



COMUNE DI FOLIGNO
AREA GOVERNO DEL TERRITORIO
Servizio Programmazione e
Sviluppo Economico

PROGETTO:

PNRR – MISSIONE 5, COMPONENTE 2 – MISURA 2 –
INVESTIMENTO 2.1 – FINANZIAMENTO U.E. NEXT
GENERATION EU

"INVESTIMENTI IN PROGETTI DI RIGENERAZIONE
URBANA VOLTI A RIDURRE SITUAZIONE DI
EMARGINAZIONE E DEGRADO SOCIALE"
REALIZZAZIONE DELL'INTERVENTO

**"IL PARCO DELL'AEROPORTO
PARCO DEGLI ANIMALI"**

CUP C61B21003590005

GRUPPO DI LAVORO:

PROGETTAZIONE ARCHITETTONICA E
COORDINAMENTO DELLA SICUREZZA :

Arch. Marco Pinca

PROGETTAZIONE STRUTTURALE:

Ing. Paolo Satta

GIOVANE PROFESSIONISTA:

Ing. Arch. Francesca Tamburini

GEOLOGO:

Geol. Alessandro Tabarrini

FASE DI PROGETTO:

ESECUTIVO

TITOLO ELABORATO:

**RELAZIONE DI GEOTECNICA E
DELLE FONDAZIONI**

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DIRETTORE TECNICO: ing. Paolo Satta



oikos progetti s.r.l.

Via A. Vici, 06034, Foligno - PG
Tel. 0742.260096 - Fax 0742.322077

oikos@oikosprogetti.com

P. IVA: 03431280548

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1 RELAZIONE GEOTECNICA

1.1 UBICAZIONE INTERVENTO

La zona oggetto del presente studio, si pone in prossimità dell'aeroporto del comune di Foligno e ricade topograficamente nella Tavoletta "Foligno" I NO del Foglio n.131 della Carta d'Italia e nella tavoletta CTR n. 324.050 ad una quota di 210,00 m. s.l.m



Figura 1 - Stralcio vista satellitare (Fonte Google Maps) - Individuazione area di intervento

1.2 CARATTERISTICHE GEOMORFOLOGICHE ED IDRAULICHE

La morfologia dell'area si presenta omogeneamente pianeggiante con una debolissima pendenza occidentale e di conseguenza, non essendo interessata da processi erosivi o deposizionali in atto, può essere certamente classificata come geomorfologicamente stabile e potrà essere inserita, per l'analisi della risposta sismica locale ai sensi del D.M. 17.01.2018, **nella categoria topografica T1**.

La debolissima pendenza occidentale, permette, anche se con una certa difficoltà, il deflusso idrico superficiale attraverso i fossi ed acquai campestri che costituiscono il reticolo idrografico. L'area risulta inserita nella Fascia C di rischio idraulico come riportato anche nelle cartografie allegate al PRG del comune di Foligno.

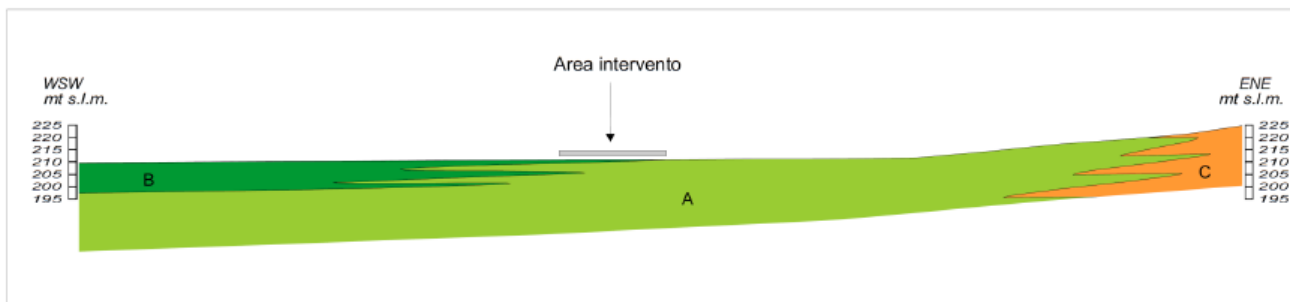
1.3 CARATTERISTICHE IDROGEOLOGICHE

Per quanto riguarda la circolazione idrica profonda, nel sito in esame il livello idrostatico relativo, si attesta ad una quota media di circa 212,00 m. dal p.c. con un valore di circa 2,0 m. al di sopra del piano campagna.

MODELLO GEOLOGICO

Scala orizzontale 1:10.000

Scala verticale 1:2.000



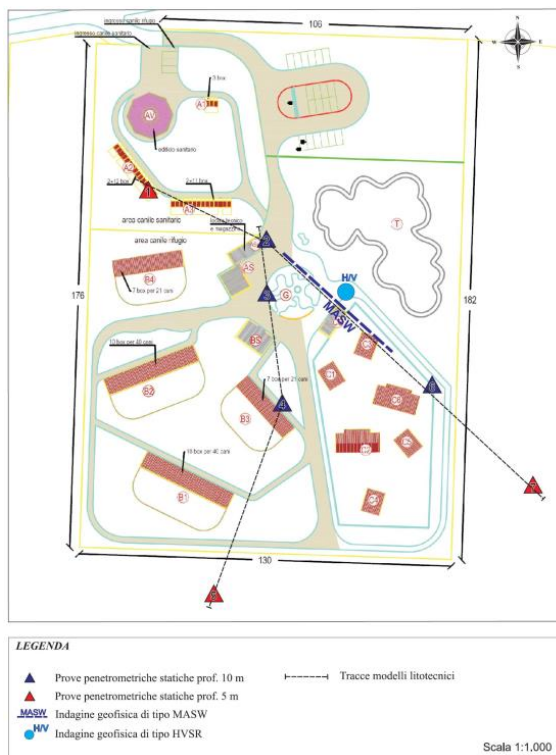
Orizzonti stratigrafici

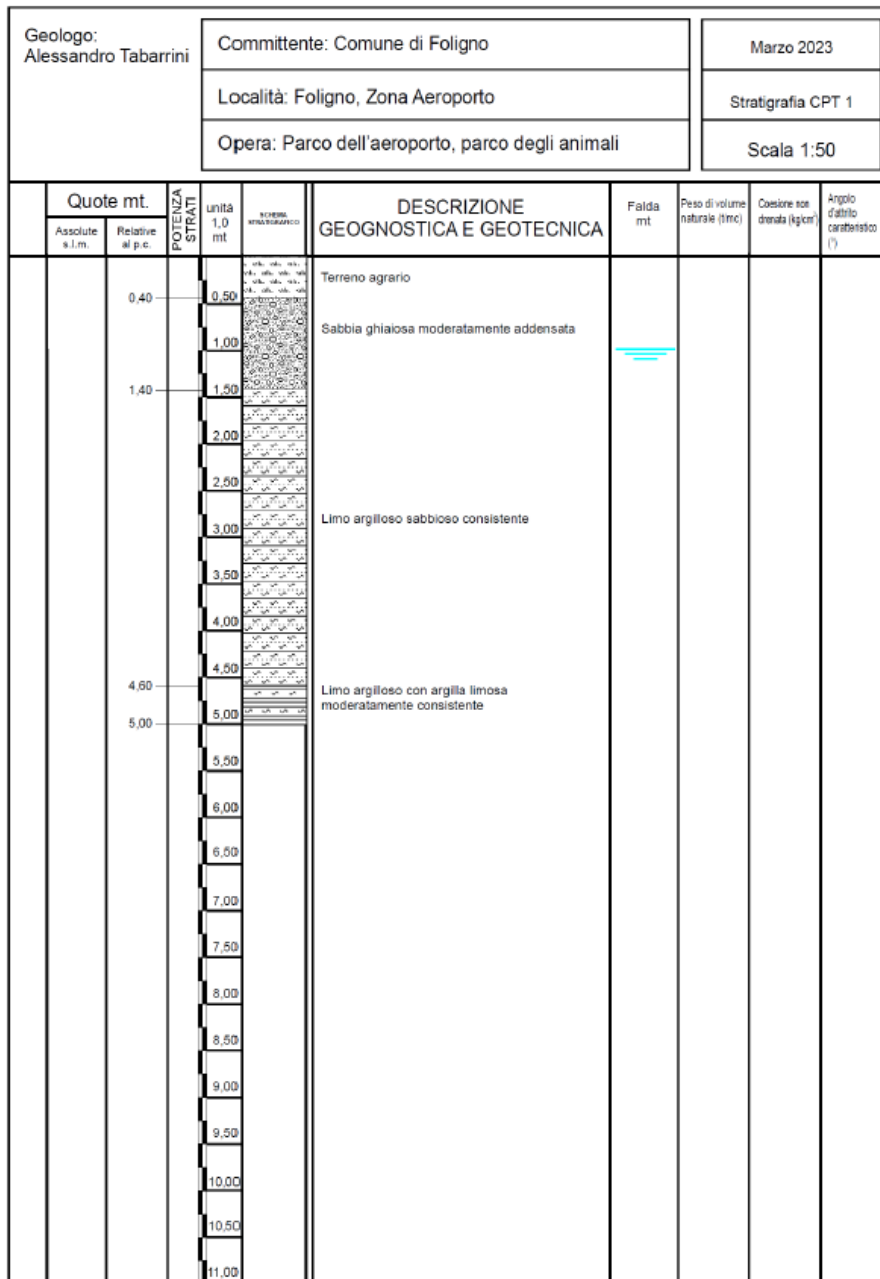
A Depositi alluvionali **B** Conoide alluvionale **C** Detriti di falda

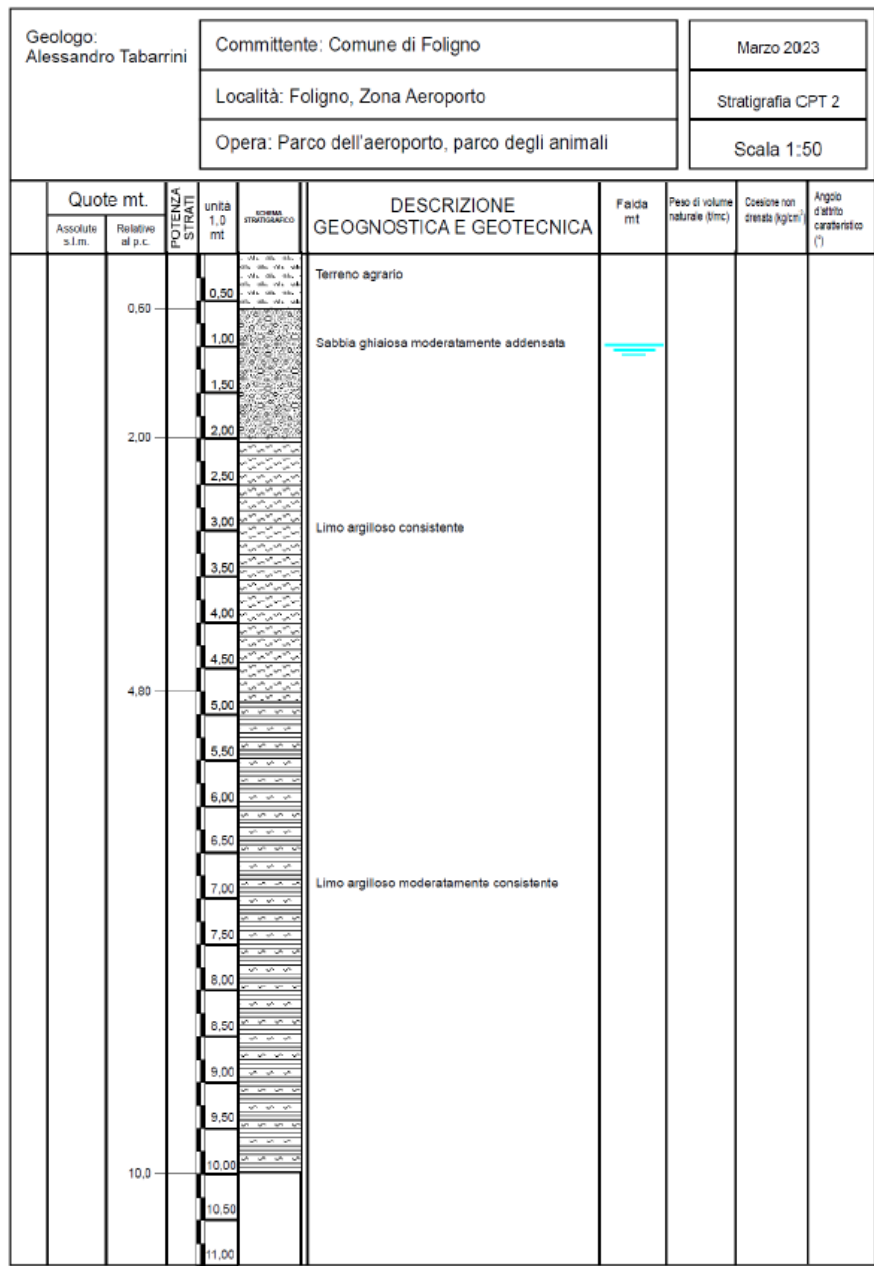
1.4 INDAGINI GEOTECNICHE E GEOFISICHE

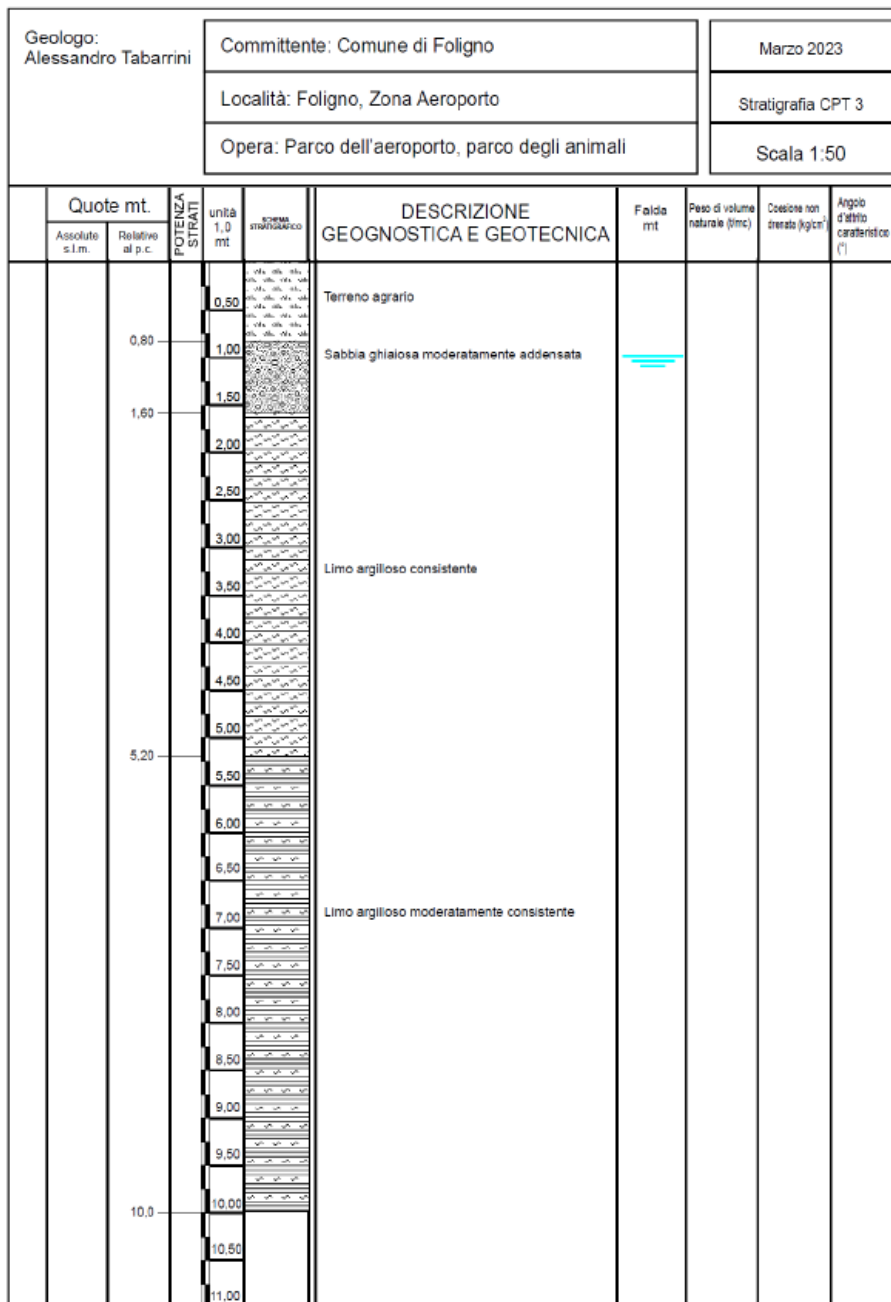
Tramite 7 prove penetrometriche statiche (CPT), spinte fino a profondità comprese tra 5 e 10 mt dall'attuale piano di campagna, si sono individuate le specifiche caratteristiche litologiche del sito in esame.

I punti di indagine sono riportati nella seguente planimetria:



























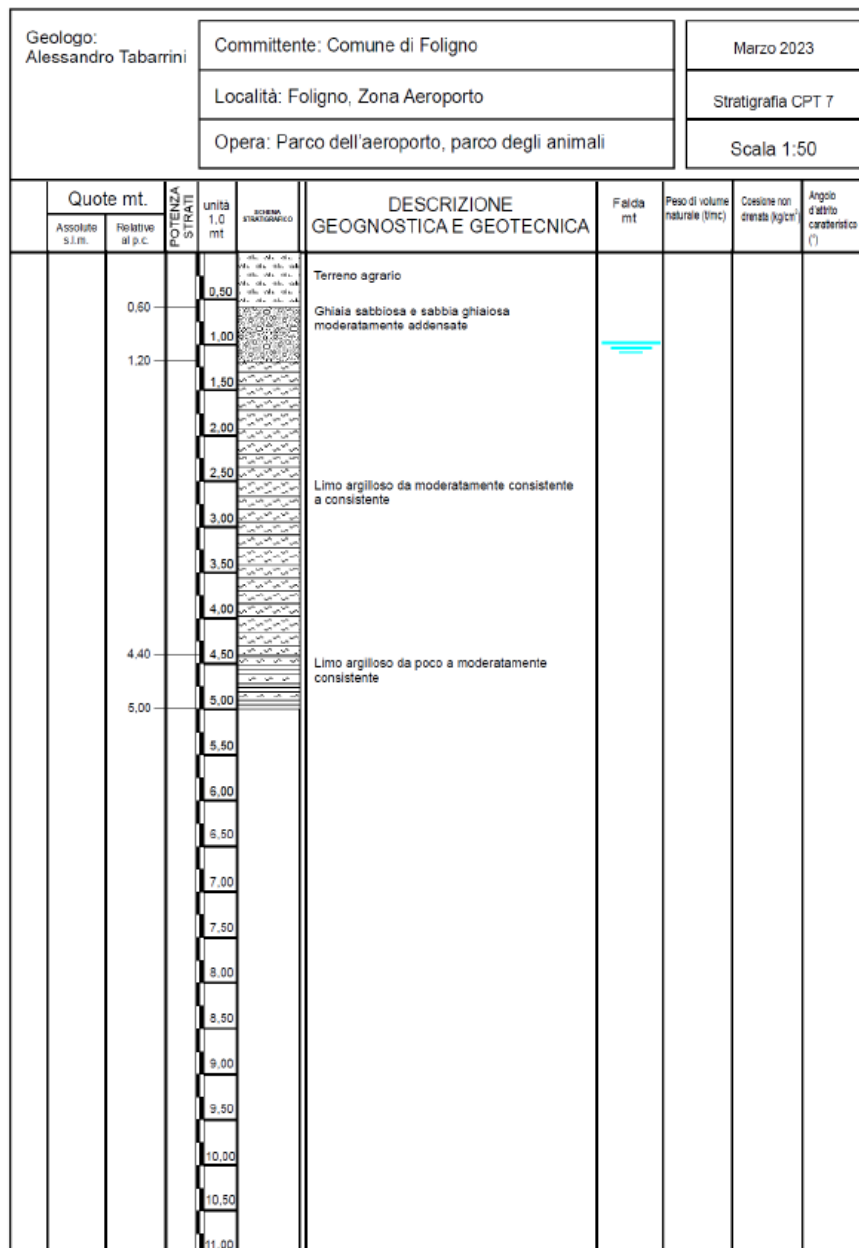
Geologo: Alessandro Tabarrini		Committente: Comune di Foligno		Marzo 2023	
		Località: Foligno, Zona Aeroporto		Stratigrafia CPT 4	
		Opera: Parco dell'aeroporto, parco degli animali		Scala 1:50	

Assolute s.l.m.	Relative al p.c.	Quote mt.	POTENZA STRATI	unità 1,0 mt	SCHEDA STRATIGRAFICA	DESCRIZIONE GEOGNOSTICA E GEOTECNICA	Falda mt	Peso di volume naturale (t/mc)	Coesione non drenata (kg/cm²)	Angolo d'attrito caratteristico (°)
		0,40		0,50		Terreno agrario				
				1,00		Sabbia debolmente ghiaiosa moderatamente addensata				
		1,40		1,50						
				2,00						
				2,50						
				3,00						
				3,50		Limo argilloso sabbioso consistente				
				4,00						
				4,50						
				5,00						
		5,20		5,50						
				6,00						
				6,50						
				7,00		Limo argilloso moderatamente consistente				
				7,50						
				8,00						
				8,50						
				9,00						
				9,50						
		10,0		10,00						
				10,50						
				11,00						

Geologo: Alessandro Tabarrini		Committente: Comune di Foligno			Marzo 2023		
		Località: Foligno, Zona Aeroporto			Stratigrafia CPT 5		
		Opera: Parco dell'aeroporto, parco degli animali			Scala 1:50		

Quote mt.		POTENZA STRATI	unità 1,0 mt	SINCRONIZZAZIONE	DESCRIZIONE GEOGNOSTICA E GEOTECNICA	Falda mt	Peso di volume naturale (t/mc)	Coesione non drenata (kg/cm²)	Angolo d'attrito caratteristico (°)
Absolute s.l.m.	Relative all'p.c.								
	0,40		0,50		Terreno agrario				
			1,00		Sabbia ghiaiosa moderatamente addensata				
			1,50						
	1,50		2,00						
			2,50						
			3,00		Limo argilloso consistente				
			3,50						
			4,00						
			4,50						
	5,00		5,00						
			5,50						
			6,00						
			6,50						
			7,00						
			7,50						
			8,00						
			8,50						
			9,00						
			9,50						
			10,00						
			10,50						
			11,00						

Geologo: Alessandro Tabarrini		Committente: Comune di Foligno		Marzo 2023						
		Località: Foligno, Zona Aeroporto		Stratigrafia CPT 6						
		Opera: Parco dell'aeroporto, parco degli animali		Scala 1:50						
	Quote mt.		POTENZA STRATI	unità 1,0 mt	SCHEMA STRATIGRAFICO	DESCRIZIONE GEOGNOSTICA E GEOTECNICA	Falda mt	Peso di volume naturale (t/mc)	Coesione non drenata (kg/cm²)	Angolo di attrito caratteristico (°)
	Absolute s.l.m.	Relative al p.c.								
		0,60		0,50		Terreno agrario				
				1,00		Sabbia debolmente ghiaiosa moderatamente addensata				
		1,40		1,50						
				2,00						
				2,50						
				3,00		Limo argilloso sabbioso consistente				
				3,50						
				4,00						
				4,50						
		4,80		5,00						
				5,50						
				6,00		Limo argilloso moderatamente consistente				
				6,50						
				7,00						
		7,40		7,50						
				8,00						
				8,50						
				9,00						
				9,50						
				10,00						
				10,50						
				11,00						



Nel sito interessato dall'intervento si è provveduto alla realizzazione di una indagine geofisica con metodologia MASW e ad una indagine HVSR, con lo scopo di ricostruire l'assetto sismostratigrafico dei livelli più superficiali e di fornire la velocità delle onde S in termini di Vseq, così come indicato dalle N.T.C. del 17/01/2018 oltre ad individuare la frequenza di risonanza del sito. L'indagine ha evidenziato una Vseq (30 m) = 245 m/s riconducibile ad un sottosuolo **di categoria C** in base a quanto stabilito dal DM del 17/01/2018.

Categoria Tipo C: Depositi di terreni a grana grossa mediante addensanti o terreni a grana fine mediamente consistenti con profondità del substrato superiori a 30 m, caratterizzati da un miglioramento delle proprietà meccaniche con la profondità e da valori di velocità equivalente compresi tra 180 m/s e 360 m/s

La frequenza di risonanza dei depositi risulta corrispondere a 0,49 Hz. A tale picco principale di frequenza corrisponde un valore H/V di circa 4.

Tale fattore è associabile ad un contrasto di rigidità sismica profondo.

Risultati indagine MASW:

N. STRATO	VELOCITA' Vs (m/sec)	VELOCITA' Vp (m/sec)	Coefficiente di Poisson	PROFONDITA' H (metri)
1	180	396	0.37	10
2	195	443	0.38	15
3	350	857	0.4	25
4	395	967	0.4	Da 25 in poi

$$V_{s30} = 245 \text{ m/sec}$$

Risultati indagine HVSr:

N. STRATO	VELOCITA' Vs (m/sec)	VELOCITA' Vp (m/sec)	DENSITA' (t/mc)	PROFONDITA' H (metri)
1	187	282	1874	8
2	216	407	1929	17,6
3	335	731	2068	31,2
4	421	805	2147	147
5	1256	2070	2173	Da 147 in poi

$$V_{s30} = 242 \text{ m/sec}$$

Prospezione sismica	V _{seq} (m/sec)	Categoria di sottosuolo di Fondazione (D.M. 17/01/2018)
MASW	245	C

Per quanto riguarda il rischio di liquefazione in fase sismica, nell'area non sono mai state storicamente segnalati, a differenza dell'area di Budino e Cantagalli di Foligno, fenomeni di liquefazione in fase sismica. Per una prima indicativa analisi del rischio di liquefazione è possibile utilizzare il criterio empirico qualitativo o semi-quantitativo di Youd e Perkins che fornisce un'indicazione del grado di vulnerabilità del deposito. Tale metodo si basa sulla tipologia del deposito sedimentario, profondità della falda ed età del deposito in esame.

Ad ognuno di queste caratteristiche viene fornito un valore diagrammato in tabelle, il prodotto dei valori ricavati dalle tabelle fornisce un numero corrispondente alla suscettibilità a liquefazione per il deposito in esame.

TAB. A

Tipologia deposito sedimentario	punteggio
Canale fluviale	100
Piana di esondazione	80
Piana e conoide alluvionale	50
Delta emerso	80
Lacustre	80
Terreno residuale	20
Riporto compattato	20

TAB. B

Profondità della falda	punteggio
< 9m	1.00
Tra 9 e 15m	0.40
>15m	0.10

TAB. C

Età	Punteggio
<500 anni	1.00
Olocenica	0.60
Pleistocenica	0.40
Pre-Pleistocenica	0.10

Ricapitolando si avrà:

(Tab A) 50 x (Tab B) 1,0 x (Tab C) 0,60 = 30

TAB. D

Punteggio totale	Probabilità di liquefazione
< 10	Molto bassa
10 – 20	Bassa
20 – 50	Moderata
50 – 80	Alta
> 80	Molto alta

Ne consegue che per il deposito in esame risulta una probabilità alla liquefazione **moderata/bassa**.

Avendo inoltre a disposizione dati geofisici sono state realizzate verifiche riguardo al rischio di liquefazione dei terreni in fase sismica.

I cosiddetti “metodi semplificati” permettono di esprimere la suscettibilità alla liquefazione del deposito attraverso un coefficiente di sicurezza, dato dal rapporto fra la resistenza al taglio mobilitata (R) e lo sforzo di taglio indotto dal sisma (T).

$$F_s = R/T$$

ovvero al rapporto tra la capacità di resistenza alla liquefazione e la domanda di resistenza alla liquefazione.

$$F_s = CRR/CSR$$

La grandezza T(CSR) dipende dai parametri del sisma di progetto (accelerazione sismica e magnitudo di progetto), mentre la grandezza R(CRR) è funzione diretta delle caratteristiche meccaniche del deposito.

Poiché le correlazioni utilizzate fanno riferimento a terremoti di magnitudo 7.5, per applicare le procedure semplificate di analisi della liquefazione a terremoti di magnitudo diversa si utilizza un fattore di scala della magnitudo, detto MSF (coefficiente correttivo funzione della magnitudo del sisma), per cui il coefficiente di sicurezza diviene:

$$F_s = (CRR/CSR) MSF$$

Il metodo Andrus e Stokoe (1997) permette di valutare la liquefazione attraverso la stima delle velocità delle onde S, partendo dai risultati ottenuti attraverso indagini geofisiche in sito, attraverso la seguente relazione:

$$CRR = 0.03 (V_{s1}/100)^2 + 0.9/(V_{s1c} - V_{s1}) - 0.9/V_{s1} \text{ dove:}$$

V_{s1} (m/s) è la velocità delle onde s nello strato corretta = $V_s (1/\square'v_0)^{0.25}$, dove V_s

è la velocità misurata e $\square'v_0$ (kg/cmq) è la pressione verticale efficace a metà strato;

V_{s1c} (m/s) è il valore critico delle onde S nel deposito, ricavabile attraverso il seguente schema:

V_{s1c} (m/s) = 220 se la percentuale di fine (FC) < 5%;

V_{s1c} (m/s) = 210 se FC = 20%;

$V_{slc} \text{ (m/s)} = 220 \text{ se } FC > 35\%$.

Interpolando per i valori intermedi di FC.

Viene quindi considerato non liquefacibile un deposito in cui si ha $F_s > 1$.

L'analisi è stata effettuata utilizzando una magnitudo di riferimento pari a 6,37 e ipotizzando una falda acquifera a 1 m di profondità e andando a verificare i primi 30 m della colonna sismostratigrafica ottenuta con l'indagine geofisica MASW ipotizzando 4 strati rispettivamente con V_s pari a 180 – 195 – 350 e 395 m/s.

Le verifiche evidenziano fattori di sicurezza $F_s > 1$ per cui l'area può ritenersi non soggetta a liquefazione in fase sismica.

VERIFICA ALLA LIQUEFAZIONE

METODO DI ANDRUS E STOKOE (1997)

Sismica a rifrazione

Spessore [m]	γ [kg/m ³]	V_s [m/s]	σ_{v0} [kg/cm ²]	σ'_{v0} [kg/cm ²]	FC [%]	V_{sl} [m/s]	V_{slc} [m/s]
10	1835	180	1.84	0.84	60	188	200.00
5	1886	195	0.94	0.44	60	239	200.00
10	1937	350	1.94	0.94	30	356	203.33
5	1988	395	0.99	0.49	30	471	203.33
			#####	#####		#VALORE!	200.00
			#####	#####		#VALORE!	200.00
			#####	#####		#VALORE!	200.00
			#####	#####		#VALORE!	200.00
			#####	#####		#VALORE!	200.00
			#####	#####		#VALORE!	200.00
			#####	#####		#VALORE!	200.00
			#####	#####		#VALORE!	200.00
			#####	#####		#VALORE!	200.00
			#####	#####		#VALORE!	200.00

R	T	FS
0.1785	0.0270	6.62
0.1446	0.0277	5.22
0.3712	0.0254	14.63
0.6607	0.0262	25.23
#####	#VALORE!	#VALORE!
#####	#VALORE!	#VALORE!
#####	#VALORE!	#VALORE!
#####	#VALORE!	#VALORE!
#####	#VALORE!	#VALORE!
#####	#VALORE!	#VALORE!
#####	#VALORE!	#VALORE!
#####	#VALORE!	#VALORE!
#####	#VALORE!	#VALORE!
#####	#VALORE!	#VALORE!

Zona 1	a_{max}	0.35
--------	-----------	------

M	6.37
MSF	1.7141

Falda	1.00	[m]
-------	------	-----

γ Peso di volume terreno
 FC Percentuale di fine
 T sforzo tagliante indotto dal sisma
 R resistenza al taglio mobilitabile nello strato
 M Magnitudo del sisma di riferimento
 MSF Coefficiente correttivo
 σ_v Tensione verticale
 σ'_{v0} Tensione verticale efficace
 V_{sl} e V_{slc} Fattori correttivi

Il deposito è considerato non liquefacibile se $F_s > 1$.

1.5 CARATTERISTICHE LITOLOGICHE

Per quanto concerne gli aspetti litologici, le indagini hanno evidenziato la presenza di limi argillosi talora con presenza anche di una componente sabbiosa che soggiacciono ad un livello superficiale sabbioso ghiaioso derivante dalla propaggine meridionale dell'apparato conoidale del F. Topino.

Il livello sabbioso ghiaioso superficiale ha uno spessore ridotto e si spinge fino ad un massimo di 2 mt dal piano di campagna evidenziando un moderato grado di addensamento.

Al di sotto di tale livello i materiali fini sono tutti caratterizzati inizialmente da buona consistenza che va poi riducendosi con l'aumentare della profondità.

Dalle indagini è emersa una ottima uniformità sia areale che verticale dei depositi fatta eccezione per la porzione sud orientale dell'area (CPT7) dove emerge un minor grado di consistenza dei terreni fini.

1.6 CARATTERISTICHE MECCANICHE DEI MATERIALI DI SEDIME

Il valore caratteristico da assegnare ai parametri geotecnici è stato ottenuto in base ad una stima ragionata e cautelativa del valore del parametro nello stato limite considerato.

LITOTIPO A

LITOLOGIA: **Sabbia ghiaiosa e ghiaia sabbiosa moderatamente addensata**
PROFONDITÀ: vedi modelli litotecnici

CARATTERISTICHE FISICO-MECCANICHE

ϕ = angolo di attrito interno = 35-36°

c_u = coesione non drenata = 0 kPa

D_R = densità relativa = 0,65

γ = peso di volume = 18,00 – 18,63 kN/mc

γ_t = peso di volume immerso = 8,00 – 8,63 kN/mc

E = modulo elastico = 50,0 - 60,0 Mpa

LITOTIPO B

LITOLOGIA: **Limo argilloso e limo argilloso sabbioso consistenti**
PROFONDITÀ: vedi modelli litotecnici

CARATTERISTICHE FISICO-MECCANICHE

c_u = coesione non drenata = 83,0 – 97,0 kPa

ϕ' = angolo di attrito interno eff. = 29-30°

I_c = indice di consistenza = 0,68-0,75

γ = peso di volume = 19,0-19,40 kN/mc

γ_t = peso di volume immerso = 9,00 – 9,40 kN/mc

E = modulo elastico = 6,0-7,0 MPa

ν = coefficiente di Poisson's = 0,30

LITOTIPO C

LITOLOGIA: Limo argilloso moderatamente consistente
PROFONDITÀ: vedi modelli litotecnici

CARATTERISTICHE FISICO-MECCANICHE

c_u = coesione non drenata = 39,0 – 48,0 kPa

ϕ' = angolo di attrito interno eff. = 24-26°

I_c = indice di consistenza = 0,40-0,50

γ = peso di volume = 17,84-18,20 kN/mc

γ_t = peso di volume immerso = 7,84 – 8,20 kN/mc

E = modulo elastico = 4,0-5,0 MPa

ν = coefficiente di Poisson's = 0,30

LITOTIPO D

LITOLOGIA: Limo argilloso da moderatamente consistente a consistente
PROFONDITÀ: in CPT7 tra 1,20 e 4,40 mt

CARATTERISTICHE FISICO-MECCANICHE

c_u = coesione non drenata = 67,0 kPa

ϕ' = angolo di attrito interno eff. = 27°

I_c = indice di consistenza = 0,60

γ = peso di volume = 18,80 kN/mc

γ_t = peso di volume immerso = 8,80 kN/mc

E = modulo elastico = 5,0 MPa

ν = coefficiente di Poisson's = 0,30

LITOTIPO E

LITOLOGIA: Limo argilloso da poco a moderatamente consistente
PROFONDITÀ: in CPT7 tra 4,40 e 5,0 mt

CARATTERISTICHE FISICO-MECCANICHE

c_u = coesione non drenata = 29,0 kPa

ϕ' = angolo di attrito interno eff. = 23°

I_c = indice di consistenza = 0,25

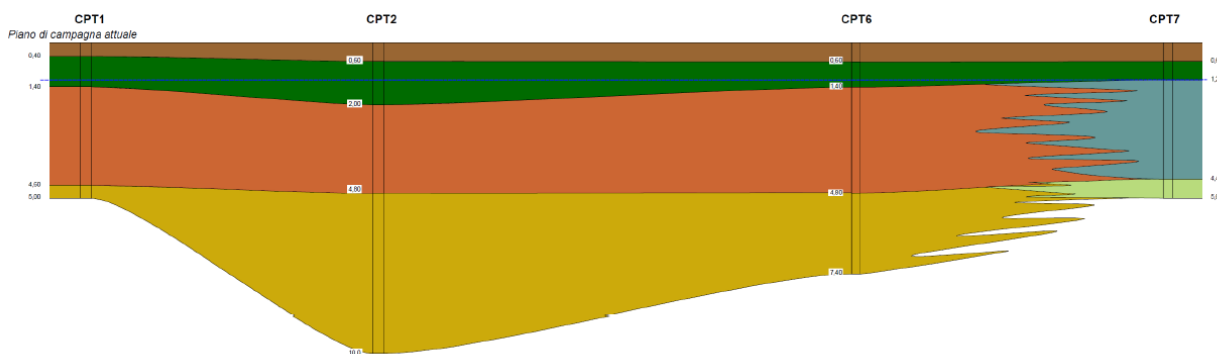
γ = peso di volume = 17,50 kN/mc








γ_t = peso di volume immerso = 7,50 kN/mc

E = modulo elastico = 4,0 MPa

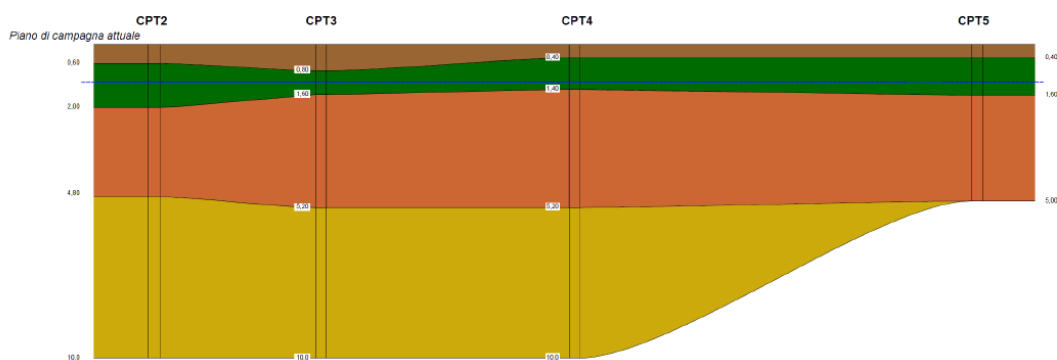
ν = coefficiente di Poisson's = 0,25





MODELLO LITOTECNICO CPT 1-2-6-7
 Scala verticale 1:100
 Scala orizzontale 1: 500



 Suolo	 LITOTIPO B Limo argilloso e limo argilloso sabbioso consistenti $c_u = 83.0-95.0 \text{ kPa}$ $\phi' = 25-30^\circ$ $\gamma = 19.0-19.30 \text{ kN/mc}$ $\gamma_s = 9.70-9.70 \text{ kN/mc}$ $ic = 0.68-0.72$ $v = 0.30$	 LITOTIPO D Limo argilloso da moderatamente consistente a consistente $c_u = 67.0 \text{ kPa}$ $\phi' = 27^\circ$ $\gamma = 18.80 \text{ kN/mc}$ $\gamma_s = 8.80 \text{ kN/mc}$ $ic = 0.60$ $v = 0.30$	 Quota falda
 LITOTIPO A Sabbia ghiaiosa moderatamente addensata $\phi = 35-36^\circ$ $c_u = 0 \text{ kPa}$ $\gamma = 18.63 \text{ kN/mc}$ $\gamma_s = 8.65 \text{ kN/mc}$ $Dr = 0.65$ $v = 0.35$	 LITOTIPO C Limo argilloso moderatamente consistente $c_u = 41.0-45.0 \text{ kPa}$ $\phi' = 25-26^\circ$ $\gamma = 17.90-18.0 \text{ kN/mc}$ $\gamma_s = 7.90-8.0 \text{ kN/mc}$ $ic = 0.42-0.50$ $v = 0.30$	 LITOTIPO E Limo argilloso da poco a moderatamente consistente $c_u = 29.0 \text{ kPa}$ $\phi' = 23^\circ$ $\gamma = 17.50 \text{ kN/mc}$ $\gamma_s = 7.50 \text{ kN/mc}$ $ic = 0.25$ $v = 0.25$	

MODELLO LITOTECNICO CPT 2-3-4-5
 Scala verticale 1:100
 Scala orizzontale 1: 500



 Suolo	 LITOTIPO B Limo argilloso e limo argilloso sabbioso consistenti $c_u = 83.0-97.0 \text{ kPa}$ $\phi' = 25-30^\circ$ $\gamma = 19.0-19.40 \text{ kN/mc}$ $\gamma_s = 9.0-9.40 \text{ kN/mc}$ $ic = 0.68-0.75$ $v = 0.30$	 Quota falda
 LITOTIPO A Sabbia ghiaiosa moderatamente addensata $\phi = 36^\circ$ $c_u = 0 \text{ kPa}$ $\gamma = 18.63 \text{ kN/mc}$ $\gamma_s = 8.63 \text{ kN/mc}$ $Dr = 0.65$ $v = 0.35$	 LITOTIPO C Limo argilloso moderatamente consistente $c_u = 39.0-48.0 \text{ kPa}$ $\phi' = 24-26^\circ$ $\gamma = 17.84-18.20 \text{ kN/mc}$ $\gamma_s = 7.84-8.20 \text{ kN/mc}$ $ic = 0.40-0.50$ $v = 0.30$	

2 RELAZIONE SULLE FONDAZIONI

2.1 COSTANTE DI WINKLER

Il terreno viene schematizzato con un "letto" di molle reagenti esclusivamente a compressione aventi una rigidezza alla Winkler pari a 5,00 daN/cm³.

In mancanza di prove in situ, tale valore è determinato sulla base di tabelle (tabella 9.1 del Bowles) e del modulo elastico E.

