PERMESSO DI COSTRUIRE

AMPLIAMENTO DEL COMPARTO AUTODROMO DI MODENA

LOCALITA' MARZAGLIA – COMUNE DI MODENA

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COMPARTO: AUTODROMO DI MODENA

PROPONENTE: AERAUTODROMO MODENA SPA

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STR - R02 - RELAZIONE DI CALCOLO parte 1

P.d.C.6

REALIZZAZIONE DI PONTE PEDONALE – PDC 6 - VIA

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RELAZIONE DI CALCOLO

VERIFICHE PER ELEMENTI IN ACCIAIO

LEGENDA TABELLA VERIFICHE PER ELEMENTI IN ACCIAIO

Il programma consente la verifica dei seguenti tipi di elementi:
1. **aste** 2. **travi** 3. **pilastri**
L'esito delle verifiche è espresso con un codice come di seguito indicato
Ok: verifica con esito positivo
NV: verifica con esito negativo
Nr: verifica non richiesta.
Per comodità gli elementi vengono raggruppati in tabelle in relazione al tipo.

Ai fini delle verifiche (come da D.M. 17 Gennaio 2018 e circolare 21 Gennaio 2019 n.7) i tipi elementi differiscono per i seguenti aspetti:

Verifica		**Aste**	**Travi**	**Pilastri**
4.2.3.1	Classificazione	X	X	X
4.2.4.1.2.1	Trazione	X	X	X
4.2.4.1.2.2	Compressione	X	X	X
4.2.4.1.2.4	Taglio		X	X
4.2.4.1.2.5	Torsione		X	X
	Flessione, taglio e forza assiale		X	X
4.2.4.1.3.1	Aste compresse	X	X	X
4.2.4.1.3.2	Instabilità flesso-torsionale		X	X
4.2.4.1.3.3	Membrature inflesse e compresse		X	X

Ai fini delle verifiche per strutture dissipative (come da D.M. 17 Gennaio 2018 e 2018 e circolare 21 Gennaio 2019 n.7) per strutture intelaiate e a controventi concentrici) si considerano le verifiche del capitolo 4 con azioni amplificate e le verifiche del capitolo 7:

Verifica		**Travi**	**Pilastri**
4.2.4.1.2.1	Trazione	X	X
4.2.4.1.2.2	Compressione	X	X
4.2.4.1.2.4	Taglio	X	X
4.2.4.1.2.5	Torsione	X	X
	Flessione, taglio e forza assiale	X	X
4.2.4.1.3.1	Aste compresse	X	X
4.2.4.1.3.2	Instabilità flesso-torsionale	X	X
4.2.4.1.3.3	Membrature inflesse e compresse	X	X
7.5.3	Sfruttamento per momento	X	
7.5.4	Sfruttamento per sforzo normale	X	
7.5.5	Sfruttamento per taglio da capacità flessionale	X	
7.5.9	Sfruttamento per taglio amplificato		X

Viene inoltre riportata la verifica della "Gerarchia delle resistenze trave-colonna" per ogni colonna, considerando piede e testa in entrambe le direzioni globali X e Y.

L' insieme delle verifiche sopra riportate è condotto sugli elementi purché dotati di sezione idonea come da tabella seguente:

Azione		SEZIONI GENERICHE	PROFILI SEMPLICI	PROFILI ACCOPPIATI
4.2.3.1	Classificazione automatica	L, doppio T, C, rettangolare cava,	Tutti	Da profilo semplice

		circolare cava		
4.2.3.1	Classificazione di default 2	Circolare		
4.2.3.1	Classificazione di default 3	restanti		
4.2.4.1.2.1	Trazione	si	si	si
4.2.4.1.2.2	Compressione	si	si	si
4.2.4.1.2.4	Taglio	si	si	si
4.2.4.1.2.5	Torsione	si	si	si
	Flessione, taglio e forza assiale	si	si	si
4.2.4.1.3.1	Aste compresse	si	si	per elementi ravvicinati e a croce o coppie calastrellate
4.2.4.1.3.2	Travi inflesse	doppio T simmetrica	doppio T	no

Le verifiche sono riportate in tabelle con il significato sotto indicato; le verifiche sono espresse dal rapporto tra l' azione di progetto e la capacità ultima, pertanto la verifica ha esito positivo per rapporti non superiori all' unità.

Asta | **Trave** | **Pilastro**	numero dell'elemento
Stato	codice di verifica per resistenza, stabilità, svergolamento
Note	sezione e materiali adottati per l'elemento
V N	(ASTE) verifica come da par. 4.2.4.1.2 per punto (4.2.6) e (4.2.10)
V V/T	(TRAVI E PILASTRI) verifica di resistenza come da par. 4.2.4.1.2 per azioni taglio-torsione (4.2.16 e 4.2.28)
V N/M	(TRAVI E PILASTRI) verifica di resistenza come da par. 4.2.4.1.2 per azioni composte (4.2.33) con riduzione per taglio (4.2.40) ove richiesto
N | **M3** | **M2** | **V2** | **V3** | **T**	sollecitazioni di interesse per la verifica
V stab	(ASTE) verifica come da par. 4.2.4.1.3.1 per punto (4.2.41)
V stab	(TRAVI E PILASTRI) verifica come da par. 4.2.4.1.3 per punti (C4.2.32) o (C4.2.36) (membrature inflesse e compresse senza/con presenza di instabilità flesso-torsionale)
BetaxL | **B22xL** | **B33x L**	lunghezze libere di inflessione (se indicato riferiti al piano di normale 22 o 33 rispettivamente)
Snellezza	snellezza massima
Classe	classe del profilo
Chi mn	coefficiente di riduzione (della capacità) per la modalità di instabilità pertinente
Rif. cmb	combinazioni in cui si sono rispettivamente attinti i valori di verifica più elevati
V flst	(TRAVI E PILASTRI) verifica di stabilità come da par. 4.2.4.1.3.2 per punto (4.2.48)
B1-1 x L	Beta1-1 x L: interasse tra i ritegni torsionali
Chi LT	coefficiente di riduzione (della capacità) per la modalità di instabilità flesso-torsionale
Snell adim	Valore della snellezza adimensionale, utilizzato per il controllo previsto al par. 7.5.5
v.Omeg	Valore del rapporto capacità/domanda per l' azione di interesse (momento per travi e azione assiale per aste) utilizzato per l' amplificazione delle azioni
f.Om. N	Fattore di amplificazione delle azioni assiali per travi e colonne (prodotto di 1.1 x Omega x gamma rd materiale); utilizzato come specificato al par. 7.5.5
f.Om. T	Fattore di amplificazione delle azioni (assiali, flettenti e taglianti) per colonne (prodotto di 1.1 x Omega x gamma rd materiale); utilizzato come specificato al par. 7.5.4
V.7.5.4 M Ed	Verifica come prevista al punto 7.5.4 e valore dell' azione flettente
V.7.5.5 N Ed	Verifica come prevista al punto 7.5.5 e valore dell' azione assiale
V.7.5.6 V Ed,G V Ed,M	Verifica come prevista al punto 7.5.6 e valore dei tagli dovuti ai carichi e alla capacità
V.7.5.10 V Ed	Verifica come prevista al punto 7.5.10 e valore dell' azione di taglio
sovr. Xi (Xf, Yi, Yf)	Valore della sovraresistenza come prevista al par. 7.5.4.2 (i valori non sono normalizzati pertanto saranno maggiori uguali a gamma rd in base alla classe di duttilità)

Nel caso in cui lambdaS sia minore di 0.2, oppure nel caso in cui la sollecitazione di calcolo NEd sia inferiore a 0.04 Ncr, gli effetti legati ai fenomeni di instabilità sono trascurati, come da paragrafo 4.2.4.1.3.1

Asta	Stato	Note	V N	N	V stab	N	Cl.	Beta x L	Snell.	LambDaS	Chi mn	v.Omeg	Rif. cmb
				kN		kN		cm					
1	ok	s=9,m=11	0.61	341.2	0.15	-64.0	1	380.7	80.4	0.86	0.76	0.0	31,429
2	ok	s=9,m=11	0.61	339.3	0.14	-61.2	1	380.7	80.4	0.86	0.76	0.0	31,425
3	ok	s=9,m=11	0.61	340.0	0.11	-45.6	1	380.7	80.4	0.86	0.76	0.0	31,411

Asta	Stato	Note	V N	N	V stab	N	Cl.	Beta x L	Snell.	LambDaS	Chi mn	v.Omeg	Rif. cmb
4	ok	s=9,m=11	0.61	340.5	0.12	-51.3	1	380.7	80.4	0.86	0.76	0.0	31,415
5	ok	s=9,m=11	0.38	209.2	0.12	-49.9	1	380.7	80.4	0.86	0.76	0.0	31,425
6	ok	s=9,m=11	0.38	209.6			1	380.7	80.4	0.86	0.76	0.0	31,0
7	ok	s=4,m=11	0.20	62.0	0.15	-30.1	1	380.7	97.5	1.04	0.64	0.0	31,425
8	ok	s=4,m=11	0.20	61.2	0.06	-12.2	1	380.7	97.5	1.04	0.64	0.0	31,411
9	ok	s=9,m=11	0.38	209.9	0.12	-50.1	1	380.7	80.4	0.86	0.76	0.0	31,429
10	ok	s=4,m=11	0.19	60.5	0.15	-29.7	1	380.7	97.5	1.04	0.64	0.0	31,429
11	ok	s=4,m=11	0.20	61.3	0.08	-15.1	1	380.7	97.5	1.04	0.64	0.0	31,439
12	ok	s=9,m=11	0.38	209.4	0.08	-34.1	1	380.7	80.4	0.86	0.76	0.0	31,415
13	ok	s=28,m=12	0.15	53.1			3	339.0	186.5	2.15	0.18	0.0	409,0
14	ok	s=28,m=12	0.14	49.2			3	339.0	186.5	2.15	0.18	0.0	409,0
15	ok	s=28,m=12	0.13	47.2			3	339.0	186.5	2.15	0.18	0.0	405,0
16	ok	s=28,m=12	0.14	49.0			3	339.0	186.5	2.15	0.18	0.0	415,0
17	ok	s=28,m=12	0.11	39.7			3	339.0	186.5	2.15	0.18	0.0	423,0
18	ok	s=28,m=12	0.15	52.9			3	339.0	186.5	2.15	0.18	0.0	427,0
19	ok	s=28,m=12	0.18	65.7			3	339.0	186.5	2.15	0.18	0.0	423,0
20	ok	s=28,m=12	0.19	67.0			3	339.0	186.5	2.15	0.18	0.0	427,0
21	ok	s=12,m=12	0.42	419.3			3	339.0	111.6	1.29	0.43	0.0	404,0
22	ok	s=12,m=12	0.32	318.9			3	339.0	111.6	1.29	0.43	0.0	410,0
23	ok	s=12,m=12	0.28	284.9			3	339.0	111.6	1.29	0.43	0.0	415,0
24	ok	s=12,m=12	0.43	430.8			3	339.0	111.6	1.29	0.43	0.0	415,0
25	ok	s=12,m=12	0.12	122.7			3	339.0	111.6	1.29	0.43	0.0	428,0
26	ok	s=12,m=12	0.14	141.5			3	339.0	111.6	1.29	0.43	0.0	428,0
27	ok	s=12,m=12	0.32	317.0			3	339.0	111.6	1.29	0.43	0.0	430,0
28	ok	s=12,m=12	0.44	438.7			3	339.0	111.6	1.29	0.43	0.0	402,0
29	ok	s=28,m=12	0.14	50.4			3	339.0	186.5	2.15	0.18	0.0	429,0
30	ok	s=28,m=12	0.11	41.0			3	339.0	186.5	2.15	0.18	0.0	427,0
31	ok	s=28,m=12	0.18	66.7			3	339.0	186.5	2.15	0.18	0.0	429,0
32	ok	s=28,m=12	0.19	68.7			3	339.0	186.5	2.15	0.18	0.0	427,0
33	ok	s=12,m=12	0.17	166.7			3	339.0	111.6	1.29	0.43	0.0	430,0
34	ok	s=12,m=12	0.13	134.1			3	339.0	111.6	1.29	0.43	0.0	455,0
35	ok	s=12,m=12	0.45	455.0			3	339.0	111.6	1.29	0.43	0.0	413,0
36	ok	s=12,m=12	0.34	341.3			3	339.0	111.6	1.29	0.43	0.0	412,0
37	ok	s=4,m=11	0.53	164.5	0.22	-40.7	1	405.5	103.9	1.11	0.59	0.0	31,401
38	ok	s=4,m=11	0.77	239.0	0.39	-71.3	1	405.5	103.9	1.11	0.59	0.0	31,417
39	ok	s=4,m=11	0.26	81.6	0.22	-39.9	1	405.5	103.9	1.11	0.59	0.0	31,445
40	ok	s=4,m=11	0.15	47.8	0.25	-46.6	1	405.5	103.9	1.11	0.59	0.0	423,418
41	ok	s=4,m=11	0.28	87.5	0.27	-49.2	1	405.5	103.9	1.11	0.59	0.0	77,419
42	ok	s=4,m=11	0.53	163.6	0.20	-37.0	1	405.5	103.9	1.11	0.59	0.0	59,423
43	ok	s=28,m=13	0.08	36.8			3	366.6	201.7	2.64	0.13	0.0	426,0
44	ok	s=28,m=13	0.10	47.0			3	366.6	201.7	2.64	0.13	0.0	410,0
45	ok	s=28,m=13	0.12	55.0			3	366.6	201.7	2.64	0.13	0.0	421,0
46	ok	s=28,m=13	0.11	50.2			3	366.6	201.7	2.64	0.13	0.0	428,0
47	ok	s=28,m=13	0.09	41.8			3	366.6	201.7	2.64	0.13	0.0	431,0
48	ok	s=28,m=13	0.08	39.0			3	366.6	201.7	2.64	0.13	0.0	410,0
49	ok	s=28,m=13	0.11	52.7			3	366.6	201.7	2.64	0.13	0.0	421,0
50	ok	s=28,m=13	0.11	53.4			3	366.6	201.7	2.64	0.13	0.0	428,0
51	ok	s=12,m=13	0.13	173.8			3	366.6	120.8	1.58	0.31	0.0	428,0
52	ok	s=12,m=13	0.12	153.8			3	366.6	120.8	1.58	0.31	0.0	419,0
53	ok	s=12,m=13	0.25	320.7			3	366.6	120.8	1.58	0.31	0.0	431,0
54	ok	s=12,m=13	0.15	189.6			3	366.6	120.8	1.58	0.31	0.0	419,0
55	ok	s=12,m=13	0.14	182.1			3	366.6	120.8	1.58	0.31	0.0	431,0
56	ok	s=12,m=13	0.11	146.5			3	366.6	120.8	1.58	0.31	0.0	430,0
57	ok	s=12,m=13	0.18	239.1			3	366.6	120.8	1.58	0.31	0.0	431,0
58	ok	s=12,m=13	0.23	304.5			3	366.6	120.8	1.58	0.31	0.0	425,0
59	ok	s=28,m=13	0.05	24.2			3	308.2	169.5	2.22	0.17	0.0	426,0
60	ok	s=28,m=13	0.04	16.4			3	312.7	172.0	2.25	0.17	0.0	431,0
61	ok	s=28,m=13	0.05	24.4			3	308.2	169.5	2.22	0.17	0.0	417,0
62	ok	s=28,m=13	0.04	19.1			3	312.7	172.0	2.25	0.17	0.0	457,0
63	ok	s=28,m=13	0.02	10.0			3	456.1	250.9	3.28	0.08	0.0	431,0
64	ok	s=28,m=13	0.03	14.0			3	456.1	250.9	3.28	0.08	0.0	457,0
65	ok	s=28,m=13	0.05	22.3			3	308.2	169.5	2.22	0.17	0.0	431,0
66	ok	s=28,m=13	0.05	22.6			3	308.2	169.5	2.22	0.17	0.0	423,0
67	ok	s=28,m=13	0.04	17.5			3	301.3	165.7	2.17	0.18	0.0	414,0
68	ok	s=28,m=13	0.04	16.9			3	301.3	165.7	2.17	0.18	0.0	412,0
69	ok	s=12,m=13	0.13	168.6			3	305.2	100.5	1.32	0.42	0.0	426,0
70	ok	s=12,m=13	0.09	121.1			3	312.7	103.0	1.35	0.40	0.0	428,0
71	ok	s=12,m=13	0.10	134.4			3	308.2	101.5	1.33	0.41	0.0	426,0
72	ok	s=12,m=13	0.07	95.8			3	312.7	103.0	1.35	0.40	0.0	423,0
73	ok	s=12,m=13	0.05	65.8			3	456.1	150.2	1.97	0.22	0.0	451,0
74	ok	s=12,m=13	0.04	54.1			3	456.1	150.2	1.97	0.22	0.0	413,0
75	ok	s=12,m=13	0.11	148.5			3	308.2	101.5	1.33	0.41	0.0	432,0
76	ok	s=12,m=13	0.13	171.9			3	305.2	100.5	1.32	0.42	0.0	432,0
77	ok	s=12,m=13	0.13	169.0			3	305.4	100.6	1.32	0.42	0.0	454,0

Asta	Stato	Note	V N	N	V stab	N	Cl.	Beta x L	Snell.	LambDaS	Chi mn	v.Omeg	Rif. cmb
78	ok	s=12,m=13	0.11	140.7			3	323.0	106.4	1.39	0.38	0.0	451,0
79	ok	s=24,m=11	0.56	212.1	0.26	-69.1	1	422.5	88.0	0.94	0.71	0.0	229,437
80	ok	s=24,m=11	0.27	101.9	0.11	-28.7	1	449.7	93.7	1.00	0.67	0.0	229,415
81	ok	s=24,m=11	0.15	58.6			1	242.7	50.6	0.54	0.91	0.0	191,0
82	ok	s=24,m=11	0.29	112.4			1	242.7	50.6	0.54	0.91	0.0	229,0
83	ok	s=24,m=11	0.54	206.7	0.23	-63.1	1	422.5	88.0	0.94	0.71	0.0	77,445
84	ok	s=24,m=11	0.27	101.7	0.16	-40.8	1	449.7	93.7	1.00	0.67	0.0	77,427
85	ok	s=24,m=11	0.16	59.5			1	242.7	50.6	0.54	0.91	0.0	77,0
86	ok	s=24,m=11	0.30	112.6			1	242.7	50.6	0.54	0.91	0.0	77,0
87	ok	s=24,m=11	0.35	-133.0	0.41	-133.0	1	304.7	63.5	0.68	0.86	0.0	459,459
88	ok	s=24,m=11	0.34	130.9	0.39	-126.7	1	304.7	63.5	0.68	0.86	0.0	446,443
89	ok	s=28,m=13	0.03	14.4			3	298.4	164.2	2.15	0.18	0.0	453,0
90	ok	s=28,m=13	0.12	57.6			3	322.3	177.3	2.32	0.16	0.0	218,0
91	ok	s=28,m=13	0.02	9.7			3	316.4	174.1	2.28	0.17	0.0	453,0
92	ok	s=28,m=13	0.11	52.8			3	304.6	167.6	2.19	0.18	0.0	451,0
93	ok	s=28,m=13	0.03	15.8			3	457.8	251.8	3.30	0.08	0.0	218,0
94	ok	s=28,m=13	0.02	9.6			3	457.8	251.8	3.30	0.08	0.0	427,0
95	ok	s=28,m=13	0.02	10.9			3	298.4	164.2	2.15	0.18	0.0	415,0
96	ok	s=28,m=13	0.03	12.4			3	316.4	174.1	2.28	0.17	0.0	455,0
97	ok	s=12,m=13	0.12	157.8			3	296.9	97.8	1.28	0.44	0.0	454,0
98	ok	s=12,m=13	0.09	110.7			3	322.3	106.1	1.39	0.39	0.0	411,0
99	ok	s=12,m=13	0.08	109.1			3	317.9	104.7	1.37	0.39	0.0	458,0
100	ok	s=12,m=13	0.07	95.8			3	304.6	100.3	1.31	0.42	0.0	411,0
101	ok	s=12,m=13	0.04	54.5			3	457.8	150.8	1.97	0.21	0.0	416,0
102	ok	s=12,m=13	0.04	56.3			3	457.8	150.8	1.97	0.21	0.0	426,0
103	ok	s=12,m=13	0.10	123.4			3	300.0	98.8	1.29	0.43	0.0	451,0
104	ok	s=12,m=13	0.13	163.1			3	315.0	103.7	1.36	0.40	0.0	451,0
105	ok	s=24,m=11	0.56	214.8	0.49	-131.3	1	431.3	89.8	0.96	0.70	0.0	191,413
106	ok	s=24,m=11	0.34	130.5	0.34	-85.6	1	449.7	93.7	1.00	0.67	0.0	412,413
107	ok	s=24,m=11	0.22	83.0			1	245.4	51.1	0.54	0.91	0.0	412,0
108	ok	s=24,m=11	0.31	119.3	0.19	-65.7	1	248.1	51.7	0.55	0.91	0.0	412,413
109	ok	s=24,m=11	0.58	221.7	0.52	-138.1	1	431.3	89.8	0.96	0.70	0.0	410,415
110	ok	s=24,m=11	0.34	128.9	0.32	-81.3	1	449.7	93.7	1.00	0.67	0.0	410,415
111	ok	s=24,m=11	0.19	71.6			1	245.4	51.1	0.54	0.91	0.0	77,0
112	ok	s=24,m=11	0.31	117.6	0.18	-62.0	1	248.1	51.7	0.55	0.91	0.0	77,415
113	ok	s=24,m=11	0.22	-82.2	0.25	-82.2	1	304.7	63.5	0.68	0.86	0.0	411,411
114	ok	s=24,m=11	0.22	83.1	0.24	-79.6	1	304.7	63.5	0.68	0.86	0.0	408,401
115	ok	s=28,m=13	0.13	60.4			3	354.8	195.2	2.55	0.13	0.0	414,0
116	ok	s=28,m=13	0.16	75.1			3	354.8	195.2	2.55	0.13	0.0	414,0
117	ok	s=28,m=13	0.09	41.8			3	320.7	176.4	2.31	0.16	0.0	433,0
118	ok	s=28,m=13	0.10	46.4			3	303.0	166.7	2.18	0.18	0.0	433,0
119	ok	s=28,m=13	0.11	53.5			3	320.7	176.4	2.31	0.16	0.0	447,0
120	ok	s=28,m=13	0.16	76.3			3	354.8	195.2	2.55	0.13	0.0	411,0
121	ok	s=28,m=13	0.13	62.7			3	354.8	195.2	2.55	0.13	0.0	412,0
122	ok	s=4,m=11	0.41	128.3	0.19	-35.1	1	394.8	101.2	1.08	0.61	0.0	191,451
123	ok	s=4,m=11	0.40	123.4	0.08	-16.1	1	364.5	93.4	0.99	0.67	0.0	31,559
124	ok	s=4,m=11	0.17	52.7	0.22	-42.3	1	394.8	101.2	1.08	0.61	0.0	404,413
125	ok	s=4,m=11	0.36	112.7	0.52	-99.2	1	394.8	101.2	1.08	0.61	0.0	450,455
126	ok	s=4,m=11	0.28	88.4	0.30	-57.7	1	394.8	101.2	1.08	0.61	0.0	464,449
127	ok	s=28,m=13	0.11	52.2			3	303.0	166.7	2.18	0.18	0.0	440,0
128	ok	s=12,m=13	0.18	234.5			3	354.8	116.8	1.53	0.33	0.0	403,0
129	ok	s=12,m=13	0.19	243.6			3	354.8	116.8	1.53	0.33	0.0	414,0
130	ok	s=12,m=13	0.08	105.8			3	320.7	105.6	1.38	0.39	0.0	451,0
131	ok	s=12,m=13	0.12	149.9			3	303.0	99.8	1.31	0.42	0.0	414,0
132	ok	s=12,m=13	0.09	113.9			3	320.7	105.6	1.38	0.39	0.0	424,0
133	ok	s=12,m=13	0.15	196.4			3	354.8	116.8	1.53	0.33	0.0	411,0
134	ok	s=12,m=13	0.15	196.0			3	354.8	116.8	1.53	0.33	0.0	411,0
135	ok	s=12,m=13	0.12	159.9			3	303.0	99.8	1.31	0.42	0.0	458,0
136	ok	s=28,m=13	0.15	72.0			3	305.4	168.0	2.20	0.18	0.0	218,0
137	ok	s=28,m=13	0.16	73.0			3	323.0	177.7	2.33	0.16	0.0	455,0
138	ok	s=12,m=13	0.11	139.2			3	301.3	99.2	1.30	0.43	0.0	427,0
139	ok	s=12,m=13	0.10	131.3			3	301.3	99.2	1.30	0.43	0.0	429,0
Asta			**V N**	**N**	**V stab**	**N**		**Beta x L**	**Snell.**	**LambDaS**	**Chi mn**	**v.Omeg**	
				-133.05		-138.08				0.54	0.08	0.0	
			0.77	454.99	0.52			457.76	251.82	3.30		0.0	

Trave	Stato	Note	V V/T	V N/M	V stab	Cl.	LamS 22	LamS 33	Snell.	Chi mn	V flst	LamS LT	Chi LT	Rif. cmb
140	ok	s=13,m=11	0.03	0.17		1								28,448,0,0
141	ok	s=31,m=11	0.03	0.61		1								85,31,0,0
142	ok	s=13,m=11	0.04	0.14		1								31,448,0,0

Trave	Stato	Note	V V/T	V N/M	V stab	Cl.	LamS 22	LamS 33	Snell.	Chi mn	V flst	LamS LT	Chi LT	Rif. cmb
143	ok	s=13,m=11	0.02	0.26		1								427,448,0,0
144	ok	s=31,m=11	0.07	0.52	0.57	1	0.5	0.5	48.3	0.92				457,31,31,0
145	ok	s=31,m=11	0.04	0.97	0.98	1	0.3	0.3	27.7	0.98				59,31,31,0
146	ok	s=11,m=13	0.07	0.19		2					0.17	0.5	1.00	171,67,0,67
147	ok	s=11,m=13	0.07	0.22		2					0.18	0.5	1.00	171,404,0,404
168	ok	s=8,m=13	0.11	0.77		1					0.34	8.48e-02	1.00	452,452,0,31
169	ok	s=5,m=13	0.01	0.13		2					0.05	9.44e-02	1.00	191,31,0,191
170	ok	s=5,m=13	0.01	0.13		2					0.05	9.42e-02	1.00	191,31,0,191
171	ok	s=6,m=13	0.01	0.18		1					0.04	0.1	1.00	229,412,0,229
172	ok	s=6,m=13	0.01	0.17		1					0.04	0.1	1.00	229,435,0,229
173	ok	s=8,m=13	0.08	0.57		1					0.34	8.49e-02	1.00	406,450,0,31
174	ok	s=8,m=13	0.07	0.56		1					0.34	8.51e-02	1.00	438,464,0,31
175	ok	s=10,m=13	0.05	0.18		1					0.23	0.9	0.76	31,151,0,151
176	ok	s=10,m=13	0.05	0.18		1					0.23	0.9	0.76	151,151,0,151
177	ok	s=10,m=13	0.05	0.18		1					0.23	0.9	0.76	31,151,0,151
178	ok	s=10,m=13	0.05	0.18		1					0.23	0.9	0.76	31,151,0,151
179	ok	s=10,m=13	0.05	0.18		1					0.23	0.9	0.76	151,31,0,31
180	ok	s=10,m=13	0.05	0.18		1					0.23	0.9	0.76	31,31,0,31
181	ok	s=10,m=13	0.05	0.18	0.42	1	2.3	0.6	175.2	0.16	0.23	0.9	0.76	31,103,407,103
182	ok	s=10,m=13	0.05	0.18	0.60	1	2.3	0.6	175.2	0.16	0.23	0.9	0.76	103,103,407,103
183	ok	s=10,m=13	0.05	0.18	0.77	1	2.3	0.6	175.2	0.16	0.23	0.9	0.76	31,103,413,103
184	ok	s=10,m=13	0.05	0.18	0.82	1	2.3	0.6	175.2	0.16	0.23	0.9	0.76	31,103,413,103
185	ok	s=10,m=13	0.05	0.18	0.75	1	2.3	0.6	175.2	0.16	0.23	0.9	0.76	103,31,429,31
186	ok	s=10,m=13	0.05	0.18	0.54	1	2.3	0.6	175.2	0.16	0.23	0.9	0.76	31,31,430,31
191	ok	s=6,m=13	0.01	0.19	0.27	1	0.5	0.1	39.8	0.88	0.03	0.2	1.00	229,462,462,229
192	ok	s=6,m=13	0.02	0.11		1					0.04	0.2	1.00	31,463,0,229
193	ok	s=5,m=13	0.01	0.07		2					0.04	0.1	1.00	191,31,0,191
194	ok	s=5,m=13	0.01	0.10		2					0.06	0.1	1.00	191,31,0,191
195	ok	s=6,m=13	8.55e-03	0.19	0.57	1	1.4	0.4	109.4	0.37	0.05	0.8	0.77	233,461,461,31
196	ok	s=6,m=13	8.08e-03	0.12	0.37	1	1.4	0.4	109.4	0.37	0.04	0.8	0.77	253,462,457,31
197	ok	s=5,m=13	7.02e-03	0.07	0.16	2	1.0	0.6	73.6	0.56	0.03	0.6	0.96	197,31,31,191
198	ok	s=5,m=13	6.86e-03	0.13	0.25	2	1.0	0.6	73.6	0.56	0.03	0.6	0.96	195,31,31,191
199	ok	s=16,m=13	6.46e-03	0.18		1								443,457,0,0
200	ok	s=6,m=13	0.01	0.18	0.44	1	1.4	0.4	109.4	0.37	0.08	0.8	0.77	31,464,453,448
201	ok	s=5,m=13	0.01	0.08	0.17	2	1.0	0.6	73.6	0.56	0.06	0.6	0.97	59,31,31,59
202	ok	s=5,m=13	6.13e-03	0.13	0.25	2	1.0	0.6	73.6	0.56	0.04	0.6	0.96	223,31,31,448
203	ok	s=16,m=13	0.16	0.68		1								31,418,0,0
204	ok	s=6,m=13	0.02	0.27	0.35	1	0.9	0.2	69.7	0.65	0.11	0.6	1.00	31,464,453,31
205	ok	s=5,m=13	0.01	0.07		2					0.05	0.4	1.00	418,448,0,442
206	ok	s=5,m=13	0.02	0.17		2					0.10	0.4	1.00	31,31,0,31
213	ok	s=5,m=13	6.34e-03	0.21		2					0.02	4.51e-02	1.00	197,31,0,185
214	ok	s=5,m=13	9.79e-03	0.23	0.41	2	0.8	0.5	64.7	0.63	0.04	0.5	0.99	195,31,31,191
215	ok	s=5,m=13	9.80e-03	0.23	0.39	2	0.8	0.5	64.7	0.63	0.04	0.5	0.99	233,31,31,229
216	ok	s=5,m=13	5.52e-03	0.21	0.31	2	0.7	0.4	55.7	0.71	0.02	0.5	1.00	235,31,31,229
217	ok	s=5,m=13	0.01	0.13	0.19	2	0.6	0.4	44.6	0.79	0.04	0.4	1.00	229,31,77,229
218	ok	s=5,m=13	6.21e-03	0.21		2					0.02	4.51e-02	1.00	197,31,0,185
219	ok	s=5,m=13	9.88e-03	0.23	0.40	2	0.8	0.5	64.7	0.63	0.04	0.5	0.99	195,31,31,191
220	ok	s=5,m=13	9.78e-03	0.23	0.41	2	0.8	0.5	64.7	0.63	0.04	0.5	0.99	233,31,31,229
221	ok	s=11,m=13	0.05	0.29		2					0.31	0.8	0.85	422,422,0,419
222	ok	s=11,m=13	0.07	0.25		2					0.23	0.5	1.00	75,424,0,432

Trave	Stato	Note	V V/T	V N/M	V stab	Cl.	LamS 22	LamS 33	Snell.	Chi mn	V flst	LamS LT	Chi LT	Rif. cmb
223	ok	s=11,m=13	0.07	0.20		2					0.22	0.8	0.85	171,67,0,67
224	ok	s=11,m=13	0.07	0.19		2					0.18	0.5	1.00	133,85,0,85
225	ok	s=11,m=13	0.04	0.20		2					0.22	0.8	0.85	85,422,0,422
226	ok	s=11,m=13	0.08	0.23		2					0.22	0.5	1.00	67,418,0,418
227	ok	s=11,m=13	0.07	0.19		2					0.17	0.5	1.00	171,67,0,67
228	ok	s=5,m=13	5.50e-03	0.21	0.31	2	0.7	0.4	55.7	0.71	0.02	0.5	1.00	235,31,31,229
229	ok	s=5,m=13	0.01	0.13	0.19	2	0.6	0.4	44.6	0.79	0.04	0.4	1.00	229,31,59,229
230	ok	s=6,m=13	6.05e-03	0.18		1					0.01	6.34e-02	1.00	229,403,0,224
231	ok	s=6,m=13	0.01	0.26	0.51	2	1.3	0.3	96.2	0.45	0.07	0.8	0.83	229,416,409,31
232	ok	s=6,m=13	0.01	0.27	0.50	2	1.3	0.3	96.2	0.45	0.07	0.8	0.83	191,416,409,31
233	ok	s=6,m=13	5.78e-03	0.21	0.42	2	1.1	0.3	82.9	0.54	0.02	0.7	0.89	457,425,425,416
234	ok	s=6,m=13	0.01	0.21	0.33	2	0.9	0.2	66.4	0.68	0.04	0.5	0.97	191,426,426,191
235	ok	s=6,m=13	6.01e-03	0.13		1					0.01	6.34e-02	1.00	229,407,0,224
236	ok	s=6,m=13	0.01	0.21	0.41	1	1.3	0.3	96.2	0.45	0.07	0.8	0.83	229,412,413,31
237	ok	s=6,m=13	0.01	0.22	0.42	1	1.3	0.3	96.2	0.45	0.07	0.8	0.83	191,412,413,191
238	ok	s=6,m=13	5.98e-03	0.17	0.36	1	1.1	0.3	82.9	0.54	0.02	0.7	0.89	436,429,429,412
239	ok	s=6,m=13	0.01	0.21	0.38	1	0.9	0.2	66.4	0.68	0.04	0.5	0.97	191,444,445,191
244	ok	s=8,m=13	0.13	0.27		1					0.20	0.1	1.00	31,452,0,59
245	ok	s=8,m=13	0.07	0.23		1					0.17	0.1	1.00	31,454,0,31
246	ok	s=8,m=13	0.17	0.34		1					0.23	3.04e-02	1.00	31,59,0,59
247	ok	s=8,m=13	0.09	0.25		1					0.21	3.18e-02	1.00	31,31,0,31
248	ok	s=8,m=13	0.12	0.28		1					0.19	0.1	1.00	31,460,0,59
249	ok	s=8,m=13	0.16	0.29		1					0.21	3.04e-02	1.00	31,59,0,59
250	ok	s=8,m=13	0.13	0.28		1					0.20	0.1	1.00	31,450,0,59
251	ok	s=8,m=13	0.16	0.29		1					0.22	3.04e-02	1.00	31,442,0,59
252	ok	s=8,m=13	0.12	0.31		1					0.19	0.1	1.00	31,458,0,59
253	ok	s=8,m=13	0.16	0.28		1					0.21	3.04e-02	1.00	31,59,0,59
254	ok	s=8,m=13	0.13	0.31		1					0.20	0.1	1.00	31,458,0,59
255	ok	s=8,m=13	0.17	0.37		1					0.22	3.04e-02	1.00	31,434,0,59
256	ok	s=8,m=13	0.07	0.29		1					0.17	0.1	1.00	31,464,0,31
257	ok	s=8,m=13	0.10	0.27		1					0.21	3.17e-02	1.00	445,434,0,31
258	ok	s=8,m=13	0.10	0.25		1					0.24	3.17e-02	1.00	31,31,0,31
259	ok	s=8,m=13	0.04	0.22		1					0.09	0.1	1.00	31,463,0,31
260	ok	s=8,m=13	9.56e-03	0.11		1					0.10	0.2	1.00	129,456,0,31
261	ok	s=8,m=13	0.04	0.14		1					0.10	0.1	1.00	31,446,0,31
262	ok	s=8,m=13	0.08	0.24		1					0.19	0.1	1.00	31,446,0,31
263	ok	s=8,m=13	0.08	0.22		1					0.19	0.1	1.00	31,463,0,31
264	ok	s=8,m=13	0.10	0.24		1					0.24	3.17e-02	1.00	31,31,0,31
265	ok	s=8,m=13	0.19	0.32		1					0.24	3.04e-02	1.00	31,456,0,77
266	ok	s=8,m=13	0.08	0.40		1					0.38	0.1	1.00	77,31,0,31
267	ok	s=8,m=13	0.06	0.44		1					0.39	8.50e-02	1.00	461,464,0,31
268	ok	s=8,m=13	0.07	0.40		1					0.38	0.1	1.00	59,31,0,31
269	ok	s=8,m=13	0.14	0.23		1					0.22	0.1	1.00	31,448,0,77
270	ok	s=8,m=13	0.14	0.29		1					0.22	0.1	1.00	31,450,0,59
271	ok	s=8,m=13	0.19	0.26		1					0.24	3.04e-02	1.00	31,59,0,59
272	ok	s=8,m=13	0.18	0.37		1					0.22	3.02e-02	1.00	31,464,0,77
273	ok	s=8,m=13	0.07	0.37		1					0.37	0.1	1.00	77,31,0,31
274	ok	s=8,m=13	0.03	0.37		1					0.37	0.2	1.00	167,31,0,31
275	ok	s=8,m=13	0.07	0.37		1					0.37	0.1	1.00	31,31,0,31
276	ok	s=8,m=13	0.14	0.25		1					0.20	0.1	1.00	31,448,0,77
277	ok	s=8,m=13	0.14	0.36		1					0.22	0.1	1.00	31,450,0,59
278	ok	s=8,m=13	0.19	0.54		1					0.25	3.04e-02	1.00	31,434,0,59
279	ok	s=8,m=13	0.18	0.46		1					0.24	3.01e-02	1.00	31,464,0,424
280	ok	s=8,m=13	0.06	0.39		1					0.38	0.1	1.00	77,31,0,31
281	ok	s=8,m=13	0.10	0.79		1					0.38	8.64e-02	1.00	460,460,0,31
282	ok	s=8,m=13	0.09	0.36		1					0.35	0.1	1.00	31,31,0,31
283	ok	s=8,m=13	0.16	0.40		1					0.23	0.1	1.00	31,442,0,59
284	ok	s=8,m=13	0.13	0.32		1					0.23	0.2	1.00	31,450,0,59
285	ok	s=8,m=13	0.20	0.60		1					0.32	3.09e-02	1.00	31,423,0,59
286	ok	s=8,m=13	0.10	0.31		1					0.24	3.16e-02	1.00	31,452,0,31
287	ok	s=8,m=13	0.04	0.28		1					0.10	0.1	1.00	31,457,0,31
288	ok	s=8,m=13	9.82e-03	0.14		1					0.10	0.2	1.00	129,452,0,31

Trave	Stato	Note	V V/T	V N/M	V stab	Cl.	LamS 22	LamS 33	Snell.	Chi mn	V flst	LamS LT	Chi LT	Rif. cmb
289	ok	s=8,m=13	0.04	0.23		1					0.10	0.1	1.00	31,446,0,31
290	ok	s=8,m=13	0.08	0.23		1					0.18	0.1	1.00	31,446,0,31
291	ok	s=8,m=13	0.08	0.28		1					0.19	0.1	1.00	31,457,0,31
292	ok	s=8,m=13	0.10	0.46		1					0.23	3.15e-02	1.00	31,446,0,31
293	ok	s=10,m=13	0.06	0.23	0.48	1	2.6	0.7	199.3	0.13	0.33	1.0	0.70	31,151,458,151
294	ok	s=10,m=13	0.06	0.23	0.74	1	2.6	0.7	199.3	0.13	0.33	1.0	0.70	31,151,453,151
295	ok	s=10,m=13	0.06	0.23	0.67	1	2.6	0.7	199.3	0.13	0.33	1.0	0.70	31,151,457,151
296	ok	s=10,m=13	0.06	0.23	0.56	1	2.6	0.7	199.3	0.13	0.33	1.0	0.70	31,31,453,31
297	ok	s=10,m=13	0.09	0.38	0.14	1	2.6	0.7	199.3	0.13	0.54	1.0	0.70	31,31,463,31
298	ok	s=10,m=13	0.09	0.38		1					0.54	1.0	0.70	31,31,0,31
299	ok	s=10,m=13	0.09	0.38		1					0.54	1.0	0.70	31,31,0,31
300	ok	s=10,m=13	0.09	0.38	0.12	1	2.6	0.7	199.3	0.13	0.54	1.0	0.70	31,31,450,31
301	ok	s=10,m=13	0.09	0.38	0.18	1	2.6	0.7	199.3	0.13	0.54	1.0	0.70	31,31,442,31
302	ok	s=10,m=13	0.09	0.38	0.40	1	2.6	0.7	199.3	0.13	0.54	1.0	0.70	31,31,457,31
303	ok	s=10,m=13	0.09	0.38	0.23	1	2.6	0.7	199.3	0.13	0.54	1.0	0.70	31,31,426,31
304	ok	s=10,m=13	0.09	0.38	0.22	1	2.6	0.7	199.3	0.13	0.54	1.0	0.70	31,31,448,31
305	ok	s=10,m=13	0.09	0.38	0.20	1	2.6	0.7	199.3	0.13	0.54	1.0	0.70	31,31,462,31
306	ok	s=10,m=13	0.09	0.38	0.36	1	2.6	0.7	199.3	0.13	0.54	1.0	0.70	31,31,457,31
307	ok	s=10,m=13	0.09	0.38	0.23	1	2.6	0.7	199.3	0.13	0.54	1.0	0.70	31,31,426,31
308	ok	s=10,m=13	0.09	0.38	0.24	1	2.6	0.7	199.3	0.13	0.54	1.0	0.70	31,31,460,31
309	ok	s=10,m=13	0.09	0.38	0.12	1	2.6	0.7	199.3	0.13	0.54	1.0	0.70	31,31,443,31
310	ok	s=10,m=13	0.09	0.38	0.22	1	2.6	0.7	199.3	0.13	0.54	1.0	0.70	103,31,442,31
311	ok	s=10,m=13	0.09	0.38	0.10	1	2.6	0.7	199.3	0.13	0.54	1.0	0.70	31,31,442,31
312	ok	s=10,m=13	0.09	0.38	0.21	1	2.6	0.7	199.3	0.13	0.54	1.0	0.70	31,31,446,31
313	ok	s=10,m=13	0.06	0.23	0.81	1	2.6	0.7	199.3	0.13	0.33	1.0	0.70	31,103,462,103
314	ok	s=10,m=13	0.06	0.23		1					0.33	1.0	0.70	31,103,0,103
315	ok	s=10,m=13	0.06	0.23	0.69	1	2.1	0.6	159.5	0.19	0.29	0.9	0.80	31,103,445,103
316	ok	s=8,m=13	0.04	0.24		1					0.19	0.1	1.00	59,77,0,77
317	ok	s=8,m=13	0.08	0.16		1					0.13	9.52e-02	1.00	436,448,0,448
318	ok	s=8,m=13	0.08	0.13		1					0.11	9.50e-02	1.00	448,77,0,436
321	ok	s=20,m=13	0.04	0.10		2					0.12	0.8	0.85	133,85,0,85
322	ok	s=8,m=13	0.13	0.22		1					0.13	3.10e-02	1.00	462,77,0,77
323	ok	s=8,m=13	0.04	0.23		1					0.19	0.1	1.00	77,191,0,191
324	ok	s=8,m=13	0.02	0.23		1					0.19	0.2	1.00	129,77,0,191
325	ok	s=8,m=13	0.04	0.23		1					0.19	0.1	1.00	191,77,0,191
326	ok	s=8,m=13	0.08	0.15		1					0.09	9.24e-02	1.00	191,444,0,77
327	ok	s=8,m=13	0.08	0.16		1					0.09	9.39e-02	1.00	77,77,0,77
328	ok	s=8,m=13	0.11	0.20		1					0.12	3.10e-02	1.00	446,191,0,191
329	ok	s=8,m=13	0.17	0.23		1					0.12	3.06e-02	1.00	436,191,0,444
332	ok	s=20,m=13	0.04	0.10		2					0.12	0.8	0.85	133,85,0,85
333	ok	s=8,m=13	0.17	0.25		1					0.15	3.05e-02	1.00	444,77,0,448
334	ok	s=8,m=13	0.05	0.23		1					0.19	0.1	1.00	77,77,0,77
335	ok	s=8,m=13	0.02	0.24		1					0.19	0.2	1.00	129,77,0,77
336	ok	s=8,m=13	2.19e-03	0.02		1					4.70e-03	0.3	1.00	423,445,0,430
337	ok	s=8,m=13	0.01	0.04		1					0.02	0.2	1.00	421,441,0,431
338	ok	s=8,m=13	0.01	0.06		1					0.02	0.2	1.00	425,457,0,425
339	ok	s=8,m=13	0.07	0.07		1					0.05	2.00e-02	1.00	81,424,0,424
342	ok	s=20,m=13	0.03	0.16		2					0.17	0.8	0.85	181,425,0,425
343	ok	s=8,m=13	0.06	0.07		1					0.05	2.00e-02	1.00	428,426,0,426
344	ok	s=8,m=13	2.09e-03	0.02		1					5.61e-03	0.3	1.00	427,449,0,458
345	ok	s=8,m=13	1.65e-03	5.93e-03		1					4.29e-03	8.57e-02	1.00	432,77,0,85
348	ok	s=20,m=13	0.03	0.14		2					0.16	0.8	0.85	181,429,0,429
349	ok	s=8,m=13	0.07	0.18		1					0.17	3.22e-02	1.00	31,191,0,31
350	ok	s=8,m=13	0.03	0.09		1					0.07	0.1	1.00	31,77,0,31
351	ok	s=8,m=13	6.96e-03	0.09		1					0.07	0.2	1.00	103,77,0,31
352	ok	s=8,m=13	0.03	0.09		1					0.07	0.1	1.00	31,77,0,31
353	ok	s=8,m=13	0.06	0.16		1					0.13	0.1	1.00	31,31,0,31
354	ok	s=8,m=13	0.06	0.18		1					0.14	0.1	1.00	31,191,0,31

Trave	Stato	Note	V V/T	V N/M	V stab	Cl.	LamS 22	LamS 33	Snell.	Chi mn	V flst	LamS LT	Chi LT	Rif. cmb
355	ok	s=8,m=13	0.06	0.16		1					0.16	3.21e-02	1.00	31,31,0,31
358	ok	s=20,m=13	0.05	0.14		2					0.12	0.5	1.00	133,85,0,424
359	ok	s=8,m=13	0.17	0.23		1					0.19	2.99e-02	1.00	448,448,0,77
360	ok	s=8,m=13	0.06	0.39		1					0.27	0.1	1.00	77,444,0,77
361	ok	s=8,m=13	0.05	0.41		1					0.28	9.24e-02	1.00	447,435,0,444
362	ok	s=8,m=13	0.06	0.37		1					0.28	0.1	1.00	59,448,0,77
363	ok	s=8,m=13	0.10	0.18		1					0.14	8.85e-02	1.00	31,444,0,77
364	ok	s=8,m=13	0.11	0.18		1					0.11	8.89e-02	1.00	77,448,0,59
365	ok	s=8,m=13	0.16	0.23		1					0.17	2.98e-02	1.00	229,229,0,229
368	ok	s=20,m=13	0.05	0.13		2					0.11	0.5	1.00	85,424,0,85
369	ok	s=8,m=13	0.10	0.17		1					0.14	3.12e-02	1.00	77,77,0,77
370	ok	s=8,m=13	0.05	0.24		1					0.20	0.1	1.00	77,191,0,191
371	ok	s=8,m=13	0.03	0.26		1					0.20	8.98e-02	1.00	429,229,0,77
372	ok	s=8,m=13	0.04	0.25		1					0.20	0.1	1.00	191,77,0,77
373	ok	s=8,m=13	0.08	0.12		1					0.11	9.42e-02	1.00	191,77,0,77
374	ok	s=8,m=13	0.08	0.11		1					0.10	9.25e-02	1.00	77,77,0,77
375	ok	s=8,m=13	0.09	0.15		1					0.12	3.14e-02	1.00	191,191,0,191
376	ok	s=10,m=13	0.07	0.15		1					0.15	0.2	1.00	433,433,0,433
377	ok	s=10,m=13	0.02	0.10	0.17	1	1.1	0.3	81.7	0.55	0.03	0.5	0.98	191,444,445,89
378	ok	s=10,m=13	0.03	0.12	0.56	1	1.9	0.5	146.7	0.23	0.10	0.8	0.83	191,446,446,7
379	ok	s=10,m=13	0.03	0.13	0.61	1	1.9	0.5	143.8	0.23	0.10	1.0	0.72	191,446,446,191
380	ok	s=10,m=13	0.02	0.15	0.23	1	1.5	0.4	117.1	0.33	0.17	0.9	0.89	241,433,433,433
381	ok	s=10,m=13	0.03	0.11	0.50	1	2.0	0.6	151.0	0.21	0.11	0.8	0.82	77,445,445,7
382	ok	s=10,m=13	0.06	0.17		1					0.11	0.2	1.00	31,31,0,31
383	ok	s=10,m=13	0.03	0.06	0.07	1	1.1	0.3	81.7	0.55	0.06	0.5	0.98	191,89,446,89
384	ok	s=10,m=13	0.05	0.15	0.29	1	1.9	0.5	146.7	0.23	0.19	0.8	0.83	203,89,446,89
385	ok	s=10,m=13	0.07	0.25	0.34	1	1.9	0.5	143.8	0.23	0.35	1.0	0.72	77,77,438,77
386	ok	s=10,m=13	0.05	0.21		1					0.20	0.9	0.82	77,31,0,31
387	ok	s=10,m=13	0.05	0.16	0.19	1	2.0	0.6	151.0	0.21	0.19	0.8	0.82	77,7,446,7
388	ok	s=10,m=13	0.06	0.13		1					0.11	0.1	1.00	31,31,0,31
389	ok	s=10,m=13	0.04	0.06		1					0.07	0.5	0.98	191,7,0,7
390	ok	s=10,m=13	0.06	0.17	0.09	1	1.9	0.5	146.7	0.23	0.21	0.8	0.83	229,7,453,7
391	ok	s=10,m=13	0.08	0.32	0.20	1	1.9	0.5	143.8	0.23	0.45	1.0	0.72	77,77,406,77
392	ok	s=10,m=13	0.05	0.18		1					0.20	0.9	0.82	31,31,0,31
393	ok	s=10,m=13	0.06	0.18	0.15	1	2.0	0.6	151.0	0.21	0.21	0.8	0.82	77,7,439,7
394	ok	s=10,m=13	0.06	0.13		1					0.11	0.2	1.00	31,31,0,31
395	ok	s=10,m=13	0.04	0.06		1					0.07	0.5	0.98	77,7,0,7
396	ok	s=10,m=13	0.06	0.17	0.08	1	1.9	0.5	146.7	0.23	0.21	0.8	0.83	191,7,433,7
397	ok	s=10,m=13	0.08	0.32	0.21	1	1.9	0.5	143.8	0.23	0.45	1.0	0.72	77,77,430,77
398	ok	s=10,m=13	0.05	0.18		1					0.20	0.9	0.82	31,31,0,31
399	ok	s=10,m=13	0.06	0.18	0.16	1	2.0	0.6	151.0	0.21	0.21	0.8	0.82	77,7,435,7
400	ok	s=10,m=13	0.06	0.18		1					0.12	0.1	1.00	77,77,0,77
401	ok	s=10,m=13	0.03	0.06	0.07	1	1.1	0.3	81.7	0.55	0.06	0.5	0.98	191,137,438,137
402	ok	s=10,m=13	0.05	0.15	0.29	1	1.9	0.5	146.7	0.23	0.19	0.8	0.83	213,152,438,152
403	ok	s=10,m=13	0.07	0.25	0.38	1	1.9	0.5	143.8	0.23	0.35	1.0	0.72	77,77,191,77
404	ok	s=10,m=13	0.05	0.21		1					0.20	0.9	0.82	77,77,0,77
405	ok	s=10,m=13	0.05	0.16	0.18	1	2.0	0.6	151.0	0.21	0.19	0.8	0.82	77,7,434,7
406	ok	s=10,m=13	0.09	0.21		1					0.20	0.2	1.00	453,453,0,453
407	ok	s=10,m=13	0.02	0.11	0.19	1	1.1	0.3	81.7	0.55	0.03	0.5	0.98	191,444,453,137
408	ok	s=10,m=13	0.03	0.12	0.56	1	1.9	0.5	146.7	0.23	0.10	0.8	0.83	191,462,462,137
409	ok	s=10,m=13	0.03	0.13	0.58	1	1.9	0.5	143.8	0.23	0.10	1.0	0.72	191,462,462,191
410	ok	s=10,m=13	0.02	0.21	0.31	1	1.5	0.4	117.1	0.33	0.23	0.9	0.89	167,453,453,453
411	ok	s=10,m=13	0.03	0.12	0.56	1	2.0	0.6	151.0	0.21	0.11	0.8	0.82	77,460,453,7
412	ok	s=16,m=13	0.08	0.17		1								433,441,0,0
413	ok	s=21,m=13	0.09	0.26	0.33	1	0.6	0.2	44.8	0.84	0.16	0.2	1.00	446,444,445,444
414	ok	s=21,m=13	0.03	0.18	0.40	1	1.1	0.3	80.5	0.56	0.14	0.6	0.99	446,445,445,

Trave	Stato	Note	V V/T	V N/M	V stab	Cl.	LamS 22	LamS 33	Snell.	Chi mn	V flst	LamS LT	Chi LT	Rif. cmb
														444
415	ok	s=21,m=13	0.01	0.16	0.32	1	1.0	0.3	78.9	0.58	0.05	0.6	0.91	191,442,442,191
416	ok	s=21,m=13	0.06	0.39	0.47	1	0.8	0.2	64.3	0.70	0.25	0.2	1.00	450,441,441,433
417	ok	s=21,m=13	0.02	0.20	0.32	1	1.1	0.3	82.9	0.54	0.14	0.7	0.97	446,462,446,446
418	ok	s=16,m=13	0.11	0.24		1								454,454,0,0
419	ok	s=21,m=13	0.09	0.25	0.34	1	0.6	0.2	44.8	0.84	0.17	0.2	1.00	454,436,437,454
420	ok	s=21,m=13	0.03	0.19	0.38	1	1.1	0.3	80.5	0.56	0.15	0.6	0.99	443,433,461,444
421	ok	s=21,m=13	0.01	0.14	0.26	1	1.0	0.3	78.9	0.58	0.05	0.6	0.91	77,462,462,77
422	ok	s=21,m=13	0.08	0.45	0.62	1	0.8	0.2	64.3	0.70	0.37	0.2	1.00	454,445,454,454
423	ok	s=21,m=13	0.03	0.17	0.43	1	1.1	0.3	82.9	0.54	0.16	0.3	1.00	454,460,453,454
424	ok	s=22,m=13	0.13	0.15		2					0.15	4.21e-02	1.00	229,229,0,229
425	ok	s=22,m=13	0.05	0.11		2					0.10	0.1	1.00	446,446,0,462
426	ok	s=22,m=13	7.75e-03	0.09	0.15	2	0.7	0.4	54.1	0.72	0.04	0.4	1.00	462,229,229,446
427	ok	s=22,m=13	8.17e-03	0.06		2					0.02	0.4	1.00	229,229,0,229
428	ok	s=22,m=13	0.05	0.15		2					0.15	0.1	1.00	229,229,0,229
429	ok	s=22,m=13	0.02	0.11	0.19	2	0.7	0.4	55.8	0.71	0.08	0.5	1.00	446,462,59,462
430	ok	s=22,m=13	0.13	0.15		2					0.15	4.21e-02	1.00	77,77,0,77
431	ok	s=22,m=13	0.05	0.12		2					0.11	0.1	1.00	462,454,0,454
432	ok	s=22,m=13	8.48e-03	0.09	0.16	2	0.7	0.4	54.1	0.72	0.05	0.4	1.00	454,77,77,462
433	ok	s=22,m=13	6.95e-03	0.06		2					0.02	0.4	1.00	77,77,0,448
434	ok	s=22,m=13	0.05	0.15		2					0.15	0.1	1.00	77,77,0,77
435	ok	s=22,m=13	0.03	0.14	0.20	2	0.7	0.4	55.8	0.71	0.10	0.5	1.00	454,462,77,454
436	ok	s=20,m=13	0.05	0.13		2					0.11	0.5	1.00	171,420,0,420
437	ok	s=20,m=13	0.04	0.13		2					0.10	0.5	1.00	219,428,0,428
444	ok	s=8,m=13	0.16	0.33		1					0.22	3.04e-02	1.00	31,454,0,77
445	ok	s=8,m=13	0.09	0.23		1					0.21	3.16e-02	1.00	31,31,0,31
449	ok	s=10,m=13	0.06	0.23	0.66	1	2.6	0.7	199.3	0.13	0.33	1.0	0.70	31,31,422,31
450	ok	s=8,m=13	0.07	0.40		1					0.34	0.1	1.00	77,31,0,31
451	ok	s=8,m=13	0.04	0.23		1					0.09	0.1	1.00	31,454,0,31
452	ok	s=8,m=13	0.08	0.57		1					0.34	8.48e-02	1.00	458,450,0,31
453	ok	s=8,m=13	8.58e-03	0.10		1					0.09	0.2	1.00	167,450,0,31
454	ok	s=8,m=13	0.07	0.40		1					0.34	0.1	1.00	59,31,0,31
455	ok	s=8,m=13	0.04	0.22		1					0.09	0.1	1.00	31,442,0,31
456	ok	s=8,m=13	0.13	0.26		1					0.20	0.1	1.00	31,404,0,77
457	ok	s=8,m=13	0.07	0.22		1					0.17	0.1	1.00	31,442,0,31
458	ok	s=8,m=13	1.68e-03	5.15e-03		1					4.12e-03	8.64e-02	1.00	426,31,0,450
459	ok	s=8,m=13	0.16	0.29		1					0.21	3.03e-02	1.00	31,462,0,77
460	ok	s=8,m=13	0.06	0.34		1					0.33	0.1	1.00	77,31,0,31
461	ok	s=8,m=13	0.03	0.34		1					0.33	0.2	1.00	167,31,0,31
462	ok	s=8,m=13	0.06	0.33		1					0.33	0.1	1.00	59,31,0,31
463	ok	s=8,m=13	0.13	0.28		1					0.19	0.1	1.00	31,438,0,77
464	ok	s=8,m=13	0.17	0.29		1					0.22	3.05e-02	1.00	31,456,0,77
465	ok	s=8,m=13	0.07	0.34		1					0.34	0.1	1.00	77,31,0,31
466	ok	s=8,m=13	0.08	0.56		1					0.34	8.46e-02	1.00	462,464,0,31
467	ok	s=8,m=13	0.07	0.34		1					0.34	0.1	1.00	59,31,0,31
468	ok	s=8,m=13	0.13	0.28		1					0.20	0.1	1.00	31,448,0,77
469	ok	s=8,m=13	0.16	0.32		1					0.21	3.04e-02	1.00	31,464,0,77
470	ok	s=8,m=13	0.06	0.33		1					0.33	0.1	1.00	77,31,0,31
471	ok	s=8,m=13	0.03	0.34		1					0.33	0.2	1.00	129,31,0,31
472	ok	s=8,m=13	0.06	0.33		1					0.33	0.1	1.00	59,31,0,31
473	ok	s=8,m=13	0.12	0.31		1					0.19	0.1	1.00	31,440,0,77
474	ok	s=8,m=13	0.16	0.37		1					0.22	3.04e-02	1.00	31,464,0,77
475	ok	s=8,m=13	0.07	0.40		1					0.34	0.1	1.00	77,31,0,31
476	ok	s=8,m=13	0.11	0.77		1					0.34	8.49e-02	1.00	452,452,0,31
477	ok	s=8,m=13	0.07	0.40		1					0.34	0.1	1.00	59,31,0,31

Trave	Stato	Note	V V/T	V N/M	V stab	Cl.	LamS 22	LamS 33	Snell.	Chi mn	V flst	LamS LT	Chi LT	Rif. cmb
478	ok	s=8,m=13	0.13	0.27		1					0.20	0.1	1.00	31,440,0,77
479	ok	s=8,m=13	0.04	0.30		1					0.25	0.1	1.00	412,410,0,410
480	ok	s=8,m=13	0.03	0.25		1					0.08	0.1	1.00	31,463,0,31
481	ok	s=8,m=13	0.10	0.21		1					0.15	0.1	1.00	412,412,0,412
484	ok	s=20,m=13	0.04	0.10	0.12	2	1.5	0.9	110.8	0.33	0.11	0.8	0.84	209,199,197,199
485	ok	s=8,m=13	0.10	0.27		1					0.15	3.55e-02	1.00	408,402,0,77
486	ok	s=8,m=13	0.04	0.27		1					0.22	0.1	1.00	410,191,0,191
487	ok	s=8,m=13	0.02	0.27		1					0.22	0.2	1.00	151,191,0,77
488	ok	s=8,m=13	0.04	0.27		1					0.22	0.1	1.00	404,410,0,77
489	ok	s=8,m=13	0.10	0.54		1					0.14	3.22e-02	1.00	446,447,0,31
490	ok	s=8,m=13	0.10	0.19		1					0.14	0.1	1.00	77,408,0,191
491	ok	s=8,m=13	0.10	0.29		1					0.17	5.22e-02	1.00	416,415,0,191
492	ok	s=8,m=13	0.13	0.31		1					0.16	4.77e-02	1.00	412,410,0,412
495	ok	s=20,m=13	0.04	0.11		2					0.11	0.8	0.84	209,209,0,209
496	ok	s=8,m=13	0.13	0.32		1					0.14	3.32e-02	1.00	410,412,0,402
497	ok	s=8,m=13	0.04	0.30		1					0.25	0.1	1.00	410,412,0,412
498	ok	s=8,m=13	0.02	0.30		1					0.25	0.2	1.00	207,410,0,410
499	ok	s=8,m=13	2.61e-03	5.33e-03		1					4.95e-03	0.2	1.00	197,77,0,77
500	ok	s=8,m=13	0.09	0.47		1					0.05	2.95e-02	1.00	458,458,0,554
501	ok	s=8,m=13	0.01	0.02		1					0.02	0.1	1.00	449,449,0,449
502	ok	s=8,m=13	0.10	0.11		1					0.09	5.83e-02	1.00	188,188,0,187
505	ok	s=20,m=13	0.03	0.10		2					0.10	0.8	0.84	209,187,0,187
506	ok	s=8,m=13	0.14	0.11		1					0.09	3.49e-02	1.00	197,197,0,197
507	ok	s=8,m=13	3.30e-03	8.08e-03		1					7.16e-03	0.2	1.00	187,197,0,197
508	ok	s=8,m=13	1.88e-03	5.46e-03		1					5.04e-03	0.2	1.00	457,77,0,77
509	ok	s=8,m=13	0.03	0.23		1					0.07	0.1	1.00	47,442,0,31
510	ok	s=8,m=13	0.05	0.23		1					0.11	0.1	1.00	31,442,0,31
511	ok	s=5,m=13	0.05	0.17		2					0.13	0.4	1.00	219,197,0,28
514	ok	s=20,m=13	0.05	0.16		2					0.10	0.4	1.00	219,189,0,458
515	ok	s=8,m=13	0.17	0.32		1					0.19	3.26e-02	1.00	59,31,0,59
516	ok	s=8,m=13	0.06	0.34		1					0.29	0.1	1.00	59,191,0,191
517	ok	s=8,m=13	0.07	0.59		1					0.29	6.84e-02	1.00	31,59,0,191
518	ok	s=8,m=13	0.06	0.34		1					0.29	0.1	1.00	191,59,0,59
519	ok	s=8,m=13	0.02	0.25		1					0.10	0.2	1.00	458,463,0,31
520	ok	s=8,m=13	0.10	0.23		1					0.16	9.86e-02	1.00	59,412,0,412
521	ok	s=8,m=13	0.16	0.33		1					0.22	4.81e-02	1.00	191,191,0,191
524	ok	s=20,m=13	0.05	0.11		2					0.10	0.4	1.00	181,85,0,85
525	ok	s=8,m=13	0.09	0.15		1					0.13	3.46e-02	1.00	412,77,0,77
526	ok	s=8,m=13	0.04	0.26		1					0.21	0.1	1.00	77,191,0,410
527	ok	s=8,m=13	0.04	0.31		1					0.22	6.49e-02	1.00	453,413,0,410
528	ok	s=8,m=13	0.04	0.25		1					0.21	0.1	1.00	191,413,0,412
529	ok	s=8,m=13	0.02	0.13		1					0.10	8.55e-02	1.00	33,436,0,31
530	ok	s=8,m=13	0.08	0.15		1					0.13	0.1	1.00	412,410,0,191
531	ok	s=8,m=13	0.10	0.18		1					0.16	5.05e-02	1.00	191,197,0,197
532	ok	s=10,m=13	0.03	0.45		1					0.09	0.3	1.00	413,453,0,413
533	ok	s=10,m=13	0.02	0.05	0.09	1	1.1	0.3	81.7	0.55	0.04	0.5	0.98	77,410,413,137
534	ok	s=10,m=13	0.03	0.10	0.34	1	1.9	0.5	146.7	0.23	0.13	0.8	0.83	77,7,413,7
535	ok	s=10,m=13	0.05	0.15	0.38	1	1.9	0.5	143.8	0.23	0.21	1.0	0.72	59,59,414,59
536	ok	s=10,m=13	0.03	0.10	0.19	1	1.5	0.4	117.1	0.33	0.11	0.9	0.82	191,413,414,413
537	ok	s=10,m=13	0.03	0.10	0.27	1	2.0	0.6	151.0	0.21	0.13	0.8	0.82	152,177,415,

Trave	Stato	Note	V V/T	V N/M	V stab	Cl.	LamS 22	LamS 33	Snell.	Chi mn	V flst	LamS LT	Chi LT	Rif. cmb
														137
538	ok	s=10,m=13	0.03	0.37		1					0.09	0.3	1.00	409,461,0,409
539	ok	s=10,m=13	0.03	0.06		1					0.06	0.5	0.98	191,191,0,7
540	ok	s=10,m=13	0.05	0.15	0.24	1	1.9	0.5	146.7	0.23	0.19	0.8	0.83	191,7,77,7
541	ok	s=10,m=13	0.07	0.26	0.42	1	1.9	0.5	143.8	0.23	0.36	1.0	0.72	59,59,31,59
542	ok	s=10,m=13	0.04	0.14	0.11	1	1.5	0.4	117.1	0.33	0.10	0.7	0.92	31,449,412,409
543	ok	s=10,m=13	0.05	0.16	0.28	1	2.0	0.6	151.0	0.21	0.19	0.8	0.82	77,7,31,7
544	ok	s=10,m=13	0.05	0.40		1					0.13	0.3	1.00	31,462,0,412
545	ok	s=10,m=13	0.03	0.06		1					0.06	0.5	0.98	191,7,0,7
546	ok	s=10,m=13	0.05	0.15	0.12	1	1.9	0.5	146.7	0.23	0.19	0.8	0.83	191,7,416,7
547	ok	s=10,m=13	0.08	0.30	0.47	1	1.9	0.5	143.8	0.23	0.42	1.0	0.72	59,59,191,59
548	ok	s=10,m=13	0.05	0.16	0.29	1	1.5	0.4	117.1	0.33	0.16	0.9	0.82	31,450,31,412
549	ok	s=10,m=13	0.05	0.16	0.12	1	2.0	0.6	151.0	0.21	0.19	0.8	0.82	191,7,409,7
550	ok	s=10,m=13	0.06	0.40		1					0.16	0.3	1.00	31,458,0,31
551	ok	s=10,m=13	0.03	0.06		1					0.06	0.5	0.98	77,7,0,7
552	ok	s=10,m=13	0.05	0.15	0.13	1	1.9	0.5	146.7	0.23	0.19	0.8	0.83	77,7,415,7
553	ok	s=10,m=13	0.08	0.30	0.46	1	1.9	0.5	143.8	0.23	0.41	1.0	0.72	191,191,191,191
554	ok	s=10,m=13	0.06	0.16	0.37	1	1.5	0.4	117.1	0.33	0.19	0.9	0.82	31,31,31,31
555	ok	s=10,m=13	0.05	0.16	0.14	1	2.0	0.6	151.0	0.21	0.19	0.8	0.82	59,7,403,7
556	ok	s=10,m=13	0.04	0.34		1					0.08	0.3	1.00	191,452,0,412
557	ok	s=10,m=13	0.03	0.06		1					0.06	0.5	0.98	77,89,0,89
558	ok	s=10,m=13	0.05	0.15	0.24	1	1.9	0.5	146.7	0.23	0.19	0.8	0.83	77,7,191,7
559	ok	s=10,m=13	0.07	0.26	0.42	1	1.9	0.5	143.8	0.23	0.35	1.0	0.72	191,191,191,191
560	ok	s=10,m=13	0.05	0.13	0.15	1	1.5	0.4	117.1	0.33	0.11	0.9	0.81	191,452,191,104
561	ok	s=10,m=13	0.05	0.16	0.29	1	2.0	0.6	151.0	0.21	0.19	0.8	0.82	119,7,191,7
562	ok	s=10,m=13	0.03	0.42		1					0.09	0.3	1.00	407,454,0,407
563	ok	s=10,m=13	0.02	0.06	0.10	1	1.1	0.3	81.7	0.55	0.04	0.5	0.98	77,412,407,89
564	ok	s=10,m=13	0.03	0.10	0.30	1	1.9	0.5	146.7	0.23	0.12	0.8	0.83	77,89,407,89
565	ok	s=10,m=13	0.04	0.13	0.35	1	1.9	0.5	143.8	0.23	0.18	1.0	0.72	59,59,408,59
566	ok	s=10,m=13	0.03	0.11	0.21	1	1.5	0.4	117.1	0.33	0.10	0.7	0.92	191,415,416,407
567	ok	s=10,m=13	0.03	0.10	0.36	1	2.0	0.6	151.0	0.21	0.12	0.8	0.82	32,89,413,89
568	ok	s=21,m=13	0.11	0.39		1					0.19	8.96e-02	1.00	415,455,0,415
569	ok	s=21,m=13	0.05	0.27		1					0.11	0.2	1.00	416,410,0,416
570	ok	s=21,m=13	0.02	0.11	0.23	1	1.1	0.3	80.5	0.56	0.08	0.6	0.99	406,415,413,410
571	ok	s=21,m=13	0.03	0.12	0.20	1	1.0	0.3	78.9	0.58	0.12	0.6	0.98	410,410,414,410
572	ok	s=21,m=13	0.05	0.33	0.30	1	0.8	0.2	64.3	0.70	0.19	0.5	1.00	415,455,415,415
573	ok	s=21,m=13	0.02	0.20	0.26	1	1.1	0.3	82.9	0.54	0.11	0.3	1.00	179,416,416,416
574	ok	s=21,m=13	0.11	0.41		1					0.20	8.96e-02	1.00	413,453,0,413
575	ok	s=21,m=13	0.05	0.29		1					0.10	0.2	1.00	406,412,0,406
576	ok	s=21,m=13	0.01	0.12	0.22	1	1.1	0.3	80.5	0.56	0.08	0.6	0.99	408,413,413,412
577	ok	s=21,m=13	0.03	0.13	0.19	1	1.0	0.3	78.9	0.58	0.12	0.6	0.97	412,412,416,412
578	ok	s=21,m=13	0.05	0.30	0.28	1	0.8	0.2	64.3	0.70	0.20	0.5	1.00	413,453,407,413
579	ok	s=21,m=13	0.02	0.18	0.24	1	1.1	0.3	82.9	0.54	0.11	0.7	0.96	195,191,414,406
580	ok	s=22,m=13	0.14	0.26		2					0.26	6.31e-02	1.00	77,77,0,77
581	ok	s=22,m=13	0.04	0.10		2					0.08	0.2	1.00	416,408,0,416
582	ok	s=22,m=13	7.64e-03	0.10	0.18	2	0.7	0.4	53.6	0.72	0.03	0.4	1.00	416,412,412,408
583	ok	s=22,m=13	7.88e-03	0.06		2					0.03	0.4	1.00	59,412,0,412
584	ok	s=22,m=13	0.08	0.26		2					0.26	0.1	1.00	77,77,0,77
585	ok	s=22,m=13	0.01	0.12	0.23	2	0.7	0.4	55.8	0.71	0.08	0.5	1.00	409,197,191,416
586	ok	s=22,m=13	0.14	0.26		2					0.26	6.31e-02	1.00	191,191,0,19

Trave	Stato	Note	V V/T	V N/M	V stab	Cl.	LamS 22	LamS 33	Snell.	Chi mn	V flst	LamS LT	Chi LT	Rif. cmb
														1
587	ok	s=22,m=13	0.03	0.10		2					0.08	0.2	1.00	414,414,0,414
588	ok	s=22,m=13	7.07e-03	0.09	0.16	2	0.7	0.4	53.6	0.72	0.03	0.4	1.00	414,410,410,414
589	ok	s=22,m=13	7.89e-03	0.06		2					0.02	0.4	1.00	59,191,0,410
590	ok	s=22,m=13	0.08	0.26		2					0.26	0.1	1.00	191,191,0,191
591	ok	s=22,m=13	0.01	0.13	0.21	2	0.7	0.4	55.8	0.71	0.09	0.5	1.00	411,414,191,414
592	ok	s=20,m=13	0.05	0.16		2					0.13	0.5	1.00	199,199,0,199
593	ok	s=20,m=13	0.05	0.13		2					0.11	0.5	1.00	209,199,0,199
594	ok	s=8,m=13	0.09	0.25		1					0.22	3.18e-02	1.00	31,462,0,31
595	ok	s=8,m=13	0.04	0.29		1					0.08	0.1	1.00	31,464,0,31
596	ok	s=8,m=13	8.53e-03	0.13		1					0.08	0.2	1.00	129,464,0,31
597	ok	s=8,m=13	0.04	0.26		1					0.08	0.1	1.00	31,444,0,31
598	ok	s=8,m=13	0.07	0.26		1					0.17	0.1	1.00	31,444,0,31
606	ok	s=8,m=13	2.03e-03	5.47e-03		1					5.04e-03	2.90e-02	1.00	458,191,0,191
608	ok	s=10,m=13	0.08	0.29	0.09	1	2.3	0.6	175.2	0.16	0.39	0.9	0.76	31,31,451,31
609	ok	s=10,m=13	0.08	0.29	0.17	1	2.3	0.6	175.2	0.16	0.39	0.9	0.76	31,31,438,31
610	ok	s=10,m=13	0.08	0.29	0.18	1	2.3	0.6	175.2	0.16	0.39	0.9	0.76	31,31,458,31
611	ok	s=10,m=13	0.08	0.29	0.07	1	2.3	0.6	175.2	0.16	0.39	0.9	0.76	31,31,443,31
612	ok	s=10,m=13	0.08	0.29	0.11	1	2.3	0.6	175.2	0.16	0.39	0.9	0.76	151,151,403,151
613	ok	s=10,m=13	0.08	0.29		1					0.39	0.9	0.76	31,31,0,31
614	ok	s=10,m=13	0.08	0.29		1					0.39	0.9	0.76	31,31,0,31
615	ok	s=10,m=13	0.08	0.29	0.07	1	2.3	0.6	175.2	0.16	0.39	0.9	0.76	103,31,409,31
616	ok	s=10,m=13	0.08	0.29	0.12	1	2.3	0.6	175.2	0.16	0.39	0.9	0.76	31,151,409,151
622	ok	s=11,m=13	0.04	0.14		2					0.16	0.8	0.85	219,413,0,413
625	ok	s=8,m=13	0.08	0.21		1					0.18	0.1	1.00	31,31,0,31
626	ok	s=8,m=13	0.10	0.23		1					0.23	3.17e-02	1.00	31,31,0,31
627	ok	s=8,m=13	0.10	0.24		1					0.22	3.16e-02	1.00	31,31,0,31
628	ok	s=8,m=13	0.04	0.19		1					0.09	0.1	1.00	31,461,0,31
629	ok	s=8,m=13	9.15e-03	0.10		1					0.09	0.2	1.00	167,456,0,31
630	ok	s=8,m=13	0.04	0.18		1					0.09	0.1	1.00	31,441,0,31
631	ok	s=8,m=13	0.08	0.18		1					0.18	0.1	1.00	31,31,0,31
632	ok	s=11,m=13	0.06	0.15	0.22	2	1.4	0.9	110.4	0.33	0.17	0.8	0.85	75,85,85,85
635	ok	s=8,m=13	0.12	0.32		1					0.16	0.1	1.00	31,454,0,31
636	ok	s=8,m=13	0.16	0.56		1					0.23	3.16e-02	1.00	31,446,0,31
637	ok	s=8,m=13	0.16	0.66		1					0.20	2.76e-02	1.00	31,464,0,31
638	ok	s=8,m=13	0.06	0.32		1					0.31	0.2	1.00	31,454,0,31
639	ok	s=8,m=13	0.03	0.31		1					0.31	0.2	1.00	168,31,0,31
640	ok	s=8,m=13	0.06	0.30		1					0.30	0.1	1.00	31,31,0,31
641	ok	s=8,m=13	0.13	0.25		1					0.16	0.1	1.00	31,444,0,31
642	ok	s=11,m=13	0.07	0.16		2					0.15	0.5	1.00	123,85,0,67
645	ok	s=8,m=13	0.14	0.28		1					0.20	0.1	1.00	31,462,0,59
646	ok	s=8,m=13	0.18	0.24		1					0.22	3.10e-02	1.00	31,31,0,31
647	ok	s=8,m=13	0.18	0.22		1					0.21	2.95e-02	1.00	31,31,0,31
648	ok	s=8,m=13	0.07	0.37		1					0.37	0.1	1.00	31,31,0,31
649	ok	s=8,m=13	0.07	0.57		1					0.37	8.73e-02	1.00	456,456,0,31
650	ok	s=8,m=13	0.07	0.37		1					0.36	0.1	1.00	31,31,0,31
651	ok	s=8,m=13	0.14	0.23		1					0.20	0.1	1.00	31,436,0,77
652	ok	s=14,m=13	0.03	0.22		2					0.08	0.5	1.00	47,197,0,31
655	ok	s=16,m=13	0.02	0.12		1								410,434,0,0
656	ok	s=6,m=13	7.06e-03	0.10	0.30	1	1.4	0.4	103.8	0.40	0.06	0.8	0.80	191,446,459,31
657	ok	s=6,m=13	0.01	0.09	0.21	1	1.4	0.4	103.8	0.40	0.05	0.8	0.80	191,438,459,199
658	ok	s=16,m=13	0.04	0.09		1								454,450,0,0
659	ok	s=6,m=13	0.04	0.22	0.38	1	1.4	0.4	103.8	0.40	0.23	0.8	0.90	31,456,440,31
660	ok	s=16,m=13	0.03	0.17		1								31,31,0,0
661	ok	s=6,m=13	0.02	0.12	0.25	1	1.4	0.4	103.8	0.40	0.10	0.8	0.80	191,462,462,191
662	ok	s=16,m=13	0.03	0.11		1								31,31,0,0
663	ok	s=16,m=13	0.03	0.15		1								31,31,0,0
664	ok	s=16,m=13	0.03	0.23		1								59,31,0,0
665	ok	s=10,m=13	0.05	0.21	0.54	1	2.5	0.7	189.1	0.14	0.29	1.0	0.72	31,151,448,1

