IL CONCEDENTE

Regione Emilia-Romagna

IL CONCESSIONARIO

ARC AUTOSTRADA REGIONALE CISPADANA

AUTOSTRADA REGIONALE CISPADANA

DAL CASELLO DI REGGIOLO-ROLO SULLA A22 AL CASELLO DI FERRARA SUD SULLA A13

CODICE C.U.P. E81B08000060009

PROGETTO DEFINITIVO

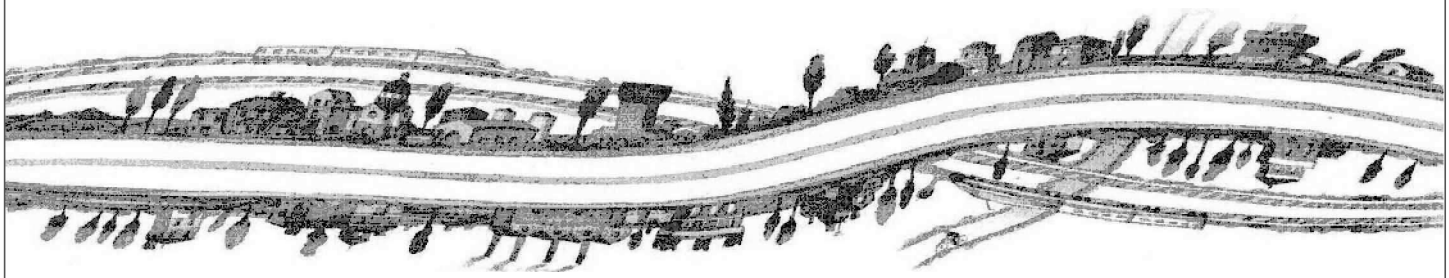
ASSE AUTOSTRADALE (COMPRENSIVO DEGLI INTERVENTI LOCALI DI COLLEGAMENTO VIARIO AL SISTEMA AUTOSTRADALE)

OPERE STRUTTURALI

OPERE D'ARTE MAGGIORI - SOTTOVIA SVINCOLO E INTERCONNESSIONE

IST01 - INTERCONNESSIONE CON A22 MODENA-BRENNERO - PROLUNGAMENTO SOTTOPASSO PODERALE SOTTO A22

SOTTOVIA - RELAZIONE DI CALCOLO



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IL PRESIDENTE
Graziano Pattuzzi

REV.	DATA	DESCRIZIONE	REDAZIONE	CONTROLLO	APPROVAZIONE
G					
F					
E					
D					
C					
B					
A	17.04.2012	Emissione	Ranalli	Piacentini	Salsi

IDENTIFICAZIONE ELABORATO

NUM. PROGR.	FASE	LOTTO	GRUPPO	CODICE OPERA WBS	TRATTO OPERA	AMBITO	TIPO ELABORATO	PROGRESSIVO	REV.
3122	PD	0	I01	IST01	0	OM	RC	01	A

DATA: MAGGIO 2012

SCALA:

INDICE

1. DESCRIZIONE DELL'OPERA

La presente relazione di calcolo riguarda il sottopasso scatolare per strada poderale, (codice wbs IST01), previsto per il prolungamento di opera esistente sotto autostrada A22. L'opera d'arte si situa nel contesto dell'Interconnessione tra la Nuova Autostrada Regionale Cispadana e l'esistente Autostrada A22 Modena-Brennero.

L'opera la cui sezione in retto misura 4,00x4,15m si sviluppa complessivamente per 4.89m . L'altezza di ricoprimento assunta ai fini del calcolo della struttura è pari a 0,30m.

Le azioni considerate nel calcolo sono quelle tipiche di una struttura interrata con le aggiunte delle azioni di tipo stradale, con applicazione della Normativa sui ponti ferroviari D. M. Min. II. TT. del 14 gennaio 2008 – Norme tecniche per le costruzioni.

L'opera ricade in zona sismica, pertanto, saranno applicate le azioni di rito previste dalla norma, così come riportato nei capitoli successivi.

2. NORMATIVA E DOCUMENTI DI RIFERIMENTO

I calcoli e le disposizioni esecutive sono conformi alla vigente normativa N.T.C. 2008.

2.1. Documenti di riferimento

[1] Elenco delle normative di riferimento "PD_0_0000_0000_0_GE_KT_01"

[2] Tabella materiali e classi di esposizione calcestruzzo "PD_0_0000_0000_0_GE_TB_01"

[3] Relazione geotecnica geotecnica generale "PD_0_A00_A0000_0_GT_RB_01"

[4] Relazione geotecnica sottopasso poderale sotto A22 "PD_0_I01_IST01_0_GT_RB_01"

1. INCIDENZE

Si forniscono qui di seguito le incidenze di armatura relative ai seguenti elementi costituenti l'Opera.

Cod Wbs	Descrizione Opera	Parte d'opera	Incidenza kg/mc		
			Fondazione	Elevazione	Soletta
IST01	INTERCONNESSIONE A22 - PROLUNGAMENTO SOTTOPASSO PODERALE SOTTO A22	SCATOLARE	125	115	105

TABELLA 1.1 – INCIDENZE ARMATURE

2. CARATTERISTICHE DEI MATERIALI

Per la realizzazione dell'opera è previsto l'impiego dei materiali elencati nel seguito.

2.1. Calcestruzzo per magrone di sottofondazione

Per il magrone di sottofondazione si prevede l'utilizzo di calcestruzzo di classe C12/15.

2.2. Calcestruzzo per strutture di fondazione

Per la realizzazione della fondazione dello scatolare si prevede l'utilizzo di calcestruzzo avente classe di resistenza C25/30 che presenta le seguenti caratteristiche:

Resistenza caratteristica a compressione (cilindrica)	$f_{ck} = 0.83 \cdot R_{ck} = 24.9$ N/mm^2
Resistenza media a compressione	$f_{cm} = f_{ck} + 8 = 32.9$ N/mm^2
Modulo elastico	$E_{cm} = 22000 \cdot (f_{cm}/10)^{0.3} = 31447$ N/mm^2
Resistenza di calcolo a compressione	$f_{cd} = \alpha_{cc} \cdot f_{ck}/\gamma_c = 0.85 \cdot f_{ck}/1.5 = 14.11$ N/mm^2
Resistenza a trazione media	$f_{ctm} = 0.30 \cdot f_{ck}^{2/3} = 2.40$N/mm^2
Resistenza a trazione	$f_{ctk} = 0.7 \cdot f_{ctm} = 1.68$ N/mm^2
Resistenza a trazione di calcolo	$f_{ctd} = f_{ctk} / \gamma_c = 1.12$ N/mm^2
Tensione massima di compressione (comb. Rara)	$\sigma_c = 0.60 \cdot f_{ck} = 14.94$ N/mm^2
Tensione massima di compressione (comb. Quasi permanente)	$\sigma_c = 0.45 \cdot f_{ck} = 11.21$ N/mm^2

Per la realizzazione dei piedritti e della soletta di copertura si prevede l'utilizzo di calcestruzzo avente classe di resistenza C28/35 che presenta le seguenti caratteristiche:

Resistenza caratteristica a compressione (cilindrica)	$f_{ck} = 0.83 \cdot R_{ck} = 29.05$ N/mm^2
Resistenza media a compressione	$f_{cm} = f_{ck} + 8 = 37.05$ N/mm^2
Modulo elastico	$E_{cm} = 22000 \cdot (f_{cm}/10)^{0.3} = 32588$ N/mm^2
Resistenza di calcolo a compressione	$f_{cd} = \alpha_{cc} \cdot f_{ck}/\gamma_c = 0.85 \cdot f_{ck}/1.5 = 16.46$ N/mm^2
Resistenza a trazione media	$f_{ctm} = 0.30 \cdot f_{ck}^{2/3} = 2.83$ N/mm^2
Resistenza a trazione	$f_{ctk} = 0.7 \cdot f_{ctm} = 1.98$ N/mm^2
Resistenza a trazione di calcolo	$f_{ctd} = f_{ctk} / \gamma_c = 1.32$ N/mm^2
Tensione massima di compressione (comb. Rara)	$\sigma_c = 0.60 \cdot f_{ck} = 17.43$ N/mm^2
Tensione massima di compressione (comb. Quasi permanente)	$\sigma_c = 0 .45 \cdot f_{ck} = 13.07$ N/mm^2

2.3. Acciaio per cemento armato

Per le armature metalliche si adottano barre in acciaio del tipo B450C saldabile, controllato in stabilimento e che presentano le seguenti caratteristiche:

Tensione caratteristica di snervamento	$f_{yk} \geq 450$ N/mm^2
Tensione caratteristica a rottura	$f_{tk} \geq 540$ N/mm^2
Fattore di sicurezza acciaio	$\gamma_s = 1.15$
Resistenza a trazione di calcolo	$f_{yd} = f_{yk} / \gamma_{m,s} = 391.30$ N/mm^2
Tensione massima di trazione (comb. Rara)	$\sigma_s = 0.80 \cdot f_{yk} = 360.00$ N/mm^2

2.4. Durabilità e prescrizioni sui materiali

Per garantire la durabilità delle strutture in calcestruzzo armato ordinario, esposte all'azione dell'ambiente, si devono adottare i provvedimenti atti a limitare gli effetti di degrado indotti dall'attacco chimico, fisico e derivante dalla corrosione delle armature e dai cicli di gelo e disgelo.

Al fine di ottenere la prestazione richiesta in funzione delle condizioni ambientali, nonché per la definizione della relativa classe, si fa riferimento alle indicazioni contenute nelle Linee Guida sul calcestruzzo strutturale edite dal Servizio Tecnico Centrale del Consiglio Superiore dei Lavori Pubblici ovvero alle norme UNI EN 206-1:2006 ed UNI 11104:2004.

Ai fini di preservare le armature dai fenomeni di aggressione ambientale, dovrà essere previsto un idoneo copriferro; il suo valore, misurato tra la parete interna del cassero e la generatrice dell'armatura metallica più vicina, individua il cosiddetto "copriferro nominale".

Il copriferro nominale c_{nom} è somma di due contributi, il copriferro minimo c_{min} e la tolleranza di posizionamento h. Vale pertanto: $c_{nom} = c_{min} + h$.

La tolleranza di posizionamento delle armature "h", per le strutture gettate in opera, può essere assunta pari a 5 mm, nell'ipotesi in cui sia previsto controllo di qualità con misura dei copriferri.

In accordo con le specifiche dei materiali da utilizzarsi per l'opera in oggetto, si utilizzano i seguenti tipi di calcestruzzo e copri ferri minimi. Il copriferro è valutato in accordo a quanto prescritto nella Norma UNI EN 1992-1-1, mentre la classe di resistenza minima è definita in accordo al Prospetto 4 della Norma UNI 11104:2004.

In base a quanto definito nel riferimento [2.1] e in accordo con quanto previsto nelle tabelle 4.2.III e 4.1.IV del D.M. 14 Gennaio 2008 si definiscono le condizioni ambientali ed i relativi limiti di apertura delle fessure accettabili per ciascun elemento strutturale.

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

TABELLA 2.1 – DESCRIZIONE DELLE CONDIZIONI AMBIENTALI (TABELLA 4.2.III NTC 2008)

Nella tabella 4.1.IV del D.M. 14 Gennaio 2008, riportata di seguito per comodità, sono indicati i criteri di scelta dello stato limite di fessurazione con riferimento alle condizioni ambientale e al tipo di armatura. Nel caso specifico si evidenziano i limiti di apertura delle fessure da utilizzare per le verifiche agli stati limite di esercizio.

Gruppi di esigenze	Condizioni ambientali	Combinazione di azioni	Armatura			
			Sensibile		Poco sensibile	
			Stato limite	w_d	Stato limite	w_d
a	Ordinarie	frequente	ap. fessure	$\leq w_2$	ap. fessure	$\leq w_3$
		quasi permanente	ap. fessure	$\leq w_1$	ap. fessure	$\leq w_2$
b	Aggressive	frequente	ap. fessure	$\leq w_1$	ap. fessure	$\leq w_2$
		quasi permanente	decompressione	-	ap. fessure	$\leq w_1$
c	Molto aggressive	frequente	formazione fessure	-	ap. fessure	$\leq w_1$
		quasi permanente	decompressione	-	ap. fessure	$\leq w_1$

TABELLA 2.2 - CRITERI DI SCELTA DELLO STATO LIMITE DI FESSURAZIONE (TABELLA 4.1.IV NTC 2008)

3. CRITERI DI CALCOLO

In ottemperanza con la normativa vigente, i calcoli sono condotti con il metodo semiprobabilistico agli stati limite.

3.1. Calcolo delle spinte sui paramenti verticali

In generale occorre considerare, di volta in volta, le spinte più appropriate a seconda della deformabilità della parete.

Nel caso di muri per i quali si possano accettare significative deformazioni, è possibile assumere, sia in condizioni statiche sia in condizioni sismiche, un regime di spinte attive. Altrimenti è in genere necessario assumere condizioni di spinta a riposo.

In presenza di sisma, è consentito l'approccio pseudo-statico, secondo il quale il complesso muro + terreno mobilitato è pensato soggetto ad un'accelerazione sismica uniforme avente le seguenti componenti

Orizzontale = k_h g Verticale = k_v g = ± 0.5 k_h g

Come nel caso statico, anche in condizioni sismiche è necessario distinguere tra:

- muri indeformabili;
- muri deformabili;
- muri molto deformabili;

Nella prima classe di muri (**muri indeformabili**) possono essere inclusi i manufatti aventi pareti adeguatamente contrastate, quali, ad esempio, gli scatolari. In questo caso è opportuno adottare spinte sismiche secondo la teoria di Wood (1973), come meglio indicato nel §5.1.4.

Nella categoria dei **muri deformabili** si possono includere le pareti sufficientemente deformabili grazie alla loro snellezza ma tuttavia sostanzialmente vincolate, in qualche modo, ad altre strutture, come ad esempio

le pareti di manufatti a U. In questo caso potranno essere considerate spinte comprese tra valori a riposo e attive, in ragione della deformabilità. Queste ultime (sismiche attive) saranno valutate assumendo

(SLV) $k_h = \beta_m \cdot a_{max}/g$, con $\beta_m=1$

Nella categoria dei **muri molto deformabili** per i quali possono essere ipotizzati significativi spostamenti relativi tra muro e terreno, si possono includere, ad esempio, i muri di sostegno fondati su fondazioni dirette. In questo caso si assumeranno certamente spinte attive, da valutarsi, introducendo nel caso sismico un coefficiente β_m in accordo con la Tabella 7.11.II di NTC2008.

(SLV) $k_h = \beta_m \cdot a_{max}/g$ (β_m da Tab 7.11.II)

in questo caso β_m= 0.31,

Seguono ora i criteri generali di valutazione delle spinte, applicabili a geometrie ordinarie.

3.1.1. Spinte attive in condizioni statiche

Ad una generica profondità z, nel caso di terreno puramente granulare, lo sforzo orizzontale totale $\sigma_A(z)$ sulla parete è dato da:

$$\sigma_A(z) = K_A \cdot [\sigma_v(z) - u(z)] + u(z) \qquad (3\text{-}1)$$

In cui

$\sigma_v(z)$ = sforzo verticale totale alla generica profondità, ossia il peso della colonna di terreno e di acqua soprastante la quota z.

$u(z)$ = pressione dell'acqua alla generica profondità

Il coefficiente di spinta attiva K_A può, in genere, essere assunto pari a

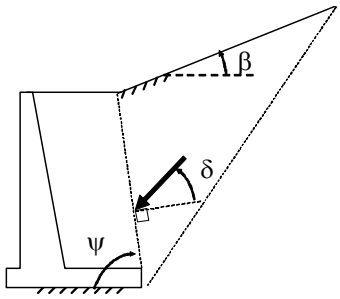
$$K_A = \tan^2\left(\frac{\pi}{4} - \frac{\phi}{2}\right) \qquad (3\text{-}2)$$

È possibile, tuttavia, mettere in conto l'angolo d'attrito δ tra terra e muro, assumendo quindi che la spinta sia inclinata, rispetto alla normale alla superficie di contatto tra muro e terreno, di un angolo δ.

In questo caso il coefficiente di spinta attiva può essere valutato con le note formule derivate dalla teoria di Coulomb e sviluppate da Muller-Breslau.

CONDIZIONI DI SPINTA ATTIVA – Teoria di Coulomb

$$K_A = \frac{sen^2(\psi + \phi)}{\text{sen}^2\psi \, \text{sen}(\psi - \delta)\left[1 + \sqrt{\frac{sen(\phi + \delta)sen(\phi - \beta)}{sen(\psi - \delta)sen(\psi + \beta)}}\right]^2} \qquad (3\text{-}3)$$



Operando nell'ambito del metodo agli stati limite, nelle formule precedenti, va introdotto l'angolo d'attrito di calcolo, cioè $\tan(\phi_d)=\tan(\phi_k) / \gamma_\phi$ se si opera nell'ambito di una combinazione GEO (ad esempio A2+M2+R2).

3.1.2. Spinte a riposo

Ad una generica profondità z, nel caso di terreno puramente granulare, lo sforzo orizzontale totale $\sigma_0(z)$ sulla parete è dato da:

$$\sigma_0(z) = K_0 \cdot [\sigma_v(z) - u(z)] + u(z) \qquad (3\text{-}4)$$

In cui, nel caso di piano campagna orizzontale, il coefficiente di spinta a riposo K_0 se non diversamente definito, può essere assunto pari a

$$K_0 = (1 - \sin(\phi)) \cdot \sqrt{OCR} \qquad (3\text{-}5)$$

Con OCR = GSC = grado di sovraconsolidazione.

3.1.3. Spinte attive in condizioni sismiche

Nell'ambito dell'approccio psudo-statico, il complesso muro + terreno mobilitato è pensato soggetto ad un'accelerazione sismica uniforme avente le seguenti componenti

Orizzontale = $k_h \cdot g$ Verticale = $k_v \cdot g$

La spinta totale attiva su un paramento di altezza pari ad H è data da:

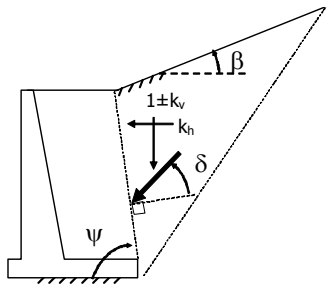
$$E_d = \tfrac{1}{2}\gamma^*(1 \pm k_v)K_{A,E}H^2 + E_{ws} + E_{wd} \qquad (3\text{-}6)$$

Il primo termine è la spinta attiva dovuta allo scheletro solido, il secondo termine E_{ws} è la risultante delle pressioni idrostatiche ed il terzo E_{wd} è la risultante delle sovrappressioni interstiziali.

I coefficienti di spinta attiva sono dati dalle seguenti espressioni (Mononobe & Okabe, nel seguito M-O):

CONDIZIONI DI SPINTA ATTIVA – Teoria di M-O

$$\beta \le \phi - \theta: \quad K_{A,E} = \frac{sen^2(\psi + \phi - \theta)}{\cos\theta \, sen^2\psi \, sen(\psi - \theta - \delta)\left[1 + \sqrt{\frac{sen(\phi + \delta)sen(\phi - \beta - \theta)}{sen(\psi - \theta - \delta)sen(\psi + \beta)}}\right]^2}$$



$$\beta > \phi - \theta: \quad K_{A,E} = \frac{sen^2(\psi + \phi - \theta)}{\cos\theta sen^2\psi sen(\psi - \theta - \delta)}$$

(3-7)

Operando nell'ambito del metodo agli stati limite, nelle formule precedenti, va introdotto l'angolo d'attrito di calcolo, cioè $\tan(\phi_d)=\tan(\phi_k) / \gamma_\phi$ se si opera nell'ambito di una combinazione GEO (ad esempio A2+M2+R2).

A seconda della definizione del peso specifico γ^* del cuneo e dell'angolo θ definito come l'angolo, rispetto alla verticale, fra le azioni esterne orizzontali e quelle verticali agenti sul cuneo di spinta di volume V, l'espressione generale può essere utilizzata per tre diverse condizioni nelle quali può trovarsi il rilevato.

3.1.3.1 Rilevato asciutto

Non c'è alcuna azione dovuta all'acqua: corrisponde alla configurazione originale ipotizzata da M-O. Come peso specifico γ^* si deve assumere il peso secco γ_d ; la forza orizzontale F_h è pari alla massa del terreno moltiplicata per l'accelerazione orizzontale mentre la forza verticale F_v è il peso del cuneo incrementato o decrementato dall'accelerazione sismica verticale; quindi:

$\gamma^* = \gamma_d$

$$\tan\theta = \frac{k_h}{1 \pm k_v}$$

$E_{ws} = E_{wd} = 0$

3.1.3.2 Rilevato saturo a grana fine (dinamicamente impervio: k<5·10^{-4} m/s)

In sostanza si assume che l'acqua, imprigionata negli interstizi, si muova insieme con il terreno: l'accelerazione sismica agirà quindi sulla massa complessiva (terreno+acqua) del cuneo, pari a $V \cdot \gamma_{sat}$. Si ammette che le pressioni interstiziali non subiscano variazioni ai fini del calcolo delle azioni sulla parete. In questo caso l'equilibrio limite del cuneo è fatto al netto della risultante delle azioni idrostatiche e quindi, nelle formule generali, si assumerà:

$\gamma^* = \gamma'$

$$\tan\theta = \frac{\gamma_{sat}}{\gamma'} \frac{k_h}{1 \pm k_v}$$

Alla spinta efficace dovrà essere aggiunta la spinta idrostatica dell'acqua, mentre, per ipotesi, la componente idrodinamica non può svilupparsi. Quindi:

$E_{ws} = \frac{1}{2}\gamma_w H^2$

$E_{wd} = 0$

3.1.3.3 Rilevato saturo a grana grossa (dinamicamente permeabile: $k \geq 5 \cdot 10^{-4}$ m/s)

Si ammette che l'acqua negli interstizi possa muoversi liberamente, indipendentemente dalle deformazioni subite dal terreno: l'accelerazione sismica agirà quindi sulla massa della sola parte solida del cuneo, pari a $V \cdot \gamma_d$. L'equilibrio limite del cuneo è fatto al netto della risultante delle pressioni interstiziali e quindi, nelle formule generali, si assumerà:

$\gamma^* = \gamma'$

$$\tan\theta = \frac{\gamma_d}{\gamma'} \frac{k_h}{1 \pm k_v}$$

In questo caso dovranno essere aggiunte sia la spinta idrostatica sia la sovraspinta idrodinamica della stessa acqua di falda.

$E_{ws} = \frac{1}{2}\gamma_w H^2$

$E_{wd} = \frac{7}{12} k_h \gamma_w H'^2$ con H' = altezza della freatica dal piede del muro.

3.1.3.4 Punto di applicazione delle spinte attive sismiche

Considerato che la spinta attiva complessiva è in generale composta da tre termini, occorre calcolare il punto di applicazione di ognuno di essi

1. **Componente associata allo scheletro solido**: è possibile operare come segue

a) si calcola la spinta attiva in condizioni statiche ($S_{A,S}$)

b) si calcola la quota parte efficace di spinta sismica E_d dovuta alla terra:

$S_{A,E} = \frac{1}{2}\gamma^*(1 \pm k_v) K_{A,E} H^2$

Nel caso di terreno eterogeneo, la spinta attiva è calcolata considerando la variabilità di $K_{A,sismico}$. Nel caso di terreno omogeneo ma parzialmente in falda, si suggerisce di adottare l'approccio sopra indicato, piuttosto che introdurre diversi valori dei coefficienti di spinta.

c) si calcola l'incremento di spinta dovuto alla terra in caso di sisma (componente efficace):

$\Delta S_A = S_{A,E} - S_{A,S}$

d) Nel caso di muri che possano ruotare alla base, si può considerare che tale incremento abbia una risultante nello stesso punto della risultante delle spinte statiche

e) Negli altri casi si può assumere che tale azione si distribuisca uniformemente sulla parete, il che equivale ad applicare un carico uniformemente distribuito pari a:

$q = \Delta S_A / H$

2. **Componente idrostatica**: è applicata come nel caso statico
3. **Componente idrodinamica (E_{wd})**: se esiste, è applicata considerando la seguente distribuzione di pressioni:

$$q_{wd}(z) = \pm \frac{7}{8} k_h \gamma_w \sqrt{H' \cdot z}$$ con z quota del generico punto rispetto la base della parete.

3.1.4. Sovraspinte sismiche su muri non in grado di spostarsi

In questo caso l'utilizzo delle equazioni di M-O non è raccomandato. Le spinte delle terre, sono calcolate in regime di spinta a riposo che comporta il calcolo delle spinte sismiche in tali condizioni; l'incremento dinamico di spinta del terreno può essere quindi calcolato attraverso la nota formulazione di Wood (1973) come:

$\Delta P_d = S \cdot a_g / g \cdot \gamma \cdot h_{tot}^2 = a_{max} / g \cdot \gamma \cdot h_{tot}^2$

Con h_{tot} = altezza del muro.

Questa spinta è applicata come una distribuzione uniforme lungo l'altezza h_{tot}.

Il punto di applicazione della spinta che interessa lo scatolare è posto $h_{scat}/2$, con "h_{tot}" altezza dalla fondazione dello scatolare al piano stradale e h_{scat} l'altezza dello scatolare.

Essendo "ΔP_d" la risultante globale, ed il diagramma di spinta di tipo rettangolare, è immediato ricavare la quota parte della spinta che agisce sul piedritto dello scatolare.

L'azione sismica è rappresentata da un insieme di forze statiche orizzontali e verticali, date dal prodotto delle forze di gravità per i coefficienti sismici in precedenza definiti, di cui la componente verticale è considerata agente verso l'alto o verso il basso, in modo da produrre gli effetti più sfavorevoli.

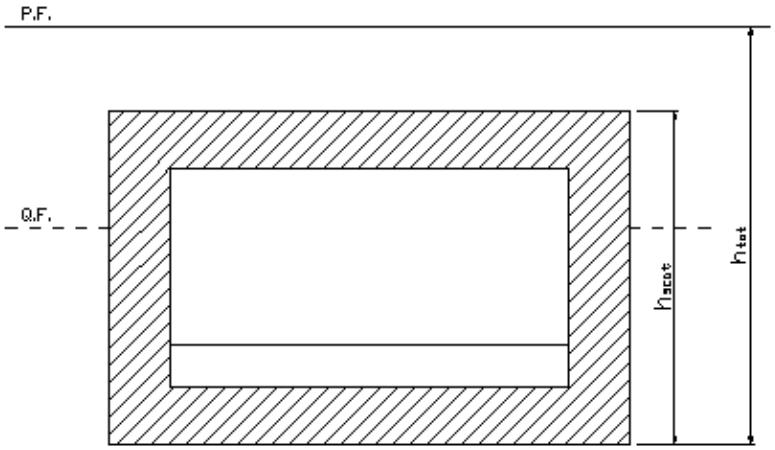


FIGURA 3-1 ALTEZZE DI RIFERIMENTO PER IL CALCOLO DELL'AZIONE SISMICA

3.1.4.1 Rilevato parzialmente immerso

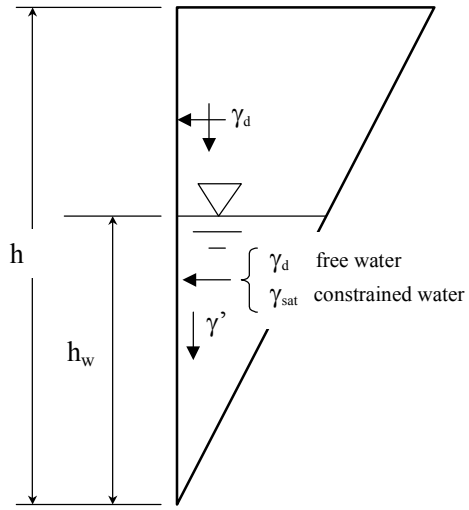


FIGURA 3-2: TERRAPIENO PARZIALMENTE IMMERSO.

Ebeling e Morrison (1992) indicano il modo per utilizzare, anche in questo caso, le equazioni di M-O: sostanzialmente questo caso può essere assimilato a quello di un terrapieno completamente immerso omogeneo, avente un peso specifico equivalente. Per calcolare la risultante delle spinte, si potrà operare come segue. Si definiscono i pesi specifici medi da associare rispettivamente alla componente efficace verticale ed alla componente laterale

$$\gamma_V^* = \left(\frac{h_w}{h}\right)^2 \cdot \gamma' + \left[1 - \left(\frac{h_w}{h}\right)^2\right] \cdot \gamma_d$$

$$\gamma_H^* = \begin{cases} \gamma_d & \text{se terreno din. permeabile} \\ \left(\frac{h_w}{h}\right)^2 \cdot \gamma_{sat} + \left[1 - \left(\frac{h_w}{h}\right)^2\right] \cdot \gamma_d & \text{se terreno din. impervio} \end{cases}$$

Definendo

$$\tan\theta = \frac{\gamma_H^*}{\gamma_V^*} \frac{k_h}{1 - k_v}$$

si applicherà poi la (5-6) calcolando i coefficienti di spinta tramite le (5-7) e ponendo $\gamma^* = \gamma_V^*$.

3.1.4.2 Punto di applicazione delle spinte attive sismiche

Considerato che la spinta attiva complessiva è in generale composta da tre termini, occorre calcolare il punto di applicazione di ognuno di essi

4. **Componente associata allo scheletro solido**: è possibile operare come segue

f) si calcola la spinta attiva in condizioni statiche ($S_{A,S}$)

g) si calcola la quota parte efficace di spinta sismica E_d dovuta alla terra:

$$S_{A,E}= \tfrac{1}{2}\gamma^{*}(1 \pm k_v)K_{A,E}H^2$$

Nel caso di terreno eterogeneo, la spinta attiva è calcolata considerando la variabilità di $K_{A,sismico}$. Nel caso di terreno omogeneo ma parzialmente in falda, si suggerisce di adottare l'approccio sopra indicato, piuttosto che introdurre diversi valori dei coefficienti di spinta.

h) si calcola l'incremento di spinta dovuto alla terra in caso di sisma (componente efficace):

$$\Delta S_A= S_{A,E} - S_{A,S}$$

i) Nel caso di muri che possano ruotare alla base, si può considerare che tale incremento abbia una risultante nello stesso punto della risultante delle spinte statiche

j) Negli altri casi si può assumere che tale azione si distribuisca uniformemente sulla parete, il che equivale ad applicare un carico uniformemente distribuito pari a:

$$q = \Delta S_A / H$$

5. **Componente idrostatica**: è applicata come nel caso statico
6. **Componente idrodinamica (E_{wd})**: se esiste, è applicata considerando la seguente distribuzione di pressioni:

$$q_{wd}(z)= \pm \frac{7}{8} k_h \gamma_w \sqrt{H'\cdot z}$$ con z quota del generico punto rispetto la base della parete.

3.1.5. Sovraspinte sismiche su muri non in grado di spostarsi

In questo caso l'utilizzo delle equazioni di M-O non è raccomandato. Le spinte delle terre, sono calcolate in regime di spinta a riposo che comporta il calcolo delle spinte sismiche in tali condizioni; l'incremento dinamico di spinta del terreno può essere quindi calcolato attraverso la nota formulazione di Wood (1973) come:

$$\Delta P_d = S\cdot a_g/g\cdot\gamma\cdot h_{tot}^2 = a_{max}/g\cdot\gamma\cdot h_{tot}^2$$

Con h_{tot} = altezza del muro.

Questa spinta è applicata come una distribuzione uniforme lungo l'altezza h_{tot}.

Nel caso di scatolare, si assumerà γ = 19.5 kN/m^3 = peso di volume del materiale compattato del rilevato.

Il punto di applicazione della spinta che interessa lo scatolare è posto $h_{scat}/2$, con "h_{tot}" altezza dalla fondazione dello scatolare al piano stradale e h_{scat} l'altezza dello scatolare.

Essendo "ΔP_d" la risultante globale, ed il diagramma di spinta di tipo rettangolare, è immediato ricavare la quota parte della spinta che agisce sul piedritto dello scatolare.

L'azione sismica è rappresentata da un insieme di forze statiche orizzontali e verticali, date dal prodotto delle forze di gravità per i coefficienti sismici in precedenza definiti, di cui la componente verticale è considerata agente verso l'alto o verso il basso, in modo da produrre gli effetti più sfavorevoli.

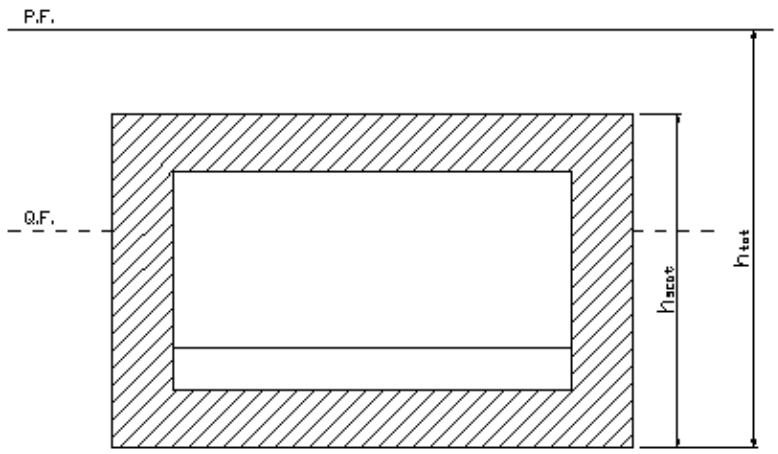


FIGURA 3-3 ALTEZZE DI RIFERIMENTO PER IL CALCOLO DELL'AZIONE SISMICA

3.2. Criteri e definizione dell'azione sismica

L'effetto dell'azione sismica di progetto sull'opera nel suo complesso, includendo il volume significativo di terreno, la struttura di fondazione, gli elementi strutturali e non strutturali, nonché gli impianti, deve rispettare gli stati limite ultimi e di esercizio definiti al § 3.2.1, i cui requisiti di sicurezza sono indicati nel § 7.1 della norma.

Il rispetto degli stati limite si considera conseguito quando:

nei confronti degli stati limite di esercizio siano rispettate le verifiche relative al solo Stato Limite di Danno;

nei confronti degli stati limite ultimi siano rispettate le indicazioni progettuali e costruttive riportate nel § 7 e siano soddisfatte le verifiche relative al solo Stato Limite di salvaguardia della Vita.

Per Stato Limite di Danno (SLD) s'intende che l'opera, nel suo complesso, a seguito del terremoto, includendo gli elementi strutturali, quelli non strutturali, le apparecchiature rilevanti alla sua funzione, subisce danni tali da non provocare rischi agli utenti e non compromette significativamente la capacità di resistenza e di rigidezza nei confronti delle azioni verticali e orizzontali. Lo stato limite di esercizio comporta la verifica delle tensioni di lavoro, in conformità al § 4.1.2.2.5 (NT).

Per Stato Limite di salvaguardia della Vita (SLV) si intende che l'opera a seguito del terremoto subisce rotture e crolli dei componenti non strutturali e impiantistici e significativi danni di componenti strutturali, cui si associa una perdita significativa di rigidezza nei confronti delle azioni orizzontali (creazione di cerniere plastiche secondo il criterio della gerarchia delle resistenze), mantenendo ancora un margine di sicurezza (resistenza e rigidezza) nei confronti delle azioni verticali.

Gli stati limite, sia di esercizio sia ultimi, sono individuati riferendosi alle prestazioni che l'opera a realizzarsi deve assolvere durante un evento sismico; per la funzione che l'opera deve espletare nella sua vita utile, è significativo calcolare lo Stato Limite di Danno (SLD) per l'esercizio e lo Stato Limite di Salvaguardia della Vita (SLV) per lo stato limite ultimo.

In merito alle opere scatolari di cui trattasi, nel rispetto del punto § 7.9.2., assimilando l'opera scatolare alla categoria delle spalle da ponte, rientrando tra le opere che si muovono con il terreno (§ 7.9.2.1), si può ritenere che la struttura debba mantenere sotto l'azione sismica un comportamento elastico; queste categorie di opere che si muovono con il terreno non subiscono le amplificazioni dell'accelerazione del suolo.

Le azioni sismiche sono valutate in relazione al periodo di riferimento della struttura, che si ricava moltiplicandone la vita nominale V_N per il coefficiente d'uso C_U

$V_R = V_N \cdot C_u$

Il valore del coefficiente d'uso C_U è definito, al variare della classe d'uso, come mostrato nella tabella seguente:

CLASSE D'USO	I	II	III	IV
COEFFICIENTE C_U	0,7	1,0	1,5	2,0

TABELLA 3.1 VALORI DEL COEFFICIENTE D'USO CU

Il valore di probabilità di superamento del periodo di riferimento P_{VR}, cui riferirsi per individuare l'azione sismica agente, è:

P_{VR}(SLV) = 10%

Il **periodo di ritorno** dell'azione sismica T_R espresso in anni vale:

$$T_R(SLV) = -\frac{Vr}{\ln(1-Pvr)}$$

ASSE AUTOSTRADALE					
OPERA	***Vita Nominale [anni]***	***Classe d'uso***	***Coefficiente d'uso***	***Periodo di Riferimento [anni]***	***Periodo di ritorno SLV [anni]***
Rilevati	*100*	*IV*	*2*	*200*	1898
Viadotti	100	*IV*	*2*	*200*	1898
Sovrappassi di svincolo	100	*IV*	*2*	*200*	1898
Ponti	100	*IV*	*2*	*200*	1898
Gallerie e trincee confinate	100	*IV*	*2*	*200*	1898
Sovrappassi	100	*IV*	*2*	*200*	1898
Sottovia					
Manufatto scatolare per sottovia la cui proiezione cade sull'asse autostradale	100	*IV*	*2*	*200*	1898
Muri ad U per sottovia statali	50	*IV*	*2*	*100*	949
Muri ad U per sottovia ex statali e provinciali	50	III	*1.5*	*75*	712
Muri ad U per sottovia comunali e poderali	50	II	*1*	*50*	475
Edifici di stazione e caserma di polizia	50	IV	*2*	*100*	949
Caselli autostradali	50	IV	*2*	*100*	949

Opere minori: attraversamenti idraulici	100	IV	*2*	*200*	1898
Opere minori: muri di sostegno per rilevato autostradale (sottoscarpa)	100	IV	*2*	*200*	1898
Opere minori: muri di sostegno per trincea autostradale (controripa)	100	IV	*2*	*200*	1898
Opere provvisionali (1)	10	II	*1*	*10*	95
VIABILITA' DI ADDUZIONE E DI COLLEGAMENTO (tipologia C1 e C2)					
OPERA	*Vita Nominale [anni]*	*Classe d'uso*	*Coefficiente d'uso*	*Periodo di Riferimento [anni]*	*Periodo di ritorno SLV [anni]*
Opere provvisionali (1)	*10*	*II*	*1*	*10*	
Riqualificazione della S.P. 72 "Parma-Mezzani (1PR) - Tipologia F2					
Rilevati	*50*	*III*	*1.5*	*75*	712
Opere minori: attraversamenti idraulici	*50*	*III*	*1.5*	*75*	712
Variante alla S.P. n 41 in corrispondenza del tracciato Cispadano – tratto tra S.P. n 60 e Brescello (1RE) – tipologia C1					
Rilevati	*50*	*III*	*1.5*	*75*	712
Ponti	*50*	*III*	*1.5*	*75*	712
Viadotti	*50*	*III*	*1.5*	*75*	712
Sottovia	*50*	*III*	*1.5*	*75*	712
Opere minori: attraversamenti idraulici	*50*	*III*	*1.5*	*75*	712
Cispadana tra la S.P. n 2 "Reggiolo-Gonzaga" e la ex S.S. n 62 "della Cisa" (2RE) – tipologia C1					
Rilevati	*50*	*III*	*1.5*	*75*	712
Ponti	*50*	*III*	*1.5*	*75*	712

Opere minori: attraversamenti idraulici	*50*	*III*	*1.5*	*75*	712
Raccordo Bondeno-Cento-Autostrada Cispadana (1FE)					
Rilevati tipologia C2	*50*	*III*	*1.5*	*75*	712
Rilevati tipologia F2	*50*	*III*	*1.5*	*75*	712
Ponti	*50*	*III*	*1.5*	*75*	712
Opere minori: attraversamenti idraulici	*50*	*III*	*1.5*	*75*	712

(1) Le verifiche sismiche di opere provvisorie o strutture in fase costruttiva possono omettersi quando le relative durate previste in progetto siano inferiori a 2 anni. (Rif. NTC 2008 par. 2.4.1)

TABELLA 3.2 PERIODO DI RITORNO PER L'AZIONE SISMICA

Dato il valore del periodo di ritorno suddetto, tramite le tabelle riportate nell'Allegato B della norma o tramite la mappatura messa a disposizione in rete dall'Istituto Nazionale di Geofisica e Vulcanologia (INGV), è possibile definire i valori di a_g, F_0, T^*_c.

$a_g \rightarrow$ accelerazione massima al sito;

$F_0 \rightarrow$ valore massimo del fattore di amplificazione dello spettro in accelerazione orizzontale;

$T^*_c \rightarrow$ periodo di inizio del tratto a velocità costante dello spettro in accelerazione orizzontale;

S → coefficiente che comprende l'effetto dell'amplificazione stratigrafica (Ss) e dell'amplificazione topografica (St).

L'opera in oggetto ricade nelle vicinanze del comune di Reggiolo di cui si riportano le caratteristiche sismiche in funzione del periodo di ritorno del sisma definito nella tabella precedente :

Periodo di ritorno SLV [anni]	ag/g	F0	Tc* (s)	Categoria sottosuolo	Ss	amax/g
1898	0,221	2,489	0,285	C	1,37	0,303

Il calcolo viene eseguito con il metodo pseudostatico (§ 7.11.6 NT). In queste condizioni l'azione sismica è rappresentata da una forza statica equivalente pari al prodotto delle forze di gravità per un opportuno coefficiente sismico.

3.3. Combinazioni di carico

Le combinazioni di carico, utilizzate per condurre le verifiche agli stati limite ultimi e agli stati limite di esercizio, sono state originate in ottemperanza con quanto prescritto dalla vigente normativa.

3.3.1. Combinazioni per la verifica allo SLU

Gli stati limite ultimi delle opere interrate si riferiscono allo sviluppo di meccanismi di collasso, determinati dalla mobilitazione della resistenza del terreno, e al raggiungimento della resistenza degli elementi strutturali che compongono l'opera.

Le verifiche agli stati limite ultimi sono eseguiti in riferimento ai seguenti stati limite:

-SLU di tipo geotecnico (GEO) e di equilibrio di corpo rigido (EQU)

collasso per carico limite dell'insieme fondazione-terreno;

-SLU di tipo strutturale (STR)

raggiungimento della resistenza negli elementi strutturali.

Trattandosi di opere interrate, le verifiche saranno condotte secondo l'approccio progettuale "Approccio 1", utilizzando i coefficienti parziali riportati nelle Tabelle 6.2.I e 5.1.V per i parametri geotecnici e le azioni.

combinazione 1 → (A1+M1+R1) ⇒ STR (verifiche degli elementi strutturali)

combinazione 2 → (A2+M2+R2) ⇒ GEO (carico limite)

PARAMETRO	GRANDEZZA ALLA QUALE APPLICARE IL COEFF. PARZIALE	COEFFICIENTE PARZIALE γ_M	M_1	M_2

Tangente dell'angolo di resistenza al taglio	$\tan \varphi'_k$	$\gamma_{\varphi'}$	1	1,25
Coesione efficace	c'_k	$\gamma_{c'}$	1	1,25
Resistenza non drenata	c'_{uk}	γ_{cu}	1	1,4
Peso dell'unità di volume	γ	γ_{γ}	1	1

TABELLA 3.3 - COEFFICIENTI PARZIALI PER I PARAMETRI DEL TERRENO (TABELLA 6.2.II NTC 2008)

VERIFICA	COEFF. PARZIALE (R1)	COEFF. PARZIALE (R2)
Capacità portante della fondazione	$\gamma_{R=1}$	$\gamma_{R=1}$
Scorrimento	$\gamma_{R=1}$	$\gamma_{R=1}$
Resistenza del terreno a valle	$\gamma_{R=1}$	$\gamma_{R=1}$

TABELLA 3.4- COEFFICIENTI PARZIALI γ_R PER LA RESISTENZA DEL SISTEMA

Ai fini delle verifiche degli <u>stati limite ultimi</u> si definiscono le seguenti combinazioni:

STR) $\Rightarrow$ $\gamma_{G1} \cdot G_1 + \gamma_{G2} \cdot G_2 + \gamma_{Q1} \cdot Q_{k1} + \gamma_{0i} \sum_i \psi_{0i} \cdot Q_{ki}$ $\Rightarrow (\Phi_d' = \Phi_k')$

GEO) $\Rightarrow$ $\gamma_{G1} \cdot G_1 + \gamma_{G2} \cdot G_2 + \gamma_{Q1} \cdot Q_{k1} + \gamma_{0i} \sum_i \psi_{0i} \cdot Q_{ki}$ $\Rightarrow (\Phi_d' = \tan^{-1}(\tan \Phi_k' / \gamma_\Phi))$

I valori dei coefficienti parziali delle azioni sono dedotti dalla tabella 5.1.V del D.M. 14 Gennaio 2008

Tabella 5.1.V – *Coefficienti parziali di sicurezza per le combinazioni di carico agli SLU*

		Coefficiente	EQU[1]	A1 STR	A2 GEO
Carichi permanenti	favorevoli sfavorevoli	γ_{G1}	0,90 1,10	1,00 1,35	1,00 1,00
Carichi permanenti non strutturali[2]	favorevoli sfavorevoli	γ_{G2}	0,00 1,50	0,00 1,50	0,00 1,30
Carichi variabili da traffico	favorevoli sfavorevoli	γ_{Q}	0,00 1,35	0,00 1,35	0,00 1,15
Carichi variabili	favorevoli sfavorevoli	γ_{Qi}	0,00 1,50	0,00 1,50	0,00 1,30
Distorsioni e presollecitazioni di progetto	favorevoli sfavorevoli	$\gamma_{\varepsilon 1}$	0,90 1,00[3]	1,00 1,00[4]	1,00 1,00
Ritiro e viscosità, Variazioni termiche, Cedimenti vincolari	favorevoli sfavorevoli	$\gamma_{\varepsilon 2}$, $\gamma_{\varepsilon 3}$, $\gamma_{\varepsilon 4}$	0,00 1,20	0,00 1,20	0,00 1,00

[1] Equilibrio che non coinvolga i parametri di deformabilità e resistenza del terreno; altrimenti si applicano i valori di GEO.
[2] Nel caso in cui i carichi permanenti non strutturali (ad es. carichi permanenti portati) siano compiutamente definiti si potranno adottare gli stessi coefficienti validi per le azioni permanenti.
[3] 1,30 per instabilità in strutture con precompressione esterna
[4] 1,20 per effetti locali

3.3.2. Combinazioni per la verifica allo SLE

Ai fini delle verifiche degli stati limite di esercizio (fessurazione/ stato tensionale) si definiscono le seguenti combinazioni:

Frequente) $\Rightarrow$ $G_1 + G_2 + \psi_{11}\cdot Q_{k1} + \sum_i \psi_{2i}\cdot Q_{ki}$ $\Rightarrow (\Phi_d' = \Phi_k')$

Quasi permanente) $\Rightarrow$ $G_1 + G_2 + \psi_{21}\cdot Q_{k1} + \sum_i \psi_{2i}\cdot Q_{ki}$ $\Rightarrow (\Phi_d' = \Phi_k')$

Rara) $\Rightarrow$ $G_1 + G_2 + Q_{k1} + \sum_i \psi_{0i}\cdot Q_{ki}$ $\Rightarrow (\Phi_d' = \Phi_k')$

I valori dei coefficienti di combinazione sono dedotti dalla tabella 5.1.Vi del D.M. 14 Gennaio 2008.

Tabella 5.1.VI - *Coefficienti ψ per le azioni variabili per ponti stradali e pedonali*

Azioni	*Gruppo di azioni (Tabella 5.1.IV)*	*Coefficiente ψ_0 di combinazione*	*Coefficiente ψ_1 (valori frequenti)*	*Coefficiente ψ_2 (valori quasi permanenti)*
Azioni da traffico (Tabella 5.1.IV)	Schema 1 (Carichi tandem) Schemi 1, 5 e 6 (Carichi distribuiti Schemi 3 e 4 (carichi concentrati) Schema 2	0,75 0,40 0,40 0,0	0,75 0,40 0,40 0,75	0,0 0,0 0,0 0,0
	2	0,0	0,0	0,0
	3	0,0	0,0	0,0
	4 (folla)	----	0,75	0,0
	5	0,0	0,0	0,0
Vento q_5	Vento a ponte scarico SLU e SLE Esecuzione	 0,6 0,8	 0,2 ----	 0,0 0,0
	Vento a ponte carico	0,6		
Neve q_5	SLU e SLE	0,0	0,0	0,0
	esecuzione	0,8	0,6	0,5
Temperatura	T_k	0,6	0,6	0,5

3.3.3. Combinazioni per la condizione sismica

Per la condizione sismica, le combinazioni per gli stati limite ultimi da prendere in considerazione sono le seguenti (approccio 1):

STR) $\Rightarrow$ $E+G_1+G_2+\sum_i\psi_{2i}\cdot Q_{ki}$ $\Rightarrow (\Phi_d' = \Phi_k')$

GEO) $\Rightarrow$ $E+G_1+G_2+\sum_i\psi_{2i}\cdot Q_{ki}$ $\Rightarrow$ (spinte $\Phi_d' = \tan^{-1}(\tan\Phi_k' / \gamma_\Phi)$)

Gli effetti dell'azione sismica saranno valutati tenendo conto delle masse associate ai seguenti carichi gravitazionali:

$G_1+G_2+\sum_i\psi_{2i}\cdot Q_{ki}$

4. PARAMETRI GEOTECNICI

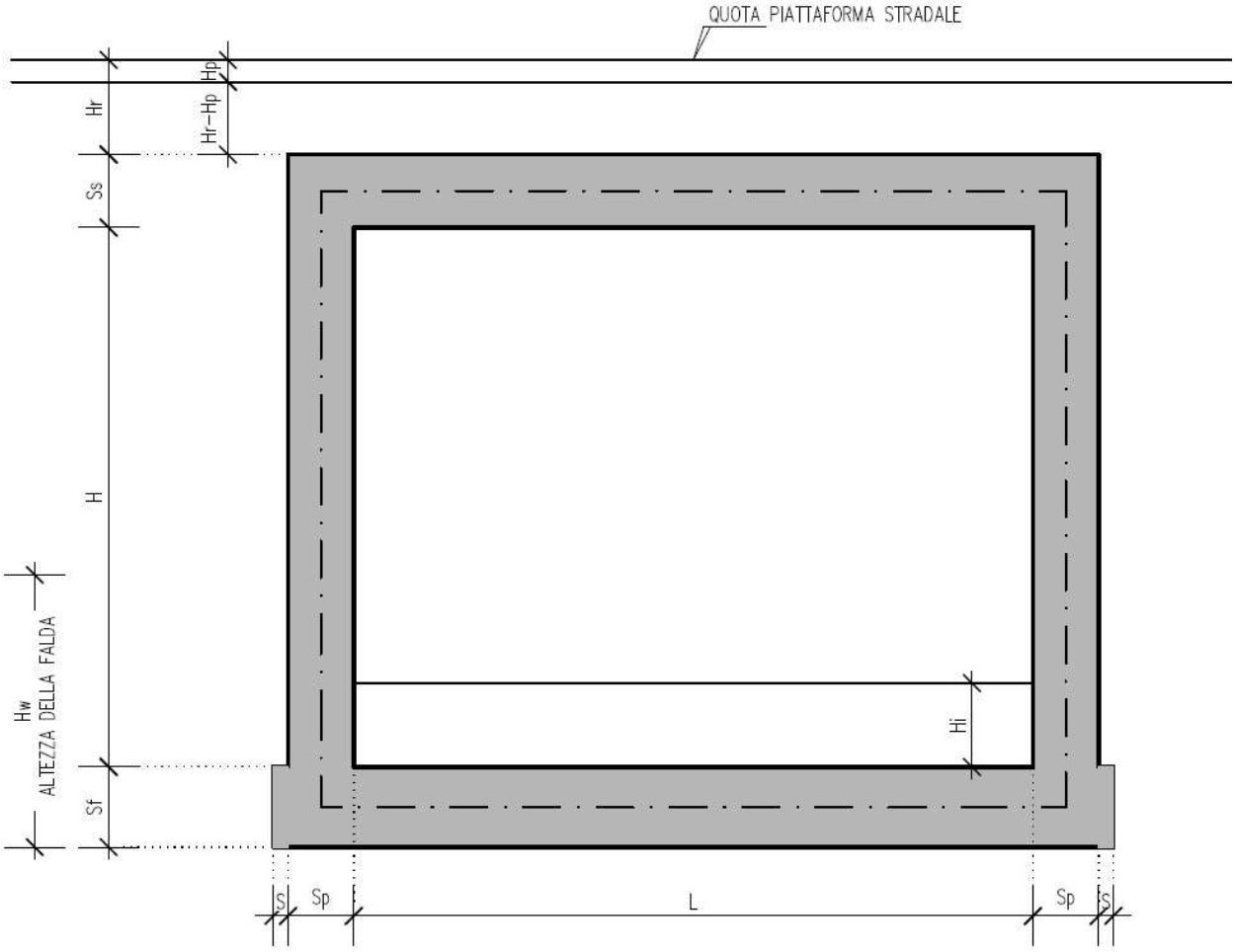
Ai fini del calcolo della spinta esercitata dalle terre sui piedritti e del carico da ricoprimento sulla soletta superiore del **manufatto scatolare** si utilizzano i parametri seguenti, in accordo con quanto riportato nella Relazione Geotecnica di cui al rif. [1]:

- angolo di attrito interno del terreno $\Phi = 38°$
- coefficiente di spinta a riposo $k_0 = 0{,}384$ (stato limite STR)
- coefficiente di spinta attiva $k_a = 0{,}238$ (stato limite STR)
- coefficiente di spinta a riposo, combinazione M2 $k_{0,M2} = 0{,}47$ (stato limite GEO)
- coefficiente di spinta attiva, combinazione M2 $k_{a,M2} = 0{,}31$(stato limite GEO)
- peso specifico del terreno asciutto $\gamma_{dry} = 19{,}5[kN/m^3]$
- coefficiente di sottofondazione ks = 5000 $[kN/m^3]$

Si assume inoltre, ai fini del calcolo dei carichi permanenti, un peso specifico per la piattaforma stradale pari a $\gamma_{pav} = 22\ kN/m^3$.

5. SOTTOPASSO SCATOLARE

Si riportano di seguito le dimensioni geometriche della struttura:



Dimensioni geometriche (sezione in retto):

L	=	4,00	m
H	=	4,15	m
H_r	=	0,30	m
H_p	=	0,30	m

S_p	=	0,45	m
S_s	=	0,45	m
S	=	0,20	m
S_f	=	0,80	m
H_i	=	0,05	m
Falda?		no	
Hf	=	0,00	m

rispetto ad asse soletta inferiore

5.1. PROGRAMMI DI CALCOLO UTILIZZATI

5.1.1. Pro_Sap

Il calcolo della struttura viene condotto con il programma PRO_SAP (prodotto dalla 2S.I. Software e Servizi per l'Ingegneria S.r.l. P.tta Schiatti 8/b 44100 Ferrara)

Gli elementi utilizzati per la modellazione dello schema statico della struttura sono i seguenti:

- Elemento tipo BEAM (trave)
- Elemento tipo BOUNDARY (molla)
- Elemento tipo STIFFNESS (matrice di rigidezza)

Il codice di calcolo adottato e' ALGOR SUPERSAP prodotto dalla ALGOR INTERACTIVE SYSTEMS, Inc. Pittsburgh, PA, USA.

Il programma SUPERSAP applica il metodo degli elementi finiti a strutture di forma qualunque, diversamente caricate e vincolate, nell' ambito del comportamento lineare delle stesse.

Si sottolinea che il solutore ALGOR SUPERSAP e' stato sottoposto, con esito positivo e relativa certificazione, ai test NAFEMS (test di confronto della National Agency for Finite Element Methods and Standards in Inghilterra).

Inoltre, il solutore ALGOR SUPERSAP e' soggetto ad attivita' di controllo ai sensi della QA (quality assurance), condizione essenziale per l' utilizzo dei codici di calcolo nell' ambito della progettazione nucleare ed off-shore.

5.1.2. Modellazione adottata

La struttura viene schematizzata attraverso un modello analitico agli elementi finiti. Si è assunto lo schema statico di telaio chiuso. La mesh è composta da 16 beam elements e da 16 nodi (figure 2a e 2b); l'output di calcolo viene raccolto nell'allegato.

L'analisi strutturale e' condotta con il metodo degli spostamenti per la valutazione dello stato tenso-deformativo indotto da carichi statici.

La struttura risulta essere fondata su pali Φ80 di lunghezza 18m.

Sulla base delle indicazioni riportate nella relazione geotecnica è stata utilizzata una rigidezza del singolo palo pari a 196000 kN/m (ai fini della modellazione di calcolo).

Il suolo viene modellato facendo ricorso all'usuale artificio delle molle elastiche alla Winkler.

Agli effetti delle caratteristiche geometriche delle varie aste si è quindi assunto:

-una sezione rettangolare b x h = 100 x S_s cm per la soletta superiore

-una sezione rettangolare b x h = 100 x S_f cm per la soletta di fondazione

-una sezione rettangolare b x h = 100 x S_p cm per i piedritti

Per le aste del reticolo si è assunto:

Ec = 31477 / 32308 N/mm² ; modulo elastico del calcestruzzo rispettivamente per classe di resistenza C25/30 e C28/35.

Lo schema statico della struttura e la relativa numerazione dei nodi e delle aste sono riportati nelle figure seguenti:

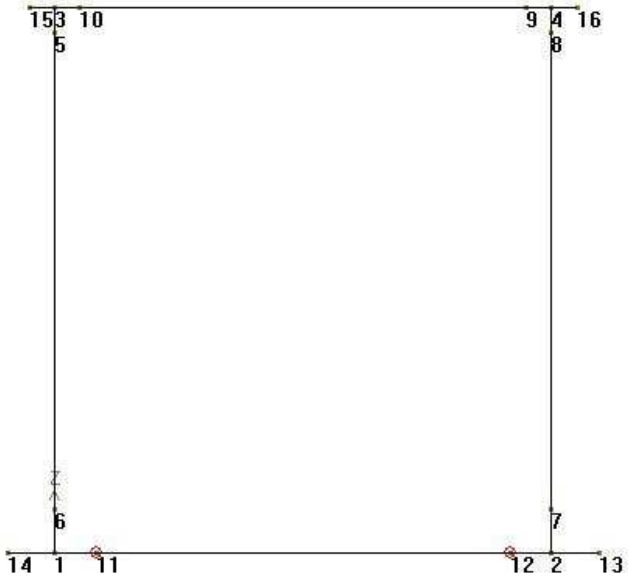


FIG. 2A - NUMERAZIONE DEI NODI

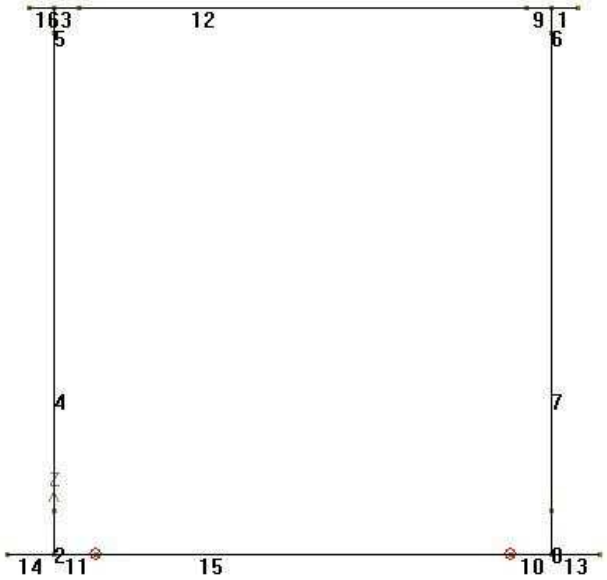


FIG. 2B - NUMERAZIONE DELLE ASTE

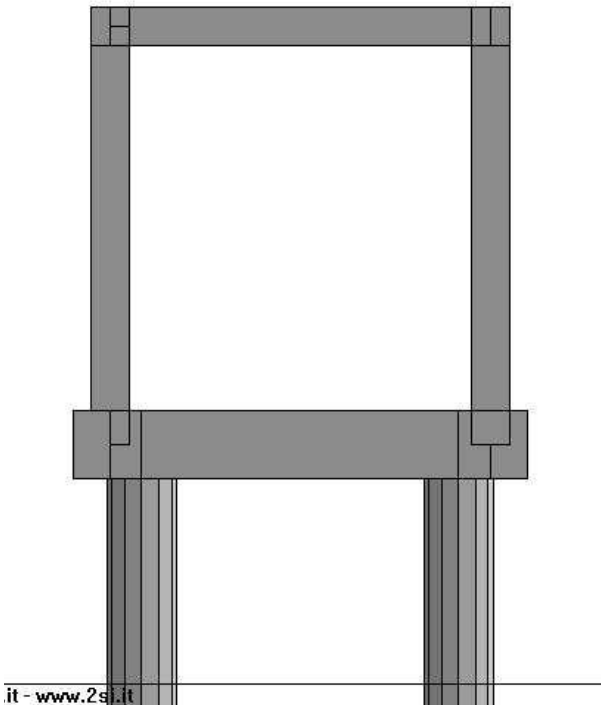


FIG. 2C - MODELLO

5.2. Analisi dei carichi

Nel seguente paragrafo si descrivono i carichi elementari da assumere per le verifiche di resistenza in esercizio ed in presenza dell'evento sismico.

Vengono prese in considerazione n°24 Condizioni Elementari di carico (CDC1÷ CDC 24), di seguito determinate.

Si considerano nel calcolo delle sollecitazioni agenti nel tombino i seguenti carichi. I dettagli relativi a ciascuna condizione di carico sono riportati nel paragrafo di analisi dei carichi.

CDC	Tipo	Sigla Id
1	Ggk	CDC=Ggk (peso proprio della struttura)
2	Gk	CDC=Gk (permanenti portati)
3	Gk	CDC=Gk (spinta a riposo piedritto sx)
4	Gk	CDC=Gk (spinta a riposo piedritto dx)
5	Gk	CDC=Gk (spinta attiva piedritto sx)
6	Gk	CDC=Gk (spinta attiva piedritto dx)
7	Qk	CDC=Qk (spinta idraulica interna)
8	Qk	CDC=Qk (Q1k centrato)
9	Qk	CDC=Qk (Q1k filo piedritto dx)
10	Qk	CDC=Qk (Q1k filo piedritto sx)
11	Qk	CDC=Qk (Accidentale 20kN/m^2)
12	Qk	CDC=Qk (Accidentale su piedritto sx)
13	Qk	CDC=Qk (Accidentale su piedritto dx)
14	Qk	CDC=Qk (Accidentale 9kPa su piedritto sx)
15	Qk	CDC=Qk (Accidentale 9kPa su piedritto dx)

CDC	Tipo	Sigla Id
16	Qk	CDC=Qk (Accidentale 20kPa su piedritto sx)
17	Qk	CDC=Qk (Accidentale 20kPa su piedritto dx)
18	Qk	CDC=Qk (frenatura)
19	Qk	CDC=Qk (Sisma orizzontale)
20	Qk	CDC=Qk (Sisma verticale)
21	Qk	CDC=Qk (Spinta idrodinamica)
22	Qk	CDC=Qk (Variazione termica uniforme)
23	Qk	CDC=Qk (Variazione termica lineare su soletta e piedritti)
24	Qk	CDC=Qk (Ritiro differenziale soletta)

Tali Combinazioni Elementari saranno opportunamente combinate secondo quanto previsto dalla normativa vigente.

Per i materiali si assumono i seguenti pesi specifici:

- calcestruzzo armato: 25 kN/m³
- rilevato 20 kN/m³
- pavimentazione (spessore 0,30m) 22 kN/m³

5.2.1. Peso proprio e carichi permanenti portati

Soletta superiore

peso proprio	0,45	*	25	=	20,00	kN/m^2
peso pavimentazione	0,30	*	22	=	6,60	kN/m^2
peso sovrastruttura stradale	0,00	*	20	=	0,00	kN/m^2

totale					6,60	kN/m^2
Soletta inferiore						
peso proprio	0,80	*	25,00	=	20,00	kN/m^2
peso sovrastruttura stradale	0,05	*	22,00	=	1,10	kN/m^2
totale					**21,10**	kN/m^2
Piedritti						
peso proprio	0,45	*	25,00	=	**11,25**	kN/m^2

Tali carichi vengono considerati nelle condizioni di carico elementari CDC 1-2, in particolare nella CDC1 sono presenti i pesi propri della struttura, nella condizione di carico CDC2 i carichi permanenti portati.

5.2.2. Spinta delle terre

Il reinterro a ridosso dello scatolare verrà realizzato tramite materiale di buone caratteristiche meccaniche, in accordo a quanto riportato al paragrafo 5 del presente documento.

La spinta del terreno assume un andamento lineare con la profondità secondo la legge:

$p_h = \lambda \gamma_t z$

dove si considera come coefficiente di spinta λ il coefficiente di spinta attiva o a riposo a seconda dell'elemento strutturale di cui si vogliono massimizzare le sollecitazioni

1) In presenza di falda esterna allo scatolare

Le pressioni del terreno relative alla spinta a riposo, in corrispondenza dei nodi caratteristici dei piedritti, risultano essere le seguenti:

p_2	=	(	22	*	0,30	+	20	*	0,225	)	*	0,384	= 4,22	kN/m^2
p_{12}	=		p_2	+		(	19,50	*	0,225	)	*	0,384	= 5,90	kN/m^2
P_{11}	=		p_{12}	+		(	19,50	*	4,15	)	*	0,384	= 36,98	kN/m^2
p_1	=		p_{11}	+		(	19,50	*	0,4	)	*	0,384	= 39,97	kN/m^2

Tali spinte vengono considerate nella Condizione Elementare (CDC 3) sul piedritto sx e nella Condizione Elementare (CDC 4) sul piedritto dx.

Le pressioni del terreno relative alla spinta attiva, in corrispondenza dei nodi caratteristici dei piedritti, risultano essere le seguenti:

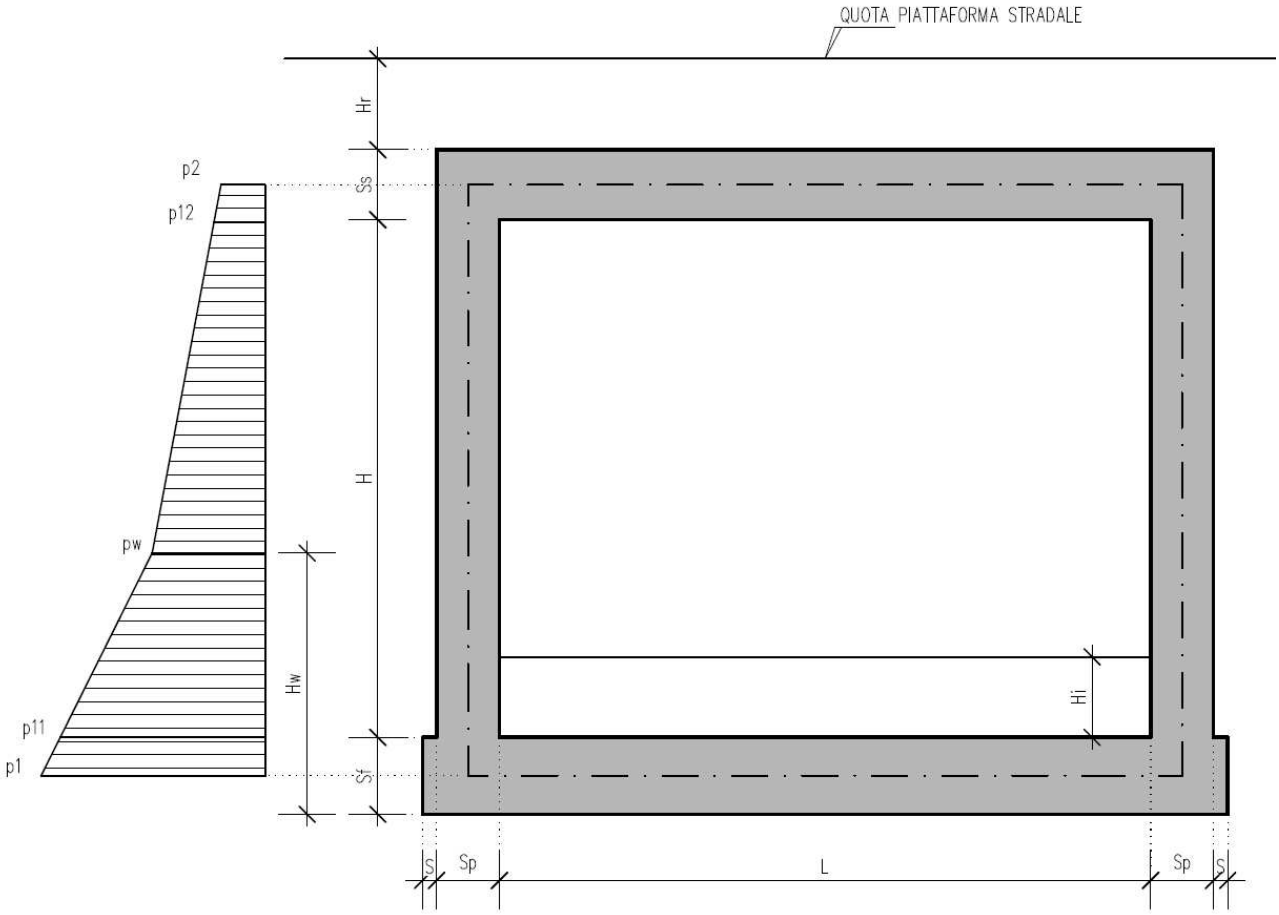
$p_2 = (22 * 0{,}30 + 20 * 0{,}225) * 0{,}238 = 2{,}62 \quad kN/m^2$

$p_{12} = p_2 + (19{,}50 * 0{,}225) * 0{,}238 = 3{,}66 \quad kN/m^2$

$P_{11} = p_{12} + (19{,}50 * 4{,}15) * 0{,}238 = 22{,}92 \quad kN/m^2$

$p_1 = p_{11} + (19{,}50 * 0{,}4) * 0{,}238 = 24{,}78 \quad kN/m^2$

Tali spinte vengono considerate nella Condizione Elementare (CDC 5) sul piedritto sx e nella Condizione Elementare (CDC 6) sul piedritto dx.



Nelle combinazioni di carico verranno considerate:

1) Spinta a riposo su entrambi i piedritti;
2) Spinta attiva su ambo i piedritti;
3) Spinta a riposo su piedritto sx e spinta attiva su piedritto dx;

La condizione di spinta 3) serve a mettere in conto possibili situazioni (anche temporanee) di disomogeneità nei costipamenti o altre condizioni che possano generare situazioni di spinte asimmetriche sull'opera. La condizione di spinta attiva, sebbene poco realistica considerando le caratteristiche dell'opera, viene comunque considerata a favore di sicurezza per massimizzare i valori delle sollecitazioni flessionali in corrispondenza delle mezzerie delle solette.

Naturalmente queste spinte saranno opportunamente combinate, utilizzando i valori dei coefficienti parziali delle azioni da assumere nell'analisi per la determinazione degli effetti delle azioni nelle verifiche agli stati limite ultimi.

5.2.3. Spinta della falda interna allo scatolare

Assente

(Condizione Elementare CDC 7)

5.2.4. Carichi veicolari sulla soletta superiore

I casi di carico CDC8, CDC9, CDC10 e CDC11 sono relativi agli effetti indotti sulla soletta superiore dai carichi veicolari agenti in corrispondenza della sovrastruttura stradale. I carichi di riferimento sono descritti nel paragrafo 5.1.3.3 del D.M. 14/01/2008.

In particolare lo schema di carico 1 è costituito da carichi concentrati su due assi in tandem e da carichi uniformemente distribuiti ; i carichi concentrati sono pari a:

Q_{1k} = 300 kN ad asse (300 + 300 = 600 kN) su corsia n.1 di larghezza convenzionale pari a 3 m ;

Q_{2k} = 200 kN ad asse (200 + 200 = 400 kN) su corsia n.2 di larghezza convenzionale pari a 3 m ;

Q_{3k} = 100 kN ad asse (100 + 100 = 200 kN) su corsia n.3 di larghezza convenzionale pari a 3 m ;

Si ipotizza che tali carichi siano applicati su un'impronta rettangolare pari a 2.4 x 1.60 m (1.6 m sviluppo parallelo alla corsia di traffico, 2.4 m sviluppo perpendicolare), ovvero pari all'ingombro complessivo esterno del tandem. Per quanto riguarda i carichi uniformemente distribuiti (associati ai carichi tandem) si considera prudenzialmente il carico q_{1k} = 9 kN/m^2 applicato a tutte le colonne di carico (la norma prevede l'applicazione dalla seconda alla n-esima corsia di un carico ridotto da 2.5 kN/m^2).

I carichi tandem vengono posizionati ortogonalmente all'asse del sottovia e vengono ripartiti sia in direzione longitudinale che trasversale dal piano stradale al piano medio della soletta superiore. Si assume che la diffusione avvenga con un angolo di 30° attraverso il rilevato stradale (in accordo al punto C5.1.3.3.7.1 della circolare ministeriale del 02/02/2009) e con un angolo di 45° nella soletta superiore del tombino. L'effetto dei

carichi tandem sulla soletta superiore viene pertanto messo in conto attraverso la determinazione di un carico equivalente distribuito q_{eq} a cui si somma il carico uniforme q_{1k} = 9 kN/m^2.

Ai fini del calcolo della ripartizione dei carichi accidentali si assume cautelativamente un'altezza di ricoprimento Hr=0,20m.

Diffusione del carico tandem in direzione longitunale (parallela all'asse stradale)

La larghezza di diffusione del carico tandem in direzione longitudinale è pari a:

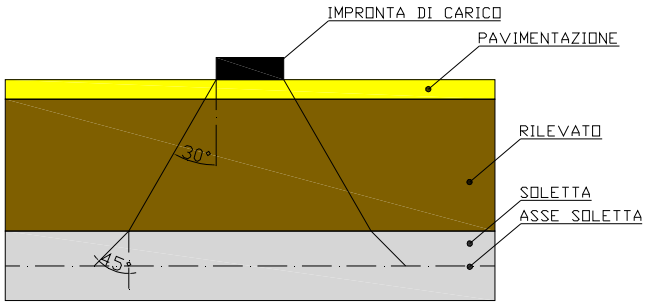
L_{dl} = 1.6 m + 2x [tan30° x H_r + tan45° xS_s/2]

Nel caso in esame risulta:

L_{dl} = 1.60 + 2 * (0,20 * tg30° + 0,23) = **2,28** m

Diffusione del carico tandem in direzione trasversale (ortogonale all'asse stradale)

In direzione trasversale alla strada detta L_{dt} la *larghezza di diffusione del carico trasversale* dal piano stradale alla quota del piano medio della soletta superiore, assumendo che detta diffusione avvenga con angolo di diffusione di 30° attraverso il rilevato stradale e di 45° sino al piano medio della soletta superiore



risulta:

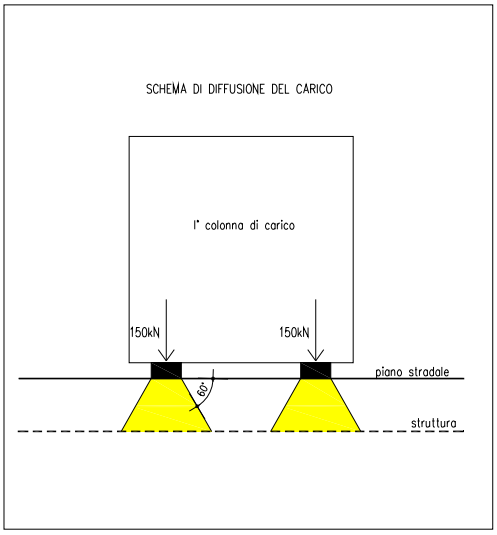
Ldt = 2.40 + 2 * (0,20 * tg30° + 0,23) = 3,25 m

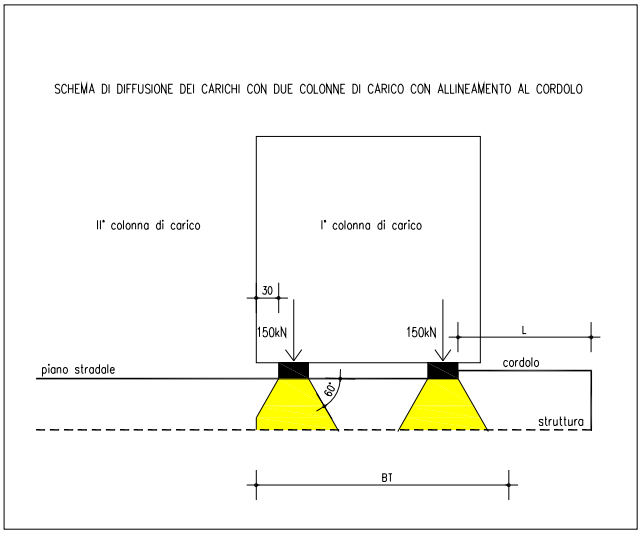
Il valore di L_{dt} viene poi limitato in base alle seguenti circostanze:

presenza della seconda colonna di carico: il carico della 1° colonna, in corrispondenza dell'adiacenza alla 2° colonna, può essere diffuso al massimo fino a 0.30m all'esterno dell'impronta del carico;

posizionando il carico in adiacenza al cordolo, ne consegue che la massima diffusione lato cordolo è pari a:

$L_{d,\ cordolo}$ = tan30 x Hr + tan45 x Ss/2





pertanto la larghezza di diffusione trasversale non può risultare superiore al valore di:

$L_{dt,max}$ = 2.40 + 0.30 + (0,20 * tg30° + 0,23) = **3,04** m

Calcolo del carico distribuito equivalente al tandem

Avendo definito L_{dl} e L_{dt} si può valutare l'intensità del carico q_{eq} equivalente all'effetto indotto dai carichi tandem sulla soletta superiore:

Considerando il carico tandem dovuto alla prima colonna di carico

q_{eq} = 2 x Q_{1k}/(L_{dl} x $L_{dt,max}$) = **86,52**kN/m

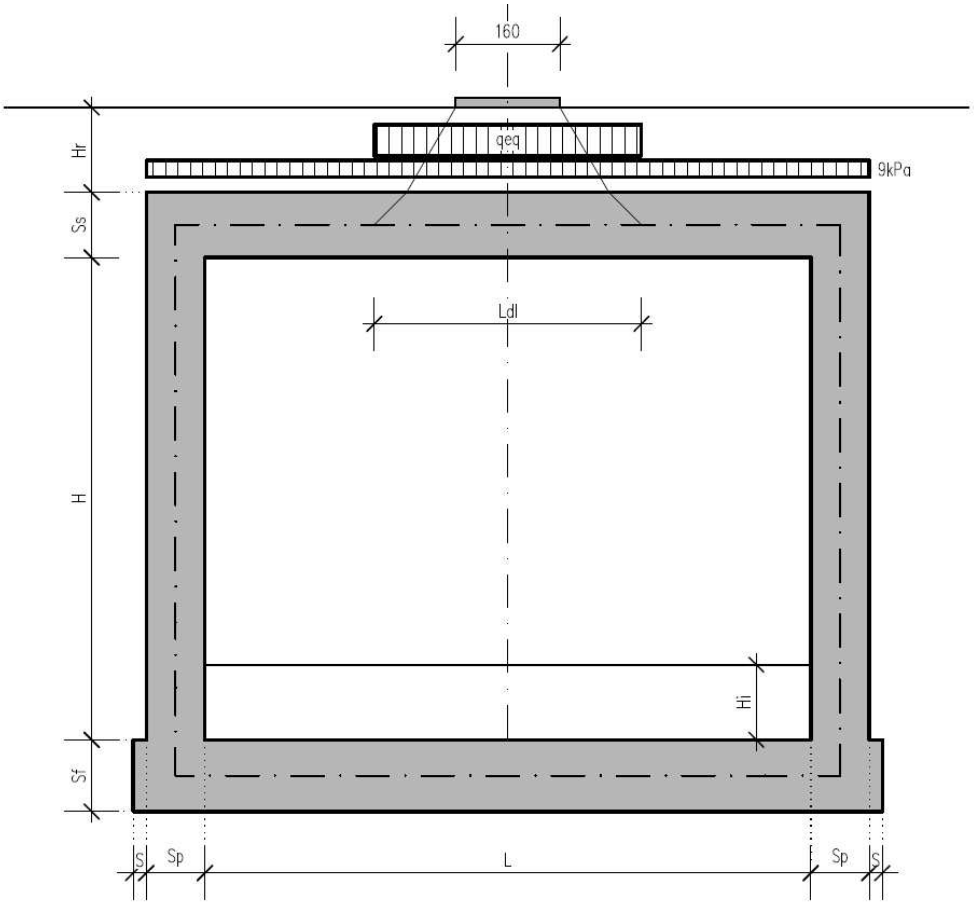
cui si sovrappone il carico q = 9 kN/m uniforme su tutta la soletta (corrispondente al carico q_{1k}).

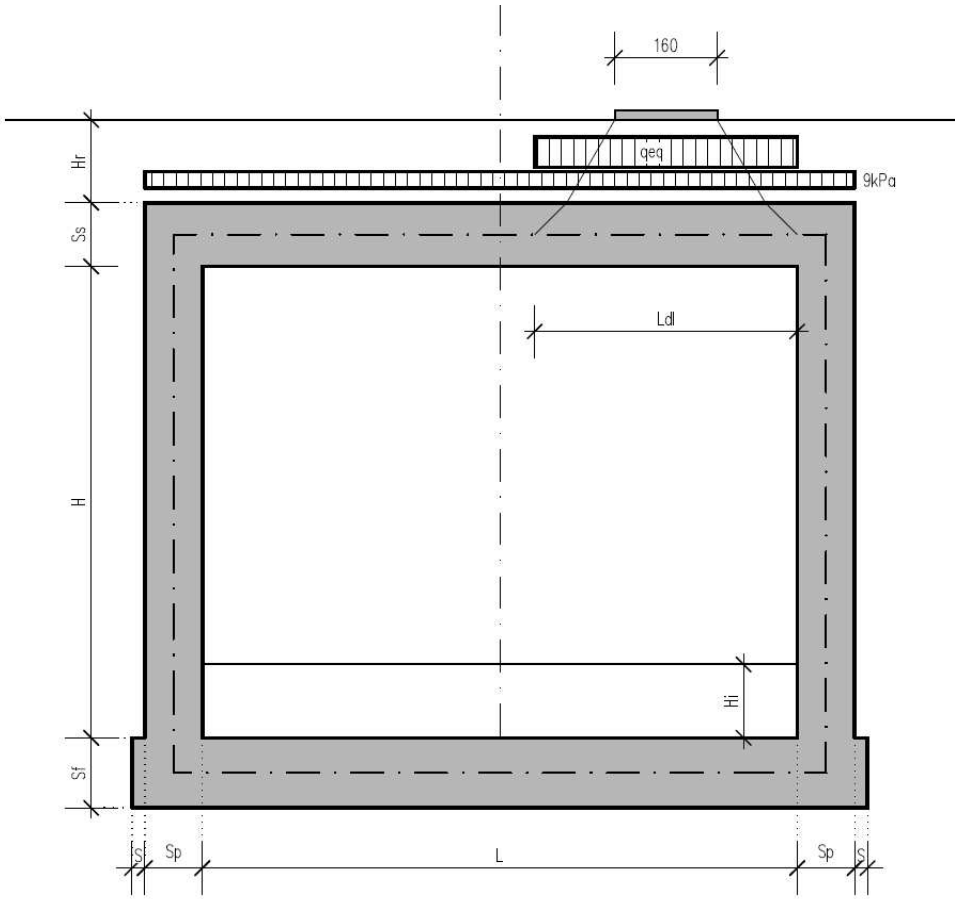
La posizione del carico q_{eq} equivalente al tandem viene variata su tutta la soletta nei casi di carico CDC8-10 per massimizzare:

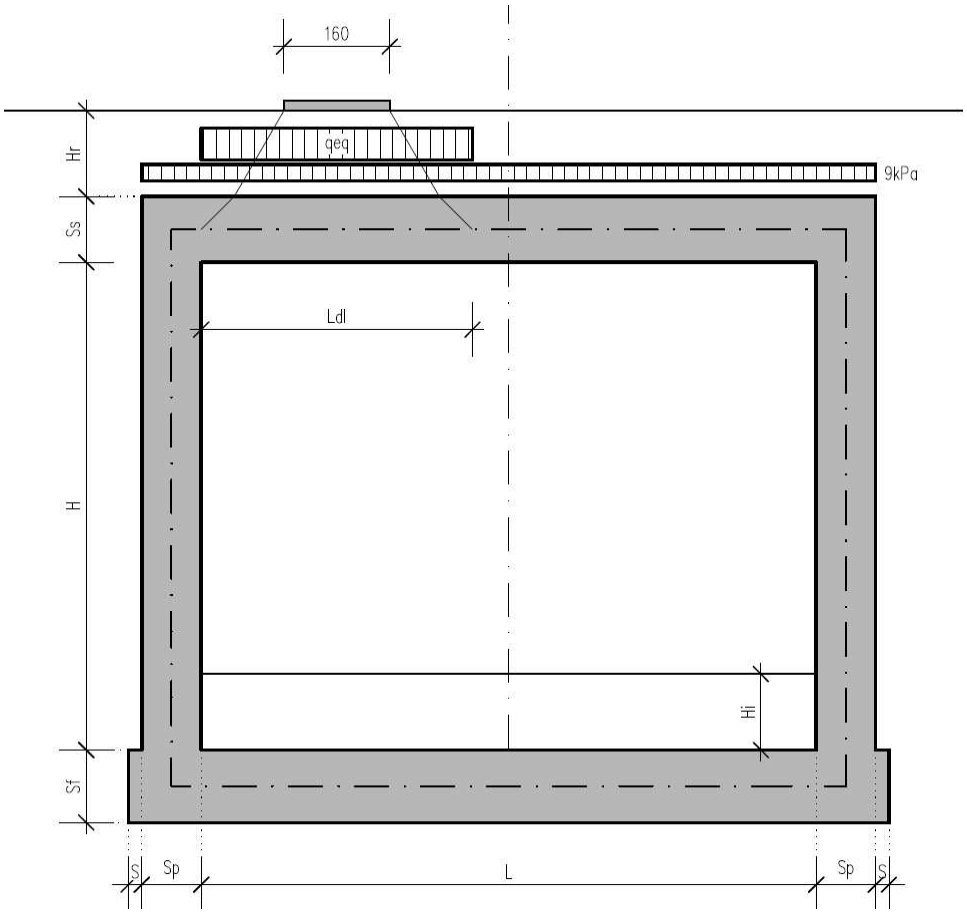
CDC 8: il momento in mezzeria soletta;

CDC 9: il taglio nella soletta a filo piedritto destro;

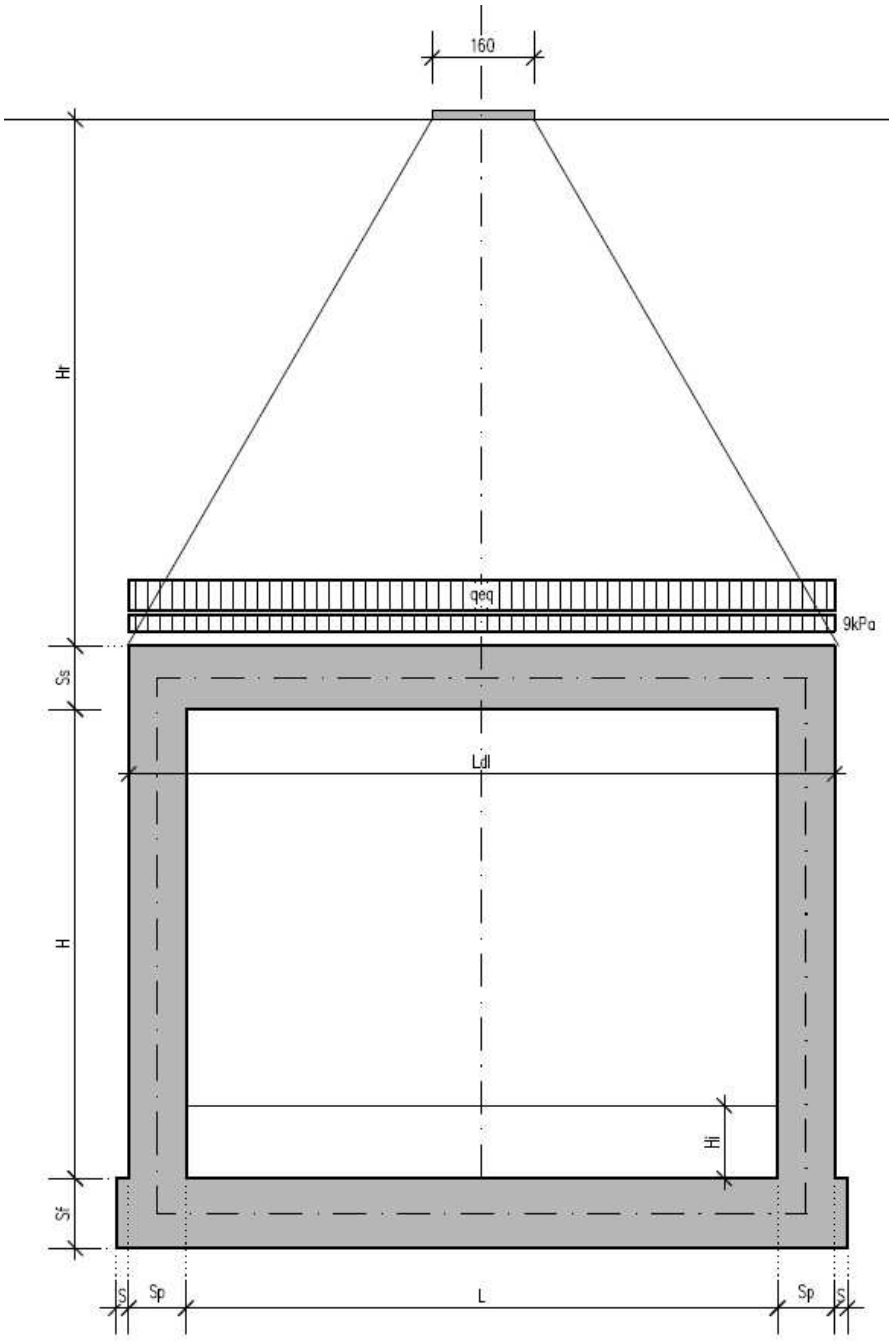
CDC 10: il taglio nella soletta a filo piedritto sinistro.




160
qeq
9kPa
Hr
Ss
Ldl
H
Hi
Sf
Sf
Sp
L
Sp
Sf



Si noti che se L_{dl} > L + 2 x S_p (larghezza netta interna + spessore dei piedritti) allora il carico equivalente è applicato a tutte le aste della soletta superiore nei tre casi di carico CDC 8-10 che vengono a coincidere tra di loro.



CDC11: sovraccarico uniforme da 20kN/m^2

Si ipotizza che la soletta superiore sia gravata da un carico accidentale uniformemente distribuito di intensità pari a 20 kN/m^2 (scenario da traffico da utilizzarsi in alternativa ai casi di carico 8, 9 e 10).

5.2.5. Spinte sui piedritti indotte dai sovraccarichi accidentali

In accordo con il punto C5.1.3.3.7.1 della circolare ministeriale 02/02/2009 per il calcolo delle spinte generate dal sovraccarico sul rilevato si può considerare applicato lo schema di carico 1, in cui per semplicità i carichi tandem possono essere sostituiti da carichi uniformemente distribuiti equivalenti, applicati su una superficie rettangolare larga 3.0 m e lunga 2.20 m. Anche in questo caso si tiene in conto la diffusione del carico attraverso il rilevato sia in direzione longitudinale che trasversale. Al tandem si somma il carico uniformemente distribuito agente sulla i-esima corsia di carico q_{ik} = 9 kN/m^2 .

Diffusione del carico tandem in direzione longitudinale (parallela all'asse stradale)

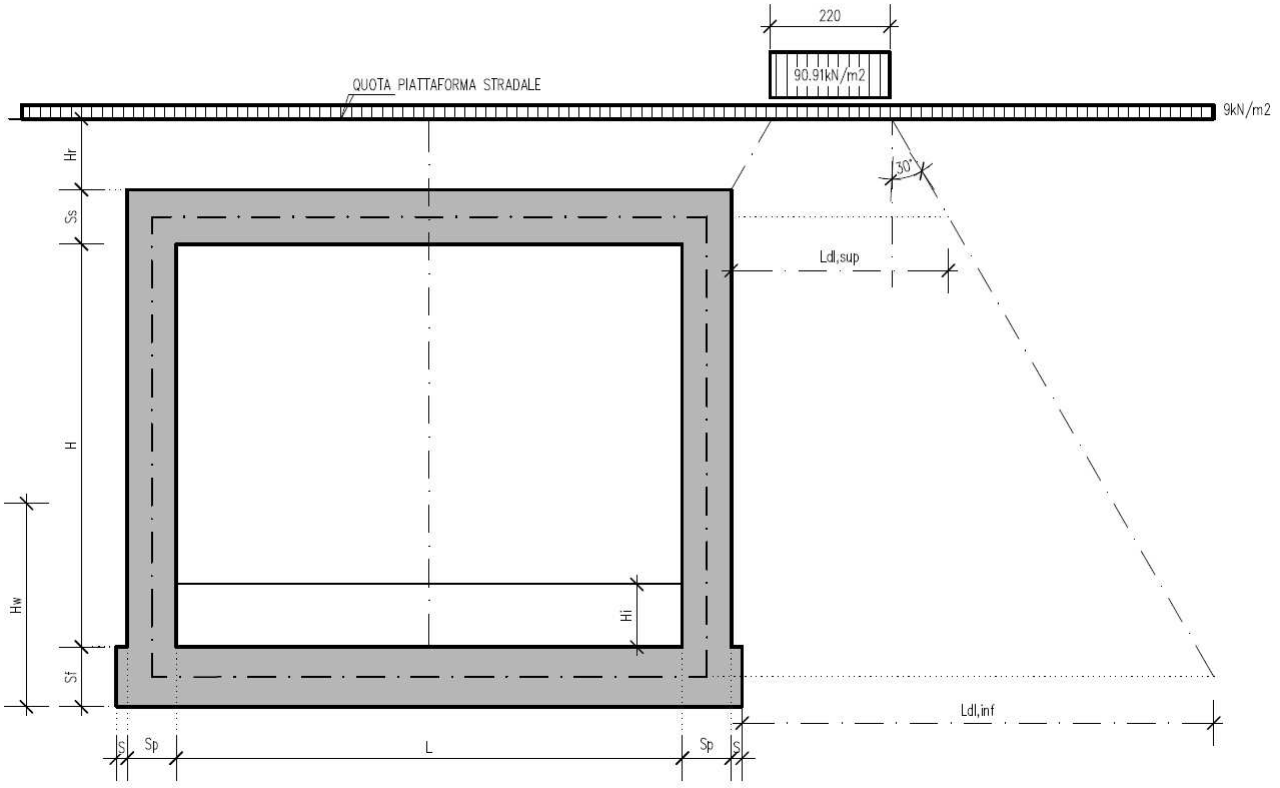
Il carico tandem trasformato in carico uniformemente distribuito assume il valore:

600/(3.00x2.20)=90.91kN/m^2

La larghezza di diffusione del carico tandem in direzione longitudinale è pari a:

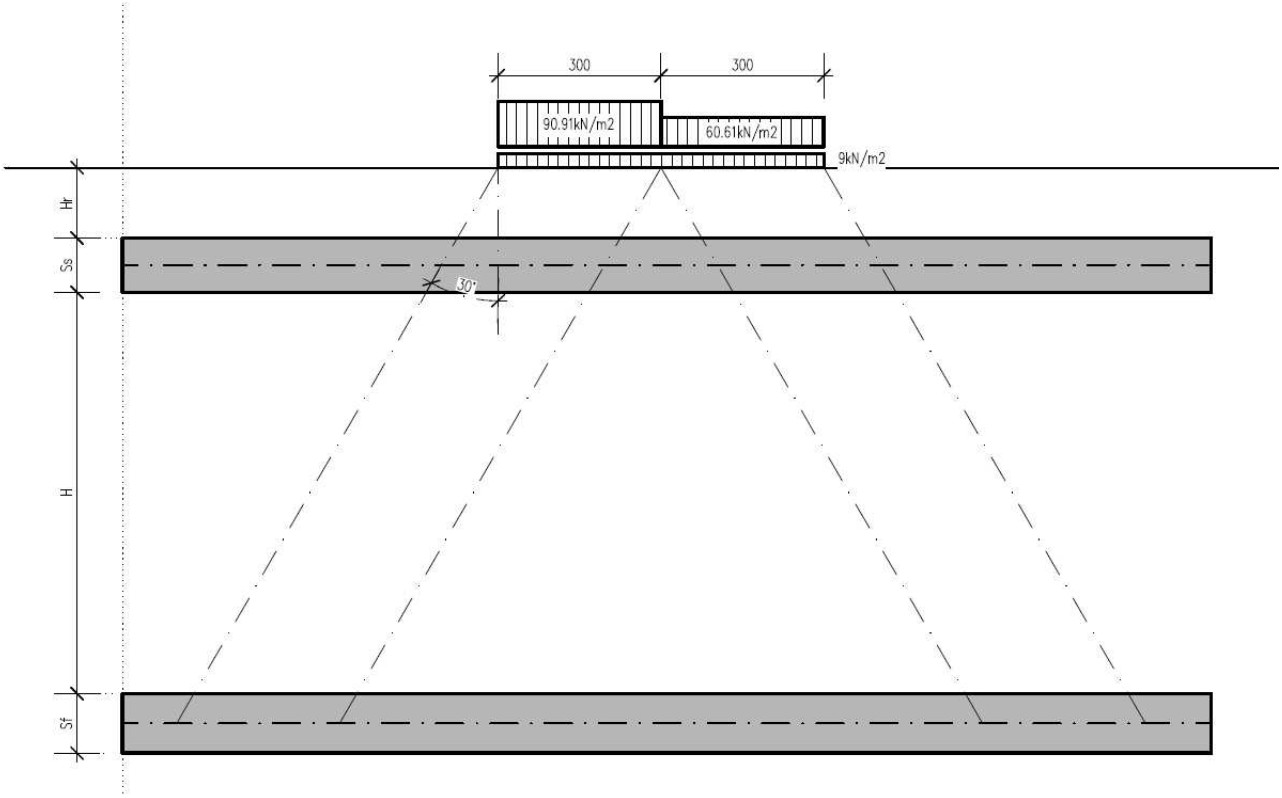
$L_{dl,sup}$= 2.2 m + [tan30° x (2 x H_r + S_s/2)] **=** 2,56**m** (piano medio sol. sup.)

$L_{dl,inf}$ = 2.2 m + [tan30° x (2 x H_r + S_s/2 + H + S_f/2)] **=** 5,32**m** (piano medio sol. inf.)

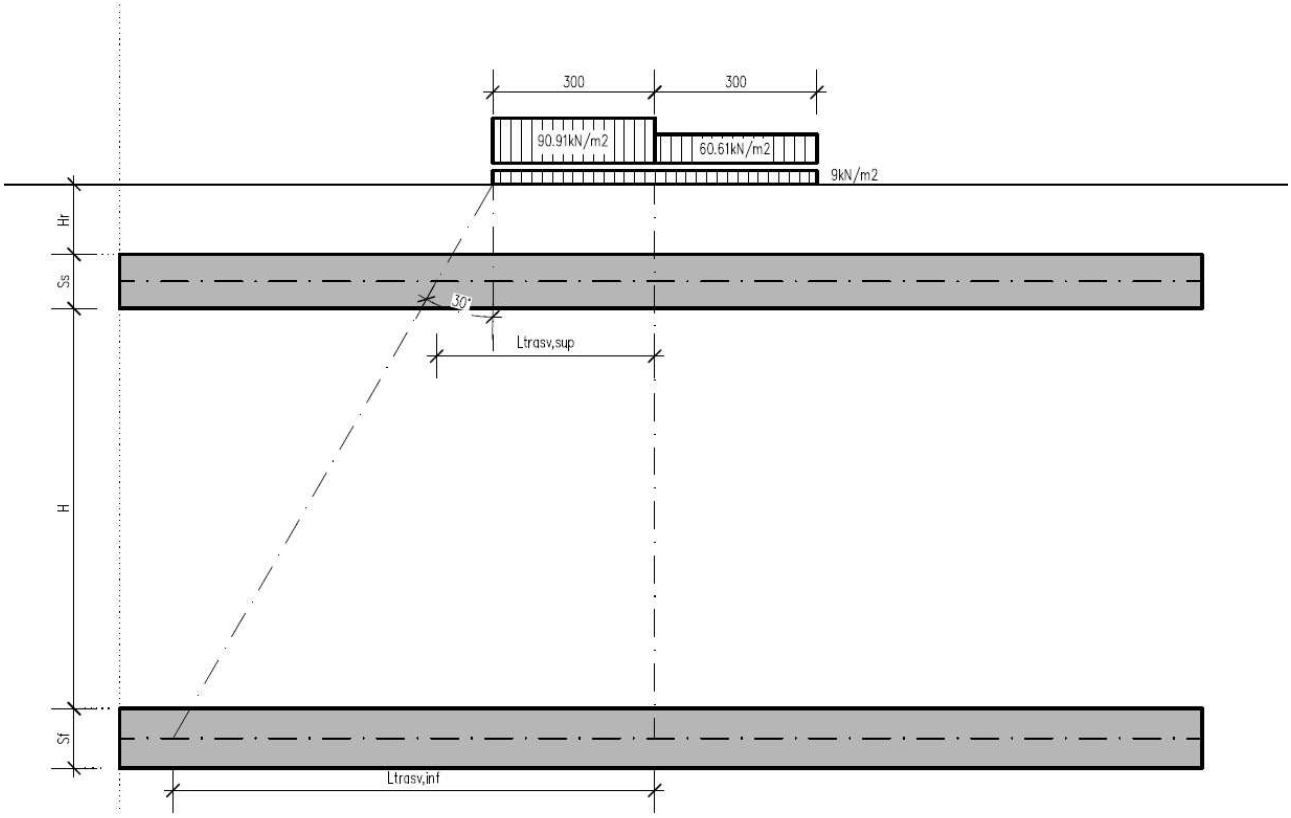


Diffusione del carico tandem in direzione trasversale (ortogonale all'asse stradale)

In direzione trasversale, consederando due colonne di carico e la ripartizione trasversale del carico distribuito, si ottiene quanto riportato nella figura seguente:



Per il calcolo delle azioni agenti sulle pareti dello scatolare, si considera il carico distribuito dovuto alla colonna di carico 1, limitando la diffusione del carico sul lato della seconda colonna di carico come schema seguente:



La larghezza di diffusione del carico tandem in direzione longitudinale è pari a:

$L_{dt,sup}$= 3 m + [tan30° x (H_r + S_s/2)] **=** 3,25**m** (piano medio sol. sup.)

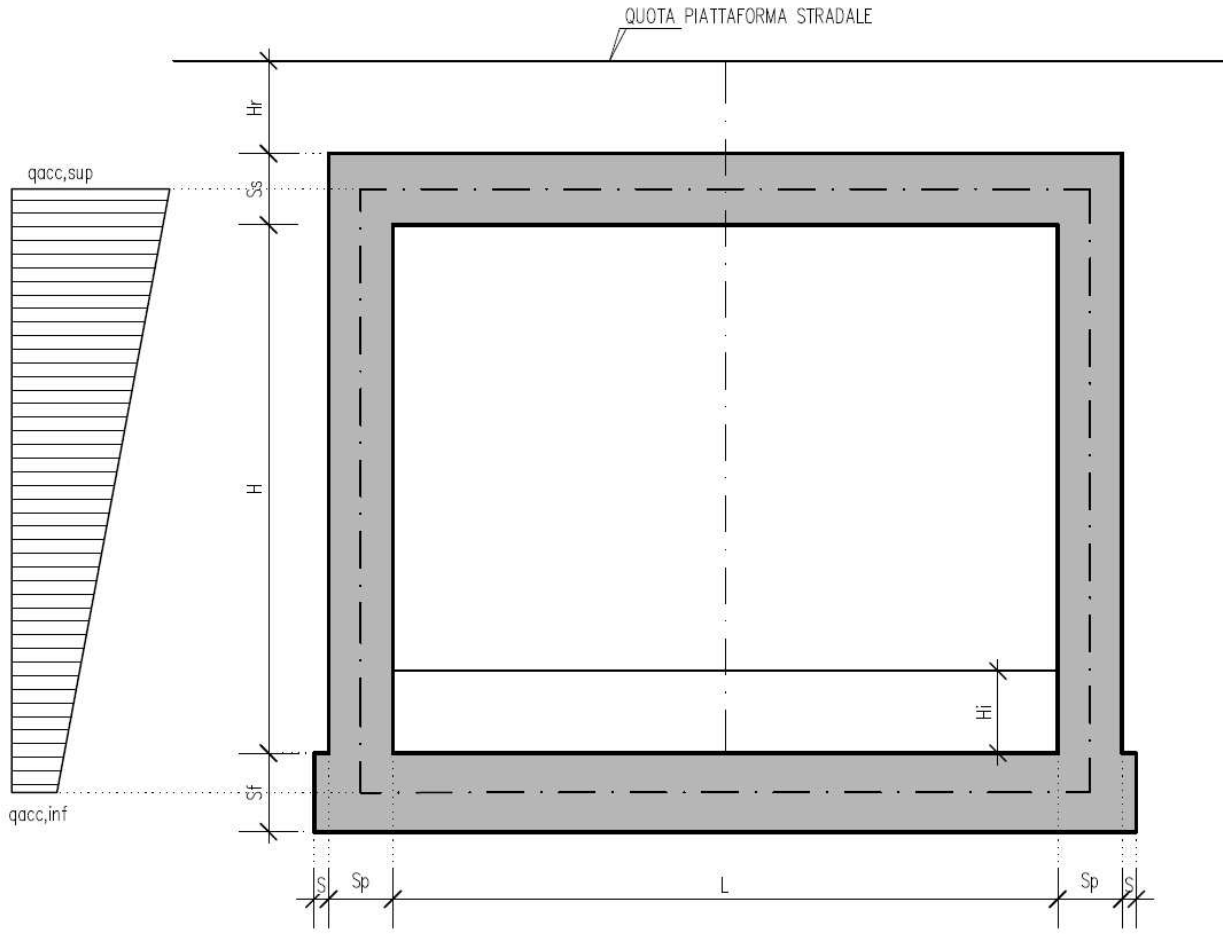
$L_{dt,inf}$ = 3 m + 2 x [tan30° x (H_r + S_s+ H+S_f/2)] **=** 6,00**m** (piano medio sol. inf.)

Definizione dei carichi di progetto

Il diagramma di spinta applicato ai piedritti varia linearmente fra i valori $q_{acc,sup2}$ e $q_{acc,sup1}$ come esemplificato nella immagine seguente.

$q_{acc,sup} = 2 \times Q_{1,k} \times (L_{dt,sup} \times L_{dl,sup}) \times k0 = 30{,}92$ kN/m

$q_{acc,inf} = 2 \times Q_{1,k} \times (L_{dt,inf} \times L_{dl,inf}) \times k0 = 8{,}95$ kN/m



Loadings 20-23: spinta sul piedritto generata dal carico accidentale q1k = 9 kN/m^2 sul rilevato

Nelle condizioni di carico in oggetto si considera l'assenza del carico tandem:

p = k0 x q1k = 0,384 x 9 = 3,46 kN/m *(spinta a riposo, CDC 14 e 15, piedritto sinistro/destro)*

CDC 16-17: spinta sul piedritto generata dal sovraccarico da 20kN/m^2 sul rilevato

Nello scenario di carico da traffico alternativo allo Schema di Carico 1 si considera, ai fini del calcolo della spinta sui piedritti, un carico q_{acc} sul terrapieno pari a 20 kN/m^2 .

Tale carico genera spinte pari a:

p = k0 x qacc = 0,384 x 20 = 7,68kN/m *(spinta a riposo, CDC 16 e 17, piedritto sinistro/destro)*

5.2.6. Sovraccarichi accidentali sulla soletta di fondazione

Sulla soletta di fondazione si applica il carico tandem corrispondente a ciascuna colonna di carico $Q_{i.k}$, ripartito su una larghezza pari all'ingombro della colonna di carico convenzionale (3m), e una lunghezza ottenuta dalla ripartizione del carico fino al piano medio della soletta attraverso il ricoprimenmto, assumendo che detta diffusione avvenga con angolo di diffusione di 30° attraverso il rilevato stradale e di 45° sino al piano medio della soletta.

Base collaborante trasversale: B_T =3.00m

Ingombro longitudinale: L_L = 1.60+2 ∗ (0,05*tan30°+0,80/2)=2,46m

$q'_{acc,1}$= 600/3.00/2,46+9=90,30kN/m^2 (carico distribuito equivalente alla prima colonna di carico)

$q'_{acc,2}$= 400/3.00/2,46+2.5=58,50kN/m^2 (carico distribuito equivalente alla seconda colonna di carico)

(Condizioni Elementari CDC 15÷17)

5.2.7. Frenatura

La forza di frenatura q_3 è funzione del carico totale agente sulla corsia convenzionale n.1 e risulta pari a (si veda il paragrafo 5.1.3.5 del D.M. 14/01/2008):

180 kN $\leq q_3 = 0.6 \times 2 \times Q_{1k} + 0.10\ q_{1k} \times w_1 \times L \leq 900$ kN

dove:

Q_{1k} = 300 kN

q_{1k}= 9 kN/m_2

w_1 = 3.00 m (larghezza della corsia)

$L = 2 \times S_p + B_i$ (larghezza della soletta compresi i piedritti)

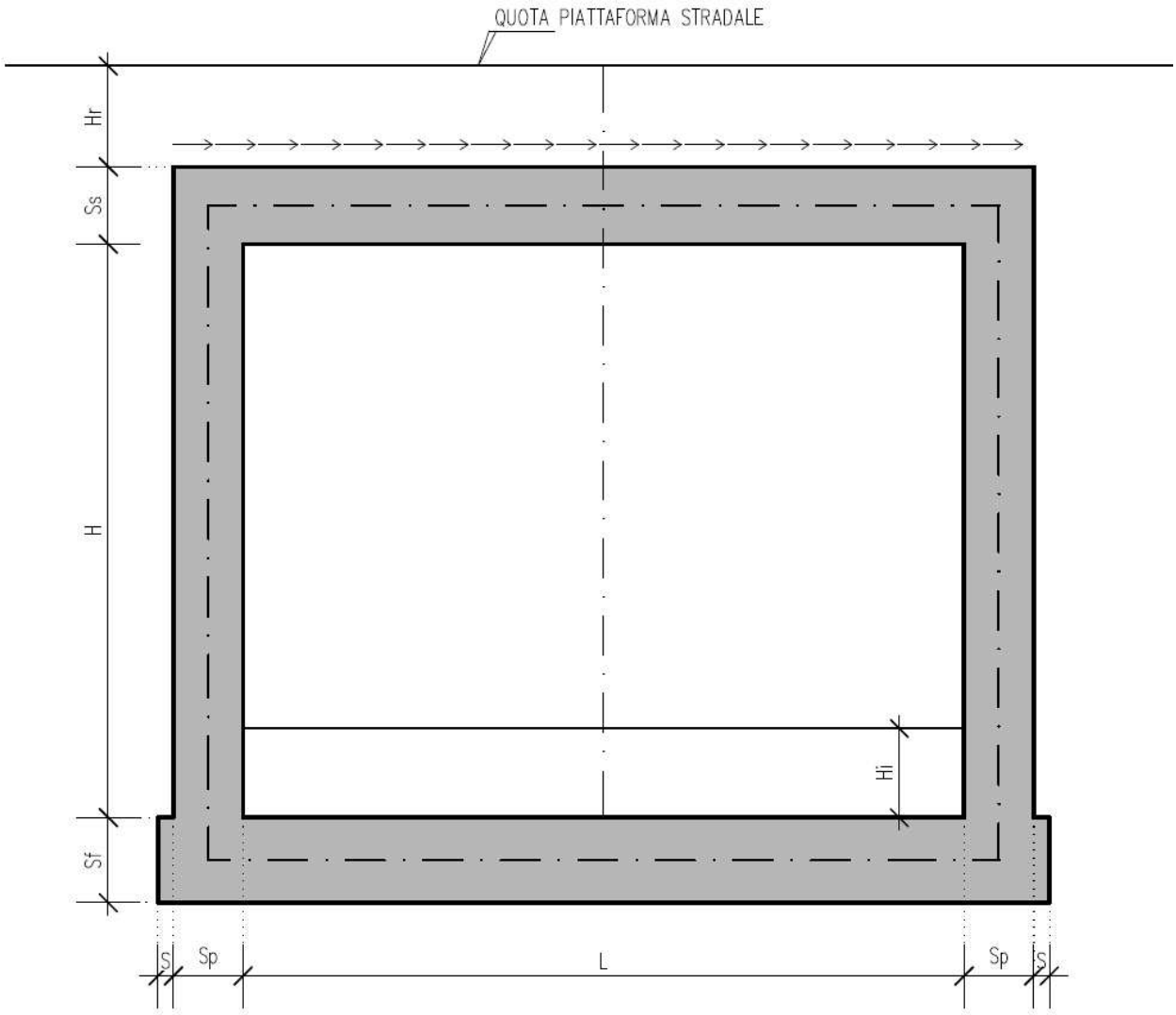
Nel caso in esame risulta:

q_3 = 373,23 kN

L'azione di cui sopra, viene distribuita sulla soletta superiore dello scatolare; il valore della frenatura equivalente da applicare alla soletta, si ottiene distribuendo il valore del carico frenante, alla lunghezza della soletta e alla larghezza di diffusione del carico (L_{dt}), con la seguente relazione:

$q_{3,dis}$ = 373,23 / (**3,04** * 4,90) = 27,59 kN/m^2

(applicata nel CDC 18)



5.2.8. Azioni sismiche

(CDC elementari 18-20)

5.2.8.1 Stato limite di salvaguardia della vita (SLV)

La risultante delle forze inerziali orizzontali indotte dal sisma viene valutata con la seguente espressione:

$F_h = P^* k_h$

$k_h=\beta_m \cdot \frac{a\max}{g}$

(SLV) $k_h=\beta_m \cdot \frac{a\max}{g}=0{,}303$ $k_v=\pm 0.5^* k_h=0{,}151$

P = peso proprio;

k = coefficienti sismici;

Nel caso di sisma orizzontale si considera la spinta derivante dall'oscillazione del cuneo di terreno spingente con l'applicazione del diagramma triangolare di pressioni, tipico dei muri di sostegno, avente la risultante a 1/3 dell'altezza. Per tener conto dell'incremento di spinta del terreno dovuta al sisma si fa riferimento all'EC8, in cui l'incremento di spinta sismica ΔP per la condizione a riposo viene valutato:

$\Delta P_d= S \cdot a_g/g \cdot \gamma \cdot h_{tot}^{\ 2}$

La risultante di tale incremento di spinta viene applicata ad h/2 del piedritto.