2.2 VALUTAZIONE PRESSIONE LIMITE IN CONDIZIONI STATICHE E SISMICHE

Calcolo carico limite secondo la formulazione Meyerhof:

$$q_f = cN_c s_c i_c d_c + q_0 N_q s_q i_q d_q + \frac{1}{2} \gamma B_r N_\gamma s_\gamma i_\gamma d_\gamma$$

Caratteristiche meccaniche del terreno	Parametri carat.	Coeff. parziali
		γ_{M1}
Angolo di attrito [°]	36	1
Tangente angolo di attrito	0.72654253	1
Peso dell'unità di volume [daN/m ³]	1980	1
Coesione [daN/cm ²]	0.000	1
Coesione non drenata [daN/cm ²]	0	1
Modulo di taglio G [daN/cm ²]	0	
Coefficiente spinta passava - K_p - $\tan^2(45^\circ + \phi/2)$		

Parametri di progetto
M_1
36
0.726542528
1980
0
0
3.851839996

$K_p (\phi=0)$

1

Caratteristiche della fondazione		
Profondità piano di posa - D	0	[m]
Profondità piezometrica - D_w	1	[m]
Larghezza fondazione - B	15.2	[m]
Lunghezza fondazione - L	15.2	[m]
θ	0	[°]
q_0	0	[daN/m ²]
γ_w	1000	[daN/m ³]
Peso di volume del terreno Saturo [daN/m ³]	1980	

	R3
Coeff. parziali	2.3

Tensioni efficaci $C' \phi'$	
$N_q = e^{\tan \phi} \tan^2(45 + \phi/2)$	37.7524972
$N_\gamma = (N_q - 1) \tan(1.4\phi)$	44.4261374
$N_c = (N_q - 1) \cot \phi$	50.5854726

Forma	
$S_c = 1 + 0.2 K_p B/L$	1.770368
$S_q = S_\gamma = 1 + 0.1 K_p B/L$	1.385184

Profondità	
$d_c = 1 + 0.2 ((K_p)^{0.5}) D/B$	1
$d_q = d_\gamma = 1 + 0.1 ((K_p)^{0.5}) D/B$	1

Inclinazione	
$i_c = i_q = (1 - \theta/90)^2$	1
$i_\gamma = (1 - \theta/\phi)^2$	1

Inclinazione della base $\alpha = 0^\circ$	
$b_c = b_q = (1 - b_\alpha)/(N_q \tan \phi)$	1
$b_\gamma = b_q = (1 - \alpha \tan \phi)^2$	1

Condizioni sismiche				
a_{max}	0.31373	g	K_h	0.094119
β_z	0.3		e_γ	0.939476973

Contributo c	0
Contributo q	0
Contributo y	489107.002

$$q_F = q'_F + u_0 \quad 489107.002 \quad [\text{daN/m}^2]$$

$$48.9107002 \quad [\text{daN/cm}^2]$$

$$/V_R \quad 21.2655218 \quad [\text{daN/cm}^2]$$

Condizioni sismiche

Contributo c	0
Contributo q	0
Contributo y	489107.002

$$q_F = q'_F + u_0 \quad 489107.002 \quad [\text{daN/m}^2]$$

$$48.9107002 \quad [\text{daN/cm}^2]$$

$$/V_R \quad 21.2655218 \quad [\text{daN/cm}^2]$$

2.3 VALUTAZIONE PRESSIONE STATICA TERRENO-FONDAZIONE

Per la valutazione della pressione di esercizio si prende in esame la combinazione (A1+M1+R3). In questa combinazione si ottengono i seguenti valori delle pressioni:

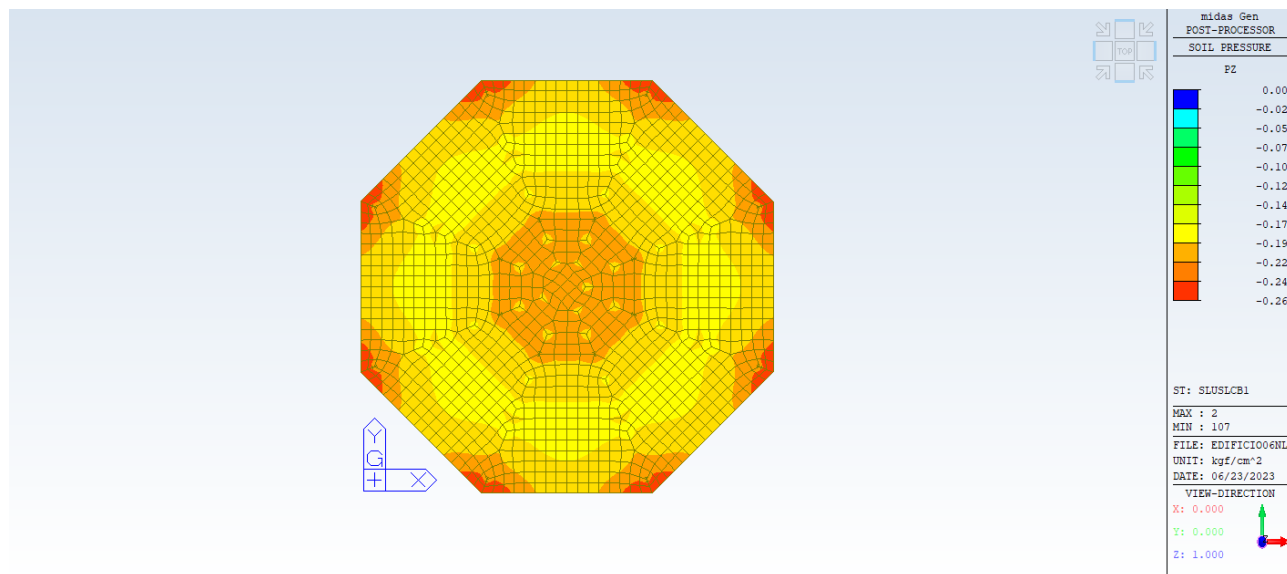


Figura 1: Pressioni sul terreno in combinazione statica A1-M1-R3 (SLUCB1)

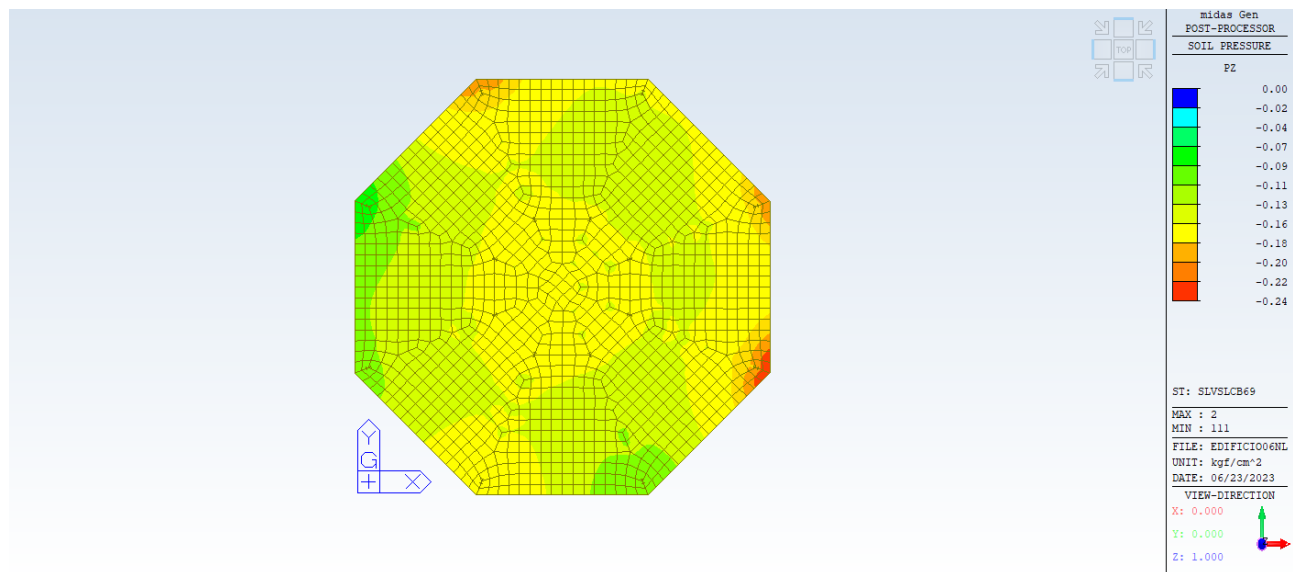


Figura 2: Pressioni sul terreno in combinazione statica A1-M1-R3 (SLUCB69)

La pressione massima risulta pari a 0,26 daN/cm² e rimane al di sotto del valore pressione limite precedentemente valutata al paragrafo 2.2.

2.4 VALUTAZIONE CEDIMENTI

Data la leggerezza del sistema costruttivo si ritiene che i cedimenti assoluti saranno di modesta entità. Per quanto riguarda i cedimenti relativi questi vengono assorbiti dalla rigidità del sistema di fondazione (platea spessa 40cm) non causando problemi di spostamenti differenziali alla sovrastruttura in acciaio.

2.5 VERIFICA ARMATURA PLATEA

La platea di fondazione è di spessore pari a 40cm. Il quantitativo minimo di armatura è pari a:

$$A_{s,min} = 0,26 \frac{f_{cm}}{f_{yk}} b_t \cdot d \quad \text{e comunque non minore di } 0,0013 \cdot b_t \cdot d \quad [4.1.45]$$

C25/30 – Spessore 40cm: $A_{s,min} = 5.41 \text{ cm}^2$

Si adotta un'armatura $\Phi 12/20''$ ($A_s = 5.65 \text{ cm}^2$) nelle due direzioni sia all'estradosso che all'intradosso. (l'armatura rispetta anche il limite del capitolo 7 dello $0.1\% A_c = 4 \text{ cm}^2$).

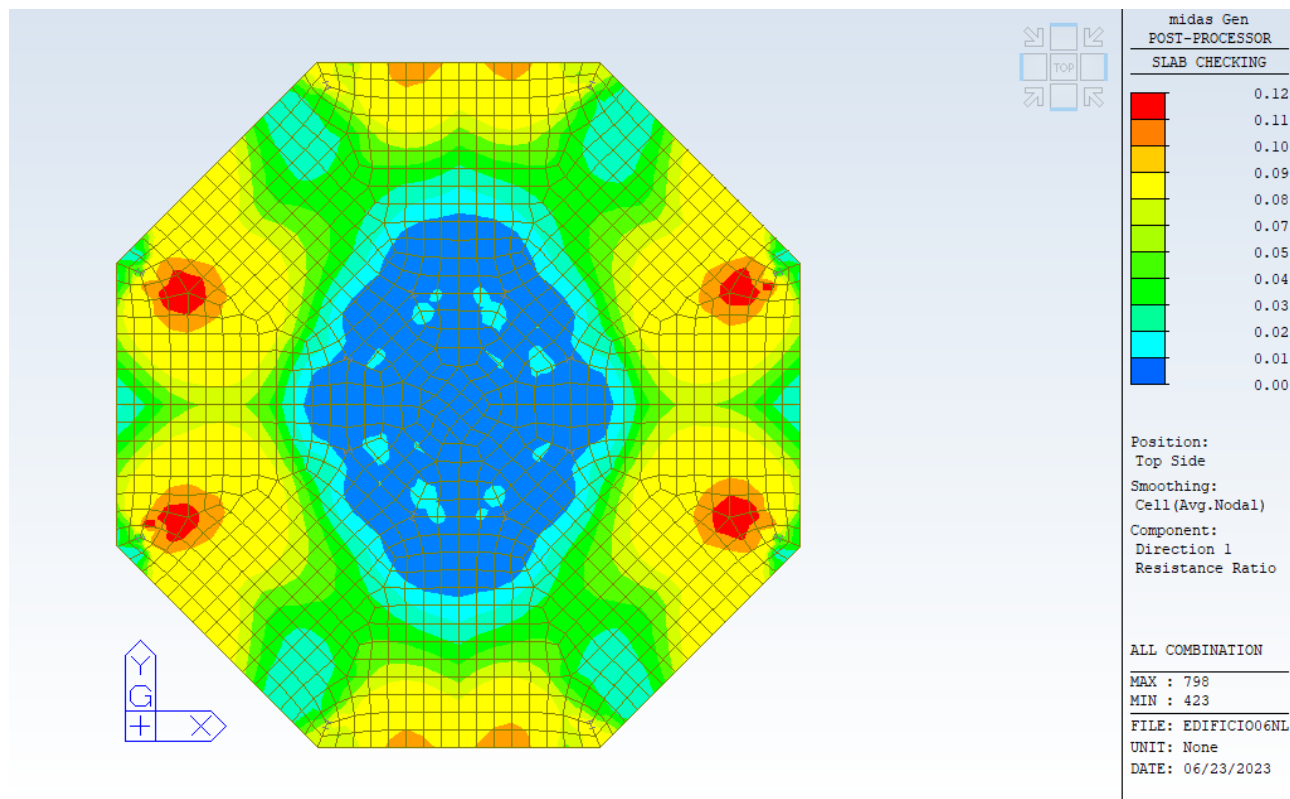


Figura 3: Rapporto di resistenza direzione 1 – Top

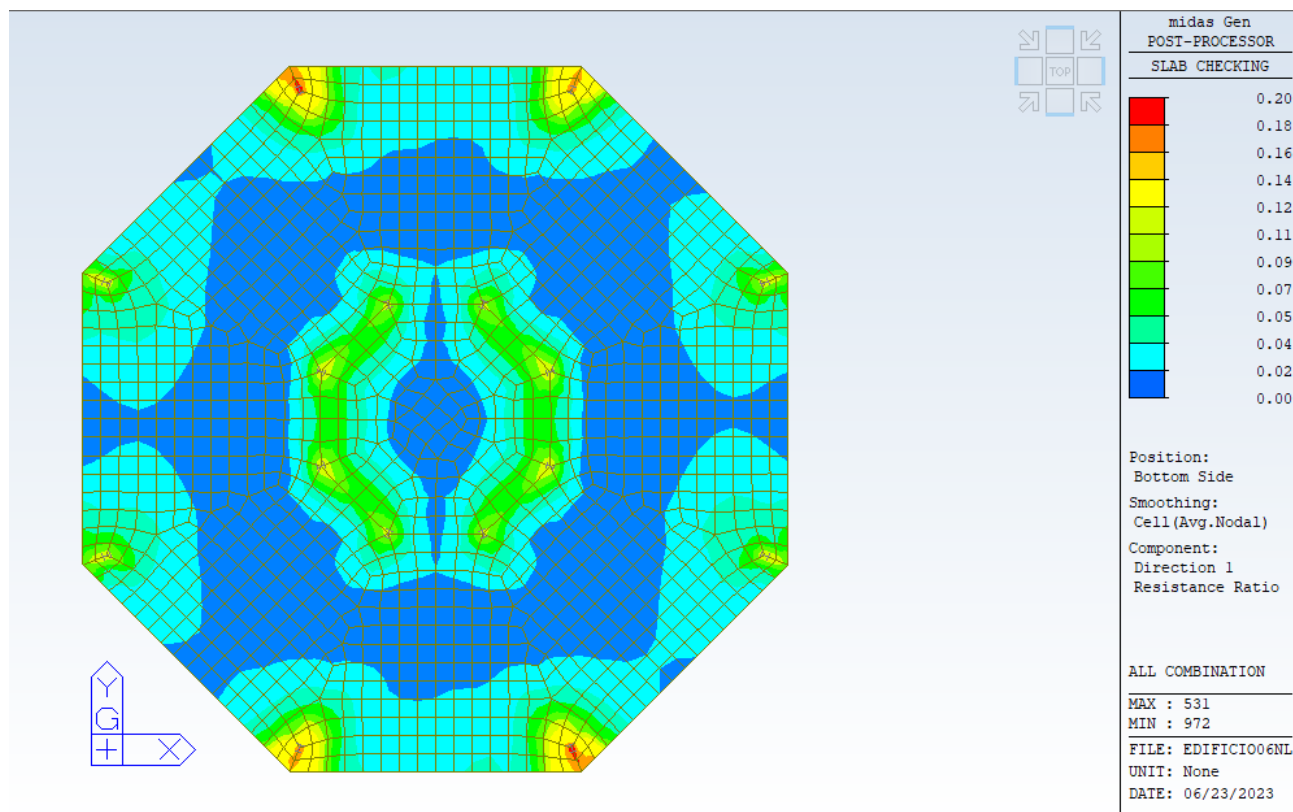


Figura 4: Rapporto di resistenza direzione 1 – Bottom

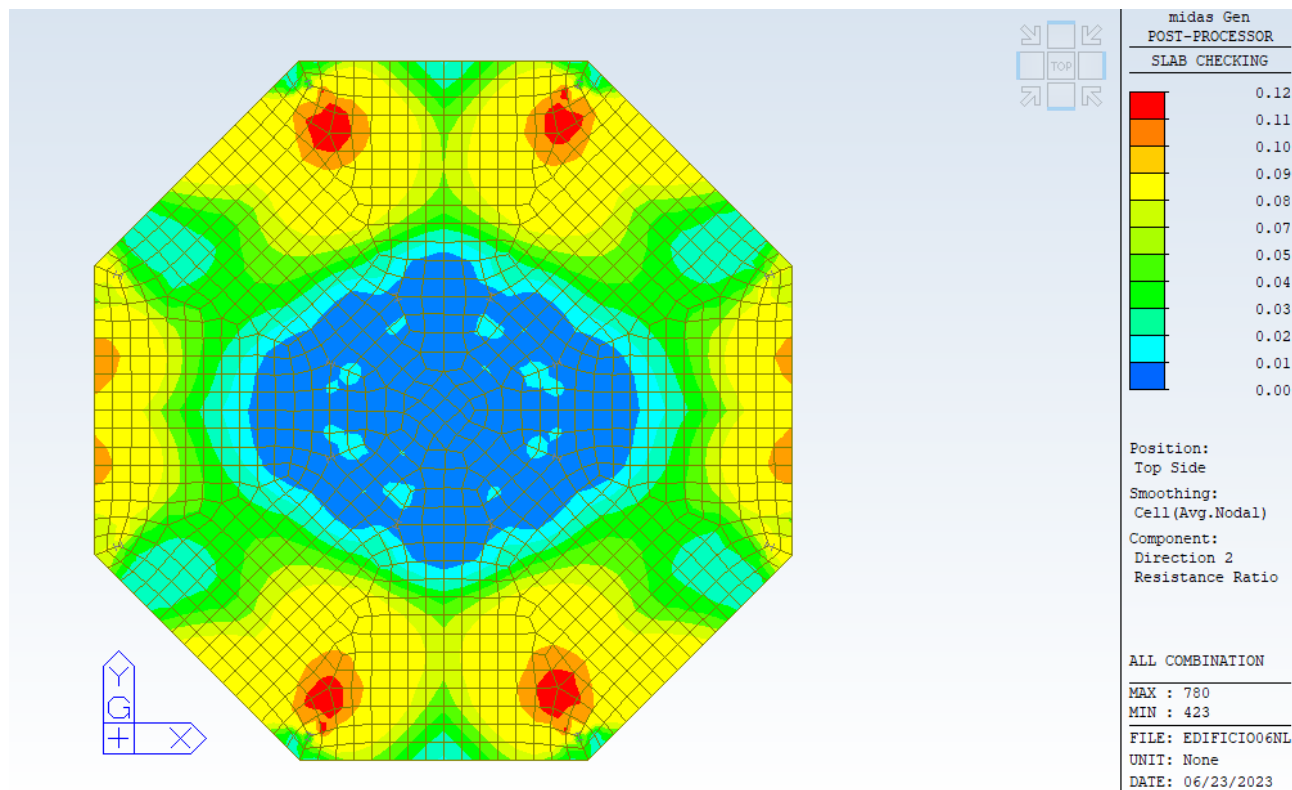


Figura 5: Rapporto di resistenza direzione 2 – Top

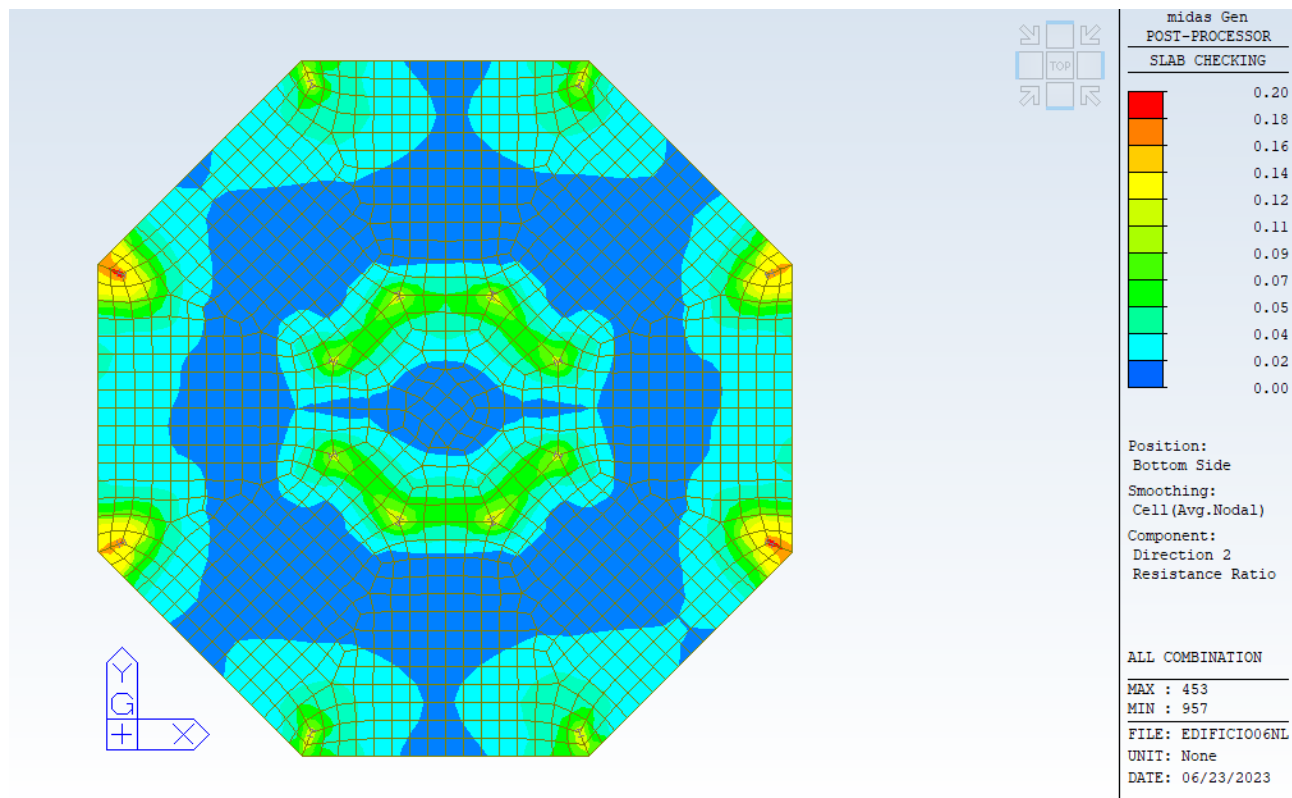


Figura 6: Rapporto di resistenza direzione 2 – Bottom

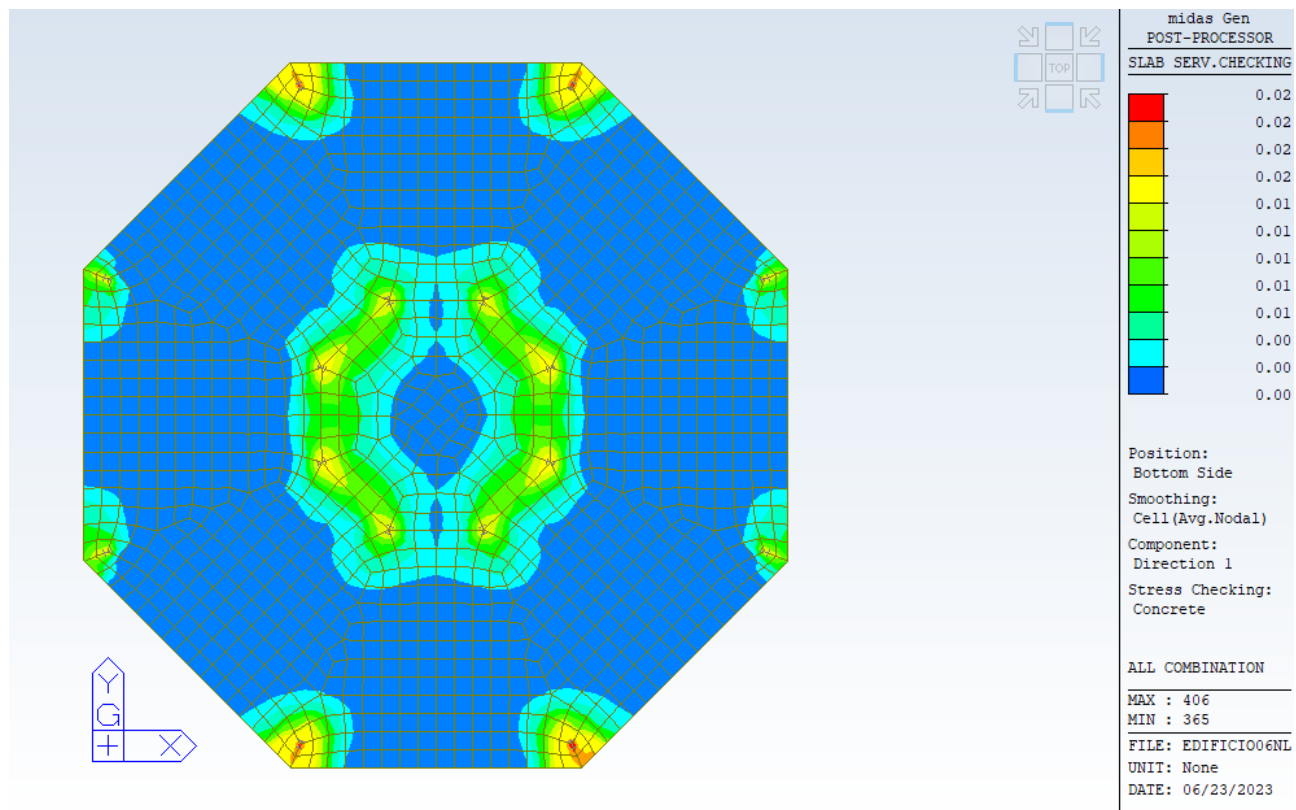


Figura 7: Rapporto Stress Checking direzione 1 – Bottom

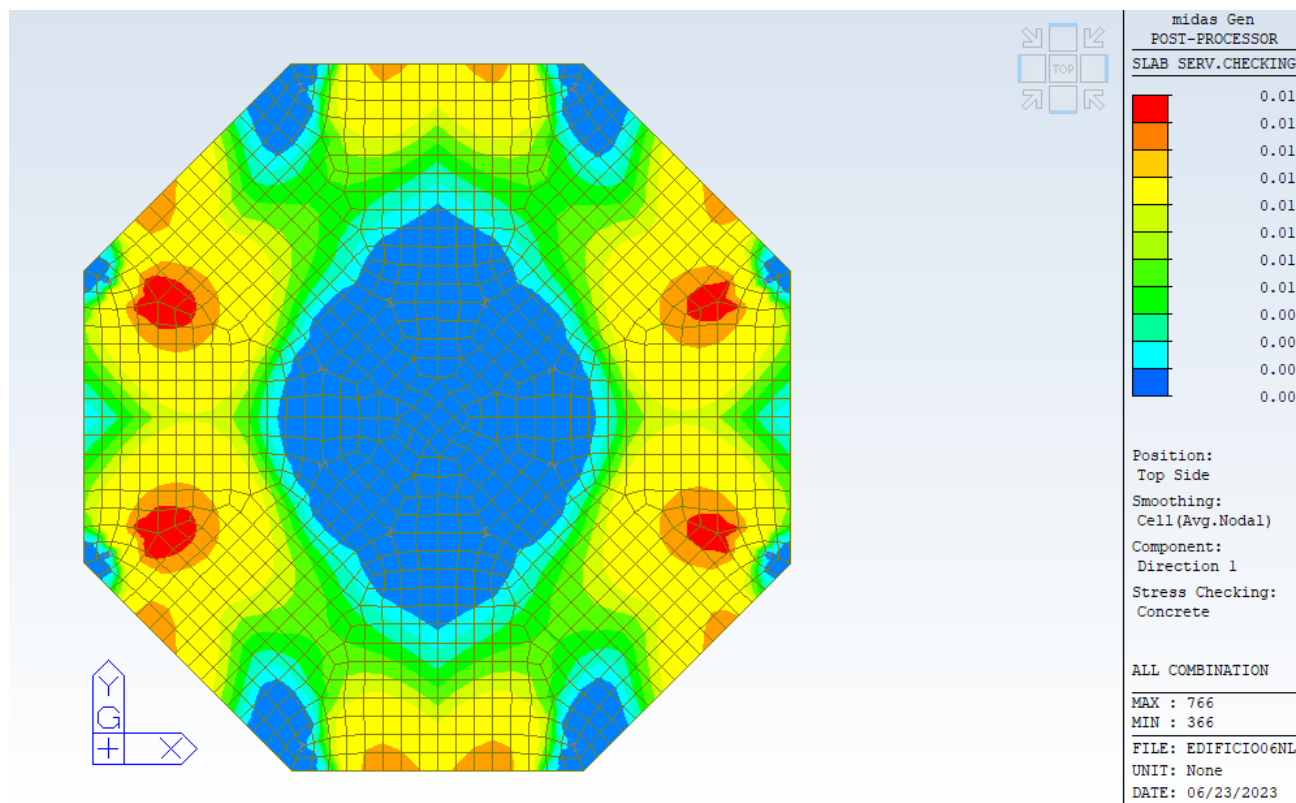


Figura 8: Rapporto Stress Checking direzione 1 – top

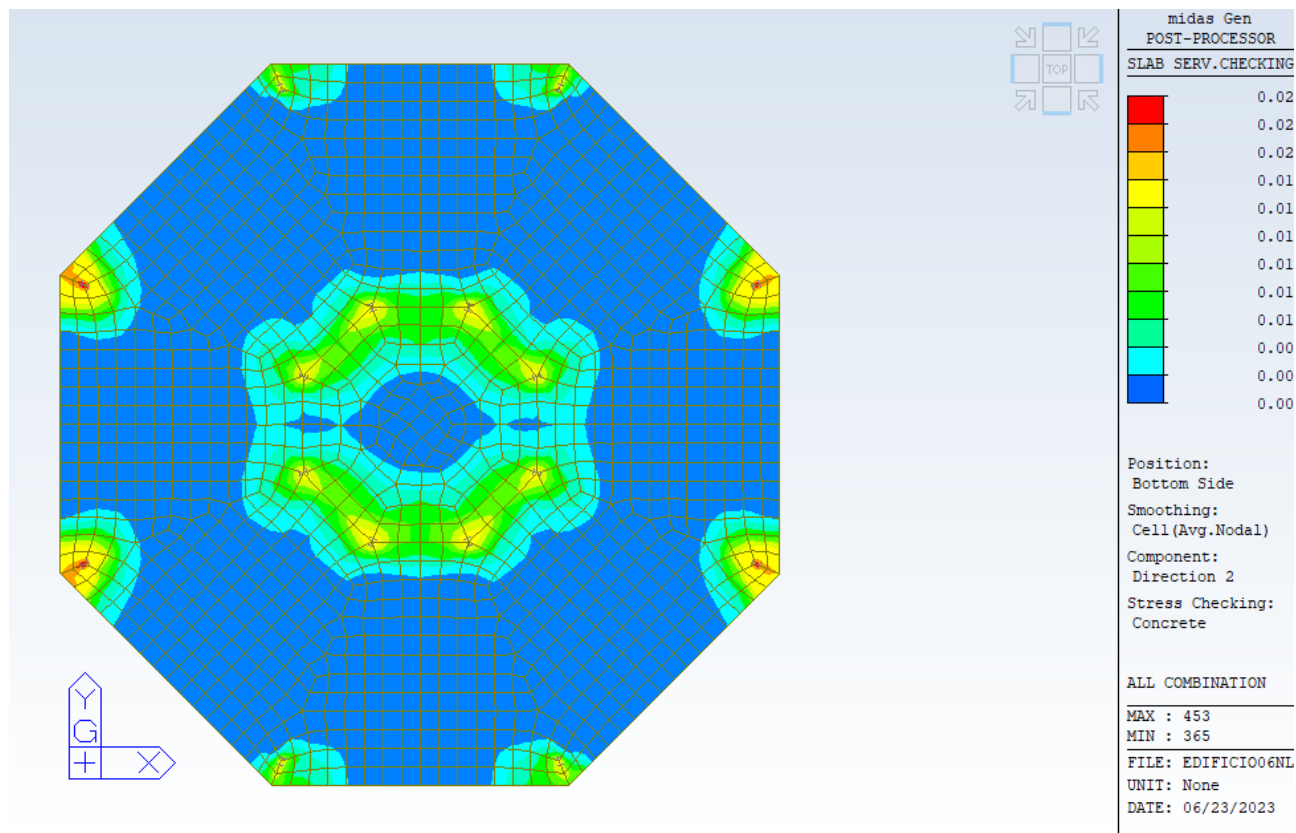


Figura 9: Rapporto Stress Checking direzione 2 – Bottom

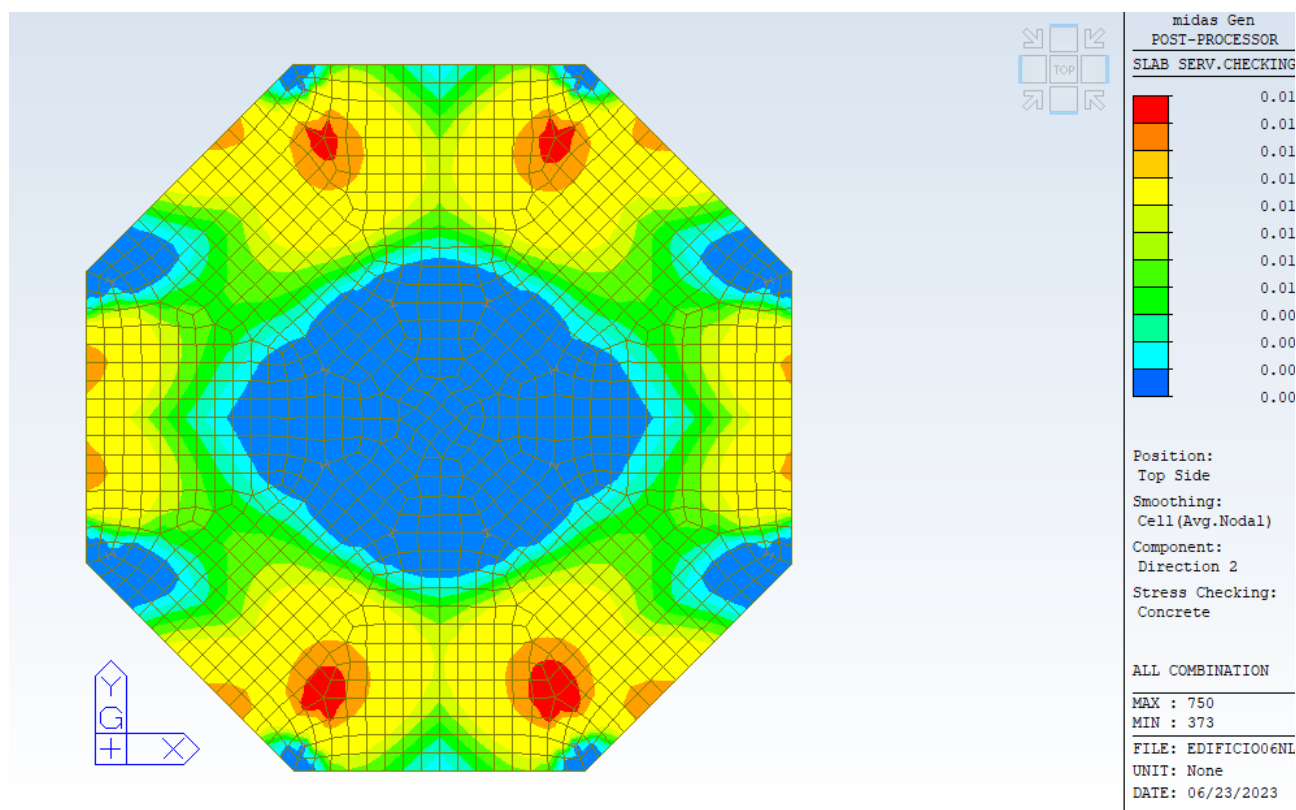


Figura 10: Rapporto Stress Checking direzione 2 - Top

- Verifiche elementi più sollecitati:

[[[*]]] SLAB CHECKING MAXIMUM RESULT DATA : DOMAIN 1-[1], Dir 1.

Thk	Elem	POS	AsReq	AsUse	M_Ed(LCB)	M_Rd	Rat	CHK
40.000	599	BOT	0.0519	0.0565	1515.91(31)	7739.08	0.196	OK
1038	TOP	0.0519	0.0565	930.055(33)	7739.08	0.120	OK	

<< BOTTOM >>

-. Information of Parameters.

Elem No. : 599
 Thickness : 40.0000 cm.
 Materials : fck = 254.9291 kgf/cm².
 fcd = 169.9527 kgf/cm².
 fyk = 4588.7230 kgf/cm².
 Covering : dB = 5.0000 cm.
 dT = 5.0000 cm.
 LCB No. : 31

-. Information of Design.

b = 0.1000 cm. (by Code Unit Length).
 d = 35.0000 cm.
 lambda = 0.800
 a = lambda * x = 1.326 cm.
 eta = 1.000
 Cc = eta*fcd*b*a = 22.5386 kgf.
 M_Rd = Cc*(d-a/2) = 7739.0767 kgf-cm./cm.

-. Information of Moments and Result.

Rein. Bar : P12 @200
 As_req = 0.0519 cm²/cm. (5.1869 cm²/m.)
 M_Ed = 1515.9112 kgf-cm./cm.
 M_Rd = 7739.0767 kgf-cm./cm.
 RatM = M_Ed / M_Rd = 0.196 < 1.0 ---> O.K !

-. Check ratio of neutral axis depth to effective depth.

x/d = 0.047
 Limit(x/d) = 0.450 (fck <= 50 MPa.)
 x/d ratio = 0.047/ 0.450 = 0.105 ---> O.K

<< TOP >>

-. Information of Parameters.

Elem No. : 1038
 Thickness : 40.0000 cm.
 Materials : fck = 254.9291 kgf/cm².
 fcd = 169.9527 kgf/cm².
 fyk = 4588.7230 kgf/cm².
 Covering : dB = 5.0000 cm.
 dT = 5.0000 cm.
 LCB No. : 33

-. Information of Design.

b = 0.1000 cm. (by Code Unit Length).
 d = 35.0000 cm.
 lambda = 0.800
 a = lambda * x = 1.326 cm.

$\eta = 1.000$
 $C_c = \eta \cdot f_{cd} \cdot b \cdot a = 22.5386 \text{ kgf.}$
 $M_{Rd} = C_c \cdot (d - a/2) = 7739.0767 \text{ kgf-cm./cm.}$

-. Information of Moments and Result.

Rein. Bar : P12 @200
 $A_{s_req} = 0.0519 \text{ cm}^2/\text{cm.} \quad (5.1869 \text{ cm}^2/\text{m.})$
 $M_{Ed} = 930.0546 \text{ kgf-cm./cm.}$
 $M_{Rd} = 7739.0767 \text{ kgf-cm./cm.}$
 $RatM = M_{Ed} / M_{Rd} = 0.120 < 1.0 \rightarrow \text{O.K. !}$

-. Check ratio of neutral axis depth to effective depth.

$x/d = 0.047$
 $\text{Limit}(x/d) = 0.450 \quad (f_{ck} \leq 50 \text{ MPa.})$
 $x/d \text{ ratio} = 0.047 / 0.450 = 0.105 \rightarrow \text{O.K.}$

=====
 [[[*]]] SLAB CHECKING MAXIMUM RESULT DATA : DOMAIN 1-[1], Dir 2.
 =====

Thk	Elem	POS	AsReq	AsUse	M_Ed(LCB)	M_Rd	Rat	CHK
40.000	1617	BOT	0.0519	0.0565	1514.90(33)	7739.08	0.196	OK
1075	TOP	0.0519	0.0565	930.281(31)	7739.08	0.120	OK	

<< BOTTOM >>

-. Information of Parameters.

Elem No. : 1617
 Thickness : 40.0000 cm.
 Materials : $f_{ck} = 254.9291 \text{ kgf/cm}^2$.
 $f_{cd} = 169.9527 \text{ kgf/cm}^2$.
 $f_{yk} = 4588.7230 \text{ kgf/cm}^2$.
 Covering : $d_B = 5.0000 \text{ cm.}$
 $d_T = 5.0000 \text{ cm.}$
 LCB No. : 33

-. Information of Design.

$b = 0.1000 \text{ cm.} \quad (\text{by Code Unit Length}).$
 $d = 35.0000 \text{ cm.}$
 $\lambda = 0.800$
 $a = \lambda \cdot x = 1.326 \text{ cm.}$
 $\eta = 1.000$
 $C_c = \eta \cdot f_{cd} \cdot b \cdot a = 22.5386 \text{ kgf.}$
 $M_{Rd} = C_c \cdot (d - a/2) = 7739.0767 \text{ kgf-cm./cm.}$

-. Information of Moments and Result.

Rein. Bar : P12 @200
 $A_{s_req} = 0.0519 \text{ cm}^2/\text{cm.} \quad (5.1869 \text{ cm}^2/\text{m.})$
 $M_{Ed} = 1514.8988 \text{ kgf-cm./cm.}$
 $M_{Rd} = 7739.0767 \text{ kgf-cm./cm.}$
 $RatM = M_{Ed} / M_{Rd} = 0.196 < 1.0 \rightarrow \text{O.K. !}$

-. Check ratio of neutral axis depth to effective depth.

$x/d = 0.047$
 $\text{Limit}(x/d) = 0.450 \quad (f_{ck} \leq 50 \text{ MPa.})$
 $x/d \text{ ratio} = 0.047 / 0.450 = 0.105 \rightarrow \text{O.K.}$

<< TOP >>

-. Information of Parameters.

Elem No. : 1075
Thickness : 40.0000 cm.
Materials : fck = 254.9291 kgf/cm².
fcd = 169.9527 kgf/cm².
fyk = 4588.7230 kgf/cm².
Covering : dB = 5.0000 cm.
dT = 5.0000 cm.
LCB No. : 31

-. Information of Design.

b = 0.1000 cm. (by Code Unit Length).
d = 35.0000 cm.
lambda = 0.800
a = lambda * x = 1.326 cm.
eta = 1.000
Cc = eta*fcd*b*a = 22.5386 kgf.
M_Rd = Cc*(d-a/2) = 7739.0767 kgf-cm./cm.

-. Information of Moments and Result.