Trave	Stato	Note	V V/T	V N/M	V stab	Cl.	LamS 22	LamS 33	Snell.	Chi mn	V flst	LamS LT	Chi LT	Rif. cmb
														51
666	ok	s=10,m=13	0.05	0.21	0.34	1	2.5	0.7	189.1	0.14	0.29	1.0	0.72	31,31,151,31
667	ok	s=10,m=13	0.04	0.12	0.19	1	1.9	0.5	141.6	0.24	0.14	0.8	0.84	31,151,463,151
668	ok	s=16,m=13	0.02	0.23		1								436,436,0,0
669	ok	s=11,m=13	0.04	0.11		2					0.11	0.5	1.00	189,189,0,189
670	ok	s=8,m=13	0.11	0.33		1					0.33	0.1	1.00	31,31,0,31
672	ok	s=8,m=13	0.11	0.33		1					0.33	0.1	1.00	31,31,0,31
673	ok	s=8,m=13	0.14	0.10		1					0.07	2.40e-02	1.00	31,402,0,31
674	ok	s=8,m=13	0.14	0.13		1					0.07	2.40e-02	1.00	31,462,0,31
675	ok	s=8,m=13	0.06	0.47		1					0.47	0.2	1.00	31,31,0,31
676	ok	s=8,m=13	0.08	0.57		1					0.47	8.68e-02	1.00	451,454,0,31
677	ok	s=8,m=13	0.06	0.47		1					0.47	0.2	1.00	31,31,0,31
678	ok	s=10,m=13	0.04	0.15	0.16	1	2.1	0.6	158.6	0.20	0.18	0.9	0.80	31,151,453,151
679	ok	s=10,m=13	0.09	0.34	0.11	1	2.5	0.7	189.1	0.14	0.47	1.0	0.72	31,31,455,31
680	ok	s=10,m=13	0.09	0.34	0.08	1	2.5	0.7	189.1	0.14	0.47	1.0	0.72	31,31,441,31
681	ok	s=10,m=13	0.07	0.19	0.12	1	1.9	0.5	141.6	0.24	0.23	0.8	0.84	31,31,459,31
682	ok	s=10,m=13	0.07	0.24	0.08	1	2.1	0.6	158.6	0.20	0.30	0.9	0.80	31,151,455,31
683	ok	s=10,m=13	0.09	0.34	0.12	1	2.5	0.7	189.1	0.14	0.47	1.0	0.72	31,31,411,31
684	ok	s=10,m=13	0.09	0.34	0.18	1	2.5	0.7	189.1	0.14	0.47	1.0	0.72	31,31,460,31
685	ok	s=10,m=13	0.07	0.19	0.11	1	1.9	0.5	141.6	0.24	0.23	0.8	0.84	31,31,442,31
686	ok	s=10,m=13	0.07	0.24	0.21	1	2.1	0.6	158.6	0.20	0.30	0.9	0.80	31,31,451,31
687	ok	s=10,m=13	0.09	0.34	0.11	1	2.5	0.7	189.1	0.14	0.47	1.0	0.72	31,31,411,31
688	ok	s=10,m=13	0.09	0.34	0.19	1	2.5	0.7	189.1	0.14	0.47	1.0	0.72	31,31,456,31
689	ok	s=10,m=13	0.07	0.19	0.11	1	1.9	0.5	141.6	0.24	0.23	0.8	0.84	31,31,462,31
690	ok	s=10,m=13	0.07	0.24	0.20	1	2.1	0.6	158.6	0.20	0.30	0.9	0.80	31,31,451,31
691	ok	s=10,m=13	0.09	0.34	0.08	1	2.5	0.7	189.1	0.14	0.47	1.0	0.72	31,31,448,31
692	ok	s=10,m=13	0.09	0.34	0.10	1	2.5	0.7	189.1	0.14	0.47	1.0	0.72	31,31,433,31
693	ok	s=10,m=13	0.07	0.19	0.11	1	1.9	0.5	141.6	0.24	0.23	0.8	0.84	31,31,447,31
694	ok	s=10,m=13	0.07	0.24	0.07	1	2.1	0.6	158.6	0.20	0.30	0.9	0.80	31,31,439,31
695	ok	s=10,m=13	0.05	0.21	0.56	1	2.5	0.7	189.1	0.14	0.29	1.0	0.72	31,103,459,103
696	ok	s=10,m=13	0.05	0.21	0.39	1	2.5	0.7	189.1	0.14	0.29	1.0	0.72	31,31,459,31
697	ok	s=10,m=13	0.04	0.12	0.27	1	1.9	0.5	141.6	0.24	0.14	0.8	0.84	31,31,435,31
698	ok	s=10,m=13	0.04	0.15	0.15	1	2.1	0.6	158.6	0.20	0.18	0.9	0.80	31,31,459,31
699	ok	s=5,m=13	0.02	0.12		2					0.10	0.6	1.00	85,181,0,85
700	ok	s=5,m=13	0.02	0.13		2					0.09	0.4	1.00	436,218,0,436
701	ok	s=5,m=13	0.01	0.04		2					0.04	0.6	0.98	237,237,0,237
702	ok	s=5,m=13	0.01	0.05	0.11	2	0.9	0.5	69.8	0.59	0.04	0.6	0.98	229,77,77,229
703	ok	s=5,m=13	6.76e-03	0.05	0.11	2	0.9	0.5	69.8	0.59	0.03	0.6	0.98	195,77,77,191
704	ok	s=5,m=13	0.01	0.07		2					0.06	0.5	1.00	31,452,0,436
705	ok	s=11,m=13	0.07	0.17		2					0.16	0.5	1.00	181,85,0,85
706	ok	s=11,m=13	0.07	0.18		2					0.17	0.5	1.00	67,199,0,67
707	ok	s=10,m=13	0.08	0.29	0.22	1	2.3	0.6	175.2	0.16	0.39	0.9	0.76	31,31,461,31
708	ok	s=10,m=13	0.08	0.29	0.18	1	2.3	0.6	175.2	0.16	0.39	0.9	0.76	31,31,461,31
709	ok	s=10,m=13	0.08	0.29	0.07	1	2.3	0.6	175.2	0.16	0.39	0.9	0.76	31,103,409,103
710	ok	s=10,m=13	0.08	0.29	0.14	1	2.3	0.6	175.2	0.16	0.39	0.9	0.76	31,31,425,31
711	ok	s=10,m=13	0.08	0.29		1					0.39	0.9	0.76	31,31,0,31
712	ok	s=10,m=13	0.08	0.29		1					0.39	0.9	0.76	31,31,0,31
713	ok	s=10,m=13	0.08	0.29	0.09	1	2.3	0.6	175.2	0.16	0.39	0.9	0.76	31,31,417,31
718	ok	s=8,m=13	0.05	0.44		1					0.39	8.50e-02	1.00	461,464,0,31
719	ok	s=8,m=13	0.10	0.79		1					0.37	8.33e-02	1.00	460,460,0,31
720	ok	s=16,m=13	0.02	0.11		1								413,413,0,0
721	ok	s=16,m=13	0.02	0.16		1								31,31,0,0
722	ok	s=16,m=13	0.03	0.23		1								31,31,0,0
723	ok	s=16,m=13	5.48e-03	0.04		1								407,414,0,0
724	ok	s=16,m=13	0.02	0.10		1								31,191,0,0
725	ok	s=10,m=13	0.08	0.29	0.12	1	2.3	0.6	175.2	0.16	0.39	0.9	0.76	151,31,425,31
726	ok	s=10,m=13	0.08	0.29	0.15	1	2.3	0.6	175.2	0.16	0.39	0.9	0.76	31,31,461,31
727	ok	s=10,m=13	0.08	0.29	0.12	1	2.3	0.6	175.2	0.16	0.39	0.9	0.76	31,31,461,31
728	ok	s=10,m=13	0.08	0.29		1					0.39	0.9	0.76	103,31,0,31
729	ok	s=10,m=13	0.08	0.29	0.14	1	2.3	0.6	175.2	0.16	0.39	0.9	0.76	31,31,449,31
730	ok	s=10,m=13	0.08	0.29	0.20	1	2.3	0.6	175.2	0.16	0.39	0.9	0.76	31,31,448,31
731	ok	s=8,m=13	0.05	0.41		1					0.28	9.25e-02	1.00	443,435,0,444

Trave	Stato	Note	V V/T	V N/M	V stab	Cl.	LamS 22	LamS 33	Snell.	Chi mn	V flst	LamS LT	Chi LT	Rif. cmb
732	ok	s=8,m=13	0.03	0.26		1					0.20	8.95e-02	1.00	429,229,0,77
733	ok	s=5,m=13	0.05	0.15		2					0.13	0.5	1.00	133,85,0,28
734	ok	s=8,m=13	0.05	0.59		1					0.29	0.1	1.00	31,59,0,59
735	ok	s=8,m=13	0.03	0.31		1					0.22	9.67e-02	1.00	207,413,0,410
736	ok	s=10,m=13	0.08	0.29	0.20	1	2.3	0.6	175.2	0.16	0.39	0.9	0.76	31,31,460,31
737	ok	s=10,m=13	0.08	0.29	0.08	1	2.3	0.6	175.2	0.16	0.39	0.9	0.76	31,31,441,31
738	ok	s=11,m=13	0.05	0.32		2					0.30	0.8	1.00	410,410,0,410
739	ok	s=11,m=13	0.07	0.19		2					0.17	0.5	1.00	133,85,0,85
740	ok	s=11,m=13	0.07	0.16		2					0.19	0.8	0.85	133,85,0,85
741	ok	s=11,m=13	0.07	0.19		2					0.17	0.5	1.00	133,85,0,85
742	ok	s=11,m=13	0.07	0.17	0.20	2	1.4	0.9	110.4	0.33	0.19	0.8	0.85	171,85,430,67
743	ok	s=11,m=13	0.07	0.21		2					0.19	0.5	1.00	133,414,0,414
744	ok	s=8,m=13	0.07	0.57		1					0.37	8.28e-02	1.00	456,456,0,31
745	ok	s=8,m=13	0.08	0.57		1					0.47	8.68e-02	1.00	451,454,0,31
746	ok	s=8,m=13	7.99e-03	0.02		1					0.02	0.2	1.00	197,199,0,197
747	ok	s=8,m=13	0.08	0.17		1					0.14	0.2	1.00	191,412,0,412
748	ok	s=8,m=13	0.09	0.22		1					0.17	0.2	1.00	412,410,0,410
749	ok	s=8,m=13	0.10	0.20		1					0.15	0.2	1.00	191,414,0,414
750	ok	s=8,m=13	0.10	0.22		1					0.16	0.2	1.00	191,402,0,402
751	ok	s=11,m=13	0.06	0.36		2					0.33	0.8	1.00	411,411,0,411
752	ok	s=11,m=13	0.07	0.19		2					0.17	0.5	1.00	171,402,0,67
754	ok	s=8,m=13	0.02	0.13		1					0.08	7.60e-02	1.00	160,462,0,47
755	ok	s=14,m=13	0.04	0.22		2					0.13	0.5	1.00	47,197,0,43
764	ok	s=6,m=13	6.09e-03	0.21		2					0.02	6.31e-02	1.00	191,425,0,432
768	ok	s=16,m=13	0.13	0.49		1								417,417,0,0
769	ok	s=16,m=13	0.03	0.13		1								418,418,0,0
770	ok	s=16,m=13	0.04	0.18		1								432,425,0,0
771	ok	s=10,m=13	0.19	0.88		1					0.13	4.87e-02	1.00	462,462,0,456
772	ok	s=10,m=13	0.03	0.17		1					0.12	0.2	1.00	454,454,0,59
773	ok	s=10,m=13	0.02	0.20		1					0.11	0.2	1.00	167,454,0,59
774	ok	s=10,m=13	0.10	0.73		1					0.13	6.25e-02	1.00	453,462,0,462
775	ok	s=10,m=13	0.01	0.16		1					0.05	0.4	1.00	167,454,0,416
776	ok	s=10,m=13	0.03	0.17		1					0.12	0.2	1.00	59,454,0,59
777	ok	s=10,m=13	0.03	0.16		1					0.12	0.2	1.00	456,456,0,59
778	ok	s=10,m=13	0.02	0.03		1					2.54e-05	7.02e-02	1.00	31,425,0,152
779	ok	s=10,m=13	0.01	0.02		1					6.61e-04	0.3	1.00	77,429,0,32
780	ok	s=10,m=13	4.25e-03	9.07e-03		1					6.61e-04	0.3	1.00	532,429,0,103
781	ok	s=10,m=13	0.02	0.03		1					2.54e-05	7.02e-02	1.00	77,423,0,123
782	ok	s=10,m=13	4.48e-03	2.95e-03		1					6.61e-04	0.3	1.00	129,230,0,151
783	ok	s=10,m=13	4.13e-03	7.72e-03		1					6.61e-04	0.3	1.00	536,425,0,59
784	ok	s=10,m=13	0.01	0.02		1					6.61e-04	0.3	1.00	77,425,0,177
801	ok	s=13,m=11	0.08	0.24		1								28,436,0,0
802	ok	s=13,m=11	7.06e-03	0.17	0.20	1	0.6	0.6	60.3	0.87				439,436,436,0
803	ok	s=13,m=11	0.01	0.32		1								59,436,0,0
804	ok	s=6,m=13	5.16e-03	0.13	0.28	1	1.1	0.3	82.9	0.54	0.02	0.7	0.89	446,407,407,412
805	ok	s=5,m=13	6.24e-03	0.21		2					0.02	4.50e-02	1.00	235,31,0,223
806	ok	s=6,m=13	5.00e-03	0.18	0.37	1	1.1	0.3	82.9	0.54	0.02	0.7	0.89	451,403,403,416
807	ok	s=5,m=13	6.23e-03	0.21		2					0.02	4.51e-02	1.00	235,31,0,223
808	ok	s=6,m=13	0.01	0.18	0.28	1	0.9	0.2	66.4	0.68	0.04	0.5	0.97	229,412,412,229
809	ok	s=6,m=13	0.01	0.15	0.22	1	0.9	0.2	66.4	0.68	0.04	0.5	0.97	229,435,407,229
810	ok	s=6,m=13	0.01	0.22		1					0.04	0.1	1.00	191,453,0,191
811	ok	s=6,m=13	0.01	0.25		1					0.04	0.1	1.00	191,433,0,191

Trave	Stato	Note	V V/T	V N/M	V stab	Cl.	LamS 22	LamS 33	Snell.	Chi mn	V flst	LamS LT	Chi LT	Rif. cmb
812	ok	s=5,m=13	0.01	0.13	0.20	2	0.6	0.4	44.6	0.79	0.04	0.4	1.00	191,31,77,191
813	ok	s=5,m=13	0.01	0.13	0.19	2	0.6	0.4	44.6	0.79	0.04	0.4	1.00	191,31,59,191
814	ok	s=5,m=13	5.62e-03	0.21	0.31	2	0.7	0.4	55.7	0.71	0.02	0.5	1.00	197,31,31,191
815	ok	s=6,m=13	0.03	0.25		1					0.07	0.2	1.00	31,462,0,31
816	ok	s=5,m=13	0.01	0.13		2					0.05	9.43e-02	1.00	229,31,0,229
817	ok	s=5,m=13	5.49e-03	0.21	0.31	2	0.7	0.4	55.7	0.71	0.02	0.5	1.00	197,31,31,191
818	ok	s=6,m=13	6.04e-03	0.17		1					0.01	6.36e-02	1.00	191,429,0,428
819	ok	s=5,m=13	0.01	0.13		2					0.05	9.43e-02	1.00	229,31,0,229
820	ok	s=5,m=13	9.47e-03	0.07		2					0.03	0.4	1.00	191,31,0,191
821	ok	s=5,m=13	0.01	0.10		2					0.05	0.4	1.00	191,31,0,191
822	ok	s=5,m=13	9.79e-03	0.07		2					0.03	0.1	1.00	424,448,0,424
823	ok	s=5,m=13	0.03	0.17		2					0.10	0.1	1.00	31,31,0,31
824	ok	s=6,m=13	9.51e-03	0.20	0.34	1	0.9	0.2	69.7	0.65	0.04	0.6	0.95	229,462,462,229
825	ok	s=6,m=13	0.01	0.10	0.22	1	0.9	0.2	69.7	0.65	0.05	0.6	0.95	229,463,458,229
827	ok	s=16,m=13	0.17	0.43		1								422,419,0,0
Trave			**V V/T**	**V N/M**	**V stab**		**LamS 22**	**LamS 33**	**Snell.**	**Chi mn**	**V flst**	**LamS LT**	**Chi LT**	
										0.13			0.70	
			0.20	0.97	0.98		2.61	0.87	199.33		0.54	1.03		

Pilas.	Stato	Note	V V/T	V N/M	V stab	Cl.	LamS 22	LamS 33	Snell.	Chi mn	V flst	LamS LT	Chi LT	Rif. cmb
164	ok	s=7,m=13	0.09	0.48	0.51	2	0.9	0.6	70.2	0.59	0.44	0.2	1.00	409,409,410,409
165	ok	s=7,m=13	0.08	0.46	0.48	2	0.9	0.6	70.2	0.59	0.43	0.2	1.00	410,426,408,410
166	ok	s=7,m=13	0.10	0.52	0.55	2	0.9	0.6	70.2	0.59	0.48	0.2	1.00	405,405,406,405
167	ok	s=7,m=13	0.10	0.54	0.57	2	0.9	0.6	70.2	0.59	0.49	0.2	1.00	411,411,412,411
187	ok	s=7,m=13	0.05	0.30	0.23	2	0.9	0.6	70.2	0.59	0.26	0.2	1.00	419,422,81,422
188	ok	s=7,m=13	0.05	0.32	0.32	2	0.9	0.6	70.2	0.59	0.26	0.2	1.00	422,430,430,422
189	ok	s=7,m=13	0.08	0.46		2					0.39	0.2	1.00	419,422,0,422
190	ok	s=7,m=13	0.08	0.56		2					0.38	0.2	1.00	422,422,0,421
207	ok	s=7,m=13	0.07	0.44		2					0.35	0.4	1.00	63,77,0,77
208	ok	s=7,m=13	0.07	0.32		2					0.31	0.4	1.00	63,77,0,77
209	ok	s=7,m=13	0.07	0.44		2					0.34	0.4	1.00	424,424,0,424
210	ok	s=7,m=13	0.06	0.48	0.46	2	0.9	0.6	70.2	0.59	0.35	0.4	1.00	67,59,59,59
211	ok	s=7,m=13	0.08	0.40		2					0.36	0.4	1.00	81,59,0,59
212	ok	s=7,m=13	0.07	0.40		2					0.35	0.4	1.00	81,59,0,59
240	ok	s=7,m=13	0.06	0.41	0.43	2	0.9	0.6	70.2	0.59	0.32	0.4	1.00	81,59,59,59
241	ok	s=7,m=13	0.06	0.36		2					0.30	0.4	1.00	81,59,0,59
242	ok	s=7,m=13	0.06	0.32		2					0.32	0.4	1.00	81,59,0,59
243	ok	s=7,m=13	0.06	0.37		2					0.31	0.4	1.00	81,59,0,59
319	ok	s=19,m=13	0.03	0.20	0.22	2	0.9	0.6	70.2	0.59	0.17	0.4	1.00	81,229,229,191
320	ok	s=19,m=13	0.03	0.21	0.24	2	0.9	0.6	70.2	0.59	0.19	0.4	1.00	85,77,77,77
330	ok	s=19,m=13	0.03	0.23	0.26	2	0.9	0.6	70.2	0.59	0.17	0.4	1.00	85,444,445,444
331	ok	s=19,m=13	0.04	0.26	0.26	2	0.9	0.6	70.2	0.59	0.21	0.4	1.00	448,448,441,448
340	ok	s=19,m=13	0.04	0.21	0.18	2	0.9	0.5	68.2	0.60	0.21	0.4	1.00	425,425,420,425
341	ok	s=19,m=13	0.04	0.21	0.23	2	0.9	0.5	68.2	0.60	0.20	0.4	1.00	431,426,432,431
346	ok	s=19,m=13	0.04	0.20	0.24	2	0.9	0.6	70.2	0.59	0.20	0.2	1.00	419,430,420,430
347	ok	s=19,m=13	0.04	0.19	0.21	2	0.9	0.6	70.2	0.59	0.19	0.2	1.00	429,429,424,429
356	ok	s=19,m=13	0.04	0.41		2					0.23	0.4	1.00	77,229,0,59
357	ok	s=19,m=13	0.04	0.44		2					0.27	0.4	1.00	77,77,0,77
366	ok	s=19,m=13	0.04	0.22		2					0.18	0.4	1.00	85,191,0,191
367	ok	s=19,m=13	0.04	0.24		2					0.21	0.4	1.00	85,77,0,77
438	ok	s=7,m=13	0.06	0.42	0.43	2	0.9	0.6	70.2	0.59	0.33	0.4	1.00	81,59,59,59
439	ok	s=7,m=13	0.06	0.42	0.43	2	0.9	0.6	70.2	0.59	0.33	0.4	1.00	63,77,77,77
440	ok	s=7,m=13	0.06	0.37		2					0.31	0.4	1.00	63,77,0,77
441	ok	s=7,m=13	0.06	0.32		2					0.32	0.4	1.00	63,77,0,77
442	ok	s=7,m=13	0.06	0.36		2					0.30	0.4	1.00	63,77,0,77
443	ok	s=7,m=13	0.06	0.42	0.43	2	0.9	0.6	70.2	0.59	0.33	0.4	1.00	63,77,77,77
482	ok	s=19,m=13	0.05	0.26	0.29	2	0.9	0.6	70.2	0.59	0.23	0.4	1.00	197,191,191,191
483	ok	s=19,m=13	0.04	0.23	0.25	2	0.9	0.6	70.2	0.59	0.20	0.4	1.00	197,59,59,77
493	ok	s=19,m=13	0.06	0.25	0.23	2	0.9	0.6	70.2	0.59	0.22	0.4	1.00	197,412,407,412
494	ok	s=19,m=13	0.03	0.23	0.24	2	0.9	0.6	70.2	0.59	0.20	0.4	1.00	199,412,415,402

Pilas.	Stato	Note	V V/T	V N/M	V stab	Cl.	LamS 22	LamS 33	Snell.	Chi mn	V flst	LamS LT	Chi LT	Rif. cmb
503	ok	s=19,m=13	0.04	0.16	0.22	2	0.9	0.6	70.2	0.59	0.15	0.2	1.00	187,208,197,187
504	ok	s=19,m=13	0.03	0.14	0.18	2	0.9	0.6	70.2	0.59	0.12	0.4	1.00	198,198,197,198
512	ok	s=19,m=13	0.07	0.46		2					0.29	0.4	1.00	197,191,0,191
513	ok	s=19,m=13	0.05	0.42		2					0.24	0.4	1.00	197,59,0,59
522	ok	s=19,m=13	0.06	0.27	0.27	2	0.9	0.6	71.2	0.58	0.24	0.4	1.00	197,197,199,197
523	ok	s=19,m=13	0.04	0.23	0.25	2	0.9	0.6	71.2	0.58	0.19	0.4	1.00	199,77,77,77
623	ok	s=7,m=13	0.04	0.22		2					0.20	0.3	1.00	403,404,0,403
624	ok	s=7,m=13	0.04	0.24	0.19	2	0.9	0.6	70.2	0.59	0.20	0.4	1.00	413,414,199,413
633	ok	s=7,m=13	0.05	0.32	0.37	2	0.9	0.6	70.2	0.59	0.24	0.4	1.00	67,191,31,31
634	ok	s=7,m=13	0.07	0.33		2					0.25	0.4	1.00	81,31,0,31
643	ok	s=7,m=13	0.08	0.34		2					0.31	0.4	1.00	63,31,0,31
644	ok	s=7,m=13	0.08	0.36		2					0.32	0.4	1.00	81,191,0,31
653	ok	s=7,m=13	0.02	0.24	0.28	2	0.9	0.6	70.2	0.59	0.08	0.4	1.00	81,199,199,77
654	ok	s=7,m=13	0.03	0.17		2					0.15	0.4	1.00	65,65,0,65
671	ok	s=7,m=13	0.04	0.19	0.22	2	0.9	0.6	70.2	0.59	0.16	0.2	1.00	85,199,67,85
753	ok	s=27,m=11	0.09	0.55		1								217,198,0,0
785	ok	s=10,m=13	0.26	0.18		1					0.15	3.18e-02	1.00	414,191,0,59
786	ok	s=10,m=13	0.19	0.27		1					0.26	3.13e-02	1.00	416,191,0,59
787	ok	s=10,m=13	0.14	0.30		1					0.30	3.06e-02	1.00	414,59,0,59
788	ok	s=10,m=13	0.15	0.31		1					0.30	3.07e-02	1.00	413,191,0,191
789	ok	s=10,m=13	0.19	0.28		1					0.25	3.13e-02	1.00	414,191,0,191
790	ok	s=10,m=13	0.27	0.18		1					0.13	2.74e-02	1.00	414,191,0,412
791	ok	s=21,m=13	0.26	0.26		1					0.14	1.51e-02	1.00	409,450,0,410
792	ok	s=21,m=13	0.30	0.26		1					0.14	1.62e-02	1.00	411,452,0,412
793	ok	s=10,m=13	0.28	0.59		1					0.05	2.94e-02	1.00	446,444,0,431
794	ok	s=10,m=13	0.26	0.26		1					0.25	3.18e-02	1.00	438,77,0,77
795	ok	s=10,m=13	0.14	0.33		1					0.32	3.09e-02	1.00	444,77,0,77
796	ok	s=10,m=13	0.14	0.32		1					0.32	3.08e-02	1.00	444,77,0,77
797	ok	s=10,m=13	0.27	0.25		1					0.25	3.18e-02	1.00	442,77,0,77
798	ok	s=10,m=13	0.27	0.57		1					0.05	2.83e-02	1.00	462,441,0,425
799	ok	s=21,m=13	0.31	0.58		1					0.13	1.69e-02	1.00	446,444,0,425
800	ok	s=21,m=13	0.42	0.69		1					0.13	1.75e-02	1.00	447,448,0,431
Pilas.			**V V/T**	**V N/M**	**V stab**		**LamS 22**	**LamS 33**	**Snell.**	**Chi mn**	**V flst**	**LamS LT**	**Chi LT**	
										0.58			1.00	
			0.42	0.69	0.57		0.93	0.56	71.24		0.49	0.42		

STATI LIMITE D' ESERCIZIO ACCIAIO

LEGENDA TABELLA STATI LIMITE D' ESERCIZIO ACCIAIO

In tabella vengono riportati i valori di interesse per il controllo degli stati limite d'esercizio.

In particolare vengono riportati, per gli elementi trave, i risultati relativi alle combinazioni considerate (rare o caratteristiche).

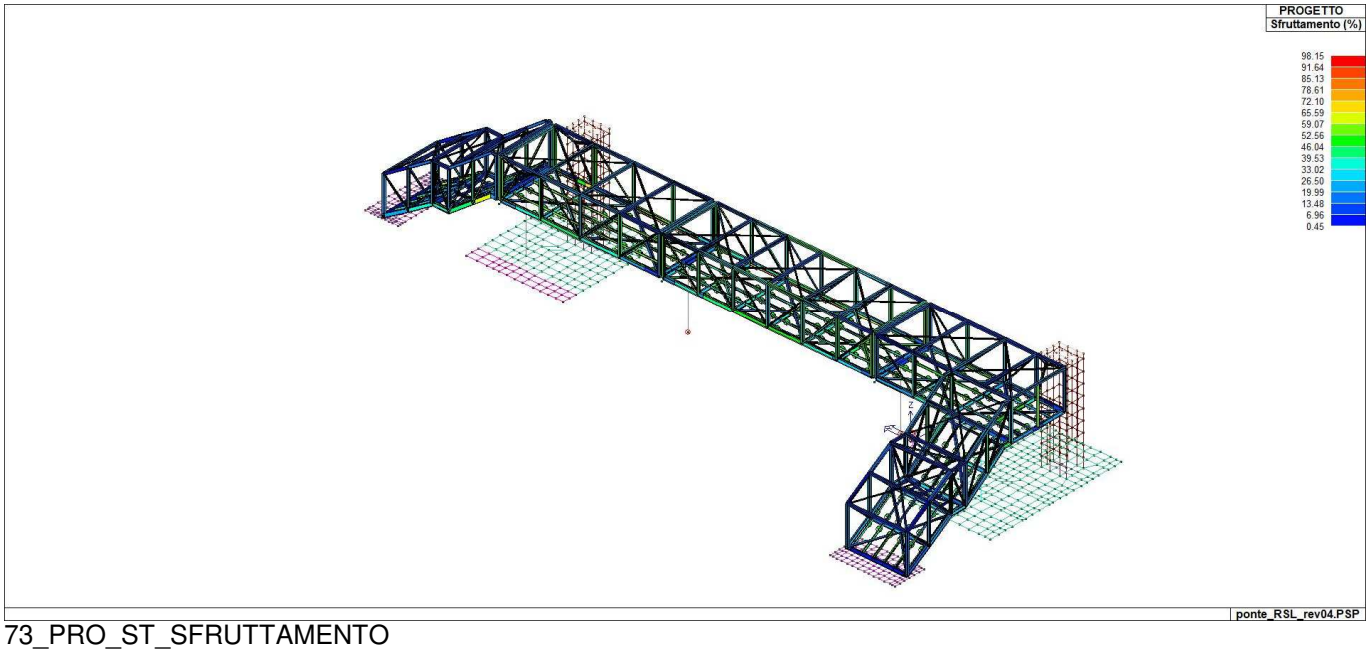
I valori di interesse sono i seguenti:

f*1000/L	massima deformazione normalizzata in combinazioni rare

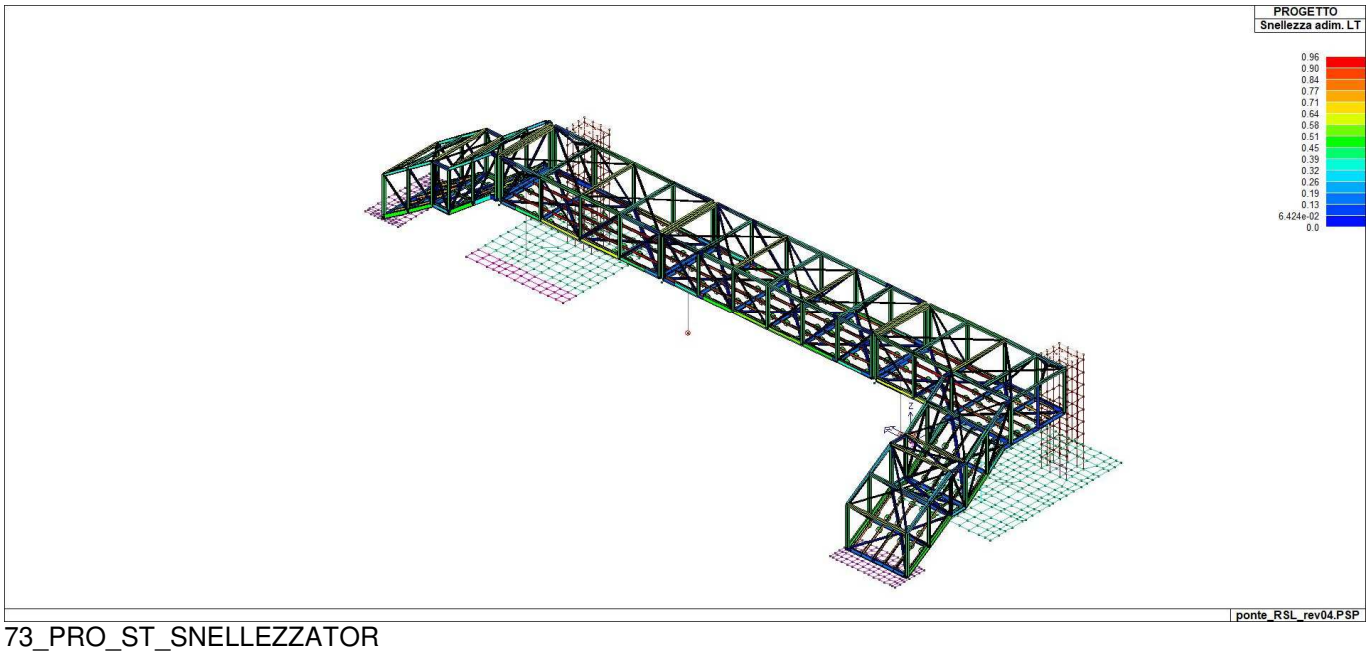
Si precisa che i valori di massima deformazione per travi sono riferiti ai due piani locali (1-2 con momenti flettenti 3-3 e 1-3 con momenti flettenti 2-2). Il valore riportato (massimo) è espresso in 1000/L per rendere agevole il confronto di più valori e in particolare di più range di valori (ad esempio 2 rappresenta L/500, 4 L/250 e cosi via).

Trave	f*1000/L	Trave	f*1000/L	Trave	f*1000/L	Trave	f*1000/L	Trave	f*1000/L	Trave	f*1000/L	Trave	f*1000/L
140	0.8	141	0.5	142	1.1	143	0.5	144	1.4	145	3.9	146	1.9
147	1.5	168	1.3	169	1.4	170	1.4	171	1.6	172	1.5	173	1.2
174	1.7	175	1.8	176	1.1	177	0.9	178	0.9	179	1.0	180	1.7
181	1.8	182	1.1	183	0.9	184	0.9	185	1.1	186	1.8	191	0.9
192	1.6	193	0.8	194	1.4	195	0.2	196	0.7	197	0.3	198	0.7
199	1.0	200	0.4	201	0.9	202	0.4	203	1.2	204	1.9	205	0.4
206	2.1	213	1.2	214	0.6	215	0.5	216	0.9	217	1.4	218	1.2
219	0.5	220	0.5	221	0.3	222	1.5	223	1.2	224	1.3	225	0.6
226	2.2	227	1.9	228	1.0	229	1.5	230	1.3	231	0.6	232	0.5
233	1.0	234	1.5	235	1.2	236	0.6	237	0.6	238	1.0	239	1.5
244	4.3	245	0.8	246	4.2	247	0.6	248	4.2	249	4.1	250	4.3
251	4.3	252	4.1	253	4.2	254	4.2	255	4.3	256	0.7	257	0.7
258	0.8	259	0.8	260	0.6	261	1.0	262	0.9	263	0.8	264	0.7
265	4.1	266	2.5	267	1.0	268	3.5	269	5.1	270	4.1	271	5.1
272	3.6	273	1.9	274	1.4	275	3.9	276	5.3	277	3.5	278	5.2
279	3.0	280	1.3	281	1.2	282	4.3	283	5.3	284	2.9	285	4.8
286	0.5	287	0.5	288	0.3	289	0.9	290	0.9	291	0.4	292	0.3
293	1.7	294	1.4	295	1.4	296	2.2	297	2.7	298	2.2	299	2.2
300	2.9	301	3.2	302	2.2	303	2.2	304	3.1	305	3.1	306	2.2
307	2.2	308	2.7	309	2.3	310	2.2	311	2.2	312	2.2	313	1.4
314	1.4	315	1.4	316	1.8	317	2.5	318	2.0	321	0.6	322	1.9
323	1.4	324	0.7	325	1.8	326	2.5	327	2.1	328	2.4	329	2.5
332	0.5	333	1.8	334	1.4	335	0.6	336	0.3	337	0.3	338	0.3
339	0.3	342	0.3	343	0.4	344	0.3	345	0.3	348	0.3	349	1.5
350	0.6	351	0.3	352	0.7	353	1.0	354	1.1	355	1.4	358	0.8
359	2.8	360	2.1	361	0.8	362	2.5	363	3.6	364	3.0	365	3.5
368	0.9	369	2.1	370	1.5	371	0.6	372	1.9	373	2.7	374	2.2
375	2.7	376	2.2	377	0.7	378	0.8	379	1.1	380	1.3	381	0.4
382	4.8	383	0.8	384	0.7	385	2.0	386	1.8	387	0.7	388	5.5
389	0.9	390	0.7	391	2.9	392	2.8	393	0.8	394	5.5	395	0.9
396	0.7	397	2.9	398	2.8	399	0.8	400	4.8	401	0.8	402	0.7
403	2.0	404	1.8	405	0.7	406	2.1	407	0.7	408	0.8	409	1.1
410	1.3	411	0.4	412	1.2	413	0.7	414	0.8	415	0.9	416	1.2
417	0.5	418	1.1	419	0.7	420	0.8	421	0.9	422	1.2	423	0.5
424	1.3	425	0.8	426	0.7	427	0.9	428	1.3	429	0.5	430	1.2
431	0.9	432	0.8	433	0.9	434	1.3	435	0.5	436	1.0	437	1.0
444	4.3	445	0.5	449	1.4	450	2.8	451	0.8	452	1.3	453	0.5
454	2.7	455	0.7	456	4.2	457	0.6	458	0.3	459	4.2	460	2.7
461	1.3	462	2.7	463	4.1	464	4.3	465	2.9	466	1.7	467	2.9
468	4.3	469	4.1	470	2.7	471	1.3	472	2.8	473	4.2	474	4.2
475	2.7	476	1.3	477	2.8	478	4.3	479	1.2	480	1.1	481	2.0
484	0.5	485	2.7	486	1.8	487	0.7	488	1.7	489	0.4	490	2.8
491	2.6	492	1.8	495	0.5	496	2.0	497	1.4	498	0.6	499	0.3
500	1.2	501	0.3	502	0.4	505	0.3	506	0.3	507	0.3	508	0.2
509	0.8	510	0.8	511	1.3	514	1.2	515	3.2	516	2.2	517	1.5
518	2.0	519	0.5	520	3.3	521	3.1	524	1.1	525	2.6	526	1.6
527	0.7	528	1.5	529	0.2	530	2.6	531	2.3	532	2.2	533	0.8
534	0.8	535	1.3	536	1.4	537	0.5	538	3.0	539	1.3	540	0.7

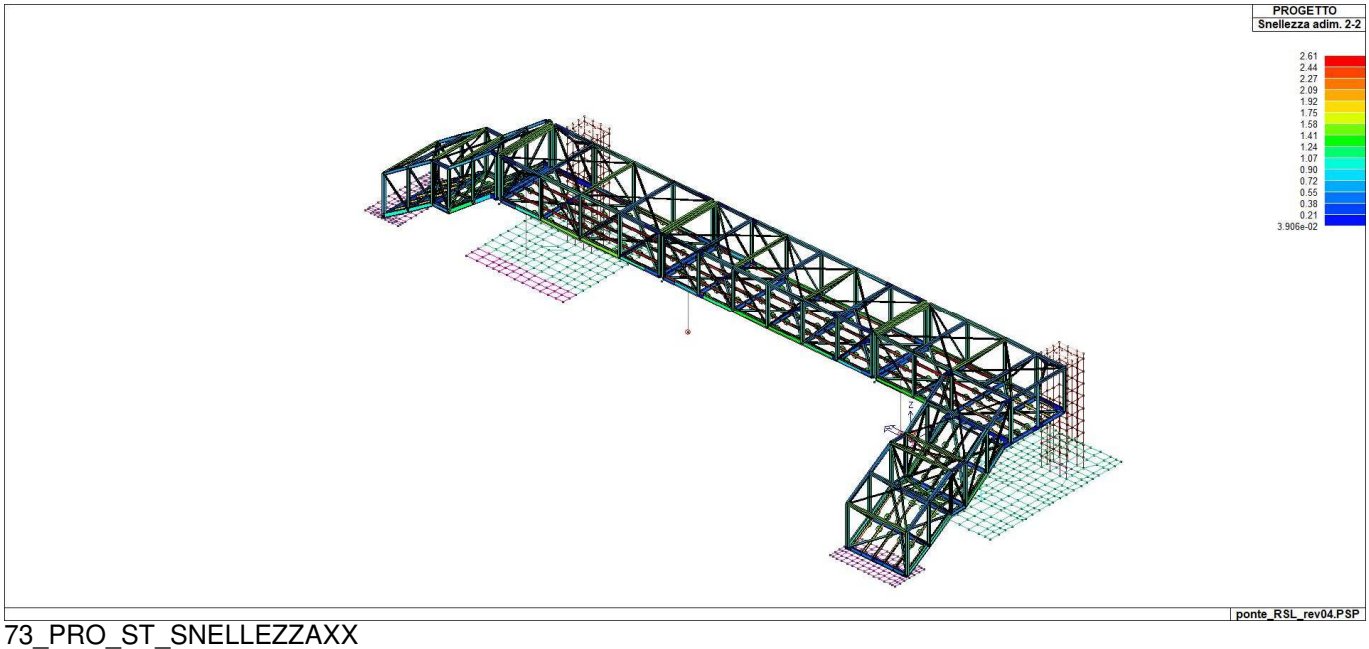
Trave	f*1000/L	Trave	f*1000/L	Trave	f*1000/L	Trave	f*1000/L	Trave	f*1000/L	Trave	f*1000/L	Trave	f*1000/L
541	2.3	542	2.1	543	0.7	544	2.4	545	1.6	546	0.7	547	3.0
548	3.0	549	0.7	550	2.0	551	1.6	552	0.7	553	2.9	554	3.0
555	0.7	556	2.2	557	1.3	558	0.7	559	2.2	560	2.1	561	0.7
562	1.7	563	0.8	564	0.8	565	1.2	566	1.3	567	0.4	568	1.7
569	0.6	570	0.9	571	0.9	572	1.2	573	0.4	574	1.5	575	0.7
576	0.9	577	0.9	578	1.2	579	0.4	580	5.4	581	0.8	582	0.7
583	1.0	584	1.9	585	0.5	586	3.3	587	0.9	588	0.8	589	1.0
590	1.8	591	0.5	592	1.0	593	0.9	594	0.8	595	0.8	596	0.6
597	0.9	598	0.8	606	0.3	608	2.9	609	3.5	610	3.5	611	2.9
612	1.5	613	1.5	614	1.5	615	1.5	616	1.5	622	0.5	625	0.8
626	0.6	627	0.5	628	0.9	629	0.5	630	0.7	631	0.6	632	0.5
635	3.9	636	2.6	637	3.7	638	2.7	639	0.7	640	1.9	641	2.9
642	1.5	645	4.6	646	3.8	647	4.4	648	3.1	649	1.1	650	2.5
651	3.9	652	1.5	655	0.3	656	0.4	657	0.6	658	1.7	659	0.6
660	1.1	661	0.3	662	1.4	663	1.2	664	0.3	665	1.2	666	1.2
667	1.5	668	0.8	669	0.7	670	6.9	672	5.7	673	7.6	674	6.4
675	3.1	676	0.6	677	4.3	678	1.3	679	1.9	680	1.9	681	3.2
682	2.0	683	1.9	684	2.3	685	4.3	686	2.1	687	1.9	688	2.4
689	4.1	690	1.8	691	1.9	692	1.9	693	2.8	694	1.1	695	1.2
696	1.2	697	0.5	698	0.7	699	0.5	700	0.2	701	0.3	702	0.5
703	0.5	704	0.7	705	1.1	706	1.9	707	1.5	708	1.5	709	1.5
710	1.5	711	1.5	712	1.5	713	1.5	718	1.5	719	2.4	720	0.2
721	1.0	722	0.6	723	0.2	724	1.6	725	1.5	726	1.5	727	1.5
728	1.5	729	2.8	730	3.5	731	0.9	732	0.7	733	1.4	734	1.0
735	0.7	736	3.5	737	2.9	738	0.6	739	1.6	740	1.2	741	1.9
742	1.2	743	1.6	744	0.7	745	1.6	746	0.3	747	2.4	748	1.9
749	2.7	750	3.2	751	0.5	752	1.6	754	0.4	755	1.7	764	1.2
768	0.2	769	0.1	770	0.1	771	2.0	772	2.0	773	0.7	774	2.2
775	0.7	776	0.7	777	1.9	778	2.2	779	2.1	780	1.1	781	2.7
782	0.8	783	0.7	784	1.6	801	0.4	802	1.2	803	0.4	804	1.0
805	1.1	806	1.1	807	1.2	808	1.6	809	1.5	810	1.5	811	1.6
812	1.5	813	1.5	814	1.0	815	2.2	816	1.3	817	1.0	818	1.3
819	1.4	820	0.8	821	1.5	822	0.4	823	2.0	824	0.8	825	1.5
827	0.5												



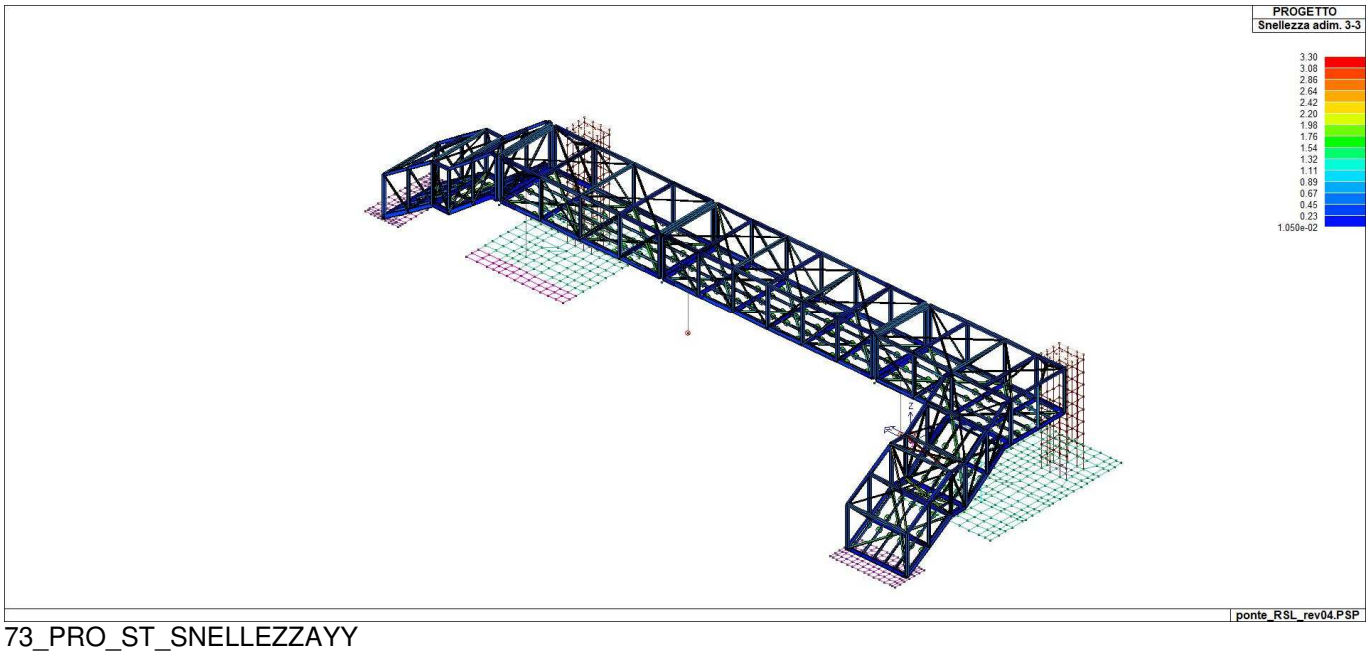
73_PRO_ST_SFRUTTAMENTO



73_PRO_ST_SNELLEZZATOR



73_PRO_ST_SNELLEZZAXX



73_PRO_ST_SNELLEZZAYY

VERIFICHE ELEMENTI TRAVE E/O PILASTRO IN C.A.

LEGENDA TABELLA VERIFICHE ELEMENTI TRAVE E/O PILASTRO IN C.A.

In tabella vengono riportati per ogni elemento il numero identificativo ed il codice di verifica con le sigle **Ok** o **NV**.

Nel caso in cui si sia proceduto alla progettazione con il metodo degli stati limite (**S.L.**) vengono riportati: il rapporto x/d, le verifiche per sollecitazioni proporzionali e la verifica per compressione media con l'indicazione delle combinazioni in cui si sono attinti i rispettivi valori.

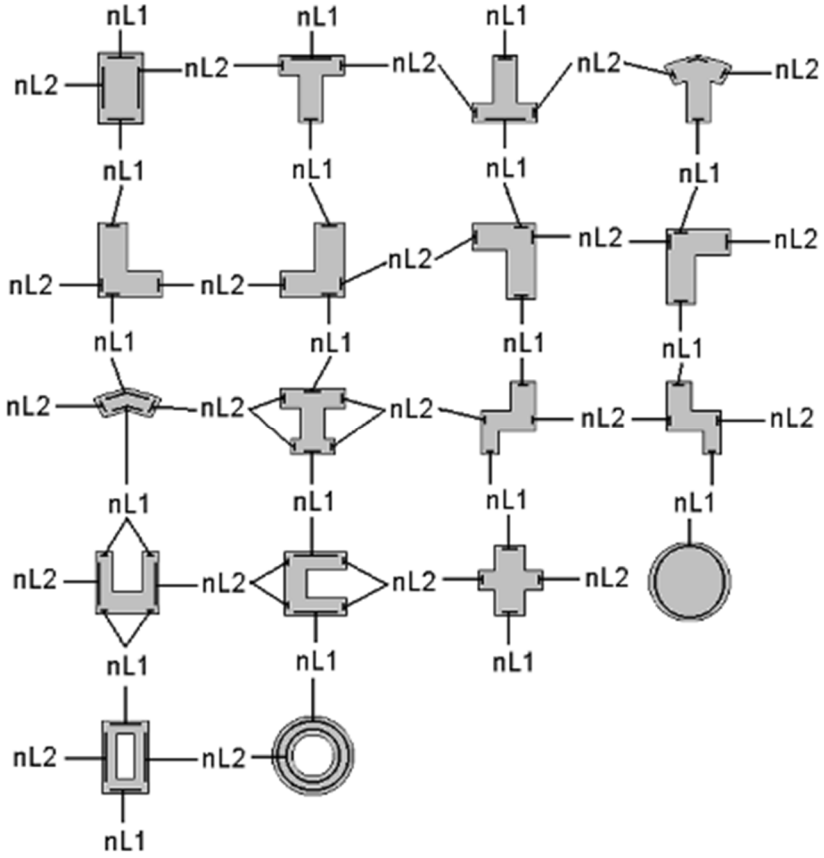
Nel caso in cui si sia proceduto alla progettazione con le tensioni ammissibili (**T.A.**) vengono riportate le massime tensioni nell'elemento (massima compressione nel calcestruzzo, massima compressione media nel calcestruzzo, massima tensione nell'acciaio, massima tensione tangenziale) con l'indicazione delle combinazioni in cui si sono attinti i rispettivi valori.

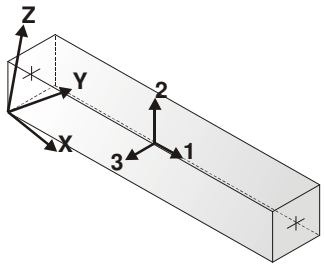
Nel caso in cui la struttura abbia comportamento dissipativo e sia prevista la progettazione con il criterio della gerarchia delle resistenze **(G.R.)** vengono riportate le verifiche di sovraresistenza e del nodo.

Per gli elementi tipo pilastro sono riportati numero e diametro dei ferri di vertice, numero e diametro di ferri disposti lungo i lati L1 (paralleli alla base della sezione) e lungo i lati L2 (paralleli all'altezza della sezione).

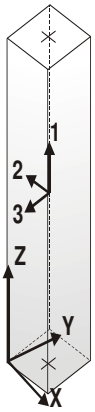
Per gli elementi tipo trave sono riportati infine le quantità di armatura inferiore e superiore.

Schema della distribuzione delle armature longitudinali





Orientamento elementi 2D non verticali



Orientamento elementi 2D verticali

PROGETTAZIONE DELLE FONDAZIONI

Il D.M.17/01/2018 - par: 7.2.5 prevede:

"Sia per CD"A" sia per CD"B" il dimensionamento delle strutture di fondazione e la verifica di sicurezza del complesso fondazione-terreno devono essere eseguiti assumendo come azione in fondazione, trasmessa dagli elementi soprastanti, una tra le seguenti:

- quella derivante dall'analisi strutturale eseguita ipotizzando comportamento strutturale non dissipativo;
- […];
- quella trasferita dagli elementi soprastanti nell'ipotesi di comportamento strutturale dissipativo, amplificata di un coefficiente pari a 1,30 in CD"A" e 1,10 in CD"B";

Nel contesto visualizzazione risultati e nella stampa della relazione sulle fondazioni PRO_SAP mostra le sollecitazioni che derivano dall'analisi non incrementate sia in termini di pressioni sul terreno che in termini di sollecitazioni.

La progettazione degli elementi strutturali con proprietà fondazione è effettuata da PRO_SAP (per travi e platee) o da PRO_CAD Plinti (per plinti e pali di fondazione) incrementando le sollecitazioni delle combinazioni con sisma di un coefficiente pari 1.1 in CDB e 1.3 in CDA per pali, plinti, travi e platee.
Per i bicchieri dei plinti di fondazione prefabbricati l'incremento delle sollecitazioni ha un fattore pari a 1.2 in CDB e 1.35 in CDA.
N.B.: nel caso di comportamento strutturale non dissipativo la progettazione viene effettuata senza nessun incremento.

Le verifiche geotecniche vengono effettuate dal modulo geotecnico incrementando automaticamente le sollecitazioni del fattore 1.1 in CDB e 1.3 in CDA per pali, plinti, travi e platee.
N.B.: nel caso di comportamento strutturale non dissipativo le verifiche geotecniche vengono effettuate senza nessun incremento.

Simbologia adottata nelle tabelle di verifica

Per le verifiche agli S.L. dei pilastri è presente una tabella con i simboli di seguito descritti:

M_P X Y	Numero della pilastrata (P) e posizione in pianta (X,Y)
Pilas.	numero identificativo dell'elemento D2
Note	Codici identificativi delle sezione (s) e materiale (m) pilastro
Stato	Codici relativi all'esito delle verifiche effettuate appresso descritte
Quota	Quota sezione di verifica
%Af	Percentuale di area di armatura rispetto a quella di calcestruzzo
r. snell.	Rapporto di snellezza λ su λ^*: valore superiore a 1 per elementi snelli nel caso in cui viene effettuata la verifica con il metodo diretto dello stato di equilibrio
Armat. long.	Numero e diametro (d) dei ferri di armatura longitudinale distinti in ferri di vertice + ferri di lato nelle posizioni nL1 e nL2, come da schemi in figura precedente
V N/M	Verifica a pressoflessione con rapporto Ed/Rd: valore minore o uguale a 1 per verifica positiva
V N sis	Verifica a compressione solo calcestruzzo con rapporto Nsd/Nrd ed Nrd calcolato come al punto 7.4.4.2.1: valore minore o uguale a 1 per verifica positiva
Staffe	Dati tratto di staffatura oggetto di verifica, nello specifico: numero delle braccia, diametro, passo, lunghezza L tratto
V V/T cls	Verifica a taglio/torsione con rapporto Ved/Vrd: valore minore o uguale a 1 per verifica positiva
Rif. cmb.	Riferimento combinazioni da cui si generano le verifiche più gravose per il pilastro

Per le verifiche alla G.R. dei pilastri è presente una tabella con i simboli di seguito descritti:

Pilas.	numero identificativo dell'elemento D2 pilastro
sovr. Xi (Xf)	Verifica sovraresistenza come da formula 7.4.4 in direzione X, alla base (i) ed alla sommità (f): rapporto tra i momenti resistenti dei pilastri e delle travi. La verifica è positiva se maggiore del γ_{Rd} adottato
sovr. Yi (Yf)	Verifica sovraresistenza come da formula 7.4.4 in direzione Y, alla base (i) ed alla sommità (f): rapporto tra i momenti resistenti dei pilastri e delle travi. La verifica è positiva se maggiore del γ_{Rd} adottato
M 2-2 i (f)	Valore del momento resistente 2-2 alla base (i) ed alla sommità (f) con massimo momento in

	presenza dello sforzo normale di calcolo
M 3-3 i (f)	Valore del momento resistente 3-3 alla base (i) ed alla sommità (f) con massimo momento in presenza dello sforzo normale di calcolo
Luce per V	Luce di calcolo per la definizione del taglio (generato dai momenti resistenti)
V M2-2 (M3-3)	Valore del taglio generato dai momenti resistenti 2-2 (3-3)

Per le verifiche dei dettagli costruttivi per la duttilità è presente una tabella con i simboli di seguito descritti:
(Non presente nel caso di comportamento strutturale non dissipativo)

Pilas	Numero identificativo D2 pilastro
ni	Sforzo assiale adimensionalizzato di progetto relativo alla combinazione sismica SLV
alfaomega	Prodotto tra il coefficiente di efficacia del confinamento e il rapporto meccanico dell'armatura trasversale di confinamento all'interno del nodo
V.7.4.29 2-2 (3-3)	Rapporto tra la domanda di staffe minima nel nodo e il rapporto meccanico dell'armatura trasversale di confinamento inserito all'interno del nodo in direzione 2 (3)
V. 7.4.29 Stato	Codici relativi all'esito della verifica 7.4.29
dmu_fi 2-2 (3-3)	Domanda in duttilità di curvatura in direzione 2 (3)
cmu_fi 2-2 (3-3)	Capacità in duttilità di curvatura in direzione 2 (3)
V. dutt. 2-2 (3-3)	Rapporto tra la domanda in duttilità di curvatura e la capacità in duttilità di curvatura in direzione 2 (3)

Per le verifiche nodi trave-pilastro di elementi nuovi è presente una tabella con i simboli di seguito descritti:

Nodo	Numero identificativo del nodo trave-pilastro
Stato	Esito delle verifiche
Pilastro	Numero identificativo D2 pilastro
Diam st	Diametro staffe nodo
Passo	Passo staffe nodo
n. br. 2 (3)	Numero braccia staffe per il taglio in direzione 2 (3)
Bj2 (3)	Larghezza effettiva del nodo per il taglio in direzione 2 (3)
Hjc2 (3)	Distanza tra le giaciture più esterne delle armature del pilastro per il taglio in direzione 2 (3)
V. 7.4.8	Rapporto tra il taglio Vjbd e il taglio resistente come da formula 7.4.8
V. Ash	Rapporto tra il passo staffe calcolato secondo il capitolo 7.4.4.3.1. e il passo staffe effattivamente inserita nel nodo. Nel caso di valore indica passo staffe utilizzato deriva dalle formule presenti nel paragrafo 7.4.4.3.1. Nel caso di valore minore di 1 il passo staffe utilizzato deriva del pilastro superiore o inferiore al nodo
7.4.10	Check passo staffe valutato in funzione della formula 7.4.10: • SI il passo staffe è calcolato utilizzando la formula 7.4.10; • NO il passo staffe è calcolato utilizzando le formule 7.4.11 e/o 7.4.12; • NR calcolo passo staffe non richiesto;
Rif. comb.	Riferimento combinazioni da cui si generano le verifiche più gravose per il nodo

Per le verifiche nodi trave-pilastro di elementi esistenti è presente una tabella con i simboli di seguito descritti:

Pilastro I	Numero identificativo D2 del pilastro inferiore.
Pilastro S	Numero identificativo D2 del pilastro superiore.
Nodo	Numero identificativo del nodo trave-pilastro.
SL cod	Stato limite di riferimento e relativo esito delle verifiche.
ver. (+)	Fattore di sicurezza nei riguardi della verifica di resistenza a compressione (verificato se < 1.00).
V +	Azione di Taglio presente al di sopra del nodo nella verifica di resistenza a compressione.
V + af s	Sollecitazione di trazione presente nell' armatura longitudinale superiore della trave nella verifica di resistenza a compressione.
N +	Azione Assiale presente al di sopra del nodo nella verifica di resistenza a compressione.
ver. (-)	Fattore di sicurezza nei riguardi della verifica di resistenza a trazione (verificato se < 1.00).
V -	Azione di Taglio presente al di sopra del nodo nella verifica di resistenza a trazione.
V - af s	Sollecitazione di trazione presente nell' armatura longitudinale superiore della trave nella

	verifica di resistenza a trazione.
N -	Azione Assiale presente al di sopra del nodo nella verifica di resistenza a trazione.
AreaV2	Area resistente del nodo in direzione 2 ($A_{j2}=b_{j2}*h_{jc2}$).
AreaV3	Area resistente del nodo in direzione 3 ($A_{j3}=b_{j3}*h_{jc3}$).
Rif. comb.	Combinazione (direzione) di riferimento nella verifica di trazione.

Per le verifiche agli S.L. delle travi è presente una tabella con i simboli di seguito descritti:

M_T Z P P	Numero della travata (T), quota media (Z), n° pilastrata iniziale (P) e finale (P) (nodo in assenza di pilastrata)
Trave	numero identificativo dell'elemento D2
Note	Codici identificativi sezione (s) e materiale (m) trave; sono inoltre presenti le sigle relative all'esito delle verifiche effettuate appresso descritte
%Af	Percentuale di area di armatura rispetto a quella di calcestruzzo
Af inf.	Area di armatura longitudinale posta all'intradosso
Af sup	Area di armatura longitudinale posta all'estradosso
Af long.	Area complessiva armatura longitudinale
x/d	rapporto tra posizione dell'asse neutro e altezza utile
V N/M	Verifica a pressoflessione rapporto Ed/Rd: valore minore o uguale a 1 per verifica positiva
Staffe	Dati tratto di staffatura oggetto di verifica, nello specifico: numero delle braccia, diametro, passo, lunghezza L tratto
V V/T cls	Verifica a taglio/torsione con rapporto Ved/Vrd: valore minore o uguale a 1 per verifica positiva
Rif. cmb.	Riferimento combinazioni da cui si generano le verifiche più gravose per la trave

Per le verifiche alla G.R. delle travi è presente una tabella con i simboli di seguito descritti:

Trave	numero identificativo dell'elemento D2 trave
M negativo i (f)	Valore del momento resistente negativo all' estremità iniziale i (finale f) della trave
M positivo i (f)	Valore del momento resistente positivo all' estremità iniziale i (finale f) della trave
Luce per V	Luce di calcolo per la definizione del taglio (generato dai momenti resistenti)
V M-i M+f	Taglio generato dai momenti resistenti negativo i e positivo f
V M+i M-f	Taglio generato dai momenti resistenti positivo i e negativo f
VEd, min	Valore di taglio minimo per verifica condizioni p.to 7.4.4.1.1 armatura diagonale (solo per CD "A")
VEd, max	Valore di taglio massimo per verifica condizioni p.to 7.4.4.1.1 armatura diagonale (solo per CD "A")
Vr1	Valore di taglio come da formula 7.4.1 per armatura diagonale (solo per CD "A")
As	Area singolo ordine armature diagonali come da formula 7.4.2 (solo per CD "A")

Per le verifiche a taglio ciclico di travi e pilastri esistenti è presente una tabella con i simboli di seguito descritti:

Trave/Pilastro	Numero identificativo dell'elemento D2 trave/pilastro
V. SLV	Codice relativo all'esito delle verifiche
Nodo	Numero identificativo del nodo di verifica
Ver. VC	Fattore di sicurezza nei confronti della verifica a taglio ciclico (verificato se < 1.00)
Direz.	Direzione di verifica
N fr	Valore di sforzo normale calcolato con fattore di comportamento fragile
V fr	Valore di taglio calcolato con fattore di comportamento fragile
M fr	Valore di momento calcolato con fattore di comportamento fragile
N dutt	Valore di sforzo normale calcolato con fattore di comportamento duttile
LV	Lunghezza di taglio
Mud,pl	Parte plastica della domanda di duttilità
V cic	Resistenza a taglio in condizioni cicliche (C8.7.2.8)
Cmb	Riferimento combinazioni da cui si generano le verifiche più gravose

Per le verifiche alle T.A. di pilastri e travi è presente una tabella con i simboli di seguito descritti:

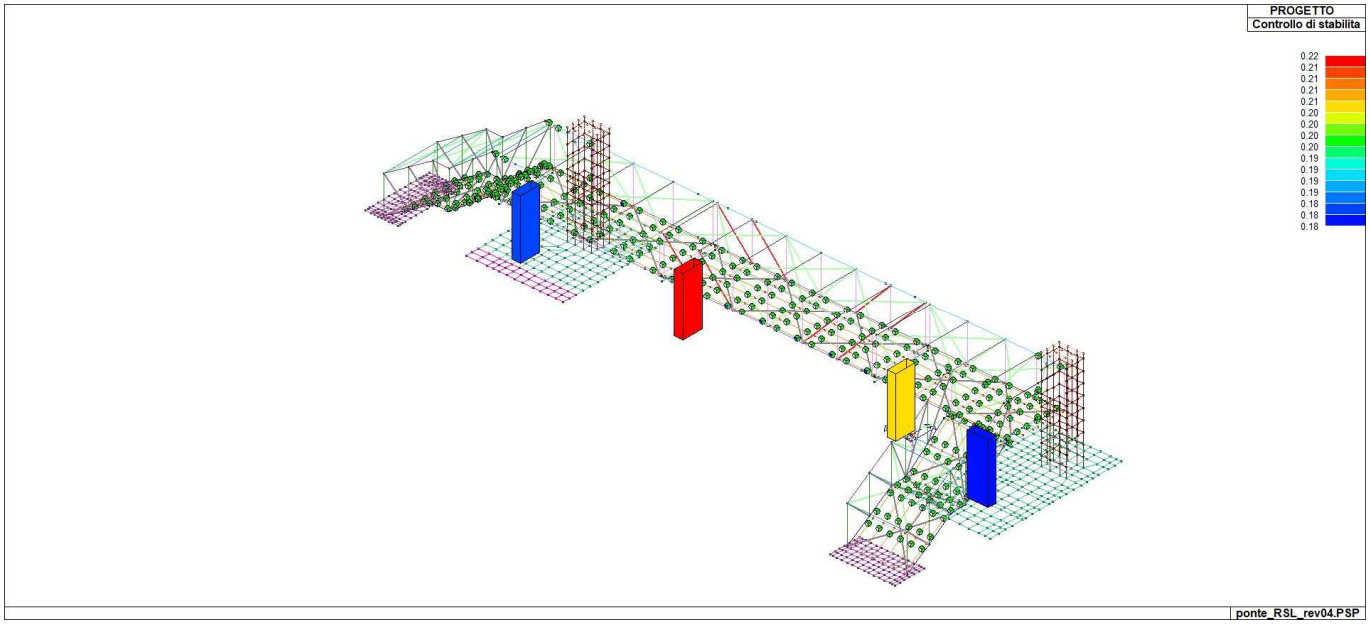
M_P X Y	Numero della pilastrata (P) e posizione in pianta (X,Y)
M_T Z P P	Numero della travata, quota media pilastrata iniziale e finale (nodo in assenza di pilastrata)
Pilas. o Trave	numero identificativo dell'elemento D2
Note	Viene riportato il codice relativo alla sezione(s) e relativo al materiale(m); nella terza riga viene riportato il valore delle snellezze in direzione 2-2 e 3-3
Stato	Codici di verifica relativi alle tensioni normali e alle tensioni tangenziali

Quota	Ascissa del punto di verifica
%Af	Percentuale di area di armatura rispetto a quella di calcestruzzo
Armat. long.	Numero e diametro dei ferri di armatura longitudinale: ferri di vertice + ferri di lato (come da fig. precedente)
Af inf.	Area di armatura longitudinale posta all'intradosso della trave
Af sup	Area di armatura longitudinale posta all'estradosso della trave
Sc max	Massima tensione di compressione del calcestruzzo
Sc med	Massima tensione media di compressione del calcestruzzo
Sf max	Tensione massima nell'acciaio
staffe	Vengono riportati i dati del tratto di staffatura in cui cade la sezione di verifica; in particolare: numero dei bracci, diametro, passo, lunghezza tratto
Tau max	Tensione massima tangenziale nel cls
Rif. comb	Combinazioni in cui si generano i seguenti valori di tensione: Sc max, Sc med, Sf max, Tau max
AfV	area dell'armatura atta ad assorbire le azioni di taglio
AfT	area dell'armatura atta ad assorbire le azioni di torsione
Scorr. P	Scorrimento dei piegati
Af long.	Area del ferro longitudinale aggiuntivo per assorbire la torsione

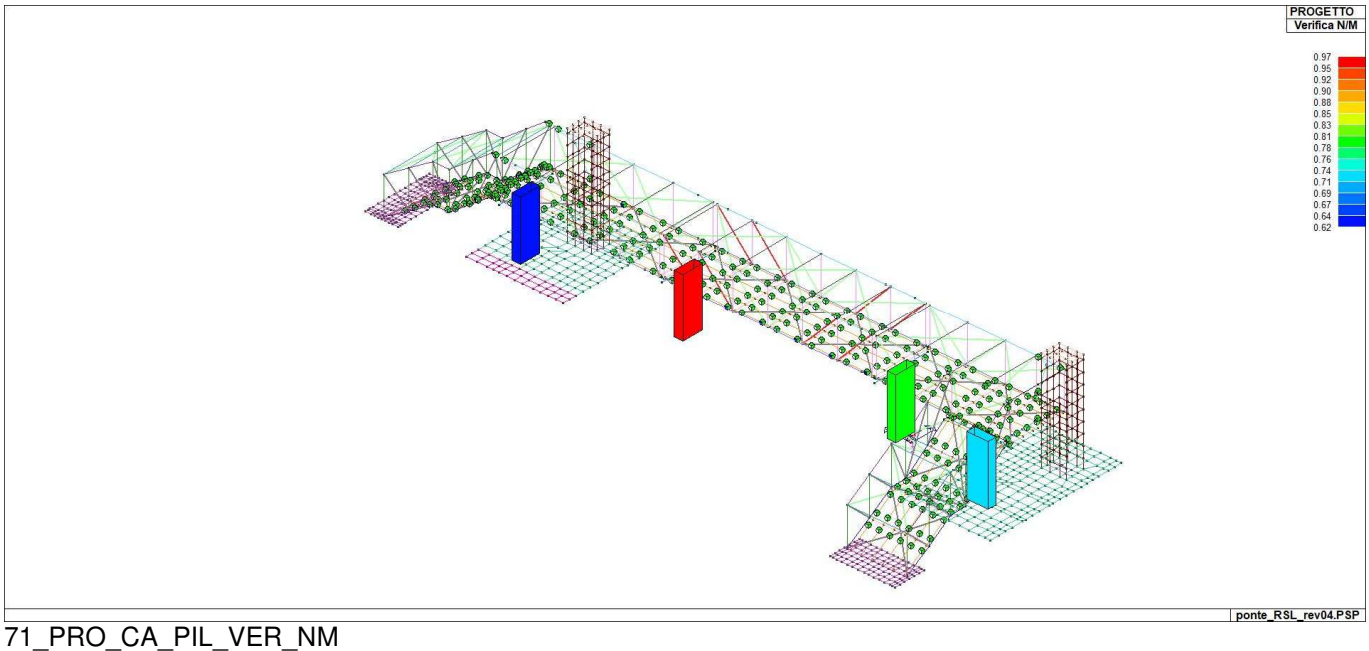
					M_P= 14	**X=-275.0**	**Y=-899.1**					
Pilas.	Note	Stato	Quota	%Af	r. snell.	Armat. long.	V N/M	V N sis	Staffe	V V/T cls	V V/T acc	Rif. cmb
			cm						L=cm			
620	s=29,m=4	ok,ok	0.0	1.03	0.18	4d16 44+34 d16	0.71	0.04	3+3d8/15 L=45	0.27	0.62	449,412,409,409
			275.0	1.03	0.18	4d16 44+34 d16	0.36	0.03	3+3d8/15 L=460	0.27	0.62	449,412,409,409
	[b=1.0;1.0]		550.0	1.03	0.18	4d16 44+34 d16	0.06	0.02	3+3d8/15 L=45	0.27	0.62	404,412,409,409
					M_P= 31	**X=0.0**	**Y=91.7**					
Pilas.	Note	Stato	Quota	%Af	r. snell.	Armat. long.	V N/M	V N sis	Staffe	V V/T cls	V V/T acc	Rif. cmb
446	s=1,m=4	ok,ok	0.0	1.03	0.20	4d16 34+44 d16	0.79	0.03	3+3d8/12 L=550	0.41	0.85	456,538,409,409
	[b=1.0;1.0]		550.0	1.03	0.20	4d16 34+44 d16	0.15	0.02	3+3d8/12 L=550	0.41	0.85	428,538,409,409
					M_P= 48	**X=0.0**	**Y=2065.7**					
Pilas.	Note	Stato	Quota	%Af	r. snell.	Armat. long.	V N/M	V N sis	Staffe	V V/T cls	V V/T acc	Rif. cmb
447	s=1,m=4	ok,ok	0.0	1.03	0.22	4d16 34+44 d16	0.97	0.04	3+3d8/15 L=45	0.38	0.95	425,560,412,412
			275.0	1.03	0.22	4d16 34+44 d16	0.59	0.03	3+3d8/15 L=460	0.38	0.95	419,560,412,412
	[b=1.0;1.0]		550.0	1.03	0.22	4d16 34+44 d16	0.20	0.03	3+3d8/15 L=45	0.38	0.95	422,560,412,412
					M_P= 61	**X=0.0**	**Y=3572.2**					
Pilas.	Note	Stato	Quota	%Af	r. snell.	Armat. long.	V N/M	V N sis	Staffe	V V/T cls	V V/T acc	Rif. cmb
448	s=1,m=4	ok,ok	0.0	1.03	0.18	4d16 34+44 d16	0.62	0.05	3+3d8/15 L=45	0.33	0.83	457,448,428,454
			275.0	1.03	0.18	4d16 34+44 d16	0.32	0.04	3+3d8/15 L=460	0.33	0.83	457,448,428,454
	[b=1.0;1.0]		550.0	1.03	0.18	4d16 34+44 d16	0.15	0.04	3+3d8/15 L=45	0.33	0.83	428,448,428,454
Pilas.				**%Af**	**r. snell.**		**V N/M**	**V N sis**		**V V/T cls**	**V V/T acc**	
				1.03	0.22		0.97	0.05		0.41	0.95	

							M_T= 264	**Z=550.0**	**N=10**	**N=700**			
Trave	Note	Pos.	%Af	Af inf.	Af. sup	Af long.	x/d	V N/M	V V/T cls	V V/T acc	Staffe	Rif. cmb	
		cm									L=cm		
600	ok,ok	0.0	0.31	20.1	20.1	0.0	0.06	0.29	0.37	0.66	2d8/8 L=175	63,31,31	
	s=2,m=4	175.0	0.47	20.1	30.2	0.0	0.08	0.94	0.39	0.71	2d8/8 L=175	77,31,31	
							M_T= 265	**Z=550.0**	**N=13**	**N=659**			
Trave	Note	Pos.	%Af	Af inf.	Af. sup	Af long.	x/d	V N/M	V V/T cls	V V/T acc	Staffe	Rif. cmb	
601	ok,ok	0.0	0.41	20.1	26.1	0.0	0.07	0.90	0.38	0.61	2d8/8 L=175	31,31,31	
	s=2,m=4	175.0	0.31	20.1	20.1	0.0	0.06	0.26	0.35	0.57	2d8/8 L=175	77,31,31	
							M_T= 267	**Z=550.0**	**N=9**	**N=701**			
Trave	Note	Pos.	%Af	Af inf.	Af. sup	Af long.	x/d	V N/M	V V/T cls	V V/T acc	Staffe	Rif. cmb	

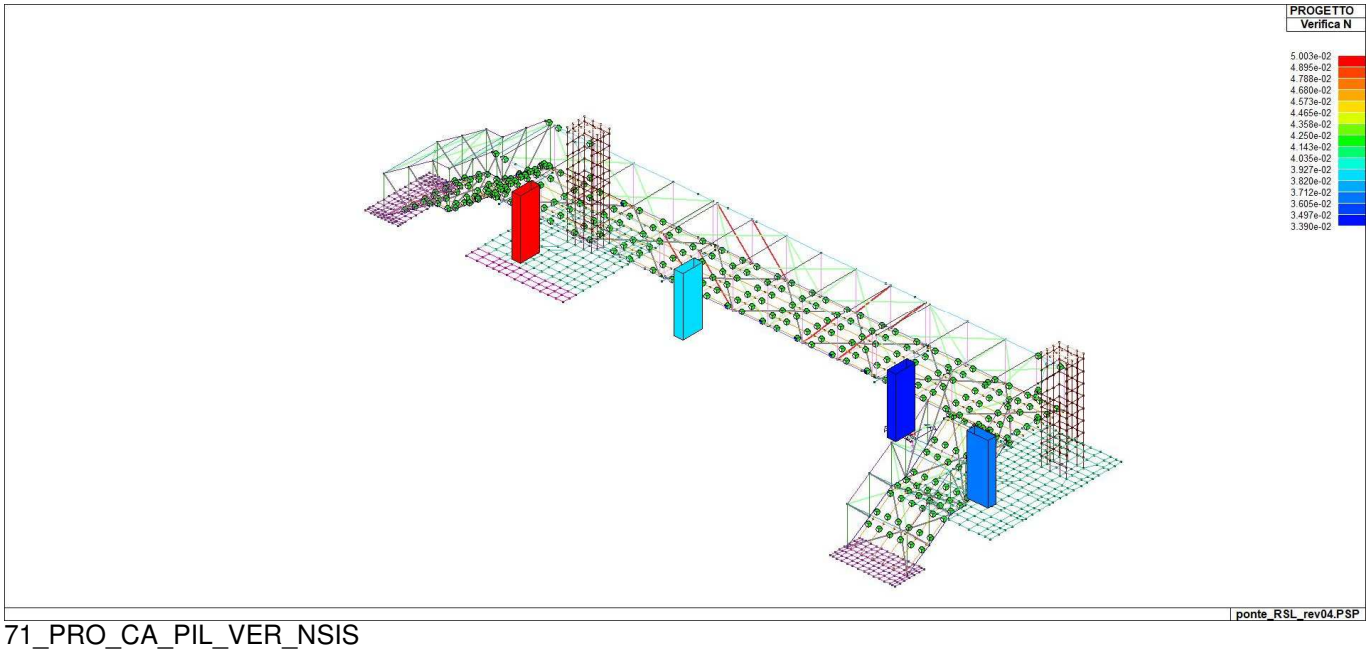
603	ok,ok	0.0	0.41	20.1	26.1	0.0	0.07	0.93	0.38	0.64	2d8/8 L=175	59,31,31	
	s=2,m=4	175.0	0.31	20.1	20.1	0.0	0.06	0.30	0.36	0.59	2d8/8 L=175	77,31,31	
							M_T= 273	**Z=550.0**	**N=305**	**N=689**			
Trave	Note	Pos.	%Af	Af inf.	Af. sup	Af long.	x/d	V N/M	V V/T cls	V V/T acc	Staffe	Rif. cmb	
621	ok,ok	0.0	0.31	20.1	20.1	0.0	0.06	0.12	0.17	0.29	2d8/8 L=177	191,410,59	
	s=2,m=4	177.1	0.31	20.1	20.1	0.0	0.06	0.63	0.18	0.34	2d8/8 L=177	59,410,59	
							M_T= 298	**Z=550.0**	**N=14**	**N=657**			
Trave	Note	Pos.	%Af	Af inf.	Af. sup	Af long.	x/d	V N/M	V V/T cls	V V/T acc	Staffe	Rif. cmb	
757	ok,ok	0.0	0.31	20.1	20.1	0.0	0.06	0.27	0.35	0.51	2d8/8 L=175	59,31,31	
	s=2,m=4	175.0	0.35	20.1	22.1	0.0	0.06	0.91	0.37	0.55	2d8/8 L=175	31,31,31	
							M_T= 300	**Z=550.0**	**N=12**	**N=660**			
Trave	Note	Pos.	%Af	Af inf.	Af. sup	Af long.	x/d	V N/M	V V/T cls	V V/T acc	Staffe	Rif. cmb	
759	ok,ok	0.0	0.31	20.1	20.1	0.0	0.06	0.20	0.30	0.46	2d8/8 L=175	59,460,31	
	s=2,m=4	175.0	0.35	20.1	22.1	0.0	0.06	0.91	0.32	0.51	2d8/8 L=175	448,460,31	
							M_T= 301	**Z=550.0**	**N=11**	**N=688**			
Trave	Note	Pos.	%Af	Af inf.	Af. sup	Af long.	x/d	V N/M	V V/T cls	V V/T acc	Staffe	Rif. cmb	
760	ok,ok	0.0	0.31	20.1	20.1	0.0	0.06	0.59	0.30	0.43	2d8/8 L=175	77,422,424	
	s=2,m=4	175.0	0.31	20.1	20.1	0.0	0.06	0.25	0.29	0.39	2d8/8 L=175	77,422,424	
							M_T= 302	**Z=550.0**	**N=306**	**N=692**			
Trave	Note	Pos.	%Af	Af inf.	Af. sup	Af long.	x/d	V N/M	V V/T cls	V V/T acc	Staffe	Rif. cmb	
762	ok,ok	0.0	0.31	20.1	20.1	0.0	0.06	0.90	0.27	0.49	2d8/8 L=175	59,59,31	
	s=2,m=4	175.0	0.31	20.1	20.1	0.0	0.06	0.33	0.24	0.45	2d8/8 L=175	433,59,31	
Trave			**%Af**	**Af inf.**	**Af. sup**	**Af long.**	**x/d**	**V N/M**	**V V/T cls**	**V V/T acc**			
			0.47	20.10	30.16	0.0	0.08	0.94	0.39	0.71			



