

- Verifica a flessione (4.2.13) - CC 17 Xl=0.09 - Classe 1
  Sollecitazioni: T_z=1733.84 M_y=1265.70
  My,Ed=1265.70 My,c,Rd=5511.45 My,Ed/My,c,Rd=0.23

- Verifica a taglio dir. Z (4.2.17) - CC 17 Xl=0.09
  Sollecitazioni: T_z=1733.84 M_y=1265.70
  V,Ed=1733.84 Vc,Rd=17073.30 V,Ed/Vc,Rd=0.10

Asta n. 109 (102 106) HEA160 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 19 - Classe 1
  L_{cr}=4.36 Curva b: α_{imp}=0.34 k_c=0.94 ψ=1.49 M,cr=13470.30 λ_{LT}=0.66
  $\lambda_{LT,0}$=0.40 β_{LT}=0.75 Φ_{LT}=0.70 β_{LT}=0.75 f=0.97 χ_{LT}=0.92
  CC 19 My,Ed=2131.66 My,b,Rd=5058.23 My,Ed/My,b,Rd=0.42

- Verifica freccia massima per soli carichi accidentali - CC 21
  $f_{z,L}$=0.26 (L/1605)

- Verifica freccia massima carichi totali - CC 23
  $f_{z,L}$=0.37 (L/1143)

- Verifica a flessione (4.2.13) - CC 19 Xl=4.27 - Classe 1
  Sollecitazioni: T_z=-2856.01 M_y=2131.66
  My,Ed=2131.66 My,c,Rd=5511.45 My,Ed/My,c,Rd=0.39

- Verifica a taglio dir. Z (4.2.17) - CC 1 Xl=0.09
  Sollecitazioni: T_z=3550.77 M_y=62.09
  V,Ed=3550.77 (V,Ed,G=1022.58, V,Ed,M=2528.19) Vc,Rd=17073.30 V,Ed/Vc,Rd=0.21

Asta n. 109 (106 110) HEA160 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 19 - Classe 1
  L_{cr}=4.65 Curva b: α_{imp}=0.34 k_c=0.94 ψ=1.02 M,cr=8471.72 λ_{LT}=0.83
  $\lambda_{LT,0}$=0.40 β_{LT}=0.75 Φ_{LT}=0.83 β_{LT}=0.75 f=0.97 χ_{LT}=0.83
  CC 19 My,Ed=2016.81 My,b,Rd=4559.05 My,Ed/My,b,Rd=0.44

- Verifica freccia massima per soli carichi accidentali - CC 21
  $f_{z,L}$=0.17 (L/2595)

- Verifica freccia massima carichi totali - CC 24
  $f_{z,L}$=0.24 (L/1876)

- Verifica a flessione (4.2.13) - CC 19 Xl=4.56 - Classe 1
  Sollecitazioni: T_z=-2671.62 M_y=2016.81
  My,Ed=2016.81 My,c,Rd=5511.45 My,Ed/My,c,Rd=0.37

- Verifica a taglio dir. Z (4.2.17) - CC 1 Xl=0.09
  Sollecitazioni: T_z=3641.60 M_y=809.45
  V,Ed=3641.60 (V,Ed,G=1271.08, V,Ed,M=2370.51) Vc,Rd=17073.30 V,Ed/Vc,Rd=0.21

Asta n. 109 (110 114) HEA160 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 19 - Classe 1
  L_{cr}=4.65 Curva b: α_{imp}=0.34 k_c=0.94 ψ=1.06 M,cr=8803.57 λ_{LT}=0.81

$\lambda_{LT,0}$=0.40 β_{LT}=0.75 Φ_{LT}=0.82 β_{LT}=0.75 f=0.97 χ_{LT}=0.84
CC 19 My,Ed=2108.65 My,b,Rd=4609.12 My,Ed/My,b,Rd=0.46

- Verifica freccia massima per soli carichi accidentali - CC 21
$f_{z,L}$=0.17 (L/2633)

- Verifica freccia massima carichi totali - CC 23
$f_{z,L}$=0.23 (L/1910)

- Verifica a flessione (4.2.13) - CC 19 Xl=4.56 - Classe 1
Sollecitazioni: T_z=-2710.24 M_y=2108.65
My,Ed=2108.65 My,c,Rd=5511.45 My,Ed/My,c,Rd=0.38

- Verifica a taglio dir. Z (4.2.17) - CC 1 Xl=0.09
Sollecitazioni: T_z=3623.86 M_y=754.41
V,Ed=3623.86 (V,Ed,G=1253.35, V,Ed,M=2370.51) Vc,Rd=17073.30 V,Ed/Vc,Rd=0.21

Asta n. 109 (114 118) HEA160 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 20 - Classe 1
L_{cr}=4.65 Curva b: α_{imp}=0.34 k_c=0.94 ψ=1.15 M,cr=9544.37 λ_{LT}=0.78
$\lambda_{LT,0}$=0.40 β_{LT}=0.75 Φ_{LT}=0.79 β_{LT}=0.75 f=0.97 χ_{LT}=0.85
CC 20 My,Ed=2082.15 My,b,Rd=4708.82 My,Ed/My,b,Rd=0.44

- Verifica freccia massima per soli carichi accidentali - CC 21
$f_{z,G}$=0.24 (L/1857)

- Verifica freccia massima carichi totali - CC 23
$f_{z,L}$=0.33 (L/1341)

- Verifica a flessione (4.2.13) - CC 20 Xl=0.09 - Classe 1
Sollecitazioni: T_z=2782.49 M_y=2082.15
My,Ed=2082.15 My,c,Rd=5511.45 My,Ed/My,c,Rd=0.38

- Verifica a taglio dir. Z (4.2.17) - CC 1 Xl=0.09
Sollecitazioni: T_z=3695.20 M_y=830.59
V,Ed=3695.20 (V,Ed,G=1324.69, V,Ed,M=2370.51) Vc,Rd=17073.30 V,Ed/Vc,Rd=0.22

Asta n. 109 (118 122) HEA160 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 13 - Classe 1
L_{cr}=2.85 Curva b: α_{imp}=0.34 k_c=0.94 ψ=1.11 M,cr=17928.40 λ_{LT}=0.57
$\lambda_{LT,0}$=0.40 β_{LT}=0.75 Φ_{LT}=0.65 β_{LT}=0.75 f=0.97 χ_{LT}=0.96
CC 13 My,Ed=1437.87 My,b,Rd=5273.82 My,Ed/My,b,Rd=0.27

- Verifica freccia massima per soli carichi accidentali - CC 21
$f_{z,L}$=0.03 (L/7712)