1 - Ai fini delle azioni verticali sulla soletta superiore, non considerando i carichi accidentali si ha:

Peso proprio soletta	11,25	kN/m^2
Carichi permanenti	6,60	kN/m^2
Inerzia soletta+perm.	2,70	kN/m^2

2 - Ai fini delle azioni orizzontali, sui piedritti si considera il contributo della sovraspinta sismica dovuto al sisma oscillatorio e le spinte inerziali agenti sui piedritti, mentre sulla soletta superiore si considera l'inerzia della stessa nonchè i permanenti portati.

Spinta inerziale sulla soletta superiore:

P^*k_h = 5,40 kN/m

Spinta inerziale sui piedritti:

P^*k_h = 3,41 kN/m

P^*k_v = 1,70 kN/m

Sovraspinta sismica:

$k_h \times \gamma \times h_{tot}$ = 31,29 kN/m

dove si indica con h_{tot} l'altezza totale del tombino compresi gli spessori delle solette superiore e inferiore più l'altezza di ricoprimento totale del tombino. Si fa osservare che tale metodologia porta ad azioni eccessivamente prudenziali, soprattutto per tombini con altezza di ricoprimento elevata.

5.2.9. Azioni termiche

Sono stati considerati gli effetti dovuti alle variazioni termiche. In particolare, è stata considerata una variazione termica uniforme di ±10°C sulla soletta superiore (CDC 22) ed un salto termico di 5°C sulla soletta superiore e sui piedritti, analizzando nelle combinazioni di carico i due casi di intradosso più caldo dell'estradosso e viceversa agendo sul segno della sollecitazione, con andamento lineare nello spessore della soletta superiore e sui piedritti (CDC 21).

Per il coefficiente di dilatazione termica si assume:

$\alpha = 10 * 10^{-6} = 0.00001\ °C^{-1}$

5.2.10. Ritiro

Si considera soggetta a fenomeni di ritiro la sola soletta superiore.

La deformazione totale da ritiro si può esprimere come:

$\varepsilon_{cs} = \varepsilon_{cd} + \varepsilon_{ca}$

dove:

ε_{cs} è la deformazione totale per ritiro

ε_{cd} è la deformazione per ritiro da essiccamento

ε_{ca} è la deformazione per ritiro autogeno.

Il valore medio a tempo infinito della deformazione per ritiro da essiccamento:

$\varepsilon_{cd,\infty} = k_h * \varepsilon_{c0}$

può essere valutato mediante i valori delle seguenti Tab. 11.2.Va-b (NTC) in funzione della resistenza caratteristica a compressione, dell'umidità relativa e del parametro h_0:

Tabella 11.2.Va – *Valori di* ε_{c0}

	Deformazione da ritiro per essiccamento (in ‰)					
f_{ck}	**Umidità relativa (in %)**					
	20,00	**40,00**	**60,00**	**80,00**	**90,00**	**100,00**
20,00	**-0,62**	**-0,58**	**-0,49**	**-0,30**	**-0,17**	**0,00**
25,00	-0,59	-0,55	-0,46	-0,29	-0,16	0,00
28,00	-0,56	-0,53	-0,45	-0,28	-0,15	0,00
32,00	-0,54	-0,51	-0,42	-0,26	-0,15	0,00
40,00	**-0,48**	**-0,46**	**-0,38**	**-0,24**	**-0,13**	**0,00**
60,00	**-0,38**	**-0,36**	**-0,30**	**-0,19**	**0,10**	**0,00**
80,00	**-0,30**	**-0,28**	**-0,24**	**-0,15**	**-0,07**	**0,00**

Tabella 11.2.Vb – *Valori di* k_h

h_0 (mm)	k_h
100	1

200	0,85
300	0,75
400	0,725
500	0,7

I valori intermedi dei parametri indicati in tabella si ottengono per l'interpolazione lineare.

Il valore medio a tempo infinito della deformazione per ritiro autogeno $\varepsilon_{ca,\infty}$ può essere valutato

mediante l'espressione:

$\varepsilon_{ca,\infty} = -2.5*(f_{ck}-10)*10^{-6}$ (con f_{ck} in N/mm^2)

Assumendo come umidità relativa

U_r=70%

Si ha il seguente valore del ritiro:

ε_{cs} =-0,000298

Il modulo viscoso a tempo infinito, in considerazione del valore di h_0, della resistenza del calcestruzzo e della U.R., può cautelativamente essere assunto pari a Φ (t = ∞) = 1.6. Il modulo elastico ridotto del calcestruzzo risulta quindi pari a:

$E^*_c = E_c / (1+ \Phi)$ = 12426,25 N/mm^2. (CDC 22)

5.3. Combinazioni di carico adottate

I carichi caratteristici sopra elencati (CDC), al fine di ottenere le sollecitazioni di progetto per effettuare le successive verifiche, sono opportunamente combinati fra loro.

5.3.1. Combinazioni per lo stato limite ultimo

γ_{G1} G1 + $\gamma_{\varepsilon 2}$ R + $\gamma_{Q1} Q_{k1}$ + $\gamma_{\varepsilon 3}$ $\psi_{0\,\varepsilon 3}$ T (carico da traffico veicolare Qk1 principale)

γ_{G1} G1 + $\gamma_{\varepsilon 2}$ R + $\gamma_{\varepsilon 3}$ T + γ_{Q1} ψ_{01} Q_{k1} (azioni termiche T principali)

	Peso proprio	Permanenti portati	Spinta a riposo piedritto sx	Spinta riposo piedritto dx	Spinta attiva piedritto sx	Spinta attiva piedritto dx	Spinta acqua interna	Q1k centrato	Q1k filo piedritto dx	Q1k filo piedritto sx	Accidentale 9kPa su soletta	Accidentale 20 kPa	Accidentale su piedritto sx	Accidentale su piedritto dx	Accidentale 9kPa piedritto sx	Accidentale 9kPa piedritto dx	Accidentale 20kPa piedritto sx	Accidentale 20kPa piedritto dx	Frenatura	Sisma orizzontale	Sisma verticale	Spinta idrodinamica	Termica Uniforme	Termica farfalla +	Ritiro
SLU	1.35	1.35	0	0	1	1	1.35	1.35	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.72	0.72	1.2
	1.35	1.35	0	0	1	1	1.35	0	0	0	0	1.35	0	0	0	0	0	0	0	0	0	0	0.72	0.72	1.2
	1.35	1.35	0	0	1	1	1.35	1.01	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.2	1.2	1.2
	1.35	1.35	0	0	1	1	1.35	0	0	0	0	1.01	0	0	0	0	0	0	0	0	0	0	1.2	1.2	1.2
	1.35	1.35	1.35	0	0	1	0	1.01	0	0	0	0	0	0	1.01	0	0	0	1.35	0	0	0	-0.72	-0.72	0
	1.35	1.35	1.35	0	0	1	0	0	0	0	0	1.01	0	0	0	0	1.01	0	1.35	0	0	0	-0.72	-0.72	0
	1.35	1.35	1.35	0	0	1	0	0	0	0	1.01	0	1.01	0	0	0	0	0	1.35	0	0	0	-0.72	-0.72	0
	1.35	1.35	1.35	0	0	1	0	1.01	0	0	0	0	0	0	1.01	0	0	0	0	0	0	0	-1.2	-1.2	0
	1.35	1.35	1.35	0	0	1	0	0	0	0	0	1.01	0	0	0	0	1.01	0	0	0	0	0	-1.2	-1.2	0
	1.35	1.35	1.35	0	0	1	0	0	0	0	1.01	0	1.01	0	0	0	0	0	0	0	0	0	-1.2	-1.2	0
	1.35	1.35	0	0	1	1	0	1.35	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.72	0.72	0
	1.35	1.35	0	0	1	1	0	0	0	0	0	1.35	0	0	0	0	0	0	0	0	0	0	-0.72	0.72	0
	1.35	1.35	0	0	1	1	0	1.01	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1.2	1.2	0
	1.35	1.35	0	0	1	1	0	0	0	0	0	1.01	0	0	0	0	0	0	0	0	0	0	-1.2	1.2	0
	1.35	1.35	1.35	0	0	1	0	1.01	0	0	0	0	0	0	1.01	0	0	0	1.35	0	0	0	0.72	-	1.2

																							0.72	
1.35	1.35	1.35	0	0	1	0	0	0	0	0	1.01	0	0	0	0	1.01	0	1.35	0	0	0	0.72	-0.72	1.2
1.35	1.35	1.35	0	0	1	0	0	0	0	1.01	0	1.01	0	0	0	0	0	1.35	0	0	0	0.72	-0.72	1.2
1.35	1.35	1.35	0	0	1	0	1.01	0	0	0	0	0	0	1.01	0	0	0	0	0	0	0	1.2	-1.2	1.2
1.35	1.35	1.35	0	0	1	0	0	0	0	0	1.01	0	0	0	0	1.01	0	0	0	0	0	1.2	-1.2	1.2
1.35	1.35	1.35	0	0	1	0	0	0	0	1.01	0	1.01	0	0	0	0	0	0	0	0	0	1.2	-1.2	1.2
1.35	1.35	1.35	0	0	1	0	0	0	1.01	0	0	0	0	1.01	0	0	0	1.35	0	0	0	0.72	-0.72	1.2
1.35	1.35	1.35	0	0	1	0	0	0	1.01	0	0	0	0	1.01	0	0	0	0	0	0	0	1.2	-1.2	1.2
1	1	1.35	0	0	1	0	0	0	0	0	0	1.01	0	0	0	0	0	1.35	0	0	0	0.72	0.72	1.2
1	1	1.35	0	0	1	0	0	0	0	0	0	1.01	0	0	0	0	0	0	0	0	0	1.2	1.2	1.2
1.35	1.35	1.35	0	0	1	0	0	1.01	0	0	0	0	0	1.01	0	0	0	1.35	0	0	0	0	0	0
1.35	1.35	1.35	0	0	1	0	0	0	0	0	1.01	0	0	0	0	1.01	0	1.35	0	0	0	0	0	0
1.35	1.35	1.35	0	0	1	0	0	0	1.35	0	0	0	0	1.01	0	0	0	0	0	0	0	0.72	-0.72	1.2
1.35	1.35	1.35	0	0	1	0	0	0	0	0	1.35	0	0	0	0	1.01	0	0	0	0	0	0.72	-0.72	1.2
1.35	1.35	1.35	0	0	1	0	0	0	0	0	0	1.01	0	0	0	0	0	1.35	0	0	0	0.72	0.72	1.2
1	1	1.35	1.35	0	0	0	1.01	0	0	0	0	0	0	1.01	1.01	0	0	1.35	0	0	0	-0.72	-0.72	0
1	1	1.35	1.35	0	0	0	0	0	0	0	1.01	0	0	0	0	1.01	1.01	1.35	0	0	0	-0.72	-0.72	0
1	1	1.35	1.35	0	0	0	0	0	0	1.01	0	1.01	1.01	0	0	0	0	1.35	0	0	0	-0.72	-0.72	0
1.35	1.35	1.35	0	0	1	0	0	0	0	0	0	1.01	0	0	0	0	0	1.35	0	0	0	0.72	0.72	1.2

5.3.2. <u>Combinazioni per gli stati limite di esercizio: combinazione rara</u>

$G_1 + R + Q_{k1} + \psi_{0\varepsilon 3}\, T$ (carico da traffico veicolare Qk1 principale)

$G_1 + R + T + \psi_{01}\, Q_{k1}$ (azioni termiche T principali)

Peso proprio	Permanenti portati	Spinta a riposo piedritto sx	Spinta riposo piedritto dx	Spinta attiva piedritto sx	Spinta attiva piedritto dx	Spinta acqua interna	Q1k centrato	Q1k filo piedritto dx	Q1k filo piedritto sx	soletta	Accidentale 20 kPa	Accidentale su piedritto sx	Accidentale su piedritto dx	sx	dx	piedritto sx	piedritto dx	Frenatura	Sisma orizzontale	Sisma verticale	Spinta idrodinamica	Termica Uniforme	Termica farfalla +	Ritiro

	1	1	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.6	0.6	1
	1	1	0	0	1	1	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0.6	0.6	1
	1	1	0	0	1	1	1	0.75	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
	1	1	0	0	1	1	1	0	0	0	0	0.75	0	0	0	0	0	0	0	0	0	0	1	1	1
	1	1	1	0	0	1	0	0.75	0	0	0	0	0	0	0.75	0	0	0	1	0	0	0	-0.6	-0.6	0
	1	1	1	0	0	1	0	0	0	0	0	0.75	0	0	0	0	0.75	0	1	0	0	0	-0.6	-0.6	0
	1	1	1	0	0	1	0	0	0	0	0.75	0	0.75	0	0	0	0	0	1	0	0	0	-0.6	-0.6	0
	1	1	1	0	0	1	0	0.75	0	0	0	0	0	0	0.75	0	0	0	0	0	0	0	-1	-1	0
	1	1	1	0	0	1	0	0	0	0	0	0.75	0	0	0	0	0.75	0	0	0	0	0	-1	-1	0
	1	1	1	0	0	1	0	0	0	0	0.75	0	0.75	0	0	0	0	0	0	0	0	0	-1	-1	0
	1	1	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.6	0.6	1
	1	1	0	0	1	1	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	-0.6	0.6	1
	1	1	0	0	1	1	1	0.75	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-1	1	1
	1	1	0	0	1	1	1	0	0	0	0	0.75	0	0	0	0	0	0	0	0	0	0	-1	1	1
	1	1	1	0	0	1	0	0.75	0	0	0	0	0	0	0.75	0	0	0	1	0	0	0	0.6	-0.6	1
	1	1	1	0	0	1	0	0	0	0	0	0.75	0	0	0	0	0.75	0	1	0	0	0	0.6	-0.6	1
	1	1	1	0	0	1	0	0	0	0	0.75	0	0.75	0	0	0	0	0	1	0	0	0	0.6	-0.6	1
	1	1	1	0	0	1	0	0.75	0	0	0	0	0	0	0.75	0	0	0	0	0	0	0	1	-1	1
	1	1	1	0	0	1	0	0	0	0	0	0.75	0	0	0	0	0.75	0	0	0	0	0	1	-1	1
	1	1	1	0	0	1	0	0	0	0	0.75	0	0.75	0	0	0	0	0	0	0	0	0	1	-1	1
	1	1	1	0	0	1	0	0	0	0.75	0	0	0	0	0.75	0	0	0	1	0	0	0	0.6	-0.6	1
	1	1	1	0	0	1	0	0	0	0.75	0	0	0	0	0.75	0	0	0	0	0	0	0	1	-1	1
	1	1	1	0	0	1	0	0	0	0	0	0	0.75	0	0	0	0	0	1	0	0	0	0.6	0.6	1
SLE RAR	1	1	1	0	0	1	0	0	0	0	0	0	0.75	0	0	0	0	0	0	0	0	0	1	1	1

5.3.3. Combinazioni per gli stati limite di esercizio: combinazione frequente

$G_1 + R + \psi_{11} Q_{k1} + \psi_{2\varepsilon 3} T$ (carico da traffico veicolare Qk1 principale)

	Peso proprio	Permanenti portati	Spinta a riposo piedritto sx	Spinta riposo piedritto dx	Spinta attiva piedritto sx	Spinta attiva piedritto dx	Spinta acqua interna	Q1k centrato	Q1k filo piedritto dx	Q1k filo piedritto sx	Accidentale 9kPa su soletta	Accidentale 20 kPa	Accidentale su piedritto sx	Accidentale su piedritto dx	Accidentale 9kPa piedritto sx	Accidentale 9kPa piedritto dx	Accidentale 20kPa piedritto sx	Accidentale 20kPa piedritto dx	Frenatura	Sisma orizzontale	Sisma verticale	Spinta idrodinamica	Termica Uniforme	Termica farfalla +	Ritiro
SLE FR	1	1	0	0	1	1	0	0.75	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.6	0.6	1
	1	1	0	0	1	1	0	0	0	0	0	0.75	0	0	0	0	0.75	0	0	0	0	0	0.6	0.6	1
	1	1	1	0	0	1	0	0.75	0	0	0	0	0	0	0.75	0	0	0	0	0	0	0	-0.6	-0.6	0
	1	1	1	0	0	1	0	0	0	0	0	0.75	0	0	0	0	0.75	0	0	0	0	0	-0.6	-0.6	0
	1	1	1	0	0	1	0	0	0	0	0.75	0	0.75	0	0	0	0	0	0	0	0	0	-0.6	-0.6	0
	1	1	0	0	1	1	0	0.75	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.6	0.6	0
	1	1	0	0	1	1	0	0	0	0	0	0.75	0	0	0	0	0	0	0	0	0	0	-0.6	0.6	0
	1	1	1	0	0	1	0	0.75	0	0	0	0	0	0	0.75	0	0	0	0	0	0	0	0.6	-0.6	1
	1	1	1	0	0	1	0	0	0	0	0	0.75	0	0	0	0	0.75	0	0	0	0	0	0.6	-0.6	1
	1	1	1	0	0	1	0	0	0	0	0.75	0	0.75	0	0	0	0	0	0	0	0	0	0.6	-0.6	1
	1	1	1	0	0	1	0	0	0	0.75	0	0	0.75	0	0.75	0	0	0	0	0	0	0	0.6	-0.6	1
	1	1	1	0	0	1	0	0	0	0	0	0	0.75	0	0	0	0	0	0	0	0	0	0.6	0.6	1

5.3.4. Combinazioni per gli stati limite di esercizio: combinazione quasi permanente

$G_1 + R + \psi_{21} Q_{k1} + \psi_{2\varepsilon 3} T$

	Peso proprio	Permanenti portati	Spinta a riposo piedritto sx	Spinta riposo piedritto dx	Spinta attiva piedritto sx	Spinta attiva piedritto dx	Spinta acqua interna	Q1k centrato	Q1k filo piedritto dx	Q1k filo piedritto sx	Accidentale 9kPa su soletta	Accidentale 20 kPa	Accidentale su piedritto sx	Accidentale su piedritto dx	Accidentale 9kPa piedritto sx	Accidentale 9kPa piedritto dx	Accidentale 20kPa piedritto sx	Accidentale 20kPa piedritto dx	Frenatura	Sisma orizzontale	Sisma verticale	Spinta idrodinamica	Termica Uniforme	Termica farfalla +	Ritiro
SLE QP	1	1	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.5	0.5	1
	1	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.5	-0.5	0
	1	1	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-0.5	0.5	0
	1	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.5	-0.5	1
	1	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.5	0.5	1

5.3.5. Combinazioni per lo stato limite ultimo di Salvaguardia della vita

Si considera il sisma agente nella direzione trasversale dello scatolare (gli effetti del sisma agente nella direzione longitudinale del manufatto sono poco rilevanti), associato al sisma in direzione verticale (considerando in alternativa entrambi i versi d'azione). La non contemporaneità della massima azione verticale e orizzontale viene tenuta in conto, come prescritto dalle NTC 2008 (Par. 7.3.5), considerando i 4 seguenti scenari:

$E_1 = 1.00\ E_H + 0.30\ E_{V+}$ (sisma orizzontale al 100%, sisma verticale verso l'alto al 30%)

$E_2 = 1.00\ E_H + 0.30\ E_{V-}$ (sisma orizzontale al 100%, sisma verticale verso il basso al 30%)

$E_3 = 0.30\ E_H + 1.00\ E_{V+}$ (sisma orizzontale al 30%, sisma verticale verso l'alto al 100%)

$E_4 = 0.30\ E_H + 1.00\ E_{V-}$ (sisma orizzontale al 30%, sisma verticale verso il basso al 100%)

$G_1 + E + \psi_{21} Qk1 + \psi_{2\varepsilon 3} T$

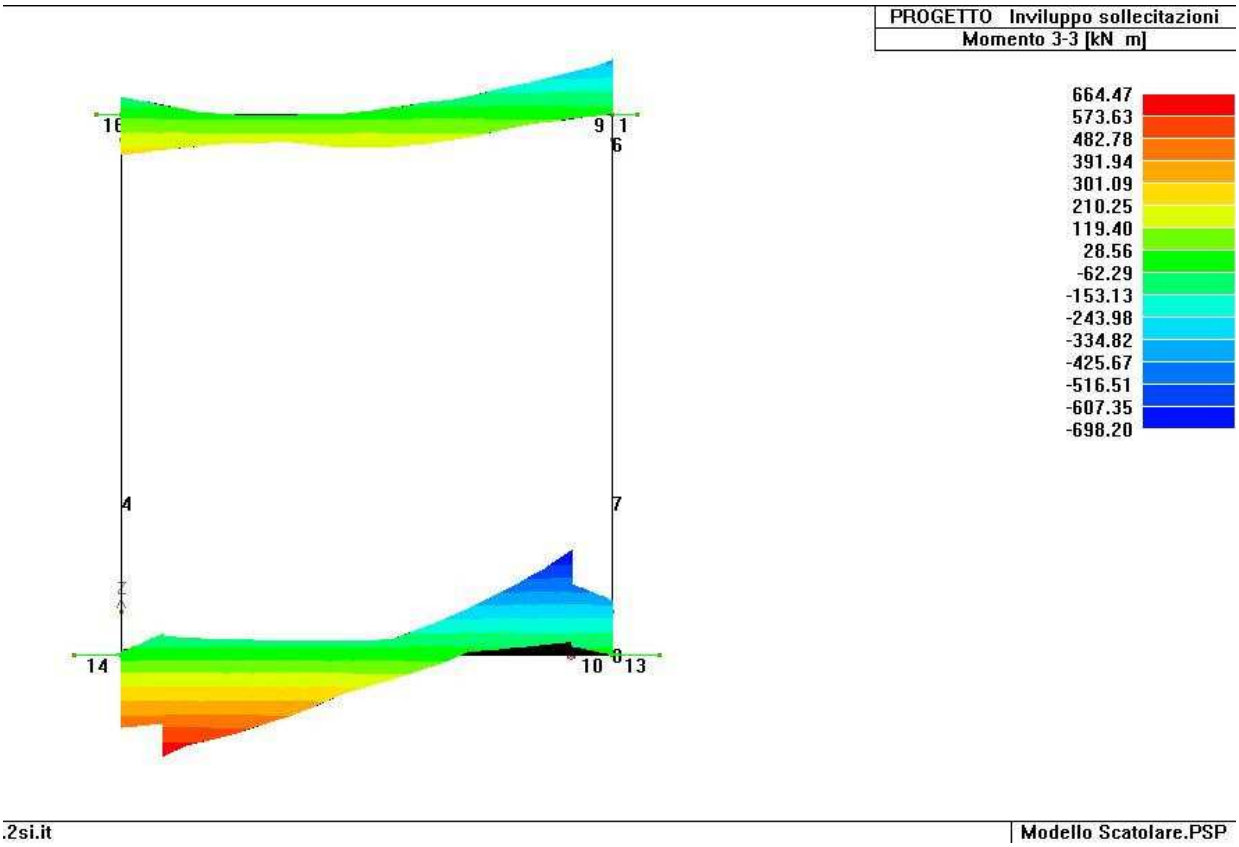
	Peso proprio	Permanenti portati	Spinta a riposo piedritto sx	Spinta riposo piedritto dx	Spinta attiva piedritto sx	Spinta attiva piedritto dx	Spinta acqua interna	Q1k centrato	Q1k filo piedritto dx	Q1k filo piedritto sx	Accidentale 9kPa su soletta	Accidentale 20 kPa	Accidentale su piedritto sx	Accidentale su piedritto dx	Accidentale 9kPa piedritto sx	Accidentale 9kPa piedritto dx	Accidentale 20kPa piedritto sx	Accidentale 20kPa piedritto dx	Frenatura	Sisma orizzontale	Sisma verticale	Spinta idrodinamica	Termica Uniforme	Termica farfalla +	Ritiro
SISMA	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	1	0	0.5	0.5	1
	1	1	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0.3	1	-0.5	-0.5	0
	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	1	0	-0.5	0.5	0
	1	1	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0.3	1	0.5	-0.5	1
	1	1	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	-0.3	1	0.5	0.5	1

5.3.6. Combinazioni per lo stato limite ultimo GEO

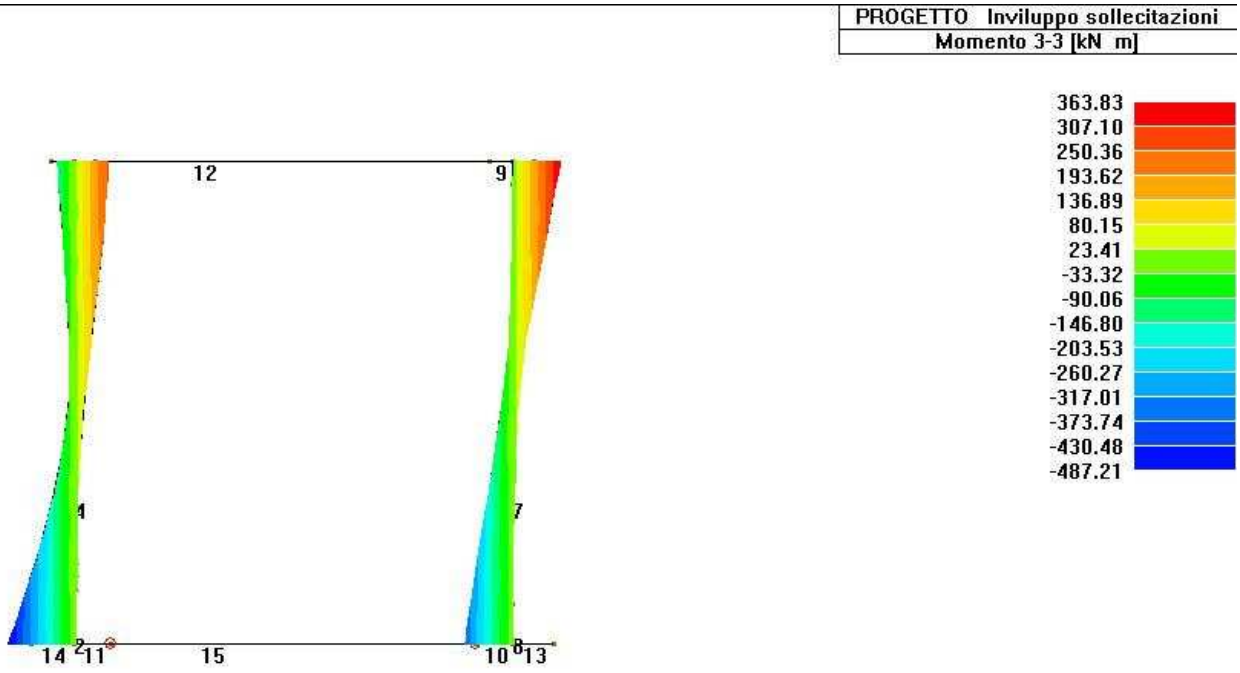
	Peso proprio	Permanenti portati	Spinta a riposo piedritto sx	Spinta riposo piedritto dx	Spinta attiva piedritto sx	Spinta attiva piedritto dx	Spinta acqua interna	Q1k centrato	Q1k filo piedritto dx	Q1k filo piedritto sx	Accidentale 9kPa su soletta	Accidentale 20 kPa	Accidentale su piedritto sx	Accidentale su piedritto dx	Accidentale 9kPa piedritto sx	Accidentale 9kPa piedritto dx	Accidentale 20kPa piedritto sx	Accidentale 20kPa piedritto dx	Frenatura	Sisma orizzontale	Sisma verticale	Spinta idrodinamica	Termica Uniforme	Termica farfalla +	Ritiro
A2+M1+R2	1	1	1	0	0	1	0	0	0	0	0	1,15	0	0	0	0	1,15	0	0	0	0	0	0	0	0

5.4. Diagrammi delle caratteristiche della sollecitazione

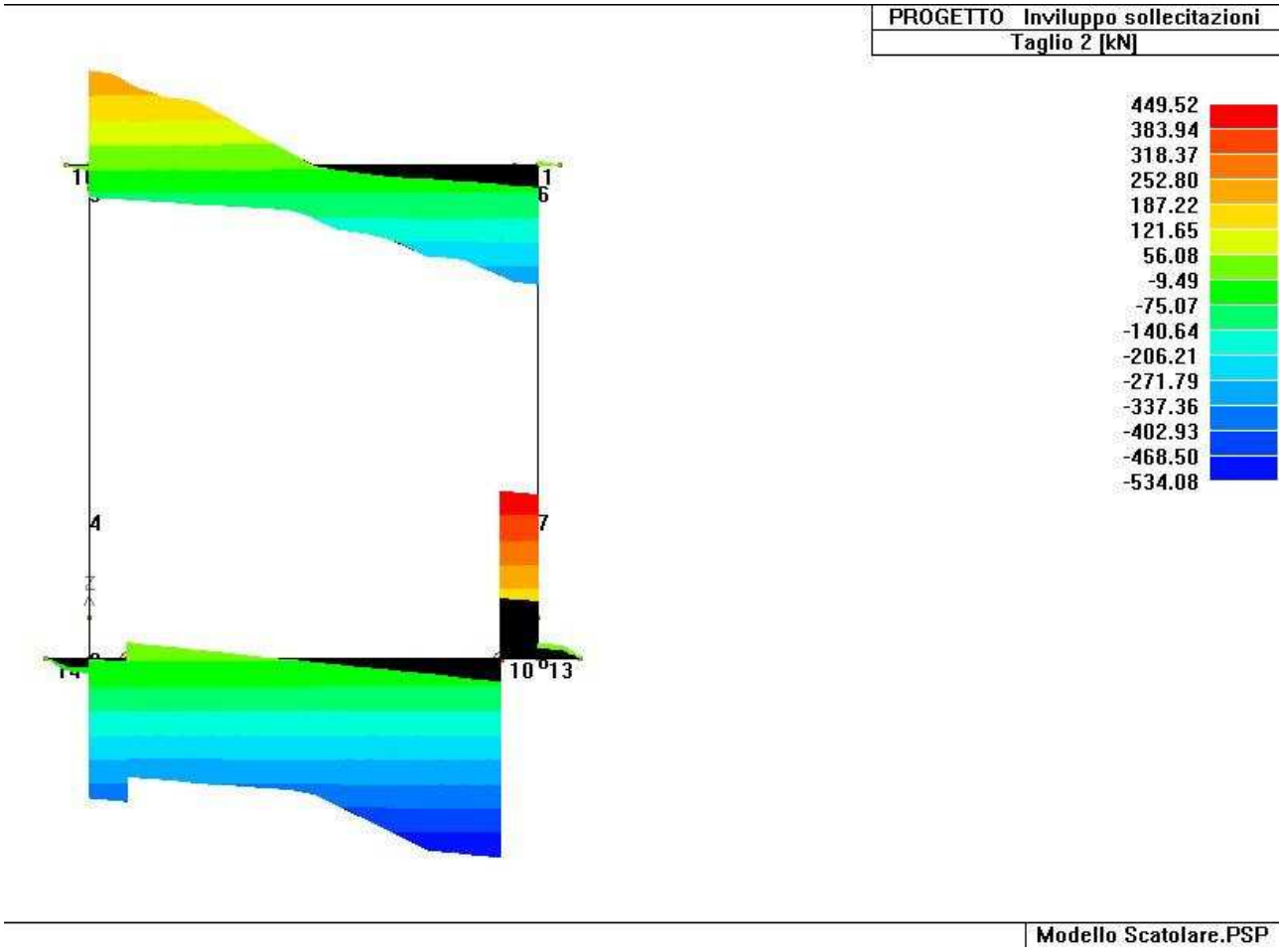
5.4.1. InviluppoSLU/SLV momento flettente soletta superiore e soletta di fondazione



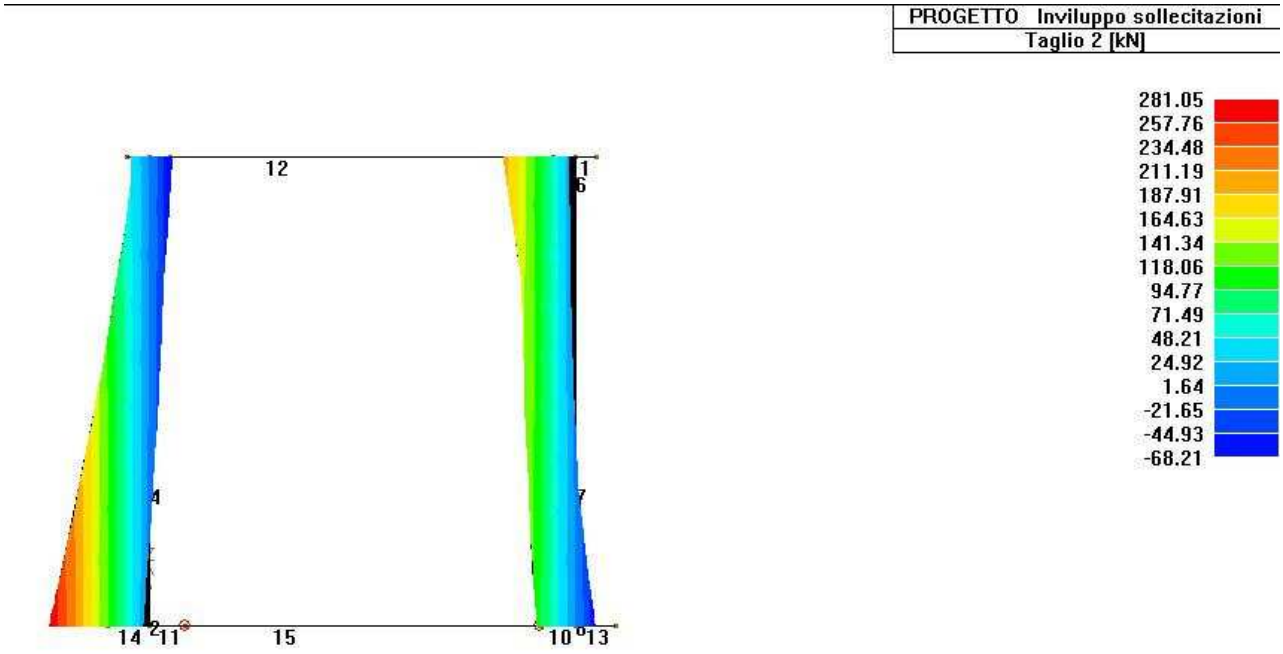
5.4.2. InviluppoSLU/SLV momento flettente piedritti



5.4.3. Inviluppo taglio SLU/SLV soletta superiore e soletta di fondazione



5.4.4. Inviluppo taglio SLU/SLV piedritti



5.5. Verifiche di resistenza ed a fessurazione

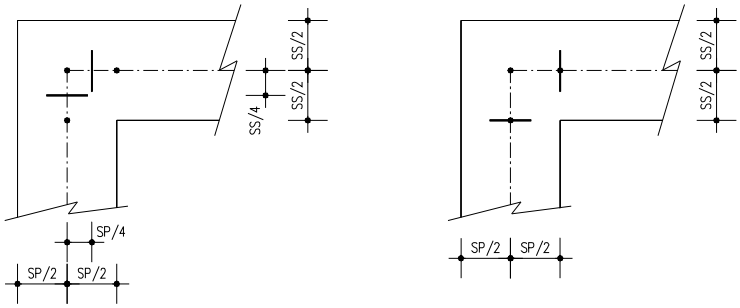
Di seguito si riportano le verifiche delle sezioni per le aste più significative e per le Combinazioni di carico risultate più critiche.

Le verifiche a flessione sono effettuate rispettivamente:

- nella sezione ubicata a metà fra asse piedritto e sezione d'attacco piedritto-soletta nel caso delle verifiche della soletta;

- nella sezione ubicata a metà fra asse soletta e sezione d'attacco del piedritto nel caso delle verifiche del piedritto.

Le verifiche a taglio sono eseguite nelle sezioni di attacco soletta-piedritto.



I calcoli di verifica sono effettuati con il metodo degli Stati Limite, applicando il combinato D. M.14.01.2008 con l'UNI EN 1992 (Eurocodice 2).

Le verifiche a fessurazione sono state condotte considerando:

Verifica di formazione delle fessure: la verifica si esegue per la sezione interamente reagente e per le sollecitazioni di esercizio si determina la massima trazione nel calcestruzzo σ_{ct}, confrontandola con la resistenza caratteristica a trazione per flessione f_{cfk}: se risulta $\sigma_{ct}<f_{cfk}$ la verifica è soddisfatta, altrimenti si procede alla verifica di apertura delle fessure.

Verifica di apertura delle fessure: l'apertura convenzionale delle fessure è calcolata con le modalità indicate nell'EC2, come richiesto dal D. M. Min. II. TT. del 14 gennaio 2008, e valutata con le sollecitazioni relative

alle Combinazioni FR o QP della normativa vigente sui ponti stradali". La massima apertura ammissibile risulta rispettivamente per le strutture in ambiente ordinario ed armature poco sensibili:

1) combinazione di carico Frequente:

$w_k \leq w_3 = 0.40mm$

2) combinazione di carico quasi permanente:

$w_k \leq w_2 = 0.30mm$

Nel caso di strutture in ambiente molto aggressivo ed armature poco sensibili:

1) combinazione di carico Frequente:

$w_k \leq w_1 = 0.20mm$

2) combinazione di carico quasi permanente:

$w_k \leq w_1 = 0.20mm$

Verifica delle tensioni di esercizio: si eseguono per la condizione di carico Quasi Permanente e Rara, verificando rispettivamente che le tensioni di lavoro siano inferiori ai seguenti limiti:

per la condizione QP si verifica che le massime tensioni presenti nel calcestruzzo siano inferiori a $\sigma_c < 0.45\ f_{ck}$;

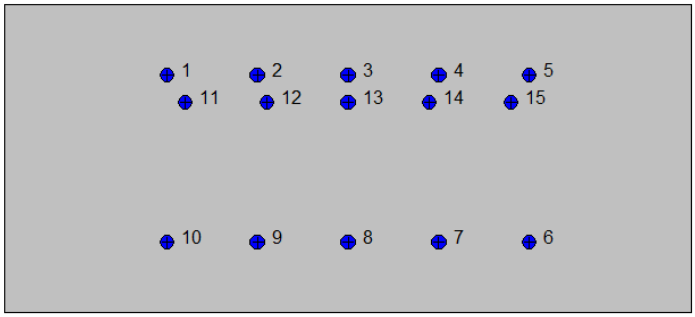
per la condizione rara si verifica che le massime tensioni presenti nel calcestruzzo siano inferiori a $\sigma_c < 0.60\ f_{ck}$, mentre quelle dell'acciaio $\sigma_s < 0.80\ f_{yk}$

5.5.1. Soletta superiore: attacco piedritto (Asta 9)

2SI s.r.l - ProVLIM - Verifica sezioni

Geomeria della sezione:

Vert.	X	Y
n.	cm	cm
1	0,0	45,0
2	100,0	45,0
3	100,0	0,0
4	0,0	0,0



Armature:

Pos.	X	Y	Area	Pretens.
n.	cm	cm	cmq	(s/n)
1	23,5	34,7	3,1	no
2	36,8	34,7	3,1	no
3	50,0	34,7	3,1	no
4	63,2	34,7	3,1	no
5	76,5	34,7	3,1	no
6	76,5	10,3	3,1	no
7	63,2	10,3	3,1	no
8	50,0	10,3	3,1	no
9	36,8	10,3	3,1	no
10	23,5	10,3	3,1	no
11	26,2	30,7	3,1	no
12	38,1	30,7	3,1	no
13	50,0	30,7	3,1	no
14	61,9	30,7	3,1	no
15	73,8	30,7	3,1	no

Normativa di riferimento:

D.M. 14/01/2008 - 'Norme tecniche per le costruzioni'

Note:

Verifiche SLE per ambiente molto aggressivo

Materiali:

Calcestruzzo classe: C28/35

Rck (resistenza caratteristica cubica a compressione) = 350 daN/cmq

fck (resistenza caratteristica cilindrica a compressione) = 290 daN/cmq

fctm (resistenza a trazione media) = 28 daN/cmq

G (modulo di elasticità tangenziale) = 145424 daN/cmq

E (modulo elastico istantaneo iniziale) = 325750 daN/cmq

C. Poisson (coefficiente di contrazione trasversale) = 0.12

Coefficiente di dilatazione termica = 0.000050

Peso specifico del calcestruzzo armato = 2500 daN/mc

Barre d'acciaio ad aderenza migliorata tipo: B450C

fyk (tensione caratteristica di snervamento) = 4500 daN/cmq

fkt (tensione caratteristica di rottura) = 5400 daN/cmq

εuk (deformazione di rottura) = 0.075

G (modulo di elasticità tangenziale) = 793100 daN/cmq

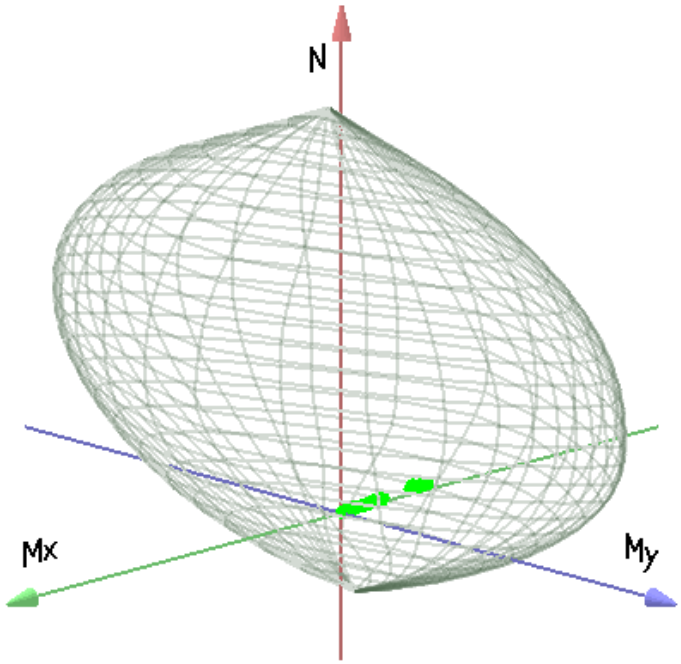
E (modulo elastico) = 2060000 daN/cmq

C. Poisson (coefficiente di contrazione trasversale) = 0.30

Coefficiente di dilatazione termica = 0.000012

Peso specifico = 7850 daN/mc

Dominio SLU:



Caratteristiche limite della sezione:

Nu	Mxu	Myu	Stato Sez.
kN	kN m	kN m	
-1844,0	-50,4	0,0	Completamente tesa
9239,0	50,4	0,0	Completamente compressa

0,0	252,4	0,0	Fibre inferiori tese
0,0	-356,3	0,0	Fibre superiori tese
0,0	0,0	659,7	Fibre di sinistra tese
0,0	0,0	-659,7	Fibre di destra tese

Verifiche stato limite ultimo:

Per ogni combinazione di carico saranno svolte le verifiche:

Verifica per Mxu, Myu e Nu proporzionali (sigla verifica: P)

e in caso di verifica proporzionale positiva:

Verifica con rapporto Mxu, Myu assegnato (sigla verifica: M)

Verifica con Nu costante (sigla verifica: N)

Cmb.	N	Mx	My	Tipo	Nu	Mxu	Myu	Sd/Su	Verif.
	kN	kN m	kN m		kN	kN m	kN m		
1	40,9	-78,6	0,0	P	199,1	-382,6	0,0	0,200	OK
				M	8304,5	-78,5	0,0	0,000	
				N	40,9	-361,7	0,0	0,220	
2	22,8	-22,2	0,0	P	422,7	-411,4	0,0	0,050	OK
				M	8697,0	-22,1	0,0	0,000	
				N	22,8	-359,3	0,0	0,060	
3	32,7	-44,1	0,0	P	292,0	-394,7	0,0	0,110	OK
				M	8542,9	-44,0	0,0	0,000	
				N	32,7	-360,7	0,0	0,120	
4	19,1	-1,9	0,0	P	4755,5	-478,0	0,0	0,000	OK
				M	8841,2	-1,8	0,0	0,000	
				N	19,1	-358,8	0,0	0,000	
5	138,1	-333,6	0,0	P	156,1	-377,0	0,0	0,880	OK
				M	6470,2	-333,7	0,0	0,020	
				N	138,1	-374,6	0,0	0,890	
6	129,2	-300,9	0,0	P	162,3	-377,8	0,0	0,800	OK
				M	6752,4	-300,8	0,0	0,020	
				N	129,2	-373,4	0,0	0,810	
7	144,9	-329,8	0,0	P	166,2	-378,3	0,0	0,870	OK
				M	6504,4	-329,8	0,0	0,020	
				N	144,9	-375,5	0,0	0,880	
8	61,4	-156,7	0,0	P	147,3	-375,8	0,0	0,420	OK
				M	7773,8	-156,6	0,0	0,010	

				N	61,4	-364,5	0,0	0,430	
9	52,6	-124,0	0,0	P	160,0	-377,5	0,0	0,330	OK
				M	7995,4	-123,8	0,0	0,010	
				N	52,5	-363,3	0,0	0,340	
10	68,2	-152,9	0,0	P	168,9	-378,7	0,0	0,400	OK
				M	7799,5	-152,8	0,0	0,010	
				N	68,2	-365,4	0,0	0,420	
11	47,2	-90,2	0,0	P	200,2	-382,8	0,0	0,240	OK
				M	8224,9	-90,1	0,0	0,010	
				N	47,2	-362,6	0,0	0,250	
12	29,1	-33,8	0,0	P	345,5	-401,5	0,0	0,080	OK
				M	8615,2	-33,7	0,0	0,000	
				N	29,1	-360,2	0,0	0,090	
13	41,1	-59,7	0,0	P	269,7	-391,8	0,0	0,150	OK
				M	8434,6	-59,6	0,0	0,000	
				N	41,1	-361,8	0,0	0,160	
14	27,5	-17,5	0,0	P	701,3	-445,6	0,0	0,040	OK
				M	8730,1	-17,4	0,0	0,000	
				N	27,5	-360,0	0,0	0,050	
15	131,8	-322,0	0,0	P	154,2	-376,7	0,0	0,850	OK
				M	6573,9	-321,9	0,0	0,020	
				N	131,8	-373,8	0,0	0,860	
16	122,9	-289,2	0,0	P	160,5	-377,6	0,0	0,770	OK
				M	6845,9	-289,2	0,0	0,020	
				N	122,9	-372,6	0,0	0,780	
17	138,6	-318,2	0,0	P	164,7	-378,1	0,0	0,840	OK
				M	6606,9	-318,1	0,0	0,020	
				N	138,6	-374,7	0,0	0,850	
18	53,0	-141,1	0,0	P	140,8	-375,0	0,0	0,380	OK
				M	7878,8	-141,1	0,0	0,010	
				N	53,0	-363,4	0,0	0,390	
19	44,1	-108,4	0,0	P	153,3	-376,6	0,0	0,290	OK
				M	8101,1	-108,3	0,0	0,000	
				N	44,1	-362,2	0,0	0,300	
20	59,8	-137,3	0,0	P	164,6	-378,1	0,0	0,360	OK
				M	7904,7	-137,2	0,0	0,010	
				N	59,8	-364,3	0,0	0,380	
21	128,9	-312,8	0,0	P	155,3	-376,9	0,0	0,830	OK
				M	6653,2	-312,7	0,0	0,020	

				N	128,9	-373,4	0,0	0,840	
22	50,0	-131,9	0,0	P	142,3	-375,2	0,0	0,350	OK
				M	7941,5	-131,8	0,0	0,010	
				N	50,0	-363,0	0,0	0,360	
23	132,4	-267,6	0,0	P	188,7	-381,3	0,0	0,700	OK
				M	7016,2	-267,3	0,0	0,020	
				N	132,4	-373,9	0,0	0,720	
24	51,7	-60,5	0,0	P	342,9	-401,2	0,0	0,150	OK
				M	8429,1	-60,4	0,0	0,010	
				N	51,7	-363,2	0,0	0,170	
25	136,8	-303,6	0,0	P	170,8	-378,9	0,0	0,800	OK
				M	6730,0	-303,5	0,0	0,020	
				N	136,8	-374,4	0,0	0,810	
26	130,9	-282,3	0,0	P	176,0	-379,6	0,0	0,740	OK
				M	6900,0	-282,4	0,0	0,020	
				N	130,9	-373,7	0,0	0,750	
27	55,4	-137,1	0,0	P	152,2	-376,5	0,0	0,360	OK
				M	7906,4	-137,0	0,0	0,010	
				N	55,4	-363,7	0,0	0,380	
28	45,9	-102,5	0,0	P	169,8	-378,8	0,0	0,270	OK
				M	8141,3	-102,4	0,0	0,010	
				N	45,9	-362,4	0,0	0,280	
29	133,6	-272,0	0,0	P	187,1	-381,1	0,0	0,710	OK
				M	6982,1	-271,8	0,0	0,020	
				N	133,6	-374,0	0,0	0,730	
30	159,4	-312,7	0,0	P	194,7	-382,0	0,0	0,820	OK
				M	6653,7	-312,6	0,0	0,020	
				N	159,4	-377,4	0,0	0,830	
31	155,1	-274,0	0,0	P	218,1	-385,1	0,0	0,710	OK
				M	6967,4	-273,7	0,0	0,020	
				N	155,1	-376,9	0,0	0,730	
32	189,2	-277,1	0,0	P	267,3	-391,5	0,0	0,710	OK
				M	6943,2	-276,8	0,0	0,030	
				N	189,2	-381,3	0,0	0,730	
33	138,2	-276,1	0,0	P	191,1	-381,6	0,0	0,720	OK
				M	6951,2	-275,8	0,0	0,020	
				N	138,2	-374,6	0,0	0,740	
75	46,8	-45,2	0,0	P	426,6	-411,9	0,0	0,110	OK
				M	8535,8	-45,1	0,0	0,000	

				N	46,8	-362,5	0,0	0,120	
76	87,9	-161,2	0,0	P	209,2	-383,9	0,0	0,420	OK
				M	7743,5	-161,1	0,0	0,010	
				N	87,9	-368,0	0,0	0,440	
77	51,6	-54,0	0,0	P	388,7	-407,1	0,0	0,130	OK
				M	8474,1	-53,9	0,0	0,010	
				N	51,6	-363,2	0,0	0,150	
78	83,1	-152,3	0,0	P	209,3	-383,9	0,0	0,400	OK
				M	7803,4	-152,2	0,0	0,010	
				N	83,0	-367,3	0,0	0,410	
79	80,8	-123,9	0,0	P	254,2	-389,8	0,0	0,320	OK
				M	7995,5	-123,8	0,0	0,010	
				N	80,8	-367,0	0,0	0,340	
80	39,6	-93,3	0,0	P	160,4	-377,6	0,0	0,250	OK
				M	8204,0	-93,2	0,0	0,000	
				N	39,6	-361,6	0,0	0,260	

Riepilogo combinazioni maggiormente gravose:

Cmb.	**N**	**Mx**	**My**	**Tipo**	**Nu**	**Mxu**	**Myu**	**Sd/Su**	**Verif.**
	kN	kN m	kN m		kN	kN m	kN m		
5	138,1	-333,6	0,0	P	156,1	-377,0	0,0	0,880	OK
32	189,2	-277,1	0,0	M	6943,2	-276,8	0,0	0,030	OK
5	138,1	-333,6	0,0	N	138,1	-374,6	0,0	0,890	OK

Verifiche stato limite di esercizio per c. c. rare:

Valori limite (tensioni: segno (-) = compressione, (+) = trazione):

CLS: σcL = 17400,0 kN/mq (verifica Ok per $\sigma c/\sigma cL < 1$)

Acciaio: σaL = 360000,0 kN/mq (verifica Ok per $\sigma a/\sigma aL < 1$)

Cmb		**Mx**	**My**	**N**	**σc**	**σc/σcL**	**σa**	**σa/σaL**
n. e	stato	kN m	kN m	kN	kN/mq		kN/mq	
46	OK	-58,9	0,0	34,3	-2972,4	0,17	66905,0	0,19
47	OK	-17,1	0,0	20,9	-860,5	0,05	17343,8	0,05
48	OK	-32,0	0,0	28,0	-1618,2	0,09	34665,5	0,10
49	OK	-0,7	0,0	18,0	-54,7	0,00	-684,1	0,00
50	OK	-247,4	0,0	104,6	-12491,4	0,72	288695,9	0,80

51	OK	-223,0	0,0	98,0	-11263,1	0,65	259603,5	0,72
52	OK	-244,5	0,0	109,6	-12349,5	0,71	284225,7	0,79
53	OK	-117,7	0,0	48,0	-5944,1	0,34	137722,7	0,38
54	OK	-93,4	0,0	41,4	-4715,2	0,27	108617,7	0,30
55	OK	-114,9	0,0	53,0	-5801,7	0,33	133241,9	0,37
56	OK	-63,8	0,0	37,0	-3222,4	0,19	72571,1	0,20
57	OK	-22,0	0,0	23,5	-1110,8	0,06	23004,2	0,06
58	OK	-40,3	0,0	32,5	-2035,0	0,12	44106,1	0,12
59	OK	-8,9	0,0	22,4	-446,8	0,03	7019,2	0,02
60	OK	-237,7	0,0	99,3	-12002,0	0,69	277605,2	0,77
61	OK	-213,3	0,0	92,7	-10773,6	0,62	248512,7	0,69
62	OK	-234,9	0,0	104,4	-11860,1	0,68	273134,8	0,76
63	OK	-104,7	0,0	40,9	-5287,9	0,30	122855,6	0,34
64	OK	-80,4	0,0	34,3	-4059,1	0,23	93750,3	0,26
65	OK	-101,9	0,0	46,0	-5146,1	0,30	118384,9	0,33
66	OK	-230,8	0,0	97,1	-11655,6	0,67	269466,1	0,75
67	OK	-97,9	0,0	38,7	-4941,1	0,28	114703,9	0,32
68	OK	-197,0	0,0	100,4	-9949,5	0,57	226682,9	0,63
69	OK	-42,3	0,0	40,4	-2134,1	0,12	45077,9	0,13

Verifiche stato limite di esercizio per c. c. frequenti:

Valori limite:

Fessure: WkL = 0,30 mm (verifica Ok per Wk/WkL < 1)

Cmb		Mx	My	N	Wk	Wk/WkL
n.	e stato	kN m	kN m	kN	mm	
34	OK	-44,6	0,0	29,7	0.08	0,26
35	OK	-26,0	0,0	25,9	0.03	0,11
36	OK	-105,2	0,0	46,3	0.19	0,63
37	OK	-80,8	0,0	39,7	0.14	0,48
38	OK	-102,3	0,0	51,3	0.18	0,61
39	OK	-54,3	0,0	35,0	0.09	0,31
40	OK	-22,9	0,0	24,9	0.03	0,10
41	OK	-95,5	0,0	41,0	0.17	0,57
42	OK	-71,1	0,0	34,4	0.13	0,42
43	OK	-92,7	0,0	46,1	0.17	0,55
44	OK	-129,2	0,0	58,8	0.23	0,77

45	OK	-54,8	0,0	42,1	0.07	0,25

Verifiche stato limite di esercizio per c. c. quasi permanenti:

Valori limite:

CLS: σcL = 13050,0 kN/mq (verifica Ok per $\sigma c/\sigma cL < 1$)

Fessure: WkL = 0,20 mm (verifica Ok per Wk/WkL < 1)

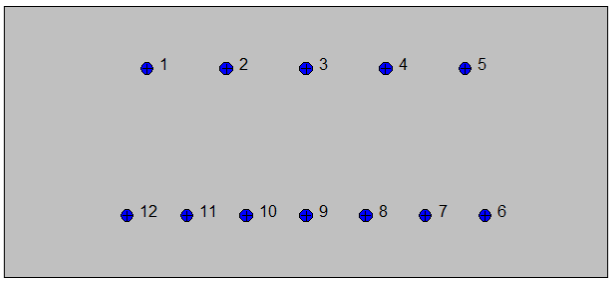
Cmb		Mx	My	N	σc	σc/σcL	Wk	Wk/WkL
n. e	stato	kN m	kN m	kN	kN/mq		mm	
70	OK	-4,9	0,0	16,3	-243,8	0,02	0.00	0,02
71	OK	-53,5	0,0	29,3	-2702,1	0,21	0.09	0,47
72	OK	-13,8	0,0	21,1	-695,1	0,05	0.02	0,08
73	OK	-44,6	0,0	24,5	-2254,1	0,17	0.08	0,39
74	OK	-17,4	0,0	22,6	-877,4	0,07	0.02	0,11

5.5.2. Soletta superiore: mezzeria (Asta 12)

2SI s.r.l - ProVLIM - Verifica sezioni

Geomeria della sezione:

Vert.	X	Y
n.	cm	cm
1	0,0	45,0
2	100,0	45,0
3	100,0	0,0
4	0,0	0,0



Armature:

Pos.	X	Y	Area	Pretens.
n.	cm	cm	cmq	(s/n)
1	23,5	34,7	3,1	no
2	36,8	34,7	3,1	no
3	50,0	34,7	3,1	no
4	63,2	34,7	3,1	no
5	76,5	34,7	3,1	no
6	79,8	10,3	3,1	no
7	69,8	10,3	3,1	no
8	59,9	10,3	3,1	no
9	50,0	10,3	3,1	no
10	40,1	10,3	3,1	no
11	30,1	10,3	3,1	no
12	20,2	10,3	3,1	no

Normativa di riferimento:

D.M. 14/01/2008 - 'Norme tecniche per le costruzioni'

Note:

Verifiche SLE per ambiente molto aggressivo

Materiali:

Calcestruzzo classe: C28/35

Rck (resistenza caratteristica cubica a compressione) = 350 daN/cmq

fck (resistenza caratteristica cilindrica a compressione) = 290 daN/cmq

fctm (resistenza a trazione media) = 28 daN/cmq

G (modulo di elasticità tangenziale) = 145424 daN/cmq

E (modulo elastico istantaneo iniziale) = 325750 daN/cmq

C. Poisson (coefficiente di contrazione trasversale) = 0.12

Coefficiente di dilatazione termica = 0.000050

Peso specifico del calcestruzzo armato = 2500 daN/mc

Barre d'acciaio ad aderenza migliorata tipo: B450C

fyk (tensione caratteristica di snervamento) = 4500 daN/cmq

fkt (tensione caratteristica di rottura) = 5400 daN/cmq

εuk (deformazione di rottura) = 0.075

G (modulo di elasticità tangenziale) = 793100 daN/cmq

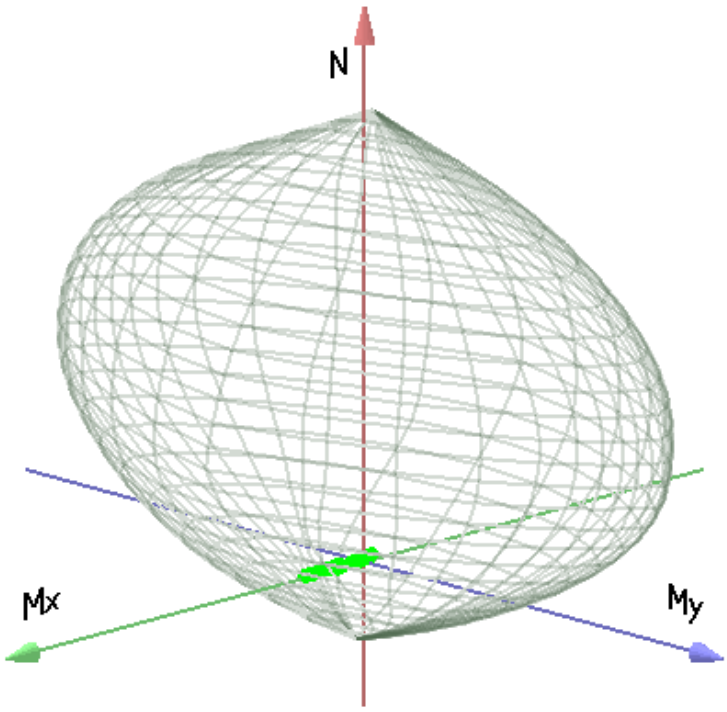
E (modulo elastico) = 2060000 daN/cmq

C. Poisson (coefficiente di contrazione trasversale) = 0.30

Coefficiente di dilatazione termica = 0.000012

Peso specifico = 7850 daN/mc

Dominio SLU:



Caratteristiche limite della sezione:

Nu	Mxu	Myu	Stato Sez.
kN	kN m	kN m	
-1475,2	30,0	0,0	Completamente tesa
8870,2	-30,0	0,0	Completamente compressa
0,0	285,9	0,0	Fibre inferiori tese
0,0	-224,1	0,0	Fibre superiori tese

0,0	0,0	572,0	Fibre di sinistra tese
0,0	0,0	-572,0	Fibre di destra tese

Verifiche stato limite ultimo:

Per ogni combinazione di carico saranno svolte le verifiche:

Verifica per Mxu, Myu e Nu proporzionali (sigla verifica: P)

e in caso di verifica proporzionale positiva:

Verifica con rapporto Mxu, Myu assegnato (sigla verifica: M)

Verifica con Nu costante (sigla verifica: N)

Cmb.	N	Mx	My	Tipo	Nu	Mxu	Myu	Sd/Su	Verif.
	kN	kN m	kN m		kN	kN m	kN m		
1	40,9	211,6	0,0	P	56,8	293,7	0,0	0,720	OK
				M	7257,0	211,5	0,0	0,010	
				N	40,9	291,5	0,0	0,730	
2	22,8	95,8	0,0	P	70,2	295,5	0,0	0,320	OK
				M	8013,4	95,7	0,0	0,000	
				N	22,8	289,0	0,0	0,330	
3	32,7	187,5	0,0	P	51,0	292,9	0,0	0,640	OK
				M	7413,5	187,4	0,0	0,000	
				N	32,7	290,4	0,0	0,650	
4	19,1	100,9	0,0	P	55,6	293,5	0,0	0,340	OK
				M	7979,7	100,8	0,0	0,000	
				N	19,1	288,5	0,0	0,350	
5	59,5	114,3	0,0	P	160,0	307,7	0,0	0,370	OK
				M	7891,7	114,2	0,0	0,010	
				N	59,5	294,0	0,0	0,390	
6	50,6	25,9	0,0	P	752,9	386,1	0,0	0,070	OK
				M	8478,6	25,8	0,0	0,010	
				N	50,6	292,8	0,0	0,090	
7	66,2	3,8	0,0	P	6186,1	356,9	0,0	0,010	OK
				M	8629,1	3,7	0,0	0,010	
				N	66,2	295,0	0,0	0,010	
8	61,4	99,3	0,0	P	193,3	312,3	0,0	0,320	OK
				M	7990,5	99,2	0,0	0,010	
				N	61,4	294,3	0,0	0,340	
9	52,6	10,9	0,0	P	2748,6	568,0	0,0	0,020	OK

				M	8580,8	10,8	0,0	0,010	
				N	52,6	293,1	0,0	0,040	
10	68,2	-11,2	0,0	P	3442,0	-567,2	0,0	0,020	OK
				M	8733,9	-11,3	0,0	0,010	
				N	68,2	-233,3	0,0	0,050	
11	47,2	200,0	0,0	P	69,7	295,4	0,0	0,680	OK
				M	7332,6	199,9	0,0	0,010	
				N	47,2	292,4	0,0	0,680	
12	29,1	84,2	0,0	P	103,6	300,1	0,0	0,280	OK
				M	8090,1	84,1	0,0	0,000	
				N	29,1	289,9	0,0	0,290	
13	41,1	171,9	0,0	P	70,7	295,6	0,0	0,580	OK
				M	7514,9	171,8	0,0	0,000	
				N	41,1	291,5	0,0	0,590	
14	27,5	85,3	0,0	P	96,6	299,1	0,0	0,280	OK
				M	8082,7	85,2	0,0	0,000	
				N	27,5	289,7	0,0	0,290	
15	53,2	126,0	0,0	P	128,0	303,4	0,0	0,410	OK
				M	7815,3	125,9	0,0	0,010	
				N	53,2	293,2	0,0	0,430	
16	44,3	37,6	0,0	P	400,9	340,2	0,0	0,110	OK
				M	8400,2	37,5	0,0	0,000	
				N	44,3	292,0	0,0	0,130	
17	59,9	15,5	0,0	P	2033,4	524,3	0,0	0,030	OK
				M	8549,5	15,4	0,0	0,010	
				N	59,9	294,1	0,0	0,050	
18	53,0	114,9	0,0	P	140,8	305,1	0,0	0,380	OK
				M	7888,1	114,8	0,0	0,010	
				N	53,0	293,2	0,0	0,390	
19	44,1	26,5	0,0	P	613,9	368,2	0,0	0,070	OK
				M	8475,0	26,4	0,0	0,000	
				N	44,1	291,9	0,0	0,090	
20	59,8	4,4	0,0	P	5652,6	411,4	0,0	0,010	OK
				M	8625,4	4,3	0,0	0,010	
				N	59,8	294,1	0,0	0,010	
21	50,2	104,0	0,0	P	147,6	306,1	0,0	0,340	OK
				M	7959,3	103,9	0,0	0,010	
				N	50,2	292,8	0,0	0,350	
22	50,0	92,9	0,0	P	166,1	308,6	0,0	0,300	OK

				M	8032,4	92,8	0,0	0,010	
				N	50,0	292,7	0,0	0,320	
23	53,7	31,9	0,0	P	622,5	369,3	0,0	0,090	OK
				M	8438,4	31,8	0,0	0,010	
				N	53,7	293,3	0,0	0,110	
24	51,7	46,9	0,0	P	370,4	336,1	0,0	0,140	OK
				M	8337,6	46,8	0,0	0,010	
				N	51,7	293,0	0,0	0,160	
25	58,1	111,1	0,0	P	161,1	307,9	0,0	0,360	OK
				M	7912,8	111,0	0,0	0,010	
				N	58,1	293,9	0,0	0,380	
26	52,2	44,6	0,0	P	397,6	339,7	0,0	0,130	OK
				M	8353,0	44,5	0,0	0,010	
				N	52,2	293,0	0,0	0,150	
27	55,4	135,8	0,0	P	123,6	302,8	0,0	0,450	OK
				M	7750,9	135,7	0,0	0,010	
				N	55,4	293,5	0,0	0,460	
28	45,9	47,5	0,0	P	318,0	329,1	0,0	0,140	OK
				M	8333,4	47,5	0,0	0,000	
				N	45,9	292,2	0,0	0,160	
29	54,9	41,3	0,0	P	462,9	348,4	0,0	0,120	OK
				M	8374,9	41,3	0,0	0,010	
				N	54,9	293,4	0,0	0,140	
30	80,7	92,9	0,0	P	281,6	324,2	0,0	0,290	OK
				M	8032,7	92,8	0,0	0,010	
				N	80,7	296,9	0,0	0,310	
31	76,5	2,7	0,0	P	7016,0	248,7	0,0	0,010	OK
				M	8636,7	2,6	0,0	0,010	
				N	76,5	296,4	0,0	0,010	
32	110,5	-25,2	0,0	P	2135,5	-486,5	0,0	0,050	OK
				M	8834,2	-25,2	0,0	0,010	
				N	110,5	-239,0	0,0	0,100	
33	59,6	37,4	0,0	P	578,4	363,6	0,0	0,100	OK
				M	8400,9	37,4	0,0	0,010	
				N	59,6	294,0	0,0	0,130	
75	43,4	31,7	0,0	P	479,8	350,6	0,0	0,090	OK
				M	8439,6	31,6	0,0	0,000	
				N	43,4	291,8	0,0	0,110	
76	76,5	-16,3	0,0	P	2402,7	-511,7	0,0	0,030	OK

				M	8769,9	-16,4	0,0	0,010	
				N	76,5	-234,4	0,0	0,070	
77	48,2	22,8	0,0	P	836,7	396,6	0,0	0,060	OK
				M	8499,5	22,7	0,0	0,010	
				N	48,2	292,5	0,0	0,080	
78	71,7	-7,4	0,0	P	4944,9	-512,1	0,0	0,010	OK
				M	8707,2	-7,5	0,0	0,010	
				N	71,7	-233,7	0,0	0,030	
79	69,4	17,4	0,0	P	2123,2	531,6	0,0	0,030	OK
				M	8536,4	17,3	0,0	0,010	
				N	69,4	295,4	0,0	0,060	
80	39,6	27,1	0,0	P	520,1	355,9	0,0	0,080	OK
				M	8470,3	27,1	0,0	0,000	
				N	39,6	291,3	0,0	0,090	

Riepilogo combinazioni maggiormente gravose:

Cmb.	**N**	**Mx**	**My**	**Tipo**	**Nu**	**Mxu**	**Myu**	**Sd/Su**	**Verif.**
	kN	kN m	kN m		kN	kN m	kN m		
1	40,9	211,6	0,0	P	56,8	293,7	0,0	0,720	OK
1	40,9	211,6	0,0	M	7257,0	211,5	0,0	0,010	OK
1	40,9	211,6	0,0	N	40,9	291,5	0,0	0,730	OK

Verifiche stato limite di esercizio per c. c. rare:

Valori limite (tensioni: segno (-) = compressione, (+) = trazione):

CLS: σcL = 17400,0 kN/mq (verifica Ok per σc/σcL < 1)

Acciaio: σaL = 360000,0 kN/mq (verifica Ok per σa/σaL < 1)

Cmb		**Mx**	**My**	**N**	**σc**	**σc/σcL**	**σa**	**σa/σaL**
n.	e stato	kN m	kN m	kN	kN/mq		kN/mq	
46	OK	157,2	0,0	34,3	-8221,9	0,47	226773,9	0,63
47	OK	71,4	0,0	20,9	-3733,8	0,21	101697,3	0,28
48	OK	140,9	0,0	28,0	-7371,5	0,42	203978,7	0,57
49	OK	76,6	0,0	18,0	-4005,6	0,23	110175,8	0,31
50	OK	81,9	0,0	46,3	-4282,2	0,25	111268,3	0,31
51	OK	16,2	0,0	39,7	-833,9	0,05	14987,1	0,04
52	OK	-0,2	0,0	51,3	-103,8	0,01	-1539,6	0,00

53	OK	69,3	0,0	48,0	-3625,3	0,21	92129,9	0,26
54	OK	3,7	0,0	41,4	-184,6	0,01	-2062,2	0,01
55	OK	-12,8	0,0	53,0	-666,6	0,04	9626,7	0,03
56	OK	152,2	0,0	37,0	-7963,2	0,46	218721,6	0,61
57	OK	66,4	0,0	23,5	-3474,9	0,20	93647,7	0,26
58	OK	132,7	0,0	32,5	-6940,9	0,40	190572,1	0,53
59	OK	68,3	0,0	22,4	-3574,3	0,21	96756,8	0,27
60	OK	91,5	0,0	41,0	-4789,7	0,28	127017,2	0,35
61	OK	25,9	0,0	34,4	-1349,9	0,08	30519,0	0,08
62	OK	9,5	0,0	46,1	-463,6	0,03	4279,2	0,01
63	OK	82,3	0,0	40,9	-4306,1	0,25	113230,4	0,31
64	OK	16,7	0,0	34,3	-861,8	0,05	16843,2	0,05
65	OK	0,2	0,0	46,0	-100,0	0,01	-1436,8	0,00
66	OK	75,3	0,0	38,8	-3937,7	0,23	103204,0	0,29
67	OK	66,0	0,0	38,7	-3453,4	0,20	89404,9	0,25
68	OK	32,3	0,0	42,1	-1682,9	0,10	38232,3	0,11
69	OK	44,8	0,0	40,4	-2342,2	0,13	57322,4	0,16

Verifiche stato limite di esercizio per c. c. frequenti:

Valori limite:

Fessure: WkL = 0,30 mm (verifica Ok per Wk/WkL < 1)

Cmb		Mx	My	N	Wk	Wk/WkL
n. e	stato	kN m	kN m	kN	mm	
34	OK	128,4	0,0	29,7	0.26	0,85
35	OK	61,6	0,0	25,9	0.12	0,40
36	OK	81,9	0,0	46,3	0.15	0,51
37	OK	16,2	0,0	39,7	0.02	0,07
38	OK	-0,2	0,0	51,3	0.00	0,00
39	OK	118,7	0,0	35,0	0.23	0,78
40	OK	54,3	0,0	24,9	0.10	0,35
41	OK	91,5	0,0	41,0	0.18	0,58
42	OK	25,9	0,0	34,4	0.04	0,14
43	OK	9,5	0,0	46,1	0.01	0,02
44	OK	68,6	0,0	58,8	0.12	0,40
45	OK	32,3	0,0	42,1	0.05	0,17

Verifiche stato limite di esercizio per c. c. quasi permanenti:

Valori limite:

CLS: σcL = 13050,0 kN/mq (verifica Ok per $\sigma c/\sigma cL < 1$)

Fessure: WkL = 0,20 mm (verifica Ok per Wk/WkL < 1)

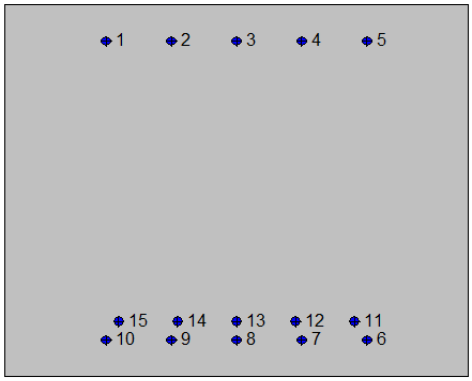
Cmb		Mx	My	N	σc	σc/σcL	Wk	Wk/WkL
n. e	stato	kN m	kN m	kN	kN/mq		mm	
70	OK	38,9	0,0	16,3	-2032,8	0,16	0.07	0,37
71	OK	-0,3	0,0	29,3	-64,2	0,00	0.00	0,00
72	OK	30,0	0,0	21,1	-1568,6	0,12	0.05	0,27
73	OK	8,6	0,0	24,5	-437,6	0,03	0.01	0,05
74	OK	35,8	0,0	22,6	-1872,8	0,14	0.07	0,33

5.5.3. Soletta di fondazione: attacco piedritto (Asta 11)

2SI s.r.l - ProVLIM - Verifica sezioni

Geomeria della sezione:

Vert.	X	Y
n.	cm	cm
1	0,0	80,0
2	100,0	80,0
3	100,0	0,0
4	0,0	0,0



Armature:

Pos.	X	Y	Area	Pretens.
n.	cm	cm	cmq	(s/n)
1	21,9	72,2	3,1	no
2	35,9	72,2	3,1	no
3	50,0	72,2	3,1	no
4	64,1	72,2	3,1	no
5	78,1	72,2	3,1	no
6	78,1	7,8	3,1	no
7	64,1	7,8	3,1	no
8	50,0	7,8	3,1	no
9	35,9	7,8	3,1	no
10	21,9	7,8	3,1	no
11	75,5	11,8	3,1	no
12	62,7	11,8	3,1	no
13	50,0	11,8	3,1	no
14	37,3	11,8	3,1	no
15	24,5	11,8	3,1	no

Normativa di riferimento:

D.M. 14/01/2008 - 'Norme tecniche per le costruzioni'

Note:

Verifiche SLE per ambiente ordinario

Materiali:

Calcestruzzo classe: C25/30

Rck (resistenza caratteristica cubica a compressione) = 300 daN/cmq

fck (resistenza caratteristica cilindrica a compressione) = 249 daN/cmq

fctm (resistenza a trazione media) = 26 daN/cmq

G (modulo di elasticità tangenziale) = 140388 daN/cmq

E (modulo elastico istantaneo iniziale) = 314470 daN/cmq

C. Poisson (coefficiente di contrazione trasversale) = 0.12

Coefficiente di dilatazione termica = 0.000050

Peso specifico del calcestruzzo armato = 2500 daN/mc

Barre d'acciaio ad aderenza migliorata tipo: B450C

fyk (tensione caratteristica di snervamento) = 4500 daN/cmq

fkt (tensione caratteristica di rottura) = 5400 daN/cmq

εuk (deformazione di rottura) = 0.075

G (modulo di elasticità tangenziale) = 793100 daN/cmq

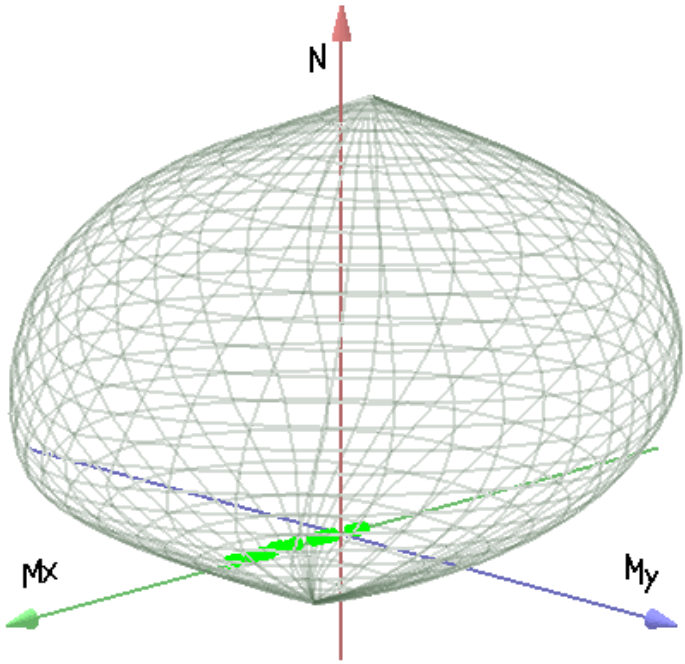
E (modulo elastico) = 2060000 daN/cmq

C. Poisson (coefficiente di contrazione trasversale) = 0.30

Coefficiente di dilatazione termica = 0.000012

Peso specifico = 7850 daN/mc

Dominio SLU:



Caratteristiche limite della sezione:

Nu	Mxu	Myu	Stato Sez.
kN	kN m	kN m	
-1844,0	173,3	0,0	Completamente tesa
13132,0	-173,3	0,0	Completamente compressa

0,0	808,9	0,0	Fibre inferiori tese
0,0	-454,6	0,0	Fibre superiori tese
0,0	0,0	728,2	Fibre di sinistra tese
0,0	0,0	-728,2	Fibre di destra tese

Verifiche stato limite ultimo:

Per ogni combinazione di carico saranno svolte le verifiche:

Verifica per Mxu, Myu e Nu proporzionali (sigla verifica: P)

e in caso di verifica proporzionale positiva:

Verifica con rapporto Mxu, Myu assegnato (sigla verifica: M)

Verifica con Nu costante (sigla verifica: N)

Cmb.	N	Mx	My	Tipo	Nu	Mxu	Myu	Sd/Su	Verif.
	kN	kN m	kN m		kN	kN m	kN m		
1	12,8	-108,8	0,0	P	55,7	-471,7	0,0	0,230	OK
				M	12916,0	-109,0	0,0	0,000	
				N	12,8	-458,6	0,0	0,240	
2	32,6	-56,2	0,0	P	320,5	-552,8	0,0	0,100	OK
				M	12738,0	-56,6	0,0	0,000	
				N	32,6	-464,6	0,0	0,120	
3	21,6	-93,3	0,0	P	113,0	-489,3	0,0	0,190	OK
				M	12863,8	-93,6	0,0	0,000	
				N	21,5	-461,2	0,0	0,200	
4	36,3	-54,0	0,0	P	385,4	-572,6	0,0	0,090	OK
				M	12730,3	-54,3	0,0	0,000	
				N	36,3	-465,8	0,0	0,120	
5	44,8	443,4	0,0	P	84,4	836,0	0,0	0,530	OK
				M	11020,9	443,0	0,0	0,000	
				N	44,8	823,3	0,0	0,540	
6	65,4	517,4	0,0	P	106,6	843,1	0,0	0,610	OK
				M	10765,8	516,9	0,0	0,010	
				N	65,4	829,9	0,0	0,620	
7	80,6	642,0	0,0	P	105,8	842,9	0,0	0,760	OK
				M	10334,8	641,5	0,0	0,010	
				N	80,6	834,8	0,0	0,770	
8	42,9	68,9	0,0	P	626,6	1005,7	0,0	0,070	OK
				M	12310,6	68,4	0,0	0,000	

				N	42,9	822,7	0,0	0,080	
9	63,6	142,8	0,0	P	419,3	941,9	0,0	0,150	OK
				M	12056,7	142,4	0,0	0,000	
				N	63,6	829,3	0,0	0,170	
10	78,8	267,4	0,0	P	263,1	892,9	0,0	0,300	OK
				M	11628,0	267,0	0,0	0,010	
				N	78,8	834,2	0,0	0,320	
11	6,0	-126,5	0,0	P	21,8	-461,3	0,0	0,270	OK
				M	12975,6	-126,7	0,0	0,000	
				N	6,0	-456,5	0,0	0,280	
12	25,8	-74,0	0,0	P	177,1	-508,9	0,0	0,140	OK
				M	12798,3	-74,3	0,0	0,000	
				N	25,7	-462,5	0,0	0,160	
13	12,4	-117,1	0,0	P	49,6	-469,8	0,0	0,250	OK
				M	12943,8	-117,2	0,0	0,000	
				N	12,4	-458,4	0,0	0,250	
14	27,2	-77,8	0,0	P	177,8	-509,1	0,0	0,150	OK
				M	12811,1	-78,1	0,0	0,000	
				N	27,2	-463,0	0,0	0,170	
15	51,6	461,2	0,0	P	93,9	839,0	0,0	0,550	OK
				M	10959,8	460,7	0,0	0,000	
				N	51,6	825,5	0,0	0,560	
16	72,3	535,1	0,0	P	114,2	845,5	0,0	0,630	OK
				M	10704,4	534,6	0,0	0,010	
				N	72,3	832,1	0,0	0,640	
17	87,5	659,7	0,0	P	112,0	844,8	0,0	0,780	OK
				M	10273,6	659,2	0,0	0,010	
				N	87,5	837,0	0,0	0,790	
18	52,1	92,7	0,0	P	552,9	983,2	0,0	0,090	OK
				M	12228,9	92,3	0,0	0,000	
				N	52,1	825,6	0,0	0,110	
19	72,8	166,6	0,0	P	410,1	939,1	0,0	0,180	OK
				M	11975,2	166,1	0,0	0,010	
				N	72,8	832,3	0,0	0,200	
20	88,0	291,2	0,0	P	270,4	895,2	0,0	0,320	OK
				M	11546,2	290,8	0,0	0,010	
				N	88,0	837,1	0,0	0,350	
21	54,7	453,5	0,0	P	101,5	841,5	0,0	0,540	OK
				M	10986,3	453,1	0,0	0,000	

				N	54,7	826,5	0,0	0,550	
22	55,2	85,0	0,0	P	659,6	1015,7	0,0	0,080	OK
				M	12255,2	84,6	0,0	0,000	
				N	55,2	826,6	0,0	0,100	
23	93,6	664,5	0,0	P	119,3	847,2	0,0	0,780	OK
				M	10257,2	664,0	0,0	0,010	
				N	93,6	838,9	0,0	0,790	
24	95,4	280,0	0,0	P	309,1	907,4	0,0	0,310	OK
				M	11584,7	279,6	0,0	0,010	
				N	95,4	839,5	0,0	0,330	
25	48,5	426,0	0,0	P	95,6	839,6	0,0	0,510	OK
				M	11081,0	425,6	0,0	0,000	
				N	48,5	824,5	0,0	0,520	
26	66,1	484,7	0,0	P	115,3	845,9	0,0	0,570	OK
				M	10878,7	484,2	0,0	0,010	
				N	66,1	830,1	0,0	0,580	
27	48,8	51,0	0,0	P	1096,1	1143,6	0,0	0,040	OK
				M	12371,8	50,6	0,0	0,000	
				N	48,8	824,6	0,0	0,060	
28	70,4	148,4	0,0	P	451,3	951,9	0,0	0,160	OK
				M	12037,5	148,0	0,0	0,010	
				N	70,4	831,5	0,0	0,180	
29	92,0	645,4	0,0	P	120,8	847,7	0,0	0,760	OK
				M	10323,0	645,0	0,0	0,010	
				N	92,0	838,4	0,0	0,770	
30	83,3	318,1	0,0	P	231,1	882,8	0,0	0,360	OK
				M	11453,4	317,7	0,0	0,010	
				N	83,3	835,6	0,0	0,380	
31	109,8	365,5	0,0	P	268,7	894,7	0,0	0,410	OK
				M	11289,9	365,1	0,0	0,010	
				N	109,8	844,1	0,0	0,430	
32	137,1	398,8	0,0	P	312,3	908,4	0,0	0,440	OK
				M	11174,5	398,5	0,0	0,010	
				N	137,1	852,9	0,0	0,470	
33	89,9	620,2	0,0	P	123,0	848,4	0,0	0,730	OK
				M	10410,3	619,7	0,0	0,010	
				N	89,9	837,8	0,0	0,740	
75	88,9	98,9	0,0	P	1004,0	1117,4	0,0	0,090	OK
				M	12207,3	98,6	0,0	0,010	

				N	88,9	837,4	0,0	0,120	
76	112,8	363,8	0,0	P	278,4	897,8	0,0	0,400	OK
				M	11295,9	363,3	0,0	0,010	
				N	112,8	845,1	0,0	0,430	
77	83,7	85,4	0,0	P	1129,6	1153,1	0,0	0,070	OK
				M	12253,7	85,0	0,0	0,010	
				N	83,7	835,8	0,0	0,100	
78	118,0	377,3	0,0	P	281,1	898,6	0,0	0,420	OK
				M	11249,4	376,8	0,0	0,010	
				N	118,0	846,8	0,0	0,450	
79	119,9	363,6	0,0	P	297,9	903,9	0,0	0,400	OK
				M	11296,5	363,2	0,0	0,010	
				N	119,9	847,4	0,0	0,430	
80	60,9	129,8	0,0	P	445,6	950,1	0,0	0,140	OK
				M	12101,5	129,4	0,0	0,000	
				N	60,9	828,4	0,0	0,160	

Riepilogo combinazioni maggiormente gravose:

Cmb.	**N**	**Mx**	**My**	**Tipo**	**Nu**	**Mxu**	**Myu**	**Sd/Su**	**Verif.**
	kN	kN m	kN m		kN	kN m	kN m		
17	87,5	659,7	0,0	P	112,0	844,8	0,0	0,780	OK
6	65,4	517,4	0,0	M	10765,8	516,9	0,0	0,010	OK
17	87,5	659,7	0,0	N	87,5	837,0	0,0	0,790	OK

Verifiche stato limite di esercizio per c. c. rare:

Valori limite (tensioni: segno (-) = compressione, (+) = trazione):

CLS: σcL = 14940,0 kN/mq (verifica Ok per $\sigma c/\sigma cL < 1$)

Acciaio: σaL = 360000,0 kN/mq (verifica Ok per $\sigma a/\sigma aL < 1$)

Cmb		**Mx**	**My**	**N**	**σc**	**σc/σcL**	**σa**	**σa/σaL**
n. e	stato	kN m	kN m	kN	kN/mq		kN/mq	
46	OK	-68,9	0,0	20,4	-1148,3	0,08	59672,1	0,17
47	OK	-30,0	0,0	35,1	-493,3	0,03	18233,2	0,05
48	OK	-58,0	0,0	27,0	-967,4	0,06	47264,7	0,13
49	OK	-28,8	0,0	38,0	-471,1	0,03	16315,2	0,05
50	OK	315,6	0,0	37,4	-4329,1	0,29	158949,2	0,44

51	OK	370,5	0,0	52,8	-5089,9	0,34	185219,4	0,51
52	OK	463,0	0,0	64,0	-6359,5	0,43	231772,3	0,64
53	OK	38,6	0,0	35,9	-548,8	0,04	14714,4	0,04
54	OK	93,5	0,0	51,2	-1312,1	0,09	40915,2	0,11
55	OK	186,0	0,0	62,5	-2584,5	0,17	87413,4	0,24
56	OK	-76,4	0,0	17,5	-1273,3	0,09	67784,8	0,19
57	OK	-37,5	0,0	32,2	-623,3	0,04	26217,9	0,07
58	OK	-70,6	0,0	22,2	-1176,6	0,08	60762,3	0,17
59	OK	-41,4	0,0	33,2	-688,3	0,05	29607,7	0,08
60	OK	330,4	0,0	43,1	-4535,4	0,30	165779,5	0,46
61	OK	385,3	0,0	58,5	-5296,1	0,35	192045,4	0,53
62	OK	477,8	0,0	69,8	-6565,7	0,44	238598,1	0,66
63	OK	58,4	0,0	43,5	-826,0	0,06	23839,1	0,07
64	OK	113,3	0,0	58,9	-1588,4	0,11	50074,0	0,14
65	OK	205,8	0,0	70,2	-2860,7	0,19	96573,4	0,27
66	OK	324,7	0,0	45,4	-4459,7	0,30	162440,0	0,45
67	OK	52,7	0,0	45,8	-748,2	0,05	20552,9	0,06
68	OK	465,0	0,0	73,3	-6394,6	0,43	231364,3	0,64
69	OK	179,8	0,0	74,8	-2507,8	0,17	82259,8	0,23

Verifiche stato limite di esercizio per c. c. frequenti:

Valori limite:

Fessure: WkL = 0,40 mm (verifica Ok per Wk/WkL < 1)

Cmb		Mx	My	N	Wk	Wk/WkL
n. e	stato	kN m	kN m	kN	mm	
34	OK	-53,9	0,0	25,5	0.08	0,20
35	OK	22,0	0,0	44,4	0.01	0,01
36	OK	34,5	0,0	37,4	0.01	0,04
37	OK	89,4	0,0	52,8	0.05	0,12
38	OK	181,9	0,0	64,0	0.11	0,27
39	OK	-68,7	0,0	19,8	0.11	0,28
40	OK	-39,5	0,0	30,8	0.05	0,13
41	OK	49,3	0,0	43,1	0.02	0,06
42	OK	104,2	0,0	58,5	0.06	0,14
43	OK	196,7	0,0	69,8	0.12	0,29
44	OK	174,0	0,0	62,3	0.10	0,25
45	OK	183,9	0,0	73,3	0.11	0,27

Verifiche stato limite di esercizio per c. c. quasi permanenti:

Valori limite:

CLS: σcL = 11205,0 kN/mq (verifica Ok per $\sigma c/\sigma cL < 1$)

Fessure: WkL = 0,30 mm (verifica Ok per Wk/WkL < 1)

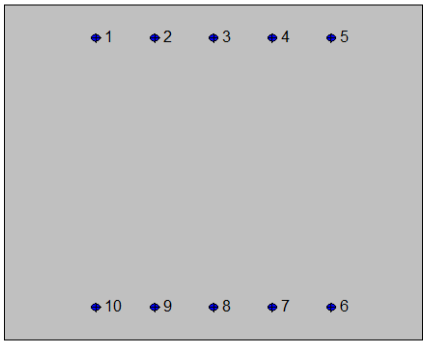
Cmb		Mx	My	N	σc	σc/σcL	Wk	Wk/WkL
n. e	stato	kN m	kN m	kN	kN/mq		mm	
70	OK	-7,8	0,0	40,3	-108,1	0,01	0.00	0,00
71	OK	57,5	0,0	49,4	-816,2	0,07	0.03	0,09
72	OK	-21,3	0,0	35,1	-342,4	0,03	0.02	0,06
73	OK	71,0	0,0	54,7	-1005,3	0,09	0.04	0,12
74	OK	54,4	0,0	56,0	-775,8	0,07	0.02	0,08

5.5.4. Soletta di fondazione: mezzeria (Asta 15)

2SI s.r.l - ProVLIM - Verifica sezioni

Geomeria della sezione:

Vert.	X	Y
n.	cm	cm
1	0,0	80,0
2	100,0	80,0
3	100,0	0,0
4	0,0	0,0



Armature:

Pos.	X	Y	Area	Pretens.
n.	cm	cm	cmq	(s/n)
1	21,9	72,2	3,1	no
2	35,9	72,2	3,1	no
3	50,0	72,2	3,1	no
4	64,1	72,2	3,1	no
5	78,1	72,2	3,1	no
6	78,1	7,8	3,1	no
7	64,1	7,8	3,1	no
8	50,0	7,8	3,1	no
9	35,9	7,8	3,1	no
10	21,9	7,8	3,1	no

Normativa di riferimento:

D.M. 14/01/2008 - 'Norme tecniche per le costruzioni'

Note:

Verifiche SLE per ambiente ordinario

Materiali:

Calcestruzzo classe: C25/30

Rck (resistenza caratteristica cubica a compressione) = 300 daN/cmq

fck (resistenza caratteristica cilindrica a compressione) = 249 daN/cmq

fctm (resistenza a trazione media) = 26 daN/cmq

G (modulo di elasticità tangenziale) = 140388 daN/cmq

E (modulo elastico istantaneo iniziale) = 314470 daN/cmq

C. Poisson (coefficiente di contrazione trasversale) = 0.12

Coefficiente di dilatazione termica = 0.000050

Peso specifico del calcestruzzo armato = 2500 daN/mc

Barre d'acciaio ad aderenza migliorata tipo: FeB 44k

fyk (tensione caratteristica di snervamento) = 4300 daN/cmq

fkt (tensione caratteristica di rottura) = 5400 daN/cmq

εuk (deformazione di rottura) = 0.120

G (modulo di elasticità tangenziale) = 793100 daN/cmq

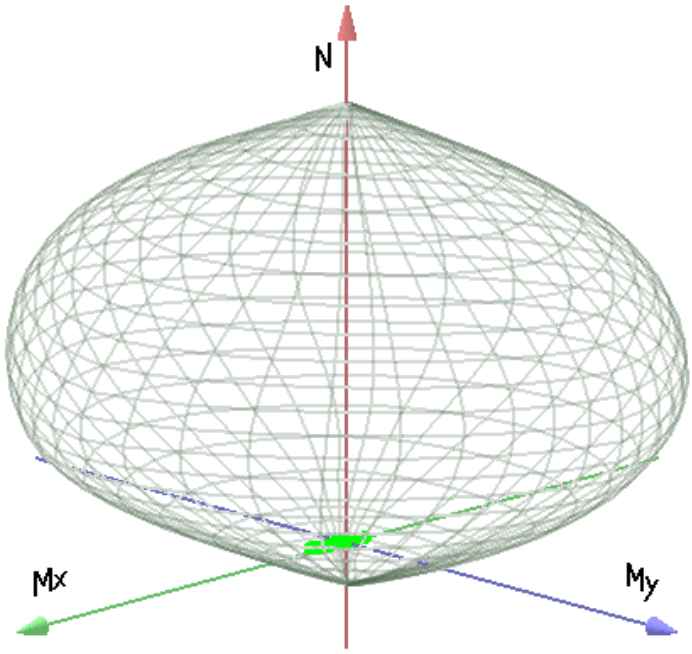
E (modulo elastico) = 2060000 daN/cmq

C. Poisson (coefficiente di contrazione trasversale) = 0.30

Coefficiente di dilatazione termica = 0.000012

Peso specifico = 7850 daN/mc

Dominio SLU:



Caratteristiche limite della sezione:

Nu	Mxu	Myu	Stato Sez.
kN	kN m	kN m	
-1174,7	0,0	0,0	Completamente tesa
12462,7	0,0	0,0	Completamente compressa
0,0	416,6	0,0	Fibre inferiori tese
0,0	-416,6	0,0	Fibre superiori tese
0,0	0,0	524,5	Fibre di sinistra tese
0,0	0,0	-524,5	Fibre di destra tese

Verifiche stato limite ultimo:

Per ogni combinazione di carico saranno svolte le verifiche:

Verifica per Mxu, Myu e Nu proporzionali (sigla verifica: P)

e in caso di verifica proporzionale positiva:

Verifica con rapporto Mxu, Myu assegnato (sigla verifica: M)

Verifica con Nu costante (sigla verifica: N)

Cmb.	N	Mx	My	Tipo	Nu	Mxu	Myu	Sd/Su	Verif.
	kN	kN m	kN m		kN	kN m	kN m		
1	12,8	-81,3	0,0	P	69,5	-439,6	0,0	0,180	OK
				M	12192,2	-81,0	0,0	0,000	
				N	12,8	-420,9	0,0	0,190	
2	32,6	-28,7	0,0	P	750,8	-661,7	0,0	0,040	OK
				M	12367,8	-28,6	0,0	0,000	
				N	32,6	-427,4	0,0	0,070	
3	21,6	-65,8	0,0	P	153,0	-467,1	0,0	0,140	OK
				M	12244,2	-65,6	0,0	0,000	
				N	21,6	-423,8	0,0	0,150	
4	36,3	-26,5	0,0	P	1028,2	-749,5	0,0	0,030	OK
				M	12375,2	-26,4	0,0	0,000	
				N	36,3	-428,6	0,0	0,060	
5	44,8	-34,6	0,0	P	929,6	-718,5	0,0	0,050	OK
				M	12348,3	-34,5	0,0	0,000	
				N	44,8	-431,4	0,0	0,080	
6	65,4	8,8	0,0	P	8312,7	1116,0	0,0	0,010	OK
				M	n.d.	n.d.	n.d.	n.d.	
				N	65,4	438,2	0,0	0,020	
7	80,6	31,3	0,0	P	3391,2	1315,9	0,0	0,020	OK
				M	12359,4	31,2	0,0	0,010	
				N	80,6	443,2	0,0	0,070	
8	42,9	-29,6	0,0	P	1132,2	-781,8	0,0	0,040	OK
				M	12364,8	-29,5	0,0	0,000	
				N	42,9	-430,8	0,0	0,070	
9	63,6	13,7	0,0	P	6420,0	1386,6	0,0	0,010	OK
				M	n.d.	n.d.	n.d.	n.d.	
				N	63,6	437,6	0,0	0,030	
10	78,8	36,2	0,0	P	2503,8	1151,5	0,0	0,030	OK
				M	12342,8	36,1	0,0	0,010	

				N	78,8	442,6	0,0	0,080	
11	6,0	-99,0	0,0	P	25,7	-425,1	0,0	0,230	OK
				M	12132,4	-98,8	0,0	0,000	
				N	6,0	-418,6	0,0	0,240	
12	25,8	-46,5	0,0	P	282,3	-509,6	0,0	0,090	OK
				M	12308,7	-46,3	0,0	0,000	
				N	25,8	-425,1	0,0	0,110	
13	12,4	-89,6	0,0	P	60,2	-436,5	0,0	0,200	OK
				M	12164,2	-89,3	0,0	0,000	
				N	12,4	-420,7	0,0	0,210	
14	27,2	-50,3	0,0	P	273,8	-506,8	0,0	0,100	OK
				M	12296,1	-50,1	0,0	0,000	
				N	27,2	-425,6	0,0	0,120	
15	51,6	-16,9	0,0	P	4385,4	-1432,0	0,0	0,010	OK
				M	12407,0	-16,8	0,0	0,000	
				N	51,6	-433,7	0,0	0,040	
16	72,3	26,5	0,0	P	3707,5	1360,7	0,0	0,020	OK
				M	12375,1	26,4	0,0	0,010	
				N	72,3	440,5	0,0	0,060	
17	87,5	49,0	0,0	P	1692,3	948,5	0,0	0,050	OK
				M	12300,3	48,9	0,0	0,010	
				N	87,5	445,5	0,0	0,110	
18	52,1	-5,9	0,0	P	8892,6	-998,5	0,0	0,010	OK
				M	n.d.	n.d.	n.d.	n.d.	
				N	52,1	-433,8	0,0	0,010	
19	72,8	37,5	0,0	P	2005,3	1033,9	0,0	0,040	OK
				M	12338,6	37,4	0,0	0,010	
				N	72,8	440,6	0,0	0,080	
20	88,0	60,0	0,0	P	1157,3	789,5	0,0	0,080	OK
				M	12263,5	59,8	0,0	0,010	
				N	88,0	445,7	0,0	0,130	
21	54,7	-13,1	0,0	P	5980,7	-1428,5	0,0	0,010	OK
				M	n.d.	n.d.	n.d.	n.d.	
				N	54,7	-434,7	0,0	0,030	
22	55,2	-2,1	0,0	P	11059,3	-412,9	0,0	0,000	OK
				M	n.d.	n.d.	n.d.	n.d.	
				N	55,2	-434,9	0,0	0,000	
23	93,6	41,4	0,0	P	2690,0	1190,7	0,0	0,030	OK
				M	12325,6	41,3	0,0	0,010	

				N	93,6	447,5	0,0	0,090	
24	95,4	36,5	0,0	P	3475,6	1328,6	0,0	0,030	OK
				M	12342,1	36,4	0,0	0,010	
				N	95,4	448,1	0,0	0,080	
25	48,5	100,2	0,0	P	240,2	495,8	0,0	0,200	OK
				M	12128,5	99,9	0,0	0,000	
				N	48,5	432,7	0,0	0,230	
26	66,1	139,7	0,0	P	233,4	493,6	0,0	0,280	OK
				M	11994,7	139,4	0,0	0,000	
				N	66,1	438,5	0,0	0,320	
27	48,8	-32,2	0,0	P	1231,9	-812,4	0,0	0,040	OK
				M	12356,2	-32,1	0,0	0,000	
				N	48,8	-432,8	0,0	0,070	
28	70,4	19,3	0,0	P	5372,4	1476,1	0,0	0,010	OK
				M	12398,8	19,2	0,0	0,010	
				N	70,4	439,9	0,0	0,040	
29	92,0	34,7	0,0	P	3548,8	1339,1	0,0	0,030	OK
				M	12347,8	34,6	0,0	0,010	
				N	92,0	447,0	0,0	0,080	
30	83,3	121,6	0,0	P	368,4	537,8	0,0	0,230	OK
				M	12056,4	121,2	0,0	0,010	
				N	83,3	444,1	0,0	0,270	
31	109,8	169,0	0,0	P	344,3	529,9	0,0	0,320	OK
				M	11895,1	168,7	0,0	0,010	
				N	109,8	452,9	0,0	0,370	
32	137,1	202,2	0,0	P	363,5	536,2	0,0	0,380	OK
				M	11782,1	201,9	0,0	0,010	
				N	137,1	461,9	0,0	0,440	
33	89,9	173,1	0,0	P	261,2	502,7	0,0	0,340	OK
				M	11881,3	172,7	0,0	0,010	
				N	89,9	446,3	0,0	0,390	
75	88,9	32,5	0,0	P	3729,2	1363,5	0,0	0,020	OK
				M	12355,2	32,4	0,0	0,010	
				N	88,9	446,0	0,0	0,070	
76	112,8	59,9	0,0	P	1892,9	1004,7	0,0	0,060	OK
				M	12264,0	59,7	0,0	0,010	
				N	112,8	453,9	0,0	0,130	
77	83,7	19,0	0,0	P	6205,6	1407,9	0,0	0,010	OK
				M	12400,0	18,9	0,0	0,010	

				N	83,7	444,2	0,0	0,040	
78	118,0	73,4	0,0	P	1376,8	856,3	0,0	0,090	OK
				M	12218,6	73,2	0,0	0,010	
				N	118,0	455,6	0,0	0,160	
79	119,9	59,7	0,0	P	2143,8	1068,4	0,0	0,060	OK
				M	12264,5	59,6	0,0	0,010	
				N	119,9	456,2	0,0	0,130	
80	60,9	28,3	0,0	P	2454,2	1140,6	0,0	0,020	OK
				M	12369,3	28,2	0,0	0,000	
				N	60,9	436,7	0,0	0,060	

Riepilogo combinazioni maggiormente gravose:

Cmb.	**N**	**Mx**	**My**	**Tipo**	**Nu**	**Mxu**	**Myu**	**Sd/Su**	**Verif.**
	kN	kN m	kN m		kN	kN m	kN m		
32	137,1	202,2	0,0	P	363,5	536,2	0,0	0,380	OK
7	80,6	31,3	0,0	M	12359,4	31,2	0,0	0,010	OK
32	137,1	202,2	0,0	N	137,1	461,9	0,0	0,440	OK

Verifiche stato limite di esercizio per c. c. rare:

Valori limite (tensioni: segno (-) = compressione, (+) = trazione):

CLS: σcL = 14940,0 kN/mq (verifica Ok per $\sigma c/\sigma cL < 1$)

Acciaio: σaL = 344000,0 kN/mq (verifica Ok per $\sigma a/\sigma aL < 1$)

Cmb		**Mx**	**My**	**N**	**σc**	**σc/σcL**	**σa**	**σa/σaL**
n.	e stato	kN m	kN m	kN	kN/mq		kN/mq	
46	OK	-53,8	0,0	20,4	-928,4	0,06	44984,5	0,13
47	OK	-14,9	0,0	35,1	-239,1	0,02	4560,4	0,01
48	OK	-42,9	0,0	27,0	-742,8	0,05	32644,4	0,09
49	OK	-13,7	0,0	38,0	-213,2	0,01	3121,3	0,01
50	OK	-22,3	0,0	37,4	-376,9	0,03	10467,7	0,03
51	OK	9,9	0,0	52,8	-148,6	0,01	-1970,3	0,01
52	OK	26,6	0,0	64,0	-426,4	0,03	7906,8	0,02
53	OK	-18,2	0,0	35,9	-301,7	0,02	7191,8	0,02
54	OK	14,0	0,0	51,2	-206,5	0,01	-2594,9	0,01
55	OK	30,7	0,0	62,5	-506,8	0,03	11668,8	0,03
56	OK	-61,3	0,0	17,5	-1056,3	0,07	53066,3	0,15

57	OK	-22,4	0,0	32,2	-382,4	0,03	11913,0	0,03
58	OK	-55,5	0,0	22,2	-957,9	0,06	46068,6	0,13
59	OK	-26,3	0,0	33,2	-451,4	0,03	15222,9	0,04
60	OK	-7,6	0,0	43,1	-115,9	0,01	-1545,4	0,00
61	OK	24,7	0,0	58,5	-396,8	0,03	7533,4	0,02
62	OK	41,4	0,0	69,8	-697,6	0,05	19270,5	0,06
63	OK	1,6	0,0	43,5	-64,9	0,00	-934,5	0,00
64	OK	33,8	0,0	58,9	-568,7	0,04	15288,9	0,04
65	OK	50,5	0,0	70,2	-864,1	0,06	27513,5	0,08
66	OK	-4,7	0,0	45,4	-93,4	0,01	-1284,5	0,00
67	OK	4,4	0,0	45,8	-91,4	0,01	-1261,5	0,00
68	OK	28,6	0,0	73,3	-452,8	0,03	7616,9	0,02
69	OK	24,5	0,0	74,8	-372,7	0,02	-4504,4	0,01

Verifiche stato limite di esercizio per c. c. frequenti:

Valori limite:

Fessure: WkL = 0,40 mm (verifica Ok per Wk/WkL < 1)

Cmb		Mx	My	N	Wk	Wk/WkL
n. e	stato	kN m	kN m	kN	mm	
34	OK	-38,7	0,0	25,5	0.05	0,14
35	OK	-4,1	0,0	44,4	0.00	0,00
36	OK	-22,3	0,0	37,4	0.02	0,05
37	OK	9,9	0,0	52,8	0.00	0,00
38	OK	26,6	0,0	64,0	0.01	0,03
39	OK	-53,5	0,0	19,8	0.08	0,21
40	OK	-24,3	0,0	30,8	0.03	0,07
41	OK	-7,6	0,0	43,1	0.00	0,00
42	OK	24,7	0,0	58,5	0.01	0,03
43	OK	41,4	0,0	69,8	0.03	0,09
44	OK	8,7	0,0	62,3	0.00	0,00
45	OK	28,6	0,0	73,3	0.01	0,03

Verifiche stato limite di esercizio per c. c. quasi permanenti:

Valori limite:

CLS: σcL = 11205,0 kN/mq (verifica Ok per $\sigma c/\sigma cL < 1$)

Fessure: WkL = 0,30 mm (verifica Ok per Wk/WkL < 1)

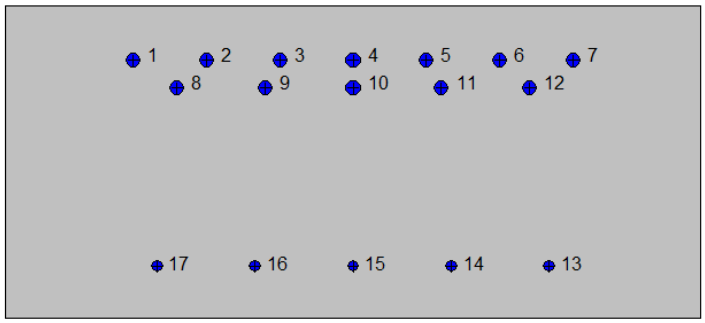
Cmb		Mx	My	N	σc	σc/σcL	Wk	Wk/WkL
n.	e stato	kN m	kN m	kN	kN/mq		mm	
70	OK	7,4	0,0	40,3	-111,4	0,01	0.00	0,00
71	OK	19,2	0,0	49,4	-304,5	0,03	0.01	0,03
72	OK	-6,2	0,0	35,1	-94,7	0,01	0.00	0,00
73	OK	32,8	0,0	54,7	-553,1	0,05	0.03	0,09
74	OK	16,2	0,0	56,0	-240,2	0,02	0.00	0,01

5.5.5. Piedritto: attacco soletta di fondazione (Asta 2)

2SI s.r.l - ProVLIM - Verifica sezioni

Geomeria della sezione:

Vert.	X	Y
n.	cm	cm
1	0,0	45,0
2	100,0	45,0
3	100,0	0,0
4	0,0	0,0



Armature:

Pos.	X	Y	Area	Pretens.
n.	cm	cm	cmq	(s/n)
1	18,4	37,2	3,1	no
2	28,9	37,2	3,1	no
3	39,5	37,2	3,1	no
4	50,0	37,2	3,1	no
5	60,5	37,2	3,1	no
6	71,1	37,2	3,1	no
7	81,6	37,2	3,1	no
8	24,5	33,2	3,1	no
9	37,3	33,2	3,1	no
10	50,0	33,2	3,1	no
11	62,7	33,2	3,1	no
12	75,5	33,2	3,1	no
13	78,3	7,6	2,0	no
14	64,1	7,6	2,0	no
15	50,0	7,6	2,0	no
16	35,9	7,6	2,0	no
17	21,7	7,6	2,0	no

Normativa di riferimento:

D.M. 14/01/2008 - 'Norme tecniche per le costruzioni'

Note:

Verifiche SLE per ambiente ordinario

Materiali:

Calcestruzzo classe: C28/35

Rck (resistenza caratteristica cubica a compressione) = 350 daN/cmq

fck (resistenza caratteristica cilindrica a compressione) = 290 daN/cmq

fctm (resistenza a trazione media) = 28 daN/cmq

G (modulo di elasticità tangenziale) = 145424 daN/cmq

E (modulo elastico istantaneo iniziale) = 325750 daN/cmq

C. Poisson (coefficiente di contrazione trasversale) = 0.12

Coefficiente di dilatazione termica = 0.000050

Peso specifico del calcestruzzo armato = 2500 daN/mc

Barre d'acciaio ad aderenza migliorata tipo: B450C

fyk (tensione caratteristica di snervamento) = 4500 daN/cmq

fkt (tensione caratteristica di rottura) = 5400 daN/cmq

εuk (deformazione di rottura) = 0.075

G (modulo di elasticità tangenziale) = 793100 daN/cmq

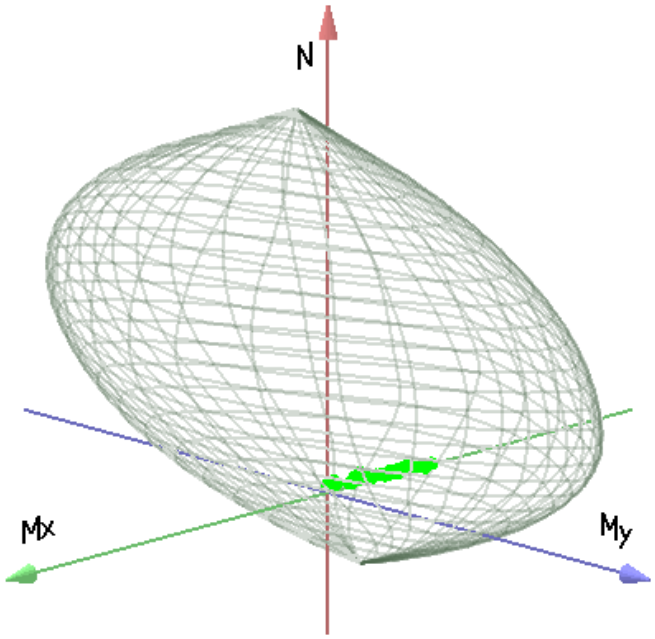
E (modulo elastico) = 2060000 daN/cmq

C. Poisson (coefficiente di contrazione trasversale) = 0.30

Coefficiente di dilatazione termica = 0.000012

Peso specifico = 7850 daN/mc

Dominio SLU:



Caratteristiche limite della sezione:

Nu	Mxu	Myu	Stato Sez.
kN	kN m	kN m	
-1868,6	-133,7	0,0	Completamente tesa
9263,6	133,7	0,0	Completamente compressa
0,0	187,3	0,0	Fibre inferiori tese
0,0	-457,9	0,0	Fibre superiori tese
0,0	0,0	642,0	Fibre di sinistra tese
0,0	0,0	-642,0	Fibre di destra tese

Verifiche stato limite ultimo:

Per ogni combinazione di carico saranno svolte le verifiche:

Verifica per Mxu, Myu e Nu proporzionali (sigla verifica: P)

e in caso di verifica proporzionale positiva:

Verifica con rapporto Mxu, Myu assegnato (sigla verifica: M)

Verifica con Nu costante (sigla verifica: N)

Cmb.	N	Mx	My	Tipo	Nu	Mxu	Myu	Sd/Su	Verif.
	kN	kN m	kN m		kN	kN m	kN m		
1	291,1	-8,1	14,6	P	6782,3	-188,0	339,0	0,040	OK