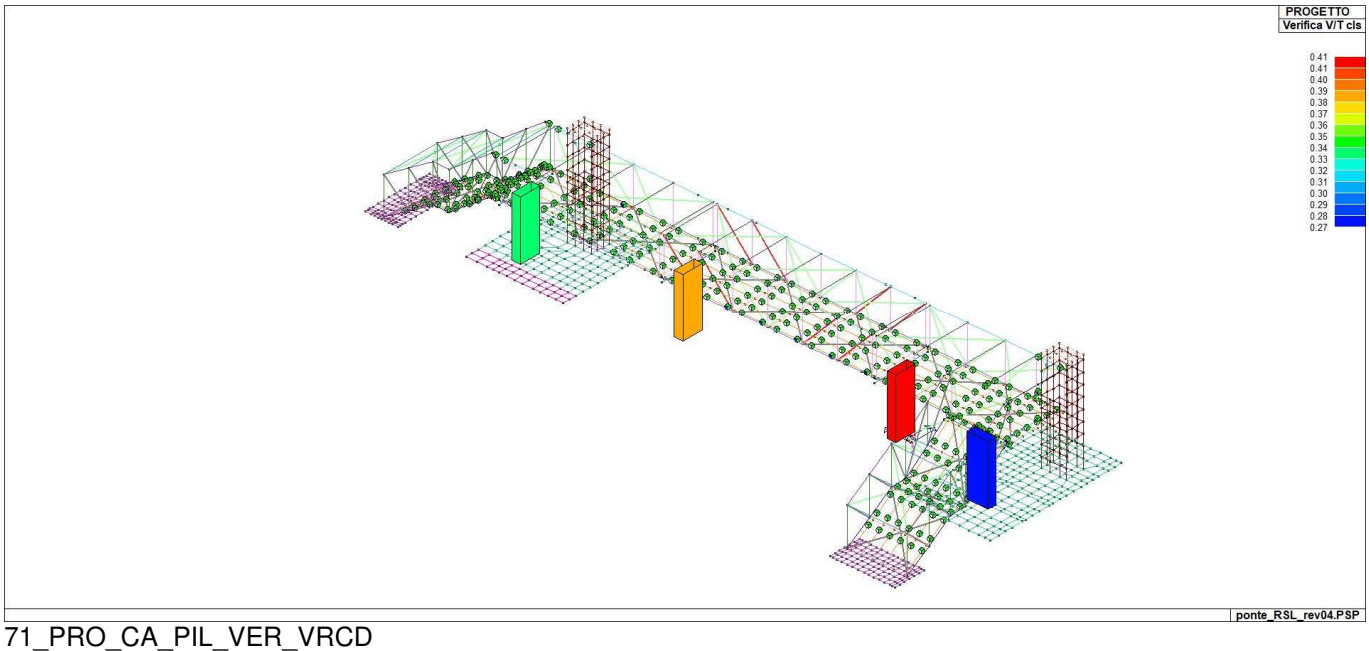
71_PRO_CA_PIL_STAB



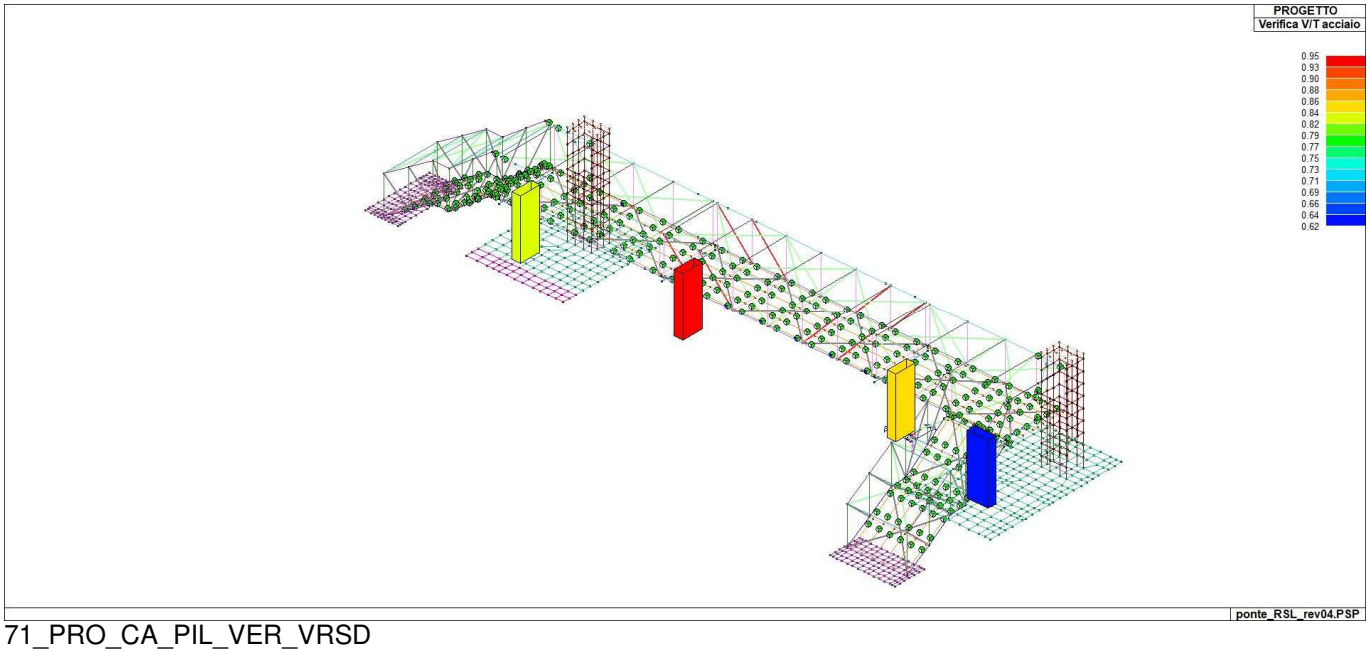
71_PRO_CA_PIL_VER_NM



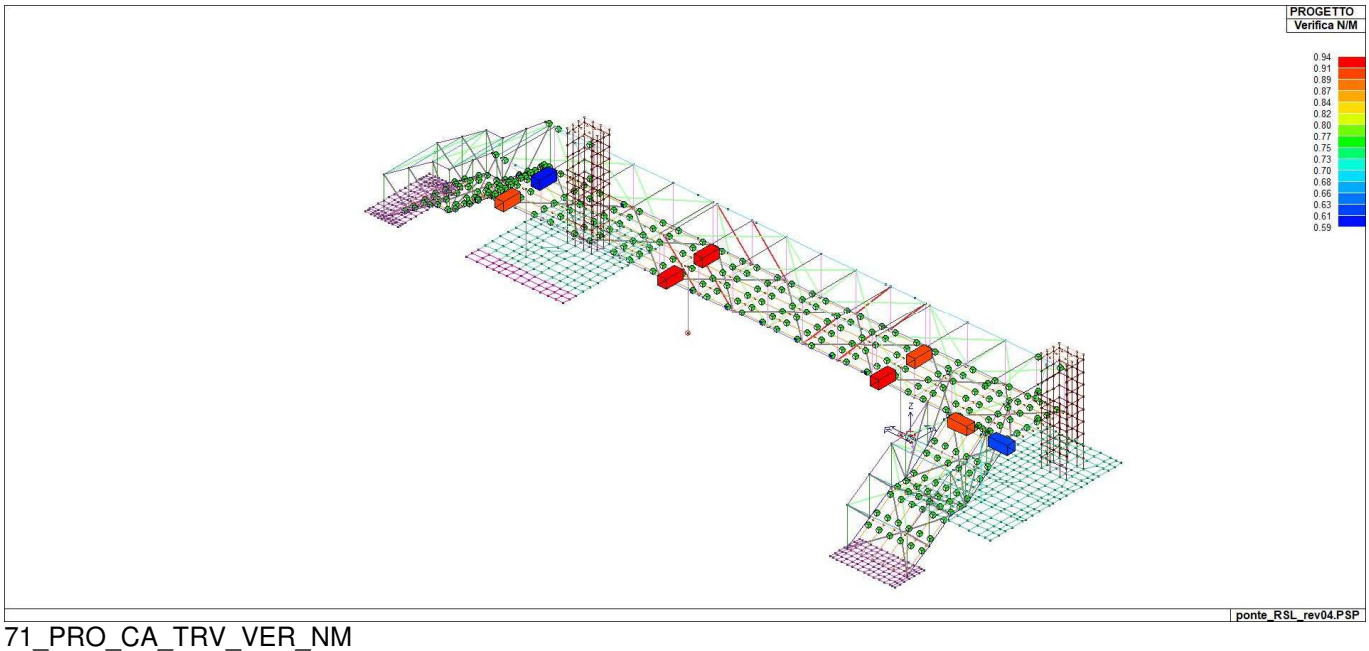
71_PRO_CA_PIL_VER_NSIS



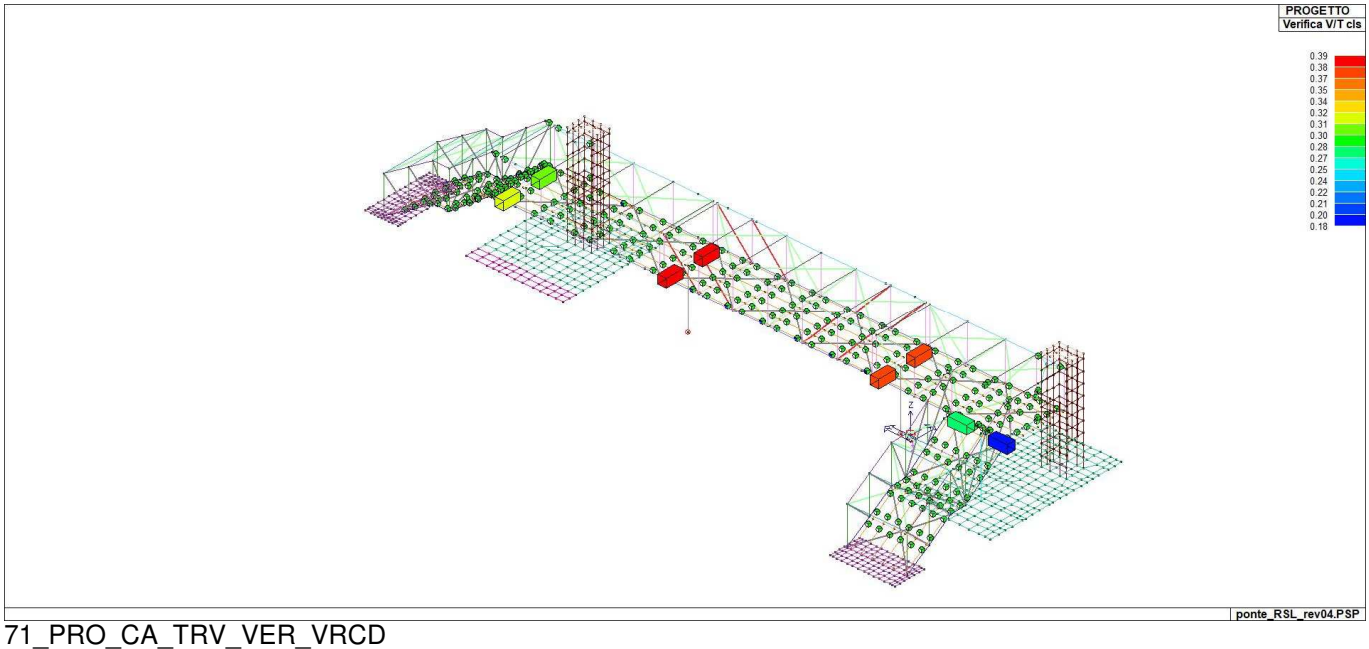
71_PRO_CA_PIL_VER_VRCD



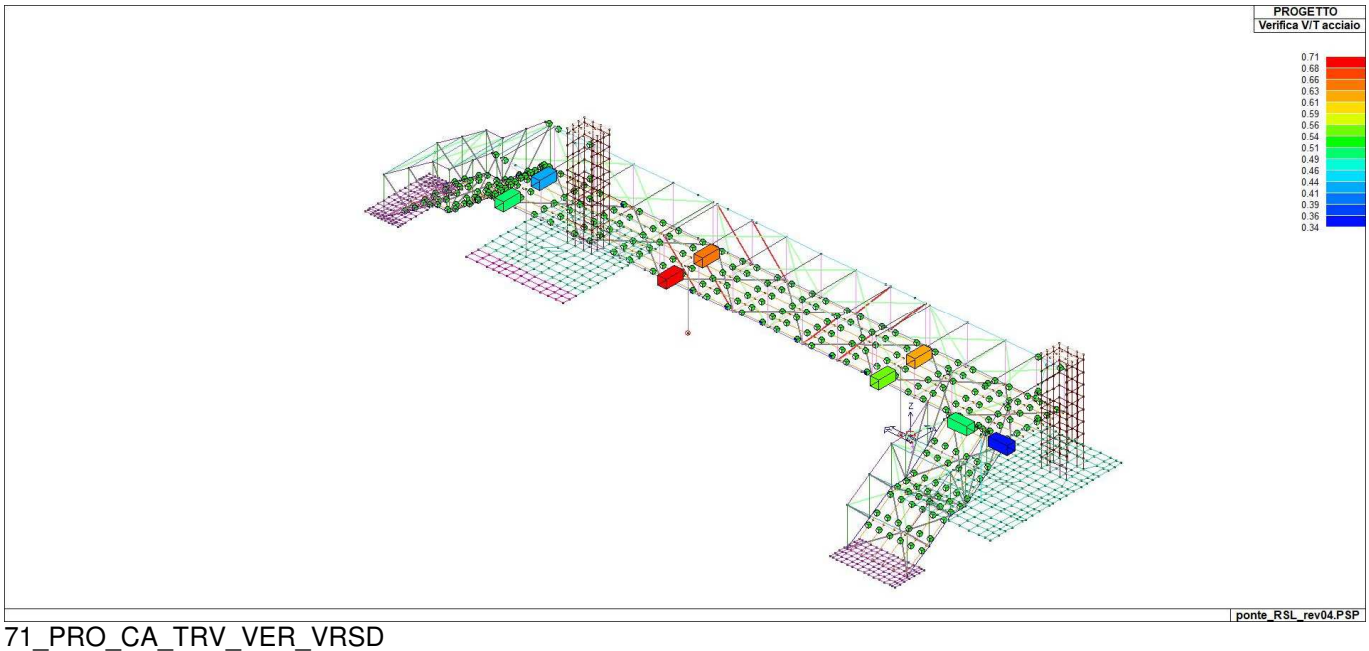
71_PRO_CA_PIL_VER_VRSD



71_PRO_CA_TRV_VER_NM



71_PRO_CA_TRV_VER_VRCD



71_PRO_CA_TRV_VER_VRSD

VERIFICHE ELEMENTI PARETE E/O GUSCIO IN C.A.

LEGENDA TABELLA VERIFICHE ELEMENTI PARETE E GUSCIO IN C.A.

Per le pareti in c.a., in ottemperanza al cap. 7 del DM 17-01-18, viene effettuata una doppia progettazione: sia come *Singolo Elemento* sia come *Parete Sismica* o *Parete Debolmente Armata.*

Per la progettazione come *Singolo Elemento* di ogni elemento vengono riportati il codice dello stato di verifica con le sigle **Ok e NV,** il rapporto x/d, la verifica per sollecitazioni ultime (verifica a compressione media gli sforzi membranali, verifica a presso-flessionale e verifica a sollecitazioni taglianti), gli sforzi membranali e flessionali, il quantitativo di armatura nella direzione principale e secondaria sia inferiore che superiore e il quantitativo di armatura a taglio.

Per la progettazione come *Parete Sismica* o *Parete Debolmente Armata* vengono riportate invece le caratteristiche geometriche della parete e delle zone dissipative (quest'ultime solo nel caso di parete sismica), i coefficienti di verifica a compressione assiale, pressoflessione e sollecitazioni taglianti.

Inoltre vengono riportate per ogni quota significativa l'armatura principale e secondaria, l'armatura in zona confinata (solo per parete sismica) e non confinata, l'armatura concentrata all'estremità (per pareti debolmente armate), lo sforzo assiale aggiuntivo per q superiore a 2 e i valori di inviluppo di taglio e momento. Per le pareti debolmente armate viene riportato anche lo stato di verifica relativo alla snellezza.

Le azioni derivate dall'analisi, in ogni combinazione di calcolo, sono elaborate come previsto al punto 7.4.4.5.1: traslazione del momento, incremento e variazione diagramma taglio, incremento e decremento sforzo assiale

La progettazione nel caso dei gusci viene effettuata una progettazione come *Singolo Elemento,* riportando in tabella il rapporto x/d, la verifica per sollecitazioni ultime, (verifica a compressione media gli sforzi membranali, verifica a presso-flessionale e verifica a sollecitazioni taglianti) di ogni elemento.

Per ogni elemento, viene riportata inoltre la maglia di armatura necessaria in relazione alle risultanze della progettazione dei nodi dell'elemento stesso. Le quantità di armature necessarie sono armature (disposte rispettivamente in direzione principale e secondaria, inferiore e superiore) distribuite nell'elemento ed espresse in centimetri quadri per sviluppo lineare pari ad un metro.

Nel caso dei gusci viene effettuata, inoltre, la verifica a punzonamento, riportando in tabella il codice dello stato di verifica, il coefficiente di verifica per piastre prive di armature a taglio lungo il perimetro resistente e lungo il perimetro del pilastro, coefficiente di incremento dovuto ai momenti flettenti, fattore di amplificazione per le fondazioni, il fattorei di amplificazione dell'altezza utile per individuare il perimetro di verifica lungo il quale l'armatura a taglio non è richiesta, il quantitativo di armatura a punzonamento, il numero di serie di armature, il numero di braccia di armatura ed il riferimento alla combinazione più gravosa.

Simbologia adottata nelle tabelle di verifica

Per gli elementi con progettazione "*Singolo Elemento …*" è presente una tabella con i simboli di seguito descritti:

Macro Guscio	Numero del macroelemento di tipo guscio (elementi non verticali contigui ed analoghi per proprietà)
Macro Setto	Numero del macroelemento di tipo setto (elementi verticali contigui ed analoghi per proprietà)
Spessore	Spessore della parete
Id Materiale	Codice del materiale assegnato all'elemento
Id Criterio	Codice del criterio di progetto assegnato all'elemento
Progettazione	Sigla tipo di Elemento: - Singolo Elemento; - Singolo Elemento FONDAZIONE; - Singolo Elemento NON DISSIPATIVO

Per gli elementi con progettazione "*Parete Sismica o Parete Debolmente Armata*" è presente una tabella con i simboli di seguito descritti:

Parete	Numero della PARETE SISMICA
Parete PDA	Numero della PARETE DEBOLMENTE ARMATA
H totale	Altezza complessiva della parete

Spessore	Spessore della parete
H critica	Altezza come da punto 7.4.4.5.1 per traslazione momento (solo in Parete Sismica)
H critica V	Altezza della zona dissipativa (solo in Parete Sismica)
L totale	Larghezza di base della parete
L confinata	Lunghezza della zona dissipativa (solo in Parete Sismica)
Verif. N	Verifica di cui al punto 7.4.4.5.1 compressione semplice
Verif. N-M	Verifica di cui al punto 7.4.4.5.1 pressoflessione
Fattore V	Fattore di amplificazione del taglio di cui al punto 7.4.4.5.1
Diagramma V	Diagramma elaborato per effetto modi superiori come da fig. 7.4.4
Verif. V	Verifica di cui al punto 7.4.4.5.1 taglio (compressione cls, trazione acciaio, scorrimento in zona critica) (solo in Parete Sismica)
Verifica Snellezza	Verifica di cui al punto 7.4.4.5.1 limitazione compressione per prevenire l'instabilità (solo in Parete Debolmente Armata)
Prog. composta	Sigla per la progettazione composta

Per le verifiche degli elementi con progettazione "*Singolo Elemento …*" e *Progettazione Composta* è presente una tabella con i simboli di seguito descritti:

Nodo	numero del nodo
Stato	codice di verifica dell'elemento **ok** o **NV**
x/d	rapporto tra posizione dell'asse neutro e altezza utile alla rottura della sezione (per sola flessione)
V N/M	Verifica delle sollecitazioni Normali (momento e sforzo normale)
Ver. rid	Rapporto Nd/Nu (Nu ottenuto con riduzione del 25% di fcd)
Af pr+	quantità di armatura richiesta in direzione principale relativa alla faccia positiva (estradosso piastre) (valore derivante da calcolo o minimo normativo)
Af pr-	quantità di armatura richiesta in direzione principale relativa alla faccia negativa (intradosso piastre) (valore derivante da calcolo o minimo normativo)
Af sec+	quantità di armatura richiesta in direzione secondaria relativa alla faccia positiva (estradosso piastre) (valore derivante da calcolo o minimo normativo)
Af sec-	quantità di armatura richiesta in direzione secondaria relativa alla faccia negativa (intradosso piastre) (valore derivante da calcolo o minimo normativo)
Nz No Nzo	Sforzi membranali per pareti e\o setti verticali
Mz Mo Mzo	Sforzi flessionali per pareti e\o setti verticali
Nx Ny Nxy	Sforzi membranali per gusci orizzontali
Mx Mx Mxy	Sforzi flessionali per gusci orizzontali

Nodo	numero del nodo
Stato	codice di verifica dell'elemento **ok** o **NV**
Max tau	Tensione tangenziale Massima
Ver V pr	Verifica a taglio nella direzione principale lato calcestruzzo
Ver V sec	Verifica a taglio nella direzione secondaria lato calcestruzzo
Af V pr	Armatura nella direzione principale
V pr-	Verifica dell'armatura nella direzione principale
Af V sec	Armatura nella direzione secondaria
V sec-	Verifica dell'armatura nella direzione secondaria

Per le verifiche degli elementi con progettazione "*Parete Sismica o Parete Debolmente Armata*", oltre alla tabella con le verifiche per gli elementi con progettazione "*Singolo Elemento …*", è presente una tabella con i simboli di seguito descritti:

Quota	Ascissa verticale di riferimento
Af conf.	Numero e diametro armatura presente in una zona confinata
Af std	Diametro e passo armatura in zona non confinata (doppia maglia)
Af estremi	Diametro dei ferri di estremità del pannello; se posto uguale 0, viene utilizzato il diametro standard
Af V (ori)	Diametro e passo armatura orizzontale (doppia maglia)
Ver. N	Rapporto tra azione di calcolo e resistenza a compressione (normalizzato a 1 in quanto da confrontare con 40% in CDB e 35 % in CDA)
Ver. N/M	Rapporto tra azione di calcolo e resistenza a pressoflessione
Ver. V acc(7)	Rapporto tra azione di calcolo e resistenza a taglio-trazione per alfaS minore di 2 secondo paragrafo 7.4.4.5.1

Ver. V cls	Rapporto tra azione di calcolo e resistenza a taglio-compressione
Ver. V acc	Rapporto tra azione di calcolo e resistenza a taglio-trazione
Ver. V scorr.	Rapporto tra azione di calcolo e resistenza a taglio scorrimento
N add	Sforzo assiale di cui al punto 7.4.4.5.1 da sommare e sottrarre nelle verifiche quando q supera 2
N invil M invil	Inviluppo del Momento e Sforzo Normale come al punto 7.4.4.5.1 (informativo) (solo in Parete Sismica)

Quota	Ascissa verticale di riferimento
N v.N	Valore dello sforzo assiale per cui Ver. N attinge il massimo valore
N v.M/N, M v.M/N	Valore dello sforzo assiale e momento per cui Ver. N/M attinge il massimo valore
N v.M/N, M v.M/N Mo v.M/N	Valore dello sforzo assiale e dei momenti per cui Ver. N/M attinge il massimo valore (per le pareti estese debolmente armate)
N v.Vcls, V v.Vcls,	Valore dello sforzo assiale e taglio per cui Ver. V. cls attinge il massimo valore
N v.Vacc, M v.Vacc, V v.Vacc,	Valore dello sforzo assiale, momento e taglio per cui Ver. V. acc attinge il massimo valore
N v.Vscorr, M v.Vscorr, V v.Vscorr,	Valore dello sforzo assiale, momento e taglio per cui Ver. V. scorr.e
N v.N	Valore dello sforzo assiale per cui Ver. N attinge il massimo valore
N v.M/N, M v.M/N	Valore dello sforzo assiale e momento per cui Ver. N/M attinge il massimo valore
N v.M/N, M v.M/N Mo v.M/N	Valore dello sforzo assiale e dei momenti per cui Ver. N/M attinge il massimo valore (per le pareti estese debolmente armate)
N v.Vcls, V v.Vcls,	Valore dello sforzo assiale e taglio per cui Ver. V. cls attinge il massimo valore

Quota	Ascissa verticale di riferimento
CtgT Vcls	Valore di ctg(teta) adottato nella verifica V compressione cls
Vrsd Vcls	Valore della resistenza a taglio trazione (armatura di calcolo)
Vrcd Vcls	Valore della resistenza a taglio compressione
CtgT Vacc	Valore di ctg(teta) adottato nella verifica V trazione armatura
Vrsd Vacc	Valore della resistenza a taglio trazione (armatura presente)
Vrcd Vacc	Valore della resistenza a taglio compressione
Vdd	Valore del contributo alla resistenza allo scorrimento come da [7.4.20]
Vid	Valore del contributo alla resistenza allo scorrimento come da [7.4.21]
A s.i.	Somma delle aree di armature
Incli.	Angolo di inclinazione delle armature
Dist.	Distanza alla base tra le armature inclinate

Quota	Ascissa verticale di riferimento
V[7.4.16]	Verifica a taglio-trazione dell'armatura dell'anima (7.4.16)
N M V	Sollecitazioni di calcolo della condizione più gravosa
Alfas	Rapporto di Taglio
Vrd,c	Resistenza a taglio degli elementi non armati
VRd,s	Resistenza a taglio nei confronti dello scorrimento
V[7.4.17]	Verifica a taglio-trazione dell'armatura dell'anima (7.4.17)
roH	Rapporto tra l'armatura orizzontale e l'area della sezione relativa di calcestruzzo
roV	Rapporto tra l'armatura verticale e l'area della sezione relativa di calcestruzzo
roN	Sforzo normale adimensionalizzato Ned/(bw fyd)

Per la verifica a *Punzonamento* è presente una tabella con i simboli di seguito descritti:

Nodo	numero del nodo
Stato	codice di verifica dell'elemento **ok** o **NV**
V. 6.47	Fattore di sicurezza per la verifica per piastre prive di armature a taglio lungo il perimetro resistente U1
V. 6.53	Fattore di sicurezza per la verifica per piastre prive di armature a taglio lungo il perimetro del pilastro U0
Beta	Fattore di incremento dovuto ai momenti flettenti
f. a fon	fattore di amplificazione per le fondazioni (solo per gusci di fondazione)

f. Uout	fattore di amplificazione dell'altezza utile per individuare il perimetro di verifica lungo il quale l'armatura a taglio non è richiesta
Aw tot	Quantitativo di armatura per la verifica di piastre munite di armatura (formula 6.52 dell'EC2)
Asw,min	Quantitativo minimo di armatura previsto dai dettagli costruttivi (formula 9.11 dell'EC2)
n. x serie	Numero di serie di armature
n.ser 0(R)	Numero di braccia delle armatura in direzione 0 (o numero di braccia radiale)
n.ser 90	Numero di braccia delle armatura in direzione 90 (solo se armatura cruciforme)
Rif. cmb	Riferimento combinazioni da cui si generano le verifiche più gravose

PROGETTAZIONE DELLE FONDAZIONI

Il D.M.17/01/2018 - par: 7.2.5 prevede:
"Sia per CD"A" sia per CD"B" il dimensionamento delle strutture di fondazione e la verifica di sicurezza del complesso fondazione-terreno devono essere eseguiti assumendo come azione in fondazione, trasmessa dagli elementi soprastanti, una tra le seguenti:

- quella derivante dall'analisi strutturale eseguita ipotizzando comportamento strutturale non dissipativo;
- […];
- quella trasferita dagli elementi soprastanti nell'ipotesi di comportamento strutturale dissipativo, amplificata di un coefficiente pari a 1,30 in CD"A" e 1,10 in CD"B";

Nel contesto visualizzazione risultati e nella stampa della relazione sulle fondazioni PRO_SAP mostra le sollecitazioni che derivano dall'analisi non incrementate sia in termini di pressioni sul terreno che in termini di sollecitazioni.

La progettazione degli elementi strutturali con proprietà fondazione è effettuata da PRO_SAP (per travi e platee) o da PRO_CAD Plinti (per plinti e pali di fondazione) incrementando le sollecitazioni delle combinazioni con sisma di un coefficiente pari 1.1 in CDB e 1.3 in CDA per pali, plinti, travi e platee.
Per i bicchieri dei plinti di fondazione prefabbricati l'incremento delle sollecitazioni ha un fattore pari a 1.2 in CDB e 1.35 in CDA.
N.B.: nel caso di comportamento strutturale non dissipativo la progettazione viene effettuata senza nessun incremento.

Le verifiche geotecniche vengono effettuate dal modulo geotecnico incrementando automaticamente le sollecitazioni del fattore 1.1 in CDB e 1.3 in CDA per pali, plinti, travi e platee.
N.B.: nel caso di comportamento strutturale non dissipativo le verifiche geotecniche vengono effettuate senza nessun incremento.

Macro Setto	Spessore	Id Materiale	Id Criterio	Progettazione
	cm			
1	40.00	4	1	Singolo elemento NON DISSIPATIVO

Nodo	Stato	x/d	V N/M	ver. rid	Af pr-	Af pr+	Af sec-	Af sec+	N z	N o	N zo	M z	M o	M zo
									kN/ m	kN/ m	kN/ m	kN	kN	kN
353	ok	0.06	1.0	5.93e-02	5.9	5.0	5.9	5.0	-374.0	17.4	-166.5	15.2	-4.7	7.5
354	ok	0.05	0.2	4.26e-03	5.0	5.0	5.0	5.0	-30.1	6.2	-5.3	-10.7	-0.9	-2.4
357	ok	0.05	0.9	4.94e-02	5.0	5.0	5.0	5.0	-357.6	-22.0	35.3	3.1	-3.6	-1.8
358	ok	0.05	9.80e-02	3.56e-03	5.0	5.0	5.0	5.0	6.6	-0.3	-29.0	-1.5	-1.3	-1.1
361	ok	0.05	0.8	4.98e-02	5.0	5.0	5.0	5.0	-355.0	-86.8	-50.5	0.2	12.5	11.4
362	ok	0.05	0.4	2.77e-02	5.0	5.0	5.0	5.0	-151.6	-28.4	-41.4	0.9	-6.9	-5.2
363	ok	0.05	0.8	3.21e-02	5.0	5.0	5.0	5.0	-66.0	105.8	-130.4	8.3	19.5	-5.2
364	ok	0.05	0.4	2.79e-02	5.0	5.0	5.0	5.0	-75.0	12.4	-14.1	-2.1	-1.3	-3.3
365	ok	0.05	0.3	1.74e-02	5.0	5.0	5.0	5.0	-50.9	-8.4	-39.0	-1.8	-2.7	-3.4
366	ok	0.05	0.2	1.08e-02	5.0	5.0	5.0	5.0	-32.1	2.4	-3.7	-9.9	-1.7	-3.1
367	ok	0.05	0.2	1.05e-02	5.0	5.0	5.0	5.0	-23.6	2.3	-17.2	-7.4	-2.7	-2.3
368	ok	0.05	0.1	4.64e-03	5.0	5.0	5.0	5.0	-21.7	6.4	-20.5	-8.0	-2.4	-2.1
369	ok	0.05	0.4	2.20e-02	5.0	5.0	5.0	5.0	-134.1	-10.6	-39.9	4.6	-4.7	-5.7
370	ok	0.05	0.6	3.43e-02	5.0	5.0	5.0	5.0	-138.7	19.7	3.6	4.4	-2.4	-3.4
371	ok	0.05	0.2	1.32e-02	5.0	5.0	5.0	5.0	-8.0	-20.0	-33.4	-1.9	-5.3	-1.8
372	ok	0.05	0.2	8.47e-03	5.0	5.0	5.0	5.0	-26.1	-8.8	-43.7	-3.7	-2.0	-3.2
373	ok	0.05	0.1	4.62e-03	5.0	5.0	5.0	5.0	-10.8	7.6	-28.1	-4.1	-1.8	-1.7
374	ok	0.05	0.6	3.43e-02	5.0	5.0	5.0	5.0	-250.8	-10.8	2.0	2.5	1.2	-3.8

Nodo	Stato	x/d	V N/M	ver. rid	Af pr-	Af pr+	Af sec-	Af sec+	N z	N o	N zo	M z	M o	M zo
375	ok	0.05	0.3	2.03e-02	5.0	5.0	5.0	5.0	33.5	-12.4	-41.5	-1.5	-4.6	-1.0
376	ok	0.05	0.2	8.74e-03	5.0	5.0	5.0	5.0	8.2	-7.4	-31.0	-1.0	-2.1	-0.6
411	ok	0.07	1.0	5.94e-02	5.0	7.3	5.0	9.4	-56.1	-202.9	-212.7	-7.0	-49.2	8.1
413	ok	0.05	1.0	4.43e-02	5.2	5.0	5.2	5.0	-109.9	93.7	-299.0	0.7	-10.8	6.0
414	ok	0.05	0.6	4.12e-02	5.0	5.0	5.0	5.0	-89.8	20.9	-156.6	5.5	3.5	9.5
415	ok	0.07	1.0	5.22e-02	5.0	6.7	5.0	9.2	110.3	294.2	-239.1	7.6	55.0	10.1
417	ok	0.05	1.0	4.58e-02	5.0	5.0	5.0	5.0	75.1	-127.8	-275.0	-2.8	6.3	6.8
418	ok	0.05	0.8	4.26e-02	5.0	5.0	5.0	5.0	-268.1	-26.6	84.1	3.1	-0.7	-2.0
419	ok	0.09	1.0	0.1	10.5	12.2	8.4	14.9	592.0	447.0	-288.1	5.8	70.2	-4.5
420	ok	0.07	1.0	0.1	9.9	9.5	7.5	8.3	-706.2	-54.0	272.4	5.5	-4.0	4.0
421	ok	0.06	1.0	6.86e-02	6.4	5.7	5.9	5.4	-488.1	-73.4	89.6	3.5	-1.5	-1.8
456	ok	0.07	1.0	0.1	6.6	9.8	5.6	9.7	-625.0	-482.7	-339.7	-4.6	-69.2	-6.2
458	ok	0.06	1.0	8.01e-02	6.5	6.6	5.6	6.4	-524.1	142.0	-226.4	2.3	-9.4	-4.1
459	ok	0.05	1.0	5.67e-02	5.0	5.0	5.0	5.0	-305.9	-53.7	-150.4	19.4	21.8	3.8
Nodo		**x/d**	**V N/M**	**ver. rid**	**Af pr-**	**Af pr+**	**Af sec-**	**Af sec+**	**N z**	**N o**	**N zo**	**M z**	**M o**	**M zo**
									-706.22	-482.66	-339.65	-10.75	-69.18	-6.21
		0.09	0.99	0.12	10.54	12.16	8.42	14.91	592.01	446.95	272.40	19.37	70.23	11.41

Nodo	Stato	Max tau	Ver V pr	Ver V sec	Af V pr	Af V sec	V pr	V sec
		daN/cm2					kN/ m	kN/ m
353	ok	1.74						
354	ok	0.38						
357	ok	0.45						
358	ok	0.41						
361	ok	1.74						
362	ok	1.74						
363	ok	1.74						
364	ok	0.64						
365	ok	0.64						
366	ok	0.41						
367	ok	0.41						
368	ok	0.38						
369	ok	0.72						
370	ok	0.79						
371	ok	0.41						
372	ok	0.41						
373	ok	0.41						
374	ok	0.45						
375	ok	0.41						
376	ok	0.41						
411	ok	1.94						
413	ok	1.94						
414	ok	1.58						
415	ok	1.84						
417	ok	1.84						
418	ok	0.79						
419	ok	1.84						
420	ok	1.84						
421	ok	0.49						
456	ok	1.94						
458	ok	1.94						
459	ok	1.58						
Nodo		**Max tau**	**Ver V pr**	**Ver V sec**	**Af V pr**	**Af V sec**	**V pr**	**V sec**
		1.94						

Macro Setto	Spessore	Id Materiale	Id Criterio	Progettazione
	cm			
2	40.00	4	1	Singolo elemento NON DISSIPATIVO

Nodo	Stato	x/d	V N/M	ver. rid	Af pr-	Af pr+	Af sec-	Af sec+	N z	N o	N zo	M z	M o	M zo
									kN/ m	kN/ m	kN/ m	kN	kN	kN
350	ok	0.09	1.0	0.1	8.3	15.1	5.8	6.1	-892.2	-156.1	21.7	-42.8	-9.4	-0.9
357	ok	0.05	0.8	4.89e-02	5.0	5.0	5.0	5.0	-240.1	11.2	37.8	-2.0	2.0	-1.7
358	ok	0.05	0.1	3.74e-03	5.0	5.0	5.0	5.0	-4.5	18.4	8.2	-0.4	-1.8	-2.3
359	ok	0.05	0.7	4.81e-02	5.0	5.0	5.0	5.0	-340.1	-33.4	-61.4	0.1	5.0	2.1
360	ok	0.05	0.1	4.69e-03	5.0	5.0	5.0	5.0	-2.8	18.6	-11.4	-0.3	-1.5	3.1
374	ok	0.05	0.6	3.51e-02	5.0	5.0	5.0	5.0	-250.5	-11.8	39.6	-2.6	-1.7	-3.1

Nodo	Stato	x/d	V N/M	ver. rid	Af pr-	Af pr+	Af sec-	Af sec+	N z	N o	N zo	M z	M o	M zo
375	ok	0.05	0.3	2.15e-02	5.0	5.0	5.0	5.0	-146.4	-2.95e-03	40.6	-1.6	-3.5	-3.7
376	ok	0.05	0.2	8.67e-03	5.0	5.0	5.0	5.0	-53.3	8.3	26.8	-1.0	-2.8	-3.5
377	ok	0.05	0.4	2.70e-02	5.0	5.0	5.0	5.0	-89.3	21.2	42.7	-1.4	-3.1	-3.4
378	ok	0.05	0.6	3.73e-02	5.0	5.0	5.0	5.0	-249.2	-16.4	78.2	-1.4	1.3	-2.0
379	ok	0.05	0.3	1.82e-02	5.0	5.0	5.0	5.0	-97.3	13.0	43.8	-1.8	-4.1	-3.1
380	ok	0.05	0.2	1.01e-02	5.0	5.0	5.0	5.0	-44.7	10.3	25.7	-0.3	-2.6	-3.8
381	ok	0.05	0.1	5.90e-03	5.0	5.0	5.0	5.0	-8.3	-17.8	23.2	0.4	-0.9	-4.8
382	ok	0.05	0.3	2.03e-02	5.0	5.0	5.0	5.0	-61.1	10.8	-59.3	-0.2	2.8	3.0
383	ok	0.05	0.4	2.73e-02	5.0	5.0	5.0	5.0	-133.2	7.9	-71.0	1.6	4.6	1.9
384	ok	0.05	0.3	1.55e-02	5.0	5.0	5.0	5.0	-35.1	13.5	-71.5	-1.3	-3.7	2.2
385	ok	0.05	0.2	9.42e-03	5.0	5.0	5.0	5.0	-11.1	7.0	48.2	1.3	0.1	-4.5
386	ok	0.05	0.1	6.91e-03	5.0	5.0	5.0	5.0	-11.2	-20.5	34.4	2.6	-0.4	-4.6
387	ok	0.05	0.5	3.64e-02	5.0	5.0	5.0	5.0	-239.7	-21.8	-80.8	-2.4	-1.7	2.2
388	ok	0.05	0.4	2.23e-02	5.0	5.0	5.0	5.0	-137.7	-4.4	-63.3	-2.2	-4.4	3.0
389	ok	0.05	0.2	9.81e-03	5.0	5.0	5.0	5.0	-48.0	1.4	-41.6	-1.1	-2.9	2.7
409	ok	0.10	1.0	0.2	22.3	19.6	5.9	7.2	-1585.4	-92.9	-91.8	37.5	3.1	-12.1
410	ok	0.07	1.0	0.1	11.0	10.6	6.4	5.6	-1011.2	-65.1	-137.9	5.4	6.1	3.6
419	ok	0.10	1.0	0.2	24.1	16.9	6.5	6.3	-1600.6	-179.6	-84.9	31.7	11.0	-3.8
420	ok	0.07	1.0	9.44e-02	11.1	6.5	7.2	5.0	-703.0	-17.5	-89.9	28.3	14.5	9.3
421	ok	0.06	1.0	6.49e-02	5.0	6.5	5.0	5.4	-476.5	-11.5	-23.8	-10.5	0.5	-3.2
422	ok	0.08	1.0	0.1	12.1	8.0	6.3	6.0	-833.7	-24.3	-87.7	20.5	11.3	-5.3
423	ok	0.08	1.0	0.1	12.0	13.0	7.0	7.5	-803.5	73.2	-82.9	21.5	-1.5	-13.4
424	ok	0.07	1.0	8.37e-02	9.5	6.0	6.6	5.9	-599.2	6.8	-86.7	21.4	13.9	6.2
425	ok	0.05	0.9	5.45e-02	5.0	5.0	5.0	5.0	-237.8	15.0	74.3	-1.3	2.4	-1.3
426	ok	0.06	1.0	7.48e-02	5.4	5.7	5.4	5.7	-347.5	2.1	116.6	4.1	-13.7	-4.9
427	ok	0.06	1.0	8.48e-02	5.5	8.1	5.5	7.4	-464.3	-1.8	101.8	2.9	-10.1	-14.2
428	ok	0.05	0.8	5.34e-02	5.0	5.0	5.0	5.0	-244.5	15.8	101.4	1.7	-13.1	3.2
429	ok	0.05	0.6	4.01e-02	5.0	5.0	5.0	5.0	-79.5	52.2	90.6	4.3	2.5	1.3
430	ok	0.07	1.0	0.1	7.8	8.3	6.7	5.6	-818.7	-63.1	-108.9	-3.8	2.5	3.4
431	ok	0.06	1.0	8.87e-02	6.1	6.4	6.1	5.7	-489.2	-34.4	-64.0	-1.5	6.5	1.5
432	ok	0.05	0.9	6.61e-02	5.0	5.0	5.0	5.0	-348.2	-29.0	-55.0	0.4	6.6	1.6
441	ok	0.09	1.0	0.1	11.4	14.4	6.2	7.2	-897.7	-84.2	-2.7	-42.0	-9.5	-7.5
444	ok	0.06	1.0	6.92e-02	5.0	10.6	5.0	6.0	527.8	63.6	131.0	41.2	5.3	5.2
447	ok	0.07	1.0	8.48e-02	5.1	9.7	5.1	7.2	-459.1	-86.9	-197.6	-41.0	-8.1	-3.0
451	ok	0.07	1.0	0.2	12.5	16.8	5.4	6.1	-1639.1	-294.1	-204.5	-52.5	-7.7	-3.7
452	ok	0.11	1.0	0.2	16.7	24.9	5.7	5.6	-2029.6	-355.0	204.8	-43.4	-4.5	-3.6
453	ok	0.10	1.0	0.2	20.1	26.3	8.3	6.1	-1859.6	-100.2	138.1	-48.0	-5.2	-5.4
454	ok	0.10	1.0	0.2	13.7	20.3	6.4	7.5	-1490.4	-252.4	-150.6	-36.5	-1.1	-4.7
Nodo		**x/d**	**V N/M**	**ver. rid**	**Af pr-**	**Af pr+**	**Af sec-**	**Af sec+**	**N z**	**N o**	**N zo**	**M z**	**M o**	**M zo**
									-2029.59	-355.02	-204.48	-52.46	-13.68	-14.24
		0.11	0.99	0.24	24.08	26.34	8.26	7.47	527.78	73.23	204.77	41.21	14.47	9.25

Nodo	Stato	Max tau	Ver V pr	Ver V sec	Af V pr	Af V sec	V pr	V sec
		daN/cm2					kN/ m	kN/ m
350	ok	2.62						
357	ok	0.46						
358	ok	0.34						
359	ok	0.31						
360	ok	0.31						
374	ok	0.46						
375	ok	0.40						
376	ok	0.34						
377	ok	0.46						
378	ok	0.46						
379	ok	0.40						
380	ok	0.41						
381	ok	0.41						
382	ok	0.31						
383	ok	0.31						
384	ok	0.26						
385	ok	0.41						
386	ok	0.41						
387	ok	0.31						
388	ok	0.26						
389	ok	0.31						
409	ok	3.64						
410	ok	0.79						
419	ok	3.64						
420	ok	3.61						
421	ok	0.64						
422	ok	3.64						

Nodo	Stato	Max tau	Ver V pr	Ver V sec	Af V pr	Af V sec	V pr	V sec
423	ok	3.64						
424	ok	3.61						
425	ok	0.64						
426	ok	0.95						
427	ok	0.99						
428	ok	0.95						
429	ok	0.69						
430	ok	0.88						
431	ok	0.88						
432	ok	0.69						
441	ok	2.62						
444	ok	2.59						
447	ok	2.59						
451	ok	2.59						
452	ok	2.62						
453	ok	2.62						
454	ok	2.59						
Nodo		**Max tau**	**Ver V pr**	**Ver V sec**	**Af V pr**	**Af V sec**	**V pr**	**V sec**
		3.64						

Macro Setto	Spessore	Id Materiale	Id Criterio	Progettazione
	cm			
3	40.00	4	1	Singolo elemento NON DISSIPATIVO

Nodo	Stato	x/d	V N/M	ver. rid	Af pr-	Af pr+	Af sec-	Af sec+	N z	N o	N zo	M z	M o	M zo
									kN/ m	kN/ m	kN/ m	kN	kN	kN
355	ok	0.07	1.0	0.1	5.0	10.4	5.0	9.1	-611.7	-80.8	218.5	-74.1	1.6	28.5
356	ok	0.05	0.2	4.40e-03	5.0	5.0	5.0	5.0	-21.5	5.1	8.7	12.5	1.7	2.2
359	ok	0.05	0.7	4.60e-02	5.0	5.0	5.0	5.0	-317.6	-24.7	-27.0	-1.5	6.2	1.4
360	ok	0.05	7.42e-02	1.87e-03	5.0	5.0	5.0	5.0	3.0	-4.2	5.9	0.2	-0.1	1.5
387	ok	0.05	0.4	3.35e-02	5.0	5.0	5.0	5.0	-237.4	-5.1	-42.3	-3.0	-1.5	3.5
388	ok	0.05	0.3	1.96e-02	5.0	5.0	5.0	5.0	-139.0	-6.9	-25.1	-1.6	-4.0	3.2
389	ok	0.05	0.1	7.29e-03	5.0	5.0	5.0	5.0	-50.7	-3.1	-11.3	0.7	-1.8	1.9
390	ok	0.05	1.0	2.65e-02	5.1	5.0	5.0	5.0	166.0	43.5	-35.7	-27.2	1.4	-1.6
391	ok	0.05	0.4	2.00e-02	5.0	5.0	5.0	5.0	-123.4	27.0	-63.3	11.1	-3.4	-6.8
392	ok	0.05	0.8	4.90e-02	5.0	5.0	5.0	5.0	-18.1	-88.8	-110.1	24.2	3.3	-4.7
393	ok	0.05	0.3	1.45e-02	5.0	5.0	5.0	5.0	-99.7	13.6	-16.7	-2.9	-0.2	-7.4
394	ok	0.05	0.2	1.02e-02	5.0	5.0	5.0	5.0	-55.3	-12.2	-34.6	-1.2	-2.5	-8.4
395	ok	0.05	0.2	5.15e-03	5.0	5.0	5.0	5.0	-20.5	-0.6	8.4	12.6	2.2	2.6
396	ok	0.05	0.2	5.89e-03	5.0	5.0	5.0	5.0	-13.7	5.25e-02	-3.9	-6.4	-1.6	-4.9
397	ok	0.05	0.1	3.77e-03	5.0	5.0	5.0	5.0	-15.4	3.0	-2.4	7.8	0.8	1.3
398	ok	0.05	0.4	2.20e-02	5.0	5.0	5.0	5.0	-28.6	26.0	-65.5	5.5	-3.7	-5.3
399	ok	0.05	0.5	3.67e-02	5.0	5.0	5.0	5.0	-49.9	48.1	-60.9	4.7	-5.1	-1.0
400	ok	0.05	0.2	1.22e-02	5.0	5.0	5.0	5.0	-38.5	6.9	14.6	3.7	1.8	6.4
401	ok	0.05	0.2	6.25e-03	5.0	5.0	5.0	5.0	-38.2	-2.0	18.0	3.8	1.3	3.4
402	ok	0.05	0.1	3.89e-03	5.0	5.0	5.0	5.0	-11.0	-5.7	6.0	3.3	0.8	1.8
410	ok	0.07	1.0	0.1	10.4	10.1	7.1	5.6	-697.6	29.3	142.8	-6.2	-6.4	-2.6
430	ok	0.07	1.0	0.1	6.6	8.2	5.9	5.6	-697.4	-24.5	145.9	-7.6	-13.4	-4.9
431	ok	0.06	1.0	8.64e-02	5.3	5.9	5.1	5.0	-487.0	8.2	5.4	-3.5	5.5	2.1
432	ok	0.05	0.9	6.40e-02	5.0	5.0	5.0	5.0	-467.7	-27.5	0.6	-3.1	7.4	0.5
433	ok	0.06	1.0	0.1	6.9	7.9	5.7	5.3	-747.3	2.1	83.3	-7.2	-8.7	6.8
434	ok	0.07	1.0	0.1	8.8	9.8	7.1	6.1	-932.4	8.1	34.8	-5.5	-7.1	2.5
435	ok	0.05	1.0	7.34e-02	5.0	5.2	5.0	5.2	-450.9	-16.4	186.2	-6.5	-2.4	0.6
436	ok	0.05	0.7	5.35e-02	5.0	5.0	5.0	5.0	-255.5	-65.8	102.3	-21.4	-4.4	4.0
437	ok	0.06	1.0	0.1	6.7	7.5	5.9	5.6	-756.8	-15.1	74.6	-4.8	2.5	3.8
438	ok	0.07	1.0	0.1	8.0	9.3	7.2	6.5	-713.8	7.7	-91.4	-7.2	-0.7	9.1
439	ok	0.06	1.0	7.94e-02	5.0	5.5	5.0	5.1	-484.5	-18.8	-99.0	-5.0	8.0	4.2
440	ok	0.05	0.7	5.77e-02	5.0	5.0	5.0	5.0	-392.6	-23.5	18.9	-1.5	6.3	1.8
442	ok	0.09	1.0	0.1	8.3	13.7	7.0	6.1	-709.7	-183.0	-2.4	-59.1	-30.0	5.0
443	ok	0.06	1.0	0.1	6.8	13.8	5.6	6.5	-926.3	-145.2	-24.7	-90.4	-22.4	2.9
448	ok	0.09	1.0	0.1	9.1	14.5	7.7	6.0	-962.3	-223.6	-5.6	-75.6	-36.5	9.1
451	ok	0.07	1.0	0.2	11.6	16.0	5.0	5.1	-1669.3	-295.1	168.4	-64.3	-8.1	4.69e-02
454	ok	0.09	1.0	0.2	12.6	19.1	7.6	5.7	-1477.5	-169.5	76.8	-38.5	1.83e-03	-4.2
455	ok	0.06	1.0	0.1	6.2	13.2	5.4	5.3	-665.9	-98.8	13.2	-73.1	-18.4	-2.9
460	ok	0.07	1.0	0.1	6.6	8.9	6.0	5.8	-775.0	-13.5	92.4	-14.6	-12.2	6.6
461	ok	0.08	1.0	0.2	12.3	12.5	7.6	5.9	-772.8	42.4	96.6	-14.1	-7.5	2.5
462	ok	0.05	0.8	6.82e-02	5.0	5.0	5.0	5.0	-153.3	52.3	162.4	-10.3	-3.1	-2.6
463	ok	0.05	0.8	6.67e-02	5.0	5.0	5.0	5.0	-260.9	-51.3	-174.3	19.0	-10.4	-16.5
466	ok	0.11	1.0	0.2	15.3	25.9	9.0	8.9	-1871.5	-288.4	-50.9	-72.2	-3.9	7.9
467	ok	0.09	1.0	0.2	13.4	21.1	5.9	6.3	-2016.3	-328.2	-120.0	-94.1	-12.2	5.9

Nodo	Stato	x/d	V N/M	ver. rid	Af pr-	Af pr+	Af sec-	Af sec+	N z	N o	N zo	M z	M o	M zo
Nodo		**x/d**	**V N/M**	**ver. rid**	**Af pr-**	**Af pr+**	**Af sec-**	**Af sec+**	**N z**	**N o**	**N zo**	**M z**	**M o**	**M zo**
									-2016.34	-328.20	-174.26	-94.14	-36.47	-16.46
		0.11	0.99	0.25	15.29	25.94	8.99	9.11	166.03	52.32	218.52	24.25	7.99	28.45

Nodo	Stato	Max tau	Ver V pr	Ver V sec	Af V pr	Af V sec	V pr	V sec
		daN/cm2					kN/ m	kN/ m
355	ok	2.55						
356	ok	0.48						
359	ok	0.35						
360	ok	0.51						
387	ok	0.35						
388	ok	0.39						
389	ok	0.51						
390	ok	2.15						
391	ok	2.15						
392	ok	2.55						
393	ok	0.67						
394	ok	0.67						
395	ok	0.48						
396	ok	0.48						
397	ok	0.48						
398	ok	0.60						
399	ok	1.02						
400	ok	0.39						
401	ok	0.51						
402	ok	0.51						
410	ok	1.49						
430	ok	0.81						
431	ok	0.81						
432	ok	0.39						
433	ok	0.93						
434	ok	1.21						
435	ok	0.93						
436	ok	2.55						
437	ok	0.81						
438	ok	1.49						
439	ok	0.81						
440	ok	1.02						
442	ok Av	4.85	0.17	0.07	5.1	2.0	166.5	66.0
443	ok Av	6.09	0.22	0.06	6.7	1.9	216.6	62.2
448	ok Av	6.09	0.22	0.06	6.7	1.9	216.6	62.2
451	ok Av	4.85	0.17	0.07	5.1	2.0	166.5	66.0
454	ok Av	4.85	0.17	0.07	5.1	2.0	166.5	66.0
455	ok Av	4.85	0.17	0.07	5.1	2.0	166.5	66.0
460	ok	0.93						
461	ok	1.21						
462	ok	0.93						
463	ok	2.55						
466	ok Av	6.09	0.22	0.06	6.7	1.9	216.6	62.2
467	ok Av	6.09	0.22	0.06	6.7	1.9	216.6	62.2
Nodo		**Max tau**	**Ver V pr**	**Ver V sec**	**Af V pr**	**Af V sec**	**V pr**	**V sec**
		6.09	0.22	0.07	6.67	2.03	216.61	66.00

Macro Setto	Spessore	Id Materiale	Id Criterio	Progettazione
	cm			
6	40.00	4	1	Singolo elemento NON DISSIPATIVO

Nodo	Stato	x/d	V N/M	ver. rid	Af pr-	Af pr+	Af sec-	Af sec+	N z	N o	N zo	M z	M o	M zo
									kN/ m	kN/ m	kN/ m	kN	kN	kN
353	ok	0.05	0.9	6.96e-02	5.0	5.0	5.0	5.0	-283.4	-149.1	-285.0	9.0	21.5	10.8
355	ok	0.06	1.0	0.1	6.9	5.0	7.3	5.0	-510.0	-29.4	204.7	15.8	14.2	-8.5
456	ok	0.08	1.0	0.2	16.7	15.6	5.7	5.3	-585.9	-23.9	-153.4	-54.9	-26.0	-12.1
457	ok	0.09	1.0	0.2	21.7	20.3	5.9	5.8	-1761.5	-93.5	94.2	6.3	0.9	3.4
458	ok	0.07	1.0	7.50e-02	5.7	8.5	5.4	5.5	-526.8	-26.6	-130.5	-27.3	-28.4	-10.1
459	ok	0.05	0.8	5.58e-02	5.0	5.0	5.0	5.0	-367.6	-85.3	-113.9	12.1	12.8	5.5
460	ok	0.07	1.0	0.1	10.3	8.6	7.3	6.2	-783.2	-65.7	-258.3	4.9	13.7	5.6
461	ok	0.08	1.0	0.2	15.0	14.1	9.4	6.7	-1195.3	-76.7	-338.2	-2.5	8.1	13.1

Nodo	Stato	x/d	V N/M	ver. rid	Af pr-	Af pr+	Af sec-	Af sec+	N z	N o	N zo	M z	M o	M zo
462	ok	0.06	1.0	8.05e-02	6.2	5.6	6.2	5.6	-493.7	-71.8	-227.8	-0.5	10.2	2.9
463	ok	0.05	0.7	5.44e-02	5.0	5.0	5.0	5.0	-213.9	-59.4	240.6	1.3	5.1	-10.4
464	ok	0.10	1.0	0.3	33.4	31.3	7.4	7.5	-2454.1	-143.0	218.3	27.6	1.8	-1.2
465	ok	0.10	1.0	0.3	33.0	32.4	8.7	8.4	-2595.2	-474.3	275.9	39.7	2.6	-3.9
466	ok	0.11	1.0	0.2	25.9	18.0	9.3	7.5	-1881.3	-347.9	-299.3	42.5	-3.5	9.4
467	ok	0.10	1.0	0.3	21.5	16.2	8.4	5.8	-2003.7	-392.5	-347.3	52.0	8.1	7.5
468	ok	0.08	1.0	0.1	15.1	14.8	6.6	7.5	-1041.9	-184.3	143.9	36.4	7.7	-7.0
476	ok	0.07	1.0	7.62e-02	11.5	5.9	6.2	5.9	500.0	54.5	153.9	-55.0	-6.4	-4.6
477	ok	0.06	1.0	3.49e-02	6.3	5.0	6.7	5.0	-69.0	151.7	-93.2	9.7	16.6	3.2
478	ok	0.07	1.0	9.83e-02	10.6	5.0	7.2	5.0	-176.8	-49.6	-341.4	45.9	4.9	8.5
482	ok	0.06	1.0	4.10e-02	7.3	6.6	7.4	6.6	-33.9	287.9	-81.2	2.5	-27.3	2.2
494	ok	0.07	1.0	0.1	11.4	10.4	7.4	6.7	-541.5	-37.1	-108.4	-35.6	-6.3	-4.5
495	ok	0.08	1.0	0.2	15.8	14.3	7.8	7.5	-1135.6	13.1	82.1	5.1	2.2	6.7
496	ok	0.06	1.0	7.97e-02	6.8	7.4	6.8	5.4	-541.2	-16.2	-122.1	-28.1	-26.7	-11.5
497	ok	0.05	0.9	4.61e-02	5.0	5.0	5.0	5.0	-143.2	-60.6	-185.1	14.6	23.1	2.6
498	ok	0.06	1.0	7.97e-02	5.9	5.3	5.9	5.3	-259.5	35.1	-268.4	-4.0	11.0	8.1
499	ok	0.07	1.0	9.69e-02	8.6	5.6	7.7	5.6	-345.8	96.6	-356.7	4.1	10.0	20.5
500	ok	0.05	0.9	5.99e-02	5.0	5.0	5.0	5.0	-224.6	13.8	140.3	-1.9	12.2	-3.8
501	ok	0.05	0.8	4.36e-02	5.0	5.0	5.0	5.0	-104.4	-170.3	102.2	7.1	5.3	0.2
505	ok	0.08	1.0	0.1	15.2	14.9	7.4	6.8	-1060.3	-117.8	118.1	25.2	4.8	0.4
Nodo		**x/d**	**V N/M**	**ver. rid**	**Af pr-**	**Af pr+**	**Af sec-**	**Af sec+**	**N z**	**N o**	**N zo**	**M z**	**M o**	**M zo**
									-2595.20	-474.32	-356.70	-55.03	-28.39	-12.06
		0.11	0.99	0.29	33.38	32.45	9.40	8.37	500.02	287.88	275.92	52.04	23.07	20.48

Nodo	Stato	Max tau	Ver V pr	Ver V sec	Af V pr	Af V sec	V pr	V sec
		daN/cm2					kN/ m	kN/ m
353	ok	1.88						
355	ok	2.99						
456	ok	4.06						
457	ok	4.06						
458	ok	3.73						
459	ok	1.88						
460	ok	0.91						
461	ok	1.38						
462	ok	1.09						
463	ok	2.99						
464	ok	2.82						
465	ok	2.59						
466	ok	4.50						
467	ok	4.50						
468	ok	2.59						
476	ok Av	4.50	0.15	0.06	4.7	2.0	153.5	63.4
477	ok	2.68						
478	ok Av	4.50	0.15	0.06	4.7	2.0	153.5	63.4
482	ok	2.99						
494	ok	4.06						
495	ok	4.06						
496	ok	3.73						
497	ok	2.68						
498	ok	1.01						
499	ok	1.46						
500	ok	1.09						
501	ok	2.99						
505	ok	2.82						
Nodo		**Max tau**	**Ver V pr**	**Ver V sec**	**Af V pr**	**Af V sec**	**V pr**	**V sec**
		4.50	0.15	0.06	4.72	1.95	153.46	63.44

Macro Setto	Spessore	Id Materiale	Id Criterio	Progettazione
	cm			
11	40.00	4	1	Singolo elemento NON DISSIPATIVO

Nodo	Stato	x/d	V N/M	ver. rid	Af pr-	Af pr+	Af sec-	Af sec+	N z	N o	N zo	M z	M o	M zo
									kN/ m	kN/ m	kN/ m	kN	kN	kN
561	ok	0.17	1.0	0.1	28.5	11.8	20.3	8.9	194.1	68.7	252.7	-193.9	-49.0	-109.0
562	ok	0.05	0.1	5.24e-03	5.0	5.0	5.0	5.0	-21.2	-3.5	14.6	0.5	-0.1	0.9
565	ok	0.05	0.5	3.95e-02	5.0	5.0	5.0	5.0	-179.4	18.2	-60.0	2.3	1.8	-1.1
566	ok	0.05	5.40e-02	1.35e-03	5.0	5.0	5.0	5.0	5.7	12.9	-6.7	0.7	1.2	0.5

Nodo	Stato	x/d	V N/M	ver. rid	Af pr-	Af pr+	Af sec-	Af sec+	N z	N o	N zo	M z	M o	M zo
569	ok	0.06	1.0	1.95e-02	6.1	6.1	6.1	6.1	8.4	62.6	-137.4	53.0	29.1	59.6
570	ok	0.06	1.0	1.65e-02	6.8	5.0	6.8	5.0	42.7	78.2	77.0	-68.9	-12.5	-21.8
571	ok	0.06	1.0	6.25e-02	7.1	5.0	7.1	5.0	-10.6	-81.8	-157.5	-75.5	-8.4	20.7
572	ok	0.05	0.1	1.43e-02	5.0	5.0	5.0	5.0	-52.1	-63.1	-22.2	2.9	2.6	6.9
573	ok	0.05	0.2	6.88e-03	5.0	5.0	5.0	5.0	-46.0	-5.8	-13.8	4.6	2.4	5.6
574	ok	0.05	0.2	5.04e-03	5.0	5.0	5.0	5.0	-35.7	-5.3	-4.6	2.0	0.8	2.3
575	ok	0.05	0.2	3.95e-03	5.0	5.0	5.0	5.0	-7.9	-4.1	-3.9	0.3	1.4	7.6
576	ok	0.05	0.1	3.32e-03	5.0	5.0	5.0	5.0	-2.0	-3.2	-7.1	1.7	0.9	2.5
577	ok	0.05	0.3	2.17e-02	5.0	5.0	5.0	5.0	-70.8	57.7	-17.8	-9.7	5.3	-1.2
578	ok	0.05	0.5	3.58e-02	5.0	5.0	5.0	5.0	-213.5	-52.3	47.1	3.5	6.2	-3.9
579	ok	0.05	0.2	1.12e-02	5.0	5.0	5.0	5.0	-34.1	13.8	-2.3	-0.7	6.1	0.2
580	ok	0.05	0.1	5.11e-03	5.0	5.0	5.0	5.0	-5.6	4.8	17.4	0.9	1.6	6.3
581	ok	0.05	9.16e-02	2.77e-03	5.0	5.0	5.0	5.0	-14.6	-4.8	3.3	-2.6	0.8	-0.6
582	ok	0.05	0.3	2.79e-02	5.0	5.0	5.0	5.0	-188.6	0.3	-55.5	2.9	1.6	-1.9
583	ok	0.05	0.2	1.64e-02	5.0	5.0	5.0	5.0	-111.3	-3.7	-28.9	1.7	6.8	-1.2
584	ok	0.05	0.1	6.33e-03	5.0	5.0	5.0	5.0	-3.9	1.9	-9.0	1.1	2.1	1.7
617	ok	0.07	1.0	0.1	8.1	7.1	5.7	6.1	-518.2	-7.6	-147.7	6.7	-11.2	-12.7
619	ok	0.07	1.0	0.1	8.1	7.0	5.6	5.6	-767.4	-2.4	72.9	9.8	16.0	-9.2
620	ok	0.07	1.0	0.1	9.9	9.3	6.6	7.8	-768.8	65.8	71.3	8.3	9.8	-5.3
621	ok	0.05	1.0	7.49e-02	5.3	5.0	5.3	5.0	-315.9	24.9	147.4	3.9	9.2	-5.0
622	ok	0.05	0.7	6.01e-02	5.0	5.0	5.0	5.0	-300.3	-80.0	97.6	60.3	17.3	-15.7
623	ok	0.06	1.0	9.07e-02	6.9	6.4	5.7	6.4	-614.3	-37.4	-172.2	4.0	-16.6	-7.2
624	ok	0.06	1.0	0.1	7.5	6.2	5.5	6.0	-675.1	-39.6	-140.2	7.4	-8.8	-11.6
625	ok	0.06	1.0	7.48e-02	5.3	5.4	5.3	5.4	-514.8	-27.7	-132.8	4.7	-12.6	-6.5
626	ok	0.05	0.7	5.35e-02	5.0	5.0	5.0	5.0	-220.4	-7.7	67.3	6.5	4.7	-4.0
627	ok	0.06	1.0	8.75e-02	6.7	5.6	5.5	5.6	-524.4	-19.3	-177.2	6.8	-17.6	-8.3
628	ok	0.05	1.0	7.09e-02	5.0	5.0	5.0	5.0	-464.0	-22.6	-141.5	5.2	-14.0	-5.1
629	ok	0.05	0.8	5.50e-02	5.0	5.0	5.0	5.0	-373.4	-12.7	-106.4	4.1	-0.2	-2.1
654	ok	0.08	1.0	0.1	12.7	9.5	6.1	8.0	-947.7	-241.6	-3.8	58.9	26.2	-10.7
658	ok	0.07	1.0	0.1	10.0	6.6	5.9	6.3	-628.0	-173.8	4.9	42.2	21.1	-8.5
661	ok	0.08	1.0	0.1	14.3	9.5	7.5	6.7	-1028.9	-167.4	115.4	19.1	-7.0	2.0
664	ok	0.07	1.0	0.1	9.8	7.5	6.1	5.7	-869.6	-16.2	84.4	15.9	19.1	-10.1
665	ok	0.08	1.0	0.2	13.8	13.3	6.1	6.7	-873.1	42.5	89.0	14.6	11.3	-6.7
666	ok	0.05	1.0	7.37e-02	5.0	5.0	5.0	5.0	-526.6	12.8	81.6	-1.8	15.7	-4.7
667	ok	0.06	1.0	8.39e-02	5.9	5.0	5.9	5.0	-349.3	-75.5	-214.6	-73.1	8.2	48.9
672	ok	0.11	1.0	0.2	26.4	16.4	8.6	10.2	-2004.3	-291.7	-95.1	61.1	4.2	-8.0
676	ok	0.07	1.0	0.1	12.1	7.7	6.6	6.5	-895.5	-136.9	-12.4	75.6	18.2	-1.9
677	ok	0.08	1.0	0.3	20.9	15.3	6.4	6.0	-2203.6	-364.4	-186.1	88.1	12.3	-2.7
680	ok	0.06	1.0	9.09e-02	9.4	6.1	6.0	5.8	-577.3	-75.7	29.3	57.1	14.1	2.3
681	ok	0.07	1.0	0.2	10.4	8.2	6.1	5.3	-1169.9	-214.5	193.1	38.4	4.1	3.3
Nodo		**x/d**	**V N/M**	**ver. rid**	**Af pr-**	**Af pr+**	**Af sec-**	**Af sec+**	**N z**	**N o**	**N zo**	**M z**	**M o**	**M zo**
									-2203.59	-364.44	-214.58	-193.92	-48.96	-109.03
		0.17	0.99	0.27	28.53	16.40	20.30	10.23	194.09	78.18	252.72	88.13	29.10	59.64

Nodo	Stato	Max tau	Ver V pr	Ver V sec	Af V pr	Af V sec	V pr	V sec
		daN/cm2					kN/ m	kN/ m
561	ok	3.16						
562	ok	0.51						
565	ok	0.57						
566	ok	0.37						
569	ok	2.69						
570	ok	2.69						
571	ok	3.16						
572	ok	0.58						
573	ok	0.58						
574	ok	0.51						
575	ok	0.51						
576	ok	0.51						
577	ok	0.87						
578	ok	1.05						
579	ok	0.40						
580	ok	0.38						
581	ok	0.38						
582	ok	0.57						
583	ok	0.40						
584	ok	0.37						
617	ok	1.03						
619	ok	1.12						
620	ok	1.03						
621	ok	1.12						
622	ok	3.16						

Nodo	Stato	Max tau	Ver V pr	Ver V sec	Af V pr	Af V sec	V pr	V sec
623	ok	0.77						
624	ok	1.03						
625	ok	0.77						
626	ok	1.05						
627	ok	0.75						
628	ok	0.70						
629	ok	0.39						
654	ok Av	5.22	0.19	0.04	5.8	1.4	187.2	44.8
658	ok	3.06						
661	ok	3.06						
664	ok	1.12						
665	ok	1.03						
666	ok	1.12						
667	ok	3.16						
672	ok Av	5.22	0.19	0.04	5.8	1.4	187.2	44.8
676	ok Av	5.22	0.19	0.04	5.8	1.4	187.2	44.8
677	ok Av	5.22	0.19	0.04	5.8	1.4	187.2	44.8
680	ok	3.06						
681	ok	3.06						
Nodo		**Max tau**	**Ver V pr**	**Ver V sec**	**Af V pr**	**Af V sec**	**V pr**	**V sec**
		5.22	0.19	0.04	5.76	1.38	187.21	44.83

Macro Setto	Spessore	Id Materiale	Id Criterio	Progettazione
	cm			
12	40.00	4	1	Singolo elemento NON DISSIPATIVO

Nodo	Stato	x/d	V N/M	ver. rid	Af pr-	Af pr+	Af sec-	Af sec+	N z	N o	N zo	M z	M o	M zo
									kN/ m	kN/ m	kN/ m	kN	kN	kN
565	ok	0.05	0.6	4.32e-02	5.0	5.0	5.0	5.0	-193.1	-11.6	76.0	-2.3	-1.1	-1.4
566	ok	0.05	8.95e-02	3.92e-03	5.0	5.0	5.0	5.0	-3.9	-13.1	-6.9	0.9	-0.7	-6.31e-02
567	ok	0.05	0.8	4.58e-02	5.0	5.0	5.0	5.0	-216.6	21.1	-30.0	-4.3	-7.3	0.8
568	ok	0.05	1.00e-01	3.86e-03	5.0	5.0	5.0	5.0	-7.6	-14.0	17.1	0.7	0.7	-2.0
582	ok	0.05	0.4	3.06e-02	5.0	5.0	5.0	5.0	-197.8	-12.5	74.0	-3.5	-9.5	-1.5
583	ok	0.05	0.3	1.85e-02	5.0	5.0	5.0	5.0	-116.2	-2.0	50.7	-2.9	-7.9	-1.4
584	ok	0.05	0.1	8.31e-03	5.0	5.0	5.0	5.0	-43.5	0.5	32.5	-1.1	-3.3	-1.1
585	ok	0.05	0.3	1.65e-02	5.0	5.0	5.0	5.0	-37.8	15.4	60.7	-2.4	-7.4	-1.0
586	ok	0.05	0.3	2.20e-02	5.0	5.0	5.0	5.0	-23.6	33.2	-94.8	-0.5	-0.8	2.0
587	ok	0.05	0.2	1.20e-02	5.0	5.0	5.0	5.0	-20.0	16.3	40.7	-2.1	-6.3	-1.5
588	ok	0.05	0.1	8.03e-03	5.0	5.0	5.0	5.0	-10.0	7.0	-37.2	1.3	0.9	3.0
589	ok	0.05	9.11e-02	5.65e-03	5.0	5.0	5.0	5.0	-7.8	-25.6	20.8	1.3	-0.8	-2.1
590	ok	0.05	0.4	2.28e-02	5.0	5.0	5.0	5.0	-133.7	20.6	-34.6	-2.3	0.5	2.0
591	ok	0.05	0.6	3.44e-02	5.0	5.0	5.0	5.0	-214.7	22.6	-33.9	-3.6	-6.4	1.8
592	ok	0.05	0.3	1.50e-02	5.0	5.0	5.0	5.0	-79.8	12.9	-32.3	0.5	-6.0	2.1
593	ok	0.05	0.2	8.51e-03	5.0	5.0	5.0	5.0	-39.9	-2.3	-36.6	0.9	1.1	3.0
594	ok	0.05	0.1	6.64e-03	5.0	5.0	5.0	5.0	-19.3	-25.1	9.3	2.6	0.8	-2.0
595	ok	0.05	0.6	3.15e-02	5.0	5.0	5.0	5.0	-226.0	-5.2	-30.3	-4.3	2.5	1.5
596	ok	0.05	0.3	1.93e-02	5.0	5.0	5.0	5.0	-135.4	-2.5	-27.7	-2.2	-5.6	2.0
597	ok	0.05	0.1	7.93e-03	5.0	5.0	5.0	5.0	-52.5	3.5	-18.4	-0.8	-2.4	1.8
617	ok	0.06	1.0	0.1	8.4	7.2	6.7	5.4	-754.5	-42.0	60.1	9.4	12.5	-7.8
618	ok	0.10	1.0	0.2	23.7	21.3	8.6	8.2	-1693.0	-121.0	67.3	49.4	4.3	15.6
627	ok	0.06	1.0	8.93e-02	6.3	6.7	6.3	5.6	-469.4	-51.2	169.3	0.2	18.6	-6.3
628	ok	0.06	1.0	7.41e-02	5.4	5.3	5.4	5.3	-472.9	-73.5	168.0	0.2	14.8	-2.4
629	ok	0.05	0.9	6.01e-02	5.0	5.0	5.0	5.0	-380.8	-58.2	150.0	-1.0	-1.5	-0.3
630	ok	0.05	0.8	6.01e-02	5.0	5.0	5.0	5.0	-101.0	42.5	175.1	-6.0	15.6	-5.4
631	ok	0.06	1.0	7.16e-02	5.0	5.8	5.0	5.8	-62.1	2.1	-83.6	-10.6	-6.5	21.1
632	ok	0.05	0.7	4.49e-02	5.0	5.0	5.0	5.0	-98.8	24.1	179.2	-6.6	11.9	-1.5
633	ok	0.05	0.5	3.31e-02	5.0	5.0	5.0	5.0	-40.5	52.6	-116.0	5.0	4.0	1.9
634	ok	0.07	1.0	0.1	10.9	6.6	7.8	6.0	-747.6	10.9	49.8	23.5	11.8	7.9
635	ok	0.08	1.0	0.1	11.5	11.3	8.7	7.1	-947.8	-143.9	-71.5	-16.5	-9.9	21.3
636	ok	0.07	1.0	8.14e-02	8.3	5.2	6.5	5.2	-566.8	25.0	46.5	24.6	16.2	-7.5
637	ok	0.05	0.8	5.25e-02	5.0	5.0	5.0	5.0	-204.9	56.2	-33.8	-3.1	-3.1	2.1
638	ok	0.10	1.0	0.2	24.0	16.3	6.2	5.8	-1683.7	-199.0	60.6	43.8	12.4	5.3
639	ok	0.08	1.0	9.90e-02	12.2	6.2	7.3	5.1	-748.4	-25.7	53.1	36.0	14.6	-11.0
640	ok	0.06	1.0	6.49e-02	5.0	6.5	5.0	5.0	-477.0	-1.1	-13.9	-14.5	-7.2	3.1
649	ok	0.06	1.0	7.04e-02	5.0	7.6	5.0	5.7	-21.7	-129.1	30.3	-37.1	2.4	10.9
655	ok	0.08	1.0	0.1	10.1	12.4	6.9	7.4	-672.9	-182.0	9.3	-64.4	-17.5	11.1
661	ok	0.08	1.0	0.1	8.3	14.0	6.1	5.6	-1028.6	-177.8	75.1	-34.8	2.3	3.2
662	ok	0.12	1.0	0.3	21.1	32.0	11.5	8.4	-2214.6	-191.9	-206.1	-83.4	-11.1	10.4
673	ok	0.06	1.0	5.41e-02	5.7	7.5	5.0	5.5	-327.9	-29.2	55.9	-45.1	-10.6	-0.6
675	ok	0.08	1.0	8.82e-02	5.6	13.2	5.6	6.5	-634.9	-85.3	-7.8	-64.4	-15.0	-2.0