- Verifica freccia massima carichi totali - CC 23
$f_{z,L}$=0.05 (L/5282)

- Verifica a flessione (4.2.13) - CC 13 Xl=2.76 - Classe 1
Sollecitazioni: T_z=3117.32 M_y=1437.87
My,Ed=1437.87 My,c,Rd=5511.45 My,Ed/My,c,Rd=0.26

- Verifica a taglio dir. Z (4.2.17) - CC 1 Xl=0.09
Sollecitazioni: T_z=4635.98 M_y=351.92
V,Ed=4635.98 (V,Ed,G=768.29, V,Ed,M=3867.68) Vc,Rd=17073.30 V,Ed/Vc,Rd=0.27

Asta n. 109 (122 126) HEA160 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 17 - Classe 1
L_{cr}=1.55 Curva b: α_{imp}=0.34 k_c=0.94 ψ=1.75 M,cr=76333.00 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 17 My,Ed=1265.70 My,b,Rd=5511.45 My,Ed/My,b,Rd=0.23

- Verifica freccia massima per soli carichi accidentali - CC 21
$f_{z,L}$=0.02 (L/7063)

- Verifica freccia massima carichi totali - CC 21
$f_{z,L}$=0.03 (L/5124)

- Verifica a flessione (4.2.13) - CC 17 Xl=0.09 - Classe 1
  Sollecitazioni: T_z=1733.84 M_y=1265.70
  My,Ed=1265.70 My,c,Rd=5511.45 My,Ed/My,c,Rd=0.23

- Verifica a taglio dir. Z (4.2.17) - CC 17 Xl=0.09
  Sollecitazioni: T_z=1733.84 M_y=1265.70
  V,Ed=1733.84 Vc,Rd=17073.30 V,Ed/Vc,Rd=0.10

Asta n. 110 (103 107) HEA160 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 19 - Classe 1
  L_{cr}=4.36 Curva b: α_{imp}=0.34 k_c=0.94 ψ=1.48 M,cr=13402.60 λ_{LT}=0.66
  $\lambda_{LT,0}$=0.40 β_{LT}=0.75 Φ_{LT}=0.71 β_{LT}=0.75 f=0.97 χ_{LT}=0.92
  CC 19 My,Ed=2126.45 My,b,Rd=5053.90 My,Ed/My,b,Rd=0.42

- Verifica freccia massima per soli carichi accidentali - CC 21
  $f_{z,L}$=0.26 (L/1604)

- Verifica freccia massima carichi totali - CC 23
  $f_{z,L}$=0.37 (L/1142)

- Verifica a flessione (4.2.13) - CC 19 Xl=4.27 - Classe 1
  Sollecitazioni: T_z=-2859.04 M_y=2126.45
  My,Ed=2126.45 My,c,Rd=5511.45 My,Ed/My,c,Rd=0.39

- Verifica a taglio dir. Z (4.2.17) - CC 1 Xl=0.09
  Sollecitazioni: T_z=3557.17 M_y=-11.52
  V,Ed=3557.17 (V,Ed,G=1028.98, V,Ed,M=2528.19) Vc,Rd=17073.30 V,Ed/Vc,Rd=0.21

Asta n. 110 (107 111) HEA160 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 19 - Classe 1
  L_{cr}=4.65 Curva b: α_{imp}=0.34 k_c=0.94 ψ=1.02 M,cr=8463.02 λ_{LT}=0.83
  $\lambda_{LT,0}$=0.40 β_{LT}=0.75 Φ_{LT}=0.83 β_{LT}=0.75 f=0.97 χ_{LT}=0.83
  CC 19 My,Ed=2024.61 My,b,Rd=4557.69 My,Ed/My,b,Rd=0.44

- Verifica freccia massima per soli carichi accidentali - CC 21
  $f_{z,L}$=0.17 (L/2605)

- Verifica freccia massima carichi totali - CC 24
  $f_{z,L}$=0.24 (L/1884)

- Verifica a flessione (4.2.13) - CC 19 Xl=4.56 - Classe 1
  Sollecitazioni: T_z=-2679.50 M_y=2024.61
  My,Ed=2024.61 My,c,Rd=5511.45 My,Ed/My,c,Rd=0.37

- Verifica a taglio dir. Z (4.2.17) - CC 1 Xl=0.09
  Sollecitazioni: T_z=3646.20 M_y=768.78
  V,Ed=3646.20 (V,Ed,G=1275.68, V,Ed,M=2370.51) Vc,Rd=17073.30 V,Ed/Vc,Rd=0.21

Asta n. 110 (111 115) HEA160 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 19 - Classe 1
  L_{cr}=4.65 Curva b: α_{imp}=0.34 k_c=0.94 ψ=1.03 M,cr=8609.98 λ_{LT}=0.82
  $\lambda_{LT,0}$=0.40 β_{LT}=0.75 Φ_{LT}=0.82 β_{LT}=0.75 f=0.97 χ_{LT}=0.83
  CC 19 My,Ed=2040.10 My,b,Rd=4580.36 My,Ed/My,b,Rd=0.45

- Verifica freccia massima per soli carichi accidentali - CC 21
  $f_{z,L}$=0.18 (L/2491)

- Verifica freccia massima carichi totali - CC 23
  $f_{z,L}$=0.25 (L/1807)

- Verifica a flessione (4.2.13) - CC 19 Xl=4.56 - Classe 1
  Sollecitazioni: T_z=-2696.32 M_y=2040.10
  My,Ed=2040.10 My,c,Rd=5511.45 My,Ed/My,c,Rd=0.37

- Verifica a taglio dir. Z (4.2.17) - CC 1 Xl=0.09
  Sollecitazioni: T_z=3638.90 M_y=717.62
  V,Ed=3638.90 (V,Ed,G=1268.39, V,Ed,M=2370.51) Vc,Rd=17073.30 V,Ed/Vc,Rd=0.21

Asta n. 110 (115 119) HEA160 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 19 - Classe 1
  L_{cr}=4.65 Curva b: α_{imp}=0.34 k_c=0.94 ψ=1.03 M,cr=8582.59 λ_{LT}=0.82
  $\lambda_{LT,0}$=0.40 β_{LT}=0.75 Φ_{LT}=0.82 β_{LT}=0.75 f=0.97 χ_{LT}=0.83
  CC 19 My,Ed=2036.54 My,b,Rd=4576.19 My,Ed/My,b,Rd=0.45

- Verifica freccia massima per soli carichi accidentali - CC 21
  $f_{Z,L}$=0.18 (L/2517)