				M	8291,5	-8,0	14,5	0,030	
				N	291,1	-320,1	577,2	0,020	
2	194,3	-24,7	9,7	P	3895,6	-494,8	194,9	0,050	OK
				M	8182,2	-24,6	9,7	0,020	
				N	194,3	-471,5	185,7	0,050	
3	250,1	-7,7	12,5	P	6667,9	-204,8	333,3	0,040	OK
				M	8294,4	-7,6	12,4	0,030	
				N	250,1	-336,0	546,9	0,020	
4	177,7	-20,1	8,9	P	4181,6	-473,3	209,0	0,040	OK
				M	8212,8	-20,0	8,8	0,020	
				N	177,7	-466,5	206,0	0,040	
5	147,7	-317,5	7,4	P	227,8	-489,8	11,4	0,650	OK
				M	6152,0	-317,6	7,4	0,020	
				N	147,7	-478,7	11,1	0,660	
6	71,6	-348,4	3,6	P	97,0	-471,7	4,8	0,740	OK
				M	5886,0	-348,4	3,6	0,010	
				N	71,6	-468,2	4,8	0,740	
7	29,4	-415,7	1,5	P	32,7	-462,6	1,6	0,900	OK
				M	5233,6	-415,7	1,5	0,010	
				N	29,4	-462,2	1,6	0,900	
8	238,5	-98,8	11,9	P	1487,7	-616,3	74,4	0,160	OK
				M	7692,9	-98,7	11,9	0,030	
				N	238,5	-489,4	59,1	0,200	
9	162,5	-129,8	8,1	P	684,4	-546,5	34,2	0,240	OK
				M	7490,7	-129,6	8,1	0,020	
				N	162,5	-480,3	30,1	0,270	
10	120,3	-197,0	6,0	P	305,4	-500,1	15,3	0,390	OK
				M	7051,7	-196,9	6,0	0,020	
				N	120,3	-474,8	14,5	0,410	
11	291,1	9,8	14,6	P	7791,6	261,2	389,5	0,040	OK
				M	8409,9	9,7	14,5	0,030	
				N	291,1	198,3	295,6	0,050	
12	194,3	-6,9	9,7	P	6496,6	-229,0	325,0	0,030	OK
				M	8300,3	-6,8	9,7	0,020	
				N	194,3	-356,1	505,3	0,020	
13	250,1	16,2	12,5	P	6762,1	438,6	338,0	0,040	OK
				M	8454,1	16,3	12,6	0,030	
				N	250,1	208,8	160,9	0,080	
14	177,7	4,0	8,9	P	7993,9	180,0	399,6	0,020	OK

				M	8372,6	4,0	8,9	0,020	
				N	177,7	170,4	378,2	0,020	
15	147,7	-335,3	7,4	P	214,9	-488,0	10,7	0,690	OK
				M	6002,0	-335,1	7,4	0,020	
				N	147,7	-478,8	10,5	0,700	
16	71,6	-366,3	3,6	P	92,1	-471,1	4,6	0,780	OK
				M	5722,3	-366,3	3,6	0,010	
				N	71,6	-468,2	4,6	0,780	
17	29,4	-433,5	1,5	P	31,4	-462,5	1,6	0,940	OK
				M	5041,1	-433,6	1,5	0,010	
				N	29,4	-462,2	1,6	0,940	
18	238,5	-122,7	11,9	P	1152,5	-592,9	57,6	0,210	OK
				M	7536,2	-122,6	11,9	0,030	
				N	238,5	-490,0	47,6	0,250	
19	162,5	-153,7	8,1	P	563,1	-532,4	28,2	0,290	OK
				M	7334,3	-153,5	8,1	0,020	
				N	162,5	-480,4	25,4	0,320	
20	120,3	-220,9	6,0	P	269,8	-495,4	13,5	0,450	OK
				M	6893,2	-220,6	6,0	0,020	
				N	120,3	-474,9	12,9	0,460	
21	187,7	-342,2	9,4	P	271,9	-495,7	13,6	0,690	OK
				M	5940,0	-342,1	9,4	0,030	
				N	187,7	-484,2	13,3	0,710	
22	278,6	-129,6	13,9	P	1299,9	-604,6	65,0	0,210	OK
				M	7491,0	-129,5	13,9	0,040	
				N	278,6	-495,1	53,2	0,260	
23	-26,6	-408,5	0,0	P	-29,5	-453,7	0,0	0,900	OK
				M	-330,1	-408,6	0,0	0,080	
				N	-26,6	-454,1	0,0	0,900	
24	64,3	-178,4	3,2	P	174,0	-482,4	8,7	0,370	OK
				M	7173,7	-178,2	3,2	0,010	
				N	64,3	-467,1	8,4	0,380	
25	107,6	-291,0	5,4	P	178,6	-483,1	8,9	0,600	OK
				M	6369,3	-291,1	5,4	0,020	
				N	107,6	-473,2	8,7	0,610	
26	71,6	-321,9	3,6	P	105,1	-472,9	5,3	0,680	OK
				M	6117,1	-321,9	3,6	0,010	
				N	71,6	-468,1	5,2	0,690	
27	333,1	-114,7	16,7	P	1796,2	-618,7	89,8	0,180	OK

				M	7587,8	-114,6	16,6	0,040	
				N	333,1	-501,1	72,7	0,230	
28	179,2	-140,7	9,0	P	697,8	-548,0	34,9	0,260	OK
				M	7418,9	-140,6	9,0	0,020	
				N	179,2	-482,6	30,7	0,290	
29	7,2	-408,7	0,4	P	8,0	-459,1	0,4	0,890	OK
				M	5307,3	-408,7	0,4	0,000	
				N	7,1	-459,0	0,4	0,890	
30	127,4	-254,4	6,4	P	246,6	-492,3	12,3	0,520	OK
				M	6652,6	-254,1	6,4	0,020	
				N	127,4	-475,9	11,9	0,530	
31	55,0	-273,3	2,8	P	94,9	-471,5	4,7	0,580	OK
				M	6509,7	-273,2	2,7	0,010	
				N	55,0	-465,8	4,7	0,590	
32	27,8	-293,6	1,4	P	44,0	-464,2	2,2	0,630	OK
				M	6349,9	-293,7	1,4	0,000	
				N	27,8	-461,9	2,2	0,640	
33	7,1	-390,8	0,4	P	8,3	-459,1	0,4	0,850	OK
				M	5488,7	-390,8	0,4	0,000	
				N	7,1	-459,0	0,4	0,850	
75	95,5	-96,8	4,8	P	520,4	-527,3	26,0	0,180	OK
				M	7707,4	-96,6	4,8	0,010	
				N	95,5	-471,1	23,2	0,200	
76	51,6	-241,7	2,6	P	100,8	-472,3	5,0	0,510	OK
				M	6747,2	-241,3	2,6	0,010	
				N	51,6	-465,3	5,0	0,520	
77	95,5	-83,2	4,8	P	618,9	-539,0	30,9	0,150	OK
				M	7796,9	-83,0	4,8	0,010	
				N	95,5	-471,0	27,0	0,180	
78	51,6	-255,2	2,6	P	95,3	-471,5	4,8	0,540	OK
				M	6646,7	-255,1	2,6	0,010	
				N	51,6	-465,3	4,7	0,550	
79	43,3	-237,0	2,2	P	85,9	-470,2	4,3	0,500	OK
				M	6781,5	-236,6	2,2	0,010	
				N	43,3	-464,1	4,2	0,510	
80	138,8	-124,3	6,9	P	599,2	-536,7	30,0	0,230	OK
				M	7526,3	-124,2	6,9	0,020	
				N	138,8	-477,1	26,6	0,260	

Riepilogo combinazioni maggiormente gravose:

Cmb.	N	Mx	My	Tipo	Nu	Mxu	Myu	Sd/Su	Verif.
	kN	kN m	kN m		kN	kN m	kN m		
17	29,4	-433,5	1,5	P	31,4	-462,5	1,6	0,940	OK
23	-26,6	-408,5	0,0	M	-330,1	-408,6	0,0	0,080	OK
17	29,4	-433,5	1,5	N	29,4	-462,2	1,6	0,940	OK

Verifiche stato limite di esercizio per c. c. rare:

Valori limite (tensioni: segno (-) = compressione, (+) = trazione):

CLS: σcL = 17400,0 kN/mq (verifica Ok per $\sigma c/\sigma cL < 1$)

Acciaio: σaL = 360000,0 kN/mq (verifica Ok per $\sigma a/\sigma aL < 1$)

Cmb		Mx	My	N	σc	σc/σcL	σa	σa/σaL
n. e	stato	kN m	kN m	kN	kN/mq		kN/mq	
46	OK	-13,3	0,0	215,1	-821,2	0,05	-10333,3	0,03
47	OK	-25,6	0,0	143,5	-1148,8	0,07	-12310,5	0,03
48	OK	-12,5	0,0	185,0	-733,0	0,04	-9157,5	0,03
49	OK	-21,7	0,0	131,2	-978,8	0,06	-10665,2	0,03
50	OK	-231,0	0,0	111,0	-9520,0	0,55	200622,2	0,56
51	OK	-253,9	0,0	54,5	-10380,7	0,60	230054,9	0,64
52	OK	-303,9	0,0	23,2	-12364,7	0,71	281229,2	0,78
53	OK	-69,5	0,0	178,3	-3001,2	0,17	41194,5	0,11
54	OK	-92,5	0,0	121,8	-3897,5	0,22	69728,7	0,19
55	OK	-142,4	0,0	90,5	-5896,2	0,34	120622,2	0,34
56	OK	-5,7	0,0	215,1	-620,0	0,04	-8292,6	0,02
57	OK	-18,0	0,0	143,5	-842,3	0,05	-9700,3	0,03
58	OK	0,2	0,0	185,0	-397,7	0,02	-5756,4	0,02
59	OK	-9,0	0,0	131,2	-525,3	0,03	-6550,1	0,02
60	OK	-245,8	0,0	111,0	-10123,6	0,58	214527,9	0,60
61	OK	-268,8	0,0	54,5	-10983,9	0,63	243967,9	0,68
62	OK	-318,7	0,0	23,2	-12967,8	0,75	295143,8	0,82
63	OK	-89,4	0,0	178,3	-3823,2	0,22	59467,1	0,17
64	OK	-112,4	0,0	121,8	-4710,4	0,27	88292,0	0,25
65	OK	-162,3	0,0	90,5	-6705,9	0,39	139254,9	0,39
66	OK	-250,9	0,0	140,7	-10367,0	0,60	215147,9	0,60
67	OK	-94,5	0,0	208,0	-4055,8	0,23	60337,2	0,17

68	OK	-297,9	0,0	6,7	-12101,9	0,70	278042,7	0,77
69	OK	-126,9	0,0	74,0	-5248,0	0,30	108457,4	0,30

Verifiche stato limite di esercizio per c. c. frequenti:

Valori limite:

Fessure: WkL = 0,40 mm (verifica Ok per Wk/WkL < 1)

Cmb		Mx	My	N	Wk	Wk/WkL
n.	e stato	kN m	kN m	kN	mm	
34	OK	-17,2	0,0	185,0	0.00	0,00
35	OK	-51,4	0,0	126,3	0.03	0,08
36	OK	-64,7	0,0	178,3	0.04	0,10
37	OK	-87,7	0,0	121,8	0.07	0,17
38	OK	-137,6	0,0	90,5	0.13	0,32
39	OK	-2,4	0,0	185,0	0.00	0,00
40	OK	-11,6	0,0	131,2	0.00	0,00
41	OK	-79,6	0,0	178,3	0.05	0,13
42	OK	-102,6	0,0	121,8	0.09	0,21
43	OK	-152,5	0,0	90,5	0.14	0,36
44	OK	-158,1	0,0	192,0	0.13	0,33
45	OK	-131,7	0,0	74,0	0.12	0,31

Verifiche stato limite di esercizio per c. c. quasi permanenti:

Valori limite:

CLS: σcL = 13050,0 kN/mq (verifica Ok per $\sigma c/\sigma cL$ < 1)

Fessure: WkL = 0,30 mm (verifica Ok per Wk/WkL < 1)

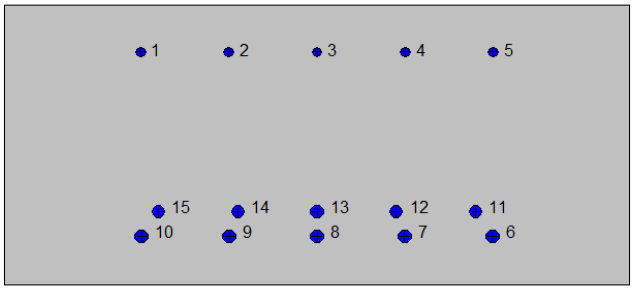
Cmb		Mx	My	N	σc	$\sigma c/\sigma cL$	Wk	Wk/WkL
n.	e stato	kN m	kN m	kN	kN/mq		mm	
70	OK	-30,2	0,0	94,5	-1316,3	0,10	0.02	0,05
71	OK	-64,1	0,0	90,0	-2707,6	0,21	0.05	0,17
72	OK	-16,6	0,0	94,5	-746,7	0,06	0.00	0,01
73	OK	-77,7	0,0	90,0	-3262,5	0,25	0.06	0,22
74	OK	-59,4	0,0	90,0	-2516,1	0,19	0.05	0,15

5.5.6. Piedritto: attacco soletta superiore (Asta 6)

2SI s.r.l - ProVLIM - Verifica sezioni

Geomeria della sezione:

Vert.	X	Y
n.	cm	cm
1	0,0	45,0
2	100,0	45,0
3	100,0	0,0
4	0,0	0,0



Armature:

Pos.	X	Y	Area	Pretens.
n.	cm	cm	cmq	(s/n)
1	21,7	37,4	2,0	no
2	35,9	37,4	2,0	no
3	50,0	37,4	2,0	no
4	64,1	37,4	2,0	no
5	78,3	37,4	2,0	no
6	78,1	7,8	3,1	no
7	64,1	7,8	3,1	no
8	50,0	7,8	3,1	no
9	35,9	7,8	3,1	no
10	21,9	7,8	3,1	no
11	75,5	11,8	3,1	no
12	62,7	11,8	3,1	no
13	50,0	11,8	3,1	no
14	37,3	11,8	3,1	no
15	24,5	11,8	3,1	no

Normativa di riferimento:

D.M. 14/01/2008 - 'Norme tecniche per le costruzioni'

Note:

Verifiche SLE per ambiente ordinario

Materiali:

Calcestruzzo classe: C28/35

Rck (resistenza caratteristica cubica a compressione) = 350 daN/cmq

fck (resistenza caratteristica cilindrica a compressione) = 290 daN/cmq

fctm (resistenza a trazione media) = 28 daN/cmq

G (modulo di elasticità tangenziale) = 145424 daN/cmq

E (modulo elastico istantaneo iniziale) = 325750 daN/cmq

C. Poisson (coefficiente di contrazione trasversale) = 0.12

Coefficiente di dilatazione termica = 0.000050

Peso specifico del calcestruzzo armato = 2500 daN/mc

Barre d'acciaio ad aderenza migliorata tipo: FeB 44k

fyk (tensione caratteristica di snervamento) = 4300 daN/cmq

fkt (tensione caratteristica di rottura) = 5400 daN/cmq

εuk (deformazione di rottura) = 0.120

G (modulo di elasticità tangenziale) = 793100 daN/cmq

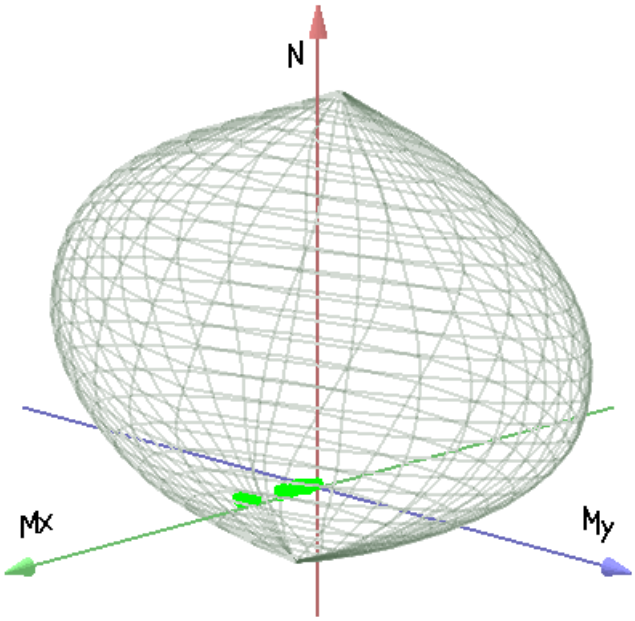
E (modulo elastico) = 2060000 daN/cmq

C. Poisson (coefficiente di contrazione trasversale) = 0.30

Coefficiente di dilatazione termica = 0.000012

Peso specifico = 7850 daN/mc

Dominio SLU:



Caratteristiche limite della sezione:

Nu	Mxu	Myu	Stato Sez.
kN	kN m	kN m	
-1550,6	93,2	0,0	Completamente tesa
8945,6	-93,2	0,0	Completamente compressa
0,0	370,1	0,0	Fibre inferiori tese

0,0	-181,5	0,0	Fibre superiori tese
0,0	0,0	564,4	Fibre di sinistra tese
0,0	0,0	-564,4	Fibre di destra tese

Verifiche stato limite ultimo:

Per ogni combinazione di carico saranno svolte le verifiche:

Verifica per Mxu, Myu e Nu proporzionali (sigla verifica: P)

e in caso di verifica proporzionale positiva:

Verifica con rapporto Mxu, Myu assegnato (sigla verifica: M)

Verifica con Nu costante (sigla verifica: N)

Cmb.	N	Mx	My	Tipo	Nu	Mxu	Myu	Sd/Su	Verif.
	kN	kN m	kN m		kN	kN m	kN m		
1	225,5	97,1	11,3	P	1225,4	527,7	61,3	0,180	OK
				M	7665,4	97,0	11,3	0,030	
				N	225,5	402,8	46,8	0,240	
2	128,8	31,0	6,4	P	2354,3	566,8	117,7	0,050	OK
				M	8102,3	30,9	6,4	0,020	
				N	128,8	386,9	80,4	0,080	
3	184,5	59,2	9,2	P	1776,8	569,7	88,9	0,100	OK
				M	7915,5	59,1	9,2	0,020	
				N	184,5	396,1	61,8	0,150	
4	112,1	9,7	5,6	P	4801,2	414,6	240,3	0,020	OK
				M	8244,3	9,6	5,6	0,010	
				N	112,1	370,7	214,9	0,030	
5	286,9	346,9	14,3	P	348,6	421,5	17,4	0,820	OK
				M	5863,4	346,7	14,3	0,050	
				N	286,9	412,6	17,1	0,840	
6	218,1	306,8	10,9	P	294,2	413,7	14,7	0,740	OK
				M	6210,6	306,7	10,9	0,030	
				N	218,1	402,6	14,3	0,760	
7	205,9	333,2	10,3	P	251,9	407,6	12,6	0,820	OK
				M	5987,4	333,0	10,3	0,030	
				N	205,9	400,9	12,4	0,830	
8	196,0	169,8	9,8	P	512,8	444,2	25,6	0,380	OK
				M	7190,4	169,7	9,8	0,030	
				N	196,0	399,2	23,0	0,420	

9	127,3	129,7	6,4	P	424,1	432,1	21,2	0,300	OK
				M	7452,8	129,6	6,4	0,020	
				N	127,3	389,1	19,1	0,330	
10	115,0	156,1	5,8	P	306,1	415,4	15,3	0,380	OK
				M	7280,0	156,0	5,7	0,020	
				N	115,0	387,3	14,3	0,400	
11	225,5	108,1	11,3	P	1067,9	511,6	53,4	0,210	OK
				M	7593,7	108,0	11,3	0,030	
				N	225,5	403,0	42,1	0,270	
12	128,8	41,9	6,4	P	1746,0	568,4	87,3	0,070	OK
				M	8029,9	41,8	6,4	0,020	
				N	128,8	388,0	59,6	0,110	
13	184,5	73,8	9,2	P	1348,1	539,1	67,4	0,140	OK
				M	7819,1	73,7	9,2	0,020	
				N	184,5	396,7	49,6	0,190	
14	112,1	24,3	5,6	P	2573,1	558,2	128,8	0,040	OK
				M	8146,9	24,2	5,6	0,010	
				N	112,1	383,9	88,6	0,060	
15	286,9	336,0	14,3	P	361,5	423,3	18,1	0,790	OK
				M	5960,4	335,9	14,3	0,050	
				N	286,9	412,6	17,6	0,810	
16	218,1	295,8	10,9	P	306,4	415,5	15,3	0,710	OK
				M	6299,1	295,8	10,9	0,030	
				N	218,1	402,6	14,8	0,730	
17	205,9	322,3	10,3	P	261,3	409,0	13,1	0,790	OK
				M	6081,1	322,2	10,3	0,030	
				N	205,9	400,9	12,8	0,800	
18	196,0	155,2	9,8	P	571,0	452,0	28,5	0,340	OK
				M	7285,9	155,0	9,8	0,030	
				N	196,0	399,1	25,2	0,390	
19	127,3	115,0	6,4	P	487,7	440,8	24,4	0,260	OK
				M	7548,7	114,9	6,4	0,020	
				N	127,3	389,0	21,5	0,300	
20	115,0	141,5	5,8	P	341,9	420,5	17,1	0,340	OK
				M	7375,6	141,4	5,7	0,020	
				N	115,0	387,3	15,7	0,360	
21	246,9	322,6	12,3	P	319,4	417,3	16,0	0,770	OK
				M	6079,1	322,3	12,3	0,040	
				N	246,9	406,8	15,6	0,790	

22	156,0	141,7	7,8	P	484,7	440,4	24,2	0,320	OK
				M	7373,7	141,6	7,8	0,020	
				N	156,0	393,3	21,6	0,360	
23	167,9	269,0	8,4	P	254,7	408,0	12,7	0,660	OK
				M	6508,7	269,0	8,4	0,030	
				N	167,9	395,2	12,3	0,680	
24	77,0	62,2	3,9	P	557,1	450,1	27,9	0,140	OK
				M	7896,1	62,1	3,8	0,010	
				N	77,0	381,4	23,6	0,160	
25	327,0	321,5	16,4	P	442,0	434,5	22,1	0,740	OK
				M	6083,5	321,6	16,4	0,050	
				N	327,0	418,3	21,3	0,770	
26	218,2	288,0	10,9	P	315,8	416,8	15,8	0,690	OK
				M	6360,4	288,1	10,9	0,030	
				N	218,2	402,6	15,3	0,710	
27	183,6	149,3	9,2	P	553,0	449,6	27,7	0,330	OK
				M	7324,6	149,1	9,2	0,020	
				N	183,6	397,3	24,4	0,380	
28	143,9	110,4	7,2	P	593,0	454,9	29,7	0,240	OK
				M	7579,1	110,3	7,2	0,020	
				N	143,9	391,4	25,5	0,280	
29	183,6	274,7	9,2	P	274,7	410,9	13,7	0,670	OK
				M	6464,8	274,8	9,2	0,030	
				N	183,6	397,6	13,3	0,690	
30	257,7	320,7	12,9	P	337,4	419,9	16,9	0,760	OK
				M	6092,4	320,7	12,9	0,040	
				N	257,7	408,4	16,4	0,780	
31	185,3	273,7	9,3	P	278,5	411,5	13,9	0,660	OK
				M	6472,1	273,8	9,3	0,030	
				N	185,3	397,8	13,5	0,690	
32	158,1	270,7	7,9	P	236,7	405,4	11,8	0,670	OK
				M	6495,6	270,8	7,9	0,020	
				N	158,1	393,8	11,5	0,690	
33	183,7	278,2	9,2	P	271,0	410,4	13,6	0,680	OK
				M	6437,7	278,3	9,2	0,030	
				N	183,7	397,6	13,1	0,700	
75	66,3	46,0	3,3	P	669,7	464,8	33,4	0,100	OK
				M	8003,2	45,9	3,3	0,010	
				N	66,3	379,7	27,3	0,120	

76	95,9	160,7	4,8	P	242,3	406,2	12,1	0,400	OK
				M	7250,0	160,6	4,8	0,010	
				N	95,9	384,5	11,5	0,420	
77	66,3	54,3	3,3	P	547,6	448,9	27,3	0,120	OK
				M	7948,1	54,3	3,3	0,010	
				N	66,3	379,8	23,1	0,140	
78	95,9	152,4	4,8	P	256,9	408,3	12,8	0,370	OK
				M	7304,4	152,3	4,8	0,010	
				N	95,9	384,5	12,1	0,400	
79	91,9	123,9	4,6	P	308,4	415,8	15,4	0,300	OK
				M	7490,9	123,8	4,6	0,010	
				N	91,9	383,8	14,3	0,320	
80	115,2	99,3	5,8	P	515,6	444,6	25,8	0,220	OK
				M	7651,7	99,2	5,8	0,010	
				N	115,2	387,2	22,5	0,260	

Riepilogo combinazioni maggiormente gravose:

Cmb.	**N**	**Mx**	**My**	**Tipo**	**Nu**	**Mxu**	**Myu**	**Sd/Su**	**Verif.**
	kN	kN m	kN m		kN	kN m	kN m		
5	286,9	346,9	14,3	P	348,6	421,5	17,4	0,820	OK
5	286,9	346,9	14,3	M	5863,4	346,7	14,3	0,050	OK
5	286,9	346,9	14,3	N	286,9	412,6	17,1	0,840	OK

Verifiche stato limite di esercizio per c. c. rare:

Valori limite (tensioni: segno (-) = compressione, (+) = trazione):

CLS: σcL = 17400,0 kN/mq (verifica Ok per $\sigma c/\sigma cL < 1$)

Acciaio: σaL = 344000,0 kN/mq (verifica Ok per $\sigma a/\sigma aL < 1$)

Cmb		**Mx**	**My**	**N**	**σc**	**σc/σcL**	**σa**	**σa/σaL**
n. e	stato	kN m	kN m	kN	kN/mq		kN/mq	
46	OK	72,2	0,0	167,6	-3282,5	0,19	53954,6	0,16
47	OK	23,2	0,0	95,9	-1062,6	0,06	11208,3	0,03
48	OK	42,8	0,0	137,4	-1956,5	0,11	26208,4	0,08
49	OK	6,1	0,0	83,6	-342,1	0,02	-4253,5	0,01
50	OK	256,8	0,0	211,4	-11449,7	0,66	255332,1	0,74

51	OK	227,0	0,0	160,3	-10097,8	0,58	230244,0	0,67
52	OK	246,6	0,0	151,2	-10951,3	0,63	254135,4	0,74
53	OK	127,0	0,0	144,0	-5693,0	0,33	119543,7	0,35
54	OK	97,2	0,0	93,0	-4343,5	0,25	94405,3	0,27
55	OK	116,8	0,0	83,9	-5198,5	0,30	118264,8	0,34
56	OK	76,8	0,0	167,6	-3489,4	0,20	59127,1	0,17
57	OK	27,9	0,0	95,9	-1273,8	0,07	16108,1	0,05
58	OK	50,6	0,0	137,4	-2304,9	0,13	34667,3	0,10
59	OK	13,8	0,0	83,6	-636,1	0,04	-6854,6	0,02
60	OK	247,7	0,0	211,4	-11050,3	0,64	245002,6	0,71
61	OK	217,9	0,0	160,3	-9698,6	0,56	219908,4	0,64
62	OK	237,5	0,0	151,2	-10552,3	0,61	243795,5	0,71
63	OK	114,8	0,0	144,0	-5155,9	0,30	105730,0	0,31
64	OK	85,0	0,0	93,0	-3807,6	0,22	80584,5	0,23
65	OK	104,6	0,0	83,9	-4663,2	0,27	104410,8	0,30
66	OK	237,7	0,0	181,6	-10588,0	0,61	238785,2	0,69
67	OK	104,8	0,0	114,3	-4696,2	0,27	99457,8	0,29
68	OK	198,7	0,0	134,7	-8833,0	0,51	202487,4	0,59
69	OK	44,1	0,0	67,4	-1990,3	0,11	38661,0	0,11

Verifiche stato limite di esercizio per c. c. frequenti:

Valori limite:

Fessure: WkL = 0,40 mm (verifica Ok per Wk/WkL < 1)

Cmb		Mx	My	N	Wk	Wk/WkL
n. e	stato	kN m	kN m	kN	mm	
34	OK	55,2	0,0	137,4	0.05	0,12
35	OK	31,0	0,0	88,5	0.02	0,06
36	OK	114,6	0,0	144,0	0.13	0,33
37	OK	84,8	0,0	93,0	0.10	0,26
38	OK	104,5	0,0	83,9	0.13	0,33
39	OK	64,3	0,0	137,4	0.06	0,15
40	OK	27,5	0,0	83,6	0.02	0,05
41	OK	105,5	0,0	144,0	0.12	0,30
42	OK	75,7	0,0	93,0	0.09	0,22
43	OK	95,4	0,0	83,9	0.12	0,30
44	OK	135,7	0,0	130,4	0.17	0,42

45	OK	56,5	0,0	67,4	0.07	0,17	

Verifiche stato limite di esercizio per c. c. quasi permanenti:

Valori limite:

CLS: σcL = 13050,0 kN/mq (verifica Ok per $\sigma c/\sigma cL < 1$)

Fessure: WkL = 0,30 mm (verifica Ok per Wk/WkL < 1)

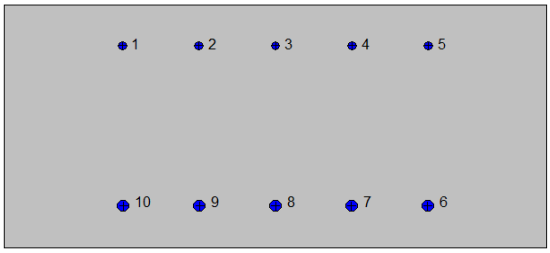
Cmb		Mx	My	N	σc	σc/σcL	Wk	Wk/WkL
n. e	stato	kN m	kN m	kN	kN/mq		mm	
70	OK	7,2	0,0	46,9	-332,9	0,03	0.00	0,00
71	OK	54,8	0,0	51,3	-2449,7	0,19	0.07	0,23
72	OK	15,5	0,0	46,9	-709,7	0,05	0.01	0,04
73	OK	46,5	0,0	51,3	-2084,0	0,16	0.06	0,19
74	OK	19,5	0,0	51,3	-887,8	0,07	0.02	0,05

5.5.7. Piedritto: mezzeria (Asta 4)

2SI s.r.l - ProVLIM - Verifica sezioni

Geomeria della sezione:

Vert.	X	Y
n.	cm	cm
1	0,0	45,0
2	100,0	45,0
3	100,0	0,0
4	0,0	0,0



Armature:

Pos.	X	Y	Area	Pretens.
n.	cm	cm	cmq	(s/n)
1	21,7	37,4	2,0	no
2	35,9	37,4	2,0	no
3	50,0	37,4	2,0	no
4	64,1	37,4	2,0	no
5	78,3	37,4	2,0	no
6	78,1	7,8	3,1	no
7	64,1	7,8	3,1	no
8	50,0	7,8	3,1	no
9	35,9	7,8	3,1	no
10	21,9	7,8	3,1	no

Normativa di riferimento:

D.M. 14/01/2008 - 'Norme tecniche per le costruzioni'

Note:

Verifiche SLE per ambiente ordinario

Materiali:

Calcestruzzo classe: C28/35

Rck (resistenza caratteristica cubica a compressione) = 350 daN/cmq

fck (resistenza caratteristica cilindrica a compressione) = 290 daN/cmq

fctm (resistenza a trazione media) = 28 daN/cmq

G (modulo di elasticità tangenziale) = 145424 daN/cmq

E (modulo elastico istantaneo iniziale) = 325750 daN/cmq

C. Poisson (coefficiente di contrazione trasversale) = 0.12

Coefficiente di dilatazione termica = 0.000050

Peso specifico del calcestruzzo armato = 2500 daN/mc

Barre d'acciaio ad aderenza migliorata tipo: B450C

fyk (tensione caratteristica di snervamento) = 4500 daN/cmq

fkt (tensione caratteristica di rottura) = 5400 daN/cmq

εuk (deformazione di rottura) = 0.075

G (modulo di elasticità tangenziale) = 793100 daN/cmq

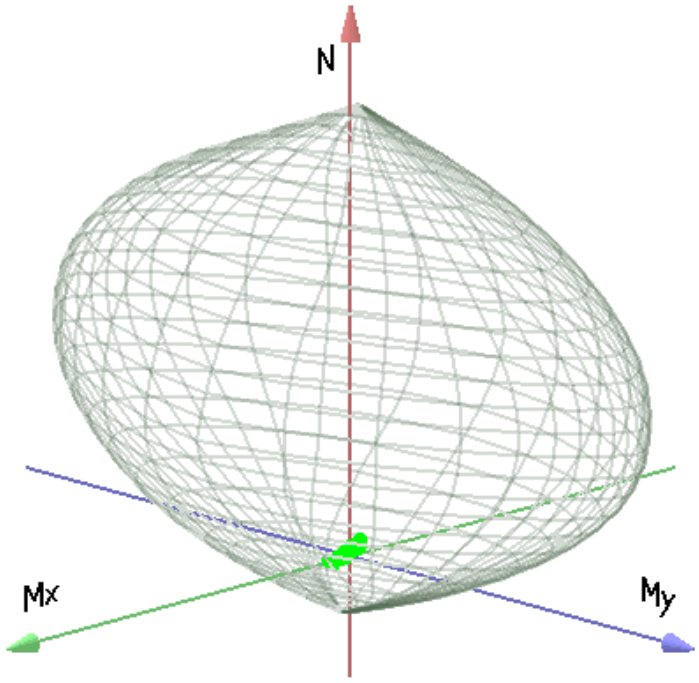
E (modulo elastico) = 2060000 daN/cmq

C. Poisson (coefficiente di contrazione trasversale) = 0.30

Coefficiente di dilatazione termica = 0.000012

Peso specifico = 7850 daN/mc

Dominio SLU:



Caratteristiche limite della sezione:

Nu	Mxu	Myu	Stato Sez.
kN	kN m	kN m	
-1008,0	31,7	0,0	Completamente tesa
8403,0	-31,7	0,0	Completamente compressa
0,0	222,7	0,0	Fibre inferiori tese
0,0	-158,0	0,0	Fibre superiori tese
0,0	0,0	421,2	Fibre di sinistra tese
0,0	0,0	-421,2	Fibre di destra tese

Verifiche stato limite ultimo:

Per ogni combinazione di carico saranno svolte le verifiche:

Verifica per Mxu, Myu e Nu proporzionali (sigla verifica: P)

e in caso di verifica proporzionale positiva:

Verifica con rapporto Mxu, Myu assegnato (sigla verifica: M)

Verifica con Nu costante (sigla verifica: N)

Cmb.	N	Mx	My	Tipo	Nu	Mxu	Myu	Sd/Su	Verif.
	kN	kN m	kN m		kN	kN m	kN m		
1	255,8	-14,4	12,8	P	6040,4	-339,1	302,0	0,040	OK
				M	8285,4	-14,4	12,9	0,030	
				N	255,8	-187,6	167,1	0,080	
2	159,0	11,2	8,0	P	5285,8	372,0	264,3	0,030	OK
				M	8124,2	11,1	7,9	0,020	
				N	159,0	237,4	168,6	0,050	
3	214,8	5,2	10,7	P	6792,0	163,8	339,7	0,030	OK
				M	8161,7	5,1	10,7	0,030	
				N	214,8	189,1	392,1	0,030	
4	142,4	24,3	7,1	P	3003,5	512,7	150,2	0,050	OK
				M	8040,7	24,2	7,1	0,020	
				N	142,4	242,8	71,1	0,100	
5	112,4	-21,4	5,6	P	2574,3	-491,2	128,8	0,040	OK
				M	8334,4	-21,5	5,6	0,010	
				N	112,4	-173,8	45,6	0,120	
6	36,3	3,2	1,8	P	4763,6	419,7	238,7	0,010	OK
				M	8176,5	3,1	1,8	0,000	
				N	36,3	221,3	125,9	0,010	
7	-5,9	23,6	0,0	P	-53,5	214,1	0,0	0,110	OK
				M	-971,1	23,5	0,0	0,010	
				N	-5,9	221,8	0,0	0,110	
8	203,2	-19,6	10,2	P	4780,5	-460,1	239,0	0,040	OK
				M	8319,7	-19,6	10,2	0,020	
				N	203,2	-185,3	96,2	0,110	
9	127,2	5,1	6,4	P	6267,6	250,3	313,4	0,020	OK
				M	8163,4	5,0	6,3	0,020	
				N	127,2	216,8	271,5	0,020	
10	85,0	25,4	4,3	P	1433,9	429,2	71,7	0,060	OK

				M	8033,9	25,4	4,2	0,010	
				N	85,0	235,1	39,3	0,110	
11	255,8	-11,2	12,8	P	6452,0	-282,0	322,6	0,040	OK
				M	8264,5	-11,1	12,7	0,030	
				N	255,8	-183,0	209,4	0,060	
12	159,0	14,4	8,0	P	4700,8	424,8	235,0	0,030	OK
				M	8103,8	14,3	7,9	0,020	
				N	159,0	240,9	133,3	0,060	
13	214,8	9,5	10,7	P	6131,6	269,8	306,7	0,030	OK
				M	8134,5	9,4	10,7	0,030	
				N	214,8	232,7	264,4	0,040	
14	142,4	28,6	7,1	P	2581,7	518,0	129,1	0,050	OK
				M	8013,6	28,5	7,1	0,020	
				N	142,4	243,4	60,7	0,120	
15	112,4	-24,6	5,6	P	2009,9	-440,4	100,5	0,060	OK
				M	8354,8	-24,7	5,6	0,010	
				N	112,4	-174,1	39,7	0,140	
16	36,3	0,8	1,8	P	6838,6	154,4	342,7	0,000	OK
				M	8191,3	0,8	1,8	0,000	
				N	36,3	163,6	363,2	0,000	
17	-5,9	20,4	0,0	P	-61,5	212,8	0,0	0,100	OK
				M	-957,1	20,4	0,0	0,010	
				N	-5,9	221,8	0,0	0,090	
18	203,2	-23,8	10,2	P	4190,5	-491,2	209,5	0,050	OK
				M	8345,9	-23,9	10,2	0,020	
				N	203,2	-186,4	79,5	0,130	
19	127,2	2,9	6,4	P	6842,9	153,9	342,2	0,020	OK
				M	8177,6	2,8	6,3	0,010	
				N	127,2	172,6	383,8	0,020	
20	85,0	21,2	4,3	P	1923,4	479,1	96,2	0,040	OK
				M	8061,2	21,1	4,2	0,010	
				N	85,0	234,8	47,1	0,090	
21	152,4	-24,6	7,6	P	3190,7	-514,5	159,6	0,050	OK
				M	8353,1	-24,6	7,6	0,020	
				N	152,4	-179,7	55,7	0,140	
22	243,3	-23,8	12,2	P	4737,3	-462,9	236,8	0,050	OK
				M	8343,4	-23,9	12,2	0,030	
				N	243,3	-191,6	98,0	0,120	
23	-52,7	59,8	0,0	P	-171,9	194,9	0,0	0,310	OK

				M	-880,2	60,0	0,0	0,060	
				N	-52,7	214,2	0,0	0,280	
24	38,2	82,4	1,9	P	111,4	240,5	5,6	0,340	OK
				M	7672,3	82,3	1,9	0,000	
				N	38,2	228,7	5,3	0,360	
25	72,3	8,1	3,6	P	4141,4	463,0	206,9	0,020	OK
				M	8144,8	8,0	3,6	0,010	
				N	72,3	229,2	102,4	0,030	
26	36,3	25,9	1,8	P	399,7	286,0	20,0	0,090	OK
				M	8031,0	25,9	1,8	0,000	
				N	36,3	228,1	15,9	0,110	
27	297,8	-21,5	14,9	P	5520,9	-398,3	276,1	0,050	OK
				M	8326,6	-21,5	14,9	0,040	
				N	297,8	-197,2	136,7	0,110	
28	143,9	9,5	7,2	P	5410,9	358,8	270,5	0,030	OK
				M	8134,9	9,5	7,1	0,020	
				N	143,9	234,0	176,4	0,040	
29	-28,2	56,8	0,0	P	-102,3	206,2	0,0	0,270	OK
				M	-893,7	57,1	0,0	0,030	
				N	-28,2	218,2	0,0	0,260	
30	101,3	-7,7	5,1	P	5410,4	-409,2	270,3	0,020	OK
				M	8245,6	-7,7	5,1	0,010	
				N	101,3	-167,7	110,8	0,050	
31	28,9	18,1	1,4	P	474,8	297,7	23,7	0,060	OK
				M	8081,2	18,0	1,4	0,000	
				N	28,9	226,8	18,0	0,080	
32	1,7	42,6	0,1	P	8,7	224,1	0,4	0,190	OK
				M	7925,3	42,5	0,1	0,000	
				N	1,7	223,0	0,4	0,190	
33	-28,2	64,0	0,0	P	-91,8	207,9	0,0	0,310	OK
				M	-861,7	64,0	0,0	0,030	
				N	-28,2	218,2	0,0	0,290	
75	65,7	45,2	3,3	P	421,2	289,4	21,1	0,160	OK
				M	7908,5	45,1	3,3	0,010	
				N	65,7	232,8	17,0	0,190	
76	24,3	54,9	1,2	P	106,2	239,7	5,3	0,230	OK
				M	7846,8	54,8	1,2	0,000	
				N	24,3	226,5	5,0	0,240	
77	65,7	47,6	3,3	P	393,9	285,1	19,7	0,170	OK

				M	7893,2	47,5	3,3	0,010	
				N	65,7	232,9	16,1	0,200	
78	24,3	52,5	1,2	P	111,5	240,5	5,6	0,220	OK
				M	7862,1	52,4	1,2	0,000	
				N	24,3	226,5	5,3	0,230	
79	18,2	76,0	0,9	P	55,5	231,6	2,8	0,330	OK
				M	7713,1	75,9	0,9	0,000	
				N	18,2	225,6	2,7	0,340	
80	112,7	-2,5	5,6	P	7088,4	-159,8	354,2	0,020	OK
				M	8212,0	-2,5	5,6	0,010	
				N	112,7	-141,5	313,5	0,020	

Riepilogo combinazioni maggiormente gravose:

Cmb.	**N**	**Mx**	**My**	**Tipo**	**Nu**	**Mxu**	**Myu**	**Sd/Su**	**Verif.**
	kN	kN m	kN m		kN	kN m	kN m		
24	38,2	82,4	1,9	P	111,4	240,5	5,6	0,340	OK
23	-52,7	59,8	0,0	M	-880,2	60,0	0,0	0,060	OK
24	38,2	82,4	1,9	N	38,2	228,7	5,3	0,360	OK

Verifiche stato limite di esercizio per c. c. rare:

Valori limite (tensioni: segno (-) = compressione, (+) = trazione):

CLS: σcL = 17400,0 kN/mq (verifica Ok per $\sigma c/\sigma cL < 1$)

Acciaio: σaL = 360000,0 kN/mq (verifica Ok per $\sigma a/\sigma aL < 1$)

Cmb		**Mx**	**My**	**N**	**σc**	**σc/σcL**	**σa**	**σa/σaL**
n. e	stato	kN m	kN m	kN	kN/mq		kN/mq	
46	OK	-4,2	0,0	189,0	-485,7	0,03	-6764,8	0,02
47	OK	14,7	0,0	117,3	-693,5	0,04	-7951,0	0,02
48	OK	11,2	0,0	158,8	-636,7	0,04	-7988,2	0,02
49	OK	25,4	0,0	105,1	-1264,0	0,07	17754,4	0,05
50	OK	-16,9	0,0	84,8	-849,4	0,05	11323,9	0,03
51	OK	1,5	0,0	28,4	-99,1	0,01	-1280,6	0,00
52	OK	16,6	0,0	-3,0	-853,3	0,05	32618,6	0,09
53	OK	-16,4	0,0	152,2	-758,4	0,04	-8944,5	0,02
54	OK	1,9	0,0	95,7	-253,0	0,01	-3508,1	0,01
55	OK	17,0	0,0	64,4	-855,1	0,05	13378,3	0,04

56	OK	-2,9	0,0	189,0	-450,0	0,03	-6417,8	0,02
57	OK	16,1	0,0	117,3	-755,5	0,04	-8455,8	0,02
58	OK	13,4	0,0	158,8	-699,8	0,04	-8612,7	0,02
59	OK	27,6	0,0	105,1	-1388,1	0,08	21593,7	0,06
60	OK	-19,5	0,0	84,8	-1024,8	0,06	17637,9	0,05
61	OK	-1,2	0,0	28,4	-87,9	0,01	-1161,1	0,00
62	OK	13,9	0,0	-3,0	-716,3	0,04	27555,4	0,08
63	OK	-20,0	0,0	152,2	-912,0	0,05	-10185,9	0,03
64	OK	-1,7	0,0	95,7	-233,6	0,01	-3305,4	0,01
65	OK	13,4	0,0	64,4	-658,5	0,04	7473,1	0,02
66	OK	-19,5	0,0	114,6	-935,3	0,05	-9314,7	0,03
67	OK	-19,9	0,0	181,9	-918,5	0,05	-10794,7	0,03
68	OK	43,9	0,0	-19,5	-2251,2	0,13	90335,9	0,25
69	OK	61,6	0,0	47,8	-3209,4	0,18	102307,1	0,28

Verifiche stato limite di esercizio per c. c. frequenti:

Valori limite:

Fessure: WkL = 0,40 mm (verifica Ok per Wk/WkL < 1)

Cmb		Mx	My	N	Wk	Wk/WkL
n.	e stato	kN m	kN m	kN	mm	
34	OK	2,5	0,0	158,8	0.00	0,00
35	OK	24,2	0,0	100,1	0.02	0,05
36	OK	-7,8	0,0	152,2	0.00	0,00
37	OK	10,5	0,0	95,7	0.00	0,00
38	OK	25,6	0,0	64,4	0.04	0,09
39	OK	5,2	0,0	158,8	0.00	0,00
40	OK	19,4	0,0	105,1	0.01	0,02
41	OK	-10,4	0,0	152,2	0.00	0,00
42	OK	7,9	0,0	95,7	0.00	0,00
43	OK	23,0	0,0	64,4	0.03	0,08
44	OK	8,9	0,0	165,8	0.00	0,00
45	OK	53,0	0,0	47,8	0.11	0,29

Verifiche stato limite di esercizio per c. c. quasi permanenti:

Valori limite:

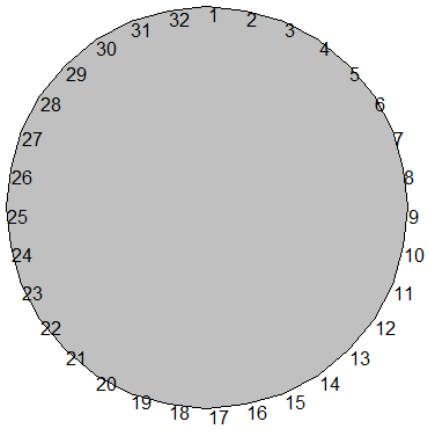
CLS: σcL = 13050,0 kN/mq (verifica Ok per $\sigma c/\sigma cL < 1$)

Fessure: WkL = 0,30 mm (verifica Ok per Wk/WkL < 1)

Cmb		Mx	My	N	σc	σc/σcL	Wk	Wk/WkL
n. e	stato	kN m	kN m	kN	kN/mq		mm	
70	OK	20,6	0,0	68,3	-1047,1	0,08	0.02	0,08
71	OK	11,3	0,0	63,9	-540,4	0,04	0.00	0,02
72	OK	23,0	0,0	68,3	-1179,1	0,09	0.03	0,10
73	OK	8,9	0,0	63,9	-416,3	0,03	0.00	0,01
74	OK	31,6	0,0	63,9	-1639,7	0,13	0.05	0,17

5.5.8. Palo di fondazione

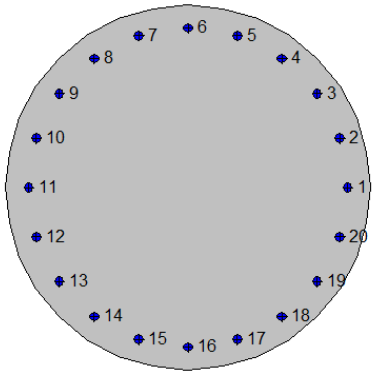
2SI s.r.l - ProVLIM - Verifica sezioni



Geomeria della sezione:

Vert.	X	Y
n.	cm	cm
1	40,0	80,0
2	47,8	79,2
3	55,3	77,0
4	62,2	73,3
5	68,3	68,3
6	73,3	62,2
7	77,0	55,3
8	79,2	47,8
9	80,0	40,0
10	79,2	32,2
11	77,0	24,7
12	73,3	17,8
13	68,3	11,7
14	62,2	6,7
15	55,3	3,0

16	47,8	0,8
17	40,0	0,0
18	32,2	0,8
19	24,7	3,0
20	17,8	6,7
21	11,7	11,7
22	6,7	17,8
23	3,0	24,7
24	0,8	32,2
25	0,0	40,0
26	0,8	47,8
27	3,0	55,3
28	6,7	62,2
29	11,7	68,3
30	17,8	73,3
31	24,7	77,0
32	32,2	79,2



Armature:

Pos.	X	Y	Area	Pretens.
n.	cm	cm	cmq	(s/n)
1	75,0	40,0	3,1	no
2	73,3	50,8	3,1	no

3	68,3	60,6	3,1	no
4	60,6	68,3	3,1	no
5	50,8	73,3	3,1	no
6	40,0	75,0	3,1	no
7	29,2	73,3	3,1	no
8	19,4	68,3	3,1	no
9	11,7	60,6	3,1	no
10	6,7	50,8	3,1	no
11	5,0	40,0	3,1	no
12	6,7	29,2	3,1	no
13	11,7	19,4	3,1	no
14	19,4	11,7	3,1	no
15	29,2	6,7	3,1	no
16	40,0	5,0	3,1	no
17	50,8	6,7	3,1	no
18	60,6	11,7	3,1	no
19	68,3	19,4	3,1	no
20	73,3	29,2	3,1	no

Normativa di riferimento:

D.M. 14/01/2008 - 'Norme tecniche per le costruzioni'

Note:

Verifiche SLE per ambiente ordinario

Materiali:

Calcestruzzo classe: C25/30

Rck (resistenza caratteristica cubica a compressione) = 300 daN/cmq

fck (resistenza caratteristica cilindrica a compressione) = 249 daN/cmq

fctm (resistenza a trazione media) = 26 daN/cmq

G (modulo di elasticità tangenziale) = 140388 daN/cmq

E (modulo elastico istantaneo iniziale) = 314470 daN/cmq

C. Poisson (coefficiente di contrazione trasversale) = 0.12

Coefficiente di dilatazione termica = 0.000050

Peso specifico del calcestruzzo armato = 2500 daN/mc

Barre d'acciaio ad aderenza migliorata tipo: B450C

fyk (tensione caratteristica di snervamento) = 4500 daN/cmq

fkt (tensione caratteristica di rottura) = 5400 daN/cmq

εuk (deformazione di rottura) = 0.075

G (modulo di elasticità tangenziale) = 793100 daN/cmq

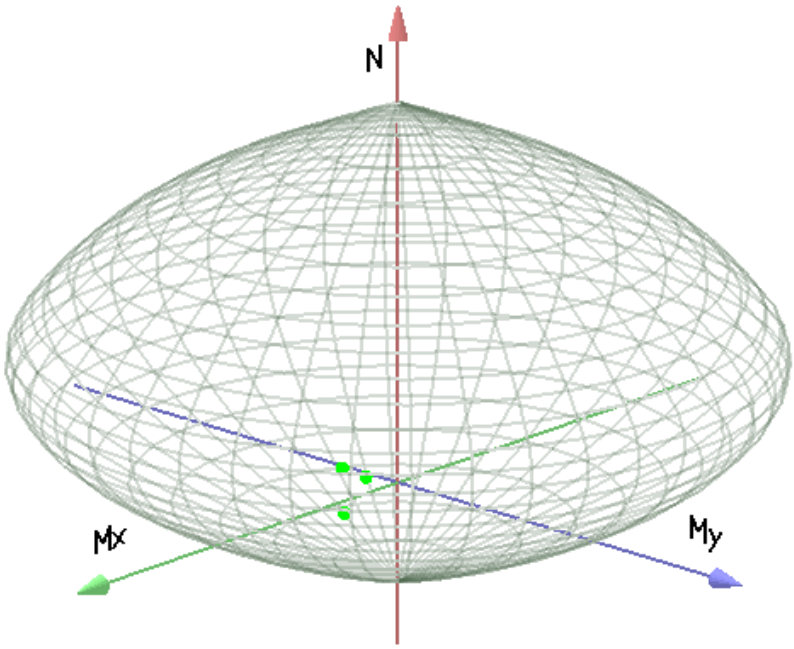
E (modulo elastico) = 2060000 daN/cmq

C. Poisson (coefficiente di contrazione trasversale) = 0.30

Coefficiente di dilatazione termica = 0.000012

Peso specifico = 7850 daN/mc

Dominio SLU:



Caratteristiche limite della sezione:

Nu	Mxu	Myu	Stato Sez.
kN	kN m	kN m	
-2458,6	0,0	0,0	Completamente tesa
9505,6	0,0	0,0	Completamente compressa

0,0	729,0	0,0	Fibre inferiori tese
0,0	-729,0	0,0	Fibre superiori tese
0,0	0,0	729,0	Fibre di sinistra tese
0,0	0,0	-729,0	Fibre di destra tese

Verifiche stato limite ultimo:

Per ogni combinazione di carico saranno svolte le verifiche:

Verifica per Mxu, Myu e Nu proporzionali (sigla verifica: P)

e in caso di verifica proporzionale positiva:

Verifica con rapporto Mxu, Myu assegnato (sigla verifica: M)

Verifica con Nu costante (sigla verifica: N)

Cmb.	N	Mx	My	Tipo	Nu	Mxu	Myu	Sd/Su	Verif.
	kN	kN m	kN m		kN	kN m	kN m		
1	840,3	221,3	0,0	P	3906,0	1028,5	0,0	0,210	OK
				M	8652,4	221,1	0,0	0,100	
				N	840,3	888,7	0,0	0,250	
2	-306,3	211,8	0,0	P	-779,2	538,7	0,0	0,390	OK
				M	-1850,7	212,0	0,0	0,160	
				N	-306,3	660,2	0,0	0,320	
6	411,6	127,7	0,0	P	3406,6	1057,0	0,0	0,120	OK
				M	9017,2	127,6	0,0	0,050	
				N	411,6	811,4	0,0	0,160	

Riepilogo combinazioni maggiormente gravose:

Cmb.	N	Mx	My	Tipo	Nu	Mxu	Myu	Sd/Su	Verif.
	kN	kN m	kN m		kN	kN m	kN m		
2	-306,3	211,8	0,0	P	-779,2	538,7	0,0	0,390	OK
2	-306,3	211,8	0,0	M	-1850,7	212,0	0,0	0,160	OK
2	-306,3	211,8	0,0	N	-306,3	660,2	0,0	0,320	OK

Verifiche stato limite di esercizio per c. c. rare:

Valori limite (tensioni: segno (-) = compressione, (+) = trazione):

CLS: σcL = 14940,0 kN/mq (verifica Ok per $\sigma c/\sigma cL < 1$)

Acciaio: σaL = 360000,0 kN/mq (verifica Ok per σa/σaL < 1)

Cmb		Mx	My	N	σc	σc/σcL	σa	σa/σaL
n.	e stato	kN m	kN m	kN	kN/mq		kN/mq	
4	OK	152,2	0,0	536,4	-3845,3	0,26	-51402,2	0,14

Verifiche stato limite di esercizio per c. c. frequenti:

Valori limite:

Fessure: WkL = 0,40 mm (verifica Ok per Wk/WkL < 1)

Cmb		Mx	My	N	Wk	Wk/WkL
n.	e stato	kN m	kN m	kN	mm	
3	OK	76,0	0,0	317,2	0.00	0,00

Verifiche stato limite di esercizio per c. c. quasi permanenti:

Valori limite:

CLS: σcL = 11205,0 kN/mq (verifica Ok per σc/σcL < 1)

Fessure: WkL = 0,30 mm (verifica Ok per Wk/WkL < 1)

Cmb		Mx	My	N	σc	σc/σcL	Wk	Wk/WkL
n.	e stato	kN m	kN m	kN	kN/mq		mm	
5	OK	35,0	0,0	221,3	-937,5	0,08	0.00	0,00

5.5.9. Verifiche allo stato limite ultimo per taglio

5.5.9.1 Soletta superiore attacco piedritto (Asta 9)

V_{sdu}	310,34	kN
M_{sdu}	-	kNm
N_{sdu}	0	kN
R_{ck}	35	N/mm^2
f_{ck}	28	N/mm^2
γ_c=	1,5	
fyk	450	N/mm^2
bw	100	cm
d	33,70	cm
Asl	31,4	cm^2
c	11,30	cm
α	90	gradi
α	1,57	rad
θ	21,80	gradi
ctgθ	2,50	
θ imposto	21,80	gradi
Asw	3,76	cm^2
passo staffe	25	cm
f_{cd}	15,867	N/mm^2
$fctd_{0,05}$	1,240	N/mm^2
fyd	391,304	N/mm^2
σ_{cp}	0,0000	N/mm^2
verifica senza armatura resistenta a taglio		
V_{Rd}	212,338	kN
$V_{Rd,min}$	147,019	kN
$\rho_{sw,min}$	0,000941	
$s_{l,max}$	25,28	cm
$A_{sw,min}$	2,378	cm^2/$s_{l,max}$
verifica con armatura resistenta a taglio (staffe)		
V_{Rcd}	829,674	kN
V_{Rsd}	446,278	kN
V_{Rd}	446,278	kN

La verifica a taglio risulta soddisfatta considerando staffe a due bracci ϕ12/ (60x25)

5.5.9.2 Soletta inferiore attacco piedritto (Asta 11)

V_{sdu}	534,08	kN
M_{sdu}	-	kNm
N_{sdu}	0	kN
R_{ck}	35	N/mm^2
f_{ck}	28	N/mm^2
γ_c=	1,5	
fyk	450	N/mm^2
bw	100	cm
d	71,20	cm
Asl	31,4	cm^2
c	8,80	cm
α	90	gradi
α	1,57	rad
θ	21,80	gradi
ctgθ	2,50	
θ imposto	21,80	gradi
Asw	3,76	cm^2
passo staffe	25	cm
f_{cd}	15,867	N/mm^2
$fctd_{0,05}$	1,240	N/mm^2
fyd	391,304	N/mm^2
σ_{cp}	0,0000	N/mm^2
verifica senza armatura resistenta a taglio		
V_{Rd}	302,149	kN
$V_{Rd,min}$	249,554	kN
$\rho_{sw,min}$	0,000941	
$s_{l,max}$	53,40	cm
$A_{sw,min}$	5,023	cm^2/$s_{l,max}$
verifica con armatura resistenta a taglio (staffe)		
V_{Rcd}	1752,903	kN
V_{Rsd}	942,879	kN
V_{Rd}	942,879	kN

La verifica a taglio risulta soddisfatta considerando staffe a due bracci ϕ12/ (60x25)

5.5.9.3 Piedritto attacco soletta inferiore (Asta 2)

V_{sdu}	256,28	kN
M_{sdu}	-	kNm
N_{sdu}	26,39	kN
R_{ck}	35	N/mm^2
f_{ck}	28	N/mm^2
γ_c=	1,5	
fyk	450	N/mm^2
bw	100	cm
d	36,20	cm
Asl	31,4	cm^2
c	8,80	cm
α	90	gradi
α	1,57	rad
θ	21,80	gradi
ctgθ	2,50	
θ imposto	21,80	gradi
Asw	3,76	cm^2
passo staffe	20	cm
f_{cd}	15,867	N/mm^2
$fctd_{0,05}$	1,240	N/mm^2
fyd	391,304	N/mm^2
σ_{cp}	0,0591	N/mm^2
verifica senza armatura resistenta a taglio		
V_{Rd}	222,514	kN
$V_{Rd,min}$	157,523	kN
$\rho_{sw,min}$	0,000941	
$s_{l,max}$	27,15	cm
$A_{sw,min}$	2,554	cm^2/$s_{l,max}$
verifica con armatura resistenta a taglio (staffe)		
V_{Rcd}	894,540	kN
V_{Rsd}	599,231	kN
V_{Rd}	599,231	kN

La verifica a taglio risulta soddisfatta considerando staffe a due bracci ϕ12/ (60x20)

5.5.9.4 Piedritto attacco soletta superiore (Asta 6)

V_{sdu}	193,33	kN
M_{sdu}	-	kNm
N_{sdu}	159,32	kN
R_{ck}	35	N/mm^2
f_{ck}	28	N/mm^2
γ_c=	1,5	
fyk	450	N/mm^2
bw	100	cm
d	36,20	cm
Asl	31,4	cm^2
c	8,80	cm
α	90	gradi
α	1,57	rad
θ	43,99	gradi
ctgθ	1,04	
$\theta_{imposto}$	-	gradi
Asw	0,00	cm^2
passo staffe	0,00	cm
f_{cd}	15,867	N/mm^2
$fctd_{0,05}$	1,240	N/mm^2
fyd	391,304	N/mm^2
σ_{cp}	0,3565	N/mm^2
verifica senza armatura resistenta a taglio		
V_{Rd}	238,667	kN

La verifica a taglio risulta soddisfatta senza necessità di prevedere armatura per il taglio.

5.5.9.5 Palo di fondazione

V_{sdu}	191,32	kN
M_{sdu}	-	kNm
N_{sdu}	840,31	kN
R_{ck}	30	N/mm^2
f_{ck}	25	N/mm^2
γ_c=	1,5	
fyk	450	N/mm^2
Φ	80	cm
bw	72,00	cm
he	48,23	cm
d	39,23	cm
Asl	62,8	cm^2
c	9,00	cm
α	90	gradi
α	1,57	rad
θ	22,62	gradi
ctgθ	2,40	
$\theta_{imposto}$	-	gradi
Asw	2,26	cm^2
passo staffe	10	cm
f_{cd}	14,167	N/mm^2
$fctd_{0,05}$	1,119	N/mm^2
fyd	391,304	N/mm^2
σ_{cp}	2,4417	N/mm^2
verifica senza armatura resistenta a taglio		
V_{Rd}	279,446	kN
$V_{Rd,min}$	214,390	kN
$\rho_{sw,min}$	0,000889	
$s_{l,max}$	29,43	cm
$A_{sw,min}$	1,883	cm^2/$s_{l,max}$
verifica con armatura resistenta a taglio (staffe)		
V_{Rcd}	749,503	kN
V_{Rsd}	749,503	kN
V_{Rd}	749,503	kN

La verifica a taglio risulta soddisfatta senza necessità di prevedere armatura per il taglio.

5.5.10. Armatura di ripartizione dello scatolare

L'armatura di ripartizione nelle solette e nelle pareti dello scatolare (direzione y) viene posta in misura non inferiore al 20% dell'armatura principale (direzione x) (EC2 § 9.3).

L'armatura di ripartizione viene disposta non uniformemente, ma leggermente maggiorata nei punti in cui è maggiore anche l'armatura principale, punti in cui, peraltro, risultano maggiori le sollecitazioni trasversali alla luce di calcolo dello scatolare. Ad esempio, l'armatura di ripartizione viene posta in quantità maggiore all'intradosso della sezione di mezzeria della soletta superiore che è il punto dove si hanno i maggiori momenti secondari dovuti ai carichi mobili stradali ed alla sovrastruttura stradale (gli unici carichi non uniformemente distribuiti sulla larghezza dello scatolare e quindi gli unici carichi che danno azioni flessionali trasversali). Essendo tali carichi ubicati al centro dello scatolare, essi generano azioni flessionali che tendono le fibre poste all'intradosso, dove viene appunto incrementata l'armatura di ripartizione.

Semplici valutazioni consentono di provare che l'armatura di ripartizione pari al 20% della principale è sicuramente sufficiente per assorbire le azioni flessionali trasversali secondarie, ovvero nella direzione ortogonale a quella di massima inflessione della soletta.

Come già osservato la massima azione flessionale secondaria si ha nella soletta superiore, perché solo qui sono applicate azioni non uniformemente distribuite su un intero elemento strutturale; tali azioni localizzate sono i carichi mobili stradali ed il peso della sovrastruttura.

Schematizzando, la soletta superiore come una lastra infinitamente lunga in direzione y, appoggiata sui bordi distanti l_x= (0,45/2+ 4,00+ 0,45/2)m =4,45m, si valuta con l'ausilio di risultati tabellati (formule di BITTNER, vedi Allegato C) il massimo momento flettente in direzione y sotto l'effetto di una fascia caricata di larghezza t_y=3,1 m (larghezza caricata) per i carichi permanenti e variabili, e di lunghezza $t_{x\text{-}var}$ = 2,28m (lunghezza di diffusione longitudinale dei carichi da traffico) per i carichi variabili, mentre per i carichi permanenti $t_{x\text{-}perm}$ = 4,45m.

Contributo dei carichi permanenti:

p_{perm}= 22*0,30+20*0,00= 6,60 kN/m^2

$p_{perm\text{-}SLU}$= 22*0,30*1.35+20*0,00*1.35= 8,91 kN/m^2

P = p* t_y*t_x =6,60*3,1 *4,45= 91,05 kN

$P_{SLU} = p_{SLU} * t_y * t_x = 122,91$ kN

$l_y = \infty$ $t_y/l_x = 0,70 \Rightarrow 1$ $t_x/l_x = 1,00$ $\alpha_{ym} = 0,0333$

Il massimo momento trasversale risulta:

$M_{ym;SLE} = \alpha_{ym} * P = 3,03$ kNm/m

$M_{ym,SLU} = \alpha_{ym} * P_{SLU} = 4,09$ kNm/m

Contributo dei carichi variabili:

$p_{var} = (600+400+200)/(3,1 * 2,28)+9 = 178,78$ kN/m^2

$p_{var-SLU} = 178,78 * 1.35 = 241,35$ kN/m^2

$P = p * t_y * t_x = 178,78 * 3,1 * 2,28 = 1.813,89$ kN

$P_{SLU} = p_{SLU} * t_y * t_x = 241,35 * 3,1 * 2,28 = 2.448,76$ kN

$l_y = \infty$ $t_y/l_x = 0,70 \Rightarrow 1$ $t_x/l_x = 0,51$ $\alpha_{ym} = 0,0480$

Il massimo momento trasversale risulta:

$M_{ym;SLE} = \alpha_{ym} * P = 87,14$ kNm/m

$M_{ym,SLU} = \alpha_{ym} * P_{SLU} = 117,64$ kNm/m

Sollecitazioni totali:

$M_{ym;SLE} = 90,17$ kNm/m

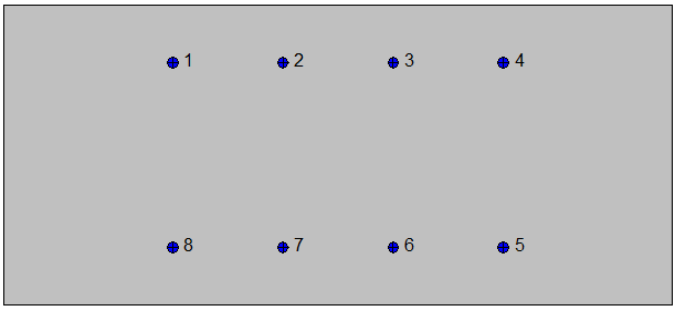
$M_{ym,SLU} = 121,73$ kNm/m

Verifiche allo stato limite ultimo per flessione

2SI s.r.l - ProVLIM - Verifica sezioni

Geomeria della sezione:

Vert.	X	Y
n.	cm	cm
1	0,0	0,0
2	0,0	45,0
3	100,0	45,0
4	100,0	0,0



Armature:

Pos.	X	Y	Area	Pretens.
n.	cm	cm	cmq	(s/n)
1	25,2	36,3	2,0	no
2	41,7	36,3	2,0	no
3	58,3	36,3	2,0	no
4	74,8	36,3	2,0	no
5	74,8	8,7	2,0	no
6	58,3	8,7	2,0	no
7	41,7	8,7	2,0	no
8	25,2	8,7	2,0	no

Normativa di riferimento:

D.M. 14/01/2008 - 'Norme tecniche per le costruzioni'

Note:

Verifiche SLE per ambiente molto aggressivo

Materiali:

Calcestruzzo classe: C28/35

Rck (resistenza caratteristica cubica a compressione) = 350 daN/cmq

fck (resistenza caratteristica cilindrica a compressione) = 290 daN/cmq

fctm (resistenza a trazione media) = 28 daN/cmq

G (modulo di elasticità tangenziale) = 145424 daN/cmq

E (modulo elastico istantaneo iniziale) = 325750 daN/cmq

C. Poisson (coefficiente di contrazione trasversale) = 0.12

Coefficiente di dilatazione termica = 0.000050

Peso specifico del calcestruzzo armato = 2500 daN/mc

Barre d'acciaio ad aderenza migliorata tipo: B450C

fyk (tensione caratteristica di snervamento) = 4500 daN/cmq

fkt (tensione caratteristica di rottura) = 5400 daN/cmq

εuk (deformazione di rottura) = 0.075

G (modulo di elasticità tangenziale) = 793100 daN/cmq

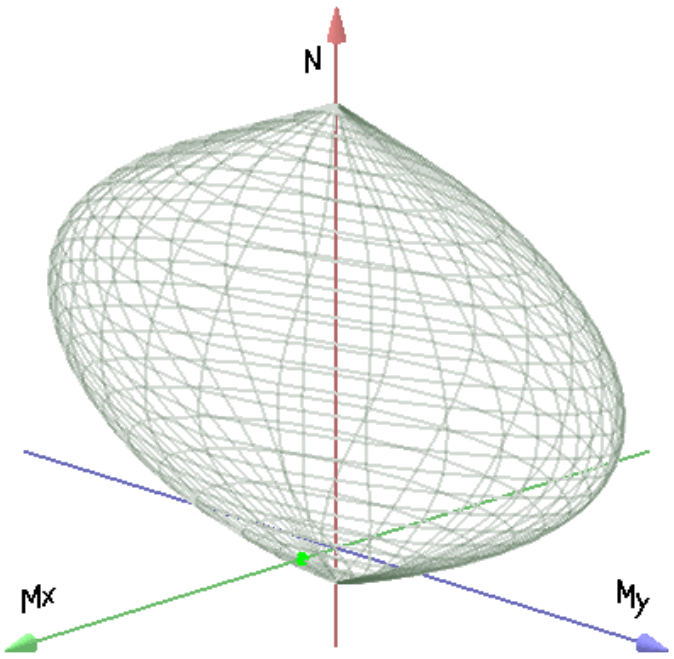
E (modulo elastico) = 2060000 daN/cmq

C. Poisson (coefficiente di contrazione trasversale) = 0.30

Coefficiente di dilatazione termica = 0.000012

Peso specifico = 7850 daN/mc

Dominio SLU:



Caratteristiche limite della sezione:

Nu	Mxu	Myu	Stato Sez.
kN	kN m	kN m	
-629,4	0,0	0,0	Completamente tesa
8024,4	0,0	0,0	Completamente compressa
0,0	129,2	0,0	Fibre inferiori tese
0,0	-129,2	0,0	Fibre superiori tese
0,0	0,0	287,2	Fibre di sinistra tese
0,0	0,0	-287,2	Fibre di destra tese

Verifiche stato limite ultimo:

Per ogni combinazione di carico saranno svolte le verifiche:

Verifica per Mxu, Myu e Nu proporzionali (sigla verifica: P)

e in caso di verifica proporzionale positiva:

Verifica con rapporto Mxu, Myu assegnato (sigla verifica: M)

Verifica con Nu costante (sigla verifica: N)

Cmb.	N	Mx	My	Tipo	Nu	Mxu	Myu	Sd/Su	Verif.
	kN	kN m	kN m		kN	kN m	kN m		
1	0,0	121,7	0,0	P	0,0	129,2	0,0	0,940	OK
				M	n.d.	n.d.	n.d.	n.d.	
				N	0,0	129,2	0,0	0,940	

Riepilogo combinazioni maggiormente gravose:

Cmb.	N	Mx	My	Tipo	Nu	Mxu	Myu	Sd/Su	Verif.
	kN	kN m	kN m		kN	kN m	kN m		
1	0,0	121,7	0,0	P	0,0	129,2	0,0	0,940	OK
1	0,0	121,7	0,0	M	n.d.	n.d.	n.d.	n.d.	OK
1	0,0	121,7	0,0	N	0,0	129,2	0,0	0,940	OK

Verifiche stato limite di esercizio per c. c. rare:

Valori limite (tensioni: segno (-) = compressione, (+) = trazione):

CLS: σcL = 17400,0 kN/mq (verifica Ok per $\sigma c/\sigma cL < 1$)

Acciaio: σaL = 360000,0 kN/mq (verifica Ok per $\sigma a/\sigma aL < 1$)

Cmb	Mx	My	N	σc	σc/σcL	σa	σa/σaL
n. e stato	kN m	kN m	kN	kN/mq		kN/mq	
2 OK	90,2	0,0	0,0	-6571,1	0,38	333409,1	0,93

Verifiche stato limite di esercizio per c. c. frequenti:

Valori limite:

Fessure: WkL = 0,30 mm (verifica Ok per Wk/WkL < 1)

Cmb	Mx	My	N	Wk	Wk/WkL
n. e stato	kN m	kN m	kN	mm	
3 OK	90,2	0,0	0,0	0.29	0,97

Si noti, inoltre, che l'ipotesi di lastra di lunghezza indefinita porta sicuramente a sovrastimare i momenti trasversali e che nel punto di massimo momento trasversale l'armatura di ripartizione è molto maggiore, essendo presenti anche le barre distanziatrici (non messe in conto nella verifica precedente).

Pertanto si può affermare che l'armatura di ripartizione assunta pari al 20% della principale è largamente sufficiente in relazione alle modeste sollecitazioni trasversali secondarie che possono nascere nella struttura dello scatolare.

In Allegato B si riporta un prospetto illustrativo con i risultati tabellati per la determinazione delle sollecitazioni trasversali nelle piastre rettangolari appoggiate sui quattro lati caricate uniformemente su una zona rettangolare centrale (formule di BITTNER).

6. VERIFICHE GEOTECNICHE DI PORTANZA

Le verifiche geotecniche vengono eseguite con riferimento alle curve di portanza assiale riportate nella Relazione Geotecnica specifica dell'opera in oggetto di cui al rif. [4].

6.1. Combinazioni per la verifica allo SLU

Per i pali di fondazione le verifiche saranno condotte secondo l'approccio progettuale "Approccio 1", utilizzando i coefficienti parziali riportati nelle Tabelle 6.2.I e 5.1.V per i parametri geotecnici e le azioni.

combinazione 1 → (A1+M1+R1) ⇒ STR

combinazione 2 → (A2+M1+R2) ⇒ GEO

combinazione sisma → (A1+M1+R3) ⇒ SISMA

PARAMETRO	GRANDEZZA ALLA QUALE APPLICARE IL COEFF. PARZIALE	COEFFICIENTE PARZIALE γ_M	M_1	M_2
Tangente dell'angolo di resistenza al taglio	$\tan \varphi'_k$	$\gamma_{\varphi'}$	1	1,25
Coesione efficace	c'_k	$\gamma_{c'}$	1	1,25
Resistenza non drenata	c'_{uk}	γ_{cu}	1	1,4
Peso dell'unità di volume	γ	γ_γ	1	1

TABELLA 6.1 - COEFFICIENTI PARZIALI PER I PARAMETRI DEL TERRENO (TABELLA 6.2.II NTC 2008)

PALI DI FONDAZIONE	COEFF. PARZIALE (R1)	COEFF. PARZIALE (R2)
Resistenza di base	$\gamma_{R=1.0}$	$\gamma_{R=1.7}$
Resistenza laterale compressione	$\gamma_{R=1.0}$	$\gamma_{R=1.45}$
Resistenza laterale trazione	$\gamma_{R=1.0}$	$\gamma_{R=1.6}$

TABELLA 6.2- COEFFICIENTI PARZIALI γ_R PER LA RESISTENZA DEI PALI DI FONDAZIONE

Ai fini delle verifiche degli stati limite ultimi si definiscono le seguenti combinazioni:

STR) $\Rightarrow$ $\gamma_{G1}\cdot G_1 + \gamma_{G2}\cdot G_2 + \gamma_{Q1}\cdot Q_{k1} + \gamma_{0i}\sum_i \psi_{0i}\cdot Q_{ki}$ $\Rightarrow (\Phi_d' = \Phi_k')$

GEO) $\Rightarrow$ $\gamma_{G1}\cdot G_1 + \gamma_{G2}\cdot G_2 + \gamma_{Q1}\cdot Q_{k1} + \gamma_{0i}\sum_i \psi_{0i}\cdot Q_{ki}$ $\Rightarrow (\Phi_d' = \tan^{-1}(\tan\Phi_k' / \gamma_\Phi))$

I valori dei coefficienti parziali delle azioni sono dedotti dalla tabella 5.1.V del D.M. 14 Gennaio 2008

6.2. Sollecitazioni assiali

Le azioni assiali sui pali, per le tre combinazioni significative, ottenute dall'analisi dello scatolare con Pro-Sap vengono di seguito riassunte.

Combinazione	**N_{max} (kN)**
SLU-STR	
SLU-GEO	
SISMA	

6.3. Verifica di capacità portante assiale

Seguendo le indicazioni riportate nella Relazione Geotecnica dell'opera specifica di cui al rif. [4], la verifica di capacità portante del palo singolo è risultata essere sempre la più gravosa, e quindi dimensionante, rispetto a quella del gruppo di pali. Quest'ultima pertanto viene omessa.

6.3.1. Verifica del palo singolo

Con riferimento alle curve di portanza a compressione riportate nella Relazione Geotecnica dell'opera specifica di cui al rif. [4], per un palo di diametro 0.80m e lunghezza 18.00m si ottengono le seguenti resistenze di progetto:

PALO Φ800 – L=18.00m		
Combinazione	**$N_{S,d}$ (kN)**	**$R_{c,d}$ (kN)**
SLU-STR (A1+M1+R1)	918.08	1676
SLU-GEO (A2+M1+R2)	319.08	1095
SISMA (A1+M1+R3)	411.64	1378

La verifica risulta soddisfatta.

7. ALLEGATO A. –SCATOLARE-CALCOLO AGLI ELEMENTI FINITI

2S.I. Software e Servizi per l'Ingegneria s.r.l.

PRO_SAP
PROfessional Structural Analysis Program

Relazione di calcolo strutturale impostata e redatta secondo le modalità previste nel D.M. 14 Gennaio 2008 cap. 10 "Redazione dei progetti strutturali esecutivi e delle relazioni di calcolo".

2S.I. Software e Servizi per l'Ingegneria S.r.l.
Via Garibaldi, 90
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info@2si.it

D.M. 14/01/08 cap. 10.2 Affidabilità dei codici utilizzati
http://www.2si.it/software/Affidabilità.htm

CARATTERISTICHE MATERIALI UTILIZZATI
LEGENDA TABELLA DATI MATERIALI

Il programma consente l'uso di materiali diversi. Sono previsti i seguenti tipi di materiale:

1	materiale tipo cemento armato
2	materiale tipo acciaio
3	materiale tipo muratura
4	materiale tipo legno
5	materiale tipo generico

I materiali utilizzati nella modellazione sono individuati da una sigla identificativa ed un codice numerico (gli elementi strutturali richiamano quest'ultimo nella propria descrizione). Per ogni materiale vengono riportati in tabella i seguenti dati:

Young	modulo di elasticità normale
Poisson	coefficiente di contrazione trasversale
G	modulo di elasticità tangenziale
Gamma	peso specifico
Alfa	coefficiente di dilatazione termica

I dati sopraripportati vengono utilizzati per la modellazione dello schema statico e per la determinazione dei carichi inerziali e termici. In relazione al tipo di materiale vengono riportati inoltre:

1	***cemento armato***		
		Rck	resistenza caratteristica cubica
		Fctm	resistenza media a trazione semplice
2	***acciaio***		
		Ft	tensione di rottura a trazione
		Fy	tensione di snervamento
		Fd	resistenza di calcolo
		Fdt	resistenza di calcolo per spess. t>40 mm
		Sadm	tensione ammissibile
		Sadmt	tensione ammissibile per spess. t>40 mm
3	***muratura***		
		Resist. Fk	resistenza caratteristica a compressione
		Resist. Fvko	resistenza caratteristica a taglio
4	***legno***		
		Resist. fc0k	Resistenza caratteristica (tensione amm. per REGLES) per compressione
		Resist. ft0k	Resistenza caratteristica (tensione amm. per REGLES) per trazione
		Resist. fmk	Resistenza caratteristica (tensione amm. per REGLES) per flessione
		Resist. fvk	Resistenza caratteristica (tensione amm. per REGLES) per taglio
		Modulo E0,05	Modulo elastico parallelo caratteristico
		Lamellare	lamellare o massiccio

Con riferimento al **Documento di Affidabilità** "*Test di validazione del software di calcolo PRO_SAP e dei moduli aggiuntivi PRO_SAP Modulo Geotecnico, PRO_CAD nodi acciaio e PRO_MST*" - versione Maggio 2011, disponibile per il download sul sito **www.2si.it**, si segnalano i seguenti esempi applicativi:

Modellazione di strutture in c.a.

Test N°	Titolo
41	GERARCHIA DELLE RESISTENZE PER TRAVI IN C.A.

42	GERARCHIA DELLE RESISTENZE PER PILASTRI IN C.A.
43	VERIFICA ALLE TA DI STRUTTURE IN C.A.
44	VERIFICA AGLI SLU DI STRUTTURE IN C.A.
45	VERIFICA A PUNZONAMENTO ALLO SLU DI PIASTRE IN C.A.
46	VERIFICA A PUNZONAMENTO ALLO SLU DI TRAVI IN C.A.
47	PROGETTAZIONE A TAGLIO DI STRUTTURE IN C.A. SECONDO IL D.M. 9/1/96
48	PROGETTAZIONE A TAGLIO DI STRUTTURE IN C.A. SECONDO IL D.M. 14/1/2008
49	VERIFICA ALLO SLE (TENSIONI E FESSURAZIONE) DI STRUTTURE IN C.A.
50	VERIFICA ALLO SLE (DEFORMAZIONE) DI STRUTTURE IN C.A.
51	FATTORE DI STRUTTURA
52	SOVRARESISTENZE
53	DETTAGLI COSTRUTTIVI C.A.: LIMITI D'ARMATURA PILASTRI E NODI TRAVE-PILASTRO
54	PARETI IN C.A. SNELLE IN ZONA SISMICA
80	ANALISI PUSHOVER DI UN EDIFICIO IN C.A.
120	PROGETTO E VERIFICA DI TRAVI PREM

Id	Tipo / Note		Young	Poisson	G	Gamma	Alfa
		kN/ m2	kN/ m2		kN/ m2	kN/ m3	
3	c.a. classe 30		3.122e+07	0.12	1.394e+07	25.0	1.00e-05
	Rck	3.000e+04					
	fctm	2607.0					
4	c.a. classe 35		3.372e+07	0.12	1.505e+07	25.0	1.00e-05
	Rck	3.500e+04					
	fctm	2889.0					

MODELLAZIONE DELLE SEZIONI

LEGENDA TABELLA DATI SEZIONI

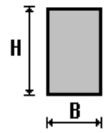
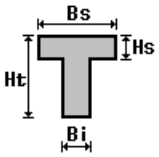
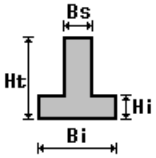
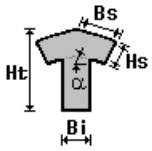
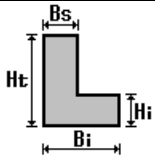
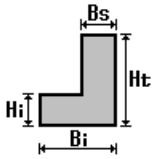
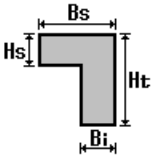
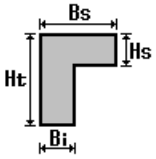
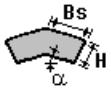
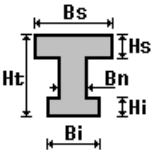
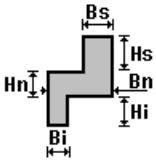
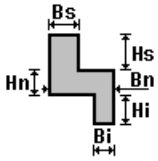
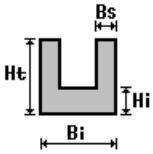
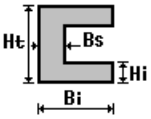
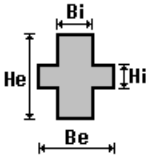
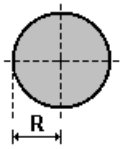
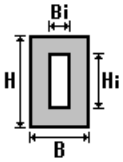
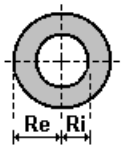
Il programma consente l'uso di sezioni diverse. Sono previsti i seguenti tipi di sezione:

1 sezione di tipo generico
2 profilati semplici
3 profilati accoppiati e speciali

Le sezioni utilizzate nella modellazione sono individuate da una sigla identificativa ed un codice numerico (gli elementi strutturali richiamano quest'ultimo nella propria descrizione). Per ogni sezione vengono riportati in tabella i seguenti dati:

Area	area della sezione
A V2	area della sezione/fattore di taglio (per il taglio in direzione 2)
A V3	area della sezione/fattore di taglio (per il taglio in direzione 3)
Jt	fattore torsionale di rigidezza
J2-2	momento d'inerzia della sezione riferito all'asse 2
J3-3	momento d'inerzia della sezione riferito all'asse 3
W2-2	modulo di resistenza della sezione riferito all'asse 2
W3-3	modulo di resistenza della sezione riferito all'asse 3
Wp2-2	modulo di resistenza plastico della sezione riferito all'asse 2
Wp3-3	modulo di resistenza plastico della sezione riferito all'asse 3

I dati sopraripportati vengono utilizzati per la determinazione dei carichi inerziali e per la definizione delle rigidezze degli elementi strutturali; qualora il valore di Area V2 (e/o Area V3) sia nullo la deformabilità per taglio V2 (e/o V3) è trascurata. La valutazione delle caratteristiche inerziali delle sezioni è condotta nel riferimento 2-3 dell'elemento.

 rettangolare	 a T	 a T rovescia	 a T di colmo	 a L	 a L specchiata
 a L specchiata rovescia	 a L rovescia	 a L di colmo	 a doppio T	 a quattro specchiata	 a quattro
 a U	 a C	 a croce	 circolare	 rettangolare cava	 circolare cava

Per quanto concerne i profilati semplici ed accoppiati l'asse 2 del riferimento coincide con l'asse x riportato nei più diffusi profilatari.

Per quanto concerne le sezioni di tipo generico (tipo 1.):
i valori dimensionali con prefisso B sono riferiti all'asse 2
i valori dimensionali con prefisso H sono riferiti all'asse 3

Con riferimento al **Documento di Affidabilità** "*Test di validazione del software di calcolo PRO_SAP e dei moduli aggiuntivi PRO_SAP Modulo Geotecnico, PRO_CAD nodi acciaio e PRO_MST*" - versione Maggio 2011, disponibile per il download sul sito **www.2si.it**, si segnalano i seguenti esempi applicativi:

Test N°	Titolo
1	CARATTERISTICHE GEOMETRICHE E INERZIALI
44	VERIFICA AGLI SLU DI STRUTTURE IN C.A.
47	PROGETTAZIONE A TAGLIO DI STRUTTURE IN C.A. SECONDO IL D.M. 9/1/96
48	PROGETTAZIONE A TAGLIO DI STRUTTURE IN C.A. SECONDO IL D.M. 14/1/2008
49	VERIFICA ALLO SLE (TENSIONI E FESSURAZIONE) DI STRUTTURE IN C.A.
50	VERIFICA ALLO SLE (DEFORMAZIONE) DI STRUTTURE IN C.A.
95	ANALISI DI RESISTENZA AL FUOCO

Id	Tipo	Area	A V2	A V3	Jt	J 2-2	J 3-3	W 2-2	W 3-3	Wp 2-2	Wp 3-3
		cm2	cm2	cm2	cm4	cm4	cm4	cm3	cm3	cm3	cm3
1	Rettangolare: b=100.00 h	4500.00	3750.00	3750.00	2.176e+06	3.750e+06	7.594e+05	7.500e+04	3.375e+04	1.125e+05	5.063e+04

Id	Tipo	Area	A V2	A V3	Jt	J 2-2	J 3-3	W 2-2	W 3-3	Wp 2-2	Wp 3-3
	=45.00										
2	Rettangolare: b=100.00 h =45.00	4500.00	3750.00	3750.00	2.176e+06	3.750e+06	7.594e+05	7.500e+04	3.375e+04	1.125e+05	5.063e+04
3	Rettangolare: b=100.00 h =80.00	8000.00	6666.67	6666.67	8.797e+06	6.667e+06	4.267e+06	1.333e+05	1.067e+05	2.000e+05	1.600e+05

MODELLAZIONE STRUTTURA: NODI
LEGENDA TABELLA DATI NODI

Il programma utilizza per la modellazione nodi strutturali.
Ogni nodo è individuato dalle coordinate cartesiane nel sistema di riferimento globale (X Y Z).
Ad ogni nodo è eventualmente associato un codice di vincolamento rigido, un codice di fondazione speciale, ed un set di sei molle (tre per le traslazioni, tre per le rotazioni). Le tabelle sottoriportate riflettono le succitate possibilità. In particolare per ogni nodo viene indicato in tabella:

Nodo	numero del nodo.
X	valore della coordinata X
Y	valore della coordinata Y
Z	valore della coordinata Z

Per i nodi ai quali sia associato un codice di vincolamento rigido, un codice di fondazione speciale o un set di molle viene indicato in tabella:

Nodo	numero del nodo.
X	valore della coordinata X
Y	valore della coordinata Y
Z	valore della coordinata Z
Note	eventuale codice di vincolo (es. v=110010 sei valori relativi ai sei gradi di libertà previsti per il nodo TxTyTzRxRyRz, il valore 1 indica che lo spostamento o rotazione relativo è impedito, il valore 0 indica che lo spostamento o rotazione relativo è libero).
Note	(FS = 1, 2,...) eventuale codice del tipo di fondazione speciale (1, 2,... fanno riferimento alle tipologie: plinto, palo, plinto su pali,...) che è collegato al nodo. (ISO = "id SIGLA") indice e sigla identificativa dell' eventuale isolatore sismico assegnato al nodo
Rig. TX	valore della rigidezza dei vincoli elastici eventualmente applicati al nodo, nello specifico TX (idem per TY, TZ, RX, RY, RZ).

Per strutture sismicamente isolate viene inoltre inserita la tabella delle caratteristiche per gli isolatori utilizzati; le caratteristiche sono indicate in conformità al cap. 7.10 del D.M. 14/01/08

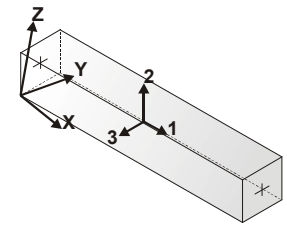
TABELLA DATI NODI

Nodo	X	Y	Z	Nodo	X	Y	Z	Nodo	X	Y	Z
	cm	cm	cm		cm	cm	cm		cm	cm	cm
1	0.0	0.0	0.0	2	445.0	0.0	0.0	3	0.0	0.0	487.5
4	445.0	0.0	487.5	5	0.0	0.0	465.0	6	0.0	0.0	40.0
7	445.0	0.0	40.0	8	445.0	0.0	465.0	9	422.5	0.0	487.5
10	22.5	0.0	487.5	13	487.5	0.0	0.0	14	-42.5	0.0	0.0
15	-22.5	0.0	487.5	16	467.5	0.0	487.5				

Nodo	X	Y	Z	Note	Rig. TX	Rig. TY	Rig. TZ	Rig. RX	Rig. RY	Rig. RZ
	cm	cm	cm		daN/cm	daN/cm	daN/cm	daN cm/rad	daN cm/rad	daN cm/rad
11	37.5	0.0	0.0	FS=1						
12	407.5	0.0	0.0	FS=1						

MODELLAZIONE STRUTTURA: ELEMENTI TRAVE
TABELLA DATI TRAVI

Il programma utilizza per la modellazione elementi a due nodi denominati in generale travi.
Ogni elemento trave è individuato dal nodo iniziale e dal nodo finale.
Ogni elemento è caratterizzato da un insieme di proprietà riportate in tabella che ne completano la modellazione.



orientamento elementi 2D non verticali

orientamento elementi 2D verticali

In particolare per ogni elemento viene indicato in tabella:

Elem.	numero dell'elemento
Note	codice di comportamento: trave, trave di fondazione, pilastro, asta, asta tesa, asta compressa
Nodo I (J)	numero del nodo iniziale (finale)
Mat.	codice del materiale assegnato all'elemento
Sez.	codice della sezione assegnata all'elemento
Rotaz.	valore della rotazione dell'elemento, attorno al proprio asse, nel caso in cui l'orientamento di default non sia adottabile; l'orientamento di default prevede per gli elementi non verticali l'asse 2 contenuto nel piano verticale e l'asse 3 orizzontale, per gli elementi verticali l'asse 2 diretto secondo X negativo e l'asse 3 diretto secondo Y negativo
Svincolo I (J)	codici di svincolo per le azioni interne; i primi sei codici si riferiscono al nodo iniziale, i restanti sei al nodo finale (il valore 1 indica che la relativa azione interna non è attiva)
Wink V	costante di sottofondo (coefficiente di Winkler) per la modellazione della trave su suolo elastico
Wink O	costante di sottofondo (coefficiente di Winkler) per la modellazione del suolo elastico orizzontale

Con riferimento al **Documento di Affidabilità** "*Test di validazione del software di calcolo PRO_SAP e dei moduli aggiuntivi PRO_SAP Modulo Geotecnico, PRO_CAD nodi acciaio e PRO_MST*" - versione Maggio 2011, disponibile per il download sul sito **www.2si.it**, si segnalano i seguenti esempi applicativi:

Test N°	Titolo
2	TRAVI A UNA CAMPATA
3	TRAVE A PIU' CAMPATE
4	TRAVE A UNA CAMPATA SU TERRENO ALLA WINKLER
5	TRAVI SU TERRENO ALLA WINKLER CON CARICO TRASVERSALE
6	TELAI PIANI CON CERNIERE ALLA BASE
7	TELAI PIANI CON INCASTRI ALLA BASE
11	STRUTTURE SOGGETTE A VARIAZIONI TERMICHE
12	STRUTTURE SU TERRENO ALLA WINKLER SOTTOPOSTE A CARICHI DISTRIBUITI TRIANGOLARI
21	DRILLING
24	TENSIONI E ROTAZIONI RISPETTO ALLA CORDA DI ELEMENTI TRAVE

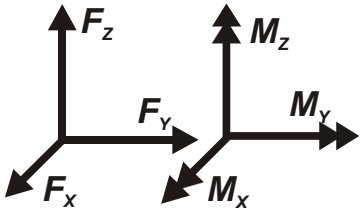
27	FRECCIA DI ELEMENTI TRAVE
41	GERARCHIA DELLE RESISTENZE PER TRAVI IN C.A.
42	GERARCHIA DELLE RESISTENZE PER PILASTRI IN C.A.
43	VERIFICA ALLE TA DI STRUTTURE IN C.A.
44	VERIFICA AGLI SLU DI STRUTTURE IN C.A.
46	VERIFICA A PUNZONAMENTO ALLO SLU DI TRAVI IN C.A.
47	PROGETTAZIONE A TAGLIO DI STRUTTURE IN C.A. SECONDO IL D.M. 9/1/96
48	PROGETTAZIONE A TAGLIO DI STRUTTURE IN C.A. SECONDO IL D.M. 14/1/2008
49	VERIFICA ALLO SLE (TENSIONI E FESSURAZIONE) DI STRUTTURE IN C.A.
50	VERIFICA ALLO SLE (DEFORMAZIONE) DI STRUTTURE IN C.A.
51	FATTORE DI STRUTTURA
52	SOVRARESISTENZE
53	DETTAGLI COSTRUTTIVI C.A.: LIMITI D'ARMATURA PILASTRI E NODI TRAVE-PILASTRO
55	VERIFICA DI STABILITA' DI ASTE COMPRESSE IN ACCIAIO – METODO OMEGA
56	LUCE LIBERA DI TRAVI E ASTE IN ACCIAIO
57	LUCE LIBERA DI COLONNE IN ACCIAIO
58	SVERGOLAMENTO DI TRAVI IN ACCIAIO
63	STABILITA' DI ASTE COMPOSTE IN ACCIAIO
68	VALUTAZIONE EFFETTO P-δ SU PILASTRATA
69	VALUTAZIONE EFFETTO P-δ SU TELAIO 3D
80	ANALISI PUSHOVER DI UN EDIFICIO IN C.A.
82	ANALISI ELASTO PLASTICA INCREMENTALE
83	ANALISI ELASTO PLASTICA INCREMENTALE
89	VERIFICA ALLO SLU DI STRUTTURE IN LEGNO SECONDO EC5
90	VERIFICA ALLO SLE DI STRUTTURE IN LEGNO SECONDO EC5
93	SNELLEZZE EC5
120	PROGETTO E VERIFICA DI TRAVI PREM

Elem.	**Note**	**Nodo I**	**Nodo J**	**Mat.**	**Sez.**	**Rotaz.**	**Svincolo I**	**Svincolo J**	**Wink V**	**Wink O**
						gradi			daN/cm3	daN/cm3
1	Trave	4	16	4	1					
2	Pilas.	1	6	4	2					
3	Trave	3	10	4	1					
4	Pilas.	6	5	4	2					
5	Pilas.	5	3	4	2					
6	Pilas.	8	4	4	2					
7	Pilas.	7	8	4	2					
8	Pilas.	2	7	4	2					
9	Trave	9	4	4	1					
10	Trave	12	2	3	3					
11	Trave	1	11	3	3					
12	Trave	10	9	4	1					
13	Trave	2	13	3	3					
14	Trave	14	1	3	3					
15	Trave	11	12	3	3					
16	Trave	15	3	4	1					

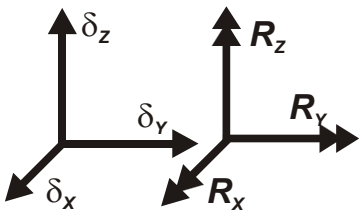
MODELLAZIONE DELLE AZIONI
LEGENDA TABELLA DATI AZIONI

Il programma consente l'uso di diverse tipologie di carico (azioni). Le azioni utilizzate nella modellazione sono individuate da una sigla identificativa ed un codice numerico (gli elementi strutturali richiamano quest'ultimo nella propria descrizione). Per ogni azione applicata alla struttura viene di riportato il codice, il tipo e la sigla identificativa. Le tabelle successive dettagliano i valori caratteristici di ogni azione in relazione al tipo. Le tabelle riportano infatti i seguenti dati in relazione al tipo:

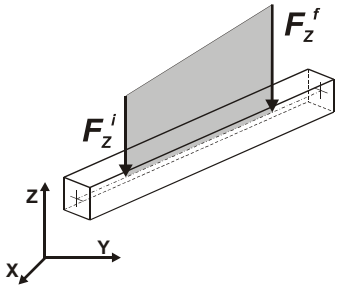
1	**carico concentrato nodale** 6 dati (forza Fx, Fy, Fz, momento Mx, My, Mz)
2	**spostamento nodale impresso** 6 dati (spostamento Tx,Ty,Tz, rotazione Rx,Ry,Rz)
3	**carico distribuito globale su elemento tipo trave** 7 dati (fx,fy,fz,mx,my,mz,ascissa di inizio carico) 7 dati (fx,fy,fz,mx,my,mz,ascissa di fine carico)
4	**carico distribuito locale su elemento tipo trave** 7 dati (f1,f2,f3,m1,m2,m3,ascissa di inizio carico) 7 dati (f1,f2,f3,m1,m2,m3,ascissa di fine carico)
5	**carico concentrato globale su elemento tipo trave** 7 dati (Fx,Fy,Fz,Mx,My,Mz,ascissa di carico)
6	**carico concentrato locale su elemento tipo trave** 7 dati (F1, F2, F3, M1, M2, M3, ascissa di carico)
7	**variazione termica applicata ad elemento tipo trave** 7 dati (variazioni termiche: uniforme, media e differenza in altezza e larghezza al nodo iniziale e finale)
8	**carico di pressione uniforme su elemento tipo piastra** 1 dato (pressione)
9	**carico di pressione variabile su elemento tipo piastra** 4 dati (pressione, quota, pressione, quota)
10	**variazione termica applicata ad elemento tipo piastra** 2 dati (variazioni termiche: media e differenza nello spessore)
11	**carico variabile generale su elementi tipo trave e piastra** 1 dato descrizione della tipologia 4 dati per segmento (posizione, valore, posizione, valore) la tipologia precisa l'ascissa di definizione, la direzione del carico, la modalità di carico e la larghezza d'influenza per gli elementi tipo trave
12	**gruppo di carichi con impronta su piastra** 9 dati (numero di ripetizioni in direzione X e Y, valore di ciascun carico, posizione centrale del primo, dimensioni dell' impronta, interasse tra i carichi



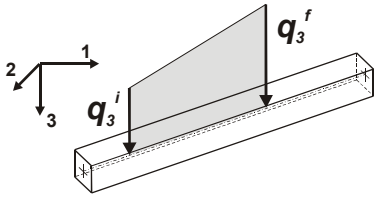
Carico concentrato nodale



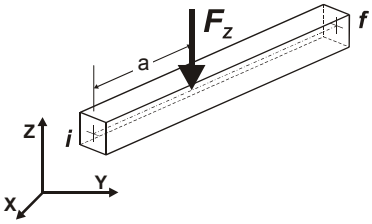
Spostamento impresso



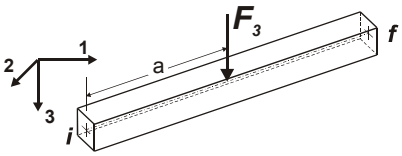
Carico distribuito globale



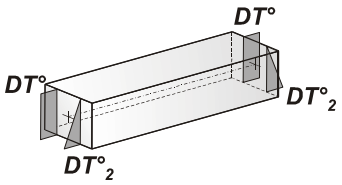
Carico distribuito locale



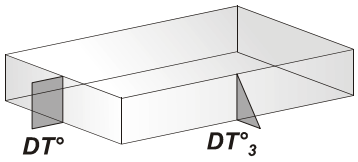
Carico concentrato globale



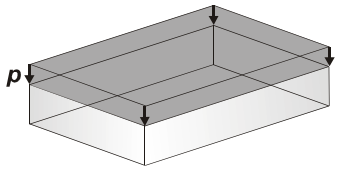
Carico concentrato locale



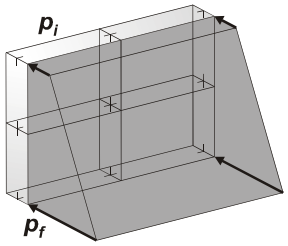
Carico termico 2D



Carico termico 3D



Carico pressione uniforme



Carico pressione variabile

Tipo	carico concentrato nodale

Id	Tipo	Fx	Fy	Fz	Mx	My	Mz
		kN	kN	kN	kN m	kN m	kN m
52	CN:Fx=799.00	7.99	0.0	0.0	0.0	0.0	0.0

Tipo	carico distribuito globale su trave

Id	Tipo	Pos.	fx	fy	fz	mx	my	mz
		m	kN/ m	kN/ m	kN/ m	kN	kN	kN
4	DG:Fzi=-6.60 Fzf=-6.60	0.0	0.0	0.0	-6.60	0.0	0.0	0.0
		0.0	0.0	0.0	-6.60	0.0	0.0	0.0
5	DG:Fzi=-1.10 Fzf=	0.0	0.0	0.0	-1.10	0.0	0.0	0.0

Id	Tipo	Pos.	fx	fy	fz	mx	my	mz
	1.10							
		0.0	0.0	0.0	-1.10	0.0	0.0	0.0
10	DG:Fxi=5.90 Fxf=4.22	0.0	5.90	0.0	0.0	0.0	0.0	0.0
		0.0	4.22	0.0	0.0	0.0	0.0	0.0
11	DG:Fxi=36.98 Fxf=5.90	0.0	36.98	0.0	0.0	0.0	0.0	0.0
		0.0	5.90	0.0	0.0	0.0	0.0	0.0
12	DG:xi=0.0 xf=610.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		6.10	0.0	0.0	0.0	0.0	0.0	0.0
13	DG:Fxi=39.97 Fxf=36.98	0.0	39.97	0.0	0.0	0.0	0.0	0.0
		0.0	36.98	0.0	0.0	0.0	0.0	0.0
14	DG:Fxi=-5.90 Fxf=-4.22	0.0	-5.90	0.0	0.0	0.0	0.0	0.0
		0.0	-4.22	0.0	0.0	0.0	0.0	0.0
15	DG:Fxi=-36.98 Fxf=-5.90	0.0	-36.98	0.0	0.0	0.0	0.0	0.0
		0.0	-5.90	0.0	0.0	0.0	0.0	0.0
16	DG:xi=0.0 xf=610.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		6.10	0.0	0.0	0.0	0.0	0.0	0.0
17	DG:Fxi=-39.97 Fxf=-36.98	0.0	-39.97	0.0	0.0	0.0	0.0	0.0
		0.0	-36.98	0.0	0.0	0.0	0.0	0.0
20	DG:Fxi=3.66 Fxf=2.62	0.0	3.66	0.0	0.0	0.0	0.0	0.0
		0.0	2.62	0.0	0.0	0.0	0.0	0.0
21	DG:Fxi=22.92 Fxf=3.66	0.0	22.92	0.0	0.0	0.0	0.0	0.0
		0.0	3.66	0.0	0.0	0.0	0.0	0.0
22	DG:xi=0.0 xf=610.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		6.10	0.0	0.0	0.0	0.0	0.0	0.0
23	DG:Fxi=18.35 Fxf=16.98	0.0	18.35	0.0	0.0	0.0	0.0	0.0
		0.0	16.98	0.0	0.0	0.0	0.0	0.0
24	DG:Fxi=-2.71 Fxf=-1.94	0.0	-2.71	0.0	0.0	0.0	0.0	0.0
		0.0	-1.94	0.0	0.0	0.0	0.0	0.0
25	DG:Fxi=-16.98 Fxf=-2.71	0.0	-16.98	0.0	0.0	0.0	0.0	0.0
		0.0	-2.71	0.0	0.0	0.0	0.0	0.0
26	DG:xi=0.0 xf=610.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		6.10	0.0	0.0	0.0	0.0	0.0	0.0
27	DG:Fxi=-18.35 Fxf=-16.98	0.0	-18.35	0.0	0.0	0.0	0.0	0.0
		0.0	-16.98	0.0	0.0	0.0	0.0	0.0
30	DG:Fzi=-9.00 Fzf=-9.00	0.0	0.0	0.0	-9.00	0.0	0.0	0.0
		0.0	0.0	0.0	-9.00	0.0	0.0	0.0
31	DG:xi=86.00 xf=314.00 Fzi=-86.52 Fzf=-86.52	0.86	0.0	0.0	-86.52	0.0	0.0	0.0
		3.14	0.0	0.0	-86.52	0.0	0.0	0.0
32	DG:xi=172.00 xf=400.00 Fzi=-	1.72	0.0	0.0	-86.52	0.0	0.0	0.0

Id	Tipo	Pos.	fx	fy	fz	mx	my	mz
	86.52 Fzf=-86.52							
		4.00	0.0	0.0	-86.52	0.0	0.0	0.0
33	DG:xi=0.0 xf=228.00 Fzi=-86.52 Fzf=-86.52	0.0	0.0	0.0	-86.52	0.0	0.0	0.0
		2.28	0.0	0.0	-86.52	0.0	0.0	0.0
34	DG:Fzi=-20.00 Fzf=-20.00	0.0	0.0	0.0	-20.00	0.0	0.0	0.0
		0.0	0.0	0.0	-20.00	0.0	0.0	0.0
36	DG:Fxi=29.88 Fxf=30.92	0.0	29.88	0.0	0.0	0.0	0.0	0.0
		0.0	30.92	0.0	0.0	0.0	0.0	0.0
37	DG:Fxi=10.79 Fxf=29.88	0.0	10.79	0.0	0.0	0.0	0.0	0.0
		0.0	29.88	0.0	0.0	0.0	0.0	0.0
38	DG:Fxi=8.95 Fxf=10.79	0.0	8.95	0.0	0.0	0.0	0.0	0.0
		0.0	10.79	0.0	0.0	0.0	0.0	0.0
39	DG:Fxi=-29.88 Fxf=-30.92	0.0	-29.88	0.0	0.0	0.0	0.0	0.0
		0.0	-30.92	0.0	0.0	0.0	0.0	0.0
40	DG:Fxi=-10.79 Fxf=-29.88	0.0	-10.79	0.0	0.0	0.0	0.0	0.0
		0.0	-29.88	0.0	0.0	0.0	0.0	0.0
41	DG:Fxi=-8.95 Fxf=-10.79	0.0	-8.95	0.0	0.0	0.0	0.0	0.0
		0.0	-10.79	0.0	0.0	0.0	0.0	0.0
42	DG:Fxi=3.45 Fxf=3.45	0.0	3.45	0.0	0.0	0.0	0.0	0.0
		0.0	3.45	0.0	0.0	0.0	0.0	0.0
43	DG:Fxi=-3.45 Fxf=-3.45	0.0	-3.45	0.0	0.0	0.0	0.0	0.0
		0.0	-3.45	0.0	0.0	0.0	0.0	0.0
44	DG:Fxi=7.68 Fxf=7.68	0.0	7.68	0.0	0.0	0.0	0.0	0.0
		0.0	7.68	0.0	0.0	0.0	0.0	0.0
45	DG:Fxi=-7.68 Fxf=-7.68	0.0	-7.68	0.0	0.0	0.0	0.0	0.0
		0.0	-7.68	0.0	0.0	0.0	0.0	0.0
46	DG:Fxi=27.59 Fxf=27.59	0.0	27.59	0.0	0.0	0.0	0.0	0.0
		0.0	27.59	0.0	0.0	0.0	0.0	0.0
47	DG:xi=100.00 xf=400.00 Fzi=-91.00 Fzf=-91.00	1.00	0.0	0.0	-91.00	0.0	0.0	0.0
		4.00	0.0	0.0	-91.00	0.0	0.0	0.0
48	DG:xi=0.0 xf=300.00 Fzi=-91.00 Fzf=-91.00	0.0	0.0	0.0	-91.00	0.0	0.0	0.0
		3.00	0.0	0.0	-91.00	0.0	0.0	0.0
49	DG:xi=0.0 xf=300.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		3.00	0.0	0.0	0.0	0.0	0.0	0.0
50	DG:Fxi=3.41 Fxf=3.41	0.0	3.41	0.0	0.0	0.0	0.0	0.0
		0.0	3.41	0.0	0.0	0.0	0.0	0.0

Id	Tipo	Pos.	fx	fy	fz	mx	my	mz
51	DG:Fxi=31.29 Fxf=31.29	0.0	31.29	0.0	0.0	0.0	0.0	0.0
		0.0	31.29	0.0	0.0	0.0	0.0	0.0
53	DG:Fxi=5.40 Fxf=5.40	0.0	5.40	0.0	0.0	0.0	0.0	0.0
		0.0	5.40	0.0	0.0	0.0	0.0	0.0
56	DG:Fzi=-2.70 Fzf=-2.70	0.0	0.0	0.0	-2.70	0.0	0.0	0.0
		0.0	0.0	0.0	-2.70	0.0	0.0	0.0
57	DG:Fzi=-1.70 Fzf=-1.70	0.0	0.0	0.0	-1.70	0.0	0.0	0.0
		0.0	0.0	0.0	-1.70	0.0	0.0	0.0
80	DG:xi=0.0 xf=20.00 Fzi=-96.30 Fzf=-96.30	0.0	0.0	0.0	-96.30	0.0	0.0	0.0
		0.20	0.0	0.0	-96.30	0.0	0.0	0.0
81	DG:xi=22.50 xf=44.50 Fzi=-96.30 Fzf=-96.30	0.23	0.0	0.0	-96.30	0.0	0.0	0.0
		0.45	0.0	0.0	-96.30	0.0	0.0	0.0

Tipo	variazione termica applicata a trave

Id	Tipo	DT uniforme	DT iniziale	DT finale	DT 2-2 ini	DT 2-2 fin	DT 3-3 ini	DT 3-3 fin
		C	C	C	C	C	C	C
1	T2:DT=-10.00	-10.00	0.0	0.0	0.0	0.0	0.0	0.0
2	T2:DT2i=5.00 DT2f=5.00	0.0	0.0	0.0	5.00	5.00	0.0	0.0
3	T2:DT=-11.50	-11.50	0.0	0.0	0.0	0.0	0.0	0.0
9	T2:DT2i=-5.00 DT2f=-5.00	0.0	0.0	0.0	-5.00	-5.00	0.0	0.0

SCHEMATIZZAZIONE DEI CASI DI CARICO
LEGENDA TABELLA CASI DI CARICO

Il programma consente l'applicazione di diverse tipologie di casi di carico.
Sono previsti i seguenti 11 tipi di casi di carico:

	Sigla	*Tipo*	*Descrizione*
1	**Ggk**	A	caso di carico comprensivo del peso proprio struttura
2	**Gk**	NA	caso di carico con azioni permanenti
3	**Qk**	NA	caso di carico con azioni variabili
4	**Gsk**	A	caso di carico comprensivo dei carichi permanenti sui solai e sulle coperture
5	**Qsk**	A	caso di carico comprensivo dei carichi variabili sui solai
6	**Qnk**	A	caso di carico comprensivo dei carichi di neve sulle coperture
7	**Qtk**	SA	caso di carico comprensivo di una variazione termica agente sulla struttura
8	**Qvk**	NA	caso di carico comprensivo di azioni da vento sulla struttura
9	**Esk**	SA	caso di carico sismico con analisi statica equivalente
10	**Edk**	SA	caso di carico sismico con analisi dinamica
11	**Pk**	NA	caso di carico comprensivo di azioni derivanti da coazioni, cedimenti e precompressioni

Sono di tipo automatico A (ossia non prevedono introduzione dati da parte dell'utente) i seguenti casi di carico: 1-Ggk; 4-Gsk; 5-Qsk; 6-Qnk.

Sono di tipo semi-automatico SA (ossia prevedono una minima introduzione dati da parte dell'utente) i seguenti casi di carico:
7-Qtk, in quanto richiede solo il valore della variazione termica;
9-Esk e 10-Edk, in quanto richiedono il valore dell'angolo di ingresso del sisma e l'individuazione dei casi di carico partecipanti alla definizione delle masse.

Sono di tipo non automatico NA ossia prevedono la diretta applicazione di carichi generici agli elementi strutturali (si veda il precedente punto Modellazione delle Azioni) i restanti casi di carico.

Nella tabella successiva vengono riportati i casi di carico agenti sulla struttura, con l'indicazione dei dati relativi al caso di carico stesso:
Numero Tipo e *Sigla identificativa, Valore di riferimento* del caso di carico (se previsto).

In successione, per i casi di carico non automatici, viene riportato l'elenco di nodi ed elementi direttamente caricati con la sigla identificativa del carico.

Per i casi di carico di tipo sismico (9-Esk e 10-Edk), viene riportata la tabella di definizione delle masse: per ogni caso di carico partecipante alla definizione delle masse viene indicata la relativa aliquota (partecipazione) considerata. Si precisa che per i caso di carico 5-Qsk e 6-Qnk la partecipazione è prevista localmente per ogni elemento solaio o copertura presente nel modello (si confronti il valore Sksol nel capitolo relativo agli elementi solaio) e pertanto la loro partecipazione è di norma pari a uno.