Rein. Bar : P12 @200
As_req = 0.0519 cm²/cm. (5.1869 cm²/m.)
M_Ed = 930.2812 kgf-cm./cm.
M_Rd = 7739.0767 kgf-cm./cm.
RatM = M_Ed / M_Rd = 0.120 < 1.0 ---> O.K !

-. Check ratio of neutral axis depth to effective depth.

x/d = 0.047
Limit(x/d) = 0.450 (fck <= 50 MPa.)
x/d ratio = 0.047/ 0.450 = 0.105 ---> O.K

=====
[[[*]]] SLAB CRACK MAXIMUM RESULT DATA : DOMAIN 1-[1], Dir 1.
=====

<< BOTTOM >>

-. Information of Parameters.

Elem No. : 450
LCB No. : 28
Materials : fck = 2549290.5324 kgf/m².
fyk = 4.5887e+07 kgf/m².
Thickness : 0.4000 m.
Covering : dB = 0.0500 m.
dT = 0.0500 m.

-. Information of Checking.

gamma_c = 1.500 (for Concrete)
gamma_s = 1.150 (for Reinforcement)
fcd = fck / gamma_c = 1.69953e+06 kgf/m².
fyd = fyk / gamma_s = 3.99019e+07 kgf/m².
b = 0.0010 m. (by Code Unit Length).
d = 0.3500 m.
As_use = 0.0006 m²/m. (0.0006 m²/m.)

-. Information of Crack Checking Result.

[Check Crack Width]

fcm = fck+8(MPa) = 3.36506e+06 kgf/m².
fctm = 0.30*fck^(2/3)=261553.52949 kgf/m².(fck<=C50/60)
fct.eff = fctm (by 28 days).
Sigma_s = 161242.335 kgf/m².
kt = 0.6 (for short term loading.).

$X = 0.06408 \text{ m.}$
 $hc_{ef} = \text{MIN}[2.5 \cdot (h-d), (h-X)/3, h/2] = 0.11197 \text{ m.}$
 $Ac_{eff} = Bc \cdot hc_{ef} = 0.00011 \text{ m}^2.$
 $Rho_{p,eff} = As/Ac_{eff} = 0.0050$
 $E_{cm} = 22[f_{cm}/10]^0.3 \cdot 1000 = 3.210e+09 \text{ kgf/m}^2. \text{ (by Table 3.1)}$
 $\alpha_e = E_s/E_{cm} = 6.35409$
 $(E_{ps_sm} - E_{ps_cm}) = (\sigma_s - k_t \cdot f_{ct,eff} / Rho_{p,eff} \cdot (1 + \alpha_e \cdot Rho_{p,eff})) / E_s$
 $= -0.001566$
 $< 0.6 \cdot \sigma_s / E_s = 0.000005$
 $(E_{ps_sm} - E_{ps_cm}) = 0.6 \cdot \sigma_s / E_s = 0.000005$

Bond coefficient(k_1) = 0.8000
Strain distribution coefficient(k_2) = 0.5000
NAD Value (k_3) = 3.4000
NAD Value (k_4) = 0.4250
 $c = 0.04400 \text{ m.}$
 $\Phi = 0.01200 \text{ m.}$
 $S_{r,max} = k_3 \cdot c + k_1 \cdot k_2 \cdot k_4 \cdot \Phi / Rho_{p,eff} = 0.55390 \text{ m.}$

$w_k = S_{r,max} \cdot (E_{ps_sm} - E_{ps_cm}) = 2.62755e-06 \text{ m.}$
 $w_k < 3.000e-04 \text{ m.} \rightarrow \text{O.K. !}$

<< TOP >>

-. Information of Parameters.

Elem No. : 766
LCB No. : 28
Materials : $f_{ck} = 2549290.5324 \text{ kgf/m}^2.$
 $f_{yk} = 4.5887e+07 \text{ kgf/m}^2.$
Thickness : 0.4000 m.
Covering : $d_B = 0.0500 \text{ m.}$
 $d_T = 0.0500 \text{ m.}$

-. Information of Checking.

$\gamma_c = 1.500$ (for Concrete)
 $\gamma_s = 1.150$ (for Reinforcement)
 $f_{cd} = f_{ck} / \gamma_c = 1.69953e+06 \text{ kgf/m}^2.$
 $f_{yd} = f_{yk} / \gamma_s = 3.99019e+07 \text{ kgf/m}^2.$
 $b = 0.0010 \text{ m.}$ (by Code Unit Length).
 $d = 0.3500 \text{ m.}$
 $As_{use} = 0.0006 \text{ m}^2/\text{m.}$ (0.0006 $\text{m}^2/\text{m.}$)

-. Information of Crack Checking Result.

[Check Crack Width]
 $f_{cm} = f_{ck} + 8(\text{MPa}) = 3.36506e+06 \text{ kgf/m}^2.$
 $f_{ctm} = 0.30 \cdot f_{cm}^{2/3} = 261553.52949 \text{ kgf/m}^2. (f_{ck} \leq C50/60)$
 $f_{ct,eff} = f_{ctm}$ (by 28 days).
 $\sigma_s = 102814.100 \text{ kgf/m}^2.$
 $k_t = 0.6$ (for short term loading.).
 $X = 0.06408 \text{ m.}$
 $hc_{ef} = \text{MIN}[2.5 \cdot (h-d), (h-X)/3, h/2] = 0.11197 \text{ m.}$
 $Ac_{eff} = Bc \cdot hc_{ef} = 0.00011 \text{ m}^2.$
 $Rho_{p,eff} = As/Ac_{eff} = 0.0050$
 $E_{cm} = 22[f_{cm}/10]^0.3 \cdot 1000 = 3.210e+09 \text{ kgf/m}^2. \text{ (by Table 3.1)}$
 $\alpha_e = E_s/E_{cm} = 6.35409$
 $(E_{ps_sm} - E_{ps_cm}) = (\sigma_s - k_t \cdot f_{ct,eff} / Rho_{p,eff} \cdot (1 + \alpha_e \cdot Rho_{p,eff})) / E_s$
 $= -0.001569$
 $< 0.6 \cdot \sigma_s / E_s = 0.000003$
 $(E_{ps_sm} - E_{ps_cm}) = 0.6 \cdot \sigma_s / E_s = 0.000003$

Bond coefficient(k_1) = 0.8000
Strain distribution coefficient(k_2) = 0.5000

NAD Value (k3) = 3.4000
 NAD Value (k4) = 0.4250
 c = 0.04400 m.
 Phi = 0.01200 m.
 $S_{r,max} = k_3 \cdot c + k_1 \cdot k_2 \cdot k_4 \cdot \Phi / \rho_{p,eff} = 0.55390 \text{ m.}$

$w_k = S_{r,max} \cdot (E_{ps,sm} - E_{ps,cm}) = 1.67542e-06 \text{ m.}$
 $w_k < 3.000e-04 \text{ m.} \rightarrow \text{O.K. !}$

=====
 [[[*]]] SLAB CRACK MAXIMUM RESULT DATA : DOMAIN 1-[1], Dir 2.
 =====

<< BOTTOM >>

-. Information of Parameters.

Elem No. : 453
 LCB No. : 28
 Materials : $f_{ck} = 2549290.5324 \text{ kgf/m}^2$.
 $f_{yk} = 4.5887e+07 \text{ kgf/m}^2$.
 Thickness : 0.4000 m.
 Covering : dB = 0.0500 m.
 dT = 0.0500 m.

-. Information of Checking.

$\gamma_c = 1.500$ (for Concrete)
 $\gamma_s = 1.150$ (for Reinforcement)
 $f_{cd} = f_{ck} / \gamma_c = 1.69953e+06 \text{ kgf/m}^2$.
 $f_{yd} = f_{yk} / \gamma_s = 3.99019e+07 \text{ kgf/m}^2$.
 b = 0.0010 m. (by Code Unit Length).
 d = 0.3500 m.
 $A_{s,use} = 0.0006 \text{ m}^2/\text{m.}$ (0.0006 $\text{m}^2/\text{m.}$)

-. Information of Crack Checking Result.

[Check Crack Width]

$f_{cm} = f_{ck} + 8(\text{MPa}) = 3.36506e+06 \text{ kgf/m}^2$.
 $f_{ctm} = 0.30 \cdot f_{cm}^{2/3} = 261553.52949 \text{ kgf/m}^2$. ($f_{ck} \leq C50/60$)
 $f_{ct,eff} = f_{ctm}$ (by 28 days).
 $\sigma_s = 161219.049 \text{ kgf/m}^2$.
 $k_t = 0.6$ (for short term loading.).
 $X = 0.06408 \text{ m.}$
 $h_{c,ef} = \text{MIN}[2.5 \cdot (h-d), (h-X)/3, h/2] = 0.11197 \text{ m.}$
 $A_{c,eff} = B_c \cdot h_{c,ef} = 0.00011 \text{ m}^2$.
 $\rho_{p,eff} = A_s / A_{c,eff} = 0.0050$
 $E_{cm} = 22 \cdot [f_{cm} / 10]^0.3 \cdot 1000 = 3.210e+09 \text{ kgf/m}^2$. (by Table 3.1)
 $\alpha_e = E_s / E_{cm} = 6.35409$
 $(E_{ps,sm} - E_{ps,cm}) = (\sigma_s - k_t \cdot f_{ct,eff} / \rho_{p,eff} \cdot (1 + \alpha_e \cdot \rho_{p,eff})) / E_s$
 $= -0.001566$
 $< 0.6 \cdot \sigma_s / E_s = 0.000005$
 $(E_{ps,sm} - E_{ps,cm}) = 0.6 \cdot \sigma_s / E_s = 0.000005$

Bond coefficient(k_1) = 0.8000
 Strain distribution coefficient(k_2) = 0.5000
 NAD Value (k3) = 3.4000
 NAD Value (k4) = 0.4250
 c = 0.04400 m.
 Phi = 0.01200 m.
 $S_{r,max} = k_3 \cdot c + k_1 \cdot k_2 \cdot k_4 \cdot \Phi / \rho_{p,eff} = 0.55390 \text{ m.}$

$w_k = S_{r,max} \cdot (E_{ps,sm} - E_{ps,cm}) = 2.62717e-06 \text{ m.}$
 $w_k < 3.000e-04 \text{ m.} \rightarrow \text{O.K. !}$

<< TOP >>

-. Information of Parameters.

Elem No. : 780

LCB No. : 28

Materials : $f_{ck} = 2549290.5324 \text{ kgf/m}^2$. $f_{yk} = 4.5887e+07 \text{ kgf/m}^2$.

Thickness : 0.4000 m.

Covering : $d_B = 0.0500 \text{ m}$. $d_T = 0.0500 \text{ m}$.

-. Information of Checking.

 $\gamma_{c} = 1.500$ (for Concrete) $\gamma_{s} = 1.150$ (for Reinforcement) $f_{cd} = f_{ck} / \gamma_{c} = 1.69953e+06 \text{ kgf/m}^2$. $f_{yd} = f_{yk} / \gamma_{s} = 3.99019e+07 \text{ kgf/m}^2$. $b = 0.0010 \text{ m}$. (by Code Unit Length). $d = 0.3500 \text{ m}$. $A_{s_use} = 0.0006 \text{ m}^2/\text{m}$. ($0.0006 \text{ m}^2/\text{m}$.)

-. Information of Crack Checking Result.

[Check Crack Width]

 $f_{cm} = f_{ck} + 8(\text{MPa}) = 3.36506e+06 \text{ kgf/m}^2$. $f_{ctm} = 0.30 * f_{cm}^{2/3} = 261553.52949 \text{ kgf/m}^2$. ($f_{ck} \leq C50/60$) $f_{ct,eff} = f_{ctm}$ (by 28 days). $\sigma_{s} = 102845.759 \text{ kgf/m}^2$. $k_t = 0.6$ (for short term loading.). $X = 0.06408 \text{ m}$. $h_{c,ef} = \text{MIN}[2.5 * (h - d), (h - X)/3, h/2] = 0.11197 \text{ m}$. $A_{c,eff} = B_c * h_{c,ef} = 0.00011 \text{ m}^2$. $\rho_{p,eff} = A_s / A_{c,eff} = 0.0050$ $E_{cm} = 22[f_{cm}/10]^{0.3} * 1000 = 3.210e+09 \text{ kgf/m}^2$. (by Table 3.1) $\alpha_e = E_s / E_{cm} = 6.35409$ $(\epsilon_{s_sm} - \epsilon_{s_cm}) = (\sigma_{s_kt} * f_{ct,eff} / \rho_{p,eff} * (1 + \alpha_e * \rho_{p,eff})) / E_s$
 $= -0.001569$ $< 0.6 * \sigma_{s_kt} / E_s = 0.000003$ $(\epsilon_{s_sm} - \epsilon_{s_cm}) = 0.6 * \sigma_{s_kt} / E_s = 0.000003$ Bond coefficient(k_1) = 0.8000Strain distribution coefficient(k_2) = 0.5000NAD Value (k_3) = 3.4000NAD Value (k_4) = 0.4250 $c = 0.04400 \text{ m}$. $\Phi = 0.01200 \text{ m}$. $S_{r,max} = k_3 * c + k_1 * k_2 * k_4 * \Phi / \rho_{p,eff} = 0.55390 \text{ m}$. $w_k = S_{r,max} * (\epsilon_{s_sm} - \epsilon_{s_cm}) = 1.67594e-06 \text{ m}$. $w_k < 3.000e-04 \text{ m}$. ---> O.K !**2.6 VERIFICA A PUNZONAMENTO PLATEA**

Si allegano le verifiche a punzonamento eseguite dal programma di calcolo MIDAS da cui si evince che il rapporto massimo tra l'azione sollecitante e quella resistente, in condizione statiche, non supera mai il valore di 0,09.

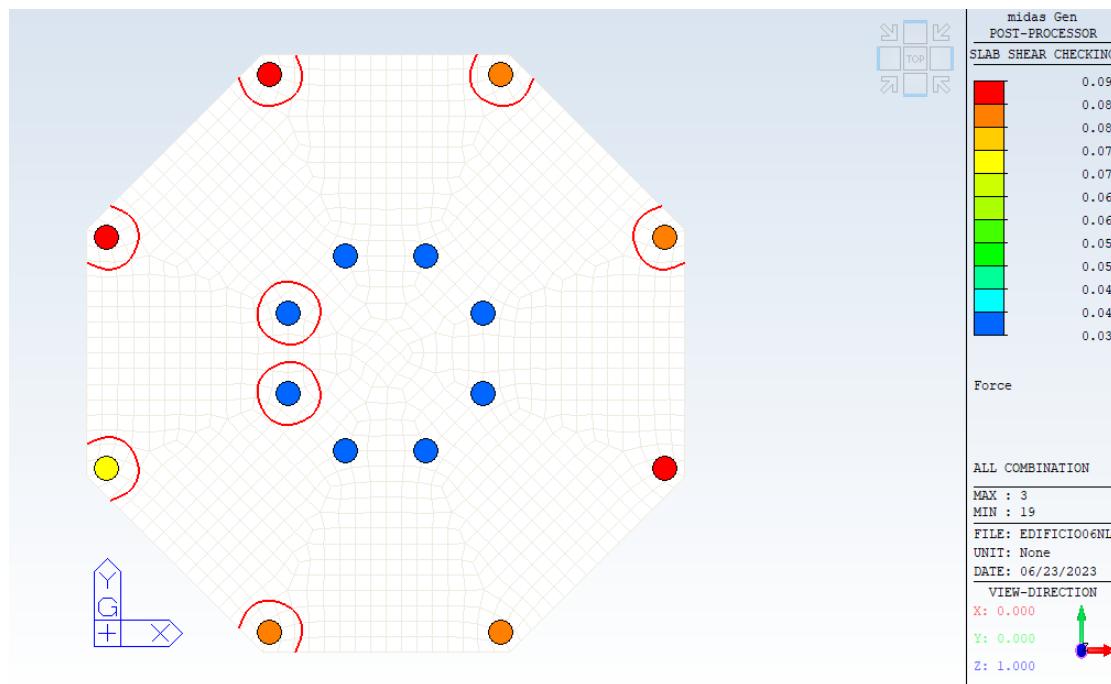


Figura 10: Statica - Verifica a punzonamento

[[[*]]] PUNCHING CHECK MAXIMUM RESULT DATA BY FORCE : DOMAIN 1-[1].

-. Information of Parameters.

Elem No. : 2
 LCB No. : 33
 Materials : $f_{ck} = 254.9291 \text{ kgf/cm}^2$.
 Thickness : 40.0000 cm.
 Covering : $d_B = 5.0000 \text{ cm}$.
 $d_T = 5.0000 \text{ cm}$.

-. Information of Checking.

$V_{Ed} = -2987.2855 \text{ kgf}$.
 $u_1 = 296.6667 \text{ cm}$.
 $u_1' = 280.6667 \text{ cm}$.
 $u_0 = 48.0000 \text{ cm}$.
 $d = 35.0000 \text{ cm}$.
 $M_{Edy} = -107509.6617 \text{ kgf-cm}$.
 $M_{Edz} = 20809.9848 \text{ kgf-cm}$.
 $c_1 = 16.0000 \text{ cm}$.
 $c_2 = 16.0000 \text{ cm}$.
 $k = 0.6000$
 $W_1 = c_2^2/2 + c_1*c_2 + 4*c_1*d + 16*d^2 + 2*\pi*d*c_2 = 2.5743e+05 \text{ cm}$.
 $\text{Beta} = 1 + k*(M_{Edy}/V_{Ed})*(u_1/W_1) = 1.2489$
 $\text{Beta}*V_{Ed} = 3730.6732 \text{ kgf}$.

-. Basic control perimeter

$\rho_{holy} = 0.0021$
 $\rho_{holz} = 0.0021$
 $\rho_{hol} = \min[\sqrt{\rho_{holy}*\rho_{holz}}, 0.02] = 0.0021$
 $K = \min[1 + (200/d)^{0.5}, 2.0] = 1.756 \text{ (d in mm)}$
 $\gamma_{c_c} = 1.500$
 $V_{Rd,c} = \max[0.035*k^{1.5}*\sqrt{f_{ck}}, (0.18/\gamma_{c_c})*K*(100*\rho_{hol}*f_{ck})^{1/3}]*u_1*d$
 $= 43113.6316 \text{ kgf}$.

$$\text{RatV} = \text{Beta} \cdot V_{\text{Ed}} / V_{\text{Rd,c}} = 0.087 < 1.0 \rightarrow \text{O.K. !}$$

-. Column face

$$\alpha_{\text{cc}} = 1.0000$$

$$\gamma_{\text{c}} = 1.5000$$

$$f_{\text{cd}} = \alpha_{\text{cc}} \cdot f_{\text{ck}} / \gamma_{\text{c}} = 169.9527 \text{ kgf/cm}^2.$$

$$\nu = 0.5000 \text{ (} f_{\text{ck}} \leq 70 \text{ MPa)}$$

$$V_{\text{Rd,max}} = 0.4 \cdot \nu \cdot f_{\text{cd}} \cdot u_0 \cdot d = 57104.1079 \text{ kgf.}$$

$$\text{Beta} \cdot V_{\text{Ed}} / V_{\text{Rd,max}} = 0.065 < 1.0 \rightarrow \text{OK !}$$

2.7 VERIFICA E PROGETTO PLATEA DI FONDAZIONE EDIFICIO ASm

Le verifiche geotecniche e strutturali della platea di fondazione dell'edificio ASm sono state svolte utilizzando il codice di calcolo API di Aztec informatica, dove si tiene conto della geometria della platea e dei carichi sovrastanti dei paramenti murari, della stratigrafia del terreno così come ottenuta dalla relazione geologica considerando la porzione di terreno vegetale epurata con terreno arido e costipato dato dal fatto che si prevede materiale da cava fino al raggiungimento dello strato di sabbie ghiaiose sottostante. La platea è stata modellata con una mesh ad elementi finiti ed i risultati delle stesse si possono osservare all'interno dell'allegato in fondo alla presente relazione.

Il progettista strutturale:

Ing. Paolo Satta



Progetto: A271_platea ASm
Ditta:
Comune: Foligno
Progettista: Ing. Paolo Satta
Direttore dei Lavori: Ing. Paolo Satta
Impresa:

Normative di riferimento

- Legge nr. 1086 del 05/11/1971.
Norme per la disciplina delle opere in conglomerato cementizio, normale e precompresso ed a struttura metallica.
- Legge nr. 64 del 02/02/1974.
Provvedimenti per le costruzioni con particolari prescrizioni per le zone sismiche.
- D.M. LL.PP. del 11/03/1988.
Norme tecniche riguardanti le indagini sui terreni e sulle rocce, la stabilità dei pendii naturali e delle scarpate, i criteri generali e le prescrizioni per la progettazione, l'esecuzione e il collaudo delle opere di sostegno delle terre e delle opere di fondazione.
- D.M. LL.PP. del 14/02/1992.
Norme tecniche per l'esecuzione delle opere in cemento armato normale e precompresso e per le strutture metalliche.
- D.M. 9 Gennaio 1996
Norme Tecniche per il calcolo, l'esecuzione ed il collaudo delle strutture in cemento armato normale e precompresso e per le strutture metalliche
- D.M. 16 Gennaio 1996
Norme Tecniche relative ai 'Criteri generali per la verifica di sicurezza delle costruzioni e dei carichi e sovraccarichi'
- D.M. 16 Gennaio 1996
Norme Tecniche per le costruzioni in zone sismiche
- Circolare Ministero LL.PP. 15 Ottobre 1996 N. 252 AA.GG./S.T.C.
Istruzioni per l'applicazione delle Norme Tecniche di cui al D.M. 9 Gennaio 1996
- Circolare Ministero LL.PP. 10 Aprile 1997 N. 65/AA.GG.
Istruzioni per l'applicazione delle Norme Tecniche per le costruzioni in zone sismiche di cui al D.M. 16 Gennaio 1996
- Norme Tecniche per le Costruzioni 2018 (D.M. 17 Gennaio 2018)
- CIRCOLARE 21 gennaio 2019, n. 7 C.S.LL.PP.
Istruzioni per l'applicazione dell'«Aggiornamento delle "Norme tecniche per le costruzioni"» di cui al decreto ministeriale 17 gennaio 2018.

Richiami teorici - Metodi di analisi

Calcolo - Analisi ad elementi finiti

Per l'analisi platea si utilizza il metodo degli elementi finiti (FEM). La struttura viene suddivisa in elementi connessi fra di loro in corrispondenza dei nodi. Il campo di spostamenti interno all'elemento viene approssimato in funzione degli spostamenti nodali mediante le funzioni di forma. Il programma utilizza, per l'analisi tipo piastra, elementi quadrangolari e triangolari. Nel problema di tipo piastra gli spostamenti nodali sono lo spostamento verticale w e le rotazioni intorno agli assi x e y , ϕ_x e ϕ_y , legati allo spostamento w tramite relazioni

$$\begin{aligned}\phi_x &= -dw/dy \\ \phi_y &= dw/dx\end{aligned}$$

Note le funzioni di forma che legano gli spostamenti nodali al campo di spostamenti sul singolo elemento è possibile costruire la matrice di rigidezza dell'elemento \mathbf{k}_e ed il vettore dei carichi nodali dell'elemento \mathbf{p}_e .

La fase di assemblaggio consente di ottenere la matrice di rigidezza globale della struttura \mathbf{K} ed il vettore dei carichi nodali \mathbf{p} . La soluzione del sistema

$$\mathbf{K} \mathbf{u} = \mathbf{p}$$

consente di ricavare il vettore degli spostamenti nodali \mathbf{u} .

Dagli spostamenti nodali è possibile risalire per ogni elemento al campo di spostamenti ed alle sollecitazioni M_x , M_y ed M_{xy} .

Il terreno di fondazione se presente viene modellato con delle molle disposte in corrispondenza dei nodi. La rigidezza delle molle è proporzionale alla costante di sottofondo k ed all'area dell'elemento.

I pali di fondazione sono modellati con molle verticali aventi rigidezza pari alla rigidezza verticale del palo.

Per l'analisi tipo lastra (analisi della piastra soggetta a carichi nel piano) vengono utilizzati elementi triangolari a 6 nodi a deformazione quadratica. Gli spostamenti nodali sono gli spostamenti u e v nel piano XY . L'analisi fornisce in tal caso il campo di spostamenti orizzontali e le tensioni nel piano della lastra σ_x , σ_y e τ_{xy} . Dalle tensioni è possibile ricavare, noto lo spessore, gli sforzi normali N_x , N_y e N_{xy} .

Nell'analisi tipo lastra i pali di fondazione sono modellati con molle orizzontali in direzione X e Y aventi rigidezza pari alla rigidezza orizzontale del palo.

Nel caso di platea nervata le nervature sono modellate con elementi tipo trave (con eventuale rigidezza torsionale) connesse alla piastra in corrispondenza dei nodi degli elementi.

Metodo calcolo portanza

Il rapporto fra il carico limite in fondazione e la componente normale della risultante dei carichi trasmessi deve essere superiore a η_q . Cioè, detto Q_u , il carico limite ed R la risultante verticale dei carichi in fondazione, deve essere:

$$\frac{Q_u}{R} \geq \eta_q$$

Eseguendo il calcolo mediante gli Eurocodici si può impostare $\eta_q \geq 1.0$

Le espressioni di Hansen per il calcolo della capacità portante si differenziano a secondo se siamo in presenza di un terreno puramente coesivo ($\phi=0$) o meno e si esprimono nel modo seguente:

Caso generale

$$q_u = c N_c s_c d_{c1} g_c b_c + q N_q s_q d_{q1} g_q b_q + 0.5 B \gamma N_{\gamma} s_{\gamma} d_{\gamma 1} g_{\gamma} b_{\gamma}$$

Caso di terreno puramente coesivo $\phi=0$

$$q_u = 5.14 c (1 + s_c + d_{c1} - g_c - b_c) + q$$

in cui d_c , d_q , d_{γ} , sono i fattori di profondità; s_c , s_q , s_{γ} , sono i fattori di forma; i_c , i_q , i_{γ} , sono i fattori di inclinazione del carico; b_c , b_q , b_{γ} , sono i fattori di inclinazione del piano di posa; g_c , g_q , g_{γ} , sono i fattori che tengono conto del fatto che la fondazione poggia su un terreno in pendenza.

I fattori N_c , N_q , N_{γ} sono espressi come:

$$N_q = e^{\pi \tan \phi} K_p$$

$$N_c = (N_q - 1) \cot \phi$$

$$N_y = 1.5(N_q - 1)\text{tg}\phi$$

Vediamo ora come si esprimono i vari fattori che compaiono nella espressione del carico ultimo.

Fattori di forma

$$\begin{aligned} \text{per } \phi=0 \quad s_c &= 0.2 \frac{B}{L} \\ \text{per } \phi>0 \quad s_c &= 1 + \frac{N_q}{N_c} \frac{B}{L} \\ s_q &= 1 + \frac{B}{L} \text{tg}\phi \\ s_\gamma &= 1 - 0.4 \frac{B}{L} \end{aligned}$$

Fattori di profondità

Si definisce il parametro k come

$$\begin{aligned} k &= \frac{D}{B} \quad \text{se} \quad \frac{D}{B} \leq 1 \\ k &= \arctg \frac{D}{B} \quad \text{se} \quad \frac{D}{B} > 1 \end{aligned}$$

I vari coefficienti si esprimono come

$$\begin{aligned} \text{per } \phi=0 \quad d_c &= 0.4k \\ \text{per } \phi>0 \quad d_c &= 1 + 0.4k \\ d_q &= 1 + 2\text{tg}\phi(1 - \sin\phi)^2 k \\ d_\gamma &= 1 \end{aligned}$$

Fattori di inclinazione del carico

Indichiamo con V e H le componenti del carico rispettivamente perpendicolare e parallela alla base e con A_f l'area efficace della fondazione ottenuta come $A_f = B' \times L'$ (B' e L' sono legate alle dimensioni effettive della fondazione B , L e all'eccentricità del carico e_B , e_L dalle relazioni $B' = B - 2e_B$ $L' = L - 2e_L$) e con η l'angolo di inclinazione della fondazione espresso in gradi ($\eta=0$ per fondazione orizzontale).

I fattori di inclinazione del carico si esprimono come:

$$\text{per } \phi = 0 \quad i_c = 1/2(1 - [1 - \frac{H}{A_f c_a}]^{0.5})$$

$$\text{per } \phi > 0 \quad i_c = i_q - \frac{1 - i_q}{N_q - 1}$$

$$i_q = \left(1 - \frac{0.5H}{V + A_r C_a \tan \phi}\right)^5$$

$$\text{per } \eta = 0 \quad i_\gamma = \left(1 - \frac{0.7H}{V + A_r C_a \tan \phi}\right)^5$$

$$\text{per } \eta > 0 \quad i_\gamma = \left(1 - \frac{(0.7 - \eta^\circ / 450^\circ)H}{V + A_r C_a \tan \phi}\right)^5$$

Fattori di inclinazione del piano di posa della fondazione

$$\text{per } \phi = 0 \quad b_c = \frac{\eta^\circ}{147^\circ}$$

$$\text{per } \phi > 0 \quad b_c = 1 - \frac{\eta^\circ}{147^\circ}$$

$$b_q = e^{-2\eta \tan \phi}$$

$$b_\gamma = e^{-2.7\eta \tan \phi}$$

Fattori di inclinazione del terreno

Indicando con β la pendenza del pendio i fattori g si ottengono dalle espressioni seguenti:

$$\text{per } \phi = 0 \quad g_c = \frac{\beta^\circ}{147^\circ}$$

$$\text{per } \phi > 0 \quad g_c = 1 - \frac{\beta^\circ}{147^\circ}$$

$$g_q = g_\gamma = (1 - 0.05 \tan \beta)^5$$

Per poter applicare la formula di Hansen devono risultare verificate le seguenti condizioni:

$$H < V \tan \delta + A_r C_a$$

$$\beta \leq \phi$$

$$i_q, i_\gamma > 0$$

$$\beta + \eta \leq 90^\circ$$

Cedimenti della fondazione

Metodo Elastico

Il metodo dell'elasticità per il calcolo dei cedimenti fornisce la seguente espressione:

$$w = \sum_{i=1}^n \frac{\Delta \sigma_i}{E_i} \Delta z_i$$

dove

$\Delta \sigma$ è la tensione indotta nel terreno, alla profondità z , dalla pressione di contatto della fondazione;

E è il modulo elastico relativo allo strato **i-esimo**;

Δz rappresenta lo spessore dello strato **i-esimo** in cui è stato suddiviso lo strato compressibile e per il quale si conosce il modulo elastico;

Lo spessore dello strato compressibile considerato nell'analisi dei cedimenti è stato determinato in funzione della percentuale della tensione di contatto.

Disposizione delle armature

Le armature vengono disposte secondo due direzioni, una principale ed una secondaria. Per il calcolo delle stesse si fa riferimento ai valori nodali delle sollecitazioni ottenute dall'analisi ad elementi finiti. Per la disposizione delle stesse occorre suddividere la piastra in numero di strisce opportuno nelle due direzioni.

Il programma utilizza strisce della larghezza di circa un metro.

Dati

Materiali

Simbologia adottata

n°	Indice materiale
Descrizione	Descrizione materiale
TC	Tipo calcestruzzo
Rck	Resistenza cubica caratteristica, espresso in [kg/cm ²]
γ _{cls}	Peso specifico calcestruzzo, espresso in [kg/mc]
E	Modulo elastico calcestruzzo, espresso in [kg/cm ²]
ν	Coeff. di Poisson
n	Coeff. di omogeneizzazione
TA	Tipo acciaio

n°	Descrizione	TC	Rck [kg/cm ²]	γ _{cls} [kg/mc]	E [kg/cm ²]	ν	n	TA
1	Materiale 1	C25/30	305.91	2500	320665.55	0.200	15.00	B450C

Geometria

Coordinate contorno esterno

n°	X [m]	Y [m]	n°	X [m]	Y [m]	n°	X [m]	Y [m]	n°	X [m]	Y [m]
1	0.00	0.00	2	13.55	0.00	3	13.55	5.37	4	0.00	5.37

Spessori piastra

Spessore costante 30.00 [cm]

Descrizione terreni

Caratteristiche fisico meccaniche

Simbologia adottata

Descrizione	Descrizione terreno
γ	Peso di volume del terreno espresso in [kg/mc]
γ _{sat}	Peso di volume saturo del terreno espresso in [kg/mc]
φ	Angolo di attrito interno del terreno espresso in gradi
δ	Angolo di attrito palo-terreno espresso in gradi
c	Coesione del terreno espressa in [kg/cm ²]
ca	Adesione del terreno espressa in [kg/cm ²]
τ _i	Tensione tangenziale, per calcolo portanza micropali con il metodo di Bustamante-Doix, espressa in [kg/cm ²]
α	Coeff. di espansione laterale

Descrizione	γ [kg/mc]	γ _{sat} [kg/mc]	φ [°]	δ [°]	c [kg/cm ²]	ca [kg/cm ²]
tipo A	1800.0	1863.0	35.00	30.00	0.000	0.000
tipo B	1900.0	1930.0	29.00	19.33	0.830	0.415
tipo C	1790.0	1800.0	25.00	16.67	0.410	0.205

Caratteristiche di deformabilità

Simbologia adottata

Descrizione	Descrizione terreno
Ed	Modulo edometrico espresso in [kg/cm ²]
RR	Rapporto di ricomprensione
CR	Rapporto di compressione
OCR	Grado di sovraconsolidazione
E	Modulo elastico espresso in [kg/cm ²]
ν	Coefficiente di Poisson

Descrizione	Ed [kg/cm ²]	RR	CR	OCR	E [kg/cm ²]	ν
tipo A	0.00	0.0000	0.0000	0.0000	550.00	0.350
tipo B	0.00	0.0000	0.0000	1.0000	65.00	0.300
tipo C	0.00	0.0000	0.0000	1.0000	45.00	0.300

Descrizione stratigrafia e falda

Simbologia adottata

N	Identificativo strato
---	-----------------------

Z1 Quota dello strato in corrispondenza del punto di sondaggio n°1 espressa in [m]
 Z2 Quota dello strato in corrispondenza del punto di sondaggio n°2 espressa in [m]
 Z3 Quota dello strato in corrispondenza del punto di sondaggio n°3 espressa in [m]
 Terreno Terreno associato allo strato

N	Z1 [m]	Z2 [m]	Z3 [m]	Terreno
1	-2.7	-2.7	-2.7	tipo A
2	-4.5	-4.5	-4.5	tipo B
3	-10.0	-10.0	-10.0	tipo C

Falda

Profondità dal piano campagna 1.90 [m]

Convenzioni adottate**Carichi e reazioni vincolari**

Fz Carico verticale positivo verso il basso
 Fx Forza orizzontale in direzione X positiva nel verso delle X crescenti.
 Fy Forza orizzontale in direzione Y positiva nel verso delle Y crescenti.
 Mx Momento con asse vettore parallelo all'asse X positivo antiorario.
 My Momento con asse vettore parallelo all'asse Y positivo antiorario.

Sollecitazioni

Mx Momento flettente X con asse vettore parallelo all'asse Y (positivo se tende le fibre inferiori).
 My Momento flettente Y con asse vettore parallelo all'asse X (positivo se tende le fibre inferiori).
 Mxy Momento flettente XY.

Condizioni di carico**Linee di carico****Simbologia adottata**

Ic Indice carico
 Pi Punto iniziale carico espresso in [m]
 Pf Punto finale carico espresso in [m]
 N Carico verticale espresso in [kg]
 Mx Momento intorno all'asse X espresso in [kgm]
 My Momento intorno all'asse Y espresso in [kgm]
 Tx Forza orizzontale in direzione X espressa in [kg]
 Ty Forza orizzontale in direzione Y espressa in [kg]

Condizione n° 1 - G [Permanente - Partecipa al sisma]**Linee di carico**

Ic	Pi [m]	Pf [m]	N [kg]	Mx [kgm]	My [kgm]	Tx [kg]	Ty [kg]
1	0.33; 0.33	4.63; 0.33	2548.00	0.00	0.00	0.00	0.00
2	8.92; 0.33	13.22; 0.33	2548.00	0.00	0.00	0.00	0.00
3	0.33; 5.04	13.22; 5.04	2548.00	0.00	0.00	0.00	0.00
4	0.33; 0.33	0.33; 5.04	3186.00	0.00	0.00	0.00	0.00
5	4.63; 0.33	4.63; 5.04	3824.00	0.00	0.00	0.00	0.00
6	8.92; 0.33	8.92; 5.04	3824.00	0.00	0.00	0.00	0.00
7	13.22; 0.33	13.22; 5.04	3186.00	0.00	0.00	0.00	0.00

Condizione n° 2 - Q (Neve) [Variabile - $\psi_0=0.50$ $\psi_1=0.20$ $\psi_2=0.00$]**Linee di carico**

Ic	Pi [m]	Pf [m]	N [kg]	Mx [kgm]	My [kgm]	Tx [kg]	Ty [kg]
8	0.33; 0.33	0.33; 5.04	203.00	0.00	0.00	0.00	0.00
9	4.63; 0.33	4.63; 5.04	405.00	0.00	0.00	0.00	0.00
10	8.92; 0.33	8.92; 5.04	405.00	0.00	0.00	0.00	0.00
11	13.22; 0.33	13.22; 5.04	203.00	0.00	0.00	0.00	0.00

Normativa - Coefficienti di sicurezza**Coefficienti parziali per le azioni o per l'effetto delle azioni**

CARICHI	EFFETTO	Coefficiente parziale	(A1) - STR
Permanenti	Favorevole	$\gamma_{G1,fav}$	1.00
Permanenti	Sfavorevole	$\gamma_{G1,sfav}$	1.30

CARICHI	EFFETTO	Coefficiente parziale	(A1) - STR
Permanenti non strutturali	Favorevole	$\gamma_{G2,fav}$	0.80
Permanenti non strutturali	Sfavorevole	$\gamma_{G2,sfav}$	1.50
Variabili	Favorevole	$\gamma_{Q1,fav}$	0.00
Variabili	Sfavorevole	$\gamma_{Q1,sfav}$	1.50
Variabili traffico	Favorevole	$\gamma_{Q,fav}$	0.00
Variabili traffico	Sfavorevole	$\gamma_{Q,sfav}$	1.35

Coefficienti parziali per i parametri geotecnici del terreno

PARAMETRO	GRANDEZZA	Coefficiente parziale	(M1)
Tangente dell'angolo di resistenza al taglio	$\tan \phi'_k$	γ_ϕ	1.00
Coesione efficace	c'_k	γ_c	1.00
Resistenza non drenata	c_{uk}	γ_{cu}	1.00

Coefficienti parziali γ_R per le verifiche agli stati limite ultimi di fondazioni superficiali

Elenco combinazioni di calcolo

Numero combinazioni definite 20

Simbologia adottata

CP Coefficiente di partecipazione della condizione

Combinazione n° 1 - - STR - A1-M1-R3

Condizione	CP
Peso proprio	1.30
G	1.30
Q (Neve)	1.50

Combinazione n° 2 - - SLE Quasi permanente

Condizione	CP
Peso proprio	1.00
G	1.00
Q (Neve)	0.00

Combinazione n° 3 - - SLE Frequente

Condizione	CP
Peso proprio	1.00
G	1.00
Q (Neve)	0.20

Combinazione n° 4 - - SLE Rara

Condizione	CP
Peso proprio	1.00
G	1.00
Q (Neve)	1.00

Combinazione n° 5 - SLV - STR - A1-M1-R3 [Sismica 1.00 X+ + 1.00 Y+]

Condizione	CP
Peso proprio	1.00
G	1.00
Q (Neve)	0.00

Combinazione n° 6 - SLV - STR - A1-M1-R3 [Sismica 1.00 X+ + 1.00 Y-]

Condizione	CP
Peso proprio	1.00
G	1.00
Q (Neve)	0.00

Combinazione n° 7 - SLV - STR - A1-M1-R3 [Sismica 1.00 X- + 1.00 Y-]

Condizione	CP
Peso proprio	1.00
G	1.00
Q (Neve)	0.00

Combinazione n° 8 - SLV - STR - A1-M1-R3 [Sismica 1.00 X- + 1.00 Y+]

Condizione	CP
Peso proprio	1.00
G	1.00
Q (Neve)	0.00

Combinazione n° 9 - SLV - STR - A1-M1-R3 [Sismica 1.00 X+ + 1.00 Y+]

Condizione	CP
Peso proprio	1.00
G	1.00
Q (Neve)	0.00

Combinazione n° 10 - SLV - STR - A1-M1-R3 [Sismica 1.00 X+ + 1.00 Y-]

Condizione	CP
Peso proprio	1.00
G	1.00
Q (Neve)	0.00

Combinazione n° 11 - SLV - STR - A1-M1-R3 [Sismica 1.00 X- + 1.00 Y-]

Condizione	CP
Peso proprio	1.00
G	1.00
Q (Neve)	0.00

Combinazione n° 12 - SLV - STR - A1-M1-R3 [Sismica 0.30 X- + 1.00 Y+]

Condizione	CP
Peso proprio	1.00
G	1.00
Q (Neve)	0.00

Combinazione n° 13 - SLD - SLE Quasi permanente [Sismica 1.00 X+ + 0.30 Y+]

Condizione	CP
Peso proprio	1.00
G	1.00
Q (Neve)	0.00

Combinazione n° 14 - SLD - SLE Quasi permanente [Sismica 1.00 X+ + 0.30 Y-]

Condizione	CP
Peso proprio	1.00
G	1.00
Q (Neve)	0.00

Combinazione n° 15 - SLD - SLE Quasi permanente [Sismica 1.00 X- + 0.30 Y-]

Condizione	CP
Peso proprio	1.00
G	1.00
Q (Neve)	0.00

Combinazione n° 16 - SLD - SLE Quasi permanente [Sismica 1.00 X- + 0.30 Y+]

Condizione	CP
Peso proprio	1.00
G	1.00
Q (Neve)	0.00

Combinazione n° 17 - SLD - SLE Quasi permanente [Sismica 0.30 X+ + 1.00 Y+]

Condizione	CP
Peso proprio	1.00
G	1.00
Q (Neve)	0.00

Combinazione n° 18 - SLD - SLE Quasi permanente [Sismica 0.30 X+ + 1.00 Y-]

Condizione	CP
Peso proprio	1.00
G	1.00
Q (Neve)	0.00

Combinazione n° 19 - SLD - SLE Quasi permanente [Sismica 0.30 X- + 1.00 Y-]

Condizione	CP
Peso proprio	1.00
G	1.00
Q (Neve)	0.00

Combinazione n° 20 - SLD - SLE Quasi permanente [Sismica 1.00 X- + 1.00 Y+]

Condizione	CP
Peso proprio	1.00
G	1.00
Q (Neve)	0.00

Impostazioni di analisi*Portanza fondazione superficiale*

Metodo calcolo portanza: Hansen
 Criterio di media calcolo strato equivalente: Ponderata
 Riduzione portanza per effetto eccentricità: Meyerhof
 Fattore di rigidità della sovrastruttura 0.00