- Verifica freccia massima carichi totali - CC 23
  $f_{Z,L}$=0.25 (L/1817)

- Verifica a flessione (4.2.13) - CC 19 Xl=4.56 - Classe 1
  Sollecitazioni: T_z=-2693.21 M_y=2036.54
  My,Ed=2036.54 My,c,Rd=5511.45 My,Ed/My,c,Rd=0.37

- Verifica a taglio dir. Z (4.2.17) - CC 1 Xl=0.09
  Sollecitazioni: T_z=3639.61 M_y=731.65
  V,Ed=3639.61 (V,Ed,G=1269.10, V,Ed,M=2370.51) Vc,Rd=17073.30 V,Ed/Vc,Rd=0.21

Asta n. 110 (119 123) HEA160 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 20 - Classe 1
  L_{cr}=4.26 Curva b: α_{imp}=0.34 k_c=0.94 ψ=1.45 M,cr=13482.70 λ_{LT}=0.66
  $\lambda_{LT,0}$=0.40 β_{LT}=0.75 Φ_{LT}=0.70 β_{LT}=0.75 f=0.97 χ_{LT}=0.92
  CC 20 My,Ed=1991.59 My,b,Rd=5059.02 My,Ed/My,b,Rd=0.39

- Verifica freccia massima per soli carichi accidentali - CC 21
  $f_{Z,L}$=0.23 (L/1794)

- Verifica freccia massima carichi totali - CC 24
  $f_{Z,G}$=0.32 (L/1277)

- Verifica a flessione (4.2.13) - CC 20 Xl=0.09 - Classe 1
  Sollecitazioni: T_z=2764.96 M_y=1991.59
  My,Ed=1991.59 My,c,Rd=5511.45 My,Ed/My,c,Rd=0.36

- Verifica a taglio dir. Z (4.2.17) - CC 1 Xl=0.09
  Sollecitazioni: T_z=3898.35 M_y=688.08
  V,Ed=3898.35 (V,Ed,G=1310.82, V,Ed,M=2587.53) Vc,Rd=17073.30 V,Ed/Vc,Rd=0.23

Asta n. 111 (104 108) HEA160 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 19 - Classe 1
  L_{cr}=4.36 Curva b: α_{imp}=0.34 k_c=0.94 ψ=1.48 M,cr=13374.70 λ_{LT}=0.66
  $\lambda_{LT,0}$=0.40 β_{LT}=0.75 Φ_{LT}=0.71 β_{LT}=0.75 f=0.97 χ_{LT}=0.92
  CC 19 My,Ed=2121.86 My,b,Rd=5052.10 My,Ed/My,b,Rd=0.42

- Verifica freccia massima per soli carichi accidentali - CC 21
  $f_{Z,L}$=0.26 (L/1605)

- Verifica freccia massima carichi totali - CC 23
  $f_{Z,L}$=0.37 (L/1144)

- Verifica a flessione (4.2.13) - CC 19 Xl=4.27 - Classe 1
  Sollecitazioni: T_z=-2856.48 M_y=2121.86
  My,Ed=2121.86 My,c,Rd=5511.45 My,Ed/My,c,Rd=0.38

- Verifica a taglio dir. Z (4.2.17) - CC 1 Xl=0.09
  Sollecitazioni: T_z=3558.41 M_y=-81.85
  V,Ed=3558.41 (V,Ed,G=1030.23, V,Ed,M=2528.19) Vc,Rd=17073.30 V,Ed/Vc,Rd=0.21

Asta n. 111 (108 112) HEA160 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 20 - Classe 1
  L_{cr}=4.65 Curva b: α_{imp}=0.34 k_c=0.94 ψ=1.02 M,cr=8488.42 λ_{LT}=0.83
  $\lambda_{LT,0}$=0.40 β_{LT}=0.75 Φ_{LT}=0.83 β_{LT}=0.75 f=0.97 χ_{LT}=0.83
  CC 20 My,Ed=2028.02 My,b,Rd=4561.66 My,Ed/My,b,Rd=0.44

- Verifica freccia massima per soli carichi accidentali - CC 21
  $f_{Z,L}$=0.17 (L/2605)

- Verifica freccia massima carichi totali - CC 24
  $f_{Z,L}$=0.24 (L/1884)

- Verifica a flessione (4.2.13) - CC 20 Xl=0.09 - Classe 1
  Sollecitazioni: T_z=2682.46 M_y=2028.02
  My,Ed=2028.02 My,c,Rd=5511.45 My,Ed/My,c,Rd=0.37

- Verifica a taglio dir. Z (4.2.17) - CC 1 Xl=0.09
  Sollecitazioni: T_z=3646.98 M_y=729.02
  V,Ed=3646.98 (V,Ed,G=1276.47, V,Ed,M=2370.51) Vc,Rd=17073.30 V,Ed/Vc,Rd=0.21

Asta n. 111 (112 116) HEA160 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 19 - Classe 1
  L_{cr}=4.65 Curva b: α_{imp}=0.34 k_c=0.94 ψ=1.03 M,cr=8594.60 λ_{LT}=0.82
  $\lambda_{LT,0}$=0.40 β_{LT}=0.75 Φ_{LT}=0.82 β_{LT}=0.75 f=0.97 χ_{LT}=0.83
  CC 19 My,Ed=2036.14 My,b,Rd=4578.02 My,Ed/My,b,Rd=0.44

- Verifica freccia massima per soli carichi accidentali - CC 21
  $f_{Z,L}$=0.18 (L/2492)

- Verifica freccia massima carichi totali - CC 23
  $f_{Z,L}$=0.25 (L/1808)

- Verifica a flessione (4.2.13) - CC 19 Xl=4.56 - Classe 1
  Sollecitazioni: T_z=-2694.55 M_y=2036.14
  My,Ed=2036.14 My,c,Rd=5511.45 My,Ed/My,c,Rd=0.37

- Verifica a taglio dir. Z (4.2.17) - CC 1 Xl=0.09
  Sollecitazioni: T_z=3639.76 M_y=672.24
  V,Ed=3639.76 (V,Ed,G=1269.24, V,Ed,M=2370.51) Vc,Rd=17073.30 V,Ed/Vc,Rd=0.21

Asta n. 111 (116 120) HEA160 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 19 - Classe 1
  L_{cr}=4.65 Curva b: α_{imp}=0.34 k_c=0.94 ψ=1.03 M,cr=8568.63 λ_{LT}=0.82
  $\lambda_{LT,0}$=0.40 β_{LT}=0.75 Φ_{LT}=0.82 β_{LT}=0.75 f=0.97 χ_{LT}=0.83
  CC 19 My,Ed=2033.09 My,b,Rd=4574.06 My,Ed/My,b,Rd=0.44