CDC	Tipo	Sigla Id	Note
1	Ggk	CDC=Ggk (peso proprio della struttura)	
2	Gk	CDC=Gk (permanente)	D2 : 1 Azione : DG:Fzi=-6.60 Fzf=-6.60
			D2 : 3 Azione : DG:Fzi=-6.60 Fzf=-6.60
			D2 : 9 Azione : DG:Fzi=-6.60 Fzf=-6.60
			D2 : 12 Azione : DG:Fzi=-6.60 Fzf=-6.60
			D2 : 13 Azione : DG:xi=22.50 xf=44.50 Fzi=-96.30 Fzf=-96.30
			D2 : 14 Azione : DG:xi=0.0 xf=20.00 Fzi=-96.30 Fzf=-96.30
			D2 : 15 Azione : DG:Fzi=-1.10 Fzf=-1.10
			D2 : 16 Azione : DG:Fzi=-6.60 Fzf=-6.60
3	Gk	CDC=Gk (Spinta a riposo piedritto sx)	D2 : 2 Azione : DG:Fxi=39.97 Fxf=36.98
			D2 : 4 Azione : DG:Fxi=36.98 Fxf=5.90
			D2 : 4 Azione : DG:xi=0.0 xf=610.00
			D2 : 5 Azione : DG:Fxi=5.90 Fxf=4.22
4	Gk	CDC=Gk (Spinta riposo piedritto dx)	D2 : 6 Azione : DG:Fxi=-5.90 Fxf=-4.22
			D2 : 7 Azione : DG:Fxi=-36.98 Fxf=-5.90
			D2 : 7 Azione : DG:xi=0.0 xf=610.00
			D2 : 8 Azione : DG:Fxi=-39.97 Fxf=-36.98
5	Gk	CDC=Gk (Spinta attiva piedritto sx)	D2 : 2 Azione : DG:Fxi=18.35 Fxf=16.98
			D2 : 4 Azione : DG:Fxi=22.92 Fxf=3.66
			D2 : 4 Azione : DG:xi=0.0 xf=610.00
			D2 : 5 Azione : DG:Fxi=3.66 Fxf=2.62
6	Gk	CDC=G1k (Spinta attiva piedritto dx)	D2 : 6 Azione : DG:Fxi=-2.71 Fxf=-1.94
			D2 : 7 Azione : DG:Fxi=-16.98 Fxf=-2.71
			D2 : 7 Azione : DG:xi=0.0 xf=610.00
			D2 : 8 Azione : DG:Fxi=-18.35 Fxf=-16.98
8	Qk	CDC=Qk (Q1k centrato)	D2 : 1 Azione : DG:Fzi=-9.00 Fzf=-9.00
			D2 : 3 Azione : DG:Fzi=-9.00 Fzf=-9.00
			D2 : 9 Azione : DG:Fzi=-9.00 Fzf=-9.00
			D2 : 12 Azione : DG:Fzi=-9.00 Fzf=-9.00
			D2 : 12 Azione : DG:xi=86.00 xf=314.00 Fzi=-86.52 Fzf=-86.52
			D2 : 16 Azione : DG:Fzi=-9.00 Fzf=-9.00
9	Qk	CDC=Qk (Q1k a filo piedritto dx)	D2 : 1 Azione : DG:Fzi=-9.00 Fzf=-9.00
			D2 : 3 Azione : DG:Fzi=-9.00 Fzf=-9.00

CDC	Tipo	Sigla Id	Note
			D2 : 9 Azione : DG:Fzi=-9.00 Fzf=-9.00
			D2 : 12 Azione : DG:Fzi=-9.00 Fzf=-9.00
			D2 : 12 Azione : DG:xi=172.00 xf=400.00 Fzi=-86.52 Fzf=-86.52
			D2 : 16 Azione : DG:Fzi=-9.00 Fzf=-9.00
10	Qk	CDC=Qk (Q1k a filo piedritto sx)	D2 : 1 Azione : DG:Fzi=-9.00 Fzf=-9.00
			D2 : 3 Azione : DG:Fzi=-9.00 Fzf=-9.00
			D2 : 9 Azione : DG:Fzi=-9.00 Fzf=-9.00
			D2 : 12 Azione : DG:Fzi=-9.00 Fzf=-9.00
			D2 : 12 Azione : DG:xi=0.0 xf=228.00 Fzi=-86.52 Fzf=-86.52
			D2 : 16 Azione : DG:Fzi=-9.00 Fzf=-9.00
11	Qk	CDC=Qk (Accidentale 9kPa su soletta)	D2 : 1 Azione : DG:Fzi=-9.00 Fzf=-9.00
			D2 : 3 Azione : DG:Fzi=-9.00 Fzf=-9.00
			D2 : 9 Azione : DG:Fzi=-9.00 Fzf=-9.00
			D2 : 12 Azione : DG:Fzi=-9.00 Fzf=-9.00
			D2 : 16 Azione : DG:Fzi=-9.00 Fzf=-9.00
12	Qk	CDC=Qk (Accidentale 20kN/mq)	D2 : 1 Azione : DG:Fzi=-20.00 Fzf=-20.00
			D2 : 3 Azione : DG:Fzi=-20.00 Fzf=-20.00
			D2 : 9 Azione : DG:Fzi=-20.00 Fzf=-20.00
			D2 : 12 Azione : DG:Fzi=-20.00 Fzf=-20.00
			D2 : 16 Azione : DG:Fzi=-20.00 Fzf=-20.00
13	Qk	CDC=Qk (Accidentale su piedritto sx)	D2 : 2 Azione : DG:Fxi=8.95 Fxf=10.79
			D2 : 4 Azione : DG:Fxi=10.79 Fxf=29.88
			D2 : 5 Azione : DG:Fxi=29.88 Fxf=30.92
14	Qk	CDC=Qk (Accidentale su piedritto dx)	D2 : 6 Azione : DG:Fxi=-29.88 Fxf=-30.92
			D2 : 7 Azione : DG:Fxi=-10.79 Fxf=-29.88
			D2 : 8 Azione : DG:Fxi=-8.95 Fxf=-10.79
15	Qk	CDC=Qk (Accidentale 9kPa su piedritto sx)	D2 : 2 Azione : DG:Fxi=3.45 Fxf=3.45
			D2 : 4 Azione : DG:Fxi=3.45 Fxf=3.45
			D2 : 5 Azione : DG:Fxi=3.45 Fxf=3.45
16	Qk	CDC=Qk (Accidentale 9kPa su piedritto dx)	D2 : 6 Azione : DG:Fxi=-3.45 Fxf=-3.45
			D2 : 7 Azione : DG:Fxi=-3.45 Fxf=-3.45
			D2 : 8 Azione : DG:Fxi=-3.45 Fxf=-3.45
17	Qk	CDC=Qk (Accidentale 20kPa su piedritto sx)	D2 : 2 Azione : DG:Fxi=7.68 Fxf=7.68
			D2 : 4 Azione : DG:Fxi=7.68 Fxf=7.68
			D2 : 5 Azione : DG:Fxi=7.68 Fxf=7.68
18	Qk	CDC=Qk (Accidentale 20kPa su piedritto dx)	D2 : 6 Azione : DG:Fxi=-7.68 Fxf=-7.68
			D2 : 7 Azione : DG:Fxi=-7.68 Fxf=-7.68
			D2 : 8 Azione : DG:Fxi=-7.68 Fxf=-7.68
19	Qk	CDC=Qk (frenatura)	D2 : 1 Azione : DG:Fxi=27.59 Fxf=27.59
			D2 : 3 Azione : DG:Fxi=27.59 Fxf=27.59
			D2 : 9 Azione : DG:Fxi=27.59 Fxf=27.59
			D2 : 12 Azione : DG:Fxi=27.59 Fxf=27.59
			D2 : 16 Azione : DG:Fxi=27.59 Fxf=27.59
20	Qk	CDC=Qk (acc sol inf campata dx)	D2 : 15 Azione : DG:xi=100.00 xf=400.00 Fzi=-91.00 Fzf=-91.00
21	Qk	CDC=Qk (acc sol inf campata sx)	D2 : 15 Azione : DG:xi=0.0 xf=300.00 Fzi=-91.00 Fzf=-91.00
22	Qk	CDC=Qk (acc sol inf campata dx-sx)	D2 : 15 Azione : DG:xi=100.00 xf=400.00 Fzi=-91.00 Fzf=-91.00
			D2 : 15 Azione : DG:xi=0.0 xf=300.00
23	Qk	CDC=Qk (sisma orizzontale)	Nodo: 3 Azione : CN:Fx=799.00
			D2 : 1 Azione : DG:Fxi=5.40 Fxf=5.40
			D2 : 2 Azione : DG:Fxi=31.29 Fxf=31.29
			D2 : 3 Azione : DG:Fxi=5.40 Fxf=5.40
			D2 : 4 Azione : DG:Fxi=3.41 Fxf=3.41

CDC	Tipo	Sigla Id	Note
			D2 : 4 Azione : DG:Fxi=31.29 Fxf=31.29
			D2 : 5 Azione : DG:Fxi=31.29 Fxf=31.29
			D2 : 7 Azione : DG:Fxi=3.41 Fxf=3.41
			D2 : 9 Azione : DG:Fxi=5.40 Fxf=5.40
			D2 : 12 Azione : DG:Fxi=5.40 Fxf=5.40
			D2 : 16 Azione : DG:Fxi=5.40 Fxf=5.40
24	Qk	CDC=Qk (sisma verticale)	D2 : 1 Azione : DG:Fzi=-2.70 Fzf=-2.70
			D2 : 3 Azione : DG:Fzi=-2.70 Fzf=-2.70
			D2 : 4 Azione : DG:Fzi=-1.70 Fzf=-1.70
			D2 : 7 Azione : DG:Fzi=-1.70 Fzf=-1.70
			D2 : 9 Azione : DG:Fzi=-2.70 Fzf=-2.70
			D2 : 12 Azione : DG:Fzi=-2.70 Fzf=-2.70
			D2 : 16 Azione : DG:Fzi=-2.70 Fzf=-2.70
26	Qk	CDC=Qk (Termica uniforme)	D2 : 12 Azione : T2:DT=-10.00
27	Qk	CDC=Qk (At farfalla)	D2 : 4 Azione : T2:DT2i=5.00 DT2f=5.00
			D2 : 7 Azione : T2:DT2i=-5.00 DT2f=-5.00
			D2 : 12 Azione : T2:DT2i=5.00 DT2f=5.00
28	Qk	CDC=Qk (Ritiro soletta)	D2 : 12 Azione : T2:DT=-11.50

DEFINIZIONE DELLE COMBINAZIONI
LEGENDA TABELLA COMBINAZIONI DI CARICO

Il programma combina i diversi tipi di casi di carico (CDC) secondo le regole previste dalla normativa vigente.
Le combinazioni previste sono destinate al controllo di sicurezza della struttura ed alla verifica degli spostamenti e delle sollecitazioni.

La prima tabella delle combinazioni riportata di seguito comprende le seguenti informazioni: *Numero*, *Tipo*, *Sigla identificativa*. Una seconda tabella riporta il *peso nella combinazione*, assunto per ogni caso di carico.

Ai fini delle verifiche degli stati limite si definiscono le seguenti combinazioni delle azioni:

Combinazione fondamentale SLU

$\gamma_{G1} \cdot G_1 + \gamma_{G2} \cdot G_2 + \gamma_P \cdot P + \gamma_{Q1} \cdot Q_{k1} + \gamma_{Q2} \cdot \psi_{02} \cdot Q_{k2} + \gamma_{Q3} \cdot \psi_{03} \cdot Q_{k3} + \ldots$

Combinazione caratteristica (rara) SLE

$G_1 + G_2 + P + Q_{k1} + \psi_{02} \cdot Q_{k2} + \psi_{03} \cdot Q_{k3} + \ldots$

Combinazione frequente SLE

$G_1 + G_2 + P + \psi_{11} \cdot Q_{k1} + \psi_{22} \cdot Q_{k2} + \psi_{23} \cdot Q_{k3} + \ldots$

Combinazione quasi permanente SLE

$G1 + G2 + P + \psi_{21} \cdot Q_{k1} + \psi_{22} \cdot Q_{k2} + \psi_{23} \cdot Q_{k3} + \ldots$

Combinazione sismica, impiegata per gli stati limite ultimi e di esercizio connessi all'azione sismica E

$E + G_1 + G_2 + P + \psi_{21} \cdot Q_{k1} + \psi_{22} \cdot Q_{k2} + \ldots$

Combinazione eccezionale, impiegata per gli stati limite connessi alle azioni eccezionali

$G_1 + G_2 + P + \psi_{21} \cdot Q_{k1} + \psi_{22} \cdot Q_{k2} + \ldots$

Dove:

NTC 2008 Tabella 2.5.I

Destinazione d'uso/azione	ψ0	ψ1	ψ2
Categoria A residenziali	0,70	0,50	0,30
Categoria B uffici	0,70	0,50	0,30
Categoria C ambienti suscettibili di affollamento	0,70	0,70	0,60
Categoria D ambienti ad uso commerciale	0,70	0,70	0,60
Categoria E biblioteche, archivi, magazzini,…	1,00	0,90	0,80

Categoria F Rimesse e parcheggi (autoveicoli <= 30kN)	0,70	0,70	0,60
Categoria G Rimesse e parcheggi (autoveicoli > 30kN)	0,70	0,50	0,30
Categoria H Coperture	0,00	0,00	0,00
Vento	0,60	0,20	0,00
Neve a quota <= 1000 m	0,50	0,20	0,00
Neve a quota > 1000 m	0,70	0,50	0,20
Variazioni Termiche	0,60	0,50	0,00

Nelle verifiche possono essere adottati in alternativa, due diversi approcci progettuali:

- per l'approccio 1 si considerano due diverse combinazioni di gruppi di coefficienti di sicurezza parziali per le azioni, per i materiali e per la resistenza globale (combinazione 1 con coefficienti A1 e combinazione 2 con coefficienti A2),
- per l'approccio 2 si definisce un'unica combinazione per le azioni, per la resistenza dei materiali e per la resistenza globale (con coefficienti A1).

NTC 2008 Tabella 2.6.I

		Coefficiente γf	EQU	A1	A2
Carichi permanenti	Favorevoli	$\gamma G1$	0,9	1,0	1,0
	Sfavorevoli		1,1	1,3	1,0
Carichi permanenti non strutturali	Favorevoli	$\gamma G2$	0,0	0,0	0,0
(Non compiutamente definiti)	Sfavorevoli		1,5	1,5	1,3
Carichi variabili	Favorevoli	γQi	0,0	0,0	0,0
	Sfavorevoli		1,5	1,5	1,3

Cmb	Tipo	Sigla Id	effetto P-delta
1	SLU	CMB1	
2	SLU	CMB2	
3	SLU	CMB3	
4	SLU	CMB4	
5	SLU	CMB5	
6	SLU	CMB6	
7	SLU	CMB7	
8	SLU	CMB8	
9	SLU	CMB9	
10	SLU	CMB10	
11	SLU	CMB11	
12	SLU	CMB12	
13	SLU	CMB13	
14	SLU	CMB14	
15	SLU	CMB15	
16	SLU	CMB16	
17	SLU	CMB17	
18	SLU	CMB18	
19	SLU	CMB19	
20	SLU	CMB20	
21	SLU	CMB21	
22	SLU	CMB22	

Cmb	Tipo	Sigla Id	effetto P-delta
23	SLU	CMB23	
24	SLU	CMB24	
25	SLU	CMB25	
26	SLU	CMB26	
27	SLU	CMB27	
28	SLU	CMB28	
29	SLU	CMB29	
30	SLU	CMB30	
31	SLU	CMB31	
32	SLU	CMB32	
33	SLU	CMB33	
34	SLE(f)	CMB34	
35	SLE(f)	CMB35	
36	SLE(f)	CMB36	
37	SLE(f)	CMB37	
38	SLE(f)	CMB38	
39	SLE(f)	CMB39	
40	SLE(f)	CMB40	
41	SLE(f)	CMB41	
42	SLE(f)	CMB42	
43	SLE(f)	CMB43	
44	SLE(f)	CMB44	
45	SLE(f)	CMB45	
46	SLE(r)	CMB46	
47	SLE(r)	CMB47	
48	SLE(r)	CMB48	
49	SLE(r)	CMB49	
50	SLE(r)	CMB50	
51	SLE(r)	CMB51	
52	SLE(r)	CMB52	
53	SLE(r)	CMB53	
54	SLE(r)	CMB54	
55	SLE(r)	CMB55	
56	SLE(r)	CMB56	
57	SLE(r)	CMB57	
58	SLE(r)	CMB58	
59	SLE(r)	CMB59	
60	SLE(r)	CMB60	
61	SLE(r)	CMB61	
62	SLE(r)	CMB62	
63	SLE(r)	CMB63	
64	SLE(r)	CMB64	
65	SLE(r)	CMB65	
66	SLE(r)	CMB66	
67	SLE(r)	CMB67	
68	SLE(r)	CMB68	
69	SLE(r)	CMB69	
70	SLE(p)	CMB70	
71	SLE(p)	CMB71	
72	SLE(p)	CMB72	
73	SLE(p)	CMB73	
74	SLE(p)	CMB74	
75	SLU	CMB75	
76	SLU	CMB76	
77	SLU	CMB77	

Cmb	Tipo	Sigla Id	effetto P-delta
78	SLU	CMB78	
79	SLU	CMB79	
80	SLU	CMB80	

Cmb	CDC 1/15...	CDC 2/16...	CDC 3/17...	CDC 4/18...	CDC 5/19...	CDC 6/20...	CDC 7/21...	CDC 8/22...	CDC 9/23...	CDC 10/24...	CDC 11/25...	CDC 12/26...	CDC 13/27...	CDC 14/28...
1	1.35	1.35	0.0	0.0	1.00	1.00	1.35	1.35	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.72	0.72	1.20
2	1.35	1.35	0.0	0.0	1.00	1.00	1.35	0.0	0.0	0.0	0.0	1.35	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.72	0.72	1.20
3	1.35	1.35	0.0	0.0	1.00	1.00	1.35	1.01	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.20	1.20	1.20
4	1.35	1.35	0.0	0.0	1.00	1.00	1.35	0.0	0.0	0.0	0.0	1.01	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.20	1.20	1.20
5	1.35	1.35	1.35	0.0	0.0	1.00	0.0	1.01	0.0	0.0	0.0	0.0	0.0	0.0
	1.01	0.0	0.0	0.0	1.35	0.0	0.0	0.0	0.0	0.0	0.0	-0.72	-0.72	0.0
6	1.35	1.35	1.35	0.0	0.0	1.00	0.0	0.0	0.0	0.0	0.0	1.01	0.0	0.0
	0.0	0.0	1.01	0.0	1.35	0.0	0.0	0.0	0.0	0.0	0.0	-0.72	-0.72	0.0
7	1.35	1.35	1.35	0.0	0.0	1.00	0.0	0.0	0.0	0.0	1.01	0.0	1.01	0.0
	0.0	0.0	0.0	0.0	1.35	0.0	0.0	0.0	0.0	0.0	0.0	-0.72	-0.72	0.0
8	1.35	1.35	1.35	0.0	0.0	1.00	0.0	1.01	0.0	0.0	0.0	0.0	0.0	0.0
	1.01	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.20	-1.20	0.0
9	1.35	1.35	1.35	0.0	0.0	1.00	0.0	0.0	0.0	0.0	0.0	1.01	0.0	0.0
	0.0	0.0	1.01	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.20	-1.20	0.0
10	1.35	1.35	1.35	0.0	0.0	1.00	0.0	0.0	0.0	0.0	1.01	0.0	1.01	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.20	-1.20	0.0
11	1.35	1.35	0.0	0.0	1.00	1.00	0.0	1.35	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.72	0.72	0.0
12	1.35	1.35	0.0	0.0	1.00	1.00	0.0	0.0	0.0	0.0	0.0	1.35	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.72	0.72	0.0
13	1.35	1.35	0.0	0.0	1.00	1.00	0.0	1.01	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.20	1.20	0.0
14	1.35	1.35	0.0	0.0	1.00	1.00	0.0	0.0	0.0	0.0	0.0	1.01	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.20	1.20	0.0
15	1.35	1.35	1.35	0.0	0.0	1.00	0.0	1.01	0.0	0.0	0.0	0.0	0.0	0.0
	1.01	0.0	0.0	0.0	1.35	0.0	0.0	0.0	0.0	0.0	0.0	0.72	-0.72	1.20
16	1.35	1.35	1.35	0.0	0.0	1.00	0.0	0.0	0.0	0.0	0.0	1.01	0.0	0.0
	0.0	0.0	1.01	0.0	1.35	0.0	0.0	0.0	0.0	0.0	0.0	0.72	-0.72	1.20
17	1.35	1.35	1.35	0.0	0.0	1.00	0.0	0.0	0.0	0.0	1.01	0.0	1.01	0.0
	0.0	0.0	0.0	0.0	1.35	0.0	0.0	0.0	0.0	0.0	0.0	0.72	-0.72	1.20
18	1.35	1.35	1.35	0.0	0.0	1.00	0.0	1.01	0.0	0.0	0.0	0.0	0.0	0.0
	1.01	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.20	-1.20	1.20
19	1.35	1.35	1.35	0.0	0.0	1.00	0.0	0.0	0.0	0.0	0.0	1.01	0.0	0.0
	0.0	0.0	1.01	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.20	-1.20	1.20
20	1.35	1.35	1.35	0.0	0.0	1.00	0.0	0.0	0.0	0.0	1.01	0.0	1.01	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.20	-1.20	1.20
21	1.35	1.35	1.35	0.0	0.0	1.00	0.0	0.0	0.0	1.01	0.0	0.0	0.0	0.0
	1.01	0.0	0.0	0.0	1.35	0.0	0.0	0.0	0.0	0.0	0.0	0.72	-0.72	1.20
22	1.35	1.35	1.35	0.0	0.0	1.00	0.0	0.0	0.0	1.01	0.0	0.0	0.0	0.0
	1.01	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.20	-1.20	1.20
23	1.00	1.00	1.35	0.0	0.0	1.00	0.0	0.0	0.0	0.0	0.0	0.0	1.01	0.0
	0.0	0.0	0.0	0.0	1.35	0.0	0.0	0.0	0.0	0.0	0.0	0.72	0.72	1.20

Cmb	CDC 1/15...	CDC 2/16...	CDC 3/17...	CDC 4/18...	CDC 5/19...	CDC 6/20...	CDC 7/21...	CDC 8/22...	CDC 9/23...	CDC 10/24...	CDC 11/25...	CDC 12/26...	CDC 13/27...	CDC 14/28...
24	1.00	1.00	1.35	0.0	0.0	1.00	0.0	0.0	0.0	0.0	0.0	0.0	1.01	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.20	1.20	1.20
25	1.35	1.35	1.35	0.0	0.0	1.00	0.0	0.0	1.01	0.0	0.0	0.0	0.0	0.0
	1.01	0.0	0.0	0.0	1.35	0.0	1.13	0.0	0.0	0.0	0.0	0.0	0.0	0.0
26	1.35	1.35	1.35	0.0	0.0	1.00	0.0	0.0	0.0	0.0	0.0	1.01	0.0	0.0
	0.0	0.0	1.01	0.0	1.35	0.0	1.13	0.0	0.0	0.0	0.0	0.0	0.0	0.0
27	1.35	1.35	1.35	0.0	0.0	1.00	0.0	0.0	0.0	1.35	0.0	0.0	0.0	0.0
	1.01	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.72	-0.72	1.20
28	1.35	1.35	1.35	0.0	0.0	1.00	0.0	0.0	0.0	0.0	0.0	1.35	0.0	0.0
	0.0	0.0	1.01	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.72	-0.72	1.20
29	1.35	1.35	1.35	0.0	0.0	1.00	0.0	0.0	0.0	0.0	0.0	0.0	1.01	0.0
	0.0	0.0	0.0	0.0	1.35	0.0	0.0	0.0	0.0	0.0	0.0	0.72	0.72	1.20
30	1.00	1.00	1.35	1.35	0.0	0.0	0.0	1.01	0.0	0.0	0.0	0.0	0.0	0.0
	1.01	1.01	0.0	0.0	1.35	0.0	0.0	1.13	0.0	0.0	0.0	-0.72	-0.72	0.0
31	1.00	1.00	1.35	1.35	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.01	0.0	0.0
	0.0	0.0	1.01	1.01	1.35	0.0	0.0	1.13	0.0	0.0	0.0	-0.72	-0.72	0.0
32	1.00	1.00	1.35	1.35	0.0	0.0	0.0	0.0	0.0	0.0	1.01	0.0	1.01	1.01
	0.0	0.0	0.0	0.0	1.35	0.0	0.0	1.13	0.0	0.0	0.0	-0.72	-0.72	0.0
33	1.35	1.35	1.35	0.0	0.0	1.00	0.0	0.0	0.0	0.0	0.0	0.0	1.01	0.0
	0.0	0.0	0.0	0.0	1.35	0.0	1.13	0.0	0.0	0.0	0.0	0.72	0.72	1.20
34	1.00	1.00	0.0	0.0	1.00	1.00	0.0	0.75	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.60	0.60	1.00
35	1.00	1.00	0.0	0.0	1.00	1.00	0.0	0.0	0.0	0.0	0.0	0.75	0.0	0.0
	0.0	0.0	0.75	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.60	0.60	1.00
36	1.00	1.00	1.00	0.0	0.0	1.00	0.0	0.75	0.0	0.0	0.0	0.0	0.0	0.0
	0.75	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.60	-0.60	0.0
37	1.00	1.00	1.00	0.0	0.0	1.00	0.0	0.0	0.0	0.0	0.0	0.75	0.0	0.0
	0.0	0.0	0.75	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.60	-0.60	0.0
38	1.00	1.00	1.00	0.0	0.0	1.00	0.0	0.0	0.0	0.0	0.75	0.0	0.75	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.60	-0.60	0.0
39	1.00	1.00	0.0	0.0	1.00	1.00	0.0	0.75	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.60	0.60	0.0
40	1.00	1.00	0.0	0.0	1.00	1.00	0.0	0.0	0.0	0.0	0.0	0.75	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.60	0.60	0.0
41	1.00	1.00	1.00	0.0	0.0	1.00	0.0	0.75	0.0	0.0	0.0	0.0	0.0	0.0
	0.75	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.60	-0.60	1.00
42	1.00	1.00	1.00	0.0	0.0	1.00	0.0	0.0	0.0	0.0	0.0	0.75	0.0	0.0
	0.0	0.0	0.75	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.60	-0.60	1.00
43	1.00	1.00	1.00	0.0	0.0	1.00	0.0	0.0	0.0	0.0	0.75	0.0	0.75	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.60	-0.60	1.00
44	1.00	1.00	1.00	0.0	0.0	1.00	0.0	0.0	0.0	0.75	0.0	0.0	0.75	0.0
	0.75	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.60	-0.60	1.00
45	1.00	1.00	1.00	0.0	0.0	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.75	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.60	0.60	1.00
46	1.00	1.00	0.0	0.0	1.00	1.00	1.00	1.00	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.60	0.60	1.00
47	1.00	1.00	0.0	0.0	1.00	1.00	1.00	0.0	0.0	0.0	0.0	1.00	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.60	0.60	1.00
48	1.00	1.00	0.0	0.0	1.00	1.00	1.00	0.75	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	1.00	1.00
49	1.00	1.00	0.0	0.0	1.00	1.00	1.00	0.0	0.0	0.0	0.0	0.75	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	1.00	1.00

Cmb	CDC 1/15...	CDC 2/16...	CDC 3/17...	CDC 4/18...	CDC 5/19...	CDC 6/20...	CDC 7/21...	CDC 8/22...	CDC 9/23...	CDC 10/24...	CDC 11/25...	CDC 12/26...	CDC 13/27...	CDC 14/28...
50	1.00	1.00	1.00	0.0	0.0	1.00	0.0	0.75	0.0	0.0	0.0	0.0	0.0	0.0
	0.75	0.0	0.0	0.0	1.00	0.0	0.0	0.0	0.0	0.0	0.0	-0.60	-0.60	0.0
51	1.00	1.00	1.00	0.0	0.0	1.00	0.0	0.0	0.0	0.0	0.0	0.75	0.0	0.0
	0.0	0.0	0.75	0.0	1.00	0.0	0.0	0.0	0.0	0.0	0.0	-0.60	-0.60	0.0
52	1.00	1.00	1.00	0.0	0.0	1.00	0.0	0.0	0.0	0.0	0.75	0.0	0.75	0.0
	0.0	0.0	0.0	0.0	1.00	0.0	0.0	0.0	0.0	0.0	0.0	-0.60	-0.60	0.0
53	1.00	1.00	1.00	0.0	0.0	1.00	0.0	0.75	0.0	0.0	0.0	0.0	0.0	0.0
	0.75	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.00	-1.00	0.0
54	1.00	1.00	1.00	0.0	0.0	1.00	0.0	0.0	0.0	0.0	0.0	0.75	0.0	0.0
	0.0	0.0	0.75	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.00	-1.00	0.0
55	1.00	1.00	1.00	0.0	0.0	1.00	0.0	0.0	0.0	0.0	0.75	0.0	0.75	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.00	-1.00	0.0
56	1.00	1.00	0.0	0.0	1.00	1.00	1.00	1.00	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.60	0.60	1.00
57	1.00	1.00	0.0	0.0	1.00	1.00	1.00	0.0	0.0	0.0	0.0	1.00	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.60	0.60	1.00
58	1.00	1.00	0.0	0.0	1.00	1.00	1.00	0.75	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.00	1.00	1.00
59	1.00	1.00	0.0	0.0	1.00	1.00	1.00	0.0	0.0	0.0	0.0	0.75	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-1.00	1.00	1.00
60	1.00	1.00	1.00	0.0	0.0	1.00	0.0	0.75	0.0	0.0	0.0	0.0	0.0	0.0
	0.75	0.0	0.0	0.0	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.60	-0.60	1.00
61	1.00	1.00	1.00	0.0	0.0	1.00	0.0	0.0	0.0	0.0	0.0	0.75	0.0	0.0
	0.0	0.0	0.75	0.0	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.60	-0.60	1.00
62	1.00	1.00	1.00	0.0	0.0	1.00	0.0	0.0	0.0	0.0	0.75	0.0	0.75	0.0
	0.0	0.0	0.0	0.0	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.60	-0.60	1.00
63	1.00	1.00	1.00	0.0	0.0	1.00	0.0	0.75	0.0	0.0	0.0	0.0	0.0	0.0
	0.75	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	-1.00	1.00
64	1.00	1.00	1.00	0.0	0.0	1.00	0.0	0.0	0.0	0.0	0.0	0.75	0.0	0.0
	0.0	0.0	0.75	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	-1.00	1.00
65	1.00	1.00	1.00	0.0	0.0	1.00	0.0	0.0	0.0	0.0	0.75	0.0	0.75	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	-1.00	1.00
66	1.00	1.00	1.00	0.0	0.0	1.00	0.0	0.0	0.0	0.75	0.0	0.0	0.0	0.0
	0.75	0.0	0.0	0.0	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.60	-0.60	1.00
67	1.00	1.00	1.00	0.0	0.0	1.00	0.0	0.0	0.0	0.75	0.0	0.0	0.0	0.0
	0.75	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	-1.00	1.00
68	1.00	1.00	1.00	0.0	0.0	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.75	0.0
	0.0	0.0	0.0	0.0	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.60	0.60	1.00
69	1.00	1.00	1.00	0.0	0.0	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.75	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	1.00	1.00
70	1.00	1.00	0.0	0.0	1.00	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.50	0.50	1.00
71	1.00	1.00	1.00	0.0	0.0	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.50	-0.50	0.0
72	1.00	1.00	0.0	0.0	1.00	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.50	0.50	0.0
73	1.00	1.00	1.00	0.0	0.0	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.50	-0.50	1.00
74	1.00	1.00	1.00	0.0	0.0	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.50	0.50	1.00
75	1.00	1.00	1.00	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.30	1.00	0.0	0.50	0.50	1.00

Cmb	CDC 1/15...	CDC 2/16...	CDC 3/17...	CDC 4/18...	CDC 5/19...	CDC 6/20...	CDC 7/21...	CDC 8/22...	CDC 9/23...	CDC 10/24...	CDC 11/25...	CDC 12/26...	CDC 13/27...	CDC 14/28...
76	1.00	1.00	1.00	1.00	0.0	0.0	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.30	1.00	-0.50	-0.50	0.0
77	1.00	1.00	1.00	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.30	1.00	0.0	-0.50	0.50	0.0
78	1.00	1.00	1.00	1.00	0.0	0.0	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	0.30	1.00	0.50	-0.50	1.00
79	1.00	1.00	1.00	1.00	0.0	0.0	1.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	-0.30	1.00	0.50	0.50	1.00
80	1.00	1.00	1.00	0.0	0.0	1.00	0.0	0.0	0.0	0.0	0.0	1.15	0.0	0.0
	0.0	0.0	1.15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.00	-1.00	1.00

RISULTATI NODALI
LEGENDA RISULTATI NODALI

Il controllo dei risultati delle analisi condotte, per quanto concerne i nodi strutturali, è possibile in relazione alle tabelle sottoriportate.

Una prima tabella riporta infatti per ogni nodo e per ogni combinazione (o caso di carico) gli spostamenti nodali.

Una seconda tabella riporta per ogni nodo a cui sia associato un vincolo rigido e/o elastico o una fondazione speciale e per ogni combinazione (o caso di carico) i valori delle azioni esercitate dalla struttura sui vincoli (reazioni vincolari cambiate di segno).

Una terza tabella, infine riassume per ogni nodo le sei combinazioni in cui si attingono i valori minimi e massimi della reazione Fz, della reazione Mx e della reazione My.

Nodo	Cmb	Traslazione X	Traslazione Y	Traslazione Z	Rotazione X	Rotazione Y	Rotazione Z
		cm	cm	cm			
1	1	0.04	0.0	-6.48e-03	0.0	-1.42e-04	0.0
1	2	0.04	0.0	-3.11e-03	0.0	-5.79e-05	0.0
1	3	0.04	0.0	-5.45e-03	0.0	-1.18e-04	0.0
1	4	0.04	0.0	-2.93e-03	0.0	-5.49e-05	0.0
1	5	0.80	0.0	8.44e-03	0.0	2.91e-04	0.0
1	6	0.86	0.0	0.01	0.0	3.81e-04	0.0
1	7	1.02	0.0	0.02	0.0	4.90e-04	0.0
1	8	0.30	0.0	-4.84e-04	0.0	2.82e-05	0.0
1	9	0.36	0.0	2.98e-03	0.0	1.19e-04	0.0
1	10	0.52	0.0	6.78e-03	0.0	2.27e-04	0.0
1	11	0.04	0.0	-7.51e-03	0.0	-1.72e-04	0.0
1	12	0.04	0.0	-4.14e-03	0.0	-8.79e-05	0.0
1	13	0.04	0.0	-6.82e-03	0.0	-1.58e-04	0.0
1	14	0.04	0.0	-4.30e-03	0.0	-9.52e-05	0.0
1	15	0.80	0.0	9.46e-03	0.0	3.21e-04	0.0
1	16	0.86	0.0	0.01	0.0	4.11e-04	0.0
1	17	1.02	0.0	0.02	0.0	5.20e-04	0.0
1	18	0.30	0.0	8.90e-04	0.0	6.85e-05	0.0
1	19	0.36	0.0	4.35e-03	0.0	1.59e-04	0.0
1	20	0.52	0.0	8.16e-03	0.0	2.67e-04	0.0
1	21	0.80	0.0	9.26e-03	0.0	3.20e-04	0.0

1	22	0.30	0.0	6.84e-04	0.0	6.77e-05	0.0
1	23	1.02	0.0	0.02	0.0	5.12e-04	0.0
1	24	0.52	0.0	7.31e-03	0.0	2.33e-04	0.0
1	25	0.80	0.0	0.01	0.0	4.04e-04	0.0
1	26	0.86	0.0	0.02	0.0	4.81e-04	0.0
1	27	0.30	0.0	-1.34e-03	0.0	1.65e-05	0.0
1	28	0.36	0.0	3.25e-03	0.0	1.29e-04	0.0
1	29	1.02	0.0	0.02	0.0	4.94e-04	0.0
1	30	0.50	0.0	0.01	0.0	3.40e-04	0.0
1	31	0.50	0.0	0.01	0.0	4.16e-04	0.0
1	32	0.50	0.0	0.02	0.0	4.71e-04	0.0
1	33	1.02	0.0	0.02	0.0	6.06e-04	0.0
1	34	0.04	0.0	-3.34e-03	0.0	-6.66e-05	0.0
1	35	0.12	0.0	-1.94e-04	0.0	1.75e-05	0.0
1	36	0.19	0.0	-7.49e-04	0.0	9.45e-06	0.0
1	37	0.23	0.0	1.82e-03	0.0	7.67e-05	0.0
1	38	0.35	0.0	4.65e-03	0.0	1.57e-04	0.0
1	39	0.04	0.0	-4.19e-03	0.0	-9.16e-05	0.0
1	40	0.04	0.0	-2.32e-03	0.0	-4.51e-05	0.0
1	41	0.19	0.0	1.05e-04	0.0	3.45e-05	0.0
1	42	0.23	0.0	2.68e-03	0.0	1.02e-04	0.0
1	43	0.35	0.0	5.50e-03	0.0	1.82e-04	0.0
1	44	0.39	0.0	3.48e-03	0.0	1.38e-04	0.0
1	45	0.35	0.0	4.82e-03	0.0	1.59e-04	0.0
1	46	0.04	0.0	-4.31e-03	0.0	-9.04e-05	0.0
1	47	0.04	0.0	-1.82e-03	0.0	-2.84e-05	0.0
1	48	0.04	0.0	-3.58e-03	0.0	-7.36e-05	0.0
1	49	0.04	0.0	-1.71e-03	0.0	-2.71e-05	0.0
1	50	0.56	0.0	6.07e-03	0.0	2.10e-04	0.0
1	51	0.60	0.0	8.64e-03	0.0	2.77e-04	0.0
1	52	0.72	0.0	0.01	0.0	3.58e-04	0.0
1	53	0.19	0.0	-5.11e-04	0.0	1.64e-05	0.0
1	54	0.23	0.0	2.06e-03	0.0	8.37e-05	0.0
1	55	0.35	0.0	4.88e-03	0.0	1.64e-04	0.0
1	56	0.04	0.0	-4.75e-03	0.0	-1.03e-04	0.0
1	57	0.04	0.0	-2.25e-03	0.0	-4.12e-05	0.0
1	58	0.04	0.0	-4.30e-03	0.0	-9.49e-05	0.0
1	59	0.04	0.0	-2.43e-03	0.0	-4.84e-05	0.0
1	60	0.56	0.0	6.93e-03	0.0	2.35e-04	0.0
1	61	0.60	0.0	9.50e-03	0.0	3.02e-04	0.0
1	62	0.72	0.0	0.01	0.0	3.83e-04	0.0
1	63	0.19	0.0	6.34e-04	0.0	5.00e-05	0.0
1	64	0.23	0.0	3.21e-03	0.0	1.17e-04	0.0
1	65	0.35	0.0	6.03e-03	0.0	1.97e-04	0.0
1	66	0.56	0.0	6.77e-03	0.0	2.35e-04	0.0
1	67	0.19	0.0	4.81e-04	0.0	4.94e-05	0.0
1	68	0.72	0.0	0.01	0.0	3.60e-04	0.0
1	69	0.35	0.0	4.58e-03	0.0	1.52e-04	0.0
1	70	0.04	0.0	-3.65e-04	0.0	6.56e-06	0.0
1	71	0.16	0.0	1.53e-03	0.0	6.23e-05	0.0
1	72	0.04	0.0	-1.15e-03	0.0	-1.63e-05	0.0
1	73	0.16	0.0	2.31e-03	0.0	8.52e-05	0.0
1	74	0.16	0.0	1.36e-03	0.0	5.71e-05	0.0
1	75	0.18	0.0	2.96e-03	0.0	1.07e-04	0.0
1	76	0.58	0.0	0.01	0.0	3.17e-04	0.0
1	77	0.18	0.0	2.18e-03	0.0	8.37e-05	0.0
1	78	0.58	0.0	0.01	0.0	3.40e-04	0.0

1	79	0.58	0.0	0.01	0.0	3.16e-04	0.0
1	80	0.27	0.0	3.33e-03	0.0	1.24e-04	0.0
2	1	0.04	0.0	-7.47e-03	0.0	1.71e-04	0.0
2	2	0.04	0.0	-4.10e-03	0.0	8.68e-05	0.0
2	3	0.04	0.0	-6.44e-03	0.0	1.47e-04	0.0
2	4	0.04	0.0	-3.92e-03	0.0	8.39e-05	0.0
2	5	0.80	0.0	-0.02	0.0	4.49e-04	0.0
2	6	0.86	0.0	-0.01	0.0	4.01e-04	0.0
2	7	1.02	0.0	-0.02	0.0	4.36e-04	0.0
2	8	0.30	0.0	-7.22e-03	0.0	1.70e-04	0.0
2	9	0.36	0.0	-5.18e-03	0.0	1.22e-04	0.0
2	10	0.52	0.0	-6.19e-03	0.0	1.56e-04	0.0
2	11	0.04	0.0	-8.50e-03	0.0	2.01e-04	0.0
2	12	0.04	0.0	-5.13e-03	0.0	1.17e-04	0.0
2	13	0.04	0.0	-7.81e-03	0.0	1.87e-04	0.0
2	14	0.04	0.0	-5.29e-03	0.0	1.24e-04	0.0
2	15	0.80	0.0	-0.02	0.0	4.19e-04	0.0
2	16	0.86	0.0	-0.01	0.0	3.71e-04	0.0
2	17	1.02	0.0	-0.01	0.0	4.06e-04	0.0
2	18	0.30	0.0	-5.85e-03	0.0	1.30e-04	0.0
2	19	0.36	0.0	-3.80e-03	0.0	8.13e-05	0.0
2	20	0.52	0.0	-4.82e-03	0.0	1.16e-04	0.0
2	21	0.80	0.0	-0.02	0.0	4.06e-04	0.0
2	22	0.30	0.0	-5.21e-03	0.0	1.16e-04	0.0
2	23	1.02	0.0	-0.01	0.0	4.13e-04	0.0
2	24	0.52	0.0	-5.65e-03	0.0	1.50e-04	0.0
2	25	0.80	0.0	-0.01	0.0	3.59e-04	0.0
2	26	0.86	0.0	-0.01	0.0	3.10e-04	0.0
2	27	0.30	0.0	-6.94e-03	0.0	1.63e-04	0.0
2	28	0.36	0.0	-4.91e-03	0.0	1.11e-04	0.0
2	29	1.02	0.0	-0.02	0.0	4.31e-04	0.0
2	30	0.50	0.0	-7.33e-03	0.0	1.92e-04	0.0
2	31	0.50	0.0	-4.34e-03	0.0	1.16e-04	0.0
2	32	0.50	0.0	-2.33e-03	0.0	6.10e-05	0.0
2	33	1.02	0.0	-0.01	0.0	3.28e-04	0.0
2	34	0.04	0.0	-4.31e-03	0.0	9.52e-05	0.0
2	35	0.12	0.0	-3.08e-03	0.0	6.77e-05	0.0
2	36	0.19	0.0	-5.00e-03	0.0	1.16e-04	0.0
2	37	0.23	0.0	-3.49e-03	0.0	7.98e-05	0.0
2	38	0.35	0.0	-4.24e-03	0.0	1.06e-04	0.0
2	39	0.04	0.0	-5.17e-03	0.0	1.20e-04	0.0
2	40	0.04	0.0	-3.29e-03	0.0	7.37e-05	0.0
2	41	0.19	0.0	-4.15e-03	0.0	9.08e-05	0.0
2	42	0.23	0.0	-2.63e-03	0.0	5.47e-05	0.0
2	43	0.35	0.0	-3.39e-03	0.0	8.07e-05	0.0
2	44	0.39	0.0	-5.64e-03	0.0	1.39e-04	0.0
2	45	0.35	0.0	-4.07e-03	0.0	1.03e-04	0.0
2	46	0.04	0.0	-5.28e-03	0.0	1.19e-04	0.0
2	47	0.04	0.0	-2.79e-03	0.0	5.70e-05	0.0
2	48	0.04	0.0	-4.55e-03	0.0	1.02e-04	0.0
2	49	0.04	0.0	-2.68e-03	0.0	5.57e-05	0.0
2	50	0.56	0.0	-0.01	0.0	3.17e-04	0.0
2	51	0.60	0.0	-0.01	0.0	2.80e-04	0.0
2	52	0.72	0.0	-0.01	0.0	3.06e-04	0.0
2	53	0.19	0.0	-4.77e-03	0.0	1.09e-04	0.0
2	54	0.23	0.0	-3.25e-03	0.0	7.28e-05	0.0
2	55	0.35	0.0	-4.00e-03	0.0	9.87e-05	0.0

2	56	0.04	0.0	-5.72e-03	0.0	1.32e-04	0.0
2	57	0.04	0.0	-3.22e-03	0.0	6.98e-05	0.0
2	58	0.04	0.0	-5.28e-03	0.0	1.24e-04	0.0
2	59	0.04	0.0	-3.41e-03	0.0	7.70e-05	0.0
2	60	0.56	0.0	-0.01	0.0	2.92e-04	0.0
2	61	0.60	0.0	-9.45e-03	0.0	2.55e-04	0.0
2	62	0.72	0.0	-0.01	0.0	2.81e-04	0.0
2	63	0.19	0.0	-3.62e-03	0.0	7.53e-05	0.0
2	64	0.23	0.0	-2.10e-03	0.0	3.92e-05	0.0
2	65	0.35	0.0	-2.86e-03	0.0	6.52e-05	0.0
2	66	0.56	0.0	-0.01	0.0	2.81e-04	0.0
2	67	0.19	0.0	-3.14e-03	0.0	6.52e-05	0.0
2	68	0.72	0.0	-0.01	0.0	3.04e-04	0.0
2	69	0.35	0.0	-4.31e-03	0.0	1.10e-04	0.0
2	70	0.04	0.0	-1.34e-03	0.0	2.21e-05	0.0
2	71	0.16	0.0	-1.86e-03	0.0	3.76e-05	0.0
2	72	0.04	0.0	-2.12e-03	0.0	4.49e-05	0.0
2	73	0.16	0.0	-1.08e-03	0.0	1.47e-05	0.0
2	74	0.16	0.0	-2.04e-03	0.0	4.28e-05	0.0
2	75	0.17	0.0	-1.85e-03	0.0	3.56e-05	0.0
2	76	0.58	0.0	-5.81e-03	0.0	1.54e-04	0.0
2	77	0.17	0.0	-2.64e-03	0.0	5.84e-05	0.0
2	78	0.58	0.0	-5.03e-03	0.0	1.31e-04	0.0
2	79	0.58	0.0	-5.79e-03	0.0	1.55e-04	0.0
2	80	0.27	0.0	-3.00e-03	0.0	6.27e-05	0.0
3	1	0.10	0.0	-0.01	0.0	6.94e-04	0.0
3	2	0.10	0.0	-8.27e-03	0.0	3.21e-04	0.0
3	3	0.11	0.0	-0.01	0.0	5.86e-04	0.0
3	4	0.11	0.0	-7.54e-03	0.0	3.07e-04	0.0
3	5	1.50	0.0	4.78e-03	0.0	1.12e-03	0.0
3	6	1.58	0.0	0.01	0.0	8.57e-04	0.0
3	7	1.87	0.0	0.02	0.0	8.57e-04	0.0
3	8	0.41	0.0	-7.06e-03	0.0	4.43e-04	0.0
3	9	0.50	0.0	-1.15e-03	0.0	1.77e-04	0.0
3	10	0.78	0.0	4.01e-03	0.0	1.77e-04	0.0
3	11	0.04	0.0	-0.02	0.0	5.92e-04	0.0
3	12	0.04	0.0	-9.29e-03	0.0	2.20e-04	0.0
3	13	0.03	0.0	-0.01	0.0	4.50e-04	0.0
3	14	0.03	0.0	-8.92e-03	0.0	1.72e-04	0.0
3	15	1.55	0.0	5.81e-03	0.0	1.22e-03	0.0
3	16	1.64	0.0	0.01	0.0	9.58e-04	0.0
3	17	1.93	0.0	0.02	0.0	9.58e-04	0.0
3	18	0.48	0.0	-5.68e-03	0.0	5.79e-04	0.0
3	19	0.57	0.0	2.24e-04	0.0	3.12e-04	0.0
3	20	0.86	0.0	5.38e-03	0.0	3.12e-04	0.0
3	21	1.56	0.0	4.32e-03	0.0	1.23e-03	0.0
3	22	0.50	0.0	-7.17e-03	0.0	5.82e-04	0.0
3	23	1.93	0.0	0.02	0.0	8.91e-04	0.0
3	24	0.86	0.0	6.05e-03	0.0	2.59e-04	0.0
3	25	1.50	0.0	0.01	0.0	1.02e-03	0.0
3	26	1.60	0.0	0.01	0.0	8.61e-04	0.0
3	27	0.49	0.0	-0.01	0.0	7.05e-04	0.0
3	28	0.56	0.0	-1.42e-03	0.0	3.40e-04	0.0
3	29	1.93	0.0	0.02	0.0	9.28e-04	0.0
3	30	1.06	0.0	7.43e-03	0.0	8.75e-04	0.0
3	31	1.06	0.0	0.01	0.0	5.66e-04	0.0
3	32	1.06	0.0	0.02	0.0	4.03e-04	0.0

3	33	1.93	0.0	0.02	0.0	8.96e-04	0.0
3	34	0.09	0.0	-8.47e-03	0.0	4.09e-04	0.0
3	35	0.21	0.0	-3.44e-03	0.0	2.19e-04	0.0
3	36	0.26	0.0	-5.67e-03	0.0	3.24e-04	0.0
3	37	0.33	0.0	-1.28e-03	0.0	1.27e-04	0.0
3	38	0.54	0.0	2.55e-03	0.0	1.26e-04	0.0
3	39	0.05	0.0	-9.33e-03	0.0	3.25e-04	0.0
3	40	0.05	0.0	-5.73e-03	0.0	1.18e-04	0.0
3	41	0.31	0.0	-4.81e-03	0.0	4.08e-04	0.0
3	42	0.37	0.0	-4.29e-04	0.0	2.11e-04	0.0
3	43	0.59	0.0	3.40e-03	0.0	2.11e-04	0.0
3	44	0.65	0.0	-1.88e-03	0.0	4.74e-04	0.0
3	45	0.59	0.0	3.25e-03	0.0	1.90e-04	0.0
3	46	0.09	0.0	-0.01	0.0	5.06e-04	0.0
3	47	0.09	0.0	-5.62e-03	0.0	2.30e-04	0.0
3	48	0.10	0.0	-8.71e-03	0.0	4.29e-04	0.0
3	49	0.10	0.0	-5.11e-03	0.0	2.22e-04	0.0
3	50	1.06	0.0	3.31e-03	0.0	8.10e-04	0.0
3	51	1.12	0.0	7.70e-03	0.0	6.13e-04	0.0
3	52	1.34	0.0	0.01	0.0	6.13e-04	0.0
3	53	0.25	0.0	-5.43e-03	0.0	3.04e-04	0.0
3	54	0.32	0.0	-1.04e-03	0.0	1.06e-04	0.0
3	55	0.53	0.0	2.79e-03	0.0	1.06e-04	0.0
3	56	0.07	0.0	-0.01	0.0	4.63e-04	0.0
3	57	0.07	0.0	-6.05e-03	0.0	1.87e-04	0.0
3	58	0.06	0.0	-9.44e-03	0.0	3.58e-04	0.0
3	59	0.06	0.0	-5.84e-03	0.0	1.51e-04	0.0
3	60	1.11	0.0	4.17e-03	0.0	8.94e-04	0.0
3	61	1.17	0.0	8.55e-03	0.0	6.97e-04	0.0
3	62	1.38	0.0	0.01	0.0	6.97e-04	0.0
3	63	0.32	0.0	-4.29e-03	0.0	4.17e-04	0.0
3	64	0.38	0.0	1.00e-04	0.0	2.19e-04	0.0
3	65	0.59	0.0	3.93e-03	0.0	2.19e-04	0.0
3	66	1.11	0.0	3.06e-03	0.0	8.97e-04	0.0
3	67	0.32	0.0	-5.39e-03	0.0	4.19e-04	0.0
3	68	1.38	0.0	0.01	0.0	6.76e-04	0.0
3	69	0.59	0.0	3.01e-03	0.0	2.10e-04	0.0
3	70	0.09	0.0	-2.59e-03	0.0	1.13e-04	0.0
3	71	0.21	0.0	-5.49e-04	0.0	3.09e-05	0.0
3	72	0.05	0.0	-3.37e-03	0.0	3.63e-05	0.0
3	73	0.25	0.0	2.32e-04	0.0	1.08e-04	0.0
3	74	0.25	0.0	-7.28e-04	0.0	1.22e-04	0.0
3	75	0.33	0.0	8.15e-04	0.0	1.27e-04	0.0
3	76	0.96	0.0	9.33e-03	0.0	2.02e-04	0.0
3	77	0.28	0.0	3.36e-05	0.0	5.00e-05	0.0
3	78	1.01	0.0	0.01	0.0	2.80e-04	0.0
3	79	1.01	0.0	9.55e-03	0.0	2.84e-04	0.0
3	80	0.44	0.0	-3.23e-04	0.0	2.73e-04	0.0
4	1	0.02	0.0	-0.02	0.0	-6.64e-04	0.0
4	2	0.02	0.0	-9.37e-03	0.0	-2.91e-04	0.0
4	3	6.28e-03	0.0	-0.01	0.0	-5.56e-04	0.0
4	4	6.48e-03	0.0	-8.65e-03	0.0	-2.77e-04	0.0
4	5	1.52	0.0	-0.03	0.0	4.00e-04	0.0
4	6	1.61	0.0	-0.02	0.0	7.22e-04	0.0
4	7	1.90	0.0	-0.02	0.0	9.47e-04	0.0
4	8	0.46	0.0	-0.01	0.0	-2.32e-04	0.0
4	9	0.54	0.0	-0.01	0.0	9.01e-05	0.0

4	10	0.83	0.0	-0.01	0.0	3.15e-04	0.0
4	11	0.07	0.0	-0.02	0.0	-5.63e-04	0.0
4	12	0.07	0.0	-0.01	0.0	-1.90e-04	0.0
4	13	0.08	0.0	-0.01	0.0	-4.21e-04	0.0
4	14	0.08	0.0	-0.01	0.0	-1.42e-04	0.0
4	15	1.47	0.0	-0.03	0.0	2.99e-04	0.0
4	16	1.55	0.0	-0.02	0.0	6.21e-04	0.0
4	17	1.84	0.0	-0.02	0.0	8.46e-04	0.0
4	18	0.38	0.0	-0.01	0.0	-3.67e-04	0.0
4	19	0.47	0.0	-9.03e-03	0.0	-4.53e-05	0.0
4	20	0.76	0.0	-9.65e-03	0.0	1.79e-04	0.0
4	21	1.48	0.0	-0.02	0.0	4.10e-04	0.0
4	22	0.39	0.0	-0.01	0.0	-2.57e-04	0.0
4	23	1.84	0.0	-0.02	0.0	9.13e-04	0.0
4	24	0.76	0.0	-8.96e-03	0.0	2.33e-04	0.0
4	25	1.50	0.0	-0.03	0.0	3.96e-04	0.0
4	26	1.60	0.0	-0.02	0.0	7.21e-04	0.0
4	27	0.40	0.0	-0.01	0.0	-3.41e-04	0.0
4	28	0.48	0.0	-0.01	0.0	-7.31e-05	0.0
4	29	1.84	0.0	-0.02	0.0	8.76e-04	0.0
4	30	1.09	0.0	-0.02	0.0	4.35e-04	0.0
4	31	1.09	0.0	-0.01	0.0	7.44e-04	0.0
4	32	1.09	0.0	-8.25e-03	0.0	9.07e-04	0.0
4	33	1.84	0.0	-0.02	0.0	9.11e-04	0.0
4	34	0.02	0.0	-9.57e-03	0.0	-3.79e-04	0.0
4	35	0.14	0.0	-6.76e-03	0.0	-1.14e-04	0.0
4	36	0.28	0.0	-0.01	0.0	-1.90e-04	0.0
4	37	0.35	0.0	-7.31e-03	0.0	4.93e-05	0.0
4	38	0.56	0.0	-7.78e-03	0.0	2.16e-04	0.0
4	39	0.07	0.0	-0.01	0.0	-2.95e-04	0.0
4	40	0.07	0.0	-6.82e-03	0.0	-8.83e-05	0.0
4	41	0.24	0.0	-9.62e-03	0.0	-2.74e-04	0.0
4	42	0.30	0.0	-6.46e-03	0.0	-3.49e-05	0.0
4	43	0.52	0.0	-6.92e-03	0.0	1.32e-04	0.0
4	44	0.58	0.0	-0.01	0.0	-1.29e-05	0.0
4	45	0.52	0.0	-7.07e-03	0.0	1.52e-04	0.0
4	46	0.02	0.0	-0.01	0.0	-4.76e-04	0.0
4	47	0.02	0.0	-6.71e-03	0.0	-2.00e-04	0.0
4	48	0.01	0.0	-9.80e-03	0.0	-4.00e-04	0.0
4	49	0.02	0.0	-6.21e-03	0.0	-1.93e-04	0.0
4	50	1.08	0.0	-0.02	0.0	2.96e-04	0.0
4	51	1.15	0.0	-0.02	0.0	5.35e-04	0.0
4	52	1.36	0.0	-0.02	0.0	7.02e-04	0.0
4	53	0.29	0.0	-0.01	0.0	-1.70e-04	0.0
4	54	0.36	0.0	-7.08e-03	0.0	6.95e-05	0.0
4	55	0.57	0.0	-7.54e-03	0.0	2.36e-04	0.0
4	56	0.05	0.0	-0.01	0.0	-4.33e-04	0.0
4	57	0.05	0.0	-7.14e-03	0.0	-1.57e-04	0.0
4	58	0.05	0.0	-0.01	0.0	-3.28e-04	0.0
4	59	0.05	0.0	-6.93e-03	0.0	-1.21e-04	0.0
4	60	1.03	0.0	-0.02	0.0	2.12e-04	0.0
4	61	1.10	0.0	-0.02	0.0	4.51e-04	0.0
4	62	1.31	0.0	-0.02	0.0	6.18e-04	0.0
4	63	0.23	0.0	-9.09e-03	0.0	-2.82e-04	0.0
4	64	0.29	0.0	-5.93e-03	0.0	-4.34e-05	0.0
4	65	0.51	0.0	-6.39e-03	0.0	1.23e-04	0.0
4	66	1.04	0.0	-0.02	0.0	2.94e-04	0.0

4	67	0.24	0.0	-7.66e-03	0.0	-2.00e-04	0.0
4	68	1.31	0.0	-0.02	0.0	6.38e-04	0.0
4	69	0.51	0.0	-7.31e-03	0.0	1.32e-04	0.0
4	70	0.03	0.0	-3.68e-03	0.0	-8.37e-05	0.0
4	71	0.23	0.0	-4.35e-03	0.0	7.00e-05	0.0
4	72	0.07	0.0	-4.46e-03	0.0	-6.67e-06	0.0
4	73	0.19	0.0	-3.57e-03	0.0	-7.06e-06	0.0
4	74	0.19	0.0	-4.53e-03	0.0	-2.16e-05	0.0
4	75	0.26	0.0	-4.94e-03	0.0	9.32e-05	0.0
4	76	0.98	0.0	-9.76e-03	0.0	5.31e-04	0.0
4	77	0.30	0.0	-5.73e-03	0.0	1.70e-04	0.0
4	78	0.94	0.0	-8.98e-03	0.0	4.54e-04	0.0
4	79	0.94	0.0	-9.54e-03	0.0	4.49e-04	0.0
4	80	0.36	0.0	-7.54e-03	0.0	-5.71e-05	0.0
5	1	0.09	0.0	-0.01	0.0	6.15e-04	0.0
5	2	0.09	0.0	-8.08e-03	0.0	3.01e-04	0.0
5	3	0.10	0.0	-0.01	0.0	5.41e-04	0.0
5	4	0.10	0.0	-7.38e-03	0.0	3.06e-04	0.0
5	5	1.47	0.0	4.90e-03	0.0	1.21e-03	0.0
5	6	1.56	0.0	0.01	0.0	9.92e-04	0.0
5	7	1.85	0.0	0.02	0.0	1.03e-03	0.0
5	8	0.40	0.0	-6.80e-03	0.0	3.46e-04	0.0
5	9	0.49	0.0	-1.01e-03	0.0	1.30e-04	0.0
5	10	0.78	0.0	4.08e-03	0.0	1.65e-04	0.0
5	11	0.03	0.0	-0.02	0.0	5.05e-04	0.0
5	12	0.04	0.0	-9.11e-03	0.0	1.90e-04	0.0
5	13	0.03	0.0	-0.01	0.0	3.93e-04	0.0
5	14	0.03	0.0	-8.76e-03	0.0	1.58e-04	0.0
5	15	1.52	0.0	5.93e-03	0.0	1.32e-03	0.0
5	16	1.62	0.0	0.01	0.0	1.10e-03	0.0
5	17	1.90	0.0	0.02	0.0	1.14e-03	0.0
5	18	0.47	0.0	-5.43e-03	0.0	4.95e-04	0.0
5	19	0.57	0.0	3.63e-04	0.0	2.78e-04	0.0
5	20	0.85	0.0	5.46e-03	0.0	3.13e-04	0.0
5	21	1.53	0.0	4.49e-03	0.0	1.33e-03	0.0
5	22	0.48	0.0	-6.86e-03	0.0	5.04e-04	0.0
5	23	1.90	0.0	0.02	0.0	1.12e-03	0.0
5	24	0.85	0.0	6.07e-03	0.0	3.29e-04	0.0
5	25	1.48	0.0	0.01	0.0	1.13e-03	0.0
5	26	1.58	0.0	0.01	0.0	1.01e-03	0.0
5	27	0.48	0.0	-0.01	0.0	6.18e-04	0.0
5	28	0.56	0.0	-1.26e-03	0.0	3.10e-04	0.0
5	29	1.90	0.0	0.02	0.0	1.15e-03	0.0
5	30	1.04	0.0	7.55e-03	0.0	9.30e-04	0.0
5	31	1.05	0.0	0.01	0.0	6.62e-04	0.0
5	32	1.05	0.0	0.02	0.0	5.02e-04	0.0
5	33	1.91	0.0	0.02	0.0	1.11e-03	0.0
5	34	0.09	0.0	-8.27e-03	0.0	3.68e-04	0.0
5	35	0.21	0.0	-3.33e-03	0.0	2.18e-04	0.0
5	36	0.25	0.0	-5.48e-03	0.0	2.57e-04	0.0
5	37	0.32	0.0	-1.18e-03	0.0	9.59e-05	0.0
5	38	0.54	0.0	2.61e-03	0.0	1.22e-04	0.0
5	39	0.04	0.0	-9.13e-03	0.0	2.76e-04	0.0
5	40	0.04	0.0	-5.61e-03	0.0	1.01e-04	0.0
5	41	0.30	0.0	-4.63e-03	0.0	3.49e-04	0.0
5	42	0.37	0.0	-3.24e-04	0.0	1.88e-04	0.0
5	43	0.58	0.0	3.46e-03	0.0	2.14e-04	0.0

5	44	0.64	0.0	-1.68e-03	0.0	4.46e-04	0.0
5	45	0.58	0.0	3.28e-03	0.0	2.28e-04	0.0
5	46	0.08	0.0	-0.01	0.0	4.50e-04	0.0
5	47	0.09	0.0	-5.48e-03	0.0	2.17e-04	0.0
5	48	0.09	0.0	-8.51e-03	0.0	3.99e-04	0.0
5	49	0.10	0.0	-4.99e-03	0.0	2.24e-04	0.0
5	50	1.04	0.0	3.40e-03	0.0	8.68e-04	0.0
5	51	1.11	0.0	7.70e-03	0.0	7.07e-04	0.0
5	52	1.32	0.0	0.01	0.0	7.33e-04	0.0
5	53	0.25	0.0	-5.24e-03	0.0	2.26e-04	0.0
5	54	0.32	0.0	-9.40e-04	0.0	6.49e-05	0.0
5	55	0.53	0.0	2.84e-03	0.0	9.09e-05	0.0
5	56	0.06	0.0	-0.01	0.0	4.03e-04	0.0
5	57	0.07	0.0	-5.91e-03	0.0	1.70e-04	0.0
5	58	0.05	0.0	-9.24e-03	0.0	3.21e-04	0.0
5	59	0.06	0.0	-5.72e-03	0.0	1.46e-04	0.0
5	60	1.08	0.0	4.26e-03	0.0	9.60e-04	0.0
5	61	1.15	0.0	8.56e-03	0.0	7.99e-04	0.0
5	62	1.37	0.0	0.01	0.0	8.25e-04	0.0
5	63	0.31	0.0	-4.10e-03	0.0	3.49e-04	0.0
5	64	0.38	0.0	2.05e-04	0.0	1.88e-04	0.0
5	65	0.59	0.0	3.99e-03	0.0	2.14e-04	0.0
5	66	1.09	0.0	3.19e-03	0.0	9.67e-04	0.0
5	67	0.32	0.0	-5.16e-03	0.0	3.56e-04	0.0
5	68	1.37	0.0	0.01	0.0	8.39e-04	0.0
5	69	0.59	0.0	3.05e-03	0.0	2.59e-04	0.0
5	70	0.09	0.0	-2.53e-03	0.0	1.14e-04	0.0
5	71	0.21	0.0	-4.92e-04	0.0	7.40e-06	0.0
5	72	0.05	0.0	-3.31e-03	0.0	3.00e-05	0.0
5	73	0.25	0.0	2.89e-04	0.0	9.18e-05	0.0
5	74	0.25	0.0	-6.70e-04	0.0	1.30e-04	0.0
5	75	0.32	0.0	8.70e-04	0.0	1.43e-04	0.0
5	76	0.96	0.0	9.33e-03	0.0	2.49e-04	0.0
5	77	0.28	0.0	8.84e-05	0.0	5.85e-05	0.0
5	78	1.00	0.0	0.01	0.0	3.33e-04	0.0
5	79	1.00	0.0	9.54e-03	0.0	3.63e-04	0.0
5	80	0.44	0.0	-1.93e-04	0.0	2.40e-04	0.0
6	1	0.03	0.0	-7.25e-03	0.0	-1.29e-04	0.0
6	2	0.04	0.0	-3.63e-03	0.0	-1.91e-05	0.0
6	3	0.04	0.0	-6.11e-03	0.0	-1.05e-04	0.0
6	4	0.04	0.0	-3.40e-03	0.0	-2.33e-05	0.0
6	5	0.83	0.0	8.05e-03	0.0	7.87e-04	0.0
6	6	0.89	0.0	0.01	0.0	9.26e-04	0.0
6	7	1.06	0.0	0.02	0.0	1.14e-03	0.0
6	8	0.31	0.0	-1.11e-03	0.0	1.83e-04	0.0
6	9	0.37	0.0	2.55e-03	0.0	3.22e-04	0.0
6	10	0.54	0.0	6.47e-03	0.0	5.35e-04	0.0
6	11	0.03	0.0	-8.27e-03	0.0	-1.87e-04	0.0
6	12	0.04	0.0	-4.65e-03	0.0	-7.70e-05	0.0
6	13	0.03	0.0	-7.48e-03	0.0	-1.83e-04	0.0
6	14	0.04	0.0	-4.77e-03	0.0	-1.01e-04	0.0
6	15	0.83	0.0	9.07e-03	0.0	8.45e-04	0.0
6	16	0.89	0.0	0.01	0.0	9.84e-04	0.0
6	17	1.06	0.0	0.02	0.0	1.20e-03	0.0
6	18	0.31	0.0	2.61e-04	0.0	2.61e-04	0.0
6	19	0.37	0.0	3.93e-03	0.0	4.00e-04	0.0
6	20	0.54	0.0	7.84e-03	0.0	6.13e-04	0.0

6	21	0.83	0.0	8.76e-03	0.0	8.55e-04	0.0
6	22	0.31	0.0	-5.00e-05	0.0	2.71e-04	0.0
6	23	1.06	0.0	0.02	0.0	1.15e-03	0.0
6	24	0.54	0.0	7.14e-03	0.0	5.12e-04	0.0
6	25	0.83	0.0	0.01	0.0	8.59e-04	0.0
6	26	0.89	0.0	0.02	0.0	9.84e-04	0.0
6	27	0.31	0.0	-2.22e-03	0.0	1.96e-04	0.0
6	28	0.37	0.0	2.77e-03	0.0	3.49e-04	0.0
6	29	1.06	0.0	0.02	0.0	1.13e-03	0.0
6	30	0.52	0.0	0.01	0.0	7.38e-04	0.0
6	31	0.53	0.0	0.01	0.0	8.44e-04	0.0
6	32	0.53	0.0	0.02	0.0	9.30e-04	0.0
6	33	1.06	0.0	0.02	0.0	1.22e-03	0.0
6	34	0.04	0.0	-3.83e-03	0.0	-3.95e-05	0.0
6	35	0.12	0.0	-5.27e-04	0.0	9.80e-05	0.0
6	36	0.19	0.0	-1.22e-03	0.0	1.11e-04	0.0
6	37	0.24	0.0	1.50e-03	0.0	2.14e-04	0.0
6	38	0.37	0.0	4.41e-03	0.0	3.72e-04	0.0
6	39	0.04	0.0	-4.68e-03	0.0	-8.77e-05	0.0
6	40	0.04	0.0	-2.67e-03	0.0	-2.68e-05	0.0
6	41	0.20	0.0	-3.65e-04	0.0	1.59e-04	0.0
6	42	0.24	0.0	2.36e-03	0.0	2.62e-04	0.0
6	43	0.37	0.0	5.26e-03	0.0	4.21e-04	0.0
6	44	0.40	0.0	2.97e-03	0.0	3.86e-04	0.0
6	45	0.37	0.0	4.62e-03	0.0	3.66e-04	0.0
6	46	0.04	0.0	-4.88e-03	0.0	-6.95e-05	0.0
6	47	0.04	0.0	-2.19e-03	0.0	1.18e-05	0.0
6	48	0.04	0.0	-4.06e-03	0.0	-5.40e-05	0.0
6	49	0.04	0.0	-2.05e-03	0.0	6.97e-06	0.0
6	50	0.58	0.0	5.78e-03	0.0	5.71e-04	0.0
6	51	0.62	0.0	8.50e-03	0.0	6.75e-04	0.0
6	52	0.75	0.0	0.01	0.0	8.33e-04	0.0
6	53	0.19	0.0	-9.81e-04	0.0	1.25e-04	0.0
6	54	0.24	0.0	1.74e-03	0.0	2.29e-04	0.0
6	55	0.37	0.0	4.65e-03	0.0	3.87e-04	0.0
6	56	0.04	0.0	-5.31e-03	0.0	-9.41e-05	0.0
6	57	0.04	0.0	-2.63e-03	0.0	-1.28e-05	0.0
6	58	0.04	0.0	-4.79e-03	0.0	-9.50e-05	0.0
6	59	0.04	0.0	-2.78e-03	0.0	-3.41e-05	0.0
6	60	0.58	0.0	6.63e-03	0.0	6.20e-04	0.0
6	61	0.62	0.0	9.35e-03	0.0	7.23e-04	0.0
6	62	0.75	0.0	0.01	0.0	8.81e-04	0.0
6	63	0.20	0.0	1.64e-04	0.0	1.90e-04	0.0
6	64	0.24	0.0	2.88e-03	0.0	2.93e-04	0.0
6	65	0.37	0.0	5.79e-03	0.0	4.52e-04	0.0
6	66	0.58	0.0	6.40e-03	0.0	6.27e-04	0.0
6	67	0.20	0.0	-6.70e-05	0.0	1.97e-04	0.0
6	68	0.75	0.0	0.01	0.0	8.26e-04	0.0
6	69	0.37	0.0	4.39e-03	0.0	3.51e-04	0.0
6	70	0.04	0.0	-6.14e-04	0.0	5.40e-05	0.0
6	71	0.16	0.0	1.30e-03	0.0	1.63e-04	0.0
6	72	0.04	0.0	-1.39e-03	0.0	9.84e-06	0.0
6	73	0.16	0.0	2.08e-03	0.0	2.07e-04	0.0
6	74	0.16	0.0	1.12e-03	0.0	1.50e-04	0.0
6	75	0.18	0.0	2.71e-03	0.0	2.58e-04	0.0
6	76	0.61	0.0	0.01	0.0	6.95e-04	0.0
6	77	0.18	0.0	1.93e-03	0.0	2.14e-04	0.0

6	78	0.61	0.0	0.01	0.0	7.39e-04	0.0
6	79	0.61	0.0	0.01	0.0	6.87e-04	0.0
6	80	0.28	0.0	2.96e-03	0.0	3.19e-04	0.0
7	1	0.05	0.0	-8.25e-03	0.0	1.88e-04	0.0
7	2	0.04	0.0	-4.63e-03	0.0	7.78e-05	0.0
7	3	0.05	0.0	-7.10e-03	0.0	1.64e-04	0.0
7	4	0.04	0.0	-4.39e-03	0.0	8.21e-05	0.0
7	5	0.83	0.0	-0.02	0.0	8.59e-04	0.0
7	6	0.88	0.0	-0.02	0.0	8.10e-04	0.0
7	7	1.05	0.0	-0.02	0.0	9.15e-04	0.0
7	8	0.31	0.0	-7.92e-03	0.0	2.20e-04	0.0
7	9	0.36	0.0	-5.70e-03	0.0	1.71e-04	0.0
7	10	0.53	0.0	-6.68e-03	0.0	2.76e-04	0.0
7	11	0.05	0.0	-9.27e-03	0.0	2.45e-04	0.0
7	12	0.04	0.0	-5.65e-03	0.0	1.36e-04	0.0
7	13	0.05	0.0	-8.48e-03	0.0	2.42e-04	0.0
7	14	0.05	0.0	-5.77e-03	0.0	1.60e-04	0.0
7	15	0.83	0.0	-0.02	0.0	8.01e-04	0.0
7	16	0.88	0.0	-0.01	0.0	7.52e-04	0.0
7	17	1.05	0.0	-0.02	0.0	8.57e-04	0.0
7	18	0.31	0.0	-6.55e-03	0.0	1.42e-04	0.0
7	19	0.36	0.0	-4.32e-03	0.0	9.31e-05	0.0
7	20	0.53	0.0	-5.31e-03	0.0	1.98e-04	0.0
7	21	0.83	0.0	-0.02	0.0	7.87e-04	0.0
7	22	0.31	0.0	-5.80e-03	0.0	1.29e-04	0.0
7	23	1.05	0.0	-0.02	0.0	9.03e-04	0.0
7	24	0.53	0.0	-5.99e-03	0.0	2.99e-04	0.0
7	25	0.83	0.0	-0.01	0.0	7.99e-04	0.0
7	26	0.88	0.0	-0.01	0.0	7.60e-04	0.0
7	27	0.31	0.0	-7.61e-03	0.0	2.02e-04	0.0
7	28	0.36	0.0	-5.47e-03	0.0	1.43e-04	0.0
7	29	1.05	0.0	-0.02	0.0	9.21e-04	0.0
7	30	0.51	0.0	-8.15e-03	0.0	4.96e-04	0.0
7	31	0.51	0.0	-4.97e-03	0.0	3.90e-04	0.0
7	32	0.50	0.0	-2.88e-03	0.0	3.03e-04	0.0
7	33	1.05	0.0	-0.01	0.0	8.45e-04	0.0
7	34	0.04	0.0	-4.81e-03	0.0	9.79e-05	0.0
7	35	0.12	0.0	-3.45e-03	0.0	8.12e-05	0.0
7	36	0.20	0.0	-5.52e-03	0.0	1.44e-04	0.0
7	37	0.24	0.0	-3.87e-03	0.0	1.07e-04	0.0
7	38	0.36	0.0	-4.60e-03	0.0	1.85e-04	0.0
7	39	0.04	0.0	-5.66e-03	0.0	1.46e-04	0.0
7	40	0.04	0.0	-3.65e-03	0.0	8.52e-05	0.0
7	41	0.19	0.0	-4.67e-03	0.0	9.56e-05	0.0
7	42	0.23	0.0	-3.01e-03	0.0	5.91e-05	0.0
7	43	0.36	0.0	-3.74e-03	0.0	1.37e-04	0.0
7	44	0.39	0.0	-6.12e-03	0.0	2.24e-04	0.0
7	45	0.36	0.0	-4.38e-03	0.0	1.92e-04	0.0
7	46	0.04	0.0	-5.86e-03	0.0	1.28e-04	0.0
7	47	0.04	0.0	-3.18e-03	0.0	4.66e-05	0.0
7	48	0.04	0.0	-5.05e-03	0.0	1.12e-04	0.0
7	49	0.04	0.0	-3.03e-03	0.0	5.14e-05	0.0
7	50	0.58	0.0	-0.01	0.0	6.04e-04	0.0
7	51	0.62	0.0	-0.01	0.0	5.68e-04	0.0
7	52	0.74	0.0	-0.01	0.0	6.46e-04	0.0
7	53	0.19	0.0	-5.28e-03	0.0	1.29e-04	0.0
7	54	0.23	0.0	-3.63e-03	0.0	9.28e-05	0.0

7	55	0.36	0.0	-4.36e-03	0.0	1.71e-04	0.0
7	56	0.05	0.0	-6.30e-03	0.0	1.52e-04	0.0
7	57	0.04	0.0	-3.61e-03	0.0	7.12e-05	0.0
7	58	0.05	0.0	-5.77e-03	0.0	1.53e-04	0.0
7	59	0.04	0.0	-3.76e-03	0.0	9.24e-05	0.0
7	60	0.58	0.0	-0.01	0.0	5.56e-04	0.0
7	61	0.62	0.0	-0.01	0.0	5.19e-04	0.0
7	62	0.74	0.0	-0.01	0.0	5.98e-04	0.0
7	63	0.19	0.0	-4.14e-03	0.0	6.48e-05	0.0
7	64	0.23	0.0	-2.48e-03	0.0	2.82e-05	0.0
7	65	0.36	0.0	-3.21e-03	0.0	1.06e-04	0.0
7	66	0.58	0.0	-0.01	0.0	5.46e-04	0.0
7	67	0.19	0.0	-3.58e-03	0.0	5.46e-05	0.0
7	68	0.74	0.0	-0.01	0.0	6.53e-04	0.0
7	69	0.36	0.0	-4.62e-03	0.0	2.07e-04	0.0
7	70	0.04	0.0	-1.60e-03	0.0	4.41e-06	0.0
7	71	0.16	0.0	-2.13e-03	0.0	3.77e-05	0.0
7	72	0.04	0.0	-2.38e-03	0.0	4.85e-05	0.0
7	73	0.16	0.0	-1.35e-03	0.0	-6.38e-06	0.0
7	74	0.16	0.0	-2.31e-03	0.0	5.03e-05	0.0
7	75	0.18	0.0	-2.18e-03	0.0	4.93e-05	0.0
7	76	0.59	0.0	-6.20e-03	0.0	3.28e-04	0.0
7	77	0.18	0.0	-2.96e-03	0.0	9.34e-05	0.0
7	78	0.59	0.0	-5.42e-03	0.0	2.83e-04	0.0
7	79	0.59	0.0	-6.16e-03	0.0	3.36e-04	0.0
7	80	0.27	0.0	-3.44e-03	0.0	6.72e-05	0.0
8	1	0.03	0.0	-0.02	0.0	-5.78e-04	0.0
8	2	0.02	0.0	-9.18e-03	0.0	-2.64e-04	0.0
8	3	0.02	0.0	-0.01	0.0	-5.04e-04	0.0
8	4	0.01	0.0	-8.49e-03	0.0	-2.69e-04	0.0
8	5	1.51	0.0	-0.03	0.0	7.05e-04	0.0
8	6	1.59	0.0	-0.02	0.0	9.92e-04	0.0
8	7	1.87	0.0	-0.02	0.0	1.24e-03	0.0
8	8	0.46	0.0	-0.01	0.0	-8.25e-05	0.0
8	9	0.54	0.0	-0.01	0.0	2.04e-04	0.0
8	10	0.82	0.0	-0.01	0.0	4.52e-04	0.0
8	11	0.08	0.0	-0.02	0.0	-4.68e-04	0.0
8	12	0.08	0.0	-0.01	0.0	-1.53e-04	0.0
8	13	0.09	0.0	-0.01	0.0	-3.56e-04	0.0
8	14	0.08	0.0	-9.86e-03	0.0	-1.21e-04	0.0
8	15	1.46	0.0	-0.03	0.0	5.95e-04	0.0
8	16	1.54	0.0	-0.02	0.0	8.81e-04	0.0
8	17	1.82	0.0	-0.02	0.0	1.13e-03	0.0
8	18	0.39	0.0	-0.01	0.0	-2.31e-04	0.0
8	19	0.47	0.0	-8.84e-03	0.0	5.57e-05	0.0
8	20	0.75	0.0	-9.48e-03	0.0	3.04e-04	0.0
8	21	1.46	0.0	-0.02	0.0	6.93e-04	0.0
8	22	0.40	0.0	-0.01	0.0	-1.32e-04	0.0
8	23	1.82	0.0	-0.02	0.0	1.15e-03	0.0
8	24	0.75	0.0	-8.85e-03	0.0	2.87e-04	0.0
8	25	1.49	0.0	-0.02	0.0	6.78e-04	0.0
8	26	1.58	0.0	-0.02	0.0	9.74e-04	0.0
8	27	0.41	0.0	-0.01	0.0	-2.10e-04	0.0
8	28	0.48	0.0	-0.01	0.0	2.39e-05	0.0
8	29	1.82	0.0	-0.02	0.0	1.12e-03	0.0
8	30	1.07	0.0	-0.02	0.0	7.17e-04	0.0
8	31	1.07	0.0	-0.01	0.0	9.85e-04	0.0

8	32	1.06	0.0	-8.01e-03	0.0	1.14e-03	0.0
8	33	1.82	0.0	-0.02	0.0	1.16e-03	0.0
8	34	0.03	0.0	-9.36e-03	0.0	-3.31e-04	0.0
8	35	0.14	0.0	-6.63e-03	0.0	-8.72e-05	0.0
8	36	0.29	0.0	-0.01	0.0	-8.89e-05	0.0
8	37	0.35	0.0	-7.18e-03	0.0	1.24e-04	0.0
8	38	0.56	0.0	-7.65e-03	0.0	3.08e-04	0.0
8	39	0.08	0.0	-0.01	0.0	-2.39e-04	0.0
8	40	0.07	0.0	-6.70e-03	0.0	-6.42e-05	0.0
8	41	0.24	0.0	-9.41e-03	0.0	-1.81e-04	0.0
8	42	0.30	0.0	-6.32e-03	0.0	3.17e-05	0.0
8	43	0.51	0.0	-6.80e-03	0.0	2.16e-04	0.0
8	44	0.58	0.0	-0.01	0.0	1.06e-04	0.0
8	45	0.51	0.0	-6.97e-03	0.0	2.02e-04	0.0
8	46	0.03	0.0	-0.01	0.0	-4.13e-04	0.0
8	47	0.03	0.0	-6.57e-03	0.0	-1.80e-04	0.0
8	48	0.02	0.0	-9.60e-03	0.0	-3.62e-04	0.0
8	49	0.02	0.0	-6.08e-03	0.0	-1.87e-04	0.0
8	50	1.07	0.0	-0.02	0.0	5.22e-04	0.0
8	51	1.13	0.0	-0.02	0.0	7.35e-04	0.0
8	52	1.34	0.0	-0.02	0.0	9.19e-04	0.0
8	53	0.29	0.0	-0.01	0.0	-5.79e-05	0.0
8	54	0.35	0.0	-6.94e-03	0.0	1.55e-04	0.0
8	55	0.56	0.0	-7.41e-03	0.0	3.39e-04	0.0
8	56	0.06	0.0	-0.01	0.0	-3.66e-04	0.0
8	57	0.05	0.0	-7.00e-03	0.0	-1.33e-04	0.0
8	58	0.06	0.0	-0.01	0.0	-2.84e-04	0.0
8	59	0.06	0.0	-6.81e-03	0.0	-1.09e-04	0.0
8	60	1.03	0.0	-0.02	0.0	4.30e-04	0.0
8	61	1.09	0.0	-0.02	0.0	6.43e-04	0.0
8	62	1.30	0.0	-0.02	0.0	8.27e-04	0.0
8	63	0.23	0.0	-8.88e-03	0.0	-1.81e-04	0.0
8	64	0.29	0.0	-5.79e-03	0.0	3.13e-05	0.0
8	65	0.50	0.0	-6.27e-03	0.0	2.15e-04	0.0
8	66	1.03	0.0	-0.02	0.0	5.03e-04	0.0
8	67	0.24	0.0	-7.49e-03	0.0	-1.08e-04	0.0
8	68	1.30	0.0	-0.02	0.0	8.13e-04	0.0
8	69	0.50	0.0	-7.21e-03	0.0	1.71e-04	0.0
8	70	0.03	0.0	-3.61e-03	0.0	-7.74e-05	0.0
8	71	0.23	0.0	-4.28e-03	0.0	1.18e-04	0.0
8	72	0.07	0.0	-4.40e-03	0.0	6.99e-06	0.0
8	73	0.18	0.0	-3.49e-03	0.0	3.38e-05	0.0
8	74	0.19	0.0	-4.45e-03	0.0	-4.45e-06	0.0
8	75	0.26	0.0	-4.85e-03	0.0	1.34e-04	0.0
8	76	0.97	0.0	-9.62e-03	0.0	6.72e-04	0.0
8	77	0.30	0.0	-5.63e-03	0.0	2.18e-04	0.0
8	78	0.93	0.0	-8.84e-03	0.0	5.88e-04	0.0
8	79	0.93	0.0	-9.41e-03	0.0	5.58e-04	0.0
8	80	0.36	0.0	-7.37e-03	0.0	3.02e-05	0.0
9	1	0.02	0.0	-0.03	0.0	-7.33e-04	0.0
9	2	0.02	0.0	-0.02	0.0	-3.11e-04	0.0
9	3	6.33e-03	0.0	-0.03	0.0	-5.95e-04	0.0
9	4	6.51e-03	0.0	-0.02	0.0	-2.79e-04	0.0
9	5	1.52	0.0	-0.02	0.0	1.07e-04	0.0
9	6	1.61	0.0	-0.01	0.0	4.58e-04	0.0
9	7	1.90	0.0	-6.24e-03	0.0	6.57e-04	0.0
9	8	0.46	0.0	-0.02	0.0	-3.69e-04	0.0

9	9	0.54	0.0	-0.01	0.0	-1.89e-05	0.0
9	10	0.83	0.0	-5.90e-03	0.0	1.80e-04	0.0
9	11	0.07	0.0	-0.03	0.0	-6.42e-04	0.0
9	12	0.07	0.0	-0.02	0.0	-2.20e-04	0.0
9	13	0.08	0.0	-0.03	0.0	-4.73e-04	0.0
9	14	0.08	0.0	-0.01	0.0	-1.57e-04	0.0
9	15	1.47	0.0	-0.02	0.0	1.63e-05	0.0
9	16	1.55	0.0	-0.01	0.0	3.67e-04	0.0
9	17	1.84	0.0	-7.37e-03	0.0	5.66e-04	0.0
9	18	0.38	0.0	-0.02	0.0	-4.91e-04	0.0
9	19	0.47	0.0	-0.01	0.0	-1.41e-04	0.0
9	20	0.76	0.0	-7.42e-03	0.0	5.85e-05	0.0
9	21	1.48	0.0	-0.02	0.0	1.35e-04	0.0
9	22	0.39	0.0	-0.02	0.0	-3.73e-04	0.0
9	23	1.84	0.0	-3.61e-03	0.0	6.78e-04	0.0
9	24	0.76	0.0	-4.63e-03	0.0	1.79e-04	0.0
9	25	1.50	0.0	-0.02	0.0	1.29e-04	0.0
9	26	1.60	0.0	-6.72e-03	0.0	4.73e-04	0.0
9	27	0.40	0.0	-0.02	0.0	-4.61e-04	0.0
9	28	0.48	0.0	-0.01	0.0	-1.63e-04	0.0
9	29	1.84	0.0	-6.19e-03	0.0	6.37e-04	0.0
9	30	1.09	0.0	-0.01	0.0	1.60e-04	0.0
9	31	1.09	0.0	2.15e-03	0.0	5.03e-04	0.0
9	32	1.09	0.0	8.77e-03	0.0	6.63e-04	0.0
9	33	1.84	0.0	-1.48e-03	0.0	6.68e-04	0.0
9	34	0.02	0.0	-0.02	0.0	-4.19e-04	0.0
9	35	0.14	0.0	-9.93e-03	0.0	-1.37e-04	0.0
9	36	0.28	0.0	-0.02	0.0	-2.82e-04	0.0
9	37	0.35	0.0	-7.36e-03	0.0	-2.18e-05	0.0
9	38	0.56	0.0	-4.25e-03	0.0	1.26e-04	0.0
9	39	0.07	0.0	-0.02	0.0	-3.43e-04	0.0
9	40	0.07	0.0	-9.35e-03	0.0	-1.09e-04	0.0
9	41	0.24	0.0	-0.02	0.0	-3.58e-04	0.0
9	42	0.30	0.0	-8.30e-03	0.0	-9.74e-05	0.0
9	43	0.52	0.0	-5.20e-03	0.0	5.05e-05	0.0
9	44	0.58	0.0	-0.01	0.0	-1.26e-04	0.0
9	45	0.52	0.0	-4.45e-03	0.0	1.04e-04	0.0
9	46	0.02	0.0	-0.02	0.0	-5.28e-04	0.0
9	47	0.02	0.0	-0.01	0.0	-2.16e-04	0.0
9	48	0.01	0.0	-0.02	0.0	-4.28e-04	0.0
9	49	0.02	0.0	-0.01	0.0	-1.93e-04	0.0
9	50	1.08	0.0	-0.02	0.0	7.91e-05	0.0
9	51	1.15	0.0	-7.10e-03	0.0	3.39e-04	0.0
9	52	1.36	0.0	-3.99e-03	0.0	4.87e-04	0.0
9	53	0.29	0.0	-0.02	0.0	-2.73e-04	0.0
9	54	0.36	0.0	-6.79e-03	0.0	-1.26e-05	0.0
9	55	0.57	0.0	-3.68e-03	0.0	1.35e-04	0.0
9	56	0.05	0.0	-0.02	0.0	-4.90e-04	0.0
9	57	0.05	0.0	-0.01	0.0	-1.77e-04	0.0
9	58	0.05	0.0	-0.02	0.0	-3.63e-04	0.0
9	59	0.05	0.0	-0.01	0.0	-1.29e-04	0.0
9	60	1.03	0.0	-0.02	0.0	3.38e-06	0.0
9	61	1.10	0.0	-8.04e-03	0.0	2.64e-04	0.0
9	62	1.31	0.0	-4.94e-03	0.0	4.12e-04	0.0
9	63	0.23	0.0	-0.02	0.0	-3.74e-04	0.0
9	64	0.29	0.0	-8.05e-03	0.0	-1.14e-04	0.0
9	65	0.51	0.0	-4.95e-03	0.0	3.38e-05	0.0

9	66	1.04	0.0	-0.01	0.0	9.15e-05	0.0
9	67	0.24	0.0	-0.01	0.0	-2.86e-04	0.0
9	68	1.31	0.0	-4.20e-03	0.0	4.65e-04	0.0
9	69	0.51	0.0	-5.02e-03	0.0	9.49e-05	0.0
9	70	0.03	0.0	-5.79e-03	0.0	-8.81e-05	0.0
9	71	0.23	0.0	-3.50e-03	0.0	2.29e-05	0.0
9	72	0.07	0.0	-4.92e-03	0.0	-1.88e-05	0.0
9	73	0.19	0.0	-4.36e-03	0.0	-4.63e-05	0.0
9	74	0.19	0.0	-5.38e-03	0.0	-3.69e-05	0.0
9	75	0.26	0.0	-3.55e-03	0.0	5.35e-05	0.0
9	76	0.98	0.0	2.01e-04	0.0	3.89e-04	0.0
9	77	0.30	0.0	-2.68e-03	0.0	1.23e-04	0.0
9	78	0.94	0.0	-6.64e-04	0.0	3.20e-04	0.0
9	79	0.94	0.0	-1.04e-03	0.0	3.40e-04	0.0
9	80	0.36	0.0	-0.01	0.0	-1.39e-04	0.0
10	1	0.10	0.0	-0.03	0.0	7.56e-04	0.0
10	2	0.10	0.0	-0.02	0.0	3.34e-04	0.0
10	3	0.11	0.0	-0.03	0.0	6.18e-04	0.0
10	4	0.11	0.0	-0.01	0.0	3.02e-04	0.0
10	5	1.50	0.0	-0.02	0.0	1.03e-03	0.0
10	6	1.58	0.0	-7.01e-03	0.0	7.21e-04	0.0
10	7	1.87	0.0	-1.34e-03	0.0	6.91e-04	0.0
10	8	0.41	0.0	-0.02	0.0	5.31e-04	0.0
10	9	0.50	0.0	-5.98e-03	0.0	2.23e-04	0.0
10	10	0.78	0.0	-3.11e-04	0.0	1.92e-04	0.0
10	11	0.04	0.0	-0.03	0.0	6.65e-04	0.0
10	12	0.04	0.0	-0.01	0.0	2.43e-04	0.0
10	13	0.03	0.0	-0.03	0.0	4.96e-04	0.0
10	14	0.03	0.0	-0.01	0.0	1.80e-04	0.0
10	15	1.55	0.0	-0.02	0.0	1.12e-03	0.0
10	16	1.64	0.0	-8.14e-03	0.0	8.12e-04	0.0
10	17	1.93	0.0	-2.47e-03	0.0	7.82e-04	0.0
10	18	0.48	0.0	-0.02	0.0	6.53e-04	0.0
10	19	0.57	0.0	-7.50e-03	0.0	3.45e-04	0.0
10	20	0.86	0.0	-1.83e-03	0.0	3.14e-04	0.0
10	21	1.56	0.0	-0.02	0.0	1.11e-03	0.0
10	22	0.50	0.0	-0.02	0.0	6.46e-04	0.0
10	23	1.93	0.0	1.28e-03	0.0	6.70e-04	0.0
10	24	0.86	0.0	9.42e-04	0.0	1.93e-04	0.0
10	25	1.50	0.0	-0.01	0.0	8.98e-04	0.0
10	26	1.60	0.0	-3.05e-03	0.0	7.08e-04	0.0
10	27	0.49	0.0	-0.03	0.0	7.73e-04	0.0
10	28	0.56	0.0	-9.77e-03	0.0	3.67e-04	0.0
10	29	1.93	0.0	-1.29e-03	0.0	7.11e-04	0.0
10	30	1.06	0.0	-0.01	0.0	8.13e-04	0.0
10	31	1.06	0.0	1.15e-03	0.0	4.69e-04	0.0
10	32	1.06	0.0	7.77e-03	0.0	3.09e-04	0.0
10	33	1.93	0.0	3.69e-03	0.0	6.82e-04	0.0
10	34	0.09	0.0	-0.02	0.0	4.41e-04	0.0
10	35	0.21	0.0	-8.62e-03	0.0	2.17e-04	0.0
10	36	0.26	0.0	-0.01	0.0	3.85e-04	0.0
10	37	0.33	0.0	-4.71e-03	0.0	1.56e-04	0.0
10	38	0.54	0.0	-5.04e-04	0.0	1.33e-04	0.0
10	39	0.05	0.0	-0.02	0.0	3.66e-04	0.0
10	40	0.05	0.0	-8.83e-03	0.0	1.31e-04	0.0
10	41	0.31	0.0	-0.02	0.0	4.61e-04	0.0
10	42	0.37	0.0	-5.66e-03	0.0	2.32e-04	0.0

10	43	0.59	0.0	-1.45e-03	0.0	2.09e-04	0.0
10	44	0.65	0.0	-0.01	0.0	4.95e-04	0.0
10	45	0.59	0.0	-7.07e-04	0.0	1.56e-04	0.0
10	46	0.09	0.0	-0.02	0.0	5.51e-04	0.0
10	47	0.09	0.0	-0.01	0.0	2.38e-04	0.0
10	48	0.10	0.0	-0.02	0.0	4.51e-04	0.0
10	49	0.10	0.0	-0.01	0.0	2.16e-04	0.0
10	50	1.06	0.0	-0.01	0.0	7.46e-04	0.0
10	51	1.12	0.0	-4.97e-03	0.0	5.17e-04	0.0
10	52	1.34	0.0	-7.60e-04	0.0	4.95e-04	0.0
10	53	0.25	0.0	-0.01	0.0	3.76e-04	0.0
10	54	0.32	0.0	-4.15e-03	0.0	1.47e-04	0.0
10	55	0.53	0.0	6.30e-05	0.0	1.24e-04	0.0
10	56	0.07	0.0	-0.02	0.0	5.12e-04	0.0
10	57	0.07	0.0	-0.01	0.0	2.00e-04	0.0
10	58	0.06	0.0	-0.02	0.0	3.86e-04	0.0
10	59	0.06	0.0	-9.53e-03	0.0	1.52e-04	0.0
10	60	1.11	0.0	-0.02	0.0	8.22e-04	0.0
10	61	1.17	0.0	-5.91e-03	0.0	5.93e-04	0.0
10	62	1.38	0.0	-1.70e-03	0.0	5.70e-04	0.0
10	63	0.32	0.0	-0.01	0.0	4.77e-04	0.0
10	64	0.38	0.0	-5.41e-03	0.0	2.48e-04	0.0
10	65	0.59	0.0	-1.20e-03	0.0	2.26e-04	0.0
10	66	1.11	0.0	-0.02	0.0	8.17e-04	0.0
10	67	0.32	0.0	-0.02	0.0	4.72e-04	0.0
10	68	1.38	0.0	-9.62e-04	0.0	5.17e-04	0.0
10	69	0.59	0.0	-1.27e-03	0.0	1.65e-04	0.0
10	70	0.09	0.0	-5.27e-03	0.0	1.11e-04	0.0
10	71	0.21	0.0	-1.65e-03	0.0	5.44e-05	0.0
10	72	0.05	0.0	-4.40e-03	0.0	4.15e-05	0.0
10	73	0.25	0.0	-2.51e-03	0.0	1.24e-04	0.0
10	74	0.25	0.0	-3.53e-03	0.0	1.14e-04	0.0
10	75	0.33	0.0	-2.00e-03	0.0	1.12e-04	0.0
10	76	0.96	0.0	5.26e-03	0.0	1.63e-04	0.0
10	77	0.28	0.0	-1.14e-03	0.0	4.30e-05	0.0
10	78	1.01	0.0	4.40e-03	0.0	2.32e-04	0.0
10	79	1.01	0.0	4.02e-03	0.0	2.12e-04	0.0
10	80	0.44	0.0	-7.13e-03	0.0	3.04e-04	0.0
11	1	0.04	0.0	-2.59e-05	0.0	-1.24e-04	0.0
11	2	0.04	0.0	-1.93e-05	0.0	-5.14e-05	0.0
11	3	0.04	0.0	-2.31e-05	0.0	-1.03e-04	0.0
11	4	0.04	0.0	-1.82e-05	0.0	-4.83e-05	0.0
11	5	0.80	0.0	2.28e-06	0.0	2.04e-04	0.0
11	6	0.86	0.0	8.53e-06	0.0	2.80e-04	0.0
11	7	1.02	0.0	1.51e-05	0.0	3.65e-04	0.0
11	8	0.30	0.0	-1.77e-05	0.0	1.30e-05	0.0
11	9	0.36	0.0	-1.15e-05	0.0	8.92e-05	0.0
11	10	0.52	0.0	-4.89e-06	0.0	1.74e-04	0.0
11	11	0.04	0.0	-2.59e-05	0.0	-1.49e-04	0.0
11	12	0.04	0.0	-1.93e-05	0.0	-7.60e-05	0.0
11	13	0.04	0.0	-2.31e-05	0.0	-1.36e-04	0.0
11	14	0.04	0.0	-1.82e-05	0.0	-8.13e-05	0.0
11	15	0.80	0.0	2.28e-06	0.0	2.29e-04	0.0
11	16	0.86	0.0	8.53e-06	0.0	3.05e-04	0.0
11	17	1.02	0.0	1.51e-05	0.0	3.89e-04	0.0
11	18	0.30	0.0	-1.77e-05	0.0	4.61e-05	0.0
11	19	0.36	0.0	-1.15e-05	0.0	1.22e-04	0.0

11	20	0.52	0.0	-4.89e-06	0.0	2.07e-04	0.0
11	21	0.80	0.0	0.0	0.0	2.28e-04	0.0
11	22	0.30	0.0	-2.08e-05	0.0	4.53e-05	0.0
11	23	1.02	0.0	2.07e-05	0.0	3.84e-04	0.0
11	24	0.52	0.0	0.0	0.0	1.80e-04	0.0
11	25	0.80	0.0	-6.99e-06	0.0	3.22e-04	0.0
11	26	0.86	0.0	-3.86e-06	0.0	3.87e-04	0.0
11	27	0.30	0.0	-2.47e-05	0.0	1.46e-06	0.0
11	28	0.36	0.0	-1.26e-05	0.0	9.70e-05	0.0
11	29	1.02	0.0	1.66e-05	0.0	3.69e-04	0.0
11	30	0.50	0.0	-6.64e-06	0.0	2.70e-04	0.0
11	31	0.50	0.0	-1.75e-06	0.0	3.35e-04	0.0
11	32	0.50	0.0	0.0	0.0	3.82e-04	0.0
11	33	1.02	0.0	4.22e-06	0.0	4.87e-04	0.0
11	34	0.04	0.0	-1.69e-05	0.0	-5.96e-05	0.0
11	35	0.12	0.0	-1.14e-05	0.0	1.00e-05	0.0
11	36	0.19	0.0	-1.38e-05	0.0	0.0	0.0
11	37	0.23	0.0	-9.18e-06	0.0	5.73e-05	0.0
11	38	0.35	0.0	-4.29e-06	0.0	1.20e-04	0.0
11	39	0.04	0.0	-1.69e-05	0.0	-8.01e-05	0.0
11	40	0.04	0.0	-1.33e-05	0.0	-3.96e-05	0.0
11	41	0.19	0.0	-1.38e-05	0.0	2.12e-05	0.0
11	42	0.23	0.0	-9.18e-06	0.0	7.78e-05	0.0
11	43	0.35	0.0	-4.29e-06	0.0	1.41e-04	0.0
11	44	0.39	0.0	-1.08e-05	0.0	1.00e-04	0.0
11	45	0.35	0.0	-3.18e-06	0.0	1.23e-04	0.0
11	46	0.04	0.0	-1.89e-05	0.0	-8.04e-05	0.0
11	47	0.04	0.0	-1.41e-05	0.0	-2.64e-05	0.0
11	48	0.04	0.0	-1.69e-05	0.0	-6.53e-05	0.0
11	49	0.04	0.0	-1.33e-05	0.0	-2.48e-05	0.0
11	50	0.56	0.0	0.0	0.0	1.47e-04	0.0
11	51	0.60	0.0	5.63e-06	0.0	2.04e-04	0.0
11	52	0.72	0.0	1.05e-05	0.0	2.67e-04	0.0
11	53	0.19	0.0	-1.38e-05	0.0	6.44e-06	0.0
11	54	0.23	0.0	-9.18e-06	0.0	6.30e-05	0.0
11	55	0.35	0.0	-4.29e-06	0.0	1.26e-04	0.0
11	56	0.04	0.0	-1.89e-05	0.0	-9.09e-05	0.0
11	57	0.04	0.0	-1.41e-05	0.0	-3.69e-05	0.0
11	58	0.04	0.0	-1.69e-05	0.0	-8.28e-05	0.0
11	59	0.04	0.0	-1.33e-05	0.0	-4.23e-05	0.0
11	60	0.56	0.0	0.0	0.0	1.68e-04	0.0
11	61	0.60	0.0	5.63e-06	0.0	2.24e-04	0.0
11	62	0.72	0.0	1.05e-05	0.0	2.87e-04	0.0
11	63	0.19	0.0	-1.38e-05	0.0	3.40e-05	0.0
11	64	0.23	0.0	-9.18e-06	0.0	9.05e-05	0.0
11	65	0.35	0.0	-4.29e-06	0.0	1.53e-04	0.0
11	66	0.56	0.0	-1.33e-06	0.0	1.67e-04	0.0
11	67	0.19	0.0	-1.61e-05	0.0	3.34e-05	0.0
11	68	0.72	0.0	1.16e-05	0.0	2.69e-04	0.0
11	69	0.35	0.0	-3.18e-06	0.0	1.17e-04	0.0
11	70	0.04	0.0	-1.08e-05	0.0	4.43e-06	0.0
11	71	0.16	0.0	-8.53e-06	0.0	4.88e-05	0.0
11	72	0.04	0.0	-1.08e-05	0.0	-1.44e-05	0.0
11	73	0.16	0.0	-8.53e-06	0.0	6.76e-05	0.0
11	74	0.16	0.0	-8.53e-06	0.0	4.45e-05	0.0
11	75	0.18	0.0	-7.88e-06	0.0	8.19e-05	0.0
11	76	0.58	0.0	3.76e-06	0.0	2.44e-04	0.0

11	77	0.18	0.0	-7.88e-06	0.0	6.31e-05	0.0
11	78	0.58	0.0	3.76e-06	0.0	2.62e-04	0.0
11	79	0.58	0.0	4.32e-06	0.0	2.43e-04	0.0
11	80	0.27	0.0	-9.52e-06	0.0	9.43e-05	0.0
12	1	0.04	0.0	-2.78e-05	0.0	1.46e-04	0.0
12	2	0.04	0.0	-2.13e-05	0.0	7.35e-05	0.0
12	3	0.04	0.0	-2.51e-05	0.0	1.25e-04	0.0
12	4	0.04	0.0	-2.02e-05	0.0	7.04e-05	0.0
12	5	0.80	0.0	-5.04e-05	0.0	3.45e-04	0.0
12	6	0.86	0.0	-4.69e-05	0.0	3.01e-04	0.0
12	7	1.02	0.0	-4.98e-05	0.0	3.23e-04	0.0
12	8	0.30	0.0	-3.05e-05	0.0	1.40e-04	0.0
12	9	0.36	0.0	-2.69e-05	0.0	9.62e-05	0.0
12	10	0.52	0.0	-2.98e-05	0.0	1.18e-04	0.0
12	11	0.04	0.0	-2.78e-05	0.0	1.71e-04	0.0
12	12	0.04	0.0	-2.13e-05	0.0	9.82e-05	0.0
12	13	0.04	0.0	-2.51e-05	0.0	1.58e-04	0.0
12	14	0.04	0.0	-2.02e-05	0.0	1.03e-04	0.0
12	15	0.80	0.0	-5.04e-05	0.0	3.21e-04	0.0
12	16	0.86	0.0	-4.69e-05	0.0	2.76e-04	0.0
12	17	1.02	0.0	-4.98e-05	0.0	2.98e-04	0.0
12	18	0.30	0.0	-3.05e-05	0.0	1.07e-04	0.0
12	19	0.36	0.0	-2.69e-05	0.0	6.32e-05	0.0
12	20	0.52	0.0	-2.98e-05	0.0	8.51e-05	0.0
12	21	0.80	0.0	-4.73e-05	0.0	3.09e-04	0.0
12	22	0.30	0.0	-2.73e-05	0.0	9.62e-05	0.0
12	23	1.02	0.0	-4.42e-05	0.0	3.03e-04	0.0
12	24	0.52	0.0	-2.42e-05	0.0	1.12e-04	0.0
12	25	0.80	0.0	-6.20e-05	0.0	2.48e-04	0.0
12	26	0.86	0.0	-5.54e-05	0.0	2.02e-04	0.0
12	27	0.30	0.0	-2.90e-05	0.0	1.36e-04	0.0
12	28	0.36	0.0	-2.80e-05	0.0	8.84e-05	0.0
12	29	1.02	0.0	-4.83e-05	0.0	3.18e-04	0.0
12	30	0.50	0.0	-5.41e-05	0.0	1.16e-04	0.0
12	31	0.50	0.0	-4.93e-05	0.0	4.99e-05	0.0
12	32	0.50	0.0	-4.74e-05	0.0	3.78e-06	0.0
12	33	1.02	0.0	-5.68e-05	0.0	2.09e-04	0.0
12	34	0.04	0.0	-1.88e-05	0.0	8.15e-05	0.0
12	35	0.12	0.0	-1.70e-05	0.0	5.48e-05	0.0
12	36	0.19	0.0	-2.19e-05	0.0	9.62e-05	0.0
12	37	0.23	0.0	-1.93e-05	0.0	6.33e-05	0.0
12	38	0.35	0.0	-2.14e-05	0.0	7.96e-05	0.0
12	39	0.04	0.0	-1.88e-05	0.0	1.02e-04	0.0
12	40	0.04	0.0	-1.52e-05	0.0	6.15e-05	0.0
12	41	0.19	0.0	-2.19e-05	0.0	7.56e-05	0.0
12	42	0.23	0.0	-1.93e-05	0.0	4.27e-05	0.0
12	43	0.35	0.0	-2.14e-05	0.0	5.91e-05	0.0
12	44	0.39	0.0	-2.49e-05	0.0	1.10e-04	0.0
12	45	0.35	0.0	-2.03e-05	0.0	7.68e-05	0.0
12	46	0.04	0.0	-2.08e-05	0.0	1.02e-04	0.0
12	47	0.04	0.0	-1.60e-05	0.0	4.83e-05	0.0
12	48	0.04	0.0	-1.88e-05	0.0	8.72e-05	0.0
12	49	0.04	0.0	-1.52e-05	0.0	4.67e-05	0.0
12	50	0.56	0.0	-3.67e-05	0.0	2.43e-04	0.0
12	51	0.60	0.0	-3.41e-05	0.0	2.10e-04	0.0
12	52	0.72	0.0	-3.62e-05	0.0	2.26e-04	0.0
12	53	0.19	0.0	-2.19e-05	0.0	9.04e-05	0.0

12	54	0.23	0.0	-1.93e-05	0.0	5.75e-05	0.0
12	55	0.35	0.0	-2.14e-05	0.0	7.39e-05	0.0
12	56	0.04	0.0	-2.08e-05	0.0	1.13e-04	0.0
12	57	0.04	0.0	-1.60e-05	0.0	5.88e-05	0.0
12	58	0.04	0.0	-1.88e-05	0.0	1.05e-04	0.0
12	59	0.04	0.0	-1.52e-05	0.0	6.41e-05	0.0
12	60	0.56	0.0	-3.67e-05	0.0	2.22e-04	0.0
12	61	0.60	0.0	-3.41e-05	0.0	1.89e-04	0.0
12	62	0.72	0.0	-3.62e-05	0.0	2.06e-04	0.0
12	63	0.19	0.0	-2.19e-05	0.0	6.29e-05	0.0
12	64	0.23	0.0	-1.93e-05	0.0	3.00e-05	0.0
12	65	0.35	0.0	-2.14e-05	0.0	4.63e-05	0.0
12	66	0.56	0.0	-3.44e-05	0.0	2.14e-04	0.0
12	67	0.19	0.0	-1.96e-05	0.0	5.45e-05	0.0
12	68	0.72	0.0	-3.51e-05	0.0	2.23e-04	0.0
12	69	0.35	0.0	-2.03e-05	0.0	8.26e-05	0.0
12	70	0.04	0.0	-1.27e-05	0.0	1.75e-05	0.0
12	71	0.16	0.0	-1.49e-05	0.0	2.88e-05	0.0
12	72	0.04	0.0	-1.27e-05	0.0	3.62e-05	0.0
12	73	0.16	0.0	-1.49e-05	0.0	1.00e-05	0.0
12	74	0.16	0.0	-1.49e-05	0.0	3.31e-05	0.0
12	75	0.17	0.0	-1.75e-05	0.0	2.50e-05	0.0
12	76	0.58	0.0	-2.78e-05	0.0	1.11e-04	0.0
12	77	0.17	0.0	-1.75e-05	0.0	4.38e-05	0.0
12	78	0.58	0.0	-2.78e-05	0.0	9.20e-05	0.0
12	79	0.58	0.0	-2.72e-05	0.0	1.11e-04	0.0
12	80	0.27	0.0	-2.16e-05	0.0	4.92e-05	0.0
13	1	0.04	0.0	-0.01	0.0	1.72e-04	0.0
13	2	0.04	0.0	-7.98e-03	0.0	8.84e-05	0.0
13	3	0.04	0.0	-0.01	0.0	1.48e-04	0.0
13	4	0.04	0.0	-7.67e-03	0.0	8.54e-05	0.0
13	5	0.80	0.0	-0.04	0.0	4.51e-04	0.0
13	6	0.86	0.0	-0.03	0.0	4.02e-04	0.0
13	7	1.02	0.0	-0.03	0.0	4.37e-04	0.0
13	8	0.30	0.0	-0.01	0.0	1.72e-04	0.0
13	9	0.36	0.0	-0.01	0.0	1.23e-04	0.0
13	10	0.52	0.0	-0.01	0.0	1.58e-04	0.0
13	11	0.04	0.0	-0.02	0.0	2.02e-04	0.0
13	12	0.04	0.0	-0.01	0.0	1.18e-04	0.0
13	13	0.04	0.0	-0.02	0.0	1.88e-04	0.0
13	14	0.04	0.0	-0.01	0.0	1.26e-04	0.0
13	15	0.80	0.0	-0.03	0.0	4.21e-04	0.0
13	16	0.86	0.0	-0.03	0.0	3.72e-04	0.0
13	17	1.02	0.0	-0.03	0.0	4.07e-04	0.0
13	18	0.30	0.0	-0.01	0.0	1.31e-04	0.0
13	19	0.36	0.0	-7.44e-03	0.0	8.28e-05	0.0
13	20	0.52	0.0	-9.94e-03	0.0	1.18e-04	0.0
13	21	0.80	0.0	-0.03	0.0	4.07e-04	0.0
13	22	0.30	0.0	-0.01	0.0	1.18e-04	0.0
13	23	1.02	0.0	-0.03	0.0	4.14e-04	0.0
13	24	0.52	0.0	-0.01	0.0	1.51e-04	0.0
13	25	0.80	0.0	-0.03	0.0	3.61e-04	0.0
13	26	0.86	0.0	-0.02	0.0	3.11e-04	0.0
13	27	0.30	0.0	-0.01	0.0	1.64e-04	0.0
13	28	0.36	0.0	-9.82e-03	0.0	1.13e-04	0.0
13	29	1.02	0.0	-0.03	0.0	4.33e-04	0.0
13	30	0.50	0.0	-0.02	0.0	1.93e-04	0.0