Nodo	Stato	x/d	V N/M	ver. rid	Af pr-	Af pr+	Af sec-	Af sec+	N z	N o	N zo	M z	M o	M zo
678	ok	0.12	1.0	0.3	17.6	29.4	7.2	7.1	-2493.9	-440.4	-325.6	-75.6	-9.2	3.2
681	ok	0.07	1.0	0.2	7.8	10.7	5.2	5.0	-1144.7	-195.7	118.3	-47.2	-5.8	0.2
Nodo		**x/d**	**V N/M**	**ver. rid**	**Af pr-**	**Af pr+**	**Af sec-**	**Af sec+**	**N z**	**N o**	**N zo**	**M z**	**M o**	**M zo**
									-2493.87	-440.40	-325.62	-83.41	-17.54	-11.04
		0.12	0.99	0.30	23.99	32.03	11.46	8.36	-3.90	56.25	179.23	49.37	18.61	21.32

Nodo	Stato	Max tau	Ver V pr	Ver V sec	Af V pr	Af V sec	V pr	V sec
		daN/cm2					kN/ m	kN/ m
565	ok	0.39						
566	ok	0.21						
567	ok	0.59						
568	ok	0.28						
582	ok	0.39						
583	ok	0.26						
584	ok	0.22						
585	ok	0.39						
586	ok	0.39						
587	ok	0.35						
588	ok	0.29						
589	ok	0.29						
590	ok	0.59						
591	ok	0.59						
592	ok	0.59						
593	ok	0.30						
594	ok	0.29						
595	ok	0.59						
596	ok	0.59						
597	ok	0.30						
617	ok	0.90						
618	ok	3.38						
627	ok	0.85						
628	ok	0.85						
629	ok	0.57						
630	ok	0.85						
631	ok	0.91						
632	ok	0.85						
633	ok	0.59						
634	ok	3.39						
635	ok	3.38						
636	ok	3.39						
637	ok	0.68						
638	ok	3.39						
639	ok	3.39						
640	ok	0.68						
649	ok	2.60						
655	ok	2.55						
661	ok	2.60						
662	ok	2.55						
673	ok	2.60						
675	ok	2.55						
678	ok	2.55						
681	ok	2.60						
Nodo		**Max tau**	**Ver V pr**	**Ver V sec**	**Af V pr**	**Af V sec**	**V pr**	**V sec**
		3.39						

Macro Setto	Spessore	Id Materiale	Id Criterio	Progettazione
	cm			
9	40.00	4	1	Singolo elemento NON DISSIPATIVO

Nodo	Stato	x/d	V N/M	ver. rid	Af pr-	Af pr+	Af sec-	Af sec+	N z	N o	N zo	M z	M o	M zo
									kN/ m	kN/ m	kN/ m	kN	kN	kN
563	ok	0.08	1.0	5.63e-02	6.3	13.3	5.9	11.3	-421.0	9.9	-49.5	-66.7	-6.2	-22.9
564	ok	0.05	0.2	4.63e-03	5.0	5.0	5.0	5.0	-27.2	8.9	-4.9	13.7	1.9	5.0
567	ok	0.05	0.8	4.70e-02	5.0	5.0	5.0	5.0	-336.9	-11.6	47.8	-3.7	-0.7	-0.6
568	ok	0.05	0.1	3.82e-03	5.0	5.0	5.0	5.0	4.2	-2.0	-28.9	1.6	2.1	2.4
595	ok	0.05	0.5	3.12e-02	5.0	5.0	5.0	5.0	-99.1	27.4	37.1	-2.3	-10.4	-2.4
596	ok	0.05	0.3	1.90e-02	5.0	5.0	5.0	5.0	33.9	-18.5	-34.3	2.4	7.7	4.0

Nodo	Stato	x/d	V N/M	ver. rid	Af pr-	Af pr+	Af sec-	Af sec+	N z	N o	N zo	M z	M o	M zo
597	ok	0.05	0.2	8.05e-03	5.0	5.0	5.0	5.0	4.4	-4.1	-31.9	2.0	3.6	3.2
598	ok	0.07	1.0	5.72e-02	6.4	9.2	5.5	5.0	-427.1	-92.5	-28.8	-62.8	-15.8	1.1
599	ok	0.05	0.5	2.13e-02	5.0	5.0	5.0	5.0	-81.0	-42.5	-52.8	-6.6	6.5	13.8
600	ok	0.05	1.0	2.96e-02	5.0	5.0	5.0	5.0	-103.8	77.3	-37.7	-7.9	-14.6	-32.2
601	ok	0.05	0.5	2.97e-02	5.0	5.0	5.0	5.0	-208.0	-14.8	-43.6	6.3	-1.0	5.6
602	ok	0.05	0.4	1.70e-02	5.0	5.0	5.0	5.0	-50.5	-14.3	-40.2	5.3	4.8	9.1
603	ok	0.05	0.2	1.09e-02	5.0	5.0	5.0	5.0	-30.8	1.5	-3.1	12.7	2.8	6.8
604	ok	0.05	0.3	1.01e-02	5.0	5.0	5.0	5.0	-25.0	3.4	-18.0	7.6	2.1	5.7
605	ok	0.05	0.2	4.80e-03	5.0	5.0	5.0	5.0	-23.8	6.4	-16.1	8.1	1.3	4.3
606	ok	0.05	0.4	2.11e-02	5.0	5.0	5.0	5.0	-41.8	34.9	39.4	-1.6	-10.5	-2.6
607	ok	0.05	0.5	3.42e-02	5.0	5.0	5.0	5.0	-114.6	33.3	16.6	-2.8	-5.8	-1.5
608	ok	0.05	0.3	1.17e-02	5.0	5.0	5.0	5.0	-13.4	-27.3	-26.6	3.2	8.3	5.7
609	ok	0.05	0.2	7.86e-03	5.0	5.0	5.0	5.0	-13.6	-4.8	-20.0	5.4	4.3	3.9
610	ok	0.05	0.2	4.83e-03	5.0	5.0	5.0	5.0	-14.9	-6.5	-22.6	5.3	2.7	3.2
638	ok	0.08	1.0	0.1	12.6	10.7	13.7	9.1	754.5	369.6	-275.9	-4.1	-61.1	-0.5
639	ok	0.07	1.0	0.1	10.0	10.4	10.0	8.6	-746.3	-45.4	297.0	-6.9	2.9	-4.8
640	ok	0.06	1.0	6.88e-02	5.5	6.2	5.3	5.6	-488.1	-83.8	78.8	-4.0	-4.8	3.1
641	ok	0.07	1.0	6.09e-02	6.1	5.0	9.8	5.0	91.2	437.7	125.8	-6.5	-50.7	4.3
643	ok	0.05	0.9	3.10e-02	5.0	5.0	5.0	5.0	-59.3	-84.1	-65.2	-2.9	-3.0	-9.9
644	ok	0.05	0.6	2.44e-02	5.0	5.0	5.0	5.0	24.5	25.4	-108.6	-4.3	-3.7	-9.0
645	ok	0.07	1.0	6.19e-02	8.7	5.2	10.0	5.2	171.2	274.2	-306.5	-7.4	-57.4	-10.9
647	ok	0.05	1.0	5.08e-02	5.0	5.0	5.0	5.0	48.6	-171.1	-290.3	3.3	-7.6	-8.5
648	ok	0.05	0.9	4.23e-02	5.0	5.0	5.0	5.0	-214.5	-63.1	152.9	-3.9	-2.1	5.3
668	ok	0.07	1.0	7.68e-02	5.9	5.0	8.8	5.0	-177.5	-483.8	-184.4	13.7	65.1	6.0
670	ok	0.05	0.8	4.58e-02	5.0	5.0	5.0	5.0	-325.2	-96.6	-47.2	10.3	11.0	-4.7
671	ok	0.07	1.0	4.35e-02	5.0	9.6	5.0	5.8	-237.5	-30.5	-112.2	-29.7	-15.1	-6.6
Nodo		**x/d**	**V N/M**	**ver. rid**	**Af pr-**	**Af pr+**	**Af sec-**	**Af sec+**	**N z**	**N o**	**N zo**	**M z**	**M o**	**M zo**
									-746.32	-483.83	-306.48	-66.70	-61.11	-32.19
		0.08	0.99	0.12	12.64	13.35	13.67	11.32	754.50	437.68	296.98	13.74	65.11	13.79

Nodo	Stato	Max tau	Ver V pr	Ver V sec	Af V pr	Af V sec	V pr	V sec
		daN/cm2					kN/ m	kN/ m
563	ok	4.41						
564	ok	0.73						
567	ok	0.58						
568	ok	0.56						
595	ok	0.58						
596	ok	0.56						
597	ok	0.56						
598	ok	2.75						
599	ok	2.75						
600	ok	4.41						
601	ok	0.86						
602	ok	0.86						
603	ok	0.73						
604	ok	0.73						
605	ok	0.73						
606	ok	0.94						
607	ok	1.21						
608	ok	0.65						
609	ok	0.59						
610	ok	0.59						
638	ok	2.04						
639	ok	2.04						
640	ok	0.53						
641	ok	2.13						
643	ok	2.13						
644	ok	4.41						
645	ok	2.04						
647	ok	2.04						
648	ok	1.21						
668	ok	2.13						
670	ok	2.13						
671	ok	4.41						
Nodo		**Max tau**	**Ver V pr**	**Ver V sec**	**Af V pr**	**Af V sec**	**V pr**	**V sec**
		4.41						

Macro Setto	Spessore	Id Materiale	Id Criterio	Progettazione
	cm			

Macro Setto	Spessore	Id Materiale	Id Criterio	Progettazione
8	40.00	4	1	Singolo elemento NON DISSIPATIVO

Nodo	Stato	x/d	V N/M	ver. rid	Af pr-	Af pr+	Af sec-	Af sec+	N z	N o	N zo	M z	M o	M zo
									kN/ m	kN/ m	kN/ m	kN	kN	kN
560	ok	0.07	1.0	8.37e-02	8.7	6.1	8.4	6.1	73.6	-2.3	308.0	-21.1	9.5	-1.8
561	ok	0.07	1.0	0.1	6.9	5.0	9.3	5.0	-650.3	65.8	-147.6	32.8	2.7	14.0
563	ok	0.05	0.7	6.07e-02	5.0	5.0	5.0	5.0	210.2	-190.8	-138.8	0.1	26.0	1.7
651	ok	0.07	1.0	0.1	10.7	10.2	9.5	7.5	-466.4	-67.2	-294.2	12.0	3.38e-02	8.8
652	ok	0.06	1.0	6.04e-02	5.7	5.0	5.7	5.0	73.9	-31.6	306.8	-22.9	-7.5	6.9
653	ok	0.05	0.9	4.37e-02	5.0	5.0	5.0	5.0	47.9	-49.1	243.9	-15.5	-14.7	-5.7
663	ok	0.07	1.0	0.1	8.8	5.6	8.3	5.6	-460.4	-30.9	297.9	52.9	12.1	-7.3
664	ok	0.07	1.0	0.1	11.4	9.1	7.8	6.3	-877.9	-65.2	266.5	7.5	20.9	-9.3
665	ok	0.08	1.0	0.2	15.8	14.5	9.4	6.5	-877.3	29.1	272.7	6.3	14.3	-15.1
666	ok	0.06	1.0	8.55e-02	6.5	5.9	6.5	5.9	-541.0	-56.1	229.0	-1.3	15.0	-5.1
667	ok	0.05	0.8	7.83e-02	5.0	5.0	5.0	5.0	-329.9	-160.6	-174.8	-9.0	-1.3	-5.07e-03
668	ok	0.09	1.0	0.1	14.8	9.8	6.8	6.1	-1050.8	-87.0	-128.9	14.2	5.5	3.4
669	ok	0.09	1.0	0.2	19.8	19.8	7.2	5.8	-973.5	-30.4	-151.7	19.2	-0.2	6.0
670	ok	0.06	1.0	4.85e-02	5.9	5.2	5.9	5.2	-305.1	-48.5	-125.9	16.7	8.6	-4.3
671	ok	0.06	1.0	6.70e-02	7.3	5.0	7.3	5.0	309.4	214.2	-196.3	-10.0	-17.6	4.6
672	ok	0.11	1.0	0.2	26.2	17.4	9.2	6.8	-1999.7	-279.0	237.5	46.5	3.5	-7.9
674	ok	0.12	1.0	0.3	30.1	38.1	10.4	11.2	-2253.1	-237.3	-321.3	-19.2	-3.2	8.0
677	ok	0.08	1.0	0.3	21.8	16.1	7.7	5.7	-2193.7	-415.6	304.9	67.6	10.7	-7.7
683	ok	0.11	1.0	0.3	30.3	36.3	11.2	11.0	-2626.4	-474.9	-384.7	-22.4	-2.8	4.3
684	ok	0.06	1.0	6.67e-02	9.9	5.0	6.1	5.0	-408.0	-78.7	188.8	64.3	16.0	-9.3
685	ok	0.09	1.0	5.61e-02	16.6	10.2	8.7	10.6	33.8	421.2	219.5	-6.5	-19.0	-9.6
686	ok	0.07	1.0	0.1	10.5	10.9	8.6	7.4	-528.3	-154.5	-151.7	-16.9	-7.1	7.6
687	ok	0.08	1.0	8.51e-02	8.2	12.0	6.8	8.5	529.4	97.1	324.9	28.4	3.9	-6.5
690	ok	0.06	1.0	6.42e-02	6.8	6.0	6.9	6.0	-96.2	-420.1	-142.1	14.3	46.6	-3.30e-02
702	ok	0.06	1.0	8.65e-02	7.1	5.4	7.1	5.4	-373.1	32.0	280.6	-4.1	17.3	-11.4
703	ok	0.07	1.0	0.1	9.2	5.4	9.2	5.4	-516.1	93.7	313.5	9.2	14.8	-21.1
704	ok	0.05	1.0	6.40e-02	5.0	5.1	5.0	5.1	-240.6	-15.4	238.7	-5.3	12.7	-3.4
705	ok	0.05	0.9	5.50e-02	5.0	5.0	5.0	5.0	-6.7	-3.4	182.9	-5.7	3.9	6.2
Nodo		**x/d**	**V N/M**	**ver. rid**	**Af pr-**	**Af pr+**	**Af sec-**	**Af sec+**	**N z**	**N o**	**N zo**	**M z**	**M o**	**M zo**
									-2626.41	-474.87	-384.71	-22.94	-18.95	-21.14
		0.12	0.99	0.29	30.33	38.06	11.24	11.25	529.36	421.18	324.90	67.59	46.62	14.04

Nodo	Stato	Max tau	Ver V pr	Ver V sec	Af V pr	Af V sec	V pr	V sec
		daN/cm2					kN/ m	kN/ m
560	ok	3.38						
561	ok Av	6.76	0.02	0.25	0.7	7.7	22.2	249.0
563	ok	2.94						
651	ok	3.38						
652	ok	3.11						
653	ok	3.67						
663	ok	3.59						
664	ok	0.85						
665	ok	1.14						
666	ok	1.65						
667	ok Av	6.76	0.02	0.25	0.7	7.7	22.2	249.0
668	ok	3.38						
669	ok	3.38						
670	ok	3.11						
671	ok	2.94						
672	ok	3.59						
674	ok	2.33						
677	ok	3.59						
683	ok	2.14						
684	ok	3.59						
685	ok Av	6.76	0.02	0.25	0.7	7.7	22.2	249.0
686	ok	2.33						
687	ok	2.14						
690	ok	3.67						
702	ok	0.85						
703	ok	1.14						
704	ok	1.65						
705	ok Av	6.76	0.02	0.25	0.7	7.7	22.2	249.0
Nodo		**Max tau**	**Ver V pr**	**Ver V sec**	**Af V pr**	**Af V sec**	**V pr**	**V sec**
		6.76	0.02	0.25	0.68	7.67	22.16	249.03

Macro Guscio	Spessore	Id Materiale	Id Criterio	Progettazione
	cm			
4	25.00	4	1	Singolo elemento

Nodo	Stato	x/d	V N/M	ver. rid	Af pr-	Af pr+	Af sec-	Af sec+	N x	N y	N xy	M x	M y	M xy
									kN/ m	kN/ m	kN/ m	kN	kN	kN
354	ok	0.11	0.2	3.93e-03	7.8	7.8	7.8	7.8	5.0	-9.4	-2.5	1.2	10.4	-0.4
356	ok	0.11	0.1	2.89e-03	7.8	7.8	7.8	7.8	2.6	24.9	-3.3	-0.7	-6.0	4.95e-02
358	ok	0.11	4.09e-02	4.90e-03	7.8	7.8	7.8	7.8	-1.2	5.5	6.3	-0.1	0.7	-0.4
360	ok	0.11	3.62e-02	4.45e-03	7.8	7.8	7.8	7.8	3.6	-11.5	14.7	0.3	-0.5	-0.2
368	ok	0.11	0.1	3.86e-03	7.8	7.8	7.8	7.8	8.1	0.7	-3.4	2.0	7.7	-0.3
373	ok	0.11	7.47e-02	3.92e-03	7.8	7.8	7.8	7.8	7.6	2.4	-4.2	1.2	3.9	-0.4
381	ok	0.11	5.36e-02	6.63e-03	7.8	7.8	7.8	7.8	-5.0	1.3	6.7	0.7	0.6	-1.4
386	ok	0.11	5.75e-02	6.99e-03	7.8	7.8	7.8	7.8	-1.5	-5.9	13.9	2.1	0.3	-1.6
397	ok	0.11	9.60e-02	2.78e-03	7.8	7.8	7.8	7.8	-3.3	0.6	3.2	-1.2	-4.3	0.3
402	ok	0.11	5.55e-02	3.19e-03	7.8	7.8	7.8	7.8	-4.2	-5.3	3.9	-0.8	-2.0	0.4
403	ok	0.11	0.2	4.95e-03	7.8	7.8	7.8	7.8	-3.8	-12.7	-4.8	1.5	6.9	-1.7
404	ok	0.11	0.1	4.40e-03	7.8	7.8	7.8	7.8	-1.9	0.4	-2.8	1.1	5.0	-1.8
405	ok	0.11	0.2	5.38e-03	7.8	7.8	7.8	7.8	1.7	21.5	-0.4	-1.0	-9.2	-0.8
406	ok	0.11	0.1	2.58e-03	7.8	7.8	7.8	7.8	0.7	2.8	2.7	-1.8	-6.9	-1.0
407	ok	0.11	6.75e-02	4.70e-03	7.8	7.8	7.8	7.8	-2.4	0.8	-3.5	0.6	2.3	-1.9
408	ok	0.11	6.98e-02	4.74e-03	7.8	7.8	7.8	7.8	-1.4	-4.1	2.9	-1.1	-3.5	-1.0
Nodo		**x/d**	**V N/M**	**ver. rid**	**Af pr-**	**Af pr+**	**Af sec-**	**Af sec+**	**N x**	**N y**	**N xy**	**M x**	**M y**	**M xy**
									-4.95	-12.68	-4.79	-1.76	-9.21	-1.88
		0.11	0.18	6.99e-03	7.78	7.78	7.78	7.78	8.06	24.88	14.68	2.09	10.38	0.39

Nodo	Stato	Max tau	Ver V pr	Ver V sec	Af V pr	Af V sec	V pr	V sec
		daN/cm2					kN/ m	kN/ m
354	ok	0.80						
356	ok	0.65						
358	ok	0.27						
360	ok	0.30						
368	ok	0.80						
373	ok	0.51						
381	ok	0.27						
386	ok	0.30						
397	ok	0.65						
402	ok	0.41						
403	ok	0.80						
404	ok	0.80						
405	ok	0.65						
406	ok	0.65						
407	ok	0.51						
408	ok	0.41						
Nodo		**Max tau**	**Ver V pr**	**Ver V sec**	**Af V pr**	**Af V sec**	**V pr**	**V sec**
		0.80						

Macro Guscio	Spessore	Id Materiale	Id Criterio	Progettazione
	cm			
5	80.00	4	2	Singolo elemento

Nodo	Stato	x/d	V N/M	ver. rid	Af pr-	Af pr+	Af sec-	Af sec+	N x	N y	N xy	M x	M y	M xy
									kN/ m	kN/ m	kN/ m	kN	kN	kN
412	ok	0.05	0.3	1.10e-02	10.1	10.1	10.1	10.1	12.4	4.0	10.4	-35.4	-6.5	-7.6
416	ok	0.05	0.2	5.53e-03	10.1	10.1	10.1	10.1	4.9	-2.3	4.3	-7.5	-2.5	-1.8
446	ok	0.05	0.3	7.25e-03	10.1	10.1	10.1	10.1	-30.0	-9.44e-03	34.7	-78.6	6.6	-0.6
1031	ok	0.05	0.2	9.89e-03	10.1	10.1	10.1	10.1	-4.9	-2.1	-5.0	-57.8	23.8	8.0
1032	ok	0.05	0.2	3.05e-03	10.1	10.1	10.1	10.1	8.8	-2.1	2.1	-35.8	48.0	-9.9
1033	ok	0.05	0.2	2.26e-03	10.1	10.1	10.1	10.1	9.6	-2.9	7.5	-31.6	63.7	-12.3
1034	ok	0.05	0.2	2.13e-03	10.1	10.1	10.1	10.1	8.5	-6.3	11.0	-35.0	63.2	-14.5
1035	ok	0.05	0.2	3.05e-03	10.1	10.1	10.1	10.1	9.2	-9.0	15.3	-36.9	47.1	-10.3
1036	ok	0.05	0.2	9.58e-03	10.1	10.1	10.1	10.1	-1.8	-8.5	14.6	-70.4	7.0	-3.7
1037	ok	0.05	0.4	1.70e-02	10.1	10.1	10.1	10.1	9.6	-11.6	-0.5	-113.0	-24.4	-24.4
1038	ok	0.05	0.5	1.83e-02	10.1	10.1	10.1	10.1	28.8	-1.8	24.8	-123.6	-33.4	-20.8

Nodo	Stato	x/d	V N/M	ver. rid	Af pr-	Af pr+	Af sec-	Af sec+	N x	N y	N xy	M x	M y	M xy
1039	ok	0.05	0.1	2.85e-03	10.1	10.1	10.1	10.1	-1.0	-4.8	1.2	0.3	15.2	1.1
1040	ok	0.05	0.2	6.35e-03	10.1	10.1	10.1	10.1	-1.3	-23.2	1.1	-4.03e-02	50.0	0.6
1041	ok	0.05	0.3	7.49e-03	10.1	10.1	10.1	10.1	-1.7	-32.9	-1.5	-0.3	68.6	-0.3
1042	ok	0.05	0.3	7.75e-03	10.1	10.1	10.1	10.1	-1.8	-33.5	-1.2	-0.3	68.0	-0.3
1043	ok	0.05	0.2	5.90e-03	10.1	10.1	10.1	10.1	-8.8	-85.0	10.1	-0.6	52.0	0.7
1044	ok	0.05	0.1	2.35e-03	10.1	10.1	10.1	10.1	-11.7	-26.5	13.0	-1.0	18.1	-4.3
1045	ok	0.05	3.97e-02	1.17e-03	10.1	10.1	10.1	10.1	-11.8	-0.9	8.8	-1.5	5.4	-3.1
1046	ok	0.05	5.61e-02	1.44e-03	10.1	10.1	10.1	10.1	-12.5	-6.6	-4.5	-2.1	1.4	1.3
1047	ok	0.05	0.1	3.21e-03	10.1	10.1	10.1	10.1	0.6	-0.5	-0.1	0.5	15.5	-1.2
1048	ok	0.05	0.3	6.69e-03	10.1	10.1	10.1	10.1	1.4	17.7	1.5	-7.95e-02	50.9	-0.7
1049	ok	0.05	0.3	7.61e-03	10.1	10.1	10.1	10.1	1.7	25.3	-1.3	-0.4	69.4	0.6
1050	ok	0.05	0.4	7.72e-03	10.1	10.1	10.1	10.1	1.6	26.9	1.8	-0.2	68.8	-0.5
1051	ok	0.05	0.3	6.10e-03	10.1	10.1	10.1	10.1	8.2	76.7	10.8	-0.7	52.8	2.2
1052	ok	0.05	0.1	2.83e-03	10.1	10.1	10.1	10.1	14.7	30.4	18.4	0.9	18.3	4.2
1053	ok	0.05	5.16e-02	1.52e-03	10.1	10.1	10.1	10.1	2.3	-0.6	2.4	0.7	2.5	-0.3
1054	ok	0.05	6.54e-02	1.75e-03	10.1	10.1	10.1	10.1	7.30e-02	-1.6	-0.3	0.7	2.9	-0.4
1055	ok	0.05	0.1	4.61e-03	10.1	10.1	10.1	10.1	-61.7	-20.9	-12.5	-11.0	-1.3	5.8
1056	ok	0.05	0.3	1.04e-02	10.1	10.1	10.1	10.1	-142.2	-42.8	31.7	-49.5	-4.9	4.3
1057	ok	0.05	0.4	1.10e-02	10.1	10.1	10.1	10.1	0.3	-12.1	-3.2	-16.8	11.0	-20.7
1058	ok	0.05	0.1	5.63e-03	10.1	10.1	10.1	10.1	3.7	-0.5	-0.9	-5.2	3.8	-6.2
1059	ok	0.05	0.4	1.22e-02	10.1	10.1	10.1	10.1	1.3	-10.4	5.2	-14.7	13.1	21.2
1060	ok	0.05	0.1	5.31e-03	10.1	10.1	10.1	10.1	3.5	9.5	4.4	-3.3	4.1	7.1
1061	ok	0.05	9.67e-02	4.10e-03	10.1	10.1	10.1	10.1	-50.9	-11.0	20.0	-9.7	6.5	-9.0
1062	ok	0.05	0.3	1.13e-02	10.1	10.1	10.1	10.1	-149.4	5.3	50.5	-49.2	4.6	-6.1
1063	ok	0.05	0.1	4.72e-03	10.1	10.1	10.1	10.1	-36.7	-30.8	-35.2	-12.8	9.3	8.8
1064	ok	0.05	0.2	4.97e-03	10.1	10.1	10.1	10.1	-3.1	-20.5	-5.6	-3.0	50.5	3.4
1065	ok	0.05	0.2	5.27e-03	10.1	10.1	10.1	10.1	-3.5	-23.4	-2.4	-0.9	69.0	0.5
1066	ok	0.05	0.2	5.19e-03	10.1	10.1	10.1	10.1	-3.2	-23.7	2.7	-1.1	68.4	-1.0
1067	ok	0.05	0.2	4.74e-03	10.1	10.1	10.1	10.1	-15.4	-56.9	25.7	-5.2	52.2	1.0
1068	ok	0.05	0.1	4.75e-03	10.1	10.1	10.1	10.1	-38.3	-22.8	37.7	-10.2	18.4	-11.1
1069	ok	0.05	0.2	6.47e-03	10.1	10.1	10.1	10.1	-14.8	-7.3	-12.3	-15.0	14.9	25.4
1070	ok	0.05	0.2	4.45e-03	10.1	10.1	10.1	10.1	-1.9	-4.0	-7.1	-8.4	51.3	5.2
1071	ok	0.05	0.2	4.08e-03	10.1	10.1	10.1	10.1	-32.6	-48.6	9.47e-03	-9.0	64.4	-5.81e-02
1072	ok	0.05	0.2	4.13e-03	10.1	10.1	10.1	10.1	-31.1	-52.0	7.9	-8.8	68.3	0.3
1073	ok	0.05	0.2	4.54e-03	10.1	10.1	10.1	10.1	-32.1	-54.0	16.9	-12.3	55.2	0.5
1074	ok	0.05	0.2	7.07e-03	10.1	10.1	10.1	10.1	-15.0	-47.0	16.3	-35.4	18.0	-14.9
1075	ok	0.05	0.2	6.97e-03	10.1	10.1	10.1	10.1	1.5	-7.9	-7.4	-24.2	18.8	-12.2
1076	ok	0.05	0.2	4.74e-03	10.1	10.1	10.1	10.1	5.9	8.1	3.9	-11.9	53.6	-5.8
1077	ok	0.05	0.3	4.06e-03	10.1	10.1	10.1	10.1	4.1	6.6	3.7	-6.7	70.4	-3.3
1078	ok	0.05	0.3	3.75e-03	10.1	10.1	10.1	10.1	4.8	8.1	-5.6	-6.4	70.9	5.3
1079	ok	0.05	0.2	4.42e-03	10.1	10.1	10.1	10.1	5.7	10.4	-4.1	-13.6	52.0	6.4
1080	ok	0.05	0.2	6.56e-03	10.1	10.1	10.1	10.1	15.3	7.2	4.7	-27.1	10.3	14.8
1081	ok	0.05	0.1	5.50e-03	10.1	10.1	10.1	10.1	2.9	-2.7	-1.7	-5.3	16.4	-8.4
1082	ok	0.05	0.3	5.27e-03	10.1	10.1	10.1	10.1	3.6	6.5	-0.6	-4.4	50.5	-3.1
1083	ok	0.05	0.3	5.27e-03	10.1	10.1	10.1	10.1	0.6	13.8	-3.1	-2.2	69.4	-0.5
1084	ok	0.05	0.3	5.16e-03	10.1	10.1	10.1	10.1	3.5	12.8	-0.1	-2.7	68.5	0.8
1085	ok	0.05	0.3	4.94e-03	10.1	10.1	10.1	10.1	2.5	42.2	7.2	-1.3	53.7	2.7
1086	ok	0.05	0.2	5.41e-03	10.1	10.1	10.1	10.1	9.5	19.3	10.3	-0.7	20.3	6.5
1178	ok	0.05	0.2	4.72e-03	10.1	10.1	10.1	10.1	-0.9	-8.2	-0.3	7.54e-02	34.1	0.6
1179	ok	0.05	0.3	7.17e-03	10.1	10.1	10.1	10.1	-1.4	-29.2	1.3	-0.2	61.8	0.3
1180	ok	0.05	0.3	7.77e-03	10.1	10.1	10.1	10.1	-1.7	-34.0	-1.6	-0.2	70.6	-0.4
1181	ok	0.05	0.3	7.01e-03	10.1	10.1	10.1	10.1	-9.2	-102.1	5.7	-0.6	62.1	0.2
1182	ok	0.05	0.2	4.08e-03	10.1	10.1	10.1	10.1	-10.0	-55.7	13.4	-1.1	36.7	-3.7
1183	ok	0.05	0.2	4.39e-03	10.1	10.1	10.1	10.1	8.5	53.1	15.6	0.6	37.4	3.4
1184	ok	0.05	0.3	7.08e-03	10.1	10.1	10.1	10.1	1.7	23.2	-1.2	-0.3	61.2	0.6
1185	ok	0.05	0.4	7.70e-03	10.1	10.1	10.1	10.1	1.8	27.7	1.7	-0.5	71.3	-0.4
1186	ok	0.05	0.3	7.44e-03	10.1	10.1	10.1	10.1	1.6	22.1	-1.3	-0.2	62.6	0.5
1187	ok	0.05	0.2	5.08e-03	10.1	10.1	10.1	10.1	1.2	12.0	1.3	0.2	34.3	-1.0
1188	ok	0.05	0.2	4.83e-03	10.1	10.1	10.1	10.1	3.3	3.9	-6.1	-6.1	35.1	-5.3
1189	ok	0.05	0.2	4.26e-03	10.1	10.1	10.1	10.1	1.6	-3.6	-5.8	-30.8	43.1	5.2
1190	ok	0.05	0.1	4.79e-03	10.1	10.1	10.1	10.1	-1.7	-4.7	-2.4	-13.5	41.7	9.6
1191	ok	0.05	0.2	4.80e-03	10.1	10.1	10.1	10.1	-2.0	-5.4	-2.0	-3.5	35.3	7.6
1192	ok	0.05	0.2	5.61e-03	10.1	10.1	10.1	10.1	2.3	2.7	-3.2	-21.7	34.3	-8.7
1193	ok	0.05	0.3	4.98e-03	10.1	10.1	10.1	10.1	3.4	11.9	-1.3	-3.4	61.8	-1.5
1194	ok	0.05	0.2	2.49e-03	10.1	10.1	10.1	10.1	0.4	-4.5	-9.7	-19.8	64.7	4.2
1195	ok	0.05	0.2	4.54e-03	10.1	10.1	10.1	10.1	-9.0	-14.8	-12.9	-4.5	64.7	4.2
1196	ok	0.05	0.2	5.10e-03	10.1	10.1	10.1	10.1	-4.3	-22.7	-5.8	-1.6	62.2	1.5
1197	ok	0.05	0.2	4.52e-03	10.1	10.1	10.1	10.1	4.3	6.8	1.6	-12.1	59.6	-4.5
1198	ok	0.05	0.3	5.01e-03	10.1	10.1	10.1	10.1	0.7	14.9	1.0	-2.0	71.4	0.4
1199	ok	0.05	0.2	1.81e-03	10.1	10.1	10.1	10.1	1.3	-5.4	6.7	-16.8	72.8	-4.8
1200	ok	0.05	0.2	4.15e-03	10.1	10.1	10.1	10.1	-11.9	-16.8	9.8	-0.5	73.4	-5.1
1201	ok	0.05	0.2	5.14e-03	10.1	10.1	10.1	10.1	-3.9	-25.2	1.0	-0.6	71.1	-0.5
1202	ok	0.05	0.3	3.66e-03	10.1	10.1	10.1	10.1	5.7	7.0	6.5	-10.8	67.7	-4.3
1203	ok	0.05	0.3	4.78e-03	10.1	10.1	10.1	10.1	3.5	12.1	2.4	-3.8	60.6	1.9

Nodo	Stato	x/d	V N/M	ver. rid	Af pr-	Af pr+	Af sec-	Af sec+	N x	N y	N xy	M x	M y	M xy
1204	ok	0.05	0.2	2.40e-03	10.1	10.1	10.1	10.1	0.3	-3.8	8.9	-21.8	64.1	-4.7
1205	ok	0.05	0.2	4.58e-03	10.1	10.1	10.1	10.1	-9.1	-14.4	13.2	-5.4	64.0	-4.9
1206	ok	0.05	0.2	5.01e-03	10.1	10.1	10.1	10.1	-9.6	-70.0	13.2	-3.3	62.3	0.1
1207	ok	0.05	0.3	4.22e-03	10.1	10.1	10.1	10.1	5.3	8.0	-1.4	-13.5	58.6	5.0
1208	ok	0.05	0.2	4.35e-03	10.1	10.1	10.1	10.1	8.6	36.1	10.0	-0.7	38.5	4.9
1209	ok	0.05	0.2	3.91e-03	10.1	10.1	10.1	10.1	0.7	-3.9	11.2	-38.0	38.1	-4.6
1210	ok	0.05	0.1	5.03e-03	10.1	10.1	10.1	10.1	-3.5	-9.3	12.4	-18.8	35.4	-11.1
1211	ok	0.05	0.2	4.59e-03	10.1	10.1	10.1	10.1	-17.1	-48.8	30.3	-8.7	36.8	-9.1
1212	ok	0.05	0.2	5.09e-03	10.1	10.1	10.1	10.1	8.6	1.7	13.7	-21.5	39.9	6.4
1239	ok	0.05	2.89e-02	1.23e-03	10.1	10.1	10.1	10.1	-16.6	-2.8	4.5	-2.4	1.0	-1.5
1241	ok	0.05	0.3	9.90e-03	10.1	10.1	10.1	10.1	98.3	17.1	24.1	-48.4	-4.2	8.8
1242	ok	0.05	0.2	6.77e-03	10.1	10.1	10.1	10.1	-56.7	-12.1	-22.5	-16.1	-2.7	-2.9
1243	ok	0.05	0.1	3.60e-03	10.1	10.1	10.1	10.1	65.9	7.2	-16.3	12.7	2.4	5.6
1244	ok	0.05	0.2	7.72e-03	10.1	10.1	10.1	10.1	86.8	14.8	-12.6	37.1	-4.4	-3.5
1248	ok	0.05	3.28e-02	1.16e-03	10.1	10.1	10.1	10.1	1.4	-0.6	0.7	4.31e-03	-1.0	-2.64e-02
1249	ok	0.05	2.49e-02	9.10e-04	10.1	10.1	10.1	10.1	0.7	0.2	-2.0	-2.89e-02	-0.9	3.80e-02
1250	ok	0.05	0.3	7.87e-03	10.1	10.1	10.1	10.1	-13.6	-2.3	-19.5	-78.7	8.3	2.3
1251	ok	0.05	3.06e-02	1.38e-03	10.1	10.1	10.1	10.1	0.6	-0.2	1.4	-0.4	-0.6	-0.2
1253	ok	0.05	0.1	3.30e-03	10.1	10.1	10.1	10.1	-2.6	-0.5	-1.3	-3.7	-0.9	0.5
1254	ok	0.05	0.2	8.05e-03	10.1	10.1	10.1	10.1	-16.2	-6.4	-9.2	-14.0	-1.0	2.2
Nodo		**x/d**	**V N/M**	**ver. rid**	**Af pr-**	**Af pr+**	**Af sec-**	**Af sec+**	**N x**	**N y**	**N xy**	**M x**	**M y**	**M xy**
									-149.37	-102.13	-35.21	-123.56	-33.38	-24.39
		0.05	0.46	0.02	10.05	10.05	10.05	10.05	98.30	76.72	50.45	37.06	73.39	25.43

Nodo	Stato	Max tau	Ver V pr	Ver V sec	Af V pr	Af V sec	V pr	V sec
		daN/cm2					kN/ m	kN/ m
412	ok	1.89						
416	ok	1.02						
446	ok	2.09						
1031	ok	1.94						
1032	ok	0.57						
1033	ok	0.20						
1034	ok	0.28						
1035	ok	0.63						
1036	ok	2.24						
1037	ok	2.24						
1038	ok	1.94						
1039	ok	0.35						
1040	ok	0.34						
1041	ok	0.22						
1042	ok	0.24						
1043	ok	0.34						
1044	ok	0.34						
1045	ok	0.28						
1046	ok	0.28						
1047	ok	0.38						
1048	ok	0.36						
1049	ok	0.24						
1050	ok	0.24						
1051	ok	0.37						
1052	ok	0.38						
1053	ok	0.34						
1054	ok	0.34						
1055	ok	0.87						
1056	ok	1.78						
1057	ok	1.94						
1058	ok	1.02						
1059	ok	2.24						
1060	ok	1.05						
1061	ok	0.92						
1062	ok	2.06						
1063	ok	0.61						
1064	ok	0.47						
1065	ok	0.23						
1066	ok	0.25						
1067	ok	0.51						
1068	ok	0.63						
1069	ok	1.78						
1070	ok	0.57						
1071	ok	0.23						
1072	ok	0.25						

Nodo	Stato	Max tau	Ver V pr	Ver V sec	Af V pr	Af V sec	V pr	V sec
1073	ok	0.63						
1074	ok	2.06						
1075	ok	1.94						
1076	ok	0.53						
1077	ok	0.22						
1078	ok	0.28						
1079	ok	0.60						
1080	ok	2.24						
1081	ok	0.74						
1082	ok	0.47						
1083	ok	0.24						
1084	ok	0.26						
1085	ok	0.53						
1086	ok	0.79						
1178	ok	0.35						
1179	ok	0.30						
1180	ok	0.23						
1181	ok	0.30						
1182	ok	0.34						
1183	ok	0.38						
1184	ok	0.32						
1185	ok	0.21						
1186	ok	0.31						
1187	ok	0.38						
1188	ok	0.66						
1189	ok	0.97						
1190	ok	0.93						
1191	ok	0.61						
1192	ok	0.97						
1193	ok	0.34						
1194	ok	0.43						
1195	ok	0.41						
1196	ok	0.34						
1197	ok	0.43						
1198	ok	0.21						
1199	ok	0.28						
1200	ok	0.22						
1201	ok	0.23						
1202	ok	0.28						
1203	ok	0.37						
1204	ok	0.48						
1205	ok	0.43						
1206	ok	0.35						
1207	ok	0.48						
1208	ok	0.71						
1209	ok	1.19						
1210	ok	1.13						
1211	ok	0.63						
1212	ok	1.19						
1239	ok	0.28						
1241	ok	2.09						
1242	ok	1.05						
1243	ok	0.92						
1244	ok	1.83						
1248	ok	0.34						
1249	ok	0.34						
1250	ok	1.89						
1251	ok	0.26						
1253	ok	0.87						
1254	ok	1.67						
Nodo		**Max tau**	**Ver V pr**	**Ver V sec**	**Af V pr**	**Af V sec**	**V pr**	**V sec**
		2.24						

Macro Guscio	Spessore	Id Materiale	Id Criterio	Progettazione
	cm			
17	70.00	4	3	Singolo elemento

Nodo	Stato	x/d	V N/M	ver. rid	Af pr-	Af pr+	Af sec-	Af sec+	N x	N y	N xy	M x	M y	M xy
									kN/ m	kN/ m	kN/ m	kN	kN	kN
350	ok	0.06	0.6	7.77e-03	10.1	10.1	10.1	10.1	23.4	90.2	4.4	-122.8	-114.0	1.3

Nodo	Stato	x/d	V N/M	ver. rid	Af pr-	Af pr+	Af sec-	Af sec+	N x	N y	N xy	M x	M y	M xy
443	ok	0.07	1.0	7.19e-03	12.0	10.1	13.5	10.1	124.4	20.0	-46.5	-187.1	-300.5	6.2
444	ok	0.06	1.0	5.53e-03	10.1	10.1	10.1	10.1	31.7	77.9	-3.9	-97.0	-188.7	-47.3
445	ok	0.06	0.9	5.56e-03	10.1	10.1	10.1	10.1	17.0	5.7	25.6	-144.9	-157.8	-44.8
449	ok	0.06	0.6	5.33e-03	10.1	10.1	10.1	10.1	24.7	13.6	11.9	-113.2	-142.0	-6.4
451	ok	0.06	1.0	5.33e-03	10.1	10.1	10.3	10.1	89.4	91.3	7.8	-120.8	-217.1	5.2
452	ok	0.06	0.6	9.99e-03	10.1	10.1	10.1	10.1	40.3	81.7	1.2	-116.5	-111.2	-15.7
455	ok	0.06	1.0	5.29e-03	10.4	10.1	13.1	10.1	85.7	16.7	5.7	-126.6	-301.1	3.5
465	ok	0.06	0.7	6.63e-03	10.1	10.1	10.1	10.1	32.6	73.8	33.5	-141.4	-125.0	-20.5
467	ok	0.06	1.0	7.14e-03	11.3	10.1	11.0	10.1	141.2	58.5	-52.4	-184.2	-228.5	6.0
468	ok	0.06	0.9	4.80e-03	10.1	10.1	10.1	10.1	17.0	81.5	36.7	-175.8	-134.3	-32.0
476	ok	0.06	1.0	4.45e-03	12.4	10.1	12.3	10.1	5.2	80.9	-51.7	-254.2	-148.7	48.8
513	ok	0.06	1.0	3.91e-03	10.1	10.1	10.1	10.1	4.3	6.3	28.4	-176.7	-167.0	-55.8
514	ok	0.06	1.0	2.98e-03	12.8	10.1	12.6	10.1	27.9	7.0	-46.3	-168.2	-265.1	42.8
515	ok	0.06	0.6	5.08e-03	10.1	10.1	10.1	10.1	12.1	13.5	12.2	-123.1	-149.8	8.5
516	ok	0.06	1.0	3.15e-03	10.6	10.1	11.6	10.1	27.9	19.0	-2.3	-99.1	-260.0	-31.7
Nodo		**x/d**	**V N/M**	**ver. rid**	**Af pr-**	**Af pr+**	**Af sec-**	**Af sec+**	**N x**	**N y**	**N xy**	**M x**	**M y**	**M xy**
									4.33	5.75	-52.37	-254.24	-301.12	-55.84
		0.07	0.99	9.99e-03	12.84	10.05	13.54	10.05	141.24	91.30	36.74	-97.02	-111.24	48.78

Nodo	Stato	Max tau	Ver V pr	Ver V sec	Af V pr	Af V sec	V pr	V sec
		daN/cm2					kN/ m	kN/ m
350	ok Av	4.93	0.14	0.18	4.4	5.6	249.4	315.8
443	ok Av	7.74	0.21	0.28	6.5	8.7	368.9	493.0
444	ok Av	7.04	0.19	0.26	5.8	8.0	328.1	454.4
445	ok Av	4.63	0.17	0.09	5.1	2.9	289.3	163.0
449	ok	3.72						
451	ok Av	7.04	0.19	0.26	5.8	8.0	328.1	454.4
452	ok	3.72						
455	ok Av	7.04	0.20	0.26	6.2	8.0	354.2	454.4
465	ok Av	4.63	0.17	0.09	5.1	2.9	289.3	163.0
467	ok Av	7.74	0.21	0.28	6.5	8.7	368.9	493.0
468	ok Av	6.30	0.17	0.23	5.1	7.0	289.3	399.2
476	ok Av	7.74	0.21	0.28	6.5	8.7	368.9	493.0
513	ok Av	6.30	0.17	0.23	5.1	7.0	289.3	399.2
514	ok Av	7.74	0.21	0.28	6.5	8.7	368.9	493.0
515	ok Av	4.93	0.14	0.18	4.4	5.6	249.4	315.8
516	ok Av	7.04	0.20	0.26	6.2	8.0	354.2	454.4
Nodo		**Max tau**	**Ver V pr**	**Ver V sec**	**Af V pr**	**Af V sec**	**V pr**	**V sec**
		7.74	0.21	0.28	6.49	8.67	368.87	492.96

Macro Guscio	Spessore	Id Materiale	Id Criterio	Progettazione
	cm			
14	100.00	4	3	Singolo elemento

Nodo	Stato	x/d	V N/M	ver. rid	Af pr-	Af pr+	Af sec-	Af sec+	N x	N y	N xy	M x	M y	M xy
									kN/ m	kN/ m	kN/ m	kN	kN	kN
303	ok	0.10	0.9	7.18e-03	88.6	78.8	108.9	85.3	-48.8	-149.2	-22.0	-674.4	-2596.8	-1374.8
350	ok	0.04	0.9	4.97e-03	10.1	10.1	10.1	10.1	-3.7	107.9	66.7	-160.1	-279.6	10.4
443	ok	0.05	1.0	8.47e-03	19.8	12.3	13.8	11.9	143.5	-134.2	-20.5	-474.0	-490.8	44.0
444	ok	0.05	1.0	3.54e-03	13.6	10.8	17.5	11.3	3.8	100.5	-12.4	-115.7	-526.1	-109.0
445	ok	0.04	1.0	4.40e-03	12.0	10.1	10.9	10.1	24.7	13.0	24.2	-359.6	-113.4	-91.1
449	ok	0.04	0.8	4.38e-03	10.1	10.1	10.1	10.1	22.0	11.1	6.4	-224.7	-92.0	-58.0
451	ok	0.05	1.0	1.34e-02	12.9	10.1	17.8	12.1	59.7	-117.7	-78.7	-319.3	-547.6	58.1
452	ok	0.04	1.0	7.79e-03	11.1	10.1	11.1	10.1	30.0	113.3	62.8	-204.9	-278.2	-72.1
455	ok	0.05	1.0	7.05e-03	14.0	10.5	14.2	11.0	111.6	-85.5	-40.3	-294.5	-483.5	58.6
465	ok	0.04	1.0	8.25e-03	10.9	10.1	10.8	10.1	-38.8	91.1	-65.7	-363.7	-173.5	40.0
467	ok	0.05	1.0	2.10e-02	19.6	12.2	17.7	12.7	131.1	-279.8	-1.7	-501.7	-554.3	-33.3
468	ok	0.04	1.0	6.90e-03	10.9	10.1	10.9	10.1	-13.1	94.5	-91.5	-224.0	-321.9	-87.1
469	ok	0.04	0.7	4.27e-03	10.1	10.1	10.1	10.1	67.3	-1.8	3.4	-233.0	-11.9	-20.9
470	ok	0.04	1.0	2.58e-03	10.4	10.1	10.4	10.1	-18.5	-5.0	-15.4	-38.4	-329.2	-112.2
471	ok	0.04	1.0	6.87e-03	11.8	11.9	11.8	11.9	-89.2	0.9	39.0	-347.1	-273.7	120.1
472	ok	0.04	0.9	4.72e-03	10.1	10.1	10.1	10.1	-70.7	6.2	29.0	-228.4	-181.8	108.2
473	ok	0.04	0.8	2.06e-03	10.1	10.1	10.1	10.1	5.6	9.5	-36.3	-23.9	-272.3	17.1
474	ok	0.04	0.2	9.84e-04	10.1	10.1	10.1	10.1	11.3	3.6	7.9	-51.2	-8.2	-9.2
475	ok	0.04	0.8	6.24e-03	10.1	10.1	10.1	10.1	28.9	-79.0	50.1	-198.9	-282.7	-34.7
476	ok	0.05	1.0	5.59e-03	16.2	14.3	18.1	14.3	-35.4	36.2	90.4	-235.7	-539.5	161.8
479	ok	0.04	0.9	2.89e-03	10.1	10.1	10.1	10.1	11.7	-20.9	-35.3	-71.3	-258.5	62.7

Nodo	Stato	x/d	V N/M	ver. rid	Af pr-	Af pr+	Af sec-	Af sec+	N x	N y	N xy	M x	M y	M xy
480	ok	0.04	0.5	2.76e-03	10.1	10.1	10.1	10.1	47.0	3.3	12.1	-138.8	-22.0	-25.4
481	ok	0.04	0.2	1.10e-03	10.1	10.1	10.1	10.1	4.9	8.3	13.1	-52.5	-36.9	-27.9
483	ok	0.04	0.9	7.20e-03	10.1	10.1	10.1	10.1	42.6	-104.7	28.5	-271.7	-72.2	-47.3
484	ok	0.04	0.7	4.04e-03	10.1	10.1	10.1	10.1	-60.7	2.9	-0.5	-229.7	-11.2	74.5
485	ok	0.04	0.9	2.07e-03	10.1	10.1	10.1	10.1	-12.9	10.3	-24.4	-2.2	-297.1	-7.7
486	ok	0.04	0.8	5.19e-03	10.1	10.1	10.1	10.1	-50.0	-3.5	48.6	-235.2	-181.3	28.2
487	ok	0.04	1.0	7.25e-03	12.5	10.1	12.4	10.1	42.3	-29.3	119.0	-248.7	-397.8	-33.8
488	ok	0.04	0.8	7.77e-03	10.1	10.1	10.1	10.1	-27.4	1.9	-9.4	-295.0	-1.1	12.6
489	ok	0.04	1.0	1.12e-02	10.2	13.4	11.6	11.7	-157.7	14.1	99.3	-368.5	-281.2	29.0
490	ok	0.05	1.0	1.59e-02	12.9	11.0	12.0	14.7	27.4	-252.6	-0.4	-331.3	-483.2	1.8
491	ok	0.04	1.0	8.99e-03	12.8	11.5	12.8	13.1	45.8	-155.1	-13.9	-350.0	-450.4	43.4
492	ok	0.04	0.9	6.65e-03	10.1	10.1	10.1	10.1	26.5	-111.1	-21.7	-217.9	-293.3	43.5
493	ok	0.04	0.9	8.40e-03	10.1	10.1	10.1	10.1	-17.1	-0.4	-1.6	-306.8	-14.2	11.7
502	ok	0.04	1.0	7.26e-03	12.8	10.6	13.0	12.3	34.0	-114.8	-31.8	-296.8	-450.7	62.4
503	ok	0.04	0.9	5.64e-03	10.1	10.1	10.1	10.1	29.6	-71.6	-23.4	-223.9	-303.0	65.4
504	ok	0.04	0.9	6.40e-03	10.1	10.1	10.1	10.1	87.2	8.1	11.5	-268.4	-22.2	-37.2
506	ok	0.05	1.0	8.77e-03	11.2	10.1	13.3	13.3	18.2	-117.5	-56.7	-223.6	-487.3	29.4
507	ok	0.04	1.0	4.84e-03	11.0	10.1	11.9	10.1	11.9	22.7	-83.0	-99.5	-385.7	31.8
508	ok	0.04	1.0	5.81e-03	10.1	10.1	11.6	10.1	-58.9	23.6	-61.8	-70.7	-392.1	0.6
509	ok	0.04	0.6	4.18e-03	10.1	10.1	10.1	10.1	51.7	12.0	42.4	-153.8	-53.1	-51.5
510	ok	0.04	0.9	7.46e-03	10.1	10.1	10.1	10.1	-16.5	6.1	-34.2	-312.6	-40.2	24.5
511	ok	0.04	1.0	7.13e-03	10.1	10.1	10.1	10.1	65.1	13.0	28.5	-286.8	-80.2	-84.6
512	ok	0.04	0.9	5.06e-03	10.1	10.1	10.1	10.1	41.9	11.0	10.5	-287.6	-94.2	-58.6
517	ok	0.04	0.9	1.58e-03	10.1	10.1	10.1	10.1	-11.6	14.5	-20.6	29.6	-299.7	-33.0
518	ok	0.04	0.7	3.48e-03	10.1	10.1	10.1	10.1	42.8	-31.6	4.2	-226.6	-67.3	-50.7
519	ok	0.04	0.3	1.43e-03	10.1	10.1	10.1	10.1	-6.3	19.9	8.7	-39.6	-86.8	-45.7
520	ok	0.04	0.8	3.93e-03	10.1	10.1	10.1	10.1	-57.8	6.5	0.2	-253.3	-45.6	86.5
521	ok	0.04	0.9	8.48e-03	10.1	10.1	10.1	10.1	-31.2	-7.2	-10.1	-303.7	9.7	11.3
522	ok	0.04	0.8	8.52e-03	10.1	10.1	10.1	10.1	21.1	-142.9	44.5	-211.5	-222.7	-22.6
523	ok	0.04	0.7	3.94e-03	10.1	10.1	10.1	10.1	10.5	-27.7	59.8	-115.2	-233.9	-27.2
524	ok	0.04	0.7	5.00e-03	10.1	10.1	10.1	10.1	-36.6	6.0	-12.4	-248.6	-11.9	14.0
525	ok	0.04	0.8	5.95e-03	10.1	10.1	10.1	10.1	-80.1	-3.2	49.1	-197.3	-183.9	61.9
526	ok	0.04	0.5	2.67e-03	10.1	10.1	10.1	10.1	-3.0	16.4	48.0	-143.4	-59.7	-43.3
527	ok	0.04	0.9	5.41e-03	10.1	10.1	10.1	10.1	-48.7	11.7	-44.5	-330.3	-90.0	27.9
528	ok	0.04	0.6	1.53e-03	10.1	10.1	10.1	10.1	-7.1	29.3	8.1	-49.2	-172.8	-67.3
529	ok	0.04	0.7	3.32e-03	10.1	10.1	10.1	10.1	-20.0	24.5	14.4	-121.3	-189.1	-75.4
530	ok	0.04	1.0	5.57e-03	10.1	10.1	10.1	10.1	-81.7	17.6	12.8	-300.2	-140.9	121.6
531	ok	0.04	0.9	4.51e-03	10.1	10.1	10.1	10.1	-60.8	7.8	8.5	-250.4	-117.1	123.7
532	ok	0.04	0.8	1.39e-03	10.1	10.1	10.1	10.1	0.7	21.9	-6.6	-13.6	-272.9	-72.9
533	ok	0.04	1.0	5.93e-03	10.1	10.1	10.1	10.1	21.3	-55.1	-32.0	-171.9	-306.7	80.6
534	ok	0.04	0.4	2.79e-03	10.1	10.1	10.1	10.1	13.8	-40.3	12.1	-86.5	-134.5	-17.3
535	ok	0.04	0.4	2.28e-03	10.1	10.1	10.1	10.1	8.1	-22.0	26.7	-26.1	-149.6	0.6
536	ok	0.04	0.3	1.89e-03	10.1	10.1	10.1	10.1	10.1	-21.5	20.4	-42.9	-115.9	-13.9
537	ok	0.04	0.3	1.45e-03	10.1	10.1	10.1	10.1	3.1	-7.4	18.2	4.2	-106.8	10.7
538	ok	0.04	0.2	1.30e-03	10.1	10.1	10.1	10.1	0.1	-9.8	7.2	-4.2	-90.4	-4.4
539	ok	0.04	0.3	7.21e-04	10.1	10.1	10.1	10.1	0.9	2.5	6.0	4.5	-96.0	18.3
540	ok	0.04	0.2	6.14e-04	10.1	10.1	10.1	10.1	1.8	-0.6	7.0	2.5	-80.2	9.4
541	ok	0.04	0.2	1.01e-03	10.1	10.1	10.1	10.1	5.5	-6.3	-14.2	53.0	-34.5	-30.9
542	ok	0.04	0.3	1.74e-03	10.1	10.1	10.1	10.1	8.4	-14.7	-5.9	-69.8	-43.1	-38.3
543	ok	0.04	0.2	1.23e-03	10.1	10.1	10.1	10.1	7.3	-8.8	-14.5	-72.3	-38.0	-28.4
544	ok	0.04	0.2	9.62e-04	10.1	10.1	10.1	10.1	4.9	-7.4	-0.1	-24.1	-43.4	-24.8
545	ok	0.04	0.3	1.64e-03	10.1	10.1	10.1	10.1	8.1	-12.7	-11.0	-78.4	-36.2	-32.1
868	ok	0.04	0.8	3.87e-03	10.1	10.1	10.1	10.1	-61.5	2.3	23.9	-164.5	-121.8	97.4
869	ok	0.04	0.7	3.21e-03	10.1	10.1	10.1	10.1	47.4	-0.7	3.9	211.1	10.0	-86.7
870	ok	0.04	0.7	3.76e-03	10.1	10.1	10.1	10.1	-42.9	-0.3	32.3	-148.6	-119.0	45.6
871	ok	0.04	0.8	3.14e-03	10.1	10.1	10.1	10.1	-54.2	3.5	1.1	-203.2	-40.5	99.5
872	ok	0.04	0.6	3.18e-03	10.1	10.1	10.1	10.1	24.8	-0.7	-11.9	173.1	-50.9	-66.8
873	ok	0.04	0.7	3.40e-03	10.1	10.1	10.1	10.1	42.2	-0.5	1.6	209.7	5.7	-46.8
874	ok	0.04	0.7	4.13e-03	10.1	10.1	10.1	10.1	-58.5	1.3	23.2	-147.7	-125.7	79.2
875	ok	0.04	0.8	3.22e-03	10.1	10.1	10.1	10.1	-55.8	4.1	6.2	-190.7	-85.0	109.3
876	ok	0.04	0.6	2.99e-03	10.1	10.1	10.1	10.1	-47.3	1.3	18.9	-118.7	-88.9	80.7
877	ok	0.04	0.7	2.87e-03	10.1	10.1	10.1	10.1	44.1	-1.4	4.1	178.1	12.1	-87.9
878	ok	0.04	0.5	2.91e-03	10.1	10.1	10.1	10.1	27.3	-4.9	-10.7	141.1	-61.4	-67.2
879	ok	0.04	0.7	2.83e-03	10.1	10.1	10.1	10.1	42.5	-2.5	4.6	171.7	20.2	-102.3
880	ok	0.04	0.5	2.53e-03	10.1	10.1	10.1	10.1	19.0	-6.8	-10.2	137.2	-55.4	-64.3
881	ok	0.04	0.6	3.23e-03	10.1	10.1	10.1	10.1	38.8	-0.8	1.9	176.7	6.2	-47.0
882	ok	0.04	0.6	2.96e-03	10.1	10.1	10.1	10.1	33.0	-4.4	-6.1	142.0	-56.1	-63.7
883	ok	0.04	0.7	2.77e-03	10.1	10.1	10.1	10.1	-48.3	2.9	4.4	-139.0	-64.0	92.1
884	ok	0.04	0.5	2.44e-03	10.1	10.1	10.1	10.1	-38.8	1.3	15.6	-89.0	-74.3	72.9
885	ok	0.04	0.6	2.70e-03	10.1	10.1	10.1	10.1	7.1	-4.7	0.5	120.4	7.7	-119.8
886	ok	0.04	0.4	2.32e-03	10.1	10.1	10.1	10.1	19.0	-4.4	-11.7	107.8	-85.6	-68.6
887	ok	0.04	0.6	2.61e-03	10.1	10.1	10.1	10.1	17.8	-3.5	-1.5	115.3	13.0	-130.3
888	ok	0.04	0.4	2.17e-03	10.1	10.1	10.1	10.1	14.4	-5.7	-11.0	107.3	-80.0	-63.7
889	ok	0.04	0.5	3.10e-03	10.1	10.1	10.1	10.1	38.9	-0.4	2.2	144.0	6.1	-45.0

Nodo	Stato	x/d	V N/M	ver. rid	Af pr-	Af pr+	Af sec-	Af sec+	N x	N y	N xy	M x	M y	M xy
890	ok	0.04	0.5	2.38e-03	10.1	10.1	10.1	10.1	23.9	-4.0	-7.8	108.8	-59.1	-72.6
891	ok	0.04	0.6	2.41e-03	10.1	10.1	10.1	10.1	20.3	0.2	-5.2	101.8	22.0	-123.1
892	ok	0.04	0.4	1.73e-03	10.1	10.1	10.1	10.1	27.4	0.5	-6.1	63.8	-54.7	-94.5
893	ok	0.04	0.5	2.43e-03	10.1	10.1	10.1	10.1	7.3	-7.5	6.2	90.6	8.2	-110.1
894	ok	0.04	0.5	2.02e-03	10.1	10.1	10.1	10.1	-3.2	-7.9	1.5	32.7	-177.9	-40.1
895	ok	0.04	0.5	2.31e-03	10.1	10.1	10.1	10.1	15.6	-11.2	7.3	79.6	-3.5	-120.0
896	ok	0.04	0.5	1.84e-03	10.1	10.1	10.1	10.1	-1.6	-8.1	1.7	36.3	-170.0	-32.4
897	ok	0.04	0.4	2.55e-03	10.1	10.1	10.1	10.1	3.0	-3.6	2.8	90.2	6.0	-58.9
898	ok	0.04	0.4	1.70e-03	10.1	10.1	10.1	10.1	14.4	1.3	-10.2	57.4	-102.6	-83.4
899	ok	0.04	0.4	2.04e-03	10.1	10.1	10.1	10.1	16.0	-10.8	7.4	61.4	-18.5	-118.8
900	ok	0.04	0.6	4.58e-03	10.1	10.1	10.1	10.1	25.2	-26.9	25.8	-115.2	-155.4	-21.5
901	ok	0.04	0.4	2.21e-03	10.1	10.1	10.1	10.1	15.4	-10.0	7.2	52.8	13.4	-95.5
902	ok	0.04	0.8	5.61e-03	10.1	10.1	10.1	10.1	17.6	-18.8	-33.5	-148.5	-239.4	-109.7
903	ok	0.04	0.4	2.04e-03	10.1	10.1	10.1	10.1	15.0	-19.3	9.9	35.0	-14.7	-106.3
904	ok	0.04	0.6	2.49e-03	10.1	10.1	10.1	10.1	4.5	-31.9	-19.5	-86.8	-239.1	-5.6
905	ok	0.04	0.3	2.39e-03	10.1	10.1	10.1	10.1	7.5	-3.9	3.9	52.1	5.9	-49.5
906	ok	0.04	0.9	3.94e-03	10.1	10.1	10.1	10.1	-10.4	21.7	-15.3	-203.5	-162.0	-143.3
907	ok	0.04	0.5	2.31e-03	10.1	10.1	10.1	10.1	8.8	-29.8	24.2	-57.7	-116.3	-77.7
908	ok	0.04	1.0	7.36e-03	12.0	11.3	12.0	11.4	-0.1	-110.0	23.7	-143.7	-283.0	-209.3
909	ok	0.04	0.3	2.02e-03	10.1	10.1	10.1	10.1	29.9	-1.6	-1.5	41.6	11.3	-57.5
910	ok	0.05	1.0	7.95e-03	16.8	13.9	17.4	15.3	11.3	-110.6	-31.2	-257.7	-569.3	-154.6
911	ok	0.04	0.3	1.95e-03	10.1	10.1	10.1	10.1	25.0	-2.0	-4.6	33.3	21.7	-59.0
912	ok	0.05	1.0	6.57e-03	10.9	10.6	14.2	13.6	18.4	-101.7	-3.4	-221.0	-519.6	-34.8
913	ok	0.04	0.2	2.30e-03	10.1	10.1	10.1	10.1	-36.7	0.7	1.0	-43.7	-3.5	28.9
914	ok	0.07	1.0	9.18e-03	43.4	41.8	34.9	35.9	-35.7	-118.7	-2.3	-321.1	-190.3	-1060.5
915	ok	0.04	0.8	3.70e-03	10.1	10.1	10.1	10.1	15.5	-57.2	13.2	-173.9	-254.0	-17.6
916	ok	0.07	1.0	6.38e-03	25.9	27.3	45.9	48.7	1.3	-128.8	12.1	-361.0	-1441.8	-233.5
917	ok	0.04	0.2	1.85e-03	10.1	10.1	10.1	10.1	-13.0	-1.5	0.8	-45.7	-8.5	-43.9
918	ok	0.08	1.0	7.20e-03	19.7	21.0	65.4	63.8	-26.1	-143.3	25.2	-410.9	-2124.6	73.0
919	ok	0.04	0.3	2.03e-03	10.1	10.1	10.1	10.1	-18.3	-14.2	9.0	-55.3	-27.7	-53.1
920	ok	0.05	1.0	5.54e-03	10.7	10.8	19.6	19.1	12.9	-94.0	3.0	-253.2	-701.4	9.3
921	ok	0.04	0.2	2.28e-03	10.1	10.1	10.1	10.1	-17.3	-1.3	1.9	-45.5	-1.6	-26.1
922	ok	0.04	0.2	1.32e-03	10.1	10.1	10.1	10.1	7.3	-11.0	-1.6	-46.7	-44.8	-33.3
923	ok	0.04	0.5	3.73e-03	10.1	10.1	10.1	10.1	21.8	-57.4	-1.3	-146.6	-63.0	-49.7
924	ok	0.04	0.3	9.79e-04	10.1	10.1	10.1	10.1	-0.4	10.3	5.0	-3.5	-81.2	37.6
925	ok	0.04	0.8	4.00e-03	10.1	10.1	10.1	10.1	-7.2	-54.9	-25.5	-128.1	-224.8	-91.8
926	ok	0.04	0.2	1.63e-03	10.1	10.1	10.1	10.1	-13.0	-5.8	1.3	-46.8	-10.5	-36.1
927	ok	0.05	1.0	5.43e-03	13.2	10.1	14.0	10.1	-18.6	-48.7	37.4	-164.1	-256.0	103.4
928	ok	0.04	0.2	1.92e-03	10.1	10.1	10.1	10.1	-13.0	-15.5	2.8	-54.4	-40.0	-38.3
929	ok	0.04	0.6	5.31e-03	10.1	10.1	10.1	10.1	4.5	-78.3	15.2	-110.0	-235.7	47.3
930	ok	0.04	0.1	1.92e-03	10.1	10.1	10.1	10.1	-12.4	-1.4	1.1	-44.7	-2.8	-21.1
931	ok	0.06	1.0	4.31e-03	25.9	25.9	25.9	24.3	-5.6	-25.7	16.0	189.0	480.2	479.2
932	ok	0.04	0.6	3.69e-03	10.1	10.1	10.1	10.1	8.5	-55.0	-7.7	-127.2	-200.9	-48.9
933	ok	0.04	0.5	2.55e-03	10.1	10.1	10.1	10.1	1.9	-2.6	-44.4	-88.9	-100.6	-98.2
934	ok	0.04	0.2	1.23e-03	10.1	10.1	10.1	10.1	-8.6	-3.9	-3.2	-35.3	-13.9	-26.3
935	ok	0.04	0.7	3.13e-03	10.1	10.1	10.1	10.1	-3.5	-4.9	35.9	-116.1	-145.9	60.9
936	ok	0.04	0.2	1.35e-03	10.1	10.1	10.1	10.1	-8.4	-9.6	-6.2	-42.8	-46.8	-26.9
937	ok	0.04	0.4	2.43e-03	10.1	10.1	10.1	10.1	-2.3	-13.7	33.4	-33.4	-139.6	30.3
938	ok	0.04	0.1	1.37e-03	10.1	10.1	10.1	10.1	-8.2	-0.6	-1.2	-33.3	-3.7	-15.7
939	ok	0.04	0.6	2.85e-03	10.1	10.1	10.1	10.1	-1.6	-1.7	18.1	-25.4	-176.0	86.2
940	ok	0.04	0.2	1.95e-03	10.1	10.1	10.1	10.1	-10.7	-12.7	-13.3	-25.4	-59.7	26.7
941	ok	0.04	0.3	1.24e-03	10.1	10.1	10.1	10.1	-1.8	5.3	10.1	-27.9	-50.9	56.1
942	ok	0.04	0.1	8.11e-04	10.1	10.1	10.1	10.1	-9.8	3.3	0.7	-23.3	-14.6	21.3
943	ok	0.04	0.3	1.40e-03	10.1	10.1	10.1	10.1	-1.7	-4.8	15.4	25.1	-113.2	37.5
944	ok	0.04	0.1	8.80e-04	10.1	10.1	10.1	10.1	-8.7	6.4	0.2	-19.7	-26.9	26.4
945	ok	0.04	0.4	1.60e-03	10.1	10.1	10.1	10.1	-2.1	-5.9	15.8	4.8	-116.2	35.8
946	ok	0.04	7.78e-02	6.67e-04	10.1	10.1	10.1	10.1	-6.4	-0.2	-1.4	-19.7	-4.9	-11.5
947	ok	0.04	0.3	1.24e-03	10.1	10.1	10.1	10.1	-1.7	4.7	18.3	-3.1	-77.7	70.5
948	ok	0.04	0.2	1.10e-03	10.1	10.1	10.1	10.1	-8.3	8.3	-2.7	-17.4	-42.5	30.2
949	ok	0.04	0.2	8.35e-04	10.1	10.1	10.1	10.1	-2.32e-02	7.0	2.6	-9.1	-48.4	37.7
950	ok	0.04	6.32e-02	3.78e-04	10.1	10.1	10.1	10.1	-3.1	4.4	0.3	-8.8	-13.7	10.3
951	ok	0.04	0.3	9.59e-04	10.1	10.1	10.1	10.1	-1.5	11.3	6.1	2.0	-92.9	35.4
952	ok	0.04	0.1	4.15e-04	10.1	10.1	10.1	10.1	-2.6	7.5	-0.3	-7.4	-26.6	14.9
953	ok	0.04	0.3	8.72e-04	10.1	10.1	10.1	10.1	-0.3	3.2	6.0	8.5	-100.8	20.9
954	ok	0.04	3.21e-02	2.36e-04	10.1	10.1	10.1	10.1	3.3	0.4	0.2	6.4	3.6	-5.2
955	ok	0.04	0.3	1.79e-03	10.1	10.1	10.1	10.1	7.9	-14.4	-9.9	-79.3	-36.4	-34.7
956	ok	0.04	0.1	6.67e-04	10.1	10.1	10.1	10.1	-2.3	11.6	-1.6	-6.1	-40.7	17.0
957	ok	0.04	0.3	1.29e-03	10.1	10.1	10.1	10.1	-0.5	-5.1	-11.8	82.3	-29.0	-39.5
958	ok	0.04	0.1	5.32e-04	10.1	10.1	10.1	10.1	2.3	0.9	0.5	-2.6	-20.2	-7.9
959	ok	0.04	0.5	1.66e-03	10.1	10.1	10.1	10.1	2.7	-14.0	0.4	25.6	-159.7	-7.9
960	ok	0.04	0.4	1.45e-03	10.1	10.1	10.1	10.1	8.6	-13.2	-0.5	-32.0	-117.2	23.5
961	ok	0.04	0.6	2.25e-03	10.1	10.1	10.1	10.1	12.4	-31.3	-19.2	-96.1	-223.2	8.6
962	ok	0.04	0.4	1.87e-03	10.1	10.1	10.1	10.1	14.2	-28.3	-11.2	-77.0	-146.0	13.9
963	ok	0.04	0.7	4.14e-03	10.1	10.1	10.1	10.1	13.6	-66.6	-8.4	-153.7	-282.2	7.0

Nodo	Stato	x/d	V N/M	ver. rid	Af pr-	Af pr+	Af sec-	Af sec+	N x	N y	N xy	M x	M y	M xy
964	ok	0.04	0.4	2.79e-03	10.1	10.1	10.1	10.1	15.4	-46.2	-3.3	-104.0	-143.0	5.7
965	ok	0.04	0.7	4.52e-03	10.1	10.1	10.1	10.1	10.5	-76.5	-7.1	-153.5	-270.9	1.5
966	ok	0.04	0.4	3.06e-03	10.1	10.1	10.1	10.1	14.1	-51.7	-2.3	-105.4	-139.6	-0.5
967	ok	0.04	0.6	3.79e-03	10.1	10.1	10.1	10.1	12.4	-54.5	15.8	-112.3	-219.1	-8.3
968	ok	0.04	0.4	1.85e-03	10.1	10.1	10.1	10.1	10.7	-5.9	-13.7	101.7	-68.8	-53.8
969	ok	0.04	0.3	1.57e-03	10.1	10.1	10.1	10.1	8.3	-5.7	-14.0	95.9	-52.2	-45.0
970	ok	0.04	0.5	1.29e-03	10.1	10.1	10.1	10.1	6.0	-9.6	-17.1	-29.1	-153.9	38.1
971	ok	0.04	0.5	3.28e-03	10.1	10.1	10.1	10.1	14.2	-3.3	-5.9	125.3	-73.0	-65.9
972	ok	0.04	0.5	1.80e-03	10.1	10.1	10.1	10.1	14.3	-20.0	-23.1	-71.0	-151.4	50.9
973	ok	0.04	0.6	1.48e-03	10.1	10.1	10.1	10.1	5.4	-7.3	-20.1	-21.7	-215.4	40.7
974	ok	0.04	0.6	3.30e-03	10.1	10.1	10.1	10.1	15.1	-2.1	-8.3	166.0	-72.7	-56.0
975	ok	0.04	0.6	4.69e-03	10.1	10.1	10.1	10.1	28.7	-65.7	27.6	-155.1	-159.0	-28.2
976	ok	0.04	0.7	5.33e-03	10.1	10.1	10.1	10.1	25.1	-91.8	24.1	-166.1	-146.3	-17.6
977	ok	0.04	0.7	4.85e-03	10.1	10.1	10.1	10.1	8.6	-49.2	5.6	-224.5	-113.7	76.4
978	ok	0.04	0.6	3.40e-03	10.1	10.1	10.1	10.1	8.8	-34.5	3.5	-188.0	-69.2	62.3
979	ok	0.04	0.7	4.47e-03	10.1	10.1	10.1	10.1	27.2	-57.5	-17.2	-173.5	-198.7	49.8
980	ok	0.04	0.6	3.30e-03	10.1	10.1	10.1	10.1	6.5	-2.3	-5.7	-158.7	-73.4	75.5
981	ok	0.04	0.7	4.31e-03	10.1	10.1	10.1	10.1	21.4	-43.2	-26.0	-139.5	-209.3	62.5
982	ok	0.04	0.7	2.28e-03	10.1	10.1	10.1	10.1	13.6	-22.8	-28.2	-79.0	-222.6	60.1
983	ok	0.04	0.6	3.51e-03	10.1	10.1	10.1	10.1	14.4	-5.5	-8.3	117.0	-67.9	-73.7
984	ok	0.04	0.5	2.62e-03	10.1	10.1	10.1	10.1	11.0	-4.0	-9.0	144.6	-65.7	-53.7
985	ok	0.04	0.5	3.17e-03	10.1	10.1	10.1	10.1	21.5	-32.9	-21.0	-113.8	-134.0	48.8
986	ok	0.04	0.5	2.47e-03	10.1	10.1	10.1	10.1	15.9	-1.0	-10.2	161.4	-38.2	-58.4
987	ok	0.04	0.5	1.99e-03	10.1	10.1	10.1	10.1	11.0	-0.8	-7.1	147.9	-41.0	-54.4
988	ok	0.04	0.4	2.15e-03	10.1	10.1	10.1	10.1	14.0	-0.6	-12.6	130.3	-59.7	-56.7
989	ok	0.04	0.4	1.69e-03	10.1	10.1	10.1	10.1	9.4	-5.9	-12.4	120.5	-52.4	-52.2
990	ok	0.04	0.4	1.51e-03	10.1	10.1	10.1	10.1	-2.5	-2.4	-7.4	120.3	-34.5	-46.5
991	ok	0.04	0.4	2.02e-03	10.1	10.1	10.1	10.1	20.5	1.5	-6.2	-112.8	-41.2	59.7
992	ok	0.04	0.3	1.23e-03	10.1	10.1	10.1	10.1	18.6	-14.7	-16.8	-62.7	-82.8	35.8
993	ok	0.04	0.3	9.48e-04	10.1	10.1	10.1	10.1	8.6	-9.8	-12.2	-31.8	-88.4	29.6
994	ok	0.04	0.4	1.62e-03	10.1	10.1	10.1	10.1	-3.5	-3.4	-5.8	124.7	-37.1	-52.9
995	ok	0.04	0.5	1.90e-03	10.1	10.1	10.1	10.1	-2.7	-2.9	-3.5	112.3	-39.7	-61.7
996	ok	0.04	0.5	1.99e-03	10.1	10.1	10.1	10.1	28.2	-19.4	4.1	-151.5	8.4	43.6
997	ok	0.04	0.5	2.01e-03	10.1	10.1	10.1	10.1	27.4	-19.9	1.8	-156.4	-30.4	51.8
998	ok	0.04	0.3	1.41e-03	10.1	10.1	10.1	10.1	-1.2	-5.0	-10.1	101.2	-29.3	-43.4
999	ok	0.04	0.5	2.05e-03	10.1	10.1	10.1	10.1	24.8	-1.2	-4.4	-138.9	-33.6	59.2
1000	ok	0.04	0.2	1.46e-03	10.1	10.1	10.1	10.1	8.6	-1.2	5.9	-62.3	-7.2	22.2
1001	ok	0.04	0.8	1.57e-03	10.1	10.1	10.1	10.1	1.5	29.8	-10.7	-4.7	-260.9	0.6
1002	ok	0.04	4.92e-02	3.42e-04	10.1	10.1	10.1	10.1	2.5	4.0	-0.5	12.2	7.8	5.9
1003	ok	0.04	0.1	7.41e-04	10.1	10.1	10.1	10.1	1.6	3.0	3.6	-12.7	-28.0	-12.6
1004	ok	0.04	0.8	1.91e-03	10.1	10.1	10.1	10.1	0.8	41.3	-7.6	5.4	-281.9	-11.5
1005	ok	0.04	0.9	1.87e-03	10.1	10.1	10.1	10.1	2.71e-02	41.7	-7.4	5.4	-290.1	-16.2
1006	ok	0.04	0.3	1.22e-03	10.1	10.1	10.1	10.1	1.0	21.0	4.1	-13.5	-86.5	-24.6
1007	ok	0.04	0.5	2.04e-03	10.1	10.1	10.1	10.1	1.7	28.5	-2.6	-17.3	-169.1	-34.7
1008	ok	0.04	0.8	2.19e-03	10.1	10.1	10.1	10.1	0.8	38.2	-4.4	-3.7	-257.8	-33.1
1009	ok	0.04	0.4	6.52e-04	10.1	10.1	10.1	10.1	1.8	-6.4	-6.2	-10.7	-153.0	17.5
1010	ok	0.04	0.6	1.17e-03	10.1	10.1	10.1	10.1	2.2	3.7	-6.9	-5.9	-210.9	17.1
1011	ok	0.04	0.3	8.12e-04	10.1	10.1	10.1	10.1	1.6	-12.8	-4.6	-13.5	-87.6	14.6
1012	ok	0.04	0.1	5.54e-04	10.1	10.1	10.1	10.1	7.6	-2.6	0.5	-26.4	-12.1	-12.5
1013	ok	0.04	0.2	1.61e-03	10.1	10.1	10.1	10.1	15.5	-3.4	-4.2	-68.9	-7.6	-21.3
1014	ok	0.04	0.2	1.02e-03	10.1	10.1	10.1	10.1	12.2	-3.2	-0.2	-45.4	-11.4	-17.4
1015	ok	0.04	0.2	1.63e-03	10.1	10.1	10.1	10.1	15.4	-3.9	-3.7	-69.7	-7.8	-21.8
1016	ok	0.04	0.3	1.27e-03	10.1	10.1	10.1	10.1	-8.2	-3.5	-5.5	85.4	-5.4	-22.5
1017	ok	0.04	0.4	1.91e-03	10.1	10.1	10.1	10.1	-13.7	-3.3	-3.8	118.3	-8.8	-31.4
1018	ok	0.04	0.4	1.73e-03	10.1	10.1	10.1	10.1	32.7	0.7	-2.3	-108.5	-15.0	37.1
1019	ok	0.04	0.3	1.12e-03	10.1	10.1	10.1	10.1	18.5	0.7	-2.1	-75.2	-20.2	30.9
1020	ok	0.04	0.2	4.30e-04	10.1	10.1	10.1	10.1	8.0	-3.8	-0.2	-37.9	-23.2	21.8
1021	ok	0.04	0.4	2.22e-03	10.1	10.1	10.1	10.1	-12.1	-3.7	-4.7	114.8	-11.4	-33.2
1022	ok	0.04	0.5	2.35e-03	10.1	10.1	10.1	10.1	-35.7	7.77e-02	-3.5	124.0	-4.0	-38.4
1023	ok	0.04	0.5	2.29e-03	10.1	10.1	10.1	10.1	50.2	-1.2	1.3	-139.0	3.8	34.9
1024	ok	0.04	0.5	2.31e-03	10.1	10.1	10.1	10.1	48.6	-0.2	0.6	-141.9	-8.5	36.9
1025	ok	0.04	0.3	1.57e-03	10.1	10.1	10.1	10.1	-9.3	-3.0	-4.5	94.8	-6.9	-27.5
1026	ok	0.04	0.4	2.09e-03	10.1	10.1	10.1	10.1	41.8	0.5	-1.6	-128.5	-10.9	38.5
1027	ok	0.04	8.83e-02	4.38e-04	10.1	10.1	10.1	10.1	-0.9	3.8	0.9	9.1	26.9	-8.3
1028	ok	0.04	4.18e-02	3.13e-04	10.1	10.1	10.1	10.1	0.6	-0.2	-0.4	1.1	1.5	1.2
1029	ok	0.04	0.2	1.20e-03	10.1	10.1	10.1	10.1	9.4	-1.1	5.1	-57.9	-0.9	21.2
1030	ok	0.04	0.2	1.41e-03	10.1	10.1	10.1	10.1	14.8	-4.0	-1.9	-62.4	-9.9	-20.7
Nodo		**x/d**	**V N/M**	**ver. rid**	**Af pr-**	**Af pr+**	**Af sec-**	**Af sec+**	**N x**	**N y**	**N xy**	**M x**	**M y**	**M xy**
									-157.66	-279.80	-91.55	-674.38	-2596.75	-1374.81
		0.10	0.99	0.02	88.57	78.85	108.86	85.30	143.45	113.29	119.05	211.07	480.21	479.22