- Verifica freccia massima per soli carichi accidentali - CC 21
  $f_{Z,L}$=0.18 (L/2520)

- Verifica freccia massima carichi totali - CC 23
  $f_{Z,L}$=0.25 (L/1819)

- Verifica a flessione (4.2.13) - CC 19 Xl=4.56 - Classe 1
  Sollecitazioni: T_z=-2691.60 M_y=2033.09
  My,Ed=2033.09 My,c,Rd=5511.45 My,Ed/My,c,Rd=0.37

- Verifica a taglio dir. Z (4.2.17) - CC 1 Xl=0.09
  Sollecitazioni: T_z=3640.39 M_y=688.60
  V,Ed=3640.39 (V,Ed,G=1269.88, V,Ed,M=2370.51) Vc,Rd=17073.30 V,Ed/Vc,Rd=0.21

Asta n. 111 (120 124) HEA160 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 20 - Classe 1
  L_{cr}=4.26 Curva b: α_{imp}=0.34 k_c=0.94 ψ=1.45 M,cr=13514.10 λ_{LT}=0.65
  $\lambda_{LT,0}$=0.40 β_{LT}=0.75 Φ_{LT}=0.70 β_{LT}=0.75 f=0.97 χ_{LT}=0.92
  CC 20 My,Ed=1996.31 My,b,Rd=5061.01 My,Ed/My,b,Rd=0.39

- Verifica freccia massima per soli carichi accidentali - CC 21
  $f_{Z,G}$=0.23 (L/1792)

- Verifica freccia massima carichi totali - CC 24
  $f_{Z,L}$=0.32 (L/1276)

- Verifica a flessione (4.2.13) - CC 20 Xl=0.09 - Classe 1
  Sollecitazioni: T_z=2767.66 M_y=1996.31
  My,Ed=1996.31 My,c,Rd=5511.45 My,Ed/My,c,Rd=0.36

- Verifica a taglio dir. Z (4.2.17) - CC 1 Xl=0.09
  Sollecitazioni: T_z=3899.63 M_y=635.11

V,Ed=3899.63 (V,Ed,G=1312.10, V,Ed,M=2587.53) Vc,Rd=17073.30 V,Ed/Vc,Rd=0.23

Asta n. 112 (103 104) HEA160 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 9 - Classe 1
  L_{cr}=2.92 Curva b: α_{imp}=0.34 k_c=0.94 ψ=3.07 M,cr=48083.40 λ_{LT}=0.35
  $\lambda_{LT,0}$=0.40 β_{LT}=0.75 Φ_{LT}=0.54 β_{LT}=0.75 f=0.98 χ_{LT}=1.00
  CC 9 My,Ed=1463.28 My,b,Rd=5511.45 My,Ed/My,b,Rd=0.27

- Verifica freccia massima per soli carichi accidentali - CC 21
  $f_{z,L}$=0.00 (L/268142)

- Verifica freccia massima carichi totali - CC 22
  $f_{z,L}$=0.01 (L/42546)

- Verifica a flessione (4.2.13) - CC 9 Xl=0.09 - Classe 1
  Sollecitazioni: T_z=3832.45 M_y=1463.28
  My,Ed=1463.28 My,c,Rd=5511.45 My,Ed/My,c,Rd=0.27

- Verifica a taglio dir. Z (4.2.17) - CC 1 Xl=0.09
  Sollecitazioni: T_z=3832.45 M_y=-1395.95
  V,Ed=3832.45 (V,Ed,G=57.48, V,Ed,M=3774.96) Vc,Rd=17073.30 V,Ed/Vc,Rd=0.22

Asta n. 113 (107 108) HEA160 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 9 - Classe 1
  L_{cr}=2.92 Curva b: α_{imp}=0.34 k_c=0.94 ψ=3.07 M,cr=48053.80 λ_{LT}=0.35
  $\lambda_{LT,0}$=0.40 β_{LT}=0.75 Φ_{LT}=0.54 β_{LT}=0.75 f=0.98 χ_{LT}=1.00
  CC 9 My,Ed=1368.30 My,b,Rd=5511.45 My,Ed/My,b,Rd=0.25

- Verifica freccia massima carichi totali - CC 22
  $f_{z,L}$=0.01 (L/45936)

- Verifica a flessione (4.2.13) - CC 9 Xl=0.09 - Classe 1
  Sollecitazioni: T_z=3826.30 M_y=1368.30
  My,Ed=1368.30 My,c,Rd=5511.45 My,Ed/My,c,Rd=0.25

- Verifica a taglio dir. Z (4.2.17) - CC 1 Xl=0.09
  Sollecitazioni: T_z=3826.30 M_y=-1317.88
  V,Ed=3826.30 (V,Ed,G=51.33, V,Ed,M=3774.96) Vc,Rd=17073.30 V,Ed/Vc,Rd=0.22

Asta n. 114 (111 112) HEA160 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 9 - Classe 1
  L_{cr}=2.92 Curva b: α_{imp}=0.34 k_c=0.94 ψ=3.07 M,cr=48021.70 λ_{LT}=0.35
  $\lambda_{LT,0}$=0.40 β_{LT}=0.75 Φ_{LT}=0.54 β_{LT}=0.75 f=0.98 χ_{LT}=1.00
  CC 9 My,Ed=1278.49 My,b,Rd=5511.45 My,Ed/My,b,Rd=0.23

- Verifica freccia massima carichi totali - CC 22
  $f_{z,L}$=0.01 (L/49274)

- Verifica a flessione (4.2.13) - CC 9 Xl=0.09 - Classe 1
  Sollecitazioni: T_z=3819.85 M_y=1278.49
  My,Ed=1278.49 My,c,Rd=5511.45 My,Ed/My,c,Rd=0.23

- Verifica a taglio dir. Z (4.2.17) - CC 1 Xl=0.09
  Sollecitazioni: T_z=3819.85 M_y=-1245.78
  V,Ed=3819.85 (V,Ed,G=44.89, V,Ed,M=3774.96) Vc,Rd=17073.30 V,Ed/Vc,Rd=0.22

Asta n. 115 (115 116) HEA160 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 9 - Classe 1
  L_{cr}=2.92 Curva b: α_{imp}=0.34 k_c=0.94 ψ=3.07 M,cr=48037.80 λ_{LT}=0.35
  $\lambda_{LT,0}$=0.40 β_{LT}=0.75 Φ_{LT}=0.54 β_{LT}=0.75 f=0.98 χ_{LT}=1.00
  CC 9 My,Ed=1322.07 My,b,Rd=5511.45 My,Ed/My,b,Rd=0.24