13	31	0.50	0.0	-9.40e-03	0.0	1.17e-04	0.0
13	32	0.50	0.0	-5.06e-03	0.0	6.21e-05	0.0
13	33	1.02	0.0	-0.03	0.0	3.29e-04	0.0
13	34	0.04	0.0	-8.49e-03	0.0	9.64e-05	0.0
13	35	0.12	0.0	-6.09e-03	0.0	6.88e-05	0.0
13	36	0.19	0.0	-0.01	0.0	1.17e-04	0.0
13	37	0.23	0.0	-7.01e-03	0.0	8.09e-05	0.0
13	38	0.35	0.0	-8.87e-03	0.0	1.07e-04	0.0
13	39	0.04	0.0	-0.01	0.0	1.21e-04	0.0
13	40	0.04	0.0	-6.56e-03	0.0	7.48e-05	0.0
13	41	0.19	0.0	-8.15e-03	0.0	9.19e-05	0.0
13	42	0.23	0.0	-5.10e-03	0.0	5.59e-05	0.0
13	43	0.35	0.0	-6.95e-03	0.0	8.18e-05	0.0
13	44	0.39	0.0	-0.01	0.0	1.40e-04	0.0
13	45	0.35	0.0	-8.59e-03	0.0	1.04e-04	0.0
13	46	0.04	0.0	-0.01	0.0	1.20e-04	0.0
13	47	0.04	0.0	-5.35e-03	0.0	5.81e-05	0.0
13	48	0.04	0.0	-9.03e-03	0.0	1.03e-04	0.0
13	49	0.04	0.0	-5.18e-03	0.0	5.68e-05	0.0
13	50	0.56	0.0	-0.03	0.0	3.18e-04	0.0
13	51	0.60	0.0	-0.02	0.0	2.82e-04	0.0
13	52	0.72	0.0	-0.02	0.0	3.08e-04	0.0
13	53	0.19	0.0	-9.53e-03	0.0	1.10e-04	0.0
13	54	0.23	0.0	-6.48e-03	0.0	7.39e-05	0.0
13	55	0.35	0.0	-8.33e-03	0.0	9.98e-05	0.0
13	56	0.04	0.0	-0.01	0.0	1.33e-04	0.0
13	57	0.04	0.0	-6.33e-03	0.0	7.09e-05	0.0
13	58	0.04	0.0	-0.01	0.0	1.25e-04	0.0
13	59	0.04	0.0	-6.81e-03	0.0	7.81e-05	0.0
13	60	0.56	0.0	-0.02	0.0	2.93e-04	0.0
13	61	0.60	0.0	-0.02	0.0	2.57e-04	0.0
13	62	0.72	0.0	-0.02	0.0	2.82e-04	0.0
13	63	0.19	0.0	-6.96e-03	0.0	7.64e-05	0.0
13	64	0.23	0.0	-3.91e-03	0.0	4.04e-05	0.0
13	65	0.35	0.0	-5.76e-03	0.0	6.63e-05	0.0
13	66	0.56	0.0	-0.02	0.0	2.83e-04	0.0
13	67	0.19	0.0	-6.05e-03	0.0	6.63e-05	0.0
13	68	0.72	0.0	-0.02	0.0	3.05e-04	0.0
13	69	0.35	0.0	-9.12e-03	0.0	1.11e-04	0.0
13	70	0.04	0.0	-2.41e-03	0.0	2.32e-05	0.0
13	71	0.16	0.0	-3.60e-03	0.0	3.87e-05	0.0
13	72	0.04	0.0	-4.16e-03	0.0	4.60e-05	0.0
13	73	0.16	0.0	-1.84e-03	0.0	1.58e-05	0.0
13	74	0.16	0.0	-4.00e-03	0.0	4.39e-05	0.0
13	75	0.17	0.0	-3.50e-03	0.0	3.67e-05	0.0
13	76	0.58	0.0	-0.01	0.0	1.55e-04	0.0
13	77	0.17	0.0	-5.25e-03	0.0	5.96e-05	0.0
13	78	0.58	0.0	-0.01	0.0	1.33e-04	0.0
13	79	0.58	0.0	-0.01	0.0	1.56e-04	0.0
13	80	0.27	0.0	-5.80e-03	0.0	6.38e-05	0.0
14	1	0.04	0.0	-0.01	0.0	-1.43e-04	0.0
14	2	0.04	0.0	-5.74e-03	0.0	-5.92e-05	0.0
14	3	0.04	0.0	-0.01	0.0	-1.19e-04	0.0
14	4	0.04	0.0	-5.43e-03	0.0	-5.63e-05	0.0
14	5	0.80	0.0	0.02	0.0	2.90e-04	0.0
14	6	0.86	0.0	0.03	0.0	3.80e-04	0.0
14	7	1.02	0.0	0.04	0.0	4.88e-04	0.0

14	8	0.30	0.0	5.51e-04	0.0	2.69e-05	0.0
14	9	0.36	0.0	7.86e-03	0.0	1.17e-04	0.0
14	10	0.52	0.0	0.02	0.0	2.26e-04	0.0
14	11	0.04	0.0	-0.01	0.0	-1.73e-04	0.0
14	12	0.04	0.0	-8.04e-03	0.0	-8.92e-05	0.0
14	13	0.04	0.0	-0.01	0.0	-1.59e-04	0.0
14	14	0.04	0.0	-8.51e-03	0.0	-9.65e-05	0.0
14	15	0.80	0.0	0.02	0.0	3.20e-04	0.0
14	16	0.86	0.0	0.03	0.0	4.10e-04	0.0
14	17	1.02	0.0	0.04	0.0	5.18e-04	0.0
14	18	0.30	0.0	3.63e-03	0.0	6.72e-05	0.0
14	19	0.36	0.0	0.01	0.0	1.58e-04	0.0
14	20	0.52	0.0	0.02	0.0	2.66e-04	0.0
14	21	0.80	0.0	0.02	0.0	3.19e-04	0.0
14	22	0.30	0.0	3.40e-03	0.0	6.64e-05	0.0
14	23	1.02	0.0	0.04	0.0	5.11e-04	0.0
14	24	0.52	0.0	0.02	0.0	2.32e-04	0.0
14	25	0.80	0.0	0.03	0.0	4.02e-04	0.0
14	26	0.86	0.0	0.04	0.0	4.79e-04	0.0
14	27	0.30	0.0	-8.06e-04	0.0	1.52e-05	0.0
14	28	0.36	0.0	8.57e-03	0.0	1.28e-04	0.0
14	29	1.02	0.0	0.04	0.0	4.93e-04	0.0
14	30	0.50	0.0	0.03	0.0	3.39e-04	0.0
14	31	0.50	0.0	0.03	0.0	4.15e-04	0.0
14	32	0.50	0.0	0.04	0.0	4.70e-04	0.0
14	33	1.02	0.0	0.05	0.0	6.05e-04	0.0
14	34	0.04	0.0	-6.29e-03	0.0	-6.76e-05	0.0
14	35	0.12	0.0	4.25e-04	0.0	1.65e-05	0.0
14	36	0.19	0.0	-4.70e-04	0.0	8.48e-06	0.0
14	37	0.23	0.0	4.96e-03	0.0	7.57e-05	0.0
14	38	0.35	0.0	0.01	0.0	1.56e-04	0.0
14	39	0.04	0.0	-8.21e-03	0.0	-9.26e-05	0.0
14	40	0.04	0.0	-4.36e-03	0.0	-4.61e-05	0.0
14	41	0.19	0.0	1.45e-03	0.0	3.35e-05	0.0
14	42	0.23	0.0	6.88e-03	0.0	1.01e-04	0.0
14	43	0.35	0.0	0.01	0.0	1.81e-04	0.0
14	44	0.39	0.0	9.22e-03	0.0	1.37e-04	0.0
14	45	0.35	0.0	0.01	0.0	1.58e-04	0.0
14	46	0.04	0.0	-8.28e-03	0.0	-9.14e-05	0.0
14	47	0.04	0.0	-3.15e-03	0.0	-2.94e-05	0.0
14	48	0.04	0.0	-6.83e-03	0.0	-7.46e-05	0.0
14	49	0.04	0.0	-2.98e-03	0.0	-2.81e-05	0.0
14	50	0.56	0.0	0.01	0.0	2.09e-04	0.0
14	51	0.60	0.0	0.02	0.0	2.76e-04	0.0
14	52	0.72	0.0	0.03	0.0	3.57e-04	0.0
14	53	0.19	0.0	6.50e-05	0.0	1.55e-05	0.0
14	54	0.23	0.0	5.49e-03	0.0	8.27e-05	0.0
14	55	0.35	0.0	0.01	0.0	1.63e-04	0.0
14	56	0.04	0.0	-9.26e-03	0.0	-1.04e-04	0.0
14	57	0.04	0.0	-4.12e-03	0.0	-4.22e-05	0.0
14	58	0.04	0.0	-8.46e-03	0.0	-9.59e-05	0.0
14	59	0.04	0.0	-4.61e-03	0.0	-4.94e-05	0.0
14	60	0.56	0.0	0.02	0.0	2.34e-04	0.0
14	61	0.60	0.0	0.02	0.0	3.01e-04	0.0
14	62	0.72	0.0	0.03	0.0	3.82e-04	0.0
14	63	0.19	0.0	2.63e-03	0.0	4.90e-05	0.0
14	64	0.23	0.0	8.06e-03	0.0	1.16e-04	0.0

14	65	0.35	0.0	0.01	0.0	1.97e-04	0.0
14	66	0.56	0.0	0.02	0.0	2.34e-04	0.0
14	67	0.19	0.0	2.46e-03	0.0	4.84e-05	0.0
14	68	0.72	0.0	0.03	0.0	3.59e-04	0.0
14	69	0.35	0.0	0.01	0.0	1.52e-04	0.0
14	70	0.04	0.0	-2.09e-04	0.0	5.58e-06	0.0
14	71	0.16	0.0	4.06e-03	0.0	6.13e-05	0.0
14	72	0.04	0.0	-1.96e-03	0.0	-1.73e-05	0.0
14	73	0.16	0.0	5.81e-03	0.0	8.42e-05	0.0
14	74	0.16	0.0	3.66e-03	0.0	5.61e-05	0.0
14	75	0.18	0.0	7.37e-03	0.0	1.06e-04	0.0
14	76	0.58	0.0	0.02	0.0	3.16e-04	0.0
14	77	0.18	0.0	5.62e-03	0.0	8.28e-05	0.0
14	78	0.58	0.0	0.03	0.0	3.39e-04	0.0
14	79	0.58	0.0	0.02	0.0	3.15e-04	0.0
14	80	0.27	0.0	8.47e-03	0.0	1.23e-04	0.0
15	1	0.10	0.0	8.41e-04	0.0	6.93e-04	0.0
15	2	0.10	0.0	-1.07e-03	0.0	3.21e-04	0.0
15	3	0.11	0.0	7.74e-04	0.0	5.86e-04	0.0
15	4	0.11	0.0	-6.58e-04	0.0	3.07e-04	0.0
15	5	1.50	0.0	0.03	0.0	1.12e-03	0.0
15	6	1.58	0.0	0.03	0.0	8.57e-04	0.0
15	7	1.87	0.0	0.04	0.0	8.57e-04	0.0
15	8	0.41	0.0	2.90e-03	0.0	4.43e-04	0.0
15	9	0.50	0.0	2.81e-03	0.0	1.77e-04	0.0
15	10	0.78	0.0	7.97e-03	0.0	1.77e-04	0.0
15	11	0.04	0.0	-2.46e-03	0.0	5.92e-04	0.0
15	12	0.04	0.0	-4.37e-03	0.0	2.20e-04	0.0
15	13	0.03	0.0	-3.65e-03	0.0	4.50e-04	0.0
15	14	0.03	0.0	-5.08e-03	0.0	1.71e-04	0.0
15	15	1.55	0.0	0.03	0.0	1.22e-03	0.0
15	16	1.64	0.0	0.03	0.0	9.58e-04	0.0
15	17	1.93	0.0	0.04	0.0	9.58e-04	0.0
15	18	0.48	0.0	7.32e-03	0.0	5.78e-04	0.0
15	19	0.57	0.0	7.23e-03	0.0	3.12e-04	0.0
15	20	0.86	0.0	0.01	0.0	3.12e-04	0.0
15	21	1.56	0.0	0.03	0.0	1.23e-03	0.0
15	22	0.50	0.0	5.90e-03	0.0	5.82e-04	0.0
15	23	1.93	0.0	0.04	0.0	8.91e-04	0.0
15	24	0.86	0.0	0.01	0.0	2.59e-04	0.0
15	25	1.50	0.0	0.03	0.0	1.02e-03	0.0
15	26	1.60	0.0	0.03	0.0	8.61e-04	0.0
15	27	0.49	0.0	4.88e-03	0.0	7.04e-04	0.0
15	28	0.56	0.0	6.21e-03	0.0	3.40e-04	0.0
15	29	1.93	0.0	0.04	0.0	9.28e-04	0.0
15	30	1.06	0.0	0.03	0.0	8.75e-04	0.0
15	31	1.06	0.0	0.03	0.0	5.65e-04	0.0
15	32	1.06	0.0	0.02	0.0	4.03e-04	0.0
15	33	1.93	0.0	0.04	0.0	8.96e-04	0.0
15	34	0.09	0.0	7.20e-04	0.0	4.09e-04	0.0
15	35	0.21	0.0	1.47e-03	0.0	2.19e-04	0.0
15	36	0.26	0.0	1.61e-03	0.0	3.24e-04	0.0
15	37	0.33	0.0	1.55e-03	0.0	1.26e-04	0.0
15	38	0.54	0.0	5.38e-03	0.0	1.26e-04	0.0
15	39	0.05	0.0	-2.03e-03	0.0	3.25e-04	0.0
15	40	0.05	0.0	-3.09e-03	0.0	1.18e-04	0.0
15	41	0.31	0.0	4.36e-03	0.0	4.08e-04	0.0

15	42	0.37	0.0	4.29e-03	0.0	2.11e-04	0.0
15	43	0.59	0.0	8.13e-03	0.0	2.10e-04	0.0
15	44	0.65	0.0	8.76e-03	0.0	4.74e-04	0.0
15	45	0.59	0.0	7.52e-03	0.0	1.90e-04	0.0
15	46	0.09	0.0	9.59e-04	0.0	5.06e-04	0.0
15	47	0.09	0.0	-4.59e-04	0.0	2.30e-04	0.0
15	48	0.10	0.0	9.35e-04	0.0	4.29e-04	0.0
15	49	0.10	0.0	-1.29e-04	0.0	2.22e-04	0.0
15	50	1.06	0.0	0.02	0.0	8.10e-04	0.0
15	51	1.12	0.0	0.02	0.0	6.12e-04	0.0
15	52	1.34	0.0	0.03	0.0	6.12e-04	0.0
15	53	0.25	0.0	1.40e-03	0.0	3.04e-04	0.0
15	54	0.32	0.0	1.33e-03	0.0	1.06e-04	0.0
15	55	0.53	0.0	5.16e-03	0.0	1.06e-04	0.0
15	56	0.07	0.0	-4.45e-04	0.0	4.63e-04	0.0
15	57	0.07	0.0	-1.86e-03	0.0	1.87e-04	0.0
15	58	0.06	0.0	-1.40e-03	0.0	3.57e-04	0.0
15	59	0.06	0.0	-2.47e-03	0.0	1.50e-04	0.0
15	60	1.11	0.0	0.02	0.0	8.94e-04	0.0
15	61	1.17	0.0	0.02	0.0	6.97e-04	0.0
15	62	1.38	0.0	0.03	0.0	6.97e-04	0.0
15	63	0.32	0.0	5.08e-03	0.0	4.17e-04	0.0
15	64	0.38	0.0	5.02e-03	0.0	2.19e-04	0.0
15	65	0.59	0.0	8.85e-03	0.0	2.19e-04	0.0
15	66	1.11	0.0	0.02	0.0	8.97e-04	0.0
15	67	0.32	0.0	4.03e-03	0.0	4.19e-04	0.0
15	68	1.38	0.0	0.03	0.0	6.76e-04	0.0
15	69	0.59	0.0	7.74e-03	0.0	2.10e-04	0.0
15	70	0.09	0.0	-5.01e-05	0.0	1.13e-04	0.0
15	71	0.21	0.0	1.35e-04	0.0	3.07e-05	0.0
15	72	0.05	0.0	-2.56e-03	0.0	3.62e-05	0.0
15	73	0.25	0.0	2.65e-03	0.0	1.08e-04	0.0
15	74	0.25	0.0	2.02e-03	0.0	1.22e-04	0.0
15	75	0.33	0.0	3.66e-03	0.0	1.27e-04	0.0
15	76	0.96	0.0	0.01	0.0	2.02e-04	0.0
15	77	0.28	0.0	1.15e-03	0.0	4.99e-05	0.0
15	78	1.01	0.0	0.02	0.0	2.79e-04	0.0
15	79	1.01	0.0	0.02	0.0	2.84e-04	0.0
15	80	0.44	0.0	5.80e-03	0.0	2.73e-04	0.0
16	1	0.02	0.0	-9.37e-04	0.0	-6.63e-04	0.0
16	2	0.02	0.0	-2.85e-03	0.0	-2.91e-04	0.0
16	3	6.28e-03	0.0	-1.00e-03	0.0	-5.56e-04	0.0
16	4	6.48e-03	0.0	-2.44e-03	0.0	-2.77e-04	0.0
16	5	1.52	0.0	-0.04	0.0	4.01e-04	0.0
16	6	1.61	0.0	-0.04	0.0	7.22e-04	0.0
16	7	1.90	0.0	-0.04	0.0	9.47e-04	0.0
16	8	0.46	0.0	-9.46e-03	0.0	-2.31e-04	0.0
16	9	0.54	0.0	-0.01	0.0	9.04e-05	0.0
16	10	0.83	0.0	-0.02	0.0	3.15e-04	0.0
16	11	0.07	0.0	-4.24e-03	0.0	-5.62e-04	0.0
16	12	0.07	0.0	-6.15e-03	0.0	-1.90e-04	0.0
16	13	0.08	0.0	-5.43e-03	0.0	-4.20e-04	0.0
16	14	0.08	0.0	-6.86e-03	0.0	-1.42e-04	0.0
16	15	1.47	0.0	-0.03	0.0	3.00e-04	0.0
16	16	1.55	0.0	-0.04	0.0	6.21e-04	0.0
16	17	1.84	0.0	-0.04	0.0	8.46e-04	0.0
16	18	0.38	0.0	-5.04e-03	0.0	-3.67e-04	0.0

16	19	0.47	0.0	-8.03e-03	0.0	-4.50e-05	0.0
16	20	0.76	0.0	-0.01	0.0	1.79e-04	0.0
16	21	1.48	0.0	-0.03	0.0	4.10e-04	0.0
16	22	0.39	0.0	-5.60e-03	0.0	-2.56e-04	0.0
16	23	1.84	0.0	-0.04	0.0	9.13e-04	0.0
16	24	0.76	0.0	-0.01	0.0	2.33e-04	0.0
16	25	1.50	0.0	-0.03	0.0	3.96e-04	0.0
16	26	1.60	0.0	-0.04	0.0	7.21e-04	0.0
16	27	0.40	0.0	-6.33e-03	0.0	-3.41e-04	0.0
16	28	0.48	0.0	-9.06e-03	0.0	-7.27e-05	0.0
16	29	1.84	0.0	-0.04	0.0	8.76e-04	0.0
16	30	1.09	0.0	-0.03	0.0	4.35e-04	0.0
16	31	1.09	0.0	-0.03	0.0	7.44e-04	0.0
16	32	1.09	0.0	-0.03	0.0	9.07e-04	0.0
16	33	1.84	0.0	-0.04	0.0	9.11e-04	0.0
16	34	0.02	0.0	-1.04e-03	0.0	-3.79e-04	0.0
16	35	0.14	0.0	-4.21e-03	0.0	-1.14e-04	0.0
16	36	0.28	0.0	-6.22e-03	0.0	-1.89e-04	0.0
16	37	0.35	0.0	-8.44e-03	0.0	4.96e-05	0.0
16	38	0.56	0.0	-0.01	0.0	2.16e-04	0.0
16	39	0.07	0.0	-3.79e-03	0.0	-2.95e-04	0.0
16	40	0.07	0.0	-4.85e-03	0.0	-8.81e-05	0.0
16	41	0.24	0.0	-3.47e-03	0.0	-2.74e-04	0.0
16	42	0.30	0.0	-5.69e-03	0.0	-3.46e-05	0.0
16	43	0.52	0.0	-9.90e-03	0.0	1.32e-04	0.0
16	44	0.58	0.0	-0.01	0.0	-1.27e-05	0.0
16	45	0.52	0.0	-0.01	0.0	1.52e-04	0.0
16	46	0.02	0.0	-8.02e-04	0.0	-4.76e-04	0.0
16	47	0.02	0.0	-2.22e-03	0.0	-2.00e-04	0.0
16	48	0.01	0.0	-8.26e-04	0.0	-3.99e-04	0.0
16	49	0.02	0.0	-1.89e-03	0.0	-1.92e-04	0.0
16	50	1.08	0.0	-0.03	0.0	2.97e-04	0.0
16	51	1.15	0.0	-0.03	0.0	5.36e-04	0.0
16	52	1.36	0.0	-0.03	0.0	7.02e-04	0.0
16	53	0.29	0.0	-6.43e-03	0.0	-1.69e-04	0.0
16	54	0.36	0.0	-8.66e-03	0.0	6.97e-05	0.0
16	55	0.57	0.0	-0.01	0.0	2.36e-04	0.0
16	56	0.05	0.0	-2.21e-03	0.0	-4.33e-04	0.0
16	57	0.05	0.0	-3.62e-03	0.0	-1.57e-04	0.0
16	58	0.05	0.0	-3.17e-03	0.0	-3.28e-04	0.0
16	59	0.05	0.0	-4.23e-03	0.0	-1.21e-04	0.0
16	60	1.03	0.0	-0.02	0.0	2.12e-04	0.0
16	61	1.10	0.0	-0.03	0.0	4.51e-04	0.0
16	62	1.31	0.0	-0.03	0.0	6.18e-04	0.0
16	63	0.23	0.0	-2.75e-03	0.0	-2.82e-04	0.0
16	64	0.29	0.0	-4.97e-03	0.0	-4.32e-05	0.0
16	65	0.51	0.0	-9.18e-03	0.0	1.24e-04	0.0
16	66	1.04	0.0	-0.02	0.0	2.95e-04	0.0
16	67	0.24	0.0	-3.17e-03	0.0	-2.00e-04	0.0
16	68	1.31	0.0	-0.03	0.0	6.38e-04	0.0
16	69	0.51	0.0	-0.01	0.0	1.32e-04	0.0
16	70	0.03	0.0	-1.81e-03	0.0	-8.36e-05	0.0
16	71	0.23	0.0	-5.94e-03	0.0	7.01e-05	0.0
16	72	0.07	0.0	-4.33e-03	0.0	-6.53e-06	0.0
16	73	0.19	0.0	-3.42e-03	0.0	-6.93e-06	0.0
16	74	0.19	0.0	-4.06e-03	0.0	-2.14e-05	0.0
16	75	0.26	0.0	-7.05e-03	0.0	9.33e-05	0.0

16	76	0.98	0.0	-0.02	0.0	5.31e-04	0.0
16	77	0.30	0.0	-9.57e-03	0.0	1.70e-04	0.0
16	78	0.94	0.0	-0.02	0.0	4.54e-04	0.0
16	79	0.94	0.0	-0.02	0.0	4.49e-04	0.0
16	80	0.36	0.0	-6.28e-03	0.0	-5.68e-05	0.0

Nodo		Traslazione X	Traslazione Y	Traslazione Z	Rotazione X	Rotazione Y	Rotazione Z
		6.28e-03	0.0	-0.04	0.0	-7.33e-04	0.0
		1.93	0.0	0.05	0.0	1.33e-03	0.0

Nodo	Cmb	Azione X	Azione Y	Azione Z	Azione RX	Azione RY	Azione RZ
		kN	kN	kN	kN m	kN m	kN m
11	1	10.52	0.0	-382.94	0.0	-16.00	0.0
11	2	8.88	0.0	-286.17	0.0	-12.00	0.0
11	3	10.04	0.0	-341.91	0.0	-14.82	0.0
11	4	8.82	0.0	-269.51	0.0	-11.83	0.0
11	5	149.37	0.0	33.73	0.0	-171.60	0.0
11	6	158.44	0.0	126.29	0.0	-180.22	0.0
11	7	187.93	0.0	223.69	0.0	-212.86	0.0
11	8	57.95	0.0	-262.29	0.0	-68.45	0.0
11	9	67.02	0.0	-169.73	0.0	-77.07	0.0
11	10	96.52	0.0	-72.33	0.0	-109.70	0.0
11	11	11.07	0.0	-382.94	0.0	-17.35	0.0
11	12	9.43	0.0	-286.17	0.0	-13.35	0.0
11	13	10.78	0.0	-341.91	0.0	-16.63	0.0
11	14	9.56	0.0	-269.51	0.0	-13.64	0.0
11	15	148.82	0.0	33.73	0.0	-170.25	0.0
11	16	157.89	0.0	126.29	0.0	-178.87	0.0
11	17	187.38	0.0	223.69	0.0	-211.51	0.0
11	18	57.21	0.0	-262.29	0.0	-66.64	0.0
11	19	66.28	0.0	-169.73	0.0	-75.26	0.0
11	20	95.78	0.0	-72.33	0.0	-107.89	0.0
11	21	148.70	0.0	-12.49	0.0	-170.13	0.0
11	22	57.10	0.0	-308.50	0.0	-66.52	0.0
11	23	187.50	0.0	306.32	0.0	-211.78	0.0
11	24	96.40	0.0	10.30	0.0	-109.40	0.0
11	25	146.91	0.0	-103.54	0.0	-165.36	0.0
11	26	156.10	0.0	-57.20	0.0	-174.43	0.0
11	27	58.04	0.0	-365.10	0.0	-68.88	0.0
11	28	66.86	0.0	-186.39	0.0	-76.65	0.0
11	29	187.84	0.0	245.96	0.0	-212.61	0.0
11	30	89.62	0.0	-98.29	0.0	-98.80	0.0
11	31	88.16	0.0	-25.89	0.0	-95.21	0.0
11	32	87.14	0.0	1.33	0.0	-92.70	0.0
11	33	185.26	0.0	62.47	0.0	-206.25	0.0
11	34	9.06	0.0	-250.17	0.0	-12.43	0.0
11	35	22.03	0.0	-169.23	0.0	-25.87	0.0
11	36	36.56	0.0	-204.63	0.0	-43.39	0.0
11	37	43.29	0.0	-135.90	0.0	-49.79	0.0
11	38	65.19	0.0	-63.58	0.0	-74.02	0.0
11	39	9.52	0.0	-250.17	0.0	-13.56	0.0
11	40	8.61	0.0	-196.41	0.0	-11.34	0.0
11	41	36.10	0.0	-204.63	0.0	-42.26	0.0
11	42	42.83	0.0	-135.90	0.0	-48.66	0.0
11	43	64.73	0.0	-63.58	0.0	-72.90	0.0
11	44	72.06	0.0	-159.66	0.0	-82.73	0.0
11	45	65.14	0.0	-47.04	0.0	-73.89	0.0

11	46	9.52	0.0	-280.34	0.0	-13.58	0.0
11	47	8.31	0.0	-208.66	0.0	-10.62	0.0
11	48	9.19	0.0	-250.17	0.0	-12.75	0.0
11	49	8.28	0.0	-196.41	0.0	-10.53	0.0
11	50	104.15	0.0	14.64	0.0	-119.51	0.0
11	51	110.89	0.0	83.37	0.0	-125.92	0.0
11	52	132.79	0.0	155.70	0.0	-150.15	0.0
11	53	36.42	0.0	-204.63	0.0	-43.07	0.0
11	54	43.16	0.0	-135.90	0.0	-49.47	0.0
11	55	65.06	0.0	-63.58	0.0	-73.71	0.0
11	56	9.76	0.0	-280.34	0.0	-14.15	0.0
11	57	8.55	0.0	-208.66	0.0	-11.19	0.0
11	58	9.58	0.0	-250.17	0.0	-13.71	0.0
11	59	8.67	0.0	-196.41	0.0	-11.49	0.0
11	60	103.69	0.0	14.64	0.0	-118.39	0.0
11	61	110.43	0.0	83.37	0.0	-124.79	0.0
11	62	132.33	0.0	155.70	0.0	-149.03	0.0
11	63	35.81	0.0	-204.63	0.0	-41.56	0.0
11	64	42.54	0.0	-135.90	0.0	-47.96	0.0
11	65	64.44	0.0	-63.58	0.0	-72.20	0.0
11	66	103.61	0.0	-19.68	0.0	-118.30	0.0
11	67	35.72	0.0	-238.95	0.0	-41.47	0.0
11	68	132.74	0.0	172.23	0.0	-150.01	0.0
11	69	65.28	0.0	-47.04	0.0	-74.21	0.0
11	70	7.62	0.0	-159.66	0.0	-8.92	0.0
11	71	28.95	0.0	-126.33	0.0	-33.00	0.0
11	72	8.04	0.0	-159.66	0.0	-9.95	0.0
11	73	28.53	0.0	-126.33	0.0	-31.97	0.0
11	74	29.06	0.0	-126.33	0.0	-33.25	0.0
11	75	31.87	0.0	-116.61	0.0	-35.54	0.0
11	76	106.63	0.0	55.66	0.0	-119.74	0.0
11	77	32.30	0.0	-116.61	0.0	-36.57	0.0
11	78	106.21	0.0	55.66	0.0	-118.71	0.0
11	79	106.65	0.0	63.97	0.0	-119.76	0.0
11	80	50.21	0.0	-141.00	0.0	-56.96	0.0
12	1	4.31	0.0	-412.25	0.0	-0.98	0.0
12	2	5.94	0.0	-315.48	0.0	-4.98	0.0
12	3	4.78	0.0	-371.22	0.0	-2.15	0.0
12	4	6.01	0.0	-298.82	0.0	-5.15	0.0
12	5	146.02	0.0	-746.86	0.0	-163.64	0.0
12	6	157.78	0.0	-694.63	0.0	-178.85	0.0
12	7	188.65	0.0	-737.58	0.0	-214.89	0.0
12	8	54.93	0.0	-450.85	0.0	-61.26	0.0
12	9	66.68	0.0	-398.61	0.0	-76.47	0.0
12	10	97.56	0.0	-441.57	0.0	-112.51	0.0
12	11	3.75	0.0	-412.25	0.0	0.37	0.0
12	12	5.39	0.0	-315.48	0.0	-3.63	0.0
12	13	4.04	0.0	-371.22	0.0	-0.34	0.0
12	14	5.27	0.0	-298.82	0.0	-3.34	0.0
12	15	146.57	0.0	-746.86	0.0	-164.99	0.0
12	16	158.33	0.0	-694.63	0.0	-180.20	0.0
12	17	189.21	0.0	-737.58	0.0	-216.24	0.0
12	18	55.67	0.0	-450.85	0.0	-63.07	0.0
12	19	67.42	0.0	-398.61	0.0	-78.28	0.0
12	20	98.30	0.0	-441.57	0.0	-114.32	0.0
12	21	146.69	0.0	-700.65	0.0	-165.45	0.0
12	22	55.78	0.0	-404.63	0.0	-63.52	0.0

12	23	189.09	0.0	-653.99	0.0	-215.98	0.0
12	24	97.68	0.0	-357.97	0.0	-112.82	0.0
12	25	148.48	0.0	-918.08	0.0	-169.31	0.0
12	26	160.12	0.0	-819.63	0.0	-184.41	0.0
12	27	54.84	0.0	-430.10	0.0	-61.27	0.0
12	28	66.85	0.0	-415.27	0.0	-76.88	0.0
12	29	188.75	0.0	-715.31	0.0	-215.14	0.0
12	30	92.89	0.0	-801.64	0.0	-107.03	0.0
12	31	94.35	0.0	-729.24	0.0	-110.62	0.0
12	32	95.37	0.0	-702.03	0.0	-113.13	0.0
12	33	191.32	0.0	-840.31	0.0	-221.27	0.0
12	34	5.77	0.0	-278.52	0.0	-4.55	0.0
12	35	20.88	0.0	-251.94	0.0	-23.25	0.0
12	36	34.27	0.0	-324.06	0.0	-37.98	0.0
12	37	43.01	0.0	-285.27	0.0	-49.28	0.0
12	38	65.93	0.0	-317.17	0.0	-76.04	0.0
12	39	5.31	0.0	-278.52	0.0	-3.43	0.0
12	40	6.22	0.0	-224.76	0.0	-5.65	0.0
12	41	34.73	0.0	-324.06	0.0	-39.11	0.0
12	42	43.47	0.0	-285.27	0.0	-50.40	0.0
12	43	66.39	0.0	-317.17	0.0	-77.17	0.0
12	44	71.68	0.0	-369.03	0.0	-82.02	0.0
12	45	65.98	0.0	-300.63	0.0	-76.18	0.0
12	46	5.30	0.0	-308.69	0.0	-3.41	0.0
12	47	6.51	0.0	-237.01	0.0	-6.37	0.0
12	48	5.64	0.0	-278.52	0.0	-4.23	0.0
12	49	6.54	0.0	-224.76	0.0	-6.45	0.0
12	50	101.87	0.0	-543.33	0.0	-114.11	0.0
12	51	110.60	0.0	-504.54	0.0	-125.41	0.0
12	52	133.53	0.0	-536.44	0.0	-152.17	0.0
12	53	34.41	0.0	-324.06	0.0	-38.30	0.0
12	54	43.14	0.0	-285.27	0.0	-49.60	0.0
12	55	66.07	0.0	-317.17	0.0	-76.36	0.0
12	56	5.07	0.0	-308.69	0.0	-2.83	0.0
12	57	6.28	0.0	-237.01	0.0	-5.79	0.0
12	58	5.24	0.0	-278.52	0.0	-3.27	0.0
12	59	6.15	0.0	-224.76	0.0	-5.50	0.0
12	60	102.33	0.0	-543.33	0.0	-115.24	0.0
12	61	111.06	0.0	-504.54	0.0	-126.53	0.0
12	62	133.99	0.0	-536.44	0.0	-153.29	0.0
12	63	35.02	0.0	-324.06	0.0	-39.81	0.0
12	64	43.75	0.0	-285.27	0.0	-51.11	0.0
12	65	66.68	0.0	-317.17	0.0	-77.87	0.0
12	66	102.42	0.0	-509.01	0.0	-115.57	0.0
12	67	35.11	0.0	-289.74	0.0	-40.15	0.0
12	68	133.58	0.0	-519.90	0.0	-152.31	0.0
12	69	65.85	0.0	-300.63	0.0	-75.86	0.0
12	70	7.21	0.0	-188.01	0.0	-8.06	0.0
12	71	29.27	0.0	-221.34	0.0	-33.94	0.0
12	72	6.79	0.0	-188.01	0.0	-7.03	0.0
12	73	29.69	0.0	-221.34	0.0	-34.97	0.0
12	74	29.16	0.0	-221.34	0.0	-33.69	0.0
12	75	32.92	0.0	-258.73	0.0	-38.38	0.0
12	76	109.34	0.0	-411.64	0.0	-126.70	0.0
12	77	32.50	0.0	-258.73	0.0	-37.35	0.0
12	78	109.76	0.0	-411.64	0.0	-127.73	0.0
12	79	109.33	0.0	-403.33	0.0	-126.68	0.0

12	80	51.06	0.0	-319.37	0.0	-59.25	0.0
Nodo		**Azione X**	**Azione Y**	**Azione Z**	**Azione RX**	**Azione RY**	**Azione RZ**
		3.75	0.0	-918.08	0.0	-221.27	0.0
		191.32	0.0	306.32	0.0	0.37	0.0

Nodo	**Cmb**	**Azione X**	**Azione Y**	**Azione Z**	**Azione RX**	**Azione RY**	**Azione RZ**
		kN	kN	kN	kN m	kN m	kN m
11	11	11.07	0.0	-382.94	0.0	-17.35	0.0
	23	187.50	0.0	306.32	0.0	-211.78	0.0
	32	87.14	0.0	1.33	0.0	-92.70	0.0
	1	10.52	0.0	-382.94	0.0	-16.00	0.0
	7	187.93	0.0	223.69	0.0	-212.86	0.0
	70	7.62	0.0	-159.66	0.0	-8.92	0.0
12	25	148.48	0.0	-918.08	0.0	-169.31	0.0
	72	6.79	0.0	-188.01	0.0	-7.03	0.0
	1	4.31	0.0	-412.25	0.0	-0.98	0.0
	32	95.37	0.0	-702.03	0.0	-113.13	0.0
	33	191.32	0.0	-840.31	0.0	-221.27	0.0
	11	3.75	0.0	-412.25	0.0	0.37	0.0

RISULTATI OPERE DI FONDAZIONE
LEGENDA RISULTATI OPERE DI FONDAZIONE

Il controllo dei risultati delle analisi condotte, per quanto concerne le opere di fondazione, è possibile in relazione alle tabelle sottoriportate.

La prima tabella è riferita alle fondazioni tipo palo e plinto su pali.
Per questo tipo di fondazione vengono riportate le sei componenti di sollecitazione (espresse nel riferimento globale della struttura) per ogni palo componente l'opera.
In particolare viene riportato:

Nodo	numero del nodo a cui è applicato il plinto
Tipo	codice corrispondente al nome assegnato al tipo di plinto di fondazione: 3) palo singolo (*PALO*) 4) plinto su palo 5) plinto su due pali (*PL.2P*) 6) plinto su tre pali (*PL.3P*) 7) plinto su quattro pali (*PL.4P*) 8) plinto rettangolare su cinque pali (*PL.5P.R*) 9) plinto pentagonale su cinque pali (*PL.5P*) 10) plinto su sei pali (*PL.6P*)
Palo	numero del palo
Comb.	combinazione di carico in cui si verificano le sei componenti di sollecitazione.
Quota	quota assoluta della sezione del palo per cui si riportano le sei componenti di sollecitazione.

L'azione Fz (corrispondente allo sforzo normale nel palo) è costante poiché il peso del palo stesso non è considerato nella modellazione.

La seconda tabella è riferita alle fondazioni tipo plinto su suolo elastico.
Per questo tipo di fondazione vengono riportate le pressioni nei quattro vertici dell'impronta sul terreno.
In particolare viene riportato:

Nodo		numero del nodo a cui è applicato il plinto
Tipo		Codice identificativo del nome assegnato al plinto
area		area dell'impronta del plinto
Wink O	**Wink V**	coefficienti di Winkler (orizzontale e verticale) adottati
Comb		Combinazione di carico in cui si verificano i valori riportati

Pt (P1 P2 P3 P4)	valori di pressione nei vertici

La terza tabella è riferita alle fondazioni tipo platea su suolo elastico.
Per questo tipo di fondazione vengono riportate le pressioni in ogni vertice (nodo) degli elementi costituenti la platea.

La quarta tabella è riferita alle fondazioni tipo trave su suolo elastico.
Per questo tipo di fondazione vengono riportate le pressioni alle estremità dell'elemento e la massima (in valore assoluto) pressione lungo lo sviluppo dell'elemento.
Vengono inoltre riportati, con funzione statistica, i valori massimo e minimo delle pressioni che compaiono nella tabella.

Con riferimento al **Documento di Affidabilità** "*Test di validazione del software di calcolo PRO_SAP e dei moduli aggiuntivi PRO_SAP Modulo Geotecnico, PRO_CAD nodi acciaio e PRO_MST*" - versione Maggio 2011, disponibile per il download sul sito **www.2si.it**, si segnalano i seguenti esempi applicativi:

Test N°	Titolo
96	PLINTO SUPERFICIALE
97	PLINTO SUPERFICIALE
98	PLINTO SUPERFICIALE
99	PLINTO SUPERFICIALE
100	PLINTO SUPERFICIALE
101	PLINTO SUPERFICIALE
102	PLINTO SUPERFICIALE
103	PLINTO SUPERFICIALE
104	PLINTO SUPERFICIALE
105	PLINTO SUPERFICIALE
106	PLINTO SUPERFICIALE
107	PLINTO SUPERFICIALE
108	PLINTO SUPERFICIALE
109	PLINTO SUPERFICIALE
110	PLINTO SUPERFICIALE
111	PLINTO SUPERFICIALE
112	PLINTO SUPERFICIALE
113	PLINTO SUPERFICIALE
114	PLINTO SUPERFICIALE
115	FONDAZIONE NASTRIFORME
116	CALCOLO DEI K DI WINKLER

Nodo	Tipo	Palo	Cmb	Quota	Fx	Fy	Fz	Mx	My	Mz
				m	kN	kN	kN	kN m	kN m	kN m
11	PALO D 80.00	1	1	0.0	10.52	0.0	-382.94	0.0	-16.00	0.0
		1	2	0.0	8.88	0.0	-286.17	0.0	-12.00	0.0
		1	3	0.0	10.04	0.0	-341.91	0.0	-14.82	0.0
		1	4	0.0	8.82	0.0	-269.51	0.0	-11.83	0.0
		1	5	0.0	149.37	0.0	33.73	0.0	-171.60	0.0
		1	6	0.0	158.44	0.0	126.29	0.0	-180.22	0.0
		1	7	0.0	187.93	0.0	223.69	0.0	-212.86	0.0
		1	8	0.0	57.95	0.0	-262.29	0.0	-68.45	0.0
		1	9	0.0	67.02	0.0	-169.73	0.0	-77.07	0.0

Nodo	Tipo	Palo	Cmb	Quota	Fx	Fy	Fz	Mx	My	Mz
		1	10	0.0	96.52	0.0	-72.33	0.0	-109.70	0.0
		1	11	0.0	11.07	0.0	-382.94	0.0	-17.35	0.0
		1	12	0.0	9.43	0.0	-286.17	0.0	-13.35	0.0
		1	13	0.0	10.78	0.0	-341.91	0.0	-16.63	0.0
		1	14	0.0	9.56	0.0	-269.51	0.0	-13.64	0.0
		1	15	0.0	148.82	0.0	33.73	0.0	-170.25	0.0
		1	16	0.0	157.89	0.0	126.29	0.0	-178.87	0.0
		1	17	0.0	187.38	0.0	223.69	0.0	-211.51	0.0
		1	18	0.0	57.21	0.0	-262.29	0.0	-66.64	0.0
		1	19	0.0	66.28	0.0	-169.73	0.0	-75.26	0.0
		1	20	0.0	95.78	0.0	-72.33	0.0	-107.89	0.0
		1	21	0.0	148.70	0.0	-12.49	0.0	-170.13	0.0
		1	22	0.0	57.10	0.0	-308.50	0.0	-66.52	0.0
		1	23	0.0	187.50	0.0	306.32	0.0	-211.78	0.0
		1	24	0.0	96.40	0.0	10.30	0.0	-109.40	0.0
		1	25	0.0	146.91	0.0	-103.54	0.0	-165.36	0.0
		1	26	0.0	156.10	0.0	-57.20	0.0	-174.43	0.0
		1	27	0.0	58.04	0.0	-365.10	0.0	-68.88	0.0
		1	28	0.0	66.86	0.0	-186.39	0.0	-76.65	0.0
		1	29	0.0	187.84	0.0	245.96	0.0	-212.61	0.0
		1	30	0.0	89.62	0.0	-98.29	0.0	-98.80	0.0
		1	31	0.0	88.16	0.0	-25.89	0.0	-95.21	0.0
		1	32	0.0	87.14	0.0	1.33	0.0	-92.70	0.0
		1	33	0.0	185.26	0.0	62.47	0.0	-206.25	0.0
		1	34	0.0	9.06	0.0	-250.17	0.0	-12.43	0.0
		1	35	0.0	22.03	0.0	-169.23	0.0	-25.87	0.0
		1	36	0.0	36.56	0.0	-204.63	0.0	-43.39	0.0
		1	37	0.0	43.29	0.0	-135.90	0.0	-49.79	0.0
		1	38	0.0	65.19	0.0	-63.58	0.0	-74.02	0.0
		1	39	0.0	9.52	0.0	-250.17	0.0	-13.56	0.0
		1	40	0.0	8.61	0.0	-196.41	0.0	-11.34	0.0
		1	41	0.0	36.10	0.0	-204.63	0.0	-42.26	0.0
		1	42	0.0	42.83	0.0	-135.90	0.0	-48.66	0.0
		1	43	0.0	64.73	0.0	-63.58	0.0	-72.90	0.0
		1	44	0.0	72.06	0.0	-159.66	0.0	-82.73	0.0
		1	45	0.0	65.14	0.0	-47.04	0.0	-73.89	0.0
		1	46	0.0	9.52	0.0	-280.34	0.0	-13.58	0.0
		1	47	0.0	8.31	0.0	-208.66	0.0	-10.62	0.0
		1	48	0.0	9.19	0.0	-250.17	0.0	-12.75	0.0
		1	49	0.0	8.28	0.0	-196.41	0.0	-10.53	0.0
		1	50	0.0	104.15	0.0	14.64	0.0	-119.51	0.0
		1	51	0.0	110.89	0.0	83.37	0.0	-125.92	0.0
		1	52	0.0	132.79	0.0	155.70	0.0	-150.15	0.0
		1	53	0.0	36.42	0.0	-204.63	0.0	-43.07	0.0
		1	54	0.0	43.16	0.0	-135.90	0.0	-49.47	0.0
		1	55	0.0	65.06	0.0	-63.58	0.0	-73.71	0.0
		1	56	0.0	9.76	0.0	-280.34	0.0	-14.15	0.0
		1	57	0.0	8.55	0.0	-208.66	0.0	-11.19	0.0
		1	58	0.0	9.58	0.0	-250.17	0.0	-13.71	0.0
		1	59	0.0	8.67	0.0	-196.41	0.0	-11.49	0.0
		1	60	0.0	103.69	0.0	14.64	0.0	-118.39	0.0
		1	61	0.0	110.43	0.0	83.37	0.0	-124.79	0.0
		1	62	0.0	132.33	0.0	155.70	0.0	-149.03	0.0
		1	63	0.0	35.81	0.0	-204.63	0.0	-41.56	0.0
		1	64	0.0	42.54	0.0	-135.90	0.0	-47.96	0.0

Nodo	Tipo	Palo	Cmb	Quota	Fx	Fy	Fz	Mx	My	Mz
		1	65	0.0	64.44	0.0	-63.58	0.0	-72.20	0.0
		1	66	0.0	103.61	0.0	-19.68	0.0	-118.30	0.0
		1	67	0.0	35.72	0.0	-238.95	0.0	-41.47	0.0
		1	68	0.0	132.74	0.0	172.23	0.0	-150.01	0.0
		1	69	0.0	65.28	0.0	-47.04	0.0	-74.21	0.0
		1	70	0.0	7.62	0.0	-159.66	0.0	-8.92	0.0
		1	71	0.0	28.95	0.0	-126.33	0.0	-33.00	0.0
		1	72	0.0	8.04	0.0	-159.66	0.0	-9.95	0.0
		1	73	0.0	28.53	0.0	-126.33	0.0	-31.97	0.0
		1	74	0.0	29.06	0.0	-126.33	0.0	-33.25	0.0
		1	75	0.0	31.87	0.0	-116.61	0.0	-35.54	0.0
		1	76	0.0	106.63	0.0	55.66	0.0	-119.74	0.0
		1	77	0.0	32.30	0.0	-116.61	0.0	-36.57	0.0
		1	78	0.0	106.21	0.0	55.66	0.0	-118.71	0.0
		1	79	0.0	106.65	0.0	63.97	0.0	-119.76	0.0
		1	80	0.0	50.21	0.0	-141.00	0.0	-56.96	0.0
12	PALO D 80.00	1	1	0.0	4.31	0.0	-412.25	0.0	-0.98	0.0
		1	2	0.0	5.94	0.0	-315.48	0.0	-4.98	0.0
		1	3	0.0	4.78	0.0	-371.22	0.0	-2.15	0.0
		1	4	0.0	6.01	0.0	-298.82	0.0	-5.15	0.0
		1	5	0.0	146.02	0.0	-746.86	0.0	-163.64	0.0
		1	6	0.0	157.78	0.0	-694.63	0.0	-178.85	0.0
		1	7	0.0	188.65	0.0	-737.58	0.0	-214.89	0.0
		1	8	0.0	54.93	0.0	-450.85	0.0	-61.26	0.0
		1	9	0.0	66.68	0.0	-398.61	0.0	-76.47	0.0
		1	10	0.0	97.56	0.0	-441.57	0.0	-112.51	0.0
		1	11	0.0	3.75	0.0	-412.25	0.0	0.37	0.0
		1	12	0.0	5.39	0.0	-315.48	0.0	-3.63	0.0
		1	13	0.0	4.04	0.0	-371.22	0.0	-0.34	0.0
		1	14	0.0	5.27	0.0	-298.82	0.0	-3.34	0.0
		1	15	0.0	146.57	0.0	-746.86	0.0	-164.99	0.0
		1	16	0.0	158.33	0.0	-694.63	0.0	-180.20	0.0
		1	17	0.0	189.21	0.0	-737.58	0.0	-216.24	0.0
		1	18	0.0	55.67	0.0	-450.85	0.0	-63.07	0.0
		1	19	0.0	67.42	0.0	-398.61	0.0	-78.28	0.0
		1	20	0.0	98.30	0.0	-441.57	0.0	-114.32	0.0
		1	21	0.0	146.69	0.0	-700.65	0.0	-165.45	0.0
		1	22	0.0	55.78	0.0	-404.63	0.0	-63.52	0.0
		1	23	0.0	189.09	0.0	-653.99	0.0	-215.98	0.0
		1	24	0.0	97.68	0.0	-357.97	0.0	-112.82	0.0
		1	25	0.0	148.48	0.0	-918.08	0.0	-169.31	0.0
		1	26	0.0	160.12	0.0	-819.63	0.0	-184.41	0.0
		1	27	0.0	54.84	0.0	-430.10	0.0	-61.27	0.0
		1	28	0.0	66.85	0.0	-415.27	0.0	-76.88	0.0
		1	29	0.0	188.75	0.0	-715.31	0.0	-215.14	0.0
		1	30	0.0	92.89	0.0	-801.64	0.0	-107.03	0.0
		1	31	0.0	94.35	0.0	-729.24	0.0	-110.62	0.0
		1	32	0.0	95.37	0.0	-702.03	0.0	-113.13	0.0
		1	33	0.0	191.32	0.0	-840.31	0.0	-221.27	0.0
		1	34	0.0	5.77	0.0	-278.52	0.0	-4.55	0.0
		1	35	0.0	20.88	0.0	-251.94	0.0	-23.25	0.0
		1	36	0.0	34.27	0.0	-324.06	0.0	-37.98	0.0
		1	37	0.0	43.01	0.0	-285.27	0.0	-49.28	0.0
		1	38	0.0	65.93	0.0	-317.17	0.0	-76.04	0.0
		1	39	0.0	5.31	0.0	-278.52	0.0	-3.43	0.0

Nodo	Tipo	Palo	Cmb	Quota	Fx	Fy	Fz	Mx	My	Mz
		1	40	0.0	6.22	0.0	-224.76	0.0	-5.65	0.0
		1	41	0.0	34.73	0.0	-324.06	0.0	-39.11	0.0
		1	42	0.0	43.47	0.0	-285.27	0.0	-50.40	0.0
		1	43	0.0	66.39	0.0	-317.17	0.0	-77.17	0.0
		1	44	0.0	71.68	0.0	-369.03	0.0	-82.02	0.0
		1	45	0.0	65.98	0.0	-300.63	0.0	-76.18	0.0
		1	46	0.0	5.30	0.0	-308.69	0.0	-3.41	0.0
		1	47	0.0	6.51	0.0	-237.01	0.0	-6.37	0.0
		1	48	0.0	5.64	0.0	-278.52	0.0	-4.23	0.0
		1	49	0.0	6.54	0.0	-224.76	0.0	-6.45	0.0
		1	50	0.0	101.87	0.0	-543.33	0.0	-114.11	0.0
		1	51	0.0	110.60	0.0	-504.54	0.0	-125.41	0.0
		1	52	0.0	133.53	0.0	-536.44	0.0	-152.17	0.0
		1	53	0.0	34.41	0.0	-324.06	0.0	-38.30	0.0
		1	54	0.0	43.14	0.0	-285.27	0.0	-49.60	0.0
		1	55	0.0	66.07	0.0	-317.17	0.0	-76.36	0.0
		1	56	0.0	5.07	0.0	-308.69	0.0	-2.83	0.0
		1	57	0.0	6.28	0.0	-237.01	0.0	-5.79	0.0
		1	58	0.0	5.24	0.0	-278.52	0.0	-3.27	0.0
		1	59	0.0	6.15	0.0	-224.76	0.0	-5.50	0.0
		1	60	0.0	102.33	0.0	-543.33	0.0	-115.24	0.0
		1	61	0.0	111.06	0.0	-504.54	0.0	-126.53	0.0
		1	62	0.0	133.99	0.0	-536.44	0.0	-153.29	0.0
		1	63	0.0	35.02	0.0	-324.06	0.0	-39.81	0.0
		1	64	0.0	43.75	0.0	-285.27	0.0	-51.11	0.0
		1	65	0.0	66.68	0.0	-317.17	0.0	-77.87	0.0
		1	66	0.0	102.42	0.0	-509.01	0.0	-115.57	0.0
		1	67	0.0	35.11	0.0	-289.74	0.0	-40.15	0.0
		1	68	0.0	133.58	0.0	-519.90	0.0	-152.31	0.0
		1	69	0.0	65.85	0.0	-300.63	0.0	-75.86	0.0
		1	70	0.0	7.21	0.0	-188.01	0.0	-8.06	0.0
		1	71	0.0	29.27	0.0	-221.34	0.0	-33.94	0.0
		1	72	0.0	6.79	0.0	-188.01	0.0	-7.03	0.0
		1	73	0.0	29.69	0.0	-221.34	0.0	-34.97	0.0
		1	74	0.0	29.16	0.0	-221.34	0.0	-33.69	0.0
		1	75	0.0	32.92	0.0	-258.73	0.0	-38.38	0.0
		1	76	0.0	109.34	0.0	-411.64	0.0	-126.70	0.0
		1	77	0.0	32.50	0.0	-258.73	0.0	-37.35	0.0
		1	78	0.0	109.76	0.0	-411.64	0.0	-127.73	0.0
		1	79	0.0	109.33	0.0	-403.33	0.0	-126.68	0.0
		1	80	0.0	51.06	0.0	-319.37	0.0	-59.25	0.0
Nodo					**Fx**	**Fy**	**Fz**	**Mx**	**My**	**Mz**
					3.75	0.0	-918.08	0.0	-221.27	0.0
					191.32	0.0	306.32	0.0	0.37	0.0

8.

9.

RISULTATI ELEMENTI TIPO TRAVE

LEGENDA RISULTATI ELEMENTI TIPO TRAVE

Il controllo dei risultati delle analisi condotte, per quanto concerne gli elementi tipo trave, è possibile in relazione alle tabelle sottoriportate.

Gli elementi vengono suddivisi, in relazione alle proprietà in elementi:

- tipo **pilastro**
- tipo **trave in elevazione**
- tipo **trave in fondazione**

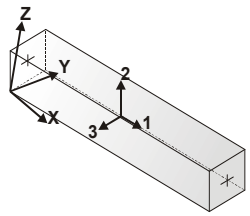
Per ogni elemento, e per ogni combinazione (o caso di carico) vengono riportati i risultati più significativi.

Per gli elementi tipo *pilastro* sono riportati in tabella i seguenti valori:

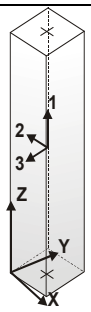
Pilas.	numero dell'elemento pilastro
Cmb	combinazione in cui si verificano i valori riportati
M3 mx/mn	momento flettente in campata M3 max (prima riga) / min (seconda riga)
M2 mx/mn	momento flettente in campata M2 max (prima riga) / min (seconda riga)
D2/D3	freccia massima in direzione 2 (prima riga) / direzione 3 (seconda riga)
Q2/Q3	carico totale in direzione 2 (prima riga) / direzione 3 (seconda riga)
Pos.	ascissa del punto iniziale e finale dell'elemento
N, V2, ecc..	sei componenti di sollecitazione al piede ed in sommità dell'elemento

Per gli elementi tipo *trave in elevazione* sono riportati, oltre al numero dell'elemento, i medesimi risultati visti per i pilastri.

Per gli elementi tipo *trave in fondazione* (trave f.) sono riportati, oltre al numero dell'elemento, i medesimi risultati visti per i pilastri e la massima pressione sul terreno.



orientamento elementi 2D non verticali



orientamento elementi 2D verticali

Pilas.	Cmb	M3 mx/mn	M2 mx/mn	D 2 / D 3	Q 2 / Q 3	Pos.	N	V 2	V 3	T	M 2	M 3
		kN m	kN m	m	kN	cm	kN	kN	kN	kN m	kN m	kN m
2	1	-4.47	0.0	-5.23e-05	-7.07	0.0	-294.13	23.35	0.0	0.0	0.0	-12.38
		-12.38	0.0	0.0	0.0	20.0	-291.09	19.75	0.0	0.0	0.0	-8.07
						40.0	-288.05	16.29	0.0	0.0	0.0	-4.47
2	2	-17.45	0.0	-1.19e-05	-7.07	0.0	-197.36	41.49	0.0	0.0	0.0	-32.62
		-32.62	0.0	0.0	0.0	20.0	-194.32	37.89	0.0	0.0	0.0	-24.68
						40.0	-191.28	34.42	0.0	0.0	0.0	-17.45
2	3	-2.43	0.0	-4.20e-05	-7.07	0.0	-253.10	31.59	0.0	0.0	0.0	-13.64
		-13.64	0.0	0.0	0.0	20.0	-250.06	27.99	0.0	0.0	0.0	-7.68
						40.0	-247.02	24.53	0.0	0.0	0.0	-2.43
2	4	-12.15	0.0	-1.18e-05	-7.07	0.0	-180.70	45.16	0.0	0.0	0.0	-28.78
		-28.78	0.0	0.0	0.0	20.0	-177.66	41.56	0.0	0.0	0.0	-20.11
						40.0	-174.62	38.09	0.0	0.0	0.0	-12.15
2	5	-282.03	0.0	-2.32e-04	-22.17	0.0	-150.71	194.12	0.0	0.0	0.0	-355.19
		-355.19	0.0	0.0	0.0	20.0	-147.67	182.83	0.0	0.0	0.0	-317.50
						40.0	-144.63	171.95	0.0	0.0	0.0	-282.03
2	6	-307.28	0.0	-2.81e-04	-23.88	0.0	-74.67	223.84	0.0	0.0	0.0	-391.98
		-391.98	0.0	0.0	0.0	20.0	-71.63	211.70	0.0	0.0	0.0	-348.44
						40.0	-68.59	199.96	0.0	0.0	0.0	-307.28
2	7	-365.69	0.0	-3.49e-04	-24.76	0.0	-32.46	268.54	0.0	0.0	0.0	-468.12
		-468.12	0.0	0.0	0.0	20.0	-29.42	256.05	0.0	0.0	0.0	-415.67
						40.0	-26.39	243.78	0.0	0.0	0.0	-365.69

2	8	-82.00	0.0	-5.05e-05	-22.17	0.0	-241.58	100.87	0.0	0.0	0.0	-117.86
		-117.86	0.0	0.0	0.0	20.0	-238.54	89.58	0.0	0.0	0.0	-98.82
						40.0	-235.51	78.70	0.0	0.0	0.0	-82.00
2	9	-107.24	0.0	-9.90e-05	-23.88	0.0	-165.54	130.59	0.0	0.0	0.0	-154.65
		-154.65	0.0	0.0	0.0	20.0	-162.50	118.45	0.0	0.0	0.0	-129.75
						40.0	-159.47	106.71	0.0	0.0	0.0	-107.24
2	10	-165.66	0.0	-1.67e-04	-24.76	0.0	-123.34	175.30	0.0	0.0	0.0	-230.79
		-230.79	0.0	0.0	0.0	20.0	-120.30	162.80	0.0	0.0	0.0	-196.99
						40.0	-117.26	150.53	0.0	0.0	0.0	-165.66
2	11	12.10	0.0	-7.04e-05	-7.07	0.0	-294.13	17.05	0.0	0.0	0.0	6.71
		6.71	0.0	0.0	0.0	20.0	-291.09	13.45	0.0	0.0	0.0	9.76
						40.0	-288.05	9.99	0.0	0.0	0.0	12.10
2	12	-0.88	0.0	-3.01e-05	-7.07	0.0	-197.36	35.19	0.0	0.0	0.0	-13.53
		-13.53	0.0	0.0	0.0	20.0	-194.32	31.59	0.0	0.0	0.0	-6.85
						40.0	-191.28	28.12	0.0	0.0	0.0	-0.88
2	13	19.78	0.0	-6.64e-05	-7.07	0.0	-253.10	23.14	0.0	0.0	0.0	11.95
		11.95	0.0	0.0	0.0	20.0	-250.06	19.54	0.0	0.0	0.0	16.22
						40.0	-247.02	16.08	0.0	0.0	0.0	19.78
2	14	10.07	0.0	-3.62e-05	-7.07	0.0	-180.70	36.71	0.0	0.0	0.0	-3.19
		-3.19	0.0	0.0	0.0	20.0	-177.66	33.11	0.0	0.0	0.0	3.79
						40.0	-174.62	29.65	0.0	0.0	0.0	10.07
2	15	-298.60	0.0	-2.51e-04	-22.17	0.0	-150.71	200.42	0.0	0.0	0.0	-374.28
		-374.28	0.0	0.0	0.0	20.0	-147.67	189.13	0.0	0.0	0.0	-335.33
						40.0	-144.63	178.25	0.0	0.0	0.0	-298.60
2	16	-323.85	0.0	-2.99e-04	-23.88	0.0	-74.67	230.14	0.0	0.0	0.0	-411.07
		-411.07	0.0	0.0	0.0	20.0	-71.63	218.00	0.0	0.0	0.0	-366.27
						40.0	-68.59	206.26	0.0	0.0	0.0	-323.85
2	17	-382.26	0.0	-3.67e-04	-24.76	0.0	-32.46	274.84	0.0	0.0	0.0	-487.21
		-487.21	0.0	0.0	0.0	20.0	-29.42	262.35	0.0	0.0	0.0	-433.50
						40.0	-26.39	250.08	0.0	0.0	0.0	-382.26
2	18	-104.21	0.0	-7.48e-05	-22.17	0.0	-241.58	109.32	0.0	0.0	0.0	-143.45
		-143.45	0.0	0.0	0.0	20.0	-238.54	98.03	0.0	0.0	0.0	-122.72
						40.0	-235.51	87.14	0.0	0.0	0.0	-104.21
2	19	-129.46	0.0	-1.23e-04	-23.88	0.0	-165.54	139.04	0.0	0.0	0.0	-180.24
		-180.24	0.0	0.0	0.0	20.0	-162.50	126.90	0.0	0.0	0.0	-153.65
						40.0	-159.47	115.16	0.0	0.0	0.0	-129.46
2	20	-187.87	0.0	-1.92e-04	-24.76	0.0	-123.34	183.74	0.0	0.0	0.0	-256.38
		-256.38	0.0	0.0	0.0	20.0	-120.30	171.25	0.0	0.0	0.0	-220.89
						40.0	-117.26	158.98	0.0	0.0	0.0	-187.87
2	21	-304.86	0.0	-2.53e-04	-22.17	0.0	-190.73	203.38	0.0	0.0	0.0	-381.72
		-381.72	0.0	0.0	0.0	20.0	-187.69	192.10	0.0	0.0	0.0	-342.18
						40.0	-184.65	181.21	0.0	0.0	0.0	-304.86
2	22	-110.46	0.0	-7.70e-05	-22.17	0.0	-281.60	112.28	0.0	0.0	0.0	-150.89
		-150.89	0.0	0.0	0.0	20.0	-278.56	100.99	0.0	0.0	0.0	-129.57
						40.0	-275.52	90.11	0.0	0.0	0.0	-110.46
2	23	-356.02	0.0	-3.57e-04	-24.76	0.0	24.31	281.05	0.0	0.0	0.0	-463.45
		-463.45	0.0	0.0	0.0	20.0	26.56	268.56	0.0	0.0	0.0	-408.50
						40.0	28.81	256.28	0.0	0.0	0.0	-356.02
2	24	-143.72	0.0	-1.65e-04	-24.76	0.0	-66.57	191.79	0.0	0.0	0.0	-215.45
		-215.45	0.0	0.0	0.0	20.0	-64.32	179.30	0.0	0.0	0.0	-178.35
						40.0	-62.07	167.02	0.0	0.0	0.0	-143.72
2	25	-255.31	0.0	-2.69e-04	-22.17	0.0	-110.62	195.43	0.0	0.0	0.0	-328.99
		-328.99	0.0	0.0	0.0	20.0	-107.58	184.14	0.0	0.0	0.0	-291.04
						40.0	-104.55	173.26	0.0	0.0	0.0	-255.31
2	26	-281.03	0.0	-3.12e-04	-23.88	0.0	-74.60	222.19	0.0	0.0	0.0	-365.08
		-365.08	0.0	0.0	0.0	20.0	-71.56	210.05	0.0	0.0	0.0	-321.86
						40.0	-68.52	198.31	0.0	0.0	0.0	-281.03

2	27	-96.70	0.0	-5.13e-05	-22.17	0.0	-336.10	106.88	0.0	0.0	0.0	-134.96
		-134.96	0.0	0.0	0.0	20.0	-333.07	95.60	0.0	0.0	0.0	-114.72
						40.0	-330.03	84.71	0.0	0.0	0.0	-96.70
2	28	-116.85	0.0	-1.07e-04	-23.88	0.0	-182.20	137.21	0.0	0.0	0.0	-166.91
		-166.91	0.0	0.0	0.0	20.0	-179.16	125.07	0.0	0.0	0.0	-140.69
						40.0	-176.13	113.33	0.0	0.0	0.0	-116.85
2	29	-356.50	0.0	-3.50e-04	-24.76	0.0	-10.19	279.85	0.0	0.0	0.0	-463.46
		-463.46	0.0	0.0	0.0	20.0	-7.15	267.36	0.0	0.0	0.0	-408.74
						40.0	-4.12	255.09	0.0	0.0	0.0	-356.50
2	30	-223.14	0.0	-2.30e-04	-22.17	0.0	-129.68	172.89	0.0	0.0	0.0	-287.81
		-287.81	0.0	0.0	0.0	20.0	-127.43	161.60	0.0	0.0	0.0	-254.36
						40.0	-125.18	150.72	0.0	0.0	0.0	-223.14
2	31	-237.34	0.0	-2.69e-04	-23.88	0.0	-57.28	197.94	0.0	0.0	0.0	-311.69
		-311.69	0.0	0.0	0.0	20.0	-55.03	185.80	0.0	0.0	0.0	-273.32
						40.0	-52.78	174.06	0.0	0.0	0.0	-237.34
2	32	-252.52	0.0	-3.00e-04	-24.76	0.0	-30.06	224.24	0.0	0.0	0.0	-337.23
		-337.23	0.0	0.0	0.0	20.0	-27.81	211.75	0.0	0.0	0.0	-293.64
						40.0	-25.56	199.47	0.0	0.0	0.0	-252.52
2	33	-339.46	0.0	-3.89e-04	-24.76	0.0	-10.12	275.21	0.0	0.0	0.0	-444.56
		-444.56	0.0	0.0	0.0	20.0	-7.08	262.72	0.0	0.0	0.0	-390.77
						40.0	-4.05	250.44	0.0	0.0	0.0	-339.46
2	34	-11.40	0.0	-1.84e-05	-7.07	0.0	-187.22	34.56	0.0	0.0	0.0	-23.79
		-23.79	0.0	0.0	0.0	20.0	-184.97	30.95	0.0	0.0	0.0	-17.24
						40.0	-182.72	27.49	0.0	0.0	0.0	-11.40
2	35	-39.55	0.0	-2.88e-05	-9.37	0.0	-128.55	66.41	0.0	0.0	0.0	-64.22
		-64.22	0.0	0.0	0.0	20.0	-126.30	61.66	0.0	0.0	0.0	-51.42
						40.0	-124.05	57.04	0.0	0.0	0.0	-39.55
2	36	-52.41	0.0	-3.01e-05	-16.43	0.0	-180.56	73.97	0.0	0.0	0.0	-78.67
		-78.67	0.0	0.0	0.0	20.0	-178.31	65.61	0.0	0.0	0.0	-64.72
						40.0	-176.06	57.54	0.0	0.0	0.0	-52.41
2	37	-71.16	0.0	-6.61e-05	-17.69	0.0	-124.09	96.04	0.0	0.0	0.0	-105.99
		-105.99	0.0	0.0	0.0	20.0	-121.84	87.04	0.0	0.0	0.0	-87.69
						40.0	-119.59	78.35	0.0	0.0	0.0	-71.16
2	38	-114.53	0.0	-1.17e-04	-18.35	0.0	-92.75	129.23	0.0	0.0	0.0	-162.53
		-162.53	0.0	0.0	0.0	20.0	-90.50	119.98	0.0	0.0	0.0	-137.62
						40.0	-88.25	110.88	0.0	0.0	0.0	-114.53
2	39	2.41	0.0	-3.35e-05	-7.07	0.0	-187.22	29.31	0.0	0.0	0.0	-7.88
		-7.88	0.0	0.0	0.0	20.0	-184.97	25.70	0.0	0.0	0.0	-2.38
						40.0	-182.72	22.24	0.0	0.0	0.0	2.41
2	40	-4.80	0.0	-1.11e-05	-7.07	0.0	-133.46	39.38	0.0	0.0	0.0	-19.12
		-19.12	0.0	0.0	0.0	20.0	-131.21	35.78	0.0	0.0	0.0	-11.61
						40.0	-128.96	32.31	0.0	0.0	0.0	-4.80
2	41	-66.22	0.0	-4.52e-05	-16.43	0.0	-180.56	79.22	0.0	0.0	0.0	-94.58
		-94.58	0.0	0.0	0.0	20.0	-178.31	70.86	0.0	0.0	0.0	-79.58
						40.0	-176.06	62.79	0.0	0.0	0.0	-66.22
2	42	-84.97	0.0	-8.13e-05	-17.69	0.0	-124.09	101.29	0.0	0.0	0.0	-121.90
		-121.90	0.0	0.0	0.0	20.0	-121.84	92.29	0.0	0.0	0.0	-102.55
						40.0	-119.59	83.60	0.0	0.0	0.0	-84.97
2	43	-128.34	0.0	-1.32e-04	-18.35	0.0	-92.75	134.49	0.0	0.0	0.0	-178.44
		-178.44	0.0	0.0	0.0	20.0	-90.50	125.23	0.0	0.0	0.0	-152.47
						40.0	-88.25	116.14	0.0	0.0	0.0	-128.34
2	44	-134.18	0.0	-1.16e-04	-19.39	0.0	-194.24	134.36	0.0	0.0	0.0	-184.02
		-184.02	0.0	0.0	0.0	20.0	-191.99	124.59	0.0	0.0	0.0	-158.13
						40.0	-189.74	114.98	0.0	0.0	0.0	-134.18
2	45	-106.78	0.0	-1.17e-04	-18.35	0.0	-76.21	138.45	0.0	0.0	0.0	-158.47
		-158.47	0.0	0.0	0.0	20.0	-73.96	129.20	0.0	0.0	0.0	-131.70
						40.0	-71.71	120.10	0.0	0.0	0.0	-106.78

2	46	-8.38	0.0	-2.96e-05	-7.07	0.0	-217.39	29.96	0.0	0.0	0.0	-18.94
		-18.94	0.0	0.0	0.0	20.0	-215.14	26.36	0.0	0.0	0.0	-13.31
						40.0	-212.89	22.90	0.0	0.0	0.0	-8.38
2	47	-18.00	0.0	1.84e-06	-7.07	0.0	-145.71	43.40	0.0	0.0	0.0	-33.93
		-33.93	0.0	0.0	0.0	20.0	-143.46	39.80	0.0	0.0	0.0	-25.61
						40.0	-141.21	36.33	0.0	0.0	0.0	-18.00
2	48	-6.28	0.0	-2.25e-05	-7.07	0.0	-187.22	36.22	0.0	0.0	0.0	-19.34
		-19.34	0.0	0.0	0.0	20.0	-184.97	32.62	0.0	0.0	0.0	-12.46
						40.0	-182.72	29.15	0.0	0.0	0.0	-6.28
2	49	-13.50	0.0	1.65e-06	-7.07	0.0	-133.46	46.29	0.0	0.0	0.0	-30.58
		-30.58	0.0	0.0	0.0	20.0	-131.21	42.69	0.0	0.0	0.0	-21.69
						40.0	-128.96	39.23	0.0	0.0	0.0	-13.50
2	50	-205.13	0.0	-1.69e-04	-16.43	0.0	-113.24	141.56	0.0	0.0	0.0	-258.43
		-258.43	0.0	0.0	0.0	20.0	-110.99	133.20	0.0	0.0	0.0	-230.95
						40.0	-108.74	125.14	0.0	0.0	0.0	-205.13
2	51	-223.87	0.0	-2.05e-04	-17.69	0.0	-56.78	163.64	0.0	0.0	0.0	-285.75
		-285.75	0.0	0.0	0.0	20.0	-54.53	154.64	0.0	0.0	0.0	-253.93
						40.0	-52.28	145.94	0.0	0.0	0.0	-223.87
2	52	-267.25	0.0	-2.55e-04	-18.35	0.0	-25.44	196.83	0.0	0.0	0.0	-342.29
		-342.29	0.0	0.0	0.0	20.0	-23.19	187.57	0.0	0.0	0.0	-303.85
						40.0	-20.94	178.48	0.0	0.0	0.0	-267.25
2	53	-57.52	0.0	-3.42e-05	-16.43	0.0	-180.56	72.31	0.0	0.0	0.0	-83.12
		-83.12	0.0	0.0	0.0	20.0	-178.31	63.94	0.0	0.0	0.0	-69.50
						40.0	-176.06	55.88	0.0	0.0	0.0	-57.52
2	54	-76.27	0.0	-7.03e-05	-17.69	0.0	-124.09	94.38	0.0	0.0	0.0	-110.44
		-110.44	0.0	0.0	0.0	20.0	-121.84	85.38	0.0	0.0	0.0	-92.47
						40.0	-119.59	76.68	0.0	0.0	0.0	-76.27
2	55	-119.64	0.0	-1.21e-04	-18.35	0.0	-92.75	127.57	0.0	0.0	0.0	-166.98
		-166.98	0.0	0.0	0.0	20.0	-90.50	118.32	0.0	0.0	0.0	-142.39
						40.0	-88.25	109.22	0.0	0.0	0.0	-119.64
2	56	-1.33	0.0	-3.73e-05	-7.07	0.0	-217.39	27.28	0.0	0.0	0.0	-10.81
		-10.81	0.0	0.0	0.0	20.0	-215.14	23.68	0.0	0.0	0.0	-5.72
						40.0	-212.89	20.22	0.0	0.0	0.0	-1.33
2	57	-10.95	0.0	-7.40e-06	-7.07	0.0	-145.71	40.72	0.0	0.0	0.0	-25.80
		-25.80	0.0	0.0	0.0	20.0	-143.46	37.12	0.0	0.0	0.0	-18.02
						40.0	-141.21	33.65	0.0	0.0	0.0	-10.95
2	58	5.47	0.0	-3.54e-05	-7.07	0.0	-187.22	31.75	0.0	0.0	0.0	-5.80
		-5.80	0.0	0.0	0.0	20.0	-184.97	28.15	0.0	0.0	0.0	0.19
						40.0	-182.72	24.68	0.0	0.0	0.0	5.47
2	59	-1.75	0.0	-1.30e-05	-7.07	0.0	-133.46	41.82	0.0	0.0	0.0	-17.04
		-17.04	0.0	0.0	0.0	20.0	-131.21	38.22	0.0	0.0	0.0	-9.04
						40.0	-128.96	34.76	0.0	0.0	0.0	-1.75
2	60	-218.93	0.0	-1.84e-04	-16.43	0.0	-113.24	146.81	0.0	0.0	0.0	-274.34
		-274.34	0.0	0.0	0.0	20.0	-110.99	138.45	0.0	0.0	0.0	-245.81
						40.0	-108.74	130.39	0.0	0.0	0.0	-218.93
2	61	-237.68	0.0	-2.20e-04	-17.69	0.0	-56.78	168.89	0.0	0.0	0.0	-301.66
		-301.66	0.0	0.0	0.0	20.0	-54.53	159.89	0.0	0.0	0.0	-268.79
						40.0	-52.28	151.19	0.0	0.0	0.0	-237.68
2	62	-281.06	0.0	-2.70e-04	-18.35	0.0	-25.44	202.08	0.0	0.0	0.0	-358.20
		-358.20	0.0	0.0	0.0	20.0	-23.19	192.83	0.0	0.0	0.0	-318.71
						40.0	-20.94	183.73	0.0	0.0	0.0	-281.06
2	63	-76.03	0.0	-5.45e-05	-16.43	0.0	-180.56	79.34	0.0	0.0	0.0	-104.44
		-104.44	0.0	0.0	0.0	20.0	-178.31	70.98	0.0	0.0	0.0	-89.42
						40.0	-176.06	62.92	0.0	0.0	0.0	-76.03
2	64	-94.78	0.0	-9.06e-05	-17.69	0.0	-124.09	101.42	0.0	0.0	0.0	-131.77
		-131.77	0.0	0.0	0.0	20.0	-121.84	92.42	0.0	0.0	0.0	-112.39
						40.0	-119.59	83.72	0.0	0.0	0.0	-94.78

2	65	-138.15	0.0	-1.41e-04	-18.35	0.0	-92.75	134.61	0.0	0.0	0.0	-188.31
		-188.31	0.0	0.0	0.0	20.0	-90.50	125.36	0.0	0.0	0.0	-162.31
						40.0	-88.25	116.26	0.0	0.0	0.0	-138.15
2	66	-223.58	0.0	-1.85e-04	-16.43	0.0	-142.96	149.02	0.0	0.0	0.0	-279.86
		-279.86	0.0	0.0	0.0	20.0	-140.71	140.65	0.0	0.0	0.0	-250.90
						40.0	-138.46	132.59	0.0	0.0	0.0	-223.58
2	67	-80.68	0.0	-5.61e-05	-16.43	0.0	-210.27	81.55	0.0	0.0	0.0	-109.97
		-109.97	0.0	0.0	0.0	20.0	-208.02	73.19	0.0	0.0	0.0	-94.50
						40.0	-205.77	65.12	0.0	0.0	0.0	-80.68
2	68	-259.49	0.0	-2.55e-04	-18.35	0.0	-8.90	206.05	0.0	0.0	0.0	-338.22
		-338.22	0.0	0.0	0.0	20.0	-6.65	196.79	0.0	0.0	0.0	-297.94
						40.0	-4.40	187.70	0.0	0.0	0.0	-259.49
2	69	-101.67	0.0	-1.13e-04	-18.35	0.0	-76.21	140.12	0.0	0.0	0.0	-154.02
		-154.02	0.0	0.0	0.0	20.0	-73.96	130.86	0.0	0.0	0.0	-126.93
						40.0	-71.71	121.76	0.0	0.0	0.0	-101.67
2	70	-21.71	0.0	-1.62e-05	-7.07	0.0	-96.71	47.92	0.0	0.0	0.0	-39.45
		-39.45	0.0	0.0	0.0	20.0	-94.46	44.31	0.0	0.0	0.0	-30.23
						40.0	-92.21	40.85	0.0	0.0	0.0	-21.71
2	71	-50.76	0.0	-5.15e-05	-15.39	0.0	-92.25	78.37	0.0	0.0	0.0	-78.99
		-78.99	0.0	0.0	0.0	20.0	-90.00	70.53	0.0	0.0	0.0	-64.11
						40.0	-87.75	62.98	0.0	0.0	0.0	-50.76
2	72	-9.08	0.0	-2.33e-06	-7.07	0.0	-96.71	43.11	0.0	0.0	0.0	-24.89
		-24.89	0.0	0.0	0.0	20.0	-94.46	39.51	0.0	0.0	0.0	-16.63
						40.0	-92.21	36.04	0.0	0.0	0.0	-9.08
2	73	-63.40	0.0	-6.53e-05	-15.39	0.0	-92.25	83.18	0.0	0.0	0.0	-93.55
		-93.55	0.0	0.0	0.0	20.0	-90.00	75.33	0.0	0.0	0.0	-77.70
						40.0	-87.75	67.79	0.0	0.0	0.0	-63.40
2	74	-44.74	0.0	-4.86e-05	-15.39	0.0	-92.25	85.10	0.0	0.0	0.0	-75.66
		-75.66	0.0	0.0	0.0	20.0	-90.00	77.25	0.0	0.0	0.0	-59.43
						40.0	-87.75	69.71	0.0	0.0	0.0	-44.74
2	75	-75.49	0.0	-8.32e-05	-19.14	0.0	-97.74	120.76	0.0	0.0	0.0	-119.93
		-119.93	0.0	0.0	0.0	20.0	-95.49	111.04	0.0	0.0	0.0	-96.75
						40.0	-93.24	101.62	0.0	0.0	0.0	-75.49
2	76	-201.97	0.0	-2.21e-04	-27.91	0.0	-53.83	219.45	0.0	0.0	0.0	-284.12
		-284.12	0.0	0.0	0.0	20.0	-51.58	205.35	0.0	0.0	0.0	-241.65
						40.0	-49.33	191.54	0.0	0.0	0.0	-201.97
2	77	-62.86	0.0	-6.93e-05	-19.14	0.0	-97.74	115.96	0.0	0.0	0.0	-105.37
		-105.37	0.0	0.0	0.0	20.0	-95.49	106.24	0.0	0.0	0.0	-83.16
						40.0	-93.24	96.81	0.0	0.0	0.0	-62.86
2	78	-214.60	0.0	-2.35e-04	-27.91	0.0	-53.83	224.25	0.0	0.0	0.0	-298.68
		-298.68	0.0	0.0	0.0	20.0	-51.58	210.15	0.0	0.0	0.0	-255.24
						40.0	-49.33	196.35	0.0	0.0	0.0	-214.60
2	79	-195.86	0.0	-2.20e-04	-27.91	0.0	-45.53	226.49	0.0	0.0	0.0	-280.83
		-280.83	0.0	0.0	0.0	20.0	-43.28	212.39	0.0	0.0	0.0	-236.95
						40.0	-41.03	198.59	0.0	0.0	0.0	-195.86
2	80	-104.97	0.0	-9.78e-05	-18.92	0.0	-141.07	111.06	0.0	0.0	0.0	-145.57
		-145.57	0.0	0.0	0.0	20.0	-138.82	101.45	0.0	0.0	0.0	-124.33
						40.0	-136.57	92.14	0.0	0.0	0.0	-104.97
4	1	1.06	0.0	-5.16e-04	-56.48	0.0	-288.05	16.29	0.0	0.0	0.0	-4.47
		-84.26	0.0	0.0	0.0	212.5	-255.78	-22.19	0.0	0.0	0.0	-14.36
						425.0	-223.51	-40.20	0.0	0.0	0.0	-84.26
4	2	11.36	0.0	-5.48e-04	-56.48	0.0	-191.28	34.42	0.0	0.0	0.0	-17.45
		-20.17	0.0	0.0	0.0	212.5	-159.01	-4.05	0.0	0.0	0.0	11.19
						425.0	-126.73	-22.06	0.0	0.0	0.0	-20.17
4	3	11.60	0.0	-6.20e-04	-56.48	0.0	-247.02	24.53	0.0	0.0	0.0	-2.43
		-47.21	0.0	0.0	0.0	212.5	-214.75	-13.95	0.0	0.0	0.0	5.18
						425.0	-182.47	-31.96	0.0	0.0	0.0	-47.21

4	4	24.30	0.0	-6.44e-04	-56.48	0.0	-174.62	38.09	0.0	0.0	0.0	-12.15
		-12.15	0.0	0.0	0.0	212.5	-142.35	-0.38	0.0	0.0	0.0	24.30
						425.0	-110.07	-18.39	0.0	0.0	0.0	0.74
4	5	92.72	0.0	-6.43e-03	-137.82	0.0	-144.63	171.95	0.0	0.0	0.0	-282.03
		-282.03	0.0	0.0	0.0	212.5	-112.36	80.75	0.0	0.0	0.0	-21.44
						425.0	-80.09	34.13	0.0	0.0	0.0	92.72
4	6	147.95	0.0	-6.76e-03	-155.98	0.0	-68.59	199.96	0.0	0.0	0.0	-307.28
		-307.28	0.0	0.0	0.0	212.5	-36.32	99.68	0.0	0.0	0.0	3.20
						425.0	-4.05	43.98	0.0	0.0	0.0	147.95
4	7	189.35	0.0	-7.92e-03	-210.30	0.0	-26.39	243.78	0.0	0.0	0.0	-365.69
		-365.69	0.0	0.0	0.0	212.5	5.89	126.58	0.0	0.0	0.0	23.55
						425.0	38.16	33.48	0.0	0.0	0.0	189.35
4	8	-17.74	0.0	-9.18e-04	-137.82	0.0	-235.51	78.70	0.0	0.0	0.0	-82.00
		-103.55	0.0	0.0	0.0	212.5	-203.23	-12.50	0.0	0.0	0.0	-19.56
						425.0	-170.96	-59.12	0.0	0.0	0.0	-103.55
4	9	5.08	0.0	-1.24e-03	-155.98	0.0	-159.47	106.71	0.0	0.0	0.0	-107.24
		-107.24	0.0	0.0	0.0	212.5	-127.19	6.43	0.0	0.0	0.0	5.08
						425.0	-94.92	-49.26	0.0	0.0	0.0	-48.32
4	10	36.29	0.0	-2.41e-03	-210.30	0.0	-117.26	150.53	0.0	0.0	0.0	-165.66
		-165.66	0.0	0.0	0.0	212.5	-84.99	33.33	0.0	0.0	0.0	25.44
						425.0	-52.71	-59.77	0.0	0.0	0.0	-6.92
4	11	14.29	0.0	3.49e-04	-56.48	0.0	-288.05	9.99	0.0	0.0	0.0	12.10
		-94.47	0.0	0.0	0.0	212.5	-255.78	-28.49	0.0	0.0	0.0	-11.18
						425.0	-223.51	-46.50	0.0	0.0	0.0	-94.47
4	12	17.89	0.0	9.57e-05	-56.48	0.0	-191.28	28.12	0.0	0.0	0.0	-0.88
		-30.38	0.0	0.0	0.0	212.5	-159.01	-10.35	0.0	0.0	0.0	14.37
						425.0	-126.73	-28.36	0.0	0.0	0.0	-30.38
4	13	25.20	0.0	2.55e-04	-56.48	0.0	-247.02	16.08	0.0	0.0	0.0	19.78
		-60.90	0.0	0.0	0.0	212.5	-214.75	-22.39	0.0	0.0	0.0	9.45
						425.0	-182.47	-40.40	0.0	0.0	0.0	-60.90
4	14	31.26	0.0	8.61e-05	-56.48	0.0	-174.62	29.65	0.0	0.0	0.0	10.07
		-12.95	0.0	0.0	0.0	212.5	-142.35	-8.83	0.0	0.0	0.0	28.56
						425.0	-110.07	-26.84	0.0	0.0	0.0	-12.95
4	15	102.93	0.0	-6.95e-03	-137.82	0.0	-144.63	178.25	0.0	0.0	0.0	-298.60
		-298.60	0.0	0.0	0.0	212.5	-112.36	87.05	0.0	0.0	0.0	-24.62
						425.0	-80.09	40.43	0.0	0.0	0.0	102.93
4	16	158.16	0.0	-7.28e-03	-155.98	0.0	-68.59	206.26	0.0	0.0	0.0	-323.85
		-323.85	0.0	0.0	0.0	212.5	-36.32	105.98	0.0	0.0	0.0	0.02
						425.0	-4.05	50.28	0.0	0.0	0.0	158.16
4	17	199.56	0.0	-8.44e-03	-210.30	0.0	-26.39	250.08	0.0	0.0	0.0	-382.26
		-382.26	0.0	0.0	0.0	212.5	5.89	132.88	0.0	0.0	0.0	20.37
						425.0	38.16	39.78	0.0	0.0	0.0	199.56
4	18	-23.82	0.0	-1.62e-03	-137.82	0.0	-235.51	87.14	0.0	0.0	0.0	-104.21
		-104.21	0.0	0.0	0.0	212.5	-203.23	-4.06	0.0	0.0	0.0	-23.82
						425.0	-170.96	-50.68	0.0	0.0	0.0	-89.87
4	19	3.79	0.0	-1.94e-03	-155.98	0.0	-159.47	115.16	0.0	0.0	0.0	-129.46
		-129.46	0.0	0.0	0.0	212.5	-127.19	14.88	0.0	0.0	0.0	0.82
						425.0	-94.92	-40.82	0.0	0.0	0.0	-34.63
4	20	38.70	0.0	-3.10e-03	-210.30	0.0	-117.26	158.98	0.0	0.0	0.0	-187.87
		-187.87	0.0	0.0	0.0	212.5	-84.99	41.78	0.0	0.0	0.0	21.17
						425.0	-52.71	-51.32	0.0	0.0	0.0	6.77
4	21	109.28	0.0	-7.07e-03	-137.82	0.0	-184.65	181.21	0.0	0.0	0.0	-304.86
		-304.86	0.0	0.0	0.0	212.5	-152.38	90.01	0.0	0.0	0.0	-24.57
						425.0	-120.10	43.39	0.0	0.0	0.0	109.28
4	22	-23.77	0.0	-1.73e-03	-137.82	0.0	-275.52	90.11	0.0	0.0	0.0	-110.46
		-110.46	0.0	0.0	0.0	212.5	-243.25	-1.09	0.0	0.0	0.0	-23.77
						425.0	-210.98	-47.71	0.0	0.0	0.0	-83.52

4	23	252.16	0.0	-8.46e-03	-210.30	0.0	28.81	256.28	0.0	0.0	0.0	-356.02
		-356.02	0.0	0.0	0.0	212.5	52.71	139.09	0.0	0.0	0.0	59.79
						425.0	76.62	45.98	0.0	0.0	0.0	252.16
4	24	108.49	0.0	-3.13e-03	-210.30	0.0	-62.07	167.02	0.0	0.0	0.0	-143.72
		-143.72	0.0	0.0	0.0	212.5	-38.16	49.83	0.0	0.0	0.0	82.42
						425.0	-14.25	-43.28	0.0	0.0	0.0	85.11
4	25	125.02	0.0	-6.45e-03	-137.82	0.0	-104.55	173.26	0.0	0.0	0.0	-255.31
		-255.31	0.0	0.0	0.0	212.5	-72.27	82.06	0.0	0.0	0.0	8.08
						425.0	-40.00	35.44	0.0	0.0	0.0	125.02
4	26	167.17	0.0	-6.88e-03	-155.98	0.0	-68.52	198.31	0.0	0.0	0.0	-281.03
		-281.03	0.0	0.0	0.0	212.5	-36.25	98.03	0.0	0.0	0.0	25.94
						425.0	-3.97	42.33	0.0	0.0	0.0	167.17
4	27	-21.48	0.0	-1.68e-03	-137.82	0.0	-330.03	84.71	0.0	0.0	0.0	-96.70
		-96.70	0.0	0.0	0.0	212.5	-297.75	-6.49	0.0	0.0	0.0	-21.48
						425.0	-265.48	-53.11	0.0	0.0	0.0	-92.69
4	28	11.54	0.0	-1.85e-03	-155.98	0.0	-176.13	113.33	0.0	0.0	0.0	-116.85
		-116.85	0.0	0.0	0.0	212.5	-143.85	13.05	0.0	0.0	0.0	9.54
						425.0	-111.58	-42.65	0.0	0.0	0.0	-29.80
4	29	246.59	0.0	-8.46e-03	-210.30	0.0	-4.12	255.09	0.0	0.0	0.0	-356.50
		-356.50	0.0	0.0	0.0	212.5	28.16	137.89	0.0	0.0	0.0	56.77
						425.0	60.43	44.79	0.0	0.0	0.0	246.59
4	30	61.39	0.0	-5.19e-03	-137.82	0.0	-125.18	150.72	0.0	0.0	0.0	-223.14
		-223.14	0.0	0.0	0.0	212.5	-101.27	59.52	0.0	0.0	0.0	-7.66
						425.0	-77.36	12.90	0.0	0.0	0.0	61.39
4	31	107.81	0.0	-5.21e-03	-155.98	0.0	-52.78	174.06	0.0	0.0	0.0	-237.34
		-237.34	0.0	0.0	0.0	212.5	-28.87	73.78	0.0	0.0	0.0	18.10
						425.0	-4.96	18.08	0.0	0.0	0.0	107.81
4	32	114.46	0.0	-5.22e-03	-210.30	0.0	-25.56	199.47	0.0	0.0	0.0	-252.52
		-252.52	0.0	0.0	0.0	212.5	-1.65	82.28	0.0	0.0	0.0	42.57
						425.0	22.26	-10.83	0.0	0.0	0.0	114.22
4	33	243.91	0.0	-8.44e-03	-210.30	0.0	-4.05	250.44	0.0	0.0	0.0	-339.46
		-339.46	0.0	0.0	0.0	212.5	28.23	133.25	0.0	0.0	0.0	63.95
						425.0	60.50	40.14	0.0	0.0	0.0	243.91
4	34	6.37	0.0	-4.68e-04	-56.48	0.0	-182.72	27.49	0.0	0.0	0.0	-11.40
		-43.58	0.0	0.0	0.0	212.5	-158.81	-10.98	0.0	0.0	0.0	2.52
						425.0	-134.91	-28.99	0.0	0.0	0.0	-43.58
4	35	24.95	0.0	-8.88e-04	-80.96	0.0	-124.05	57.04	0.0	0.0	0.0	-39.55
		-39.55	0.0	0.0	0.0	212.5	-100.14	6.33	0.0	0.0	0.0	24.16
						425.0	-76.24	-23.92	0.0	0.0	0.0	1.85
4	36	-6.02	0.0	-6.08e-04	-102.12	0.0	-176.06	57.54	0.0	0.0	0.0	-52.41
		-71.63	0.0	0.0	0.0	212.5	-152.15	-10.03	0.0	0.0	0.0	-7.77
						425.0	-128.25	-44.57	0.0	0.0	0.0	-71.63
4	37	10.52	0.0	-8.48e-04	-115.60	0.0	-119.59	78.35	0.0	0.0	0.0	-71.16
		-71.16	0.0	0.0	0.0	212.5	-95.69	4.03	0.0	0.0	0.0	10.52
						425.0	-71.78	-37.25	0.0	0.0	0.0	-30.62
4	38	33.31	0.0	-1.71e-03	-155.94	0.0	-88.25	110.88	0.0	0.0	0.0	-114.53
		-114.53	0.0	0.0	0.0	212.5	-64.35	24.01	0.0	0.0	0.0	25.64
						425.0	-40.44	-45.05	0.0	0.0	0.0	0.13
4	39	14.01	0.0	1.48e-04	-56.48	0.0	-182.72	22.24	0.0	0.0	0.0	2.41
		-52.09	0.0	0.0	0.0	212.5	-158.81	-16.23	0.0	0.0	0.0	5.17
						425.0	-134.91	-34.24	0.0	0.0	0.0	-52.09
4	40	20.65	0.0	-5.21e-05	-56.48	0.0	-128.96	32.31	0.0	0.0	0.0	-4.80
		-16.48	0.0	0.0	0.0	212.5	-105.05	-6.16	0.0	0.0	0.0	19.37
						425.0	-81.15	-24.17	0.0	0.0	0.0	-16.48
4	41	-10.42	0.0	-1.04e-03	-102.12	0.0	-176.06	62.79	0.0	0.0	0.0	-66.22
		-66.22	0.0	0.0	0.0	212.5	-152.15	-4.78	0.0	0.0	0.0	-10.42
						425.0	-128.25	-39.32	0.0	0.0	0.0	-63.13

4	42	9.15	0.0	-1.28e-03	-115.60	0.0	-119.59	83.60	0.0	0.0	0.0	-84.97
		-84.97	0.0	0.0	0.0	212.5	-95.69	9.29	0.0	0.0	0.0	7.87
						425.0	-71.78	-32.00	0.0	0.0	0.0	-22.11
4	43	34.16	0.0	-2.15e-03	-155.94	0.0	-88.25	116.14	0.0	0.0	0.0	-128.34
		-128.34	0.0	0.0	0.0	212.5	-64.35	29.26	0.0	0.0	0.0	22.99
						425.0	-40.44	-39.80	0.0	0.0	0.0	8.63
4	44	15.42	0.0	-2.39e-03	-166.93	0.0	-189.74	114.98	0.0	0.0	0.0	-134.18
		-134.18	0.0	0.0	0.0	212.5	-165.83	22.61	0.0	0.0	0.0	8.85
						425.0	-141.92	-51.96	0.0	0.0	0.0	-25.49
4	45	68.37	0.0	-2.16e-03	-155.94	0.0	-71.71	120.10	0.0	0.0	0.0	-106.78
		-106.78	0.0	0.0	0.0	212.5	-47.81	33.23	0.0	0.0	0.0	52.98
						425.0	-23.90	-35.83	0.0	0.0	0.0	47.06
4	46	3.92	0.0	-4.60e-04	-56.48	0.0	-212.89	22.90	0.0	0.0	0.0	-8.38
		-60.08	0.0	0.0	0.0	212.5	-188.98	-15.57	0.0	0.0	0.0	-4.22
						425.0	-165.08	-33.58	0.0	0.0	0.0	-60.08
4	47	14.70	0.0	-4.84e-04	-56.48	0.0	-141.21	36.33	0.0	0.0	0.0	-18.00
		-18.00	0.0	0.0	0.0	212.5	-117.30	-2.14	0.0	0.0	0.0	14.70
						425.0	-93.40	-20.15	0.0	0.0	0.0	-12.60
4	48	14.13	0.0	-5.46e-04	-56.48	0.0	-182.72	29.15	0.0	0.0	0.0	-6.28
		-31.40	0.0	0.0	0.0	212.5	-158.81	-9.32	0.0	0.0	0.0	11.16
						425.0	-134.91	-27.33	0.0	0.0	0.0	-31.40
4	49	25.36	0.0	-5.64e-04	-56.48	0.0	-128.96	39.23	0.0	0.0	0.0	-13.50
		-13.50	0.0	0.0	0.0	212.5	-105.05	0.75	0.0	0.0	0.0	25.36
						425.0	-81.15	-17.26	0.0	0.0	0.0	4.20
4	50	62.93	0.0	-4.62e-03	-102.12	0.0	-108.74	125.14	0.0	0.0	0.0	-205.13
		-205.13	0.0	0.0	0.0	212.5	-84.84	57.57	0.0	0.0	0.0	-16.85
						425.0	-60.93	23.02	0.0	0.0	0.0	62.93
4	51	103.95	0.0	-4.86e-03	-115.60	0.0	-52.28	145.94	0.0	0.0	0.0	-223.87
		-223.87	0.0	0.0	0.0	212.5	-28.37	71.63	0.0	0.0	0.0	1.45
						425.0	-4.47	30.34	0.0	0.0	0.0	103.95
4	52	134.69	0.0	-5.73e-03	-155.94	0.0	-20.94	178.48	0.0	0.0	0.0	-267.25
		-267.25	0.0	0.0	0.0	212.5	2.97	91.61	0.0	0.0	0.0	16.56
						425.0	26.88	22.54	0.0	0.0	0.0	134.69
4	53	-13.78	0.0	-5.31e-04	-102.12	0.0	-176.06	55.88	0.0	0.0	0.0	-57.52
		-83.81	0.0	0.0	0.0	212.5	-152.15	-11.69	0.0	0.0	0.0	-16.41
						425.0	-128.25	-46.24	0.0	0.0	0.0	-83.81
4	54	1.88	0.0	-7.70e-04	-115.60	0.0	-119.59	76.68	0.0	0.0	0.0	-76.27
		-76.27	0.0	0.0	0.0	212.5	-95.69	2.37	0.0	0.0	0.0	1.88
						425.0	-71.78	-38.92	0.0	0.0	0.0	-42.79
4	55	23.79	0.0	-1.64e-03	-155.94	0.0	-88.25	109.22	0.0	0.0	0.0	-119.64
		-119.64	0.0	0.0	0.0	212.5	-64.35	22.35	0.0	0.0	0.0	17.00
						425.0	-40.44	-46.72	0.0	0.0	0.0	-12.05
4	56	8.12	0.0	-2.39e-04	-56.48	0.0	-212.89	20.22	0.0	0.0	0.0	-1.33
		-64.42	0.0	0.0	0.0	212.5	-188.98	-18.26	0.0	0.0	0.0	-2.87
						425.0	-165.08	-36.27	0.0	0.0	0.0	-64.42
4	57	16.63	0.0	-2.62e-04	-56.48	0.0	-141.21	33.65	0.0	0.0	0.0	-10.95
		-16.95	0.0	0.0	0.0	212.5	-117.30	-4.82	0.0	0.0	0.0	16.06
						425.0	-93.40	-22.83	0.0	0.0	0.0	-16.95
4	58	19.66	0.0	-1.77e-04	-56.48	0.0	-182.72	24.68	0.0	0.0	0.0	5.47
		-38.65	0.0	0.0	0.0	212.5	-158.81	-13.79	0.0	0.0	0.0	13.42
						425.0	-134.91	-31.80	0.0	0.0	0.0	-38.65
4	59	27.61	0.0	-1.95e-04	-56.48	0.0	-128.96	34.76	0.0	0.0	0.0	-1.75
		-3.04	0.0	0.0	0.0	212.5	-105.05	-3.72	0.0	0.0	0.0	27.61
						425.0	-81.15	-21.72	0.0	0.0	0.0	-3.04
4	60	71.44	0.0	-5.06e-03	-102.12	0.0	-108.74	130.39	0.0	0.0	0.0	-218.93
		-218.93	0.0	0.0	0.0	212.5	-84.84	62.82	0.0	0.0	0.0	-19.50
						425.0	-60.93	28.27	0.0	0.0	0.0	71.44

4	61	112.45	0.0	-5.30e-03	-115.60	0.0	-52.28	151.19	0.0	0.0	0.0	-237.68
		-237.68	0.0	0.0	0.0	212.5	-28.37	76.88	0.0	0.0	0.0	-1.20
						425.0	-4.47	35.59	0.0	0.0	0.0	112.45
4	62	143.20	0.0	-6.16e-03	-155.94	0.0	-20.94	183.73	0.0	0.0	0.0	-281.06
		-281.06	0.0	0.0	0.0	212.5	2.97	96.86	0.0	0.0	0.0	13.91
						425.0	26.88	27.79	0.0	0.0	0.0	143.20
4	63	-19.97	0.0	-1.11e-03	-102.12	0.0	-176.06	62.92	0.0	0.0	0.0	-76.03
		-76.03	0.0	0.0	0.0	212.5	-152.15	-4.65	0.0	0.0	0.0	-19.97
						425.0	-128.25	-39.20	0.0	0.0	0.0	-72.40
4	64	-0.33	0.0	-1.35e-03	-115.60	0.0	-119.59	83.72	0.0	0.0	0.0	-94.78
		-94.78	0.0	0.0	0.0	212.5	-95.69	9.41	0.0	0.0	0.0	-1.67
						425.0	-71.78	-31.88	0.0	0.0	0.0	-31.39
4	65	24.75	0.0	-2.22e-03	-155.94	0.0	-88.25	116.26	0.0	0.0	0.0	-138.15
		-138.15	0.0	0.0	0.0	212.5	-64.35	29.39	0.0	0.0	0.0	13.44
						425.0	-40.44	-39.68	0.0	0.0	0.0	-0.64
4	66	76.15	0.0	-5.15e-03	-102.12	0.0	-138.46	132.59	0.0	0.0	0.0	-223.58
		-223.58	0.0	0.0	0.0	212.5	-114.55	65.02	0.0	0.0	0.0	-19.46
						425.0	-90.65	30.47	0.0	0.0	0.0	76.15
4	67	-19.93	0.0	-1.20e-03	-102.12	0.0	-205.77	65.12	0.0	0.0	0.0	-80.68
		-80.68	0.0	0.0	0.0	212.5	-181.87	-2.45	0.0	0.0	0.0	-19.93
						425.0	-157.96	-36.99	0.0	0.0	0.0	-67.69
4	68	181.63	0.0	-6.18e-03	-155.94	0.0	-4.40	187.70	0.0	0.0	0.0	-259.49
		-259.49	0.0	0.0	0.0	212.5	19.51	100.82	0.0	0.0	0.0	43.91
						425.0	43.41	31.76	0.0	0.0	0.0	181.63
4	69	78.78	0.0	-2.24e-03	-155.94	0.0	-71.71	121.76	0.0	0.0	0.0	-101.67
		-101.67	0.0	0.0	0.0	212.5	-47.81	34.89	0.0	0.0	0.0	61.63
						425.0	-23.90	-34.17	0.0	0.0	0.0	59.24
4	70	20.59	0.0	-4.71e-04	-56.48	0.0	-92.21	40.85	0.0	0.0	0.0	-21.71
		-21.71	0.0	0.0	0.0	212.5	-68.30	2.38	0.0	0.0	0.0	20.59
						425.0	-44.40	-15.63	0.0	0.0	0.0	2.88
4	71	11.27	0.0	-4.70e-04	-91.12	0.0	-87.75	62.98	0.0	0.0	0.0	-50.76
		-50.76	0.0	0.0	0.0	212.5	-63.85	0.91	0.0	0.0	0.0	11.27
						425.0	-39.94	-28.14	0.0	0.0	0.0	-23.50
4	72	23.02	0.0	-7.48e-05	-56.48	0.0	-92.21	36.04	0.0	0.0	0.0	-9.08
		-9.08	0.0	0.0	0.0	212.5	-68.30	-2.43	0.0	0.0	0.0	23.02
						425.0	-44.40	-20.44	0.0	0.0	0.0	-4.90
4	73	9.04	0.0	-8.67e-04	-91.12	0.0	-87.75	67.79	0.0	0.0	0.0	-63.40
		-63.40	0.0	0.0	0.0	212.5	-63.85	5.72	0.0	0.0	0.0	8.85
						425.0	-39.94	-23.33	0.0	0.0	0.0	-15.72
4	74	32.80	0.0	-8.77e-04	-91.12	0.0	-87.75	69.71	0.0	0.0	0.0	-44.74
		-44.74	0.0	0.0	0.0	212.5	-63.85	7.63	0.0	0.0	0.0	31.58
						425.0	-39.94	-21.41	0.0	0.0	0.0	11.09
4	75	50.09	0.0	-1.39e-03	-135.36	0.0	-93.24	101.62	0.0	0.0	0.0	-75.49
		-75.49	0.0	0.0	0.0	212.5	-65.72	17.43	0.0	0.0	0.0	45.15
						425.0	-38.20	-33.74	0.0	0.0	0.0	21.96
4	76	83.91	0.0	-3.53e-03	-238.60	0.0	-49.33	191.54	0.0	0.0	0.0	-201.97
		-201.97	0.0	0.0	0.0	212.5	-24.34	55.74	0.0	0.0	0.0	54.92
						425.0	0.65	-47.05	0.0	0.0	0.0	58.30
4	77	49.96	0.0	-9.89e-04	-135.36	0.0	-93.24	96.81	0.0	0.0	0.0	-62.86
		-62.86	0.0	0.0	0.0	212.5	-65.72	12.62	0.0	0.0	0.0	47.57
						425.0	-38.20	-38.55	0.0	0.0	0.0	14.18
4	78	86.59	0.0	-3.92e-03	-238.60	0.0	-49.33	196.35	0.0	0.0	0.0	-214.60
		-214.60	0.0	0.0	0.0	212.5	-24.34	60.54	0.0	0.0	0.0	52.50
						425.0	0.65	-42.25	0.0	0.0	0.0	66.09
4	79	112.48	0.0	-3.93e-03	-238.60	0.0	-41.03	198.59	0.0	0.0	0.0	-195.86
		-195.86	0.0	0.0	0.0	212.5	-18.21	62.78	0.0	0.0	0.0	76.00
						425.0	4.61	-40.01	0.0	0.0	0.0	94.35

4	80	1.00	0.0	-1.56e-03	-128.66	0.0	-136.57	92.14	0.0	0.0	0.0	-104.97
		-104.97	0.0	0.0	0.0	212.5	-112.67	11.30	0.0	0.0	0.0	-0.92
						425.0	-88.76	-36.52	0.0	0.0	0.0	-33.56
5	1	-84.26	0.0	-1.45e-04	-0.71	0.0	-223.51	-40.20	0.0	0.0	0.0	-84.26
		-93.39	0.0	0.0	0.0	11.3	-221.80	-40.58	0.0	0.0	0.0	-88.81
						22.5	-220.09	-40.90	0.0	0.0	0.0	-93.39
5	2	-20.17	0.0	-6.90e-05	-0.71	0.0	-126.73	-22.06	0.0	0.0	0.0	-20.17
		-25.22	0.0	0.0	0.0	11.3	-125.03	-22.44	0.0	0.0	0.0	-22.68
						22.5	-123.32	-22.77	0.0	0.0	0.0	-25.22
5	3	-47.21	0.0	-1.25e-04	-0.71	0.0	-182.47	-31.96	0.0	0.0	0.0	-47.21
		-54.49	0.0	0.0	0.0	11.3	-180.77	-32.34	0.0	0.0	0.0	-50.83
						22.5	-179.06	-32.66	0.0	0.0	0.0	-54.49
5	4	0.74	0.0	-6.82e-05	-0.71	0.0	-110.07	-18.39	0.0	0.0	0.0	0.74
		-3.49	0.0	0.0	0.0	11.3	-108.37	-18.77	0.0	0.0	0.0	-1.36
						22.5	-106.66	-19.10	0.0	0.0	0.0	-3.49
5	5	100.12	0.0	-2.64e-04	-2.32	0.0	-80.09	34.13	0.0	0.0	0.0	92.72
		92.72	0.0	0.0	0.0	11.3	-78.38	32.90	0.0	0.0	0.0	96.48
						22.5	-76.67	31.80	0.0	0.0	0.0	100.12
5	6	157.47	0.0	-2.10e-04	-3.28	0.0	-4.05	43.98	0.0	0.0	0.0	147.95
		147.95	0.0	0.0	0.0	11.3	-2.34	42.28	0.0	0.0	0.0	152.80
						22.5	-0.63	40.70	0.0	0.0	0.0	157.47
5	7	195.93	0.0	-2.13e-04	-8.45	0.0	38.16	33.48	0.0	0.0	0.0	189.35
		189.35	0.0	0.0	0.0	11.3	39.87	29.22	0.0	0.0	0.0	192.88
						22.5	41.58	25.03	0.0	0.0	0.0	195.93
5	8	-103.55	0.0	-8.62e-05	-2.32	0.0	-170.96	-59.12	0.0	0.0	0.0	-103.55
		-117.13	0.0	0.0	0.0	11.3	-169.25	-60.35	0.0	0.0	0.0	-110.28
						22.5	-167.54	-61.44	0.0	0.0	0.0	-117.13
5	9	-48.32	0.0	-3.23e-05	-3.28	0.0	-94.92	-49.26	0.0	0.0	0.0	-48.32
		-59.78	0.0	0.0	0.0	11.3	-93.21	-50.97	0.0	0.0	0.0	-53.96
						22.5	-91.50	-52.55	0.0	0.0	0.0	-59.78
5	10	-6.92	0.0	-3.56e-05	-8.45	0.0	-52.71	-59.77	0.0	0.0	0.0	-6.92
		-21.32	0.0	0.0	0.0	11.3	-51.01	-64.03	0.0	0.0	0.0	-13.88
						22.5	-49.30	-68.21	0.0	0.0	0.0	-21.32
5	11	-94.47	0.0	-1.21e-04	-0.71	0.0	-223.51	-46.50	0.0	0.0	0.0	-94.47
		-105.02	0.0	0.0	0.0	11.3	-221.80	-46.88	0.0	0.0	0.0	-99.73
						22.5	-220.09	-47.20	0.0	0.0	0.0	-105.02
5	12	-30.38	0.0	-4.49e-05	-0.71	0.0	-126.73	-28.36	0.0	0.0	0.0	-30.38
		-36.85	0.0	0.0	0.0	11.3	-125.03	-28.74	0.0	0.0	0.0	-33.60
						22.5	-123.32	-29.07	0.0	0.0	0.0	-36.85
5	13	-60.90	0.0	-9.31e-05	-0.71	0.0	-182.47	-40.40	0.0	0.0	0.0	-60.90
		-70.08	0.0	0.0	0.0	11.3	-180.77	-40.79	0.0	0.0	0.0	-65.47
						22.5	-179.06	-41.11	0.0	0.0	0.0	-70.08
5	14	-12.95	0.0	-3.59e-05	-0.71	0.0	-110.07	-26.84	0.0	0.0	0.0	-12.95
		-19.07	0.0	0.0	0.0	11.3	-108.37	-27.22	0.0	0.0	0.0	-15.99
						22.5	-106.66	-27.54	0.0	0.0	0.0	-19.07
5	15	111.75	0.0	-2.88e-04	-2.32	0.0	-80.09	40.43	0.0	0.0	0.0	102.93
		102.93	0.0	0.0	0.0	11.3	-78.38	39.20	0.0	0.0	0.0	107.40
						22.5	-76.67	38.11	0.0	0.0	0.0	111.75
5	16	169.10	0.0	-2.34e-04	-3.28	0.0	-4.05	50.28	0.0	0.0	0.0	158.16
		158.16	0.0	0.0	0.0	11.3	-2.34	48.58	0.0	0.0	0.0	163.72
						22.5	-0.63	47.00	0.0	0.0	0.0	169.10
5	17	207.56	0.0	-2.37e-04	-8.45	0.0	38.16	39.78	0.0	0.0	0.0	199.56
		199.56	0.0	0.0	0.0	11.3	39.87	35.52	0.0	0.0	0.0	203.80
						22.5	41.58	31.34	0.0	0.0	0.0	207.56
5	18	-89.87	0.0	-1.18e-04	-2.32	0.0	-170.96	-50.68	0.0	0.0	0.0	-89.87
		-101.54	0.0	0.0	0.0	11.3	-169.25	-51.90	0.0	0.0	0.0	-95.64
						22.5	-167.54	-53.00	0.0	0.0	0.0	-101.54