Zona sismica**Identificazione del sito**

Latitudine 42.945000
 Longitudine 12.702037
 Comune Foligno
 Provincia Perugia
 Regione Umbria

Punti di interpolazione del reticolo 23853 - 23854 - 23632 - 23631

Tipo di opera

Tipo di costruzione Opera ordinaria
 Vita nominale 50 anni
 Classe d'uso II - Normali affollamenti e industrie non pericolose
 Vita di riferimento 50 anni

Descrizione	Simbolo	UM		SLU	SLE
Accelerazione al suolo	a_g	[m/s ²]		2.260	0.932
Massimo fattore amplificazione spettro orizzontale	F0			2.406	2.345
Periodo inizio tratto spettro a velocità costante	Tc*			0.313	0.280
Coeff. di amplificazione per tipo di sottosuolo	Ss		C	1.367	1.500
Coeff. di amplificazione topografica	St		T1	1.000	1.000
Coeff. di intensità sismica orizzontale	K _h	[%]		31.50	14.24

ModelloCaratteristiche Mesh

Numero elementi	656
Numero nodi	714

Risultati involuppo

Spostamenti

Piastra

Spostamenti massimi e minimi della piastra

Simbologia adottata

Ic	Indice della combinazione
w	Spostamento verticale, espresso in [cm]
u	Spostamento direzione X, espresso in [cm]
v	Spostamento direzione Y, espresso in [cm]
ϕ_x	Rotazione intorno all'asse X, espressa in [°]
ϕ_y	Rotazione intorno all'asse Y, espressa in [°]
p	Pressione sul terreno (solo per calcolo fondazione), espressa in [kg/cmq]
kw	Costante di Winkler (solo per calcolo fondazione), espressa in [kg/cm ² /cm]. Il valore viene stampato solo se si è utilizzato il modello di interazione
Tra parentesi l'indice del nodo in cui si sono misurati i valori massimi e minimi	

In	X [m]	Y [m]		Valore	UM	Cmb	
369	6.94	3.69	w	2.866784	[cm]	1	MAX
698	13.55	0.00		1.445191		2	MIN
51	2.31	0.33	ux	0.023095	[cm]	5	MAX
51	2.31	0.33		-0.023095		7	MIN
30	1.65	1.34	uy	0.023942	[cm]	5	MAX
30	1.65	1.34		-0.023942		7	MIN
33	0.66	1.68	ϕ_x	0.001993	[°]	1	MAX
697	13.22	5.37		-0.001993		1	MIN
34	0.99	1.68	ϕ_y	0.000840	[°]	1	MAX
358	6.94	0.00		-0.001171		1	MIN
714	13.55	5.37	p	7.446498	[kg/cmq]	1	MAX
587	11.24	2.69		0.038965		2	MIN

Sollecitazioni

Piastra

Sollecitazioni massime e minime piastra

Simbologia adottata

In	Indice nodo modello
Mx	Momento X espresso in [kgm]
My	Momento Y espresso in [kgm]
Mxy	Momento XY espresso in [kgm]
Tx	Taglio X, espresso in [kg]
Ty	Taglio Y, espresso in [kg]
Nx	Tensione normale X espressa in [kg/cm ²]
Ny	Tensione normale Y espressa in [kg/cm ²]
Nxy	Tensione tangenziale XY espressa in [kg/cm ²]

In	X [m]	Y [m]		Valore	UM	Cmb	
206	4.63	3.02	Mx	5223.20	[kgm]	1	MAX
273	0.33	5.37		-38.96		1	MIN
468	8.92	2.69	My	4362.34	[kgm]	1	MAX
273	0.33	5.37		-17.14		1	MIN
212	0.00	4.70	Mxy	1153.48	[kgm]	1	MAX
712	13.55	4.70		-1153.48		1	MIN
392	7.60	0.00	Nx	0.81	[kg/cm ²]	7	MAX
392	7.60	0.00		-0.81		5	MIN
704	13.55	2.01	Ny	0.36	[kg/cm ²]	5	MAX
704	13.55	2.01		-0.36		7	MIN
239	4.96	4.37	Nxy	0.38	[kg/cm ²]	8	MAX
239	4.96	4.37		-0.38		6	MIN

Verifiche strutturali

Verifica a flessione

Piastra

Simbologia adottata

Is	Identificativo tratto-sezione-direzione (P: direzione principale, S: direzione secondaria)
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A_{fi} Area di armatura lembo inferiore espressa in [cmq]
 A_{fs} Area di armatura lembo superiore espressa in [cmq]
 M_u Momento ultimo espresso in [kgm]
 N_u Sforzo normale ultimo espresso in [kg]
 FS Fattore di sicurezza

Is	A_{fi} [cmq]	A_{fs} [cmq]	M_u [kgm]	N_u [kg]	FS
1-1-P	4.52	4.52	-4691	0	15.359
1-2-P	4.52	4.52	4691	0	8.710
1-3-P	4.52	4.52	4691	0	6.114
1-4-P	4.52	4.52	4691	0	4.990
1-5-P	4.52	4.52	4691	0	4.106
1-6-P	4.52	4.52	4691	0	3.488
1-7-P	4.52	4.52	4691	0	3.049
1-8-P	4.52	4.52	4691	0	2.729
1-9-P	4.52	4.52	4691	0	2.491
1-10-P	4.52	4.52	4691	0	2.310
1-11-P	4.52	4.52	4691	0	2.160
1-12-P	4.52	4.52	4691	0	2.032
1-13-P	4.52	4.52	4691	0	1.918
1-14-P	4.52	4.52	4691	0	1.810
1-15-P	4.52	4.52	4691	0	1.709
1-16-P	4.52	4.52	4691	0	1.613
1-17-P	4.52	4.52	4691	0	1.523
1-18-P	4.52	4.52	4691	0	1.446
1-19-P	4.52	4.52	4691	0	1.387
1-20-P	4.52	4.52	4691	0	1.402
1-21-P	4.52	4.52	4691	0	1.723
1-22-P	4.52	4.52	4691	0	2.117
1-23-P	4.52	4.52	4691	0	2.620
1-24-P	4.52	4.52	4691	0	3.252
1-25-P	4.52	4.52	4691	0	3.970
1-26-P	4.52	4.52	4691	0	4.683
1-27-P	4.52	4.52	4691	0	5.332
1-28-P	4.52	4.52	4691	0	5.766
1-29-P	4.52	4.52	4691	0	5.766
1-30-P	4.52	4.52	4691	0	5.332
1-31-P	4.52	4.52	4691	0	4.683
1-32-P	4.52	4.52	4691	0	3.970
1-33-P	4.52	4.52	4691	0	3.252
1-34-P	4.52	4.52	4691	0	2.620
1-35-P	4.52	4.52	4691	0	2.117
1-36-P	4.52	4.52	4691	0	1.723
1-37-P	4.52	4.52	4691	0	1.402
1-38-P	4.52	4.52	4691	0	1.387
1-39-P	4.52	4.52	4691	0	1.446
1-40-P	4.52	4.52	4691	0	1.523
1-41-P	4.52	4.52	4691	0	1.613
1-42-P	4.52	4.52	4691	0	1.709
1-43-P	4.52	4.52	4691	0	1.810
1-44-P	4.52	4.52	4691	0	1.918
1-45-P	4.52	4.52	4691	0	2.032
1-46-P	4.52	4.52	4691	0	2.160
1-47-P	4.52	4.52	4691	0	2.310
1-48-P	4.52	4.52	4691	0	2.491
1-49-P	4.52	4.52	4691	0	2.729
1-50-P	4.52	4.52	4691	0	3.049
1-51-P	4.52	4.52	4691	0	3.488
1-52-P	4.52	4.52	4691	0	4.106
1-53-P	4.52	4.52	4691	0	4.990
1-54-P	4.52	4.52	4691	0	6.114
1-55-P	4.52	4.52	4691	0	8.710
1-56-P	4.52	4.52	-4691	0	15.359
2-1-P	4.52	4.52	4691	0	38.413
2-2-P	4.52	4.52	4691	0	6.934
2-3-P	4.52	4.52	4691	0	5.308
2-4-P	4.52	4.52	4691	0	5.269
2-5-P	4.52	4.52	4691	0	4.763
2-6-P	4.52	4.52	4691	0	4.142
2-7-P	4.52	4.52	4691	0	3.629
2-8-P	4.52	4.52	4691	0	3.214
2-9-P	4.52	4.52	4691	0	2.881
2-10-P	4.52	4.52	4691	0	2.613
2-11-P	4.52	4.52	4691	0	2.390
2-12-P	4.52	4.52	4691	0	2.200
2-13-P	4.52	4.52	4691	0	2.033
2-14-P	4.52	4.52	4691	0	1.878
2-15-P	4.52	4.52	4691	0	1.735
2-16-P	4.52	4.52	4691	0	1.601
2-17-P	4.52	4.52	4691	0	1.471
2-18-P	4.52	4.52	4691	0	1.339
2-19-P	4.52	4.52	4691	0	1.208
2-20-P	4.52	4.52	4691	0	1.149
2-21-P	4.52	4.52	4691	0	1.375
2-22-P	4.52	4.52	4691	0	1.634
2-23-P	4.52	4.52	4691	0	1.941
2-24-P	4.52	4.52	4691	0	2.293
2-25-P	4.52	4.52	4691	0	2.656
2-26-P	4.52	4.52	4691	0	2.985
2-27-P	4.52	4.52	4691	0	3.260
2-28-P	4.52	4.52	4691	0	3.433
2-29-P	4.52	4.52	4691	0	3.433
2-30-P	4.52	4.52	4691	0	3.260
2-31-P	4.52	4.52	4691	0	2.985

Is	Afi [cmq]	Afs [cmq]	Mu [kgm]	Nu [kg]	FS
2-32-P	4.52	4.52	4691	0	2.656
2-33-P	4.52	4.52	4691	0	2.293
2-34-P	4.52	4.52	4691	0	1.941
2-35-P	4.52	4.52	4691	0	1.634
2-36-P	4.52	4.52	4691	0	1.375
2-37-P	4.52	4.52	4691	0	1.149
2-38-P	4.52	4.52	4691	0	1.208
2-39-P	4.52	4.52	4691	0	1.339
2-40-P	4.52	4.52	4691	0	1.471
2-41-P	4.52	4.52	4691	0	1.601
2-42-P	4.52	4.52	4691	0	1.735
2-43-P	4.52	4.52	4691	0	1.878
2-44-P	4.52	4.52	4691	0	2.033
2-45-P	4.52	4.52	4691	0	2.200
2-46-P	4.52	4.52	4691	0	2.390
2-47-P	4.52	4.52	4691	0	2.613
2-48-P	4.52	4.52	4691	0	2.881
2-49-P	4.52	4.52	4691	0	3.214
2-50-P	4.52	4.52	4691	0	3.629
2-51-P	4.52	4.52	4691	0	4.142
2-52-P	4.52	4.52	4691	0	4.763
2-53-P	4.52	4.52	4691	0	5.269
2-54-P	4.52	4.52	4691	0	5.308
2-55-P	4.52	4.52	4691	0	6.934
2-56-P	4.52	4.52	4691	0	38.413
3-1-P	4.52	4.52	-1838	-21465	247.292
3-2-P	4.52	4.52	4691	0	6.845
3-3-P	4.52	4.52	4691	0	5.340
3-4-P	4.52	4.52	4691	0	5.484
3-5-P	4.52	4.52	4691	0	5.155
3-6-P	4.52	4.52	4691	0	4.581
3-7-P	4.52	4.52	4691	0	4.044
3-8-P	4.52	4.52	4691	0	3.574
3-9-P	4.52	4.52	4691	0	3.176
3-10-P	4.52	4.52	4691	0	2.841
3-11-P	4.52	4.52	4691	0	2.559
3-12-P	4.52	4.52	4691	0	2.318
3-13-P	4.52	4.52	4691	0	2.106
3-14-P	4.52	4.52	4691	0	1.911
3-15-P	4.52	4.52	4691	0	1.732
3-16-P	4.52	4.52	4691	0	1.568
3-17-P	4.52	4.52	4691	0	1.413
3-18-P	4.52	4.52	4691	0	1.262
3-19-P	4.52	4.52	4691	0	1.124
3-20-P	4.52	4.52	4691	0	1.056
3-21-P	4.52	4.52	4691	0	1.226
3-22-P	4.52	4.52	4691	0	1.419
3-23-P	4.52	4.52	4691	0	1.640
3-24-P	4.52	4.52	4691	0	1.885
3-25-P	4.52	4.52	4691	0	2.129
3-26-P	4.52	4.52	4691	0	2.341
3-27-P	4.52	4.52	4691	0	2.513
3-28-P	4.52	4.52	4691	0	2.619
3-29-P	4.52	4.52	4691	0	2.619
3-30-P	4.52	4.52	4691	0	2.513
3-31-P	4.52	4.52	4691	0	2.341
3-32-P	4.52	4.52	4691	0	2.129
3-33-P	4.52	4.52	4691	0	1.885
3-34-P	4.52	4.52	4691	0	1.640
3-35-P	4.52	4.52	4691	0	1.419
3-36-P	4.52	4.52	4691	0	1.226
3-37-P	4.52	4.52	4691	0	1.056
3-38-P	4.52	4.52	4691	0	1.124
3-39-P	4.52	4.52	4691	0	1.262
3-40-P	4.52	4.52	4691	0	1.413
3-41-P	4.52	4.52	4691	0	1.568
3-42-P	4.52	4.52	4691	0	1.732
3-43-P	4.52	4.52	4691	0	1.911
3-44-P	4.52	4.52	4691	0	2.106
3-45-P	4.52	4.52	4691	0	2.318
3-46-P	4.52	4.52	4691	0	2.559
3-47-P	4.52	4.52	4691	0	2.841
3-48-P	4.52	4.52	4691	0	3.176
3-49-P	4.52	4.52	4691	0	3.574
3-50-P	4.52	4.52	4691	0	4.044
3-51-P	4.52	4.52	4691	0	4.581
3-52-P	4.52	4.52	4691	0	5.155
3-53-P	4.52	4.52	4691	0	5.484
3-54-P	4.52	4.52	4691	0	5.340
3-55-P	4.52	4.52	4691	0	6.845
3-56-P	4.52	4.52	-1838	-21465	247.292
4-1-P	4.52	4.52	4691	0	82.597
4-2-P	4.52	3.39	4691	0	6.956
4-3-P	4.52	3.39	4691	0	5.475
4-4-P	4.52	3.39	4691	0	5.696
4-5-P	4.52	3.39	4691	0	5.398
4-6-P	4.52	3.39	4691	0	4.810
4-7-P	4.52	3.39	4691	0	4.246
4-8-P	4.52	3.39	4691	0	3.747
4-9-P	4.52	3.39	4691	0	3.320
4-10-P	4.52	3.39	4691	0	2.958
4-11-P	4.52	3.39	4691	0	2.653
4-12-P	4.52	3.39	4691	0	2.391

Is	Afi [cmq]	Afs [cmq]	Mu [kgm]	Nu [kg]	FS
4-13-P	4.52	3.39	4691	0	2.161
4-14-P	4.52	3.39	4691	0	1.948
4-15-P	4.52	3.39	4691	0	1.753
4-16-P	4.52	3.39	4691	0	1.576
4-17-P	4.52	3.39	4691	0	1.410
4-18-P	4.52	3.39	4691	0	1.251
4-19-P	4.52	3.39	4691	0	1.107
4-20-P	4.52	3.39	4691	0	1.034
4-21-P	4.52	3.39	4691	0	1.189
4-22-P	4.52	3.39	4691	0	1.360
4-23-P	4.52	3.39	4691	0	1.550
4-24-P	4.52	3.39	4691	0	1.754
4-25-P	4.52	3.39	4691	0	1.952
4-26-P	4.52	3.39	4691	0	2.120
4-27-P	4.52	3.39	4691	0	2.253
4-28-P	4.52	3.39	4691	0	2.334
4-29-P	4.52	3.39	4691	0	2.334
4-30-P	4.52	3.39	4691	0	2.253
4-31-P	4.52	3.39	4691	0	2.120
4-32-P	4.52	3.39	4691	0	1.952
4-33-P	4.52	3.39	4691	0	1.754
4-34-P	4.52	3.39	4691	0	1.550
4-35-P	4.52	3.39	4691	0	1.360
4-36-P	4.52	3.39	4691	0	1.189
4-37-P	4.52	3.39	4691	0	1.034
4-38-P	4.52	3.39	4691	0	1.107
4-39-P	4.52	3.39	4691	0	1.251
4-40-P	4.52	3.39	4691	0	1.410
4-41-P	4.52	3.39	4691	0	1.576
4-42-P	4.52	3.39	4691	0	1.753
4-43-P	4.52	3.39	4691	0	1.948
4-44-P	4.52	3.39	4691	0	2.161
4-45-P	4.52	3.39	4691	0	2.391
4-46-P	4.52	3.39	4691	0	2.653
4-47-P	4.52	3.39	4691	0	2.958
4-48-P	4.52	3.39	4691	0	3.320
4-49-P	4.52	3.39	4691	0	3.747
4-50-P	4.52	3.39	4691	0	4.246
4-51-P	4.52	3.39	4691	0	4.810
4-52-P	4.52	3.39	4691	0	5.398
4-53-P	4.52	3.39	4691	0	5.696
4-54-P	4.52	3.39	4691	0	5.475
4-55-P	4.52	3.39	4691	0	6.956
4-56-P	4.52	4.52	4691	0	82.597
5-1-P	4.52	4.52	4691	0	18.563
5-2-P	4.52	4.52	4691	0	7.331
5-3-P	4.52	4.52	4691	0	5.771
5-4-P	4.52	4.52	4691	0	5.956
5-5-P	4.52	4.52	4691	0	5.494
5-6-P	4.52	4.52	4691	0	4.792
5-7-P	4.52	4.52	4691	0	4.189
5-8-P	4.52	4.52	4691	0	3.689
5-9-P	4.52	4.52	4691	0	3.283
5-10-P	4.52	4.52	4691	0	2.949
5-11-P	4.52	4.52	4691	0	2.668
5-12-P	4.52	4.52	4691	0	2.426
5-13-P	4.52	4.52	4691	0	2.212
5-14-P	4.52	4.52	4691	0	2.008
5-15-P	4.52	4.52	4691	0	1.820
5-16-P	4.52	4.52	4691	0	1.644
5-17-P	4.52	4.52	4691	0	1.477
5-18-P	4.52	4.52	4691	0	1.312
5-19-P	4.52	4.52	4691	0	1.158
5-20-P	4.52	4.52	4691	0	1.078
5-21-P	4.52	4.52	4691	0	1.240
5-22-P	4.52	4.52	4691	0	1.411
5-23-P	4.52	4.52	4691	0	1.595
5-24-P	4.52	4.52	4691	0	1.787
5-25-P	4.52	4.52	4691	0	1.968
5-26-P	4.52	4.52	4691	0	2.120
5-27-P	4.52	4.52	4691	0	2.239
5-28-P	4.52	4.52	4691	0	2.310
5-29-P	4.52	4.52	4691	0	2.310
5-30-P	4.52	4.52	4691	0	2.239
5-31-P	4.52	4.52	4691	0	2.120
5-32-P	4.52	4.52	4691	0	1.968
5-33-P	4.52	4.52	4691	0	1.787
5-34-P	4.52	4.52	4691	0	1.595
5-35-P	4.52	4.52	4691	0	1.411
5-36-P	4.52	4.52	4691	0	1.240
5-37-P	4.52	4.52	4691	0	1.078
5-38-P	4.52	4.52	4691	0	1.158
5-39-P	4.52	4.52	4691	0	1.312
5-40-P	4.52	4.52	4691	0	1.477
5-41-P	4.52	4.52	4691	0	1.644
5-42-P	4.52	4.52	4691	0	1.820
5-43-P	4.52	4.52	4691	0	2.008
5-44-P	4.52	4.52	4691	0	2.212
5-45-P	4.52	4.52	4691	0	2.426
5-46-P	4.52	4.52	4691	0	2.668
5-47-P	4.52	4.52	4691	0	2.949
5-48-P	4.52	4.52	4691	0	3.283
5-49-P	4.52	4.52	4691	0	3.689

Is	Afi [cmq]	Afs [cmq]	Mu [kgm]	Nu [kg]	FS
5-50-P	4.52	4.52	4691	0	4.189
5-51-P	4.52	4.52	4691	0	4.792
5-52-P	4.52	4.52	4691	0	5.494
5-53-P	4.52	4.52	4691	0	5.956
5-54-P	4.52	4.52	4691	0	5.771
5-55-P	4.52	4.52	4691	0	7.331
5-56-P	4.52	4.52	4691	0	18.563
6-1-P	4.52	4.52	-4691	0	11.232
6-2-P	4.52	4.52	4691	0	8.250
6-3-P	4.52	4.52	4691	0	6.687
6-4-P	4.52	4.52	4691	0	5.910
6-5-P	4.52	4.52	4691	0	5.068
6-6-P	4.52	4.52	4691	0	4.346
6-7-P	4.52	4.52	4691	0	3.790
6-8-P	4.52	4.52	4691	0	3.374
6-9-P	4.52	4.52	4691	0	3.054
6-10-P	4.52	4.52	4691	0	2.803
6-11-P	4.52	4.52	4691	0	2.591
6-12-P	4.52	4.52	4691	0	2.406
6-13-P	4.52	4.52	4691	0	2.235
6-14-P	4.52	4.52	4691	0	2.065
6-15-P	4.52	4.52	4691	0	1.899
6-16-P	4.52	4.52	4691	0	1.740
6-17-P	4.52	4.52	4691	0	1.586
6-18-P	4.52	4.52	4691	0	1.437
6-19-P	4.52	4.52	4691	0	1.304
6-20-P	4.52	4.52	4691	0	1.237
6-21-P	4.52	4.52	4691	0	1.380
6-22-P	4.52	4.52	4691	0	1.541
6-23-P	4.52	4.52	4691	0	1.720
6-24-P	4.52	4.52	4691	0	1.911
6-25-P	4.52	4.52	4691	0	2.096
6-26-P	4.52	4.52	4691	0	2.251
6-27-P	4.52	4.52	4691	0	2.372
6-28-P	4.52	4.52	4691	0	2.445
6-29-P	4.52	4.52	4691	0	2.445
6-30-P	4.52	4.52	4691	0	2.372
6-31-P	4.52	4.52	4691	0	2.251
6-32-P	4.52	4.52	4691	0	2.096
6-33-P	4.52	4.52	4691	0	1.911
6-34-P	4.52	4.52	4691	0	1.720
6-35-P	4.52	4.52	4691	0	1.541
6-36-P	4.52	4.52	4691	0	1.380
6-37-P	4.52	4.52	4691	0	1.237
6-38-P	4.52	4.52	4691	0	1.304
6-39-P	4.52	4.52	4691	0	1.437
6-40-P	4.52	4.52	4691	0	1.586
6-41-P	4.52	4.52	4691	0	1.740
6-42-P	4.52	4.52	4691	0	1.899
6-43-P	4.52	4.52	4691	0	2.065
6-44-P	4.52	4.52	4691	0	2.235
6-45-P	4.52	4.52	4691	0	2.406
6-46-P	4.52	4.52	4691	0	2.591
6-47-P	4.52	4.52	4691	0	2.803
6-48-P	4.52	4.52	4691	0	3.054
6-49-P	4.52	4.52	4691	0	3.374
6-50-P	4.52	4.52	4691	0	3.790
6-51-P	4.52	4.52	4691	0	4.346
6-52-P	4.52	4.52	4691	0	5.068
6-53-P	4.52	4.52	4691	0	5.910
6-54-P	4.52	4.52	4691	0	6.687
6-55-P	4.52	4.52	4691	0	8.250
6-56-P	4.52	4.52	-4691	0	11.232
7-1-S	4.52	4.52	-4705	0	13.777
7-2-S	4.52	4.52	4705	0	6.624
7-3-S	4.52	4.52	4705	0	3.911
7-4-S	4.52	4.52	4705	0	2.801
7-5-S	4.52	4.52	4705	0	2.180
7-6-S	4.52	4.52	4705	0	1.820
7-7-S	4.52	4.52	4705	0	1.588
7-8-S	4.52	4.52	4705	0	1.432
7-9-S	4.52	4.52	4705	0	1.333
7-10-S	4.52	4.52	4705	0	1.272
7-11-S	4.52	4.52	4705	0	1.236
7-12-S	4.52	4.52	4705	0	1.220
7-13-S	4.52	4.52	4705	0	1.236
7-14-S	4.52	4.52	4705	0	1.273
7-15-S	4.52	4.52	4705	0	1.335
7-16-S	4.52	4.52	4705	0	1.436
7-17-S	4.52	4.52	4705	0	1.598
7-18-S	4.52	4.52	4705	0	1.840
7-19-S	4.52	4.52	4705	0	2.216
7-20-S	4.52	4.52	4705	0	2.869
7-21-S	4.52	4.52	4705	0	3.912
7-22-S	4.52	4.52	4705	0	5.818
7-23-S	4.52	4.52	-4705	0	10.031
8-1-S	4.52	4.52	4705	0	36.905
8-2-S	4.52	4.52	4705	0	5.952
8-3-S	4.52	4.52	4705	0	3.785
8-4-S	4.52	4.52	4705	0	3.063
8-5-S	4.52	4.52	4705	0	2.487
8-6-S	4.52	4.52	4705	0	2.095
8-7-S	4.52	4.52	4705	0	1.828

Is	Afi [cmq]	Afs [cmq]	Mu [kgm]	Nu [kg]	FS
8-8-S	4.52	4.52	4705	0	1.640
8-9-S	4.52	4.52	4705	0	1.518
8-10-S	4.52	4.52	4705	0	1.441
8-11-S	4.52	4.52	4705	0	1.394
8-12-S	4.52	4.52	4705	0	1.373
8-13-S	4.52	4.52	4705	0	1.391
8-14-S	4.52	4.52	4705	0	1.434
8-15-S	4.52	4.52	4705	0	1.507
8-16-S	4.52	4.52	4705	0	1.625
8-17-S	4.52	4.52	4705	0	1.810
8-18-S	4.52	4.52	4705	0	2.075
8-19-S	4.52	4.52	4705	0	2.468
8-20-S	4.52	4.52	4705	0	3.053
8-21-S	4.52	4.52	4705	0	3.796
8-22-S	4.52	4.52	4705	0	5.935
8-23-S	4.52	4.52	4705	0	13.750
9-1-S	4.52	4.52	1519	-23968	240.502
9-2-S	4.52	4.52	4705	0	6.030
9-3-S	4.52	4.52	4705	0	3.862
9-4-S	4.52	4.52	4705	0	3.154
9-5-S	4.52	4.52	4705	0	2.579
9-6-S	4.52	4.52	4705	0	2.178
9-7-S	4.52	4.52	4705	0	1.900
9-8-S	4.52	4.52	4705	0	1.702
9-9-S	4.52	4.52	4705	0	1.572
9-10-S	4.52	4.52	4705	0	1.488
9-11-S	4.52	4.52	4705	0	1.437
9-12-S	4.52	4.52	4705	0	1.412
9-13-S	4.52	4.52	4705	0	1.428
9-14-S	4.52	4.52	4705	0	1.471
9-15-S	4.52	4.52	4705	0	1.545
9-16-S	4.52	4.52	4705	0	1.664
9-17-S	4.52	4.52	4705	0	1.848
9-18-S	4.52	4.52	4705	0	2.111
9-19-S	4.52	4.52	4705	0	2.495
9-20-S	4.52	4.52	4705	0	3.062
9-21-S	4.52	4.52	4705	0	3.787
9-22-S	4.52	4.52	4705	0	5.973
9-23-S	4.52	4.52	4705	0	41.559
10-1-S	4.52	4.52	-4705	0	67.854
10-2-S	4.52	4.52	4705	0	6.084
10-3-S	4.52	4.52	4705	0	3.827
10-4-S	4.52	4.52	4705	0	3.060
10-5-S	4.52	4.52	4705	0	2.460
10-6-S	4.52	4.52	4705	0	2.058
10-7-S	4.52	4.52	4705	0	1.787
10-8-S	4.52	4.52	4705	0	1.597
10-9-S	4.52	4.52	4705	0	1.474
10-10-S	4.52	4.52	4705	0	1.395
10-11-S	4.52	4.52	4705	0	1.346
10-12-S	4.52	4.52	4705	0	1.322
10-13-S	4.52	4.52	4705	0	1.335
10-14-S	4.52	4.52	4705	0	1.371
10-15-S	4.52	4.52	4705	0	1.436
10-16-S	4.52	4.52	4705	0	1.541
10-17-S	4.52	4.52	4705	0	1.707
10-18-S	4.52	4.52	4705	0	1.947
10-19-S	4.52	4.52	4705	0	2.304
10-20-S	4.52	4.52	4705	0	2.854
10-21-S	4.52	4.52	4705	0	3.602
10-22-S	4.52	4.52	4705	0	5.802
10-23-S	4.52	4.52	-2587	-15880	148.486
11-1-S	4.52	4.52	4705	0	41.667
11-2-S	4.52	4.52	4705	0	6.614
11-3-S	4.52	4.52	4705	0	3.727
11-4-S	4.52	4.52	4705	0	2.719
11-5-S	4.52	4.52	4705	0	2.132
11-6-S	4.52	4.52	4705	0	1.781
11-7-S	4.52	4.52	4705	0	1.551
11-8-S	4.52	4.52	4705	0	1.394
11-9-S	4.52	4.52	4705	0	1.293
11-10-S	4.52	4.52	4705	0	1.228
11-11-S	4.52	4.52	4705	0	1.188
11-12-S	4.52	4.52	4705	0	1.168
11-13-S	4.52	4.52	4705	0	1.178
11-14-S	4.52	4.52	4705	0	1.207
11-15-S	4.52	4.52	4705	0	1.259
11-16-S	4.52	4.52	4705	0	1.342
11-17-S	4.52	4.52	4705	0	1.474
11-18-S	4.52	4.52	4705	0	1.663
11-19-S	4.52	4.52	4705	0	1.945
11-20-S	4.52	4.52	4705	0	2.395
11-21-S	4.52	4.52	4705	0	3.128
11-22-S	4.52	4.52	4705	0	5.278
11-23-S	4.52	4.52	733	-29995	200.386
12-1-S	4.52	4.52	4705	0	55.132
12-2-S	4.52	4.52	4705	0	11.525
12-3-S	4.52	4.52	4705	0	5.079
12-4-S	4.52	4.52	4705	0	3.145
12-5-S	4.52	4.52	4705	0	2.302
12-6-S	4.52	4.52	4705	0	1.865
12-7-S	4.52	4.52	4705	0	1.597
12-8-S	4.52	4.52	4705	0	1.421

Is	Afi [cmq]	Afs [cmq]	Mu [kgm]	Nu [kg]	FS
12-9-S	4.52	4.52	4705	0	1.310
12-10-S	4.52	4.52	4705	0	1.241
12-11-S	4.52	4.52	4705	0	1.198
12-12-S	4.52	4.52	4705	0	1.178
12-13-S	4.52	4.52	4705	0	1.189
12-14-S	4.52	4.52	4705	0	1.221
12-15-S	4.52	4.52	4705	0	1.276
12-16-S	4.52	4.52	4705	0	1.367
12-17-S	4.52	4.52	4705	0	1.510
12-18-S	4.52	4.52	4705	0	1.717
12-19-S	4.52	4.52	4705	0	2.028
12-20-S	4.52	4.52	4705	0	2.532
12-21-S	4.52	4.52	4705	0	3.283
12-22-S	4.52	4.52	4705	0	5.453
12-23-S	4.52	4.52	1441	-24553	277.847
13-1-S	4.52	4.52	-2857	-13855	118.502
13-2-S	4.52	4.52	4705	0	14.968
13-3-S	4.52	4.52	4705	0	6.218
13-4-S	4.52	4.52	4705	0	3.694
13-5-S	4.52	4.52	4705	0	2.607
13-6-S	4.52	4.52	4705	0	2.055
13-7-S	4.52	4.52	4705	0	1.728
13-8-S	4.52	4.52	4705	0	1.517
13-9-S	4.52	4.52	4705	0	1.387
13-10-S	4.52	4.52	4705	0	1.307
13-11-S	4.52	4.52	4705	0	1.258
13-12-S	4.52	4.52	4705	0	1.235
13-13-S	4.52	4.52	4705	0	1.248
13-14-S	4.52	4.52	4705	0	1.284
13-15-S	4.52	4.52	4705	0	1.348
13-16-S	4.52	4.52	4705	0	1.452
13-17-S	4.52	4.52	4705	0	1.615
13-18-S	4.52	4.52	4705	0	1.851
13-19-S	4.52	4.52	4705	0	2.205
13-20-S	4.52	4.52	4705	0	2.755
13-21-S	4.52	4.52	4705	0	3.519
13-22-S	4.52	4.52	4705	0	5.731
13-23-S	4.52	4.52	-444	-32404	295.939
14-1-S	4.52	4.52	-2857	-13855	118.502
14-2-S	4.52	3.39	4703	0	14.963
14-3-S	4.52	3.39	4703	0	6.216
14-4-S	4.52	3.39	4703	0	3.693
14-5-S	4.52	3.39	4703	0	2.606
14-6-S	4.52	3.39	4703	0	2.054
14-7-S	4.52	3.39	4703	0	1.727
14-8-S	4.52	3.39	4703	0	1.516
14-9-S	4.52	3.39	4703	0	1.387
14-10-S	4.52	3.39	4703	0	1.307
14-11-S	4.52	3.39	4703	0	1.258
14-12-S	4.52	3.39	4703	0	1.235
14-13-S	4.52	3.39	4703	0	1.248
14-14-S	4.52	3.39	4703	0	1.284
14-15-S	4.52	3.39	4703	0	1.347
14-16-S	4.52	3.39	4703	0	1.451
14-17-S	4.52	3.39	4703	0	1.614
14-18-S	4.52	3.39	4703	0	1.850
14-19-S	4.52	3.39	4703	0	2.204
14-20-S	4.52	3.39	4703	0	2.754
14-21-S	4.52	3.39	4703	0	3.517
14-22-S	4.52	3.39	4703	0	5.729
14-23-S	4.52	4.52	-444	-32404	295.939
15-1-S	4.52	4.52	4705	0	55.132
15-2-S	4.52	4.52	4705	0	11.525
15-3-S	4.52	4.52	4705	0	5.079
15-4-S	4.52	4.52	4705	0	3.145
15-5-S	4.52	4.52	4705	0	2.302
15-6-S	4.52	4.52	4705	0	1.865
15-7-S	4.52	4.52	4705	0	1.597
15-8-S	4.52	4.52	4705	0	1.421
15-9-S	4.52	4.52	4705	0	1.310
15-10-S	4.52	4.52	4705	0	1.241
15-11-S	4.52	4.52	4705	0	1.198
15-12-S	4.52	4.52	4705	0	1.178
15-13-S	4.52	4.52	4705	0	1.189
15-14-S	4.52	4.52	4705	0	1.221
15-15-S	4.52	4.52	4705	0	1.276
15-16-S	4.52	4.52	4705	0	1.367
15-17-S	4.52	4.52	4705	0	1.510
15-18-S	4.52	4.52	4705	0	1.717
15-19-S	4.52	4.52	4705	0	2.028
15-20-S	4.52	4.52	4705	0	2.532
15-21-S	4.52	4.52	4705	0	3.283
15-22-S	4.52	4.52	4705	0	5.453
15-23-S	4.52	4.52	1441	-24553	277.847
16-1-S	4.52	4.52	4705	0	41.667
16-2-S	4.52	4.52	4705	0	6.614
16-3-S	4.52	4.52	4705	0	3.727
16-4-S	4.52	4.52	4705	0	2.719
16-5-S	4.52	4.52	4705	0	2.132
16-6-S	4.52	4.52	4705	0	1.781
16-7-S	4.52	4.52	4705	0	1.551
16-8-S	4.52	4.52	4705	0	1.394
16-9-S	4.52	4.52	4705	0	1.293

Is	Afi [cmq]	Afs [cmq]	Mu [kgm]	Nu [kg]	FS
16-10-S	4.52	4.52	4705	0	1.228
16-11-S	4.52	4.52	4705	0	1.188
16-12-S	4.52	4.52	4705	0	1.168
16-13-S	4.52	4.52	4705	0	1.178
16-14-S	4.52	4.52	4705	0	1.207
16-15-S	4.52	4.52	4705	0	1.259
16-16-S	4.52	4.52	4705	0	1.342
16-17-S	4.52	4.52	4705	0	1.474
16-18-S	4.52	4.52	4705	0	1.663
16-19-S	4.52	4.52	4705	0	1.945
16-20-S	4.52	4.52	4705	0	2.395
16-21-S	4.52	4.52	4705	0	3.128
16-22-S	4.52	4.52	4705	0	5.278
16-23-S	4.52	4.52	733	-29995	200.386
17-1-S	4.52	4.52	-4705	0	67.854
17-2-S	4.52	4.52	4705	0	6.084
17-3-S	4.52	4.52	4705	0	3.827
17-4-S	4.52	4.52	4705	0	3.060
17-5-S	4.52	4.52	4705	0	2.460
17-6-S	4.52	4.52	4705	0	2.058
17-7-S	4.52	4.52	4705	0	1.787
17-8-S	4.52	4.52	4705	0	1.597
17-9-S	4.52	4.52	4705	0	1.474
17-10-S	4.52	4.52	4705	0	1.395
17-11-S	4.52	4.52	4705	0	1.346
17-12-S	4.52	4.52	4705	0	1.322
17-13-S	4.52	4.52	4705	0	1.335
17-14-S	4.52	4.52	4705	0	1.371
17-15-S	4.52	4.52	4705	0	1.436
17-16-S	4.52	4.52	4705	0	1.541
17-17-S	4.52	4.52	4705	0	1.707
17-18-S	4.52	4.52	4705	0	1.947
17-19-S	4.52	4.52	4705	0	2.304
17-20-S	4.52	4.52	4705	0	2.854
17-21-S	4.52	4.52	4705	0	3.602
17-22-S	4.52	4.52	4705	0	5.802
17-23-S	4.52	4.52	-2587	-15880	148.486
18-1-S	4.52	4.52	1519	-23968	240.502
18-2-S	4.52	4.52	4705	0	6.030
18-3-S	4.52	4.52	4705	0	3.862
18-4-S	4.52	4.52	4705	0	3.154
18-5-S	4.52	4.52	4705	0	2.579
18-6-S	4.52	4.52	4705	0	2.178
18-7-S	4.52	4.52	4705	0	1.900
18-8-S	4.52	4.52	4705	0	1.702
18-9-S	4.52	4.52	4705	0	1.572
18-10-S	4.52	4.52	4705	0	1.488
18-11-S	4.52	4.52	4705	0	1.437
18-12-S	4.52	4.52	4705	0	1.412
18-13-S	4.52	4.52	4705	0	1.428
18-14-S	4.52	4.52	4705	0	1.471
18-15-S	4.52	4.52	4705	0	1.545
18-16-S	4.52	4.52	4705	0	1.664
18-17-S	4.52	4.52	4705	0	1.848
18-18-S	4.52	4.52	4705	0	2.111
18-19-S	4.52	4.52	4705	0	2.495
18-20-S	4.52	4.52	4705	0	3.062
18-21-S	4.52	4.52	4705	0	3.787
18-22-S	4.52	4.52	4705	0	5.973
18-23-S	4.52	4.52	4705	0	41.559
19-1-S	4.52	4.52	4705	0	36.905
19-2-S	4.52	4.52	4705	0	5.952
19-3-S	4.52	4.52	4705	0	3.785
19-4-S	4.52	4.52	4705	0	3.063
19-5-S	4.52	4.52	4705	0	2.487
19-6-S	4.52	4.52	4705	0	2.095
19-7-S	4.52	4.52	4705	0	1.828
19-8-S	4.52	4.52	4705	0	1.640
19-9-S	4.52	4.52	4705	0	1.518
19-10-S	4.52	4.52	4705	0	1.441
19-11-S	4.52	4.52	4705	0	1.394
19-12-S	4.52	4.52	4705	0	1.373
19-13-S	4.52	4.52	4705	0	1.391
19-14-S	4.52	4.52	4705	0	1.434
19-15-S	4.52	4.52	4705	0	1.507
19-16-S	4.52	4.52	4705	0	1.625
19-17-S	4.52	4.52	4705	0	1.810
19-18-S	4.52	4.52	4705	0	2.075
19-19-S	4.52	4.52	4705	0	2.468
19-20-S	4.52	4.52	4705	0	3.053
19-21-S	4.52	4.52	4705	0	3.796
19-22-S	4.52	4.52	4705	0	5.935
19-23-S	4.52	4.52	4705	0	13.750
20-1-S	4.52	4.52	-4705	0	13.777
20-2-S	4.52	4.52	4705	0	6.624
20-3-S	4.52	4.52	4705	0	3.911
20-4-S	4.52	4.52	4705	0	2.801
20-5-S	4.52	4.52	4705	0	2.180
20-6-S	4.52	4.52	4705	0	1.820
20-7-S	4.52	4.52	4705	0	1.588
20-8-S	4.52	4.52	4705	0	1.432
20-9-S	4.52	4.52	4705	0	1.333
20-10-S	4.52	4.52	4705	0	1.272

Is	Afi [cmq]	Afs [cmq]	Mu [kgm]	Nu [kg]	FS
20-11-S	4.52	4.52	4705	0	1.236
20-12-S	4.52	4.52	4705	0	1.220
20-13-S	4.52	4.52	4705	0	1.236
20-14-S	4.52	4.52	4705	0	1.273
20-15-S	4.52	4.52	4705	0	1.335
20-16-S	4.52	4.52	4705	0	1.436
20-17-S	4.52	4.52	4705	0	1.598
20-18-S	4.52	4.52	4705	0	1.840
20-19-S	4.52	4.52	4705	0	2.216
20-20-S	4.52	4.52	4705	0	2.869
20-21-S	4.52	4.52	4705	0	3.912
20-22-S	4.52	4.52	4705	0	5.818
20-23-S	4.52	4.52	-4705	0	10.031

Verifica tensioni - Combinazioni quasi permanenti (SLEQ)

Piastra

Simbologia adottata

Is	Identificativo tratto-sezione-direzione (P: direzione principale, S: direzione secondaria)
Afi	Area di armatura lembo inferiore espressa in [cmq]
Afs	Area di armatura lembo superiore espressa in [cmq]
σc	Tensione nel calcestruzzo espressa in [kg/cmq]
σfi	Tensione nell'armatura disposta in corrispondenza del lembo inferiore espressa in [kg/cmq]
σfs	Tensione nell'armatura disposta in corrispondenza del lembo superiore espressa in [kg/cmq]