- Verifica freccia massima carichi totali - CC 21
  $f_{z,L}$=0.01 (L/44690)

- Verifica a flessione (4.2.13) - CC 9 Xl=2.83 - Classe 1
  Sollecitazioni: T_z=3729.70 M_y=1322.07
  My,Ed=1322.07 My,c,Rd=5511.45 My,Ed/My,c,Rd=0.24

- Verifica a taglio dir. Z (4.2.17) - CC 1 Xl=0.09
  Sollecitazioni: T_z=3813.37 M_y=-1184.56
  V,Ed=3813.37 (V,Ed,G=38.41, V,Ed,M=3774.96) Vc,Rd=17073.30 V,Ed/Vc,Rd=0.22

Asta n. 116 (119 120) HEA160 Crit. 1

- Verifica di stabilità aste inflesse (4.2.4.1.3.2) CC 9 - Classe 1
  L_{cr}=2.92 Curva b: α_{imp}=0.34 k_c=0.94 ψ=3.07 M,cr=48089.40 λ_{LT}=0.35
  $\lambda_{LT,0}$=0.40 β_{LT}=0.75 Φ_{LT}=0.54 β_{LT}=0.75 f=0.98 χ_{LT}=1.00
  CC 9 My,Ed=1484.23 My,b,Rd=5511.45 My,Ed/My,b,Rd=0.27

- Verifica freccia massima carichi totali - CC 21
  $f_{z,L}$=0.01 (L/40742)

- Verifica a flessione (4.2.13) - CC 9 Xl=2.83 - Classe 1
  Sollecitazioni: T_z=3723.26 M_y=1484.23
  My,Ed=1484.23 My,c,Rd=5511.45 My,Ed/My,c,Rd=0.27

- Verifica a taglio dir. Z (4.2.17) - CC 1 Xl=0.09
  Sollecitazioni: T_z=3806.93 M_y=-1133.87
  V,Ed=3806.93 (V,Ed,G=31.97, V,Ed,M=3774.96) Vc,Rd=17073.30 V,Ed/Vc,Rd=0.22
COMPUTO ACCIAIO

Simbologia

Cod. = Codice
Lun. = Lunghezza
Peso = Peso
Sup. = Superficie

Cod.	Lun. <mm>	Peso <daN>	Sup. <mq>
HEA180	62448	2218.36	63.962
HEA160	125540	3821.00	113.770
Totali	187988	6039.36	177.732

DISTINTA ACCIAIO
(Lunghezze arrotondate a multipli di 1 mm)

Simbologia

Cod. = Codice
Lun. = Lunghezza
Pez. = Numero pezzi

Cod.	Lun. <mm>	Pez.
HEA180	2602	24
HEA160	4650	12
HEA160	4360	4
HEA160	4260	2
HEA160	2920	6
HEA160	2910	6
HEA160	2850	2
HEA160	1550	2

Sintesi
Tipo di normativa: stati limite D.M. 08
Tipo di calcolo: analisi sismica dinamica

Dati generali della struttura
- Zona sismica: zona 2
- Sito di costruzione: LON. 11.06205 LAT. 43.89612
   Contenuto tra ID reticolo: 19390 19612 19389 19611

Pericolosità sismica di base

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>
Ag = Accelerazione orizzontale massima al sito
FO = Valore massimo del fattore di amplificazione dello spettro in accelerazione orizzontale
FV = Valore massimo del fattore di amplificazione dello spettro in accelerazione verticale
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
S = Coefficiente di amplificazione stratigrafica e topografica
TC = Periodo corrispondente all'inizio del tratto dello spettro a velocità costante
TB = Periodo corrispondente all'inizio del tratto dello spettro ad accelerazione costante
TD = Periodo corrispondente all'inizio del tratto dello spettro a spostamento costante

TCC	T_R	Ag <g>	FO	FV	TC*	S_S	C_C	S	TC	TB	TD
SLD	75	0.0715	2.53	0.91	0.27	1.20	1.43	1.20	0.39	0.13	1.89
SLV	712	0.1662	2.40	1.32	0.31	1.20	1.39	1.20	0.43	0.14	2.26

- Edificio esistente: No
- Tipo di opera: Opera ordinaria
- Vita nominale V_N: 50.00
- Classe d'uso: Classe III
- Coefficiente d'uso CU: 1.50
- Periodo di riferimento VR: 75.00

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 <m>	Ly <m>	Ex <m>	Ey <m>	Ea <m>
1	13.45	22.71	0.67	1.14	1.32

Dati di progetto
- Categoria del suolo di fondazione: B
- Tipologia edificio: c.a. o prefabbricato a telaio a più piani e più campate

Coeff. C_1: 0.075
Periodo T_1: 0.15365
Coeff. λ SLD: 1.00
Coeff. λ SLV: 1.00
Rapporto di sovraresistenza (α_u/α_1): 1.30
Valore di riferimento del fattore di struttura (q_0): 3.90
Fattore riduttivo (K_w): 1.00
Fattore riduttivo regolarità in altezza (KR): 1.00
Fattore di struttura (q): 2.00

- Categoria topografica: T1 - Superficie pianeggiante, pendii e rilievi isolati con inclinazione media i<=15°
- Coeff. amplificazione topografica S_T: 1.00
- Quota di riferimento: 0.00 <m>
- Altezza della struttura: 2.60 <m>

- Numero piani edificio: 1
- Coefficiente **θ**: 0.00
- Edificio regolare in altezza: Sì
- Edificio regolare in pianta: Sì
- Classe di duttilità: Classe B
- Fattore di struttura per sisma verticale (qv): 1.50
- Smorzamento spettro: 5.00%
- Coefficiente **θ**: 0.00

Spettro SLD.TXT :