5	19	-34.63	0.0	-6.46e-05	-3.28	0.0	-94.92	-40.82	0.0	0.0	0.0	-34.63
		-44.20	0.0	0.0	0.0	11.3	-93.21	-42.52	0.0	0.0	0.0	-39.32
						22.5	-91.50	-44.10	0.0	0.0	0.0	-44.20
5	20	6.77	0.0	-6.79e-05	-8.45	0.0	-52.71	-51.32	0.0	0.0	0.0	6.77
		-5.73	0.0	0.0	0.0	11.3	-51.01	-55.58	0.0	0.0	0.0	0.76
						22.5	-49.30	-59.77	0.0	0.0	0.0	-5.73
5	21	118.77	0.0	-2.89e-04	-2.32	0.0	-120.10	43.39	0.0	0.0	0.0	109.28
		109.28	0.0	0.0	0.0	11.3	-118.39	42.17	0.0	0.0	0.0	114.09
						22.5	-116.69	41.07	0.0	0.0	0.0	118.77
5	22	-83.52	0.0	-1.20e-04	-2.32	0.0	-210.98	-47.71	0.0	0.0	0.0	-83.52
		-94.52	0.0	0.0	0.0	11.3	-209.27	-48.93	0.0	0.0	0.0	-88.95
						22.5	-207.56	-50.03	0.0	0.0	0.0	-94.52
5	23	261.55	0.0	-2.28e-04	-8.45	0.0	76.62	45.98	0.0	0.0	0.0	252.16
		252.16	0.0	0.0	0.0	11.3	77.89	41.73	0.0	0.0	0.0	257.10
						22.5	79.15	37.54	0.0	0.0	0.0	261.55
5	24	85.11	0.0	-6.41e-05	-8.45	0.0	-14.25	-43.28	0.0	0.0	0.0	85.11
		74.42	0.0	0.0	0.0	11.3	-12.99	-47.53	0.0	0.0	0.0	80.00
						22.5	-11.72	-51.72	0.0	0.0	0.0	74.42
5	25	132.73	0.0	-2.43e-04	-2.32	0.0	-40.00	35.44	0.0	0.0	0.0	125.02
		125.02	0.0	0.0	0.0	11.3	-38.29	34.21	0.0	0.0	0.0	128.94
						22.5	-36.58	33.12	0.0	0.0	0.0	132.73
5	26	176.32	0.0	-2.12e-04	-3.28	0.0	-3.97	42.33	0.0	0.0	0.0	167.17
		167.17	0.0	0.0	0.0	11.3	-2.27	40.63	0.0	0.0	0.0	171.84
						22.5	-0.56	39.05	0.0	0.0	0.0	176.32
5	27	-92.69	0.0	-1.46e-04	-2.32	0.0	-265.48	-53.11	0.0	0.0	0.0	-92.69
		-104.91	0.0	0.0	0.0	11.3	-263.77	-54.33	0.0	0.0	0.0	-98.73
						22.5	-262.06	-55.43	0.0	0.0	0.0	-104.91
5	28	-29.80	0.0	-7.12e-05	-3.28	0.0	-111.58	-42.65	0.0	0.0	0.0	-29.80
		-39.77	0.0	0.0	0.0	11.3	-109.87	-44.35	0.0	0.0	0.0	-34.70
						22.5	-108.16	-45.93	0.0	0.0	0.0	-39.77
5	29	255.72	0.0	-2.35e-04	-8.45	0.0	60.43	44.79	0.0	0.0	0.0	246.59
		246.59	0.0	0.0	0.0	11.3	62.14	40.53	0.0	0.0	0.0	251.39
						22.5	63.85	36.34	0.0	0.0	0.0	255.72
5	30	64.02	0.0	-2.04e-04	-2.32	0.0	-77.36	12.90	0.0	0.0	0.0	61.39
		61.39	0.0	0.0	0.0	11.3	-76.10	11.67	0.0	0.0	0.0	62.77
						22.5	-74.83	10.58	0.0	0.0	0.0	64.02
5	31	111.50	0.0	-1.39e-04	-3.28	0.0	-4.96	18.08	0.0	0.0	0.0	107.81
		107.81	0.0	0.0	0.0	11.3	-3.70	16.38	0.0	0.0	0.0	109.75
						22.5	-2.43	14.80	0.0	0.0	0.0	111.50
5	32	114.22	0.0	-1.01e-04	-8.45	0.0	22.26	-10.83	0.0	0.0	0.0	114.22
		110.83	0.0	0.0	0.0	11.3	23.52	-15.08	0.0	0.0	0.0	112.76
						22.5	24.79	-19.27	0.0	0.0	0.0	110.83
5	33	251.98	0.0	-2.28e-04	-8.45	0.0	60.50	40.14	0.0	0.0	0.0	243.91
		243.91	0.0	0.0	0.0	11.3	62.21	35.89	0.0	0.0	0.0	248.18
						22.5	63.92	31.70	0.0	0.0	0.0	251.98
5	34	-43.58	0.0	-8.61e-05	-0.71	0.0	-134.91	-28.99	0.0	0.0	0.0	-43.58
		-50.18	0.0	0.0	0.0	11.3	-133.64	-29.37	0.0	0.0	0.0	-46.86
						22.5	-132.38	-29.70	0.0	0.0	0.0	-50.18
5	35	1.85	0.0	-4.81e-05	-2.00	0.0	-76.24	-23.92	0.0	0.0	0.0	1.85
		-3.76	0.0	0.0	0.0	11.3	-74.97	-24.95	0.0	0.0	0.0	-0.90
						22.5	-73.70	-25.92	0.0	0.0	0.0	-3.76
5	36	-71.63	0.0	-6.34e-05	-1.72	0.0	-128.25	-44.57	0.0	0.0	0.0	-71.63
		-81.86	0.0	0.0	0.0	11.3	-126.98	-45.48	0.0	0.0	0.0	-76.70
						22.5	-125.71	-46.30	0.0	0.0	0.0	-81.86
5	37	-30.62	0.0	-2.33e-05	-2.43	0.0	-71.78	-37.25	0.0	0.0	0.0	-30.62
		-39.28	0.0	0.0	0.0	11.3	-70.51	-38.52	0.0	0.0	0.0	-34.88
						22.5	-69.25	-39.69	0.0	0.0	0.0	-39.28

5	38	0.13	0.0	-2.58e-05	-6.27	0.0	-40.44	-45.05	0.0	0.0	0.0	0.13
		-10.72	0.0	0.0	0.0	11.3	-39.17	-48.21	0.0	0.0	0.0	-5.12
						22.5	-37.91	-51.32	0.0	0.0	0.0	-10.72
5	39	-52.09	0.0	-6.61e-05	-0.71	0.0	-134.91	-34.24	0.0	0.0	0.0	-52.09
		-59.87	0.0	0.0	0.0	11.3	-133.64	-34.63	0.0	0.0	0.0	-55.96
						22.5	-132.38	-34.95	0.0	0.0	0.0	-59.87
5	40	-16.48	0.0	-2.36e-05	-0.71	0.0	-81.15	-24.17	0.0	0.0	0.0	-16.48
		-22.00	0.0	0.0	0.0	11.3	-79.88	-24.55	0.0	0.0	0.0	-19.22
						22.5	-78.61	-24.87	0.0	0.0	0.0	-22.00
5	41	-63.13	0.0	-8.35e-05	-1.72	0.0	-128.25	-39.32	0.0	0.0	0.0	-63.13
		-72.17	0.0	0.0	0.0	11.3	-126.98	-40.23	0.0	0.0	0.0	-67.60
						22.5	-125.71	-41.04	0.0	0.0	0.0	-72.17
5	42	-22.11	0.0	-4.34e-05	-2.43	0.0	-71.78	-32.00	0.0	0.0	0.0	-22.11
		-29.59	0.0	0.0	0.0	11.3	-70.51	-33.27	0.0	0.0	0.0	-25.78
						22.5	-69.25	-34.44	0.0	0.0	0.0	-29.59
5	43	8.63	0.0	-4.59e-05	-6.27	0.0	-40.44	-39.80	0.0	0.0	0.0	8.63
		-1.03	0.0	0.0	0.0	11.3	-39.17	-42.96	0.0	0.0	0.0	3.98
						22.5	-37.91	-46.07	0.0	0.0	0.0	-1.03
5	44	-25.49	0.0	-1.01e-04	-6.85	0.0	-141.92	-51.96	0.0	0.0	0.0	-25.49
		-37.95	0.0	0.0	0.0	11.3	-140.66	-55.41	0.0	0.0	0.0	-31.53
						22.5	-139.39	-58.81	0.0	0.0	0.0	-37.95
5	45	47.06	0.0	-4.54e-05	-6.27	0.0	-23.90	-35.83	0.0	0.0	0.0	47.06
		38.29	0.0	0.0	0.0	11.3	-22.64	-38.99	0.0	0.0	0.0	42.85
						22.5	-21.37	-42.10	0.0	0.0	0.0	38.29
5	46	-60.08	0.0	-1.06e-04	-0.71	0.0	-165.08	-33.58	0.0	0.0	0.0	-60.08
		-67.72	0.0	0.0	0.0	11.3	-163.81	-33.97	0.0	0.0	0.0	-63.88
						22.5	-162.55	-34.29	0.0	0.0	0.0	-67.72
5	47	-12.60	0.0	-4.94e-05	-0.71	0.0	-93.40	-20.15	0.0	0.0	0.0	-12.60
		-17.22	0.0	0.0	0.0	11.3	-92.13	-20.53	0.0	0.0	0.0	-14.89
						22.5	-90.86	-20.86	0.0	0.0	0.0	-17.22
5	48	-31.40	0.0	-9.20e-05	-0.71	0.0	-134.91	-27.33	0.0	0.0	0.0	-31.40
		-37.64	0.0	0.0	0.0	11.3	-133.64	-27.71	0.0	0.0	0.0	-34.50
						22.5	-132.38	-28.04	0.0	0.0	0.0	-37.64
5	49	4.20	0.0	-4.95e-05	-0.71	0.0	-81.15	-17.26	0.0	0.0	0.0	4.20
		0.24	0.0	0.0	0.0	11.3	-79.88	-17.64	0.0	0.0	0.0	2.24
						22.5	-78.61	-17.96	0.0	0.0	0.0	0.24
5	50	67.91	0.0	-1.90e-04	-1.72	0.0	-60.93	23.02	0.0	0.0	0.0	62.93
		62.93	0.0	0.0	0.0	11.3	-59.67	22.11	0.0	0.0	0.0	65.47
						22.5	-58.40	21.30	0.0	0.0	0.0	67.91
5	51	110.49	0.0	-1.50e-04	-2.43	0.0	-4.47	30.34	0.0	0.0	0.0	103.95
		103.95	0.0	0.0	0.0	11.3	-3.20	29.08	0.0	0.0	0.0	107.29
						22.5	-1.93	27.91	0.0	0.0	0.0	110.49
5	52	139.05	0.0	-1.52e-04	-6.27	0.0	26.88	22.54	0.0	0.0	0.0	134.69
		134.69	0.0	0.0	0.0	11.3	28.14	19.38	0.0	0.0	0.0	137.05
						22.5	29.41	16.27	0.0	0.0	0.0	139.05
5	53	-83.81	0.0	-5.76e-05	-1.72	0.0	-128.25	-46.24	0.0	0.0	0.0	-83.81
		-94.41	0.0	0.0	0.0	11.3	-126.98	-47.14	0.0	0.0	0.0	-89.06
						22.5	-125.71	-47.96	0.0	0.0	0.0	-94.41
5	54	-42.79	0.0	-1.75e-05	-2.43	0.0	-71.78	-38.92	0.0	0.0	0.0	-42.79
		-51.83	0.0	0.0	0.0	11.3	-70.51	-40.18	0.0	0.0	0.0	-47.24
						22.5	-69.25	-41.35	0.0	0.0	0.0	-51.83
5	55	-12.05	0.0	-2.00e-05	-6.27	0.0	-40.44	-46.72	0.0	0.0	0.0	-12.05
		-23.27	0.0	0.0	0.0	11.3	-39.17	-49.88	0.0	0.0	0.0	-17.48
						22.5	-37.91	-52.98	0.0	0.0	0.0	-23.27
5	56	-64.42	0.0	-9.58e-05	-0.71	0.0	-165.08	-36.27	0.0	0.0	0.0	-64.42
		-72.67	0.0	0.0	0.0	11.3	-163.81	-36.65	0.0	0.0	0.0	-68.52
						22.5	-162.55	-36.97	0.0	0.0	0.0	-72.67

5	57	-16.95	0.0	-3.92e-05	-0.71	0.0	-93.40	-22.83	0.0	0.0	0.0	-16.95
		-22.17	0.0	0.0	0.0	11.3	-92.13	-23.21	0.0	0.0	0.0	-19.54
						22.5	-90.86	-23.54	0.0	0.0	0.0	-22.17
5	58	-38.65	0.0	-7.49e-05	-0.71	0.0	-134.91	-31.80	0.0	0.0	0.0	-38.65
		-45.88	0.0	0.0	0.0	11.3	-133.64	-32.18	0.0	0.0	0.0	-42.24
						22.5	-132.38	-32.51	0.0	0.0	0.0	-45.88
5	59	-3.04	0.0	-3.24e-05	-0.71	0.0	-81.15	-21.72	0.0	0.0	0.0	-3.04
		-8.01	0.0	0.0	0.0	11.3	-79.88	-22.11	0.0	0.0	0.0	-5.51
						22.5	-78.61	-22.43	0.0	0.0	0.0	-8.01
5	60	77.60	0.0	-2.10e-04	-1.72	0.0	-60.93	28.27	0.0	0.0	0.0	71.44
		71.44	0.0	0.0	0.0	11.3	-59.67	27.36	0.0	0.0	0.0	74.57
						22.5	-58.40	26.55	0.0	0.0	0.0	77.60
5	61	120.18	0.0	-1.70e-04	-2.43	0.0	-4.47	35.59	0.0	0.0	0.0	112.45
		112.45	0.0	0.0	0.0	11.3	-3.20	34.33	0.0	0.0	0.0	116.39
						22.5	-1.93	33.16	0.0	0.0	0.0	120.18
5	62	148.74	0.0	-1.72e-04	-6.27	0.0	26.88	27.79	0.0	0.0	0.0	143.20
		143.20	0.0	0.0	0.0	11.3	28.14	24.63	0.0	0.0	0.0	146.15
						22.5	29.41	21.52	0.0	0.0	0.0	148.74
5	63	-72.40	0.0	-8.45e-05	-1.72	0.0	-128.25	-39.20	0.0	0.0	0.0	-72.40
		-81.42	0.0	0.0	0.0	11.3	-126.98	-40.10	0.0	0.0	0.0	-76.86
						22.5	-125.71	-40.92	0.0	0.0	0.0	-81.42
5	64	-31.39	0.0	-4.44e-05	-2.43	0.0	-71.78	-31.88	0.0	0.0	0.0	-31.39
		-38.84	0.0	0.0	0.0	11.3	-70.51	-33.14	0.0	0.0	0.0	-35.04
						22.5	-69.25	-34.31	0.0	0.0	0.0	-38.84
5	65	-0.64	0.0	-4.69e-05	-6.27	0.0	-40.44	-39.68	0.0	0.0	0.0	-0.64
		-10.28	0.0	0.0	0.0	11.3	-39.17	-42.84	0.0	0.0	0.0	-5.28
						22.5	-37.91	-45.95	0.0	0.0	0.0	-10.28
5	66	82.81	0.0	-2.11e-04	-1.72	0.0	-90.65	30.47	0.0	0.0	0.0	76.15
		76.15	0.0	0.0	0.0	11.3	-89.38	29.57	0.0	0.0	0.0	79.53
						22.5	-88.12	28.75	0.0	0.0	0.0	82.81
5	67	-67.69	0.0	-8.56e-05	-1.72	0.0	-157.96	-36.99	0.0	0.0	0.0	-67.69
		-76.21	0.0	0.0	0.0	11.3	-156.70	-37.90	0.0	0.0	0.0	-71.90
						22.5	-155.43	-38.72	0.0	0.0	0.0	-76.21
5	68	188.06	0.0	-1.72e-04	-6.27	0.0	43.41	31.76	0.0	0.0	0.0	181.63
		181.63	0.0	0.0	0.0	11.3	44.68	28.60	0.0	0.0	0.0	185.02
						22.5	45.94	25.49	0.0	0.0	0.0	188.06
5	69	59.24	0.0	-5.12e-05	-6.27	0.0	-23.90	-34.17	0.0	0.0	0.0	59.24
		50.84	0.0	0.0	0.0	11.3	-22.64	-37.33	0.0	0.0	0.0	55.21
						22.5	-21.37	-40.44	0.0	0.0	0.0	50.84
5	70	2.88	0.0	-2.49e-05	-0.71	0.0	-44.40	-15.63	0.0	0.0	0.0	2.88
		-0.72	0.0	0.0	0.0	11.3	-43.13	-16.02	0.0	0.0	0.0	1.10
						22.5	-41.86	-16.34	0.0	0.0	0.0	-0.72
5	71	-23.50	0.0	-3.05e-06	-1.14	0.0	-39.94	-28.14	0.0	0.0	0.0	-23.50
		-29.97	0.0	0.0	0.0	11.3	-38.67	-28.75	0.0	0.0	0.0	-26.70
						22.5	-37.41	-29.28	0.0	0.0	0.0	-29.97
5	72	-4.90	0.0	-6.55e-06	-0.71	0.0	-44.40	-20.44	0.0	0.0	0.0	-4.90
		-9.59	0.0	0.0	0.0	11.3	-43.13	-20.82	0.0	0.0	0.0	-7.23
						22.5	-41.86	-21.14	0.0	0.0	0.0	-9.59
5	73	-15.72	0.0	-2.14e-05	-1.14	0.0	-39.94	-23.33	0.0	0.0	0.0	-15.72
		-21.10	0.0	0.0	0.0	11.3	-38.67	-23.95	0.0	0.0	0.0	-18.38
						22.5	-37.41	-24.47	0.0	0.0	0.0	-21.10
5	74	11.09	0.0	-2.74e-05	-1.14	0.0	-39.94	-21.41	0.0	0.0	0.0	11.09
		6.14	0.0	0.0	0.0	11.3	-38.67	-22.03	0.0	0.0	0.0	8.65
						22.5	-37.41	-22.55	0.0	0.0	0.0	6.14
5	75	21.96	0.0	-2.88e-05	-3.25	0.0	-38.20	-33.74	0.0	0.0	0.0	21.96
		14.00	0.0	0.0	0.0	11.3	-36.94	-35.42	0.0	0.0	0.0	18.07
						22.5	-35.67	-36.99	0.0	0.0	0.0	14.00

5	76	58.30	0.0	-4.85e-05	-8.18	0.0	0.65	-47.05	0.0	0.0	0.0	58.30
		46.79	0.0	0.0	0.0	11.3	1.91	-51.19	0.0	0.0	0.0	52.77
						22.5	3.18	-55.23	0.0	0.0	0.0	46.79
5	77	14.18	0.0	-1.05e-05	-3.25	0.0	-38.20	-38.55	0.0	0.0	0.0	14.18
		5.13	0.0	0.0	0.0	11.3	-36.94	-40.22	0.0	0.0	0.0	9.74
						22.5	-35.67	-41.80	0.0	0.0	0.0	5.13
5	78	66.09	0.0	-6.69e-05	-8.18	0.0	0.65	-42.25	0.0	0.0	0.0	66.09
		55.65	0.0	0.0	0.0	11.3	1.91	-46.38	0.0	0.0	0.0	61.10
						22.5	3.18	-50.43	0.0	0.0	0.0	55.65
5	79	94.35	0.0	-7.09e-05	-8.18	0.0	4.61	-40.01	0.0	0.0	0.0	94.35
		84.42	0.0	0.0	0.0	11.3	5.88	-44.14	0.0	0.0	0.0	89.62
						22.5	7.15	-48.19	0.0	0.0	0.0	84.42
5	80	-33.56	0.0	-5.60e-05	-3.13	0.0	-88.76	-36.52	0.0	0.0	0.0	-33.56
		-42.13	0.0	0.0	0.0	11.3	-87.50	-38.13	0.0	0.0	0.0	-37.76
						22.5	-86.23	-39.64	0.0	0.0	0.0	-42.13
6	1	101.72	0.0	-1.38e-04	0.52	0.0	-227.25	40.38	0.0	0.0	0.0	92.57
		92.57	0.0	0.0	0.0	11.3	-225.54	40.66	0.0	0.0	0.0	97.13
						22.5	-223.83	40.90	0.0	0.0	0.0	101.72
6	2	33.55	0.0	-6.15e-05	0.52	0.0	-130.48	22.24	0.0	0.0	0.0	28.48
		28.48	0.0	0.0	0.0	11.3	-128.77	22.53	0.0	0.0	0.0	31.00
						22.5	-127.06	22.77	0.0	0.0	0.0	33.55
6	3	62.82	0.0	-1.18e-04	0.52	0.0	-186.22	32.14	0.0	0.0	0.0	55.52
		55.52	0.0	0.0	0.0	11.3	-184.51	32.42	0.0	0.0	0.0	59.16
						22.5	-182.80	32.66	0.0	0.0	0.0	62.82
6	4	11.81	0.0	-6.06e-05	0.52	0.0	-113.82	18.57	0.0	0.0	0.0	7.57
		7.57	0.0	0.0	0.0	11.3	-112.11	18.86	0.0	0.0	0.0	9.68
						22.5	-110.40	19.10	0.0	0.0	0.0	11.81
6	5	363.83	0.0	-1.31e-04	0.52	0.0	-288.61	150.18	0.0	0.0	0.0	329.98
		329.98	0.0	0.0	0.0	11.3	-286.90	150.46	0.0	0.0	0.0	346.89
						22.5	-285.19	150.70	0.0	0.0	0.0	363.83
6	6	322.69	0.0	-1.99e-04	0.52	0.0	-219.85	141.28	0.0	0.0	0.0	290.84
		290.84	0.0	0.0	0.0	11.3	-218.14	141.57	0.0	0.0	0.0	306.75
						22.5	-216.43	141.81	0.0	0.0	0.0	322.69
6	7	350.92	0.0	-2.53e-04	0.52	0.0	-207.61	156.95	0.0	0.0	0.0	315.54
		315.54	0.0	0.0	0.0	11.3	-205.90	157.23	0.0	0.0	0.0	333.21
						22.5	-204.20	157.47	0.0	0.0	0.0	350.92
6	8	176.69	0.0	-3.27e-05	0.52	0.0	-197.73	60.92	0.0	0.0	0.0	162.92
		162.92	0.0	0.0	0.0	11.3	-196.02	61.20	0.0	0.0	0.0	169.79
						22.5	-194.31	61.44	0.0	0.0	0.0	176.69
6	9	135.55	0.0	-3.54e-05	0.52	0.0	-128.97	52.02	0.0	0.0	0.0	123.79
		123.79	0.0	0.0	0.0	11.3	-127.26	52.31	0.0	0.0	0.0	129.65
						22.5	-125.56	52.55	0.0	0.0	0.0	135.55
6	10	163.78	0.0	-8.92e-05	0.52	0.0	-116.74	67.69	0.0	0.0	0.0	148.48
		148.48	0.0	0.0	0.0	11.3	-115.03	67.97	0.0	0.0	0.0	156.12
						22.5	-113.32	68.21	0.0	0.0	0.0	163.78
6	11	113.35	0.0	-1.14e-04	0.52	0.0	-227.25	46.68	0.0	0.0	0.0	102.78
		102.78	0.0	0.0	0.0	11.3	-225.54	46.96	0.0	0.0	0.0	108.05
						22.5	-223.83	47.20	0.0	0.0	0.0	113.35
6	12	45.18	0.0	-3.74e-05	0.52	0.0	-130.48	28.54	0.0	0.0	0.0	38.69
		38.69	0.0	0.0	0.0	11.3	-128.77	28.83	0.0	0.0	0.0	41.92
						22.5	-127.06	29.07	0.0	0.0	0.0	45.18
6	13	78.40	0.0	-8.56e-05	0.52	0.0	-186.22	40.59	0.0	0.0	0.0	69.21
		69.21	0.0	0.0	0.0	11.3	-184.51	40.87	0.0	0.0	0.0	73.79
						22.5	-182.80	41.11	0.0	0.0	0.0	78.40
6	14	27.40	0.0	-2.83e-05	0.52	0.0	-113.82	27.02	0.0	0.0	0.0	21.26
		21.26	0.0	0.0	0.0	11.3	-112.11	27.30	0.0	0.0	0.0	24.32
						22.5	-110.40	27.54	0.0	0.0	0.0	27.40

6	15	352.20	0.0	-1.07e-04	0.52	0.0	-288.61	143.88	0.0	0.0	0.0	319.77
		319.77	0.0	0.0	0.0	11.3	-286.90	144.16	0.0	0.0	0.0	335.97
						22.5	-285.19	144.40	0.0	0.0	0.0	352.20
6	16	311.06	0.0	-1.75e-04	0.52	0.0	-219.85	134.98	0.0	0.0	0.0	280.63
		280.63	0.0	0.0	0.0	11.3	-218.14	135.27	0.0	0.0	0.0	295.83
						22.5	-216.43	135.51	0.0	0.0	0.0	311.06
6	17	339.29	0.0	-2.29e-04	0.52	0.0	-207.61	150.65	0.0	0.0	0.0	305.33
		305.33	0.0	0.0	0.0	11.3	-205.90	150.93	0.0	0.0	0.0	322.29
						22.5	-204.20	151.17	0.0	0.0	0.0	339.29
6	18	161.11	0.0	-6.50e-05	0.52	0.0	-197.73	52.47	0.0	0.0	0.0	149.24
		149.24	0.0	0.0	0.0	11.3	-196.02	52.76	0.0	0.0	0.0	155.16
						22.5	-194.31	53.00	0.0	0.0	0.0	161.11
6	19	119.97	0.0	-4.60e-06	0.52	0.0	-128.97	43.58	0.0	0.0	0.0	110.10
		110.10	0.0	0.0	0.0	11.3	-127.26	43.86	0.0	0.0	0.0	115.02
						22.5	-125.56	44.10	0.0	0.0	0.0	119.97
6	20	148.19	0.0	-5.69e-05	0.52	0.0	-116.74	59.24	0.0	0.0	0.0	134.80
		134.80	0.0	0.0	0.0	11.3	-115.03	59.53	0.0	0.0	0.0	141.48
						22.5	-113.32	59.77	0.0	0.0	0.0	148.19
6	21	338.45	0.0	-1.30e-04	0.52	0.0	-248.59	140.91	0.0	0.0	0.0	306.68
		306.68	0.0	0.0	0.0	11.3	-246.88	141.20	0.0	0.0	0.0	322.55
						22.5	-245.17	141.44	0.0	0.0	0.0	338.45
6	22	147.36	0.0	-4.16e-05	0.52	0.0	-157.71	49.51	0.0	0.0	0.0	136.15
		136.15	0.0	0.0	0.0	11.3	-156.01	49.79	0.0	0.0	0.0	141.74
						22.5	-154.30	50.03	0.0	0.0	0.0	147.36
6	23	285.28	0.0	-2.38e-04	0.52	0.0	-169.15	144.45	0.0	0.0	0.0	252.71
		252.71	0.0	0.0	0.0	11.3	-167.88	144.73	0.0	0.0	0.0	268.98
						22.5	-166.62	144.97	0.0	0.0	0.0	285.28
6	24	68.03	0.0	-6.07e-05	0.52	0.0	-78.27	51.20	0.0	0.0	0.0	56.44
		56.44	0.0	0.0	0.0	11.3	-77.01	51.48	0.0	0.0	0.0	62.22
						22.5	-75.74	51.72	0.0	0.0	0.0	68.03
6	25	338.27	0.0	-1.27e-04	0.52	0.0	-328.69	148.87	0.0	0.0	0.0	304.72
		304.72	0.0	0.0	0.0	11.3	-326.98	149.15	0.0	0.0	0.0	321.48
						22.5	-325.28	149.39	0.0	0.0	0.0	338.27
6	26	304.15	0.0	-1.97e-04	0.52	0.0	-219.92	142.94	0.0	0.0	0.0	271.93
		271.93	0.0	0.0	0.0	11.3	-218.21	143.22	0.0	0.0	0.0	288.03
						22.5	-216.50	143.46	0.0	0.0	0.0	304.15
6	27	155.47	0.0	-5.96e-05	0.52	0.0	-185.27	54.90	0.0	0.0	0.0	143.06
		143.06	0.0	0.0	0.0	11.3	-183.57	55.19	0.0	0.0	0.0	149.25
						22.5	-181.86	55.43	0.0	0.0	0.0	155.47
6	28	115.54	0.0	-4.76e-06	0.52	0.0	-145.63	45.41	0.0	0.0	0.0	105.27
		105.27	0.0	0.0	0.0	11.3	-143.92	45.69	0.0	0.0	0.0	110.39
						22.5	-142.22	45.93	0.0	0.0	0.0	115.54
6	29	291.13	0.0	-2.31e-04	0.52	0.0	-185.34	145.64	0.0	0.0	0.0	258.30
		258.30	0.0	0.0	0.0	11.3	-183.63	145.93	0.0	0.0	0.0	274.70
						22.5	-181.93	146.17	0.0	0.0	0.0	291.13
6	30	340.00	0.0	-1.37e-04	2.32	0.0	-258.94	169.61	0.0	0.0	0.0	301.57
		301.57	0.0	0.0	0.0	11.3	-257.68	170.84	0.0	0.0	0.0	320.72
						22.5	-256.41	171.93	0.0	0.0	0.0	340.00
6	31	292.52	0.0	-2.02e-04	3.28	0.0	-186.54	164.42	0.0	0.0	0.0	255.14
		255.14	0.0	0.0	0.0	11.3	-185.28	166.13	0.0	0.0	0.0	273.74
						22.5	-184.01	167.71	0.0	0.0	0.0	292.52
6	32	293.19	0.0	-2.39e-04	8.45	0.0	-159.32	193.33	0.0	0.0	0.0	248.73
		248.73	0.0	0.0	0.0	11.3	-158.06	197.59	0.0	0.0	0.0	270.72
						22.5	-156.79	201.78	0.0	0.0	0.0	293.19
6	33	295.18	0.0	-2.39e-04	0.52	0.0	-185.41	150.29	0.0	0.0	0.0	261.30
		261.30	0.0	0.0	0.0	11.3	-183.70	150.57	0.0	0.0	0.0	278.22
						22.5	-182.00	150.81	0.0	0.0	0.0	295.18

6	34	58.50	0.0	-7.86e-05	0.52	0.0	-138.64	29.18	0.0	0.0	0.0	51.87
		51.87	0.0	0.0	0.0	11.3	-137.38	29.46	0.0	0.0	0.0	55.17
						22.5	-136.11	29.70	0.0	0.0	0.0	58.50
6	35	33.92	0.0	-2.16e-05	0.52	0.0	-89.79	25.40	0.0	0.0	0.0	28.15
		28.15	0.0	0.0	0.0	11.3	-88.53	25.68	0.0	0.0	0.0	31.02
						22.5	-87.26	25.92	0.0	0.0	0.0	33.92
6	36	119.82	0.0	-2.93e-05	0.52	0.0	-145.31	45.77	0.0	0.0	0.0	109.46
		109.46	0.0	0.0	0.0	11.3	-144.04	46.06	0.0	0.0	0.0	114.63
						22.5	-142.77	46.30	0.0	0.0	0.0	119.82
6	37	89.27	0.0	-2.12e-05	0.52	0.0	-94.25	39.17	0.0	0.0	0.0	80.40
		80.40	0.0	0.0	0.0	11.3	-92.98	39.45	0.0	0.0	0.0	84.82
						22.5	-91.72	39.69	0.0	0.0	0.0	89.27
6	38	110.23	0.0	-6.12e-05	0.52	0.0	-85.16	50.80	0.0	0.0	0.0	98.74
		98.74	0.0	0.0	0.0	11.3	-83.90	51.08	0.0	0.0	0.0	104.47
						22.5	-82.63	51.32	0.0	0.0	0.0	110.23
6	39	68.19	0.0	-5.86e-05	0.52	0.0	-138.64	34.43	0.0	0.0	0.0	60.38
		60.38	0.0	0.0	0.0	11.3	-137.38	34.71	0.0	0.0	0.0	64.27
						22.5	-136.11	34.95	0.0	0.0	0.0	68.19
6	40	30.32	0.0	-1.61e-05	0.52	0.0	-84.88	24.35	0.0	0.0	0.0	24.78
		24.78	0.0	0.0	0.0	11.3	-83.62	24.63	0.0	0.0	0.0	27.53
						22.5	-82.35	24.87	0.0	0.0	0.0	30.32
6	41	110.13	0.0	-4.94e-05	0.52	0.0	-145.31	40.52	0.0	0.0	0.0	100.95
		100.95	0.0	0.0	0.0	11.3	-144.04	40.80	0.0	0.0	0.0	105.53
						22.5	-142.77	41.04	0.0	0.0	0.0	110.13
6	42	79.58	0.0	-2.47e-06	0.52	0.0	-94.25	33.91	0.0	0.0	0.0	71.89
		71.89	0.0	0.0	0.0	11.3	-92.98	34.20	0.0	0.0	0.0	75.72
						22.5	-91.72	34.44	0.0	0.0	0.0	79.58
6	43	100.54	0.0	-4.11e-05	0.52	0.0	-85.16	45.55	0.0	0.0	0.0	90.23
		90.23	0.0	0.0	0.0	11.3	-83.90	45.83	0.0	0.0	0.0	95.37
						22.5	-82.63	46.07	0.0	0.0	0.0	100.54
6	44	142.28	0.0	-1.31e-05	0.52	0.0	-131.63	58.28	0.0	0.0	0.0	129.10
		129.10	0.0	0.0	0.0	11.3	-130.36	58.57	0.0	0.0	0.0	135.67
						22.5	-129.10	58.81	0.0	0.0	0.0	142.28
6	45	61.22	0.0	-4.17e-05	0.52	0.0	-68.63	41.58	0.0	0.0	0.0	51.80
		51.80	0.0	0.0	0.0	11.3	-67.36	41.86	0.0	0.0	0.0	56.50
						22.5	-66.09	42.10	0.0	0.0	0.0	61.22
6	46	76.03	0.0	-9.86e-05	0.52	0.0	-168.81	33.77	0.0	0.0	0.0	68.37
		68.37	0.0	0.0	0.0	11.3	-167.55	34.05	0.0	0.0	0.0	72.19
						22.5	-166.28	34.29	0.0	0.0	0.0	76.03
6	47	25.53	0.0	-4.19e-05	0.52	0.0	-97.13	20.33	0.0	0.0	0.0	20.90
		20.90	0.0	0.0	0.0	11.3	-95.87	20.62	0.0	0.0	0.0	23.20
						22.5	-94.60	20.86	0.0	0.0	0.0	25.53
6	48	45.95	0.0	-8.45e-05	0.52	0.0	-138.64	27.51	0.0	0.0	0.0	39.70
		39.70	0.0	0.0	0.0	11.3	-137.38	27.80	0.0	0.0	0.0	42.81
						22.5	-136.11	28.04	0.0	0.0	0.0	45.95
6	49	8.08	0.0	-4.20e-05	0.52	0.0	-84.88	17.44	0.0	0.0	0.0	4.09
		4.09	0.0	0.0	0.0	11.3	-83.62	17.72	0.0	0.0	0.0	6.07
						22.5	-82.35	17.96	0.0	0.0	0.0	8.08
6	50	269.60	0.0	-9.70e-05	0.52	0.0	-212.62	113.37	0.0	0.0	0.0	244.03
		244.03	0.0	0.0	0.0	11.3	-211.35	113.65	0.0	0.0	0.0	256.80
						22.5	-210.09	113.89	0.0	0.0	0.0	269.60
6	51	239.05	0.0	-1.48e-04	0.52	0.0	-161.56	106.76	0.0	0.0	0.0	214.97
		214.97	0.0	0.0	0.0	11.3	-160.30	107.04	0.0	0.0	0.0	226.99
						22.5	-159.03	107.28	0.0	0.0	0.0	239.05
6	52	260.01	0.0	-1.88e-04	0.52	0.0	-152.48	118.39	0.0	0.0	0.0	233.31
		233.31	0.0	0.0	0.0	11.3	-151.21	118.68	0.0	0.0	0.0	246.64
						22.5	-149.95	118.92	0.0	0.0	0.0	260.01

6	53	132.37	0.0	-2.35e-05	0.52	0.0	-145.31	47.43	0.0	0.0	0.0	121.64
		121.64	0.0	0.0	0.0	11.3	-144.04	47.72	0.0	0.0	0.0	126.99
						22.5	-142.77	47.96	0.0	0.0	0.0	132.37
6	54	101.82	0.0	-2.70e-05	0.52	0.0	-94.25	40.83	0.0	0.0	0.0	92.57
		92.57	0.0	0.0	0.0	11.3	-92.98	41.11	0.0	0.0	0.0	97.18
						22.5	-91.72	41.35	0.0	0.0	0.0	101.82
6	55	122.78	0.0	-6.70e-05	0.52	0.0	-85.16	52.46	0.0	0.0	0.0	110.91
		110.91	0.0	0.0	0.0	11.3	-83.90	52.74	0.0	0.0	0.0	116.83
						22.5	-82.63	52.98	0.0	0.0	0.0	122.78
6	56	80.98	0.0	-8.83e-05	0.52	0.0	-168.81	36.45	0.0	0.0	0.0	72.72
		72.72	0.0	0.0	0.0	11.3	-167.55	36.73	0.0	0.0	0.0	76.83
						22.5	-166.28	36.97	0.0	0.0	0.0	80.98
6	57	30.48	0.0	-3.17e-05	0.52	0.0	-97.13	23.01	0.0	0.0	0.0	25.24
		25.24	0.0	0.0	0.0	11.3	-95.87	23.30	0.0	0.0	0.0	27.85
						22.5	-94.60	23.54	0.0	0.0	0.0	30.48
6	58	54.20	0.0	-6.74e-05	0.52	0.0	-138.64	31.98	0.0	0.0	0.0	46.94
		46.94	0.0	0.0	0.0	11.3	-137.38	32.27	0.0	0.0	0.0	50.55
						22.5	-136.11	32.51	0.0	0.0	0.0	54.20
6	59	16.33	0.0	-2.49e-05	0.52	0.0	-84.88	21.91	0.0	0.0	0.0	11.33
		11.33	0.0	0.0	0.0	11.3	-83.62	22.19	0.0	0.0	0.0	13.82
						22.5	-82.35	22.43	0.0	0.0	0.0	16.33
6	60	259.91	0.0	-7.70e-05	0.52	0.0	-212.62	108.12	0.0	0.0	0.0	235.52
		235.52	0.0	0.0	0.0	11.3	-211.35	108.40	0.0	0.0	0.0	247.70
						22.5	-210.09	108.64	0.0	0.0	0.0	259.91
6	61	229.36	0.0	-1.27e-04	0.52	0.0	-161.56	101.51	0.0	0.0	0.0	206.46
		206.46	0.0	0.0	0.0	11.3	-160.30	101.79	0.0	0.0	0.0	217.89
						22.5	-159.03	102.03	0.0	0.0	0.0	229.36
6	62	250.32	0.0	-1.67e-04	0.52	0.0	-152.48	113.14	0.0	0.0	0.0	224.80
		224.80	0.0	0.0	0.0	11.3	-151.21	113.43	0.0	0.0	0.0	237.54
						22.5	-149.95	113.67	0.0	0.0	0.0	250.32
6	63	119.38	0.0	-5.04e-05	0.52	0.0	-145.31	40.39	0.0	0.0	0.0	110.23
		110.23	0.0	0.0	0.0	11.3	-144.04	40.68	0.0	0.0	0.0	114.79
						22.5	-142.77	40.92	0.0	0.0	0.0	119.38
6	64	88.83	0.0	-2.16e-06	0.52	0.0	-94.25	33.79	0.0	0.0	0.0	81.17
		81.17	0.0	0.0	0.0	11.3	-92.98	34.07	0.0	0.0	0.0	84.99
						22.5	-91.72	34.31	0.0	0.0	0.0	88.83
6	65	109.79	0.0	-4.01e-05	0.52	0.0	-85.16	45.42	0.0	0.0	0.0	99.51
		99.51	0.0	0.0	0.0	11.3	-83.90	45.71	0.0	0.0	0.0	104.63
						22.5	-82.63	45.95	0.0	0.0	0.0	109.79
6	66	249.70	0.0	-9.44e-05	0.52	0.0	-182.90	105.91	0.0	0.0	0.0	225.80
		225.80	0.0	0.0	0.0	11.3	-181.64	106.20	0.0	0.0	0.0	237.74
						22.5	-180.37	106.44	0.0	0.0	0.0	249.70
6	67	109.17	0.0	-3.30e-05	0.52	0.0	-115.59	38.19	0.0	0.0	0.0	100.52
		100.52	0.0	0.0	0.0	11.3	-114.32	38.48	0.0	0.0	0.0	104.83
						22.5	-113.06	38.72	0.0	0.0	0.0	109.17
6	68	211.00	0.0	-1.68e-04	0.52	0.0	-135.94	109.18	0.0	0.0	0.0	186.37
		186.37	0.0	0.0	0.0	11.3	-134.67	109.46	0.0	0.0	0.0	198.67
						22.5	-133.41	109.70	0.0	0.0	0.0	211.00
6	69	48.67	0.0	-3.58e-05	0.52	0.0	-68.63	39.92	0.0	0.0	0.0	39.63
		39.63	0.0	0.0	0.0	11.3	-67.36	40.20	0.0	0.0	0.0	44.14
						22.5	-66.09	40.44	0.0	0.0	0.0	48.67
6	70	9.03	0.0	-1.74e-05	0.52	0.0	-48.13	15.82	0.0	0.0	0.0	5.41
		5.41	0.0	0.0	0.0	11.3	-46.87	16.10	0.0	0.0	0.0	7.21
						22.5	-45.60	16.34	0.0	0.0	0.0	9.03
6	71	58.11	0.0	-2.24e-05	0.52	0.0	-52.59	28.75	0.0	0.0	0.0	51.58
		51.58	0.0	0.0	0.0	11.3	-51.32	29.04	0.0	0.0	0.0	54.83
						22.5	-50.06	29.28	0.0	0.0	0.0	58.11

6	72	17.90	0.0	-1.01e-06	0.52	0.0	-48.13	20.62	0.0	0.0	0.0	13.20
		13.20	0.0	0.0	0.0	11.3	-46.87	20.90	0.0	0.0	0.0	15.54
						22.5	-45.60	21.14	0.0	0.0	0.0	17.90
6	73	49.25	0.0	-4.07e-06	0.52	0.0	-52.59	23.95	0.0	0.0	0.0	43.80
		43.80	0.0	0.0	0.0	11.3	-51.32	24.23	0.0	0.0	0.0	46.51
						22.5	-50.06	24.47	0.0	0.0	0.0	49.25
6	74	22.00	0.0	-1.96e-06	0.52	0.0	-52.59	22.03	0.0	0.0	0.0	16.99
		16.99	0.0	0.0	0.0	11.3	-51.32	22.31	0.0	0.0	0.0	19.48
						22.5	-50.06	22.55	0.0	0.0	0.0	22.00
6	75	51.31	0.0	-2.76e-05	1.14	0.0	-67.55	46.19	0.0	0.0	0.0	40.78
		40.78	0.0	0.0	0.0	11.3	-66.29	46.81	0.0	0.0	0.0	46.01
						22.5	-65.02	47.33	0.0	0.0	0.0	51.31
6	76	170.79	0.0	-1.39e-04	1.14	0.0	-97.14	88.54	0.0	0.0	0.0	150.73
		150.73	0.0	0.0	0.0	11.3	-95.88	89.16	0.0	0.0	0.0	160.73
						22.5	-94.61	89.68	0.0	0.0	0.0	170.79
6	77	60.17	0.0	-4.59e-05	1.14	0.0	-67.55	51.00	0.0	0.0	0.0	48.56
		48.56	0.0	0.0	0.0	11.3	-66.29	51.61	0.0	0.0	0.0	54.34
						22.5	-65.02	52.13	0.0	0.0	0.0	60.17
6	78	161.92	0.0	-1.21e-04	1.14	0.0	-97.14	83.74	0.0	0.0	0.0	142.95
		142.95	0.0	0.0	0.0	11.3	-95.88	84.35	0.0	0.0	0.0	152.40
						22.5	-94.61	84.88	0.0	0.0	0.0	161.92
6	79	133.15	0.0	-1.17e-04	1.14	0.0	-93.17	81.50	0.0	0.0	0.0	114.68
		114.68	0.0	0.0	0.0	11.3	-91.91	82.11	0.0	0.0	0.0	123.89
						22.5	-90.64	82.64	0.0	0.0	0.0	133.15
6	80	103.78	0.0	-3.11e-06	0.52	0.0	-116.47	39.12	0.0	0.0	0.0	94.91
		94.91	0.0	0.0	0.0	11.3	-115.20	39.40	0.0	0.0	0.0	99.33
						22.5	-113.94	39.64	0.0	0.0	0.0	103.78
7	1	92.57	0.0	-4.65e-04	41.84	0.0	-291.80	-1.46	0.0	0.0	0.0	-11.60
		-11.60	0.0	0.0	0.0	212.5	-259.52	27.04	0.0	0.0	0.0	18.26
						425.0	-227.25	40.38	0.0	0.0	0.0	92.57
7	2	28.48	0.0	-2.62e-04	41.84	0.0	-195.02	-19.60	0.0	0.0	0.0	1.38
		-10.55	0.0	0.0	0.0	212.5	-162.75	8.90	0.0	0.0	0.0	-7.30
						425.0	-130.48	22.24	0.0	0.0	0.0	28.48
7	3	55.52	0.0	-4.65e-04	41.84	0.0	-250.76	-9.70	0.0	0.0	0.0	-13.64
		-16.48	0.0	0.0	0.0	212.5	-218.49	18.80	0.0	0.0	0.0	-1.29
						425.0	-186.22	32.14	0.0	0.0	0.0	55.52
7	4	7.57	0.0	-3.41e-04	41.84	0.0	-178.36	-23.27	0.0	0.0	0.0	-3.93
		-21.71	0.0	0.0	0.0	212.5	-146.09	5.23	0.0	0.0	0.0	-20.40
						425.0	-113.82	18.57	0.0	0.0	0.0	7.57
7	5	329.98	0.0	-6.81e-03	41.84	0.0	-353.15	108.34	0.0	0.0	0.0	-240.86
		-240.86	0.0	0.0	0.0	212.5	-320.88	136.84	0.0	0.0	0.0	22.33
						425.0	-288.61	150.18	0.0	0.0	0.0	329.98
7	6	290.84	0.0	-7.08e-03	41.84	0.0	-284.39	99.44	0.0	0.0	0.0	-242.18
		-242.18	0.0	0.0	0.0	212.5	-252.12	127.94	0.0	0.0	0.0	2.10
						425.0	-219.85	141.28	0.0	0.0	0.0	290.84
7	7	315.54	0.0	-8.23e-03	41.84	0.0	-272.16	115.11	0.0	0.0	0.0	-284.07
		-284.07	0.0	0.0	0.0	212.5	-239.89	143.61	0.0	0.0	0.0	-6.49
						425.0	-207.61	156.95	0.0	0.0	0.0	315.54
7	8	162.92	0.0	-1.48e-03	41.84	0.0	-262.28	19.08	0.0	0.0	0.0	-28.55
		-28.55	0.0	0.0	0.0	212.5	-230.00	47.58	0.0	0.0	0.0	44.96
						425.0	-197.73	60.92	0.0	0.0	0.0	162.92
7	9	123.79	0.0	-1.75e-03	41.84	0.0	-193.52	10.18	0.0	0.0	0.0	-29.88
		-29.88	0.0	0.0	0.0	212.5	-161.25	38.68	0.0	0.0	0.0	24.72
						425.0	-128.97	52.02	0.0	0.0	0.0	123.79
7	10	148.48	0.0	-2.91e-03	41.84	0.0	-181.29	25.85	0.0	0.0	0.0	-71.77
		-71.77	0.0	0.0	0.0	212.5	-149.01	54.35	0.0	0.0	0.0	16.13
						425.0	-116.74	67.69	0.0	0.0	0.0	148.48

7	11	102.78	0.0	-6.04e-04	41.84	0.0	-291.80	4.84	0.0	0.0	0.0	-28.17
		-28.17	0.0	0.0	0.0	212.5	-259.52	33.34	0.0	0.0	0.0	15.08
						425.0	-227.25	46.68	0.0	0.0	0.0	102.78
7	12	38.69	0.0	-3.69e-04	41.84	0.0	-195.02	-13.30	0.0	0.0	0.0	-15.19
		-20.40	0.0	0.0	0.0	212.5	-162.75	15.20	0.0	0.0	0.0	-10.48
						425.0	-130.48	28.54	0.0	0.0	0.0	38.69
7	13	69.21	0.0	-5.99e-04	41.84	0.0	-250.76	-1.25	0.0	0.0	0.0	-35.85
		-35.85	0.0	0.0	0.0	212.5	-218.49	27.25	0.0	0.0	0.0	-5.55
						425.0	-186.22	40.59	0.0	0.0	0.0	69.21
7	14	21.26	0.0	-4.32e-04	41.84	0.0	-178.36	-14.82	0.0	0.0	0.0	-26.14
		-32.97	0.0	0.0	0.0	212.5	-146.09	13.68	0.0	0.0	0.0	-24.67
						425.0	-113.82	27.02	0.0	0.0	0.0	21.26
7	15	319.77	0.0	-6.29e-03	41.84	0.0	-353.15	102.04	0.0	0.0	0.0	-224.28
		-224.28	0.0	0.0	0.0	212.5	-320.88	130.54	0.0	0.0	0.0	25.51
						425.0	-288.61	143.88	0.0	0.0	0.0	319.77
7	16	280.63	0.0	-6.56e-03	41.84	0.0	-284.39	93.14	0.0	0.0	0.0	-225.61
		-225.61	0.0	0.0	0.0	212.5	-252.12	121.64	0.0	0.0	0.0	5.28
						425.0	-219.85	134.98	0.0	0.0	0.0	280.63
7	17	305.33	0.0	-7.71e-03	41.84	0.0	-272.16	108.81	0.0	0.0	0.0	-267.50
		-267.50	0.0	0.0	0.0	212.5	-239.89	137.31	0.0	0.0	0.0	-3.31
						425.0	-207.61	150.65	0.0	0.0	0.0	305.33
7	18	149.24	0.0	-8.42e-04	41.84	0.0	-262.28	10.63	0.0	0.0	0.0	-6.34
		-6.34	0.0	0.0	0.0	212.5	-230.00	39.13	0.0	0.0	0.0	49.22
						425.0	-197.73	52.47	0.0	0.0	0.0	149.24
7	19	110.10	0.0	-1.06e-03	41.84	0.0	-193.52	1.74	0.0	0.0	0.0	-7.67
		-7.67	0.0	0.0	0.0	212.5	-161.25	30.24	0.0	0.0	0.0	28.99
						425.0	-128.97	43.58	0.0	0.0	0.0	110.10
7	20	134.80	0.0	-2.21e-03	41.84	0.0	-181.29	17.40	0.0	0.0	0.0	-49.56
		-49.56	0.0	0.0	0.0	212.5	-149.01	45.90	0.0	0.0	0.0	20.39
						425.0	-116.74	59.24	0.0	0.0	0.0	134.80
7	21	306.68	0.0	-6.39e-03	41.84	0.0	-313.13	99.07	0.0	0.0	0.0	-224.76
		-224.76	0.0	0.0	0.0	212.5	-280.86	127.57	0.0	0.0	0.0	18.73
						425.0	-248.59	140.91	0.0	0.0	0.0	306.68
7	22	136.15	0.0	-9.01e-04	41.84	0.0	-222.26	7.67	0.0	0.0	0.0	-6.82
		-6.82	0.0	0.0	0.0	212.5	-189.99	36.17	0.0	0.0	0.0	42.44
						425.0	-157.71	49.51	0.0	0.0	0.0	136.15
7	23	252.71	0.0	-7.70e-03	41.84	0.0	-216.96	102.61	0.0	0.0	0.0	-293.75
		-293.75	0.0	0.0	0.0	212.5	-193.05	131.11	0.0	0.0	0.0	-42.75
						425.0	-169.15	144.45	0.0	0.0	0.0	252.71
7	24	56.44	0.0	-2.18e-03	41.84	0.0	-126.09	9.36	0.0	0.0	0.0	-93.72
		-93.72	0.0	0.0	0.0	212.5	-102.18	37.86	0.0	0.0	0.0	-40.87
						425.0	-78.27	51.20	0.0	0.0	0.0	56.44
7	25	304.72	0.0	-6.59e-03	41.84	0.0	-393.24	107.03	0.0	0.0	0.0	-260.53
		-260.53	0.0	0.0	0.0	212.5	-360.97	135.53	0.0	0.0	0.0	-0.14
						425.0	-328.69	148.87	0.0	0.0	0.0	304.72
7	26	271.93	0.0	-6.98e-03	41.84	0.0	-284.46	101.10	0.0	0.0	0.0	-268.12
		-268.12	0.0	0.0	0.0	212.5	-252.19	129.60	0.0	0.0	0.0	-20.32
						425.0	-219.92	142.94	0.0	0.0	0.0	271.93
7	27	143.06	0.0	-1.06e-03	41.84	0.0	-249.82	13.06	0.0	0.0	0.0	-22.85
		-22.85	0.0	0.0	0.0	212.5	-217.55	41.57	0.0	0.0	0.0	37.87
						425.0	-185.27	54.90	0.0	0.0	0.0	143.06
7	28	105.27	0.0	-1.14e-03	41.84	0.0	-210.18	3.56	0.0	0.0	0.0	-20.27
		-20.27	0.0	0.0	0.0	212.5	-177.91	32.07	0.0	0.0	0.0	20.27
						425.0	-145.63	45.41	0.0	0.0	0.0	105.27
7	29	258.30	0.0	-7.70e-03	41.84	0.0	-249.89	103.80	0.0	0.0	0.0	-293.25
		-293.25	0.0	0.0	0.0	212.5	-217.62	132.30	0.0	0.0	0.0	-39.71
						425.0	-185.34	145.64	0.0	0.0	0.0	258.30

7	30	301.57	0.0	-5.63e-03	137.82	0.0	-306.76	31.79	0.0	0.0	0.0	-189.57
		-189.57	0.0	0.0	0.0	212.5	-282.85	122.99	0.0	0.0	0.0	-17.22
						425.0	-258.94	169.61	0.0	0.0	0.0	301.57
7	31	255.14	0.0	-5.60e-03	155.98	0.0	-234.36	8.45	0.0	0.0	0.0	-175.36
		-175.36	0.0	0.0	0.0	212.5	-210.45	108.73	0.0	0.0	0.0	-42.97
						425.0	-186.54	164.42	0.0	0.0	0.0	255.14
7	32	248.73	0.0	-5.59e-03	210.30	0.0	-207.14	-16.97	0.0	0.0	0.0	-160.19
		-160.75	0.0	0.0	0.0	212.5	-183.23	100.23	0.0	0.0	0.0	-67.45
						425.0	-159.32	193.33	0.0	0.0	0.0	248.73
7	33	261.30	0.0	-7.74e-03	41.84	0.0	-249.96	108.45	0.0	0.0	0.0	-309.99
		-309.99	0.0	0.0	0.0	212.5	-217.69	136.95	0.0	0.0	0.0	-46.57
						425.0	-185.41	150.29	0.0	0.0	0.0	261.30
7	34	51.87	0.0	-2.63e-04	41.84	0.0	-186.46	-12.67	0.0	0.0	0.0	-4.69
		-9.24	0.0	0.0	0.0	212.5	-162.55	15.84	0.0	0.0	0.0	1.36
						425.0	-138.64	29.18	0.0	0.0	0.0	51.87
7	35	28.15	0.0	-2.83e-04	41.84	0.0	-137.60	-16.44	0.0	0.0	0.0	-12.36
		-20.92	0.0	0.0	0.0	212.5	-113.70	12.06	0.0	0.0	0.0	-14.34
						425.0	-89.79	25.40	0.0	0.0	0.0	28.15
7	36	109.46	0.0	-9.12e-04	41.84	0.0	-193.12	3.93	0.0	0.0	0.0	-17.63
		-17.63	0.0	0.0	0.0	212.5	-169.21	32.43	0.0	0.0	0.0	23.69
						425.0	-145.31	45.77	0.0	0.0	0.0	109.46
7	37	80.40	0.0	-1.12e-03	41.84	0.0	-142.06	-2.68	0.0	0.0	0.0	-18.62
		-18.62	0.0	0.0	0.0	212.5	-118.15	25.83	0.0	0.0	0.0	8.66
						425.0	-94.25	39.17	0.0	0.0	0.0	80.40
7	38	98.74	0.0	-1.97e-03	41.84	0.0	-132.98	8.96	0.0	0.0	0.0	-49.72
		-49.72	0.0	0.0	0.0	212.5	-109.07	37.46	0.0	0.0	0.0	2.28
						425.0	-85.16	50.80	0.0	0.0	0.0	98.74
7	39	60.38	0.0	-4.15e-04	41.84	0.0	-186.46	-7.41	0.0	0.0	0.0	-18.50
		-20.13	0.0	0.0	0.0	212.5	-162.55	21.09	0.0	0.0	0.0	-1.29
						425.0	-138.64	34.43	0.0	0.0	0.0	60.38
7	40	24.78	0.0	-3.03e-04	41.84	0.0	-132.69	-17.49	0.0	0.0	0.0	-11.29
		-20.96	0.0	0.0	0.0	212.5	-108.79	11.01	0.0	0.0	0.0	-15.48
						425.0	-84.88	24.35	0.0	0.0	0.0	24.78
7	41	100.95	0.0	-5.32e-04	41.84	0.0	-193.12	-1.32	0.0	0.0	0.0	-3.83
		-3.83	0.0	0.0	0.0	212.5	-169.21	27.18	0.0	0.0	0.0	26.34
						425.0	-145.31	40.52	0.0	0.0	0.0	100.95
7	42	71.89	0.0	-6.83e-04	41.84	0.0	-142.06	-7.93	0.0	0.0	0.0	-4.81
		-6.71	0.0	0.0	0.0	212.5	-118.15	20.57	0.0	0.0	0.0	11.31
						425.0	-94.25	33.91	0.0	0.0	0.0	71.89
7	43	90.23	0.0	-1.54e-03	41.84	0.0	-132.98	3.71	0.0	0.0	0.0	-35.91
		-35.91	0.0	0.0	0.0	212.5	-109.07	32.21	0.0	0.0	0.0	4.93
						425.0	-85.16	45.55	0.0	0.0	0.0	90.23
7	44	129.10	0.0	-1.82e-03	41.84	0.0	-179.44	16.44	0.0	0.0	0.0	-51.17
		-51.17	0.0	0.0	0.0	212.5	-155.53	44.94	0.0	0.0	0.0	16.74
						425.0	-131.63	58.28	0.0	0.0	0.0	129.10
7	45	51.80	0.0	-1.53e-03	41.84	0.0	-116.44	-0.26	0.0	0.0	0.0	-57.48
		-57.48	0.0	0.0	0.0	212.5	-92.53	28.24	0.0	0.0	0.0	-25.07
						425.0	-68.63	41.58	0.0	0.0	0.0	51.80
7	46	68.37	0.0	-3.18e-04	41.84	0.0	-216.63	-8.07	0.0	0.0	0.0	-7.70
		-9.68	0.0	0.0	0.0	212.5	-192.72	20.43	0.0	0.0	0.0	8.11
						425.0	-168.81	33.77	0.0	0.0	0.0	68.37
7	47	20.90	0.0	-1.68e-04	41.84	0.0	-144.94	-21.51	0.0	0.0	0.0	1.91
		-13.06	0.0	0.0	0.0	212.5	-121.04	6.99	0.0	0.0	0.0	-10.82
						425.0	-97.13	20.33	0.0	0.0	0.0	20.90
7	48	39.70	0.0	-3.26e-04	41.84	0.0	-186.46	-14.33	0.0	0.0	0.0	-9.80
		-16.11	0.0	0.0	0.0	212.5	-162.55	14.17	0.0	0.0	0.0	-7.28
						425.0	-138.64	27.51	0.0	0.0	0.0	39.70

7	49	4.09	0.0	-2.40e-04	41.84	0.0	-132.69	-24.40	0.0	0.0	0.0	-2.59
		-22.18	0.0	0.0	0.0	212.5	-108.79	4.10	0.0	0.0	0.0	-21.48
						425.0	-84.88	17.44	0.0	0.0	0.0	4.09
7	50	244.03	0.0	-4.93e-03	41.84	0.0	-260.43	71.53	0.0	0.0	0.0	-170.35
		-170.35	0.0	0.0	0.0	212.5	-236.53	100.03	0.0	0.0	0.0	14.61
						425.0	-212.62	113.37	0.0	0.0	0.0	244.03
7	51	214.97	0.0	-5.13e-03	41.84	0.0	-209.37	64.92	0.0	0.0	0.0	-171.34
		-171.34	0.0	0.0	0.0	212.5	-185.47	93.42	0.0	0.0	0.0	-0.41
						425.0	-161.56	106.76	0.0	0.0	0.0	214.97
7	52	233.31	0.0	-5.99e-03	41.84	0.0	-200.29	76.55	0.0	0.0	0.0	-202.44
		-202.44	0.0	0.0	0.0	212.5	-176.38	105.06	0.0	0.0	0.0	-6.79
						425.0	-152.48	118.39	0.0	0.0	0.0	233.31
7	53	121.64	0.0	-9.90e-04	41.84	0.0	-193.12	5.59	0.0	0.0	0.0	-12.52
		-12.52	0.0	0.0	0.0	212.5	-169.21	34.09	0.0	0.0	0.0	32.33
						425.0	-145.31	47.43	0.0	0.0	0.0	121.64
7	54	92.57	0.0	-1.19e-03	41.84	0.0	-142.06	-1.01	0.0	0.0	0.0	-13.51
		-13.51	0.0	0.0	0.0	212.5	-118.15	27.49	0.0	0.0	0.0	17.30
						425.0	-94.25	40.83	0.0	0.0	0.0	92.57
7	55	110.91	0.0	-2.05e-03	41.84	0.0	-132.98	10.62	0.0	0.0	0.0	-44.61
		-44.61	0.0	0.0	0.0	212.5	-109.07	39.12	0.0	0.0	0.0	10.92
						425.0	-85.16	52.46	0.0	0.0	0.0	110.91
7	56	72.72	0.0	-3.30e-04	41.84	0.0	-216.63	-5.39	0.0	0.0	0.0	-14.76
		-15.31	0.0	0.0	0.0	212.5	-192.72	23.11	0.0	0.0	0.0	6.75
						425.0	-168.81	36.45	0.0	0.0	0.0	72.72
7	57	25.24	0.0	-1.45e-04	41.84	0.0	-144.94	-18.83	0.0	0.0	0.0	-5.14
		-16.23	0.0	0.0	0.0	212.5	-121.04	9.68	0.0	0.0	0.0	-12.18
						425.0	-97.13	23.01	0.0	0.0	0.0	25.24
7	58	46.94	0.0	-3.23e-04	41.84	0.0	-186.46	-9.86	0.0	0.0	0.0	-21.55
		-24.48	0.0	0.0	0.0	212.5	-162.55	18.64	0.0	0.0	0.0	-9.54
						425.0	-138.64	31.98	0.0	0.0	0.0	46.94
7	59	11.33	0.0	-1.92e-04	41.84	0.0	-132.69	-19.93	0.0	0.0	0.0	-14.34
		-26.81	0.0	0.0	0.0	212.5	-108.79	8.57	0.0	0.0	0.0	-23.73
						425.0	-84.88	21.91	0.0	0.0	0.0	11.33
7	60	235.52	0.0	-4.50e-03	41.84	0.0	-260.43	66.28	0.0	0.0	0.0	-156.54
		-156.54	0.0	0.0	0.0	212.5	-236.53	94.78	0.0	0.0	0.0	17.26
						425.0	-212.62	108.12	0.0	0.0	0.0	235.52
7	61	206.46	0.0	-4.70e-03	41.84	0.0	-209.37	59.67	0.0	0.0	0.0	-157.53
		-157.53	0.0	0.0	0.0	212.5	-185.47	88.17	0.0	0.0	0.0	2.24
						425.0	-161.56	101.51	0.0	0.0	0.0	206.46
7	62	224.80	0.0	-5.56e-03	41.84	0.0	-200.29	71.30	0.0	0.0	0.0	-188.63
		-188.63	0.0	0.0	0.0	212.5	-176.38	99.80	0.0	0.0	0.0	-4.14
						425.0	-152.48	113.14	0.0	0.0	0.0	224.80
7	63	110.23	0.0	-4.64e-04	41.84	0.0	-193.12	-1.45	0.0	0.0	0.0	5.99
		5.99	0.0	0.0	0.0	212.5	-169.21	27.06	0.0	0.0	0.0	35.88
						425.0	-145.31	40.39	0.0	0.0	0.0	110.23
7	64	81.17	0.0	-6.14e-04	41.84	0.0	-142.06	-8.05	0.0	0.0	0.0	5.00
		3.04	0.0	0.0	0.0	212.5	-118.15	20.45	0.0	0.0	0.0	20.86
						425.0	-94.25	33.79	0.0	0.0	0.0	81.17
7	65	99.51	0.0	-1.47e-03	41.84	0.0	-132.98	3.58	0.0	0.0	0.0	-26.10
		-26.10	0.0	0.0	0.0	212.5	-109.07	32.08	0.0	0.0	0.0	14.47
						425.0	-85.16	45.42	0.0	0.0	0.0	99.51
7	66	225.80	0.0	-4.57e-03	41.84	0.0	-230.72	64.07	0.0	0.0	0.0	-156.90
		-156.90	0.0	0.0	0.0	212.5	-206.81	92.57	0.0	0.0	0.0	12.23
						425.0	-182.90	105.91	0.0	0.0	0.0	225.80
7	67	100.52	0.0	-5.07e-04	41.84	0.0	-163.40	-3.65	0.0	0.0	0.0	5.63
		5.63	0.0	0.0	0.0	212.5	-139.50	24.85	0.0	0.0	0.0	30.85
						425.0	-115.59	38.19	0.0	0.0	0.0	100.52

7	68	186.37	0.0	-5.54e-03	41.84	0.0	-183.75	67.33	0.0	0.0	0.0	-210.19
		-210.19	0.0	0.0	0.0	212.5	-159.85	95.84	0.0	0.0	0.0	-34.14
						425.0	-135.94	109.18	0.0	0.0	0.0	186.37
7	69	39.63	0.0	-1.45e-03	41.84	0.0	-116.44	-1.92	0.0	0.0	0.0	-62.59
		-62.59	0.0	0.0	0.0	212.5	-92.53	26.58	0.0	0.0	0.0	-33.71
						425.0	-68.63	39.92	0.0	0.0	0.0	39.63
7	70	5.63	0.0	-1.30e-04	41.84	0.0	-95.94	-26.02	0.0	0.0	0.0	5.63
		-16.71	0.0	0.0	0.0	212.5	-72.04	2.48	0.0	0.0	0.0	-16.71
						425.0	-48.13	15.82	0.0	0.0	0.0	5.41
7	71	51.58	0.0	-6.89e-04	41.84	0.0	-100.40	-13.09	0.0	0.0	0.0	-3.19
		-8.18	0.0	0.0	0.0	212.5	-76.49	15.41	0.0	0.0	0.0	1.97
						425.0	-52.59	28.75	0.0	0.0	0.0	51.58
7	72	13.20	0.0	-2.66e-04	41.84	0.0	-95.94	-21.22	0.0	0.0	0.0	-7.01
		-21.53	0.0	0.0	0.0	212.5	-72.04	7.28	0.0	0.0	0.0	-19.13
						425.0	-48.13	20.62	0.0	0.0	0.0	13.20
7	73	43.80	0.0	-2.92e-04	41.84	0.0	-100.40	-17.89	0.0	0.0	0.0	9.45
		-0.65	0.0	0.0	0.0	212.5	-76.49	10.61	0.0	0.0	0.0	4.39
						425.0	-52.59	23.95	0.0	0.0	0.0	43.80
7	74	16.99	0.0	-2.82e-04	41.84	0.0	-100.40	-19.81	0.0	0.0	0.0	-9.21
		-21.48	0.0	0.0	0.0	212.5	-76.49	8.69	0.0	0.0	0.0	-18.34
						425.0	-52.59	22.03	0.0	0.0	0.0	16.99
7	75	40.78	0.0	-8.01e-04	86.77	0.0	-122.59	-40.58	0.0	0.0	0.0	-17.92
		-42.21	0.0	0.0	0.0	212.5	-95.07	19.32	0.0	0.0	0.0	-34.67
						425.0	-67.55	46.19	0.0	0.0	0.0	40.78
7	76	150.73	0.0	-3.76e-03	76.63	0.0	-147.12	11.91	0.0	0.0	0.0	-109.52
		-109.52	0.0	0.0	0.0	212.5	-122.13	66.74	0.0	0.0	0.0	-20.10
						425.0	-97.14	88.54	0.0	0.0	0.0	150.73
7	77	48.56	0.0	-1.20e-03	86.77	0.0	-122.59	-35.78	0.0	0.0	0.0	-30.56
		-49.74	0.0	0.0	0.0	212.5	-95.07	24.12	0.0	0.0	0.0	-37.10
						425.0	-67.55	51.00	0.0	0.0	0.0	48.56
7	78	142.95	0.0	-3.36e-03	76.63	0.0	-147.12	7.11	0.0	0.0	0.0	-96.88
		-96.88	0.0	0.0	0.0	212.5	-122.13	61.93	0.0	0.0	0.0	-17.68
						425.0	-97.14	83.74	0.0	0.0	0.0	142.95
7	79	114.68	0.0	-3.35e-03	76.63	0.0	-138.82	4.87	0.0	0.0	0.0	-115.63
		-115.63	0.0	0.0	0.0	212.5	-116.00	59.69	0.0	0.0	0.0	-41.18
						425.0	-93.17	81.50	0.0	0.0	0.0	114.68
7	80	94.91	0.0	-8.31e-04	41.84	0.0	-164.28	-2.72	0.0	0.0	0.0	-3.91
		-3.91	0.0	0.0	0.0	212.5	-140.37	25.78	0.0	0.0	0.0	23.27
						425.0	-116.47	39.12	0.0	0.0	0.0	94.91
8	1	-9.62	0.0	-7.12e-05	7.07	0.0	-297.87	-8.53	0.0	0.0	0.0	-9.62
		-11.60	0.0	0.0	0.0	20.0	-294.83	-4.93	0.0	0.0	0.0	-10.97
						40.0	-291.80	-1.46	0.0	0.0	0.0	-11.60
8	2	10.61	0.0	-3.08e-05	7.07	0.0	-201.10	-26.66	0.0	0.0	0.0	10.61
		1.38	0.0	0.0	0.0	20.0	-198.06	-23.06	0.0	0.0	0.0	5.64
						40.0	-195.02	-19.60	0.0	0.0	0.0	1.38
8	3	-8.37	0.0	-6.09e-05	7.07	0.0	-256.84	-16.77	0.0	0.0	0.0	-8.37
		-13.64	0.0	0.0	0.0	20.0	-253.80	-13.17	0.0	0.0	0.0	-11.36
						40.0	-250.76	-9.70	0.0	0.0	0.0	-13.64
8	4	6.78	0.0	-3.07e-05	7.07	0.0	-184.44	-30.33	0.0	0.0	0.0	6.78
		-3.93	0.0	0.0	0.0	20.0	-181.40	-26.73	0.0	0.0	0.0	1.07
						40.0	-178.36	-23.27	0.0	0.0	0.0	-3.93
8	5	-240.86	0.0	-2.71e-04	7.07	0.0	-359.23	101.27	0.0	0.0	0.0	-282.80
		-282.80	0.0	0.0	0.0	20.0	-356.19	104.87	0.0	0.0	0.0	-262.18
						40.0	-353.15	108.34	0.0	0.0	0.0	-240.86
8	6	-242.18	0.0	-2.51e-04	7.07	0.0	-290.47	92.38	0.0	0.0	0.0	-280.56
		-280.56	0.0	0.0	0.0	20.0	-287.43	95.98	0.0	0.0	0.0	-261.73
						40.0	-284.39	99.44	0.0	0.0	0.0	-242.18

8	7	-284.07	0.0	-2.80e-04	7.07	0.0	-278.24	108.04	0.0	0.0	0.0	-328.72
		-328.72	0.0	0.0	0.0	20.0	-275.20	111.64	0.0	0.0	0.0	-306.75
						40.0	-272.16	115.11	0.0	0.0	0.0	-284.07
8	8	-28.55	0.0	-7.94e-05	7.07	0.0	-268.35	12.01	0.0	0.0	0.0	-34.79
		-34.79	0.0	0.0	0.0	20.0	-265.32	15.61	0.0	0.0	0.0	-32.03
						40.0	-262.28	19.08	0.0	0.0	0.0	-28.55
8	9	-29.88	0.0	-5.91e-05	7.07	0.0	-199.59	3.12	0.0	0.0	0.0	-32.56
		-32.56	0.0	0.0	0.0	20.0	-196.56	6.72	0.0	0.0	0.0	-31.57
						40.0	-193.52	10.18	0.0	0.0	0.0	-29.88
8	10	-71.77	0.0	-8.85e-05	7.07	0.0	-187.36	18.78	0.0	0.0	0.0	-80.71
		-80.71	0.0	0.0	0.0	20.0	-184.32	22.38	0.0	0.0	0.0	-76.59
						40.0	-181.29	25.85	0.0	0.0	0.0	-71.77
8	11	-28.17	0.0	-8.93e-05	7.07	0.0	-297.87	-2.23	0.0	0.0	0.0	-28.72
		-28.85	0.0	0.0	0.0	20.0	-294.83	1.37	0.0	0.0	0.0	-28.80
						40.0	-291.80	4.84	0.0	0.0	0.0	-28.17
8	12	-8.48	0.0	-4.90e-05	7.07	0.0	-201.10	-20.36	0.0	0.0	0.0	-8.48
		-15.19	0.0	0.0	0.0	20.0	-198.06	-16.76	0.0	0.0	0.0	-12.19
						40.0	-195.02	-13.30	0.0	0.0	0.0	-15.19
8	13	-33.95	0.0	-8.53e-05	7.07	0.0	-256.84	-8.32	0.0	0.0	0.0	-33.95
		-35.85	0.0	0.0	0.0	20.0	-253.80	-4.72	0.0	0.0	0.0	-35.26
						40.0	-250.76	-1.25	0.0	0.0	0.0	-35.85
8	14	-18.81	0.0	-5.51e-05	7.07	0.0	-184.44	-21.89	0.0	0.0	0.0	-18.81
		-26.14	0.0	0.0	0.0	20.0	-181.40	-18.29	0.0	0.0	0.0	-22.83
						40.0	-178.36	-14.82	0.0	0.0	0.0	-26.14
8	15	-224.28	0.0	-2.53e-04	7.07	0.0	-359.23	94.97	0.0	0.0	0.0	-263.71
		-263.71	0.0	0.0	0.0	20.0	-356.19	98.57	0.0	0.0	0.0	-244.35
						40.0	-353.15	102.04	0.0	0.0	0.0	-224.28
8	16	-225.61	0.0	-2.33e-04	7.07	0.0	-290.47	86.07	0.0	0.0	0.0	-261.47
		-261.47	0.0	0.0	0.0	20.0	-287.43	89.68	0.0	0.0	0.0	-243.90
						40.0	-284.39	93.14	0.0	0.0	0.0	-225.61
8	17	-267.50	0.0	-2.62e-04	7.07	0.0	-278.24	101.74	0.0	0.0	0.0	-309.63
		-309.63	0.0	0.0	0.0	20.0	-275.20	105.34	0.0	0.0	0.0	-288.91
						40.0	-272.16	108.81	0.0	0.0	0.0	-267.50
8	18	-6.34	0.0	-5.51e-05	7.07	0.0	-268.35	3.57	0.0	0.0	0.0	-9.20
		-9.20	0.0	0.0	0.0	20.0	-265.32	7.17	0.0	0.0	0.0	-8.13
						40.0	-262.28	10.63	0.0	0.0	0.0	-6.34
8	19	-6.97	0.0	-3.47e-05	7.07	0.0	-199.59	-5.33	0.0	0.0	0.0	-6.97
		-7.76	0.0	0.0	0.0	20.0	-196.56	-1.73	0.0	0.0	0.0	-7.67
						40.0	-193.52	1.74	0.0	0.0	0.0	-7.67
8	20	-49.56	0.0	-6.42e-05	7.07	0.0	-187.36	10.34	0.0	0.0	0.0	-55.12
		-55.12	0.0	0.0	0.0	20.0	-184.32	13.94	0.0	0.0	0.0	-52.69
						40.0	-181.29	17.40	0.0	0.0	0.0	-49.56
8	21	-224.76	0.0	-2.47e-04	7.07	0.0	-319.21	92.01	0.0	0.0	0.0	-263.00
		-263.00	0.0	0.0	0.0	20.0	-316.17	95.61	0.0	0.0	0.0	-244.23
						40.0	-313.13	99.07	0.0	0.0	0.0	-224.76
8	22	-6.82	0.0	-4.94e-05	7.07	0.0	-228.34	0.60	0.0	0.0	0.0	-8.49
		-8.49	0.0	0.0	0.0	20.0	-225.30	4.20	0.0	0.0	0.0	-8.01
						40.0	-222.26	7.67	0.0	0.0	0.0	-6.82
8	23	-293.75	0.0	-2.72e-04	7.07	0.0	-221.46	95.54	0.0	0.0	0.0	-333.40
		-333.40	0.0	0.0	0.0	20.0	-219.21	99.14	0.0	0.0	0.0	-313.93
						40.0	-216.96	102.61	0.0	0.0	0.0	-293.75
8	24	-93.72	0.0	-9.03e-05	7.07	0.0	-130.59	2.29	0.0	0.0	0.0	-96.07
		-96.07	0.0	0.0	0.0	20.0	-128.34	5.89	0.0	0.0	0.0	-95.25
						40.0	-126.09	9.36	0.0	0.0	0.0	-93.72
8	25	-260.53	0.0	-2.41e-04	7.07	0.0	-399.31	99.96	0.0	0.0	0.0	-301.95
		-301.95	0.0	0.0	0.0	20.0	-396.28	103.56	0.0	0.0	0.0	-281.59
						40.0	-393.24	107.03	0.0	0.0	0.0	-260.53

8	26	-268.12	0.0	-2.23e-04	7.07	0.0	-290.54	94.03	0.0	0.0	0.0	-307.16
		-307.16	0.0	0.0	0.0	20.0	-287.50	97.63	0.0	0.0	0.0	-287.99
						40.0	-284.46	101.10	0.0	0.0	0.0	-268.12
8	27	-22.85	0.0	-7.38e-05	7.07	0.0	-255.90	6.00	0.0	0.0	0.0	-26.68
		-26.68	0.0	0.0	0.0	20.0	-252.86	9.60	0.0	0.0	0.0	-25.12
						40.0	-249.82	13.06	0.0	0.0	0.0	-22.85
8	28	-20.27	0.0	-5.09e-05	7.07	0.0	-216.25	-3.50	0.0	0.0	0.0	-20.30
		-20.64	0.0	0.0	0.0	20.0	-213.22	0.10	0.0	0.0	0.0	-20.64
						40.0	-210.18	3.56	0.0	0.0	0.0	-20.27
8	29	-293.25	0.0	-2.80e-04	7.07	0.0	-255.96	96.74	0.0	0.0	0.0	-333.38
		-333.38	0.0	0.0	0.0	20.0	-252.93	100.34	0.0	0.0	0.0	-313.67
						40.0	-249.89	103.80	0.0	0.0	0.0	-293.25
8	30	-189.57	0.0	-1.40e-04	22.17	0.0	-311.26	9.62	0.0	0.0	0.0	-197.90
		-197.90	0.0	0.0	0.0	20.0	-309.01	20.91	0.0	0.0	0.0	-194.84
						40.0	-306.76	31.79	0.0	0.0	0.0	-189.57
8	31	-174.02	0.0	-1.01e-04	23.88	0.0	-238.86	-15.43	0.0	0.0	0.0	-174.02
		-175.97	0.0	0.0	0.0	20.0	-236.61	-3.29	0.0	0.0	0.0	-175.88
						40.0	-234.36	8.45	0.0	0.0	0.0	-175.36
8	32	-148.48	0.0	-7.02e-05	24.76	0.0	-211.64	-41.73	0.0	0.0	0.0	-148.48
		-160.19	0.0	0.0	0.0	20.0	-209.39	-29.24	0.0	0.0	0.0	-155.57
						40.0	-207.14	-16.97	0.0	0.0	0.0	-160.19
8	33	-309.99	0.0	-2.44e-04	7.07	0.0	-256.03	101.38	0.0	0.0	0.0	-351.97
		-351.97	0.0	0.0	0.0	20.0	-253.00	104.98	0.0	0.0	0.0	-331.33
						40.0	-249.96	108.45	0.0	0.0	0.0	-309.99
8	34	1.77	0.0	-3.71e-05	7.07	0.0	-190.96	-19.73	0.0	0.0	0.0	1.77
		-4.69	0.0	0.0	0.0	20.0	-188.71	-16.13	0.0	0.0	0.0	-1.81
						40.0	-186.46	-12.67	0.0	0.0	0.0	-4.69
8	35	-4.39	0.0	-2.80e-05	7.07	0.0	-142.10	-23.51	0.0	0.0	0.0	-4.39
		-12.36	0.0	0.0	0.0	20.0	-139.85	-19.91	0.0	0.0	0.0	-8.73
						40.0	-137.60	-16.44	0.0	0.0	0.0	-12.36
8	36	-17.63	0.0	-5.20e-05	7.07	0.0	-197.62	-3.14	0.0	0.0	0.0	-17.81
		-18.08	0.0	0.0	0.0	20.0	-195.37	0.47	0.0	0.0	0.0	-18.08
						40.0	-193.12	3.93	0.0	0.0	0.0	-17.63
8	37	-16.15	0.0	-3.68e-05	7.07	0.0	-146.56	-9.74	0.0	0.0	0.0	-16.15
		-18.62	0.0	0.0	0.0	20.0	-144.31	-6.14	0.0	0.0	0.0	-17.74
						40.0	-142.06	-2.68	0.0	0.0	0.0	-18.62
8	38	-49.72	0.0	-5.87e-05	7.07	0.0	-137.48	1.89	0.0	0.0	0.0	-51.91
		-51.91	0.0	0.0	0.0	20.0	-135.23	5.49	0.0	0.0	0.0	-51.17
						40.0	-132.98	8.96	0.0	0.0	0.0	-49.72
8	39	-14.14	0.0	-5.23e-05	7.07	0.0	-190.96	-14.48	0.0	0.0	0.0	-14.14
		-18.50	0.0	0.0	0.0	20.0	-188.71	-10.88	0.0	0.0	0.0	-16.67
						40.0	-186.46	-7.41	0.0	0.0	0.0	-18.50
8	40	-2.89	0.0	-2.99e-05	7.07	0.0	-137.19	-24.56	0.0	0.0	0.0	-2.89
		-11.29	0.0	0.0	0.0	20.0	-134.94	-20.95	0.0	0.0	0.0	-7.44
						40.0	-132.69	-17.49	0.0	0.0	0.0	-11.29
8	41	-1.90	0.0	-3.68e-05	7.07	0.0	-197.62	-8.39	0.0	0.0	0.0	-1.90
		-3.83	0.0	0.0	0.0	20.0	-195.37	-4.78	0.0	0.0	0.0	-3.22
						40.0	-193.12	-1.32	0.0	0.0	0.0	-3.83
8	42	-0.25	0.0	-2.17e-05	7.07	0.0	-146.56	-14.99	0.0	0.0	0.0	-0.25
		-4.81	0.0	0.0	0.0	20.0	-144.31	-11.39	0.0	0.0	0.0	-2.88
						40.0	-142.06	-7.93	0.0	0.0	0.0	-4.81
8	43	-35.91	0.0	-4.36e-05	7.07	0.0	-137.48	-3.36	0.0	0.0	0.0	-36.00
		-36.31	0.0	0.0	0.0	20.0	-135.23	0.24	0.0	0.0	0.0	-36.31
						40.0	-132.98	3.71	0.0	0.0	0.0	-35.91
8	44	-51.17	0.0	-7.38e-05	7.07	0.0	-183.94	9.38	0.0	0.0	0.0	-56.36
		-56.36	0.0	0.0	0.0	20.0	-181.69	12.98	0.0	0.0	0.0	-54.12
						40.0	-179.44	16.44	0.0	0.0	0.0	-51.17

8	45	-55.98	0.0	-5.87e-05	7.07	0.0	-120.94	-7.33	0.0	0.0	0.0	-55.98
		-57.48	0.0	0.0	0.0	20.0	-118.69	-3.73	0.0	0.0	0.0	-57.08
						40.0	-116.44	-0.26	0.0	0.0	0.0	-57.48
8	46	-3.08	0.0	-4.83e-05	7.07	0.0	-221.13	-15.14	0.0	0.0	0.0	-3.08
		-7.70	0.0	0.0	0.0	20.0	-218.88	-11.54	0.0	0.0	0.0	-5.75
						40.0	-216.63	-8.07	0.0	0.0	0.0	-7.70
8	47	11.91	0.0	-1.84e-05	7.07	0.0	-149.44	-28.57	0.0	0.0	0.0	11.91
		1.91	0.0	0.0	0.0	20.0	-147.19	-24.97	0.0	0.0	0.0	6.56
						40.0	-144.94	-21.51	0.0	0.0	0.0	1.91
8	48	-2.68	0.0	-4.13e-05	7.07	0.0	-190.96	-21.39	0.0	0.0	0.0	-2.68
		-9.80	0.0	0.0	0.0	20.0	-188.71	-17.79	0.0	0.0	0.0	-6.59
						40.0	-186.46	-14.33	0.0	0.0	0.0	-9.80
8	49	8.57	0.0	-1.89e-05	7.07	0.0	-137.19	-31.47	0.0	0.0	0.0	8.57
		-2.59	0.0	0.0	0.0	20.0	-134.94	-27.87	0.0	0.0	0.0	2.64
						40.0	-132.69	-24.40	0.0	0.0	0.0	-2.59
8	50	-170.35	0.0	-1.90e-04	7.07	0.0	-264.93	64.46	0.0	0.0	0.0	-197.57
		-197.57	0.0	0.0	0.0	20.0	-262.68	68.06	0.0	0.0	0.0	-184.31
						40.0	-260.43	71.53	0.0	0.0	0.0	-170.35
8	51	-171.34	0.0	-1.75e-04	7.07	0.0	-213.87	57.85	0.0	0.0	0.0	-195.91
		-195.91	0.0	0.0	0.0	20.0	-211.62	61.46	0.0	0.0	0.0	-183.98
						40.0	-209.37	64.92	0.0	0.0	0.0	-171.34
8	52	-202.44	0.0	-1.97e-04	7.07	0.0	-204.79	69.49	0.0	0.0	0.0	-231.67
		-231.67	0.0	0.0	0.0	20.0	-202.54	73.09	0.0	0.0	0.0	-217.41
						40.0	-200.29	76.55	0.0	0.0	0.0	-202.44
8	53	-12.52	0.0	-4.78e-05	7.07	0.0	-197.62	-1.47	0.0	0.0	0.0	-13.37
		-13.42	0.0	0.0	0.0	20.0	-195.37	2.13	0.0	0.0	0.0	-13.30
						40.0	-193.12	5.59	0.0	0.0	0.0	-12.52
8	54	-11.71	0.0	-3.27e-05	7.07	0.0	-146.56	-8.08	0.0	0.0	0.0	-11.71
		-13.51	0.0	0.0	0.0	20.0	-144.31	-4.48	0.0	0.0	0.0	-12.96
						40.0	-142.06	-1.01	0.0	0.0	0.0	-13.51
8	55	-44.61	0.0	-5.46e-05	7.07	0.0	-137.48	3.55	0.0	0.0	0.0	-47.46
		-47.46	0.0	0.0	0.0	20.0	-135.23	7.16	0.0	0.0	0.0	-46.39
						40.0	-132.98	10.62	0.0	0.0	0.0	-44.61
8	56	-11.20	0.0	-5.60e-05	7.07	0.0	-221.13	-12.46	0.0	0.0	0.0	-11.20
		-14.76	0.0	0.0	0.0	20.0	-218.88	-8.86	0.0	0.0	0.0	-13.33
						40.0	-216.63	-5.39	0.0	0.0	0.0	-14.76
8	57	3.79	0.0	-2.62e-05	7.07	0.0	-149.44	-25.89	0.0	0.0	0.0	3.79
		-5.14	0.0	0.0	0.0	20.0	-147.19	-22.29	0.0	0.0	0.0	-1.03
						40.0	-144.94	-18.83	0.0	0.0	0.0	-5.14
8	58	-16.22	0.0	-5.42e-05	7.07	0.0	-190.96	-16.92	0.0	0.0	0.0	-16.22
		-21.55	0.0	0.0	0.0	20.0	-188.71	-13.32	0.0	0.0	0.0	-19.24
						40.0	-186.46	-9.86	0.0	0.0	0.0	-21.55
8	59	-4.97	0.0	-3.17e-05	7.07	0.0	-137.19	-27.00	0.0	0.0	0.0	-4.97
		-14.34	0.0	0.0	0.0	20.0	-134.94	-23.40	0.0	0.0	0.0	-10.01
						40.0	-132.69	-19.93	0.0	0.0	0.0	-14.34
8	60	-156.54	0.0	-1.75e-04	7.07	0.0	-264.93	59.21	0.0	0.0	0.0	-181.66
		-181.66	0.0	0.0	0.0	20.0	-262.68	62.81	0.0	0.0	0.0	-169.45
						40.0	-260.43	66.28	0.0	0.0	0.0	-156.54
8	61	-157.53	0.0	-1.60e-04	7.07	0.0	-213.87	52.60	0.0	0.0	0.0	-180.00
		-180.00	0.0	0.0	0.0	20.0	-211.62	56.20	0.0	0.0	0.0	-169.12
						40.0	-209.37	59.67	0.0	0.0	0.0	-157.53
8	62	-188.63	0.0	-1.82e-04	7.07	0.0	-204.79	64.24	0.0	0.0	0.0	-215.76
		-215.76	0.0	0.0	0.0	20.0	-202.54	67.84	0.0	0.0	0.0	-202.55
						40.0	-200.29	71.30	0.0	0.0	0.0	-188.63
8	63	7.96	0.0	-2.76e-05	7.07	0.0	-197.62	-8.51	0.0	0.0	0.0	7.96
		5.99	0.0	0.0	0.0	20.0	-195.37	-4.91	0.0	0.0	0.0	6.62
						40.0	-193.12	-1.45	0.0	0.0	0.0	5.99

8	64	9.62	0.0	-1.24e-05	7.07	0.0	-146.56	-15.12	0.0	0.0	0.0	9.62
		5.00	0.0	0.0	0.0	20.0	-144.31	-11.52	0.0	0.0	0.0	6.96
						40.0	-142.06	-8.05	0.0	0.0	0.0	5.00
8	65	-26.10	0.0	-3.43e-05	7.07	0.0	-137.48	-3.49	0.0	0.0	0.0	-26.14
		-26.47	0.0	0.0	0.0	20.0	-135.23	0.12	0.0	0.0	0.0	-26.47
						40.0	-132.98	3.58	0.0	0.0	0.0	-26.10
8	66	-156.90	0.0	-1.71e-04	7.07	0.0	-235.22	57.01	0.0	0.0	0.0	-181.13
		-181.13	0.0	0.0	0.0	20.0	-232.97	60.61	0.0	0.0	0.0	-169.37
						40.0	-230.72	64.07	0.0	0.0	0.0	-156.90
8	67	8.49	0.0	-2.33e-05	7.07	0.0	-167.90	-10.72	0.0	0.0	0.0	8.49
		5.63	0.0	0.0	0.0	20.0	-165.65	-7.11	0.0	0.0	0.0	6.71
						40.0	-163.40	-3.65	0.0	0.0	0.0	5.63
8	68	-210.19	0.0	-1.97e-04	7.07	0.0	-188.25	60.27	0.0	0.0	0.0	-235.73
		-235.73	0.0	0.0	0.0	20.0	-186.00	63.87	0.0	0.0	0.0	-223.32
						40.0	-183.75	67.33	0.0	0.0	0.0	-210.19
8	69	-60.43	0.0	-6.29e-05	7.07	0.0	-120.94	-8.99	0.0	0.0	0.0	-60.43
		-62.59	0.0	0.0	0.0	20.0	-118.69	-5.39	0.0	0.0	0.0	-61.86
						40.0	-116.44	-1.92	0.0	0.0	0.0	-62.59
8	70	17.43	0.0	-2.60e-06	7.07	0.0	-100.44	-33.09	0.0	0.0	0.0	17.43
		5.63	0.0	0.0	0.0	20.0	-98.19	-29.49	0.0	0.0	0.0	11.18
						40.0	-95.94	-26.02	0.0	0.0	0.0	5.63
8	71	3.44	0.0	-1.35e-05	7.07	0.0	-104.90	-20.15	0.0	0.0	0.0	3.44
		-3.19	0.0	0.0	0.0	20.0	-102.65	-16.55	0.0	0.0	0.0	-0.22
						40.0	-100.40	-13.09	0.0	0.0	0.0	-3.19
8	72	2.88	0.0	-1.64e-05	7.07	0.0	-100.44	-28.29	0.0	0.0	0.0	2.88
		-7.01	0.0	0.0	0.0	20.0	-98.19	-24.68	0.0	0.0	0.0	-2.42
						40.0	-95.94	-21.22	0.0	0.0	0.0	-7.01
8	73	18.00	0.0	-1.20e-06	7.07	0.0	-104.90	-24.96	0.0	0.0	0.0	18.00
		9.45	0.0	0.0	0.0	20.0	-102.65	-21.36	0.0	0.0	0.0	13.37
						40.0	-100.40	-17.89	0.0	0.0	0.0	9.45
8	74	0.11	0.0	-1.65e-05	7.07	0.0	-104.90	-26.88	0.0	0.0	0.0	0.11
		-9.21	0.0	0.0	0.0	20.0	-102.65	-23.28	0.0	0.0	0.0	-4.90
						40.0	-100.40	-19.81	0.0	0.0	0.0	-9.21
8	75	1.35	0.0	-1.26e-05	15.39	0.0	-127.09	-55.97	0.0	0.0	0.0	1.35
		-17.92	0.0	0.0	0.0	20.0	-124.84	-48.13	0.0	0.0	0.0	-9.06
						40.0	-122.59	-40.58	0.0	0.0	0.0	-17.92
8	76	-109.52	0.0	-9.68e-05	15.39	0.0	-151.62	-3.48	0.0	0.0	0.0	-111.24
		-111.39	0.0	0.0	0.0	20.0	-149.37	4.37	0.0	0.0	0.0	-111.15
						40.0	-147.12	11.91	0.0	0.0	0.0	-109.52
8	77	-13.21	0.0	-2.64e-05	15.39	0.0	-127.09	-51.17	0.0	0.0	0.0	-13.21
		-30.56	0.0	0.0	0.0	20.0	-124.84	-43.32	0.0	0.0	0.0	-22.65
						40.0	-122.59	-35.78	0.0	0.0	0.0	-30.56
8	78	-96.69	0.0	-8.29e-05	15.39	0.0	-151.62	-8.28	0.0	0.0	0.0	-96.69
		-97.55	0.0	0.0	0.0	20.0	-149.37	-0.44	0.0	0.0	0.0	-97.55
						40.0	-147.12	7.11	0.0	0.0	0.0	-96.88
8	79	-114.54	0.0	-9.79e-05	15.39	0.0	-143.32	-10.52	0.0	0.0	0.0	-114.54
		-115.94	0.0	0.0	0.0	20.0	-141.07	-2.68	0.0	0.0	0.0	-115.85
						40.0	-138.82	4.87	0.0	0.0	0.0	-115.63
8	80	-1.43	0.0	-2.54e-05	7.07	0.0	-168.78	-9.79	0.0	0.0	0.0	-1.43
		-3.91	0.0	0.0	0.0	20.0	-166.53	-6.19	0.0	0.0	0.0	-3.02
						40.0	-164.28	-2.72	0.0	0.0	0.0	-3.91

Pilas.		**M3 mx/mn**	**M2 mx/mn**	**D 2 / D 3**	**Q 2 / Q 3**		**N**	**V 2**	**V 3**	**T**		
		-487.21	0.0	-8.46e-03	-238.60		-399.31	-68.21	0.0	0.0		
		363.83	0.0	3.49e-04	210.30		79.15	281.05	0.0	0.0		

Trave	**Cmb**	**M3 mx/mn**	**M2 mx/mn**	**D 2 / D 3**	**Q 2 / Q 3**	**Pos.**	**N**	**V 2**	**V 3**	**T**	**M 2**	**M 3**

		kN m	kN m	m	kN	cm	kN	kN	kN	kN m	kN m	kN m
1	1	0.0	0.0	-1.49e-04	-8.16	0.0	0.0	8.16	0.0	0.0	0.0	-0.92
		-0.92	0.0	0.0	0.0	11.3	0.0	4.08	0.0	0.0	0.0	-0.23
						22.5	0.0	0.0	0.0	0.0	0.0	0.0
1	2	0.0	0.0	-6.52e-05	-11.50	0.0	0.0	11.50	0.0	0.0	0.0	-1.29
		-1.29	0.0	0.0	0.0	11.3	0.0	5.75	0.0	0.0	0.0	-0.32
						22.5	0.0	0.0	0.0	0.0	0.0	0.0
1	3	0.0	0.0	-1.25e-04	-7.47	0.0	0.0	7.47	0.0	0.0	0.0	-0.84
		-0.84	0.0	0.0	0.0	11.3	0.0	3.73	0.0	0.0	0.0	-0.21
						22.5	0.0	0.0	0.0	0.0	0.0	0.0
1	4	0.0	0.0	-6.22e-05	-9.97	0.0	0.0	9.97	0.0	0.0	0.0	-1.12
		-1.12	0.0	0.0	0.0	11.3	0.0	4.98	0.0	0.0	0.0	-0.28
						22.5	0.0	0.0	0.0	0.0	0.0	0.0
1	5	0.0	0.0	-9.03e-05	-7.47	0.0	8.38	7.47	0.0	0.0	0.0	-0.84
		-0.84	0.0	0.0	0.0	11.3	4.19	3.73	0.0	0.0	0.0	-0.21
						22.5	0.0	0.0	0.0	0.0	0.0	0.0
1	6	0.0	0.0	-1.63e-04	-9.97	0.0	8.38	9.97	0.0	0.0	0.0	-1.12
		-1.12	0.0	0.0	0.0	11.3	4.19	4.98	0.0	0.0	0.0	-0.28
						22.5	0.0	0.0	0.0	0.0	0.0	0.0
1	7	0.0	0.0	-2.13e-04	-7.47	0.0	8.38	7.47	0.0	0.0	0.0	-0.84
		-0.84	0.0	0.0	0.0	11.3	4.19	3.73	0.0	0.0	0.0	-0.21
						22.5	0.0	0.0	0.0	0.0	0.0	0.0
1	8	0.0	0.0	-5.19e-05	-7.47	0.0	0.0	7.47	0.0	0.0	0.0	-0.84
		-0.84	0.0	0.0	0.0	11.3	0.0	3.73	0.0	0.0	0.0	-0.21
						22.5	0.0	0.0	0.0	0.0	0.0	0.0
1	9	0.0	0.0	-2.05e-05	-9.97	0.0	0.0	9.97	0.0	0.0	0.0	-1.12
		-1.12	0.0	0.0	0.0	11.3	0.0	4.98	0.0	0.0	0.0	-0.28
						22.5	0.0	0.0	0.0	0.0	0.0	0.0
1	10	0.0	0.0	-7.10e-05	-7.47	0.0	0.0	7.47	0.0	0.0	0.0	-0.84
		-0.84	0.0	0.0	0.0	11.3	0.0	3.73	0.0	0.0	0.0	-0.21
						22.5	0.0	0.0	0.0	0.0	0.0	0.0
1	11	0.0	0.0	-1.26e-04	-8.16	0.0	0.0	8.16	0.0	0.0	0.0	-0.92
		-0.92	0.0	0.0	0.0	11.3	0.0	4.08	0.0	0.0	0.0	-0.23
						22.5	0.0	0.0	0.0	0.0	0.0	0.0
1	12	0.0	0.0	-4.25e-05	-11.50	0.0	0.0	11.50	0.0	0.0	0.0	-1.29
		-1.29	0.0	0.0	0.0	11.3	0.0	5.75	0.0	0.0	0.0	-0.32
						22.5	0.0	0.0	0.0	0.0	0.0	0.0
1	13	0.0	0.0	-9.45e-05	-7.47	0.0	0.0	7.47	0.0	0.0	0.0	-0.84
		-0.84	0.0	0.0	0.0	11.3	0.0	3.73	0.0	0.0	0.0	-0.21
						22.5	0.0	0.0	0.0	0.0	0.0	0.0
1	14	0.0	0.0	-3.17e-05	-9.97	0.0	0.0	9.97	0.0	0.0	0.0	-1.12
		-1.12	0.0	0.0	0.0	11.3	0.0	4.98	0.0	0.0	0.0	-0.28
						22.5	0.0	0.0	0.0	0.0	0.0	0.0
1	15	0.0	0.0	-6.75e-05	-7.47	0.0	8.38	7.47	0.0	0.0	0.0	-0.84
		-0.84	0.0	0.0	0.0	11.3	4.19	3.73	0.0	0.0	0.0	-0.21
						22.5	0.0	0.0	0.0	0.0	0.0	0.0
1	16	0.0	0.0	-1.40e-04	-9.97	0.0	8.38	9.97	0.0	0.0	0.0	-1.12
		-1.12	0.0	0.0	0.0	11.3	4.19	4.98	0.0	0.0	0.0	-0.28
						22.5	0.0	0.0	0.0	0.0	0.0	0.0
1	17	0.0	0.0	-1.90e-04	-7.47	0.0	8.38	7.47	0.0	0.0	0.0	-0.84
		-0.84	0.0	0.0	0.0	11.3	4.19	3.73	0.0	0.0	0.0	-0.21
						22.5	0.0	0.0	0.0	0.0	0.0	0.0
1	18	0.0	0.0	-8.24e-05	-7.47	0.0	0.0	7.47	0.0	0.0	0.0	-0.84
		-0.84	0.0	0.0	0.0	11.3	0.0	3.73	0.0	0.0	0.0	-0.21
						22.5	0.0	0.0	0.0	0.0	0.0	0.0
1	19	0.0	0.0	-9.95e-06	-9.97	0.0	0.0	9.97	0.0	0.0	0.0	-1.12
		-1.12	0.0	0.0	0.0	11.3	0.0	4.98	0.0	0.0	0.0	-0.28

						22.5	0.0	0.0	0.0	0.0	0.0	0.0
1	20	0.0	0.0	-4.05e-05	-7.47	0.0	0.0	7.47	0.0	0.0	0.0	-0.84
		-0.84	0.0	0.0	0.0	11.3	0.0	3.73	0.0	0.0	0.0	-0.21
						22.5	0.0	0.0	0.0	0.0	0.0	0.0
1	21	0.0	0.0	-9.24e-05	-7.47	0.0	8.38	7.47	0.0	0.0	0.0	-0.84
		-0.84	0.0	0.0	0.0	11.3	4.19	3.73	0.0	0.0	0.0	-0.21
						22.5	0.0	0.0	0.0	0.0	0.0	0.0
1	22	0.0	0.0	-5.75e-05	-7.47	0.0	0.0	7.47	0.0	0.0	0.0	-0.84
		-0.84	0.0	0.0	0.0	11.3	0.0	3.73	0.0	0.0	0.0	-0.21
						22.5	0.0	0.0	0.0	0.0	0.0	0.0
1	23	0.0	0.0	-2.06e-04	-4.02	0.0	8.38	4.02	0.0	0.0	0.0	-0.45
		-0.45	0.0	0.0	0.0	11.3	4.19	2.01	0.0	0.0	0.0	-0.11
						22.5	0.0	0.0	0.0	0.0	0.0	0.0
1	24	0.0	0.0	-5.24e-05	-4.02	0.0	0.0	4.02	0.0	0.0	0.0	-0.45
		-0.45	0.0	0.0	0.0	11.3	0.0	2.01	0.0	0.0	0.0	-0.11
						22.5	0.0	0.0	0.0	0.0	0.0	0.0
1	25	0.0	0.0	-8.92e-05	-7.47	0.0	8.38	7.47	0.0	0.0	0.0	-0.84
		-0.84	0.0	0.0	0.0	11.3	4.19	3.73	0.0	0.0	0.0	-0.21
						22.5	0.0	0.0	0.0	0.0	0.0	0.0
1	26	0.0	0.0	-1.62e-04	-9.97	0.0	8.38	9.97	0.0	0.0	0.0	-1.12
		-1.12	0.0	0.0	0.0	11.3	4.19	4.98	0.0	0.0	0.0	-0.28
						22.5	0.0	0.0	0.0	0.0	0.0	0.0
1	27	0.0	0.0	-7.65e-05	-8.16	0.0	0.0	8.16	0.0	0.0	0.0	-0.92
		-0.92	0.0	0.0	0.0	11.3	0.0	4.08	0.0	0.0	0.0	-0.23
						22.5	0.0	0.0	0.0	0.0	0.0	0.0
1	28	0.0	0.0	-1.62e-05	-11.50	0.0	0.0	11.50	0.0	0.0	0.0	-1.29
		-1.29	0.0	0.0	0.0	11.3	0.0	5.75	0.0	0.0	0.0	-0.32
						22.5	0.0	0.0	0.0	0.0	0.0	0.0
1	29	0.0	0.0	-1.97e-04	-5.42	0.0	8.38	5.42	0.0	0.0	0.0	-0.61
		-0.61	0.0	0.0	0.0	11.3	4.19	2.71	0.0	0.0	0.0	-0.15
						22.5	0.0	0.0	0.0	0.0	0.0	0.0
1	30	0.0	0.0	-9.80e-05	-6.06	0.0	8.38	6.06	0.0	0.0	0.0	-0.68
		-0.68	0.0	0.0	0.0	11.3	4.19	3.03	0.0	0.0	0.0	-0.17
						22.5	0.0	0.0	0.0	0.0	0.0	0.0
1	31	0.0	0.0	-1.68e-04	-8.56	0.0	8.38	8.56	0.0	0.0	0.0	-0.96
		-0.96	0.0	0.0	0.0	11.3	4.19	4.28	0.0	0.0	0.0	-0.24
						22.5	0.0	0.0	0.0	0.0	0.0	0.0
1	32	0.0	0.0	-2.04e-04	-6.06	0.0	8.38	6.06	0.0	0.0	0.0	-0.68
		-0.68	0.0	0.0	0.0	11.3	4.19	3.03	0.0	0.0	0.0	-0.17
						22.5	0.0	0.0	0.0	0.0	0.0	0.0
1	33	0.0	0.0	-2.05e-04	-5.42	0.0	8.38	5.42	0.0	0.0	0.0	-0.61
		-0.61	0.0	0.0	0.0	11.3	4.19	2.71	0.0	0.0	0.0	-0.15
						22.5	0.0	0.0	0.0	0.0	0.0	0.0
1	34	0.0	0.0	-8.52e-05	-5.54	0.0	0.0	5.54	0.0	0.0	0.0	-0.62
		-0.62	0.0	0.0	0.0	11.3	0.0	2.77	0.0	0.0	0.0	-0.16
						22.5	0.0	0.0	0.0	0.0	0.0	0.0
1	35	0.0	0.0	-2.56e-05	-7.39	0.0	0.0	7.39	0.0	0.0	0.0	-0.83
		-0.83	0.0	0.0	0.0	11.3	0.0	3.70	0.0	0.0	0.0	-0.21
						22.5	0.0	0.0	0.0	0.0	0.0	0.0
1	36	0.0	0.0	-4.25e-05	-5.54	0.0	0.0	5.54	0.0	0.0	0.0	-0.62
		-0.62	0.0	0.0	0.0	11.3	0.0	2.77	0.0	0.0	0.0	-0.16
						22.5	0.0	0.0	0.0	0.0	0.0	0.0
1	37	0.0	0.0	-1.13e-05	-7.39	0.0	0.0	7.39	0.0	0.0	0.0	-0.83
		-0.83	0.0	0.0	0.0	11.3	0.0	3.70	0.0	0.0	0.0	-0.21
						22.5	0.0	0.0	0.0	0.0	0.0	0.0
1	38	0.0	0.0	-4.88e-05	-5.54	0.0	0.0	5.54	0.0	0.0	0.0	-0.62
		-0.62	0.0	0.0	0.0	11.3	0.0	2.77	0.0	0.0	0.0	-0.16

						22.5	0.0	0.0	0.0	0.0	0.0	0.0
1	39	0.0	0.0	-6.63e-05	-5.54	0.0	0.0	5.54	0.0	0.0	0.0	-0.62
		-0.62	0.0	0.0	0.0	11.3	0.0	2.77	0.0	0.0	0.0	-0.16
						22.5	0.0	0.0	0.0	0.0	0.0	0.0
1	40	0.0	0.0	-1.97e-05	-7.39	0.0	0.0	7.39	0.0	0.0	0.0	-0.83
		-0.83	0.0	0.0	0.0	11.3	0.0	3.70	0.0	0.0	0.0	-0.21
						22.5	0.0	0.0	0.0	0.0	0.0	0.0
1	41	0.0	0.0	-6.15e-05	-5.54	0.0	0.0	5.54	0.0	0.0	0.0	-0.62
		-0.62	0.0	0.0	0.0	11.3	0.0	2.77	0.0	0.0	0.0	-0.16
						22.5	0.0	0.0	0.0	0.0	0.0	0.0
1	42	0.0	0.0	-7.66e-06	-7.39	0.0	0.0	7.39	0.0	0.0	0.0	-0.83
		-0.83	0.0	0.0	0.0	11.3	0.0	3.70	0.0	0.0	0.0	-0.21
						22.5	0.0	0.0	0.0	0.0	0.0	0.0
1	43	0.0	0.0	-2.98e-05	-5.54	0.0	0.0	5.54	0.0	0.0	0.0	-0.62
		-0.62	0.0	0.0	0.0	11.3	0.0	2.77	0.0	0.0	0.0	-0.16
						22.5	0.0	0.0	0.0	0.0	0.0	0.0
1	44	0.0	0.0	-2.77e-06	-5.54	0.0	0.0	5.54	0.0	0.0	0.0	-0.62
		-0.62	0.0	0.0	0.0	11.3	0.0	2.77	0.0	0.0	0.0	-0.16
						22.5	0.0	0.0	0.0	0.0	0.0	0.0
1	45	0.0	0.0	-3.43e-05	-4.02	0.0	0.0	4.02	0.0	0.0	0.0	-0.45
		-0.45	0.0	0.0	0.0	11.3	0.0	2.01	0.0	0.0	0.0	-0.11
						22.5	0.0	0.0	0.0	0.0	0.0	0.0
1	46	0.0	0.0	-1.07e-04	-6.04	0.0	0.0	6.04	0.0	0.0	0.0	-0.68
		-0.68	0.0	0.0	0.0	11.3	0.0	3.02	0.0	0.0	0.0	-0.17
						22.5	0.0	0.0	0.0	0.0	0.0	0.0
1	47	0.0	0.0	-4.49e-05	-8.52	0.0	0.0	8.52	0.0	0.0	0.0	-0.96
		-0.96	0.0	0.0	0.0	11.3	0.0	4.26	0.0	0.0	0.0	-0.24
						22.5	0.0	0.0	0.0	0.0	0.0	0.0
1	48	0.0	0.0	-8.98e-05	-5.54	0.0	0.0	5.54	0.0	0.0	0.0	-0.62
		-0.62	0.0	0.0	0.0	11.3	0.0	2.77	0.0	0.0	0.0	-0.16
						22.5	0.0	0.0	0.0	0.0	0.0	0.0
1	49	0.0	0.0	-4.32e-05	-7.39	0.0	0.0	7.39	0.0	0.0	0.0	-0.83
		-0.83	0.0	0.0	0.0	11.3	0.0	3.70	0.0	0.0	0.0	-0.21
						22.5	0.0	0.0	0.0	0.0	0.0	0.0
1	50	0.0	0.0	-6.68e-05	-5.54	0.0	6.21	5.54	0.0	0.0	0.0	-0.62
		-0.62	0.0	0.0	0.0	11.3	3.10	2.77	0.0	0.0	0.0	-0.16
						22.5	0.0	0.0	0.0	0.0	0.0	0.0
1	51	0.0	0.0	-1.21e-04	-7.39	0.0	6.21	7.39	0.0	0.0	0.0	-0.83
		-0.83	0.0	0.0	0.0	11.3	3.10	3.70	0.0	0.0	0.0	-0.21
						22.5	0.0	0.0	0.0	0.0	0.0	0.0
1	52	0.0	0.0	-1.58e-04	-5.54	0.0	6.21	5.54	0.0	0.0	0.0	-0.62
		-0.62	0.0	0.0	0.0	11.3	3.10	2.77	0.0	0.0	0.0	-0.16
						22.5	0.0	0.0	0.0	0.0	0.0	0.0
1	53	0.0	0.0	-3.80e-05	-5.54	0.0	0.0	5.54	0.0	0.0	0.0	-0.62
		-0.62	0.0	0.0	0.0	11.3	0.0	2.77	0.0	0.0	0.0	-0.16
						22.5	0.0	0.0	0.0	0.0	0.0	0.0
1	54	0.0	0.0	-1.58e-05	-7.39	0.0	0.0	7.39	0.0	0.0	0.0	-0.83
		-0.83	0.0	0.0	0.0	11.3	0.0	3.70	0.0	0.0	0.0	-0.21
						22.5	0.0	0.0	0.0	0.0	0.0	0.0
1	55	0.0	0.0	-5.33e-05	-5.54	0.0	0.0	5.54	0.0	0.0	0.0	-0.62
		-0.62	0.0	0.0	0.0	11.3	0.0	2.77	0.0	0.0	0.0	-0.16
						22.5	0.0	0.0	0.0	0.0	0.0	0.0
1	56	0.0	0.0	-9.74e-05	-6.04	0.0	0.0	6.04	0.0	0.0	0.0	-0.68
		-0.68	0.0	0.0	0.0	11.3	0.0	3.02	0.0	0.0	0.0	-0.17
						22.5	0.0	0.0	0.0	0.0	0.0	0.0
1	57	0.0	0.0	-3.52e-05	-8.52	0.0	0.0	8.52	0.0	0.0	0.0	-0.96
		-0.96	0.0	0.0	0.0	11.3	0.0	4.26	0.0	0.0	0.0	-0.24