Is	Afi [cmq]	Afs [cmq]	σc [kg/cmq]	τc [kg/cmq]	σfi [kg/cmq]	σfs [kg/cmq]
1-1-P	4.52	4.52	3.34	---	199.44	200.44
1-2-P	4.52	4.52	5.89	---	353.93	81.97
1-3-P	4.52	4.52	8.54	---	513.04	56.92
1-4-P	4.52	4.52	10.67	---	640.57	71.07
1-5-P	4.52	4.52	13.06	---	784.22	87.00
1-6-P	4.52	4.52	15.40	---	924.90	102.61
1-7-P	4.52	4.52	17.60	---	1057.06	117.27
1-8-P	4.52	4.52	19.62	---	1178.38	130.73
1-9-P	4.52	4.52	21.44	---	1287.33	142.82
1-10-P	4.52	4.52	23.02	---	1382.52	153.38
1-11-P	4.52	4.52	24.50	---	1471.39	163.24
1-12-P	4.52	4.52	25.91	---	1555.84	172.61
1-13-P	4.52	4.52	27.28	---	1638.08	181.73
1-14-P	4.52	4.52	28.69	---	1722.69	191.12
1-15-P	4.52	4.52	30.16	---	1810.82	200.90
1-16-P	4.52	4.52	31.68	---	1902.31	211.05
1-17-P	4.52	4.52	33.26	---	1996.81	221.53
1-18-P	4.52	4.52	34.71	---	2083.88	231.19
1-19-P	4.52	4.52	35.81	---	2150.09	238.54
1-20-P	4.52	4.52	35.10	---	2107.61	233.82
1-21-P	4.52	4.52	28.48	---	1710.38	189.75
1-22-P	4.52	4.52	23.16	---	1390.43	154.26
1-23-P	4.52	4.52	18.70	---	1122.86	124.57
1-24-P	4.52	4.52	15.06	---	904.39	100.34
1-25-P	4.52	4.52	12.34	---	741.26	82.24
1-26-P	4.52	4.52	10.48	---	629.00	69.78
1-27-P	4.52	4.52	9.21	---	553.00	61.35
1-28-P	4.52	4.52	8.52	---	511.66	56.77
1-29-P	4.52	4.52	8.52	---	511.66	56.77
1-30-P	4.52	4.52	9.21	---	553.00	61.35
1-31-P	4.52	4.52	10.48	---	629.00	69.78
1-32-P	4.52	4.52	12.34	---	741.26	82.24
1-33-P	4.52	4.52	15.06	---	904.39	100.34
1-34-P	4.52	4.52	18.70	---	1122.86	124.57
1-35-P	4.52	4.52	23.16	---	1390.43	154.26
1-36-P	4.52	4.52	28.48	---	1710.38	189.75
1-37-P	4.52	4.52	35.10	---	2107.61	233.82
1-38-P	4.52	4.52	35.81	---	2150.09	238.54
1-39-P	4.52	4.52	34.71	---	2083.88	231.19
1-40-P	4.52	4.52	33.26	---	1996.81	221.53
1-41-P	4.52	4.52	31.68	---	1902.31	211.05
1-42-P	4.52	4.52	30.16	---	1810.82	200.90
1-43-P	4.52	4.52	28.69	---	1722.69	191.12
1-44-P	4.52	4.52	27.28	---	1638.08	181.73
1-45-P	4.52	4.52	25.91	---	1555.84	172.61
1-46-P	4.52	4.52	24.50	---	1471.39	163.24
1-47-P	4.52	4.52	23.02	---	1382.52	153.38
1-48-P	4.52	4.52	21.44	---	1287.33	142.82
1-49-P	4.52	4.52	19.62	---	1178.38	130.73
1-50-P	4.52	4.52	17.60	---	1057.06	117.27
1-51-P	4.52	4.52	15.40	---	924.90	102.61
1-52-P	4.52	4.52	13.06	---	784.22	87.00
1-53-P	4.52	4.52	10.67	---	640.57	71.07
1-54-P	4.52	4.52	8.54	---	513.04	56.92
1-55-P	4.52	4.52	5.89	---	353.93	81.97
1-56-P	4.52	4.52	3.34	---	199.44	200.44
2-1-P	4.52	4.52	1.33	---	80.12	79.67
2-2-P	4.52	4.52	7.33	---	439.90	48.80
2-3-P	4.52	4.52	9.73	---	584.50	64.85
2-4-P	4.52	4.52	10.04	---	602.61	66.86

Is	Afi [cmq]	Afs [cmq]	sc [kg/cmq]	tc [kg/cmq]	ofi [kg/cmq]	ofs [kg/cmq]
2-5-P	4.52	4.52	11.25	---	675.68	74.96
2-6-P	4.52	4.52	12.99	---	780.10	86.55
2-7-P	4.52	4.52	14.83	---	890.39	98.78
2-8-P	4.52	4.52	16.71	---	1003.17	111.29
2-9-P	4.52	4.52	18.57	---	1114.80	123.68
2-10-P	4.52	4.52	20.36	---	1222.62	135.64
2-11-P	4.52	4.52	22.13	---	1328.77	147.42
2-12-P	4.52	4.52	23.89	---	1434.37	159.13
2-13-P	4.52	4.52	25.67	---	1541.12	170.98
2-14-P	4.52	4.52	27.55	---	1654.26	183.53
2-15-P	4.52	4.52	29.57	---	1775.73	197.00
2-16-P	4.52	4.52	31.78	---	1908.05	211.68
2-17-P	4.52	4.52	34.26	---	2057.32	228.25
2-18-P	4.52	4.52	37.29	---	2238.91	248.39
2-19-P	4.52	4.52	40.93	---	2457.71	272.67
2-20-P	4.52	4.52	42.76	---	2567.25	284.82
2-21-P	4.52	4.52	35.85	---	2152.47	238.80
2-22-P	4.52	4.52	30.24	---	1815.86	201.46
2-23-P	4.52	4.52	25.53	---	1533.12	170.09
2-24-P	4.52	4.52	21.68	---	1302.00	144.45
2-25-P	4.52	4.52	18.79	---	1128.07	125.15
2-26-P	4.52	4.52	16.77	---	1007.16	111.74
2-27-P	4.52	4.52	15.40	---	924.77	102.60
2-28-P	4.52	4.52	14.65	---	879.63	97.59
2-29-P	4.52	4.52	14.65	---	879.63	97.59
2-30-P	4.52	4.52	15.40	---	924.77	102.60
2-31-P	4.52	4.52	16.77	---	1007.16	111.74
2-32-P	4.52	4.52	18.79	---	1128.07	125.15
2-33-P	4.52	4.52	21.68	---	1302.00	144.45
2-34-P	4.52	4.52	25.53	---	1533.12	170.09
2-35-P	4.52	4.52	30.24	---	1815.86	201.46
2-36-P	4.52	4.52	35.85	---	2152.47	238.80
2-37-P	4.52	4.52	42.76	---	2567.25	284.82
2-38-P	4.52	4.52	40.93	---	2457.71	272.67
2-39-P	4.52	4.52	37.29	---	2238.91	248.39
2-40-P	4.52	4.52	34.26	---	2057.32	228.25
2-41-P	4.52	4.52	31.78	---	1908.05	211.68
2-42-P	4.52	4.52	29.57	---	1775.73	197.00
2-43-P	4.52	4.52	27.55	---	1654.26	183.53
2-44-P	4.52	4.52	25.67	---	1541.12	170.98
2-45-P	4.52	4.52	23.89	---	1434.37	159.13
2-46-P	4.52	4.52	22.13	---	1328.77	147.42
2-47-P	4.52	4.52	20.36	---	1222.62	135.64
2-48-P	4.52	4.52	18.57	---	1114.80	123.68
2-49-P	4.52	4.52	16.71	---	1003.17	111.29
2-50-P	4.52	4.52	14.83	---	890.39	98.78
2-51-P	4.52	4.52	12.99	---	780.10	86.55
2-52-P	4.52	4.52	11.25	---	675.68	74.96
2-53-P	4.52	4.52	10.04	---	602.61	66.86
2-54-P	4.52	4.52	9.73	---	584.50	64.85
2-55-P	4.52	4.52	7.33	---	439.90	48.80
2-56-P	4.52	4.52	1.33	---	80.12	79.67
3-1-P	4.52	4.52	0.11	---	5.53	6.56
3-2-P	4.52	4.52	7.40	---	444.52	49.32
3-3-P	4.52	4.52	9.64	---	578.91	64.23
3-4-P	4.52	4.52	9.61	---	576.83	63.99
3-5-P	4.52	4.52	10.38	---	623.33	69.15
3-6-P	4.52	4.52	11.75	---	705.55	78.28
3-7-P	4.52	4.52	13.32	---	799.95	88.75
3-8-P	4.52	4.52	15.04	---	903.25	100.21
3-9-P	4.52	4.52	16.86	---	1012.20	112.30
3-10-P	4.52	4.52	18.73	---	1124.88	124.80
3-11-P	4.52	4.52	20.66	---	1240.28	137.60
3-12-P	4.52	4.52	22.64	---	1359.34	150.81
3-13-P	4.52	4.52	24.72	---	1484.06	164.65
3-14-P	4.52	4.52	27.01	---	1621.55	179.90
3-15-P	4.52	4.52	29.53	---	1773.11	196.71
3-16-P	4.52	4.52	32.34	---	1941.97	215.45
3-17-P	4.52	4.52	35.58	---	2136.25	237.00
3-18-P	4.52	4.52	39.49	---	2370.93	263.04
3-19-P	4.52	4.52	44.00	---	2641.91	293.10
3-20-P	4.52	4.52	46.61	---	2798.67	310.49
3-21-P	4.52	4.52	40.27	---	2417.99	268.26
3-22-P	4.52	4.52	34.94	---	2097.88	232.75
3-23-P	4.52	4.52	30.37	---	1823.55	202.31
3-24-P	4.52	4.52	26.55	---	1594.28	176.87
3-25-P	4.52	4.52	23.62	---	1418.42	157.36
3-26-P	4.52	4.52	21.56	---	1294.84	143.65
3-27-P	4.52	4.52	20.15	---	1210.17	134.26
3-28-P	4.52	4.52	19.38	---	1163.54	129.09
3-29-P	4.52	4.52	19.38	---	1163.54	129.09
3-30-P	4.52	4.52	20.15	---	1210.17	134.26
3-31-P	4.52	4.52	21.56	---	1294.84	143.65
3-32-P	4.52	4.52	23.62	---	1418.42	157.36
3-33-P	4.52	4.52	26.55	---	1594.28	176.87
3-34-P	4.52	4.52	30.37	---	1823.55	202.31
3-35-P	4.52	4.52	34.94	---	2097.88	232.75
3-36-P	4.52	4.52	40.27	---	2417.99	268.26
3-37-P	4.52	4.52	46.61	---	2798.67	310.49
3-38-P	4.52	4.52	44.00	---	2641.91	293.10
3-39-P	4.52	4.52	39.49	---	2370.93	263.04
3-40-P	4.52	4.52	35.58	---	2136.25	237.00
3-41-P	4.52	4.52	32.34	---	1941.97	215.45

Is	Afi [cmq]	Afs [cmq]	sc [kg/cmq]	tc [kg/cmq]	ofi [kg/cmq]	ofs [kg/cmq]
3-42-P	4.52	4.52	29.53	---	1773.11	196.71
3-43-P	4.52	4.52	27.01	---	1621.55	179.90
3-44-P	4.52	4.52	24.72	---	1484.06	164.65
3-45-P	4.52	4.52	22.64	---	1359.34	150.81
3-46-P	4.52	4.52	20.66	---	1240.28	137.60
3-47-P	4.52	4.52	18.73	---	1124.88	124.80
3-48-P	4.52	4.52	16.86	---	1012.20	112.30
3-49-P	4.52	4.52	15.04	---	903.25	100.21
3-50-P	4.52	4.52	13.32	---	799.95	88.75
3-51-P	4.52	4.52	11.75	---	705.55	78.28
3-52-P	4.52	4.52	10.38	---	623.33	69.15
3-53-P	4.52	4.52	9.61	---	576.83	63.99
3-54-P	4.52	4.52	9.64	---	578.91	64.23
3-55-P	4.52	4.52	7.40	---	444.52	49.32
3-56-P	4.52	4.52	0.11	---	5.53	6.56
4-1-P	4.52	4.52	0.65	---	38.87	38.33
4-2-P	4.52	3.39	7.39	---	436.87	49.98
4-3-P	4.52	3.39	9.54	---	563.93	64.52
4-4-P	4.52	3.39	9.39	---	554.96	63.49
4-5-P	4.52	3.39	10.07	---	595.15	68.09
4-6-P	4.52	3.39	11.37	---	672.12	76.90
4-7-P	4.52	3.39	12.89	---	762.12	87.19
4-8-P	4.52	3.39	14.58	---	861.83	98.60
4-9-P	4.52	3.39	16.38	---	968.22	110.78
4-10-P	4.52	3.39	18.27	---	1079.92	123.55
4-11-P	4.52	3.39	20.22	---	1195.67	136.80
4-12-P	4.52	3.39	22.27	---	1316.56	150.63
4-13-P	4.52	3.39	24.44	---	1445.03	165.33
4-14-P	4.52	3.39	26.88	---	1589.21	181.82
4-15-P	4.52	3.39	29.60	---	1749.92	200.21
4-16-P	4.52	3.39	32.65	---	1930.46	220.87
4-17-P	4.52	3.39	36.19	---	2139.44	244.78
4-18-P	4.52	3.39	40.46	---	2391.79	273.65
4-19-P	4.52	3.39	45.36	---	2681.76	306.82
4-20-P	4.52	3.39	48.35	---	2858.29	327.02
4-21-P	4.52	3.39	42.24	---	2497.30	285.72
4-22-P	4.52	3.39	37.12	---	2194.80	251.11
4-23-P	4.52	3.39	32.74	---	1935.81	221.48
4-24-P	4.52	3.39	29.08	---	1719.38	196.72
4-25-P	4.52	3.39	26.27	---	1553.08	177.69
4-26-P	4.52	3.39	24.29	---	1435.93	164.29
4-27-P	4.52	3.39	22.93	---	1355.53	155.09
4-28-P	4.52	3.39	22.18	---	1311.18	150.01
4-29-P	4.52	3.39	22.18	---	1311.18	150.01
4-30-P	4.52	3.39	22.93	---	1355.53	155.09
4-31-P	4.52	3.39	24.29	---	1435.93	164.29
4-32-P	4.52	3.39	26.27	---	1553.08	177.69
4-33-P	4.52	3.39	29.08	---	1719.38	196.72
4-34-P	4.52	3.39	32.74	---	1935.81	221.48
4-35-P	4.52	3.39	37.12	---	2194.80	251.11
4-36-P	4.52	3.39	42.24	---	2497.30	285.72
4-37-P	4.52	3.39	48.35	---	2858.29	327.02
4-38-P	4.52	3.39	45.36	---	2681.76	306.82
4-39-P	4.52	3.39	40.46	---	2391.79	273.65
4-40-P	4.52	3.39	36.19	---	2139.44	244.78
4-41-P	4.52	3.39	32.65	---	1930.46	220.87
4-42-P	4.52	3.39	29.60	---	1749.92	200.21
4-43-P	4.52	3.39	26.88	---	1589.21	181.82
4-44-P	4.52	3.39	24.44	---	1445.03	165.33
4-45-P	4.52	3.39	22.27	---	1316.56	150.63
4-46-P	4.52	3.39	20.22	---	1195.67	136.80
4-47-P	4.52	3.39	18.27	---	1079.92	123.55
4-48-P	4.52	3.39	16.38	---	968.22	110.78
4-49-P	4.52	3.39	14.58	---	861.83	98.60
4-50-P	4.52	3.39	12.89	---	762.12	87.19
4-51-P	4.52	3.39	11.37	---	672.12	76.90
4-52-P	4.52	3.39	10.07	---	595.15	68.09
4-53-P	4.52	3.39	9.39	---	554.96	63.49
4-54-P	4.52	3.39	9.54	---	563.93	64.52
4-55-P	4.52	3.39	7.39	---	436.87	49.98
4-56-P	4.52	4.52	0.65	---	38.87	38.33
5-1-P	4.52	4.52	2.83	---	169.63	169.20
5-2-P	4.52	4.52	6.91	---	415.05	46.05
5-3-P	4.52	4.52	8.93	---	536.32	59.50
5-4-P	4.52	4.52	8.87	---	532.88	59.12
5-5-P	4.52	4.52	9.77	---	586.75	65.10
5-6-P	4.52	4.52	11.25	---	675.74	74.97
5-7-P	4.52	4.52	12.88	---	773.15	85.78
5-8-P	4.52	4.52	14.58	---	875.58	97.14
5-9-P	4.52	4.52	16.31	---	979.61	108.68
5-10-P	4.52	4.52	18.05	---	1083.89	120.25
5-11-P	4.52	4.52	19.82	---	1189.87	132.01
5-12-P	4.52	4.52	21.64	---	1299.13	144.13
5-13-P	4.52	4.52	23.56	---	1414.52	156.93
5-14-P	4.52	4.52	25.72	---	1544.50	171.35
5-15-P	4.52	4.52	28.15	---	1690.24	187.52
5-16-P	4.52	4.52	30.90	---	1855.15	205.82
5-17-P	4.52	4.52	34.10	---	2047.81	227.19
5-18-P	4.52	4.52	38.08	---	2286.82	253.71
5-19-P	4.52	4.52	42.81	---	2570.46	285.17
5-20-P	4.52	4.52	45.79	---	2749.34	305.02
5-21-P	4.52	4.52	40.02	---	2403.07	266.60
5-22-P	4.52	4.52	35.37	---	2123.80	235.62

Is	Afi [cmq]	Afs [cmq]	sc [kg/cmq]	rc [kg/cmq]	ofi [kg/cmq]	ofs [kg/cmq]
5-23-P	4.52	4.52	31.46	---	1888.92	209.56
5-24-P	4.52	4.52	28.23	---	1695.37	188.09
5-25-P	4.52	4.52	25.76	---	1546.93	171.62
5-26-P	4.52	4.52	24.02	---	1442.16	160.00
5-27-P	4.52	4.52	22.82	---	1370.14	152.01
5-28-P	4.52	4.52	22.16	---	1330.34	147.59
5-29-P	4.52	4.52	22.16	---	1330.34	147.59
5-30-P	4.52	4.52	22.82	---	1370.14	152.01
5-31-P	4.52	4.52	24.02	---	1442.16	160.00
5-32-P	4.52	4.52	25.76	---	1546.93	171.62
5-33-P	4.52	4.52	28.23	---	1695.37	188.09
5-34-P	4.52	4.52	31.46	---	1888.92	209.56
5-35-P	4.52	4.52	35.37	---	2123.80	235.62
5-36-P	4.52	4.52	40.02	---	2403.07	266.60
5-37-P	4.52	4.52	45.79	---	2749.34	305.02
5-38-P	4.52	4.52	42.81	---	2570.46	285.17
5-39-P	4.52	4.52	38.08	---	2286.82	253.71
5-40-P	4.52	4.52	34.10	---	2047.81	227.19
5-41-P	4.52	4.52	30.90	---	1855.15	205.82
5-42-P	4.52	4.52	28.15	---	1690.24	187.52
5-43-P	4.52	4.52	25.72	---	1544.50	171.35
5-44-P	4.52	4.52	23.56	---	1414.52	156.93
5-45-P	4.52	4.52	21.64	---	1299.13	144.13
5-46-P	4.52	4.52	19.82	---	1189.87	132.01
5-47-P	4.52	4.52	18.05	---	1083.89	120.25
5-48-P	4.52	4.52	16.31	---	979.61	108.68
5-49-P	4.52	4.52	14.58	---	875.58	97.14
5-50-P	4.52	4.52	12.88	---	773.15	85.78
5-51-P	4.52	4.52	11.25	---	675.74	74.97
5-52-P	4.52	4.52	9.77	---	586.75	65.10
5-53-P	4.52	4.52	8.87	---	532.88	59.12
5-54-P	4.52	4.52	8.93	---	536.32	59.50
5-55-P	4.52	4.52	6.91	---	415.05	46.05
5-56-P	4.52	4.52	2.83	---	169.63	169.20
6-1-P	4.52	4.52	4.61	---	275.58	276.55
6-2-P	4.52	4.52	6.27	---	376.54	131.25
6-3-P	4.52	4.52	7.79	---	467.80	97.47
6-4-P	4.52	4.52	8.96	---	537.90	77.86
6-5-P	4.52	4.52	10.57	---	634.75	70.42
6-6-P	4.52	4.52	12.38	---	743.49	82.48
6-7-P	4.52	4.52	14.19	---	852.07	94.53
6-8-P	4.52	4.52	15.91	---	955.22	105.97
6-9-P	4.52	4.52	17.51	---	1051.60	116.67
6-10-P	4.52	4.52	18.98	---	1139.94	126.47
6-11-P	4.52	4.52	20.42	---	1225.95	136.01
6-12-P	4.52	4.52	21.85	---	1312.21	145.58
6-13-P	4.52	4.52	23.36	---	1402.51	155.60
6-14-P	4.52	4.52	25.08	---	1506.15	167.10
6-15-P	4.52	4.52	27.05	---	1624.10	180.18
6-16-P	4.52	4.52	29.28	---	1758.40	195.08
6-17-P	4.52	4.52	31.89	---	1914.61	212.41
6-18-P	4.52	4.52	34.92	---	2096.53	232.59
6-19-P	4.52	4.52	38.21	---	2294.17	254.52
6-20-P	4.52	4.52	40.13	---	2409.45	267.31
6-21-P	4.52	4.52	36.12	---	2168.84	240.62
6-22-P	4.52	4.52	32.50	---	1951.74	216.53
6-23-P	4.52	4.52	29.28	---	1758.24	195.06
6-24-P	4.52	4.52	26.49	---	1590.79	176.49
6-25-P	4.52	4.52	24.29	---	1458.57	161.82
6-26-P	4.52	4.52	22.72	---	1364.09	151.34
6-27-P	4.52	4.52	21.63	---	1298.79	144.09
6-28-P	4.52	4.52	21.03	---	1262.55	140.07
6-29-P	4.52	4.52	21.03	---	1262.55	140.07
6-30-P	4.52	4.52	21.63	---	1298.79	144.09
6-31-P	4.52	4.52	22.72	---	1364.09	151.34
6-32-P	4.52	4.52	24.29	---	1458.57	161.82
6-33-P	4.52	4.52	26.49	---	1590.79	176.49
6-34-P	4.52	4.52	29.28	---	1758.24	195.06
6-35-P	4.52	4.52	32.50	---	1951.74	216.53
6-36-P	4.52	4.52	36.12	---	2168.84	240.62
6-37-P	4.52	4.52	40.13	---	2409.45	267.31
6-38-P	4.52	4.52	38.21	---	2294.17	254.52
6-39-P	4.52	4.52	34.92	---	2096.53	232.59
6-40-P	4.52	4.52	31.89	---	1914.61	212.41
6-41-P	4.52	4.52	29.28	---	1758.40	195.08
6-42-P	4.52	4.52	27.05	---	1624.10	180.18
6-43-P	4.52	4.52	25.08	---	1506.15	167.10
6-44-P	4.52	4.52	23.36	---	1402.51	155.60
6-45-P	4.52	4.52	21.85	---	1312.21	145.58
6-46-P	4.52	4.52	20.42	---	1225.95	136.01
6-47-P	4.52	4.52	18.98	---	1139.94	126.47
6-48-P	4.52	4.52	17.51	---	1051.60	116.67
6-49-P	4.52	4.52	15.91	---	955.22	105.97
6-50-P	4.52	4.52	14.19	---	852.07	94.53
6-51-P	4.52	4.52	12.38	---	743.49	82.48
6-52-P	4.52	4.52	10.57	---	634.75	70.42
6-53-P	4.52	4.52	8.96	---	537.90	77.86
6-54-P	4.52	4.52	7.79	---	467.80	97.47
6-55-P	4.52	4.52	6.27	---	376.54	131.25
6-56-P	4.52	4.52	4.61	---	275.58	276.55
7-1-S	4.52	4.52	3.55	---	220.89	221.52
7-2-S	4.52	4.52	7.44	---	464.19	71.59
7-3-S	4.52	4.52	12.51	---	780.24	80.06

Is	Afi [cmq]	Afs [cmq]	sc [kg/cmq]	rc [kg/cmq]	ofi [kg/cmq]	ofs [kg/cmq]
7-4-S	4.52	4.52	17.33	---	1081.27	110.95
7-5-S	4.52	4.52	22.20	---	1385.08	142.13
7-6-S	4.52	4.52	26.57	---	1657.35	170.07
7-7-S	4.52	4.52	30.42	---	1898.02	194.76
7-8-S	4.52	4.52	33.73	---	2104.39	215.94
7-9-S	4.52	4.52	36.22	---	2259.43	231.85
7-10-S	4.52	4.52	37.96	---	2367.87	242.98
7-11-S	4.52	4.52	39.08	---	2437.85	250.16
7-12-S	4.52	4.52	39.58	---	2469.25	253.38
7-13-S	4.52	4.52	39.08	---	2438.07	250.18
7-14-S	4.52	4.52	37.95	---	2367.38	242.93
7-15-S	4.52	4.52	36.18	---	2257.06	231.61
7-16-S	4.52	4.52	33.63	---	2098.23	215.31
7-17-S	4.52	4.52	30.22	---	1885.25	193.45
7-18-S	4.52	4.52	26.26	---	1638.50	168.13
7-19-S	4.52	4.52	21.82	---	1361.55	139.71
7-20-S	4.52	4.52	16.91	---	1054.91	108.25
7-21-S	4.52	4.52	12.51	---	780.32	80.07
7-22-S	4.52	4.52	8.47	---	528.69	134.01
7-23-S	4.52	4.52	4.94	---	307.65	308.18
8-1-S	4.52	4.52	1.28	---	80.16	79.95
8-2-S	4.52	4.52	8.37	---	521.89	53.55
8-3-S	4.52	4.52	13.02	---	812.53	83.38
8-4-S	4.52	4.52	15.93	---	993.50	101.95
8-5-S	4.52	4.52	19.51	---	1217.25	124.91
8-6-S	4.52	4.52	23.10	---	1441.37	147.91
8-7-S	4.52	4.52	26.45	---	1649.79	169.29
8-8-S	4.52	4.52	29.45	---	1837.00	188.50
8-9-S	4.52	4.52	31.80	---	1983.99	203.59
8-10-S	4.52	4.52	33.50	---	2089.92	214.46
8-11-S	4.52	4.52	34.62	---	2159.89	221.64
8-12-S	4.52	4.52	35.16	---	2193.24	225.06
8-13-S	4.52	4.52	34.72	---	2165.95	222.26
8-14-S	4.52	4.52	33.68	---	2101.20	215.61
8-15-S	4.52	4.52	32.05	---	1999.37	205.16
8-16-S	4.52	4.52	29.73	---	1854.59	190.31
8-17-S	4.52	4.52	26.72	---	1666.83	171.04
8-18-S	4.52	4.52	23.34	---	1455.85	149.39
8-19-S	4.52	4.52	19.67	---	1227.28	125.94
8-20-S	4.52	4.52	15.98	---	997.04	102.31
8-21-S	4.52	4.52	12.98	---	810.04	83.12
8-22-S	4.52	4.52	8.37	---	522.02	53.57
8-23-S	4.52	4.52	3.58	---	223.63	223.48
9-1-S	4.52	4.52	0.09	---	5.56	5.45
9-2-S	4.52	4.52	8.26	---	515.41	52.89
9-3-S	4.52	4.52	12.77	---	796.36	81.72
9-4-S	4.52	4.52	15.46	---	964.72	98.99
9-5-S	4.52	4.52	18.80	---	1172.83	120.35
9-6-S	4.52	4.52	22.19	---	1384.60	142.08
9-7-S	4.52	4.52	25.39	---	1584.26	162.57
9-8-S	4.52	4.52	28.31	---	1766.39	181.26
9-9-S	4.52	4.52	30.66	---	1912.47	196.25
9-10-S	4.52	4.52	32.37	---	2019.23	207.20
9-11-S	4.52	4.52	33.53	---	2091.55	214.62
9-12-S	4.52	4.52	34.11	---	2128.04	218.37
9-13-S	4.52	4.52	33.73	---	2104.57	215.96
9-14-S	4.52	4.52	32.77	---	2044.20	209.76
9-15-S	4.52	4.52	31.22	---	1947.88	199.88
9-16-S	4.52	4.52	29.01	---	1809.63	185.69
9-17-S	4.52	4.52	26.14	---	1630.83	167.35
9-18-S	4.52	4.52	22.93	---	1430.56	146.80
9-19-S	4.52	4.52	19.46	---	1214.02	124.58
9-20-S	4.52	4.52	15.95	---	994.97	102.10
9-21-S	4.52	4.52	13.03	---	812.83	83.41
9-22-S	4.52	4.52	8.34	---	520.47	53.41
9-23-S	4.52	4.52	1.21	---	75.38	75.31
10-1-S	4.52	4.52	0.75	---	46.86	46.88
10-2-S	4.52	4.52	8.16	---	508.88	52.22
10-3-S	4.52	4.52	12.81	---	799.43	82.03
10-4-S	4.52	4.52	15.84	---	988.13	101.40
10-5-S	4.52	4.52	19.59	---	1222.09	125.40
10-6-S	4.52	4.52	23.35	---	1456.96	149.50
10-7-S	4.52	4.52	26.87	---	1676.12	171.99
10-8-S	4.52	4.52	30.04	---	1873.89	192.29
10-9-S	4.52	4.52	32.55	---	2030.87	208.40
10-10-S	4.52	4.52	34.40	---	2145.85	220.19
10-11-S	4.52	4.52	35.65	---	2224.25	228.24
10-12-S	4.52	4.52	36.31	---	2265.19	232.44
10-13-S	4.52	4.52	35.97	---	2244.11	230.28
10-14-S	4.52	4.52	35.02	---	2184.68	224.18
10-15-S	4.52	4.52	33.46	---	2087.57	214.21
10-16-S	4.52	4.52	31.19	---	1945.68	199.65
10-17-S	4.52	4.52	28.19	---	1758.46	180.44
10-18-S	4.52	4.52	24.76	---	1544.80	158.52
10-19-S	4.52	4.52	20.99	---	1309.43	134.37
10-20-S	4.52	4.52	17.04	---	1063.11	109.09
10-21-S	4.52	4.52	13.65	---	851.31	87.36
10-22-S	4.52	4.52	8.56	---	534.24	54.82
10-23-S	4.52	4.52	0.25	---	15.19	15.33
11-1-S	4.52	4.52	1.26	---	78.74	78.23
11-2-S	4.52	4.52	7.39	---	461.29	47.33
11-3-S	4.52	4.52	12.95	---	808.20	82.93
11-4-S	4.52	4.52	17.58	---	1097.00	112.57

Is	Afi [cmq]	Afs [cmq]	sc [kg/cmq]	tc [kg/cmq]	ofi [kg/cmq]	ofs [kg/cmq]
11-5-S	4.52	4.52	22.38	---	1395.91	143.24
11-6-S	4.52	4.52	26.78	---	1670.56	171.42
11-7-S	4.52	4.52	30.75	---	1918.17	196.83
11-8-S	4.52	4.52	34.23	---	2135.32	219.11
11-9-S	4.52	4.52	36.93	---	2303.69	236.39
11-10-S	4.52	4.52	38.88	---	2425.69	248.91
11-11-S	4.52	4.52	40.21	---	2508.67	257.43
11-12-S	4.52	4.52	40.91	---	2552.04	261.88
11-13-S	4.52	4.52	40.57	---	2530.84	259.70
11-14-S	4.52	4.52	39.59	---	2469.77	253.43
11-15-S	4.52	4.52	37.98	---	2369.34	243.13
11-16-S	4.52	4.52	35.62	---	2221.92	228.00
11-17-S	4.52	4.52	32.45	---	2024.67	207.76
11-18-S	4.52	4.52	28.79	---	1795.94	184.29
11-19-S	4.52	4.52	24.67	---	1538.91	157.91
11-20-S	4.52	4.52	20.11	---	1254.74	128.75
11-21-S	4.52	4.52	15.57	---	971.35	99.67
11-22-S	4.52	4.52	9.34	---	582.96	59.82
11-23-S	4.52	4.52	0.05	---	3.22	2.52
12-1-S	4.52	4.52	1.01	---	62.94	62.77
12-2-S	4.52	4.52	4.15	---	258.88	26.57
12-3-S	4.52	4.52	9.41	---	587.30	60.27
12-4-S	4.52	4.52	15.20	---	948.37	97.32
12-5-S	4.52	4.52	20.77	---	1295.56	132.94
12-6-S	4.52	4.52	25.64	---	1599.70	164.15
12-7-S	4.52	4.52	29.96	---	1868.94	191.78
12-8-S	4.52	4.52	33.68	---	2101.44	215.64
12-9-S	4.52	4.52	36.53	---	2279.10	233.87
12-10-S	4.52	4.52	38.58	---	2406.69	246.96
12-11-S	4.52	4.52	39.96	---	2492.66	255.78
12-12-S	4.52	4.52	40.66	---	2536.72	260.30
12-13-S	4.52	4.52	40.29	---	2513.23	257.89
12-14-S	4.52	4.52	39.24	---	2448.31	251.23
12-15-S	4.52	4.52	37.55	---	2342.54	240.38
12-16-S	4.52	4.52	35.08	---	2188.19	224.54
12-17-S	4.52	4.52	31.78	---	1982.71	203.45
12-18-S	4.52	4.52	27.98	---	1745.62	179.13
12-19-S	4.52	4.52	23.74	---	1480.76	151.95
12-20-S	4.52	4.52	19.11	---	1192.43	122.36
12-21-S	4.52	4.52	14.90	---	929.57	95.39
12-22-S	4.52	4.52	9.07	---	566.11	58.09
12-23-S	4.52	4.52	0.07	---	4.56	4.51
13-1-S	4.52	4.52	0.34	---	20.80	21.21
13-2-S	4.52	4.52	3.19	---	198.77	20.40
13-3-S	4.52	4.52	7.70	---	480.32	49.29
13-4-S	4.52	4.52	12.99	---	810.08	83.13
13-5-S	4.52	4.52	18.42	---	1149.23	117.93
13-6-S	4.52	4.52	23.37	---	1458.23	149.63
13-7-S	4.52	4.52	27.81	---	1735.12	178.05
13-8-S	4.52	4.52	31.68	---	1976.26	202.79
13-9-S	4.52	4.52	34.64	---	2161.32	221.78
13-10-S	4.52	4.52	36.77	---	2293.84	235.38
13-11-S	4.52	4.52	38.20	---	2382.89	244.52
13-12-S	4.52	4.52	38.92	---	2428.16	249.16
13-13-S	4.52	4.52	38.52	---	2403.34	246.62
13-14-S	4.52	4.52	37.44	---	2336.01	239.71
13-15-S	4.52	4.52	35.70	---	2227.11	228.53
13-16-S	4.52	4.52	33.17	---	2069.19	212.33
13-17-S	4.52	4.52	29.85	---	1862.32	191.10
13-18-S	4.52	4.52	26.09	---	1627.54	167.01
13-19-S	4.52	4.52	21.96	---	1370.20	140.60
13-20-S	4.52	4.52	17.68	---	1102.80	113.16
13-21-S	4.52	4.52	13.98	---	872.39	89.52
13-22-S	4.52	4.52	8.68	---	541.29	55.54
13-23-S	4.52	4.52	0.02	---	0.95	1.32
14-1-S	4.52	4.52	0.34	---	20.80	21.21
14-2-S	4.52	3.39	3.23	---	198.68	21.00
14-3-S	4.52	3.39	7.81	---	480.11	50.74
14-4-S	4.52	3.39	13.17	---	809.73	85.57
14-5-S	4.52	3.39	18.68	---	1148.74	121.40
14-6-S	4.52	3.39	23.70	---	1457.60	154.04
14-7-S	4.52	3.39	28.20	---	1734.37	183.29
14-8-S	4.52	3.39	32.12	---	1975.41	208.76
14-9-S	4.52	3.39	35.13	---	2160.39	228.31
14-10-S	4.52	3.39	37.28	---	2292.85	242.30
14-11-S	4.52	3.39	38.73	---	2381.86	251.71
14-12-S	4.52	3.39	39.46	---	2427.12	256.49
14-13-S	4.52	3.39	39.06	---	2402.30	253.87
14-14-S	4.52	3.39	37.97	---	2335.00	246.76
14-15-S	4.52	3.39	36.20	---	2226.16	235.26
14-16-S	4.52	3.39	33.63	---	2068.30	218.57
14-17-S	4.52	3.39	30.27	---	1861.52	196.72
14-18-S	4.52	3.39	26.45	---	1626.84	171.92
14-19-S	4.52	3.39	22.27	---	1369.61	144.74
14-20-S	4.52	3.39	17.92	---	1102.33	116.49
14-21-S	4.52	3.39	14.18	---	872.01	92.15
14-22-S	4.52	3.39	8.80	---	541.06	57.18
14-23-S	4.52	4.52	0.02	---	0.95	1.32
15-1-S	4.52	4.52	1.01	---	62.94	62.77
15-2-S	4.52	4.52	4.15	---	258.88	26.57
15-3-S	4.52	4.52	9.41	---	587.30	60.27
15-4-S	4.52	4.52	15.20	---	948.37	97.32
15-5-S	4.52	4.52	20.77	---	1295.56	132.94

Is	Afi [cmq]	Afs [cmq]	sc [kg/cmq]	tc [kg/cmq]	ofi [kg/cmq]	ofs [kg/cmq]
15-6-S	4.52	4.52	25.64	---	1599.70	164.15
15-7-S	4.52	4.52	29.96	---	1868.94	191.78
15-8-S	4.52	4.52	33.68	---	2101.44	215.64
15-9-S	4.52	4.52	36.53	---	2279.10	233.87
15-10-S	4.52	4.52	38.58	---	2406.69	246.96
15-11-S	4.52	4.52	39.96	---	2492.66	255.78
15-12-S	4.52	4.52	40.66	---	2536.72	260.30
15-13-S	4.52	4.52	40.29	---	2513.23	257.89
15-14-S	4.52	4.52	39.24	---	2448.31	251.23
15-15-S	4.52	4.52	37.55	---	2342.54	240.38
15-16-S	4.52	4.52	35.08	---	2188.19	224.54
15-17-S	4.52	4.52	31.78	---	1982.71	203.45
15-18-S	4.52	4.52	27.98	---	1745.62	179.13
15-19-S	4.52	4.52	23.74	---	1480.76	151.95
15-20-S	4.52	4.52	19.11	---	1192.43	122.36
15-21-S	4.52	4.52	14.90	---	929.57	95.39
15-22-S	4.52	4.52	9.07	---	566.11	58.09
15-23-S	4.52	4.52	0.07	---	4.56	4.51
16-1-S	4.52	4.52	1.26	---	78.74	78.23
16-2-S	4.52	4.52	7.39	---	461.29	47.33
16-3-S	4.52	4.52	12.95	---	808.20	82.93
16-4-S	4.52	4.52	17.58	---	1097.00	112.57
16-5-S	4.52	4.52	22.38	---	1395.91	143.24
16-6-S	4.52	4.52	26.78	---	1670.56	171.42
16-7-S	4.52	4.52	30.75	---	1918.17	196.83
16-8-S	4.52	4.52	34.23	---	2135.32	219.11
16-9-S	4.52	4.52	36.93	---	2303.69	236.39
16-10-S	4.52	4.52	38.88	---	2425.69	248.91
16-11-S	4.52	4.52	40.21	---	2508.67	257.43
16-12-S	4.52	4.52	40.91	---	2552.04	261.88
16-13-S	4.52	4.52	40.57	---	2530.84	259.70
16-14-S	4.52	4.52	39.59	---	2469.77	253.43
16-15-S	4.52	4.52	37.98	---	2369.34	243.13
16-16-S	4.52	4.52	35.62	---	2221.92	228.00
16-17-S	4.52	4.52	32.45	---	2024.67	207.76
16-18-S	4.52	4.52	28.79	---	1795.94	184.29
16-19-S	4.52	4.52	24.67	---	1538.91	157.91
16-20-S	4.52	4.52	20.11	---	1254.74	128.75
16-21-S	4.52	4.52	15.57	---	971.35	99.67
16-22-S	4.52	4.52	9.34	---	582.96	59.82
16-23-S	4.52	4.52	0.05	---	3.22	2.52
17-1-S	4.52	4.52	0.75	---	46.86	46.88
17-2-S	4.52	4.52	8.16	---	508.88	52.22
17-3-S	4.52	4.52	12.81	---	799.43	82.03
17-4-S	4.52	4.52	15.84	---	988.13	101.40
17-5-S	4.52	4.52	19.59	---	1222.09	125.40
17-6-S	4.52	4.52	23.35	---	1456.96	149.50
17-7-S	4.52	4.52	26.87	---	1676.12	171.99
17-8-S	4.52	4.52	30.04	---	1873.89	192.29
17-9-S	4.52	4.52	32.55	---	2030.87	208.40
17-10-S	4.52	4.52	34.40	---	2145.85	220.19
17-11-S	4.52	4.52	35.65	---	2224.25	228.24
17-12-S	4.52	4.52	36.31	---	2265.19	232.44
17-13-S	4.52	4.52	35.97	---	2244.11	230.28
17-14-S	4.52	4.52	35.02	---	2184.68	224.18
17-15-S	4.52	4.52	33.46	---	2087.57	214.21
17-16-S	4.52	4.52	31.19	---	1945.68	199.65
17-17-S	4.52	4.52	28.19	---	1758.46	180.44
17-18-S	4.52	4.52	24.76	---	1544.80	158.52
17-19-S	4.52	4.52	20.99	---	1309.43	134.37
17-20-S	4.52	4.52	17.04	---	1063.11	109.09
17-21-S	4.52	4.52	13.65	---	851.31	87.36
17-22-S	4.52	4.52	8.56	---	534.24	54.82
17-23-S	4.52	4.52	0.25	---	15.19	15.33
18-1-S	4.52	4.52	0.09	---	5.56	5.45
18-2-S	4.52	4.52	8.26	---	515.41	52.89
18-3-S	4.52	4.52	12.77	---	796.36	81.72
18-4-S	4.52	4.52	15.46	---	964.72	98.99
18-5-S	4.52	4.52	18.80	---	1172.83	120.35
18-6-S	4.52	4.52	22.19	---	1384.60	142.08
18-7-S	4.52	4.52	25.39	---	1584.26	162.57
18-8-S	4.52	4.52	28.31	---	1766.39	181.26
18-9-S	4.52	4.52	30.66	---	1912.47	196.25
18-10-S	4.52	4.52	32.37	---	2019.23	207.20
18-11-S	4.52	4.52	33.53	---	2091.55	214.62
18-12-S	4.52	4.52	34.11	---	2128.04	218.37
18-13-S	4.52	4.52	33.73	---	2104.57	215.96
18-14-S	4.52	4.52	32.77	---	2044.20	209.76
18-15-S	4.52	4.52	31.22	---	1947.88	199.88
18-16-S	4.52	4.52	29.01	---	1809.63	185.69
18-17-S	4.52	4.52	26.14	---	1630.83	167.35
18-18-S	4.52	4.52	22.93	---	1430.56	146.80
18-19-S	4.52	4.52	19.46	---	1214.02	124.58
18-20-S	4.52	4.52	15.95	---	994.97	102.10
18-21-S	4.52	4.52	13.03	---	812.83	83.41
18-22-S	4.52	4.52	8.34	---	520.47	53.41
18-23-S	4.52	4.52	1.21	---	75.38	75.31
19-1-S	4.52	4.52	1.28	---	80.16	79.95
19-2-S	4.52	4.52	8.37	---	521.89	53.55
19-3-S	4.52	4.52	13.02	---	812.53	83.38
19-4-S	4.52	4.52	15.93	---	993.50	101.95
19-5-S	4.52	4.52	19.51	---	1217.25	124.91
19-6-S	4.52	4.52	23.10	---	1441.37	147.91