0.0000 0.8413
0.0500 1.3399
0.1000 1.8384
0.1291 2.1284
0.1500 2.1284
0.2000 2.1284
0.2500 2.1284
0.3000 2.1284
0.3500 2.1284
0.3873 2.1284
0.4000 2.0607
0.4500 1.8317
0.5000 1.6485
0.5500 1.4987
0.6000 1.3738
0.6500 1.2681
0.7000 1.1775
0.7500 1.0990
0.8000 1.0303
0.8500 0.9697
0.9000 0.9159
0.9500 0.8676
1.0000 0.8243
1.0500 0.7850
1.1000 0.7493
1.1500 0.7168
1.2000 0.6869
1.2500 0.6594
1.3000 0.6341
1.3500 0.6106
1.4000 0.5888
1.4500 0.5685
1.5000 0.5495
1.5500 0.5318
1.6000 0.5152
1.6500 0.4996
1.7000 0.4849
1.7500 0.4710
1.8000 0.4579
1.8500 0.4455
1.8859 0.4371
1.9000 0.4306
1.9500 0.4088
2.0000 0.3886
2.0500 0.3699
2.1000 0.3525
2.1500 0.3363
2.2000 0.3212
2.2500 0.3071
2.3000 0.2938
2.3500 0.2815
2.4000 0.2699
2.4500 0.2590
2.5000 0.2487
2.5500 0.2391
2.6000 0.2299
2.6500 0.2214
2.7000 0.2132
2.7500 0.2055
2.8000 0.1983
2.8500 0.1914
2.9000 0.1848

2.9500 0.1786
3.0000 0.1727
3.0500 0.1671
3.1000 0.1618
3.1500 0.1567
3.2000 0.1518
3.2500 0.1472
3.3000 0.1427
3.3500 0.1385
3.4000 0.1345
3.4500 0.1306
3.5000 0.1269
3.5500 0.1233
3.6000 0.1199
3.6500 0.1167
3.7000 0.1135
3.7500 0.1105
3.8000 0.1076
3.8500 0.1049
3.9000 0.1022
3.9500 0.0996
4.0000 0.0972

Spettro SLV.TXT :

0.0000 1.9563
0.0500 2.0932
0.1000 2.2302
0.1420 2.3453
0.1500 2.3453
0.2000 2.3453
0.2500 2.3453
0.3000 2.3453
0.3500 2.3453
0.4000 2.3453
0.4261 2.3453
0.4500 2.2207
0.5000 1.9986
0.5500 1.8169
0.6000 1.6655
0.6500 1.5374
0.7000 1.4276
0.7500 1.3324
0.8000 1.2491
0.8500 1.1757
0.9000 1.1103
0.9500 1.0519
1.0000 0.9993
1.0500 0.9517
1.1000 0.9085
1.1500 0.8690
1.2000 0.8328
1.2500 0.7994
1.3000 0.7687
1.3500 0.7402
1.4000 0.7138
1.4500 0.6892
1.5000 0.6662
1.5500 0.6447
1.6000 0.6246
1.6500 0.6056
1.7000 0.5878
1.7500 0.5710
1.8000 0.5552
1.8500 0.5402
1.9000 0.5260
1.9500 0.5125
2.0000 0.4997
2.0500 0.4875
2.1000 0.4759
2.1500 0.4648
2.2000 0.4542
2.2500 0.4441

2.2647 0.4413
2.3000 0.4278
2.3500 0.4098
2.4000 0.3929
2.4500 0.3770
2.5000 0.3621
2.5500 0.3480
2.6000 0.3348
2.6500 0.3260
2.7000 0.3260
2.7500 0.3260
2.8000 0.3260
2.8500 0.3260
2.9000 0.3260
2.9500 0.3260
3.0000 0.3260
3.0500 0.3260
3.1000 0.3260
3.1500 0.3260
3.2000 0.3260
3.2500 0.3260
3.3000 0.3260
3.3500 0.3260
3.4000 0.3260
3.4500 0.3260
3.5000 0.3260
3.5500 0.3260
3.6000 0.3260
3.6500 0.3260
3.7000 0.3260
3.7500 0.3260
3.8000 0.3260
3.8500 0.3260
3.9000 0.3260
3.9500 0.3260
4.0000 0.3260

CONDIZIONI DI CARICO ELEMENTARI:

Simbologia

CCE   = Numero della condizione di carico elementare
Comm.   = Commento
Tipo CCE = Tipo di CCE per calcolo agli stati limite
Sic.   = Contributo alla sicurezza
           F = a favore
           S = a sfavore
           A = ambigua
Var.   = Tipo di variabilità
           B = di base
           I = indipendente
           A = ambigua
Dir.   = Direzione del vento
Tipo   = Tipologia di pressione vento
           M = Massimizzata
           E = Esterna
           I = Interna
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

CCE	Comm.	Tipo CCE	Sic.	Var.	Dir. <grad>	Tipo	Mx	My	Mz	Jpx	Jpy	Jpz
1	Qp	1	S	--	--	--	1.00	1.00	0.00	0.00	0.00	1.00
2	Qpn	2	S	--	--	--	1.00	1.00	0.00	0.00	0.00	1.00
3	Qe	6	S	B	--	--	1.00	1.00	0.00	0.00	0.00	1.00

ELENCO TIPI CCE DEFINITI:

Simbologia

Tipo CCE = Tipo condizione di carico elementare
Comm. = Commento
Tipo = Tipologia
G = Permanente
Qv = Variabile vento
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
γ 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	γ min.	γ max	ψ_0	ψ_1	ψ_2	$\psi_{0,s}$
1	D.M. 08 Permanenti strutturali	G	N	1.00	1.30				
2	D.M. 08 Permanenti non strutturali	G	N	0.00	1.50				
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

ELENCO BARICENTRI E MASSE IMPALCATI:

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 <m>	Y <m>	Z <m>	Mo <kg>	Jpz <kg*mq>
1	6.72	11.31	2.60	54808.00	3940160.00

TOTALI MASSE IMPALCATI:

Mo <kg>	Jpz <kg*mq>
54808.00	3940160.00

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

Modo	C	Per.	Diff.	**Φx**	**Φy**	**Φz**	%Mx	%My	%Mz	%Jpz
1	*	0.5944	32.12	-0.01	74.03	0.00	0.000	99.997	0.000	0.003
2	*	0.4499	2.71	71.58	0.12	0.00	93.479	0.000	0.000	6.520
3	*	0.4380	2.71	-18.90	0.40	0.00	6.521	0.003	0.000	93.476
Tot.cons.							100.00	100.00	0.00	100.00

Materiali

Acciaio
Elenco dei criteri di progetto e delle loro principali caratteristiche meccaniche utilizzate:
Aste in acciaio: 1

Tipo di acciaio a sezione cava: S235 UNI EN 10025-2
Tensione caratteristica di snervamento dell'acciaio (Fyk) <daN/cmq>: 2350.00
Tensione caratteristica di rottura (Fyt) <daN/cmq>: 3600.00
Modulo elastico (E) <daN/cmq>: 2100000.00
Modulo elastico tangenziale (G) <daN/cmq>: 800000.00