						22.5	0.0	0.0	0.0	0.0	0.0	0.0
1	58	0.0	0.0	-7.37e-05	-5.54	0.0	0.0	5.54	0.0	0.0	0.0	-0.62
		-0.62	0.0	0.0	0.0	11.3	0.0	2.77	0.0	0.0	0.0	-0.16
						22.5	0.0	0.0	0.0	0.0	0.0	0.0
1	59	0.0	0.0	-2.70e-05	-7.39	0.0	0.0	7.39	0.0	0.0	0.0	-0.83
		-0.83	0.0	0.0	0.0	11.3	0.0	3.70	0.0	0.0	0.0	-0.21
						22.5	0.0	0.0	0.0	0.0	0.0	0.0
1	60	0.0	0.0	-4.79e-05	-5.54	0.0	6.21	5.54	0.0	0.0	0.0	-0.62
		-0.62	0.0	0.0	0.0	11.3	3.10	2.77	0.0	0.0	0.0	-0.16
						22.5	0.0	0.0	0.0	0.0	0.0	0.0
1	61	0.0	0.0	-1.02e-04	-7.39	0.0	6.21	7.39	0.0	0.0	0.0	-0.83
		-0.83	0.0	0.0	0.0	11.3	3.10	3.70	0.0	0.0	0.0	-0.21
						22.5	0.0	0.0	0.0	0.0	0.0	0.0
1	62	0.0	0.0	-1.39e-04	-5.54	0.0	6.21	5.54	0.0	0.0	0.0	-0.62
		-0.62	0.0	0.0	0.0	11.3	3.10	2.77	0.0	0.0	0.0	-0.16
						22.5	0.0	0.0	0.0	0.0	0.0	0.0
1	63	0.0	0.0	-6.34e-05	-5.54	0.0	0.0	5.54	0.0	0.0	0.0	-0.62
		-0.62	0.0	0.0	0.0	11.3	0.0	2.77	0.0	0.0	0.0	-0.16
						22.5	0.0	0.0	0.0	0.0	0.0	0.0
1	64	0.0	0.0	-9.58e-06	-7.39	0.0	0.0	7.39	0.0	0.0	0.0	-0.83
		-0.83	0.0	0.0	0.0	11.3	0.0	3.70	0.0	0.0	0.0	-0.21
						22.5	0.0	0.0	0.0	0.0	0.0	0.0
1	65	0.0	0.0	-2.79e-05	-5.54	0.0	0.0	5.54	0.0	0.0	0.0	-0.62
		-0.62	0.0	0.0	0.0	11.3	0.0	2.77	0.0	0.0	0.0	-0.16
						22.5	0.0	0.0	0.0	0.0	0.0	0.0
1	66	0.0	0.0	-6.64e-05	-5.54	0.0	6.21	5.54	0.0	0.0	0.0	-0.62
		-0.62	0.0	0.0	0.0	11.3	3.10	2.77	0.0	0.0	0.0	-0.16
						22.5	0.0	0.0	0.0	0.0	0.0	0.0
1	67	0.0	0.0	-4.49e-05	-5.54	0.0	0.0	5.54	0.0	0.0	0.0	-0.62
		-0.62	0.0	0.0	0.0	11.3	0.0	2.77	0.0	0.0	0.0	-0.16
						22.5	0.0	0.0	0.0	0.0	0.0	0.0
1	68	0.0	0.0	-1.44e-04	-4.02	0.0	6.21	4.02	0.0	0.0	0.0	-0.45
		-0.45	0.0	0.0	0.0	11.3	3.10	2.01	0.0	0.0	0.0	-0.11
						22.5	0.0	0.0	0.0	0.0	0.0	0.0
1	69	0.0	0.0	-2.98e-05	-4.02	0.0	0.0	4.02	0.0	0.0	0.0	-0.45
		-0.45	0.0	0.0	0.0	11.3	0.0	2.01	0.0	0.0	0.0	-0.11
						22.5	0.0	0.0	0.0	0.0	0.0	0.0
1	70	0.0	0.0	-1.87e-05	-4.02	0.0	0.0	4.02	0.0	0.0	0.0	-0.45
		-0.45	0.0	0.0	0.0	11.3	0.0	2.01	0.0	0.0	0.0	-0.11
						22.5	0.0	0.0	0.0	0.0	0.0	0.0
1	71	0.0	0.0	-1.58e-05	-4.02	0.0	0.0	4.02	0.0	0.0	0.0	-0.45
		-0.45	0.0	0.0	0.0	11.3	0.0	2.01	0.0	0.0	0.0	-0.11
						22.5	0.0	0.0	0.0	0.0	0.0	0.0
1	72	0.0	0.0	-1.40e-06	-4.02	0.0	0.0	4.02	0.0	0.0	0.0	-0.45
		-0.45	0.0	0.0	0.0	11.3	0.0	2.01	0.0	0.0	0.0	-0.11
						22.5	0.0	0.0	0.0	0.0	0.0	0.0
1	73	0.0	0.0	-1.49e-06	-4.02	0.0	0.0	4.02	0.0	0.0	0.0	-0.45
		-0.45	0.0	0.0	0.0	11.3	0.0	2.01	0.0	0.0	0.0	-0.11
						22.5	0.0	0.0	0.0	0.0	0.0	0.0
1	74	0.0	0.0	-4.75e-06	-4.02	0.0	0.0	4.02	0.0	0.0	0.0	-0.45
		-0.45	0.0	0.0	0.0	11.3	0.0	2.01	0.0	0.0	0.0	-0.11
						22.5	0.0	0.0	0.0	0.0	0.0	0.0
1	75	0.0	0.0	-2.11e-05	-4.62	0.0	0.36	4.62	0.0	0.0	0.0	-0.52
		-0.52	0.0	0.0	0.0	11.3	0.18	2.31	0.0	0.0	0.0	-0.13
						22.5	0.0	0.0	0.0	0.0	0.0	0.0
1	76	0.0	0.0	-1.20e-04	-4.20	0.0	1.22	4.20	0.0	0.0	0.0	-0.47
		-0.47	0.0	0.0	0.0	11.3	0.61	2.10	0.0	0.0	0.0	-0.12

						22.5	0.0	0.0	0.0	0.0	0.0	0.0
1	77	0.0	0.0	-3.84e-05	-4.62	0.0	0.36	4.62	0.0	0.0	0.0	-0.52
		-0.52	0.0	0.0	0.0	11.3	0.18	2.31	0.0	0.0	0.0	-0.13
						22.5	0.0	0.0	0.0	0.0	0.0	0.0
1	78	0.0	0.0	-1.02e-04	-4.20	0.0	1.22	4.20	0.0	0.0	0.0	-0.47
		-0.47	0.0	0.0	0.0	11.3	0.61	2.10	0.0	0.0	0.0	-0.12
						22.5	0.0	0.0	0.0	0.0	0.0	0.0
1	79	0.0	0.0	-1.01e-04	-3.83	0.0	1.22	3.83	0.0	0.0	0.0	-0.43
		-0.43	0.0	0.0	0.0	11.3	0.61	1.92	0.0	0.0	0.0	-0.11
						22.5	0.0	0.0	0.0	0.0	0.0	0.0
1	80	0.0	0.0	-1.26e-05	-9.19	0.0	0.0	9.19	0.0	0.0	0.0	-1.03
		-1.03	0.0	0.0	0.0	11.3	0.0	4.60	0.0	0.0	0.0	-0.26
						22.5	0.0	0.0	0.0	0.0	0.0	0.0
3	1	-47.54	0.0	-1.72e-04	-8.16	0.0	-40.90	211.93	0.0	0.0	0.0	-94.31
		-94.31	0.0	0.0	0.0	11.3	-40.90	207.86	0.0	0.0	0.0	-70.69
						22.5	-40.90	203.78	0.0	0.0	0.0	-47.54
3	2	-2.65	0.0	-7.83e-05	-11.50	0.0	-22.77	111.82	0.0	0.0	0.0	-26.51
		-26.51	0.0	0.0	0.0	11.3	-22.77	106.07	0.0	0.0	0.0	-14.26
						22.5	-22.77	100.32	0.0	0.0	0.0	-2.65
3	3	-17.56	0.0	-1.43e-04	-7.47	0.0	-32.66	171.59	0.0	0.0	0.0	-55.33
		-55.33	0.0	0.0	0.0	11.3	-32.66	167.86	0.0	0.0	0.0	-36.23
						22.5	-32.66	164.12	0.0	0.0	0.0	-17.56
3	4	16.03	0.0	-7.25e-05	-9.97	0.0	-19.10	96.69	0.0	0.0	0.0	-4.61
		-4.61	0.0	0.0	0.0	11.3	-19.10	91.71	0.0	0.0	0.0	5.99
						22.5	-19.10	86.72	0.0	0.0	0.0	16.03
3	5	114.01	0.0	-2.45e-04	-7.47	0.0	23.42	69.20	0.0	0.0	0.0	99.28
		99.28	0.0	0.0	0.0	11.3	19.23	65.47	0.0	0.0	0.0	106.86
						22.5	15.04	61.73	0.0	0.0	0.0	114.01
3	6	156.35	0.0	1.77e-04	-9.97	0.0	32.32	-9.34	0.0	0.0	0.0	156.35
		153.12	0.0	0.0	0.0	11.3	28.13	-14.32	0.0	0.0	0.0	155.02
						22.5	23.94	-19.31	0.0	0.0	0.0	153.12
3	7	195.09	0.0	1.72e-04	-7.47	0.0	16.65	-49.04	0.0	0.0	0.0	195.09
		183.22	0.0	0.0	0.0	11.3	12.46	-52.78	0.0	0.0	0.0	189.36
						22.5	8.27	-56.51	0.0	0.0	0.0	183.22
3	8	-82.79	0.0	-1.16e-04	-7.47	0.0	-61.44	160.08	0.0	0.0	0.0	-117.97
		-117.97	0.0	0.0	0.0	11.3	-61.44	156.34	0.0	0.0	0.0	-100.17
						22.5	-61.44	152.61	0.0	0.0	0.0	-82.79
3	9	-43.68	0.0	-4.83e-05	-9.97	0.0	-52.55	81.54	0.0	0.0	0.0	-60.90
		-60.90	0.0	0.0	0.0	11.3	-52.55	76.55	0.0	0.0	0.0	-52.01
						22.5	-52.55	71.57	0.0	0.0	0.0	-43.68
3	10	-13.59	0.0	4.32e-05	-7.47	0.0	-68.21	41.83	0.0	0.0	0.0	-22.16
		-22.16	0.0	0.0	0.0	11.3	-68.21	38.10	0.0	0.0	0.0	-17.67
						22.5	-68.21	34.36	0.0	0.0	0.0	-13.59
3	11	-59.17	0.0	-1.51e-04	-8.16	0.0	-47.20	211.93	0.0	0.0	0.0	-105.94
		-105.94	0.0	0.0	0.0	11.3	-47.20	207.86	0.0	0.0	0.0	-82.32
						22.5	-47.20	203.78	0.0	0.0	0.0	-59.17
3	12	-14.27	0.0	-5.67e-05	-11.50	0.0	-29.07	111.82	0.0	0.0	0.0	-38.14
		-38.14	0.0	0.0	0.0	11.3	-29.07	106.07	0.0	0.0	0.0	-25.88
						22.5	-29.07	100.32	0.0	0.0	0.0	-14.27
3	13	-33.15	0.0	-1.14e-04	-7.47	0.0	-41.11	171.59	0.0	0.0	0.0	-70.92
		-70.92	0.0	0.0	0.0	11.3	-41.11	167.86	0.0	0.0	0.0	-51.82
						22.5	-41.11	164.12	0.0	0.0	0.0	-33.15
3	14	0.44	0.0	-4.36e-05	-9.97	0.0	-27.54	96.69	0.0	0.0	0.0	-20.19
		-20.19	0.0	0.0	0.0	11.3	-27.54	91.71	0.0	0.0	0.0	-9.60
						22.5	-27.54	86.72	0.0	0.0	0.0	0.44
3	15	125.64	0.0	-2.67e-04	-7.47	0.0	29.73	69.20	0.0	0.0	0.0	110.91
		110.91	0.0	0.0	0.0	11.3	25.53	65.47	0.0	0.0	0.0	118.49

						22.5	21.34	61.73	0.0	0.0	0.0	125.64
3	16	167.98	0.0	1.99e-04	-9.97	0.0	38.62	-9.34	0.0	0.0	0.0	167.98
		164.75	0.0	0.0	0.0	11.3	34.43	-14.32	0.0	0.0	0.0	166.64
						22.5	30.24	-19.31	0.0	0.0	0.0	164.75
3	17	206.72	0.0	1.93e-04	-7.47	0.0	22.96	-49.04	0.0	0.0	0.0	206.72
		194.84	0.0	0.0	0.0	11.3	18.76	-52.78	0.0	0.0	0.0	200.99
						22.5	14.57	-56.51	0.0	0.0	0.0	194.84
3	18	-67.20	0.0	-1.45e-04	-7.47	0.0	-53.00	160.08	0.0	0.0	0.0	-102.38
		-102.38	0.0	0.0	0.0	11.3	-53.00	156.34	0.0	0.0	0.0	-84.58
						22.5	-53.00	152.61	0.0	0.0	0.0	-67.20
3	19	-28.09	0.0	-7.72e-05	-9.97	0.0	-44.10	81.54	0.0	0.0	0.0	-45.32
		-45.32	0.0	0.0	0.0	11.3	-44.10	76.55	0.0	0.0	0.0	-36.43
						22.5	-44.10	71.57	0.0	0.0	0.0	-28.09
3	20	2.00	0.0	7.21e-05	-7.47	0.0	-59.77	41.83	0.0	0.0	0.0	-6.57
		-6.57	0.0	0.0	0.0	11.3	-59.77	38.10	0.0	0.0	0.0	-2.08
						22.5	-59.77	34.36	0.0	0.0	0.0	2.00
3	21	141.66	0.0	-2.68e-04	-7.47	0.0	32.69	109.22	0.0	0.0	0.0	117.93
		117.93	0.0	0.0	0.0	11.3	28.50	105.49	0.0	0.0	0.0	130.01
						22.5	24.31	101.75	0.0	0.0	0.0	141.66
3	22	-51.18	0.0	-1.47e-04	-7.47	0.0	-50.03	200.09	0.0	0.0	0.0	-95.36
		-95.36	0.0	0.0	0.0	11.3	-50.03	196.36	0.0	0.0	0.0	-73.06
						22.5	-50.03	192.63	0.0	0.0	0.0	-51.18
3	23	261.10	0.0	1.72e-04	-4.02	0.0	29.16	-83.17	0.0	0.0	0.0	261.10
		241.94	0.0	0.0	0.0	11.3	24.97	-85.18	0.0	0.0	0.0	251.63
						22.5	20.78	-87.18	0.0	0.0	0.0	241.94
3	24	75.25	0.0	5.11e-05	-4.02	0.0	-51.72	7.71	0.0	0.0	0.0	73.96
		73.96	0.0	0.0	0.0	11.3	-51.72	5.70	0.0	0.0	0.0	74.72
						22.5	-51.72	3.69	0.0	0.0	0.0	75.25
3	25	137.60	0.0	-2.17e-04	-7.47	0.0	24.74	29.11	0.0	0.0	0.0	131.89
		131.89	0.0	0.0	0.0	11.3	20.55	25.38	0.0	0.0	0.0	134.95
						22.5	16.36	21.65	0.0	0.0	0.0	137.60
3	26	175.20	0.0	1.76e-04	-9.97	0.0	30.67	-9.41	0.0	0.0	0.0	175.20
		171.96	0.0	0.0	0.0	11.3	26.48	-14.39	0.0	0.0	0.0	173.86
						22.5	22.29	-19.38	0.0	0.0	0.0	171.96
3	27	-49.61	0.0	-1.77e-04	-8.16	0.0	-55.43	253.91	0.0	0.0	0.0	-105.83
		-105.83	0.0	0.0	0.0	11.3	-55.43	249.83	0.0	0.0	0.0	-77.49
						22.5	-55.43	245.75	0.0	0.0	0.0	-49.61
3	28	-20.61	0.0	-8.35e-05	-11.50	0.0	-45.93	96.67	0.0	0.0	0.0	-41.07
		-41.07	0.0	0.0	0.0	11.3	-45.93	90.92	0.0	0.0	0.0	-30.52
						22.5	-45.93	85.17	0.0	0.0	0.0	-20.61
3	29	255.11	0.0	1.81e-04	-5.42	0.0	27.96	-69.27	0.0	0.0	0.0	255.11
		238.91	0.0	0.0	0.0	11.3	23.77	-71.98	0.0	0.0	0.0	247.16
						22.5	19.58	-74.69	0.0	0.0	0.0	238.91
3	30	78.13	0.0	-1.93e-04	-6.06	0.0	2.20	68.77	0.0	0.0	0.0	63.33
		63.33	0.0	0.0	0.0	11.3	-2.00	65.74	0.0	0.0	0.0	70.90
						22.5	-6.19	62.71	0.0	0.0	0.0	78.13
3	31	110.54	0.0	1.16e-04	-8.56	0.0	6.42	-6.13	0.0	0.0	0.0	110.54
		108.19	0.0	0.0	0.0	11.3	2.23	-10.41	0.0	0.0	0.0	109.61
						22.5	-1.96	-14.69	0.0	0.0	0.0	108.19
3	32	110.15	0.0	7.87e-05	-6.06	0.0	-27.65	-30.85	0.0	0.0	0.0	110.15
		102.53	0.0	0.0	0.0	11.3	-31.84	-33.88	0.0	0.0	0.0	106.51
						22.5	-36.03	-36.91	0.0	0.0	0.0	102.53
3	33	251.37	0.0	1.74e-04	-5.42	0.0	23.32	-69.34	0.0	0.0	0.0	251.37
		235.16	0.0	0.0	0.0	11.3	19.13	-72.05	0.0	0.0	0.0	243.42
						22.5	14.94	-74.76	0.0	0.0	0.0	235.16
3	34	-22.89	0.0	-1.01e-04	-5.54	0.0	-29.70	126.84	0.0	0.0	0.0	-50.81
		-50.81	0.0	0.0	0.0	11.3	-29.70	124.07	0.0	0.0	0.0	-36.69

						22.5	-29.70	121.31	0.0	0.0	0.0	-22.89
3	35	9.50	0.0	-5.18e-05	-7.39	0.0	-25.92	66.31	0.0	0.0	0.0	-4.59
		-4.59	0.0	0.0	0.0	11.3	-25.92	62.62	0.0	0.0	0.0	2.66
						22.5	-25.92	58.92	0.0	0.0	0.0	9.50
3	36	-56.07	0.0	-8.49e-05	-5.54	0.0	-46.30	120.18	0.0	0.0	0.0	-82.49
		-82.49	0.0	0.0	0.0	11.3	-46.30	117.41	0.0	0.0	0.0	-69.12
						22.5	-46.30	114.64	0.0	0.0	0.0	-56.07
3	37	-27.03	0.0	-3.43e-05	-7.39	0.0	-39.69	61.86	0.0	0.0	0.0	-40.11
		-40.11	0.0	0.0	0.0	11.3	-39.69	58.16	0.0	0.0	0.0	-33.36
						22.5	-39.69	54.47	0.0	0.0	0.0	-27.03
3	38	-4.68	0.0	3.05e-05	-5.54	0.0	-51.32	32.37	0.0	0.0	0.0	-11.34
		-11.34	0.0	0.0	0.0	11.3	-51.32	29.61	0.0	0.0	0.0	-7.86
						22.5	-51.32	26.84	0.0	0.0	0.0	-4.68
3	39	-32.58	0.0	-8.31e-05	-5.54	0.0	-34.95	126.84	0.0	0.0	0.0	-60.50
		-60.50	0.0	0.0	0.0	11.3	-34.95	124.07	0.0	0.0	0.0	-46.38
						22.5	-34.95	121.31	0.0	0.0	0.0	-32.58
3	40	-7.64	0.0	-3.10e-05	-7.39	0.0	-24.87	71.22	0.0	0.0	0.0	-22.83
		-22.83	0.0	0.0	0.0	11.3	-24.87	67.53	0.0	0.0	0.0	-15.03
						22.5	-24.87	63.83	0.0	0.0	0.0	-7.64
3	41	-46.38	0.0	-1.03e-04	-5.54	0.0	-41.04	120.18	0.0	0.0	0.0	-72.80
		-72.80	0.0	0.0	0.0	11.3	-41.04	117.41	0.0	0.0	0.0	-59.43
						22.5	-41.04	114.64	0.0	0.0	0.0	-46.38
3	42	-17.34	0.0	-5.23e-05	-7.39	0.0	-34.44	61.86	0.0	0.0	0.0	-30.42
		-30.42	0.0	0.0	0.0	11.3	-34.44	58.16	0.0	0.0	0.0	-23.67
						22.5	-34.44	54.47	0.0	0.0	0.0	-17.34
3	43	5.01	0.0	4.85e-05	-5.54	0.0	-46.07	32.37	0.0	0.0	0.0	-1.65
		-1.65	0.0	0.0	0.0	11.3	-46.07	29.61	0.0	0.0	0.0	1.83
						22.5	-46.07	26.84	0.0	0.0	0.0	5.01
3	44	-9.08	0.0	-1.15e-04	-5.54	0.0	-58.81	133.86	0.0	0.0	0.0	-38.57
		-38.57	0.0	0.0	0.0	11.3	-58.81	131.09	0.0	0.0	0.0	-23.67
						22.5	-58.81	128.32	0.0	0.0	0.0	-9.08
3	45	41.29	0.0	3.96e-05	-4.02	0.0	-42.10	17.35	0.0	0.0	0.0	37.84
		37.84	0.0	0.0	0.0	11.3	-42.10	15.35	0.0	0.0	0.0	39.68
						22.5	-42.10	13.34	0.0	0.0	0.0	41.29
3	46	-33.86	0.0	-1.26e-04	-6.04	0.0	-34.29	156.51	0.0	0.0	0.0	-68.40
		-68.40	0.0	0.0	0.0	11.3	-34.29	153.48	0.0	0.0	0.0	-50.96
						22.5	-34.29	150.46	0.0	0.0	0.0	-33.86
3	47	-0.61	0.0	-5.61e-05	-8.52	0.0	-20.86	82.35	0.0	0.0	0.0	-18.18
		-18.18	0.0	0.0	0.0	11.3	-20.86	78.09	0.0	0.0	0.0	-9.15
						22.5	-20.86	73.83	0.0	0.0	0.0	-0.61
3	48	-10.34	0.0	-1.04e-04	-5.54	0.0	-28.04	126.84	0.0	0.0	0.0	-38.26
		-38.26	0.0	0.0	0.0	11.3	-28.04	124.07	0.0	0.0	0.0	-24.15
						22.5	-28.04	121.31	0.0	0.0	0.0	-10.34
3	49	14.60	0.0	-5.23e-05	-7.39	0.0	-17.96	71.22	0.0	0.0	0.0	-0.60
		-0.60	0.0	0.0	0.0	11.3	-17.96	67.53	0.0	0.0	0.0	7.21
						22.5	-17.96	63.83	0.0	0.0	0.0	14.60
3	50	78.56	0.0	-1.77e-04	-5.54	0.0	15.09	52.87	0.0	0.0	0.0	67.29
		67.29	0.0	0.0	0.0	11.3	11.99	50.10	0.0	0.0	0.0	73.08
						22.5	8.88	47.33	0.0	0.0	0.0	78.56
3	51	109.66	0.0	1.27e-04	-7.39	0.0	21.70	-5.46	0.0	0.0	0.0	109.66
		107.60	0.0	0.0	0.0	11.3	18.60	-9.15	0.0	0.0	0.0	108.84
						22.5	15.49	-12.85	0.0	0.0	0.0	107.60
3	52	138.43	0.0	1.23e-04	-5.54	0.0	10.07	-34.94	0.0	0.0	0.0	138.43
		129.95	0.0	0.0	0.0	11.3	6.96	-37.71	0.0	0.0	0.0	134.34
						22.5	3.86	-40.48	0.0	0.0	0.0	129.95
3	53	-68.62	0.0	-8.16e-05	-5.54	0.0	-47.96	120.18	0.0	0.0	0.0	-95.03
		-95.03	0.0	0.0	0.0	11.3	-47.96	117.41	0.0	0.0	0.0	-81.67

						22.5	-47.96	114.64	0.0	0.0	0.0	-68.62
3	54	-39.57	0.0	-3.10e-05	-7.39	0.0	-41.35	61.86	0.0	0.0	0.0	-52.66
		-52.66	0.0	0.0	0.0	11.3	-41.35	58.16	0.0	0.0	0.0	-45.91
						22.5	-41.35	54.47	0.0	0.0	0.0	-39.57
3	55	-17.23	0.0	2.72e-05	-5.54	0.0	-52.98	32.37	0.0	0.0	0.0	-23.89
		-23.89	0.0	0.0	0.0	11.3	-52.98	29.61	0.0	0.0	0.0	-20.40
						22.5	-52.98	26.84	0.0	0.0	0.0	-17.23
3	56	-38.81	0.0	-1.16e-04	-6.04	0.0	-36.97	156.51	0.0	0.0	0.0	-73.35
		-73.35	0.0	0.0	0.0	11.3	-36.97	153.48	0.0	0.0	0.0	-55.91
						22.5	-36.97	150.46	0.0	0.0	0.0	-38.81
3	57	-5.56	0.0	-4.69e-05	-8.52	0.0	-23.54	82.35	0.0	0.0	0.0	-23.13
		-23.13	0.0	0.0	0.0	11.3	-23.54	78.09	0.0	0.0	0.0	-14.10
						22.5	-23.54	73.83	0.0	0.0	0.0	-5.56
3	58	-18.59	0.0	-8.91e-05	-5.54	0.0	-32.51	126.84	0.0	0.0	0.0	-46.51
		-46.51	0.0	0.0	0.0	11.3	-32.51	124.07	0.0	0.0	0.0	-32.39
						22.5	-32.51	121.31	0.0	0.0	0.0	-18.59
3	59	6.35	0.0	-3.70e-05	-7.39	0.0	-22.43	71.22	0.0	0.0	0.0	-8.84
		-8.84	0.0	0.0	0.0	11.3	-22.43	67.53	0.0	0.0	0.0	-1.04
						22.5	-22.43	63.83	0.0	0.0	0.0	6.35
3	60	88.25	0.0	-1.95e-04	-5.54	0.0	20.34	52.87	0.0	0.0	0.0	76.98
		76.98	0.0	0.0	0.0	11.3	17.24	50.10	0.0	0.0	0.0	82.77
						22.5	14.14	47.33	0.0	0.0	0.0	88.25
3	61	119.35	0.0	1.45e-04	-7.39	0.0	26.95	-5.46	0.0	0.0	0.0	119.35
		117.29	0.0	0.0	0.0	11.3	23.85	-9.15	0.0	0.0	0.0	118.53
						22.5	20.74	-12.85	0.0	0.0	0.0	117.29
3	62	148.12	0.0	1.41e-04	-5.54	0.0	15.32	-34.94	0.0	0.0	0.0	148.12
		139.64	0.0	0.0	0.0	11.3	12.21	-37.71	0.0	0.0	0.0	144.03
						22.5	9.11	-40.48	0.0	0.0	0.0	139.64
3	63	-55.63	0.0	-1.06e-04	-5.54	0.0	-40.92	120.18	0.0	0.0	0.0	-82.05
		-82.05	0.0	0.0	0.0	11.3	-40.92	117.41	0.0	0.0	0.0	-68.68
						22.5	-40.92	114.64	0.0	0.0	0.0	-55.63
3	64	-26.59	0.0	-5.51e-05	-7.39	0.0	-34.31	61.86	0.0	0.0	0.0	-39.67
		-39.67	0.0	0.0	0.0	11.3	-34.31	58.16	0.0	0.0	0.0	-32.92
						22.5	-34.31	54.47	0.0	0.0	0.0	-26.59
3	65	-4.24	0.0	5.13e-05	-5.54	0.0	-45.95	32.37	0.0	0.0	0.0	-10.90
		-10.90	0.0	0.0	0.0	11.3	-45.95	29.61	0.0	0.0	0.0	-7.41
						22.5	-45.95	26.84	0.0	0.0	0.0	-4.24
3	66	100.15	0.0	-1.96e-04	-5.54	0.0	22.55	82.58	0.0	0.0	0.0	82.19
		82.19	0.0	0.0	0.0	11.3	19.44	79.81	0.0	0.0	0.0	91.32
						22.5	16.34	77.05	0.0	0.0	0.0	100.15
3	67	-43.73	0.0	-1.07e-04	-5.54	0.0	-38.72	149.90	0.0	0.0	0.0	-76.83
		-76.83	0.0	0.0	0.0	11.3	-38.72	147.13	0.0	0.0	0.0	-60.13
						22.5	-38.72	144.36	0.0	0.0	0.0	-43.73
3	68	187.61	0.0	1.32e-04	-4.02	0.0	19.28	-49.96	0.0	0.0	0.0	187.61
		175.92	0.0	0.0	0.0	11.3	16.18	-51.97	0.0	0.0	0.0	181.88
						22.5	13.08	-53.98	0.0	0.0	0.0	175.92
3	69	53.84	0.0	4.29e-05	-4.02	0.0	-40.44	17.35	0.0	0.0	0.0	50.39
		50.39	0.0	0.0	0.0	11.3	-40.44	15.35	0.0	0.0	0.0	52.22
						22.5	-40.44	13.34	0.0	0.0	0.0	53.84
3	70	6.89	0.0	-2.68e-05	-4.02	0.0	-16.34	37.85	0.0	0.0	0.0	-1.17
		-1.17	0.0	0.0	0.0	11.3	-16.34	35.84	0.0	0.0	0.0	2.97
						22.5	-16.34	33.83	0.0	0.0	0.0	6.89
3	71	-23.36	0.0	-1.10e-05	-4.02	0.0	-29.28	33.39	0.0	0.0	0.0	-30.42
		-30.42	0.0	0.0	0.0	11.3	-29.28	31.38	0.0	0.0	0.0	-26.78
						22.5	-29.28	29.38	0.0	0.0	0.0	-23.36
3	72	-1.97	0.0	-1.03e-05	-4.02	0.0	-21.14	37.85	0.0	0.0	0.0	-10.04
		-10.04	0.0	0.0	0.0	11.3	-21.14	35.84	0.0	0.0	0.0	-5.89

						22.5	-21.14	33.83	0.0	0.0	0.0	-1.97
3	73	-14.49	0.0	-2.74e-05	-4.02	0.0	-24.47	33.39	0.0	0.0	0.0	-21.55
		-21.55	0.0	0.0	0.0	11.3	-24.47	31.38	0.0	0.0	0.0	-17.91
						22.5	-24.47	29.38	0.0	0.0	0.0	-14.49
3	74	12.75	0.0	-2.80e-05	-4.02	0.0	-22.55	33.39	0.0	0.0	0.0	5.69
		5.69	0.0	0.0	0.0	11.3	-22.55	31.38	0.0	0.0	0.0	9.33
						22.5	-22.55	29.38	0.0	0.0	0.0	12.75
3	75	19.94	0.0	-2.82e-05	-4.62	0.0	-39.76	31.05	0.0	0.0	0.0	13.48
		13.48	0.0	0.0	0.0	11.3	-39.94	28.74	0.0	0.0	0.0	16.84
						22.5	-40.12	26.43	0.0	0.0	0.0	19.94
3	76	46.31	0.0	4.07e-05	-4.20	0.0	-64.43	-7.37	0.0	0.0	0.0	46.31
		44.18	0.0	0.0	0.0	11.3	-65.04	-9.47	0.0	0.0	0.0	45.37
						22.5	-65.65	-11.57	0.0	0.0	0.0	44.18
3	77	11.08	0.0	-1.17e-05	-4.62	0.0	-44.56	31.05	0.0	0.0	0.0	4.61
		4.61	0.0	0.0	0.0	11.3	-44.74	28.74	0.0	0.0	0.0	7.97
						22.5	-44.92	26.43	0.0	0.0	0.0	11.08
3	78	55.18	0.0	5.71e-05	-4.20	0.0	-59.63	-7.37	0.0	0.0	0.0	55.18
		53.05	0.0	0.0	0.0	11.3	-60.24	-9.47	0.0	0.0	0.0	54.23
						22.5	-60.85	-11.57	0.0	0.0	0.0	53.05
3	79	83.99	0.0	5.53e-05	-3.83	0.0	-57.39	-10.98	0.0	0.0	0.0	83.99
		81.09	0.0	0.0	0.0	11.3	-58.00	-12.90	0.0	0.0	0.0	82.65
						22.5	-58.61	-14.81	0.0	0.0	0.0	81.09
3	80	-26.87	0.0	-6.80e-05	-9.19	0.0	-39.64	77.04	0.0	0.0	0.0	-43.17
		-43.17	0.0	0.0	0.0	11.3	-39.64	72.44	0.0	0.0	0.0	-34.76
						22.5	-39.64	67.85	0.0	0.0	0.0	-26.87
9	1	-55.03	0.0	-1.66e-04	-8.16	0.0	-40.90	-207.52	0.0	0.0	0.0	-55.03
		-102.64	0.0	0.0	0.0	11.3	-40.90	-211.60	0.0	0.0	0.0	-78.60
						22.5	-40.90	-215.68	0.0	0.0	0.0	-102.64
9	2	-10.13	0.0	-7.25e-05	-11.50	0.0	-22.77	-104.07	0.0	0.0	0.0	-10.13
		-34.84	0.0	0.0	0.0	11.3	-22.77	-109.82	0.0	0.0	0.0	-22.16
						22.5	-22.77	-115.56	0.0	0.0	0.0	-34.84
9	3	-25.05	0.0	-1.37e-04	-7.47	0.0	-32.66	-167.87	0.0	0.0	0.0	-25.05
		-63.66	0.0	0.0	0.0	11.3	-32.66	-171.60	0.0	0.0	0.0	-44.14
						22.5	-32.66	-175.33	0.0	0.0	0.0	-63.66
9	4	8.54	0.0	-6.68e-05	-9.97	0.0	-19.10	-90.47	0.0	0.0	0.0	8.54
		-12.94	0.0	0.0	0.0	11.3	-19.10	-95.45	0.0	0.0	0.0	-1.92
						22.5	-19.10	-100.43	0.0	0.0	0.0	-12.94
9	5	-303.02	0.0	-4.52e-05	-7.47	0.0	-133.94	-270.25	0.0	0.0	0.0	-303.02
		-364.67	0.0	0.0	0.0	11.3	-138.13	-273.99	0.0	0.0	0.0	-333.64
						22.5	-142.32	-277.72	0.0	0.0	0.0	-364.67
9	6	-278.48	0.0	-1.24e-04	-9.97	0.0	-125.05	-196.50	0.0	0.0	0.0	-278.48
		-323.81	0.0	0.0	0.0	11.3	-129.24	-201.48	0.0	0.0	0.0	-300.87
						22.5	-133.43	-206.46	0.0	0.0	0.0	-323.81
9	7	-308.33	0.0	-1.72e-04	-7.47	0.0	-140.71	-189.26	0.0	0.0	0.0	-308.33
		-351.76	0.0	0.0	0.0	11.3	-144.90	-193.00	0.0	0.0	0.0	-329.83
						22.5	-149.09	-196.73	0.0	0.0	0.0	-351.76
9	8	-136.33	0.0	-7.56e-05	-7.47	0.0	-61.44	-179.38	0.0	0.0	0.0	-136.33
		-177.53	0.0	0.0	0.0	11.3	-61.44	-183.11	0.0	0.0	0.0	-156.72
						22.5	-61.44	-186.85	0.0	0.0	0.0	-177.53
9	9	-111.79	0.0	-3.19e-06	-9.97	0.0	-52.55	-105.62	0.0	0.0	0.0	-111.79
		-136.67	0.0	0.0	0.0	11.3	-52.55	-110.61	0.0	0.0	0.0	-123.95
						22.5	-52.55	-115.59	0.0	0.0	0.0	-136.67
9	10	-141.64	0.0	-5.12e-05	-7.47	0.0	-68.21	-98.39	0.0	0.0	0.0	-141.64
		-164.62	0.0	0.0	0.0	11.3	-68.21	-102.12	0.0	0.0	0.0	-152.92
						22.5	-68.21	-105.85	0.0	0.0	0.0	-164.62
9	11	-66.66	0.0	-1.45e-04	-8.16	0.0	-47.20	-207.52	0.0	0.0	0.0	-66.66
		-114.27	0.0	0.0	0.0	11.3	-47.20	-211.60	0.0	0.0	0.0	-90.23

						22.5	-47.20	-215.68	0.0	0.0	0.0	-114.27
9	12	-21.76	0.0	-5.09e-05	-11.50	0.0	-29.07	-104.07	0.0	0.0	0.0	-21.76
		-46.47	0.0	0.0	0.0	11.3	-29.07	-109.82	0.0	0.0	0.0	-33.79
						22.5	-29.07	-115.56	0.0	0.0	0.0	-46.47
9	13	-40.63	0.0	-1.08e-04	-7.47	0.0	-41.11	-167.87	0.0	0.0	0.0	-40.63
		-79.24	0.0	0.0	0.0	11.3	-41.11	-171.60	0.0	0.0	0.0	-59.73
						22.5	-41.11	-175.33	0.0	0.0	0.0	-79.24
9	14	-7.05	0.0	-3.78e-05	-9.97	0.0	-27.54	-90.47	0.0	0.0	0.0	-7.05
		-28.52	0.0	0.0	0.0	11.3	-27.54	-95.45	0.0	0.0	0.0	-17.50
						22.5	-27.54	-100.43	0.0	0.0	0.0	-28.52
9	15	-291.40	0.0	-2.36e-05	-7.47	0.0	-127.64	-270.25	0.0	0.0	0.0	-291.40
		-353.04	0.0	0.0	0.0	11.3	-131.83	-273.99	0.0	0.0	0.0	-322.01
						22.5	-136.02	-277.72	0.0	0.0	0.0	-353.04
9	16	-266.85	0.0	-1.02e-04	-9.97	0.0	-118.74	-196.50	0.0	0.0	0.0	-266.85
		-312.18	0.0	0.0	0.0	11.3	-122.93	-201.48	0.0	0.0	0.0	-289.24
						22.5	-127.12	-206.46	0.0	0.0	0.0	-312.18
9	17	-296.70	0.0	-1.50e-04	-7.47	0.0	-134.41	-189.26	0.0	0.0	0.0	-296.70
		-340.13	0.0	0.0	0.0	11.3	-138.60	-193.00	0.0	0.0	0.0	-318.20
						22.5	-142.79	-196.73	0.0	0.0	0.0	-340.13
9	18	-120.75	0.0	-1.05e-04	-7.47	0.0	-53.00	-179.38	0.0	0.0	0.0	-120.75
		-161.95	0.0	0.0	0.0	11.3	-53.00	-183.11	0.0	0.0	0.0	-141.14
						22.5	-53.00	-186.85	0.0	0.0	0.0	-161.95
9	19	-96.20	0.0	-2.57e-05	-9.97	0.0	-44.10	-105.62	0.0	0.0	0.0	-96.20
		-121.09	0.0	0.0	0.0	11.3	-44.10	-110.61	0.0	0.0	0.0	-108.36
						22.5	-44.10	-115.59	0.0	0.0	0.0	-121.09
9	20	-126.05	0.0	-2.23e-05	-7.47	0.0	-59.77	-98.39	0.0	0.0	0.0	-126.05
		-149.03	0.0	0.0	0.0	11.3	-59.77	-102.12	0.0	0.0	0.0	-137.33
						22.5	-59.77	-105.85	0.0	0.0	0.0	-149.03
9	21	-286.65	0.0	-5.11e-05	-7.47	0.0	-124.68	-230.24	0.0	0.0	0.0	-286.65
		-339.29	0.0	0.0	0.0	11.3	-128.87	-233.97	0.0	0.0	0.0	-312.76
						22.5	-133.06	-237.70	0.0	0.0	0.0	-339.29
9	22	-116.00	0.0	-7.70e-05	-7.47	0.0	-50.03	-139.36	0.0	0.0	0.0	-116.00
		-148.20	0.0	0.0	0.0	11.3	-50.03	-143.10	0.0	0.0	0.0	-131.89
						22.5	-50.03	-146.83	0.0	0.0	0.0	-148.20
9	23	-249.60	0.0	-1.72e-04	-4.02	0.0	-128.21	-158.58	0.0	0.0	0.0	-249.60
		-285.73	0.0	0.0	0.0	11.3	-132.40	-160.59	0.0	0.0	0.0	-267.55
						22.5	-136.59	-162.60	0.0	0.0	0.0	-285.73
9	24	-52.79	0.0	-4.33e-05	-4.02	0.0	-51.72	-67.71	0.0	0.0	0.0	-52.79
		-68.48	0.0	0.0	0.0	11.3	-51.72	-69.72	0.0	0.0	0.0	-60.52
						22.5	-51.72	-71.73	0.0	0.0	0.0	-68.48
9	25	-268.45	0.0	-4.53e-05	-7.47	0.0	-132.63	-310.34	0.0	0.0	0.0	-268.45
		-339.11	0.0	0.0	0.0	11.3	-136.82	-314.07	0.0	0.0	0.0	-303.57
						22.5	-141.01	-317.81	0.0	0.0	0.0	-339.11
9	26	-259.92	0.0	-1.25e-04	-9.97	0.0	-126.70	-196.57	0.0	0.0	0.0	-259.92
		-305.27	0.0	0.0	0.0	11.3	-130.89	-201.55	0.0	0.0	0.0	-282.32
						22.5	-135.08	-206.53	0.0	0.0	0.0	-305.27
9	27	-118.23	0.0	-9.77e-05	-8.16	0.0	-55.43	-165.55	0.0	0.0	0.0	-118.23
		-156.39	0.0	0.0	0.0	11.3	-55.43	-169.62	0.0	0.0	0.0	-137.08
						22.5	-55.43	-173.70	0.0	0.0	0.0	-156.39
9	28	-88.72	0.0	-3.20e-05	-11.50	0.0	-45.93	-119.22	0.0	0.0	0.0	-88.72
		-116.84	0.0	0.0	0.0	11.3	-45.93	-124.97	0.0	0.0	0.0	-102.46
						22.5	-45.93	-130.72	0.0	0.0	0.0	-116.84
9	29	-252.64	0.0	-1.63e-04	-5.42	0.0	-129.41	-171.08	0.0	0.0	0.0	-252.64
		-291.74	0.0	0.0	0.0	11.3	-133.60	-173.79	0.0	0.0	0.0	-272.04
						22.5	-137.79	-176.50	0.0	0.0	0.0	-291.74
9	30	-285.04	0.0	-5.61e-05	-6.06	0.0	-155.17	-244.29	0.0	0.0	0.0	-285.04
		-340.68	0.0	0.0	0.0	11.3	-159.36	-247.32	0.0	0.0	0.0	-312.69

						22.5	-163.55	-250.35	0.0	0.0	0.0	-340.68
9	31	-254.97	0.0	-1.33e-04	-8.56	0.0	-150.95	-166.89	0.0	0.0	0.0	-254.97
		-293.48	0.0	0.0	0.0	11.3	-155.14	-171.17	0.0	0.0	0.0	-273.98
						22.5	-159.33	-175.45	0.0	0.0	0.0	-293.48
9	32	-260.64	0.0	1.70e-04	-6.06	0.0	-185.02	-144.67	0.0	0.0	0.0	-260.64
		-293.87	0.0	0.0	0.0	11.3	-189.21	-147.70	0.0	0.0	0.0	-277.08
						22.5	-193.40	-150.73	0.0	0.0	0.0	-293.87
9	33	-256.67	0.0	-1.70e-04	-5.42	0.0	-134.05	-171.15	0.0	0.0	0.0	-256.67
		-295.79	0.0	0.0	0.0	11.3	-138.24	-173.86	0.0	0.0	0.0	-276.07
						22.5	-142.43	-176.57	0.0	0.0	0.0	-295.79
9	34	-30.36	0.0	-9.54e-05	-5.54	0.0	-29.70	-125.04	0.0	0.0	0.0	-30.36
		-59.12	0.0	0.0	0.0	11.3	-29.70	-127.81	0.0	0.0	0.0	-44.59
						22.5	-29.70	-130.58	0.0	0.0	0.0	-59.12
9	35	-17.61	0.0	-3.16e-05	-7.39	0.0	-25.92	-72.48	0.0	0.0	0.0	-17.61
		-34.75	0.0	0.0	0.0	11.3	-25.92	-76.17	0.0	0.0	0.0	-25.98
						22.5	-25.92	-79.87	0.0	0.0	0.0	-34.75
9	36	-90.19	0.0	-5.89e-05	-5.54	0.0	-46.30	-131.70	0.0	0.0	0.0	-90.19
		-120.45	0.0	0.0	0.0	11.3	-46.30	-134.47	0.0	0.0	0.0	-105.16
						22.5	-46.30	-137.24	0.0	0.0	0.0	-120.45
9	37	-71.96	0.0	1.80e-06	-7.39	0.0	-39.69	-76.93	0.0	0.0	0.0	-71.96
		-90.11	0.0	0.0	0.0	11.3	-39.69	-80.63	0.0	0.0	0.0	-80.83
						22.5	-39.69	-84.33	0.0	0.0	0.0	-90.11
9	38	-94.13	0.0	-3.53e-05	-5.54	0.0	-51.32	-71.56	0.0	0.0	0.0	-94.13
		-110.86	0.0	0.0	0.0	11.3	-51.32	-74.33	0.0	0.0	0.0	-102.34
						22.5	-51.32	-77.10	0.0	0.0	0.0	-110.86
9	39	-40.05	0.0	-7.74e-05	-5.54	0.0	-34.95	-125.04	0.0	0.0	0.0	-40.05
		-68.81	0.0	0.0	0.0	11.3	-34.95	-127.81	0.0	0.0	0.0	-54.28
						22.5	-34.95	-130.58	0.0	0.0	0.0	-68.81
9	40	-15.11	0.0	-2.53e-05	-7.39	0.0	-24.87	-67.57	0.0	0.0	0.0	-15.11
		-31.15	0.0	0.0	0.0	11.3	-24.87	-71.26	0.0	0.0	0.0	-22.92
						22.5	-24.87	-74.96	0.0	0.0	0.0	-31.15
9	41	-80.50	0.0	-7.69e-05	-5.54	0.0	-41.04	-131.70	0.0	0.0	0.0	-80.50
		-110.76	0.0	0.0	0.0	11.3	-41.04	-134.47	0.0	0.0	0.0	-95.47
						22.5	-41.04	-137.24	0.0	0.0	0.0	-110.76
9	42	-62.27	0.0	-1.84e-05	-7.39	0.0	-34.44	-76.93	0.0	0.0	0.0	-62.27
		-80.42	0.0	0.0	0.0	11.3	-34.44	-80.63	0.0	0.0	0.0	-71.14
						22.5	-34.44	-84.33	0.0	0.0	0.0	-80.42
9	43	-84.44	0.0	-1.73e-05	-5.54	0.0	-46.07	-71.56	0.0	0.0	0.0	-84.44
		-101.16	0.0	0.0	0.0	11.3	-46.07	-74.33	0.0	0.0	0.0	-92.65
						22.5	-46.07	-77.10	0.0	0.0	0.0	-101.16
9	44	-115.72	0.0	-2.09e-05	-5.54	0.0	-58.81	-118.03	0.0	0.0	0.0	-115.72
		-142.90	0.0	0.0	0.0	11.3	-58.81	-120.79	0.0	0.0	0.0	-129.15
						22.5	-58.81	-123.56	0.0	0.0	0.0	-142.90
9	45	-48.16	0.0	-2.62e-05	-4.02	0.0	-42.10	-58.06	0.0	0.0	0.0	-48.16
		-61.67	0.0	0.0	0.0	11.3	-42.10	-60.07	0.0	0.0	0.0	-54.80
						22.5	-42.10	-62.08	0.0	0.0	0.0	-61.67
9	46	-41.34	0.0	-1.20e-04	-6.04	0.0	-34.29	-154.20	0.0	0.0	0.0	-41.34
		-76.71	0.0	0.0	0.0	11.3	-34.29	-157.22	0.0	0.0	0.0	-58.85
						22.5	-34.29	-160.24	0.0	0.0	0.0	-76.71
9	47	-8.08	0.0	-5.04e-05	-8.52	0.0	-20.86	-77.57	0.0	0.0	0.0	-8.08
		-26.49	0.0	0.0	0.0	11.3	-20.86	-81.83	0.0	0.0	0.0	-17.05
						22.5	-20.86	-86.08	0.0	0.0	0.0	-26.49
9	48	-17.82	0.0	-9.87e-05	-5.54	0.0	-28.04	-125.04	0.0	0.0	0.0	-17.82
		-46.57	0.0	0.0	0.0	11.3	-28.04	-127.81	0.0	0.0	0.0	-32.04
						22.5	-28.04	-130.58	0.0	0.0	0.0	-46.57
9	49	7.12	0.0	-4.65e-05	-7.39	0.0	-17.96	-67.57	0.0	0.0	0.0	7.12
		-8.91	0.0	0.0	0.0	11.3	-17.96	-71.26	0.0	0.0	0.0	-0.68

						22.5	-17.96	-74.96	0.0	0.0	0.0	-8.91
9	50	-224.82	0.0	-3.35e-05	-5.54	0.0	-101.48	-199.02	0.0	0.0	0.0	-224.82
		-270.22	0.0	0.0	0.0	11.3	-104.58	-201.79	0.0	0.0	0.0	-247.36
						22.5	-107.68	-204.55	0.0	0.0	0.0	-270.22
9	51	-206.59	0.0	-9.20e-05	-7.39	0.0	-94.87	-144.25	0.0	0.0	0.0	-206.59
		-239.88	0.0	0.0	0.0	11.3	-97.97	-147.94	0.0	0.0	0.0	-223.03
						22.5	-101.08	-151.64	0.0	0.0	0.0	-239.88
9	52	-228.76	0.0	-1.28e-04	-5.54	0.0	-106.50	-138.88	0.0	0.0	0.0	-228.76
		-260.63	0.0	0.0	0.0	11.3	-109.61	-141.64	0.0	0.0	0.0	-244.54
						22.5	-112.71	-144.41	0.0	0.0	0.0	-260.63
9	53	-102.74	0.0	-5.56e-05	-5.54	0.0	-47.96	-131.70	0.0	0.0	0.0	-102.74
		-132.99	0.0	0.0	0.0	11.3	-47.96	-134.47	0.0	0.0	0.0	-117.71
						22.5	-47.96	-137.24	0.0	0.0	0.0	-132.99
9	54	-84.51	0.0	-2.88e-06	-7.39	0.0	-41.35	-76.93	0.0	0.0	0.0	-84.51
		-102.65	0.0	0.0	0.0	11.3	-41.35	-80.63	0.0	0.0	0.0	-93.37
						22.5	-41.35	-84.33	0.0	0.0	0.0	-102.65
9	55	-106.68	0.0	-3.86e-05	-5.54	0.0	-52.98	-71.56	0.0	0.0	0.0	-106.68
		-123.40	0.0	0.0	0.0	11.3	-52.98	-74.33	0.0	0.0	0.0	-114.88
						22.5	-52.98	-77.10	0.0	0.0	0.0	-123.40
9	56	-46.29	0.0	-1.11e-04	-6.04	0.0	-36.97	-154.20	0.0	0.0	0.0	-46.29
		-81.66	0.0	0.0	0.0	11.3	-36.97	-157.22	0.0	0.0	0.0	-63.80
						22.5	-36.97	-160.24	0.0	0.0	0.0	-81.66
9	57	-13.03	0.0	-4.12e-05	-8.52	0.0	-23.54	-77.57	0.0	0.0	0.0	-13.03
		-31.44	0.0	0.0	0.0	11.3	-23.54	-81.83	0.0	0.0	0.0	-22.00
						22.5	-23.54	-86.08	0.0	0.0	0.0	-31.44
9	58	-26.06	0.0	-8.34e-05	-5.54	0.0	-32.51	-125.04	0.0	0.0	0.0	-26.06
		-54.82	0.0	0.0	0.0	11.3	-32.51	-127.81	0.0	0.0	0.0	-40.29
						22.5	-32.51	-130.58	0.0	0.0	0.0	-54.82
9	59	-1.12	0.0	-3.12e-05	-7.39	0.0	-22.43	-67.57	0.0	0.0	0.0	-1.12
		-17.16	0.0	0.0	0.0	11.3	-22.43	-71.26	0.0	0.0	0.0	-8.93
						22.5	-22.43	-74.96	0.0	0.0	0.0	-17.16
9	60	-215.13	0.0	-1.55e-05	-5.54	0.0	-96.22	-199.02	0.0	0.0	0.0	-215.13
		-260.53	0.0	0.0	0.0	11.3	-99.33	-201.79	0.0	0.0	0.0	-237.67
						22.5	-102.43	-204.55	0.0	0.0	0.0	-260.53
9	61	-196.90	0.0	-7.40e-05	-7.39	0.0	-89.62	-144.25	0.0	0.0	0.0	-196.90
		-230.19	0.0	0.0	0.0	11.3	-92.72	-147.94	0.0	0.0	0.0	-213.34
						22.5	-95.83	-151.64	0.0	0.0	0.0	-230.19
9	62	-219.07	0.0	-1.10e-04	-5.54	0.0	-101.25	-138.88	0.0	0.0	0.0	-219.07
		-250.94	0.0	0.0	0.0	11.3	-104.36	-141.64	0.0	0.0	0.0	-234.85
						22.5	-107.46	-144.41	0.0	0.0	0.0	-250.94
9	63	-89.75	0.0	-7.97e-05	-5.54	0.0	-40.92	-131.70	0.0	0.0	0.0	-89.75
		-120.00	0.0	0.0	0.0	11.3	-40.92	-134.47	0.0	0.0	0.0	-104.72
						22.5	-40.92	-137.24	0.0	0.0	0.0	-120.00
9	64	-71.52	0.0	-2.12e-05	-7.39	0.0	-34.31	-76.93	0.0	0.0	0.0	-71.52
		-89.66	0.0	0.0	0.0	11.3	-34.31	-80.63	0.0	0.0	0.0	-80.38
						22.5	-34.31	-84.33	0.0	0.0	0.0	-89.66
9	65	-93.69	0.0	-1.44e-05	-5.54	0.0	-45.95	-71.56	0.0	0.0	0.0	-93.69
		-110.41	0.0	0.0	0.0	11.3	-45.95	-74.33	0.0	0.0	0.0	-101.90
						22.5	-45.95	-77.10	0.0	0.0	0.0	-110.41
9	66	-211.60	0.0	-3.59e-05	-5.54	0.0	-94.02	-169.30	0.0	0.0	0.0	-211.60
		-250.32	0.0	0.0	0.0	11.3	-97.13	-172.07	0.0	0.0	0.0	-230.81
						22.5	-100.23	-174.84	0.0	0.0	0.0	-250.32
9	67	-86.22	0.0	-5.93e-05	-5.54	0.0	-38.72	-101.99	0.0	0.0	0.0	-86.22
		-109.79	0.0	0.0	0.0	11.3	-38.72	-104.76	0.0	0.0	0.0	-97.85
						22.5	-38.72	-107.52	0.0	0.0	0.0	-109.79
9	68	-182.79	0.0	-1.19e-04	-4.02	0.0	-97.28	-125.38	0.0	0.0	0.0	-182.79
		-211.45	0.0	0.0	0.0	11.3	-100.39	-127.38	0.0	0.0	0.0	-197.00

						22.5	-103.49	-129.39	0.0	0.0	0.0	-211.45
9	69	-35.61	0.0	-2.29e-05	-4.02	0.0	-40.44	-58.06	0.0	0.0	0.0	-35.61
		-49.13	0.0	0.0	0.0	11.3	-40.44	-60.07	0.0	0.0	0.0	-42.26
						22.5	-40.44	-62.08	0.0	0.0	0.0	-49.13
9	70	-0.58	0.0	-2.10e-05	-4.02	0.0	-16.34	-37.57	0.0	0.0	0.0	-0.58
		-9.49	0.0	0.0	0.0	11.3	-16.34	-39.58	0.0	0.0	0.0	-4.92
						22.5	-16.34	-41.58	0.0	0.0	0.0	-9.49
9	71	-48.66	0.0	-8.53e-06	-4.02	0.0	-29.28	-42.02	0.0	0.0	0.0	-48.66
		-58.57	0.0	0.0	0.0	11.3	-29.28	-44.03	0.0	0.0	0.0	-53.50
						22.5	-29.28	-46.04	0.0	0.0	0.0	-58.57
9	72	-9.45	0.0	-4.59e-06	-4.02	0.0	-21.14	-37.57	0.0	0.0	0.0	-9.45
		-18.35	0.0	0.0	0.0	11.3	-21.14	-39.58	0.0	0.0	0.0	-13.79
						22.5	-21.14	-41.58	0.0	0.0	0.0	-18.35
9	73	-39.79	0.0	-7.92e-06	-4.02	0.0	-24.47	-42.02	0.0	0.0	0.0	-39.79
		-49.70	0.0	0.0	0.0	11.3	-24.47	-44.03	0.0	0.0	0.0	-44.63
						22.5	-24.47	-46.04	0.0	0.0	0.0	-49.70
9	74	-12.55	0.0	-8.49e-06	-4.02	0.0	-22.55	-42.02	0.0	0.0	0.0	-12.55
		-22.46	0.0	0.0	0.0	11.3	-22.55	-44.03	0.0	0.0	0.0	-17.39
						22.5	-22.55	-46.04	0.0	0.0	0.0	-22.46
9	75	-38.76	0.0	-1.40e-05	-4.62	0.0	-46.60	-55.77	0.0	0.0	0.0	-38.76
		-51.83	0.0	0.0	0.0	11.3	-46.78	-58.09	0.0	0.0	0.0	-45.16
						22.5	-46.97	-60.40	0.0	0.0	0.0	-51.83
9	76	-151.39	0.0	-9.96e-05	-4.20	0.0	-87.25	-86.21	0.0	0.0	0.0	-151.39
		-171.26	0.0	0.0	0.0	11.3	-87.86	-88.31	0.0	0.0	0.0	-161.21
						22.5	-88.46	-90.41	0.0	0.0	0.0	-171.26
9	77	-47.62	0.0	-3.04e-05	-4.62	0.0	-51.40	-55.77	0.0	0.0	0.0	-47.62
		-60.69	0.0	0.0	0.0	11.3	-51.59	-58.09	0.0	0.0	0.0	-54.03
						22.5	-51.77	-60.40	0.0	0.0	0.0	-60.69
9	78	-142.53	0.0	-8.32e-05	-4.20	0.0	-82.45	-86.21	0.0	0.0	0.0	-142.53
		-162.40	0.0	0.0	0.0	11.3	-83.05	-88.31	0.0	0.0	0.0	-152.34
						22.5	-83.66	-90.41	0.0	0.0	0.0	-162.40
9	79	-114.49	0.0	-8.50e-05	-3.83	0.0	-80.21	-82.97	0.0	0.0	0.0	-114.49
		-133.59	0.0	0.0	0.0	11.3	-80.81	-84.89	0.0	0.0	0.0	-123.93
						22.5	-81.42	-86.81	0.0	0.0	0.0	-133.59
9	80	-82.28	0.0	-2.64e-05	-9.19	0.0	-39.64	-95.55	0.0	0.0	0.0	-82.28
		-104.81	0.0	0.0	0.0	11.3	-39.64	-100.15	0.0	0.0	0.0	-93.29
						22.5	-39.64	-104.74	0.0	0.0	0.0	-104.81
10	1	-21.64	0.0	-7.44e-05	-10.13	0.0	-8.53	348.07	0.0	0.0	0.0	-150.27
		-150.27	0.0	0.0	0.0	18.8	-8.53	343.01	0.0	0.0	0.0	-85.48
						37.5	-8.53	337.95	0.0	0.0	0.0	-21.64
10	2	-1.41	0.0	-4.08e-05	-10.13	0.0	-26.66	251.30	0.0	0.0	0.0	-93.74
		-93.74	0.0	0.0	0.0	18.8	-26.66	246.24	0.0	0.0	0.0	-47.10
						37.5	-26.66	241.18	0.0	0.0	0.0	-1.41
10	3	-20.38	0.0	-6.41e-05	-10.13	0.0	-16.77	307.04	0.0	0.0	0.0	-133.63
		-133.63	0.0	0.0	0.0	18.8	-16.77	301.98	0.0	0.0	0.0	-76.53
						37.5	-16.77	296.92	0.0	0.0	0.0	-20.38
10	4	-5.24	0.0	-3.90e-05	-10.13	0.0	-30.33	234.64	0.0	0.0	0.0	-91.33
		-91.33	0.0	0.0	0.0	18.8	-30.33	229.58	0.0	0.0	0.0	-47.81
						37.5	-30.33	224.52	0.0	0.0	0.0	-5.24
10	5	-294.82	0.0	-1.67e-04	-10.13	0.0	101.27	409.43	0.0	0.0	0.0	-446.45
		-446.45	0.0	0.0	0.0	18.8	101.27	404.37	0.0	0.0	0.0	-370.16
						37.5	101.27	399.30	0.0	0.0	0.0	-294.82
10	6	-292.58	0.0	-1.46e-04	-10.13	0.0	92.38	340.67	0.0	0.0	0.0	-418.44
		-418.44	0.0	0.0	0.0	18.8	92.38	335.61	0.0	0.0	0.0	-355.04
						37.5	92.38	330.55	0.0	0.0	0.0	-292.58
10	7	-340.74	0.0	-1.56e-04	-10.13	0.0	108.04	328.44	0.0	0.0	0.0	-462.00
		-462.00	0.0	0.0	0.0	18.8	108.04	323.37	0.0	0.0	0.0	-400.89

						37.5	108.04	318.31	0.0	0.0	0.0	-340.74
10	8	-46.81	0.0	-7.19e-05	-10.13	0.0	12.01	318.55	0.0	0.0	0.0	-164.37
		-164.37	0.0	0.0	0.0	18.8	12.01	313.49	0.0	0.0	0.0	-105.12
						37.5	12.01	308.43	0.0	0.0	0.0	-46.81
10	9	-44.58	0.0	-5.15e-05	-10.13	0.0	3.12	249.80	0.0	0.0	0.0	-136.35
		-136.35	0.0	0.0	0.0	18.8	3.12	244.73	0.0	0.0	0.0	-89.99
						37.5	3.12	239.67	0.0	0.0	0.0	-44.58
10	10	-92.73	0.0	-6.16e-05	-10.13	0.0	18.78	237.56	0.0	0.0	0.0	-179.92
		-179.92	0.0	0.0	0.0	18.8	18.78	232.50	0.0	0.0	0.0	-135.85
						37.5	18.78	227.44	0.0	0.0	0.0	-92.73
10	11	-40.74	0.0	-8.47e-05	-10.13	0.0	-2.23	348.07	0.0	0.0	0.0	-169.36
		-169.36	0.0	0.0	0.0	18.8	-2.23	343.01	0.0	0.0	0.0	-104.57
						37.5	-2.23	337.95	0.0	0.0	0.0	-40.74
10	12	-20.50	0.0	-5.11e-05	-10.13	0.0	-20.36	251.30	0.0	0.0	0.0	-112.84
		-112.84	0.0	0.0	0.0	18.8	-20.36	246.24	0.0	0.0	0.0	-66.19
						37.5	-20.36	241.18	0.0	0.0	0.0	-20.50
10	13	-45.97	0.0	-7.78e-05	-10.13	0.0	-8.32	307.04	0.0	0.0	0.0	-159.22
		-159.22	0.0	0.0	0.0	18.8	-8.32	301.98	0.0	0.0	0.0	-102.12
						37.5	-8.32	296.92	0.0	0.0	0.0	-45.97
10	14	-30.83	0.0	-5.27e-05	-10.13	0.0	-21.89	234.64	0.0	0.0	0.0	-116.92
		-116.92	0.0	0.0	0.0	18.8	-21.89	229.58	0.0	0.0	0.0	-73.40
						37.5	-21.89	224.52	0.0	0.0	0.0	-30.83
10	15	-275.72	0.0	-1.56e-04	-10.13	0.0	94.97	409.43	0.0	0.0	0.0	-427.36
		-427.36	0.0	0.0	0.0	18.8	94.97	404.37	0.0	0.0	0.0	-351.07
						37.5	94.97	399.30	0.0	0.0	0.0	-275.72
10	16	-273.49	0.0	-1.36e-04	-10.13	0.0	86.07	340.67	0.0	0.0	0.0	-399.35
		-399.35	0.0	0.0	0.0	18.8	86.07	335.61	0.0	0.0	0.0	-335.94
						37.5	86.07	330.55	0.0	0.0	0.0	-273.49
10	17	-321.65	0.0	-1.46e-04	-10.13	0.0	101.74	328.44	0.0	0.0	0.0	-442.91
		-442.91	0.0	0.0	0.0	18.8	101.74	323.37	0.0	0.0	0.0	-381.80
						37.5	101.74	318.31	0.0	0.0	0.0	-321.65
10	18	-21.22	0.0	-5.82e-05	-10.13	0.0	3.57	318.55	0.0	0.0	0.0	-138.78
		-138.78	0.0	0.0	0.0	18.8	3.57	313.49	0.0	0.0	0.0	-79.53
						37.5	3.57	308.43	0.0	0.0	0.0	-21.22
10	19	-18.99	0.0	-3.78e-05	-10.13	0.0	-5.33	249.80	0.0	0.0	0.0	-110.76
		-110.76	0.0	0.0	0.0	18.8	-5.33	244.73	0.0	0.0	0.0	-64.40
						37.5	-5.33	239.67	0.0	0.0	0.0	-18.99
10	20	-67.14	0.0	-4.79e-05	-10.13	0.0	10.34	237.56	0.0	0.0	0.0	-154.33
		-154.33	0.0	0.0	0.0	18.8	10.34	232.50	0.0	0.0	0.0	-110.26
						37.5	10.34	227.44	0.0	0.0	0.0	-67.14
10	21	-275.02	0.0	-1.50e-04	-10.13	0.0	92.01	369.41	0.0	0.0	0.0	-411.65
		-411.65	0.0	0.0	0.0	18.8	92.01	364.35	0.0	0.0	0.0	-342.86
						37.5	92.01	359.29	0.0	0.0	0.0	-275.02
10	22	-20.51	0.0	-5.18e-05	-10.13	0.0	0.60	278.54	0.0	0.0	0.0	-123.06
		-123.06	0.0	0.0	0.0	18.8	0.60	273.47	0.0	0.0	0.0	-71.31
						37.5	0.60	268.41	0.0	0.0	0.0	-20.51
10	23	-342.30	0.0	-1.45e-04	-7.50	0.0	95.54	258.65	0.0	0.0	0.0	-437.89
		-437.89	0.0	0.0	0.0	18.8	95.54	254.90	0.0	0.0	0.0	-389.75
						37.5	95.54	251.15	0.0	0.0	0.0	-342.30
10	24	-104.97	0.0	-5.63e-05	-7.50	0.0	2.29	167.77	0.0	0.0	0.0	-166.48
		-166.48	0.0	0.0	0.0	18.8	2.29	164.02	0.0	0.0	0.0	-135.37
						37.5	2.29	160.27	0.0	0.0	0.0	-104.97
10	25	-313.97	0.0	-1.33e-04	-10.13	0.0	99.96	449.52	0.0	0.0	0.0	-480.64
		-480.64	0.0	0.0	0.0	18.8	99.96	444.45	0.0	0.0	0.0	-396.83
						37.5	99.96	439.39	0.0	0.0	0.0	-313.97
10	26	-319.18	0.0	-1.11e-04	-10.13	0.0	94.03	340.74	0.0	0.0	0.0	-445.06
		-445.06	0.0	0.0	0.0	18.8	94.03	335.68	0.0	0.0	0.0	-381.64

						37.5	94.03	330.62	0.0	0.0	0.0	-319.18
10	27	-38.70	0.0	-6.92e-05	-10.13	0.0	6.00	306.10	0.0	0.0	0.0	-151.59
		-151.59	0.0	0.0	0.0	18.8	6.00	301.04	0.0	0.0	0.0	-94.67
						37.5	6.00	295.97	0.0	0.0	0.0	-38.70
10	28	-32.32	0.0	-4.88e-05	-10.13	0.0	-3.50	266.46	0.0	0.0	0.0	-130.35
		-130.35	0.0	0.0	0.0	18.8	-3.50	261.39	0.0	0.0	0.0	-80.86
						37.5	-3.50	256.33	0.0	0.0	0.0	-32.32
10	29	-345.40	0.0	-1.54e-04	-10.13	0.0	96.74	306.17	0.0	0.0	0.0	-458.31
		-458.31	0.0	0.0	0.0	18.8	96.74	301.10	0.0	0.0	0.0	-401.38
						37.5	96.74	296.04	0.0	0.0	0.0	-345.40
10	30	-206.81	0.0	-7.28e-05	-7.50	0.0	9.62	348.44	0.0	0.0	0.0	-336.07
		-336.07	0.0	0.0	0.0	18.8	9.62	344.69	0.0	0.0	0.0	-271.08
						37.5	9.62	340.94	0.0	0.0	0.0	-206.81
10	31	-182.92	0.0	-4.30e-05	-7.50	0.0	-15.43	276.04	0.0	0.0	0.0	-285.03
		-285.03	0.0	0.0	0.0	18.8	-15.43	272.29	0.0	0.0	0.0	-233.62
						37.5	-15.43	268.54	0.0	0.0	0.0	-182.92
10	32	-157.38	0.0	-2.28e-05	-7.50	0.0	-41.73	248.82	0.0	0.0	0.0	-249.28
		-249.28	0.0	0.0	0.0	18.8	-41.73	245.07	0.0	0.0	0.0	-202.98
						37.5	-41.73	241.32	0.0	0.0	0.0	-157.38
10	33	-363.99	0.0	-1.14e-04	-10.13	0.0	101.38	306.24	0.0	0.0	0.0	-476.93
		-476.93	0.0	0.0	0.0	18.8	101.38	301.17	0.0	0.0	0.0	-419.99
						37.5	101.38	296.11	0.0	0.0	0.0	-363.99
10	34	-7.13	0.0	-4.29e-05	-7.50	0.0	-19.73	228.14	0.0	0.0	0.0	-91.28
		-91.28	0.0	0.0	0.0	18.8	-19.73	224.39	0.0	0.0	0.0	-48.86
						37.5	-19.73	220.64	0.0	0.0	0.0	-7.13
10	35	-13.29	0.0	-3.06e-05	-7.50	0.0	-23.51	179.29	0.0	0.0	0.0	-79.12
		-79.12	0.0	0.0	0.0	18.8	-23.51	175.54	0.0	0.0	0.0	-45.86
						37.5	-23.51	171.79	0.0	0.0	0.0	-13.29
10	36	-26.72	0.0	-4.98e-05	-7.50	0.0	-3.14	234.80	0.0	0.0	0.0	-113.36
		-113.36	0.0	0.0	0.0	18.8	-3.14	231.05	0.0	0.0	0.0	-69.69
						37.5	-3.14	227.30	0.0	0.0	0.0	-26.72
10	37	-25.06	0.0	-3.47e-05	-7.50	0.0	-9.74	183.75	0.0	0.0	0.0	-92.56
		-92.56	0.0	0.0	0.0	18.8	-9.74	180.00	0.0	0.0	0.0	-58.46
						37.5	-9.74	176.25	0.0	0.0	0.0	-25.06
10	38	-60.81	0.0	-4.22e-05	-7.50	0.0	1.89	174.66	0.0	0.0	0.0	-124.91
		-124.91	0.0	0.0	0.0	18.8	1.89	170.91	0.0	0.0	0.0	-92.51
						37.5	1.89	167.16	0.0	0.0	0.0	-60.81
10	39	-23.04	0.0	-5.15e-05	-7.50	0.0	-14.48	228.14	0.0	0.0	0.0	-107.19
		-107.19	0.0	0.0	0.0	18.8	-14.48	224.39	0.0	0.0	0.0	-64.76
						37.5	-14.48	220.64	0.0	0.0	0.0	-23.04
10	40	-11.80	0.0	-3.28e-05	-7.50	0.0	-24.56	174.38	0.0	0.0	0.0	-75.78
		-75.78	0.0	0.0	0.0	18.8	-24.56	170.63	0.0	0.0	0.0	-43.44
						37.5	-24.56	166.88	0.0	0.0	0.0	-11.80
10	41	-10.81	0.0	-4.13e-05	-7.50	0.0	-8.39	234.80	0.0	0.0	0.0	-97.45
		-97.45	0.0	0.0	0.0	18.8	-8.39	231.05	0.0	0.0	0.0	-53.78
						37.5	-8.39	227.30	0.0	0.0	0.0	-10.81
10	42	-9.15	0.0	-2.61e-05	-7.50	0.0	-14.99	183.75	0.0	0.0	0.0	-76.65
		-76.65	0.0	0.0	0.0	18.8	-14.99	180.00	0.0	0.0	0.0	-42.55
						37.5	-14.99	176.25	0.0	0.0	0.0	-9.15
10	43	-44.91	0.0	-3.37e-05	-7.50	0.0	-3.36	174.66	0.0	0.0	0.0	-109.00
		-109.00	0.0	0.0	0.0	18.8	-3.36	170.91	0.0	0.0	0.0	-76.60
						37.5	-3.36	167.16	0.0	0.0	0.0	-44.91
10	44	-65.26	0.0	-5.62e-05	-7.50	0.0	9.38	221.13	0.0	0.0	0.0	-146.77
		-146.77	0.0	0.0	0.0	18.8	9.38	217.38	0.0	0.0	0.0	-105.67
						37.5	9.38	213.63	0.0	0.0	0.0	-65.26
10	45	-64.88	0.0	-4.05e-05	-7.50	0.0	-7.33	158.12	0.0	0.0	0.0	-122.77
		-122.77	0.0	0.0	0.0	18.8	-7.33	154.37	0.0	0.0	0.0	-93.48

						37.5	-7.33	150.62	0.0	0.0	0.0	-64.88
10	46	-11.98	0.0	-5.26e-05	-7.50	0.0	-15.14	258.31	0.0	0.0	0.0	-107.44
		-107.44	0.0	0.0	0.0	18.8	-15.14	254.56	0.0	0.0	0.0	-59.36
						37.5	-15.14	250.81	0.0	0.0	0.0	-11.98
10	47	3.01	0.0	-2.77e-05	-7.50	0.0	-28.57	186.63	0.0	0.0	0.0	-65.57
		-65.57	0.0	0.0	0.0	18.8	-28.57	182.88	0.0	0.0	0.0	-30.93
						37.5	-28.57	179.13	0.0	0.0	0.0	3.01
10	48	-11.58	0.0	-4.53e-05	-7.50	0.0	-21.39	228.14	0.0	0.0	0.0	-95.73
		-95.73	0.0	0.0	0.0	18.8	-21.39	224.39	0.0	0.0	0.0	-53.30
						37.5	-21.39	220.64	0.0	0.0	0.0	-11.58
10	49	-0.34	0.0	-2.66e-05	-7.50	0.0	-31.47	174.38	0.0	0.0	0.0	-64.32
		-64.32	0.0	0.0	0.0	18.8	-31.47	170.63	0.0	0.0	0.0	-31.98
						37.5	-31.47	166.88	0.0	0.0	0.0	-0.34
10	50	-206.47	0.0	-1.18e-04	-7.50	0.0	64.46	302.12	0.0	0.0	0.0	-318.36
		-318.36	0.0	0.0	0.0	18.8	64.46	298.37	0.0	0.0	0.0	-262.06
						37.5	64.46	294.62	0.0	0.0	0.0	-206.47
10	51	-204.81	0.0	-1.03e-04	-7.50	0.0	57.85	251.06	0.0	0.0	0.0	-297.55
		-297.55	0.0	0.0	0.0	18.8	57.85	247.31	0.0	0.0	0.0	-250.83
						37.5	57.85	243.56	0.0	0.0	0.0	-204.81
10	52	-240.57	0.0	-1.10e-04	-7.50	0.0	69.49	241.98	0.0	0.0	0.0	-329.90
		-329.90	0.0	0.0	0.0	18.8	69.49	238.23	0.0	0.0	0.0	-284.88
						37.5	69.49	234.48	0.0	0.0	0.0	-240.57
10	53	-22.27	0.0	-4.74e-05	-7.50	0.0	-1.47	234.80	0.0	0.0	0.0	-108.91
		-108.91	0.0	0.0	0.0	18.8	-1.47	231.05	0.0	0.0	0.0	-65.24
						37.5	-1.47	227.30	0.0	0.0	0.0	-22.27
10	54	-20.61	0.0	-3.23e-05	-7.50	0.0	-8.08	183.75	0.0	0.0	0.0	-88.11
		-88.11	0.0	0.0	0.0	18.8	-8.08	180.00	0.0	0.0	0.0	-54.01
						37.5	-8.08	176.25	0.0	0.0	0.0	-20.61
10	55	-56.37	0.0	-3.98e-05	-7.50	0.0	3.55	174.66	0.0	0.0	0.0	-120.46
		-120.46	0.0	0.0	0.0	18.8	3.55	170.91	0.0	0.0	0.0	-88.06
						37.5	3.55	167.16	0.0	0.0	0.0	-56.37
10	56	-20.11	0.0	-5.70e-05	-7.50	0.0	-12.46	258.31	0.0	0.0	0.0	-115.57
		-115.57	0.0	0.0	0.0	18.8	-12.46	254.56	0.0	0.0	0.0	-67.49
						37.5	-12.46	250.81	0.0	0.0	0.0	-20.11
10	57	-5.11	0.0	-3.21e-05	-7.50	0.0	-25.89	186.63	0.0	0.0	0.0	-73.70
		-73.70	0.0	0.0	0.0	18.8	-25.89	182.88	0.0	0.0	0.0	-39.05
						37.5	-25.89	179.13	0.0	0.0	0.0	-5.11
10	58	-25.12	0.0	-5.26e-05	-7.50	0.0	-16.92	228.14	0.0	0.0	0.0	-109.27
		-109.27	0.0	0.0	0.0	18.8	-16.92	224.39	0.0	0.0	0.0	-66.84
						37.5	-16.92	220.64	0.0	0.0	0.0	-25.12
10	59	-13.88	0.0	-3.39e-05	-7.50	0.0	-27.00	174.38	0.0	0.0	0.0	-77.86
		-77.86	0.0	0.0	0.0	18.8	-27.00	170.63	0.0	0.0	0.0	-45.52
						37.5	-27.00	166.88	0.0	0.0	0.0	-13.88
10	60	-190.56	0.0	-1.09e-04	-7.50	0.0	59.21	302.12	0.0	0.0	0.0	-302.45
		-302.45	0.0	0.0	0.0	18.8	59.21	298.37	0.0	0.0	0.0	-246.15
						37.5	59.21	294.62	0.0	0.0	0.0	-190.56
10	61	-188.90	0.0	-9.42e-05	-7.50	0.0	52.60	251.06	0.0	0.0	0.0	-281.64
		-281.64	0.0	0.0	0.0	18.8	52.60	247.31	0.0	0.0	0.0	-234.92
						37.5	52.60	243.56	0.0	0.0	0.0	-188.90
10	62	-224.66	0.0	-1.02e-04	-7.50	0.0	64.24	241.98	0.0	0.0	0.0	-313.99
		-313.99	0.0	0.0	0.0	18.8	64.24	238.23	0.0	0.0	0.0	-268.98
						37.5	64.24	234.48	0.0	0.0	0.0	-224.66
10	63	-0.94	0.0	-3.60e-05	-7.50	0.0	-8.51	234.80	0.0	0.0	0.0	-87.59
		-87.59	0.0	0.0	0.0	18.8	-8.51	231.05	0.0	0.0	0.0	-43.91
						37.5	-8.51	227.30	0.0	0.0	0.0	-0.94
10	64	0.71	0.0	-2.08e-05	-7.50	0.0	-15.12	183.75	0.0	0.0	0.0	-66.78
		-66.78	0.0	0.0	0.0	18.8	-15.12	180.00	0.0	0.0	0.0	-32.68

						37.5	-15.12	176.25	0.0	0.0	0.0	0.71
10	65	-35.04	0.0	-2.84e-05	-7.50	0.0	-3.49	174.66	0.0	0.0	0.0	-99.14
		-99.14	0.0	0.0	0.0	18.8	-3.49	170.91	0.0	0.0	0.0	-66.74
						37.5	-3.49	167.16	0.0	0.0	0.0	-35.04
10	66	-190.03	0.0	-1.05e-04	-7.50	0.0	57.01	272.40	0.0	0.0	0.0	-290.78
		-290.78	0.0	0.0	0.0	18.8	57.01	268.65	0.0	0.0	0.0	-240.05
						37.5	57.01	264.90	0.0	0.0	0.0	-190.03
10	67	-0.42	0.0	-3.12e-05	-7.50	0.0	-10.72	205.09	0.0	0.0	0.0	-75.92
		-75.92	0.0	0.0	0.0	18.8	-10.72	201.34	0.0	0.0	0.0	-37.82
						37.5	-10.72	197.59	0.0	0.0	0.0	-0.42
10	68	-244.64	0.0	-1.09e-04	-7.50	0.0	60.27	225.44	0.0	0.0	0.0	-327.77
		-327.77	0.0	0.0	0.0	18.8	60.27	221.69	0.0	0.0	0.0	-285.85
						37.5	60.27	217.94	0.0	0.0	0.0	-244.64
10	69	-69.33	0.0	-4.29e-05	-7.50	0.0	-8.99	158.12	0.0	0.0	0.0	-127.22
		-127.22	0.0	0.0	0.0	18.8	-8.99	154.37	0.0	0.0	0.0	-97.92
						37.5	-8.99	150.62	0.0	0.0	0.0	-69.33
10	70	8.53	0.0	-1.33e-05	-7.50	0.0	-33.09	137.63	0.0	0.0	0.0	-41.68
		-41.68	0.0	0.0	0.0	18.8	-33.09	133.88	0.0	0.0	0.0	-16.22
						37.5	-33.09	130.13	0.0	0.0	0.0	8.53
10	71	-5.46	0.0	-1.85e-05	-7.50	0.0	-20.15	142.09	0.0	0.0	0.0	-57.34
		-57.34	0.0	0.0	0.0	18.8	-20.15	138.34	0.0	0.0	0.0	-31.05
						37.5	-20.15	134.59	0.0	0.0	0.0	-5.46
10	72	-6.03	0.0	-2.11e-05	-7.50	0.0	-28.29	137.63	0.0	0.0	0.0	-56.23
		-56.23	0.0	0.0	0.0	18.8	-28.29	133.88	0.0	0.0	0.0	-30.78
						37.5	-28.29	130.13	0.0	0.0	0.0	-6.03
10	73	9.10	0.0	-1.07e-05	-7.50	0.0	-24.96	142.09	0.0	0.0	0.0	-42.78
		-42.78	0.0	0.0	0.0	18.8	-24.96	138.34	0.0	0.0	0.0	-16.49
						37.5	-24.96	134.59	0.0	0.0	0.0	9.10
10	74	-8.79	0.0	-2.03e-05	-7.50	0.0	-26.88	142.09	0.0	0.0	0.0	-60.67
		-60.67	0.0	0.0	0.0	18.8	-26.88	138.34	0.0	0.0	0.0	-34.38
						37.5	-26.88	134.59	0.0	0.0	0.0	-8.79
10	75	-7.56	0.0	-1.84e-05	-7.50	0.0	-55.97	164.28	0.0	0.0	0.0	-67.76
		-67.76	0.0	0.0	0.0	18.8	-55.97	160.53	0.0	0.0	0.0	-37.30
						37.5	-55.97	156.78	0.0	0.0	0.0	-7.56
10	76	-120.15	0.0	-5.78e-05	-7.50	0.0	-3.48	188.81	0.0	0.0	0.0	-189.54
		-189.54	0.0	0.0	0.0	18.8	-3.48	185.06	0.0	0.0	0.0	-154.49
						37.5	-3.48	181.31	0.0	0.0	0.0	-120.15
10	77	-22.11	0.0	-2.62e-05	-7.50	0.0	-51.17	164.28	0.0	0.0	0.0	-82.31
		-82.31	0.0	0.0	0.0	18.8	-51.17	160.53	0.0	0.0	0.0	-51.86
						37.5	-51.17	156.78	0.0	0.0	0.0	-22.11
10	78	-105.59	0.0	-5.00e-05	-7.50	0.0	-8.28	188.81	0.0	0.0	0.0	-174.99
		-174.99	0.0	0.0	0.0	18.8	-8.28	185.06	0.0	0.0	0.0	-139.94
						37.5	-8.28	181.31	0.0	0.0	0.0	-105.59
10	79	-123.44	0.0	-5.76e-05	-7.50	0.0	-10.52	180.50	0.0	0.0	0.0	-189.72
		-189.72	0.0	0.0	0.0	18.8	-10.52	176.75	0.0	0.0	0.0	-156.23
						37.5	-10.52	173.00	0.0	0.0	0.0	-123.44
10	80	-10.33	0.0	-2.98e-05	-7.50	0.0	-9.79	205.96	0.0	0.0	0.0	-86.16
		-86.16	0.0	0.0	0.0	18.8	-9.79	202.21	0.0	0.0	0.0	-47.89
						37.5	-9.79	198.46	0.0	0.0	0.0	-10.33
11	1	1.49	0.0	-6.46e-05	-10.13	0.0	-23.35	-331.60	0.0	0.0	0.0	1.49
		-124.76	0.0	0.0	0.0	18.8	-23.35	-336.67	0.0	0.0	0.0	-61.16
						37.5	-23.35	-341.73	0.0	0.0	0.0	-124.76
11	2	21.73	0.0	-3.10e-05	-10.13	0.0	-41.49	-234.83	0.0	0.0	0.0	21.73
		-68.23	0.0	0.0	0.0	18.8	-41.49	-239.89	0.0	0.0	0.0	-22.78
						37.5	-41.49	-244.96	0.0	0.0	0.0	-68.23
11	3	2.75	0.0	-5.42e-05	-10.13	0.0	-31.59	-290.57	0.0	0.0	0.0	2.75
		-108.12	0.0	0.0	0.0	18.8	-31.59	-295.63	0.0	0.0	0.0	-52.21

						37.5	-31.59	-300.70	0.0	0.0	0.0	-108.12
11	4	17.89	0.0	-2.91e-05	-10.13	0.0	-45.16	-218.17	0.0	0.0	0.0	17.89
		-65.82	0.0	0.0	0.0	18.8	-45.16	-223.23	0.0	0.0	0.0	-23.49
						37.5	-45.16	-228.30	0.0	0.0	0.0	-65.82
11	5	344.30	0.0	8.44e-05	-10.13	0.0	-194.12	-188.18	0.0	0.0	0.0	344.30
		271.83	0.0	0.0	0.0	18.8	-194.12	-193.25	0.0	0.0	0.0	308.54
						37.5	-194.12	-198.31	0.0	0.0	0.0	271.83
11	6	381.10	0.0	1.19e-04	-10.13	0.0	-223.84	-112.14	0.0	0.0	0.0	381.10
		337.14	0.0	0.0	0.0	18.8	-223.84	-117.21	0.0	0.0	0.0	359.59
						37.5	-223.84	-122.27	0.0	0.0	0.0	337.14
11	7	457.24	0.0	1.57e-04	-10.13	0.0	-268.54	-69.94	0.0	0.0	0.0	457.24
		429.11	0.0	0.0	0.0	18.8	-268.54	-75.00	0.0	0.0	0.0	443.65
						37.5	-268.54	-80.06	0.0	0.0	0.0	429.11
11	8	106.97	0.0	-4.66e-06	-10.13	0.0	-100.87	-279.06	0.0	0.0	0.0	106.97
		0.42	0.0	0.0	0.0	18.8	-100.87	-284.12	0.0	0.0	0.0	54.17
						37.5	-100.87	-289.18	0.0	0.0	0.0	0.42
11	9	143.76	0.0	2.99e-05	-10.13	0.0	-130.59	-203.02	0.0	0.0	0.0	143.76
		65.73	0.0	0.0	0.0	18.8	-130.59	-208.08	0.0	0.0	0.0	105.22
						37.5	-130.59	-213.14	0.0	0.0	0.0	65.73
11	10	219.90	0.0	6.79e-05	-10.13	0.0	-175.30	-160.81	0.0	0.0	0.0	219.90
		157.70	0.0	0.0	0.0	18.8	-175.30	-165.87	0.0	0.0	0.0	189.28
						37.5	-175.30	-170.94	0.0	0.0	0.0	157.70
11	11	-17.60	0.0	-7.48e-05	-10.13	0.0	-17.05	-331.60	0.0	0.0	0.0	-17.60
		-143.85	0.0	0.0	0.0	18.8	-17.05	-336.67	0.0	0.0	0.0	-80.25
						37.5	-17.05	-341.73	0.0	0.0	0.0	-143.85
11	12	2.64	0.0	-4.12e-05	-10.13	0.0	-35.19	-234.83	0.0	0.0	0.0	2.64
		-87.32	0.0	0.0	0.0	18.8	-35.19	-239.89	0.0	0.0	0.0	-41.87
						37.5	-35.19	-244.96	0.0	0.0	0.0	-87.32
11	13	-22.84	0.0	-6.80e-05	-10.13	0.0	-23.14	-290.57	0.0	0.0	0.0	-22.84
		-133.71	0.0	0.0	0.0	18.8	-23.14	-295.63	0.0	0.0	0.0	-77.80
						37.5	-23.14	-300.70	0.0	0.0	0.0	-133.71
11	14	-7.70	0.0	-4.28e-05	-10.13	0.0	-36.71	-218.17	0.0	0.0	0.0	-7.70
		-91.41	0.0	0.0	0.0	18.8	-36.71	-223.23	0.0	0.0	0.0	-49.08
						37.5	-36.71	-228.30	0.0	0.0	0.0	-91.41
11	15	363.39	0.0	9.46e-05	-10.13	0.0	-200.42	-188.18	0.0	0.0	0.0	363.39
		290.92	0.0	0.0	0.0	18.8	-200.42	-193.25	0.0	0.0	0.0	327.63
						37.5	-200.42	-198.31	0.0	0.0	0.0	290.92
11	16	400.19	0.0	1.29e-04	-10.13	0.0	-230.14	-112.14	0.0	0.0	0.0	400.19
		356.23	0.0	0.0	0.0	18.8	-230.14	-117.21	0.0	0.0	0.0	378.68
						37.5	-230.14	-122.27	0.0	0.0	0.0	356.23
11	17	476.33	0.0	1.67e-04	-10.13	0.0	-274.84	-69.94	0.0	0.0	0.0	476.33
		448.20	0.0	0.0	0.0	18.8	-274.84	-75.00	0.0	0.0	0.0	462.74
						37.5	-274.84	-80.06	0.0	0.0	0.0	448.20
11	18	132.56	0.0	9.08e-06	-10.13	0.0	-109.32	-279.06	0.0	0.0	0.0	132.56
		26.01	0.0	0.0	0.0	18.8	-109.32	-284.12	0.0	0.0	0.0	79.76
						37.5	-109.32	-289.18	0.0	0.0	0.0	26.01
11	19	169.35	0.0	4.36e-05	-10.13	0.0	-139.04	-203.02	0.0	0.0	0.0	169.35
		91.32	0.0	0.0	0.0	18.8	-139.04	-208.08	0.0	0.0	0.0	130.81
						37.5	-139.04	-213.14	0.0	0.0	0.0	91.32
11	20	245.49	0.0	8.16e-05	-10.13	0.0	-183.74	-160.81	0.0	0.0	0.0	245.49
		183.29	0.0	0.0	0.0	18.8	-183.74	-165.87	0.0	0.0	0.0	214.87
						37.5	-183.74	-170.94	0.0	0.0	0.0	183.29
11	21	370.83	0.0	9.26e-05	-10.13	0.0	-203.38	-228.20	0.0	0.0	0.0	370.83
		283.36	0.0	0.0	0.0	18.8	-203.38	-233.26	0.0	0.0	0.0	327.57
						37.5	-203.38	-238.33	0.0	0.0	0.0	283.36
11	22	140.00	0.0	7.05e-06	-10.13	0.0	-112.28	-319.08	0.0	0.0	0.0	140.00
		18.45	0.0	0.0	0.0	18.8	-112.28	-324.14	0.0	0.0	0.0	79.70

						37.5	-112.28	-329.20	0.0	0.0	0.0	18.45
11	23	455.39	0.0	1.68e-04	-7.50	0.0	-281.05	-3.45	0.0	0.0	0.0	455.39
		452.69	0.0	0.0	0.0	18.8	-281.05	-7.20	0.0	0.0	0.0	454.39
						37.5	-281.05	-10.95	0.0	0.0	0.0	452.69
11	24	207.38	0.0	7.31e-05	-7.50	0.0	-191.79	-94.33	0.0	0.0	0.0	207.38
		170.61	0.0	0.0	0.0	18.8	-191.79	-98.08	0.0	0.0	0.0	189.35
						37.5	-191.79	-101.83	0.0	0.0	0.0	170.61
11	25	318.10	0.0	1.29e-04	-10.13	0.0	-195.43	-148.10	0.0	0.0	0.0	318.10
		260.67	0.0	0.0	0.0	18.8	-195.43	-153.16	0.0	0.0	0.0	289.86
						37.5	-195.43	-158.22	0.0	0.0	0.0	260.67
11	26	354.19	0.0	1.58e-04	-10.13	0.0	-222.19	-112.07	0.0	0.0	0.0	354.19
		310.26	0.0	0.0	0.0	18.8	-222.19	-117.14	0.0	0.0	0.0	332.70
						37.5	-222.19	-122.20	0.0	0.0	0.0	310.26
11	27	124.08	0.0	-1.32e-05	-10.13	0.0	-106.88	-373.58	0.0	0.0	0.0	124.08
		-17.92	0.0	0.0	0.0	18.8	-106.88	-378.64	0.0	0.0	0.0	53.55
						37.5	-106.88	-383.70	0.0	0.0	0.0	-17.92
11	28	156.02	0.0	3.26e-05	-10.13	0.0	-137.21	-219.68	0.0	0.0	0.0	156.02
		71.74	0.0	0.0	0.0	18.8	-137.21	-224.74	0.0	0.0	0.0	114.36
						37.5	-137.21	-229.80	0.0	0.0	0.0	71.74
11	29	452.57	0.0	1.60e-04	-10.13	0.0	-279.85	-47.67	0.0	0.0	0.0	452.57
		432.80	0.0	0.0	0.0	18.8	-279.85	-52.73	0.0	0.0	0.0	443.16
						37.5	-279.85	-57.79	0.0	0.0	0.0	432.80
11	30	279.74	0.0	1.07e-04	-7.50	0.0	-172.89	-157.44	0.0	0.0	0.0	279.74
		219.30	0.0	0.0	0.0	18.8	-172.89	-161.19	0.0	0.0	0.0	249.87
						37.5	-172.89	-164.94	0.0	0.0	0.0	219.30
11	31	303.63	0.0	1.37e-04	-7.50	0.0	-197.94	-85.04	0.0	0.0	0.0	303.63
		270.33	0.0	0.0	0.0	18.8	-197.94	-88.79	0.0	0.0	0.0	287.33
						37.5	-197.94	-92.54	0.0	0.0	0.0	270.33
11	32	329.17	0.0	1.57e-04	-7.50	0.0	-224.24	-57.82	0.0	0.0	0.0	329.17
		306.08	0.0	0.0	0.0	18.8	-224.24	-61.57	0.0	0.0	0.0	317.97
						37.5	-224.24	-65.32	0.0	0.0	0.0	306.08
11	33	433.67	0.0	2.03e-04	-10.13	0.0	-275.21	-47.60	0.0	0.0	0.0	433.67
		413.92	0.0	0.0	0.0	18.8	-275.21	-52.66	0.0	0.0	0.0	424.27
						37.5	-275.21	-57.72	0.0	0.0	0.0	413.92
11	34	15.72	0.0	-3.32e-05	-7.50	0.0	-34.56	-214.98	0.0	0.0	0.0	15.72
		-66.30	0.0	0.0	0.0	18.8	-34.56	-218.73	0.0	0.0	0.0	-24.94
						37.5	-34.56	-222.48	0.0	0.0	0.0	-66.30
11	35	56.16	0.0	-1.83e-06	-7.50	0.0	-66.41	-156.31	0.0	0.0	0.0	56.16
		-3.86	0.0	0.0	0.0	18.8	-66.41	-160.06	0.0	0.0	0.0	26.50
						37.5	-66.41	-163.81	0.0	0.0	0.0	-3.86
11	36	70.61	0.0	-7.35e-06	-7.50	0.0	-73.97	-208.32	0.0	0.0	0.0	70.61
		-8.92	0.0	0.0	0.0	18.8	-73.97	-212.07	0.0	0.0	0.0	31.19
						37.5	-73.97	-215.82	0.0	0.0	0.0	-8.92
11	37	97.93	0.0	1.83e-05	-7.50	0.0	-96.04	-151.85	0.0	0.0	0.0	97.93
		39.58	0.0	0.0	0.0	18.8	-96.04	-155.60	0.0	0.0	0.0	69.11
						37.5	-96.04	-159.35	0.0	0.0	0.0	39.58
11	38	154.47	0.0	4.65e-05	-7.50	0.0	-129.23	-120.51	0.0	0.0	0.0	154.47
		107.87	0.0	0.0	0.0	18.8	-129.23	-124.26	0.0	0.0	0.0	131.52
						37.5	-129.23	-128.01	0.0	0.0	0.0	107.87
11	39	-0.19	0.0	-4.18e-05	-7.50	0.0	-29.31	-214.98	0.0	0.0	0.0	-0.19
		-82.21	0.0	0.0	0.0	18.8	-29.31	-218.73	0.0	0.0	0.0	-40.85
						37.5	-29.31	-222.48	0.0	0.0	0.0	-82.21
11	40	11.06	0.0	-2.31e-05	-7.50	0.0	-39.38	-161.22	0.0	0.0	0.0	11.06
		-50.81	0.0	0.0	0.0	18.8	-39.38	-164.97	0.0	0.0	0.0	-19.52
						37.5	-39.38	-168.72	0.0	0.0	0.0	-50.81
11	41	86.52	0.0	1.19e-06	-7.50	0.0	-79.22	-208.32	0.0	0.0	0.0	86.52
		6.99	0.0	0.0	0.0	18.8	-79.22	-212.07	0.0	0.0	0.0	47.10

						37.5	-79.22	-215.82	0.0	0.0	0.0	6.99
11	42	113.84	0.0	2.69e-05	-7.50	0.0	-101.29	-151.85	0.0	0.0	0.0	113.84
		55.49	0.0	0.0	0.0	18.8	-101.29	-155.60	0.0	0.0	0.0	85.01
						37.5	-101.29	-159.35	0.0	0.0	0.0	55.49
11	43	170.38	0.0	5.50e-05	-7.50	0.0	-134.49	-120.51	0.0	0.0	0.0	170.38
		123.78	0.0	0.0	0.0	18.8	-134.49	-124.26	0.0	0.0	0.0	147.43
						37.5	-134.49	-128.01	0.0	0.0	0.0	123.78
11	44	175.96	0.0	3.49e-05	-7.50	0.0	-134.36	-222.00	0.0	0.0	0.0	175.96
		91.30	0.0	0.0	0.0	18.8	-134.36	-225.75	0.0	0.0	0.0	133.98
						37.5	-134.36	-229.50	0.0	0.0	0.0	91.30
11	45	150.40	0.0	4.82e-05	-7.50	0.0	-138.45	-103.97	0.0	0.0	0.0	150.40
		110.00	0.0	0.0	0.0	18.8	-138.45	-107.72	0.0	0.0	0.0	130.55
						37.5	-138.45	-111.47	0.0	0.0	0.0	110.00
11	46	10.87	0.0	-4.29e-05	-7.50	0.0	-29.96	-245.15	0.0	0.0	0.0	10.87
		-82.47	0.0	0.0	0.0	18.8	-29.96	-248.90	0.0	0.0	0.0	-35.45
						37.5	-29.96	-252.65	0.0	0.0	0.0	-82.47
11	47	25.86	0.0	-1.80e-05	-7.50	0.0	-43.40	-173.47	0.0	0.0	0.0	25.86
		-40.59	0.0	0.0	0.0	18.8	-43.40	-177.22	0.0	0.0	0.0	-7.01
						37.5	-43.40	-180.97	0.0	0.0	0.0	-40.59
11	48	11.27	0.0	-3.56e-05	-7.50	0.0	-36.22	-214.98	0.0	0.0	0.0	11.27
		-70.75	0.0	0.0	0.0	18.8	-36.22	-218.73	0.0	0.0	0.0	-29.39
						37.5	-36.22	-222.48	0.0	0.0	0.0	-70.75
11	49	22.52	0.0	-1.69e-05	-7.50	0.0	-46.29	-161.22	0.0	0.0	0.0	22.52
		-39.35	0.0	0.0	0.0	18.8	-46.29	-164.97	0.0	0.0	0.0	-8.06
						37.5	-46.29	-168.72	0.0	0.0	0.0	-39.35
11	50	250.36	0.0	6.07e-05	-7.50	0.0	-141.56	-141.00	0.0	0.0	0.0	250.36
		196.08	0.0	0.0	0.0	18.8	-141.56	-144.75	0.0	0.0	0.0	223.57
						37.5	-141.56	-148.50	0.0	0.0	0.0	196.08
11	51	277.68	0.0	8.64e-05	-7.50	0.0	-163.64	-84.54	0.0	0.0	0.0	277.68
		244.58	0.0	0.0	0.0	18.8	-163.64	-88.29	0.0	0.0	0.0	261.48
						37.5	-163.64	-92.04	0.0	0.0	0.0	244.58
11	52	334.22	0.0	1.15e-04	-7.50	0.0	-196.83	-53.20	0.0	0.0	0.0	334.22
		312.87	0.0	0.0	0.0	18.8	-196.83	-56.95	0.0	0.0	0.0	323.90
						37.5	-196.83	-60.70	0.0	0.0	0.0	312.87
11	53	75.05	0.0	-4.97e-06	-7.50	0.0	-72.31	-208.32	0.0	0.0	0.0	75.05
		-4.47	0.0	0.0	0.0	18.8	-72.31	-212.07	0.0	0.0	0.0	35.64
						37.5	-72.31	-215.82	0.0	0.0	0.0	-4.47
11	54	102.38	0.0	2.07e-05	-7.50	0.0	-94.38	-151.85	0.0	0.0	0.0	102.38
		44.03	0.0	0.0	0.0	18.8	-94.38	-155.60	0.0	0.0	0.0	73.55
						37.5	-94.38	-159.35	0.0	0.0	0.0	44.03
11	55	158.92	0.0	4.89e-05	-7.50	0.0	-127.57	-120.51	0.0	0.0	0.0	158.92
		112.32	0.0	0.0	0.0	18.8	-127.57	-124.26	0.0	0.0	0.0	135.97
						37.5	-127.57	-128.01	0.0	0.0	0.0	112.32
11	56	2.75	0.0	-4.73e-05	-7.50	0.0	-27.28	-245.15	0.0	0.0	0.0	2.75
		-90.59	0.0	0.0	0.0	18.8	-27.28	-248.90	0.0	0.0	0.0	-43.57
						37.5	-27.28	-252.65	0.0	0.0	0.0	-90.59
11	57	17.74	0.0	-2.24e-05	-7.50	0.0	-40.72	-173.47	0.0	0.0	0.0	17.74
		-48.72	0.0	0.0	0.0	18.8	-40.72	-177.22	0.0	0.0	0.0	-15.14
						37.5	-40.72	-180.97	0.0	0.0	0.0	-48.72
11	58	-2.27	0.0	-4.29e-05	-7.50	0.0	-31.75	-214.98	0.0	0.0	0.0	-2.27
		-84.29	0.0	0.0	0.0	18.8	-31.75	-218.73	0.0	0.0	0.0	-42.93
						37.5	-31.75	-222.48	0.0	0.0	0.0	-84.29
11	59	8.98	0.0	-2.42e-05	-7.50	0.0	-41.82	-161.22	0.0	0.0	0.0	8.98
		-52.88	0.0	0.0	0.0	18.8	-41.82	-164.97	0.0	0.0	0.0	-21.60
						37.5	-41.82	-168.72	0.0	0.0	0.0	-52.88
11	60	266.27	0.0	6.92e-05	-7.50	0.0	-146.81	-141.00	0.0	0.0	0.0	266.27
		211.99	0.0	0.0	0.0	18.8	-146.81	-144.75	0.0	0.0	0.0	239.48

						37.5	-146.81	-148.50	0.0	0.0	0.0	211.99
11	61	293.59	0.0	9.49e-05	-7.50	0.0	-168.89	-84.54	0.0	0.0	0.0	293.59
		260.48	0.0	0.0	0.0	18.8	-168.89	-88.29	0.0	0.0	0.0	277.39
						37.5	-168.89	-92.04	0.0	0.0	0.0	260.48
11	62	350.13	0.0	1.23e-04	-7.50	0.0	-202.08	-53.20	0.0	0.0	0.0	350.13
		328.78	0.0	0.0	0.0	18.8	-202.08	-56.95	0.0	0.0	0.0	339.81
						37.5	-202.08	-60.70	0.0	0.0	0.0	328.78
11	63	96.38	0.0	6.48e-06	-7.50	0.0	-79.34	-208.32	0.0	0.0	0.0	96.38
		16.85	0.0	0.0	0.0	18.8	-79.34	-212.07	0.0	0.0	0.0	56.97
						37.5	-79.34	-215.82	0.0	0.0	0.0	16.85
11	64	123.70	0.0	3.22e-05	-7.50	0.0	-101.42	-151.85	0.0	0.0	0.0	123.70
		65.35	0.0	0.0	0.0	18.8	-101.42	-155.60	0.0	0.0	0.0	94.88
						37.5	-101.42	-159.35	0.0	0.0	0.0	65.35
11	65	180.24	0.0	6.03e-05	-7.50	0.0	-134.61	-120.51	0.0	0.0	0.0	180.24
		133.64	0.0	0.0	0.0	18.8	-134.61	-124.26	0.0	0.0	0.0	157.29
						37.5	-134.61	-128.01	0.0	0.0	0.0	133.64
11	66	271.80	0.0	6.77e-05	-7.50	0.0	-149.02	-170.72	0.0	0.0	0.0	271.80
		206.37	0.0	0.0	0.0	18.8	-149.02	-174.47	0.0	0.0	0.0	239.43
						37.5	-149.02	-178.22	0.0	0.0	0.0	206.37
11	67	101.90	0.0	4.98e-06	-7.50	0.0	-81.55	-238.03	0.0	0.0	0.0	101.90
		11.24	0.0	0.0	0.0	18.8	-81.55	-241.78	0.0	0.0	0.0	56.92
						37.5	-81.55	-245.53	0.0	0.0	0.0	11.24
11	68	330.16	0.0	1.16e-04	-7.50	0.0	-206.05	-36.66	0.0	0.0	0.0	330.16
		315.00	0.0	0.0	0.0	18.8	-206.05	-40.41	0.0	0.0	0.0	322.93
						37.5	-206.05	-44.16	0.0	0.0	0.0	315.00
11	69	145.95	0.0	4.58e-05	-7.50	0.0	-140.12	-103.97	0.0	0.0	0.0	145.95
		105.56	0.0	0.0	0.0	18.8	-140.12	-107.72	0.0	0.0	0.0	126.11
						37.5	-140.12	-111.47	0.0	0.0	0.0	105.56
11	70	31.38	0.0	-3.54e-06	-7.50	0.0	-47.92	-124.47	0.0	0.0	0.0	31.38
		-16.70	0.0	0.0	0.0	18.8	-47.92	-128.22	0.0	0.0	0.0	7.69
						37.5	-47.92	-131.97	0.0	0.0	0.0	-16.70
11	71	70.93	0.0	1.54e-05	-7.50	0.0	-78.37	-120.01	0.0	0.0	0.0	70.93
		24.52	0.0	0.0	0.0	18.8	-78.37	-123.76	0.0	0.0	0.0	48.08
						37.5	-78.37	-127.51	0.0	0.0	0.0	24.52
11	72	16.83	0.0	-1.13e-05	-7.50	0.0	-43.11	-124.47	0.0	0.0	0.0	16.83
		-31.26	0.0	0.0	0.0	18.8	-43.11	-128.22	0.0	0.0	0.0	-6.86
						37.5	-43.11	-131.97	0.0	0.0	0.0	-31.26
11	73	85.48	0.0	2.32e-05	-7.50	0.0	-83.18	-120.01	0.0	0.0	0.0	85.48
		39.07	0.0	0.0	0.0	18.8	-83.18	-123.76	0.0	0.0	0.0	62.63
						37.5	-83.18	-127.51	0.0	0.0	0.0	39.07
11	74	67.60	0.0	1.36e-05	-7.50	0.0	-85.10	-120.01	0.0	0.0	0.0	67.60
		21.19	0.0	0.0	0.0	18.8	-85.10	-123.76	0.0	0.0	0.0	44.74
						37.5	-85.10	-127.51	0.0	0.0	0.0	21.19
11	75	111.86	0.0	2.97e-05	-7.50	0.0	-120.76	-125.50	0.0	0.0	0.0	111.86
		63.39	0.0	0.0	0.0	18.8	-120.76	-129.25	0.0	0.0	0.0	87.98
						37.5	-120.76	-133.00	0.0	0.0	0.0	63.39
11	76	276.06	0.0	1.01e-04	-7.50	0.0	-219.45	-81.59	0.0	0.0	0.0	276.06
		244.05	0.0	0.0	0.0	18.8	-219.45	-85.34	0.0	0.0	0.0	260.41
						37.5	-219.45	-89.09	0.0	0.0	0.0	244.05
11	77	97.31	0.0	2.19e-05	-7.50	0.0	-115.96	-125.50	0.0	0.0	0.0	97.31
		48.84	0.0	0.0	0.0	18.8	-115.96	-129.25	0.0	0.0	0.0	73.42
						37.5	-115.96	-133.00	0.0	0.0	0.0	48.84
11	78	290.61	0.0	1.09e-04	-7.50	0.0	-224.25	-81.59	0.0	0.0	0.0	290.61
		258.61	0.0	0.0	0.0	18.8	-224.25	-85.34	0.0	0.0	0.0	274.96
						37.5	-224.25	-89.09	0.0	0.0	0.0	258.61
11	79	272.77	0.0	1.02e-04	-7.50	0.0	-226.49	-73.29	0.0	0.0	0.0	272.77
		243.88	0.0	0.0	0.0	18.8	-226.49	-77.04	0.0	0.0	0.0	258.67

						37.5	-226.49	-80.79	0.0	0.0	0.0	243.88
11	80	137.51	0.0	3.34e-05	-7.50	0.0	-111.06	-168.83	0.0	0.0	0.0	137.51
		72.79	0.0	0.0	0.0	18.8	-111.06	-172.58	0.0	0.0	0.0	105.50
						37.5	-111.06	-176.33	0.0	0.0	0.0	72.79
12	1	211.62	0.0	-1.10e-03	-411.30	0.0	-40.90	203.78	0.0	0.0	0.0	-47.54
		-55.03	0.0	0.0	0.0	200.0	-40.90	-1.87	0.0	0.0	0.0	211.62
						400.0	-40.90	-207.52	0.0	0.0	0.0	-55.03
12	2	95.81	0.0	-4.54e-04	-204.39	0.0	-22.77	100.32	0.0	0.0	0.0	-2.65
		-10.13	0.0	0.0	0.0	200.0	-22.77	-1.87	0.0	0.0	0.0	95.81
						400.0	-22.77	-104.07	0.0	0.0	0.0	-10.13
12	3	187.53	0.0	-8.87e-04	-331.99	0.0	-32.66	164.12	0.0	0.0	0.0	-17.56
		-25.05	0.0	0.0	0.0	200.0	-32.66	-1.87	0.0	0.0	0.0	187.53
						400.0	-32.66	-167.87	0.0	0.0	0.0	-25.05
12	4	100.88	0.0	-4.05e-04	-177.19	0.0	-19.10	86.72	0.0	0.0	0.0	16.03
		8.54	0.0	0.0	0.0	200.0	-19.10	-1.87	0.0	0.0	0.0	100.88
						400.0	-19.10	-90.47	0.0	0.0	0.0	8.54
12	5	158.61	0.0	-8.13e-04	-331.99	0.0	15.04	61.73	0.0	0.0	0.0	114.01
		-303.02	0.0	0.0	0.0	200.0	-59.45	-104.26	0.0	0.0	0.0	114.32
						400.0	-133.94	-270.25	0.0	0.0	0.0	-303.02
12	6	153.12	0.0	-3.87e-04	-177.19	0.0	23.94	-19.31	0.0	0.0	0.0	153.12
		-278.48	0.0	0.0	0.0	200.0	-50.55	-107.90	0.0	0.0	0.0	25.92
						400.0	-125.05	-196.50	0.0	0.0	0.0	-278.48
12	7	183.22	0.0	-3.12e-04	-132.75	0.0	8.27	-56.51	0.0	0.0	0.0	183.22
		-308.33	0.0	0.0	0.0	200.0	-66.22	-122.89	0.0	0.0	0.0	3.82
						400.0	-140.71	-189.26	0.0	0.0	0.0	-308.33
12	8	99.27	0.0	-7.46e-04	-331.99	0.0	-61.44	152.61	0.0	0.0	0.0	-82.79
		-136.33	0.0	0.0	0.0	200.0	-61.44	-13.39	0.0	0.0	0.0	99.27
						400.0	-61.44	-179.38	0.0	0.0	0.0	-136.33
12	9	13.89	0.0	-2.56e-04	-177.19	0.0	-52.55	71.57	0.0	0.0	0.0	-43.68
		-111.79	0.0	0.0	0.0	200.0	-52.55	-17.03	0.0	0.0	0.0	10.86
						400.0	-52.55	-105.62	0.0	0.0	0.0	-111.79
12	10	4.18	0.0	-1.39e-04	-132.75	0.0	-68.21	34.36	0.0	0.0	0.0	-13.59
		-141.64	0.0	0.0	0.0	200.0	-68.21	-32.01	0.0	0.0	0.0	-11.24
						400.0	-68.21	-98.39	0.0	0.0	0.0	-141.64
12	11	199.99	0.0	-1.01e-03	-411.30	0.0	-47.20	203.78	0.0	0.0	0.0	-59.17
		-66.66	0.0	0.0	0.0	200.0	-47.20	-1.87	0.0	0.0	0.0	199.99
						400.0	-47.20	-207.52	0.0	0.0	0.0	-66.66
12	12	84.18	0.0	-3.63e-04	-204.39	0.0	-29.07	100.32	0.0	0.0	0.0	-14.27
		-21.76	0.0	0.0	0.0	200.0	-29.07	-1.87	0.0	0.0	0.0	84.18
						400.0	-29.07	-104.07	0.0	0.0	0.0	-21.76
12	13	171.94	0.0	-7.65e-04	-331.99	0.0	-41.11	164.12	0.0	0.0	0.0	-33.15
		-40.63	0.0	0.0	0.0	200.0	-41.11	-1.87	0.0	0.0	0.0	171.94
						400.0	-41.11	-167.87	0.0	0.0	0.0	-40.63
12	14	85.29	0.0	-2.84e-04	-177.19	0.0	-27.54	86.72	0.0	0.0	0.0	0.44
		-7.05	0.0	0.0	0.0	200.0	-27.54	-1.87	0.0	0.0	0.0	85.29
						400.0	-27.54	-90.47	0.0	0.0	0.0	-7.05
12	15	170.24	0.0	-8.98e-04	-331.99	0.0	21.34	61.73	0.0	0.0	0.0	125.64
		-291.40	0.0	0.0	0.0	200.0	-53.15	-104.26	0.0	0.0	0.0	125.95
						400.0	-127.64	-270.25	0.0	0.0	0.0	-291.40
12	16	164.75	0.0	-4.65e-04	-177.19	0.0	30.24	-19.31	0.0	0.0	0.0	164.75
		-266.85	0.0	0.0	0.0	200.0	-44.25	-107.90	0.0	0.0	0.0	37.55
						400.0	-118.74	-196.50	0.0	0.0	0.0	-266.85
12	17	194.84	0.0	-3.80e-04	-132.75	0.0	14.57	-56.51	0.0	0.0	0.0	194.84
		-296.70	0.0	0.0	0.0	200.0	-59.92	-122.89	0.0	0.0	0.0	15.45
						400.0	-134.41	-189.26	0.0	0.0	0.0	-296.70
12	18	114.86	0.0	-8.68e-04	-331.99	0.0	-53.00	152.61	0.0	0.0	0.0	-67.20
		-120.75	0.0	0.0	0.0	200.0	-53.00	-13.39	0.0	0.0	0.0	114.86