Is	Afi [cmq]	Afs [cmq]	σc [kg/cmq]	τc [kg/cmq]	σfi [kg/cmq]	σfs [kg/cmq]
19-7-S	4.52	4.52	26.45	---	1649.79	169.29
19-8-S	4.52	4.52	29.45	---	1837.00	188.50
19-9-S	4.52	4.52	31.80	---	1983.99	203.59
19-10-S	4.52	4.52	33.50	---	2089.92	214.46
19-11-S	4.52	4.52	34.62	---	2159.89	221.64
19-12-S	4.52	4.52	35.16	---	2193.24	225.06
19-13-S	4.52	4.52	34.72	---	2165.95	222.26
19-14-S	4.52	4.52	33.68	---	2101.20	215.61
19-15-S	4.52	4.52	32.05	---	1999.37	205.16
19-16-S	4.52	4.52	29.73	---	1854.59	190.31
19-17-S	4.52	4.52	26.72	---	1666.83	171.04
19-18-S	4.52	4.52	23.34	---	1455.85	149.39
19-19-S	4.52	4.52	19.67	---	1227.28	125.94
19-20-S	4.52	4.52	15.98	---	997.04	102.31
19-21-S	4.52	4.52	12.98	---	810.04	83.12
19-22-S	4.52	4.52	8.37	---	522.02	53.57
19-23-S	4.52	4.52	3.58	---	223.63	223.48
20-1-S	4.52	4.52	3.55	---	220.89	221.52
20-2-S	4.52	4.52	7.44	---	464.19	71.59
20-3-S	4.52	4.52	12.51	---	780.24	80.06
20-4-S	4.52	4.52	17.33	---	1081.27	110.95
20-5-S	4.52	4.52	22.20	---	1385.08	142.13
20-6-S	4.52	4.52	26.57	---	1657.35	170.07
20-7-S	4.52	4.52	30.42	---	1898.02	194.76
20-8-S	4.52	4.52	33.73	---	2104.39	215.94
20-9-S	4.52	4.52	36.22	---	2259.43	231.85
20-10-S	4.52	4.52	37.96	---	2367.87	242.98
20-11-S	4.52	4.52	39.08	---	2437.85	250.16
20-12-S	4.52	4.52	39.58	---	2469.25	253.38
20-13-S	4.52	4.52	39.08	---	2438.07	250.18
20-14-S	4.52	4.52	37.95	---	2367.38	242.93
20-15-S	4.52	4.52	36.18	---	2257.06	231.61
20-16-S	4.52	4.52	33.63	---	2098.23	215.31
20-17-S	4.52	4.52	30.22	---	1885.25	193.45
20-18-S	4.52	4.52	26.26	---	1638.50	168.13
20-19-S	4.52	4.52	21.82	---	1361.55	139.71
20-20-S	4.52	4.52	16.91	---	1054.91	108.25
20-21-S	4.52	4.52	12.51	---	780.32	80.07
20-22-S	4.52	4.52	8.47	---	528.69	134.01
20-23-S	4.52	4.52	4.94	---	307.65	308.18

Verifica tensioni - Combinazioni frequenti (SLEF)

Piastra

Simbologia adottata

Is	Identificativo tratto-sezione-direzione (P: direzione principale, S: direzione secondaria)
Afi	Area di armatura lembo inferiore espressa in [cmq]
Afs	Area di armatura lembo superiore espressa in [cmq]
σc	Tensione nel calcestruzzo espressa in [kg/cmq]
σfi	Tensione nell'armatura disposta in corrispondenza del lembo inferiore espressa in [kg/cmq]
σfs	Tensione nell'armatura disposta in corrispondenza del lembo superiore espressa in [kg/cmq]

Is	Afi [cmq]	Afs [cmq]	σc [kg/cmq]	τc [kg/cmq]	σfi [kg/cmq]	σfs [kg/cmq]
1-1-P	4.52	4.52	3.36	---	200.60	201.61
1-2-P	4.52	4.52	5.93	---	355.91	82.69
1-3-P	4.52	4.52	8.57	---	514.32	57.06
1-4-P	4.52	4.52	10.66	---	640.07	71.01
1-5-P	4.52	4.52	13.03	---	782.60	86.82
1-6-P	4.52	4.52	15.37	---	922.73	102.37
1-7-P	4.52	4.52	17.57	---	1054.75	117.02
1-8-P	4.52	4.52	19.59	---	1176.22	130.49
1-9-P	4.52	4.52	21.41	---	1285.63	142.63
1-10-P	4.52	4.52	23.01	---	1381.69	153.29
1-11-P	4.52	4.52	24.51	---	1471.72	163.28
1-12-P	4.52	4.52	25.94	---	1557.66	172.81
1-13-P	4.52	4.52	27.34	---	1641.75	182.14
1-14-P	4.52	4.52	28.79	---	1728.75	191.79
1-15-P	4.52	4.52	30.31	---	1819.71	201.88
1-16-P	4.52	4.52	31.88	---	1914.47	212.40
1-17-P	4.52	4.52	33.52	---	2012.79	223.30
1-18-P	4.52	4.52	35.04	---	2104.26	233.45
1-19-P	4.52	4.52	36.23	---	2175.21	241.32
1-20-P	4.52	4.52	35.57	---	2135.74	236.95
1-21-P	4.52	4.52	28.88	---	1733.97	192.37
1-22-P	4.52	4.52	23.48	---	1409.95	156.42
1-23-P	4.52	4.52	18.97	---	1138.79	126.34
1-24-P	4.52	4.52	15.28	---	917.23	101.76
1-25-P	4.52	4.52	12.52	---	751.71	83.40
1-26-P	4.52	4.52	10.62	---	637.76	70.75
1-27-P	4.52	4.52	9.34	---	560.60	62.20
1-28-P	4.52	4.52	8.64	---	518.63	57.54
1-29-P	4.52	4.52	8.64	---	518.63	57.54
1-30-P	4.52	4.52	9.34	---	560.60	62.20
1-31-P	4.52	4.52	10.62	---	637.76	70.75
1-32-P	4.52	4.52	12.52	---	751.71	83.40
1-33-P	4.52	4.52	15.28	---	917.23	101.76

Is	Afi [cmq]	Afs [cmq]	sc [kg/cmq]	tc [kg/cmq]	ofi [kg/cmq]	ofs [kg/cmq]
1-34-P	4.52	4.52	18.97	---	1138.79	126.34
1-35-P	4.52	4.52	23.48	---	1409.95	156.42
1-36-P	4.52	4.52	28.88	---	1733.97	192.37
1-37-P	4.52	4.52	35.57	---	2135.74	236.95
1-38-P	4.52	4.52	36.23	---	2175.21	241.32
1-39-P	4.52	4.52	35.04	---	2104.26	233.45
1-40-P	4.52	4.52	33.52	---	2012.79	223.30
1-41-P	4.52	4.52	31.88	---	1914.47	212.40
1-42-P	4.52	4.52	30.31	---	1819.71	201.88
1-43-P	4.52	4.52	28.79	---	1728.75	191.79
1-44-P	4.52	4.52	27.34	---	1641.75	182.14
1-45-P	4.52	4.52	25.94	---	1557.66	172.81
1-46-P	4.52	4.52	24.51	---	1471.72	163.28
1-47-P	4.52	4.52	23.01	---	1381.69	153.29
1-48-P	4.52	4.52	21.41	---	1285.63	142.63
1-49-P	4.52	4.52	19.59	---	1176.22	130.49
1-50-P	4.52	4.52	17.57	---	1054.75	117.02
1-51-P	4.52	4.52	15.37	---	922.73	102.37
1-52-P	4.52	4.52	13.03	---	782.60	86.82
1-53-P	4.52	4.52	10.66	---	640.07	71.01
1-54-P	4.52	4.52	8.57	---	514.32	57.06
1-55-P	4.52	4.52	5.93	---	355.91	82.69
1-56-P	4.52	4.52	3.36	---	200.60	201.61
2-1-P	4.52	4.52	1.34	---	80.59	80.14
2-2-P	4.52	4.52	7.38	---	443.20	49.17
2-3-P	4.52	4.52	9.78	---	587.11	65.14
2-4-P	4.52	4.52	10.04	---	602.85	66.88
2-5-P	4.52	4.52	11.23	---	674.37	74.82
2-6-P	4.52	4.52	12.96	---	778.06	86.32
2-7-P	4.52	4.52	14.79	---	888.05	98.52
2-8-P	4.52	4.52	16.67	---	1000.91	111.04
2-9-P	4.52	4.52	18.54	---	1113.02	123.48
2-10-P	4.52	4.52	20.35	---	1221.80	135.55
2-11-P	4.52	4.52	22.14	---	1329.25	147.47
2-12-P	4.52	4.52	23.92	---	1436.52	159.37
2-13-P	4.52	4.52	25.74	---	1545.36	171.45
2-14-P	4.52	4.52	27.67	---	1661.20	184.30
2-15-P	4.52	4.52	29.74	---	1785.87	198.13
2-16-P	4.52	4.52	32.01	---	1921.96	213.23
2-17-P	4.52	4.52	34.57	---	2075.71	230.29
2-18-P	4.52	4.52	37.69	---	2262.87	251.05
2-19-P	4.52	4.52	41.44	---	2488.24	276.05
2-20-P	4.52	4.52	43.34	---	2602.16	288.69
2-21-P	4.52	4.52	36.32	---	2180.64	241.93
2-22-P	4.52	4.52	30.62	---	1838.71	203.99
2-23-P	4.52	4.52	25.84	---	1551.55	172.13
2-24-P	4.52	4.52	21.93	---	1316.82	146.09
2-25-P	4.52	4.52	18.99	---	1140.18	126.49
2-26-P	4.52	4.52	16.94	---	1017.37	112.87
2-27-P	4.52	4.52	15.55	---	933.68	103.59
2-28-P	4.52	4.52	14.79	---	887.83	98.50
2-29-P	4.52	4.52	14.79	---	887.83	98.50
2-30-P	4.52	4.52	15.55	---	933.68	103.59
2-31-P	4.52	4.52	16.94	---	1017.37	112.87
2-32-P	4.52	4.52	18.99	---	1140.18	126.49
2-33-P	4.52	4.52	21.93	---	1316.82	146.09
2-34-P	4.52	4.52	25.84	---	1551.55	172.13
2-35-P	4.52	4.52	30.62	---	1838.71	203.99
2-36-P	4.52	4.52	36.32	---	2180.64	241.93
2-37-P	4.52	4.52	43.34	---	2602.16	288.69
2-38-P	4.52	4.52	41.44	---	2488.24	276.05
2-39-P	4.52	4.52	37.69	---	2262.87	251.05
2-40-P	4.52	4.52	34.57	---	2075.71	230.29
2-41-P	4.52	4.52	32.01	---	1921.96	213.23
2-42-P	4.52	4.52	29.74	---	1785.87	198.13
2-43-P	4.52	4.52	27.67	---	1661.20	184.30
2-44-P	4.52	4.52	25.74	---	1545.36	171.45
2-45-P	4.52	4.52	23.92	---	1436.52	159.37
2-46-P	4.52	4.52	22.14	---	1329.25	147.47
2-47-P	4.52	4.52	20.35	---	1221.80	135.55
2-48-P	4.52	4.52	18.54	---	1113.02	123.48
2-49-P	4.52	4.52	16.67	---	1000.91	111.04
2-50-P	4.52	4.52	14.79	---	888.05	98.52
2-51-P	4.52	4.52	12.96	---	778.06	86.32
2-52-P	4.52	4.52	11.23	---	674.37	74.82
2-53-P	4.52	4.52	10.04	---	602.85	66.88
2-54-P	4.52	4.52	9.78	---	587.11	65.14
2-55-P	4.52	4.52	7.38	---	443.20	49.17
2-56-P	4.52	4.52	1.34	---	80.59	80.14
3-1-P	4.52	4.52	0.11	---	5.57	6.61
3-2-P	4.52	4.52	7.46	---	448.05	49.71
3-3-P	4.52	4.52	9.69	---	581.86	64.55
3-4-P	4.52	4.52	9.62	---	577.42	64.06
3-5-P	4.52	4.52	10.36	---	622.29	69.04
3-6-P	4.52	4.52	11.72	---	703.67	78.07
3-7-P	4.52	4.52	13.28	---	797.68	88.50
3-8-P	4.52	4.52	15.01	---	901.00	99.96
3-9-P	4.52	4.52	16.83	---	1010.41	112.10
3-10-P	4.52	4.52	18.72	---	1124.08	124.71
3-11-P	4.52	4.52	20.67	---	1240.87	137.67
3-12-P	4.52	4.52	22.68	---	1361.72	151.07
3-13-P	4.52	4.52	24.79	---	1488.71	165.16
3-14-P	4.52	4.52	27.13	---	1629.14	180.74

Is	Afi [cmq]	Afs [cmq]	sc [kg/cmq]	tc [kg/cmq]	ofi [kg/cmq]	ofs [kg/cmq]
3-15-P	4.52	4.52	29.71	---	1784.21	197.95
3-16-P	4.52	4.52	32.60	---	1957.19	217.14
3-17-P	4.52	4.52	35.91	---	2156.38	239.24
3-18-P	4.52	4.52	39.92	---	2397.05	265.94
3-19-P	4.52	4.52	44.55	---	2674.89	296.76
3-20-P	4.52	4.52	47.23	---	2836.15	314.65
3-21-P	4.52	4.52	40.78	---	2448.60	271.66
3-22-P	4.52	4.52	35.35	---	2122.85	235.51
3-23-P	4.52	4.52	30.71	---	1843.74	204.55
3-24-P	4.52	4.52	26.82	---	1610.52	178.68
3-25-P	4.52	4.52	23.84	---	1431.67	158.83
3-26-P	4.52	4.52	21.75	---	1306.01	144.89
3-27-P	4.52	4.52	20.32	---	1219.91	135.34
3-28-P	4.52	4.52	19.53	---	1172.50	130.08
3-29-P	4.52	4.52	19.53	---	1172.50	130.08
3-30-P	4.52	4.52	20.32	---	1219.91	135.34
3-31-P	4.52	4.52	21.75	---	1306.01	144.89
3-32-P	4.52	4.52	23.84	---	1431.67	158.83
3-33-P	4.52	4.52	26.82	---	1610.52	178.68
3-34-P	4.52	4.52	30.71	---	1843.74	204.55
3-35-P	4.52	4.52	35.35	---	2122.85	235.51
3-36-P	4.52	4.52	40.78	---	2448.60	271.66
3-37-P	4.52	4.52	47.23	---	2836.15	314.65
3-38-P	4.52	4.52	44.55	---	2674.89	296.76
3-39-P	4.52	4.52	39.92	---	2397.05	265.94
3-40-P	4.52	4.52	35.91	---	2156.38	239.24
3-41-P	4.52	4.52	32.60	---	1957.19	217.14
3-42-P	4.52	4.52	29.71	---	1784.21	197.95
3-43-P	4.52	4.52	27.13	---	1629.14	180.74
3-44-P	4.52	4.52	24.79	---	1488.71	165.16
3-45-P	4.52	4.52	22.68	---	1361.72	151.07
3-46-P	4.52	4.52	20.67	---	1240.87	137.67
3-47-P	4.52	4.52	18.72	---	1124.08	124.71
3-48-P	4.52	4.52	16.83	---	1010.41	112.10
3-49-P	4.52	4.52	15.01	---	901.00	99.96
3-50-P	4.52	4.52	13.28	---	797.68	88.50
3-51-P	4.52	4.52	11.72	---	703.67	78.07
3-52-P	4.52	4.52	10.36	---	622.29	69.04
3-53-P	4.52	4.52	9.62	---	577.42	64.06
3-54-P	4.52	4.52	9.69	---	581.86	64.55
3-55-P	4.52	4.52	7.46	---	448.05	49.71
3-56-P	4.52	4.52	0.11	---	5.57	6.61
4-1-P	4.52	4.52	0.65	---	38.81	38.26
4-2-P	4.52	3.39	7.45	---	440.40	50.39
4-3-P	4.52	3.39	9.59	---	566.88	64.86
4-4-P	4.52	3.39	9.40	---	555.55	63.56
4-5-P	4.52	3.39	10.05	---	594.12	67.97
4-6-P	4.52	3.39	11.34	---	670.24	76.68
4-7-P	4.52	3.39	12.85	---	759.85	86.93
4-8-P	4.52	3.39	14.54	---	859.58	98.35
4-9-P	4.52	3.39	16.35	---	966.43	110.57
4-10-P	4.52	3.39	18.25	---	1079.12	123.46
4-11-P	4.52	3.39	20.23	---	1196.25	136.86
4-12-P	4.52	3.39	22.31	---	1318.94	150.90
4-13-P	4.52	3.39	24.52	---	1449.66	165.86
4-14-P	4.52	3.39	27.01	---	1596.79	182.69
4-15-P	4.52	3.39	29.79	---	1761.02	201.48
4-16-P	4.52	3.39	32.91	---	1945.68	222.61
4-17-P	4.52	3.39	36.53	---	2159.58	247.08
4-18-P	4.52	3.39	40.90	---	2417.92	276.64
4-19-P	4.52	3.39	45.92	---	2714.75	310.60
4-20-P	4.52	3.39	48.98	---	2895.79	331.31
4-21-P	4.52	3.39	42.76	---	2527.94	289.22
4-22-P	4.52	3.39	37.55	---	2219.79	253.97
4-23-P	4.52	3.39	33.08	---	1956.02	223.79
4-24-P	4.52	3.39	29.36	---	1735.64	198.58
4-25-P	4.52	3.39	26.49	---	1566.34	179.21
4-26-P	4.52	3.39	24.48	---	1447.10	165.56
4-27-P	4.52	3.39	23.09	---	1365.27	156.20
4-28-P	4.52	3.39	22.33	---	1320.14	151.04
4-29-P	4.52	3.39	22.33	---	1320.14	151.04
4-30-P	4.52	3.39	23.09	---	1365.27	156.20
4-31-P	4.52	3.39	24.48	---	1447.10	165.56
4-32-P	4.52	3.39	26.49	---	1566.34	179.21
4-33-P	4.52	3.39	29.36	---	1735.64	198.58
4-34-P	4.52	3.39	33.08	---	1956.02	223.79
4-35-P	4.52	3.39	37.55	---	2219.79	253.97
4-36-P	4.52	3.39	42.76	---	2527.94	289.22
4-37-P	4.52	3.39	48.98	---	2895.79	331.31
4-38-P	4.52	3.39	45.92	---	2714.75	310.60
4-39-P	4.52	3.39	40.90	---	2417.92	276.64
4-40-P	4.52	3.39	36.53	---	2159.58	247.08
4-41-P	4.52	3.39	32.91	---	1945.68	222.61
4-42-P	4.52	3.39	29.79	---	1761.02	201.48
4-43-P	4.52	3.39	27.01	---	1596.79	182.69
4-44-P	4.52	3.39	24.52	---	1449.66	165.86
4-45-P	4.52	3.39	22.31	---	1318.94	150.90
4-46-P	4.52	3.39	20.23	---	1196.25	136.86
4-47-P	4.52	3.39	18.25	---	1079.12	123.46
4-48-P	4.52	3.39	16.35	---	966.43	110.57
4-49-P	4.52	3.39	14.54	---	859.58	98.35
4-50-P	4.52	3.39	12.85	---	759.85	86.93
4-51-P	4.52	3.39	11.34	---	670.24	76.68

Is	Afi [cmq]	Afs [cmq]	sc [kg/cmq]	tc [kg/cmq]	ofi [kg/cmq]	ofs [kg/cmq]
4-52-P	4.52	3.39	10.05	---	594.12	67.97
4-53-P	4.52	3.39	9.40	---	555.55	63.56
4-54-P	4.52	3.39	9.59	---	566.88	64.86
4-55-P	4.52	3.39	7.45	---	440.40	50.39
4-56-P	4.52	4.52	0.65	---	38.81	38.26
5-1-P	4.52	4.52	2.83	---	169.94	169.50
5-2-P	4.52	4.52	6.97	---	418.35	46.41
5-3-P	4.52	4.52	8.98	---	538.93	59.79
5-4-P	4.52	4.52	8.88	---	533.13	59.15
5-5-P	4.52	4.52	9.75	---	585.44	64.95
5-6-P	4.52	4.52	11.22	---	673.72	74.74
5-7-P	4.52	4.52	12.84	---	770.82	85.52
5-8-P	4.52	4.52	14.54	---	873.33	96.89
5-9-P	4.52	4.52	16.28	---	977.83	108.48
5-10-P	4.52	4.52	18.04	---	1083.06	120.16
5-11-P	4.52	4.52	19.82	---	1190.34	132.06
5-12-P	4.52	4.52	21.67	---	1301.27	144.37
5-13-P	4.52	4.52	23.63	---	1418.75	157.40
5-14-P	4.52	4.52	25.84	---	1551.44	172.12
5-15-P	4.52	4.52	28.32	---	1700.40	188.65
5-16-P	4.52	4.52	31.13	---	1869.08	207.36
5-17-P	4.52	4.52	34.41	---	2066.24	229.23
5-18-P	4.52	4.52	38.48	---	2310.84	256.37
5-19-P	4.52	4.52	43.32	---	2601.06	288.57
5-20-P	4.52	4.52	46.37	---	2784.33	308.90
5-21-P	4.52	4.52	40.49	---	2431.34	269.74
5-22-P	4.52	4.52	35.75	---	2146.73	238.16
5-23-P	4.52	4.52	31.77	---	1907.41	211.61
5-24-P	4.52	4.52	28.48	---	1710.24	189.74
5-25-P	4.52	4.52	25.96	---	1559.06	172.97
5-26-P	4.52	4.52	24.19	---	1452.36	161.13
5-27-P	4.52	4.52	22.97	---	1379.03	152.99
5-28-P	4.52	4.52	22.29	---	1338.50	148.50
5-29-P	4.52	4.52	22.29	---	1338.50	148.50
5-30-P	4.52	4.52	22.97	---	1379.03	152.99
5-31-P	4.52	4.52	24.19	---	1452.36	161.13
5-32-P	4.52	4.52	25.96	---	1559.06	172.97
5-33-P	4.52	4.52	28.48	---	1710.24	189.74
5-34-P	4.52	4.52	31.77	---	1907.41	211.61
5-35-P	4.52	4.52	35.75	---	2146.73	238.16
5-36-P	4.52	4.52	40.49	---	2431.34	269.74
5-37-P	4.52	4.52	46.37	---	2784.33	308.90
5-38-P	4.52	4.52	43.32	---	2601.06	288.57
5-39-P	4.52	4.52	38.48	---	2310.84	256.37
5-40-P	4.52	4.52	34.41	---	2066.24	229.23
5-41-P	4.52	4.52	31.13	---	1869.08	207.36
5-42-P	4.52	4.52	28.32	---	1700.40	188.65
5-43-P	4.52	4.52	25.84	---	1551.44	172.12
5-44-P	4.52	4.52	23.63	---	1418.75	157.40
5-45-P	4.52	4.52	21.67	---	1301.27	144.37
5-46-P	4.52	4.52	19.82	---	1190.34	132.06
5-47-P	4.52	4.52	18.04	---	1083.06	120.16
5-48-P	4.52	4.52	16.28	---	977.83	108.48
5-49-P	4.52	4.52	14.54	---	873.33	96.89
5-50-P	4.52	4.52	12.84	---	770.82	85.52
5-51-P	4.52	4.52	11.22	---	673.72	74.74
5-52-P	4.52	4.52	9.75	---	585.44	64.95
5-53-P	4.52	4.52	8.88	---	533.13	59.15
5-54-P	4.52	4.52	8.98	---	538.93	59.79
5-55-P	4.52	4.52	6.97	---	418.35	46.41
5-56-P	4.52	4.52	2.83	---	169.94	169.50
6-1-P	4.52	4.52	4.63	---	276.75	277.72
6-2-P	4.52	4.52	6.30	---	378.13	131.30
6-3-P	4.52	4.52	7.81	---	469.19	98.12
6-4-P	4.52	4.52	8.96	---	537.99	79.14
6-5-P	4.52	4.52	10.55	---	633.56	70.29
6-6-P	4.52	4.52	12.35	---	741.53	82.27
6-7-P	4.52	4.52	14.15	---	849.89	94.29
6-8-P	4.52	4.52	15.87	---	953.14	105.74
6-9-P	4.52	4.52	17.49	---	1049.94	116.48
6-10-P	4.52	4.52	18.97	---	1139.14	126.38
6-11-P	4.52	4.52	20.42	---	1226.30	136.05
6-12-P	4.52	4.52	21.88	---	1314.03	145.78
6-13-P	4.52	4.52	23.42	---	1406.18	156.01
6-14-P	4.52	4.52	25.18	---	1512.21	167.77
6-15-P	4.52	4.52	27.20	---	1632.99	181.17
6-16-P	4.52	4.52	29.49	---	1770.57	196.43
6-17-P	4.52	4.52	32.15	---	1930.61	214.19
6-18-P	4.52	4.52	35.26	---	2116.96	234.86
6-19-P	4.52	4.52	38.63	---	2319.37	257.32
6-20-P	4.52	4.52	40.60	---	2437.68	270.44
6-21-P	4.52	4.52	36.51	---	2192.53	243.25
6-22-P	4.52	4.52	32.83	---	1971.35	218.71
6-23-P	4.52	4.52	29.55	---	1774.23	196.84
6-24-P	4.52	4.52	26.71	---	1603.64	177.91
6-25-P	4.52	4.52	24.46	---	1468.96	162.97
6-26-P	4.52	4.52	22.86	---	1372.73	152.29
6-27-P	4.52	4.52	21.75	---	1306.22	144.92
6-28-P	4.52	4.52	21.14	---	1269.31	140.82
6-29-P	4.52	4.52	21.14	---	1269.31	140.82
6-30-P	4.52	4.52	21.75	---	1306.22	144.92
6-31-P	4.52	4.52	22.86	---	1372.73	152.29
6-32-P	4.52	4.52	24.46	---	1468.96	162.97

Is	Afi [cmq]	Afs [cmq]	sc [kg/cmq]	tc [kg/cmq]	ofi [kg/cmq]	ofs [kg/cmq]
6-33-P	4.52	4.52	26.71	---	1603.64	177.91
6-34-P	4.52	4.52	29.55	---	1774.23	196.84
6-35-P	4.52	4.52	32.83	---	1971.35	218.71
6-36-P	4.52	4.52	36.51	---	2192.53	243.25
6-37-P	4.52	4.52	40.60	---	2437.68	270.44
6-38-P	4.52	4.52	38.63	---	2319.37	257.32
6-39-P	4.52	4.52	35.26	---	2116.96	234.86
6-40-P	4.52	4.52	32.15	---	1930.61	214.19
6-41-P	4.52	4.52	29.49	---	1770.57	196.43
6-42-P	4.52	4.52	27.20	---	1632.99	181.17
6-43-P	4.52	4.52	25.18	---	1512.21	167.77
6-44-P	4.52	4.52	23.42	---	1406.18	156.01
6-45-P	4.52	4.52	21.88	---	1314.03	145.78
6-46-P	4.52	4.52	20.42	---	1226.30	136.05
6-47-P	4.52	4.52	18.97	---	1139.14	126.38
6-48-P	4.52	4.52	17.49	---	1049.94	116.48
6-49-P	4.52	4.52	15.87	---	953.14	105.74
6-50-P	4.52	4.52	14.15	---	849.89	94.29
6-51-P	4.52	4.52	12.35	---	741.53	82.27
6-52-P	4.52	4.52	10.55	---	633.56	70.29
6-53-P	4.52	4.52	8.96	---	537.99	79.14
6-54-P	4.52	4.52	7.81	---	469.19	98.12
6-55-P	4.52	4.52	6.30	---	378.13	131.30
6-56-P	4.52	4.52	4.63	---	276.75	277.72
7-1-S	4.52	4.52	3.58	---	222.55	223.18
7-2-S	4.52	4.52	7.49	---	467.05	72.32
7-3-S	4.52	4.52	12.60	---	786.10	80.66
7-4-S	4.52	4.52	17.49	---	1090.92	111.94
7-5-S	4.52	4.52	22.41	---	1398.20	143.48
7-6-S	4.52	4.52	26.82	---	1673.39	171.71
7-7-S	4.52	4.52	30.72	---	1916.59	196.67
7-8-S	4.52	4.52	34.06	---	2125.08	218.06
7-9-S	4.52	4.52	36.57	---	2281.68	234.13
7-10-S	4.52	4.52	38.33	---	2391.20	245.37
7-11-S	4.52	4.52	39.46	---	2461.87	252.62
7-12-S	4.52	4.52	39.97	---	2493.57	255.88
7-13-S	4.52	4.52	39.47	---	2462.09	252.65
7-14-S	4.52	4.52	38.32	---	2390.70	245.32
7-15-S	4.52	4.52	36.54	---	2279.30	233.89
7-16-S	4.52	4.52	33.96	---	2118.91	217.43
7-17-S	4.52	4.52	30.52	---	1903.80	195.36
7-18-S	4.52	4.52	26.52	---	1654.49	169.77
7-19-S	4.52	4.52	22.03	---	1374.59	141.05
7-20-S	4.52	4.52	17.06	---	1064.34	109.22
7-21-S	4.52	4.52	12.60	---	786.14	80.67
7-22-S	4.52	4.52	8.53	---	531.91	134.83
7-23-S	4.52	4.52	4.97	---	309.25	309.78
8-1-S	4.52	4.52	1.30	---	81.21	81.00
8-2-S	4.52	4.52	8.40	---	524.15	53.79
8-3-S	4.52	4.52	13.10	---	817.52	83.89
8-4-S	4.52	4.52	16.05	---	1001.45	102.76
8-5-S	4.52	4.52	19.69	---	1228.19	126.03
8-6-S	4.52	4.52	23.32	---	1454.99	149.30
8-7-S	4.52	4.52	26.70	---	1665.80	170.93
8-8-S	4.52	4.52	29.74	---	1855.08	190.36
8-9-S	4.52	4.52	32.12	---	2003.64	205.60
8-10-S	4.52	4.52	33.83	---	2110.68	216.59
8-11-S	4.52	4.52	34.97	---	2181.36	223.84
8-12-S	4.52	4.52	35.51	---	2215.02	227.29
8-13-S	4.52	4.52	35.06	---	2187.42	224.46
8-14-S	4.52	4.52	34.01	---	2121.95	217.74
8-15-S	4.52	4.52	32.36	---	2019.01	207.18
8-16-S	4.52	4.52	30.02	---	1872.67	192.16
8-17-S	4.52	4.52	26.97	---	1682.83	172.68
8-18-S	4.52	4.52	23.55	---	1469.46	150.79
8-19-S	4.52	4.52	19.85	---	1238.20	127.06
8-20-S	4.52	4.52	16.11	---	1004.97	103.12
8-21-S	4.52	4.52	13.06	---	815.01	83.63
8-22-S	4.52	4.52	8.41	---	524.53	53.82
8-23-S	4.52	4.52	3.61	---	225.00	224.86
9-1-S	4.52	4.52	0.09	---	5.58	5.48
9-2-S	4.52	4.52	8.30	---	517.60	53.11
9-3-S	4.52	4.52	12.84	---	801.21	82.22
9-4-S	4.52	4.52	15.59	---	972.49	99.79
9-5-S	4.52	4.52	18.97	---	1183.57	121.45
9-6-S	4.52	4.52	22.41	---	1398.05	143.46
9-7-S	4.52	4.52	25.65	---	1600.15	164.20
9-8-S	4.52	4.52	28.60	---	1784.42	183.11
9-9-S	4.52	4.52	30.97	---	1932.13	198.26
9-10-S	4.52	4.52	32.70	---	2040.06	209.34
9-11-S	4.52	4.52	33.87	---	2113.13	216.84
9-12-S	4.52	4.52	34.46	---	2149.96	220.62
9-13-S	4.52	4.52	34.08	---	2126.15	218.17
9-14-S	4.52	4.52	33.10	---	2065.04	211.90
9-15-S	4.52	4.52	31.54	---	1967.57	201.90
9-16-S	4.52	4.52	29.30	---	1827.68	187.55
9-17-S	4.52	4.52	26.40	---	1646.74	168.98
9-18-S	4.52	4.52	23.15	---	1444.02	148.18
9-19-S	4.52	4.52	19.63	---	1224.76	125.68
9-20-S	4.52	4.52	16.07	---	1002.74	102.90
9-21-S	4.52	4.52	13.11	---	817.67	83.90
9-22-S	4.52	4.52	8.38	---	522.65	53.63
9-23-S	4.52	4.52	1.21	---	75.59	75.53

Is	Afi [cmq]	Afs [cmq]	oc [kg/cmq]	rc [kg/cmq]	ofi [kg/cmq]	ofs [kg/cmq]
10-1-S	4.52	4.52	0.75	---	46.86	46.88
10-2-S	4.52	4.52	8.20	---	511.39	52.48
10-3-S	4.52	4.52	12.90	---	805.06	82.61
10-4-S	4.52	4.52	15.98	---	997.21	102.33
10-5-S	4.52	4.52	19.79	---	1234.63	126.69
10-6-S	4.52	4.52	23.60	---	1472.59	151.11
10-7-S	4.52	4.52	27.16	---	1694.48	173.88
10-8-S	4.52	4.52	30.37	---	1894.61	194.41
10-9-S	4.52	4.52	32.91	---	2053.36	210.70
10-10-S	4.52	4.52	34.78	---	2169.59	222.63
10-11-S	4.52	4.52	36.05	---	2248.80	230.76
10-12-S	4.52	4.52	36.71	---	2290.11	235.00
10-13-S	4.52	4.52	36.37	---	2268.69	232.80
10-14-S	4.52	4.52	35.40	---	2208.47	226.62
10-15-S	4.52	4.52	33.82	---	2110.13	216.53
10-16-S	4.52	4.52	31.52	---	1966.48	201.79
10-17-S	4.52	4.52	28.48	---	1776.90	182.34
10-18-S	4.52	4.52	25.01	---	1560.50	160.13
10-19-S	4.52	4.52	21.19	---	1322.03	135.66
10-20-S	4.52	4.52	17.19	---	1072.23	110.03
10-21-S	4.52	4.52	13.74	---	856.96	87.94
10-22-S	4.52	4.52	8.60	---	536.76	55.08
10-23-S	4.52	4.52	0.24	---	15.00	15.14
11-1-S	4.52	4.52	1.26	---	78.31	77.79
11-2-S	4.52	4.52	7.45	---	464.78	47.69
11-3-S	4.52	4.52	13.08	---	816.20	83.75
11-4-S	4.52	4.52	17.79	---	1109.82	113.88
11-5-S	4.52	4.52	22.65	---	1412.84	144.98
11-6-S	4.52	4.52	27.10	---	1690.92	173.51
11-7-S	4.52	4.52	31.12	---	1941.48	199.22
11-8-S	4.52	4.52	34.64	---	2161.13	221.76
11-9-S	4.52	4.52	37.37	---	2331.36	239.23
11-10-S	4.52	4.52	39.35	---	2454.66	251.88
11-11-S	4.52	4.52	40.69	---	2538.48	260.48
11-12-S	4.52	4.52	41.39	---	2582.25	264.98
11-13-S	4.52	4.52	41.05	---	2560.70	262.76
11-14-S	4.52	4.52	40.05	---	2498.84	256.42
11-15-S	4.52	4.52	38.42	---	2397.14	245.98
11-16-S	4.52	4.52	36.03	---	2247.90	230.67
11-17-S	4.52	4.52	32.83	---	2048.16	210.17
11-18-S	4.52	4.52	29.12	---	1816.46	186.40
11-19-S	4.52	4.52	24.94	---	1555.99	159.67
11-20-S	4.52	4.52	20.32	---	1267.67	130.08
11-21-S	4.52	4.52	15.70	---	979.42	100.50
11-22-S	4.52	4.52	9.40	---	586.48	60.18
11-23-S	4.52	4.52	0.05	---	3.12	2.40
12-1-S	4.52	4.52	0.99	---	61.99	61.82
12-2-S	4.52	4.52	4.20	---	261.90	26.87
12-3-S	4.52	4.52	9.52	---	594.17	60.97
12-4-S	4.52	4.52	15.38	---	959.48	98.46
12-5-S	4.52	4.52	21.01	---	1310.75	134.50
12-6-S	4.52	4.52	25.94	---	1618.37	166.07
12-7-S	4.52	4.52	30.31	---	1890.64	194.01
12-8-S	4.52	4.52	34.07	---	2125.71	218.13
12-9-S	4.52	4.52	36.95	---	2305.30	236.56
12-10-S	4.52	4.52	39.02	---	2434.25	249.79
12-11-S	4.52	4.52	40.41	---	2521.11	258.70
12-12-S	4.52	4.52	41.12	---	2565.60	263.27
12-13-S	4.52	4.52	40.74	---	2541.76	260.82
12-14-S	4.52	4.52	39.69	---	2476.01	254.07
12-15-S	4.52	4.52	37.97	---	2368.95	243.09
12-16-S	4.52	4.52	35.47	---	2212.71	227.06
12-17-S	4.52	4.52	32.13	---	2004.66	205.71
12-18-S	4.52	4.52	28.28	---	1764.54	181.07
12-19-S	4.52	4.52	23.98	---	1496.18	153.53
12-20-S	4.52	4.52	19.30	---	1203.73	123.52
12-21-S	4.52	4.52	15.01	---	936.57	96.11
12-22-S	4.52	4.52	9.12	---	569.19	58.41
12-23-S	4.52	4.52	0.07	---	4.55	4.49
13-1-S	4.52	4.52	0.33	---	20.44	20.86
13-2-S	4.52	4.52	3.22	---	201.19	20.64
13-3-S	4.52	4.52	7.79	---	485.82	49.85
13-4-S	4.52	4.52	13.13	---	819.06	84.05
13-5-S	4.52	4.52	18.62	---	1161.76	119.21
13-6-S	4.52	4.52	23.63	---	1474.00	151.25
13-7-S	4.52	4.52	28.11	---	1753.81	179.97
13-8-S	4.52	4.52	32.02	---	1997.51	204.97
13-9-S	4.52	4.52	35.02	---	2184.52	224.16
13-10-S	4.52	4.52	37.16	---	2318.43	237.90
13-11-S	4.52	4.52	38.61	---	2408.40	247.14
13-12-S	4.52	4.52	39.34	---	2454.11	251.83
13-13-S	4.52	4.52	38.93	---	2428.94	249.24
13-14-S	4.52	4.52	37.84	---	2360.77	242.25
13-15-S	4.52	4.52	36.07	---	2250.55	230.94
13-16-S	4.52	4.52	33.51	---	2090.71	214.54
13-17-S	4.52	4.52	30.16	---	1881.31	193.05
13-18-S	4.52	4.52	26.35	---	1643.61	168.66
13-19-S	4.52	4.52	22.17	---	1382.99	141.91
13-20-S	4.52	4.52	17.82	---	1111.99	114.11
13-21-S	4.52	4.52	14.07	---	878.03	90.10
13-22-S	4.52	4.52	8.72	---	543.77	55.80
13-23-S	4.52	4.52	0.02	---	0.95	1.33
14-1-S	4.52	4.52	0.33	---	20.44	20.86