Nodo	Stato	Max tau	Ver V pr	Ver V sec	Af V pr	Af V sec	V pr	V sec
		daN/cm2					kN/ m	kN/ m
303	ok	0.0						
350	ok Av	4.00	0.14	0.15	4.2	4.5	347.5	375.7
443	ok Av	6.80	0.18	0.22	5.7	6.7	472.0	558.0
444	ok Av	5.09	0.13	0.15	4.1	4.5	340.5	375.7
445	ok	2.88						
449	ok	2.44						
451	ok Av	5.66	0.15	0.18	4.5	5.6	373.3	468.5
452	ok Av	3.68	0.14	0.02	4.2	0.5	347.5	42.6
455	ok Av	5.66	0.18	0.18	5.7	5.6	472.0	468.5
465	ok Av	4.72	0.17	0.08	5.3	2.4	441.2	197.6
467	ok Av	7.01	0.18	0.22	5.6	6.7	469.7	558.0
468	ok Av	5.46	0.17	0.20	5.3	6.2	441.2	512.7
469	ok	1.08						
470	ok Av	5.09	0.13	0.15	4.1	4.5	340.5	375.7
471	ok Av	7.01	0.18	0.20	5.6	6.2	469.7	512.7
472	ok	1.98						
473	ok	1.46						
474	ok	0.64						
475	ok	2.81						
476	ok Av	7.01	0.18	0.20	5.6	6.2	469.7	512.7
479	ok	2.23						
480	ok	0.84						
481	ok	0.98						
483	ok	3.34						
484	ok	3.09						
485	ok	1.46						
486	ok	2.24						
487	ok Av	6.20	0.18	0.15	5.6	4.6	467.1	386.2
488	ok	3.09						
489	ok Av	7.01	0.18	0.19	5.6	5.7	469.7	477.4
490	ok Av	6.80	0.18	0.22	5.6	6.7	467.1	558.0
491	ok Av	6.80	0.18	0.22	5.7	6.7	472.0	558.0
492	ok	3.00						
493	ok	2.31						
502	ok Av	5.66	0.18	0.18	5.7	5.6	472.0	468.5
503	ok	2.83						
504	ok	1.59						
506	ok Av	5.66	0.15	0.18	4.5	5.6	373.3	468.5
507	ok Av	4.14	0.13	0.12	3.9	3.6	323.3	302.7
508	ok Av	5.09	0.13	0.14	4.1	4.3	340.5	362.2
509	ok	2.59						
510	ok	3.34						
511	ok	2.88						
512	ok	2.44						
517	ok	1.09						
518	ok	2.59						
519	ok	1.10						
520	ok	1.98						
521	ok	2.58						
522	ok	3.00						
523	ok	2.24						
524	ok	3.09						
525	ok	2.16						
526	ok Av	3.68	0.14	0.02	4.2	0.5	347.5	42.6
527	ok Av	4.72	0.17	0.08	5.3	2.4	441.2	197.6
528	ok	1.55						
529	ok Av	4.00	0.14	0.15	4.2	4.5	347.5	375.7
530	ok Av	5.46	0.17	0.20	5.3	6.2	441.2	512.7
531	ok	1.98						
532	ok	1.55						
533	ok	2.74						
534	ok	0.0						
535	ok	0.0						
536	ok	0.0						
537	ok	0.72						
538	ok	0.72						
539	ok	0.65						
540	ok	0.65						
541	ok	0.96						
542	ok	1.07						
543	ok	1.10						
544	ok	0.63						
545	ok	1.15						

Nodo	Stato	Max tau	Ver V pr	Ver V sec	Af V pr	Af V sec	V pr	V sec
868	ok	1.31						
869	ok	2.88						
870	ok	1.34						
871	ok	1.35						
872	ok	1.23						
873	ok	2.88						
874	ok	1.34						
875	ok	1.19						
876	ok	1.01						
877	ok	2.51						
878	ok	0.97						
879	ok	0.92						
880	ok	0.89						
881	ok	2.51						
882	ok	1.01						
883	ok	0.95						
884	ok	1.08						
885	ok	2.18						
886	ok	1.02						
887	ok	0.83						
888	ok	0.95						
889	ok	2.18						
890	ok	1.08						
891	ok	1.00						
892	ok	0.0						
893	ok	1.80						
894	ok	0.0						
895	ok	1.30						
896	ok	0.0						
897	ok	1.80						
898	ok	0.0						
899	ok	0.0						
900	ok	0.0						
901	ok	1.43						
902	ok	0.0						
903	ok	1.30						
904	ok	0.0						
905	ok	1.43						
906	ok	0.0						
907	ok	0.0						
908	ok	0.0						
909	ok	1.33						
910	ok	0.0						
911	ok	0.0						
912	ok	0.0						
913	ok	1.33						
914	ok	0.0						
915	ok	0.0						
916	ok	0.0						
917	ok	1.16						
918	ok	0.0						
919	ok	0.0						
920	ok	0.0						
921	ok	1.16						
922	ok	0.89						
923	ok	0.0						
924	ok	0.66						
925	ok	0.0						
926	ok	0.93						
927	ok	0.0						
928	ok	1.05						
929	ok	0.0						
930	ok	0.93						
931	ok	0.0						
932	ok	0.0						
933	ok	0.0						
934	ok	0.66						
935	ok	0.0						
936	ok	1.04						
937	ok	0.0						
938	ok	0.66						
939	ok	0.0						
940	ok	0.0						
941	ok	0.74						

Nodo	Stato	Max tau	Ver V pr	Ver V sec	Af V pr	Af V sec	V pr	V sec
942	ok	0.39						
943	ok	0.77						
944	ok	0.62						
945	ok	0.72						
946	ok	0.39						
947	ok	0.77						
948	ok	0.63						
949	ok	0.66						
950	ok	0.34						
951	ok	0.60						
952	ok	0.53						
953	ok	0.61						
954	ok	0.14						
955	ok	1.15						
956	ok	0.63						
957	ok	0.81						
958	ok	0.58						
959	ok	0.0						
960	ok	0.0						
961	ok	0.0						
962	ok	0.0						
963	ok	0.0						
964	ok	0.0						
965	ok	0.0						
966	ok	0.0						
967	ok	0.0						
968	ok	0.89						
969	ok	0.76						
970	ok	1.10						
971	ok	1.40						
972	ok	1.33						
973	ok	1.25						
974	ok	1.63						
975	ok	1.91						
976	ok	2.07						
977	ok	2.07						
978	ok	1.54						
979	ok	2.02						
980	ok	1.54						
981	ok	2.00						
982	ok	1.69						
983	ok	1.51						
984	ok	1.23						
985	ok	1.49						
986	ok	1.15						
987	ok	0.96						
988	ok	0.76						
989	ok	0.65						
990	ok	0.79						
991	ok	0.97						
992	ok	0.94						
993	ok	0.85						
994	ok	0.85						
995	ok	0.93						
996	ok	0.99						
997	ok	1.02						
998	ok	0.81						
999	ok	1.02						
1000	ok	0.69						
1001	ok	1.22						
1002	ok	0.23						
1003	ok	0.31						
1004	ok	1.13						
1005	ok	0.99						
1006	ok	0.31						
1007	ok	0.36						
1008	ok	0.75						
1009	ok	1.09						
1010	ok	1.22						
1011	ok	0.79						
1012	ok	0.32						
1013	ok	0.59						
1014	ok	0.37						
1015	ok	0.53						

Nodo	Stato	Max tau	Ver V pr	Ver V sec	Af V pr	Af V sec	V pr	V sec
1016	ok	0.81						
1017	ok	0.79						
1018	ok	0.40						
1019	ok	0.39						
1020	ok	0.39						
1021	ok	0.75						
1022	ok	0.69						
1023	ok	0.57						
1024	ok	0.50						
1025	ok	0.81						
1026	ok	0.47						
1027	ok	0.31						
1028	ok	0.27						
1029	ok	0.78						
1030	ok	0.38						
Nodo		**Max tau**	**Ver V pr**	**Ver V sec**	**Af V pr**	**Af V sec**	**V pr**	**V sec**
		7.01	0.18	0.22	5.67	6.70	471.98	557.98

Nodo	Stato	V 6.50	V 6.53	Beta	f. a fon	f. Uout	Aw tot	Asw,min	n. x serie	n.ser 0(R)	n.ser 90	Rif. cmb
							cm2	cm2				
303	ok	0.23	0.07	2.46	2.00	0.0	0.0	0.0	0	0	0	409

Macro Guscio	Spessore	Id Materiale	Id Criterio	Progettazione
	cm			
16	100.00	4	3	Singolo elemento

Nodo	Stato	x/d	V N/M	ver. rid	Af pr-	Af pr+	Af sec-	Af sec+	N x	N y	N xy	M x	M y	M xy
									kN/ m	kN/ m	kN/ m	kN	kN	kN
5	ok	0.09	1.0	3.96e-03	54.8	39.0	50.1	35.2	-51.9	-37.5	-23.5	-1198.4	-875.0	-683.9
546	ok	0.04	1.0	1.33e-02	12.0	10.7	11.8	10.7	31.6	-196.4	-3.4	-370.2	-348.1	-69.1
547	ok	0.04	0.8	6.79e-03	10.1	10.1	10.1	10.1	38.6	16.4	-119.7	-266.0	-266.2	-39.2
548	ok	0.04	0.8	4.29e-03	10.1	10.1	10.1	10.1	10.3	30.3	67.6	-115.0	-203.5	-65.4
549	ok	0.04	0.6	3.59e-03	10.1	10.1	10.1	10.1	2.5	-2.2	-57.6	-107.2	-140.8	-102.4
550	ok	0.04	0.4	2.52e-03	10.1	10.1	10.1	10.1	2.8	0.6	-40.3	-7.1	-67.9	-119.6
551	ok	0.04	0.3	1.12e-03	10.1	10.1	10.1	10.1	1.1	-8.8	-15.0	7.7	21.2	-91.3
553	ok	0.04	0.4	2.28e-03	10.1	10.1	10.1	10.1	9.4	18.4	29.5	-40.8	-111.7	-46.9
554	ok	0.04	0.3	1.66e-03	10.1	10.1	10.1	10.1	1.9	-2.4	-19.7	9.1	-10.6	-95.5
555	ok	0.04	0.3	1.22e-03	10.1	10.1	10.1	10.1	1.7	-4.9	-19.4	16.3	14.5	-91.7
556	ok	0.04	0.9	2.90e-03	10.1	10.1	10.1	10.1	31.3	-15.8	32.4	-198.5	-147.7	-104.3
557	ok	0.04	1.0	2.74e-03	10.2	10.1	10.2	10.1	41.3	-24.9	27.8	-258.6	-150.4	-116.8
673	ok	0.04	1.0	3.71e-03	10.7	10.1	10.9	10.1	-4.7	136.5	-22.9	-163.5	-256.2	-90.6
675	ok	0.05	1.0	4.29e-03	10.7	10.1	15.8	10.1	-39.9	127.4	-72.1	-190.8	-482.6	-67.7
676	ok	0.05	1.0	6.00e-03	18.0	10.1	16.0	10.1	164.4	-87.6	5.5	-493.2	-383.8	-101.9
677	ok	0.05	1.0	1.92e-02	17.5	10.1	15.5	10.1	143.1	-213.0	-16.1	-521.5	-431.0	-44.0
678	ok	0.05	1.0	8.51e-03	11.0	10.1	15.4	10.1	16.5	100.0	-68.7	-201.7	-476.7	16.1
679	ok	0.04	0.6	2.37e-03	10.1	10.1	10.1	10.1	7.7	-17.1	0.3	-200.9	-213.1	4.6
680	ok	0.04	1.0	4.94e-03	13.2	10.1	13.2	10.1	138.8	-38.2	46.5	-307.5	-307.7	-103.3
681	ok	0.04	1.0	1.04e-02	13.3	10.1	13.3	10.1	65.9	-61.0	87.9	-310.1	-346.5	-92.7
682	ok	0.04	0.7	3.45e-03	10.1	10.1	10.1	10.1	9.2	-38.8	-40.5	-198.2	-212.4	-11.4
683	ok	0.05	1.0	1.03e-02	10.5	10.1	13.9	10.1	30.6	18.7	93.0	-182.2	-427.1	-2.6
684	ok	0.05	1.0	5.47e-03	16.3	10.7	16.3	10.7	4.9	84.4	-76.0	-242.3	-442.0	-192.3
687	ok	0.04	1.0	4.97e-03	10.6	11.2	13.2	11.2	14.9	21.1	87.9	-138.6	-403.4	87.6
707	ok	0.04	0.6	2.80e-03	10.1	10.1	10.1	10.1	-2.0	38.7	-2.3	5.9	-211.5	-18.1
709	ok	0.04	4.84e-02	2.54e-04	10.1	10.1	10.1	10.1	2.1	-3.1	-1.3	-6.1	-14.7	4.8
710	ok	0.04	0.2	2.00e-03	10.1	10.1	10.1	10.1	-35.3	4.6	6.2	36.3	9.0	-18.3
711	ok	0.04	0.2	1.26e-03	10.1	10.1	10.1	10.1	-2.7	-0.1	-0.1	-78.4	1.2	-6.1
712	ok	0.04	0.3	1.30e-03	10.1	10.1	10.1	10.1	10.9	-7.2	11.1	-45.3	-55.7	-43.9
713	ok	0.04	0.6	2.59e-03	10.1	10.1	10.1	10.1	53.9	-0.6	8.5	-176.7	-18.2	-46.9
714	ok	0.04	0.2	1.10e-03	10.1	10.1	10.1	10.1	-9.2	0.6	-7.7	-34.8	-3.1	-33.5
715	ok	0.04	0.3	1.25e-03	10.1	10.1	10.1	10.1	2.9	-3.6	-14.2	15.7	-1.3	-81.0
717	ok	0.04	0.3	9.93e-04	10.1	10.1	10.1	10.1	2.5	-4.1	-14.1	21.9	13.7	-78.0
718	ok	0.04	0.5	3.06e-03	10.1	10.1	10.1	10.1	-3.9	66.1	1.3	-5.4	-164.6	-8.6
719	ok	0.04	0.7	2.26e-03	10.1	10.1	10.1	10.1	40.1	-8.0	21.3	-185.1	-64.9	-92.5
720	ok	0.04	0.4	2.26e-03	10.1	10.1	10.1	10.1	-19.0	-5.1	-25.3	-7.1	-39.6	-145.3
722	ok	0.04	6.35e-02	2.74e-04	10.1	10.1	10.1	10.1	0.6	-3.6	1.5	-10.8	-13.6	-6.4
723	ok	0.04	0.8	2.53e-03	10.1	10.1	10.1	10.1	51.0	-13.2	17.9	-224.8	-56.1	-95.4
724	ok	0.04	0.8	2.62e-03	10.1	10.1	10.1	10.1	56.0	-26.2	3.4	-236.3	-42.6	-86.1
725	ok	0.04	0.8	2.59e-03	10.1	10.1	10.1	10.1	54.4	-34.3	1.6	-232.6	-39.3	-74.5

Nodo	Stato	x/d	V N/M	ver. rid	Af pr-	Af pr+	Af sec-	Af sec+	N x	N y	N xy	M x	M y	M xy
726	ok	0.04	0.2	2.40e-03	10.1	10.1	10.1	10.1	-43.3	5.8	3.5	38.0	5.6	-19.4
727	ok	0.04	0.7	3.34e-03	10.1	10.1	10.1	10.1	73.1	-1.3	7.1	-210.5	-12.6	-50.2
728	ok	0.04	0.7	2.61e-03	10.1	10.1	10.1	10.1	53.0	-19.3	-23.9	-199.2	-52.2	-60.6
729	ok	0.04	0.2	2.60e-03	10.1	10.1	10.1	10.1	32.0	-6.0	-1.2	-51.2	-8.5	-1.6
730	ok	0.04	0.8	3.58e-03	10.1	10.1	10.1	10.1	93.6	-3.2	2.3	-221.8	-7.7	-48.3
731	ok	0.04	0.5	1.88e-03	10.1	10.1	10.1	10.1	24.6	-4.8	18.0	-104.6	-67.1	-69.1
732	ok	0.04	0.2	2.64e-03	10.1	10.1	10.1	10.1	-6.8	-0.4	-3.9	-45.6	-8.2	-22.3
733	ok	0.04	0.8	3.51e-03	10.1	10.1	10.1	10.1	93.2	-5.9	1.9	-219.2	-8.2	-46.5
734	ok	0.04	0.2	1.72e-03	10.1	10.1	10.1	10.1	-11.3	-1.4	-4.5	-68.1	-4.4	-20.0
735	ok	0.04	0.2	2.20e-03	10.1	10.1	10.1	10.1	-10.1	-1.5	-4.9	-65.1	-6.0	-19.2
736	ok	0.04	0.2	2.55e-03	10.1	10.1	10.1	10.1	-9.6	0.4	-4.2	-58.4	-8.9	-20.5
738	ok	0.04	9.22e-02	5.95e-04	10.1	10.1	10.1	10.1	-0.6	-4.19e-02	-7.94e-02	-33.4	2.6	-2.7
739	ok	0.04	0.2	8.85e-04	10.1	10.1	10.1	10.1	-1.6	-8.14e-02	-7.67e-02	-62.8	1.7	-4.2
749	ok	0.04	0.4	2.71e-03	10.1	10.1	10.1	10.1	-1.4	58.2	7.4	-7.8	-129.6	-13.4
750	ok	0.04	0.3	1.96e-03	10.1	10.1	10.1	10.1	2.2	24.5	10.1	-8.9	-101.0	-15.7
751	ok	0.04	0.2	9.56e-04	10.1	10.1	10.1	10.1	3.3	-3.7	7.6	-14.0	-56.1	-16.7
752	ok	0.04	0.7	3.25e-03	10.1	10.1	10.1	10.1	0.4	38.0	-2.8	-4.5	-226.9	-23.3
753	ok	0.04	1.0	3.71e-03	10.1	10.1	10.1	10.1	48.8	-57.0	4.4	-286.3	-137.9	-95.1
754	ok	0.04	0.6	3.18e-03	10.1	10.1	10.1	10.1	0.4	-3.6	-2.8	-17.4	-185.0	-29.7
755	ok	0.04	0.2	4.35e-04	10.1	10.1	10.1	10.1	-3.0	4.6	6.1	9.6	59.6	-10.9
756	ok	0.04	0.3	9.47e-04	10.1	10.1	10.1	10.1	1.7	12.8	-10.1	-12.2	-114.8	3.8
757	ok	0.04	0.5	1.68e-03	10.1	10.1	10.1	10.1	0.5	27.7	-8.0	-11.1	-175.5	2.1
758	ok	0.04	0.1	1.29e-03	10.1	10.1	10.1	10.1	-21.4	2.3	7.3	28.7	12.9	-15.5
759	ok	0.04	8.05e-02	5.83e-04	10.1	10.1	10.1	10.1	-8.5	2.0	5.1	15.3	14.9	-10.9
760	ok	0.04	0.4	1.60e-03	10.1	10.1	10.1	10.1	27.2	-1.0	6.9	-111.0	-19.8	-36.7
761	ok	0.04	0.2	5.65e-04	10.1	10.1	10.1	10.1	9.1	-2.7	3.5	-43.6	-16.0	-22.2
762	ok	0.04	0.3	1.96e-03	10.1	10.1	10.1	10.1	5.9	1.9	-10.5	-85.2	-7.4	-32.7
763	ok	0.04	0.5	3.05e-03	10.1	10.1	10.1	10.1	59.6	1.4	-13.5	-126.6	-14.4	-43.1
764	ok	0.04	0.7	3.47e-03	10.1	10.1	10.1	10.1	86.3	-2.4	-8.0	-187.8	-12.5	-42.1
766	ok	0.04	0.1	9.18e-04	10.1	10.1	10.1	10.1	-11.1	-3.3	-2.6	21.7	6.8	-37.0
767	ok	0.04	0.2	1.03e-03	10.1	10.1	10.1	10.1	-0.2	-2.1	-5.4	20.6	4.7	-45.3
768	ok	0.04	0.6	2.07e-03	10.1	10.1	10.1	10.1	-13.4	-3.6	-11.1	7.6	-225.2	-28.8
769	ok	0.04	0.6	2.18e-03	10.1	10.1	10.1	10.1	-19.0	37.7	2.7	-45.2	-150.4	-41.8
770	ok	0.04	0.8	3.60e-03	10.1	10.1	10.1	10.1	-24.0	-0.7	-46.7	-134.6	-289.7	-13.3
771	ok	0.04	0.7	5.58e-03	10.1	10.1	10.1	10.1	-79.9	24.9	11.5	-153.8	-206.1	-25.0
772	ok	0.04	0.7	4.99e-03	10.1	10.1	10.1	10.1	10.8	43.5	-22.5	-172.2	80.0	-123.7
773	ok	0.04	0.9	8.78e-03	10.1	10.1	10.1	10.1	-91.8	-17.6	-70.3	-223.7	-251.4	-143.4
774	ok	0.04	0.5	3.55e-03	10.1	10.1	10.1	10.1	-5.6	6.8	2.8	-42.6	-122.8	-56.6
775	ok	0.04	0.6	4.51e-03	10.1	10.1	10.1	10.1	-29.3	1.7	-34.3	-14.5	-124.5	-165.8
776	ok	0.06	1.0	4.83e-03	26.4	26.5	10.7	14.3	-4.3	24.7	-6.5	-695.1	-58.9	-167.9
777	ok	0.04	0.5	3.12e-03	10.1	10.1	10.1	10.1	-28.9	3.91e-02	-33.7	-8.2	-71.8	-160.8
778	ok	0.06	1.0	6.13e-03	35.1	32.9	20.9	13.7	-57.2	-13.9	21.2	-1046.6	-397.6	-139.4
779	ok	0.04	0.3	1.77e-03	10.1	10.1	10.1	10.1	-12.0	-9.5	-20.7	-4.7	-13.4	-125.6
780	ok	0.04	0.8	3.58e-03	10.1	10.1	10.1	10.1	-25.3	6.3	20.9	-160.0	-225.7	-60.5
781	ok	0.04	0.3	1.47e-03	10.1	10.1	10.1	10.1	1.0	-8.6	-15.2	-1.7	11.2	-98.1
784	ok	0.04	0.2	1.04e-03	10.1	10.1	10.1	10.1	-8.6	6.2	12.7	21.1	58.7	-20.6
785	ok	0.04	0.3	1.57e-03	10.1	10.1	10.1	10.1	-1.6	0.3	-1.0	-90.0	-17.6	-21.4
786	ok	0.04	0.2	1.75e-03	10.1	10.1	10.1	10.1	-1.1	-1.66e-02	-1.2	-72.8	-22.5	-30.2
787	ok	0.04	0.2	1.57e-03	10.1	10.1	10.1	10.1	22.9	-18.4	-14.6	-54.2	-41.1	17.1
788	ok	0.04	0.2	1.79e-03	10.1	10.1	10.1	10.1	25.4	-26.9	-6.8	-63.8	-34.3	14.2
789	ok	0.04	0.2	1.78e-03	10.1	10.1	10.1	10.1	24.0	-30.4	-7.1	-66.2	-31.0	11.8
790	ok	0.04	0.2	1.81e-03	10.1	10.1	10.1	10.1	14.1	-23.7	8.3	-62.0	-44.1	-11.0
791	ok	0.04	0.3	1.78e-03	10.1	10.1	10.1	10.1	14.1	-17.2	6.4	-68.8	-52.4	-36.1
792	ok	0.04	0.2	1.38e-03	10.1	10.1	10.1	10.1	16.2	-10.9	-15.5	-38.2	-49.3	17.7
793	ok	0.04	0.3	1.90e-03	10.1	10.1	10.1	10.1	7.5	-2.3	8.6	-73.6	-60.0	-33.3
794	ok	0.04	0.2	1.91e-03	10.1	10.1	10.1	10.1	-9.8	-2.8	-5.2	-72.8	-12.4	-28.1
795	ok	0.04	0.2	1.37e-03	10.1	10.1	10.1	10.1	-0.5	-0.8	-9.25e-02	-40.9	-28.3	-22.5
797	ok	0.04	0.3	1.58e-03	10.1	10.1	10.1	10.1	5.7	-1.7	-26.7	-30.0	-115.0	11.6
798	ok	0.04	0.5	3.26e-03	10.1	10.1	10.1	10.1	7.8	0.8	-1.8	-137.8	-82.2	-23.6
799	ok	0.04	0.5	4.67e-03	10.1	10.1	10.1	10.1	6.1	-1.9	-1.9	-120.6	-102.1	-46.1
800	ok	0.04	0.3	2.21e-03	10.1	10.1	10.1	10.1	10.0	-30.1	-19.0	-50.4	-71.9	24.9
801	ok	0.04	0.3	2.93e-03	10.1	10.1	10.1	10.1	23.3	-42.4	-14.6	-93.4	-89.2	21.4
802	ok	0.04	0.4	3.36e-03	10.1	10.1	10.1	10.1	18.0	-58.1	8.6	-97.7	-84.6	14.2
803	ok	0.04	0.3	2.79e-03	10.1	10.1	10.1	10.1	11.3	-22.5	9.4	-57.2	-50.0	-46.0
804	ok	0.04	0.4	3.37e-03	10.1	10.1	10.1	10.1	-6.55e-02	-37.3	24.6	-73.5	-126.0	-45.8
805	ok	0.04	0.3	1.98e-03	10.1	10.1	10.1	10.1	10.1	-20.3	-19.9	-50.0	-108.2	25.8
806	ok	0.04	0.4	2.40e-03	10.1	10.1	10.1	10.1	2.8	1.2	22.2	-74.3	-109.6	-25.2
807	ok	0.04	0.6	3.92e-03	10.1	10.1	10.1	10.1	-1.1	40.5	6.7	-90.0	-144.4	-58.0
808	ok	0.04	0.5	1.91e-03	10.1	10.1	10.1	10.1	-14.9	16.5	15.0	-87.8	-116.1	-53.8
810	ok	0.04	0.5	1.71e-03	10.1	10.1	10.1	10.1	1.1	-3.4	-23.6	-42.4	-187.8	14.1
811	ok	0.06	1.0	5.03e-03	22.8	16.7	21.8	16.7	-90.0	-35.9	10.4	-180.4	-434.6	-440.0
812	ok	0.04	0.9	5.87e-03	10.1	10.1	10.1	10.1	-41.7	21.2	-31.7	-173.4	-203.2	-96.8
813	ok	0.04	0.7	5.44e-03	10.1	10.1	10.1	10.1	6.7	-78.9	-16.1	-109.6	-216.2	-8.7
814	ok	0.04	0.5	2.94e-03	10.1	10.1	10.1	10.1	7.2	-36.6	-19.9	-145.7	-172.8	23.0

Nodo	Stato	x/d	V N/M	ver. rid	Af pr-	Af pr+	Af sec-	Af sec+	N x	N y	N xy	M x	M y	M xy
815	ok	0.04	0.6	3.54e-03	10.1	10.1	10.1	10.1	-2.5	-49.1	-26.9	-127.1	-205.2	-14.6
816	ok	0.04	0.8	9.41e-03	10.1	10.1	10.1	10.1	11.6	-155.1	52.7	-119.3	-191.7	-41.0
817	ok	0.04	0.7	3.79e-03	10.1	10.1	10.1	10.1	32.8	-26.3	55.1	-117.0	-178.5	-38.6
818	ok	0.04	0.6	3.36e-03	10.1	10.1	10.1	10.1	21.0	-11.4	-54.4	-89.3	-218.4	23.5
819	ok	0.04	0.5	3.24e-03	10.1	10.1	10.1	10.1	-49.2	10.9	-20.3	-161.6	-142.7	-39.2
820	ok	0.04	0.7	4.94e-03	10.1	10.1	10.1	10.1	-62.0	25.4	10.9	-150.2	-177.5	-67.5
821	ok	0.04	0.7	4.02e-03	10.1	10.1	10.1	10.1	-42.1	1.0	-30.1	-148.4	-193.6	-87.9
823	ok	0.04	0.7	2.20e-03	10.1	10.1	10.1	10.1	3.4	-2.8	-13.4	-29.4	-245.2	-49.6
824	ok	0.06	1.0	5.05e-03	27.5	22.7	26.2	22.7	-2.0	-27.7	-13.8	-323.1	-576.8	-437.7
825	ok	0.04	1.0	4.96e-03	10.1	10.1	10.1	10.1	2.5	-36.7	-27.9	-203.6	-242.7	-144.5
826	ok	0.04	0.5	2.51e-03	10.1	10.1	10.1	10.1	39.2	-4.3	-36.4	-131.1	-48.5	-65.3
829	ok	0.04	0.3	2.00e-03	10.1	10.1	10.1	10.1	23.0	-0.7	-32.1	-64.5	-27.4	-77.0
830	ok	0.04	0.9	6.01e-03	10.1	10.1	10.1	10.1	-35.7	-22.7	79.4	-129.0	-235.3	74.6
831	ok	0.04	0.9	4.80e-03	10.1	10.1	10.1	10.1	-54.4	-2.8	-52.2	-139.8	-310.6	-66.9
832	ok	0.04	0.5	4.08e-03	10.1	10.1	10.1	10.1	22.6	-5.7	41.7	-86.7	-178.3	25.5
833	ok	0.04	0.8	3.96e-03	10.1	10.1	10.1	10.1	10.3	7.9	-22.0	-155.8	-85.2	-167.0
834	ok	0.04	0.9	4.50e-03	10.1	10.1	10.1	10.1	2.4	-7.2	-36.5	-175.1	-239.8	-105.9
836	ok	0.04	0.6	2.18e-03	10.1	10.1	10.1	10.1	2.5	0.3	-12.7	-47.0	-196.0	-67.7
837	ok	0.04	0.6	2.01e-03	10.1	10.1	10.1	10.1	-16.8	-11.2	-20.9	-58.8	-65.5	-169.0
838	ok	0.04	0.5	2.21e-03	10.1	10.1	10.1	10.1	-9.6	-16.9	-20.1	-61.6	-72.1	-130.7
839	ok	0.04	0.3	7.11e-04	10.1	10.1	10.1	10.1	0.3	-6.2	-7.9	24.8	25.2	-65.0
843	ok	0.04	1.0	5.61e-03	11.7	10.1	11.7	10.1	-46.6	-11.0	-69.3	-187.4	-258.6	-218.1
844	ok	0.04	0.8	2.78e-03	10.1	10.1	10.1	10.1	-29.9	32.5	-21.2	-130.5	-227.4	-94.4
845	ok	0.04	0.8	3.56e-03	10.1	10.1	10.1	10.1	-22.0	2.4	-32.9	-54.7	-137.3	-199.8
846	ok	0.04	0.7	2.66e-03	10.1	10.1	10.1	10.1	-12.9	0.9	-24.9	-60.7	-88.8	-179.6
847	ok	0.04	0.5	2.08e-03	10.1	10.1	10.1	10.1	0.5	-11.1	-21.3	-51.2	-86.1	-104.1
849	ok	0.04	0.9	5.72e-03	10.1	10.1	10.1	10.1	42.8	-86.3	1.3	-276.3	-112.4	-74.6
850	ok	0.04	0.7	3.29e-03	10.1	10.1	10.1	10.1	1.5	-16.1	-21.0	-129.8	-142.8	-127.9
851	ok	0.04	0.9	5.29e-03	10.1	10.1	10.1	10.1	2.9	-26.8	-22.3	-143.3	-199.5	-147.6
852	ok	0.04	0.7	4.09e-03	10.1	10.1	10.1	10.1	39.6	-33.3	-49.8	-229.3	-146.2	-49.5
853	ok	0.04	0.6	2.22e-03	10.1	10.1	10.1	10.1	17.6	-6.9	26.4	-94.4	-122.0	-74.4
854	ok	0.04	0.5	3.08e-03	10.1	10.1	10.1	10.1	22.6	-0.4	-58.5	-130.5	-102.5	-68.8
855	ok	0.04	0.3	2.15e-03	10.1	10.1	10.1	10.1	-13.9	7.1	-33.9	-66.0	-39.8	-60.0
856	ok	0.04	0.3	9.30e-04	10.1	10.1	10.1	10.1	0.7	-7.8	-12.2	17.8	31.7	-77.3
858	ok	0.04	0.7	2.99e-03	10.1	10.1	10.1	10.1	-20.1	14.9	-44.2	-86.6	-47.8	-210.9
859	ok	0.04	0.7	4.02e-03	10.1	10.1	10.1	10.1	-17.4	-0.4	-29.2	-76.7	-93.4	-191.4
860	ok	0.04	0.5	2.41e-03	10.1	10.1	10.1	10.1	-4.85e-03	-9.5	-27.6	-70.5	-135.7	-86.2
862	ok	0.04	0.5	2.05e-03	10.1	10.1	10.1	10.1	-10.9	25.8	22.0	-34.9	-135.4	-30.9
863	ok	0.04	0.3	1.84e-03	10.1	10.1	10.1	10.1	2.6	-2.5	-29.1	1.9	-24.0	-118.8
864	ok	0.04	0.3	1.34e-03	10.1	10.1	10.1	10.1	1.8	-6.0	-21.0	7.0	5.6	-108.6
865	ok	0.04	1.0	5.60e-03	10.5	10.1	10.5	10.1	27.2	-46.6	69.7	-222.4	-288.9	-82.8
866	ok	0.04	1.0	5.58e-03	13.0	10.1	13.0	10.1	43.8	-47.9	39.4	-318.2	-299.2	-122.5
867	ok	0.04	1.0	6.54e-03	13.7	10.1	13.7	10.1	50.5	-106.9	3.6	-380.8	-327.7	-113.1
Nodo		**x/d**	**V N/M**	**ver. rid**	**Af pr-**	**Af pr+**	**Af sec-**	**Af sec+**	**N x**	**N y**	**N xy**	**M x**	**M y**	**M xy**
									-91.79	-213.04	-119.70	-1198.44	-875.03	-683.88
		0.09	0.99	0.02	54.75	38.97	50.10	35.18	164.35	136.50	93.01	37.97	80.02	87.56

Nodo	Stato	Max tau	Ver V pr	Ver V sec	Af V pr	Af V sec	V pr	V sec
		daN/cm2					kN/ m	kN/ m
5	ok	0.0						
546	ok Av	6.23	0.17	0.22	5.3	6.8	442.6	562.6
547	ok Av	5.81	0.17	0.13	5.3	3.9	442.6	325.5
548	ok Av	3.51	0.11	0.06	3.5	2.0	288.8	163.3
549	ok	1.97						
550	ok	1.10						
551	ok	0.78						
553	ok	1.22						
554	ok	0.70						
555	ok	0.53						
556	ok	2.18						
557	ok	2.62						
673	ok Av	4.38	0.12	0.14	3.6	4.2	299.6	347.7
675	ok Av	3.86	0.13	0.14	4.1	4.2	340.4	347.7
676	ok Av	6.23	0.15	0.22	4.6	6.8	387.0	562.6
677	ok Av	6.89	0.19	0.22	6.0	6.8	495.9	562.6
678	ok Av	3.86	0.13	0.06	4.1	2.0	340.4	165.1
679	ok	2.47						
680	ok Av	4.70	0.15	0.14	4.6	4.2	387.0	353.4
681	ok Av	4.38	0.13	0.14	4.0	4.2	335.0	353.4
682	ok	2.63						
683	ok Av	4.42	0.13	0.13	4.1	4.1	337.5	338.5

Nodo	Stato	Max tau	Ver V pr	Ver V sec	Af V pr	Af V sec	V pr	V sec
684	ok Av	6.89	0.19	0.22	6.0	6.7	495.9	554.4
687	ok Av	5.89	0.13	0.22	4.1	6.7	337.5	554.4
707	ok	0.95						
709	ok	0.24						
710	ok	0.56						
711	ok	0.45						
712	ok	0.90						
713	ok	0.62						
714	ok	1.67						
715	ok	1.67						
717	ok	1.30						
718	ok	0.59						
719	ok	1.26						
720	ok	0.74						
722	ok	0.23						
723	ok	1.29						
724	ok	1.29						
725	ok	1.64						
726	ok	0.63						
727	ok	0.90						
728	ok	1.90						
729	ok	0.69						
730	ok	1.29						
731	ok	1.12						
732	ok	0.69						
733	ok	1.64						
734	ok	0.49						
735	ok	0.61						
736	ok	0.69						
738	ok	0.39						
739	ok	0.39						
749	ok	0.47						
750	ok	0.42						
751	ok	0.38						
752	ok	0.77						
753	ok	2.62						
754	ok	0.77						
755	ok	0.70						
756	ok	0.93						
757	ok	0.95						
758	ok	0.40						
759	ok	0.24						
760	ok	0.37						
761	ok	0.34						
762	ok	1.90						
763	ok	1.90						
764	ok	1.90						
766	ok	0.82						
767	ok	1.30						
768	ok	1.26						
769	ok	1.31						
770	ok Av	3.86	0.13	0.06	4.1	2.0	340.4	165.1
771	ok Av	4.38	0.12	0.11	3.6	3.5	299.6	288.5
772	ok	0.0						
773	ok Av	6.89	0.19	0.17	6.0	5.1	495.9	422.5
774	ok	0.0						
775	ok	1.91						
776	ok	0.0						
777	ok	1.03						
778	ok	0.0						
779	ok	1.12						
780	ok	0.0						
781	ok	1.12						
784	ok	0.70						
785	ok	0.0						
786	ok	0.0						
787	ok	0.77						
788	ok	0.77						
789	ok	0.77						
790	ok	0.69						
791	ok	0.69						
792	ok	0.70						
793	ok	0.0						
794	ok	0.0						

Nodo	Stato	Max tau	Ver V pr	Ver V sec	Af V pr	Af V sec	V pr	V sec
795	ok	0.0						
797	ok	1.20						
798	ok	0.0						
799	ok	0.0						
800	ok	1.17						
801	ok	1.53						
802	ok	1.53						
803	ok	0.99						
804	ok	0.0						
805	ok	1.20						
806	ok	0.0						
807	ok	0.0						
808	ok	0.0						
810	ok	1.26						
811	ok	0.0						
812	ok	0.0						
813	ok	2.83						
814	ok	2.47						
815	ok	2.63						
816	ok	2.88						
817	ok	0.0						
818	ok	2.83						
819	ok	0.0						
820	ok	0.0						
821	ok	0.0						
823	ok	1.55						
824	ok	0.0						
825	ok	0.0						
826	ok	1.90						
829	ok	1.90						
830	ok	0.0						
831	ok Av	3.86	0.13	0.14	4.1	4.2	340.4	347.7
832	ok	0.0						
833	ok	0.0						
834	ok	0.0						
836	ok	1.55						
837	ok	0.0						
838	ok	0.0						
839	ok	0.82						
843	ok Av	6.89	0.19	0.22	6.0	6.7	495.9	554.4
844	ok Av	4.38	0.12	0.14	3.6	4.2	299.6	347.7
845	ok	0.0						
846	ok	0.0						
847	ok	0.0						
849	ok	2.56						
850	ok	0.0						
851	ok	0.0						
852	ok	2.41						
853	ok	1.83						
854	ok	1.97						
855	ok	1.10						
856	ok	0.53						
858	ok	0.0						
859	ok	0.0						
860	ok	0.0						
862	ok	1.22						
863	ok	0.70						
864	ok	0.78						
865	ok Av	4.05	0.13	0.14	4.0	4.2	335.0	353.4
866	ok Av	4.70	0.15	0.14	4.6	4.2	387.0	353.4
867	ok Av	6.23	0.15	0.22	4.6	6.8	387.0	562.6
Nodo		**Max tau**	**Ver V pr**	**Ver V sec**	**Af V pr**	**Af V sec**	**V pr**	**V sec**
		6.89	0.19	0.22	5.95	6.75	495.87	562.58

Nodo	Stato	V 6.50	V 6.53	Beta	f. a fon	f. Uout	Aw tot	Asw,min	n. x serie	n.ser 0(R)	n.ser 90	Rif. cmb
							cm2	cm2				
5	ok	0.20	0.06	1.66	2.00	0.0	0.0	0.0	0	0	0	448

Macro Guscio	Spessore	Id Materiale	Id Criterio	Progettazione
	cm			

Macro Guscio	Spessore	Id Materiale	Id Criterio	Progettazione
13	85.00	4	3	Singolo elemento

Nodo	Stato	x/d	V N/M	ver. rid	Af pr-	Af pr+	Af sec-	Af sec+	N x	N y	N xy	M x	M y	M xy
									kN/ m	kN/ m	kN/ m	kN	kN	kN
551	ok	0.05	0.3	1.01e-03	10.1	10.1	10.1	10.1	0.5	-7.3	-9.3	3.1	12.7	-65.4
552	ok	0.05	0.3	1.15e-03	10.1	10.1	10.1	10.1	0.4	-8.9	-6.8	7.5	30.0	-57.1
706	ok	0.05	0.4	3.20e-03	10.1	10.1	10.1	10.1	-3.1	-0.9	-5.1	-8.4	-114.3	-33.6
708	ok	0.05	4.34e-02	2.54e-04	10.1	10.1	10.1	10.1	-0.1	0.1	0.2	0.3	0.5	2.4
716	ok	0.05	0.2	1.75e-03	10.1	10.1	10.1	10.1	-2.4	-14.3	-3.5	2.1	18.7	-35.3
721	ok	0.05	6.95e-02	2.89e-04	10.1	10.1	10.1	10.1	3.4	4.0	-0.5	-7.1	-10.6	10.1
737	ok	0.05	7.35e-02	4.00e-04	10.1	10.1	10.1	10.1	-0.3	-0.2	0.2	-11.4	-1.3	-3.5
738	ok	0.05	0.1	5.58e-04	10.1	10.1	10.1	10.1	-0.8	3.15e-02	0.1	-33.2	-9.81e-02	-5.1
740	ok	0.05	0.2	1.15e-03	10.1	10.1	10.1	10.1	-2.1	3.9	-0.7	-5.1	-17.7	-9.0
741	ok	0.05	0.3	2.33e-03	10.1	10.1	10.1	10.1	-1.3	-4.4	-2.3	-12.3	-84.1	-26.0
742	ok	0.05	0.4	2.99e-03	10.1	10.1	10.1	10.1	0.8	-3.3	-2.8	-9.2	-105.6	-31.6
743	ok	0.05	0.4	3.34e-03	10.1	10.1	10.1	10.1	-0.3	-2.1	-5.2	-7.7	-111.8	-34.3
744	ok	0.05	0.3	3.18e-03	10.1	10.1	10.1	10.1	8.39e-02	-0.7	-7.1	-9.6	-89.8	-35.2
745	ok	0.05	0.2	2.57e-03	10.1	10.1	10.1	10.1	0.2	-5.9	-6.7	-8.6	-54.3	-36.5
746	ok	0.05	0.2	1.34e-03	10.1	10.1	10.1	10.1	-2.2	-14.0	-2.2	2.9	32.3	-30.0
747	ok	0.05	0.2	1.10e-03	10.1	10.1	10.1	10.1	-2.3	-14.0	-2.3	4.3	35.2	-29.0
748	ok	0.05	0.1	7.52e-04	10.1	10.1	10.1	10.1	-2.6	-11.3	-0.8	8.1	28.7	-21.7
765	ok	0.05	0.1	7.23e-04	10.1	10.1	10.1	10.1	-8.3	-3.4	-0.9	16.9	10.2	-23.2
766	ok	0.05	0.1	7.19e-04	10.1	10.1	10.1	10.1	-8.3	-2.6	-0.5	15.0	4.4	-23.4
780	ok	0.05	0.6	2.17e-03	10.1	10.1	10.1	10.1	-14.5	-0.7	-18.1	-53.8	-138.0	-67.3
781	ok	0.05	0.3	1.44e-03	10.1	10.1	10.1	10.1	0.7	-8.5	-12.4	-9.3	-3.5	-72.5
782	ok	0.05	0.5	2.32e-03	10.1	10.1	10.1	10.1	4.3	0.4	-17.4	-37.8	-121.2	-64.3
783	ok	0.05	0.3	1.63e-03	10.1	10.1	10.1	10.1	0.4	-9.5	-9.6	1.0	16.6	-65.3
795	ok	0.05	0.2	1.08e-03	10.1	10.1	10.1	10.1	-0.4	-0.5	-9.30e-02	-38.8	-20.1	-20.6
796	ok	0.05	0.2	1.42e-03	10.1	10.1	10.1	10.1	-5.4	3.1	-2.6	-24.7	-18.2	-21.3
808	ok	0.05	0.4	1.43e-03	10.1	10.1	10.1	10.1	-7.2	14.5	-8.2	-55.4	-67.7	-55.8
809	ok	0.05	0.4	1.97e-03	10.1	10.1	10.1	10.1	-7.3	13.9	-8.4	-46.8	-87.1	-50.6
821	ok	0.05	0.5	2.04e-03	10.1	10.1	10.1	10.1	3.6	-4.1	-10.5	-61.2	-111.3	-70.3
822	ok	0.05	0.5	2.30e-03	10.1	10.1	10.1	10.1	4.4	-1.0	-10.3	-49.5	-114.9	-59.6
834	ok	0.05	0.5	2.25e-03	10.1	10.1	10.1	10.1	-0.3	-0.7	-17.7	-57.3	-132.9	-59.4
835	ok	0.05	0.5	2.31e-03	10.1	10.1	10.1	10.1	-1.7	-1.4	-17.5	-43.1	-120.0	-58.6
839	ok	0.05	0.2	5.54e-04	10.1	10.1	10.1	10.1	-5.0	-5.4	-3.4	17.2	15.7	-43.9
842	ok	0.05	0.2	6.26e-04	10.1	10.1	10.1	10.1	-5.3	-6.8	-3.6	20.2	28.9	-39.6
847	ok	0.05	0.4	1.99e-03	10.1	10.1	10.1	10.1	0.3	-9.4	-16.0	-27.9	-52.2	-73.1
848	ok	0.05	0.3	2.11e-03	10.1	10.1	10.1	10.1	-8.72e-02	-5.7	-16.2	-22.1	-52.6	-65.6
856	ok	0.05	0.2	7.64e-04	10.1	10.1	10.1	10.1	0.4	-6.6	-6.5	11.0	19.3	-54.8
857	ok	0.05	0.3	9.03e-04	10.1	10.1	10.1	10.1	-4.8	-9.0	-6.7	14.2	33.7	-50.7
860	ok	0.05	0.4	2.36e-03	10.1	10.1	10.1	10.1	-0.5	-7.4	-18.9	-48.6	-83.6	-65.1
861	ok	0.05	0.4	2.36e-03	10.1	10.1	10.1	10.1	-0.7	-2.2	-19.0	-42.2	-97.4	-63.6
Nodo		**x/d**	**V N/M**	**ver. rid**	**Af pr-**	**Af pr+**	**Af sec-**	**Af sec+**	**N x**	**N y**	**N xy**	**M x**	**M y**	**M xy**
									-14.47	-14.35	-18.98	-61.22	-138.03	-73.14
		0.05	0.57	3.34e-03	10.05	10.05	10.05	10.05	4.40	14.55	0.23	20.17	35.17	10.08

Nodo	Stato	Max tau	Ver V pr	Ver V sec	Af V pr	Af V sec	V pr	V sec
		daN/cm2					kN/ m	kN/ m
551	ok	0.73						
552	ok	1.43						
706	ok	1.20						
708	ok	0.22						
716	ok	1.76						
721	ok	0.10						
737	ok	0.37						
738	ok	0.37						
740	ok	0.30						
741	ok	0.51						
742	ok	0.80						
743	ok	1.64						
744	ok	1.85						
745	ok	1.85						
746	ok	1.43						
747	ok	1.02						
748	ok	0.51						
765	ok	0.61						
766	ok	0.61						
780	ok	0.0						
781	ok	1.06						

Nodo	Stato	Max tau	Ver V pr	Ver V sec	Af V pr	Af V sec	V pr	V sec
782	ok	1.34						
783	ok	1.76						
795	ok	0.0						
796	ok	0.88						
808	ok	0.0						
809	ok	1.26						
821	ok	0.0						
822	ok	1.27						
834	ok	0.0						
835	ok	1.64						
839	ok	0.61						
842	ok	0.61						
847	ok	0.0						
848	ok	1.85						
856	ok	0.45						
857	ok	1.02						
860	ok	0.0						
861	ok	1.85						
Nodo		**Max tau**	**Ver V pr**	**Ver V sec**	**Af V pr**	**Af V sec**	**V pr**	**V sec**
		1.85						

Macro Guscio	Spessore	Id Materiale	Id Criterio	Progettazione
	cm			
7	25.00	4	1	Singolo elemento

Nodo	Stato	x/d	V N/M	ver. rid	Af pr-	Af pr+	Af sec-	Af sec+	N x	N y	N xy	M x	M y	M xy
									kN/ m	kN/ m	kN/ m	kN	kN	kN
562	ok	0.11	0.1	2.46e-03	7.8	7.8	7.8	7.8	5.0	-7.0	-0.9	0.7	5.8	-0.6
564	ok	0.11	0.1	8.12e-03	7.8	7.8	7.8	7.8	0.2	-33.2	12.3	1.2	10.4	-0.6
566	ok	0.11	2.54e-02	2.84e-03	7.8	7.8	7.8	7.8	0.2	6.2	3.4	0.1	0.4	-0.4
568	ok	0.11	3.45e-02	4.24e-03	7.8	7.8	7.8	7.8	-0.6	8.1	8.5	-0.4	0.5	2.16e-03
576	ok	0.11	7.75e-02	2.72e-03	7.8	7.8	7.8	7.8	4.7	2.4	-0.9	1.1	4.4	-0.6
581	ok	0.11	4.53e-02	2.49e-03	7.8	7.8	7.8	7.8	4.5	0.5	-1.8	0.7	2.3	-0.7
589	ok	0.11	5.84e-02	6.52e-03	7.8	7.8	7.8	7.8	-7.5	-13.4	3.7	3.7	0.5	-3.44e-03
594	ok	0.11	5.32e-02	5.91e-03	7.8	7.8	7.8	7.8	-4.1	-10.5	6.4	2.7	0.4	0.4
605	ok	0.11	0.1	4.39e-03	7.8	7.8	7.8	7.8	6.4	-4.4	16.1	1.9	7.4	-0.6
610	ok	0.11	7.48e-02	4.64e-03	7.8	7.8	7.8	7.8	-0.9	2.2	-5.0	0.4	3.2	0.4
611	ok	0.11	0.2	4.66e-03	7.8	7.8	7.8	7.8	2.3	27.3	5.9	-0.7	-7.6	0.6
612	ok	0.11	9.50e-02	3.44e-03	7.8	7.8	7.8	7.8	2.1	3.0	8.3	-1.4	-5.5	0.8
613	ok	0.11	0.2	8.04e-03	7.8	7.8	7.8	7.8	5.8	31.9	-12.4	-1.1	-8.8	-3.41e-02
614	ok	0.11	0.1	4.96e-03	7.8	7.8	7.8	7.8	3.7	4.7	-10.3	-1.5	-6.2	-7.61e-02
615	ok	0.11	5.41e-02	4.80e-03	7.8	7.8	7.8	7.8	-3.6	-1.6	10.0	-0.7	-0.7	-1.6
616	ok	0.11	6.72e-02	4.46e-03	7.8	7.8	7.8	7.8	2.0	-5.3	-10.0	-0.9	-3.0	-4.54e-02
Nodo		**x/d**	**V N/M**	**ver. rid**	**Af pr-**	**Af pr+**	**Af sec-**	**Af sec+**	**N x**	**N y**	**N xy**	**M x**	**M y**	**M xy**
									-7.49	-33.19	-12.42	-1.52	-8.82	-1.61
		0.11	0.19	8.12e-03	7.78	7.78	7.78	7.78	6.35	31.94	16.10	3.67	10.42	0.76

Nodo	Stato	Max tau	Ver V pr	Ver V sec	Af V pr	Af V sec	V pr	V sec
		daN/cm2					kN/ m	kN/ m
562	ok	0.55						
564	ok	0.67						
566	ok	0.26						
568	ok	0.27						
576	ok	0.55						
581	ok	0.32						
589	ok	0.34						
594	ok	0.34						
605	ok	0.67						
610	ok	0.44						
611	ok	0.55						
612	ok	0.55						
613	ok	0.67						
614	ok	0.67						
615	ok	0.34						
616	ok	0.44						
Nodo		**Max tau**	**Ver V pr**	**Ver V sec**	**Af V pr**	**Af V sec**	**V pr**	**V sec**

Nodo	Stato	Max tau	Ver V pr	Ver V sec	Af V pr	Af V sec	V pr	V sec
		0.67						

Macro Guscio	Spessore	Id Materiale	Id Criterio	Progettazione
	cm			
10	80.00	4	2	Singolo elemento

Nodo	Stato	x/d	V N/M	ver. rid	Af pr-	Af pr+	Af sec-	Af sec+	N x	N y	N xy	M x	M y	M xy
									kN/ m	kN/ m	kN/ m	kN	kN	kN
450	ok	0.05	0.2	7.52e-03	10.1	10.1	10.1	10.1	51.2	-81.3	11.9	-6.8	-26.0	1.4
642	ok	0.05	0.3	9.10e-03	10.1	10.1	10.1	10.1	13.7	109.0	1.5	-55.8	-41.1	-19.6
646	ok	0.05	0.2	8.81e-03	10.1	10.1	10.1	10.1	5.0	117.2	33.6	-5.3	-16.9	-1.4
650	ok	0.05	2.68e-02	1.28e-03	10.1	10.1	10.1	10.1	-4.8	15.4	8.7	3.8	-0.8	0.9
1087	ok	0.05	0.3	1.36e-02	10.1	10.1	10.1	10.1	-2.1	-68.5	104.2	-26.2	-51.3	15.9
1088	ok	0.05	0.1	4.90e-03	10.1	10.1	10.1	10.1	4.7	4.6	-1.0	29.1	-35.5	11.8
1089	ok	0.05	0.2	3.71e-03	10.1	10.1	10.1	10.1	1.3	12.3	-6.2	49.9	-32.9	14.9
1090	ok	0.05	0.2	3.62e-03	10.1	10.1	10.1	10.1	-5.8	9.6	-9.9	54.0	-33.1	14.8
1091	ok	0.05	0.2	5.00e-03	10.1	10.1	10.1	10.1	5.1	4.8	2.8	41.1	-38.3	-10.9
1092	ok	0.05	0.3	1.22e-02	10.1	10.1	10.1	10.1	-69.8	-58.6	-63.7	-49.9	-48.9	-17.7
1093	ok	0.05	0.6	2.24e-02	10.1	10.1	10.1	10.1	-9.4	61.9	55.9	-50.1	-104.2	-24.7
1094	ok	0.05	0.6	2.46e-02	10.1	10.1	10.1	10.1	-3.0	18.6	-21.5	-55.6	-81.2	21.1
1095	ok	0.05	9.19e-02	4.86e-03	10.1	10.1	10.1	10.1	-10.2	-39.5	28.2	3.9	-8.0	-2.6
1096	ok	0.05	0.2	6.84e-03	10.1	10.1	10.1	10.1	-15.1	-3.2	6.5	32.8	-2.2	-1.3
1097	ok	0.05	0.2	7.87e-03	10.1	10.1	10.1	10.1	-25.4	-0.7	2.2	56.8	-0.5	1.1
1098	ok	0.05	0.2	7.92e-03	10.1	10.1	10.1	10.1	-21.8	-0.6	-3.1	60.2	-0.6	1.9
1099	ok	0.05	0.2	7.37e-03	10.1	10.1	10.1	10.1	-13.9	-0.4	-10.0	41.3	-3.1	5.8
1100	ok	0.05	0.1	6.07e-03	10.1	10.1	10.1	10.1	-5.0	-5.0	-6.7	10.6	-2.9	8.2
1101	ok	0.05	0.1	5.63e-03	10.1	10.1	10.1	10.1	-2.2	-6.0	-4.4	4.3	-2.5	6.3
1102	ok	0.05	9.70e-02	4.14e-03	10.1	10.1	10.1	10.1	0.4	-44.0	26.0	-2.12e-02	-7.0	2.0
1103	ok	0.05	0.1	6.13e-03	10.1	10.1	10.1	10.1	20.3	43.4	44.8	10.4	-2.7	4.3
1104	ok	0.05	0.2	7.29e-03	10.1	10.1	10.1	10.1	11.5	3.2	5.9	32.5	-3.3	2.7
1105	ok	0.05	0.3	8.07e-03	10.1	10.1	10.1	10.1	20.7	0.5	4.5	55.8	-2.0	0.4
1106	ok	0.05	0.3	8.01e-03	10.1	10.1	10.1	10.1	17.0	0.7	-2.8	59.3	-2.2	-1.5
1107	ok	0.05	0.2	7.26e-03	10.1	10.1	10.1	10.1	11.0	0.6	-9.6	40.6	-4.7	-5.9
1108	ok	0.05	0.2	6.20e-03	10.1	10.1	10.1	10.1	16.9	23.6	-22.9	12.2	-3.9	-8.3
1109	ok	0.05	0.1	6.03e-03	10.1	10.1	10.1	10.1	13.1	35.8	-24.3	5.5	-4.2	-7.7
1110	ok	0.05	9.83e-02	5.51e-03	10.1	10.1	10.1	10.1	7.4	51.4	38.6	4.8	-3.9	2.8
1111	ok	0.05	0.2	7.73e-03	10.1	10.1	10.1	10.1	-30.6	-99.1	-7.6	-7.1	-20.7	0.4
1112	ok	0.05	0.6	2.13e-02	10.1	10.1	10.1	10.1	83.3	289.3	5.5	15.2	67.0	11.2
1113	ok	0.05	0.5	2.17e-02	10.1	10.1	10.1	10.1	21.6	25.6	-18.0	-14.6	-26.1	1.6
1114	ok	0.05	0.2	9.96e-03	10.1	10.1	10.1	10.1	-7.79e-02	11.3	3.8	-2.4	-11.1	1.0
1115	ok	0.05	0.2	9.39e-03	10.1	10.1	10.1	10.1	5.2	-25.5	-24.7	4.7	-11.7	9.5
1116	ok	0.05	0.5	1.78e-02	10.1	10.1	10.1	10.1	21.4	-205.4	-48.0	3.9	-52.0	-13.8
1117	ok	0.05	0.4	1.88e-02	10.1	10.1	10.1	10.1	0.9	128.2	-101.9	7.0	-38.2	-26.1
1118	ok	0.05	0.2	9.44e-03	10.1	10.1	10.1	10.1	38.2	55.3	-31.4	6.8	-13.7	-10.4
1119	ok	0.05	0.2	8.55e-03	10.1	10.1	10.1	10.1	-35.8	-94.5	49.3	-2.2	-20.4	-3.8
1120	ok	0.05	0.2	7.16e-03	10.1	10.1	10.1	10.1	-10.3	-1.5	14.2	33.2	-5.4	-1.9
1121	ok	0.05	0.2	6.21e-03	10.1	10.1	10.1	10.1	-16.5	-1.8	5.5	56.8	-0.5	0.9
1122	ok	0.05	0.2	7.66e-03	10.1	10.1	10.1	10.1	-21.0	-4.1	-12.0	43.2	-7.7	5.8
1123	ok	0.05	0.2	9.70e-03	10.1	10.1	10.1	10.1	-22.0	-14.1	-7.6	11.3	-11.9	11.9
1124	ok	0.05	0.2	6.23e-03	10.1	10.1	10.1	10.1	-15.8	-1.8	-2.0	60.3	-0.7	1.8
1125	ok	0.05	0.5	2.17e-02	10.1	10.1	10.1	10.1	190.0	51.2	146.3	-11.2	-37.9	-7.4
1126	ok	0.05	0.2	7.98e-03	10.1	10.1	10.1	10.1	-27.8	-9.4	19.8	31.9	-7.0	-2.5
1127	ok	0.05	0.2	5.39e-03	10.1	10.1	10.1	10.1	-4.4	-5.8	8.9	55.0	1.7	2.8
1128	ok	0.05	0.2	9.36e-03	10.1	10.1	10.1	10.1	-21.7	-7.6	-15.2	44.5	-9.6	5.2
1129	ok	0.05	0.4	1.50e-02	10.1	10.1	10.1	10.1	-23.3	-17.7	1.1	9.0	-27.4	16.3
1130	ok	0.05	0.2	5.33e-03	10.1	10.1	10.1	10.1	-14.7	-6.7	-3.3	58.9	1.6	3.1
1131	ok	0.05	0.4	1.91e-02	10.1	10.1	10.1	10.1	-199.7	-73.2	122.5	-23.9	-40.6	6.1
1132	ok	0.05	0.2	8.84e-03	10.1	10.1	10.1	10.1	18.7	5.1	-1.8	33.7	-17.6	4.3
1133	ok	0.05	0.2	5.82e-03	10.1	10.1	10.1	10.1	9.2	5.4	-2.1	56.7	-11.9	2.1
1134	ok	0.05	0.2	7.86e-03	10.1	10.1	10.1	10.1	17.5	4.8	2.2	45.6	-20.6	-4.9
1135	ok	0.05	0.3	1.46e-02	10.1	10.1	10.1	10.1	-6.0	12.6	-8.7	14.8	-32.2	-13.7
1136	ok	0.05	0.3	5.50e-03	10.1	10.1	10.1	10.1	5.7	4.4	1.7	60.9	-12.3	-1.7
1137	ok	0.05	0.2	9.61e-03	10.1	10.1	10.1	10.1	5.9	79.5	61.5	6.5	-7.1	8.1
1138	ok	0.05	0.2	7.90e-03	10.1	10.1	10.1	10.1	5.6	1.4	13.6	31.7	-9.6	4.1
1139	ok	0.05	0.3	6.67e-03	10.1	10.1	10.1	10.1	11.3	1.6	5.6	55.0	-5.9	0.9
1140	ok	0.05	0.2	7.54e-03	10.1	10.1	10.1	10.1	17.1	4.2	-12.7	42.7	-11.6	-5.8
1141	ok	0.05	0.2	8.46e-03	10.1	10.1	10.1	10.1	18.9	12.4	-6.2	10.5	-15.1	-11.5
1142	ok	0.05	0.3	6.39e-03	10.1	10.1	10.1	10.1	9.1	1.4	-3.9	59.0	-6.1	-1.2
1143	ok	0.05	0.1	6.67e-03	10.1	10.1	10.1	10.1	-7.5	-1.9	-9.6	22.1	-3.4	8.7
1144	ok	0.05	0.2	7.63e-03	10.1	10.1	10.1	10.1	-19.1	-0.2	-6.6	54.3	-1.7	3.1
1145	ok	0.05	0.2	8.01e-03	10.1	10.1	10.1	10.1	-27.3	-0.4	-1.1	61.3	-0.4	1.4

Nodo	Stato	x/d	V N/M	ver. rid	Af pr-	Af pr+	Af sec-	Af sec+	N x	N y	N xy	M x	M y	M xy
1146	ok	0.05	0.2	7.35e-03	10.1	10.1	10.1	10.1	-21.6	-0.2	5.3	47.2	-1.3	0.5
1147	ok	0.05	0.1	6.20e-03	10.1	10.1	10.1	10.1	-6.9	-4.9	6.5	14.9	-2.7	-2.0
1148	ok	0.05	0.2	6.50e-03	10.1	10.1	10.1	10.1	4.4	2.2	8.4	15.3	-3.2	3.5
1149	ok	0.05	0.3	7.57e-03	10.1	10.1	10.1	10.1	18.6	3.1	8.5	46.6	-2.6	1.3
1150	ok	0.05	0.3	7.90e-03	10.1	10.1	10.1	10.1	22.4	0.6	-1.0	60.1	-1.8	-0.4
1151	ok	0.05	0.3	7.50e-03	10.1	10.1	10.1	10.1	15.0	0.5	-6.4	53.2	-3.4	-3.0
1152	ok	0.05	0.2	6.50e-03	10.1	10.1	10.1	10.1	5.5	2.2	-8.7	21.9	-4.8	-8.8
1153	ok	0.05	0.1	7.95e-03	10.1	10.1	10.1	10.1	-9.0	-5.8	-10.9	24.0	-11.4	10.5
1154	ok	0.05	0.2	7.84e-03	10.1	10.1	10.1	10.1	10.5	3.7	-10.9	24.4	-29.6	-12.1
1155	ok	0.05	0.2	5.09e-03	10.1	10.1	10.1	10.1	0.5	-6.5	-14.8	31.5	-46.4	5.0
1156	ok	0.05	0.1	8.93e-03	10.1	10.1	10.1	10.1	-3.4	-5.2	-14.5	28.6	-27.5	12.8
1157	ok	0.05	0.2	6.64e-03	10.1	10.1	10.1	10.1	-1.2	7.5	-12.6	22.9	-14.9	-11.0
1158	ok	0.05	0.2	7.05e-03	10.1	10.1	10.1	10.1	-15.9	1.1	-9.7	55.5	-3.9	2.8
1159	ok	0.05	0.2	6.79e-03	10.1	10.1	10.1	10.1	9.3	4.0	3.22e-02	52.0	-11.0	-4.9
1160	ok	0.05	0.2	3.28e-03	10.1	10.1	10.1	10.1	-0.8	3.6	-7.3	56.8	-21.7	6.4
1161	ok	0.05	0.2	7.96e-03	10.1	10.1	10.1	10.1	-10.2	-4.9	-16.6	58.7	-8.7	4.6
1162	ok	0.05	0.2	6.13e-03	10.1	10.1	10.1	10.1	8.0	0.8	-5.0	53.9	-7.6	-2.8
1163	ok	0.05	0.2	6.15e-03	10.1	10.1	10.1	10.1	-20.3	0.4	-1.9	61.6	-1.0	1.1
1164	ok	0.05	0.2	5.12e-03	10.1	10.1	10.1	10.1	7.8	3.0	8.3	57.0	-7.0	-3.0
1165	ok	0.05	0.2	2.55e-03	10.1	10.1	10.1	10.1	-4.7	3.5	-4.9	61.6	-16.5	7.0
1166	ok	0.05	0.2	5.52e-03	10.1	10.1	10.1	10.1	-15.2	-7.1	-8.6	63.6	-4.5	4.6
1167	ok	0.05	0.3	5.73e-03	10.1	10.1	10.1	10.1	16.2	3.1	4.0	59.2	-5.0	-0.2
1168	ok	0.05	0.2	6.25e-03	10.1	10.1	10.1	10.1	-15.7	0.8	11.0	48.1	-3.1	-0.2
1169	ok	0.05	0.2	8.07e-03	10.1	10.1	10.1	10.1	10.9	4.1	1.1	43.7	-9.9	4.9
1170	ok	0.05	0.2	3.82e-03	10.1	10.1	10.1	10.1	-9.2	3.4	-1.6	48.4	-16.4	6.3
1171	ok	0.05	0.2	6.97e-03	10.1	10.1	10.1	10.1	-9.9	-4.8	18.8	50.3	-7.9	-2.5
1172	ok	0.05	0.2	6.27e-03	10.1	10.1	10.1	10.1	9.6	1.2	5.8	45.8	-6.7	2.1
1173	ok	0.05	0.1	8.02e-03	10.1	10.1	10.1	10.1	-43.4	-55.3	63.6	19.2	-15.5	-5.8
1174	ok	0.05	0.2	9.29e-03	10.1	10.1	10.1	10.1	48.3	43.3	24.4	3.7	-29.4	9.7
1175	ok	0.05	0.2	6.27e-03	10.1	10.1	10.1	10.1	0.6	-7.8	16.8	14.7	-38.0	-3.5
1176	ok	0.05	0.2	7.54e-03	10.1	10.1	10.1	10.1	-2.7	-27.1	50.2	21.3	-16.9	-5.2
1177	ok	0.05	0.2	7.36e-03	10.1	10.1	10.1	10.1	-30.1	23.8	76.3	6.4	-15.4	7.8
1213	ok	0.05	5.33e-02	2.00e-03	10.1	10.1	10.1	10.1	7.1	17.5	16.1	7.2	-0.2	1.3
1214	ok	0.05	3.71e-02	1.68e-03	10.1	10.1	10.1	10.1	-0.5	-0.9	0.8	5.0	0.3	0.3
1215	ok	0.05	5.69e-02	2.57e-03	10.1	10.1	10.1	10.1	-3.4	-1.6	0.9	8.7	0.2	0.2
1216	ok	0.05	0.2	8.01e-03	10.1	10.1	10.1	10.1	-22.2	-1.6	-1.5	32.6	1.81e-02	-0.1
1217	ok	0.05	0.3	1.20e-02	10.1	10.1	10.1	10.1	-40.6	-1.9	1.9	56.6	-0.3	0.6
1218	ok	0.05	0.3	1.23e-02	10.1	10.1	10.1	10.1	-42.1	-2.0	1.8	59.8	-0.3	0.6
1219	ok	0.05	0.2	8.67e-03	10.1	10.1	10.1	10.1	-21.1	-2.0	1.4	40.9	-5.83e-02	1.1
1220	ok	0.05	8.04e-02	2.90e-03	10.1	10.1	10.1	10.1	-2.0	-1.0	1.0	9.3	0.3	0.7
1221	ok	0.05	4.75e-02	2.03e-03	10.1	10.1	10.1	10.1	-5.47e-02	-1.3	1.2	3.1	0.3	0.2
1222	ok	0.05	0.2	5.71e-03	10.1	10.1	10.1	10.1	71.5	15.9	-22.3	21.6	0.3	-3.2
1223	ok	0.05	0.2	5.31e-03	10.1	10.1	10.1	10.1	6.6	0.9	-1.2	16.2	0.3	0.5
1224	ok	0.05	8.65e-02	2.87e-03	10.1	10.1	10.1	10.1	2.4	12.6	14.7	7.6	-0.9	1.6
1225	ok	0.05	0.3	8.48e-03	10.1	10.1	10.1	10.1	19.2	1.6	-1.5	32.4	3.99e-02	0.6
1226	ok	0.05	0.4	1.23e-02	10.1	10.1	10.1	10.1	36.3	1.9	2.0	55.8	-0.2	-0.6
1227	ok	0.05	0.4	1.24e-02	10.1	10.1	10.1	10.1	29.0	1.6	0.9	59.2	-0.3	-0.7
1228	ok	0.05	0.3	8.95e-03	10.1	10.1	10.1	10.1	17.3	1.8	0.8	40.8	-3.57e-02	-1.2
1229	ok	0.05	9.77e-02	3.22e-03	10.1	10.1	10.1	10.1	14.7	11.2	-13.9	11.1	0.2	-3.5
1230	ok	0.05	5.73e-02	2.15e-03	10.1	10.1	10.1	10.1	1.0	13.2	-10.2	4.7	0.3	-2.8
1231	ok	0.05	0.1	5.21e-03	10.1	10.1	10.1	10.1	-7.8	-1.5	1.2	21.2	0.3	1.3
1232	ok	0.05	0.3	1.11e-02	10.1	10.1	10.1	10.1	-30.6	-2.0	1.5	53.9	-0.2	0.8
1233	ok	0.05	0.3	1.23e-02	10.1	10.1	10.1	10.1	-43.4	-2.0	1.8	61.0	-0.3	0.6
1234	ok	0.05	0.3	1.05e-02	10.1	10.1	10.1	10.1	-33.4	-1.9	2.1	46.9	-0.2	0.6
1235	ok	0.05	0.1	4.88e-03	10.1	10.1	10.1	10.1	-8.5	-1.0	-1.3	16.0	0.3	-0.1
1236	ok	0.05	0.3	1.09e-02	10.1	10.1	10.1	10.1	29.6	1.9	2.1	46.4	-0.2	-0.5
1237	ok	0.05	0.4	1.24e-02	10.1	10.1	10.1	10.1	38.8	2.0	2.0	60.1	-0.3	-0.6
1238	ok	0.05	0.4	1.13e-02	10.1	10.1	10.1	10.1	25.5	1.9	0.8	53.5	-0.2	-0.9
1240	ok	0.05	0.3	9.69e-03	10.1	10.1	10.1	10.1	25.5	125.8	14.7	-14.8	-38.5	-3.0
1245	ok	0.05	3.00e-02	1.18e-03	10.1	10.1	10.1	10.1	0.7	-1.1	-1.3	2.0	0.3	0.1
1246	ok	0.05	0.1	4.28e-03	10.1	10.1	10.1	10.1	-1.0	-6.6	-0.7	-0.1	-3.8	1.6
1247	ok	0.05	0.1	4.90e-03	10.1	10.1	10.1	10.1	8.4	55.7	22.3	1.8	-5.1	-1.0
1252	ok	0.05	0.3	1.01e-02	10.1	10.1	10.1	10.1	13.0	3.6	-1.8	-7.3	-25.6	6.7
1255	ok	0.05	0.3	1.05e-02	10.1	10.1	10.1	10.1	8.5	-21.1	12.2	-1.5	-13.8	1.7
1256	ok	0.05	0.1	5.58e-03	10.1	10.1	10.1	10.1	-0.4	-8.3	2.2	-0.9	-5.0	1.0
1257	ok	0.05	0.3	1.44e-02	10.1	10.1	10.1	10.1	16.2	19.0	23.7	-8.2	-48.2	-6.4
1258	ok	0.05	0.3	7.40e-03	10.1	10.1	10.1	10.1	-2.1	-57.4	11.3	-26.8	-46.1	11.5
1259	ok	0.05	0.3	1.81e-02	10.1	10.1	10.1	10.1	-16.2	-17.8	23.6	-6.8	-37.9	2.1
1260	ok	0.05	0.3	1.21e-02	10.1	10.1	10.1	10.1	32.9	111.1	-37.3	-1.4	-21.5	-8.6
1261	ok	0.05	0.1	5.64e-03	10.1	10.1	10.1	10.1	12.5	47.2	-13.9	1.0	-7.2	-4.5
1262	ok	0.05	3.34e-02	1.37e-03	10.1	10.1	10.1	10.1	0.4	-1.2	1.4	-0.7	-0.1	-8.34e-02
1263	ok	0.05	2.88e-02	1.32e-03	10.1	10.1	10.1	10.1	1.3	-11.1	2.4	-1.0	1.7	1.7
1286	ok	0.05	1.54e-02	2.74e-04	10.1	10.1	10.1	10.1	5.88e-02	-1.8	-1.0	-0.2	0.6	-0.3
1288	ok	0.05	0.1	3.12e-03	10.1	10.1	10.1	10.1	-11.4	32.2	-15.4	-4.2	-20.2	-2.4