						400.0	-53.00	-179.38	0.0	0.0	0.0	-120.75
12	19	29.48	0.0	-3.76e-04	-177.19	0.0	-44.10	71.57	0.0	0.0	0.0	-28.09
		-96.20	0.0	0.0	0.0	200.0	-44.10	-17.03	0.0	0.0	0.0	26.45
						400.0	-44.10	-105.62	0.0	0.0	0.0	-96.20
12	20	19.77	0.0	-2.54e-04	-132.75	0.0	-59.77	34.36	0.0	0.0	0.0	2.00
		-126.05	0.0	0.0	0.0	200.0	-59.77	-32.01	0.0	0.0	0.0	4.35
						400.0	-59.77	-98.39	0.0	0.0	0.0	-126.05
12	21	184.58	0.0	-8.31e-04	-331.99	0.0	24.31	101.75	0.0	0.0	0.0	141.66
		-286.65	0.0	0.0	0.0	200.0	-50.18	-139.39	0.0	0.0	0.0	104.02
						400.0	-124.68	-230.24	0.0	0.0	0.0	-286.65
12	22	102.11	0.0	-7.58e-04	-331.99	0.0	-50.03	192.63	0.0	0.0	0.0	-51.18
		-116.00	0.0	0.0	0.0	200.0	-50.03	-48.52	0.0	0.0	0.0	92.92
						400.0	-50.03	-139.36	0.0	0.0	0.0	-116.00
12	23	241.94	0.0	-2.74e-04	-71.40	0.0	20.78	-87.18	0.0	0.0	0.0	241.94
		-249.60	0.0	0.0	0.0	200.0	-53.72	-122.88	0.0	0.0	0.0	31.87
						400.0	-128.21	-158.58	0.0	0.0	0.0	-249.60
12	24	75.61	0.0	-1.10e-04	-71.40	0.0	-51.72	3.69	0.0	0.0	0.0	75.25
		-52.79	0.0	0.0	0.0	200.0	-51.72	-32.01	0.0	0.0	0.0	46.93
						400.0	-51.72	-67.71	0.0	0.0	0.0	-52.79
12	25	144.50	0.0	-6.93e-04	-331.99	0.0	16.36	21.65	0.0	0.0	0.0	137.60
		-268.45	0.0	0.0	0.0	200.0	-58.14	-69.20	0.0	0.0	0.0	111.09
						400.0	-132.63	-310.34	0.0	0.0	0.0	-268.45
12	26	171.96	0.0	-3.76e-04	-177.19	0.0	22.29	-19.38	0.0	0.0	0.0	171.96
		-259.92	0.0	0.0	0.0	200.0	-52.21	-107.97	0.0	0.0	0.0	44.61
						400.0	-126.70	-196.57	0.0	0.0	0.0	-259.92
12	27	146.83	0.0	-9.34e-04	-411.30	0.0	-55.43	245.75	0.0	0.0	0.0	-49.61
		-118.23	0.0	0.0	0.0	200.0	-55.43	-60.35	0.0	0.0	0.0	135.79
						400.0	-55.43	-165.55	0.0	0.0	0.0	-118.23
12	28	50.29	0.0	-4.15e-04	-204.39	0.0	-45.93	85.17	0.0	0.0	0.0	-20.61
		-88.72	0.0	0.0	0.0	200.0	-45.93	-17.03	0.0	0.0	0.0	47.53
						400.0	-45.93	-119.22	0.0	0.0	0.0	-88.72
12	29	238.91	0.0	-3.14e-04	-96.39	0.0	19.58	-74.69	0.0	0.0	0.0	238.91
		-252.64	0.0	0.0	0.0	200.0	-54.91	-122.89	0.0	0.0	0.0	41.33
						400.0	-129.41	-171.08	0.0	0.0	0.0	-252.64
12	30	128.82	0.0	-6.52e-04	-307.00	0.0	-6.19	62.71	0.0	0.0	0.0	78.13
		-285.04	0.0	0.0	0.0	200.0	-80.68	-90.79	0.0	0.0	0.0	92.88
						400.0	-155.17	-244.29	0.0	0.0	0.0	-285.04
12	31	108.19	0.0	-2.16e-04	-152.20	0.0	-1.96	-14.69	0.0	0.0	0.0	108.19
		-254.97	0.0	0.0	0.0	200.0	-76.45	-90.79	0.0	0.0	0.0	2.71
						400.0	-150.95	-166.89	0.0	0.0	0.0	-254.97
12	32	102.53	0.0	2.79e-04	-107.76	0.0	-36.03	-36.91	0.0	0.0	0.0	102.53
		-260.64	0.0	0.0	0.0	200.0	-110.53	-90.79	0.0	0.0	0.0	-25.18
						400.0	-185.02	-144.67	0.0	0.0	0.0	-260.64
12	33	235.16	0.0	-2.40e-04	-96.39	0.0	14.94	-74.76	0.0	0.0	0.0	235.16
		-256.67	0.0	0.0	0.0	200.0	-59.56	-122.96	0.0	0.0	0.0	37.44
						400.0	-134.05	-171.15	0.0	0.0	0.0	-256.67
12	34	128.36	0.0	-6.39e-04	-246.35	0.0	-29.70	121.31	0.0	0.0	0.0	-22.89
		-30.36	0.0	0.0	0.0	200.0	-29.70	-1.87	0.0	0.0	0.0	128.36
						400.0	-29.70	-125.04	0.0	0.0	0.0	-30.36
12	35	62.31	0.0	-2.67e-04	-131.40	0.0	-25.92	58.92	0.0	0.0	0.0	9.50
		-17.61	0.0	0.0	0.0	200.0	-25.92	-6.78	0.0	0.0	0.0	61.64
						400.0	-25.92	-72.48	0.0	0.0	0.0	-17.61
12	36	81.85	0.0	-5.51e-04	-246.35	0.0	-46.30	114.64	0.0	0.0	0.0	-56.07
		-90.19	0.0	0.0	0.0	200.0	-46.30	-8.53	0.0	0.0	0.0	81.85
						400.0	-46.30	-131.70	0.0	0.0	0.0	-90.19
12	37	18.06	0.0	-1.87e-04	-131.40	0.0	-39.69	54.47	0.0	0.0	0.0	-27.03
		-71.96	0.0	0.0	0.0	200.0	-39.69	-11.23	0.0	0.0	0.0	16.20

						400.0	-39.69	-76.93	0.0	0.0	0.0	-71.96
12	38	9.86	0.0	-9.94e-05	-98.40	0.0	-51.32	26.84	0.0	0.0	0.0	-4.68
		-94.13	0.0	0.0	0.0	200.0	-51.32	-22.36	0.0	0.0	0.0	-0.21
						400.0	-51.32	-71.56	0.0	0.0	0.0	-94.13
12	39	118.67	0.0	-5.63e-04	-246.35	0.0	-34.95	121.31	0.0	0.0	0.0	-32.58
		-40.05	0.0	0.0	0.0	200.0	-34.95	-1.87	0.0	0.0	0.0	118.67
						400.0	-34.95	-125.04	0.0	0.0	0.0	-40.05
12	40	54.32	0.0	-2.06e-04	-131.40	0.0	-24.87	63.83	0.0	0.0	0.0	-7.64
		-15.11	0.0	0.0	0.0	200.0	-24.87	-1.87	0.0	0.0	0.0	54.32
						400.0	-24.87	-67.57	0.0	0.0	0.0	-15.11
12	41	91.54	0.0	-6.27e-04	-246.35	0.0	-41.04	114.64	0.0	0.0	0.0	-46.38
		-80.50	0.0	0.0	0.0	200.0	-41.04	-8.53	0.0	0.0	0.0	91.54
						400.0	-41.04	-131.70	0.0	0.0	0.0	-80.50
12	42	27.75	0.0	-2.61e-04	-131.40	0.0	-34.44	54.47	0.0	0.0	0.0	-17.34
		-62.27	0.0	0.0	0.0	200.0	-34.44	-11.23	0.0	0.0	0.0	25.89
						400.0	-34.44	-76.93	0.0	0.0	0.0	-62.27
12	43	19.55	0.0	-1.70e-04	-98.40	0.0	-46.07	26.84	0.0	0.0	0.0	5.01
		-84.44	0.0	0.0	0.0	200.0	-46.07	-22.36	0.0	0.0	0.0	9.48
						400.0	-46.07	-71.56	0.0	0.0	0.0	-84.44
12	44	82.73	0.0	-4.98e-04	-246.35	0.0	-58.81	128.32	0.0	0.0	0.0	-9.08
		-115.72	0.0	0.0	0.0	200.0	-58.81	-50.66	0.0	0.0	0.0	68.59
						400.0	-58.81	-118.03	0.0	0.0	0.0	-115.72
12	45	46.27	0.0	-1.05e-04	-71.40	0.0	-42.10	13.34	0.0	0.0	0.0	41.29
		-48.16	0.0	0.0	0.0	200.0	-42.10	-22.36	0.0	0.0	0.0	32.27
						400.0	-42.10	-58.06	0.0	0.0	0.0	-48.16
12	46	157.15	0.0	-8.02e-04	-304.67	0.0	-34.29	150.46	0.0	0.0	0.0	-33.86
		-41.34	0.0	0.0	0.0	200.0	-34.29	-1.87	0.0	0.0	0.0	157.15
						400.0	-34.29	-154.20	0.0	0.0	0.0	-41.34
12	47	71.36	0.0	-3.25e-04	-151.40	0.0	-20.86	73.83	0.0	0.0	0.0	-0.61
		-8.08	0.0	0.0	0.0	200.0	-20.86	-1.87	0.0	0.0	0.0	71.36
						400.0	-20.86	-77.57	0.0	0.0	0.0	-8.08
12	48	140.90	0.0	-6.48e-04	-246.35	0.0	-28.04	121.31	0.0	0.0	0.0	-10.34
		-17.82	0.0	0.0	0.0	200.0	-28.04	-1.87	0.0	0.0	0.0	140.90
						400.0	-28.04	-125.04	0.0	0.0	0.0	-17.82
12	49	76.56	0.0	-2.91e-04	-131.40	0.0	-17.96	63.83	0.0	0.0	0.0	14.60
		7.12	0.0	0.0	0.0	200.0	-17.96	-1.87	0.0	0.0	0.0	76.56
						400.0	-17.96	-67.57	0.0	0.0	0.0	7.12
12	50	113.57	0.0	-5.92e-04	-246.35	0.0	8.88	47.33	0.0	0.0	0.0	78.56
		-224.82	0.0	0.0	0.0	200.0	-46.30	-75.84	0.0	0.0	0.0	81.85
						400.0	-101.48	-199.02	0.0	0.0	0.0	-224.82
12	51	107.60	0.0	-2.76e-04	-131.40	0.0	15.49	-12.85	0.0	0.0	0.0	107.60
		-206.59	0.0	0.0	0.0	200.0	-39.69	-78.55	0.0	0.0	0.0	16.20
						400.0	-94.87	-144.25	0.0	0.0	0.0	-206.59
12	52	129.95	0.0	-2.21e-04	-98.40	0.0	3.86	-40.48	0.0	0.0	0.0	129.95
		-228.76	0.0	0.0	0.0	200.0	-51.32	-89.68	0.0	0.0	0.0	-0.21
						400.0	-106.50	-138.88	0.0	0.0	0.0	-228.76
12	53	69.31	0.0	-5.42e-04	-246.35	0.0	-47.96	114.64	0.0	0.0	0.0	-68.62
		-102.74	0.0	0.0	0.0	200.0	-47.96	-8.53	0.0	0.0	0.0	69.31
						400.0	-47.96	-131.70	0.0	0.0	0.0	-102.74
12	54	5.51	0.0	-1.78e-04	-131.40	0.0	-41.35	54.47	0.0	0.0	0.0	-39.57
		-84.51	0.0	0.0	0.0	200.0	-41.35	-11.23	0.0	0.0	0.0	3.66
						400.0	-41.35	-76.93	0.0	0.0	0.0	-84.51
12	55	-2.69	0.0	-9.09e-05	-98.40	0.0	-52.98	26.84	0.0	0.0	0.0	-17.23
		-106.68	0.0	0.0	0.0	200.0	-52.98	-22.36	0.0	0.0	0.0	-12.75
						400.0	-52.98	-71.56	0.0	0.0	0.0	-106.68
12	56	152.20	0.0	-7.64e-04	-304.67	0.0	-36.97	150.46	0.0	0.0	0.0	-38.81
		-46.29	0.0	0.0	0.0	200.0	-36.97	-1.87	0.0	0.0	0.0	152.20

						400.0	-36.97	-154.20	0.0	0.0	0.0	-46.29
12	57	66.41	0.0	-2.87e-04	-151.40	0.0	-23.54	73.83	0.0	0.0	0.0	-5.56
		-13.03	0.0	0.0	0.0	200.0	-23.54	-1.87	0.0	0.0	0.0	66.41
						400.0	-23.54	-77.57	0.0	0.0	0.0	-13.03
12	58	132.66	0.0	-5.84e-04	-246.35	0.0	-32.51	121.31	0.0	0.0	0.0	-18.59
		-26.06	0.0	0.0	0.0	200.0	-32.51	-1.87	0.0	0.0	0.0	132.66
						400.0	-32.51	-125.04	0.0	0.0	0.0	-26.06
12	59	68.31	0.0	-2.26e-04	-131.40	0.0	-22.43	63.83	0.0	0.0	0.0	6.35
		-1.12	0.0	0.0	0.0	200.0	-22.43	-1.87	0.0	0.0	0.0	68.31
						400.0	-22.43	-67.57	0.0	0.0	0.0	-1.12
12	60	123.26	0.0	-6.63e-04	-246.35	0.0	14.14	47.33	0.0	0.0	0.0	88.25
		-215.13	0.0	0.0	0.0	200.0	-41.04	-75.84	0.0	0.0	0.0	91.54
						400.0	-96.22	-199.02	0.0	0.0	0.0	-215.13
12	61	117.29	0.0	-3.41e-04	-131.40	0.0	20.74	-12.85	0.0	0.0	0.0	117.29
		-196.90	0.0	0.0	0.0	200.0	-34.44	-78.55	0.0	0.0	0.0	25.89
						400.0	-89.62	-144.25	0.0	0.0	0.0	-196.90
12	62	139.64	0.0	-2.77e-04	-98.40	0.0	9.11	-40.48	0.0	0.0	0.0	139.64
		-219.07	0.0	0.0	0.0	200.0	-46.07	-89.68	0.0	0.0	0.0	9.48
						400.0	-101.25	-138.88	0.0	0.0	0.0	-219.07
12	63	82.30	0.0	-6.43e-04	-246.35	0.0	-40.92	114.64	0.0	0.0	0.0	-55.63
		-89.75	0.0	0.0	0.0	200.0	-40.92	-8.53	0.0	0.0	0.0	82.30
						400.0	-40.92	-131.70	0.0	0.0	0.0	-89.75
12	64	18.50	0.0	-2.78e-04	-131.40	0.0	-34.31	54.47	0.0	0.0	0.0	-26.59
		-71.52	0.0	0.0	0.0	200.0	-34.31	-11.23	0.0	0.0	0.0	16.65
						400.0	-34.31	-76.93	0.0	0.0	0.0	-71.52
12	65	10.30	0.0	-1.86e-04	-98.40	0.0	-45.95	26.84	0.0	0.0	0.0	-4.24
		-93.69	0.0	0.0	0.0	200.0	-45.95	-22.36	0.0	0.0	0.0	0.24
						400.0	-45.95	-71.56	0.0	0.0	0.0	-93.69
12	66	133.31	0.0	-6.17e-04	-246.35	0.0	16.34	77.05	0.0	0.0	0.0	100.15
		-211.60	0.0	0.0	0.0	200.0	-38.84	-101.93	0.0	0.0	0.0	75.26
						400.0	-94.02	-169.30	0.0	0.0	0.0	-211.60
12	67	72.20	0.0	-5.65e-04	-246.35	0.0	-38.72	144.36	0.0	0.0	0.0	-43.73
		-86.22	0.0	0.0	0.0	200.0	-38.72	-34.62	0.0	0.0	0.0	66.01
						400.0	-38.72	-101.99	0.0	0.0	0.0	-86.22
12	68	175.92	0.0	-2.28e-04	-71.40	0.0	13.08	-53.98	0.0	0.0	0.0	175.92
		-182.79	0.0	0.0	0.0	200.0	-42.10	-89.68	0.0	0.0	0.0	32.27
						400.0	-97.28	-125.38	0.0	0.0	0.0	-182.79
12	69	58.82	0.0	-1.14e-04	-71.40	0.0	-40.44	13.34	0.0	0.0	0.0	53.84
		-35.61	0.0	0.0	0.0	200.0	-40.44	-22.36	0.0	0.0	0.0	44.81
						400.0	-40.44	-58.06	0.0	0.0	0.0	-35.61
12	70	38.85	0.0	-1.47e-04	-71.40	0.0	-16.34	33.83	0.0	0.0	0.0	6.89
		-0.58	0.0	0.0	0.0	200.0	-16.34	-1.87	0.0	0.0	0.0	38.85
						400.0	-16.34	-37.57	0.0	0.0	0.0	-0.58
12	71	0.76	0.0	-7.15e-05	-71.40	0.0	-29.28	29.38	0.0	0.0	0.0	-23.36
		-48.66	0.0	0.0	0.0	200.0	-29.28	-6.32	0.0	0.0	0.0	-0.31
						400.0	-29.28	-42.02	0.0	0.0	0.0	-48.66
12	72	29.99	0.0	-7.80e-05	-71.40	0.0	-21.14	33.83	0.0	0.0	0.0	-1.97
		-9.45	0.0	0.0	0.0	200.0	-21.14	-1.87	0.0	0.0	0.0	29.99
						400.0	-21.14	-37.57	0.0	0.0	0.0	-9.45
12	73	9.63	0.0	-1.40e-04	-71.40	0.0	-24.47	29.38	0.0	0.0	0.0	-14.49
		-39.79	0.0	0.0	0.0	200.0	-24.47	-6.32	0.0	0.0	0.0	8.56
						400.0	-24.47	-42.02	0.0	0.0	0.0	-39.79
12	74	36.87	0.0	-1.30e-04	-71.40	0.0	-22.55	29.38	0.0	0.0	0.0	12.75
		-12.55	0.0	0.0	0.0	200.0	-22.55	-6.32	0.0	0.0	0.0	35.80
						400.0	-22.55	-42.02	0.0	0.0	0.0	-12.55
12	75	36.92	0.0	-9.69e-05	-82.20	0.0	-40.12	26.43	0.0	0.0	0.0	19.94
		-38.76	0.0	0.0	0.0	200.0	-43.36	-14.67	0.0	0.0	0.0	31.69

						400.0	-46.60	-55.77	0.0	0.0	0.0	-38.76
12	76	44.18	0.0	1.67e-04	-74.64	0.0	-65.65	-11.57	0.0	0.0	0.0	44.18
		-151.39	0.0	0.0	0.0	200.0	-76.45	-48.89	0.0	0.0	0.0	-16.28
						400.0	-87.25	-86.21	0.0	0.0	0.0	-151.39
12	77	28.05	0.0	-3.35e-05	-82.20	0.0	-44.92	26.43	0.0	0.0	0.0	11.08
		-47.62	0.0	0.0	0.0	200.0	-48.16	-14.67	0.0	0.0	0.0	22.83
						400.0	-51.40	-55.77	0.0	0.0	0.0	-47.62
12	78	53.05	0.0	1.17e-04	-74.64	0.0	-60.85	-11.57	0.0	0.0	0.0	53.05
		-142.53	0.0	0.0	0.0	200.0	-71.65	-48.89	0.0	0.0	0.0	-7.42
						400.0	-82.45	-86.21	0.0	0.0	0.0	-142.53
12	79	81.09	0.0	1.33e-04	-68.16	0.0	-58.61	-14.81	0.0	0.0	0.0	81.09
		-114.49	0.0	0.0	0.0	200.0	-69.41	-48.89	0.0	0.0	0.0	17.38
						400.0	-80.21	-82.97	0.0	0.0	0.0	-114.49
12	80	29.40	0.0	-3.40e-04	-163.40	0.0	-39.64	67.85	0.0	0.0	0.0	-26.87
		-82.28	0.0	0.0	0.0	200.0	-39.64	-13.85	0.0	0.0	0.0	27.13
						400.0	-39.64	-95.55	0.0	0.0	0.0	-82.28
13	1	0.0	0.0	-7.43e-05	-37.48	0.0	0.0	40.08	0.0	0.0	0.0	-12.02
		-12.02	0.0	0.0	0.0	21.3	0.0	34.34	0.0	0.0	0.0	-4.11
						42.5	0.0	2.60	0.0	0.0	0.0	0.0
13	2	0.0	0.0	-3.87e-05	-37.48	0.0	0.0	40.08	0.0	0.0	0.0	-12.02
		-12.02	0.0	0.0	0.0	21.3	0.0	34.34	0.0	0.0	0.0	-4.11
						42.5	0.0	2.60	0.0	0.0	0.0	0.0
13	3	0.0	0.0	-6.41e-05	-37.48	0.0	0.0	40.08	0.0	0.0	0.0	-12.02
		-12.02	0.0	0.0	0.0	21.3	0.0	34.34	0.0	0.0	0.0	-4.11
						42.5	0.0	2.60	0.0	0.0	0.0	0.0
13	4	0.0	0.0	-3.75e-05	-37.48	0.0	0.0	40.08	0.0	0.0	0.0	-12.02
		-12.02	0.0	0.0	0.0	21.3	0.0	34.34	0.0	0.0	0.0	-4.11
						42.5	0.0	2.60	0.0	0.0	0.0	0.0
13	5	0.0	0.0	-1.93e-04	-37.48	0.0	0.0	40.08	0.0	0.0	0.0	-12.02
		-12.02	0.0	0.0	0.0	21.3	0.0	34.34	0.0	0.0	0.0	-4.11
						42.5	0.0	2.60	0.0	0.0	0.0	0.0
13	6	0.0	0.0	-1.72e-04	-37.48	0.0	0.0	40.08	0.0	0.0	0.0	-12.02
		-12.02	0.0	0.0	0.0	21.3	0.0	34.34	0.0	0.0	0.0	-4.11
						42.5	0.0	2.60	0.0	0.0	0.0	0.0
13	7	0.0	0.0	-1.87e-04	-37.48	0.0	0.0	40.08	0.0	0.0	0.0	-12.02
		-12.02	0.0	0.0	0.0	21.3	0.0	34.34	0.0	0.0	0.0	-4.11
						42.5	0.0	2.60	0.0	0.0	0.0	0.0
13	8	0.0	0.0	-7.41e-05	-37.48	0.0	0.0	40.08	0.0	0.0	0.0	-12.02
		-12.02	0.0	0.0	0.0	21.3	0.0	34.34	0.0	0.0	0.0	-4.11
						42.5	0.0	2.60	0.0	0.0	0.0	0.0
13	9	0.0	0.0	-5.35e-05	-37.48	0.0	0.0	40.08	0.0	0.0	0.0	-12.02
		-12.02	0.0	0.0	0.0	21.3	0.0	34.34	0.0	0.0	0.0	-4.11
						42.5	0.0	2.60	0.0	0.0	0.0	0.0
13	10	0.0	0.0	-6.83e-05	-37.48	0.0	0.0	40.08	0.0	0.0	0.0	-12.02
		-12.02	0.0	0.0	0.0	21.3	0.0	34.34	0.0	0.0	0.0	-4.11
						42.5	0.0	2.60	0.0	0.0	0.0	0.0
13	11	0.0	0.0	-8.71e-05	-37.48	0.0	0.0	40.08	0.0	0.0	0.0	-12.02
		-12.02	0.0	0.0	0.0	21.3	0.0	34.34	0.0	0.0	0.0	-4.11
						42.5	0.0	2.60	0.0	0.0	0.0	0.0
13	12	0.0	0.0	-5.15e-05	-37.48	0.0	0.0	40.08	0.0	0.0	0.0	-12.02
		-12.02	0.0	0.0	0.0	21.3	0.0	34.34	0.0	0.0	0.0	-4.11
						42.5	0.0	2.60	0.0	0.0	0.0	0.0
13	13	0.0	0.0	-8.12e-05	-37.48	0.0	0.0	40.08	0.0	0.0	0.0	-12.02
		-12.02	0.0	0.0	0.0	21.3	0.0	34.34	0.0	0.0	0.0	-4.11
						42.5	0.0	2.60	0.0	0.0	0.0	0.0
13	14	0.0	0.0	-5.46e-05	-37.48	0.0	0.0	40.08	0.0	0.0	0.0	-12.02
		-12.02	0.0	0.0	0.0	21.3	0.0	34.34	0.0	0.0	0.0	-4.11

						42.5	0.0	2.60	0.0	0.0	0.0	0.0
13	15	0.0	0.0	-1.80e-04	-37.48	0.0	0.0	40.08	0.0	0.0	0.0	-12.02
		-12.02	0.0	0.0	0.0	21.3	0.0	34.34	0.0	0.0	0.0	-4.11
						42.5	0.0	2.60	0.0	0.0	0.0	0.0
13	16	0.0	0.0	-1.59e-04	-37.48	0.0	0.0	40.08	0.0	0.0	0.0	-12.02
		-12.02	0.0	0.0	0.0	21.3	0.0	34.34	0.0	0.0	0.0	-4.11
						42.5	0.0	2.60	0.0	0.0	0.0	0.0
13	17	0.0	0.0	-1.74e-04	-37.48	0.0	0.0	40.08	0.0	0.0	0.0	-12.02
		-12.02	0.0	0.0	0.0	21.3	0.0	34.34	0.0	0.0	0.0	-4.11
						42.5	0.0	2.60	0.0	0.0	0.0	0.0
13	18	0.0	0.0	-5.70e-05	-37.48	0.0	0.0	40.08	0.0	0.0	0.0	-12.02
		-12.02	0.0	0.0	0.0	21.3	0.0	34.34	0.0	0.0	0.0	-4.11
						42.5	0.0	2.60	0.0	0.0	0.0	0.0
13	19	0.0	0.0	-3.64e-05	-37.48	0.0	0.0	40.08	0.0	0.0	0.0	-12.02
		-12.02	0.0	0.0	0.0	21.3	0.0	34.34	0.0	0.0	0.0	-4.11
						42.5	0.0	2.60	0.0	0.0	0.0	0.0
13	20	0.0	0.0	-5.12e-05	-37.48	0.0	0.0	40.08	0.0	0.0	0.0	-12.02
		-12.02	0.0	0.0	0.0	21.3	0.0	34.34	0.0	0.0	0.0	-4.11
						42.5	0.0	2.60	0.0	0.0	0.0	0.0
13	21	0.0	0.0	-1.74e-04	-37.48	0.0	0.0	40.08	0.0	0.0	0.0	-12.02
		-12.02	0.0	0.0	0.0	21.3	0.0	34.34	0.0	0.0	0.0	-4.11
						42.5	0.0	2.60	0.0	0.0	0.0	0.0
13	22	0.0	0.0	-5.13e-05	-37.48	0.0	0.0	40.08	0.0	0.0	0.0	-12.02
		-12.02	0.0	0.0	0.0	21.3	0.0	34.34	0.0	0.0	0.0	-4.11
						42.5	0.0	2.60	0.0	0.0	0.0	0.0
13	23	0.0	0.0	-1.77e-04	-27.76	0.0	0.0	29.69	0.0	0.0	0.0	-8.90
		-8.90	0.0	0.0	0.0	21.3	0.0	25.44	0.0	0.0	0.0	-3.05
						42.5	0.0	1.93	0.0	0.0	0.0	0.0
13	24	0.0	0.0	-6.51e-05	-27.76	0.0	0.0	29.69	0.0	0.0	0.0	-8.90
		-8.90	0.0	0.0	0.0	21.3	0.0	25.44	0.0	0.0	0.0	-3.05
						42.5	0.0	1.93	0.0	0.0	0.0	0.0
13	25	0.0	0.0	-1.55e-04	-37.48	0.0	0.0	40.08	0.0	0.0	0.0	-12.02
		-12.02	0.0	0.0	0.0	21.3	0.0	34.34	0.0	0.0	0.0	-4.11
						42.5	0.0	2.60	0.0	0.0	0.0	0.0
13	26	0.0	0.0	-1.34e-04	-37.48	0.0	0.0	40.08	0.0	0.0	0.0	-12.02
		-12.02	0.0	0.0	0.0	21.3	0.0	34.34	0.0	0.0	0.0	-4.11
						42.5	0.0	2.60	0.0	0.0	0.0	0.0
13	27	0.0	0.0	-7.10e-05	-37.48	0.0	0.0	40.08	0.0	0.0	0.0	-12.02
		-12.02	0.0	0.0	0.0	21.3	0.0	34.34	0.0	0.0	0.0	-4.11
						42.5	0.0	2.60	0.0	0.0	0.0	0.0
13	28	0.0	0.0	-4.91e-05	-37.48	0.0	0.0	40.08	0.0	0.0	0.0	-12.02
		-12.02	0.0	0.0	0.0	21.3	0.0	34.34	0.0	0.0	0.0	-4.11
						42.5	0.0	2.60	0.0	0.0	0.0	0.0
13	29	0.0	0.0	-1.85e-04	-37.48	0.0	0.0	40.08	0.0	0.0	0.0	-12.02
		-12.02	0.0	0.0	0.0	21.3	0.0	34.34	0.0	0.0	0.0	-4.11
						42.5	0.0	2.60	0.0	0.0	0.0	0.0
13	30	0.0	0.0	-8.30e-05	-27.76	0.0	0.0	29.69	0.0	0.0	0.0	-8.90
		-8.90	0.0	0.0	0.0	21.3	0.0	25.44	0.0	0.0	0.0	-3.05
						42.5	0.0	1.93	0.0	0.0	0.0	0.0
13	31	0.0	0.0	-5.05e-05	-27.76	0.0	0.0	29.69	0.0	0.0	0.0	-8.90
		-8.90	0.0	0.0	0.0	21.3	0.0	25.44	0.0	0.0	0.0	-3.05
						42.5	0.0	1.93	0.0	0.0	0.0	0.0
13	32	0.0	0.0	-2.73e-05	-27.76	0.0	0.0	29.69	0.0	0.0	0.0	-8.90
		-8.90	0.0	0.0	0.0	21.3	0.0	25.44	0.0	0.0	0.0	-3.05
						42.5	0.0	1.93	0.0	0.0	0.0	0.0
13	33	0.0	0.0	-1.41e-04	-37.48	0.0	0.0	40.08	0.0	0.0	0.0	-12.02
		-12.02	0.0	0.0	0.0	21.3	0.0	34.34	0.0	0.0	0.0	-4.11

						42.5	0.0	2.60	0.0	0.0	0.0	0.0
13	34	0.0	0.0	-4.18e-05	-27.76	0.0	0.0	29.69	0.0	0.0	0.0	-8.90
		-8.90	0.0	0.0	0.0	21.3	0.0	25.44	0.0	0.0	0.0	-3.05
						42.5	0.0	1.93	0.0	0.0	0.0	0.0
13	35	0.0	0.0	-3.01e-05	-27.76	0.0	0.0	29.69	0.0	0.0	0.0	-8.90
		-8.90	0.0	0.0	0.0	21.3	0.0	25.44	0.0	0.0	0.0	-3.05
						42.5	0.0	1.93	0.0	0.0	0.0	0.0
13	36	0.0	0.0	-5.06e-05	-27.76	0.0	0.0	29.69	0.0	0.0	0.0	-8.90
		-8.90	0.0	0.0	0.0	21.3	0.0	25.44	0.0	0.0	0.0	-3.05
						42.5	0.0	1.93	0.0	0.0	0.0	0.0
13	37	0.0	0.0	-3.53e-05	-27.76	0.0	0.0	29.69	0.0	0.0	0.0	-8.90
		-8.90	0.0	0.0	0.0	21.3	0.0	25.44	0.0	0.0	0.0	-3.05
						42.5	0.0	1.93	0.0	0.0	0.0	0.0
13	38	0.0	0.0	-4.63e-05	-27.76	0.0	0.0	29.69	0.0	0.0	0.0	-8.90
		-8.90	0.0	0.0	0.0	21.3	0.0	25.44	0.0	0.0	0.0	-3.05
						42.5	0.0	1.93	0.0	0.0	0.0	0.0
13	39	0.0	0.0	-5.25e-05	-27.76	0.0	0.0	29.69	0.0	0.0	0.0	-8.90
		-8.90	0.0	0.0	0.0	21.3	0.0	25.44	0.0	0.0	0.0	-3.05
						42.5	0.0	1.93	0.0	0.0	0.0	0.0
13	40	0.0	0.0	-3.27e-05	-27.76	0.0	0.0	29.69	0.0	0.0	0.0	-8.90
		-8.90	0.0	0.0	0.0	21.3	0.0	25.44	0.0	0.0	0.0	-3.05
						42.5	0.0	1.93	0.0	0.0	0.0	0.0
13	41	0.0	0.0	-3.99e-05	-27.76	0.0	0.0	29.69	0.0	0.0	0.0	-8.90
		-8.90	0.0	0.0	0.0	21.3	0.0	25.44	0.0	0.0	0.0	-3.05
						42.5	0.0	1.93	0.0	0.0	0.0	0.0
13	42	0.0	0.0	-2.46e-05	-27.76	0.0	0.0	29.69	0.0	0.0	0.0	-8.90
		-8.90	0.0	0.0	0.0	21.3	0.0	25.44	0.0	0.0	0.0	-3.05
						42.5	0.0	1.93	0.0	0.0	0.0	0.0
13	43	0.0	0.0	-3.56e-05	-27.76	0.0	0.0	29.69	0.0	0.0	0.0	-8.90
		-8.90	0.0	0.0	0.0	21.3	0.0	25.44	0.0	0.0	0.0	-3.05
						42.5	0.0	1.93	0.0	0.0	0.0	0.0
13	44	0.0	0.0	-6.06e-05	-27.76	0.0	0.0	29.69	0.0	0.0	0.0	-8.90
		-8.90	0.0	0.0	0.0	21.3	0.0	25.44	0.0	0.0	0.0	-3.05
						42.5	0.0	1.93	0.0	0.0	0.0	0.0
13	45	0.0	0.0	-4.52e-05	-27.76	0.0	0.0	29.69	0.0	0.0	0.0	-8.90
		-8.90	0.0	0.0	0.0	21.3	0.0	25.44	0.0	0.0	0.0	-3.05
						42.5	0.0	1.93	0.0	0.0	0.0	0.0
13	46	0.0	0.0	-5.20e-05	-27.76	0.0	0.0	29.69	0.0	0.0	0.0	-8.90
		-8.90	0.0	0.0	0.0	21.3	0.0	25.44	0.0	0.0	0.0	-3.05
						42.5	0.0	1.93	0.0	0.0	0.0	0.0
13	47	0.0	0.0	-2.56e-05	-27.76	0.0	0.0	29.69	0.0	0.0	0.0	-8.90
		-8.90	0.0	0.0	0.0	21.3	0.0	25.44	0.0	0.0	0.0	-3.05
						42.5	0.0	1.93	0.0	0.0	0.0	0.0
13	48	0.0	0.0	-4.48e-05	-27.76	0.0	0.0	29.69	0.0	0.0	0.0	-8.90
		-8.90	0.0	0.0	0.0	21.3	0.0	25.44	0.0	0.0	0.0	-3.05
						42.5	0.0	1.93	0.0	0.0	0.0	0.0
13	49	0.0	0.0	-2.50e-05	-27.76	0.0	0.0	29.69	0.0	0.0	0.0	-8.90
		-8.90	0.0	0.0	0.0	21.3	0.0	25.44	0.0	0.0	0.0	-3.05
						42.5	0.0	1.93	0.0	0.0	0.0	0.0
13	50	0.0	0.0	-1.36e-04	-27.76	0.0	0.0	29.69	0.0	0.0	0.0	-8.90
		-8.90	0.0	0.0	0.0	21.3	0.0	25.44	0.0	0.0	0.0	-3.05
						42.5	0.0	1.93	0.0	0.0	0.0	0.0
13	51	0.0	0.0	-1.21e-04	-27.76	0.0	0.0	29.69	0.0	0.0	0.0	-8.90
		-8.90	0.0	0.0	0.0	21.3	0.0	25.44	0.0	0.0	0.0	-3.05
						42.5	0.0	1.93	0.0	0.0	0.0	0.0
13	52	0.0	0.0	-1.32e-04	-27.76	0.0	0.0	29.69	0.0	0.0	0.0	-8.90
		-8.90	0.0	0.0	0.0	21.3	0.0	25.44	0.0	0.0	0.0	-3.05

						42.5	0.0	1.93	0.0	0.0	0.0	0.0
13	53	0.0	0.0	-4.76e-05	-27.76	0.0	0.0	29.69	0.0	0.0	0.0	-8.90
		-8.90	0.0	0.0	0.0	21.3	0.0	25.44	0.0	0.0	0.0	-3.05
						42.5	0.0	1.93	0.0	0.0	0.0	0.0
13	54	0.0	0.0	-3.23e-05	-27.76	0.0	0.0	29.69	0.0	0.0	0.0	-8.90
		-8.90	0.0	0.0	0.0	21.3	0.0	25.44	0.0	0.0	0.0	-3.05
						42.5	0.0	1.93	0.0	0.0	0.0	0.0
13	55	0.0	0.0	-4.33e-05	-27.76	0.0	0.0	29.69	0.0	0.0	0.0	-8.90
		-8.90	0.0	0.0	0.0	21.3	0.0	25.44	0.0	0.0	0.0	-3.05
						42.5	0.0	1.93	0.0	0.0	0.0	0.0
13	56	0.0	0.0	-5.74e-05	-27.76	0.0	0.0	29.69	0.0	0.0	0.0	-8.90
		-8.90	0.0	0.0	0.0	21.3	0.0	25.44	0.0	0.0	0.0	-3.05
						42.5	0.0	1.93	0.0	0.0	0.0	0.0
13	57	0.0	0.0	-3.10e-05	-27.76	0.0	0.0	29.69	0.0	0.0	0.0	-8.90
		-8.90	0.0	0.0	0.0	21.3	0.0	25.44	0.0	0.0	0.0	-3.05
						42.5	0.0	1.93	0.0	0.0	0.0	0.0
13	58	0.0	0.0	-5.38e-05	-27.76	0.0	0.0	29.69	0.0	0.0	0.0	-8.90
		-8.90	0.0	0.0	0.0	21.3	0.0	25.44	0.0	0.0	0.0	-3.05
						42.5	0.0	1.93	0.0	0.0	0.0	0.0
13	59	0.0	0.0	-3.41e-05	-27.76	0.0	0.0	29.69	0.0	0.0	0.0	-8.90
		-8.90	0.0	0.0	0.0	21.3	0.0	25.44	0.0	0.0	0.0	-3.05
						42.5	0.0	1.93	0.0	0.0	0.0	0.0
13	60	0.0	0.0	-1.25e-04	-27.76	0.0	0.0	29.69	0.0	0.0	0.0	-8.90
		-8.90	0.0	0.0	0.0	21.3	0.0	25.44	0.0	0.0	0.0	-3.05
						42.5	0.0	1.93	0.0	0.0	0.0	0.0
13	61	0.0	0.0	-1.10e-04	-27.76	0.0	0.0	29.69	0.0	0.0	0.0	-8.90
		-8.90	0.0	0.0	0.0	21.3	0.0	25.44	0.0	0.0	0.0	-3.05
						42.5	0.0	1.93	0.0	0.0	0.0	0.0
13	62	0.0	0.0	-1.21e-04	-27.76	0.0	0.0	29.69	0.0	0.0	0.0	-8.90
		-8.90	0.0	0.0	0.0	21.3	0.0	25.44	0.0	0.0	0.0	-3.05
						42.5	0.0	1.93	0.0	0.0	0.0	0.0
13	63	0.0	0.0	-3.34e-05	-27.76	0.0	0.0	29.69	0.0	0.0	0.0	-8.90
		-8.90	0.0	0.0	0.0	21.3	0.0	25.44	0.0	0.0	0.0	-3.05
						42.5	0.0	1.93	0.0	0.0	0.0	0.0
13	64	0.0	0.0	-1.80e-05	-27.76	0.0	0.0	29.69	0.0	0.0	0.0	-8.90
		-8.90	0.0	0.0	0.0	21.3	0.0	25.44	0.0	0.0	0.0	-3.05
						42.5	0.0	1.93	0.0	0.0	0.0	0.0
13	65	0.0	0.0	-2.91e-05	-27.76	0.0	0.0	29.69	0.0	0.0	0.0	-8.90
		-8.90	0.0	0.0	0.0	21.3	0.0	25.44	0.0	0.0	0.0	-3.05
						42.5	0.0	1.93	0.0	0.0	0.0	0.0
13	66	0.0	0.0	-1.21e-04	-27.76	0.0	0.0	29.69	0.0	0.0	0.0	-8.90
		-8.90	0.0	0.0	0.0	21.3	0.0	25.44	0.0	0.0	0.0	-3.05
						42.5	0.0	1.93	0.0	0.0	0.0	0.0
13	67	0.0	0.0	-2.91e-05	-27.76	0.0	0.0	29.69	0.0	0.0	0.0	-8.90
		-8.90	0.0	0.0	0.0	21.3	0.0	25.44	0.0	0.0	0.0	-3.05
						42.5	0.0	1.93	0.0	0.0	0.0	0.0
13	68	0.0	0.0	-1.31e-04	-27.76	0.0	0.0	29.69	0.0	0.0	0.0	-8.90
		-8.90	0.0	0.0	0.0	21.3	0.0	25.44	0.0	0.0	0.0	-3.05
						42.5	0.0	1.93	0.0	0.0	0.0	0.0
13	69	0.0	0.0	-4.82e-05	-27.76	0.0	0.0	29.69	0.0	0.0	0.0	-8.90
		-8.90	0.0	0.0	0.0	21.3	0.0	25.44	0.0	0.0	0.0	-3.05
						42.5	0.0	1.93	0.0	0.0	0.0	0.0
13	70	0.0	0.0	-1.07e-05	-27.76	0.0	0.0	29.69	0.0	0.0	0.0	-8.90
		-8.90	0.0	0.0	0.0	21.3	0.0	25.44	0.0	0.0	0.0	-3.05
						42.5	0.0	1.93	0.0	0.0	0.0	0.0
13	71	0.0	0.0	-1.73e-05	-27.76	0.0	0.0	29.69	0.0	0.0	0.0	-8.90
		-8.90	0.0	0.0	0.0	21.3	0.0	25.44	0.0	0.0	0.0	-3.05

						42.5	0.0	1.93	0.0	0.0	0.0	0.0
13	72	0.0	0.0	-2.05e-05	-27.76	0.0	0.0	29.69	0.0	0.0	0.0	-8.90
		-8.90	0.0	0.0	0.0	21.3	0.0	25.44	0.0	0.0	0.0	-3.05
						42.5	0.0	1.93	0.0	0.0	0.0	0.0
13	73	0.0	0.0	-7.60e-06	-27.76	0.0	0.0	29.69	0.0	0.0	0.0	-8.90
		-8.90	0.0	0.0	0.0	21.3	0.0	25.44	0.0	0.0	0.0	-3.05
						42.5	0.0	1.93	0.0	0.0	0.0	0.0
13	74	0.0	0.0	-1.95e-05	-27.76	0.0	0.0	29.69	0.0	0.0	0.0	-8.90
		-8.90	0.0	0.0	0.0	21.3	0.0	25.44	0.0	0.0	0.0	-3.05
						42.5	0.0	1.93	0.0	0.0	0.0	0.0
13	75	0.0	0.0	-1.65e-05	-27.76	0.0	0.0	29.69	0.0	0.0	0.0	-8.90
		-8.90	0.0	0.0	0.0	21.3	0.0	25.44	0.0	0.0	0.0	-3.05
						42.5	0.0	1.93	0.0	0.0	0.0	0.0
13	76	0.0	0.0	-6.70e-05	-27.76	0.0	0.0	29.69	0.0	0.0	0.0	-8.90
		-8.90	0.0	0.0	0.0	21.3	0.0	25.44	0.0	0.0	0.0	-3.05
						42.5	0.0	1.93	0.0	0.0	0.0	0.0
13	77	0.0	0.0	-2.62e-05	-27.76	0.0	0.0	29.69	0.0	0.0	0.0	-8.90
		-8.90	0.0	0.0	0.0	21.3	0.0	25.44	0.0	0.0	0.0	-3.05
						42.5	0.0	1.93	0.0	0.0	0.0	0.0
13	78	0.0	0.0	-5.72e-05	-27.76	0.0	0.0	29.69	0.0	0.0	0.0	-8.90
		-8.90	0.0	0.0	0.0	21.3	0.0	25.44	0.0	0.0	0.0	-3.05
						42.5	0.0	1.93	0.0	0.0	0.0	0.0
13	79	0.0	0.0	-6.73e-05	-27.76	0.0	0.0	29.69	0.0	0.0	0.0	-8.90
		-8.90	0.0	0.0	0.0	21.3	0.0	25.44	0.0	0.0	0.0	-3.05
						42.5	0.0	1.93	0.0	0.0	0.0	0.0
13	80	0.0	0.0	-2.80e-05	-27.76	0.0	0.0	29.69	0.0	0.0	0.0	-8.90
		-8.90	0.0	0.0	0.0	21.3	0.0	25.44	0.0	0.0	0.0	-3.05
						42.5	0.0	1.93	0.0	0.0	0.0	0.0
14	1	0.0	0.0	-6.18e-05	-37.48	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-10.89	0.0	0.0	0.0	21.3	0.0	-31.74	0.0	0.0	0.0	-3.53
						42.5	0.0	-37.48	0.0	0.0	0.0	-10.89
14	2	0.0	0.0	-2.62e-05	-37.48	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-10.89	0.0	0.0	0.0	21.3	0.0	-31.74	0.0	0.0	0.0	-3.53
						42.5	0.0	-37.48	0.0	0.0	0.0	-10.89
14	3	0.0	0.0	-5.16e-05	-37.48	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-10.89	0.0	0.0	0.0	21.3	0.0	-31.74	0.0	0.0	0.0	-3.53
						42.5	0.0	-37.48	0.0	0.0	0.0	-10.89
14	4	0.0	0.0	-2.50e-05	-37.48	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-10.89	0.0	0.0	0.0	21.3	0.0	-31.74	0.0	0.0	0.0	-3.53
						42.5	0.0	-37.48	0.0	0.0	0.0	-10.89
14	5	0.0	0.0	1.22e-04	-37.48	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-10.89	0.0	0.0	0.0	21.3	0.0	-31.74	0.0	0.0	0.0	-3.53
						42.5	0.0	-37.48	0.0	0.0	0.0	-10.89
14	6	0.0	0.0	1.60e-04	-37.48	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-10.89	0.0	0.0	0.0	21.3	0.0	-31.74	0.0	0.0	0.0	-3.53
						42.5	0.0	-37.48	0.0	0.0	0.0	-10.89
14	7	0.0	0.0	2.06e-04	-37.48	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-10.89	0.0	0.0	0.0	21.3	0.0	-31.74	0.0	0.0	0.0	-3.53
						42.5	0.0	-37.48	0.0	0.0	0.0	-10.89
14	8	0.0	0.0	1.03e-05	-37.48	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-10.89	0.0	0.0	0.0	21.3	0.0	-31.74	0.0	0.0	0.0	-3.53
						42.5	0.0	-37.48	0.0	0.0	0.0	-10.89
14	9	0.0	0.0	4.88e-05	-37.48	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-10.89	0.0	0.0	0.0	21.3	0.0	-31.74	0.0	0.0	0.0	-3.53
						42.5	0.0	-37.48	0.0	0.0	0.0	-10.89
14	10	0.0	0.0	9.48e-05	-37.48	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-10.89	0.0	0.0	0.0	21.3	0.0	-31.74	0.0	0.0	0.0	-3.53

						42.5	0.0	-37.48	0.0	0.0	0.0	-10.89
14	11	0.0	0.0	-7.46e-05	-37.48	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-10.89	0.0	0.0	0.0	21.3	0.0	-31.74	0.0	0.0	0.0	-3.53
						42.5	0.0	-37.48	0.0	0.0	0.0	-10.89
14	12	0.0	0.0	-3.90e-05	-37.48	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-10.89	0.0	0.0	0.0	21.3	0.0	-31.74	0.0	0.0	0.0	-3.53
						42.5	0.0	-37.48	0.0	0.0	0.0	-10.89
14	13	0.0	0.0	-6.87e-05	-37.48	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-10.89	0.0	0.0	0.0	21.3	0.0	-31.74	0.0	0.0	0.0	-3.53
						42.5	0.0	-37.48	0.0	0.0	0.0	-10.89
14	14	0.0	0.0	-4.21e-05	-37.48	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-10.89	0.0	0.0	0.0	21.3	0.0	-31.74	0.0	0.0	0.0	-3.53
						42.5	0.0	-37.48	0.0	0.0	0.0	-10.89
14	15	0.0	0.0	1.35e-04	-37.48	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-10.89	0.0	0.0	0.0	21.3	0.0	-31.74	0.0	0.0	0.0	-3.53
						42.5	0.0	-37.48	0.0	0.0	0.0	-10.89
14	16	0.0	0.0	1.73e-04	-37.48	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-10.89	0.0	0.0	0.0	21.3	0.0	-31.74	0.0	0.0	0.0	-3.53
						42.5	0.0	-37.48	0.0	0.0	0.0	-10.89
14	17	0.0	0.0	2.19e-04	-37.48	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-10.89	0.0	0.0	0.0	21.3	0.0	-31.74	0.0	0.0	0.0	-3.53
						42.5	0.0	-37.48	0.0	0.0	0.0	-10.89
14	18	0.0	0.0	2.74e-05	-37.48	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-10.89	0.0	0.0	0.0	21.3	0.0	-31.74	0.0	0.0	0.0	-3.53
						42.5	0.0	-37.48	0.0	0.0	0.0	-10.89
14	19	0.0	0.0	6.59e-05	-37.48	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-10.89	0.0	0.0	0.0	21.3	0.0	-31.74	0.0	0.0	0.0	-3.53
						42.5	0.0	-37.48	0.0	0.0	0.0	-10.89
14	20	0.0	0.0	1.12e-04	-37.48	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-10.89	0.0	0.0	0.0	21.3	0.0	-31.74	0.0	0.0	0.0	-3.53
						42.5	0.0	-37.48	0.0	0.0	0.0	-10.89
14	21	0.0	0.0	1.34e-04	-37.48	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-10.89	0.0	0.0	0.0	21.3	0.0	-31.74	0.0	0.0	0.0	-3.53
						42.5	0.0	-37.48	0.0	0.0	0.0	-10.89
14	22	0.0	0.0	2.71e-05	-37.48	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-10.89	0.0	0.0	0.0	21.3	0.0	-31.74	0.0	0.0	0.0	-3.53
						42.5	0.0	-37.48	0.0	0.0	0.0	-10.89
14	23	0.0	0.0	2.17e-04	-27.76	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-8.07	0.0	0.0	0.0	21.3	0.0	-23.51	0.0	0.0	0.0	-2.62
						42.5	0.0	-27.76	0.0	0.0	0.0	-8.07
14	24	0.0	0.0	9.78e-05	-27.76	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-8.07	0.0	0.0	0.0	21.3	0.0	-23.51	0.0	0.0	0.0	-2.62
						42.5	0.0	-27.76	0.0	0.0	0.0	-8.07
14	25	0.0	0.0	1.70e-04	-37.48	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-10.89	0.0	0.0	0.0	21.3	0.0	-31.74	0.0	0.0	0.0	-3.53
						42.5	0.0	-37.48	0.0	0.0	0.0	-10.89
14	26	0.0	0.0	2.03e-04	-37.48	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-10.89	0.0	0.0	0.0	21.3	0.0	-31.74	0.0	0.0	0.0	-3.53
						42.5	0.0	-37.48	0.0	0.0	0.0	-10.89
14	27	0.0	0.0	-5.35e-06	-37.48	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-10.89	0.0	0.0	0.0	21.3	0.0	-31.74	0.0	0.0	0.0	-3.53
						42.5	0.0	-37.48	0.0	0.0	0.0	-10.89
14	28	0.0	0.0	5.32e-05	-37.48	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-10.89	0.0	0.0	0.0	21.3	0.0	-31.74	0.0	0.0	0.0	-3.53
						42.5	0.0	-37.48	0.0	0.0	0.0	-10.89
14	29	0.0	0.0	2.08e-04	-37.48	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-10.89	0.0	0.0	0.0	21.3	0.0	-31.74	0.0	0.0	0.0	-3.53

						42.5	0.0	-37.48	0.0	0.0	0.0	-10.89
14	30	0.0	0.0	1.43e-04	-27.76	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-8.07	0.0	0.0	0.0	21.3	0.0	-23.51	0.0	0.0	0.0	-2.62
						42.5	0.0	-27.76	0.0	0.0	0.0	-8.07
14	31	0.0	0.0	1.76e-04	-27.76	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-8.07	0.0	0.0	0.0	21.3	0.0	-23.51	0.0	0.0	0.0	-2.62
						42.5	0.0	-27.76	0.0	0.0	0.0	-8.07
14	32	0.0	0.0	1.99e-04	-27.76	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-8.07	0.0	0.0	0.0	21.3	0.0	-23.51	0.0	0.0	0.0	-2.62
						42.5	0.0	-27.76	0.0	0.0	0.0	-8.07
14	33	0.0	0.0	2.56e-04	-37.48	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-10.89	0.0	0.0	0.0	21.3	0.0	-31.74	0.0	0.0	0.0	-3.53
						42.5	0.0	-37.48	0.0	0.0	0.0	-10.89
14	34	0.0	0.0	-2.96e-05	-27.76	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-8.07	0.0	0.0	0.0	21.3	0.0	-23.51	0.0	0.0	0.0	-2.62
						42.5	0.0	-27.76	0.0	0.0	0.0	-8.07
14	35	0.0	0.0	6.19e-06	-27.76	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-8.07	0.0	0.0	0.0	21.3	0.0	-23.51	0.0	0.0	0.0	-2.62
						42.5	0.0	-27.76	0.0	0.0	0.0	-8.07
14	36	0.0	0.0	-2.79e-06	-27.76	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-8.07	0.0	0.0	0.0	21.3	0.0	-23.51	0.0	0.0	0.0	-2.62
						42.5	0.0	-27.76	0.0	0.0	0.0	-8.07
14	37	0.0	0.0	3.14e-05	-27.76	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-8.07	0.0	0.0	0.0	21.3	0.0	-23.51	0.0	0.0	0.0	-2.62
						42.5	0.0	-27.76	0.0	0.0	0.0	-8.07
14	38	0.0	0.0	6.55e-05	-27.76	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-8.07	0.0	0.0	0.0	21.3	0.0	-23.51	0.0	0.0	0.0	-2.62
						42.5	0.0	-27.76	0.0	0.0	0.0	-8.07
14	39	0.0	0.0	-4.02e-05	-27.76	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-8.07	0.0	0.0	0.0	21.3	0.0	-23.51	0.0	0.0	0.0	-2.62
						42.5	0.0	-27.76	0.0	0.0	0.0	-8.07
14	40	0.0	0.0	-2.04e-05	-27.76	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-8.07	0.0	0.0	0.0	21.3	0.0	-23.51	0.0	0.0	0.0	-2.62
						42.5	0.0	-27.76	0.0	0.0	0.0	-8.07
14	41	0.0	0.0	1.34e-05	-27.76	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-8.07	0.0	0.0	0.0	21.3	0.0	-23.51	0.0	0.0	0.0	-2.62
						42.5	0.0	-27.76	0.0	0.0	0.0	-8.07
14	42	0.0	0.0	4.20e-05	-27.76	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-8.07	0.0	0.0	0.0	21.3	0.0	-23.51	0.0	0.0	0.0	-2.62
						42.5	0.0	-27.76	0.0	0.0	0.0	-8.07
14	43	0.0	0.0	7.61e-05	-27.76	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-8.07	0.0	0.0	0.0	21.3	0.0	-23.51	0.0	0.0	0.0	-2.62
						42.5	0.0	-27.76	0.0	0.0	0.0	-8.07
14	44	0.0	0.0	5.75e-05	-27.76	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-8.07	0.0	0.0	0.0	21.3	0.0	-23.51	0.0	0.0	0.0	-2.62
						42.5	0.0	-27.76	0.0	0.0	0.0	-8.07
14	45	0.0	0.0	6.65e-05	-27.76	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-8.07	0.0	0.0	0.0	21.3	0.0	-23.51	0.0	0.0	0.0	-2.62
						42.5	0.0	-27.76	0.0	0.0	0.0	-8.07
14	46	0.0	0.0	-3.97e-05	-27.76	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-8.07	0.0	0.0	0.0	21.3	0.0	-23.51	0.0	0.0	0.0	-2.62
						42.5	0.0	-27.76	0.0	0.0	0.0	-8.07
14	47	0.0	0.0	-1.33e-05	-27.76	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-8.07	0.0	0.0	0.0	21.3	0.0	-23.51	0.0	0.0	0.0	-2.62
						42.5	0.0	-27.76	0.0	0.0	0.0	-8.07
14	48	0.0	0.0	-3.25e-05	-27.76	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-8.07	0.0	0.0	0.0	21.3	0.0	-23.51	0.0	0.0	0.0	-2.62

						42.5	0.0	-27.76	0.0	0.0	0.0	-8.07
14	49	0.0	0.0	-1.27e-05	-27.76	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-8.07	0.0	0.0	0.0	21.3	0.0	-23.51	0.0	0.0	0.0	-2.62
						42.5	0.0	-27.76	0.0	0.0	0.0	-8.07
14	50	0.0	0.0	8.81e-05	-27.76	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-8.07	0.0	0.0	0.0	21.3	0.0	-23.51	0.0	0.0	0.0	-2.62
						42.5	0.0	-27.76	0.0	0.0	0.0	-8.07
14	51	0.0	0.0	1.17e-04	-27.76	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-8.07	0.0	0.0	0.0	21.3	0.0	-23.51	0.0	0.0	0.0	-2.62
						42.5	0.0	-27.76	0.0	0.0	0.0	-8.07
14	52	0.0	0.0	1.51e-04	-27.76	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-8.07	0.0	0.0	0.0	21.3	0.0	-23.51	0.0	0.0	0.0	-2.62
						42.5	0.0	-27.76	0.0	0.0	0.0	-8.07
14	53	0.0	0.0	-5.75e-06	-27.76	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-8.07	0.0	0.0	0.0	21.3	0.0	-23.51	0.0	0.0	0.0	-2.62
						42.5	0.0	-27.76	0.0	0.0	0.0	-8.07
14	54	0.0	0.0	3.43e-05	-27.76	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-8.07	0.0	0.0	0.0	21.3	0.0	-23.51	0.0	0.0	0.0	-2.62
						42.5	0.0	-27.76	0.0	0.0	0.0	-8.07
14	55	0.0	0.0	6.85e-05	-27.76	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-8.07	0.0	0.0	0.0	21.3	0.0	-23.51	0.0	0.0	0.0	-2.62
						42.5	0.0	-27.76	0.0	0.0	0.0	-8.07
14	56	0.0	0.0	-4.51e-05	-27.76	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-8.07	0.0	0.0	0.0	21.3	0.0	-23.51	0.0	0.0	0.0	-2.62
						42.5	0.0	-27.76	0.0	0.0	0.0	-8.07
14	57	0.0	0.0	-1.87e-05	-27.76	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-8.07	0.0	0.0	0.0	21.3	0.0	-23.51	0.0	0.0	0.0	-2.62
						42.5	0.0	-27.76	0.0	0.0	0.0	-8.07
14	58	0.0	0.0	-4.16e-05	-27.76	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-8.07	0.0	0.0	0.0	21.3	0.0	-23.51	0.0	0.0	0.0	-2.62
						42.5	0.0	-27.76	0.0	0.0	0.0	-8.07
14	59	0.0	0.0	-2.18e-05	-27.76	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-8.07	0.0	0.0	0.0	21.3	0.0	-23.51	0.0	0.0	0.0	-2.62
						42.5	0.0	-27.76	0.0	0.0	0.0	-8.07
14	60	0.0	0.0	9.87e-05	-27.76	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-8.07	0.0	0.0	0.0	21.3	0.0	-23.51	0.0	0.0	0.0	-2.62
						42.5	0.0	-27.76	0.0	0.0	0.0	-8.07
14	61	0.0	0.0	1.27e-04	-27.76	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-8.07	0.0	0.0	0.0	21.3	0.0	-23.51	0.0	0.0	0.0	-2.62
						42.5	0.0	-27.76	0.0	0.0	0.0	-8.07
14	62	0.0	0.0	1.61e-04	-27.76	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-8.07	0.0	0.0	0.0	21.3	0.0	-23.51	0.0	0.0	0.0	-2.62
						42.5	0.0	-27.76	0.0	0.0	0.0	-8.07
14	63	0.0	0.0	2.00e-05	-27.76	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-8.07	0.0	0.0	0.0	21.3	0.0	-23.51	0.0	0.0	0.0	-2.62
						42.5	0.0	-27.76	0.0	0.0	0.0	-8.07
14	64	0.0	0.0	4.86e-05	-27.76	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-8.07	0.0	0.0	0.0	21.3	0.0	-23.51	0.0	0.0	0.0	-2.62
						42.5	0.0	-27.76	0.0	0.0	0.0	-8.07
14	65	0.0	0.0	8.27e-05	-27.76	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-8.07	0.0	0.0	0.0	21.3	0.0	-23.51	0.0	0.0	0.0	-2.62
						42.5	0.0	-27.76	0.0	0.0	0.0	-8.07
14	66	0.0	0.0	9.85e-05	-27.76	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-8.07	0.0	0.0	0.0	21.3	0.0	-23.51	0.0	0.0	0.0	-2.62
						42.5	0.0	-27.76	0.0	0.0	0.0	-8.07
14	67	0.0	0.0	1.98e-05	-27.76	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-8.07	0.0	0.0	0.0	21.3	0.0	-23.51	0.0	0.0	0.0	-2.62

						42.5	0.0	-27.76	0.0	0.0	0.0	-8.07
14	68	0.0	0.0	1.52e-04	-27.76	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-8.07	0.0	0.0	0.0	21.3	0.0	-23.51	0.0	0.0	0.0	-2.62
						42.5	0.0	-27.76	0.0	0.0	0.0	-8.07
14	69	0.0	0.0	6.36e-05	-27.76	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-8.07	0.0	0.0	0.0	21.3	0.0	-23.51	0.0	0.0	0.0	-2.62
						42.5	0.0	-27.76	0.0	0.0	0.0	-8.07
14	70	0.0	0.0	-1.56e-06	-27.76	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-8.07	0.0	0.0	0.0	21.3	0.0	-23.51	0.0	0.0	0.0	-2.62
						42.5	0.0	-27.76	0.0	0.0	0.0	-8.07
14	71	0.0	0.0	2.52e-05	-27.76	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-8.07	0.0	0.0	0.0	21.3	0.0	-23.51	0.0	0.0	0.0	-2.62
						42.5	0.0	-27.76	0.0	0.0	0.0	-8.07
14	72	0.0	0.0	-8.17e-06	-27.76	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-8.07	0.0	0.0	0.0	21.3	0.0	-23.51	0.0	0.0	0.0	-2.62
						42.5	0.0	-27.76	0.0	0.0	0.0	-8.07
14	73	0.0	0.0	3.50e-05	-27.76	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-8.07	0.0	0.0	0.0	21.3	0.0	-23.51	0.0	0.0	0.0	-2.62
						42.5	0.0	-27.76	0.0	0.0	0.0	-8.07
14	74	0.0	0.0	2.30e-05	-27.76	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-8.07	0.0	0.0	0.0	21.3	0.0	-23.51	0.0	0.0	0.0	-2.62
						42.5	0.0	-27.76	0.0	0.0	0.0	-8.07
14	75	0.0	0.0	4.41e-05	-27.76	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-8.07	0.0	0.0	0.0	21.3	0.0	-23.51	0.0	0.0	0.0	-2.62
						42.5	0.0	-27.76	0.0	0.0	0.0	-8.07
14	76	0.0	0.0	1.33e-04	-27.76	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-8.07	0.0	0.0	0.0	21.3	0.0	-23.51	0.0	0.0	0.0	-2.62
						42.5	0.0	-27.76	0.0	0.0	0.0	-8.07
14	77	0.0	0.0	3.44e-05	-27.76	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-8.07	0.0	0.0	0.0	21.3	0.0	-23.51	0.0	0.0	0.0	-2.62
						42.5	0.0	-27.76	0.0	0.0	0.0	-8.07
14	78	0.0	0.0	1.43e-04	-27.76	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-8.07	0.0	0.0	0.0	21.3	0.0	-23.51	0.0	0.0	0.0	-2.62
						42.5	0.0	-27.76	0.0	0.0	0.0	-8.07
14	79	0.0	0.0	1.33e-04	-27.76	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-8.07	0.0	0.0	0.0	21.3	0.0	-23.51	0.0	0.0	0.0	-2.62
						42.5	0.0	-27.76	0.0	0.0	0.0	-8.07
14	80	0.0	0.0	5.14e-05	-27.76	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-8.07	0.0	0.0	0.0	21.3	0.0	-23.51	0.0	0.0	0.0	-2.62
						42.5	0.0	-27.76	0.0	0.0	0.0	-8.07
15	1	-79.00	0.0	1.15e-04	-105.39	0.0	-12.84	41.21	0.0	0.0	0.0	-108.76
		-151.25	0.0	0.0	0.0	185.0	-12.84	-11.48	0.0	0.0	0.0	-81.26
						370.0	-12.84	-64.18	0.0	0.0	0.0	-151.25
15	2	-26.47	0.0	4.82e-05	-105.39	0.0	-32.61	41.21	0.0	0.0	0.0	-56.24
		-98.72	0.0	0.0	0.0	185.0	-32.61	-11.48	0.0	0.0	0.0	-28.74
						370.0	-32.61	-64.18	0.0	0.0	0.0	-98.72
15	3	-63.53	0.0	9.53e-05	-105.39	0.0	-21.55	41.21	0.0	0.0	0.0	-93.29
		-135.78	0.0	0.0	0.0	185.0	-21.55	-11.48	0.0	0.0	0.0	-65.79
						370.0	-21.55	-64.18	0.0	0.0	0.0	-135.78
15	4	-24.23	0.0	4.54e-05	-105.39	0.0	-36.34	41.21	0.0	0.0	0.0	-53.99
		-96.48	0.0	0.0	0.0	185.0	-36.34	-11.48	0.0	0.0	0.0	-26.49
						370.0	-36.34	-64.18	0.0	0.0	0.0	-96.48
15	5	443.43	0.0	1.28e-04	-105.39	0.0	-44.75	-232.04	0.0	0.0	0.0	443.43
		-610.10	0.0	0.0	0.0	185.0	-44.75	-284.74	0.0	0.0	0.0	-34.59
						370.0	-44.75	-337.43	0.0	0.0	0.0	-610.10
15	6	517.36	0.0	9.28e-05	-105.39	0.0	-65.40	-248.56	0.0	0.0	0.0	517.36
		-597.29	0.0	0.0	0.0	185.0	-65.40	-301.26	0.0	0.0	0.0	8.78

						370.0	-65.40	-353.96	0.0	0.0	0.0	-597.29
15	7	641.97	0.0	-1.26e-04	-105.39	0.0	-80.61	-303.75	0.0	0.0	0.0	641.97
		-676.90	0.0	0.0	0.0	185.0	-80.61	-356.45	0.0	0.0	0.0	31.28
						370.0	-80.61	-409.15	0.0	0.0	0.0	-676.90
15	8	68.87	0.0	6.35e-05	-105.39	0.0	-42.91	-26.90	0.0	0.0	0.0	68.87
		-225.63	0.0	0.0	0.0	185.0	-42.91	-79.59	0.0	0.0	0.0	-29.63
						370.0	-42.91	-132.29	0.0	0.0	0.0	-225.63
15	9	142.80	0.0	-3.18e-05	-105.39	0.0	-63.57	-43.42	0.0	0.0	0.0	142.80
		-212.82	0.0	0.0	0.0	185.0	-63.57	-96.11	0.0	0.0	0.0	13.73
						370.0	-63.57	-148.81	0.0	0.0	0.0	-212.82
15	10	267.40	0.0	-7.00e-05	-105.39	0.0	-78.78	-98.61	0.0	0.0	0.0	267.40
		-292.43	0.0	0.0	0.0	185.0	-78.78	-151.31	0.0	0.0	0.0	36.23
						370.0	-78.78	-204.00	0.0	0.0	0.0	-292.43
15	11	-96.74	0.0	1.38e-04	-105.39	0.0	-5.98	41.21	0.0	0.0	0.0	-126.51
		-168.99	0.0	0.0	0.0	185.0	-5.98	-11.48	0.0	0.0	0.0	-99.00
						370.0	-5.98	-64.18	0.0	0.0	0.0	-168.99
15	12	-44.21	0.0	7.06e-05	-105.39	0.0	-25.75	41.21	0.0	0.0	0.0	-73.98
		-116.46	0.0	0.0	0.0	185.0	-25.75	-11.48	0.0	0.0	0.0	-46.48
						370.0	-25.75	-64.18	0.0	0.0	0.0	-116.46
15	13	-87.31	0.0	1.26e-04	-105.39	0.0	-12.36	41.21	0.0	0.0	0.0	-117.07
		-159.56	0.0	0.0	0.0	185.0	-12.36	-11.48	0.0	0.0	0.0	-89.57
						370.0	-12.36	-64.18	0.0	0.0	0.0	-159.56
15	14	-48.01	0.0	7.54e-05	-105.39	0.0	-27.16	41.21	0.0	0.0	0.0	-77.77
		-120.26	0.0	0.0	0.0	185.0	-27.16	-11.48	0.0	0.0	0.0	-50.27
						370.0	-27.16	-64.18	0.0	0.0	0.0	-120.26
15	15	461.17	0.0	1.10e-04	-105.39	0.0	-51.60	-232.04	0.0	0.0	0.0	461.17
		-592.36	0.0	0.0	0.0	185.0	-51.60	-284.74	0.0	0.0	0.0	-16.85
						370.0	-51.60	-337.43	0.0	0.0	0.0	-592.36
15	16	535.10	0.0	-1.05e-04	-105.39	0.0	-72.26	-248.56	0.0	0.0	0.0	535.10
		-579.55	0.0	0.0	0.0	185.0	-72.26	-301.26	0.0	0.0	0.0	26.52
						370.0	-72.26	-353.96	0.0	0.0	0.0	-579.55
15	17	659.71	0.0	-1.43e-04	-105.39	0.0	-87.46	-303.75	0.0	0.0	0.0	659.71
		-659.16	0.0	0.0	0.0	185.0	-87.46	-356.45	0.0	0.0	0.0	49.02
						370.0	-87.46	-409.15	0.0	0.0	0.0	-659.16
15	18	92.65	0.0	3.92e-05	-105.39	0.0	-52.10	-26.90	0.0	0.0	0.0	92.65
		-201.85	0.0	0.0	0.0	185.0	-52.10	-79.59	0.0	0.0	0.0	-5.85
						370.0	-52.10	-132.29	0.0	0.0	0.0	-201.85
15	19	166.58	0.0	-5.55e-05	-105.39	0.0	-72.75	-43.42	0.0	0.0	0.0	166.58
		-189.04	0.0	0.0	0.0	185.0	-72.75	-96.11	0.0	0.0	0.0	37.51
						370.0	-72.75	-148.81	0.0	0.0	0.0	-189.04
15	20	291.18	0.0	-9.44e-05	-105.39	0.0	-87.96	-98.61	0.0	0.0	0.0	291.18
		-268.65	0.0	0.0	0.0	185.0	-87.96	-151.31	0.0	0.0	0.0	60.01
						370.0	-87.96	-204.00	0.0	0.0	0.0	-268.65
15	21	453.49	0.0	1.05e-04	-105.39	0.0	-54.68	-225.84	0.0	0.0	0.0	453.49
		-577.09	0.0	0.0	0.0	185.0	-54.68	-278.54	0.0	0.0	0.0	-13.06
						370.0	-54.68	-331.23	0.0	0.0	0.0	-577.09
15	22	84.97	0.0	3.38e-05	-105.39	0.0	-55.18	-20.70	0.0	0.0	0.0	84.97
		-186.59	0.0	0.0	0.0	185.0	-55.18	-73.39	0.0	0.0	0.0	-2.06
						370.0	-55.18	-126.09	0.0	0.0	0.0	-186.59
15	23	664.47	0.0	-1.39e-04	-78.07	0.0	-93.55	-317.27	0.0	0.0	0.0	664.47
		-653.87	0.0	0.0	0.0	185.0	-93.55	-356.31	0.0	0.0	0.0	41.41
						370.0	-93.55	-395.34	0.0	0.0	0.0	-653.87
15	24	280.00	0.0	-7.28e-05	-78.07	0.0	-95.38	-112.13	0.0	0.0	0.0	280.00
		-279.30	0.0	0.0	0.0	185.0	-95.38	-151.16	0.0	0.0	0.0	36.46
						370.0	-95.38	-190.20	0.0	0.0	0.0	-279.30
15	25	426.02	0.0	-1.40e-04	-413.88	0.0	-48.52	-54.68	0.0	0.0	0.0	426.02
		-649.95	0.0	0.0	0.0	185.0	-48.52	-297.61	0.0	0.0	0.0	100.15

						370.0	-48.52	-468.57	0.0	0.0	0.0	-649.95
15	26	484.69	0.0	-1.85e-04	-413.88	0.0	-66.09	-65.00	0.0	0.0	0.0	484.69
		-629.47	0.0	0.0	0.0	185.0	-66.09	-307.93	0.0	0.0	0.0	139.73
						370.0	-66.09	-478.88	0.0	0.0	0.0	-629.47
15	27	50.96	0.0	6.42e-05	-105.39	0.0	-48.84	-18.61	0.0	0.0	0.0	50.96
		-212.87	0.0	0.0	0.0	185.0	-48.84	-71.31	0.0	0.0	0.0	-32.21
						370.0	-48.84	-124.00	0.0	0.0	0.0	-212.87
15	28	148.39	0.0	-3.72e-05	-105.39	0.0	-70.35	-43.42	0.0	0.0	0.0	148.39
		-207.23	0.0	0.0	0.0	185.0	-70.35	-96.11	0.0	0.0	0.0	19.33
						370.0	-70.35	-148.81	0.0	0.0	0.0	-207.23
15	29	645.41	0.0	-1.30e-04	-105.39	0.0	-92.01	-303.75	0.0	0.0	0.0	645.41
		-673.45	0.0	0.0	0.0	185.0	-92.01	-356.45	0.0	0.0	0.0	34.72
						370.0	-92.01	-409.15	0.0	0.0	0.0	-673.45
15	30	318.10	0.0	-1.40e-04	-355.71	0.0	-83.27	-66.64	0.0	0.0	0.0	318.10
		-443.09	0.0	0.0	0.0	185.0	-83.27	-193.08	0.0	0.0	0.0	121.56
						370.0	-83.27	-422.35	0.0	0.0	0.0	-443.09
15	31	365.54	0.0	-1.95e-04	-355.71	0.0	-109.79	-66.64	0.0	0.0	0.0	365.54
		-395.65	0.0	0.0	0.0	185.0	-109.79	-193.08	0.0	0.0	0.0	169.00
						370.0	-109.79	-422.35	0.0	0.0	0.0	-395.65
15	32	398.78	0.0	-2.35e-04	-355.71	0.0	-137.10	-66.64	0.0	0.0	0.0	398.78
		-362.41	0.0	0.0	0.0	185.0	-137.10	-193.08	0.0	0.0	0.0	202.24
						370.0	-137.10	-422.35	0.0	0.0	0.0	-362.41
15	33	620.17	0.0	-2.36e-04	-413.88	0.0	-89.94	-120.19	0.0	0.0	0.0	620.17
		-698.20	0.0	0.0	0.0	185.0	-89.94	-363.12	0.0	0.0	0.0	173.10
						370.0	-89.94	-534.08	0.0	0.0	0.0	-698.20
15	34	-35.75	0.0	5.80e-05	-78.07	0.0	-25.50	27.69	0.0	0.0	0.0	-53.87
		-95.83	0.0	0.0	0.0	185.0	-25.50	-11.34	0.0	0.0	0.0	-38.74
						370.0	-25.50	-50.38	0.0	0.0	0.0	-95.83
15	35	22.69	0.0	2.13e-05	-78.07	0.0	-44.39	5.42	0.0	0.0	0.0	22.00
		-102.37	0.0	0.0	0.0	185.0	-44.39	-33.61	0.0	0.0	0.0	-4.07
						370.0	-44.39	-72.65	0.0	0.0	0.0	-102.37
15	36	34.47	0.0	4.52e-05	-78.07	0.0	-37.41	-11.18	0.0	0.0	0.0	34.47
		-151.34	0.0	0.0	0.0	185.0	-37.41	-50.22	0.0	0.0	0.0	-22.33
						370.0	-37.41	-89.25	0.0	0.0	0.0	-151.34
15	37	89.37	0.0	-2.07e-05	-78.07	0.0	-52.75	-23.45	0.0	0.0	0.0	89.37
		-141.84	0.0	0.0	0.0	185.0	-52.75	-62.49	0.0	0.0	0.0	9.87
						370.0	-52.75	-101.52	0.0	0.0	0.0	-141.84
15	38	181.90	0.0	-4.91e-05	-78.07	0.0	-64.04	-64.44	0.0	0.0	0.0	181.90
		-200.95	0.0	0.0	0.0	185.0	-64.04	-103.47	0.0	0.0	0.0	26.58
						370.0	-64.04	-142.51	0.0	0.0	0.0	-200.95
15	39	-50.54	0.0	7.67e-05	-78.07	0.0	-19.79	27.69	0.0	0.0	0.0	-68.65
		-110.62	0.0	0.0	0.0	185.0	-19.79	-11.34	0.0	0.0	0.0	-53.53
						370.0	-19.79	-50.38	0.0	0.0	0.0	-110.62
15	40	-21.36	0.0	3.98e-05	-78.07	0.0	-30.77	27.69	0.0	0.0	0.0	-39.47
		-81.43	0.0	0.0	0.0	185.0	-30.77	-11.34	0.0	0.0	0.0	-24.34
						370.0	-30.77	-50.38	0.0	0.0	0.0	-81.43
15	41	49.25	0.0	2.96e-05	-78.07	0.0	-43.12	-11.18	0.0	0.0	0.0	49.25
		-136.56	0.0	0.0	0.0	185.0	-43.12	-50.22	0.0	0.0	0.0	-7.55
						370.0	-43.12	-89.25	0.0	0.0	0.0	-136.56
15	42	104.15	0.0	-3.54e-05	-78.07	0.0	-58.46	-23.45	0.0	0.0	0.0	104.15
		-127.05	0.0	0.0	0.0	185.0	-58.46	-62.49	0.0	0.0	0.0	24.66
						370.0	-58.46	-101.52	0.0	0.0	0.0	-127.05
15	43	196.68	0.0	-6.43e-05	-78.07	0.0	-69.75	-64.44	0.0	0.0	0.0	196.68
		-186.16	0.0	0.0	0.0	185.0	-69.75	-103.47	0.0	0.0	0.0	41.36
						370.0	-69.75	-142.51	0.0	0.0	0.0	-186.16
15	44	174.04	0.0	-3.34e-05	-78.07	0.0	-62.30	-69.84	0.0	0.0	0.0	174.04
		-228.79	0.0	0.0	0.0	185.0	-62.30	-108.87	0.0	0.0	0.0	8.73

						370.0	-62.30	-147.91	0.0	0.0	0.0	-228.79
15	45	183.89	0.0	-5.11e-05	-78.07	0.0	-73.31	-64.44	0.0	0.0	0.0	183.89
		-198.95	0.0	0.0	0.0	185.0	-73.31	-103.47	0.0	0.0	0.0	28.58
						370.0	-73.31	-142.51	0.0	0.0	0.0	-198.95
15	46	-50.77	0.0	7.70e-05	-78.07	0.0	-20.44	27.69	0.0	0.0	0.0	-68.89
		-110.85	0.0	0.0	0.0	185.0	-20.44	-11.34	0.0	0.0	0.0	-53.76
						370.0	-20.44	-50.38	0.0	0.0	0.0	-110.85
15	47	-11.86	0.0	2.79e-05	-78.07	0.0	-35.09	27.69	0.0	0.0	0.0	-29.98
		-71.94	0.0	0.0	0.0	185.0	-35.09	-11.34	0.0	0.0	0.0	-14.85
						370.0	-35.09	-50.38	0.0	0.0	0.0	-71.94
15	48	-39.88	0.0	6.33e-05	-78.07	0.0	-27.03	27.69	0.0	0.0	0.0	-58.00
		-99.96	0.0	0.0	0.0	185.0	-27.03	-11.34	0.0	0.0	0.0	-42.87
						370.0	-27.03	-50.38	0.0	0.0	0.0	-99.96
15	49	-10.70	0.0	2.65e-05	-78.07	0.0	-38.01	27.69	0.0	0.0	0.0	-28.81
		-70.78	0.0	0.0	0.0	185.0	-38.01	-11.34	0.0	0.0	0.0	-13.69
						370.0	-38.01	-50.38	0.0	0.0	0.0	-70.78
15	50	315.59	0.0	8.87e-05	-78.07	0.0	-37.41	-163.14	0.0	0.0	0.0	315.59
		-432.47	0.0	0.0	0.0	185.0	-37.41	-202.18	0.0	0.0	0.0	-22.33
						370.0	-37.41	-241.21	0.0	0.0	0.0	-432.47
15	51	370.49	0.0	-6.59e-05	-78.07	0.0	-52.75	-175.41	0.0	0.0	0.0	370.49
		-422.96	0.0	0.0	0.0	185.0	-52.75	-214.45	0.0	0.0	0.0	9.87
						370.0	-52.75	-253.48	0.0	0.0	0.0	-422.96
15	52	463.02	0.0	-9.42e-05	-78.07	0.0	-64.04	-216.39	0.0	0.0	0.0	463.02
		-482.07	0.0	0.0	0.0	185.0	-64.04	-255.43	0.0	0.0	0.0	26.58
						370.0	-64.04	-294.46	0.0	0.0	0.0	-482.07
15	53	38.60	0.0	4.06e-05	-78.07	0.0	-35.88	-11.18	0.0	0.0	0.0	38.60
		-147.22	0.0	0.0	0.0	185.0	-35.88	-50.22	0.0	0.0	0.0	-18.20
						370.0	-35.88	-89.25	0.0	0.0	0.0	-147.22
15	54	93.49	0.0	-2.47e-05	-78.07	0.0	-51.22	-23.45	0.0	0.0	0.0	93.49
		-137.71	0.0	0.0	0.0	185.0	-51.22	-62.49	0.0	0.0	0.0	14.00
						370.0	-51.22	-101.52	0.0	0.0	0.0	-137.71
15	55	186.02	0.0	-5.33e-05	-78.07	0.0	-62.51	-64.44	0.0	0.0	0.0	186.02
		-196.82	0.0	0.0	0.0	185.0	-62.51	-103.47	0.0	0.0	0.0	30.71
						370.0	-62.51	-142.51	0.0	0.0	0.0	-196.82
15	56	-58.32	0.0	8.67e-05	-78.07	0.0	-17.52	27.69	0.0	0.0	0.0	-76.44
		-118.40	0.0	0.0	0.0	185.0	-17.52	-11.34	0.0	0.0	0.0	-61.31
						370.0	-17.52	-50.38	0.0	0.0	0.0	-118.40
15	57	-19.41	0.0	3.74e-05	-78.07	0.0	-32.17	27.69	0.0	0.0	0.0	-37.53
		-79.49	0.0	0.0	0.0	185.0	-32.17	-11.34	0.0	0.0	0.0	-22.40
						370.0	-32.17	-50.38	0.0	0.0	0.0	-79.49
15	58	-52.46	0.0	7.92e-05	-78.07	0.0	-22.17	27.69	0.0	0.0	0.0	-70.58
		-112.54	0.0	0.0	0.0	185.0	-22.17	-11.34	0.0	0.0	0.0	-55.45
						370.0	-22.17	-50.38	0.0	0.0	0.0	-112.54
15	59	-23.28	0.0	4.23e-05	-78.07	0.0	-33.15	27.69	0.0	0.0	0.0	-41.40
		-83.36	0.0	0.0	0.0	185.0	-33.15	-11.34	0.0	0.0	0.0	-26.27
						370.0	-33.15	-50.38	0.0	0.0	0.0	-83.36
15	60	330.38	0.0	7.45e-05	-78.07	0.0	-43.12	-163.14	0.0	0.0	0.0	330.38
		-417.68	0.0	0.0	0.0	185.0	-43.12	-202.18	0.0	0.0	0.0	-7.55
						370.0	-43.12	-241.21	0.0	0.0	0.0	-417.68
15	61	385.27	0.0	-8.02e-05	-78.07	0.0	-58.46	-175.41	0.0	0.0	0.0	385.27
		-408.17	0.0	0.0	0.0	185.0	-58.46	-214.45	0.0	0.0	0.0	24.66
						370.0	-58.46	-253.48	0.0	0.0	0.0	-408.17
15	62	477.80	0.0	-1.08e-04	-78.07	0.0	-69.75	-216.39	0.0	0.0	0.0	477.80
		-467.29	0.0	0.0	0.0	185.0	-69.75	-255.43	0.0	0.0	0.0	41.36
						370.0	-69.75	-294.46	0.0	0.0	0.0	-467.29
15	63	58.41	0.0	2.07e-05	-78.07	0.0	-43.54	-11.18	0.0	0.0	0.0	58.41
		-127.40	0.0	0.0	0.0	185.0	-43.54	-50.22	0.0	0.0	0.0	1.61

						370.0	-43.54	-89.25	0.0	0.0	0.0	-127.40
15	64	113.31	0.0	-4.55e-05	-78.07	0.0	-58.87	-23.45	0.0	0.0	0.0	113.31
		-117.89	0.0	0.0	0.0	185.0	-58.87	-62.49	0.0	0.0	0.0	33.82
						370.0	-58.87	-101.52	0.0	0.0	0.0	-117.89
15	65	205.84	0.0	-7.44e-05	-78.07	0.0	-70.17	-64.44	0.0	0.0	0.0	205.84
		-177.00	0.0	0.0	0.0	185.0	-70.17	-103.47	0.0	0.0	0.0	50.52
						370.0	-70.17	-142.51	0.0	0.0	0.0	-177.00
15	66	324.67	0.0	7.04e-05	-78.07	0.0	-45.41	-158.54	0.0	0.0	0.0	324.67
		-406.35	0.0	0.0	0.0	185.0	-45.41	-197.57	0.0	0.0	0.0	-4.73
						370.0	-45.41	-236.61	0.0	0.0	0.0	-406.35
15	67	52.71	0.0	1.70e-05	-78.07	0.0	-45.83	-6.58	0.0	0.0	0.0	52.71
		-116.07	0.0	0.0	0.0	185.0	-45.83	-45.62	0.0	0.0	0.0	4.43
						370.0	-45.83	-84.65	0.0	0.0	0.0	-116.07
15	68	465.01	0.0	-9.61e-05	-78.07	0.0	-73.31	-216.39	0.0	0.0	0.0	465.01
		-480.08	0.0	0.0	0.0	185.0	-73.31	-255.43	0.0	0.0	0.0	28.58
						370.0	-73.31	-294.46	0.0	0.0	0.0	-480.08
15	69	179.76	0.0	-4.70e-05	-78.07	0.0	-74.84	-64.44	0.0	0.0	0.0	179.76
		-203.08	0.0	0.0	0.0	185.0	-74.84	-103.47	0.0	0.0	0.0	24.45
						370.0	-74.84	-142.51	0.0	0.0	0.0	-203.08
15	70	10.33	0.0	4.35e-06	-78.07	0.0	-40.30	27.69	0.0	0.0	0.0	-7.78
		-49.74	0.0	0.0	0.0	185.0	-40.30	-11.34	0.0	0.0	0.0	7.35
						370.0	-40.30	-50.38	0.0	0.0	0.0	-49.74
15	71	57.52	0.0	-2.37e-05	-78.07	0.0	-49.42	-1.18	0.0	0.0	0.0	57.52
		-91.27	0.0	0.0	0.0	185.0	-49.42	-40.21	0.0	0.0	0.0	19.23
						370.0	-49.42	-79.25	0.0	0.0	0.0	-91.27
15	72	-3.19	0.0	1.75e-05	-78.07	0.0	-35.07	27.69	0.0	0.0	0.0	-21.31
		-63.27	0.0	0.0	0.0	185.0	-35.07	-11.34	0.0	0.0	0.0	-6.18
						370.0	-35.07	-50.38	0.0	0.0	0.0	-63.27
15	73	71.04	0.0	-3.90e-05	-78.07	0.0	-54.65	-1.18	0.0	0.0	0.0	71.04
		-77.75	0.0	0.0	0.0	185.0	-54.65	-40.21	0.0	0.0	0.0	32.76
						370.0	-54.65	-79.25	0.0	0.0	0.0	-77.75
15	74	54.44	0.0	-2.04e-05	-78.07	0.0	-56.04	-1.18	0.0	0.0	0.0	54.44
		-94.36	0.0	0.0	0.0	185.0	-56.04	-40.21	0.0	0.0	0.0	16.15
						370.0	-56.04	-79.25	0.0	0.0	0.0	-94.36
15	75	98.93	0.0	-4.23e-05	-78.07	0.0	-88.89	-16.39	0.0	0.0	0.0	98.93
		-106.13	0.0	0.0	0.0	185.0	-88.89	-55.42	0.0	0.0	0.0	32.50
						370.0	-88.89	-94.46	0.0	0.0	0.0	-106.13
15	76	363.79	0.0	-1.06e-04	-78.07	0.0	-112.82	-144.76	0.0	0.0	0.0	363.79
		-316.25	0.0	0.0	0.0	185.0	-112.82	-183.79	0.0	0.0	0.0	59.88
						370.0	-112.82	-222.83	0.0	0.0	0.0	-316.25
15	77	85.40	0.0	-2.76e-05	-78.07	0.0	-83.66	-16.39	0.0	0.0	0.0	85.40
		-119.66	0.0	0.0	0.0	185.0	-83.66	-55.42	0.0	0.0	0.0	18.98
						370.0	-83.66	-94.46	0.0	0.0	0.0	-119.66
15	78	377.32	0.0	-1.20e-04	-78.07	0.0	-118.04	-144.76	0.0	0.0	0.0	377.32
		-302.72	0.0	0.0	0.0	185.0	-118.04	-183.79	0.0	0.0	0.0	73.41
						370.0	-118.04	-222.83	0.0	0.0	0.0	-302.72
15	79	363.64	0.0	-1.06e-04	-78.07	0.0	-119.85	-144.76	0.0	0.0	0.0	363.64
		-316.40	0.0	0.0	0.0	185.0	-119.85	-183.79	0.0	0.0	0.0	59.73
						370.0	-119.85	-222.83	0.0	0.0	0.0	-316.40
15	80	129.75	0.0	-4.25e-05	-78.07	0.0	-60.85	-35.33	0.0	0.0	0.0	129.75
		-145.41	0.0	0.0	0.0	185.0	-60.85	-74.37	0.0	0.0	0.0	28.28
						370.0	-60.85	-113.40	0.0	0.0	0.0	-145.41
16	1	0.0	0.0	-1.56e-04	-8.16	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-0.92	0.0	0.0	0.0	11.3	0.0	-4.08	0.0	0.0	0.0	-0.23
						22.5	0.0	-8.16	0.0	0.0	0.0	-0.92
16	2	0.0	0.0	-7.19e-05	-11.50	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-1.29	0.0	0.0	0.0	11.3	0.0	-5.75	0.0	0.0	0.0	-0.32

						22.5	0.0	-11.50	0.0	0.0	0.0	-1.29
16	3	0.0	0.0	-1.32e-04	-7.47	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-0.84	0.0	0.0	0.0	11.3	0.0	-3.73	0.0	0.0	0.0	-0.21
						22.5	0.0	-7.47	0.0	0.0	0.0	-0.84
16	4	0.0	0.0	-6.89e-05	-9.97	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-1.12	0.0	0.0	0.0	11.3	0.0	-4.98	0.0	0.0	0.0	-0.28
						22.5	0.0	-9.97	0.0	0.0	0.0	-1.12
16	5	0.0	0.0	2.53e-04	-7.47	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-0.84	0.0	0.0	0.0	11.3	-4.19	-3.73	0.0	0.0	0.0	-0.21
						22.5	-8.38	-7.47	0.0	0.0	0.0	-0.84
16	6	0.0	0.0	1.93e-04	-9.97	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-1.12	0.0	0.0	0.0	11.3	-4.19	-4.98	0.0	0.0	0.0	-0.28
						22.5	-8.38	-9.97	0.0	0.0	0.0	-1.12
16	7	0.0	0.0	1.93e-04	-7.47	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-0.84	0.0	0.0	0.0	11.3	-4.19	-3.73	0.0	0.0	0.0	-0.21
						22.5	-8.38	-7.47	0.0	0.0	0.0	-0.84
16	8	0.0	0.0	-9.95e-05	-7.47	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-0.84	0.0	0.0	0.0	11.3	0.0	-3.73	0.0	0.0	0.0	-0.21
						22.5	0.0	-7.47	0.0	0.0	0.0	-0.84
16	9	0.0	0.0	3.96e-05	-9.97	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-1.12	0.0	0.0	0.0	11.3	0.0	-4.98	0.0	0.0	0.0	-0.28
						22.5	0.0	-9.97	0.0	0.0	0.0	-1.12
16	10	0.0	0.0	3.96e-05	-7.47	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-0.84	0.0	0.0	0.0	11.3	0.0	-3.73	0.0	0.0	0.0	-0.21
						22.5	0.0	-7.47	0.0	0.0	0.0	-0.84
16	11	0.0	0.0	-1.33e-04	-8.16	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-0.92	0.0	0.0	0.0	11.3	0.0	-4.08	0.0	0.0	0.0	-0.23
						22.5	0.0	-8.16	0.0	0.0	0.0	-0.92
16	12	0.0	0.0	-4.92e-05	-11.50	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-1.29	0.0	0.0	0.0	11.3	0.0	-5.75	0.0	0.0	0.0	-0.32
						22.5	0.0	-11.50	0.0	0.0	0.0	-1.29
16	13	0.0	0.0	-1.01e-04	-7.47	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-0.84	0.0	0.0	0.0	11.3	0.0	-3.73	0.0	0.0	0.0	-0.21
						22.5	0.0	-7.47	0.0	0.0	0.0	-0.84
16	14	0.0	0.0	-3.84e-05	-9.97	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-1.12	0.0	0.0	0.0	11.3	0.0	-4.98	0.0	0.0	0.0	-0.28
						22.5	0.0	-9.97	0.0	0.0	0.0	-1.12
16	15	0.0	0.0	2.75e-04	-7.47	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-0.84	0.0	0.0	0.0	11.3	-4.19	-3.73	0.0	0.0	0.0	-0.21
						22.5	-8.38	-7.47	0.0	0.0	0.0	-0.84
16	16	0.0	0.0	2.15e-04	-9.97	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-1.12	0.0	0.0	0.0	11.3	-4.19	-4.98	0.0	0.0	0.0	-0.28
						22.5	-8.38	-9.97	0.0	0.0	0.0	-1.12
16	17	0.0	0.0	2.15e-04	-7.47	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-0.84	0.0	0.0	0.0	11.3	-4.19	-3.73	0.0	0.0	0.0	-0.21
						22.5	-8.38	-7.47	0.0	0.0	0.0	-0.84
16	18	0.0	0.0	1.30e-04	-7.47	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-0.84	0.0	0.0	0.0	11.3	0.0	-3.73	0.0	0.0	0.0	-0.21
						22.5	0.0	-7.47	0.0	0.0	0.0	-0.84
16	19	0.0	0.0	7.00e-05	-9.97	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-1.12	0.0	0.0	0.0	11.3	0.0	-4.98	0.0	0.0	0.0	-0.28
						22.5	0.0	-9.97	0.0	0.0	0.0	-1.12
16	20	0.0	0.0	7.01e-05	-7.47	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-0.84	0.0	0.0	0.0	11.3	0.0	-3.73	0.0	0.0	0.0	-0.21
						22.5	0.0	-7.47	0.0	0.0	0.0	-0.84
16	21	0.0	0.0	2.76e-04	-7.47	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-0.84	0.0	0.0	0.0	11.3	-4.19	-3.73	0.0	0.0	0.0	-0.21

						22.5	-8.38	-7.47	0.0	0.0	0.0	-0.84
16	22	0.0	0.0	-1.31e-04	-7.47	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-0.84	0.0	0.0	0.0	11.3	0.0	-3.73	0.0	0.0	0.0	-0.21
						22.5	0.0	-7.47	0.0	0.0	0.0	-0.84
16	23	0.0	0.0	2.00e-04	-4.02	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-0.45	0.0	0.0	0.0	11.3	-4.19	-2.01	0.0	0.0	0.0	-0.11
						22.5	-8.38	-4.02	0.0	0.0	0.0	-0.45
16	24	0.0	0.0	5.81e-05	-4.02	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-0.45	0.0	0.0	0.0	11.3	0.0	-2.01	0.0	0.0	0.0	-0.11
						22.5	0.0	-4.02	0.0	0.0	0.0	-0.45
16	25	0.0	0.0	2.29e-04	-7.47	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-0.84	0.0	0.0	0.0	11.3	-4.19	-3.73	0.0	0.0	0.0	-0.21
						22.5	-8.38	-7.47	0.0	0.0	0.0	-0.84
16	26	0.0	0.0	1.93e-04	-9.97	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-1.12	0.0	0.0	0.0	11.3	-4.19	-4.98	0.0	0.0	0.0	-0.28
						22.5	-8.38	-9.97	0.0	0.0	0.0	-1.12
16	27	0.0	0.0	-1.58e-04	-8.16	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-0.92	0.0	0.0	0.0	11.3	0.0	-4.08	0.0	0.0	0.0	-0.23
						22.5	0.0	-8.16	0.0	0.0	0.0	-0.92
16	28	0.0	0.0	7.62e-05	-11.50	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-1.29	0.0	0.0	0.0	11.3	0.0	-5.75	0.0	0.0	0.0	-0.32
						22.5	0.0	-11.50	0.0	0.0	0.0	-1.29
16	29	0.0	0.0	2.09e-04	-5.42	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-0.61	0.0	0.0	0.0	11.3	-4.19	-2.71	0.0	0.0	0.0	-0.15
						22.5	-8.38	-5.42	0.0	0.0	0.0	-0.61
16	30	0.0	0.0	1.97e-04	-6.06	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-0.68	0.0	0.0	0.0	11.3	-4.19	-3.03	0.0	0.0	0.0	-0.17
						22.5	-8.38	-6.06	0.0	0.0	0.0	-0.68
16	31	0.0	0.0	1.27e-04	-8.56	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-0.96	0.0	0.0	0.0	11.3	-4.19	-4.28	0.0	0.0	0.0	-0.24
						22.5	-8.38	-8.56	0.0	0.0	0.0	-0.96
16	32	0.0	0.0	9.05e-05	-6.06	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-0.68	0.0	0.0	0.0	11.3	-4.19	-3.03	0.0	0.0	0.0	-0.17
						22.5	-8.38	-6.06	0.0	0.0	0.0	-0.68
16	33	0.0	0.0	2.01e-04	-5.42	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-0.61	0.0	0.0	0.0	11.3	-4.19	-2.71	0.0	0.0	0.0	-0.15
						22.5	-8.38	-5.42	0.0	0.0	0.0	-0.61
16	34	0.0	0.0	-9.19e-05	-5.54	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-0.62	0.0	0.0	0.0	11.3	0.0	-2.77	0.0	0.0	0.0	-0.16
						22.5	0.0	-5.53	0.0	0.0	0.0	-0.62
16	35	0.0	0.0	-4.91e-05	-7.39	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-0.83	0.0	0.0	0.0	11.3	0.0	-3.70	0.0	0.0	0.0	-0.21
						22.5	0.0	-7.39	0.0	0.0	0.0	-0.83
16	36	0.0	0.0	-7.28e-05	-5.54	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-0.62	0.0	0.0	0.0	11.3	0.0	-2.77	0.0	0.0	0.0	-0.16
						22.5	0.0	-5.53	0.0	0.0	0.0	-0.62
16	37	0.0	0.0	2.83e-05	-7.39	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-0.83	0.0	0.0	0.0	11.3	0.0	-3.70	0.0	0.0	0.0	-0.21
						22.5	0.0	-7.39	0.0	0.0	0.0	-0.83
16	38	0.0	0.0	2.83e-05	-5.54	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-0.62	0.0	0.0	0.0	11.3	0.0	-2.77	0.0	0.0	0.0	-0.16
						22.5	0.0	-5.53	0.0	0.0	0.0	-0.62
16	39	0.0	0.0	-7.30e-05	-5.54	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-0.62	0.0	0.0	0.0	11.3	0.0	-2.77	0.0	0.0	0.0	-0.16
						22.5	0.0	-5.53	0.0	0.0	0.0	-0.62
16	40	0.0	0.0	-2.64e-05	-7.39	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-0.83	0.0	0.0	0.0	11.3	0.0	-3.70	0.0	0.0	0.0	-0.21

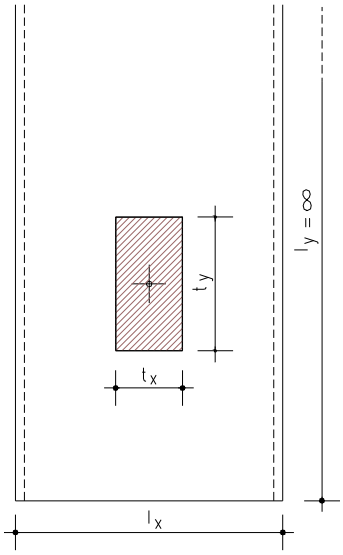
						22.5	0.0	-7.39	0.0	0.0	0.0	-0.83
16	41	0.0	0.0	-9.17e-05	-5.54	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-0.62	0.0	0.0	0.0	11.3	0.0	-2.77	0.0	0.0	0.0	-0.16
						22.5	0.0	-5.53	0.0	0.0	0.0	-0.62
16	42	0.0	0.0	4.72e-05	-7.39	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-0.83	0.0	0.0	0.0	11.3	0.0	-3.70	0.0	0.0	0.0	-0.21
						22.5	0.0	-7.39	0.0	0.0	0.0	-0.83
16	43	0.0	0.0	4.73e-05	-5.54	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-0.62	0.0	0.0	0.0	11.3	0.0	-2.77	0.0	0.0	0.0	-0.16
						22.5	0.0	-5.53	0.0	0.0	0.0	-0.62
16	44	0.0	0.0	1.06e-04	-5.54	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-0.62	0.0	0.0	0.0	11.3	0.0	-2.77	0.0	0.0	0.0	-0.16
						22.5	0.0	-5.53	0.0	0.0	0.0	-0.62
16	45	0.0	0.0	4.27e-05	-4.02	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-0.45	0.0	0.0	0.0	11.3	0.0	-2.01	0.0	0.0	0.0	-0.11
						22.5	0.0	-4.02	0.0	0.0	0.0	-0.45
16	46	0.0	0.0	-1.14e-04	-6.04	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-0.68	0.0	0.0	0.0	11.3	0.0	-3.02	0.0	0.0	0.0	-0.17
						22.5	0.0	-6.04	0.0	0.0	0.0	-0.68
16	47	0.0	0.0	-5.16e-05	-8.52	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-0.96	0.0	0.0	0.0	11.3	0.0	-4.26	0.0	0.0	0.0	-0.24
						22.5	0.0	-8.52	0.0	0.0	0.0	-0.96
16	48	0.0	0.0	-9.64e-05	-5.54	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-0.62	0.0	0.0	0.0	11.3	0.0	-2.77	0.0	0.0	0.0	-0.16
						22.5	0.0	-5.53	0.0	0.0	0.0	-0.62
16	49	0.0	0.0	-4.98e-05	-7.39	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-0.83	0.0	0.0	0.0	11.3	0.0	-3.70	0.0	0.0	0.0	-0.21
						22.5	0.0	-7.39	0.0	0.0	0.0	-0.83
16	50	0.0	0.0	1.82e-04	-5.54	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-0.62	0.0	0.0	0.0	11.3	-3.10	-2.77	0.0	0.0	0.0	-0.16
						22.5	-6.21	-5.53	0.0	0.0	0.0	-0.62
16	51	0.0	0.0	1.38e-04	-7.39	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-0.83	0.0	0.0	0.0	11.3	-3.10	-3.70	0.0	0.0	0.0	-0.21
						22.5	-6.21	-7.39	0.0	0.0	0.0	-0.83
16	52	0.0	0.0	1.38e-04	-5.54	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-0.62	0.0	0.0	0.0	11.3	-3.10	-2.77	0.0	0.0	0.0	-0.16
						22.5	-6.21	-5.53	0.0	0.0	0.0	-0.62
16	53	0.0	0.0	-6.83e-05	-5.54	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-0.62	0.0	0.0	0.0	11.3	0.0	-2.77	0.0	0.0	0.0	-0.16
						22.5	0.0	-5.53	0.0	0.0	0.0	-0.62
16	54	0.0	0.0	2.38e-05	-7.39	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-0.83	0.0	0.0	0.0	11.3	0.0	-3.70	0.0	0.0	0.0	-0.21
						22.5	0.0	-7.39	0.0	0.0	0.0	-0.83
16	55	0.0	0.0	2.38e-05	-5.54	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-0.62	0.0	0.0	0.0	11.3	0.0	-2.77	0.0	0.0	0.0	-0.16
						22.5	0.0	-5.53	0.0	0.0	0.0	-0.62
16	56	0.0	0.0	-1.04e-04	-6.04	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-0.68	0.0	0.0	0.0	11.3	0.0	-3.02	0.0	0.0	0.0	-0.17
						22.5	0.0	-6.04	0.0	0.0	0.0	-0.68
16	57	0.0	0.0	-4.19e-05	-8.52	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-0.96	0.0	0.0	0.0	11.3	0.0	-4.26	0.0	0.0	0.0	-0.24
						22.5	0.0	-8.52	0.0	0.0	0.0	-0.96
16	58	0.0	0.0	-8.03e-05	-5.54	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-0.62	0.0	0.0	0.0	11.3	0.0	-2.77	0.0	0.0	0.0	-0.16
						22.5	0.0	-5.53	0.0	0.0	0.0	-0.62
16	59	0.0	0.0	-3.37e-05	-7.39	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-0.83	0.0	0.0	0.0	11.3	0.0	-3.70	0.0	0.0	0.0	-0.21

						22.5	0.0	-7.39	0.0	0.0	0.0	-0.83
16	60	0.0	0.0	2.01e-04	-5.54	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-0.62	0.0	0.0	0.0	11.3	-3.10	-2.77	0.0	0.0	0.0	-0.16
						22.5	-6.21	-5.53	0.0	0.0	0.0	-0.62
16	61	0.0	0.0	1.57e-04	-7.39	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-0.83	0.0	0.0	0.0	11.3	-3.10	-3.70	0.0	0.0	0.0	-0.21
						22.5	-6.21	-7.39	0.0	0.0	0.0	-0.83
16	62	0.0	0.0	1.57e-04	-5.54	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-0.62	0.0	0.0	0.0	11.3	-3.10	-2.77	0.0	0.0	0.0	-0.16
						22.5	-6.21	-5.53	0.0	0.0	0.0	-0.62
16	63	0.0	0.0	9.37e-05	-5.54	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-0.62	0.0	0.0	0.0	11.3	0.0	-2.77	0.0	0.0	0.0	-0.16
						22.5	0.0	-5.53	0.0	0.0	0.0	-0.62
16	64	0.0	0.0	4.92e-05	-7.39	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-0.83	0.0	0.0	0.0	11.3	0.0	-3.70	0.0	0.0	0.0	-0.21
						22.5	0.0	-7.39	0.0	0.0	0.0	-0.83
16	65	0.0	0.0	4.92e-05	-5.54	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-0.62	0.0	0.0	0.0	11.3	0.0	-2.77	0.0	0.0	0.0	-0.16
						22.5	0.0	-5.53	0.0	0.0	0.0	-0.62
16	66	0.0	0.0	2.02e-04	-5.54	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-0.62	0.0	0.0	0.0	11.3	-3.10	-2.77	0.0	0.0	0.0	-0.16
						22.5	-6.21	-5.53	0.0	0.0	0.0	-0.62
16	67	0.0	0.0	-9.42e-05	-5.54	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-0.62	0.0	0.0	0.0	11.3	0.0	-2.77	0.0	0.0	0.0	-0.16
						22.5	0.0	-5.53	0.0	0.0	0.0	-0.62
16	68	0.0	0.0	1.52e-04	-4.02	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-0.45	0.0	0.0	0.0	11.3	-3.10	-2.01	0.0	0.0	0.0	-0.11
						22.5	-6.21	-4.02	0.0	0.0	0.0	-0.45
16	69	0.0	0.0	4.73e-05	-4.02	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-0.45	0.0	0.0	0.0	11.3	0.0	-2.01	0.0	0.0	0.0	-0.11
						22.5	0.0	-4.02	0.0	0.0	0.0	-0.45
16	70	0.0	0.0	-2.54e-05	-4.02	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-0.45	0.0	0.0	0.0	11.3	0.0	-2.01	0.0	0.0	0.0	-0.11
						22.5	0.0	-4.02	0.0	0.0	0.0	-0.45
16	71	0.0	0.0	-6.84e-06	-4.02	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-0.45	0.0	0.0	0.0	11.3	0.0	-2.01	0.0	0.0	0.0	-0.11
						22.5	0.0	-4.02	0.0	0.0	0.0	-0.45
16	72	0.0	0.0	-8.07e-06	-4.02	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-0.45	0.0	0.0	0.0	11.3	0.0	-2.01	0.0	0.0	0.0	-0.11
						22.5	0.0	-4.02	0.0	0.0	0.0	-0.45
16	73	0.0	0.0	2.42e-05	-4.02	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-0.45	0.0	0.0	0.0	11.3	0.0	-2.01	0.0	0.0	0.0	-0.11
						22.5	0.0	-4.02	0.0	0.0	0.0	-0.45
16	74	0.0	0.0	2.74e-05	-4.02	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-0.45	0.0	0.0	0.0	11.3	0.0	-2.01	0.0	0.0	0.0	-0.11
						22.5	0.0	-4.02	0.0	0.0	0.0	-0.45
16	75	0.0	0.0	2.85e-05	-4.62	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-0.52	0.0	0.0	0.0	11.3	-0.18	-2.31	0.0	0.0	0.0	-0.13
						22.5	-0.36	-4.62	0.0	0.0	0.0	-0.52
16	76	0.0	0.0	4.55e-05	-4.20	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-0.47	0.0	0.0	0.0	11.3	-0.61	-2.10	0.0	0.0	0.0	-0.12
						22.5	-1.22	-4.20	0.0	0.0	0.0	-0.47
16	77	0.0	0.0	1.11e-05	-4.62	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-0.52	0.0	0.0	0.0	11.3	-0.18	-2.31	0.0	0.0	0.0	-0.13
						22.5	-0.36	-4.62	0.0	0.0	0.0	-0.52
16	78	0.0	0.0	6.28e-05	-4.20	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-0.47	0.0	0.0	0.0	11.3	-0.61	-2.10	0.0	0.0	0.0	-0.12

						22.5	-1.22	-4.20	0.0	0.0	0.0	-0.47
16	79	0.0	0.0	6.39e-05	-3.83	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-0.43	0.0	0.0	0.0	11.3	-0.61	-1.92	0.0	0.0	0.0	-0.11
						22.5	-1.22	-3.83	0.0	0.0	0.0	-0.43
16	80	0.0	0.0	6.12e-05	-9.19	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		-1.03	0.0	0.0	0.0	11.3	0.0	-4.60	0.0	0.0	0.0	-0.26
						22.5	0.0	-9.19	0.0	0.0	0.0	-1.03

Trave	**M3 mx/mn**	**M2 mx/mn**	**D 2 / D 3**	**Q 2 / Q 3**	**N**	**V 2**	**V 3**	**T**
	-698.20	0.0	-1.10e-03	-413.88	-281.05	-534.08	0.0	0.0
	664.47	0.0	2.79e-04	0.0	108.04	449.52	0.0	0.0

10. ALLEGATO C. –TABELLE PER IL CALCOLO DELLE SOLLECITAZIONI TRASVERSALI NELLA SOLETTA SUPERIORE



Piastra rettangolare appoggiata sui quattro lati caricata uniformemente su una zona rettangolare centrale

Valori di α_{ym}

t_x/l_x t_y/l_x	1.00	0.90	0.80	0.70	0.60	0.50	0.40	0.30	0.20	0.10	0.05
1.00	0.0210	0.0230	0.0250	0.0268	0.0285	0.0299	0.0312	0.0322	0.0330	0.0334	0.0335
0.90	0.0245	0.0269	0.0292	0.0313	0.0333	0.0351	0.0366	0.0378	0.0388	0.0393	0.0395
0.80	0.0286	0.0314	0.0341	0.0366	0.0390	0.0411	0.0430	0.0445	0.0456	0.0463	0.0465
0.70	0.0333	0.0366	0.0398	0.0428	0.0457	0.0483	0.0506	0.0525	0.0539	0.0548	0.0550
0.60	0.0388	0.0427	0.0464	0.0501	0.0535	0.0567	0.0596	0.0620	0.0639	0.0651	0.0654
0.50	0.0452	0.0496	0.0541	0.0585	0.0627	0.0667	0.0704	0.0736	0.0761	0.0778	0.0782
0.40	0.0525	0.0578	0.0630	0.0683	0.0735	0.0786	0.0834	0.0878	0.0914	0.0938	0.0945

0.30	0.0608	0.0670	0.0732	0.0796	0.0861	0.0927	0.0993	0.1055	0.1111	0.1150	0.1161
0.20	0.0703	0.0774	0.0849	0.0926	0.1008	0.1095	0.1186	0.1280	0.1372	0.1449	0.1471
0.10	0.0809	0.0892	0.0981	0.1075	0.1179	0.1293	0.1422	0.1569	0.1739	0.1921	0.1993
0.05	0.0867	0.0957	0.1053	0.1157	0.1273	0.1405	0.1558	0.1745	0.1979	0.2290	0.2472

$l_y = \infty$ $P = p * t_x * t_y$ $M_{ym} = \alpha_{ym} * P$