Collegamenti e reticolari in acciaio
Elenco dei criteri di progetto e delle loro principali caratteristiche meccaniche utilizzate:
Nodi in acciaio: 1 Piastre di fondazione

Classe bulloni: 6.8
Classe Saldature: SECONDA

Nodi in acciaio: 2 Flangie di elevazione

Classe bulloni: 8.8
Classe Saldature: SECONDA

Prove in sito- Prova n.: 1
Tipo di prova: SPT
Commento: 1 Standard Penetration Test

Simbologia

Nm = Numero progressivo della singola misura
z = Profondità di misura
N_{SPT} = Numero colpi

Nm	z <m>	N_{SPT}	Nm	z <m>	N_{SPT}	Nm	z <m>	N_{SPT}	Nm	z <m>	N_{SPT}	Nm	z <m>	N_{SPT}
0	0.20	14	1	0.40	3	2	0.60	3	3	0.80	2	4	1.00	3

Elenco colonne stratigrafiche

Simbologia

St. = Strato
z = Profondità della superficie superiore dello strato
Spess. = Spessore
Unità geotecnica = Unità geotecnica
Class. = Classificazione
Coes. = Coesivo
Inc. = Incoerente
Roc. = Roccia
N. c. = Non classificato

γ = Peso specifico del terreno naturale
γ_{sat} = Peso specifico del terreno saturo
ϕ' = Angolo di attrito efficace
c' = Coesione efficace
c_u = Coesione non drenata
E = Modulo elastico normale
G = Modulo elastico tangenziale
E_{ed} = Modulo edometrico

Colonna stratigrafica numero 1

St.	z	Spess.	Unità geotecnica	Class.	γ	γ_{sat}	ϕ'	c'	c_u	E	G	E_{ed}
	<m>	<cm>			<daN/mc>	<daN/mc>	<grad>	<daN/mq>	<daN/mq>	<daN/mq>	<daN/mq>	<daN/mq>
1	0.00	--	1	Coes.	1800.00	2000.00	24.00	500.00	8671.40	450000.00	204545.00	460227.00

Le verifiche degli elementi di fondazione sono state effettuate utilizzando l'approccio 2 - Combinazione 1.Coefficienti parziali per le azioni, per verifiche in condizioni statiche:
Permanenti strutturali, sicurezza a favore γ_A = 1.00;
Permanenti strutturali, sicurezza a sfavore γ_A = 1.30;
Permanenti non strutturali, sicurezza a favore γ_A = 0.00;
Permanenti non strutturali, sicurezza a sfavore γ_A = 1.50;
Variabili, sicurezza a favore γ_A = 0.00;
Variabili, sicurezza a sfavore γ_A = 1.50.

I coefficienti parziali per le azioni sono posti pari all'unità per le verifiche in condizioni sismiche.

Tali coefficienti sono comunque desumibili dalla tabella delle combinazioni delle CCE (Parametri di calcolo).

Coefficienti parziali per i parametri geotecnici:
Tangente dell'angolo di attrito γ_M = 1.00;
Coesione efficace γ_M = 1.00;
Coesione non drenata γ_M = 1.00;

Coefficienti parziali per la resistenza delle fondazioni superficiali:
Capacità portante γ_R = 2.30;
Scorrimento γ_R = 1.10;
Coefficienti parziali per la resistenza delle fondazioni profonde:
Per pali infissi:
Resistenza alla base γ_R,b = 1.15;
Resistenza laterale in compressione γ_R,s = 1.15;
Resistenza laterale in trazione γ_R,t = 1.25;
Per pali trivellati:
Resistenza alla base γ_R,b = 1.35;
Resistenza laterale in compressione γ_R,s = 1.15;
Resistenza laterale in trazione γ_R,t = 1.25;
Per pali ad elica continua:
Resistenza alla base γ_R,b = 1.30;
Resistenza laterale in compressione γ_R,s = 1.15;
Resistenza laterale in trazione γ_R,t = 1.25;
Fattore di correlazione per la determinazione della resistenza caratteristica desumibile dai criteri di progetto.

Carichi

Simbologia

Imp. = Numero dell'impalcato
Quota = Quota impalcato
Ts = Numero del tipo solaio
Comm. = Commento
Mq_{Tot} = Area solai
Qps = Carico permanente strutturale
CCE = Numero della condizione di carico elementare

Qpn = Carico permanente non strutturale
QA = Primo carico accidentale
QA2 = Secondo carico accidentale
QA3 = Terzo carico accidentale

Imp.	Quota <m>	Ts Comm.	Mq_{Tot} <mq>	Qps <daN/mq>	CCE	Qpn <daN/mq>	CCE	QA <daN/mq>	CCE	QA2 <daN/mq>	CCE	QA3 <daN/mq>	CCE
1	2.60	1	131.99	30.00	1	100.00	2	400.00	3	--	--	--	--

Spostamenti massimi d'impalcato

Simbologia

Imp. = Numero dell'impalcato
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
Nodo = Numero del nodo
Sx = Spostamento in dir. X
CC = Numero della combinazione delle condizioni di carico elementari
Sy = Spostamento in dir. Y

Imp.	TCC	Nodo Sx	Sx <cm>	CC	Nodo Sy	Sy <cm>	CC
1	SLD	126	1.25475	10	101	1.45793	14
1	SLV	126	4.90603	9	104	6.04441	5

Aste in acciaio

Generali

Verifica aste in acciaio	
Numero punti di verifica	10
Numero CC da considerare di tipo I	99
Stati limite D.M. 08	
Verifiche con EC3	No
Coeff. amplificativo sollecitazioni per effetti del secondo ordine	1.0
Stampe	
Verifiche da riportare in relazione	Tutte
Specifici	1