Nodo	Stato	x/d	V N/M	ver. rid	Af pr-	Af pr+	Af sec-	Af sec+	N x	N y	N xy	M x	M y	M xy
1289	ok	0.05	2.30e-02	9.55e-04	10.1	10.1	10.1	10.1	-5.3	11.1	1.1	1.5	-1.4	-0.2
1290	ok	0.05	0.1	5.33e-03	10.1	10.1	10.1	10.1	-28.6	-21.2	-51.2	-7.5	-32.1	-4.0
1291	ok	0.05	2.53e-02	9.05e-04	10.1	10.1	10.1	10.1	0.8	-0.9	0.7	0.4	0.3	0.2
1292	ok	0.05	7.39e-02	2.34e-03	10.1	10.1	10.1	10.1	0.2	-4.6	0.6	-0.5	-4.9	1.9
1293	ok	0.05	0.1	3.42e-03	10.1	10.1	10.1	10.1	-5.3	-8.4	0.7	-3.1	-32.0	2.9
1294	ok	0.05	0.1	2.71e-03	10.1	10.1	10.1	10.1	19.6	-22.9	-21.1	-3.8	-22.2	3.3
1295	ok	0.05	0.2	4.84e-03	10.1	10.1	10.1	10.1	4.0	42.2	-38.2	-11.2	-32.8	-1.7
1296	ok	0.05	6.90e-02	2.56e-03	10.1	10.1	10.1	10.1	5.04e-02	30.5	-9.2	-0.8	-8.3	-1.0
1297	ok	0.05	0.1	3.13e-03	10.1	10.1	10.1	10.1	-5.0	12.0	-3.1	-3.1	-30.6	1.3
1298	ok	0.05	3.57e-02	5.82e-04	10.1	10.1	10.1	10.1	-3.8	1.2	-4.7	-0.9	-9.5	-0.2
1299	ok	0.05	6.19e-02	1.55e-03	10.1	10.1	10.1	10.1	-0.4	-1.7	-1.8	-0.2	-4.9	-1.69e-02
1300	ok	0.05	0.1	3.14e-03	10.1	10.1	10.1	10.1	-0.5	-1.2	-1.7	2.04e-02	-13.5	0.2
1301	ok	0.05	0.1	3.35e-03	10.1	10.1	10.1	10.1	0.3	5.1	-6.3	-2.1	-31.3	0.4
1302	ok	0.05	5.80e-02	1.36e-03	10.1	10.1	10.1	10.1	-4.6	-12.8	-4.0	-1.8	-20.3	-0.8
1303	ok	0.05	1.05e-02	3.03e-04	10.1	10.1	10.1	10.1	4.0	-2.7	2.6	-0.3	2.2	0.2
1304	ok	0.05	0.1	2.44e-03	10.1	10.1	10.1	10.1	1.2	-2.7	-1.6	-2.2	-30.1	-0.6
Nodo		**x/d**	**V N/M**	**ver. rid**	**Af pr-**	**Af pr+**	**Af sec-**	**Af sec+**	**N x**	**N y**	**N xy**	**M x**	**M y**	**M xy**
									-199.71	-205.40	-101.91	-55.75	-104.23	-26.10
		0.05	0.64	0.02	10.05	10.05	10.05	10.05	189.97	289.34	146.33	63.62	67.02	21.08

Nodo	Stato	Max tau	Ver V pr	Ver V sec	Af V pr	Af V sec	V pr	V sec
		daN/cm2					kN/ m	kN/ m
450	ok	0.89						
642	ok	2.68						
646	ok	0.71						
650	ok	0.20						
1087	ok	2.75						
1088	ok	0.63						
1089	ok	0.26						
1090	ok	0.21						
1091	ok	0.66						
1092	ok	2.12						
1093	ok	2.12						
1094	ok	2.75						
1095	ok	0.54						
1096	ok	0.47						
1097	ok	0.27						
1098	ok	0.27						
1099	ok	0.46						
1100	ok	0.59						
1101	ok	0.78						
1102	ok	0.54						
1103	ok	0.47						
1104	ok	0.43						
1105	ok	0.24						
1106	ok	0.22						
1107	ok	0.46						
1108	ok	0.65						
1109	ok	0.87						
1110	ok	0.46						
1111	ok	0.91						
1112	ok	2.75						
1113	ok	2.31						
1114	ok	0.80						
1115	ok	1.26						
1116	ok	2.12						
1117	ok	1.98						
1118	ok	1.37						
1119	ok	0.94						
1120	ok	0.62						
1121	ok	0.26						
1122	ok	0.60						
1123	ok	0.97						
1124	ok	0.27						
1125	ok	2.75						
1126	ok	0.63						
1127	ok	0.26						
1128	ok	0.66						
1129	ok	2.12						
1130	ok	0.27						
1131	ok	2.29						

Nodo	Stato	Max tau	Ver V pr	Ver V sec	Af V pr	Af V sec	V pr	V sec
1132	ok	0.57						
1133	ok	0.26						
1134	ok	0.60						
1135	ok	1.98						
1136	ok	0.25						
1137	ok	0.80						
1138	ok	0.54						
1139	ok	0.25						
1140	ok	0.57						
1141	ok	1.07						
1142	ok	0.25						
1143	ok	0.52						
1144	ok	0.34						
1145	ok	0.22						
1146	ok	0.34						
1147	ok	0.53						
1148	ok	0.47						
1149	ok	0.35						
1150	ok	0.21						
1151	ok	0.32						
1152	ok	0.56						
1153	ok	0.83						
1154	ok	1.32						
1155	ok	1.43						
1156	ok	1.43						
1157	ok	0.84						
1158	ok	0.40						
1159	ok	0.52						
1160	ok	0.56						
1161	ok	0.56						
1162	ok	0.39						
1163	ok	0.16						
1164	ok	0.26						
1165	ok	0.26						
1166	ok	0.22						
1167	ok	0.20						
1168	ok	0.40						
1169	ok	0.50						
1170	ok	0.52						
1171	ok	0.52						
1172	ok	0.41						
1173	ok	0.94						
1174	ok	1.27						
1175	ok	1.40						
1176	ok	1.40						
1177	ok	0.73						
1213	ok	0.24						
1214	ok	0.26						
1215	ok	0.31						
1216	ok	0.36						
1217	ok	0.27						
1218	ok	0.27						
1219	ok	0.31						
1220	ok	0.31						
1221	ok	0.29						
1222	ok	0.31						
1223	ok	0.32						
1224	ok	0.28						
1225	ok	0.32						
1226	ok	0.23						
1227	ok	0.20						
1228	ok	0.31						
1229	ok	0.31						
1230	ok	0.32						
1231	ok	0.31						
1232	ok	0.31						
1233	ok	0.22						
1234	ok	0.34						
1235	ok	0.36						
1236	ok	0.30						
1237	ok	0.21						
1238	ok	0.24						
1240	ok	2.31						
1245	ok	0.22						

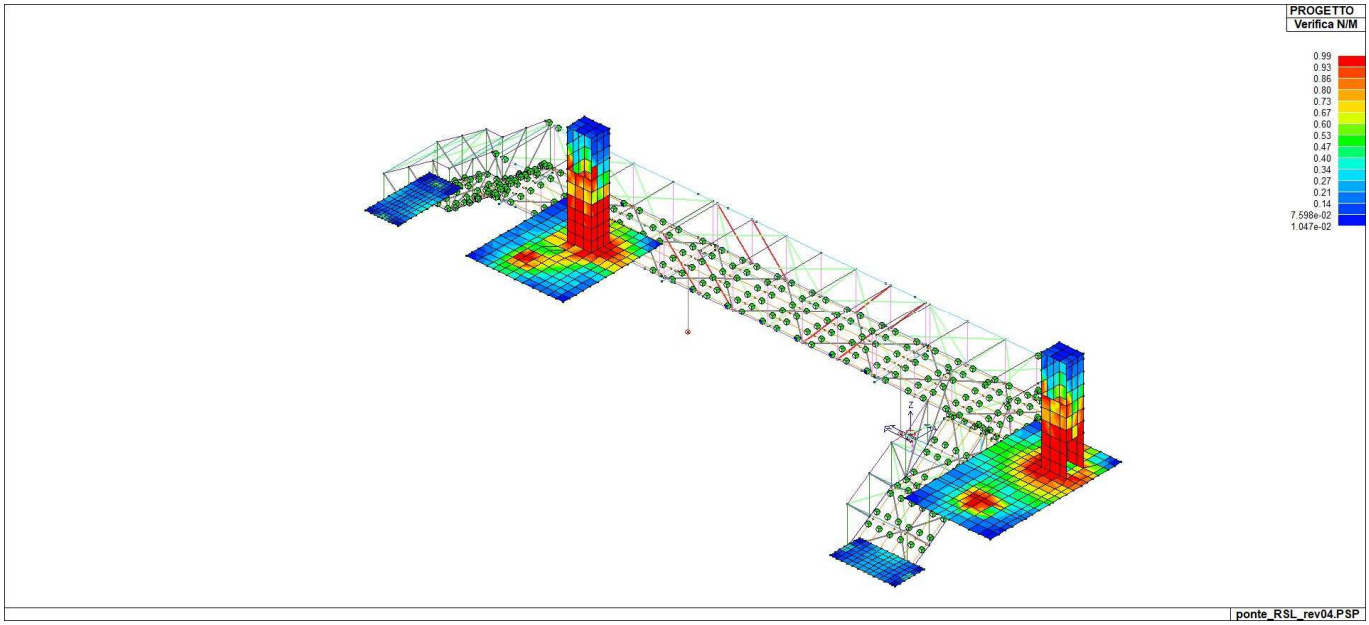
Nodo	Stato	Max tau	Ver V pr	Ver V sec	Af V pr	Af V sec	V pr	V sec
1246	ok	0.50						
1247	ok	0.42						
1252	ok	2.68						
1255	ok	1.26						
1256	ok	0.78						
1257	ok	1.76						
1258	ok	1.76						
1259	ok	1.74						
1260	ok	1.37						
1261	ok	0.87						
1262	ok	0.29						
1263	ok	0.32						
1286	ok	0.16						
1288	ok	0.65						
1289	ok	0.16						
1290	ok	0.84						
1291	ok	0.18						
1292	ok	0.44						
1293	ok	0.90						
1294	ok	0.78						
1295	ok	0.90						
1296	ok	0.36						
1297	ok	0.41						
1298	ok	0.34						
1299	ok	0.37						
1300	ok	0.41						
1301	ok	0.31						
1302	ok	0.42						
1303	ok	0.13						
1304	ok	0.42						
Nodo		**Max tau**	**Ver V pr**	**Ver V sec**	**Af V pr**	**Af V sec**	**V pr**	**V sec**
		2.75						

Macro Guscio	Spessore	Id Materiale	Id Criterio	Progettazione
	cm			
15	70.00	4	3	Singolo elemento

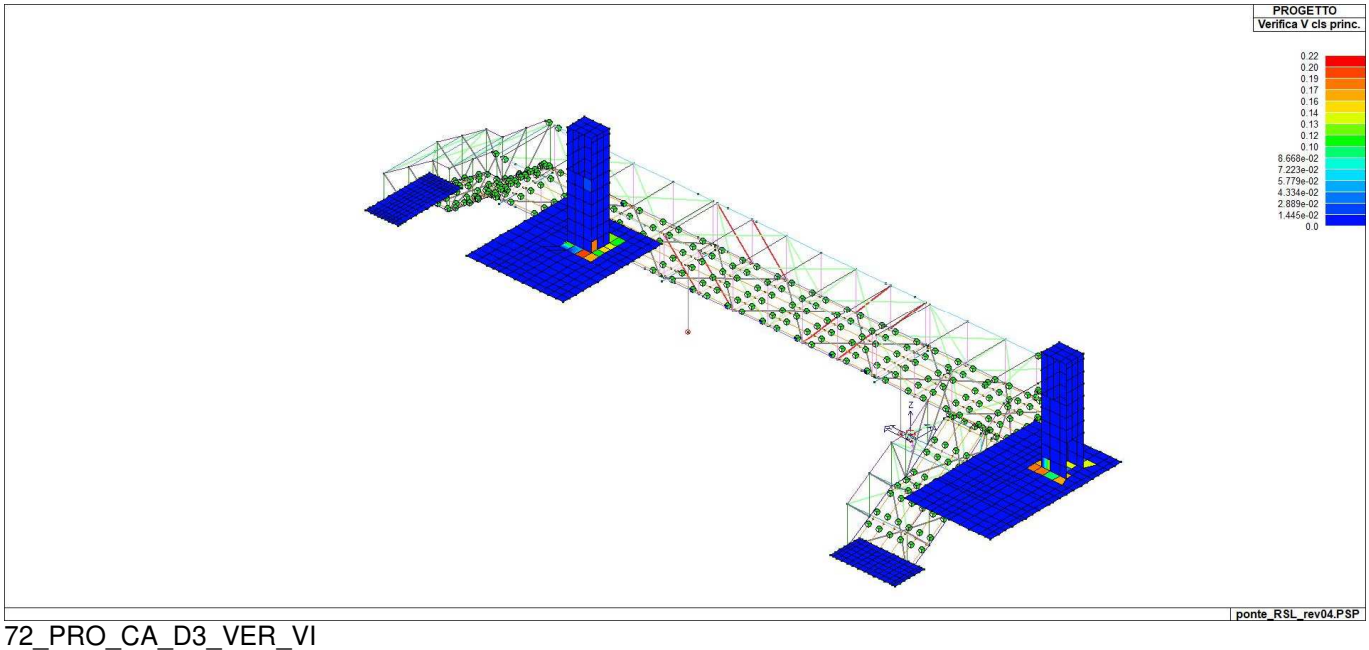
Nodo	Stato	x/d	V N/M	ver. rid	Af pr-	Af pr+	Af sec-	Af sec+	N x	N y	N xy	M x	M y	M xy
									kN/ m	kN/ m	kN/ m	kN	kN	kN
673	ok	0.06	0.6	3.91e-03	10.1	10.1	10.1	10.1	39.2	79.1	8.3	-105.9	-120.9	21.6
675	ok	0.06	0.9	5.91e-03	10.1	10.1	10.1	10.1	14.6	99.5	8.6	-130.1	-177.2	-30.5
676	ok	0.06	1.0	7.46e-03	12.8	10.1	12.8	10.1	135.3	30.9	51.2	-191.1	-253.2	-37.0
677	ok	0.06	1.0	7.26e-03	11.8	10.1	11.8	10.1	147.2	81.6	57.7	-195.5	-191.8	-33.9
678	ok	0.06	0.8	8.29e-03	10.1	10.1	10.1	10.1	27.8	73.7	16.8	-104.2	-173.3	8.5
679	ok	0.06	0.9	3.38e-03	10.1	10.1	10.1	10.1	9.0	-4.2	-2.4	-96.5	-222.5	-3.9
680	ok	0.06	1.0	5.80e-03	10.1	10.1	10.1	10.1	70.1	35.4	3.4	-119.7	-212.1	-24.9
681	ok	0.06	0.8	4.06e-03	10.1	10.1	10.1	10.1	73.9	81.0	2.6	-115.9	-144.5	-23.8
682	ok	0.06	0.9	4.67e-03	10.1	10.1	10.1	10.1	11.4	-21.6	-47.4	-108.2	-203.2	8.7
683	ok	0.06	0.7	5.08e-03	10.1	10.1	10.1	10.1	21.0	18.7	-59.4	-108.6	-158.9	-11.2
684	ok	0.06	1.0	3.92e-03	11.7	10.1	11.7	10.1	33.1	71.7	51.9	-181.0	-167.9	-70.7
687	ok	0.06	0.7	4.11e-03	10.1	10.1	10.1	10.1	3.2	23.3	-54.3	-111.6	-150.0	18.4
827	ok	0.06	1.0	3.26e-03	10.2	10.1	10.2	10.1	0.2	-0.2	-1.2	-121.9	-229.1	-35.1
828	ok	0.06	0.9	5.25e-03	10.1	10.1	10.1	10.1	-3.3	-20.5	-47.9	-117.8	-204.6	28.8
840	ok	0.06	0.8	2.74e-03	10.1	10.1	10.1	10.1	38.4	36.2	11.3	-110.3	-184.1	12.3
841	ok	0.06	1.0	3.29e-03	11.9	10.1	11.9	10.1	38.5	20.5	48.5	-176.1	-219.6	-55.5
Nodo		**x/d**	**V N/M**	**ver. rid**	**Af pr-**	**Af pr+**	**Af sec-**	**Af sec+**	**N x**	**N y**	**N xy**	**M x**	**M y**	**M xy**
									-3.33	-21.60	-59.37	-195.54	-253.18	-70.71
		0.06	0.99	8.29e-03	12.79	10.05	12.79	10.05	147.20	99.47	57.69	-96.46	-120.91	28.75

Nodo	Stato	Max tau	Ver V pr	Ver V sec	Af V pr	Af V sec	V pr	V sec
		daN/cm2					kN/ m	kN/ m
673	ok Av	6.31	0.16	0.19	4.9	5.8	280.2	329.9
675	ok Av	5.06	0.09	0.17	2.9	5.2	165.6	293.6
676	ok Av	7.51	0.17	0.27	5.1	8.1	289.2	463.5
677	ok Av	7.51	0.15	0.27	4.6	8.1	264.0	463.5
678	ok	3.74						
679	ok	3.74						

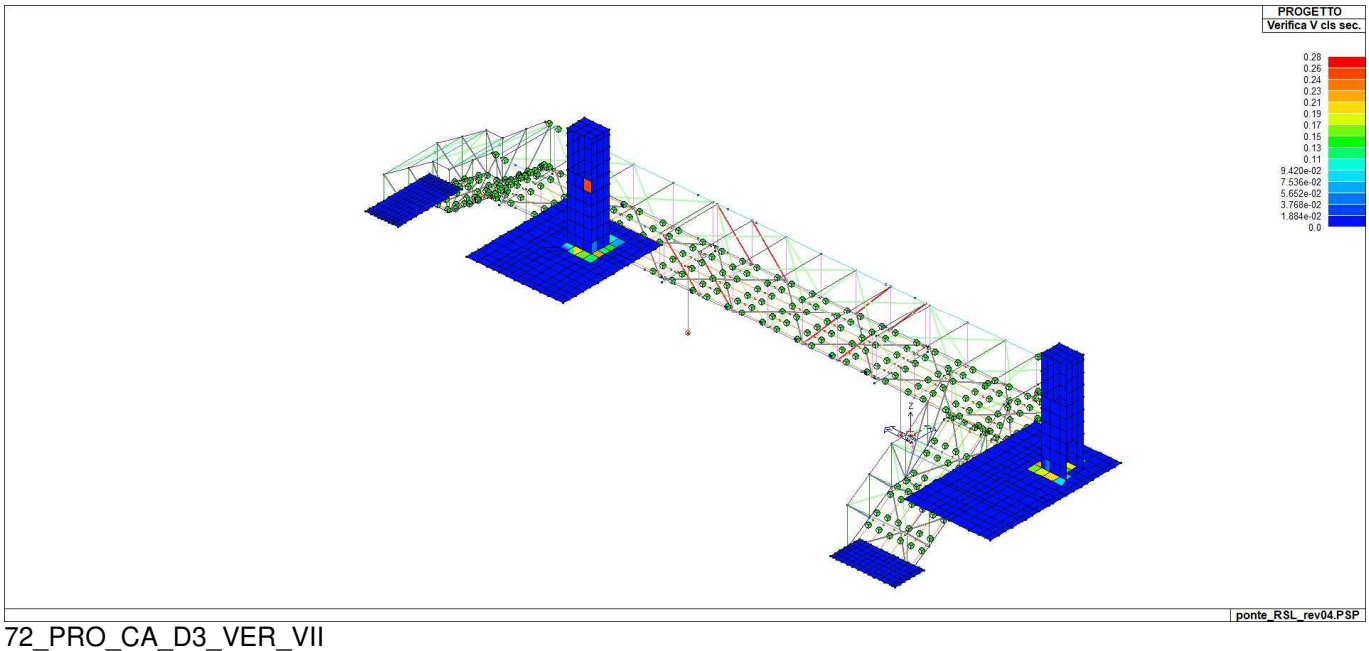
Nodo	Stato	Max tau	Ver V pr	Ver V sec	Af V pr	Af V sec	V pr	V sec
680	ok Av	6.58	0.17	0.20	5.1	6.2	289.2	355.1
681	ok Av	6.31	0.16	0.19	4.9	5.8	280.2	329.9
682	ok Av	4.62	0.11	0.16	3.3	4.9	189.1	278.2
683	ok Av	4.62	0.11	0.16	3.3	4.9	189.1	278.2
684	ok Av	7.51	0.15	0.27	4.6	8.1	264.0	463.5
687	ok Av	6.89	0.11	0.25	3.3	7.8	189.1	443.9
827	ok Av	5.06	0.09	0.17	2.9	5.2	165.6	293.6
828	ok Av	6.89	0.11	0.25	3.3	7.8	189.1	443.9
840	ok Av	6.58	0.17	0.20	5.1	6.2	289.2	355.1
841	ok Av	7.51	0.17	0.27	5.1	8.1	289.2	463.5
Nodo		**Max tau**	**Ver V pr**	**Ver V sec**	**Af V pr**	**Af V sec**	**V pr**	**V sec**
		7.51	0.17	0.27	5.09	8.15	289.23	463.50



72_PRO_CA_D3_VER_NM



72_PRO_CA_D3_VER_VI



72_PRO_CA_D3_VER_VII

STATI LIMITE D' ESERCIZIO

LEGENDA TABELLA STATI LIMITE D' ESERCIZIO

In tabella vengono riportati i valori di interesse per il controllo degli stati limite d'esercizio.

In particolare vengono riportati, in relazione al tipo di elemento strutturale, i risultati relativi alle tre categorie di combinazione considerate:

- Combinazioni rare
- Combinazioni frequenti
- Combinazioni quasi permanenti.

I valori di interesse sono i seguenti:

rRfck	rapporto tra la massima compressione nel calcestruzzo e la tensione fck in combinazioni rare	[*normalizzato a 1*]
rRfyk	rapporto tra la massima tensione nell'acciaio e la tensione fyk in combinazioni rare	[*normalizzato a 1*]
rPfck	rapporto tra la massima compressione nel calcestruzzo e la tensione fck in combinazioni quasi permanenti	[*normalizzato a 1*]
wR	apertura caratteristica delle fessure in combinazioni rare	[*mm*]
wF	apertura caratteristica delle fessure in combinazioni frequenti	[*mm*]
wP	apertura caratteristica delle fessure in combinazioni quasi permanenti	[*mm*]
dR	massima deformazione in combinazioni rare	
dF	massima deformazione in combinazioni frequenti	
dP	massima deformazione in combinazioni quasi permanenti	

Per ognuno dei nove valori soprariportati viene indicata (Rif.cmb) la combinazione in cui si è verificato.

In relazione al tipo di elemento strutturale i valori sono selezionati nel modo seguente:

pilastri	**rRfck**	**rRfyk**	**rPfck**	per sezioni significative
travi	**rRfck**	**rRfyk**	**rPfck**	per sezioni significative
	wR	**wF**	**wP**	per sezioni significative
	dR	**dF**	**dP**	massimi in campata
setti e gusci	**rRfck**	**rRfyk**	**rPfck**	massimi nei nodi dell'elemento
	wR	**wF**	**wP**	massimi nei nodi dell'elemento

Si precisa che i valori di massima deformazione per travi sono riferiti al piano verticale (piano locale 1-2 con momenti flettenti 3-3).

Pilas.	Pos.	rRfck	rRfyk	rPfck	Rif. cmb	Pos.	rRfck	rRfyk	rPfck	Rif. cmb
	cm					cm				
446	0.0	0.12	0.10	0.05	317,317,400	550.0	0.05	0.04	0.02	318,318,400
447	0.0	0.11	0.10	0.03	317,346,400	275.0	0.09	0.07	0.02	346,346,400
	550.0	0.06	0.05	0.02	347,347,400					
448	0.0	0.05	0.03	0.03	299,299,400	275.0	0.04	0.03	0.02	297,297,400
	550.0	0.04	0.03	0.02	334,334,400					
620	0.0	0.04	0.03	0.02	299,299,400	275.0	0.03	0.03	0.01	290,290,400
	550.0	0.04	0.03	0.01	342,342,400					
Pilas.		**rRfck**	**rRfyk**	**rPfck**			**rRfck**	**rRfyk**	**rPfck**	
		0.12	0.10	0.05						

Trave	Pos.	rRfck	rRfyk	rPfck	Rif. cmb	wR	wF	wP	Rif. cmb	dR	dF	dP	Rif. cmb
	cm					mm	mm	mm		mm	mm	mm	
600	0.0	0.10	0.17	0.03	290,288,400	0.0	0.0	0.0	0,0,0	4.74	1.85	0.40	346,397,400
	175.0	0.36	0.74	0.16	274,297,400	0.18	0.14	0.0	297,391,0				
601	0.0	0.32	0.71	0.15	274,274,400	0.18	0.14	0.0	274,391,0	-3.55	-1.70	-0.67	317,396,400
	175.0	0.09	0.15	0.02	297,297,400	0.0	0.0	0.0	0,0,0				
603	0.0	0.33	0.74	0.15	288,288,400	0.18	0.14	0.0	288,391,0	-4.36	-1.55	-0.46	317,396,400
	175.0	0.10	0.18	0.03	297,297,400	0.0	0.0	0.0	0,0,0				
621	0.0	0.04	0.04	0.02	354,354,400	0.0	0.0	0.0	0,0,0	1.49	1.12	0.75	376,391,400
	177.1	0.20	0.48	0.09	288,288,400	0.11	0.0	0.0	288,0,0				
757	0.0	0.09	0.16	0.03	290,288,400	0.0	0.0	0.0	0,0,0	2.69	0.86	0.08	346,397,400
	175.0	0.29	0.72	0.13	274,274,400	0.19	0.15	0.0	274,391,0				
759	0.0	0.06	0.12	0.02	288,288,400	0.0	0.0	0.0	0,0,0	3.06	1.59	0.29	297,391,400
	175.0	0.28	0.71	0.13	297,297,400	0.18	0.15	0.0	297,391,0				
760	0.0	0.18	0.45	0.09	297,297,400	0.10	0.0	0.0	297,0,0	-0.69	-0.42	-0.29	317,396,400
	175.0	0.07	0.16	0.02	297,297,400	0.0	0.0	0.0	0,0,0				
762	0.0	0.29	0.71	0.13	274,288,400	0.19	0.15	0.0	288,391,0	-1.23	0.25	0.18	357,399,400
	175.0	0.05	0.05	0.02	297,297,400	0.0	0.0	0.0	0,0,0				
Trave		**rRfck**	**rRfyk**	**rPfck**		**wR**	**wF**	**wP**		**dR**	**dF**	**dP**	
										-4.36	-1.70	-0.67	
		0.36	0.74	0.16		0.19	0.15	0.0		4.74	1.85	0.75	

Setto	rRfck	rRfyk	rPfck	Rif. cmb	wR	wF	wP	Rif. cmb
					mm	mm	mm	
1	0.13	0.41	0.08	286,351,400	0.0	0.0	0.0	0,0,0
2	0.02	0.07	9.73e-03	351,357,400	0.0	0.0	0.0	0,0,0
3	7.85e-03	0.02	8.05e-03	349,357,400	0.0	0.0	0.0	0,0,0
4	0.02	0.04	0.01	346,301,400	0.0	0.0	0.0	0,0,0
5	0.01	0.05	0.01	352,357,400	0.0	0.0	0.0	0,0,0
6	9.23e-03	0.05	7.46e-03	367,357,400	0.0	0.0	0.0	0,0,0
7	7.22e-03	0.02	6.12e-03	346,346,400	0.0	0.0	0.0	0,0,0
8	0.01	0.04	0.01	346,292,400	0.0	0.0	0.0	0,0,0
9	0.01	0.05	7.01e-03	294,288,400	0.0	0.0	0.0	0,0,0
10	9.77e-03	0.04	5.14e-03	294,290,400	0.0	0.0	0.0	0,0,0
11	7.75e-03	0.03	3.89e-03	346,291,400	0.0	0.0	0.0	0,0,0
12	4.96e-03	0.03	4.03e-03	292,301,400	0.0	0.0	0.0	0,0,0
13	0.01	0.05	5.42e-03	294,290,400	0.0	0.0	0.0	0,0,0
14	8.68e-03	0.04	3.75e-03	294,290,400	0.0	0.0	0.0	0,0,0
15	4.39e-03	0.03	3.36e-03	291,291,400	0.0	0.0	0.0	0,0,0
16	3.50e-03	0.02	3.31e-03	292,352,400	0.0	0.0	0.0	0,0,0
17	7.30e-03	0.04	6.31e-03	299,290,400	0.0	0.0	0.0	0,0,0
18	7.54e-03	0.03	4.94e-03	299,301,400	0.0	0.0	0.0	0,0,0
19	5.00e-03	0.03	4.17e-03	301,301,400	0.0	0.0	0.0	0,0,0
20	8.18e-03	0.02	8.39e-03	301,346,400	0.0	0.0	0.0	0,0,0
21	0.02	0.09	0.01	299,299,400	0.0	0.0	0.0	0,0,0
22	0.02	0.09	0.01	299,299,400	0.0	0.0	0.0	0,0,0
23	0.01	0.06	8.12e-03	299,299,400	0.0	0.0	0.0	0,0,0
24	7.14e-03	0.02	6.80e-03	301,352,400	0.0	0.0	0.0	0,0,0
25	0.20	0.75	0.09	288,274,400	0.16	0.0	0.0	274,0,0
26	0.03	0.26	0.01	290,297,400	0.0	0.0	0.0	0,0,0
27	0.01	0.03	8.03e-03	299,299,400	0.0	0.0	0.0	0,0,0
28	0.01	0.05	0.01	299,301,400	0.0	0.0	0.0	0,0,0
29	0.04	0.17	0.01	274,297,400	0.0	0.0	0.0	0,0,0
30	0.01	0.14	8.11e-03	288,274,400	0.0	0.0	0.0	0,0,0
31	0.01	0.06	7.18e-03	299,299,400	0.0	0.0	0.0	0,0,0
32	0.01	0.06	8.09e-03	299,299,400	0.0	0.0	0.0	0,0,0

Setto	rRfck	rRfyk	rPfck	Rif. cmb	wR	wF	wP	Rif. cmb
33	0.02	0.10	0.01	299,299,400	0.0	0.0	0.0	0,0,0
34	0.02	0.09	0.01	299,299,400	0.0	0.0	0.0	0,0,0
35	0.01	0.06	9.05e-03	299,299,400	0.0	0.0	0.0	0,0,0
36	9.23e-03	0.07	6.16e-03	299,299,400	0.0	0.0	0.0	0,0,0
47	0.04	0.20	0.02	352,376,400	0.0	0.0	0.0	0,0,0
48	0.01	0.13	0.01	299,367,400	0.0	0.0	0.0	0,0,0
49	0.12	0.28	0.06	271,271,400	0.0	0.0	0.0	0,0,0
51	0.01	0.18	7.81e-03	367,352,400	0.0	0.0	0.0	0,0,0
52	0.01	0.10	9.83e-03	346,367,400	0.0	0.0	0.0	0,0,0
53	0.02	0.06	0.01	295,367,400	0.0	0.0	0.0	0,0,0
55	0.02	0.16	0.01	317,286,400	0.0	0.0	0.0	0,0,0
56	9.08e-03	0.05	7.49e-03	317,367,400	0.0	0.0	0.0	0,0,0
57	0.01	0.04	7.75e-03	294,290,400	0.0	0.0	0.0	0,0,0
58	0.04	0.06	0.02	317,367,400	0.0	0.0	0.0	0,0,0
59	0.04	0.14	0.02	352,367,400	0.0	0.0	0.0	0,0,0
60	0.01	0.05	0.01	317,288,400	0.0	0.0	0.0	0,0,0
61	0.01	0.05	7.41e-03	294,288,400	0.0	0.0	0.0	0,0,0
62	0.02	0.03	0.02	317,367,400	0.0	0.0	0.0	0,0,0
63	0.02	0.04	0.02	367,367,400	0.0	0.0	0.0	0,0,0
64	0.01	0.04	0.01	317,288,400	0.0	0.0	0.0	0,0,0
65	7.97e-03	0.05	8.45e-03	290,288,400	0.0	0.0	0.0	0,0,0
66	0.02	0.04	0.02	367,367,400	0.0	0.0	0.0	0,0,0
67	0.02	0.05	0.01	367,288,400	0.0	0.0	0.0	0,0,0
68	0.01	0.07	0.01	288,288,400	0.0	0.0	0.0	0,0,0
69	0.01	0.08	8.41e-03	288,288,400	0.0	0.0	0.0	0,0,0
70	0.02	0.07	0.02	299,367,400	0.0	0.0	0.0	0,0,0
71	0.02	0.09	0.01	297,367,400	0.0	0.0	0.0	0,0,0
72	0.04	0.12	0.02	274,288,400	0.0	0.0	0.0	0,0,0
73	0.19	0.39	0.10	274,274,400	0.0	0.0	0.0	0,0,0
74	0.02	0.05	0.02	367,290,400	0.0	0.0	0.0	0,0,0
75	0.02	0.05	0.01	357,290,400	0.0	0.0	0.0	0,0,0
76	0.02	0.08	0.02	354,288,400	0.0	0.0	0.0	0,0,0
77	0.03	0.08	0.02	288,297,400	0.0	0.0	0.0	0,0,0
78	0.02	0.05	0.02	367,290,400	0.0	0.0	0.0	0,0,0
79	0.02	0.06	0.01	357,290,400	0.0	0.0	0.0	0,0,0
80	0.02	0.07	0.01	357,290,400	0.0	0.0	0.0	0,0,0
81	0.02	0.08	0.01	288,299,400	0.0	0.0	0.0	0,0,0
82	0.05	0.10	0.04	290,373,400	0.0	0.0	0.0	0,0,0
83	0.03	0.04	0.02	290,367,400	0.0	0.0	0.0	0,0,0
86	0.08	0.17	0.08	357,357,400	0.0	0.0	0.0	0,0,0
87	0.03	0.04	0.02	357,357,400	0.0	0.0	0.0	0,0,0
90	0.07	0.28	0.07	290,357,400	0.0	0.0	0.0	0,0,0
91	0.02	0.04	0.02	290,367,400	0.0	0.0	0.0	0,0,0
94	0.08	0.14	0.07	367,299,400	0.0	0.0	0.0	0,0,0
95	0.03	0.04	0.02	357,290,400	0.0	0.0	0.0	0,0,0
96	0.06	0.07	0.06	290,367,400	0.0	0.0	0.0	0,0,0
97	0.03	0.06	0.02	317,367,400	0.0	0.0	0.0	0,0,0
98	0.09	0.16	0.07	367,294,400	0.0	0.0	0.0	0,0,0
99	0.03	0.05	0.02	367,290,400	0.0	0.0	0.0	0,0,0
100	0.02	0.13	0.01	367,367,400	0.0	0.0	0.0	0,0,0
101	0.12	0.54	0.05	367,367,400	0.0	0.0	0.0	0,0,0
102	0.02	0.11	0.02	367,367,400	0.0	0.0	0.0	0,0,0
103	0.02	0.07	0.01	297,367,400	0.0	0.0	0.0	0,0,0
104	0.04	0.11	0.02	274,288,400	0.0	0.0	0.0	0,0,0
105	0.10	0.59	0.04	367,288,400	0.0	0.0	0.0	0,0,0
106	0.07	0.18	0.05	294,367,400	0.0	0.0	0.0	0,0,0
107	0.03	0.06	0.02	381,367,400	0.0	0.0	0.0	0,0,0
108	0.07	0.33	0.05	346,367,400	0.0	0.0	0.0	0,0,0
109	0.03	0.09	0.02	367,367,400	0.0	0.0	0.0	0,0,0
110	0.07	0.10	0.06	381,367,400	0.0	0.0	0.0	0,0,0
111	0.03	0.07	0.03	381,367,400	0.0	0.0	0.0	0,0,0
112	0.05	0.11	0.04	352,367,400	0.0	0.0	0.0	0,0,0
113	0.06	0.14	0.03	367,367,400	0.0	0.0	0.0	0,0,0
114	0.02	0.15	0.01	357,357,400	0.0	0.0	0.0	0,0,0
115	0.11	0.55	0.05	352,297,400	0.0	0.0	0.0	0,0,0
116	0.02	0.07	0.02	352,367,400	0.0	0.0	0.0	0,0,0
117	0.03	0.06	0.02	367,367,400	0.0	0.0	0.0	0,0,0
191	0.40	0.76	0.14	288,288,400	0.13	0.10	0.0	274,391,0
192	0.05	0.50	0.02	288,274,400	0.0	0.0	0.0	0,0,0
193	0.02	0.08	1.00e-02	297,297,400	0.0	0.0	0.0	0,0,0
194	0.03	0.08	0.01	297,297,400	0.0	0.0	0.0	0,0,0
195	0.11	0.31	0.03	274,274,400	0.0	0.0	0.0	0,0,0
196	0.04	0.23	0.01	274,274,400	0.0	0.0	0.0	0,0,0
197	0.02	0.10	9.92e-03	297,297,400	0.0	0.0	0.0	0,0,0

Setto	rRfck	rRfyk	rPfck	Rif. cmb	wR	wF	wP	Rif. cmb
198	0.02	0.11	1.00e-02	297,297,400	0.0	0.0	0.0	0,0,0
199	0.04	0.18	0.02	297,274,400	0.0	0.0	0.0	0,0,0
200	0.04	0.16	0.02	297,274,400	0.0	0.0	0.0	0,0,0
201	0.03	0.12	0.01	274,297,400	0.0	0.0	0.0	0,0,0
202	0.02	0.12	7.72e-03	274,297,400	0.0	0.0	0.0	0,0,0
203	0.04	0.19	0.02	297,274,400	0.0	0.0	0.0	0,0,0
204	0.04	0.18	0.01	297,274,400	0.0	0.0	0.0	0,0,0
205	0.02	0.12	0.01	297,274,400	0.0	0.0	0.0	0,0,0
206	9.54e-03	0.03	7.19e-03	282,297,400	0.0	0.0	0.0	0,0,0
207	0.02	0.07	7.06e-03	297,274,400	0.0	0.0	0.0	0,0,0
208	0.02	0.07	7.12e-03	297,274,400	0.0	0.0	0.0	0,0,0
209	0.01	0.06	4.81e-03	274,274,400	0.0	0.0	0.0	0,0,0
210	0.01	0.03	8.65e-03	282,346,400	0.0	0.0	0.0	0,0,0
211	0.02	0.05	5.31e-03	346,290,400	0.0	0.0	0.0	0,0,0
212	0.02	0.05	3.76e-03	346,346,400	0.0	0.0	0.0	0,0,0
213	8.61e-03	0.04	3.77e-03	346,346,400	0.0	0.0	0.0	0,0,0
214	6.18e-03	0.03	5.00e-03	320,346,400	0.0	0.0	0.0	0,0,0
215	0.17	0.34	0.04	346,346,400	0.0	0.0	0.0	0,0,0
216	0.02	0.04	9.06e-03	317,317,400	0.0	0.0	0.0	0,0,0
217	0.01	0.03	8.25e-03	346,346,400	0.0	0.0	0.0	0,0,0
218	0.02	0.05	0.02	299,301,400	0.0	0.0	0.0	0,0,0
219	0.02	0.07	8.77e-03	346,346,400	0.0	0.0	0.0	0,0,0
220	0.01	0.03	6.78e-03	346,317,400	0.0	0.0	0.0	0,0,0
221	0.01	0.03	6.28e-03	346,299,400	0.0	0.0	0.0	0,0,0
222	0.01	0.05	0.01	346,288,400	0.0	0.0	0.0	0,0,0
223	0.02	0.05	5.97e-03	346,290,400	0.0	0.0	0.0	0,0,0
224	0.02	0.05	4.71e-03	346,346,400	0.0	0.0	0.0	0,0,0
225	0.01	0.04	3.87e-03	346,299,400	0.0	0.0	0.0	0,0,0
226	9.51e-03	0.04	3.74e-03	346,274,400	0.0	0.0	0.0	0,0,0
236	0.03	0.10	0.02	297,346,400	0.0	0.0	0.0	0,0,0
237	0.03	0.11	0.02	274,299,400	0.0	0.0	0.0	0,0,0
238	0.07	0.14	0.03	274,288,400	0.0	0.0	0.0	0,0,0
239	0.58	0.77	0.20	274,274,400	0.15	0.12	0.0	274,391,0
240	0.02	0.05	0.02	297,346,400	0.0	0.0	0.0	0,0,0
241	0.02	0.06	0.02	373,346,400	0.0	0.0	0.0	0,0,0
242	0.03	0.08	0.02	274,288,400	0.0	0.0	0.0	0,0,0
243	0.07	0.15	0.02	288,274,400	0.0	0.0	0.0	0,0,0
244	0.02	0.09	0.02	346,299,400	0.0	0.0	0.0	0,0,0
245	0.02	0.09	0.01	346,346,400	0.0	0.0	0.0	0,0,0
246	0.02	0.07	0.01	288,299,400	0.0	0.0	0.0	0,0,0
247	0.03	0.14	0.01	288,274,400	0.0	0.0	0.0	0,0,0
248	0.02	0.07	0.02	346,299,400	0.0	0.0	0.0	0,0,0
249	0.02	0.07	0.01	346,299,400	0.0	0.0	0.0	0,0,0
250	0.02	0.07	0.01	288,290,400	0.0	0.0	0.0	0,0,0
251	0.03	0.09	8.87e-03	288,297,400	0.0	0.0	0.0	0,0,0
252	0.02	0.06	0.02	362,346,400	0.0	0.0	0.0	0,0,0
253	0.02	0.04	0.01	362,346,400	0.0	0.0	0.0	0,0,0
254	0.01	0.04	0.01	346,290,400	0.0	0.0	0.0	0,0,0
255	0.01	0.05	8.24e-03	297,297,400	0.0	0.0	0.0	0,0,0
256	0.04	0.09	0.02	362,346,400	0.0	0.0	0.0	0,0,0
257	0.04	0.18	0.02	346,346,400	0.0	0.0	0.0	0,0,0
258	0.02	0.10	0.01	299,299,400	0.0	0.0	0.0	0,0,0
259	0.02	0.08	7.10e-03	357,357,400	0.0	0.0	0.0	0,0,0
261	0.05	0.23	0.02	346,346,400	0.0	0.0	0.0	0,0,0
262	0.02	0.29	9.57e-03	297,346,400	0.0	0.0	0.0	0,0,0
263	0.12	0.49	0.03	346,346,400	0.0	0.0	0.0	0,0,0
265	0.02	0.17	6.25e-03	346,346,400	0.0	0.0	0.0	0,0,0
266	8.85e-03	0.18	7.95e-03	381,346,400	0.0	0.0	0.0	0,0,0
267	0.01	0.16	8.59e-03	347,346,400	0.0	0.0	0.0	0,0,0
269	0.03	0.20	0.01	362,346,400	0.0	0.0	0.0	0,0,0
270	0.02	0.12	9.20e-03	299,299,400	0.0	0.0	0.0	0,0,0
271	0.01	0.07	6.28e-03	357,354,400	0.0	0.0	0.0	0,0,0
272	0.07	0.26	0.05	317,354,400	0.0	0.0	0.0	0,0,0
273	0.03	0.06	0.02	317,346,400	0.0	0.0	0.0	0,0,0
274	0.11	0.18	0.09	299,297,400	0.0	0.0	0.0	0,0,0
275	0.04	0.04	0.03	299,346,400	0.0	0.0	0.0	0,0,0
278	0.08	0.22	0.09	376,297,400	0.0	0.0	0.0	0,0,0
279	0.03	0.05	0.02	299,346,400	0.0	0.0	0.0	0,0,0
280	0.08	0.36	0.07	362,357,400	0.0	0.0	0.0	0,0,0
281	0.04	0.08	0.03	362,346,400	0.0	0.0	0.0	0,0,0
282	0.09	0.22	0.09	376,288,400	0.0	0.0	0.0	0,0,0
283	0.03	0.08	0.03	373,299,400	0.0	0.0	0.0	0,0,0
286	0.06	0.34	0.06	317,288,400	0.0	0.0	0.0	0,0,0
287	0.03	0.07	0.03	288,299,400	0.0	0.0	0.0	0,0,0

Setto	rRfck	rRfyk	rPfck	Rif. cmb	wR	wF	wP	Rif. cmb
290	0.02	0.10	0.01	274,376,400	0.0	0.0	0.0	0,0,0
291	0.09	0.52	0.04	288,373,400	0.0	0.0	0.0	0,0,0
292	0.04	0.07	0.03	346,346,400	0.0	0.0	0.0	0,0,0
293	0.06	0.13	0.03	346,346,400	0.0	0.0	0.0	0,0,0
294	0.02	0.17	0.01	373,346,400	0.0	0.0	0.0	0,0,0
295	0.08	0.43	0.05	381,381,400	0.0	0.0	0.0	0,0,0
296	0.08	0.15	0.06	299,346,400	0.0	0.0	0.0	0,0,0
297	0.03	0.03	0.02	299,386,400	0.0	0.0	0.0	0,0,0
298	0.08	0.15	0.04	362,299,400	0.0	0.0	0.0	0,0,0
299	0.03	0.04	0.02	357,386,400	0.0	0.0	0.0	0,0,0
300	0.11	0.37	0.08	299,346,400	0.0	0.0	0.0	0,0,0
301	0.04	0.04	0.03	299,346,400	0.0	0.0	0.0	0,0,0
302	0.03	0.09	0.02	297,299,400	0.0	0.0	0.0	0,0,0
303	0.03	0.11	0.02	274,346,400	0.0	0.0	0.0	0,0,0
304	0.04	0.21	0.02	288,288,400	0.0	0.0	0.0	0,0,0
305	0.12	0.51	0.03	317,297,400	0.0	0.0	0.0	0,0,0
306	0.03	0.04	0.02	299,346,400	0.0	0.0	0.0	0,0,0
307	0.02	0.04	0.02	346,346,400	0.0	0.0	0.0	0,0,0
Setto	**rRfck**	**rRfyk**	**rPfck**		**wR**	**wF**	**wP**	
	0.58	0.77	0.20		0.16	0.12	0.0	

Guscio	rRfck	rRfyk	rPfck	Rif. cmb	wR	wF	wP	Rif. cmb
					mm	mm	mm	
37	0.03	0.06	0.03	346,301,400	0.0	0.0	0.0	0,0,0
38	0.02	0.05	0.02	301,301,400	0.0	0.0	0.0	0,0,0
39	0.02	0.05	0.02	301,301,400	0.0	0.0	0.0	0,0,0
40	0.02	0.05	0.02	349,349,400	0.0	0.0	0.0	0,0,0
41	0.01	0.04	0.01	301,301,400	0.0	0.0	0.0	0,0,0
42	0.01	0.04	0.02	301,301,400	0.0	0.0	0.0	0,0,0
43	0.01	0.03	0.01	292,301,400	0.0	0.0	0.0	0,0,0
44	0.02	0.03	0.02	301,301,400	0.0	0.0	0.0	0,0,0
45	0.02	0.03	0.01	301,301,400	0.0	0.0	0.0	0,0,0
46	6.79e-03	0.02	2.69e-03	358,357,400	0.0	0.0	0.0	0,0,0
50	0.02	0.05	7.22e-03	297,297,400	0.0	0.0	0.0	0,0,0
54	0.09	0.38	0.04	358,354,400	0.0	0.0	0.0	0,0,0
84	0.02	0.10	0.01	354,297,400	0.0	0.0	0.0	0,0,0
85	5.74e-03	0.03	2.72e-03	297,297,400	0.0	0.0	0.0	0,0,0
88	0.06	0.19	0.03	297,288,400	0.0	0.0	0.0	0,0,0
89	5.67e-03	0.02	2.99e-03	301,292,400	0.0	0.0	0.0	0,0,0
92	0.02	0.06	8.32e-03	297,357,400	0.0	0.0	0.0	0,0,0
93	0.09	0.38	0.04	288,297,400	0.0	0.0	0.0	0,0,0
118	0.08	0.28	0.06	381,381,400	0.0	0.0	0.0	0,0,0
119	0.07	0.25	0.05	322,381,400	0.0	0.0	0.0	0,0,0
120	0.10	0.34	0.09	357,357,400	0.0	0.0	0.0	0,0,0
121	0.04	0.17	0.05	290,290,400	0.0	0.0	0.0	0,0,0
122	0.05	0.21	0.06	357,357,400	0.0	0.0	0.0	0,0,0
123	0.09	0.28	0.08	367,357,400	0.0	0.0	0.0	0,0,0
124	0.08	0.27	0.09	290,290,400	0.0	0.0	0.0	0,0,0
125	0.07	0.26	0.08	290,290,400	0.0	0.0	0.0	0,0,0
126	0.09	0.31	0.08	357,357,400	0.0	0.0	0.0	0,0,0
127	0.04	0.18	0.04	357,357,400	0.0	0.0	0.0	0,0,0
128	0.05	0.25	0.05	357,357,400	0.0	0.0	0.0	0,0,0
129	0.05	0.21	0.05	357,357,400	0.0	0.0	0.0	0,0,0
130	0.06	0.24	0.05	357,357,400	0.0	0.0	0.0	0,0,0
131	0.07	0.29	0.06	357,357,400	0.0	0.0	0.0	0,0,0
132	0.06	0.26	0.06	357,357,400	0.0	0.0	0.0	0,0,0
133	0.07	0.28	0.06	357,357,400	0.0	0.0	0.0	0,0,0
134	0.09	0.34	0.09	367,357,400	0.0	0.0	0.0	0,0,0
135	0.10	0.38	0.09	367,357,400	0.0	0.0	0.0	0,0,0
136	0.07	0.27	0.06	357,357,400	0.0	0.0	0.0	0,0,0
137	0.02	0.09	0.02	297,297,400	0.0	0.0	0.0	0,0,0
138	0.10	0.29	0.09	367,357,400	0.0	0.0	0.0	0,0,0
139	0.06	0.25	0.06	357,357,400	0.0	0.0	0.0	0,0,0
140	0.02	0.06	0.01	297,297,400	0.0	0.0	0.0	0,0,0
141	0.07	0.24	0.06	367,299,400	0.0	0.0	0.0	0,0,0
142	0.05	0.22	0.05	357,357,400	0.0	0.0	0.0	0,0,0
143	0.01	0.05	8.65e-03	299,299,400	0.0	0.0	0.0	0,0,0
144	0.07	0.29	0.08	354,357,400	0.0	0.0	0.0	0,0,0
145	0.05	0.22	0.05	357,357,400	0.0	0.0	0.0	0,0,0
146	0.08	0.27	0.08	357,357,400	0.0	0.0	0.0	0,0,0
147	0.08	0.30	0.07	357,357,400	0.0	0.0	0.0	0,0,0

Guscio	rRfck	rRfyk	rPfck	Rif. cmb	wR	wF	wP	Rif. cmb
148	0.03	0.12	0.03	290,290,400	0.0	0.0	0.0	0,0,0
149	0.03	0.11	0.02	322,322,400	0.0	0.0	0.0	0,0,0
150	0.04	0.19	0.04	322,381,400	0.0	0.0	0.0	0,0,0
151	0.05	0.21	0.05	379,379,400	0.0	0.0	0.0	0,0,0
152	0.05	0.21	0.05	379,379,400	0.0	0.0	0.0	0,0,0
153	0.05	0.21	0.05	317,317,400	0.0	0.0	0.0	0,0,0
154	0.05	0.21	0.05	317,317,400	0.0	0.0	0.0	0,0,0
155	0.03	0.14	0.03	290,290,400	0.0	0.0	0.0	0,0,0
156	0.03	0.11	0.02	322,322,400	0.0	0.0	0.0	0,0,0
157	0.06	0.25	0.05	322,381,400	0.0	0.0	0.0	0,0,0
158	0.07	0.27	0.06	381,381,400	0.0	0.0	0.0	0,0,0
159	0.05	0.22	0.06	379,379,400	0.0	0.0	0.0	0,0,0
160	0.08	0.35	0.09	290,290,400	0.0	0.0	0.0	0,0,0
161	0.07	0.32	0.07	290,290,400	0.0	0.0	0.0	0,0,0
162	0.04	0.19	0.04	290,290,400	0.0	0.0	0.0	0,0,0
163	0.04	0.18	0.04	373,373,400	0.0	0.0	0.0	0,0,0
164	0.06	0.28	0.05	381,381,400	0.0	0.0	0.0	0,0,0
165	0.03	0.14	0.03	373,373,400	0.0	0.0	0.0	0,0,0
166	0.02	0.09	0.01	297,297,400	0.0	0.0	0.0	0,0,0
167	0.06	0.27	0.06	297,373,400	0.0	0.0	0.0	0,0,0
168	0.08	0.34	0.08	290,290,400	0.0	0.0	0.0	0,0,0
169	0.05	0.23	0.05	357,357,400	0.0	0.0	0.0	0,0,0
170	0.05	0.23	0.05	357,299,400	0.0	0.0	0.0	0,0,0
171	0.05	0.28	0.05	346,299,400	0.0	0.0	0.0	0,0,0
172	0.07	0.29	0.06	297,297,400	0.0	0.0	0.0	0,0,0
173	0.07	0.29	0.06	297,297,400	0.0	0.0	0.0	0,0,0
174	0.06	0.27	0.05	297,297,400	0.0	0.0	0.0	0,0,0
175	0.06	0.32	0.06	357,357,400	0.0	0.0	0.0	0,0,0
176	0.04	0.17	0.04	373,373,400	0.0	0.0	0.0	0,0,0
177	0.05	0.24	0.05	373,373,400	0.0	0.0	0.0	0,0,0
178	0.05	0.19	0.04	297,297,400	0.0	0.0	0.0	0,0,0
179	0.03	0.14	0.02	297,297,400	0.0	0.0	0.0	0,0,0
180	0.03	0.11	0.02	297,297,400	0.0	0.0	0.0	0,0,0
181	0.02	0.06	0.01	297,297,400	0.0	0.0	0.0	0,0,0
182	0.01	0.05	8.10e-03	299,299,400	0.0	0.0	0.0	0,0,0
183	0.01	0.05	7.94e-03	299,299,400	0.0	0.0	0.0	0,0,0
184	0.02	0.08	0.02	373,373,400	0.0	0.0	0.0	0,0,0
185	0.02	0.08	0.01	297,297,400	0.0	0.0	0.0	0,0,0
186	0.05	0.24	0.05	297,297,400	0.0	0.0	0.0	0,0,0
187	0.06	0.25	0.05	297,297,400	0.0	0.0	0.0	0,0,0
188	0.06	0.26	0.05	297,297,400	0.0	0.0	0.0	0,0,0
189	0.06	0.25	0.05	297,297,400	0.0	0.0	0.0	0,0,0
190	0.03	0.13	0.03	373,373,400	0.0	0.0	0.0	0,0,0
227	0.02	0.09	0.02	301,297,400	0.0	0.0	0.0	0,0,0
228	0.02	0.07	0.02	301,282,400	0.0	0.0	0.0	0,0,0
229	0.04	0.07	0.03	346,301,400	0.0	0.0	0.0	0,0,0
230	0.02	0.05	0.02	301,282,400	0.0	0.0	0.0	0,0,0
231	0.02	0.05	0.01	301,282,400	0.0	0.0	0.0	0,0,0
232	0.03	0.06	0.02	346,299,400	0.0	0.0	0.0	0,0,0
233	0.02	0.03	0.02	282,282,400	0.0	0.0	0.0	0,0,0
234	0.02	0.04	0.02	282,282,400	0.0	0.0	0.0	0,0,0
235	0.01	0.04	0.01	320,301,400	0.0	0.0	0.0	0,0,0
260	0.02	0.11	0.01	373,297,400	0.0	0.0	0.0	0,0,0
264	8.80e-03	0.02	4.13e-03	354,373,400	0.0	0.0	0.0	0,0,0
268	0.07	0.32	0.03	377,358,400	0.0	0.0	0.0	0,0,0
276	0.02	0.05	8.90e-03	354,373,400	0.0	0.0	0.0	0,0,0
277	0.04	0.19	0.03	358,358,400	0.0	0.0	0.0	0,0,0
284	0.02	0.10	7.79e-03	373,354,400	0.0	0.0	0.0	0,0,0
285	8.29e-03	0.04	3.64e-03	373,354,400	0.0	0.0	0.0	0,0,0
288	3.65e-03	0.01	2.01e-03	358,358,400	0.0	0.0	0.0	0,0,0
289	3.98e-03	0.01	2.13e-03	358,354,400	0.0	0.0	0.0	0,0,0
308	3.38e-03	0.02	3.33e-03	376,290,400	0.0	0.0	0.0	0,0,0
309	0.05	0.21	0.04	274,274,400	0.0	0.0	0.0	0,0,0
310	0.05	0.23	0.05	317,317,400	0.0	0.0	0.0	0,0,0
311	0.25	0.70	0.14	299,299,400	0.11	0.07	0.0	299,391,0
312	0.05	0.23	0.06	288,290,400	0.0	0.0	0.0	0,0,0
313	0.04	0.16	0.03	297,297,400	0.0	0.0	0.0	0,0,0
314	0.01	0.06	0.02	317,362,400	0.0	0.0	0.0	0,0,0
315	0.07	0.27	0.07	357,317,400	0.0	0.0	0.0	0,0,0
316	0.10	0.37	0.11	373,373,400	0.0	0.0	0.0	0,0,0
317	0.02	0.08	0.02	362,362,400	0.0	0.0	0.0	0,0,0
318	0.07	0.26	0.06	357,354,400	0.0	0.0	0.0	0,0,0
319	0.09	0.34	0.07	297,297,400	0.0	0.0	0.0	0,0,0
320	0.02	0.10	0.02	362,362,400	0.0	0.0	0.0	0,0,0

Guscio	rRfck	rRfyk	rPfck	Rif. cmb	wR	wF	wP	Rif. cmb
321	0.12	0.38	0.10	357,354,400	0.0	0.0	0.0	0,0,0
322	0.10	0.33	0.08	299,299,400	0.0	0.0	0.0	0,0,0
323	0.03	0.12	0.03	354,362,400	0.0	0.0	0.0	0,0,0
324	0.12	0.50	0.10	357,357,400	0.0	0.0	0.0	0,0,0
325	0.10	0.44	0.09	299,299,400	0.0	0.0	0.0	0,0,0
326	5.17e-03	0.02	5.33e-03	317,317,400	0.0	0.0	0.0	0,0,0
327	0.06	0.27	0.06	317,317,400	0.0	0.0	0.0	0,0,0
328	0.06	0.27	0.07	288,290,400	0.0	0.0	0.0	0,0,0
329	0.01	0.05	0.01	317,317,400	0.0	0.0	0.0	0,0,0
330	0.07	0.27	0.07	362,362,400	0.0	0.0	0.0	0,0,0
331	0.10	0.44	0.11	373,373,400	0.0	0.0	0.0	0,0,0
332	0.03	0.14	0.03	354,354,400	0.0	0.0	0.0	0,0,0
333	0.09	0.41	0.08	274,354,400	0.0	0.0	0.0	0,0,0
334	0.07	0.28	0.06	297,297,400	0.0	0.0	0.0	0,0,0
335	0.04	0.18	0.04	274,354,400	0.0	0.0	0.0	0,0,0
336	0.11	0.48	0.09	274,297,400	0.0	0.0	0.0	0,0,0
337	0.06	0.24	0.05	297,297,400	0.0	0.0	0.0	0,0,0
338	0.05	0.21	0.04	274,274,400	0.0	0.0	0.0	0,0,0
339	0.16	0.56	0.12	297,297,400	0.0	0.0	0.0	0,0,0
340	0.05	0.20	0.04	297,297,400	0.0	0.0	0.0	0,0,0
341	0.04	0.19	0.04	274,274,400	0.0	0.0	0.0	0,0,0
342	0.14	0.60	0.10	297,297,400	0.0	0.0	0.0	0,0,0
343	0.03	0.12	0.02	297,297,400	0.0	0.0	0.0	0,0,0
344	0.03	0.13	0.03	297,297,400	0.0	0.0	0.0	0,0,0
345	0.09	0.34	0.07	297,297,400	0.0	0.0	0.0	0,0,0
346	0.02	0.09	0.02	297,297,400	0.0	0.0	0.0	0,0,0
347	0.02	0.09	0.02	297,297,400	0.0	0.0	0.0	0,0,0
348	0.07	0.27	0.05	297,297,400	0.0	0.0	0.0	0,0,0
349	0.02	0.06	0.01	297,297,400	0.0	0.0	0.0	0,0,0
350	9.58e-03	0.04	7.28e-03	357,357,400	0.0	0.0	0.0	0,0,0
351	0.08	0.33	0.06	297,297,400	0.0	0.0	0.0	0,0,0
352	0.02	0.09	0.02	317,317,400	0.0	0.0	0.0	0,0,0
353	0.03	0.11	0.03	362,362,400	0.0	0.0	0.0	0,0,0
354	0.03	0.13	0.03	357,362,400	0.0	0.0	0.0	0,0,0
355	0.04	0.17	0.04	354,354,400	0.0	0.0	0.0	0,0,0
356	9.35e-03	0.04	8.10e-03	357,357,400	0.0	0.0	0.0	0,0,0
357	0.02	0.06	0.02	317,317,400	0.0	0.0	0.0	0,0,0
358	0.04	0.18	0.04	354,354,400	0.0	0.0	0.0	0,0,0
359	0.05	0.20	0.04	354,354,400	0.0	0.0	0.0	0,0,0
360	0.07	0.30	0.06	274,274,400	0.0	0.0	0.0	0,0,0
361	0.08	0.32	0.06	297,297,400	0.0	0.0	0.0	0,0,0
362	0.06	0.24	0.05	297,297,400	0.0	0.0	0.0	0,0,0
363	0.05	0.20	0.04	297,297,400	0.0	0.0	0.0	0,0,0
364	0.02	0.08	0.01	357,357,400	0.0	0.0	0.0	0,0,0
365	0.12	0.52	0.09	297,297,400	0.0	0.0	0.0	0,0,0
366	0.03	0.11	0.03	317,317,400	0.0	0.0	0.0	0,0,0
367	0.03	0.14	0.04	362,362,400	0.0	0.0	0.0	0,0,0
368	0.05	0.18	0.04	354,354,400	0.0	0.0	0.0	0,0,0
369	0.05	0.22	0.05	354,354,400	0.0	0.0	0.0	0,0,0
370	0.02	0.08	0.01	357,357,400	0.0	0.0	0.0	0,0,0
371	0.02	0.08	0.02	317,317,400	0.0	0.0	0.0	0,0,0
372	0.06	0.26	0.05	354,354,400	0.0	0.0	0.0	0,0,0
373	0.07	0.30	0.06	354,354,400	0.0	0.0	0.0	0,0,0
374	0.09	0.37	0.08	354,288,400	0.0	0.0	0.0	0,0,0
375	0.11	0.46	0.09	297,297,400	0.0	0.0	0.0	0,0,0
376	0.08	0.30	0.06	297,297,400	0.0	0.0	0.0	0,0,0
377	0.06	0.25	0.05	297,297,400	0.0	0.0	0.0	0,0,0
378	0.04	0.19	0.04	362,362,400	0.0	0.0	0.0	0,0,0
379	0.29	0.60	0.13	299,299,400	0.17	0.0	0.0	299,0,0
380	0.06	0.23	0.06	362,317,400	0.0	0.0	0.0	0,0,0
381	0.05	0.22	0.06	354,354,400	0.0	0.0	0.0	0,0,0
382	0.12	0.45	0.10	354,354,400	0.0	0.0	0.0	0,0,0
383	0.11	0.45	0.09	357,354,400	0.0	0.0	0.0	0,0,0
384	0.05	0.21	0.05	362,362,400	0.0	0.0	0.0	0,0,0
385	0.06	0.25	0.06	362,362,400	0.0	0.0	0.0	0,0,0
386	0.09	0.40	0.08	354,354,400	0.0	0.0	0.0	0,0,0
387	0.10	0.43	0.08	354,354,400	0.0	0.0	0.0	0,0,0
388	0.15	0.53	0.10	299,297,400	0.0	0.0	0.0	0,0,0
389	0.13	0.55	0.10	297,297,400	0.0	0.0	0.0	0,0,0
390	0.08	0.33	0.07	297,297,400	0.0	0.0	0.0	0,0,0
391	0.07	0.27	0.05	297,297,400	0.0	0.0	0.0	0,0,0
392	0.05	0.21	0.04	373,373,400	0.0	0.0	0.0	0,0,0
393	0.13	0.55	0.10	297,297,400	0.0	0.0	0.0	0,0,0
394	0.05	0.19	0.03	297,297,400	0.0	0.0	0.0	0,0,0

Guscio	rRfck	rRfyk	rPfck	Rif. cmb	wR	wF	wP	Rif. cmb
395	0.03	0.14	0.02	297,297,400	0.0	0.0	0.0	0,0,0
396	0.03	0.10	0.02	297,297,400	0.0	0.0	0.0	0,0,0
397	0.01	0.05	8.88e-03	297,297,400	0.0	0.0	0.0	0,0,0
398	0.01	0.04	6.88e-03	299,299,400	0.0	0.0	0.0	0,0,0
399	0.01	0.04	6.86e-03	299,299,400	0.0	0.0	0.0	0,0,0
400	0.09	0.40	0.08	274,274,400	0.0	0.0	0.0	0,0,0
401	0.11	0.45	0.09	274,274,400	0.0	0.0	0.0	0,0,0
402	0.11	0.48	0.09	297,297,400	0.0	0.0	0.0	0,0,0
403	0.10	0.42	0.07	297,297,400	0.0	0.0	0.0	0,0,0
404	0.07	0.28	0.06	297,297,400	0.0	0.0	0.0	0,0,0
405	0.06	0.24	0.05	297,297,400	0.0	0.0	0.0	0,0,0
406	0.06	0.25	0.06	317,317,400	0.0	0.0	0.0	0,0,0
407	0.06	0.25	0.05	297,297,400	0.0	0.0	0.0	0,0,0
408	0.10	0.37	0.10	376,376,400	0.0	0.0	0.0	0,0,0
409	0.10	0.37	0.10	373,373,400	0.0	0.0	0.0	0,0,0
410	0.12	0.39	0.09	297,297,400	0.0	0.0	0.0	0,0,0
411	0.09	0.35	0.09	299,297,400	0.0	0.0	0.0	0,0,0
412	0.06	0.28	0.07	288,290,400	0.0	0.0	0.0	0,0,0
413	0.10	0.44	0.11	373,373,400	0.0	0.0	0.0	0,0,0
414	0.08	0.36	0.07	297,297,400	0.0	0.0	0.0	0,0,0
415	0.08	0.34	0.07	297,297,400	0.0	0.0	0.0	0,0,0
416	0.07	0.30	0.06	297,297,400	0.0	0.0	0.0	0,0,0
417	0.05	0.19	0.04	297,297,400	0.0	0.0	0.0	0,0,0
418	0.03	0.14	0.03	297,297,400	0.0	0.0	0.0	0,0,0
419	0.03	0.11	0.03	297,297,400	0.0	0.0	0.0	0,0,0
420	0.06	0.25	0.06	317,317,400	0.0	0.0	0.0	0,0,0
421	0.08	0.34	0.06	297,297,400	0.0	0.0	0.0	0,0,0
422	0.06	0.24	0.06	317,288,400	0.0	0.0	0.0	0,0,0
423	0.07	0.29	0.07	297,297,400	0.0	0.0	0.0	0,0,0
424	0.11	0.41	0.09	297,297,400	0.0	0.0	0.0	0,0,0
425	0.10	0.46	0.08	297,297,400	0.0	0.0	0.0	0,0,0
426	0.06	0.28	0.07	317,317,400	0.0	0.0	0.0	0,0,0
427	0.07	0.36	0.07	317,317,400	0.0	0.0	0.0	0,0,0
428	0.09	0.40	0.08	297,297,400	0.0	0.0	0.0	0,0,0
429	0.09	0.38	0.08	297,297,400	0.0	0.0	0.0	0,0,0
430	0.09	0.38	0.07	297,297,400	0.0	0.0	0.0	0,0,0
431	0.06	0.26	0.05	297,297,400	0.0	0.0	0.0	0,0,0
432	0.05	0.19	0.04	297,297,400	0.0	0.0	0.0	0,0,0
433	0.04	0.17	0.04	297,297,400	0.0	0.0	0.0	0,0,0
434	0.04	0.19	0.04	373,288,400	0.0	0.0	0.0	0,0,0
435	0.03	0.11	0.02	297,297,400	0.0	0.0	0.0	0,0,0
436	0.08	0.33	0.07	297,373,400	0.0	0.0	0.0	0,0,0
437	0.08	0.34	0.07	297,297,400	0.0	0.0	0.0	0,0,0
438	0.08	0.31	0.07	297,297,400	0.0	0.0	0.0	0,0,0
439	0.08	0.32	0.06	297,297,400	0.0	0.0	0.0	0,0,0
440	0.05	0.23	0.05	373,373,400	0.0	0.0	0.0	0,0,0
441	0.07	0.31	0.07	373,373,400	0.0	0.0	0.0	0,0,0
442	0.05	0.20	0.04	297,297,400	0.0	0.0	0.0	0,0,0
443	0.04	0.17	0.03	297,297,400	0.0	0.0	0.0	0,0,0
444	0.03	0.14	0.03	297,297,400	0.0	0.0	0.0	0,0,0
445	0.05	0.20	0.04	357,357,400	0.0	0.0	0.0	0,0,0
446	0.05	0.21	0.05	357,357,400	0.0	0.0	0.0	0,0,0
447	0.05	0.21	0.05	357,357,400	0.0	0.0	0.0	0,0,0
448	0.02	0.10	0.01	290,290,400	0.0	0.0	0.0	0,0,0
449	0.02	0.11	0.02	290,290,400	0.0	0.0	0.0	0,0,0
450	0.03	0.14	0.03	288,288,400	0.0	0.0	0.0	0,0,0
451	0.04	0.18	0.04	354,354,400	0.0	0.0	0.0	0,0,0
452	0.04	0.17	0.04	357,357,400	0.0	0.0	0.0	0,0,0
453	0.04	0.18	0.04	357,357,400	0.0	0.0	0.0	0,0,0
454	0.04	0.18	0.04	357,357,400	0.0	0.0	0.0	0,0,0
455	0.03	0.12	0.02	290,290,400	0.0	0.0	0.0	0,0,0
456	0.03	0.13	0.02	290,290,400	0.0	0.0	0.0	0,0,0
457	0.03	0.13	0.03	290,290,400	0.0	0.0	0.0	0,0,0
458	0.04	0.16	0.04	354,354,400	0.0	0.0	0.0	0,0,0
459	0.04	0.17	0.03	357,357,400	0.0	0.0	0.0	0,0,0
460	0.04	0.19	0.04	354,354,400	0.0	0.0	0.0	0,0,0
461	0.04	0.18	0.04	354,354,400	0.0	0.0	0.0	0,0,0
462	0.03	0.12	0.02	290,290,400	0.0	0.0	0.0	0,0,0
463	0.03	0.13	0.02	290,290,400	0.0	0.0	0.0	0,0,0
464	0.03	0.13	0.02	290,290,400	0.0	0.0	0.0	0,0,0
465	0.04	0.17	0.03	288,288,400	0.0	0.0	0.0	0,0,0
466	0.05	0.21	0.04	354,354,400	0.0	0.0	0.0	0,0,0
467	0.06	0.24	0.05	288,288,400	0.0	0.0	0.0	0,0,0
468	0.05	0.24	0.04	288,288,400	0.0	0.0	0.0	0,0,0

Guscio	rRfck	rRfyk	rPfck	Rif. cmb	wR	wF	wP	Rif. cmb
469	0.03	0.12	0.02	290,290,400	0.0	0.0	0.0	0,0,0
470	0.03	0.12	0.02	290,290,400	0.0	0.0	0.0	0,0,0
471	0.03	0.14	0.03	288,288,400	0.0	0.0	0.0	0,0,0
472	0.05	0.21	0.04	288,288,400	0.0	0.0	0.0	0,0,0
473	0.07	0.28	0.05	354,354,400	0.0	0.0	0.0	0,0,0
474	0.08	0.34	0.06	288,288,400	0.0	0.0	0.0	0,0,0
475	0.08	0.34	0.06	288,288,400	0.0	0.0	0.0	0,0,0
476	0.02	0.10	0.02	317,317,400	0.0	0.0	0.0	0,0,0
477	0.02	0.11	0.02	317,317,400	0.0	0.0	0.0	0,0,0
478	0.04	0.16	0.03	373,373,400	0.0	0.0	0.0	0,0,0
479	0.06	0.26	0.05	373,373,400	0.0	0.0	0.0	0,0,0
480	0.08	0.27	0.05	357,354,400	0.0	0.0	0.0	0,0,0
481	0.13	0.54	0.10	288,288,400	0.0	0.0	0.0	0,0,0
482	0.12	0.54	0.09	354,288,400	0.0	0.0	0.0	0,0,0
483	0.02	0.08	0.01	317,317,400	0.0	0.0	0.0	0,0,0
484	0.02	0.09	0.01	373,373,400	0.0	0.0	0.0	0,0,0
485	0.04	0.16	0.03	373,373,400	0.0	0.0	0.0	0,0,0
486	0.07	0.30	0.05	373,373,400	0.0	0.0	0.0	0,0,0
487	0.09	0.27	0.06	357,357,400	0.0	0.0	0.0	0,0,0
488	0.10	0.31	0.06	376,373,400	0.0	0.0	0.0	0,0,0
489	0.16	0.65	0.07	357,357,400	0.04	0.0	0.0	357,0,0
490	0.01	0.07	9.31e-03	373,373,400	0.0	0.0	0.0	0,0,0
491	0.02	0.09	0.01	373,373,400	0.0	0.0	0.0	0,0,0
492	0.04	0.15	0.03	373,373,400	0.0	0.0	0.0	0,0,0
493	0.07	0.29	0.05	373,373,400	0.0	0.0	0.0	0,0,0
494	0.09	0.36	0.06	288,297,400	0.0	0.0	0.0	0,0,0
495	0.12	0.32	0.05	299,299,400	0.0	0.0	0.0	0,0,0
496	0.15	0.28	0.06	367,274,400	0.04	0.0	0.0	367,0,0
497	0.01	0.07	7.88e-03	297,373,400	0.0	0.0	0.0	0,0,0
498	0.02	0.09	0.01	373,373,400	0.0	0.0	0.0	0,0,0
499	0.04	0.16	0.02	373,373,400	0.0	0.0	0.0	0,0,0
500	0.07	0.30	0.05	297,297,400	0.0	0.0	0.0	0,0,0
501	0.07	0.31	0.06	354,274,400	0.0	0.0	0.0	0,0,0
502	0.09	0.35	0.06	297,297,400	0.0	0.0	0.0	0,0,0
503	0.10	0.34	0.06	357,357,400	0.0	0.0	0.0	0,0,0
504	9.87e-03	0.05	4.11e-03	297,297,400	0.0	0.0	0.0	0,0,0
505	0.01	0.06	6.16e-03	297,297,400	0.0	0.0	0.0	0,0,0
506	0.02	0.10	0.01	297,297,400	0.0	0.0	0.0	0,0,0
507	0.05	0.21	0.04	297,297,400	0.0	0.0	0.0	0,0,0
508	0.06	0.23	0.04	354,354,400	0.0	0.0	0.0	0,0,0
509	0.06	0.24	0.05	297,274,400	0.0	0.0	0.0	0,0,0
510	0.06	0.24	0.04	354,354,400	0.0	0.0	0.0	0,0,0
511	5.76e-03	0.03	1.90e-03	297,297,400	0.0	0.0	0.0	0,0,0
512	7.99e-03	0.04	3.54e-03	297,297,400	0.0	0.0	0.0	0,0,0
513	0.02	0.09	0.01	297,297,400	0.0	0.0	0.0	0,0,0
514	0.04	0.17	0.03	297,297,400	0.0	0.0	0.0	0,0,0
515	0.04	0.19	0.04	354,354,400	0.0	0.0	0.0	0,0,0
516	0.05	0.19	0.04	274,274,400	0.0	0.0	0.0	0,0,0
517	0.04	0.19	0.04	274,274,400	0.0	0.0	0.0	0,0,0
518	2.65e-03	0.01	1.06e-03	299,299,400	0.0	0.0	0.0	0,0,0
519	6.02e-03	0.03	3.84e-03	299,299,400	0.0	0.0	0.0	0,0,0
520	0.02	0.08	0.01	297,297,400	0.0	0.0	0.0	0,0,0
521	0.03	0.15	0.03	297,297,400	0.0	0.0	0.0	0,0,0
522	0.03	0.12	0.02	357,357,400	0.0	0.0	0.0	0,0,0
523	0.04	0.17	0.03	357,357,400	0.0	0.0	0.0	0,0,0
524	0.03	0.13	0.02	357,357,400	0.0	0.0	0.0	0,0,0
525	0.05	0.20	0.03	357,357,400	0.0	0.0	0.0	0,0,0
526	0.04	0.18	0.03	288,288,400	0.0	0.0	0.0	0,0,0
527	0.06	0.24	0.04	290,288,400	0.0	0.0	0.0	0,0,0
528	0.05	0.20	0.03	288,288,400	0.0	0.0	0.0	0,0,0
529	0.07	0.27	0.05	288,288,400	0.0	0.0	0.0	0,0,0
530	0.05	0.21	0.04	288,288,400	0.0	0.0	0.0	0,0,0
531	0.07	0.29	0.05	288,288,400	0.0	0.0	0.0	0,0,0
532	0.05	0.20	0.04	288,288,400	0.0	0.0	0.0	0,0,0
533	0.06	0.26	0.05	288,354,400	0.0	0.0	0.0	0,0,0
534	0.04	0.17	0.03	288,288,400	0.0	0.0	0.0	0,0,0
535	0.05	0.21	0.04	288,354,400	0.0	0.0	0.0	0,0,0
536	0.04	0.15	0.03	288,288,400	0.0	0.0	0.0	0,0,0
537	0.04	0.18	0.03	288,354,400	0.0	0.0	0.0	0,0,0
538	0.03	0.12	0.02	288,288,400	0.0	0.0	0.0	0,0,0
539	0.02	0.08	0.02	357,357,400	0.0	0.0	0.0	0,0,0
540	0.04	0.16	0.03	288,288,400	0.0	0.0	0.0	0,0,0
541	0.02	0.10	0.02	290,290,400	0.0	0.0	0.0	0,0,0
542	0.03	0.13	0.03	288,288,400	0.0	0.0	0.0	0,0,0