Is	Afi [cmq]	Afs [cmq]	sc [kg/cmq]	tc [kg/cmq]	ofi [kg/cmq]	ofs [kg/cmq]
14-2-S	4.52	3.39	3.27	---	201.10	21.25
14-3-S	4.52	3.39	7.90	---	485.62	51.32
14-4-S	4.52	3.39	13.31	---	818.70	86.52
14-5-S	4.52	3.39	18.88	---	1161.26	122.72
14-6-S	4.52	3.39	23.96	---	1473.37	155.70
14-7-S	4.52	3.39	28.50	---	1753.06	185.26
14-8-S	4.52	3.39	32.46	---	1996.65	211.00
14-9-S	4.52	3.39	35.50	---	2183.58	230.76
14-10-S	4.52	3.39	37.68	---	2317.44	244.90
14-11-S	4.52	3.39	39.14	---	2407.37	254.41
14-12-S	4.52	3.39	39.88	---	2453.06	259.23
14-13-S	4.52	3.39	39.48	---	2427.89	256.58
14-14-S	4.52	3.39	38.37	---	2359.75	249.37
14-15-S	4.52	3.39	36.58	---	2249.58	237.73
14-16-S	4.52	3.39	33.98	---	2089.81	220.85
14-17-S	4.52	3.39	30.58	---	1880.50	198.73
14-18-S	4.52	3.39	26.71	---	1642.90	173.62
14-19-S	4.52	3.39	22.48	---	1382.40	146.09
14-20-S	4.52	3.39	18.07	---	1111.51	117.46
14-21-S	4.52	3.39	14.27	---	877.65	92.75
14-22-S	4.52	3.39	8.84	---	543.53	57.44
14-23-S	4.52	4.52	0.02	---	0.95	1.33
15-1-S	4.52	4.52	0.99	---	61.99	61.82
15-2-S	4.52	4.52	4.20	---	261.90	26.87
15-3-S	4.52	4.52	9.52	---	594.17	60.97
15-4-S	4.52	4.52	15.38	---	959.48	98.46
15-5-S	4.52	4.52	21.01	---	1310.75	134.50
15-6-S	4.52	4.52	25.94	---	1618.37	166.07
15-7-S	4.52	4.52	30.31	---	1890.64	194.01
15-8-S	4.52	4.52	34.07	---	2125.71	218.13
15-9-S	4.52	4.52	36.95	---	2305.30	236.56
15-10-S	4.52	4.52	39.02	---	2434.25	249.79
15-11-S	4.52	4.52	40.41	---	2521.11	258.70
15-12-S	4.52	4.52	41.12	---	2565.60	263.27
15-13-S	4.52	4.52	40.74	---	2541.76	260.82
15-14-S	4.52	4.52	39.69	---	2476.01	254.07
15-15-S	4.52	4.52	37.97	---	2368.95	243.09
15-16-S	4.52	4.52	35.47	---	2212.71	227.06
15-17-S	4.52	4.52	32.13	---	2004.66	205.71
15-18-S	4.52	4.52	28.28	---	1764.54	181.07
15-19-S	4.52	4.52	23.98	---	1496.18	153.53
15-20-S	4.52	4.52	19.30	---	1203.73	123.52
15-21-S	4.52	4.52	15.01	---	936.57	96.11
15-22-S	4.52	4.52	9.12	---	569.19	58.41
15-23-S	4.52	4.52	0.07	---	4.55	4.49
16-1-S	4.52	4.52	1.26	---	78.31	77.79
16-2-S	4.52	4.52	7.45	---	464.78	47.69
16-3-S	4.52	4.52	13.08	---	816.20	83.75
16-4-S	4.52	4.52	17.79	---	1109.82	113.88
16-5-S	4.52	4.52	22.65	---	1412.84	144.98
16-6-S	4.52	4.52	27.10	---	1690.92	173.51
16-7-S	4.52	4.52	31.12	---	1941.48	199.22
16-8-S	4.52	4.52	34.64	---	2161.13	221.76
16-9-S	4.52	4.52	37.37	---	2331.36	239.23
16-10-S	4.52	4.52	39.35	---	2454.66	251.88
16-11-S	4.52	4.52	40.69	---	2538.48	260.48
16-12-S	4.52	4.52	41.39	---	2582.25	264.98
16-13-S	4.52	4.52	41.05	---	2560.70	262.76
16-14-S	4.52	4.52	40.05	---	2498.84	256.42
16-15-S	4.52	4.52	38.42	---	2397.14	245.98
16-16-S	4.52	4.52	36.03	---	2247.90	230.67
16-17-S	4.52	4.52	32.83	---	2048.16	210.17
16-18-S	4.52	4.52	29.12	---	1816.46	186.40
16-19-S	4.52	4.52	24.94	---	1555.99	159.67
16-20-S	4.52	4.52	20.32	---	1267.67	130.08
16-21-S	4.52	4.52	15.70	---	979.42	100.50
16-22-S	4.52	4.52	9.40	---	586.48	60.18
16-23-S	4.52	4.52	0.05	---	3.12	2.40
17-1-S	4.52	4.52	0.75	---	46.86	46.88
17-2-S	4.52	4.52	8.20	---	511.39	52.48
17-3-S	4.52	4.52	12.90	---	805.06	82.61
17-4-S	4.52	4.52	15.98	---	997.21	102.33
17-5-S	4.52	4.52	19.79	---	1234.63	126.69
17-6-S	4.52	4.52	23.60	---	1472.59	151.11
17-7-S	4.52	4.52	27.16	---	1694.48	173.88
17-8-S	4.52	4.52	30.37	---	1894.61	194.41
17-9-S	4.52	4.52	32.91	---	2053.36	210.70
17-10-S	4.52	4.52	34.78	---	2169.59	222.63
17-11-S	4.52	4.52	36.05	---	2248.80	230.76
17-12-S	4.52	4.52	36.71	---	2290.11	235.00
17-13-S	4.52	4.52	36.37	---	2268.69	232.80
17-14-S	4.52	4.52	35.40	---	2208.47	226.62
17-15-S	4.52	4.52	33.82	---	2110.13	216.53
17-16-S	4.52	4.52	31.52	---	1966.48	201.79
17-17-S	4.52	4.52	28.48	---	1776.90	182.34
17-18-S	4.52	4.52	25.01	---	1560.50	160.13
17-19-S	4.52	4.52	21.19	---	1322.03	135.66
17-20-S	4.52	4.52	17.19	---	1072.23	110.03
17-21-S	4.52	4.52	13.74	---	856.96	87.94
17-22-S	4.52	4.52	8.60	---	536.76	55.08
17-23-S	4.52	4.52	0.24	---	15.00	15.14
18-1-S	4.52	4.52	0.09	---	5.58	5.48
18-2-S	4.52	4.52	8.30	---	517.60	53.11

Is	Afi [cmq]	Afs [cmq]	σc [kg/cmq]	τc [kg/cmq]	σfi [kg/cmq]	σfs [kg/cmq]
18-3-S	4.52	4.52	12.84	---	801.21	82.22
18-4-S	4.52	4.52	15.59	---	972.49	99.79
18-5-S	4.52	4.52	18.97	---	1183.57	121.45
18-6-S	4.52	4.52	22.41	---	1398.05	143.46
18-7-S	4.52	4.52	25.65	---	1600.15	164.20
18-8-S	4.52	4.52	28.60	---	1784.42	183.11
18-9-S	4.52	4.52	30.97	---	1932.13	198.26
18-10-S	4.52	4.52	32.70	---	2040.06	209.34
18-11-S	4.52	4.52	33.87	---	2113.13	216.84
18-12-S	4.52	4.52	34.46	---	2149.96	220.62
18-13-S	4.52	4.52	34.08	---	2126.15	218.17
18-14-S	4.52	4.52	33.10	---	2065.04	211.90
18-15-S	4.52	4.52	31.54	---	1967.57	201.90
18-16-S	4.52	4.52	29.30	---	1827.68	187.55
18-17-S	4.52	4.52	26.40	---	1646.74	168.98
18-18-S	4.52	4.52	23.15	---	1444.02	148.18
18-19-S	4.52	4.52	19.63	---	1224.76	125.68
18-20-S	4.52	4.52	16.07	---	1002.74	102.90
18-21-S	4.52	4.52	13.11	---	817.67	83.90
18-22-S	4.52	4.52	8.38	---	522.65	53.63
18-23-S	4.52	4.52	1.21	---	75.59	75.53
19-1-S	4.52	4.52	1.30	---	81.21	81.00
19-2-S	4.52	4.52	8.40	---	524.15	53.79
19-3-S	4.52	4.52	13.10	---	817.52	83.89
19-4-S	4.52	4.52	16.05	---	1001.45	102.76
19-5-S	4.52	4.52	19.69	---	1228.19	126.03
19-6-S	4.52	4.52	23.32	---	1454.99	149.30
19-7-S	4.52	4.52	26.70	---	1665.80	170.93
19-8-S	4.52	4.52	29.74	---	1855.08	190.36
19-9-S	4.52	4.52	32.12	---	2003.64	205.60
19-10-S	4.52	4.52	33.83	---	2110.68	216.59
19-11-S	4.52	4.52	34.97	---	2181.36	223.84
19-12-S	4.52	4.52	35.51	---	2215.02	227.29
19-13-S	4.52	4.52	35.06	---	2187.42	224.46
19-14-S	4.52	4.52	34.01	---	2121.95	217.74
19-15-S	4.52	4.52	32.36	---	2019.01	207.18
19-16-S	4.52	4.52	30.02	---	1872.67	192.16
19-17-S	4.52	4.52	26.97	---	1682.83	172.68
19-18-S	4.52	4.52	23.55	---	1469.46	150.79
19-19-S	4.52	4.52	19.85	---	1238.20	127.06
19-20-S	4.52	4.52	16.11	---	1004.97	103.12
19-21-S	4.52	4.52	13.06	---	815.01	83.63
19-22-S	4.52	4.52	8.41	---	524.53	53.82
19-23-S	4.52	4.52	3.61	---	225.00	224.86
20-1-S	4.52	4.52	3.58	---	222.55	223.18
20-2-S	4.52	4.52	7.49	---	467.05	72.32
20-3-S	4.52	4.52	12.60	---	786.10	80.66
20-4-S	4.52	4.52	17.49	---	1090.92	111.94
20-5-S	4.52	4.52	22.41	---	1398.20	143.48
20-6-S	4.52	4.52	26.82	---	1673.39	171.71
20-7-S	4.52	4.52	30.72	---	1916.59	196.67
20-8-S	4.52	4.52	34.06	---	2125.08	218.06
20-9-S	4.52	4.52	36.57	---	2281.68	234.13
20-10-S	4.52	4.52	38.33	---	2391.20	245.37
20-11-S	4.52	4.52	39.46	---	2461.87	252.62
20-12-S	4.52	4.52	39.97	---	2493.57	255.88
20-13-S	4.52	4.52	39.47	---	2462.09	252.65
20-14-S	4.52	4.52	38.32	---	2390.70	245.32
20-15-S	4.52	4.52	36.54	---	2279.30	233.89
20-16-S	4.52	4.52	33.96	---	2118.91	217.43
20-17-S	4.52	4.52	30.52	---	1903.80	195.36
20-18-S	4.52	4.52	26.52	---	1654.49	169.77
20-19-S	4.52	4.52	22.03	---	1374.59	141.05
20-20-S	4.52	4.52	17.06	---	1064.34	109.22
20-21-S	4.52	4.52	12.60	---	786.14	80.67
20-22-S	4.52	4.52	8.53	---	531.91	134.83
20-23-S	4.52	4.52	4.97	---	309.25	309.78

Verifica tensioni - Combinazioni rare (SLER)

Piastra

Simbologia adottata

Is	Identificativo tratto-sezione-direzione (P: direzione principale, S: direzione secondaria)
Afi	Area di armatura lembo inferiore espressa in [cmq]
Afs	Area di armatura lembo superiore espressa in [cmq]
σc	Tensione nel calcestruzzo espressa in [kg/cmq]
σfi	Tensione nell'armatura disposta in corrispondenza del lembo inferiore espressa in [kg/cmq]
σfs	Tensione nell'armatura disposta in corrispondenza del lembo superiore espressa in [kg/cmq]

Is	Afi [cmq]	Afs [cmq]	σc [kg/cmq]	τc [kg/cmq]	σfi [kg/cmq]	σfs [kg/cmq]
1-1-P	4.52	4.52	3.44	---	205.25	206.29
1-2-P	4.52	4.52	6.06	---	363.83	85.62
1-3-P	4.52	4.52	8.65	---	519.47	57.63
1-4-P	4.52	4.52	10.63	---	638.08	70.79
1-5-P	4.52	4.52	12.93	---	776.18	86.11
1-6-P	4.52	4.52	15.22	---	914.05	101.41

Is	Afi [cmq]	Afs [cmq]	sc [kg/cmq]	tc [kg/cmq]	ofi [kg/cmq]	ofs [kg/cmq]
1-7-P	4.52	4.52	17.41	---	1045.49	115.99
1-8-P	4.52	4.52	19.45	---	1167.59	129.54
1-9-P	4.52	4.52	21.30	---	1278.87	141.88
1-10-P	4.52	4.52	22.96	---	1378.39	152.92
1-11-P	4.52	4.52	24.53	---	1473.09	163.43
1-12-P	4.52	4.52	26.06	---	1564.93	173.62
1-13-P	4.52	4.52	27.59	---	1656.45	183.77
1-14-P	4.52	4.52	29.19	---	1753.02	194.48
1-15-P	4.52	4.52	30.90	---	1855.26	205.83
1-16-P	4.52	4.52	32.69	---	1963.10	217.79
1-17-P	4.52	4.52	34.58	---	2076.66	230.39
1-18-P	4.52	4.52	36.40	---	2185.74	242.49
1-19-P	4.52	4.52	37.90	---	2275.67	252.47
1-20-P	4.52	4.52	37.44	---	2248.23	249.43
1-21-P	4.52	4.52	30.45	---	1828.31	202.84
1-22-P	4.52	4.52	24.78	---	1488.03	165.09
1-23-P	4.52	4.52	20.03	---	1202.49	133.41
1-24-P	4.52	4.52	16.13	---	968.61	107.46
1-25-P	4.52	4.52	13.22	---	793.50	88.03
1-26-P	4.52	4.52	11.20	---	672.80	74.64
1-27-P	4.52	4.52	9.84	---	591.02	65.57
1-28-P	4.52	4.52	9.10	---	546.50	60.63
1-29-P	4.52	4.52	9.10	---	546.50	60.63
1-30-P	4.52	4.52	9.84	---	591.02	65.57
1-31-P	4.52	4.52	11.20	---	672.80	74.64
1-32-P	4.52	4.52	13.22	---	793.50	88.03
1-33-P	4.52	4.52	16.13	---	968.61	107.46
1-34-P	4.52	4.52	20.03	---	1202.49	133.41
1-35-P	4.52	4.52	24.78	---	1488.03	165.09
1-36-P	4.52	4.52	30.45	---	1828.31	202.84
1-37-P	4.52	4.52	37.44	---	2248.23	249.43
1-38-P	4.52	4.52	37.90	---	2275.67	252.47
1-39-P	4.52	4.52	36.40	---	2185.74	242.49
1-40-P	4.52	4.52	34.58	---	2076.66	230.39
1-41-P	4.52	4.52	32.69	---	1963.10	217.79
1-42-P	4.52	4.52	30.90	---	1855.26	205.83
1-43-P	4.52	4.52	29.19	---	1753.02	194.48
1-44-P	4.52	4.52	27.59	---	1656.45	183.77
1-45-P	4.52	4.52	26.06	---	1564.93	173.62
1-46-P	4.52	4.52	24.53	---	1473.09	163.43
1-47-P	4.52	4.52	22.96	---	1378.39	152.92
1-48-P	4.52	4.52	21.30	---	1278.87	141.88
1-49-P	4.52	4.52	19.45	---	1167.59	129.54
1-50-P	4.52	4.52	17.41	---	1045.49	115.99
1-51-P	4.52	4.52	15.22	---	914.05	101.41
1-52-P	4.52	4.52	12.93	---	776.18	86.11
1-53-P	4.52	4.52	10.63	---	638.08	70.79
1-54-P	4.52	4.52	8.65	---	519.47	57.63
1-55-P	4.52	4.52	6.06	---	363.83	85.62
1-56-P	4.52	4.52	3.44	---	205.25	206.29
2-1-P	4.52	4.52	1.37	---	82.48	82.01
2-2-P	4.52	4.52	7.60	---	456.40	50.63
2-3-P	4.52	4.52	9.95	---	597.53	66.29
2-4-P	4.52	4.52	10.06	---	603.79	66.99
2-5-P	4.52	4.52	11.14	---	669.13	74.24
2-6-P	4.52	4.52	12.82	---	769.92	85.42
2-7-P	4.52	4.52	14.63	---	878.69	97.48
2-8-P	4.52	4.52	16.52	---	991.89	110.04
2-9-P	4.52	4.52	18.42	---	1105.88	122.69
2-10-P	4.52	4.52	20.29	---	1218.49	135.18
2-11-P	4.52	4.52	22.17	---	1331.16	147.68
2-12-P	4.52	4.52	24.07	---	1445.09	160.32
2-13-P	4.52	4.52	26.02	---	1562.30	173.33
2-14-P	4.52	4.52	28.13	---	1688.95	187.38
2-15-P	4.52	4.52	30.42	---	1826.46	202.63
2-16-P	4.52	4.52	32.93	---	1977.58	219.40
2-17-P	4.52	4.52	35.79	---	2149.27	238.45
2-18-P	4.52	4.52	39.28	---	2358.71	261.68
2-19-P	4.52	4.52	43.47	---	2610.33	289.60
2-20-P	4.52	4.52	45.66	---	2741.76	304.18
2-21-P	4.52	4.52	38.19	---	2293.32	254.43
2-22-P	4.52	4.52	32.14	---	1930.10	214.13
2-23-P	4.52	4.52	27.07	---	1625.24	180.31
2-24-P	4.52	4.52	22.92	---	1376.11	152.67
2-25-P	4.52	4.52	19.80	---	1188.60	131.87
2-26-P	4.52	4.52	17.62	---	1058.20	117.40
2-27-P	4.52	4.52	16.14	---	969.33	107.54
2-28-P	4.52	4.52	15.33	---	920.63	102.14
2-29-P	4.52	4.52	15.33	---	920.63	102.14
2-30-P	4.52	4.52	16.14	---	969.33	107.54
2-31-P	4.52	4.52	17.62	---	1058.20	117.40
2-32-P	4.52	4.52	19.80	---	1188.60	131.87
2-33-P	4.52	4.52	22.92	---	1376.11	152.67
2-34-P	4.52	4.52	27.07	---	1625.24	180.31
2-35-P	4.52	4.52	32.14	---	1930.10	214.13
2-36-P	4.52	4.52	38.19	---	2293.32	254.43
2-37-P	4.52	4.52	45.66	---	2741.76	304.18
2-38-P	4.52	4.52	43.47	---	2610.33	289.60
2-39-P	4.52	4.52	39.28	---	2358.71	261.68
2-40-P	4.52	4.52	35.79	---	2149.27	238.45
2-41-P	4.52	4.52	32.93	---	1977.58	219.40
2-42-P	4.52	4.52	30.42	---	1826.46	202.63
2-43-P	4.52	4.52	28.13	---	1688.95	187.38

Is	Afi [cmq]	Afs [cmq]	sc [kg/cmq]	tc [kg/cmq]	ofi [kg/cmq]	ofs [kg/cmq]
2-44-P	4.52	4.52	26.02	---	1562.30	173.33
2-45-P	4.52	4.52	24.07	---	1445.09	160.32
2-46-P	4.52	4.52	22.17	---	1331.16	147.68
2-47-P	4.52	4.52	20.29	---	1218.49	135.18
2-48-P	4.52	4.52	18.42	---	1105.88	122.69
2-49-P	4.52	4.52	16.52	---	991.89	110.04
2-50-P	4.52	4.52	14.63	---	878.69	97.48
2-51-P	4.52	4.52	12.82	---	769.92	85.42
2-52-P	4.52	4.52	11.14	---	669.13	74.24
2-53-P	4.52	4.52	10.06	---	603.79	66.99
2-54-P	4.52	4.52	9.95	---	597.53	66.29
2-55-P	4.52	4.52	7.60	---	456.40	50.63
2-56-P	4.52	4.52	1.37	---	82.48	82.01
3-1-P	4.52	4.52	0.11	---	5.76	6.42
3-2-P	4.52	4.52	7.70	---	462.19	51.28
3-3-P	4.52	4.52	9.89	---	593.67	65.86
3-4-P	4.52	4.52	9.66	---	579.80	64.33
3-5-P	4.52	4.52	10.29	---	618.15	68.58
3-6-P	4.52	4.52	11.59	---	696.16	77.23
3-7-P	4.52	4.52	13.13	---	788.58	87.49
3-8-P	4.52	4.52	14.86	---	892.01	98.96
3-9-P	4.52	4.52	16.71	---	1003.23	111.30
3-10-P	4.52	4.52	18.67	---	1120.89	124.36
3-11-P	4.52	4.52	20.70	---	1243.23	137.93
3-12-P	4.52	4.52	22.84	---	1371.23	152.13
3-13-P	4.52	4.52	25.10	---	1507.28	167.22
3-14-P	4.52	4.52	27.64	---	1659.50	184.11
3-15-P	4.52	4.52	30.45	---	1828.60	202.87
3-16-P	4.52	4.52	33.61	---	2018.06	223.89
3-17-P	4.52	4.52	37.25	---	2236.89	248.17
3-18-P	4.52	4.52	41.66	---	2501.50	277.52
3-19-P	4.52	4.52	46.74	---	2806.76	311.39
3-20-P	4.52	4.52	49.73	---	2986.04	331.28
3-21-P	4.52	4.52	42.82	---	2571.06	285.24
3-22-P	4.52	4.52	37.02	---	2222.70	246.59
3-23-P	4.52	4.52	32.05	---	1924.48	213.51
3-24-P	4.52	4.52	27.90	---	1675.49	185.88
3-25-P	4.52	4.52	24.73	---	1484.68	164.71
3-26-P	4.52	4.52	22.49	---	1350.67	149.85
3-27-P	4.52	4.52	20.97	---	1258.87	139.66
3-28-P	4.52	4.52	20.12	---	1208.34	134.06
3-29-P	4.52	4.52	20.12	---	1208.34	134.06
3-30-P	4.52	4.52	20.97	---	1258.87	139.66
3-31-P	4.52	4.52	22.49	---	1350.67	149.85
3-32-P	4.52	4.52	24.73	---	1484.68	164.71
3-33-P	4.52	4.52	27.90	---	1675.49	185.88
3-34-P	4.52	4.52	32.05	---	1924.48	213.51
3-35-P	4.52	4.52	37.02	---	2222.70	246.59
3-36-P	4.52	4.52	42.82	---	2571.06	285.24
3-37-P	4.52	4.52	49.73	---	2986.04	331.28
3-38-P	4.52	4.52	46.74	---	2806.76	311.39
3-39-P	4.52	4.52	41.66	---	2501.50	277.52
3-40-P	4.52	4.52	37.25	---	2236.89	248.17
3-41-P	4.52	4.52	33.61	---	2018.06	223.89
3-42-P	4.52	4.52	30.45	---	1828.60	202.87
3-43-P	4.52	4.52	27.64	---	1659.50	184.11
3-44-P	4.52	4.52	25.10	---	1507.28	167.22
3-45-P	4.52	4.52	22.84	---	1371.23	152.13
3-46-P	4.52	4.52	20.70	---	1243.23	137.93
3-47-P	4.52	4.52	18.67	---	1120.89	124.36
3-48-P	4.52	4.52	16.71	---	1003.23	111.30
3-49-P	4.52	4.52	14.86	---	892.01	98.96
3-50-P	4.52	4.52	13.13	---	788.58	87.49
3-51-P	4.52	4.52	11.59	---	696.16	77.23
3-52-P	4.52	4.52	10.29	---	618.15	68.58
3-53-P	4.52	4.52	9.66	---	579.80	64.33
3-54-P	4.52	4.52	9.89	---	593.67	65.86
3-55-P	4.52	4.52	7.70	---	462.19	51.28
3-56-P	4.52	4.52	0.11	---	5.76	6.42
4-1-P	4.52	4.52	0.64	---	38.57	38.00
4-2-P	4.52	3.39	7.69	---	454.53	52.00
4-3-P	4.52	3.39	9.79	---	578.69	66.21
4-4-P	4.52	3.39	9.44	---	557.94	63.83
4-5-P	4.52	3.39	9.98	---	589.97	67.50
4-6-P	4.52	3.39	11.21	---	662.74	75.82
4-7-P	4.52	3.39	12.70	---	750.76	85.89
4-8-P	4.52	3.39	14.39	---	850.59	97.32
4-9-P	4.52	3.39	16.22	---	959.24	109.75
4-10-P	4.52	3.39	18.20	---	1075.92	123.10
4-11-P	4.52	3.39	20.27	---	1198.59	137.13
4-12-P	4.52	3.39	22.47	---	1328.43	151.99
4-13-P	4.52	3.39	24.83	---	1468.22	167.98
4-14-P	4.52	3.39	27.52	---	1627.14	186.16
4-15-P	4.52	3.39	30.54	---	1805.42	206.56
4-16-P	4.52	3.39	33.94	---	2006.57	229.57
4-17-P	4.52	3.39	37.89	---	2240.13	256.30
4-18-P	4.52	3.39	42.66	---	2522.42	288.59
4-19-P	4.52	3.39	48.15	---	2846.70	325.69
4-20-P	4.52	3.39	51.52	---	3045.77	348.47
4-21-P	4.52	3.39	44.83	---	2650.51	303.25
4-22-P	4.52	3.39	39.24	---	2319.76	265.41
4-23-P	4.52	3.39	34.45	---	2036.87	233.04
4-24-P	4.52	3.39	30.46	---	1800.69	206.02

Is	Afi [cmq]	Afs [cmq]	sc [kg/cmq]	tc [kg/cmq]	ofi [kg/cmq]	ofs [kg/cmq]
4-25-P	4.52	3.39	27.39	---	1619.41	185.28
4-26-P	4.52	3.39	25.23	---	1491.80	170.68
4-27-P	4.52	3.39	23.75	---	1404.25	160.66
4-28-P	4.52	3.39	22.94	---	1355.98	155.14
4-29-P	4.52	3.39	22.94	---	1355.98	155.14
4-30-P	4.52	3.39	23.75	---	1404.25	160.66
4-31-P	4.52	3.39	25.23	---	1491.80	170.68
4-32-P	4.52	3.39	27.39	---	1619.41	185.28
4-33-P	4.52	3.39	30.46	---	1800.69	206.02
4-34-P	4.52	3.39	34.45	---	2036.87	233.04
4-35-P	4.52	3.39	39.24	---	2319.76	265.41
4-36-P	4.52	3.39	44.83	---	2650.51	303.25
4-37-P	4.52	3.39	51.52	---	3045.77	348.47
4-38-P	4.52	3.39	48.15	---	2846.70	325.69
4-39-P	4.52	3.39	42.66	---	2522.42	288.59
4-40-P	4.52	3.39	37.89	---	2240.13	256.30
4-41-P	4.52	3.39	33.94	---	2006.57	229.57
4-42-P	4.52	3.39	30.54	---	1805.42	206.56
4-43-P	4.52	3.39	27.52	---	1627.14	186.16
4-44-P	4.52	3.39	24.83	---	1468.22	167.98
4-45-P	4.52	3.39	22.47	---	1328.43	151.99
4-46-P	4.52	3.39	20.27	---	1198.59	137.13
4-47-P	4.52	3.39	18.20	---	1075.92	123.10
4-48-P	4.52	3.39	16.22	---	959.24	109.75
4-49-P	4.52	3.39	14.39	---	850.59	97.32
4-50-P	4.52	3.39	12.70	---	750.76	85.89
4-51-P	4.52	3.39	11.21	---	662.74	75.82
4-52-P	4.52	3.39	9.98	---	589.97	67.50
4-53-P	4.52	3.39	9.44	---	557.94	63.83
4-54-P	4.52	3.39	9.79	---	578.69	66.21
4-55-P	4.52	3.39	7.69	---	454.53	52.00
4-56-P	4.52	4.52	0.64	---	38.57	38.00
5-1-P	4.52	4.52	2.85	---	171.19	170.74
5-2-P	4.52	4.52	7.19	---	431.56	47.88
5-3-P	4.52	4.52	9.15	---	549.37	60.95
5-4-P	4.52	4.52	8.89	---	534.09	59.25
5-5-P	4.52	4.52	9.66	---	580.23	64.37
5-6-P	4.52	4.52	11.09	---	665.60	73.84
5-7-P	4.52	4.52	12.68	---	761.49	84.48
5-8-P	4.52	4.52	14.39	---	864.34	95.89
5-9-P	4.52	4.52	16.17	---	970.71	107.69
5-10-P	4.52	4.52	17.98	---	1079.76	119.79
5-11-P	4.52	4.52	19.86	---	1192.24	132.27
5-12-P	4.52	4.52	21.81	---	1309.82	145.32
5-13-P	4.52	4.52	23.91	---	1435.67	159.28
5-14-P	4.52	4.52	26.30	---	1579.18	175.20
5-15-P	4.52	4.52	28.99	---	1741.00	193.15
5-16-P	4.52	4.52	32.06	---	1924.77	213.54
5-17-P	4.52	4.52	35.64	---	2139.94	237.41
5-18-P	4.52	4.52	40.08	---	2406.90	267.03
5-19-P	4.52	4.52	45.36	---	2723.45	302.15
5-20-P	4.52	4.52	48.70	---	2924.29	324.43
5-21-P	4.52	4.52	42.37	---	2544.40	282.28
5-22-P	4.52	4.52	37.28	---	2238.44	248.34
5-23-P	4.52	4.52	33.00	---	1981.37	219.82
5-24-P	4.52	4.52	29.47	---	1769.72	196.34
5-25-P	4.52	4.52	26.77	---	1607.56	178.35
5-26-P	4.52	4.52	24.87	---	1493.18	165.66
5-27-P	4.52	4.52	23.56	---	1414.58	156.94
5-28-P	4.52	4.52	22.84	---	1371.15	152.12
5-29-P	4.52	4.52	22.84	---	1371.15	152.12
5-30-P	4.52	4.52	23.56	---	1414.58	156.94
5-31-P	4.52	4.52	24.87	---	1493.18	165.66
5-32-P	4.52	4.52	26.77	---	1607.56	178.35
5-33-P	4.52	4.52	29.47	---	1769.72	196.34
5-34-P	4.52	4.52	33.00	---	1981.37	219.82
5-35-P	4.52	4.52	37.28	---	2238.44	248.34
5-36-P	4.52	4.52	42.37	---	2544.40	282.28
5-37-P	4.52	4.52	48.70	---	2924.29	324.43
5-38-P	4.52	4.52	45.36	---	2723.45	302.15
5-39-P	4.52	4.52	40.08	---	2406.90	267.03
5-40-P	4.52	4.52	35.64	---	2139.94	237.41
5-41-P	4.52	4.52	32.06	---	1924.77	213.54
5-42-P	4.52	4.52	28.99	---	1741.00	193.15
5-43-P	4.52	4.52	26.30	---	1579.18	175.20
5-44-P	4.52	4.52	23.91	---	1435.67	159.28
5-45-P	4.52	4.52	21.81	---	1309.82	145.32
5-46-P	4.52	4.52	19.86	---	1192.24	132.27
5-47-P	4.52	4.52	17.98	---	1079.76	119.79
5-48-P	4.52	4.52	16.17	---	970.71	107.69
5-49-P	4.52	4.52	14.39	---	864.34	95.89
5-50-P	4.52	4.52	12.68	---	761.49	84.48
5-51-P	4.52	4.52	11.09	---	665.60	73.84
5-52-P	4.52	4.52	9.66	---	580.23	64.37
5-53-P	4.52	4.52	8.89	---	534.09	59.25
5-54-P	4.52	4.52	9.15	---	549.37	60.95
5-55-P	4.52	4.52	7.19	---	431.56	47.88
5-56-P	4.52	4.52	2.85	---	171.19	170.74
6-1-P	4.52	4.52	4.70	---	281.41	282.42
6-2-P	4.52	4.52	6.40	---	384.49	131.49
6-3-P	4.52	4.52	7.91	---	474.78	100.74
6-4-P	4.52	4.52	8.97	---	538.40	84.35
6-5-P	4.52	4.52	10.47	---	628.84	69.77

Is	Afi [cmq]	Afs [cmq]	sc [kg/cmq]	tc [kg/cmq]	ofi [kg/cmq]	ofs [kg/cmq]
6-6-P	4.52	4.52	12.22	---	733.74	81.40
6-7-P	4.52	4.52	14.01	---	841.21	93.33
6-8-P	4.52	4.52	15.74	---	944.83	104.82
6-9-P	4.52	4.52	17.38	---	1043.31	115.75
6-10-P	4.52	4.52	18.92	---	1135.95	126.03
6-11-P	4.52	4.52	20.45	---	1227.74	136.21
6-12-P	4.52	4.52	22.01	---	1321.34	146.59
6-13-P	4.52	4.52	23.66	---	1420.87	157.64
6-14-P	4.52	4.52	25.59	---	1536.46	170.46
6-15-P	4.52	4.52	27.79	---	1668.55	185.11
6-16-P	4.52	4.52	30.30	---	1819.25	201.83
6-17-P	4.52	4.52	33.22	---	1994.62	221.29
6-18-P	4.52	4.52	36.62	---	2198.68	243.93
6-19-P	4.52	4.52	40.31	---	2420.17	268.50
6-20-P	4.52	4.52	42.48	---	2550.58	282.97
6-21-P	4.52	4.52	38.09	---	2287.30	253.76
6-22-P	4.52	4.52	34.14	---	2049.79	227.41
6-23-P	4.52	4.52	30.61	---	1838.15	203.93
6-24-P	4.52	4.52	27.56	---	1655.04	183.61
6-25-P	4.52	4.52	25.16	---	1510.52	167.58
6-26-P	4.52	4.52	23.44	---	1407.29	156.13
6-27-P	4.52	4.52	22.25	---	1335.96	148.22
6-28-P	4.52	4.52	21.59	---	1296.38	143.82
6-29-P	4.52	4.52	21.59	---	1296.38	143.82
6-30-P	4.52	4.52	22.25	---	1335.96	148.22
6-31-P	4.52	4.52	23.44	---	1407.29	156.13
6-32-P	4.52	4.52	25.16	---	1510.52	167.58
6-33-P	4.52	4.52	27.56	---	1655.04	183.61
6-34-P	4.52	4.52	30.61	---	1838.15	203.93
6-35-P	4.52	4.52	34.14	---	2049.79	227.41
6-36-P	4.52	4.52	38.09	---	2287.30	253.76
6-37-P	4.52	4.52	42.48	---	2550.58	282.97
6-38-P	4.52	4.52	40.31	---	2420.17	268.50
6-39-P	4.52	4.52	36.62	---	2198.68	243.93
6-40-P	4.52	4.52	33.22	---	1994.62	221.29
6-41-P	4.52	4.52	30.30	---	1819.25	201.83
6-42-P	4.52	4.52	27.79	---	1668.55	185.11
6-43-P	4.52	4.52	25.59	---	1536.46	170.46
6-44-P	4.52	4.52	23.66	---	1420.87	157.64
6-45-P	4.52	4.52	22.01	---	1321.34	146.59
6-46-P	4.52	4.52	20.45	---	1227.74	136.21
6-47-P	4.52	4.52	18.92	---	1135.95	126.03
6-48-P	4.52	4.52	17.38	---	1043.31	115.75
6-49-P	4.52	4.52	15.74	---	944.83	104.82
6-50-P	4.52	4.52	14.01	---	841.21	93.33
6-51-P	4.52	4.52	12.22	---	733.74	81.40
6-52-P	4.52	4.52	10.47	---	628.84	69.77
6-53-P	4.52	4.52	8.97	---	538.40	84.35
6-54-P	4.52	4.52	7.91	---	474.78	100.74
6-55-P	4.52	4.52	6.40	---	384.49	131.49
6-56-P	4.52	4.52	4.70	---	281.41	282.42
7-1-S	4.52	4.52	3.68	---	229.21	229.84
7-2-S	4.52	4.52	7.67	---	478.45	75.25
7-3-S	4.52	4.52	12.98	---	809.53	83.07
7-4-S	4.52	4.52	18.11	---	1129.51	115.90
7-5-S	4.52	4.52	23.25	---	1450.68	148.86
7-6-S	4.52	4.52	27.85	---	1737.57	178.30
7-7-S	4.52	4.52	31.91	---	1990.88	204.29
7-8-S	4.52	4.52	35.39	---	2207.85	226.56
7-9-S	4.52	4.52	38.00	---	2370.69	243.27
7-10-S	4.52	4.52	39.83	---	2484.53	254.95
7-11-S	4.52	4.52	41.00	---	2557.96	262.48
7-12-S	4.52	4.52	41.53	---	2590.89	265.86
7-13-S	4.52	4.52	41.01	---	2558.17	262.50
7-14-S	4.52	4.52	39.82	---	2484.01	254.90
7-15-S	4.52	4.52	37.96	---	2368.27	243.02
7-16-S	4.52	4.52	35.29	---	2201.62	225.92
7-17-S	4.52	4.52	31.71	---	1978.03	202.97
7-18-S	4.52	4.52	27.55	---	1718.44	176.34
7-19-S	4.52	4.52	22.87	---	1426.76	146.41
7-20-S	4.52	4.52	17.67	---	1102.54	113.14
7-21-S	4.52	4.52	12.97	---	809.44	83.06
7-22-S	4.52	4.52	8.73	---	544.81	138.13
7-23-S	4.52	4.52	5.07	---	315.66	316.19
8-1-S	4.52	4.52	1.37	---	85.45	85.26
8-2-S	4.52	4.52	8.55	---	533.22	54.72
8-3-S	4.52	4.52	13.42	---	837.46	85.94
8-4-S	4.52	4.52	16.56	---	1033.27	106.03
8-5-S	4.52	4.52	20.39	---	1271.92	130.52
8-6-S	4.52	4.52	24.20	---	1509.46	154.89
8-7-S	4.52	4.52	27.73	---	1729.84	177.51
8-8-S	4.52	4.52	30.90	---	1927.40	197.78
8-9-S	4.52	4.52	33.38	---	2082.23	213.67
8-10-S	4.52	4.52	35.16	---	2193.69	225.10
8-11-S	4.52	4.52	36.34	---	2267.21	232.65
8-12-S	4.52	4.52	36.90	---	2302.15	236.23
8-13-S	4.52	4.52	36.44	---	2273.27	233.27
8-14-S	4.52	4.52	35.34	---	2204.96	226.26
8-15-S	4.52	4.52	33.62	---	2097.59	215.24
8-16-S	4.52	4.52	31.18	---	1944.96	199.58
8-17-S	4.52	4.52	28.00	---	1746.83	179.25
8-18-S	4.52	4.52	24.43	---	1523.88	156.37
8-19-S	4.52	4.52	20.55	---	1281.86	131.54

Is	Afi [cmq]	Afs [cmq]	sc [kg/cmq]	tc [kg/cmq]	ofi [kg/cmq]	ofs [kg/cmq]
8-20-S	4.52	4.52	16.62	---	1036.71	106.38
8-21-S	4.52	4.52	13.38	---	834.88	85.67
8-22-S	4.52	4.52	8.57	---	534.58	54.86
8-23-S	4.52	4.52	3.69	---	230.51	230.38
9-1-S	4.52	4.52	0.09	---	5.69	5.60
9-2-S	4.52	4.52	8.44	---	526.37	54.01
9-3-S	4.52	4.52	13.15	---	820.62	84.21
9-4-S	4.52	4.52	16.09	---	1003.59	102.98
9-5-S	4.52	4.52	19.66	---	1226.50	125.86
9-6-S	4.52	4.52	23.27	---	1451.83	148.98
9-7-S	4.52	4.52	26.67	---	1663.70	170.72
9-8-S	4.52	4.52	29.76	---	1856.52	190.51
9-9-S	4.52	4.52	32.23	---	2010.79	206.34
9-10-S	4.52	4.52	34.04	---	2123.35	217.89
9-11-S	4.52	4.52	35.26	---	2199.43	225.69
9-12-S	4.52	4.52	35.87	---	2237.62	229.61
9-13-S	4.52	4.52	35.46	---	2212.49	227.03
9-14-S	4.52	4.52	34.44	---	2148.39	220.45
9-15-S	4.52	4.52	32.80	---	2046.30	209.98
9-16-S	4.52	4.52	30.45	---	1899.87	194.95
9-17-S	4.52	4.52	27.42	---	1710.36	175.51
9-18-S	4.52	4.52	24.01	---	1497.85	153.70
9-19-S	4.52	4.52	20.32	---	1267.71	130.09
9-20-S	4.52	4.52	16.57	---	1033.82	106.08
9-21-S	4.52	4.52	13.42	---	837.04	85.89
9-22-S	4.52	4.52	8.52	---	531.39	54.53
9-23-S	4.52	4.52	1.23	---	76.45	76.40
10-1-S	4.52	4.52	0.75	---	46.88	46.92
10-2-S	4.52	4.52	8.36	---	521.44	53.51
10-3-S	4.52	4.52	13.27	---	827.58	84.92
10-4-S	4.52	4.52	16.57	---	1033.51	106.05
10-5-S	4.52	4.52	20.59	---	1284.76	131.83
10-6-S	4.52	4.52	24.61	---	1535.08	157.52
10-7-S	4.52	4.52	28.34	---	1767.91	181.41
10-8-S	4.52	4.52	31.70	---	1977.46	202.92
10-9-S	4.52	4.52	34.36	---	2143.31	219.93
10-10-S	4.52	4.52	36.30	---	2264.54	232.37
10-11-S	4.52	4.52	37.62	---	2346.98	240.83
10-12-S	4.52	4.52	38.31	---	2389.78	245.23
10-13-S	4.52	4.52	37.94	---	2366.98	242.89
10-14-S	4.52	4.52	36.93	---	2303.62	236.38
10-15-S	4.52	4.52	35.27	---	2200.37	225.79
10-16-S	4.52	4.52	32.85	---	2049.65	210.32
10-17-S	4.52	4.52	29.66	---	1850.66	189.90
10-18-S	4.52	4.52	26.02	---	1623.28	166.57
10-19-S	4.52	4.52	22.00	---	1372.40	140.83
10-20-S	4.52	4.52	17.77	---	1108.69	113.77
10-21-S	4.52	4.52	14.10	---	879.56	90.26
10-22-S	4.52	4.52	8.77	---	546.83	56.11
10-23-S	4.52	4.52	0.23	---	14.26	14.42
11-1-S	4.52	4.52	1.23	---	76.71	76.12
11-2-S	4.52	4.52	7.67	---	478.73	49.12
11-3-S	4.52	4.52	13.60	---	848.20	87.04
11-4-S	4.52	4.52	18.61	---	1161.08	119.14
11-5-S	4.52	4.52	23.73	---	1480.55	151.93
11-6-S	4.52	4.52	28.41	---	1772.34	181.87
11-7-S	4.52	4.52	32.62	---	2034.75	208.79
11-8-S	4.52	4.52	36.30	---	2264.38	232.36
11-9-S	4.52	4.52	39.14	---	2442.02	250.59
11-10-S	4.52	4.52	41.20	---	2570.52	263.77
11-11-S	4.52	4.52	42.60	---	2657.73	272.72
11-12-S	4.52	4.52	43.33	---	2703.06	277.37
11-13-S	4.52	4.52	42.96	---	2680.16	275.02
11-14-S	4.52	4.52	41.92	---	2615.10	268.35
11-15-S	4.52	4.52	40.21	---	2508.35	257.39
11-16-S	4.52	4.52	37.70	---	2351.79	241.33
11-17-S	4.52	4.52	34.34	---	2142.10	219.81
11-18-S	4.52	4.52	30.43	---	1898.54	194.82
11-19-S	4.52	4.52	26.04	---	1624.28	166.67
11-20-S	4.52	4.52	21.15	---	1319.37	135.39
11-21-S	4.52	4.52	16.22	---	1011.71	103.82
11-22-S	4.52	4.52	9.63	---	600.57	61.63
11-23-S	4.52	4.52	0.04	---	2.74	1.97
12-1-S	4.52	4.52	0.94	---	58.41	58.23
12-2-S	4.52	4.52	4.39	---	273.96	28.11
12-3-S	4.52	4.52	9.96	---	621.64	63.79
12-4-S	4.52	4.52	16.09	---	1003.93	103.02
12-5-S	4.52	4.52	21.98	---	1371.50	140.74
12-6-S	4.52	4.52	27.14	---	1693.03	173.73
12-7-S	4.52	4.52	31.70	---	1977.43	202.91
12-8-S	4.52	4.52	35.63	---	2222.81	228.09
12-9-S	4.52	4.52	38.63	---	2410.12	247.31
12-10-S	4.52	4.52	40.79	---	2544.50	261.10
12-11-S	4.52	4.52	42.24	---	2634.92	270.38
12-12-S	4.52	4.52	42.98	---	2681.07	275.12
12-13-S	4.52	4.52	42.57	---	2655.86	272.53
12-14-S	4.52	4.52	41.47	---	2586.82	265.44
12-15-S	4.52	4.52	39.67	---	2474.54	253.92
12-16-S	4.52	4.52	37.04	---	2310.73	237.11
12-17-S	4.52	4.52	33.54	---	2092.43	214.71
12-18-S	4.52	4.52	29.50	---	1840.16	188.83
12-19-S	4.52	4.52	24.97	---	1557.81	159.85
12-20-S	4.52	4.52	20.02	---	1248.90	128.16