Materiali

CNR 10011	
Tipo di acciaio	FE360
D.M. 08	
Tipo di acciaio per profilati a sezione aperta	S235 UNI EN 10025-2
Tipo di acciaio per profilati a sezione cava	S235H UNI EN 10210-1
EC3	
Tipo di acciaio	S235
-Fy <daN/cmq>	2350.0
-Fu <daN/cmq>	3600.0
γ M0	1.0
γ M1	1.0
γ M2	1.3
γ Rd	1.3
γ Ov	1.3
-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	1.0
Rapporto fra area netta e area nominale	1.0
Coeff. di forma intorno all'asse Y	1.0
Coeff. di forma intorno all'asse Z	1.0
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	No
Verifiche di deformabilità	
Max valore del rapporto tra la luce e la freccia (totale)	250.0
Max valore del rapporto tra la luce e la freccia (solo accidentali)	300.0
Max valore del rapporto tra altezza e spostamento orizz. (aste)	300.0
Max valore del rapporto tra altezza e spostamento orizz. (membrature)	500.0
Considerare anche spostamento relativo nodi per calcolo freccia	No
Considerare solo la verifica di deformabilità delle membrature	Si
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) <%>	2.0
Verifiche di stabilità globale in dir. Y locale	Si
-Coeff. β intorno all'asse Y	1.0
Verifiche di stabilità globale in dir. Z locale	Si
-Coeff. β intorno all'asse Z	1.0
Verifiche di stabilità flesso - torsionale	Si
-Coeff. per calcolo interasse ritegni torsionali	1.0
Aste inflesse (D.M. 08/EC3)	
-Coeff. Ψ per calcolo momento critico	
-Valuta in base ai momenti dell'asta	x
-Utilizza valore imposto	
-Fattore correttivo di distribuzione K_c	0.9
-Snellezza di riferimento $\lambda_{LT,0}$	0.4
-Coeff. β	0.8
Aste pressoinflesse (D.M. 08/EC3)	
-Considera come molto deformabile a torsione	No
-Fattore correttivo di distribuzione α_{mY}/C_{mY}	0.9
-Fattore correttivo di distribuzione α_{mZ}/C_{mZ}	0.9
-Fattore correttivo di distribuzione α_{mLT}/C_{mLT}	0.9
Eseguire 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
-Interasse irrigidimenti verticali anima	
-Numero di suddivisioni	
-Distanza non inferiore a <cm>	
-Pari alla lunghezza dell'asta	x
-Modalità di calcolo σ cr,id	
-Normativa	
-Massonet	x
-Ballio	
Verifiche di stabilità membratura	
Massimo numero aste costituenti unica membratura	1

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	1.0
Verifiche di stabilità globale in dir. Z locale	Si
-Coeff. β calcolato in funzione dello sforzo normale	
-Coeff. β	1.0
Dati per verifiche di resistenza al fuoco	
-Tempo di verifica (REI) <minuti>	120.0
-Fattore di momento uniforme equivalente β M, y	1.1
-Fattore di momento uniforme equivalente β M, z	1.1
-Fattore di momento uniforme equivalente β M, LT	1.1

Nodi in acciaio

Generali

Parametri di disegno reticolari	
Scala disegno esecutivo reticolare	10
Disegna a parte particolari collegamenti	Si
Scala disegno particolari collegamenti	5
Crea solo disegno schematico	No
Scala disegno schematico	25
Parametri di disegno collegamenti	
Scala disegno collegamenti	5
Scala disegno telai	10
Stampe	
Tipo di relazione	Sintetica

Specifici	1	2
Progettazione bullonature		
Elenco diametri bulloni utilizzabili 1 <mm>	12	16
Elenco diametri bulloni utilizzabili 2 <mm>	14	
Elenco diametri bulloni utilizzabili 3 <mm>	16	
Elenco diametri bulloni utilizzabili 4 <mm>	18	
Elenco diametri bulloni utilizzabili 5 <mm>	20	
Elenco diametri bulloni utilizzabili 6 <mm>	22	
Elenco diametri bulloni utilizzabili 7 <mm>	24	
Elenco diametri bulloni utilizzabili 8 <mm>	27	
Elenco diametri bulloni utilizzabili 9 <mm>	30	
Numero minimo bulloni	2.0	2.0
Classe bulloni	6.8	8.8
Zona filettata	Si	Si
Progettazione saldature		
Arretra piastra nelle saldature di bordo	Si	Si
Saldature con dimensioni bilanciate	Si	Si
Classe saldature a completa penetrazione	SECONDA	SECONDA
Arrotondamento lunghezza cordoni di saldatura	5.0	5.0
Rapporto minimo fra lunghezza e spessore cordone	15.0	15.0
Altezza della saldatura		
-Uguale allo spessore del profilato		
-Valore minimo tra profilato e la piastra	x	x

Progettazione reticolari
Rendi continue aste allineate Si
Si
Modalità di calcolo sforzo normale per giunti su aste continue
-Considera per ogni semigiunto le sollecitazioni di calcolo delle aste x
x
-Considera per ogni semigiunto la differenza fra le sollecitazioni delle aste
-Considera per ogni semigiunto la differenza fra le sollecitazioni delle aste divisa per due
-Considera per ogni semigiunto il massimo fra le sollecitazioni delle aste diviso per due
Finali equidistanti per aste incrociate Si
Si
Forma della piastra
-Rettangolare
-Poligonale x
x
Massimo ingombro collegamento lungo il profilo 33.0
33.0
Allargamento piastra ai lati del profilo 10.0
10.0
Minimo spazio libero tra i profili 10.0
10.0
Spessore piastra se non imposto dal profilo 10.0
10.0
Progettazione collegamenti
Trascura sollecitazioni teoricamente nulle No
Si
Componenti sollecitazioni da trascurare
-Sforzo normale No
No
-Taglio in dir. Y No
No
-Taglio in dir. Z No
No
-Momento torcente intorno all'asse X Si
Si
-Momento flettente intorno all'asse Y No
No
-Momento flettente intorno all'asse Z No
No
Considera solo bulloni per verifiche a flessione No
No
Angolo massimo di incidenza <grad> 15.0
15.0
Piastre di fondazione
-Elenco diametri tirafondi utilizzabili 1 <mm> 12
12
-Elenco diametri tirafondi utilizzabili 2 <mm> 16
16
-Elenco diametri tirafondi utilizzabili 3 <mm> 20
20
-Elenco diametri tirafondi utilizzabili 4 <mm> 30
30
-Elenco diametri tirafondi utilizzabili 5 <mm>
-Elenco diametri tirafondi utilizzabili 6 <mm>
-Elenco diametri tirafondi utilizzabili 7 <mm>
-Elenco diametri tirafondi utilizzabili 8 <mm>
-Elenco diametri tirafondi utilizzabili 9 <mm>
Lunghezza minima d'infissione <mm> 0.4
0.4
-Verifica piastra e tirafondi con reazioni vincolari No
No
-Trascura tirafondi compressi Si
No
-Tirafondi con barre filettate No
No
-Tipo di tirafondi UNCINI
UNCINI
-Fattore di riduzione per ancoraggio tirafondi 1.0
0.7
Piastra circolare per sezioni circolari cave Si
Si
Numero minimo bulloni per piastra circolare 6.0
6.0

Verifiche ai sensi D.M. 08
Esposizione a fenomeni corrosivi
Unione non esposta alla corrosione x
x
Unione esposta alla corrosione
Unioni di elementi in acciaio resistente alla corrosione