Guscio	rRfck	rRfyk	rPfck	Rif. cmb	wR	wF	wP	Rif. cmb
543	0.03	0.14	0.02	290,288,400	0.0	0.0	0.0	0,0,0
544	0.04	0.15	0.03	288,288,400	0.0	0.0	0.0	0,0,0
545	0.04	0.15	0.03	290,288,400	0.0	0.0	0.0	0,0,0
546	0.02	0.09	0.01	346,346,400	0.0	0.0	0.0	0,0,0
547	0.03	0.13	0.02	357,357,400	0.0	0.0	0.0	0,0,0
548	0.03	0.14	0.03	362,362,400	0.0	0.0	0.0	0,0,0
549	0.04	0.19	0.04	357,357,400	0.0	0.0	0.0	0,0,0
550	0.03	0.15	0.03	362,362,400	0.0	0.0	0.0	0,0,0
551	0.05	0.20	0.05	357,357,400	0.0	0.0	0.0	0,0,0
552	0.03	0.15	0.03	362,362,400	0.0	0.0	0.0	0,0,0
553	0.05	0.20	0.05	357,362,400	0.0	0.0	0.0	0,0,0
554	0.03	0.14	0.03	362,362,400	0.0	0.0	0.0	0,0,0
555	0.04	0.18	0.04	357,357,400	0.0	0.0	0.0	0,0,0
556	0.03	0.12	0.03	322,346,400	0.0	0.0	0.0	0,0,0
557	0.04	0.16	0.04	357,299,400	0.0	0.0	0.0	0,0,0
558	0.02	0.11	0.02	299,346,400	0.0	0.0	0.0	0,0,0
559	0.03	0.15	0.03	299,299,400	0.0	0.0	0.0	0,0,0
560	0.03	0.13	0.03	357,357,400	0.0	0.0	0.0	0,0,0
561	0.04	0.17	0.04	357,357,400	0.0	0.0	0.0	0,0,0
562	0.03	0.12	0.03	357,357,400	0.0	0.0	0.0	0,0,0
563	0.03	0.15	0.03	357,357,400	0.0	0.0	0.0	0,0,0
564	0.03	0.11	0.02	357,357,400	0.0	0.0	0.0	0,0,0
565	0.03	0.15	0.03	357,357,400	0.0	0.0	0.0	0,0,0
566	0.02	0.10	0.02	362,362,400	0.0	0.0	0.0	0,0,0
567	0.01	0.06	7.92e-03	346,346,400	0.0	0.0	0.0	0,0,0
568	0.02	0.10	0.02	322,294,400	0.0	0.0	0.0	0,0,0
569	0.03	0.11	0.03	362,362,400	0.0	0.0	0.0	0,0,0
570	0.02	0.08	0.02	362,362,400	0.0	0.0	0.0	0,0,0
571	0.03	0.11	0.03	362,362,400	0.0	0.0	0.0	0,0,0
572	0.02	0.08	0.02	346,346,400	0.0	0.0	0.0	0,0,0
573	0.03	0.11	0.03	362,362,400	0.0	0.0	0.0	0,0,0
574	0.02	0.09	0.02	362,362,400	0.0	0.0	0.0	0,0,0
575	0.02	0.11	0.02	322,294,400	0.0	0.0	0.0	0,0,0
576	0.03	0.16	0.03	357,357,400	0.0	0.0	0.0	0,0,0
577	0.04	0.20	0.04	357,357,400	0.0	0.0	0.0	0,0,0
578	0.04	0.19	0.04	357,357,400	0.0	0.0	0.0	0,0,0
579	0.01	0.05	0.01	290,290,400	0.0	0.0	0.0	0,0,0
580	0.02	0.09	0.02	290,290,400	0.0	0.0	0.0	0,0,0
581	0.03	0.15	0.03	290,290,400	0.0	0.0	0.0	0,0,0
582	0.04	0.19	0.04	357,357,400	0.0	0.0	0.0	0,0,0
583	0.02	0.08	0.01	346,367,400	0.0	0.0	0.0	0,0,0
584	0.03	0.12	0.02	357,357,400	0.0	0.0	0.0	0,0,0
585	0.01	0.05	5.40e-03	346,346,400	0.0	0.0	0.0	0,0,0
586	0.02	0.08	0.02	290,290,400	0.0	0.0	0.0	0,0,0
587	0.02	0.07	0.02	317,317,400	0.0	0.0	0.0	0,0,0
588	0.03	0.13	0.02	290,290,400	0.0	0.0	0.0	0,0,0
589	0.02	0.09	0.02	290,290,400	0.0	0.0	0.0	0,0,0
590	0.02	0.10	0.02	290,290,400	0.0	0.0	0.0	0,0,0
591	0.03	0.12	0.02	290,290,400	0.0	0.0	0.0	0,0,0
592	0.03	0.12	0.02	290,290,400	0.0	0.0	0.0	0,0,0
593	0.03	0.12	0.02	290,290,400	0.0	0.0	0.0	0,0,0
594	0.02	0.09	0.02	317,317,400	0.0	0.0	0.0	0,0,0
595	7.44e-03	0.04	4.83e-03	346,346,400	0.0	0.0	0.0	0,0,0
596	0.02	0.07	0.02	322,294,400	0.0	0.0	0.0	0,0,0
597	0.02	0.09	0.02	317,317,400	0.0	0.0	0.0	0,0,0
598	0.02	0.07	0.02	317,362,400	0.0	0.0	0.0	0,0,0
599	0.02	0.09	0.02	317,362,400	0.0	0.0	0.0	0,0,0
600	0.01	0.06	0.01	294,346,400	0.0	0.0	0.0	0,0,0
601	0.02	0.08	0.02	362,362,400	0.0	0.0	0.0	0,0,0
602	0.02	0.08	0.02	317,317,400	0.0	0.0	0.0	0,0,0
603	0.02	0.08	0.02	322,294,400	0.0	0.0	0.0	0,0,0
604	5.29e-03	0.03	1.32e-03	346,346,400	0.0	0.0	0.0	0,0,0
605	0.01	0.05	6.07e-03	358,358,400	0.0	0.0	0.0	0,0,0
606	0.05	0.19	0.02	354,354,400	0.0	0.0	0.0	0,0,0
607	0.03	0.10	0.01	358,301,400	0.0	0.0	0.0	0,0,0
608	0.03	0.11	0.01	358,358,400	0.0	0.0	0.0	0,0,0
609	0.04	0.19	0.02	301,301,400	0.0	0.0	0.0	0,0,0
610	0.05	0.17	0.02	301,301,400	0.0	0.0	0.0	0,0,0
611	0.05	0.22	0.03	301,301,400	0.0	0.0	0.0	0,0,0
612	0.05	0.19	0.03	297,301,400	0.0	0.0	0.0	0,0,0
613	0.05	0.21	0.02	301,301,400	0.0	0.0	0.0	0,0,0
614	0.05	0.18	0.02	297,297,400	0.0	0.0	0.0	0,0,0
615	0.03	0.15	0.02	301,301,400	0.0	0.0	0.0	0,0,0
616	0.04	0.13	0.02	301,301,400	0.0	0.0	0.0	0,0,0

Guscio	rRfck	rRfyk	rPfck	Rif. cmb	wR	wF	wP	Rif. cmb
617	0.01	0.04	5.35e-03	301,301,400	0.0	0.0	0.0	0,0,0
618	0.05	0.20	0.02	297,301,400	0.0	0.0	0.0	0,0,0
619	0.01	0.05	6.44e-03	358,358,400	0.0	0.0	0.0	0,0,0
620	0.03	0.09	0.01	358,358,400	0.0	0.0	0.0	0,0,0
621	0.04	0.15	0.02	301,358,400	0.0	0.0	0.0	0,0,0
622	0.05	0.17	0.03	301,301,400	0.0	0.0	0.0	0,0,0
623	0.05	0.16	0.02	301,301,400	0.0	0.0	0.0	0,0,0
624	0.04	0.11	0.02	301,301,400	0.0	0.0	0.0	0,0,0
625	0.01	0.03	5.74e-03	301,292,400	0.0	0.0	0.0	0,0,0
626	0.02	0.06	7.45e-03	357,297,400	0.0	0.0	0.0	0,0,0
627	0.03	0.10	0.01	358,358,400	0.0	0.0	0.0	0,0,0
628	0.05	0.16	0.02	301,301,400	0.0	0.0	0.0	0,0,0
629	0.05	0.18	0.03	301,301,400	0.0	0.0	0.0	0,0,0
630	0.05	0.18	0.02	301,301,400	0.0	0.0	0.0	0,0,0
631	0.04	0.13	0.02	301,301,400	0.0	0.0	0.0	0,0,0
632	0.02	0.07	8.66e-03	297,297,400	0.0	0.0	0.0	0,0,0
633	0.08	0.36	0.03	358,354,400	0.0	0.0	0.0	0,0,0
634	0.04	0.16	0.02	297,297,400	0.0	0.0	0.0	0,0,0
635	0.05	0.17	0.02	301,301,400	0.0	0.0	0.0	0,0,0
636	0.05	0.20	0.03	297,301,400	0.0	0.0	0.0	0,0,0
637	0.05	0.19	0.03	297,301,400	0.0	0.0	0.0	0,0,0
638	0.04	0.14	0.02	301,301,400	0.0	0.0	0.0	0,0,0
639	0.09	0.39	0.04	288,301,400	0.0	0.0	0.0	0,0,0
640	0.02	0.10	9.71e-03	354,354,400	0.0	0.0	0.0	0,0,0
641	0.03	0.11	0.01	358,358,400	0.0	0.0	0.0	0,0,0
642	0.04	0.18	0.02	301,301,400	0.0	0.0	0.0	0,0,0
643	0.05	0.21	0.03	301,301,400	0.0	0.0	0.0	0,0,0
644	0.05	0.20	0.02	301,301,400	0.0	0.0	0.0	0,0,0
645	0.04	0.15	0.02	301,301,400	0.0	0.0	0.0	0,0,0
646	0.02	0.10	0.01	297,297,400	0.0	0.0	0.0	0,0,0
647	6.70e-03	0.02	3.29e-03	354,354,400	0.0	0.0	0.0	0,0,0
648	0.01	0.03	6.01e-03	358,358,400	0.0	0.0	0.0	0,0,0
649	0.03	0.12	0.02	358,358,400	0.0	0.0	0.0	0,0,0
650	0.06	0.29	0.02	373,358,400	0.0	0.0	0.0	0,0,0
651	0.04	0.15	0.02	354,288,400	0.0	0.0	0.0	0,0,0
652	0.04	0.14	0.02	354,358,400	0.0	0.0	0.0	0,0,0
653	0.03	0.11	0.01	301,301,400	0.0	0.0	0.0	0,0,0
654	0.03	0.12	0.02	301,301,400	0.0	0.0	0.0	0,0,0
655	0.01	0.05	5.38e-03	297,297,400	0.0	0.0	0.0	0,0,0
656	0.07	0.35	0.03	297,297,400	0.0	0.0	0.0	0,0,0
657	0.04	0.15	0.02	297,301,400	0.0	0.0	0.0	0,0,0
658	0.04	0.16	0.02	297,301,400	0.0	0.0	0.0	0,0,0
659	0.04	0.15	0.02	358,358,400	0.0	0.0	0.0	0,0,0
660	0.05	0.17	0.02	354,358,400	0.0	0.0	0.0	0,0,0
661	0.02	0.09	7.65e-03	354,357,400	0.0	0.0	0.0	0,0,0
662	0.02	0.06	7.82e-03	354,354,400	0.0	0.0	0.0	0,0,0
663	0.04	0.13	0.02	358,358,400	0.0	0.0	0.0	0,0,0
664	0.03	0.13	0.01	301,301,400	0.0	0.0	0.0	0,0,0
665	0.03	0.10	0.01	297,354,400	0.0	0.0	0.0	0,0,0
666	0.04	0.16	0.02	301,301,400	0.0	0.0	0.0	0,0,0
667	0.05	0.16	0.02	354,358,400	0.0	0.0	0.0	0,0,0
668	0.04	0.18	0.02	358,358,400	0.0	0.0	0.0	0,0,0
669	0.04	0.14	0.02	354,358,400	0.0	0.0	0.0	0,0,0
670	0.04	0.13	0.02	354,358,400	0.0	0.0	0.0	0,0,0
671	0.03	0.12	0.02	297,301,400	0.0	0.0	0.0	0,0,0
672	0.06	0.23	0.02	297,301,400	0.0	0.0	0.0	0,0,0
673	0.05	0.16	0.02	297,297,400	0.0	0.0	0.0	0,0,0
674	0.05	0.16	0.02	354,358,400	0.0	0.0	0.0	0,0,0
675	0.02	0.09	8.18e-03	373,354,400	0.0	0.0	0.0	0,0,0
676	0.02	0.08	8.31e-03	354,354,400	0.0	0.0	0.0	0,0,0
677	0.03	0.14	0.02	358,358,400	0.0	0.0	0.0	0,0,0
678	0.03	0.14	0.02	301,301,400	0.0	0.0	0.0	0,0,0
679	0.03	0.14	0.01	297,297,400	0.0	0.0	0.0	0,0,0
680	0.04	0.17	0.02	301,358,400	0.0	0.0	0.0	0,0,0
681	0.04	0.18	0.02	358,358,400	0.0	0.0	0.0	0,0,0
682	7.91e-03	0.04	3.62e-03	354,354,400	0.0	0.0	0.0	0,0,0
683	0.01	0.05	5.67e-03	358,358,400	0.0	0.0	0.0	0,0,0
684	0.03	0.14	0.02	358,358,400	0.0	0.0	0.0	0,0,0
685	0.03	0.13	0.01	301,301,400	0.0	0.0	0.0	0,0,0
686	0.01	0.06	5.78e-03	297,297,400	0.0	0.0	0.0	0,0,0
687	0.04	0.18	0.02	301,358,400	0.0	0.0	0.0	0,0,0
688	0.04	0.18	0.02	358,358,400	0.0	0.0	0.0	0,0,0
689	0.02	0.06	8.58e-03	301,301,400	0.0	0.0	0.0	0,0,0
690	0.05	0.19	0.02	297,297,400	0.0	0.0	0.0	0,0,0

Guscio	rRfck	rRfyk	rPfck	Rif. cmb	wR	wF	wP	Rif. cmb
691	0.02	0.09	0.01	297,297,400	0.0	0.0	0.0	0,0,0
692	0.05	0.17	0.02	297,297,400	0.0	0.0	0.0	0,0,0
693	0.03	0.11	0.01	297,297,400	0.0	0.0	0.0	0,0,0
694	0.02	0.08	8.10e-03	301,301,400	0.0	0.0	0.0	0,0,0
695	0.04	0.14	0.02	297,301,400	0.0	0.0	0.0	0,0,0
696	0.04	0.16	0.02	297,297,400	0.0	0.0	0.0	0,0,0
697	0.04	0.15	0.02	297,301,400	0.0	0.0	0.0	0,0,0
698	0.04	0.15	0.02	297,301,400	0.0	0.0	0.0	0,0,0
699	0.04	0.16	0.02	301,301,400	0.0	0.0	0.0	0,0,0
700	0.04	0.16	0.02	301,301,400	0.0	0.0	0.0	0,0,0
701	0.04	0.15	0.02	358,301,400	0.0	0.0	0.0	0,0,0
702	0.05	0.17	0.02	354,358,400	0.0	0.0	0.0	0,0,0
703	0.05	0.16	0.02	354,358,400	0.0	0.0	0.0	0,0,0
704	0.05	0.16	0.02	354,358,400	0.0	0.0	0.0	0,0,0
705	0.04	0.18	0.02	358,358,400	0.0	0.0	0.0	0,0,0
706	0.04	0.18	0.02	358,358,400	0.0	0.0	0.0	0,0,0
707	0.04	0.14	0.02	358,358,400	0.0	0.0	0.0	0,0,0
708	0.04	0.15	0.02	358,358,400	0.0	0.0	0.0	0,0,0
709	0.04	0.15	0.02	358,358,400	0.0	0.0	0.0	0,0,0
710	0.04	0.15	0.02	354,354,400	0.0	0.0	0.0	0,0,0
711	0.04	0.17	0.02	358,358,400	0.0	0.0	0.0	0,0,0
712	0.04	0.17	0.02	358,358,400	0.0	0.0	0.0	0,0,0
713	0.02	0.08	0.01	358,358,400	0.0	0.0	0.0	0,0,0
714	0.03	0.10	0.01	297,354,400	0.0	0.0	0.0	0,0,0
715	0.02	0.10	0.01	358,358,400	0.0	0.0	0.0	0,0,0
716	0.03	0.10	0.01	354,354,400	0.0	0.0	0.0	0,0,0
717	0.02	0.11	0.01	358,358,400	0.0	0.0	0.0	0,0,0
718	0.02	0.10	0.01	358,358,400	0.0	0.0	0.0	0,0,0
719	0.04	0.15	0.02	358,301,400	0.0	0.0	0.0	0,0,0
720	0.04	0.14	0.02	301,358,400	0.0	0.0	0.0	0,0,0
721	0.04	0.13	0.02	301,358,400	0.0	0.0	0.0	0,0,0
722	0.04	0.14	0.02	301,301,400	0.0	0.0	0.0	0,0,0
723	0.04	0.14	0.02	301,358,400	0.0	0.0	0.0	0,0,0
724	0.04	0.15	0.02	301,301,400	0.0	0.0	0.0	0,0,0
725	0.05	0.21	0.02	301,301,400	0.0	0.0	0.0	0,0,0
726	0.05	0.18	0.02	297,301,400	0.0	0.0	0.0	0,0,0
727	0.05	0.17	0.02	301,301,400	0.0	0.0	0.0	0,0,0
728	0.05	0.18	0.02	301,301,400	0.0	0.0	0.0	0,0,0
729	0.05	0.19	0.02	301,301,400	0.0	0.0	0.0	0,0,0
730	0.05	0.20	0.02	301,301,400	0.0	0.0	0.0	0,0,0
731	0.05	0.22	0.03	301,301,400	0.0	0.0	0.0	0,0,0
732	0.05	0.19	0.03	297,301,400	0.0	0.0	0.0	0,0,0
733	0.05	0.17	0.03	301,301,400	0.0	0.0	0.0	0,0,0
734	0.05	0.18	0.03	301,301,400	0.0	0.0	0.0	0,0,0
735	0.05	0.20	0.03	301,301,400	0.0	0.0	0.0	0,0,0
736	0.05	0.21	0.03	301,301,400	0.0	0.0	0.0	0,0,0
737	0.04	0.19	0.02	301,301,400	0.0	0.0	0.0	0,0,0
738	0.05	0.17	0.02	297,301,400	0.0	0.0	0.0	0,0,0
739	0.04	0.15	0.02	301,301,400	0.0	0.0	0.0	0,0,0
740	0.05	0.16	0.02	301,301,400	0.0	0.0	0.0	0,0,0
741	0.05	0.17	0.02	297,301,400	0.0	0.0	0.0	0,0,0
742	0.04	0.18	0.02	301,301,400	0.0	0.0	0.0	0,0,0
743	0.02	0.09	0.01	301,301,400	0.0	0.0	0.0	0,0,0
744	0.04	0.15	0.02	297,297,400	0.0	0.0	0.0	0,0,0
745	0.02	0.07	0.01	301,301,400	0.0	0.0	0.0	0,0,0
746	0.03	0.08	0.01	301,301,400	0.0	0.0	0.0	0,0,0
747	0.05	0.19	0.02	297,297,400	0.0	0.0	0.0	0,0,0
748	0.02	0.10	0.01	301,301,400	0.0	0.0	0.0	0,0,0
749	6.37e-03	0.02	3.45e-03	358,358,400	0.0	0.0	0.0	0,0,0
750	0.01	0.04	6.24e-03	358,292,400	0.0	0.0	0.0	0,0,0
751	0.03	0.11	0.02	358,358,400	0.0	0.0	0.0	0,0,0
752	0.03	0.10	0.01	301,301,400	0.0	0.0	0.0	0,0,0
753	0.01	0.03	4.59e-03	301,301,400	0.0	0.0	0.0	0,0,0
754	0.04	0.14	0.02	297,301,400	0.0	0.0	0.0	0,0,0
755	0.04	0.14	0.02	358,301,400	0.0	0.0	0.0	0,0,0
756	0.02	0.06	8.05e-03	301,301,400	0.0	0.0	0.0	0,0,0
757	0.04	0.13	0.02	297,301,400	0.0	0.0	0.0	0,0,0
758	0.04	0.14	0.02	358,301,400	0.0	0.0	0.0	0,0,0
759	0.04	0.13	0.02	358,358,400	0.0	0.0	0.0	0,0,0
760	0.02	0.07	0.01	358,358,400	0.0	0.0	0.0	0,0,0
761	6.51e-03	0.03	3.47e-03	358,358,400	0.0	0.0	0.0	0,0,0
762	0.01	0.05	6.01e-03	358,358,400	0.0	0.0	0.0	0,0,0
763	0.03	0.15	0.02	358,358,400	0.0	0.0	0.0	0,0,0
764	0.03	0.13	0.01	301,301,400	0.0	0.0	0.0	0,0,0

Guscio	rRfck	rRfyk	rPfck	Rif. cmb	wR	wF	wP	Rif. cmb
765	9.71e-03	0.05	4.18e-03	301,301,400	0.0	0.0	0.0	0,0,0
766	0.04	0.19	0.02	301,358,400	0.0	0.0	0.0	0,0,0
767	0.04	0.20	0.02	358,358,400	0.0	0.0	0.0	0,0,0
768	0.02	0.08	7.55e-03	301,301,400	0.0	0.0	0.0	0,0,0
769	0.04	0.17	0.02	301,358,400	0.0	0.0	0.0	0,0,0
770	0.04	0.20	0.02	358,358,400	0.0	0.0	0.0	0,0,0
771	0.04	0.18	0.02	358,358,400	0.0	0.0	0.0	0,0,0
772	0.02	0.10	0.01	358,358,400	0.0	0.0	0.0	0,0,0
773	5.87e-03	0.02	2.46e-03	354,297,400	0.0	0.0	0.0	0,0,0
774	0.06	0.20	0.02	354,354,400	0.0	0.0	0.0	0,0,0
775	0.01	0.04	5.53e-03	297,297,400	0.0	0.0	0.0	0,0,0
776	0.08	0.39	0.03	297,301,400	0.0	0.0	0.0	0,0,0
777	0.03	0.07	0.01	297,297,400	0.0	0.0	0.0	0,0,0
778	0.05	0.17	0.02	300,297,400	0.0	0.0	0.0	0,0,0
779	0.03	0.15	0.01	297,301,400	0.0	0.0	0.0	0,0,0
780	0.01	0.07	5.83e-03	297,297,400	0.0	0.0	0.0	0,0,0
781	5.90e-03	0.02	2.50e-03	301,301,400	0.0	0.0	0.0	0,0,0
782	5.34e-03	0.03	2.22e-03	297,301,400	0.0	0.0	0.0	0,0,0
783	9.82e-03	0.03	4.75e-03	354,354,400	0.0	0.0	0.0	0,0,0
784	0.03	0.17	0.01	373,357,400	0.0	0.0	0.0	0,0,0
785	0.02	0.07	9.24e-03	354,354,400	0.0	0.0	0.0	0,0,0
786	0.03	0.11	0.01	354,354,400	0.0	0.0	0.0	0,0,0
787	0.02	0.09	8.82e-03	373,358,400	0.0	0.0	0.0	0,0,0
788	9.49e-03	0.04	4.63e-03	354,354,400	0.0	0.0	0.0	0,0,0
789	3.71e-03	0.01	1.68e-03	354,354,400	0.0	0.0	0.0	0,0,0
790	3.40e-03	0.01	1.63e-03	354,354,400	0.0	0.0	0.0	0,0,0
791	3.82e-03	0.01	1.72e-03	354,354,400	0.0	0.0	0.0	0,0,0
792	9.98e-03	0.04	4.82e-03	354,354,400	0.0	0.0	0.0	0,0,0
793	0.02	0.07	8.86e-03	354,354,400	0.0	0.0	0.0	0,0,0
794	0.02	0.08	0.01	354,354,400	0.0	0.0	0.0	0,0,0
795	0.02	0.09	0.01	354,354,400	0.0	0.0	0.0	0,0,0
796	0.02	0.07	8.63e-03	354,354,400	0.0	0.0	0.0	0,0,0
797	9.80e-03	0.04	4.84e-03	354,354,400	0.0	0.0	0.0	0,0,0
798	3.55e-03	0.01	1.73e-03	354,354,400	0.0	0.0	0.0	0,0,0
Guscio	**rRfck**	**rRfyk**	**rPfck**		**wR**	**wF**	**wP**	
	0.29	0.70	0.14		0.17	0.07	0.0	

2. RELAZIONE DI CALCOLO PLINTI

PLINTI 1, 3 (base rettangolare 800 x 600)

Peso proprio del plinto = 144000.0 kg

MATERIALI
Acciaio: B450C
E = 2060000 daN/cmq, Fyk = 4500 daN/cmq, fsd = 3913 daN/cmq
Calcestruzzo: C30/37
Rck = 370 daN/cmq, E = 330170 daN/cmq, fcd = 204.7 daN/cmq, fctm = 29.4 daN/cmq, fctd = 13.7 daN/cmq, P.spec.= 2500.0 daN/mq
Condizioni ambientali: ordinarie

Sollecitazioni alla base del pilastro

Cmb.	Plin.	Tipo	Vx	Vy	N	Mx	My	T
			(daN)	(daN)	(daN)	(daN cm)	(daN cm)	(daN cm)
1	1	SLU STR.	811.8	-1951.3	-64550.0	934600.0	1255000.0	64080.0
2	1	SLU STR.	600.9	-1406.7	-47120.0	680600.0	999600.0	45900.0
3	1	SLU STR.	765.5	-1939.2	-65040.0	937300.0	1432000.0	63180.0
4	1	SLU STR.	530.1	-1397.1	-47620.0	685000.0	1159000.0	44750.0
5	1	SLU STR.	669.5	-2286.3	-75270.0	1040000.0	1306000.0	74560.0
6	1	SLU STR.	447.5	-1741.7	-57830.0	786100.0	1050000.0	54830.0
7	1	SLU STR.	35.4	-3697.6	-122500.0	1495000.0	1402000.0	110900.0
8	1	SLU STR.	-174.6	-3152.4	-105000.0	1240000.0	1147000.0	93270.0
9	1	SLU STR.	230.6	-3267.1	-108200.0	1357000.0	1363000.0	98600.0
10	1	SLU STR.	18.5	-2722.3	-90740.0	1102000.0	1106000.0	81180.0
11	1	SLU STR.	157.8	-3254.4	-108600.0	1358000.0	1548000.0	100700.0
12	1	SLU STR.	-49.7	-2710.1	-91210.0	1105000.0	1291000.0	82660.0
13	1	SLU STR.	74.2	-3607.9	-118900.0	1467000.0	1400000.0	109400.0
14	1	SLU STR.	-176.7	-3062.0	-101500.0	1211000.0	1161000.0	96080.0
15	1	SLU STR.	745.3	-2132.0	-70170.0	995500.0	1292000.0	71390.0
16	1	SLU STR.	880.5	-1770.6	-58920.0	873800.0	1219000.0	56090.0
17	1	SLU STR.	534.7	-1587.5	-52740.0	741500.0	1035000.0	53630.0
18	1	SLU STR.	667.7	-1226.1	-41490.0	619800.0	962200.0	38480.0
19	1	SLU STR.	700.7	-2252.4	-73920.0	1036000.0	1316000.0	76640.0
20	1	SLU STR.	925.5	-1649.3	-55170.0	832800.0	1193000.0	51350.0
21	1	SLU STR.	490.2	-1708.0	-56490.0	782000.0	1060000.0	58710.0
22	1	SLU STR.	714.2	-1105.0	-37740.0	578900.0	937800.0	33540.0
23	1	SLU STR.	699.3	-2119.9	-70660.0	998100.0	1469000.0	70910.0
24	1	SLU STR.	826.6	-1759.0	-59410.0	876800.0	1392000.0	55580.0
25	1	SLU STR.	467.5	-1577.4	-53240.0	745500.0	1198000.0	52460.0
26	1	SLU STR.	593.8	-1216.4	-41990.0	624100.0	1119000.0	36870.0
27	1	SLU STR.	602.0	-2468.4	-80900.0	1102000.0	1342000.0	81750.0
28	1	SLU STR.	741.9	-2105.7	-69640.0	979600.0	1271000.0	66650.0
29	1	SLU STR.	382.4	-1923.5	-63450.0	847500.0	1085000.0	62520.0
30	1	SLU STR.	512.6	-1561.4	-52200.0	725500.0	1010000.0	47820.0
31	1	SLU STR.	-30.7	-3879.3	-128100.0	1556000.0	1437000.0	118500.0
32	1	SLU STR.	102.2	-3515.9	-116800.0	1433000.0	1366000.0	103400.0
33	1	SLU STR.	-238.5	-3333.8	-110600.0	1301000.0	1184000.0	100800.0
34	1	SLU STR.	-110.4	-2970.9	-99390.0	1179000.0	1111000.0	85610.0
35	1	SLU STR.	120.9	-3570.0	-117600.0	1459000.0	1422000.0	111200.0
36	1	SLU STR.	304.5	-2965.3	-98780.0	1254000.0	1305000.0	89620.0
37	1	SLU STR.	-86.1	-3024.3	-100100.0	1204000.0	1170000.0	93300.0
38	1	SLU STR.	97.7	-2420.0	-81340.0	999900.0	1051000.0	71320.0
39	1	SLU STR.	164.4	-3448.9	-113800.0	1418000.0	1398000.0	106200.0
40	1	SLU STR.	295.0	-3085.8	-102600.0	1296000.0	1325000.0	91460.0
41	1	SLU STR.	-43.2	-2903.3	-96360.0	1163000.0	1147000.0	88290.0
42	1	SLU STR.	83.1	-2540.7	-85110.0	1041000.0	1070000.0	73540.0
43	1	SLU STR.	138.0	-3435.2	-114300.0	1420000.0	1579000.0	104100.0
44	1	SLU STR.	223.8	-3072.9	-103000.0	1297000.0	1511000.0	92880.0
45	1	SLU STR.	-100.2	-2892.2	-96830.0	1166000.0	1338000.0	92040.0
46	1	SLU STR.	13.0	-2528.3	-85580.0	1043000.0	1254000.0	74520.0
47	1	SLU STR.	12.9	-3789.2	-124600.0	1528000.0	1438000.0	116900.0
48	1	SLU STR.	90.1	-3426.6	-113300.0	1405000.0	1373000.0	106500.0
49	1	SLU STR.	-195.2	-3243.3	-107100.0	1273000.0	1188000.0	99150.0

50	1	SLU STR.	-108.3	-2880.8	-95830.0	1150000.0	1121000.0	87980.0
51	1	SLU STR.	6466.6	-1870.4	-64770.0	891300.0	5244000.0	-506200.0
52	1	SLU STR.	6287.4	-1312.0	-47360.0	629600.0	5008000.0	-518500.0
53	1	SLU STR.	10300.0	-1766.4	-64940.0	833500.0	7953000.0	-878600.0
54	1	SLU STR.	10110.0	-1206.1	-47530.0	570500.0	7711000.0	-889600.0
55	1	SLU STR.	6444.6	-1874.1	-65300.0	904000.0	5391000.0	-502500.0
56	1	SLU STR.	6265.7	-1315.6	-47880.0	642200.0	5160000.0	-514700.0
57	1	SLU STR.	6295.8	-2233.0	-75510.0	1014000.0	5326000.0	-499800.0
58	1	SLU STR.	6135.7	-1675.6	-58080.0	752200.0	5047000.0	-505700.0
59	1	SLU STR.	5921.9	-3662.5	-122700.0	1479000.0	5572000.0	-452000.0
60	1	SLU STR.	5765.2	-3120.3	-105300.0	1226000.0	5345000.0	-462800.0
61	1	SLU STR.	6052.3	-3233.4	-108400.0	1341000.0	5505000.0	-466200.0
62	1	SLU STR.	5891.1	-2687.1	-90960.0	1086000.0	5273000.0	-476700.0
63	1	SLU STR.	9948.5	-3145.5	-108600.0	1293000.0	8243000.0	-839600.0
64	1	SLU STR.	9786.8	-2587.0	-91140.0	1031000.0	8012000.0	-850800.0
65	1	SLU STR.	6041.5	-3232.9	-108800.0	1350000.0	5681000.0	-458100.0
66	1	SLU STR.	5889.0	-2685.2	-91400.0	1094000.0	5453000.0	-469300.0
67	1	SLU STR.	5903.5	-3579.1	-119200.0	1454000.0	5557000.0	-455300.0
68	1	SLU STR.	5743.0	-3033.2	-101700.0	1199000.0	5326000.0	-465700.0
69	1	SLU STR.	-5018.4	-1901.5	-64330.0	900800.0	-2907000.0	582000.0
70	1	SLU STR.	-5195.3	-1339.0	-46900.0	636300.0	-3146000.0	569700.0
71	1	SLU STR.	-8979.3	-1827.0	-64180.0	854000.0	-5702000.0	932000.0
72	1	SLU STR.	-9151.0	-1264.3	-46770.0	589700.0	-5944000.0	919300.0
73	1	SLU STR.	-4905.7	-1886.5	-64830.0	902100.0	-2660000.0	593700.0
74	1	SLU STR.	-5088.2	-1324.0	-47400.0	637500.0	-2899000.0	581700.0
75	1	SLU STR.	-5149.3	-2257.9	-75050.0	1019000.0	-2853000.0	588900.0
76	1	SLU STR.	-5329.9	-1694.7	-57620.0	754100.0	-3097000.0	576900.0
77	1	SLU STR.	-5862.1	-3693.9	-122300.0	1489000.0	-2793000.0	630500.0
78	1	SLU STR.	-6047.9	-3144.6	-104800.0	1232000.0	-3032000.0	618000.0
79	1	SLU STR.	-5645.8	-3258.2	-108000.0	1348000.0	-2822000.0	619800.0
80	1	SLU STR.	-5834.3	-2707.4	-90550.0	1090000.0	-3056000.0	605500.0
81	1	SLU STR.	-9598.7	-3213.8	-107900.0	1319000.0	-5605000.0	968800.0
82	1	SLU STR.	-9786.5	-2650.0	-90410.0	1053000.0	-5848000.0	956500.0
83	1	SLU STR.	-5546.6	-3240.8	-108400.0	1347000.0	-2575000.0	632500.0
84	1	SLU STR.	-5745.1	-2688.1	-91000.0	1087000.0	-2797000.0	621400.0
85	1	SLU STR.	-5776.6	-3599.3	-118700.0	1458000.0	-2778000.0	628600.0
86	1	SLU STR.	-5969.6	-3050.5	-101300.0	1200000.0	-3023000.0	616900.0
87	1	SLU STR.	-767.9	-2710.2	-82220.0	1246000.0	3173000.0	-173500.0
88	1	SLU STR.	-923.0	-2173.6	-64770.0	996500.0	2943000.0	-182600.0
89	1	SLU STR.	-1228.1	-2964.6	-88010.0	1352000.0	3836000.0	-243700.0
90	1	SLU STR.	-1378.4	-2428.3	-70570.0	1103000.0	3612000.0	-253200.0
91	1	SLU STR.	-782.8	-2707.3	-82650.0	1253000.0	3371000.0	-168200.0
92	1	SLU STR.	-937.3	-2170.9	-65240.0	1004000.0	3135000.0	-176900.0
93	1	SLU STR.	-915.9	-3049.7	-92970.0	1355000.0	3216000.0	-164400.0
94	1	SLU STR.	-1072.3	-2513.5	-75530.0	1106000.0	2990000.0	-173900.0
95	1	SLU STR.	-816.1	-2892.7	-87850.0	1308000.0	3216000.0	-165300.0
96	1	SLU STR.	-719.6	-2528.0	-76580.0	1184000.0	3127000.0	-181000.0
97	1	SLU STR.	-970.7	-2356.2	-70410.0	1059000.0	2989000.0	-175000.0
98	1	SLU STR.	-875.2	-1991.2	-59140.0	934600.0	2902000.0	-190800.0
99	1	SLU STR.	-843.7	-3014.2	-91610.0	1350000.0	3248000.0	-161900.0
100	1	SLU STR.	-688.3	-2406.4	-72830.0	1143000.0	3100000.0	-186600.0
101	1	SLU STR.	-1001.7	-2478.0	-74160.0	1100000.0	3019000.0	-169400.0
102	1	SLU STR.	-845.0	-1869.4	-55390.0	893300.0	2874000.0	-196200.0
103	1	SLU STR.	-1249.1	-3146.7	-93800.0	1417000.0	3873000.0	-240000.0
104	1	SLU STR.	-1178.5	-2781.6	-82380.0	1290000.0	3793000.0	-252100.0
105	1	SLU STR.	-1420.5	-2611.4	-76220.0	1165000.0	3652000.0	-245800.0
106	1	SLU STR.	-1331.8	-2245.7	-64930.0	1040000.0	3565000.0	-260900.0
107	1	SLU STR.	-831.2	-2889.8	-88280.0	1315000.0	3413000.0	-160300.0
108	1	SLU STR.	-736.0	-2525.0	-77030.0	1191000.0	3329000.0	-176200.0
109	1	SLU STR.	-985.4	-2353.4	-70860.0	1066000.0	3183000.0	-169900.0
110	1	SLU STR.	-891.5	-1988.4	-59610.0	942500.0	3091000.0	-184800.0
111	1	SLU STR.	-965.6	-3231.8	-98620.0	1417000.0	3264000.0	-157300.0
112	1	SLU STR.	-867.2	-2867.2	-87350.0	1293000.0	3173000.0	-172500.0
113	1	SLU STR.	-1118.9	-2696.1	-81160.0	1168000.0	3034000.0	-165700.0
114	1	SLU STR.	-1025.8	-2330.9	-69910.0	1044000.0	2946000.0	-182200.0
115	1	SLU STR.	5059.0	-2688.1	-82490.0	1239000.0	7239000.0	-717100.0
116	1	SLU STR.	4887.1	-2129.3	-65040.0	975900.0	7013000.0	-729900.0
117	1	SLU STR.	8914.1	-2589.3	-82730.0	1185000.0	9949000.0	-1093000.0

118	1	SLU STR.	8734.5	-2030.7	-65270.0	922300.0	9720000.0	-1105000.0
119	1	SLU STR.	4615.7	-2948.0	-88400.0	1350000.0	7884000.0	-786800.0
120	1	SLU STR.	4440.5	-2393.6	-70920.0	1089000.0	7664000.0	-799000.0
121	1	SLU STR.	5031.5	-2689.7	-82900.0	1248000.0	7436000.0	-710400.0
122	1	SLU STR.	4860.8	-2130.6	-65490.0	985500.0	7211000.0	-723600.0
123	1	SLU STR.	4911.1	-3038.8	-93210.0	1354000.0	7284000.0	-703900.0
124	1	SLU STR.	4740.5	-2487.2	-75770.0	1095000.0	7058000.0	-716000.0
125	1	SLU STR.	-6410.3	-2666.4	-82010.0	1216000.0	-863800.0	381500.0
126	1	SLU STR.	-6637.2	-2108.3	-64540.0	953500.0	-1111000.0	366300.0
127	1	SLU STR.	-10340.0	-2589.6	-81860.0	1168000.0	-3656000.0	729800.0
128	1	SLU STR.	-10530.0	-2017.0	-64410.0	897100.0	-3896000.0	716400.0
129	1	SLU STR.	-6984.3	-2916.2	-87810.0	1319000.0	-246500.0	307500.0
130	1	SLU STR.	-7174.6	-2364.2	-70340.0	1060000.0	-480900.0	294500.0
131	1	SLU STR.	-6475.1	-2655.2	-82430.0	1218000.0	-670200.0	382900.0
132	1	SLU STR.	-6691.0	-2100.2	-65000.0	958000.0	-927000.0	366400.0
133	1	SLU STR.	-6534.7	-3009.1	-92770.0	1327000.0	-819200.0	391400.0
134	1	SLU STR.	-6770.6	-2457.2	-75310.0	1068000.0	-1065000.0	376900.0
135	1	SLU STR.	1738.5	-2281.2	-81450.0	977800.0	-720400.0	291600.0
136	1	SLU STR.	1559.0	-1734.7	-64020.0	722500.0	-956900.0	274900.0
137	1	SLU STR.	2031.5	-2388.0	-86980.0	991100.0	-1366000.0	363800.0
138	1	SLU STR.	1852.8	-1841.7	-69550.0	736000.0	-1602000.0	347500.0
139	1	SLU STR.	1794.2	-2263.2	-81930.0	976700.0	-477000.0	303000.0
140	1	SLU STR.	1613.9	-1716.7	-64490.0	721400.0	-716100.0	286600.0
141	1	SLU STR.	1603.9	-2618.7	-92170.0	1085000.0	-670300.0	304100.0
142	1	SLU STR.	1422.4	-2072.1	-74730.0	829600.0	-906400.0	287600.0
143	1	SLU STR.	1670.9	-2462.4	-87080.0	1039000.0	-688000.0	299100.0
144	1	SLU STR.	1806.0	-2100.1	-75830.0	916700.0	-752800.0	284200.0
145	1	SLU STR.	1491.6	-1915.8	-69640.0	783700.0	-924600.0	282500.0
146	1	SLU STR.	1626.9	-1553.5	-58390.0	661400.0	-989000.0	267400.0
147	1	SLU STR.	1624.9	-2580.9	-90830.0	1078000.0	-666900.0	304300.0
148	1	SLU STR.	1851.0	-1979.2	-72080.0	875900.0	-774300.0	279200.0
149	1	SLU STR.	1446.3	-2036.5	-73390.0	824300.0	-903000.0	287500.0
150	1	SLU STR.	1669.4	-1432.6	-54640.0	620600.0	-1009000.0	261900.0
151	1	SLU STR.	1964.1	-2569.2	-92610.0	1052000.0	-1333000.0	371300.0
152	1	SLU STR.	2099.0	-2206.9	-81360.0	930100.0	-1398000.0	356400.0
153	1	SLU STR.	1784.9	-2022.7	-75170.0	797000.0	-1571000.0	354900.0
154	1	SLU STR.	1917.7	-1660.6	-63920.0	674900.0	-1634000.0	339700.0
155	1	SLU STR.	1726.8	-2444.5	-87550.0	1038000.0	-445600.0	311300.0
156	1	SLU STR.	1861.0	-2082.2	-76300.0	915700.0	-510800.0	295400.0
157	1	SLU STR.	1544.3	-1897.5	-70120.0	782400.0	-680100.0	294300.0
158	1	SLU STR.	1680.5	-1535.4	-58870.0	660300.0	-749100.0	279100.0
159	1	SLU STR.	1537.1	-2799.8	-97790.0	1146000.0	-637300.0	311700.0
160	1	SLU STR.	1671.4	-2437.7	-86540.0	1024000.0	-702900.0	296500.0
161	1	SLU STR.	1354.7	-2253.0	-80360.0	890600.0	-873200.0	295300.0
162	1	SLU STR.	1490.0	-1891.1	-69110.0	768600.0	-939900.0	279900.0
163	1	SLU STR.	7411.4	-2194.2	-81640.0	930300.0	3351000.0	-270200.0
164	1	SLU STR.	7282.5	-1620.0	-64200.0	658500.0	3135000.0	-284900.0
165	1	SLU STR.	11440.0	-2075.2	-81770.0	862700.0	6161000.0	-630900.0
166	1	SLU STR.	11280.0	-1515.6	-64350.0	600000.0	5924000.0	-642300.0
167	1	SLU STR.	7703.2	-2309.4	-87170.0	948600.0	2700000.0	-191000.0
168	1	SLU STR.	7513.6	-1734.8	-69740.0	676900.0	2456000.0	-210300.0
169	1	SLU STR.	7524.8	-2181.5	-82130.0	932500.0	3567000.0	-260600.0
170	1	SLU STR.	7414.4	-1618.1	-64710.0	667500.0	3357000.0	-268100.0
171	1	SLU STR.	7258.0	-2546.5	-92370.0	1046000.0	3404000.0	-261600.0
172	1	SLU STR.	7155.1	-1989.9	-74930.0	785100.0	3202000.0	-266700.0
173	1	SLU STR.	-4141.6	-2262.5	-81220.0	962100.0	-4873000.0	809300.0
174	1	SLU STR.	-4320.4	-1702.6	-63790.0	699000.0	-5113000.0	797300.0
175	1	SLU STR.	-8101.7	-2191.4	-81070.0	917200.0	-7683000.0	1162000.0
176	1	SLU STR.	-8283.1	-1629.2	-63650.0	652900.0	-7925000.0	1150000.0
177	1	SLU STR.	-3848.8	-2376.3	-86750.0	979500.0	-5519000.0	884900.0
178	1	SLU STR.	-4032.8	-1821.3	-69320.0	719400.0	-5760000.0	872300.0
179	1	SLU STR.	-4030.1	-2246.9	-81720.0	963000.0	-4631000.0	820200.0
180	1	SLU STR.	-4210.9	-1688.5	-64290.0	700800.0	-4881000.0	810100.0
181	1	SLU STR.	-4279.2	-2608.1	-91930.0	1074000.0	-4828000.0	817800.0
182	1	SLU STR.	-4463.5	-2056.0	-74500.0	815500.0	-5068000.0	806300.0
183	1	SLU STR.	1542.6	-229.6	-66860.0	-15150.0	1325000.0	-82990.0
184	1	SLU STR.	1361.7	320.4	-49430.0	-272200.0	1073000.0	-98740.0
185	1	SLU STR.	1605.8	-214.8	-67340.0	-14230.0	1548000.0	-70560.0

186	1	SLU STR.	1424.2	334.7	-49920.0	-270900.0	1300000.0	-87490.0
187	1	SLU STR.	2006.4	936.7	-68430.0	-658600.0	1335000.0	-189500.0
188	1	SLU STR.	1824.9	1499.2	-51010.0	-922900.0	1093000.0	-210500.0
189	1	SLU STR.	1400.9	-564.3	-77570.0	90230.0	1383000.0	-71440.0
190	1	SLU STR.	1217.2	-16.4	-60140.0	-165700.0	1135000.0	-87730.0
191	1	SLU STR.	702.6	-1989.9	-124700.0	552300.0	1472000.0	-32160.0
192	1	SLU STR.	527.1	-1439.9	-107300.0	295000.0	1231000.0	-48990.0
193	1	SLU STR.	911.5	-1557.9	-110400.0	413500.0	1435000.0	-45040.0
194	1	SLU STR.	741.6	-1008.0	-93020.0	156400.0	1195000.0	-63240.0
195	1	SLU STR.	978.7	-1540.8	-110900.0	413100.0	1665000.0	-35820.0
196	1	SLU STR.	801.7	-992.6	-93510.0	157100.0	1421000.0	-51800.0
197	1	SLU STR.	1418.6	-399.7	-112000.0	-226000.0	1491000.0	-154500.0
198	1	SLU STR.	1244.5	158.8	-94550.0	-488100.0	1244000.0	-172900.0
199	1	SLU STR.	785.8	-1892.5	-121200.0	519000.0	1504000.0	-33650.0
200	1	SLU STR.	608.9	-1342.8	-103700.0	262000.0	1262000.0	-50260.0
201	1	SLU STR.	58.4	-991.0	-84460.0	296600.0	3305000.0	-288500.0
202	1	SLU STR.	-151.1	-432.7	-67030.0	34480.0	3051000.0	-310400.0
203	1	SLU STR.	-516.1	-1238.6	-90230.0	397900.0	3916000.0	-364200.0
204	1	SLU STR.	-721.7	-679.9	-72800.0	135500.0	3663000.0	-387000.0
205	1	SLU STR.	1.7	-981.5	-84950.0	300700.0	3478000.0	-288400.0
206	1	SLU STR.	-201.9	-423.0	-67530.0	38660.0	3220000.0	-309500.0
207	1	SLU STR.	695.7	192.3	-86020.0	-357100.0	3425000.0	-384100.0
208	1	SLU STR.	489.0	750.2	-68600.0	-618700.0	3171000.0	-402500.0
209	1	SLU STR.	-88.0	-1332.0	-95170.0	405700.0	3363000.0	-278100.0
210	1	SLU STR.	-296.0	-776.5	-77750.0	145300.0	3102000.0	-297600.0
211	1	SLU STR.	2452.9	-549.7	-83730.0	21690.0	-653300.0	136300.0
212	1	SLU STR.	2272.9	1.2	-66300.0	-236000.0	-887100.0	119100.0
213	1	SLU STR.	2745.3	-654.4	-89260.0	33800.0	-1301000.0	207000.0
214	1	SLU STR.	2566.7	-103.8	-71830.0	-223800.0	-1535000.0	189600.0
215	1	SLU STR.	2500.2	-534.3	-84210.0	22110.0	-414100.0	150400.0
216	1	SLU STR.	2326.5	15.6	-66780.0	-234900.0	-652800.0	132200.0
217	1	SLU STR.	2948.7	614.9	-85270.0	-621500.0	-599900.0	29690.0
218	1	SLU STR.	2770.0	1167.2	-67840.0	-880000.0	-833900.0	12510.0
219	1	SLU STR.	2321.8	-885.9	-94450.0	128000.0	-602900.0	150200.0
220	1	SLU STR.	2135.0	-334.6	-77010.0	-130200.0	-830100.0	134000.0
221	1	SLU STR.	808.1	-2765.2	-64490.0	1394000.0	1263000.0	58050.0
222	1	SLU STR.	618.3	-2217.6	-47060.0	1138000.0	1026000.0	43660.0
223	1	SLU STR.	792.6	-2748.4	-64970.0	1394000.0	1466000.0	63480.0
224	1	SLU STR.	607.9	-2208.1	-47550.0	1142000.0	1220000.0	48170.0
225	1	SLU STR.	775.0	-3307.0	-64450.0	1699000.0	1260000.0	51040.0
226	1	SLU STR.	608.0	-2761.0	-47020.0	1445000.0	1025000.0	39680.0
227	1	SLU STR.	670.7	-3099.8	-75210.0	1499000.0	1316000.0	67360.0
228	1	SLU STR.	469.7	-2552.1	-57760.0	1243000.0	1078000.0	52010.0
229	1	SLU STR.	30.4	-4508.4	-122400.0	1952000.0	1419000.0	107400.0
230	1	SLU STR.	-104.6	-3967.6	-105000.0	1700000.0	1202000.0	102900.0
231	1	SLU STR.	217.9	-4079.2	-108100.0	1815000.0	1373000.0	95460.0
232	1	SLU STR.	77.7	-3535.2	-90680.0	1561000.0	1155000.0	83780.0
233	1	SLU STR.	216.6	-4066.5	-108600.0	1817000.0	1598000.0	104200.0
234	1	SLU STR.	88.0	-3527.4	-91150.0	1566000.0	1380000.0	92080.0
235	1	SLU STR.	205.5	-4622.3	-108100.0	2121000.0	1375000.0	89000.0
236	1	SLU STR.	138.5	-4081.3	-90640.0	1869000.0	1196000.0	93130.0
237	1	SLU STR.	73.3	-4418.8	-118900.0	1924000.0	1420000.0	107400.0
238	1	SLU STR.	-110.9	-3877.8	-101400.0	1671000.0	1213000.0	98300.0
239	1	SLU STR.	-641.3	-3530.3	-82160.0	1709000.0	3258000.0	-162200.0
240	1	SLU STR.	-784.0	-2993.0	-64700.0	1459000.0	3036000.0	-171300.0
241	1	SLU STR.	-1088.6	-3784.7	-87950.0	1815000.0	3928000.0	-232500.0
242	1	SLU STR.	-1238.2	-3247.9	-70510.0	1565000.0	3706000.0	-242100.0
243	1	SLU STR.	-648.5	-3525.5	-82590.0	1715000.0	3461000.0	-157100.0
244	1	SLU STR.	-797.7	-2989.1	-65170.0	1466000.0	3228000.0	-165500.0
245	1	SLU STR.	-552.2	-4077.4	-82120.0	2018000.0	3317000.0	-155200.0
246	1	SLU STR.	-698.0	-3539.9	-64670.0	1768000.0	3095000.0	-164000.0
247	1	SLU STR.	-785.1	-3869.7	-92920.0	1818000.0	3303000.0	-153900.0
248	1	SLU STR.	-932.6	-3332.9	-75470.0	1568000.0	3083000.0	-163400.0
249	1	SLU STR.	1671.6	-3099.3	-81380.0	1439000.0	-729300.0	284100.0
250	1	SLU STR.	1488.9	-2553.2	-63950.0	1184000.0	-968100.0	268300.0
251	1	SLU STR.	1954.6	-3207.9	-86910.0	1454000.0	-1379000.0	358600.0
252	1	SLU STR.	1772.5	-2661.7	-69480.0	1199000.0	-1618000.0	343000.0
253	1	SLU STR.	1736.2	-3082.8	-81870.0	1439000.0	-496200.0	292800.0

254	1	SLU STR.	1545.3	-2535.4	-64430.0	1183000.0	-731000.0	279200.0
255	1	SLU STR.	1635.6	-3641.6	-81340.0	1745000.0	-731500.0	277100.0
256	1	SLU STR.	1443.8	-3095.5	-63900.0	1490000.0	-974600.0	263500.0
257	1	SLU STR.	1539.4	-3436.5	-92100.0	1546000.0	-678200.0	295300.0
258	1	SLU STR.	1354.7	-2890.5	-74670.0	1291000.0	-919000.0	278500.0
259	1	SLE Rare	615.2	-1434.9	-47410.0	688100.0	905600.0	46590.0
260	1	SLE Rare	580.3	-1426.2	-47730.0	689500.0	1028000.0	46510.0
261	1	SLE Rare	520.2	-1658.3	-54550.0	758700.0	941300.0	54260.0
262	1	SLE Rare	91.7	-2599.1	-86010.0	1061000.0	1004000.0	78010.0
263	1	SLE Rare	223.8	-2308.2	-76360.0	968300.0	978700.0	69750.0
264	1	SLE Rare	176.8	-2299.6	-76670.0	969300.0	1103000.0	71510.0
265	1	SLE Rare	122.5	-2535.3	-83540.0	1042000.0	1004000.0	77120.0
266	1	SLE Rare	568.3	-1555.0	-51150.0	728400.0	931900.0	51820.0
267	1	SLE Rare	661.5	-1314.5	-43660.0	647600.0	881700.0	41170.0
268	1	SLE Rare	539.1	-1635.4	-53650.0	755500.0	947600.0	55240.0
269	1	SLE Rare	691.3	-1233.7	-41160.0	620300.0	864700.0	37900.0
270	1	SLE Rare	537.3	-1546.7	-51480.0	730100.0	1052000.0	51650.0
271	1	SLE Rare	625.0	-1306.1	-43980.0	649100.0	1003000.0	41600.0
272	1	SLE Rare	475.2	-1778.3	-58310.0	799000.0	964700.0	59420.0
273	1	SLE Rare	565.9	-1537.7	-50800.0	718000.0	917900.0	48680.0
274	1	SLE Rare	45.9	-2720.4	-89770.0	1103000.0	1027000.0	83050.0
275	1	SLE Rare	136.0	-2477.9	-82260.0	1020000.0	980500.0	73000.0
276	1	SLE Rare	151.1	-2510.1	-82620.0	1037000.0	1018000.0	78130.0
277	1	SLE Rare	272.4	-2107.0	-70100.0	900100.0	939500.0	63840.0
278	1	SLE Rare	180.5	-2429.4	-80110.0	1009000.0	1002000.0	74800.0
279	1	SLE Rare	266.9	-2187.4	-72610.0	927500.0	952900.0	65140.0
280	1	SLE Rare	163.6	-2420.2	-80430.0	1010000.0	1123000.0	73630.0
281	1	SLE Rare	221.0	-2178.6	-72920.0	928400.0	1080000.0	66290.0
282	1	SLE Rare	78.8	-2656.4	-87290.0	1082000.0	1028000.0	82160.0
283	1	SLE Rare	131.8	-2414.5	-79770.0	1000000.0	985700.0	75140.0
284	1	SLE Rare	4369.7	-1383.3	-47550.0	660500.0	3561000.0	-334700.0
285	1	SLE Rare	6927.1	-1314.5	-47660.0	622200.0	5365000.0	-582600.0
286	1	SLE Rare	4355.5	-1385.6	-47900.0	668900.0	3660000.0	-332500.0
287	1	SLE Rare	4256.8	-1625.8	-54710.0	742700.0	3616000.0	-330500.0
288	1	SLE Rare	4003.8	-2575.2	-86190.0	1051000.0	3779000.0	-299000.0
289	1	SLE Rare	4089.2	-2286.0	-76520.0	958300.0	3733000.0	-308400.0
290	1	SLE Rare	6687.2	-2233.2	-76640.0	929600.0	5558000.0	-556800.0
291	1	SLE Rare	4084.6	-2284.8	-76810.0	963300.0	3856000.0	-304400.0
292	1	SLE Rare	3992.3	-2515.7	-83680.0	1033000.0	3769000.0	-301300.0
293	1	SLE Rare	-3285.6	-1405.8	-47250.0	667900.0	-1872000.0	390900.0
294	1	SLE Rare	-5926.9	-1355.8	-47160.0	636500.0	-3735000.0	623900.0
295	1	SLE Rare	-3210.5	-1396.1	-47590.0	668900.0	-1708000.0	398800.0
296	1	SLE Rare	-3371.6	-1642.0	-54410.0	746100.0	-1836000.0	395500.0
297	1	SLE Rare	-3843.7	-2597.8	-85900.0	1058000.0	-1797000.0	423500.0
298	1	SLE Rare	-3700.3	-2303.3	-76240.0	962900.0	-1815000.0	416000.0
299	1	SLE Rare	-6337.0	-2275.6	-76150.0	944900.0	-3671000.0	648800.0
300	1	SLE Rare	-3633.6	-2292.0	-76540.0	962300.0	-1652000.0	424300.0
301	1	SLE Rare	-3786.5	-2530.5	-83410.0	1036000.0	-1786000.0	421700.0
302	1	SLE Rare	-447.9	-1936.6	-59130.0	893800.0	2175000.0	-112300.0
303	1	SLE Rare	-743.4	-2107.3	-63170.0	966900.0	2608000.0	-161900.0
304	1	SLE Rare	-464.2	-1934.1	-59420.0	898000.0	2306000.0	-109500.0
305	1	SLE Rare	-551.9	-2162.5	-66300.0	966200.0	2201000.0	-106600.0
306	1	SLE Rare	-487.3	-2058.0	-62880.0	934900.0	2200000.0	-107300.0
307	1	SLE Rare	-409.4	-1815.6	-55370.0	852700.0	2152000.0	-117300.0
308	1	SLE Rare	-506.1	-2138.8	-65400.0	962400.0	2222000.0	-105100.0
309	1	SLE Rare	-381.9	-1735.3	-52870.0	825600.0	2132000.0	-119800.0
310	1	SLE Rare	-778.4	-2229.0	-66910.0	1008000.0	2645000.0	-158200.0
311	1	SLE Rare	-732.9	-1985.7	-59290.0	923200.0	2591000.0	-165900.0
312	1	SLE Rare	-495.9	-2055.7	-63170.0	939200.0	2333000.0	-104100.0
313	1	SLE Rare	-433.2	-1812.7	-55670.0	856900.0	2277000.0	-114700.0
314	1	SLE Rare	-586.3	-2283.7	-70070.0	1008000.0	2232000.0	-102000.0
315	1	SLE Rare	-514.0	-2041.3	-62550.0	925200.0	2175000.0	-111600.0
316	1	SLE Rare	3434.9	-1924.7	-59310.0	890300.0	4883000.0	-474800.0
317	1	SLE Rare	6006.7	-1860.1	-59470.0	855500.0	6690000.0	-725200.0
318	1	SLE Rare	3135.5	-2100.2	-63310.0	965600.0	5318000.0	-521900.0
319	1	SLE Rare	3415.9	-1925.6	-59590.0	896400.0	5014000.0	-470300.0
320	1	SLE Rare	3334.9	-2157.8	-66460.0	966600.0	4913000.0	-466100.0
321	1	SLE Rare	-4197.7	-1910.9	-58990.0	875800.0	-513200.0	258700.0

322	1	SLE Rare	-6828.8	-1864.8	-58890.0	846600.0	-2370000.0	489300.0
323	1	SLE Rare	-4581.4	-2079.6	-62920.0	945500.0	-93780.0	208800.0
324	1	SLE Rare	-4237.8	-1903.5	-59270.0	877100.0	-381900.0	259600.0
325	1	SLE Rare	-4279.6	-2139.5	-66170.0	950000.0	-483400.0	264900.0
326	1	SLE Rare	1215.6	-1654.2	-58620.0	716900.0	-408400.0	197600.0
327	1	SLE Rare	1413.6	-1726.3	-62360.0	725900.0	-844800.0	246400.0
328	1	SLE Rare	1254.1	-1642.3	-58940.0	716300.0	-246900.0	205100.0
329	1	SLE Rare	1126.8	-1879.1	-65770.0	788300.0	-375300.0	205900.0
330	1	SLE Rare	1169.9	-1773.4	-62370.0	756700.0	-387000.0	202700.0
331	1	SLE Rare	1260.7	-1533.4	-54870.0	676100.0	-430100.0	192700.0
332	1	SLE Rare	1139.9	-1853.9	-64870.0	783900.0	-372700.0	206100.0
333	1	SLE Rare	1290.5	-1452.6	-52370.0	648800.0	-444600.0	189400.0
334	1	SLE Rare	1368.5	-1847.1	-66110.0	766600.0	-823200.0	251300.0
335	1	SLE Rare	1458.1	-1605.5	-58610.0	685100.0	-866200.0	241400.0
336	1	SLE Rare	1209.2	-1763.1	-62690.0	757000.0	-225900.0	210600.0
337	1	SLE Rare	1298.5	-1521.4	-55190.0	675500.0	-269400.0	200100.0
338	1	SLE Rare	1082.5	-1999.8	-69520.0	829000.0	-353200.0	210900.0
339	1	SLE Rare	1171.1	-1758.5	-62010.0	747600.0	-397300.0	201000.0
340	1	SLE Rare	5005.7	-1601.4	-58750.0	688400.0	2309000.0	-176900.0
341	1	SLE Rare	7673.9	-1519.4	-58830.0	641600.0	4176000.0	-419000.0
342	1	SLE Rare	5201.4	-1677.1	-62490.0	699500.0	1868000.0	-123300.0
343	1	SLE Rare	5052.0	-1590.8	-59070.0	688500.0	2439000.0	-173500.0
344	1	SLE Rare	4903.4	-1833.9	-65900.0	764300.0	2345000.0	-171200.0
345	1	SLE Rare	-2701.9	-1643.1	-58460.0	707200.0	-3175000.0	541100.0
346	1	SLE Rare	-5341.5	-1597.8	-58360.0	678500.0	-5048000.0	776100.0
347	1	SLE Rare	-2504.6	-1719.4	-62200.0	718600.0	-3612000.0	591900.0
348	1	SLE Rare	-2627.1	-1632.7	-58800.0	707800.0	-3014000.0	548500.0
349	1	SLE Rare	-2793.6	-1872.7	-65610.0	781400.0	-3146000.0	546700.0
350	1	SLE Rare	1089.3	-287.8	-48940.0	55220.0	949900.0	-51530.0
351	1	SLE Rare	1131.1	-277.7	-49260.0	55680.0	1100000.0	-43180.0
352	1	SLE Rare	1398.7	486.4	-49990.0	-371700.0	957200.0	-121200.0
353	1	SLE Rare	995.9	-510.8	-56080.0	125400.0	989500.0	-43810.0
354	1	SLE Rare	526.9	-1461.8	-87520.0	433900.0	1047000.0	-17520.0
355	1	SLE Rare	667.8	-1169.8	-77870.0	340000.0	1023000.0	-26250.0
356	1	SLE Rare	707.8	-1158.2	-78200.0	339700.0	1176000.0	-19200.0
357	1	SLE Rare	1006.2	-397.8	-78890.0	-86220.0	1060000.0	-99260.0
358	1	SLE Rare	584.5	-1392.5	-85020.0	410100.0	1069000.0	-18790.0
359	1	SLE Rare	112.5	-794.9	-60620.0	263200.0	2269000.0	-186300.0
360	1	SLE Rare	-276.8	-963.4	-64520.0	332300.0	2681000.0	-237200.0
361	1	SLE Rare	78.2	-788.5	-60950.0	265900.0	2386000.0	-187100.0
362	1	SLE Rare	529.7	-7.4	-61660.0	-171800.0	2345000.0	-251000.0
363	1	SLE Rare	14.9	-1020.0	-67770.0	334600.0	2307000.0	-180000.0
364	1	SLE Rare	1692.0	-500.7	-60140.0	80000.0	-364600.0	94140.0
365	1	SLE Rare	1889.7	-571.6	-63880.0	88210.0	-802700.0	142400.0
366	1	SLE Rare	1724.1	-490.7	-60460.0	80410.0	-205700.0	103500.0
367	1	SLE Rare	2024.8	274.5	-61170.0	-348000.0	-332600.0	22390.0
368	1	SLE Rare	1606.2	-725.1	-67290.0	151100.0	-331900.0	103200.0
369	1	SLE Rare	600.3	-1977.8	-47360.0	994400.0	909000.0	42050.0
370	1	SLE Rare	599.5	-1966.2	-47680.0	993900.0	1051000.0	47440.0
371	1	SLE Rare	576.3	-2339.1	-47330.0	1198000.0	906700.0	37670.0
372	1	SLE Rare	514.0	-2201.4	-54520.0	1065000.0	943900.0	48730.0
373	1	SLE Rare	81.1	-3140.2	-85970.0	1367000.0	1012000.0	75220.0
374	1	SLE Rare	208.9	-2850.3	-76320.0	1274000.0	980000.0	66750.0
375	1	SLE Rare	193.1	-2839.4	-76630.0	1274000.0	1126000.0	72000.0
376	1	SLE Rare	191.7	-3212.4	-76300.0	1478000.0	973300.0	60740.0
377	1	SLE Rare	118.0	-3076.5	-83500.0	1347000.0	1013000.0	74860.0
378	1	SLE Rare	-373.5	-2482.9	-59090.0	1202000.0	2227000.0	-105400.0
379	1	SLE Rare	-652.9	-2653.5	-63130.0	1275000.0	2670000.0	-154500.0
380	1	SLE Rare	-377.2	-2479.6	-59370.0	1206000.0	2364000.0	-102000.0
381	1	SLE Rare	-313.1	-2847.4	-59070.0	1408000.0	2266000.0	-100800.0
382	1	SLE Rare	-469.5	-2709.1	-66260.0	1275000.0	2256000.0	-99850.0
383	1	SLE Rare	1171.6	-2199.4	-58570.0	1024000.0	-414200.0	192400.0
384	1	SLE Rare	1362.9	-2272.8	-62310.0	1034000.0	-853400.0	242700.0
385	1	SLE Rare	1215.7	-2188.6	-58900.0	1025000.0	-259700.0	198100.0
386	1	SLE Rare	1149.3	-2561.0	-58540.0	1228000.0	-414900.0	187500.0
387	1	SLE Rare	1084.2	-2424.2	-65720.0	1096000.0	-380000.0	200000.0
388	1	SLE Freq.	645.0	-1377.9	-45540.0	668200.0	865600.0	44710.0
389	1	SLE Freq.	639.1	-1376.1	-45620.0	668800.0	894800.0	44540.0

390	1	SLE Freq.	622.3	-1434.6	-47330.0	686400.0	874000.0	46450.0
391	1	SLE Freq.	247.8	-2251.8	-74500.0	948700.0	935700.0	67690.0
392	1	SLE Freq.	630.1	-1418.1	-46790.0	681800.0	873200.0	46370.0
393	1	SLE Freq.	659.6	-1337.7	-44290.0	654700.0	856100.0	43310.0
394	1	SLE Freq.	1884.3	-1376.3	-45580.0	668100.0	1746000.0	-86060.0
395	1	SLE Freq.	-641.3	-1378.0	-45480.0	667200.0	-57310.0	157400.0
396	1	SLE Freq.	-416.5	-1879.5	-57270.0	873800.0	2138000.0	-113800.0
397	1	SLE Freq.	1224.4	-1597.7	-56750.0	697200.0	-456000.0	194200.0
398	1	SLE Freq.	787.2	-998.8	-46040.0	459100.0	873000.0	13720.0
399	1	SLE Freq.	633.1	-1559.7	-45520.0	770800.0	864500.0	42620.0
400	1	SLE Quasi P.	645.0	-1377.9	-45540.0	668200.0	865600.0	44710.0
401	1	SLU A1 sism.	50570.0	7825.8	-46590.0	-4465000.0	25240000.0	-4067000.0
402	1	SLU A1 sism.	51370.0	7188.5	-54280.0	-4154000.0	25740000.0	-4041000.0
403	1	SLU A1 sism.	33480.0	-5067.9	-41780.0	2666000.0	29870000.0	-3808000.0
404	1	SLU A1 sism.	34380.0	-5717.5	-49490.0	2984000.0	30380000.0	-3784000.0
405	1	SLU A1 sism.	-32460.0	5174.6	-41280.0	-2959000.0	-28820000.0	4087000.0
406	1	SLU A1 sism.	-32050.0	4507.2	-49030.0	-2630000.0	-28560000.0	4055000.0
407	1	SLU A1 sism.	-48210.0	-7559.6	-36420.0	4076000.0	-23480000.0	3688000.0
408	1	SLU A1 sism.	-47700.0	-8217.1	-44160.0	4400000.0	-23170000.0	3688000.0
409	1	SLU A1 sism.	44040.0	8017.5	-46720.0	-4597000.0	28970000.0	-4415000.0
410	1	SLU A1 sism.	44770.0	7368.8	-54420.0	-4279000.0	29430000.0	-4361000.0
411	1	SLU A1 sism.	40180.0	-5222.4	-41650.0	2776000.0	26220000.0	-3512000.0
412	1	SLU A1 sism.	41040.0	-5873.3	-49350.0	3095000.0	26710000.0	-3483000.0
413	1	SLU A1 sism.	-39390.0	5375.1	-41440.0	-3096000.0	-25250000.0	3646000.0
414	1	SLU A1 sism.	-39060.0	4702.0	-49170.0	-2764000.0	-25030000.0	3622000.0
415	1	SLU A1 sism.	-41300.0	-7763.5	-36290.0	4215000.0	-27060000.0	4044000.0
416	1	SLU A1 sism.	-40740.0	-8421.9	-44040.0	4539000.0	-26740000.0	4042000.0
417	1	SLU A1 sism.	46290.0	8710.2	-46040.0	-4933000.0	22860000.0	-4110000.0
418	1	SLU A1 sism.	47110.0	8064.3	-53730.0	-4617000.0	23330000.0	-4080000.0
419	1	SLU A1 sism.	29590.0	-4139.5	-41250.0	2172000.0	27720000.0	-3957000.0
420	1	SLU A1 sism.	30470.0	-4790.4	-48960.0	2491000.0	28210000.0	-3928000.0
421	1	SLU A1 sism.	-29790.0	4551.4	-41730.0	-2647000.0	-27190000.0	4029000.0
422	1	SLU A1 sism.	-29100.0	3865.4	-49490.0	-2306000.0	-26790000.0	4040000.0
423	1	SLU A1 sism.	-46190.0	-8141.2	-36830.0	4363000.0	-22210000.0	3621000.0
424	1	SLU A1 sism.	-45460.0	-8826.2	-44580.0	4703000.0	-21780000.0	3656000.0
425	1	SLU A1 sism.	39730.0	8897.7	-46170.0	-5063000.0	26560000.0	-4453000.0
426	1	SLU A1 sism.	40670.0	8265.3	-53870.0	-4755000.0	27100000.0	-4458000.0
427	1	SLU A1 sism.	36320.0	-4296.8	-41130.0	2284000.0	24090000.0	-3657000.0
428	1	SLU A1 sism.	37180.0	-4945.2	-48840.0	2601000.0	24560000.0	-3631000.0
429	1	SLU A1 sism.	-36480.0	4717.6	-41900.0	-2763000.0	-23530000.0	3678000.0
430	1	SLU A1 sism.	-35920.0	4029.9	-49650.0	-2422000.0	-23180000.0	3677000.0
431	1	SLU A1 sism.	-39580.0	-8312.4	-36690.0	4483000.0	-25920000.0	3924000.0
432	1	SLU A1 sism.	-38810.0	-8997.5	-44460.0	4823000.0	-25480000.0	3957000.0
433	1	SLU A1 sism.	40820.0	21310.0	-50190.0	-11890000.0	714000.0	-1224000.0
434	1	SLU A1 sism.	41530.0	20660.0	-57900.0	-11570000.0	1158000.0	-1203000.0
435	1	SLU A1 sism.	-14540.0	-21430.0	-34030.0	11740000.0	16880000.0	-1075000.0
436	1	SLU A1 sism.	-13630.0	-22050.0	-41830.0	12040000.0	17380000.0	-1058000.0
437	1	SLU A1 sism.	13960.0	20340.0	-48680.0	-11330000.0	-16570000.0	1391000.0
438	1	SLU A1 sism.	14560.0	19640.0	-56400.0	-10980000.0	-16200000.0	1417000.0
439	1	SLU A1 sism.	-39570.0	-22080.0	-32400.0	12100000.0	721500.0	623600.0
440	1	SLU A1 sism.	-39260.0	-22710.0	-40150.0	12410000.0	938400.0	636000.0
441	1	SLU A1 sism.	39790.0	21550.0	-50040.0	-12010000.0	89830.0	-1243000.0
442	1	SLU A1 sism.	40410.0	20900.0	-57750.0	-11690000.0	486800.0	-1233000.0
443	1	SLU A1 sism.	-15730.0	-21190.0	-33880.0	11610000.0	16210000.0	-1120000.0
444	1	SLU A1 sism.	-14810.0	-21810.0	-41670.0	11910000.0	16710000.0	-1104000.0
445	1	SLU A1 sism.	15210.0	20100.0	-48840.0	-11210000.0	-15830000.0	1430000.0
446	1	SLU A1 sism.	15800.0	19400.0	-56550.0	-10860000.0	-15460000.0	1457000.0
447	1	SLU A1 sism.	-39370.0	-22250.0	-32510.0	12180000.0	922600.0	551700.0
448	1	SLU A1 sism.	-38680.0	-22900.0	-40280.0	12510000.0	1328000.0	605200.0
449	1	SLU A1 sism.	18410.0	21880.0	-50710.0	-12280000.0	12840000.0	-2317000.0
450	1	SLU A1 sism.	18950.0	21210.0	-58420.0	-11950000.0	13210000.0	-2287000.0
451	1	SLU A1 sism.	7978.8	-21900.0	-33580.0	12070000.0	4723000.0	-118200.0
452	1	SLU A1 sism.	8967.8	-22500.0	-41380.0	12370000.0	5234000.0	-108900.0
453	1	SLU A1 sism.	-8876.9	20920.0	-49200.0	-11740000.0	-4582000.0	310200.0
454	1	SLU A1 sism.	-8247.4	20230.0	-56910.0	-11390000.0	-4178000.0	325000.0
455	1	SLU A1 sism.	-16030.0	-22500.0	-32000.0	12410000.0	-11010000.0	1813000.0
456	1	SLU A1 sism.	-15490.0	-23140.0	-39770.0	12720000.0	-10730000.0	1786000.0

457	1	SLU A1 sism.	17170.0	22120.0	-50560.0	-12410000.0	12140000.0	-2362000.0
458	1	SLU A1 sism.	17720.0	21450.0	-58270.0	-12080000.0	12500000.0	-2330000.0
459	1	SLU A1 sism.	6866.8	-21640.0	-33430.0	11940000.0	4105000.0	-163500.0
460	1	SLU A1 sism.	7837.2	-22250.0	-41230.0	12240000.0	4594000.0	-155800.0
461	1	SLU A1 sism.	-7626.9	20680.0	-49350.0	-11610000.0	-3874000.0	355700.0
462	1	SLU A1 sism.	-6994.1	20000.0	-57070.0	-11270000.0	-3461000.0	368800.0
463	1	SLU A1 sism.	-15270.0	-22690.0	-32100.0	12510000.0	-10570000.0	1819000.0
464	1	SLU A1 sism.	-14910.0	-23320.0	-39880.0	12820000.0	-10330000.0	1767000.0
529	1	SLU A1 sism.	20180.0	6838.7	-35520.0	-3831000.0	5633000.0	-1301000.0
530	1	SLU A1 sism.	22620.0	4688.4	-61190.0	-2780000.0	7174000.0	-1138000.0
531	1	SLU A1 sism.	3383.5	-6033.1	-30670.0	3286000.0	10410000.0	-1143000.0
532	1	SLU A1 sism.	6468.5	-8136.1	-56590.0	4314000.0	12110000.0	-1054000.0
533	1	SLU A1 sism.	-5127.2	6020.8	-33940.0	-3366000.0	-10770000.0	1340000.0
534	1	SLU A1 sism.	-3158.0	3769.3	-59750.0	-2253000.0	-9633000.0	1286000.0
535	1	SLU A1 sism.	-20540.0	-6744.4	-29090.0	3688000.0	-5291000.0	1004000.0
536	1	SLU A1 sism.	-19090.0	-8858.9	-54950.0	4722000.0	-4357000.0	1031000.0
537	1	SLU A1 sism.	13480.0	7058.8	-35650.0	-3980000.0	9281000.0	-1631000.0
538	1	SLU A1 sism.	16050.0	4862.0	-61350.0	-2901000.0	10880000.0	-1427000.0
539	1	SLU A1 sism.	10120.0	-6176.9	-30530.0	3389000.0	6764000.0	-855800.0
540	1	SLU A1 sism.	13240.0	-8277.4	-56480.0	4417000.0	8456000.0	-781700.0
541	1	SLU A1 sism.	-12180.0	6175.9	-34080.0	-3476000.0	-7252000.0	960200.0
542	1	SLU A1 sism.	-10160.0	3914.5	-59930.0	-2356000.0	-6054000.0	983100.0
543	1	SLU A1 sism.	-13550.0	-6934.1	-28960.0	3819000.0	-8829000.0	1348000.0
544	1	SLU A1 sism.	-12250.0	-8968.3	-54810.0	4805000.0	-8039000.0	1327000.0
545	1	SLU A1 sism.	19080.0	7096.8	-35370.0	-3967000.0	4993000.0	-1319000.0
546	1	SLU A1 sism.	21620.0	4936.1	-61030.0	-2910000.0	6496000.0	-1153000.0
547	1	SLU A1 sism.	2211.6	-5755.9	-30510.0	3138000.0	9761000.0	-1190000.0
548	1	SLU A1 sism.	5338.3	-7870.4	-56440.0	4173000.0	11440000.0	-1103000.0
549	1	SLU A1 sism.	-4293.0	5809.1	-34090.0	-3257000.0	-10260000.0	1351000.0
550	1	SLU A1 sism.	-1985.8	3542.2	-59900.0	-2135000.0	-8878000.0	1335000.0
551	1	SLU A1 sism.	-20520.0	-6887.1	-29190.0	3755000.0	-5201000.0	912500.0
552	1	SLU A1 sism.	-18080.0	-9083.6	-55090.0	4838000.0	-3764000.0	1064000.0
553	1	SLU A1 sism.	12470.0	7292.8	-35490.0	-4102000.0	8687000.0	-1655000.0
554	1	SLU A1 sism.	14890.0	5097.4	-61190.0	-3024000.0	10140000.0	-1462000.0
555	1	SLU A1 sism.	8952.5	-5900.3	-30380.0	3242000.0	6121000.0	-900300.0
556	1	SLU A1 sism.	12090.0	-8019.8	-56320.0	4281000.0	7795000.0	-824200.0
557	1	SLU A1 sism.	-10980.0	5963.4	-34240.0	-3367000.0	-6596000.0	982100.0
558	1	SLU A1 sism.	-8950.2	3678.3	-60080.0	-2233000.0	-5342000.0	1036000.0
559	1	SLU A1 sism.	-13880.0	-7049.7	-29040.0	3869000.0	-8893000.0	1213000.0
560	1	SLU A1 sism.	-11330.0	-9188.8	-54960.0	4919000.0	-7439000.0	1352000.0
1	3	SLU STR.	934.7	-335.5	-69110.0	323300.0	202700.0	56210.0
2	3	SLU STR.	694.6	-255.8	-50280.0	237000.0	202300.0	45000.0
3	3	SLU STR.	958.8	-315.5	-69350.0	306600.0	313100.0	61580.0
4	3	SLU STR.	707.5	-237.5	-50520.0	221400.0	311900.0	49930.0
5	3	SLU STR.	875.4	-141.4	-81830.0	260800.0	-92360.0	96220.0
6	3	SLU STR.	633.6	-61.6	-63000.0	174500.0	-92730.0	85730.0
7	3	SLU STR.	434.5	691.3	-137000.0	-11910.0	-1357000.0	269500.0
8	3	SLU STR.	190.7	772.1	-118200.0	-98800.0	-1362000.0	258300.0
9	3	SLU STR.	559.4	437.2	-120300.0	71230.0	-969100.0	217400.0
10	3	SLU STR.	313.0	517.9	-101400.0	-15630.0	-972900.0	205700.0
11	3	SLU STR.	584.4	459.5	-120500.0	53120.0	-868500.0	218900.0
12	3	SLU STR.	339.6	539.6	-101700.0	-33350.0	-872700.0	208100.0
13	3	SLU STR.	491.7	624.9	-133000.0	12550.0	-1262000.0	259200.0
14	3	SLU STR.	258.9	708.1	-114100.0	-75820.0	-1293000.0	242500.0
15	3	SLU STR.	929.6	-254.6	-75720.0	301700.0	76100.0	70420.0
16	3	SLU STR.	933.5	-416.6	-62510.0	345000.0	322100.0	43790.0
17	3	SLU STR.	683.6	-174.9	-56890.0	215500.0	77090.0	59530.0
18	3	SLU STR.	699.7	-336.8	-43670.0	258700.0	325300.0	31610.0
19	3	SLU STR.	922.2	-200.5	-80120.0	287200.0	-8960.3	79900.0
20	3	SLU STR.	929.2	-469.3	-58100.0	358700.0	400600.0	35450.0
21	3	SLU STR.	676.9	-121.0	-61290.0	201100.0	-7947.4	69250.0
22	3	SLU STR.	696.0	-390.1	-39270.0	272700.0	409700.0	23660.0
23	3	SLU STR.	946.1	-234.6	-75960.0	285000.0	192900.0	75850.0
24	3	SLU STR.	965.8	-396.8	-62750.0	328400.0	441800.0	47030.0
25	3	SLU STR.	699.2	-156.1	-57130.0	199500.0	182600.0	64210.0
26	3	SLU STR.	714.2	-318.1	-43920.0	242800.0	444300.0	35950.0
27	3	SLU STR.	866.1	-63.0	-88430.0	240700.0	-217000.0	111000.0
28	3	SLU STR.	884.8	-222.3	-75220.0	282300.0	37790.0	82360.0