Is	Afi [cmq]	Afs [cmq]	sc [kg/cmq]	tc [kg/cmq]	ofi [kg/cmq]	ofs [kg/cmq]
12-21-S	4.52	4.52	15.46	---	964.54	98.98
12-22-S	4.52	4.52	9.32	---	581.49	59.67
12-23-S	4.52	4.52	0.07	---	4.49	4.43
13-1-S	4.52	4.52	0.31	---	19.10	19.54
13-2-S	4.52	4.52	3.38	---	210.86	21.64
13-3-S	4.52	4.52	8.14	---	507.84	52.11
13-4-S	4.52	4.52	13.70	---	854.97	87.73
13-5-S	4.52	4.52	19.43	---	1211.86	124.35
13-6-S	4.52	4.52	24.64	---	1537.10	157.73
13-7-S	4.52	4.52	29.31	---	1828.60	187.64
13-8-S	4.52	4.52	33.38	---	2082.49	213.69
13-9-S	4.52	4.52	36.50	---	2277.36	233.69
13-10-S	4.52	4.52	38.74	---	2416.83	248.00
13-11-S	4.52	4.52	40.24	---	2510.46	257.61
13-12-S	4.52	4.52	41.00	---	2557.91	262.48
13-13-S	4.52	4.52	40.58	---	2531.33	259.75
13-14-S	4.52	4.52	39.43	---	2459.80	252.41
13-15-S	4.52	4.52	37.58	---	2344.27	240.56
13-16-S	4.52	4.52	34.89	---	2176.77	223.37
13-17-S	4.52	4.52	31.37	---	1957.23	200.84
13-18-S	4.52	4.52	27.38	---	1707.84	175.25
13-19-S	4.52	4.52	22.99	---	1434.12	147.16
13-20-S	4.52	4.52	18.41	---	1148.71	117.87
13-21-S	4.52	4.52	14.44	---	900.58	92.41
13-22-S	4.52	4.52	8.88	---	553.68	56.82
13-23-S	4.52	4.52	0.02	---	0.94	1.35
14-1-S	4.52	4.52	0.31	---	19.10	19.54
14-2-S	4.52	3.39	3.43	---	210.77	22.27
14-3-S	4.52	3.39	8.25	---	507.62	53.64
14-4-S	4.52	3.39	13.90	---	854.60	90.31
14-5-S	4.52	3.39	19.70	---	1211.34	128.01
14-6-S	4.52	3.39	24.98	---	1536.44	162.37
14-7-S	4.52	3.39	29.72	---	1827.81	193.16
14-8-S	4.52	3.39	33.85	---	2081.60	219.98
14-9-S	4.52	3.39	37.01	---	2276.38	240.56
14-10-S	4.52	3.39	39.28	---	2415.79	255.30
14-11-S	4.52	3.39	40.80	---	2509.38	265.19
14-12-S	4.52	3.39	41.57	---	2556.81	270.20
14-13-S	4.52	3.39	41.14	---	2530.24	267.39
14-14-S	4.52	3.39	39.98	---	2458.74	259.84
14-15-S	4.52	3.39	38.10	---	2343.26	247.63
14-16-S	4.52	3.39	35.38	---	2175.83	229.94
14-17-S	4.52	3.39	31.81	---	1956.39	206.75
14-18-S	4.52	3.39	27.76	---	1707.10	180.40
14-19-S	4.52	3.39	23.31	---	1433.51	151.49
14-20-S	4.52	3.39	18.67	---	1148.22	121.34
14-21-S	4.52	3.39	14.64	---	900.19	95.13
14-22-S	4.52	3.39	9.00	---	553.45	58.49
14-23-S	4.52	4.52	0.02	---	0.94	1.35
15-1-S	4.52	4.52	0.94	---	58.41	58.23
15-2-S	4.52	4.52	4.39	---	273.96	28.11
15-3-S	4.52	4.52	9.96	---	621.64	63.79
15-4-S	4.52	4.52	16.09	---	1003.93	103.02
15-5-S	4.52	4.52	21.98	---	1371.50	140.74
15-6-S	4.52	4.52	27.14	---	1693.03	173.73
15-7-S	4.52	4.52	31.70	---	1977.43	202.91
15-8-S	4.52	4.52	35.63	---	2222.81	228.09
15-9-S	4.52	4.52	38.63	---	2410.12	247.31
15-10-S	4.52	4.52	40.79	---	2544.50	261.10
15-11-S	4.52	4.52	42.24	---	2634.92	270.38
15-12-S	4.52	4.52	42.98	---	2681.07	275.12
15-13-S	4.52	4.52	42.57	---	2655.86	272.53
15-14-S	4.52	4.52	41.47	---	2586.82	265.44
15-15-S	4.52	4.52	39.67	---	2474.54	253.92
15-16-S	4.52	4.52	37.04	---	2310.73	237.11
15-17-S	4.52	4.52	33.54	---	2092.43	214.71
15-18-S	4.52	4.52	29.50	---	1840.16	188.83
15-19-S	4.52	4.52	24.97	---	1557.81	159.85
15-20-S	4.52	4.52	20.02	---	1248.90	128.16
15-21-S	4.52	4.52	15.46	---	964.54	98.98
15-22-S	4.52	4.52	9.32	---	581.49	59.67
15-23-S	4.52	4.52	0.07	---	4.49	4.43
16-1-S	4.52	4.52	1.23	---	76.71	76.12
16-2-S	4.52	4.52	7.67	---	478.73	49.12
16-3-S	4.52	4.52	13.60	---	848.20	87.04
16-4-S	4.52	4.52	18.61	---	1161.08	119.14
16-5-S	4.52	4.52	23.73	---	1480.55	151.93
16-6-S	4.52	4.52	28.41	---	1772.34	181.87
16-7-S	4.52	4.52	32.62	---	2034.75	208.79
16-8-S	4.52	4.52	36.30	---	2264.38	232.36
16-9-S	4.52	4.52	39.14	---	2442.02	250.59
16-10-S	4.52	4.52	41.20	---	2570.52	263.77
16-11-S	4.52	4.52	42.60	---	2657.73	272.72
16-12-S	4.52	4.52	43.33	---	2703.06	277.37
16-13-S	4.52	4.52	42.96	---	2680.16	275.02
16-14-S	4.52	4.52	41.92	---	2615.10	268.35
16-15-S	4.52	4.52	40.21	---	2508.35	257.39
16-16-S	4.52	4.52	37.70	---	2351.79	241.33
16-17-S	4.52	4.52	34.34	---	2142.10	219.81
16-18-S	4.52	4.52	30.43	---	1898.54	194.82
16-19-S	4.52	4.52	26.04	---	1624.28	166.67
16-20-S	4.52	4.52	21.15	---	1319.37	135.39
16-21-S	4.52	4.52	16.22	---	1011.71	103.82

Is	Afi [cmq]	Afs [cmq]	sc [kg/cmq]	tc [kg/cmq]	ofi [kg/cmq]	ofs [kg/cmq]
16-22-S	4.52	4.52	9.63	---	600.57	61.63
16-23-S	4.52	4.52	0.04	---	2.74	1.97
17-1-S	4.52	4.52	0.75	---	46.88	46.92
17-2-S	4.52	4.52	8.36	---	521.44	53.51
17-3-S	4.52	4.52	13.27	---	827.58	84.92
17-4-S	4.52	4.52	16.57	---	1033.51	106.05
17-5-S	4.52	4.52	20.59	---	1284.76	131.83
17-6-S	4.52	4.52	24.61	---	1535.08	157.52
17-7-S	4.52	4.52	28.34	---	1767.91	181.41
17-8-S	4.52	4.52	31.70	---	1977.46	202.92
17-9-S	4.52	4.52	34.36	---	2143.31	219.93
17-10-S	4.52	4.52	36.30	---	2264.54	232.37
17-11-S	4.52	4.52	37.62	---	2346.98	240.83
17-12-S	4.52	4.52	38.31	---	2389.78	245.23
17-13-S	4.52	4.52	37.94	---	2366.98	242.89
17-14-S	4.52	4.52	36.93	---	2303.62	236.38
17-15-S	4.52	4.52	35.27	---	2200.37	225.79
17-16-S	4.52	4.52	32.85	---	2049.65	210.32
17-17-S	4.52	4.52	29.66	---	1850.66	189.90
17-18-S	4.52	4.52	26.02	---	1623.28	166.57
17-19-S	4.52	4.52	22.00	---	1372.40	140.83
17-20-S	4.52	4.52	17.77	---	1108.69	113.77
17-21-S	4.52	4.52	14.10	---	879.56	90.26
17-22-S	4.52	4.52	8.77	---	546.83	56.11
17-23-S	4.52	4.52	0.23	---	14.26	14.42
18-1-S	4.52	4.52	0.09	---	5.69	5.60
18-2-S	4.52	4.52	8.44	---	526.37	54.01
18-3-S	4.52	4.52	13.15	---	820.62	84.21
18-4-S	4.52	4.52	16.09	---	1003.59	102.98
18-5-S	4.52	4.52	19.66	---	1226.50	125.86
18-6-S	4.52	4.52	23.27	---	1451.83	148.98
18-7-S	4.52	4.52	26.67	---	1663.70	170.72
18-8-S	4.52	4.52	29.76	---	1856.52	190.51
18-9-S	4.52	4.52	32.23	---	2010.79	206.34
18-10-S	4.52	4.52	34.04	---	2123.35	217.89
18-11-S	4.52	4.52	35.26	---	2199.43	225.69
18-12-S	4.52	4.52	35.87	---	2237.62	229.61
18-13-S	4.52	4.52	35.46	---	2212.49	227.03
18-14-S	4.52	4.52	34.44	---	2148.39	220.45
18-15-S	4.52	4.52	32.80	---	2046.30	209.98
18-16-S	4.52	4.52	30.45	---	1899.87	194.95
18-17-S	4.52	4.52	27.42	---	1710.36	175.51
18-18-S	4.52	4.52	24.01	---	1497.85	153.70
18-19-S	4.52	4.52	20.32	---	1267.71	130.09
18-20-S	4.52	4.52	16.57	---	1033.82	106.08
18-21-S	4.52	4.52	13.42	---	837.04	85.89
18-22-S	4.52	4.52	8.52	---	531.39	54.53
18-23-S	4.52	4.52	1.23	---	76.45	76.40
19-1-S	4.52	4.52	1.37	---	85.45	85.26
19-2-S	4.52	4.52	8.55	---	533.22	54.72
19-3-S	4.52	4.52	13.42	---	837.46	85.94
19-4-S	4.52	4.52	16.56	---	1033.27	106.03
19-5-S	4.52	4.52	20.39	---	1271.92	130.52
19-6-S	4.52	4.52	24.20	---	1509.46	154.89
19-7-S	4.52	4.52	27.73	---	1729.84	177.51
19-8-S	4.52	4.52	30.90	---	1927.40	197.78
19-9-S	4.52	4.52	33.38	---	2082.23	213.67
19-10-S	4.52	4.52	35.16	---	2193.69	225.10
19-11-S	4.52	4.52	36.34	---	2267.21	232.65
19-12-S	4.52	4.52	36.90	---	2302.15	236.23
19-13-S	4.52	4.52	36.44	---	2273.27	233.27
19-14-S	4.52	4.52	35.34	---	2204.96	226.26
19-15-S	4.52	4.52	33.62	---	2097.59	215.24
19-16-S	4.52	4.52	31.18	---	1944.96	199.58
19-17-S	4.52	4.52	28.00	---	1746.83	179.25
19-18-S	4.52	4.52	24.43	---	1523.88	156.37
19-19-S	4.52	4.52	20.55	---	1281.86	131.54
19-20-S	4.52	4.52	16.62	---	1036.71	106.38
19-21-S	4.52	4.52	13.38	---	834.88	85.67
19-22-S	4.52	4.52	8.57	---	534.58	54.86
19-23-S	4.52	4.52	3.69	---	230.51	230.38
20-1-S	4.52	4.52	3.68	---	229.21	229.84
20-2-S	4.52	4.52	7.67	---	478.45	75.25
20-3-S	4.52	4.52	12.98	---	809.53	83.07
20-4-S	4.52	4.52	18.11	---	1129.51	115.90
20-5-S	4.52	4.52	23.25	---	1450.68	148.86
20-6-S	4.52	4.52	27.85	---	1737.57	178.30
20-7-S	4.52	4.52	31.91	---	1990.88	204.29
20-8-S	4.52	4.52	35.39	---	2207.85	226.56
20-9-S	4.52	4.52	38.00	---	2370.69	243.27
20-10-S	4.52	4.52	39.83	---	2484.53	254.95
20-11-S	4.52	4.52	41.00	---	2557.96	262.48
20-12-S	4.52	4.52	41.53	---	2590.89	265.86
20-13-S	4.52	4.52	41.01	---	2558.17	262.50
20-14-S	4.52	4.52	39.82	---	2484.01	254.90
20-15-S	4.52	4.52	37.96	---	2368.27	243.02
20-16-S	4.52	4.52	35.29	---	2201.62	225.92
20-17-S	4.52	4.52	31.71	---	1978.03	202.97
20-18-S	4.52	4.52	27.55	---	1718.44	176.34
20-19-S	4.52	4.52	22.87	---	1426.76	146.41
20-20-S	4.52	4.52	17.67	---	1102.54	113.14
20-21-S	4.52	4.52	12.97	---	809.44	83.06
20-22-S	4.52	4.52	8.73	---	544.81	138.13

Is	Afi	Afs	σc	τc	ofi	ofs
	[cmq]	[cmq]	[kg/cmq]	[kg/cmq]	[kg/cmq]	[kg/cmq]
20-23-S	4.52	4.52	5.07	---	315.66	316.19

Verifica fessurazione

Piastra

Simbologia adottata

Is	Identificativo tratto-sezione-direzione (P: direzione principale S: direzione secondaria)
As	Area di armatura all'interno dell'area efficace, espresso in [cmq]
Ac	Area efficace, espresso in [cmq]
Mpf	Momento di prima fessurazione, espresso in [kgm]
Npf	Sforzo normale di prima fessurazione, espresso in [kg]
Eps	Deformazione unitaria media, espresso in [%]
sm	Distanza tra le fessure, espressa in [mm]
wm	Ampiezza della fessura, espressa in [mm]
wlim	Ampiezza limite fessure, espressa in [mm]
FS	Fattore di sicurezza (rapporto tra w/wlim)
Cmb	Indice della combinazione che ha generato il fattore di sicurezza minimo

Is	As	Ac	Mpf	Npf	Eps	sm	wm	wlim	FS	Cmb
	[cmq]	[cmq]	[kgm]	[kg]	[%]	[mm]	[mm]	[mm]		
1-1	4.52	671.25	-3878	0	0.0000	0.00	0.000	0.300	100.000	2
1-2	4.52	671.25	-3878	0	0.0000	0.00	0.000	0.300	100.000	2
1-3	4.52	671.25	-3878	0	0.0000	0.00	0.000	0.300	100.000	2
1-4	4.52	671.25	-3878	0	0.0000	0.00	0.000	0.300	100.000	2
1-5	4.52	671.25	-3878	0	0.0000	0.00	0.000	0.300	100.000	2
1-6	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
1-7	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
1-8	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
1-9	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
1-10	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
1-11	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
1-12	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
1-13	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
1-14	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
1-15	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
1-16	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
1-17	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
1-18	4.52	671.25	-3878	0	0.0000	0.00	0.000	0.300	100.000	2
1-19	4.52	671.25	-3878	0	0.0000	0.00	0.000	0.300	100.000	2
1-20	4.52	671.25	-3878	0	0.0000	0.00	0.000	0.300	100.000	2
1-21	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
1-22	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
1-23	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
1-24	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
1-25	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
1-26	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
1-27	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
1-28	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
1-29	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
1-30	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
1-31	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
1-32	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
1-33	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
1-34	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
1-35	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
1-36	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
1-37	4.52	671.25	-3878	0	0.0000	0.00	0.000	0.300	100.000	2
1-38	4.52	671.25	-3878	0	0.0000	0.00	0.000	0.300	100.000	2
1-39	4.52	671.25	-3878	0	0.0000	0.00	0.000	0.300	100.000	2
1-40	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
1-41	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
1-42	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
1-43	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
1-44	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
1-45	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
1-46	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
1-47	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
1-48	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
1-49	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
1-50	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
1-51	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
1-52	4.52	671.25	-3878	0	0.0000	0.00	0.000	0.300	100.000	2
1-53	4.52	671.25	-3878	0	0.0000	0.00	0.000	0.300	100.000	2
1-54	4.52	671.25	-3878	0	0.0000	0.00	0.000	0.300	100.000	2
1-55	4.52	671.25	-3878	0	0.0000	0.00	0.000	0.300	100.000	2
1-56	4.52	671.25	-3878	0	0.0000	0.00	0.000	0.300	100.000	2
2-1	4.52	671.25	-3878	0	0.0000	0.00	0.000	0.300	100.000	2
2-2	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
2-3	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
2-4	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
2-5	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
2-6	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
2-7	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
2-8	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
2-9	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
2-10	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
2-11	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2

Is	As [cmq]	Ac [cmq]	Mpf [kgm]	Npf [kg]	Eps [%]	sm [mm]	wm [mm]	wlim [mm]	FS	Cmb
2-12	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
2-13	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
2-14	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
2-15	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
2-16	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
2-17	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
2-18	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
2-19	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
2-20	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
2-21	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
2-22	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
2-23	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
2-24	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
2-25	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
2-26	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
2-27	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
2-28	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
2-29	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
2-30	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
2-31	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
2-32	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
2-33	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
2-34	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
2-35	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
2-36	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
2-37	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
2-38	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
2-39	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
2-40	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
2-41	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
2-42	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
2-43	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
2-44	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
2-45	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
2-46	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
2-47	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
2-48	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
2-49	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
2-50	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
2-51	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
2-52	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
2-53	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
2-54	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
2-55	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
2-56	4.52	671.25	-3878	0	0.0000	0.00	0.000	0.300	100.000	2
3-1	4.52	671.25	-3878	0	0.0000	0.00	0.000	0.300	100.000	2
3-2	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
3-3	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
3-4	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
3-5	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
3-6	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
3-7	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
3-8	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
3-9	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
3-10	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
3-11	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
3-12	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
3-13	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
3-14	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
3-15	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
3-16	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
3-17	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
3-18	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
3-19	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
3-20	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
3-21	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
3-22	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
3-23	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
3-24	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
3-25	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
3-26	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
3-27	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
3-28	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
3-29	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
3-30	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
3-31	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
3-32	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
3-33	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
3-34	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
3-35	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
3-36	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
3-37	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
3-38	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
3-39	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
3-40	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
3-41	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
3-42	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
3-43	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
3-44	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
3-45	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
3-46	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
3-47	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
3-48	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2

Is	As [cmq]	Ac [cmq]	Mpf [kgm]	Npf [kg]	Eps [%]	sm [mm]	wm [mm]	wlim [mm]	FS	Cmb
3-49	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
3-50	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
3-51	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
3-52	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
3-53	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
3-54	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
3-55	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
3-56	4.52	671.25	-3878	0	0.0000	0.00	0.000	0.300	100.000	2
4-1	4.52	671.25	-3878	0	0.0000	0.00	0.000	0.300	100.000	2
4-2	4.52	671.25	3854	0	0.0000	0.00	0.000	0.300	100.000	2
4-3	4.52	671.25	3854	0	0.0000	0.00	0.000	0.300	100.000	2
4-4	4.52	671.25	3854	0	0.0000	0.00	0.000	0.300	100.000	2
4-5	4.52	671.25	3854	0	0.0000	0.00	0.000	0.300	100.000	2
4-6	4.52	671.25	3854	0	0.0000	0.00	0.000	0.300	100.000	2
4-7	4.52	671.25	3854	0	0.0000	0.00	0.000	0.300	100.000	2
4-8	4.52	671.25	3854	0	0.0000	0.00	0.000	0.300	100.000	2
4-9	4.52	671.25	3854	0	0.0000	0.00	0.000	0.300	100.000	2
4-10	4.52	671.25	3854	0	0.0000	0.00	0.000	0.300	100.000	2
4-11	4.52	671.25	3854	0	0.0000	0.00	0.000	0.300	100.000	2
4-12	4.52	671.25	3854	0	0.0000	0.00	0.000	0.300	100.000	2
4-13	4.52	671.25	3854	0	0.0000	0.00	0.000	0.300	100.000	2
4-14	4.52	671.25	3854	0	0.0000	0.00	0.000	0.300	100.000	2
4-15	4.52	671.25	3854	0	0.0000	0.00	0.000	0.300	100.000	2
4-16	4.52	671.25	3854	0	0.0000	0.00	0.000	0.300	100.000	2
4-17	4.52	671.25	3854	0	0.0000	0.00	0.000	0.300	100.000	2
4-18	4.52	671.25	3854	0	0.0000	0.00	0.000	0.300	100.000	2
4-19	4.52	671.25	3854	0	0.0000	0.00	0.000	0.300	100.000	2
4-20	4.52	671.25	3854	0	0.0000	0.00	0.000	0.300	100.000	2
4-21	4.52	671.25	3854	0	0.0000	0.00	0.000	0.300	100.000	2
4-22	4.52	671.25	3854	0	0.0000	0.00	0.000	0.300	100.000	2
4-23	4.52	671.25	3854	0	0.0000	0.00	0.000	0.300	100.000	2
4-24	4.52	671.25	3854	0	0.0000	0.00	0.000	0.300	100.000	2
4-25	4.52	671.25	3854	0	0.0000	0.00	0.000	0.300	100.000	2
4-26	4.52	671.25	3854	0	0.0000	0.00	0.000	0.300	100.000	2
4-27	4.52	671.25	3854	0	0.0000	0.00	0.000	0.300	100.000	2
4-28	4.52	671.25	3854	0	0.0000	0.00	0.000	0.300	100.000	2
4-29	4.52	671.25	3854	0	0.0000	0.00	0.000	0.300	100.000	2
4-30	4.52	671.25	3854	0	0.0000	0.00	0.000	0.300	100.000	2
4-31	4.52	671.25	3854	0	0.0000	0.00	0.000	0.300	100.000	2
4-32	4.52	671.25	3854	0	0.0000	0.00	0.000	0.300	100.000	2
4-33	4.52	671.25	3854	0	0.0000	0.00	0.000	0.300	100.000	2
4-34	4.52	671.25	3854	0	0.0000	0.00	0.000	0.300	100.000	2
4-35	4.52	671.25	3854	0	0.0000	0.00	0.000	0.300	100.000	2
4-36	4.52	671.25	3854	0	0.0000	0.00	0.000	0.300	100.000	2
4-37	4.52	671.25	3854	0	0.0000	0.00	0.000	0.300	100.000	2
4-38	4.52	671.25	3854	0	0.0000	0.00	0.000	0.300	100.000	2
4-39	4.52	671.25	3854	0	0.0000	0.00	0.000	0.300	100.000	2
4-40	4.52	671.25	3854	0	0.0000	0.00	0.000	0.300	100.000	2
4-41	4.52	671.25	3854	0	0.0000	0.00	0.000	0.300	100.000	2
4-42	4.52	671.25	3854	0	0.0000	0.00	0.000	0.300	100.000	2
4-43	4.52	671.25	3854	0	0.0000	0.00	0.000	0.300	100.000	2
4-44	4.52	671.25	3854	0	0.0000	0.00	0.000	0.300	100.000	2
4-45	4.52	671.25	3854	0	0.0000	0.00	0.000	0.300	100.000	2
4-46	4.52	671.25	3854	0	0.0000	0.00	0.000	0.300	100.000	2
4-47	4.52	671.25	3854	0	0.0000	0.00	0.000	0.300	100.000	2
4-48	4.52	671.25	3854	0	0.0000	0.00	0.000	0.300	100.000	2
4-49	4.52	671.25	3854	0	0.0000	0.00	0.000	0.300	100.000	2
4-50	4.52	671.25	3854	0	0.0000	0.00	0.000	0.300	100.000	2
4-51	4.52	671.25	3854	0	0.0000	0.00	0.000	0.300	100.000	2
4-52	4.52	671.25	3854	0	0.0000	0.00	0.000	0.300	100.000	2
4-53	4.52	671.25	3854	0	0.0000	0.00	0.000	0.300	100.000	2
4-54	4.52	671.25	3854	0	0.0000	0.00	0.000	0.300	100.000	2
4-55	4.52	671.25	3854	0	0.0000	0.00	0.000	0.300	100.000	2
4-56	4.52	671.25	-3878	0	0.0000	0.00	0.000	0.300	100.000	2
5-1	4.52	671.25	-3878	0	0.0000	0.00	0.000	0.300	100.000	2
5-2	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
5-3	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
5-4	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
5-5	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
5-6	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
5-7	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
5-8	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
5-9	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
5-10	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
5-11	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
5-12	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
5-13	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
5-14	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
5-15	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
5-16	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
5-17	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
5-18	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
5-19	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
5-20	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
5-21	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
5-22	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
5-23	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
5-24	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
5-25	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
5-26	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
5-27	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
5-28	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
5-29	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2

Is	As [cmq]	Ac [cmq]	Mpf [kgm]	Npf [kg]	Eps [%]	sm [mm]	wm [mm]	wlim [mm]	FS	Cmb
5-30	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
5-31	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
5-32	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
5-33	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
5-34	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
5-35	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
5-36	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
5-37	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
5-38	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
5-39	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
5-40	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
5-41	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
5-42	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
5-43	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
5-44	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
5-45	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
5-46	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
5-47	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
5-48	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
5-49	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
5-50	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
5-51	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
5-52	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
5-53	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
5-54	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
5-55	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
5-56	4.52	671.25	-3878	0	0.0000	0.00	0.000	0.300	100.000	2
6-1	4.52	671.25	-3878	0	0.0000	0.00	0.000	0.300	100.000	2
6-2	4.52	671.25	-3878	0	0.0000	0.00	0.000	0.300	100.000	2
6-3	4.52	671.25	-3878	0	0.0000	0.00	0.000	0.300	100.000	2
6-4	4.52	671.25	-3878	0	0.0000	0.00	0.000	0.300	100.000	2
6-5	4.52	671.25	-3878	0	0.0000	0.00	0.000	0.300	100.000	2
6-6	4.52	671.25	-3878	0	0.0000	0.00	0.000	0.300	100.000	2
6-7	4.52	671.25	-3878	0	0.0000	0.00	0.000	0.300	100.000	2
6-8	4.52	671.25	-3878	0	0.0000	0.00	0.000	0.300	100.000	2
6-9	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
6-10	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
6-11	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
6-12	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
6-13	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
6-14	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
6-15	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
6-16	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
6-17	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
6-18	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
6-19	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
6-20	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
6-21	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
6-22	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
6-23	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
6-24	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
6-25	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
6-26	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
6-27	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
6-28	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
6-29	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
6-30	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
6-31	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
6-32	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
6-33	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
6-34	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
6-35	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
6-36	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
6-37	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
6-38	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
6-39	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
6-40	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
6-41	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
6-42	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
6-43	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
6-44	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
6-45	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
6-46	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
6-47	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
6-48	4.52	671.25	3878	0	0.0000	0.00	0.000	0.300	100.000	2
6-49	4.52	671.25	-3878	0	0.0000	0.00	0.000	0.300	100.000	2
6-50	4.52	671.25	-3878	0	0.0000	0.00	0.000	0.300	100.000	2
6-51	4.52	671.25	-3878	0	0.0000	0.00	0.000	0.300	100.000	2
6-52	4.52	671.25	-3878	0	0.0000	0.00	0.000	0.300	100.000	2
6-53	4.52	671.25	-3878	0	0.0000	0.00	0.000	0.300	100.000	2
6-54	4.52	671.25	-3878	0	0.0000	0.00	0.000	0.300	100.000	2
6-55	4.52	671.25	-3878	0	0.0000	0.00	0.000	0.300	100.000	2
6-56	4.52	671.25	-3878	0	0.0000	0.00	0.000	0.300	100.000	2
7-1	4.52	725.89	-4166	0	0.0000	0.00	0.000	0.300	100.000	2
7-2	4.52	725.89	-4166	0	0.0000	0.00	0.000	0.300	100.000	2
7-3	4.52	725.89	-4166	0	0.0000	0.00	0.000	0.300	100.000	2
7-4	4.52	725.89	-4166	0	0.0000	0.00	0.000	0.300	100.000	2
7-5	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
7-6	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
7-7	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
7-8	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
7-9	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
7-10	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2

Is	As [cmq]	Ac [cmq]	Mpf [kgm]	Npf [kg]	Eps [%]	sm [mm]	wm [mm]	wlim [mm]	FS	Cmb
7-11	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
7-12	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
7-13	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
7-14	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
7-15	4.52	725.89	-4166	0	0.0000	0.00	0.000	0.300	100.000	2
7-16	4.52	725.89	-4166	0	0.0000	0.00	0.000	0.300	100.000	2
7-17	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
7-18	4.52	725.89	-4166	0	0.0000	0.00	0.000	0.300	100.000	2
7-19	4.52	725.89	-4166	0	0.0000	0.00	0.000	0.300	100.000	2
7-20	4.52	725.89	-4166	0	0.0000	0.00	0.000	0.300	100.000	2
7-21	4.52	725.89	-4166	0	0.0000	0.00	0.000	0.300	100.000	2
7-22	4.52	725.89	-4166	0	0.0000	0.00	0.000	0.300	100.000	2
7-23	4.52	725.89	-4166	0	0.0000	0.00	0.000	0.300	100.000	2
8-1	4.52	725.89	-4166	0	0.0000	0.00	0.000	0.300	100.000	2
8-2	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
8-3	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
8-4	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
8-5	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
8-6	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
8-7	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
8-8	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
8-9	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
8-10	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
8-11	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
8-12	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
8-13	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
8-14	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
8-15	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
8-16	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
8-17	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
8-18	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
8-19	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
8-20	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
8-21	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
8-22	4.52	725.89	-4166	0	0.0000	0.00	0.000	0.300	100.000	2
8-23	4.52	725.89	-4166	0	0.0000	0.00	0.000	0.300	100.000	2
9-1	4.52	725.89	-4166	0	0.0000	0.00	0.000	0.300	100.000	2
9-2	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
9-3	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
9-4	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
9-5	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
9-6	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
9-7	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
9-8	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
9-9	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
9-10	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
9-11	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
9-12	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
9-13	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
9-14	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
9-15	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
9-16	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
9-17	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
9-18	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
9-19	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
9-20	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
9-21	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
9-22	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
9-23	4.52	725.89	-4166	0	0.0000	0.00	0.000	0.300	100.000	2
10-1	4.52	725.89	-4166	0	0.0000	0.00	0.000	0.300	100.000	2
10-2	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
10-3	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
10-4	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
10-5	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
10-6	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
10-7	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
10-8	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
10-9	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
10-10	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
10-11	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
10-12	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
10-13	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
10-14	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
10-15	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
10-16	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
10-17	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
10-18	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
10-19	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
10-20	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
10-21	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
10-22	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
10-23	4.52	725.89	-4166	0	0.0000	0.00	0.000	0.300	100.000	2
11-1	4.52	725.89	-4166	0	0.0000	0.00	0.000	0.300	100.000	2
11-2	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
11-3	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
11-4	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
11-5	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
11-6	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
11-7	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
11-8	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
11-9	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
11-10	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
11-11	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2

Is	As [cmq]	Ac [cmq]	Mpf [kgm]	Npf [kg]	Eps [%]	sm [mm]	wm [mm]	wlim [mm]	FS	Cmb
11-12	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
11-13	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
11-14	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
11-15	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
11-16	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
11-17	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
11-18	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
11-19	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
11-20	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
11-21	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
11-22	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
11-23	4.52	725.89	-4166	0	0.0000	0.00	0.000	0.300	100.000	2
12-1	4.52	725.89	-4166	0	0.0000	0.00	0.000	0.300	100.000	2
12-2	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
12-3	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
12-4	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
12-5	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
12-6	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
12-7	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
12-8	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
12-9	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
12-10	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
12-11	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
12-12	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
12-13	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
12-14	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
12-15	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
12-16	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
12-17	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
12-18	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
12-19	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
12-20	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
12-21	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
12-22	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
12-23	4.52	725.89	-4166	0	0.0000	0.00	0.000	0.300	100.000	2
13-1	4.52	725.89	-4166	0	0.0000	0.00	0.000	0.300	100.000	2
13-2	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
13-3	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
13-4	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
13-5	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
13-6	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
13-7	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
13-8	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
13-9	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
13-10	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
13-11	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
13-12	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
13-13	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
13-14	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
13-15	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
13-16	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
13-17	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
13-18	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
13-19	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
13-20	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
13-21	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
13-22	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
13-23	4.52	725.89	-4166	0	0.0000	0.00	0.000	0.300	100.000	2
14-1	4.52	725.89	-4166	0	0.0000	0.00	0.000	0.300	100.000	2
14-2	4.52	725.89	4141	0	0.0000	0.00	0.000	0.300	100.000	2
14-3	4.52	725.89	4141	0	0.0000	0.00	0.000	0.300	100.000	2
14-4	4.52	725.89	4141	0	0.0000	0.00	0.000	0.300	100.000	2
14-5	4.52	725.89	4141	0	0.0000	0.00	0.000	0.300	100.000	2
14-6	4.52	725.89	4141	0	0.0000	0.00	0.000	0.300	100.000	2
14-7	4.52	725.89	4141	0	0.0000	0.00	0.000	0.300	100.000	2
14-8	4.52	725.89	4141	0	0.0000	0.00	0.000	0.300	100.000	2
14-9	4.52	725.89	4141	0	0.0000	0.00	0.000	0.300	100.000	2
14-10	4.52	725.89	4141	0	0.0000	0.00	0.000	0.300	100.000	2
14-11	4.52	725.89	4141	0	0.0000	0.00	0.000	0.300	100.000	2
14-12	4.52	725.89	4141	0	0.0000	0.00	0.000	0.300	100.000	2
14-13	4.52	725.89	4141	0	0.0000	0.00	0.000	0.300	100.000	2
14-14	4.52	725.89	4141	0	0.0000	0.00	0.000	0.300	100.000	2
14-15	4.52	725.89	4141	0	0.0000	0.00	0.000	0.300	100.000	2
14-16	4.52	725.89	4141	0	0.0000	0.00	0.000	0.300	100.000	2
14-17	4.52	725.89	4141	0	0.0000	0.00	0.000	0.300	100.000	2
14-18	4.52	725.89	4141	0	0.0000	0.00	0.000	0.300	100.000	2
14-19	4.52	725.89	4141	0	0.0000	0.00	0.000	0.300	100.000	2
14-20	4.52	725.89	4141	0	0.0000	0.00	0.000	0.300	100.000	2
14-21	4.52	725.89	4141	0	0.0000	0.00	0.000	0.300	100.000	2
14-22	4.52	725.89	4141	0	0.0000	0.00	0.000	0.300	100.000	2
14-23	4.52	725.89	-4166	0	0.0000	0.00	0.000	0.300	100.000	2
15-1	4.52	725.89	-4166	0	0.0000	0.00	0.000	0.300	100.000	2
15-2	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
15-3	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
15-4	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
15-5	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
15-6	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
15-7	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
15-8	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
15-9	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
15-10	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
15-11	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
15-12	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2

Is	As [cmq]	Ac [cmq]	Mpf [kgm]	Npf [kg]	Eps [%]	sm [mm]	wm [mm]	wlim [mm]	FS	Cmb
15-13	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
15-14	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
15-15	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
15-16	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
15-17	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
15-18	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
15-19	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
15-20	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
15-21	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
15-22	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
15-23	4.52	725.89	-4166	0	0.0000	0.00	0.000	0.300	100.000	2
16-1	4.52	725.89	-4166	0	0.0000	0.00	0.000	0.300	100.000	2
16-2	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
16-3	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
16-4	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
16-5	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
16-6	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
16-7	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
16-8	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
16-9	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
16-10	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
16-11	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
16-12	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
16-13	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
16-14	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
16-15	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
16-16	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
16-17	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
16-18	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
16-19	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
16-20	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
16-21	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
16-22	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
16-23	4.52	725.89	-4166	0	0.0000	0.00	0.000	0.300	100.000	2
17-1	4.52	725.89	-4166	0	0.0000	0.00	0.000	0.300	100.000	2
17-2	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
17-3	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
17-4	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
17-5	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
17-6	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
17-7	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
17-8	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
17-9	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
17-10	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
17-11	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
17-12	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
17-13	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
17-14	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
17-15	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
17-16	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
17-17	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
17-18	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
17-19	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
17-20	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
17-21	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
17-22	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
17-23	4.52	725.89	-4166	0	0.0000	0.00	0.000	0.300	100.000	2
18-1	4.52	725.89	-4166	0	0.0000	0.00	0.000	0.300	100.000	2
18-2	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
18-3	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
18-4	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
18-5	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
18-6	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
18-7	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
18-8	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
18-9	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
18-10	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
18-11	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
18-12	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
18-13	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
18-14	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
18-15	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
18-16	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
18-17	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
18-18	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
18-19	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
18-20	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
18-21	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
18-22	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
18-23	4.52	725.89	-4166	0	0.0000	0.00	0.000	0.300	100.000	2
19-1	4.52	725.89	-4166	0	0.0000	0.00	0.000	0.300	100.000	2
19-2	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
19-3	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
19-4	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
19-5	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
19-6	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
19-7	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
19-8	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
19-9	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
19-10	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
19-11	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
19-12	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
19-13	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2

Is	As [cmq]	Ac [cmq]	Mpf [kgm]	Npf [kg]	Eps [%]	sm [mm]	wm [mm]	wlim [mm]	FS	Cmb
19-14	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
19-15	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
19-16	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
19-17	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
19-18	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
19-19	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
19-20	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
19-21	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
19-22	4.52	725.89	-4166	0	0.0000	0.00	0.000	0.300	100.000	2
19-23	4.52	725.89	-4166	0	0.0000	0.00	0.000	0.300	100.000	2
20-1	4.52	725.89	-4166	0	0.0000	0.00	0.000	0.300	100.000	2
20-2	4.52	725.89	-4166	0	0.0000	0.00	0.000	0.300	100.000	2
20-3	4.52	725.89	-4166	0	0.0000	0.00	0.000	0.300	100.000	2
20-4	4.52	725.89	-4166	0	0.0000	0.00	0.000	0.300	100.000	2
20-5	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
20-6	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
20-7	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
20-8	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
20-9	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
20-10	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
20-11	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
20-12	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
20-13	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
20-14	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
20-15	4.52	725.89	-4166	0	0.0000	0.00	0.000	0.300	100.000	2
20-16	4.52	725.89	-4166	0	0.0000	0.00	0.000	0.300	100.000	2
20-17	4.52	725.89	4166	0	0.0000	0.00	0.000	0.300	100.000	2
20-18	4.52	725.89	-4166	0	0.0000	0.00	0.000	0.300	100.000	2
20-19	4.52	725.89	-4166	0	0.0000	0.00	0.000	0.300	100.000	2
20-20	4.52	725.89	-4166	0	0.0000	0.00	0.000	0.300	100.000	2
20-21	4.52	725.89	-4166	0	0.0000	0.00	0.000	0.300	100.000	2
20-22	4.52	725.89	-4166	0	0.0000	0.00	0.000	0.300	100.000	2
20-23	4.52	725.89	-4166	0	0.0000	0.00	0.000	0.300	100.000	2

Verifiche geotecniche

Carico limite

Piastra

Simbologia adottata

Ic	Indice combinazione
N	Carico verticale trasmesso al terreno, espresso in [kg]
Np	Carico verticale trasmesso ai pali, espresso in [kg]
Qu	Portanza ultima terreno, espressa in [kg]
Qup	Portanza ultima pali, espressa in [kg]. Solo per fondazione mista
Qd	Portanza di progetto ((Pu+Pup)/η), espressa in [kg]
Nt	Carico verticale trasmesso al terreno (N+Np), espresso in [kg]
FS	Fattore di sicurezza a carico limite (Pd/Nt). Tra parentesi viene riportato l'indice della combinazione con fattore di sicurezza minimo.

Ic	N [kg]	Np [kg]	Qu [kg]	Qup [kg]	Qd [kg]	Nt [kg]	FS
5	175363	0	2749982	0	1195644	175363	6.818 (5)

Scorrimento

Piastra

Simbologia adottata

n°	Indice plinto
T	Carico orizzontale trasferito al terreno, espresso in [kg]
Tp	Carico orizzontale trasferito ai pali, espresso in [kg]
Ru	Resistenza ultima allo scorrimento, espressa in [kg]
Rd	Resistenza di progetto allo scorrimento, espressa in [kg]
FS	Fattore di sicurezza allo scorrimento (Rd/T). Tra parentesi viene riportato l'indice della combinazione con fattore di sicurezza minimo.

n°	T [kg]	Tp [kg]	Ru [kg]	Rd [kg]	FS
1	78126	0	101246	92042	1.178 (5)

Cedimenti

Fondazione superficiale

Simbologia adottata

Oggetto	Oggetto al quale appartiene il punto di calcolo
---------	---

X, Y
w
Ic

Coordinate punto in cui è stato calcolato il cedimento, espresso in [m]
Cedimento, espresso in [cm]
Indice combinazione

Id	X [m]	Y [m]	w [cm]	Ic
Piastra n° 1	0.00	0.00	1.4713	4
Piastra n° 1	13.55	0.00	1.4713	4
Piastra n° 1	13.55	5.37	1.5212	4
Piastra n° 1	0.00	5.37	1.5212	4
Piastra n° 1	6.78	2.69	2.1594	4

Armature

Armature piastra

Direzione principale armature 0.00 [°]
 Direzione secondaria armature -90.00 [°]
 Numero tratti complessivi 20
 Ampiezza singolo tratto 1.00 [m]
 Distanza fra le sezioni di calcolo del singolo tratto 0.25 [m]

Maglia superiore (4 ϕ 12) x (4 ϕ 12)
 Maglia inferiore (4 ϕ 12) x (4 ϕ 12)

n°	Gruppo	Tipo	Lembo	Dir	nf ϕ [mm]	L [m]
3	C	Lungo	Superiore	X	1 ϕ 12	1.21
4	D	Lungo	Superiore	X	1 ϕ 12	1.21
7	G	Lungo	Inferiore	X	1 ϕ 12	3.89
8	H	Lungo	Inferiore	X	1 ϕ 12	12.00
10	J	Lungo	Inferiore	Y	1 ϕ 12	6.51
12	L	Lungo	Superiore	Y	1 ϕ 12	1.21
13	M	Lungo	Superiore	Y	1 ϕ 12	1.21

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