29	3	SLU STR.	623.9	17.4	-69600.0	154100.0	-217000.0	100300.0
30	3	SLU STR.	641.6	-142.5	-56390.0	196000.0	37200.0	71330.0
31	3	SLU STR.	423.9	770.9	-143600.0	-32670.0	-1482000.0	284200.0
32	3	SLU STR.	444.8	611.6	-130400.0	8924.3	-1232000.0	254900.0
33	3	SLU STR.	179.7	851.9	-124800.0	-119700.0	-1488000.0	272900.0
34	3	SLU STR.	201.6	692.3	-111600.0	-77930.0	-1237000.0	243700.0
35	3	SLU STR.	542.3	569.9	-131300.0	36620.0	-1177000.0	241900.0
36	3	SLU STR.	578.7	305.2	-109300.0	105400.0	-777100.0	188700.0
37	3	SLU STR.	298.6	651.0	-112400.0	-50480.0	-1182000.0	230600.0
38	3	SLU STR.	335.6	385.9	-90420.0	18600.0	-779300.0	178200.0
39	3	SLU STR.	549.0	516.8	-126900.0	50470.0	-1093000.0	232100.0
40	3	SLU STR.	566.6	357.5	-113700.0	92070.0	-843700.0	202200.0
41	3	SLU STR.	306.0	597.9	-108000.0	-36620.0	-1099000.0	220800.0
42	3	SLU STR.	323.4	438.2	-94820.0	5212.3	-847700.0	191100.0
43	3	SLU STR.	568.1	538.2	-127100.0	32880.0	-970600.0	238500.0
44	3	SLU STR.	594.4	379.7	-113900.0	74030.0	-743800.0	204600.0
45	3	SLU STR.	331.7	619.1	-108300.0	-54080.0	-999400.0	222400.0
46	3	SLU STR.	349.2	459.9	-95070.0	-12540.0	-746200.0	193700.0
47	3	SLU STR.	482.1	704.7	-139600.0	-8356.3	-1384000.0	273900.0
48	3	SLU STR.	511.2	546.8	-126400.0	32430.0	-1165000.0	238600.0
49	3	SLU STR.	239.8	786.5	-120800.0	-95840.0	-1391000.0	262700.0
50	3	SLU STR.	266.5	628.1	-107500.0	-54800.0	-1164000.0	228600.0
51	3	SLU STR.	7904.6	-491.6	-68780.0	422100.0	5575000.0	450800.0
52	3	SLU STR.	7714.2	-419.6	-49950.0	340300.0	5578000.0	431600.0
53	3	SLU STR.	12690.0	-603.8	-68560.0	492700.0	9160000.0	694900.0
54	3	SLU STR.	12520.0	-530.7	-49730.0	410300.0	9176000.0	673100.0
55	3	SLU STR.	7923.2	-478.6	-69030.0	409400.0	5694000.0	450000.0
56	3	SLU STR.	7735.1	-405.9	-50190.0	327300.0	5698000.0	429700.0
57	3	SLU STR.	7836.2	-297.7	-81490.0	359700.0	5240000.0	486200.0
58	3	SLU STR.	7623.6	-225.8	-62660.0	278000.0	5295000.0	472900.0
59	3	SLU STR.	7398.4	543.1	-136700.0	82290.0	3962000.0	673800.0
60	3	SLU STR.	7235.2	614.9	-117800.0	760.4	3996000.0	660700.0
61	3	SLU STR.	7564.6	283.4	-119900.0	168800.0	4369000.0	617900.0
62	3	SLU STR.	7380.4	360.1	-101100.0	84330.0	4392000.0	600800.0
63	3	SLU STR.	12350.0	179.5	-119700.0	234500.0	7969000.0	868300.0
64	3	SLU STR.	12200.0	254.7	-100900.0	150900.0	8005000.0	847900.0
65	3	SLU STR.	7562.5	301.7	-120200.0	153000.0	4492000.0	623300.0
66	3	SLU STR.	7379.0	378.5	-101300.0	68490.0	4515000.0	606400.0
67	3	SLU STR.	7451.6	474.7	-132600.0	108000.0	4053000.0	661400.0
68	3	SLU STR.	7267.3	551.6	-113800.0	23370.0	4077000.0	644500.0
69	3	SLU STR.	-6622.7	-302.0	-69440.0	296900.0	-5411000.0	-240100.0
70	3	SLU STR.	-6830.5	-237.1	-50610.0	219400.0	-5389000.0	-246900.0
71	3	SLU STR.	-11620.0	-319.4	-69670.0	302700.0	-9125000.0	-425600.0
72	3	SLU STR.	-11820.0	-255.2	-50830.0	225600.0	-9103000.0	-432400.0
73	3	SLU STR.	-6568.8	-276.2	-69690.0	276800.0	-5277000.0	-237300.0
74	3	SLU STR.	-6776.9	-210.8	-50850.0	199000.0	-5255000.0	-244100.0
75	3	SLU STR.	-6641.0	-97.3	-82170.0	228000.0	-5666000.0	-212400.0
76	3	SLU STR.	-6854.4	-33.1	-63330.0	151000.0	-5655000.0	-218700.0
77	3	SLU STR.	-6974.6	741.2	-137400.0	-48200.0	-6948000.0	-91660.0
78	3	SLU STR.	-7193.4	818.0	-118500.0	-132800.0	-6936000.0	-101000.0
79	3	SLU STR.	-6895.6	487.1	-120600.0	34940.0	-6561000.0	-131000.0
80	3	SLU STR.	-7108.1	563.6	-101800.0	-49420.0	-6553000.0	-140600.0
81	3	SLU STR.	-11900.0	497.6	-120800.0	24160.0	-10280000.0	-326500.0
82	3	SLU STR.	-12110.0	560.8	-102000.0	-52360.0	-10260000.0	-332400.0
83	3	SLU STR.	-6845.0	513.5	-120900.0	14420.0	-6412000.0	-126200.0
84	3	SLU STR.	-7060.1	591.5	-102000.0	-70800.0	-6407000.0	-135400.0
85	3	SLU STR.	-6918.9	680.0	-133300.0	-26790.0	-6842000.0	-99720.0
86	3	SLU STR.	-7138.8	757.2	-114500.0	-111600.0	-6821000.0	-107800.0
87	3	SLU STR.	-128.0	-179.8	-88720.0	328800.0	2458000.0	265700.0
88	3	SLU STR.	-378.5	-102.6	-69890.0	244000.0	2454000.0	254600.0
89	3	SLU STR.	-475.2	-130.8	-95140.0	331800.0	3187000.0	334200.0
90	3	SLU STR.	-722.0	-53.9	-76310.0	247200.0	3178000.0	322900.0
91	3	SLU STR.	-118.1	-163.1	-88970.0	314000.0	2571000.0	271600.0
92	3	SLU STR.	-368.5	-87.1	-70140.0	229900.0	2567000.0	260500.0
93	3	SLU STR.	-199.0	9.1	-101400.0	269400.0	2162000.0	306800.0
94	3	SLU STR.	-445.5	85.6	-82600.0	185000.0	2154000.0	295800.0
95	3	SLU STR.	-136.7	-101.0	-95330.0	308500.0	2335000.0	281300.0
96	3	SLU STR.	-121.1	-258.7	-82110.0	349100.0	2584000.0	250600.0

97	3	SLU STR.	-383.9	-24.2	-76490.0	223900.0	2327000.0	270000.0
98	3	SLU STR.	-367.6	-181.8	-63280.0	264500.0	2574000.0	239300.0
99	3	SLU STR.	-141.3	-48.7	-99730.0	295100.0	2250000.0	291800.0
100	3	SLU STR.	-114.4	-311.2	-77710.0	362700.0	2665000.0	240200.0
101	3	SLU STR.	-389.5	28.2	-80900.0	210500.0	2245000.0	280400.0
102	3	SLU STR.	-362.0	-234.1	-58880.0	278000.0	2654000.0	228800.0
103	3	SLU STR.	-479.3	-55.4	-101700.0	313400.0	3058000.0	349900.0
104	3	SLU STR.	-465.8	-209.3	-88530.0	351900.0	3309000.0	318600.0
105	3	SLU STR.	-729.6	23.8	-82910.0	227500.0	3059000.0	339500.0
106	3	SLU STR.	-717.0	-132.3	-69700.0	267300.0	3304000.0	307400.0
107	3	SLU STR.	-128.1	-84.3	-95570.0	293700.0	2450000.0	287000.0
108	3	SLU STR.	-109.1	-242.1	-82360.0	334400.0	2692000.0	256100.0
109	3	SLU STR.	-375.6	-8.2	-76740.0	209500.0	2440000.0	275700.0
110	3	SLU STR.	-361.0	-165.8	-63530.0	250200.0	2687000.0	244700.0
111	3	SLU STR.	-204.1	87.8	-108000.0	249200.0	2033000.0	321700.0
112	3	SLU STR.	-190.2	-69.8	-94830.0	289700.0	2285000.0	291300.0
113	3	SLU STR.	-453.9	164.3	-89210.0	164800.0	2031000.0	311400.0
114	3	SLU STR.	-437.1	6.9	-76000.0	205300.0	2276000.0	280100.0
115	3	SLU STR.	7029.8	-317.5	-88380.0	416900.0	7932000.0	637300.0
116	3	SLU STR.	6862.6	-242.8	-69550.0	333500.0	7949000.0	614900.0
117	3	SLU STR.	11900.0	-438.6	-88160.0	492800.0	11560000.0	870200.0
118	3	SLU STR.	11750.0	-362.7	-69320.0	408800.0	11590000.0	843700.0
119	3	SLU STR.	6720.1	-262.1	-94800.0	416100.0	8690000.0	701500.0
120	3	SLU STR.	6559.2	-180.0	-75970.0	328400.0	8711000.0	678300.0
121	3	SLU STR.	7029.9	-297.9	-88630.0	400300.0	8040000.0	640800.0
122	3	SLU STR.	6866.4	-223.0	-69800.0	316900.0	8057000.0	618300.0
123	3	SLU STR.	6908.4	-127.0	-101100.0	356500.0	7627000.0	684900.0
124	3	SLU STR.	6743.2	-45.0	-82260.0	268900.0	7645000.0	661800.0
125	3	SLU STR.	-7516.0	-121.3	-89060.0	287400.0	-3106000.0	-68580.0
126	3	SLU STR.	-7724.3	-48.2	-70230.0	205100.0	-3087000.0	-78210.0
127	3	SLU STR.	-12470.0	-130.1	-89290.0	288100.0	-6785000.0	-260100.0
128	3	SLU STR.	-12630.0	-49.5	-70450.0	201400.0	-6749000.0	-275300.0
129	3	SLU STR.	-7823.6	-67.8	-95480.0	287700.0	-2370000.0	-11890.0
130	3	SLU STR.	-8019.2	9.3	-76650.0	203000.0	-2341000.0	-21350.0
131	3	SLU STR.	-7475.9	-97.7	-89310.0	268600.0	-2973000.0	-66860.0
132	3	SLU STR.	-7692.7	-26.6	-70470.0	187500.0	-2964000.0	-75130.0
133	3	SLU STR.	-7547.7	74.4	-101800.0	224000.0	-3387000.0	-37070.0
134	3	SLU STR.	-7761.9	149.0	-82950.0	140800.0	-3376000.0	-45270.0
135	3	SLU STR.	1625.0	117.1	-90160.0	124800.0	-3010000.0	-16520.0
136	3	SLU STR.	1391.4	197.3	-71330.0	38280.0	-3006000.0	-28660.0
137	3	SLU STR.	1841.9	265.2	-97050.0	59870.0	-4069000.0	-40870.0
138	3	SLU STR.	1608.7	345.1	-78220.0	-26510.0	-4066000.0	-53090.0
139	3	SLU STR.	1682.8	140.7	-90410.0	106000.0	-2871000.0	-12820.0
140	3	SLU STR.	1447.4	220.7	-71570.0	19540.0	-2869000.0	-24330.0
141	3	SLU STR.	1594.3	309.6	-102900.0	63280.0	-3289000.0	17600.0
142	3	SLU STR.	1358.2	389.8	-84040.0	-23260.0	-3287000.0	5904.5
143	3	SLU STR.	1618.3	197.2	-96770.0	103700.0	-3135000.0	-4769.9
144	3	SLU STR.	1628.9	37.0	-83560.0	145900.0	-2887000.0	-27940.0
145	3	SLU STR.	1384.2	277.4	-77930.0	17210.0	-3132000.0	-16840.0
146	3	SLU STR.	1397.4	117.2	-64720.0	59370.0	-2882000.0	-40370.0
147	3	SLU STR.	1610.4	254.2	-101200.0	87580.0	-3219000.0	2416.8
148	3	SLU STR.	1629.9	-16.3	-79150.0	159900.0	-2805000.0	-35440.0
149	3	SLU STR.	1378.7	330.9	-82340.0	3094.0	-3216000.0	-8956.9
150	3	SLU STR.	1400.2	63.8	-60320.0	73380.0	-2803000.0	-47860.0
151	3	SLU STR.	1835.3	345.3	-103700.0	38820.0	-4193000.0	-29140.0
152	3	SLU STR.	1846.2	185.0	-90450.0	81020.0	-3945000.0	-52300.0
153	3	SLU STR.	1600.7	425.4	-84830.0	-47710.0	-4192000.0	-41310.0
154	3	SLU STR.	1614.5	265.0	-71620.0	-5418.5	-3943000.0	-64700.0
155	3	SLU STR.	1673.3	220.9	-97010.0	84830.0	-2996000.0	-1033.9
156	3	SLU STR.	1690.7	60.6	-83800.0	127100.0	-2748000.0	-24840.0
157	3	SLU STR.	1438.1	301.1	-78180.0	-1731.1	-2996000.0	-12620.0
158	3	SLU STR.	1455.0	141.0	-64970.0	40410.0	-2746000.0	-36510.0
159	3	SLU STR.	1584.4	389.8	-109500.0	42140.0	-3414000.0	29770.0
160	3	SLU STR.	1603.0	229.4	-96270.0	84420.0	-3163000.0	5624.3
161	3	SLU STR.	1346.8	470.1	-90650.0	-44440.0	-3413000.0	18200.0
162	3	SLU STR.	1368.5	309.5	-77440.0	-2065.4	-3161000.0	-6275.7
163	3	SLU STR.	8473.4	-24.7	-89830.0	215000.0	2250000.0	395100.0
164	3	SLU STR.	8288.1	48.1	-71000.0	132900.0	2274000.0	381200.0

165	3	SLU STR.	13260.0	-143.0	-89610.0	289300.0	5865000.0	656500.0
166	3	SLU STR.	13070.0	-72.2	-70780.0	208300.0	5878000.0	640100.0
167	3	SLU STR.	8646.8	122.9	-96720.0	150400.0	1169000.0	373700.0
168	3	SLU STR.	8456.7	190.9	-77890.0	71040.0	1189000.0	361600.0
169	3	SLU STR.	8505.7	-2.5	-90080.0	197000.0	2381000.0	398100.0
170	3	SLU STR.	8313.9	64.5	-71250.0	118300.0	2401000.0	384500.0
171	3	SLU STR.	8397.0	166.8	-102500.0	154200.0	1952000.0	434600.0
172	3	SLU STR.	8205.8	244.5	-83710.0	69060.0	1973000.0	421100.0
173	3	SLU STR.	-5966.4	168.3	-90500.0	87770.0	-8634000.0	-324400.0
174	3	SLU STR.	-6182.2	235.3	-71670.0	9076.4	-8627000.0	-332200.0
175	3	SLU STR.	-10970.0	152.5	-90720.0	92750.0	-12360000.0	-508600.0
176	3	SLU STR.	-11180.0	217.4	-71890.0	15270.0	-12350000.0	-515100.0
177	3	SLU STR.	-5754.3	319.1	-97400.0	21220.0	-9691000.0	-351300.0
178	3	SLU STR.	-5968.3	390.2	-78560.0	-59930.0	-9682000.0	-359100.0
179	3	SLU STR.	-5910.1	193.1	-90740.0	68330.0	-8504000.0	-321700.0
180	3	SLU STR.	-6129.9	261.4	-71900.0	-11070.0	-8506000.0	-327600.0
181	3	SLU STR.	-5984.4	363.5	-103200.0	24660.0	-8905000.0	-295000.0
182	3	SLU STR.	-6197.2	436.5	-84390.0	-57680.0	-8891000.0	-303300.0
183	3	SLU STR.	851.9	944.6	-69140.0	-412800.0	148000.0	37530.0
184	3	SLU STR.	620.2	1028.5	-50310.0	-501500.0	160700.0	20040.0
185	3	SLU STR.	913.7	966.6	-69390.0	-430600.0	290800.0	40910.0
186	3	SLU STR.	685.6	1049.6	-50550.0	-518800.0	300500.0	24440.0
187	3	SLU STR.	857.2	1815.2	-69170.0	-913700.0	159700.0	-1137.1
188	3	SLU STR.	752.2	1913.5	-50340.0	-1011000.0	230000.0	-36200.0
189	3	SLU STR.	822.9	1138.6	-81860.0	-475100.0	-133400.0	70850.0
190	3	SLU STR.	583.9	1221.0	-63030.0	-563000.0	-126400.0	56650.0
191	3	SLU STR.	396.7	1954.1	-137000.0	-737700.0	-1420000.0	232400.0
192	3	SLU STR.	152.5	2038.6	-118200.0	-826900.0	-1423000.0	217600.0
193	3	SLU STR.	525.9	1702.0	-120300.0	-655800.0	-1024000.0	182500.0
194	3	SLU STR.	282.3	1786.0	-101500.0	-744600.0	-1022000.0	168000.0
195	3	SLU STR.	552.2	1726.1	-120500.0	-674900.0	-903500.0	194000.0
196	3	SLU STR.	300.3	1808.3	-101700.0	-762700.0	-903600.0	179000.0
197	3	SLU STR.	495.4	2561.3	-120300.0	-1150000.0	-1049000.0	152000.0
198	3	SLU STR.	339.4	2659.5	-101500.0	-1247000.0	-998300.0	126100.0
199	3	SLU STR.	471.9	1894.8	-133000.0	-717500.0	-1319000.0	224400.0
200	3	SLU STR.	226.8	1978.9	-114200.0	-806400.0	-1322000.0	209800.0
201	3	SLU STR.	-76.1	1104.7	-88750.0	-409800.0	2469000.0	240000.0
202	3	SLU STR.	-206.7	1204.5	-69920.0	-507900.0	2521000.0	208200.0
203	3	SLU STR.	-371.8	1163.9	-95170.0	-412800.0	3224000.0	300700.0
204	3	SLU STR.	-506.3	1264.0	-76340.0	-511100.0	3273000.0	268400.0
205	3	SLU STR.	-60.2	1124.4	-89000.0	-426400.0	2579000.0	245500.0
206	3	SLU STR.	-197.6	1223.9	-70160.0	-524300.0	2632000.0	213900.0
207	3	SLU STR.	120.0	1997.6	-88770.0	-923800.0	2560000.0	182900.0
208	3	SLU STR.	-18.1	2096.1	-69940.0	-1021000.0	2607000.0	152300.0
209	3	SLU STR.	-183.6	1290.3	-101500.0	-467300.0	2149000.0	287600.0
210	3	SLU STR.	-336.3	1386.0	-82630.0	-562900.0	2197000.0	260600.0
211	3	SLU STR.	1529.6	1407.3	-90200.0	-617300.0	-3078000.0	-49700.0
212	3	SLU STR.	1298.1	1491.0	-71370.0	-705900.0	-3074000.0	-65040.0
213	3	SLU STR.	1751.1	1558.7	-97090.0	-684200.0	-4136000.0	-76650.0
214	3	SLU STR.	1519.9	1642.3	-78260.0	-772800.0	-4132000.0	-92030.0
215	3	SLU STR.	1583.3	1428.3	-90440.0	-634500.0	-2938000.0	-43470.0
216	3	SLU STR.	1353.0	1511.5	-71610.0	-722900.0	-2932000.0	-58520.0
217	3	SLU STR.	1465.0	2271.6	-90220.0	-1114000.0	-3116000.0	-74280.0
218	3	SLU STR.	1227.3	2354.2	-71390.0	-1202000.0	-3114000.0	-89620.0
219	3	SLU STR.	1495.9	1600.0	-102900.0	-678900.0	-3354000.0	-16390.0
220	3	SLU STR.	1264.6	1684.8	-84080.0	-768200.0	-3351000.0	-30610.0
221	3	SLU STR.	1050.2	-1144.2	-69060.0	781600.0	286200.0	77820.0
222	3	SLU STR.	806.0	-1061.9	-50230.0	693800.0	282800.0	67930.0
223	3	SLU STR.	1068.8	-1120.5	-69300.0	762800.0	396600.0	84910.0
224	3	SLU STR.	820.7	-1043.0	-50470.0	677800.0	397000.0	74550.0
225	3	SLU STR.	1119.1	-1683.0	-69030.0	1087000.0	337500.0	91150.0
226	3	SLU STR.	889.7	-1603.6	-50190.0	1001000.0	342400.0	84250.0
227	3	SLU STR.	993.8	-950.5	-81780.0	719400.0	-3311.3	118500.0
228	3	SLU STR.	752.4	-868.1	-62940.0	631500.0	-2532.5	108800.0
229	3	SLU STR.	531.8	-114.7	-137000.0	444800.0	-1282000.0	290300.0
230	3	SLU STR.	271.2	-36.5	-118100.0	359400.0	-1296000.0	273800.0
231	3	SLU STR.	657.8	-368.8	-120200.0	528000.0	-891000.0	238300.0
232	3	SLU STR.	410.7	-289.4	-101400.0	441900.0	-897100.0	227700.0

233	3	SLU STR.	684.9	-346.9	-120500.0	510100.0	-791900.0	241400.0
234	3	SLU STR.	442.4	-270.4	-101600.0	425700.0	-794000.0	232700.0
235	3	SLU STR.	718.0	-909.2	-120200.0	834300.0	-843700.0	250800.0
236	3	SLU STR.	462.7	-830.8	-101300.0	748700.0	-854300.0	237600.0
237	3	SLU STR.	593.9	-180.2	-132900.0	468800.0	-1185000.0	280700.0
238	3	SLU STR.	358.2	-101.3	-114100.0	383000.0	-1217000.0	265900.0
239	3	SLU STR.	-21.1	-990.5	-88670.0	788300.0	2538000.0	290600.0
240	3	SLU STR.	-269.5	-912.7	-69840.0	703200.0	2535000.0	279900.0
241	3	SLU STR.	-366.2	-941.4	-95090.0	791200.0	3269000.0	359500.0
242	3	SLU STR.	-613.6	-864.2	-76260.0	706400.0	3261000.0	348200.0
243	3	SLU STR.	-11.0	-972.6	-88920.0	772700.0	2654000.0	296600.0
244	3	SLU STR.	-260.1	-896.3	-70080.0	688500.0	2648000.0	285700.0
245	3	SLU STR.	50.1	-1531.3	-88630.0	1095000.0	2592000.0	307200.0
246	3	SLU STR.	-197.8	-1454.1	-69800.0	1010000.0	2589000.0	296700.0
247	3	SLU STR.	-90.1	-801.6	-101400.0	728900.0	2243000.0	331900.0
248	3	SLU STR.	-335.4	-724.6	-82550.0	644200.0	2236000.0	321100.0
249	3	SLU STR.	1770.9	-693.7	-90110.0	584400.0	-2913000.0	3046.6
250	3	SLU STR.	1540.3	-613.6	-71280.0	497900.0	-2909000.0	-8270.1
251	3	SLU STR.	1998.3	-545.1	-97000.0	519200.0	-3967000.0	-19320.0
252	3	SLU STR.	1767.6	-465.1	-78170.0	432700.0	-3963000.0	-30690.0
253	3	SLU STR.	1827.3	-671.0	-90350.0	566100.0	-2776000.0	6583.5
254	3	SLU STR.	1591.2	-589.7	-71520.0	478900.0	-2774000.0	-3474.2
255	3	SLU STR.	1856.6	-1234.7	-90070.0	891000.0	-2854000.0	14180.0
256	3	SLU STR.	1635.3	-1154.8	-71240.0	804700.0	-2845000.0	4890.7
257	3	SLU STR.	1733.4	-501.8	-102800.0	523200.0	-3195000.0	37400.0
258	3	SLU STR.	1499.8	-421.9	-83990.0	436900.0	-3192000.0	26490.0
259	3	SLE Rare	687.9	-257.0	-50750.0	243300.0	143300.0	40640.0
260	3	SLE Rare	707.7	-243.3	-50910.0	231900.0	218600.0	43620.0
261	3	SLE Rare	651.0	-127.8	-59220.0	201700.0	-51690.0	66800.0
262	3	SLE Rare	357.7	427.3	-96010.0	19930.0	-894000.0	182400.0
263	3	SLE Rare	442.2	255.7	-84700.0	76040.0	-632000.0	147100.0
264	3	SLE Rare	459.2	270.6	-84860.0	63920.0	-565100.0	148200.0
265	3	SLE Rare	397.2	380.8	-93170.0	36940.0	-826500.0	175100.0
266	3	SLE Rare	685.7	-202.8	-55150.0	228700.0	59510.0	50020.0
267	3	SLE Rare	685.3	-311.2	-46340.0	257800.0	222900.0	32590.0
268	3	SLE Rare	682.1	-166.9	-58090.0	219100.0	3629.6	56180.0
269	3	SLE Rare	683.5	-346.4	-43410.0	266900.0	275000.0	27160.0
270	3	SLE Rare	698.7	-189.4	-55320.0	217500.0	139300.0	53340.0
271	3	SLE Rare	713.2	-297.5	-46510.0	246500.0	304300.0	34100.0
272	3	SLE Rare	642.7	-73.3	-63630.0	187000.0	-136700.0	76210.0
273	3	SLE Rare	657.8	-181.6	-54820.0	216000.0	34380.0	57420.0
274	3	SLE Rare	350.3	480.2	-100400.0	6159.5	-977400.0	192200.0
275	3	SLE Rare	364.5	374.2	-91610.0	33780.0	-810500.0	172600.0
276	3	SLE Rare	431.1	344.1	-92040.0	52990.0	-770000.0	163600.0
277	3	SLE Rare	455.0	167.6	-77360.0	98910.0	-504200.0	128000.0
278	3	SLE Rare	435.4	308.7	-89100.0	62230.0	-714600.0	157100.0
279	3	SLE Rare	446.5	202.5	-80290.0	89990.0	-548200.0	137100.0
280	3	SLE Rare	448.0	323.0	-89270.0	50470.0	-632600.0	161400.0
281	3	SLE Rare	465.6	217.4	-80460.0	77860.0	-480800.0	138700.0
282	3	SLE Rare	390.7	433.9	-97580.0	23100.0	-909900.0	185000.0
283	3	SLE Rare	410.3	328.6	-88770.0	50240.0	-762400.0	161400.0
284	3	SLE Rare	5324.3	-358.9	-50530.0	307800.0	3724000.0	305300.0
285	3	SLE Rare	8507.6	-434.3	-50380.0	355300.0	6115000.0	469900.0
286	3	SLE Rare	5337.0	-350.2	-50690.0	299400.0	3803000.0	304500.0
287	3	SLE Rare	5279.9	-228.8	-59000.0	265700.0	3499000.0	328800.0
288	3	SLE Rare	4984.8	329.3	-95790.0	82260.0	2645000.0	453600.0
289	3	SLE Rare	5096.5	154.0	-84470.0	140600.0	2920000.0	415600.0
290	3	SLE Rare	8290.5	87.4	-84320.0	182800.0	5323000.0	583000.0
291	3	SLE Rare	5097.2	166.5	-84640.0	129900.0	2995000.0	418800.0
292	3	SLE Rare	5021.8	281.6	-92950.0	100000.0	2710000.0	444800.0
293	3	SLE Rare	-4357.5	-231.1	-50970.0	223500.0	-3602000.0	-157900.0
294	3	SLE Rare	-7685.2	-242.7	-51120.0	227400.0	-6078000.0	-281400.0
295	3	SLE Rare	-4320.8	-213.9	-51130.0	210200.0	-3513000.0	-156000.0
296	3	SLE Rare	-4368.3	-95.8	-59450.0	178300.0	-3771000.0	-139200.0
297	3	SLE Rare	-4589.5	460.9	-96240.0	-4496.1	-4623000.0	-58120.0
298	3	SLE Rare	-4536.1	290.0	-84930.0	51250.0	-4364000.0	-85010.0
299	3	SLE Rare	-7873.9	298.6	-85080.0	43080.0	-6846000.0	-215300.0
300	3	SLE Rare	-4501.9	307.3	-85090.0	37730.0	-4265000.0	-81880.0

301	3	SLE Rare	-4551.2	418.4	-93400.0	10190.0	-4552000.0	-64220.0
302	3	SLE Rare	-13.2	-153.0	-63760.0	246500.0	1644000.0	179400.0
303	3	SLE Rare	-247.9	-121.9	-68100.0	249700.0	2136000.0	225200.0
304	3	SLE Rare	-7.1	-141.4	-63930.0	236400.0	1720000.0	183200.0
305	3	SLE Rare	-61.1	-26.8	-72240.0	206700.0	1446000.0	206600.0
306	3	SLE Rare	-19.4	-100.4	-68170.0	232900.0	1562000.0	189600.0
307	3	SLE Rare	-7.2	-205.8	-59360.0	260200.0	1724000.0	169300.0
308	3	SLE Rare	-23.0	-65.3	-71100.0	223800.0	1504000.0	196500.0
309	3	SLE Rare	-3.7	-241.4	-56420.0	269600.0	1783000.0	162800.0
310	3	SLE Rare	-250.2	-69.2	-72500.0	236100.0	2051000.0	236100.0
311	3	SLE Rare	-241.9	-171.7	-63700.0	261600.0	2218000.0	215100.0
312	3	SLE Rare	-13.3	-88.8	-68330.0	222800.0	1639000.0	193500.0
313	3	SLE Rare	-0.1	-194.3	-59520.0	250100.0	1800000.0	173000.0
314	3	SLE Rare	-65.3	26.0	-76640.0	193000.0	1359000.0	216400.0
315	3	SLE Rare	-55.0	-79.6	-67840.0	220500.0	1528000.0	196400.0
316	3	SLE Rare	4737.1	-245.6	-63530.0	305700.0	5286000.0	430000.0
317	3	SLE Rare	7977.0	-324.8	-63390.0	355400.0	7705000.0	585900.0
318	3	SLE Rare	4527.0	-208.4	-67870.0	305300.0	5798000.0	473500.0
319	3	SLE Rare	4737.1	-232.6	-63700.0	294700.0	5357000.0	432300.0
320	3	SLE Rare	4661.9	-118.0	-72010.0	265100.0	5085000.0	461000.0
321	3	SLE Rare	-4949.1	-113.3	-63990.0	218500.0	-2071000.0	-43850.0
322	3	SLE Rare	-8268.7	-120.6	-64140.0	219800.0	-4539000.0	-170600.0
323	3	SLE Rare	-5155.4	-77.2	-68330.0	218700.0	-1574000.0	-5561.3
324	3	SLE Rare	-4920.7	-97.4	-64150.0	205900.0	-1981000.0	-42690.0
325	3	SLE Rare	-4969.1	17.1	-72470.0	176300.0	-2259000.0	-22850.0
326	3	SLE Rare	1145.3	43.5	-64720.0	111400.0	-1989000.0	-7398.0
327	3	SLE Rare	1291.9	143.6	-69380.0	67560.0	-2704000.0	-23860.0
328	3	SLE Rare	1184.4	59.1	-64880.0	98940.0	-1896000.0	-5047.0
329	3	SLE Rare	1125.7	171.8	-73190.0	70430.0	-2175000.0	15190.0
330	3	SLE Rare	1139.4	99.3	-69120.0	95990.0	-2073000.0	-104.6
331	3	SLE Rare	1147.4	-9.9	-60310.0	125500.0	-1907000.0	-14950.0
332	3	SLE Rare	1136.0	135.0	-72060.0	86570.0	-2128000.0	5133.0
333	3	SLE Rare	1147.5	-45.2	-57380.0	134700.0	-1853000.0	-19980.0
334	3	SLE Rare	1288.0	197.0	-73780.0	53530.0	-2786000.0	-16090.0
335	3	SLE Rare	1294.3	90.1	-64970.0	81670.0	-2622000.0	-31420.0
336	3	SLE Rare	1178.4	112.6	-69290.0	84850.0	-1979000.0	2758.5
337	3	SLE Rare	1189.1	6.0	-60480.0	112900.0	-1815000.0	-13060.0
338	3	SLE Rare	1119.4	225.3	-77600.0	56350.0	-2258000.0	23280.0
339	3	SLE Rare	1131.1	118.4	-68790.0	84530.0	-2091000.0	7211.3
340	3	SLE Rare	5700.5	-50.4	-64500.0	171200.0	1513000.0	267900.0
341	3	SLE Rare	8893.8	-128.0	-64350.0	220000.0	3924000.0	441900.0
342	3	SLE Rare	5823.7	48.8	-69160.0	127900.0	786300.0	252500.0
343	3	SLE Rare	5721.7	-34.7	-64660.0	158700.0	1600000.0	268900.0
344	3	SLE Rare	5650.5	75.6	-72970.0	131600.0	1316000.0	294400.0
345	3	SLE Rare	-3919.4	79.4	-64950.0	85680.0	-5739000.0	-213800.0
346	3	SLE Rare	-7259.8	70.2	-65090.0	88230.0	-8218000.0	-337300.0
347	3	SLE Rare	-3776.3	181.1	-69600.0	40840.0	-6454000.0	-231700.0
348	3	SLE Rare	-3882.5	95.9	-65110.0	72760.0	-5653000.0	-211900.0
349	3	SLE Rare	-3931.6	209.0	-73420.0	43920.0	-5921000.0	-193900.0
350	3	SLE Rare	633.6	596.3	-50770.0	-247400.0	107600.0	28830.0
351	3	SLE Rare	675.4	611.2	-50930.0	-259400.0	203500.0	30950.0
352	3	SLE Rare	598.5	1172.4	-50790.0	-578800.0	96100.0	9195.2
353	3	SLE Rare	615.5	725.6	-59250.0	-289000.0	-79390.0	50990.0
354	3	SLE Rare	332.9	1268.4	-96030.0	-463600.0	-936100.0	158600.0
355	3	SLE Rare	419.5	1098.2	-84720.0	-408200.0	-669000.0	125000.0
356	3	SLE Rare	441.5	1114.7	-84880.0	-421300.0	-586400.0	130500.0
357	3	SLE Rare	396.9	1670.9	-84730.0	-737600.0	-687100.0	105000.0
358	3	SLE Rare	385.8	1227.4	-93190.0	-449700.0	-864500.0	152300.0
359	3	SLE Rare	-1.5	699.1	-63780.0	-243400.0	1640000.0	166400.0
360	3	SLE Rare	-207.8	737.5	-68120.0	-244500.0	2146000.0	208600.0
361	3	SLE Rare	7.2	712.0	-63950.0	-254300.0	1712000.0	170500.0
362	3	SLE Rare	122.9	1292.7	-63790.0	-585000.0	1697000.0	129100.0
363	3	SLE Rare	-49.2	826.3	-72260.0	-283800.0	1438000.0	194500.0
364	3	SLE Rare	1081.1	902.6	-64740.0	-382700.0	-2035000.0	-28750.0
365	3	SLE Rare	1230.1	1005.0	-69400.0	-427900.0	-2749000.0	-47000.0
366	3	SLE Rare	1117.0	916.5	-64900.0	-394100.0	-1941000.0	-24550.0
367	3	SLE Rare	1040.2	1478.5	-64760.0	-713900.0	-2059000.0	-45170.0
368	3	SLE Rare	1059.3	1030.9	-73220.0	-423600.0	-2218000.0	-6673.5

369	3	SLE Rare	768.2	-796.5	-50710.0	549000.0	201800.0	54470.0
370	3	SLE Rare	780.3	-780.3	-50880.0	536200.0	273200.0	59100.0
371	3	SLE Rare	814.7	-1155.5	-50690.0	752500.0	235400.0	63380.0
372	3	SLE Rare	729.6	-667.7	-59190.0	507700.0	7178.0	81390.0
373	3	SLE Rare	423.9	-110.2	-95980.0	324500.0	-842600.0	196400.0
374	3	SLE Rare	508.6	-282.1	-84660.0	380800.0	-579600.0	161100.0
375	3	SLE Rare	526.7	-265.8	-84830.0	367900.0	-513700.0	163000.0
376	3	SLE Rare	549.3	-642.3	-84640.0	585000.0	-548000.0	169100.0
377	3	SLE Rare	465.9	-156.4	-93140.0	341400.0	-775500.0	189400.0
378	3	SLE Rare	57.2	-693.2	-63730.0	552700.0	1697000.0	195800.0
379	3	SLE Rare	-175.4	-662.0	-68070.0	555800.0	2191000.0	242100.0
380	3	SLE Rare	64.6	-681.1	-63890.0	542200.0	1774000.0	199900.0
381	3	SLE Rare	105.1	-1053.5	-63710.0	756900.0	1733000.0	206800.0
382	3	SLE Rare	10.9	-567.2	-72200.0	513000.0	1500000.0	223200.0
383	3	SLE Rare	1242.2	-497.0	-64680.0	417800.0	-1924000.0	5374.8
384	3	SLE Rare	1396.1	-396.6	-69340.0	373700.0	-2637000.0	-9707.0
385	3	SLE Rare	1280.8	-482.1	-64850.0	405700.0	-1833000.0	7699.0
386	3	SLE Rare	1298.3	-857.7	-64660.0	622300.0	-1885000.0	12550.0
387	3	SLE Rare	1218.5	-369.1	-73160.0	377000.0	-2112000.0	28150.0
388	3	SLE Freq.	679.4	-290.4	-48590.0	255100.0	164100.0	35470.0
389	3	SLE Freq.	687.9	-287.3	-48630.0	252500.0	187600.0	35560.0
390	3	SLE Freq.	677.8	-258.7	-50710.0	245100.0	118800.0	40800.0
391	3	SLE Freq.	446.1	221.9	-82540.0	88150.0	-603700.0	139500.0
392	3	SLE Freq.	680.4	-272.4	-50060.0	250300.0	137300.0	38150.0
393	3	SLE Freq.	677.2	-308.3	-47120.0	259800.0	190000.0	32550.0
394	3	SLE Freq.	2189.6	-321.4	-48510.0	274900.0	1341000.0	123000.0
395	3	SLE Freq.	-1024.0	-272.7	-48660.0	243100.0	-1087000.0	-35800.0
396	3	SLE Freq.	-6.5	-186.3	-61600.0	258300.0	1671000.0	172000.0
397	3	SLE Freq.	1134.6	9.9	-62560.0	123400.0	-1969000.0	-12910.0
398	3	SLE Freq.	674.1	-6.0	-48590.0	91570.0	155900.0	33410.0
399	3	SLE Freq.	710.6	-471.2	-48580.0	357600.0	185100.0	39630.0
400	3	SLE Quasi P.	679.4	-290.4	-48590.0	255100.0	164100.0	35470.0
401	3	SLU A1 sism.	48250.0	2073.9	-33100.0	-2266000.0	33310000.0	2222000.0
402	3	SLU A1 sism.	47630.0	5305.4	-42110.0	-1573000.0	33090000.0	2297000.0
403	3	SLU A1 sism.	51340.0	-9679.2	-39980.0	4277000.0	35370000.0	3524000.0
404	3	SLU A1 sism.	50290.0	-6470.0	-49000.0	4984000.0	34950000.0	3635000.0
405	3	SLU A1 sism.	-47020.0	4673.0	-47750.0	-3747000.0	-33660000.0	-3053000.0
406	3	SLU A1 sism.	-48340.0	7910.2	-56780.0	-3058000.0	-34280000.0	-2943000.0
407	3	SLU A1 sism.	-46830.0	-6877.3	-54660.0	2676000.0	-33190000.0	-2501000.0
408	3	SLU A1 sism.	-47980.0	-3639.1	-63690.0	3365000.0	-33720000.0	-2387000.0
409	3	SLU A1 sism.	48700.0	2054.8	-32920.0	-2286000.0	33620000.0	1989000.0
410	3	SLU A1 sism.	47800.0	5258.6	-41930.0	-1577000.0	33250000.0	2135000.0
411	3	SLU A1 sism.	51210.0	-9642.0	-40160.0	4287000.0	35240000.0	3650000.0
412	3	SLU A1 sism.	50230.0	-6431.4	-49170.0	4993000.0	34860000.0	3766000.0
413	3	SLU A1 sism.	-47010.0	4649.9	-47580.0	-3765000.0	-33640000.0	-3266000.0
414	3	SLU A1 sism.	-48270.0	7874.2	-56610.0	-3068000.0	-34230000.0	-3130000.0
415	3	SLU A1 sism.	-47000.0	-6832.6	-54840.0	2681000.0	-33290000.0	-2336000.0
416	3	SLU A1 sism.	-48180.0	-3591.9	-63860.0	3368000.0	-33840000.0	-2228000.0
417	3	SLU A1 sism.	57660.0	5386.3	-32000.0	-4132000.0	39220000.0	1695000.0
418	3	SLU A1 sism.	56800.0	8605.4	-41010.0	-3431000.0	38920000.0	1803000.0
419	3	SLU A1 sism.	60570.0	-6353.2	-38890.0	2404000.0	41140000.0	2869000.0
420	3	SLU A1 sism.	59560.0	-3144.3	-47900.0	3110000.0	40770000.0	2985000.0
421	3	SLU A1 sism.	-56640.0	1753.2	-48870.0	-2114000.0	-39690000.0	-2538000.0
422	3	SLU A1 sism.	-57830.0	4975.8	-57900.0	-1416000.0	-40240000.0	-2417000.0
423	3	SLU A1 sism.	-56210.0	-9798.6	-55780.0	4310000.0	-39020000.0	-1954000.0
424	3	SLU A1 sism.	-57300.0	-6578.7	-64810.0	5010000.0	-39530000.0	-1830000.0
425	3	SLU A1 sism.	57840.0	5353.2	-31830.0	-4144000.0	39400000.0	1507000.0
426	3	SLU A1 sism.	57240.0	8598.5	-40830.0	-3458000.0	39220000.0	1532000.0
427	3	SLU A1 sism.	60420.0	-6317.8	-39060.0	2415000.0	41010000.0	2993000.0
428	3	SLU A1 sism.	59420.0	-3107.5	-48070.0	3120000.0	40630000.0	3111000.0
429	3	SLU A1 sism.	-56440.0	1696.6	-48690.0	-2112000.0	-39540000.0	-2704000.0
430	3	SLU A1 sism.	-57590.0	4911.5	-57720.0	-1410000.0	-40080000.0	-2567000.0
431	3	SLU A1 sism.	-56440.0	-9732.7	-55950.0	4303000.0	-39180000.0	-1811000.0
432	3	SLU A1 sism.	-57560.0	-6510.7	-64980.0	5001000.0	-39690000.0	-1692000.0
433	3	SLU A1 sism.	12620.0	17090.0	-30210.0	-10650000.0	8061000.0	-1139000.0
434	3	SLU A1 sism.	11610.0	20300.0	-39240.0	-9945000.0	7643000.0	-999500.0
435	3	SLU A1 sism.	19910.0	-21710.0	-53160.0	10940000.0	13400000.0	2475000.0
436	3	SLU A1 sism.	18840.0	-18460.0	-62190.0	11620000.0	12970000.0	2580000.0

437	3	SLU A1 sism.	-15390.0	17700.0	-34620.0	-11000000.0	-11600000.0	-2222000.0
438	3	SLU A1 sism.	-17180.0	20860.0	-43660.0	-10260000.0	-12460000.0	-1998000.0
439	3	SLU A1 sism.	-11020.0	-20730.0	-57590.0	10370000.0	-7984000.0	190100.0
440	3	SLU A1 sism.	-11750.0	-17490.0	-66610.0	11060000.0	-8288000.0	300600.0
441	3	SLU A1 sism.	15440.0	18050.0	-29880.0	-11190000.0	9861000.0	-1336000.0
442	3	SLU A1 sism.	14430.0	21260.0	-38900.0	-10490000.0	9445000.0	-1198000.0
443	3	SLU A1 sism.	22460.0	-20760.0	-52830.0	10400000.0	15040000.0	2314000.0
444	3	SLU A1 sism.	21400.0	-17510.0	-61850.0	11090000.0	14620000.0	2419000.0
445	3	SLU A1 sism.	-18290.0	16750.0	-34940.0	-10460000.0	-13430000.0	-2007000.0
446	3	SLU A1 sism.	-20010.0	19910.0	-43980.0	-9727000.0	-14260000.0	-1791000.0
447	3	SLU A1 sism.	-13860.0	-21620.0	-57920.0	10870000.0	-9756000.0	351300.0
448	3	SLU A1 sism.	-14590.0	-18390.0	-66950.0	11570000.0	-10060000.0	471900.0
449	3	SLU A1 sism.	12810.0	17030.0	-29670.0	-10720000.0	8367000.0	-1684000.0
450	3	SLU A1 sism.	11800.0	20220.0	-38690.0	-10000000.0	7929000.0	-1532000.0
451	3	SLU A1 sism.	19870.0	-21570.0	-53730.0	10960000.0	13340000.0	2729000.0
452	3	SLU A1 sism.	18730.0	-18340.0	-62760.0	11650000.0	12910000.0	2827000.0
453	3	SLU A1 sism.	-14490.0	17530.0	-34060.0	-11000000.0	-11010000.0	-2803000.0
454	3	SLU A1 sism.	-15840.0	20720.0	-43100.0	-10290000.0	-11650000.0	-2664000.0
455	3	SLU A1 sism.	-11370.0	-20600.0	-58170.0	10400000.0	-8194000.0	681400.0
456	3	SLU A1 sism.	-12310.0	-17350.0	-67200.0	11080000.0	-8550000.0	759600.0
457	3	SLU A1 sism.	15660.0	17980.0	-29330.0	-11260000.0	10160000.0	-1885000.0
458	3	SLU A1 sism.	14650.0	21180.0	-38350.0	-10540000.0	9739000.0	-1724000.0
459	3	SLU A1 sism.	22390.0	-20630.0	-53400.0	10430000.0	14930000.0	2564000.0
460	3	SLU A1 sism.	21260.0	-17390.0	-62430.0	11120000.0	14500000.0	2661000.0
461	3	SLU A1 sism.	-17340.0	16590.0	-34390.0	-10470000.0	-12790000.0	-2593000.0
462	3	SLU A1 sism.	-18700.0	19780.0	-43420.0	-9756000.0	-13440000.0	-2455000.0
463	3	SLU A1 sism.	-14230.0	-21470.0	-58510.0	10890000.0	-9977000.0	853800.0
464	3	SLU A1 sism.	-15170.0	-18220.0	-67550.0	11570000.0	-10340000.0	925500.0
529	3	SLU A1 sism.	15220.0	-301.7	-27710.0	-3879000.0	9871000.0	107300.0
530	3	SLU A1 sism.	12520.0	10380.0	-57770.0	-1517000.0	8796000.0	529000.0
531	3	SLU A1 sism.	18210.0	-12030.0	-34590.0	2647000.0	11880000.0	1282000.0
532	3	SLU A1 sism.	14650.0	-1263.7	-64660.0	4963000.0	10460000.0	1661000.0
533	3	SLU A1 sism.	-12280.0	385.0	-32080.0	-4268000.0	-9606000.0	-1273000.0
534	3	SLU A1 sism.	-16720.0	11090.0	-62180.0	-1916000.0	-11640000.0	-877800.0
535	3	SLU A1 sism.	-11920.0	-11210.0	-38990.0	2182000.0	-9028000.0	-662800.0
536	3	SLU A1 sism.	-14740.0	-351.5	-69080.0	4440000.0	-10280000.0	-330600.0
537	3	SLU A1 sism.	15830.0	-333.3	-27540.0	-3892000.0	10260000.0	-102600.0
538	3	SLU A1 sism.	12630.0	10350.0	-57600.0	-1532000.0	8911000.0	390200.0
539	3	SLU A1 sism.	18090.0	-11990.0	-34760.0	2656000.0	11800000.0	1382000.0
540	3	SLU A1 sism.	14650.0	-1215.8	-64830.0	4966000.0	10450000.0	1742000.0
541	3	SLU A1 sism.	-12010.0	350.2	-31910.0	-4279000.0	-9459000.0	-1449000.0
542	3	SLU A1 sism.	-16290.0	11040.0	-62010.0	-1920000.0	-11460000.0	-1023000.0
543	3	SLU A1 sism.	-12100.0	-11140.0	-39160.0	2171000.0	-9140000.0	-515900.0
544	3	SLU A1 sism.	-14980.0	-308.3	-69250.0	4446000.0	-10360000.0	-202900.0
545	3	SLU A1 sism.	17880.0	681.1	-27390.0	-4432000.0	11580000.0	-60230.0
546	3	SLU A1 sism.	15340.0	11360.0	-57430.0	-2069000.0	10680000.0	345700.0
547	3	SLU A1 sism.	20960.0	-11030.0	-34260.0	2086000.0	13600000.0	1082000.0
548	3	SLU A1 sism.	17370.0	-289.0	-64320.0	4415000.0	12210000.0	1469000.0
549	3	SLU A1 sism.	-15080.0	-507.1	-32410.0	-3769000.0	-11380000.0	-1093000.0
550	3	SLU A1 sism.	-19560.0	10170.0	-62520.0	-1403000.0	-13490000.0	-677800.0
551	3	SLU A1 sism.	-14720.0	-12070.0	-39330.0	2663000.0	-10750000.0	-515600.0
552	3	SLU A1 sism.	-17560.0	-1252.0	-69420.0	4944000.0	-12020000.0	-141400.0
553	3	SLU A1 sism.	18180.0	656.6	-27210.0	-4450000.0	11800000.0	-234100.0
554	3	SLU A1 sism.	15490.0	11330.0	-57260.0	-2080000.0	10800000.0	195100.0
555	3	SLU A1 sism.	20840.0	-10990.0	-34430.0	2095000.0	13490000.0	1183000.0
556	3	SLU A1 sism.	17310.0	-254.5	-64490.0	4426000.0	12140000.0	1567000.0
557	3	SLU A1 sism.	-14960.0	-556.1	-32240.0	-3771000.0	-11270000.0	-1273000.0
558	3	SLU A1 sism.	-19170.0	10100.0	-62340.0	-1393000.0	-13270000.0	-811000.0
559	3	SLU A1 sism.	-14920.0	-11990.0	-39500.0	2646000.0	-10890000.0	-380600.0
560	3	SLU A1 sism.	-17790.0	-1204.6	-69600.0	4948000.0	-12140000.0	-21870.0

Sollecitazioni alla base della fondazione

Cmb.	Plin.	Tipo	Vx	Vy	N	Mx	My	T
			(daN)	(daN)	(daN)	(daN cm)	(daN cm)	(daN cm)
1	1	SLU STR.	811.8	-1951.3	-258950.0	1168756.0	1352416.0	64080.0
2	1	SLU STR.	600.9	-1406.7	-191120.0	849399.2	1071704.0	45900.0
3	1	SLU STR.	765.5	-1939.2	-259440.0	1170000.0	1523865.0	63180.0
4	1	SLU STR.	530.1	-1397.1	-191620.0	852656.8	1222611.0	44750.0

5	1	SLU STR.	669.5	-2286.3	-269670.0	1314355.0	1386345.0	74560.0
6	1	SLU STR.	447.5	-1741.7	-201830.0	995104.0	1103702.0	54830.0
7	1	SLU STR.	35.4	-3697.6	-316900.0	1938708.0	1406248.0	110900.0
8	1	SLU STR.	-174.6	-3152.4	-249000.0	1618293.0	1126044.0	93270.0
9	1	SLU STR.	230.6	-3267.1	-302600.0	1749057.0	1390668.0	98600.0
10	1	SLU STR.	18.5	-2722.3	-234740.0	1428677.0	1108222.0	81180.0
11	1	SLU STR.	157.8	-3254.4	-303000.0	1748532.0	1566934.0	100700.0
12	1	SLU STR.	-49.7	-2710.1	-235210.0	1430214.0	1285042.0	82660.0
13	1	SLU STR.	74.2	-3607.9	-313300.0	1899952.0	1408908.0	109400.0
14	1	SLU STR.	-176.7	-3062.0	-245500.0	1578439.0	1139800.0	96080.0
15	1	SLU STR.	745.3	-2132.0	-264570.0	1251339.0	1381430.0	71390.0
16	1	SLU STR.	880.5	-1770.6	-253320.0	1086270.0	1324660.0	56090.0
17	1	SLU STR.	534.7	-1587.5	-196740.0	931994.0	1099160.0	53630.0
18	1	SLU STR.	667.7	-1226.1	-185490.0	766926.0	1042318.0	38480.0
19	1	SLU STR.	700.7	-2252.4	-268320.0	1306282.0	1400089.0	76640.0
20	1	SLU STR.	925.5	-1649.3	-249570.0	1030717.0	1304056.0	51350.0
21	1	SLU STR.	490.2	-1708.0	-200490.0	986955.2	1118825.0	58710.0
22	1	SLU STR.	714.2	-1105.0	-181740.0	711503.6	1023508.0	33540.0
23	1	SLU STR.	699.3	-2119.9	-265060.0	1252484.0	1552912.0	70910.0
24	1	SLU STR.	826.6	-1759.0	-253810.0	1087882.0	1491187.0	55580.0
25	1	SLU STR.	467.5	-1577.4	-197240.0	934784.4	1254096.0	52460.0
26	1	SLU STR.	593.8	-1216.4	-185990.0	770063.2	1190261.0	36870.0
27	1	SLU STR.	602.0	-2468.4	-275300.0	1398208.0	1414241.0	81750.0
28	1	SLU STR.	741.9	-2105.7	-264040.0	1232283.0	1360027.0	66650.0
29	1	SLU STR.	382.4	-1923.5	-207450.0	1078319.0	1130893.0	62520.0
30	1	SLU STR.	512.6	-1561.4	-196200.0	912865.6	1071514.0	47820.0
31	1	SLU STR.	-30.7	-3879.3	-322500.0	2021514.0	1433320.0	118500.0
32	1	SLU STR.	102.2	-3515.9	-311200.0	1854909.0	1378269.0	103400.0
33	1	SLU STR.	-238.5	-3333.8	-254600.0	1701057.0	1155379.0	100800.0
34	1	SLU STR.	-110.4	-2970.9	-243390.0	1535512.0	1097752.0	85610.0
35	1	SLU STR.	120.9	-3570.0	-312000.0	1887400.0	1436509.0	111200.0
36	1	SLU STR.	304.5	-2965.3	-293180.0	1609831.0	1341545.0	89620.0
37	1	SLU STR.	-86.1	-3024.3	-244100.0	1566918.0	1159674.0	93300.0
38	1	SLU STR.	97.7	-2420.0	-225340.0	1290298.0	1062726.0	71320.0
39	1	SLU STR.	164.4	-3448.9	-308200.0	1831870.0	1417729.0	106200.0
40	1	SLU STR.	295.0	-3085.8	-297000.0	1666300.0	1360404.0	91460.0
41	1	SLU STR.	-43.2	-2903.3	-240360.0	1511397.0	1141820.0	88290.0
42	1	SLU STR.	83.1	-2540.7	-229110.0	1345885.0	1079971.0	73540.0
43	1	SLU STR.	138.0	-3435.2	-308700.0	1832224.0	1595562.0	104100.0
44	1	SLU STR.	223.8	-3072.9	-297400.0	1665746.0	1537850.0	92880.0
45	1	SLU STR.	-100.2	-2892.2	-240830.0	1513068.0	1325982.0	92040.0
46	1	SLU STR.	13.0	-2528.3	-229580.0	1346401.0	1255554.0	74520.0
47	1	SLU STR.	12.9	-3789.2	-319000.0	1982702.0	1439546.0	116900.0
48	1	SLU STR.	90.1	-3426.6	-307700.0	1816193.0	1383811.0	106500.0
49	1	SLU STR.	-195.2	-3243.3	-251100.0	1662191.0	1164571.0	99150.0
50	1	SLU STR.	-108.3	-2880.8	-239830.0	1495695.0	1108009.0	87980.0
51	1	SLU STR.	6466.6	-1870.4	-259170.0	1115744.0	6019996.0	-506200.0
52	1	SLU STR.	6287.4	-1312.0	-191360.0	787042.4	5762485.0	-518500.0
53	1	SLU STR.	10300.0	-1766.4	-259340.0	1045469.0	9189000.0	-878600.0
54	1	SLU STR.	10110.0	-1206.1	-191530.0	715229.6	8924200.0	-889600.0
55	1	SLU STR.	6444.6	-1874.1	-259700.0	1128886.0	6164353.0	-502500.0
56	1	SLU STR.	6265.7	-1315.6	-191880.0	800067.2	5911884.0	-514700.0
57	1	SLU STR.	6295.8	-2233.0	-269910.0	1281965.0	6081497.0	-499800.0
58	1	SLU STR.	6135.7	-1675.6	-202080.0	953275.6	5783287.0	-505700.0
59	1	SLU STR.	5921.9	-3662.5	-317100.0	1918495.0	6282629.0	-452000.0
60	1	SLU STR.	5765.2	-3120.3	-249300.0	1600432.0	6036821.0	-462800.0
61	1	SLU STR.	6052.3	-3233.4	-302800.0	1729007.0	6231271.0	-466200.0
62	1	SLU STR.	5891.1	-2687.1	-234960.0	1408451.0	5979933.0	-476700.0
63	1	SLU STR.	9948.5	-3145.5	-303000.0	1670462.0	9436814.0	-839600.0
64	1	SLU STR.	9786.8	-2587.0	-235140.0	1341442.0	9186421.0	-850800.0
65	1	SLU STR.	6041.5	-3232.9	-303200.0	1737943.0	6405983.0	-458100.0
66	1	SLU STR.	5889.0	-2685.2	-235400.0	1416219.0	6159678.0	-469300.0
67	1	SLU STR.	5903.5	-3579.1	-313600.0	1883493.0	6265424.0	-455300.0
68	1	SLU STR.	5743.0	-3033.2	-245700.0	1562984.0	6015163.0	-465700.0
69	1	SLU STR.	-5018.4	-1901.5	-258730.0	1128976.0	-3509209.0	582000.0
70	1	SLU STR.	-5195.3	-1339.0	-190900.0	796975.2	-3769431.0	569700.0
71	1	SLU STR.	-8979.3	-1827.0	-258580.0	1073241.0	-6779520.0	932000.0
72	1	SLU STR.	-9151.0	-1264.3	-190770.0	741418.4	-7042114.0	919300.0

73	1	SLU STR.	-4905.7	-1886.5	-259230.0	1128485.0	-3248682.0	593700.0
74	1	SLU STR.	-5088.2	-1324.0	-191400.0	796380.0	-3509579.0	581700.0
75	1	SLU STR.	-5149.3	-2257.9	-269450.0	1289942.0	-3470920.0	588900.0
76	1	SLU STR.	-5329.9	-1694.7	-201620.0	957467.6	-3736591.0	576900.0
77	1	SLU STR.	-5862.1	-3693.9	-316700.0	1932269.0	-3496451.0	630500.0
78	1	SLU STR.	-6047.9	-3144.6	-248800.0	1609348.0	-3757752.0	618000.0
79	1	SLU STR.	-5645.8	-3258.2	-302400.0	1738985.0	-3499501.0	619800.0
80	1	SLU STR.	-5834.3	-2707.4	-234550.0	1414886.0	-3756110.0	605500.0
81	1	SLU STR.	-9598.7	-3213.8	-302300.0	1704652.0	-6756839.0	968800.0
82	1	SLU STR.	-9786.5	-2650.0	-234410.0	1370998.0	-7022384.0	956500.0
83	1	SLU STR.	-5546.6	-3240.8	-302800.0	1735896.0	-3240590.0	632500.0
84	1	SLU STR.	-5745.1	-2688.1	-235000.0	1409570.0	-3486411.0	621400.0
85	1	SLU STR.	-5776.6	-3599.3	-313100.0	1889916.0	-3471192.0	628600.0
86	1	SLU STR.	-5969.6	-3050.5	-245300.0	1566059.0	-3739357.0	616900.0
87	1	SLU STR.	-767.9	-2710.2	-276620.0	1571229.0	3080853.0	-173500.0
88	1	SLU STR.	-923.0	-2173.6	-208770.0	1257331.0	2832240.0	-182600.0
89	1	SLU STR.	-1228.1	-2964.6	-282410.0	1707752.0	3688626.0	-243700.0
90	1	SLU STR.	-1378.4	-2428.3	-214570.0	1394396.0	3446597.0	-253200.0
91	1	SLU STR.	-782.8	-2707.3	-277050.0	1577872.0	3277063.0	-168200.0
92	1	SLU STR.	-937.3	-2170.9	-209240.0	1264509.0	3022525.0	-176900.0
93	1	SLU STR.	-915.9	-3049.7	-287370.0	1720962.0	3106091.0	-164400.0
94	1	SLU STR.	-1072.3	-2513.5	-219530.0	1407616.0	2861329.0	-173900.0
95	1	SLU STR.	-816.1	-2892.7	-282250.0	1655125.0	3118067.0	-165300.0
96	1	SLU STR.	-719.6	-2528.0	-270980.0	1487364.0	3040654.0	-181000.0
97	1	SLU STR.	-970.7	-2356.2	-214410.0	1341744.0	2872517.0	-175000.0
98	1	SLU STR.	-875.2	-1991.2	-203140.0	1173542.0	2796982.0	-190800.0
99	1	SLU STR.	-843.7	-3014.2	-286010.0	1711698.0	3146754.0	-161900.0
100	1	SLU STR.	-688.3	-2406.4	-267230.0	1431766.0	3017407.0	-186600.0
101	1	SLU STR.	-1001.7	-2478.0	-218160.0	1397364.0	2898801.0	-169400.0
102	1	SLU STR.	-845.0	-1869.4	-199390.0	1117630.0	2772600.0	-196200.0
103	1	SLU STR.	-1249.1	-3146.7	-288200.0	1794609.0	3723108.0	-240000.0
104	1	SLU STR.	-1178.5	-2781.6	-276780.0	1623793.0	3651579.0	-252100.0
105	1	SLU STR.	-1420.5	-2611.4	-220220.0	1478366.0	3481535.0	-245800.0
106	1	SLU STR.	-1331.8	-2245.7	-208930.0	1309488.0	3405184.0	-260900.0
107	1	SLU STR.	-831.2	-2889.8	-282680.0	1661776.0	3313260.0	-160300.0
108	1	SLU STR.	-736.0	-2525.0	-271430.0	1494001.0	3240684.0	-176200.0
109	1	SLU STR.	-985.4	-2353.4	-214860.0	1348408.0	3064752.0	-169900.0
110	1	SLU STR.	-891.5	-1988.4	-203610.0	1181107.0	2984023.0	-184800.0
111	1	SLU STR.	-965.6	-3231.8	-293020.0	1804816.0	3148123.0	-157300.0
112	1	SLU STR.	-867.2	-2867.2	-281750.0	1637068.0	3068931.0	-172500.0
113	1	SLU STR.	-1118.9	-2696.1	-225160.0	1491530.0	2899736.0	-165700.0
114	1	SLU STR.	-1025.8	-2330.9	-213910.0	1323704.0	2822910.0	-182200.0
115	1	SLU STR.	5059.0	-2688.1	-276890.0	1561571.0	7846085.0	-717100.0
116	1	SLU STR.	4887.1	-2129.3	-209040.0	1231416.0	7599450.0	-729900.0
117	1	SLU STR.	8914.1	-2589.3	-277130.0	1495710.0	11018690.0	-1093000.0
118	1	SLU STR.	8734.5	-2030.7	-209270.0	1165984.0	10768140.0	-1105000.0
119	1	SLU STR.	4615.7	-2948.0	-282800.0	1703754.0	8437878.0	-786800.0
120	1	SLU STR.	4440.5	-2393.6	-214920.0	1376228.0	8196854.0	-799000.0
121	1	SLU STR.	5031.5	-2689.7	-277300.0	1570762.0	8039778.0	-710400.0
122	1	SLU STR.	4860.8	-2130.6	-209490.0	1241174.0	7794291.0	-723600.0
123	1	SLU STR.	4911.1	-3038.8	-287610.0	1718658.0	7873331.0	-703900.0
124	1	SLU STR.	4740.5	-2487.2	-219770.0	1393465.0	7626855.0	-716000.0
125	1	SLU STR.	-6410.3	-2666.4	-276410.0	1535964.0	-1633036.0	381500.0
126	1	SLU STR.	-6637.2	-2108.3	-208540.0	1206492.0	-1907462.0	366300.0
127	1	SLU STR.	-10340.0	-2589.6	-276260.0	1478746.0	-4896800.0	729800.0
128	1	SLU STR.	-10530.0	-2017.0	-208410.0	1139142.0	-5159600.0	716400.0
129	1	SLU STR.	-6984.3	-2916.2	-282210.0	1668939.0	-1084620.0	307500.0
130	1	SLU STR.	-7174.6	-2364.2	-214340.0	1343709.0	-1341852.0	294500.0
131	1	SLU STR.	-6475.1	-2655.2	-276830.0	1536624.0	-1447207.0	382900.0
132	1	SLU STR.	-6691.0	-2100.2	-209000.0	1210023.0	-1729915.0	366400.0
133	1	SLU STR.	-6534.7	-3009.1	-287170.0	1688096.0	-1603365.0	391400.0
134	1	SLU STR.	-6770.6	-2457.2	-219310.0	1362862.0	-1877477.0	376900.0
135	1	SLU STR.	1738.5	-2281.2	-275850.0	1251546.0	-511786.0	291600.0
136	1	SLU STR.	1559.0	-1734.7	-208020.0	930658.0	-769817.6	274900.0
137	1	SLU STR.	2031.5	-2388.0	-281380.0	1277655.0	-1122220.0	363800.0
138	1	SLU STR.	1852.8	-1841.7	-213550.0	957002.8	-1379666.0	347500.0
139	1	SLU STR.	1794.2	-2263.2	-276330.0	1248286.0	-261692.4	303000.0
140	1	SLU STR.	1613.9	-1716.7	-208490.0	927401.6	-522435.6	286600.0

141	1	SLU STR.	1603.9	-2618.7	-286570.0	1399245.0	-477833.2	304100.0
142	1	SLU STR.	1422.4	-2072.1	-218730.0	1078247.0	-735714.4	287600.0
143	1	SLU STR.	1670.9	-2462.4	-281480.0	1334486.0	-487490.8	299100.0
144	1	SLU STR.	1806.0	-2100.1	-270230.0	1168707.0	-536083.6	284200.0
145	1	SLU STR.	1491.6	-1915.8	-213640.0	1013598.0	-745604.4	282500.0
146	1	SLU STR.	1626.9	-1553.5	-202390.0	847818.8	-793776.8	267400.0
147	1	SLU STR.	1624.9	-2580.9	-285230.0	1387710.0	-471913.2	304300.0
148	1	SLU STR.	1851.0	-1979.2	-266480.0	1113398.0	-552181.2	279200.0
149	1	SLU STR.	1446.3	-2036.5	-217390.0	1068678.0	-729446.4	287500.0
150	1	SLU STR.	1669.4	-1432.6	-198640.0	792514.4	-808678.0	261900.0
151	1	SLU STR.	1964.1	-2569.2	-287010.0	1360303.0	-1097306.0	371300.0
152	1	SLU STR.	2099.0	-2206.9	-275760.0	1194926.0	-1146120.0	356400.0
153	1	SLU STR.	1784.9	-2022.7	-219170.0	1039722.0	-1356814.0	354900.0
154	1	SLU STR.	1917.7	-1660.6	-207920.0	874170.8	-1403878.0	339700.0
155	1	SLU STR.	1726.8	-2444.5	-281950.0	1331334.0	-238384.0	311300.0
156	1	SLU STR.	1861.0	-2082.2	-270700.0	1165559.0	-287475.2	295400.0
157	1	SLU STR.	1544.3	-1897.5	-214120.0	1010102.0	-494786.4	294300.0
158	1	SLU STR.	1680.5	-1535.4	-202870.0	844544.4	-547437.6	279100.0
159	1	SLU STR.	1537.1	-2799.8	-292190.0	1481970.0	-452848.0	311700.0
160	1	SLU STR.	1671.4	-2437.7	-280940.0	1316518.0	-502335.6	296500.0
161	1	SLU STR.	1354.7	-2253.0	-224360.0	1160965.0	-710637.2	295300.0
162	1	SLU STR.	1490.0	-1891.1	-213110.0	995529.6	-761095.2	279900.0
163	1	SLU STR.	7411.4	-2194.2	-276040.0	1193609.0	4240367.0	-270200.0
164	1	SLU STR.	7282.5	-1620.0	-208200.0	852902.4	4008903.0	-284900.0
165	1	SLU STR.	11440.0	-2075.2	-276170.0	1111723.0	7533800.0	-630900.0
166	1	SLU STR.	11280.0	-1515.6	-208350.0	781867.2	7277600.0	-642300.0
167	1	SLU STR.	7703.2	-2309.4	-281570.0	1225730.0	3624378.0	-191000.0
168	1	SLU STR.	7513.6	-1734.8	-213740.0	885080.8	3357626.0	-210300.0
169	1	SLU STR.	7524.8	-2181.5	-276530.0	1194282.0	4469977.0	-260600.0
170	1	SLU STR.	7414.4	-1618.1	-208710.0	861666.0	4246729.0	-268100.0
171	1	SLU STR.	7258.0	-2546.5	-286770.0	1351579.0	4274957.0	-261600.0
172	1	SLU STR.	7155.1	-1989.9	-218930.0	1023886.0	4060615.0	-266700.0
173	1	SLU STR.	-4141.6	-2262.5	-275620.0	1233598.0	-5369992.0	809300.0
174	1	SLU STR.	-4320.4	-1702.6	-207790.0	903307.2	-5631446.0	797300.0
175	1	SLU STR.	-8101.7	-2191.4	-275470.0	1180169.0	-8655202.0	1162000.0
176	1	SLU STR.	-8283.1	-1629.2	-207650.0	848405.2	-8918967.0	1150000.0
177	1	SLU STR.	-3848.8	-2376.3	-281150.0	1264657.0	-5980860.0	884900.0
178	1	SLU STR.	-4032.8	-1821.3	-213320.0	937957.2	-6243931.0	872300.0
179	1	SLU STR.	-4030.1	-2246.9	-276120.0	1232630.0	-5114612.0	820200.0
180	1	SLU STR.	-4210.9	-1688.5	-208290.0	903420.0	-5386303.0	810100.0
181	1	SLU STR.	-4279.2	-2608.1	-286330.0	1386976.0	-5341508.0	817800.0
182	1	SLU STR.	-4463.5	-2056.0	-218500.0	1062218.0	-5603621.0	806300.0
183	1	SLU STR.	1542.6	-229.6	-261260.0	12404.4	1510110.0	-82990.0
184	1	SLU STR.	1361.7	320.4	-193430.0	-310645.6	1236403.0	-98740.0
185	1	SLU STR.	1605.8	-214.8	-261740.0	11544.8	1740694.0	-70560.0
186	1	SLU STR.	1424.2	334.7	-193920.0	-311066.4	1470900.0	-87490.0
187	1	SLU STR.	2006.4	936.7	-262830.0	-771007.6	1575763.0	-189500.0
188	1	SLU STR.	1824.9	1499.2	-195010.0	-1102804.0	1311993.0	-210500.0
189	1	SLU STR.	1400.9	-564.3	-271970.0	157949.6	1551104.0	-71440.0
190	1	SLU STR.	1217.2	-16.4	-204140.0	-163728.4	1281065.0	-87730.0
191	1	SLU STR.	702.6	-1989.9	-319100.0	791089.2	1556311.0	-32160.0
192	1	SLU STR.	527.1	-1439.9	-251300.0	467784.4	1294253.0	-48990.0
193	1	SLU STR.	911.5	-1557.9	-304800.0	600444.4	1544384.0	-45040.0
194	1	SLU STR.	741.6	-1008.0	-237020.0	277361.2	1283996.0	-63240.0
195	1	SLU STR.	978.7	-1540.8	-305300.0	597992.4	1782438.0	-35820.0
196	1	SLU STR.	801.7	-992.6	-237510.0	276210.8	1517200.0	-51800.0
197	1	SLU STR.	1418.6	-399.7	-306400.0	-178033.6	1661231.0	-154500.0
198	1	SLU STR.	1244.5	158.8	-238550.0	-507157.2	1393339.0	-172900.0
199	1	SLU STR.	785.8	-1892.5	-315600.0	746095.2	1598291.0	-33650.0
200	1	SLU STR.	608.9	-1342.8	-247700.0	423137.2	1335062.0	-50260.0
201	1	SLU STR.	58.4	-991.0	-278860.0	415515.2	3312012.0	-288500.0
202	1	SLU STR.	-151.1	-432.7	-211030.0	86399.2	3032867.0	-310400.0
203	1	SLU STR.	-516.1	-1238.6	-284630.0	546532.0	3854074.0	-364200.0
204	1	SLU STR.	-721.7	-679.9	-216800.0	217088.0	3576391.0	-387000.0
205	1	SLU STR.	1.7	-981.5	-279350.0	418474.0	3478207.0	-288400.0
206	1	SLU STR.	-201.9	-423.0	-211530.0	89417.6	3195771.0	-309500.0
207	1	SLU STR.	695.7	192.3	-280420.0	-380180.8	3508478.0	-384100.0
208	1	SLU STR.	489.0	750.2	-212600.0	-708726.4	3229684.0	-402500.0

209	1	SLU STR.	-88.0	-1332.0	-289570.0	565541.2	3352445.0	-278100.0
210	1	SLU STR.	-296.0	-776.5	-221750.0	238475.2	3066475.0	-297600.0
211	1	SLU STR.	2452.9	-549.7	-278130.0	87655.2	-358958.0	136300.0
212	1	SLU STR.	2272.9	1.2	-210300.0	-236139.2	-614358.0	119100.0
213	1	SLU STR.	2745.3	-654.4	-283660.0	112332.8	-971567.6	207000.0
214	1	SLU STR.	2566.7	-103.8	-215830.0	-211348.8	-1226996.0	189600.0
215	1	SLU STR.	2500.2	-534.3	-278610.0	86228.4	-114080.8	150400.0
216	1	SLU STR.	2326.5	15.6	-210780.0	-236767.2	-373621.2	132200.0
217	1	SLU STR.	2948.7	614.9	-279670.0	-695292.8	-246053.6	29690.0
218	1	SLU STR.	2770.0	1167.2	-211840.0	-1020063.0	-501502.4	12510.0
219	1	SLU STR.	2321.8	-885.9	-288850.0	234304.4	-324287.6	150200.0
220	1	SLU STR.	2135.0	-334.6	-221010.0	-90051.6	-573896.4	134000.0
221	1	SLU STR.	808.1	-2765.2	-258890.0	1725825.0	1359977.0	58050.0
222	1	SLU STR.	618.3	-2217.6	-191060.0	1404112.0	1100194.0	43660.0
223	1	SLU STR.	792.6	-2748.4	-259370.0	1723810.0	1561112.0	63480.0
224	1	SLU STR.	607.9	-2208.1	-191550.0	1406968.0	1292953.0	48170.0
225	1	SLU STR.	775.0	-3307.0	-258850.0	2095844.0	1353002.0	51040.0
226	1	SLU STR.	608.0	-2761.0	-191020.0	1776315.0	1097954.0	39680.0
227	1	SLU STR.	670.7	-3099.8	-269610.0	1870976.0	1396479.0	67360.0
228	1	SLU STR.	469.7	-2552.1	-201760.0	1549246.0	1134364.0	52010.0
229	1	SLU STR.	30.4	-4508.4	-316800.0	2493008.0	1422652.0	107400.0
230	1	SLU STR.	-104.6	-3967.6	-249000.0	2176111.0	1189449.0	102900.0
231	1	SLU STR.	217.9	-4079.2	-302500.0	2304499.0	1399149.0	95460.0
232	1	SLU STR.	77.7	-3535.2	-234680.0	1985218.0	1164325.0	83780.0
233	1	SLU STR.	216.6	-4066.5	-303000.0	2304975.0	1623993.0	104200.0
234	1	SLU STR.	88.0	-3527.4	-235150.0	1989283.0	1390554.0	92080.0
235	1	SLU STR.	205.5	-4622.3	-302500.0	2675675.0	1399655.0	89000.0
236	1	SLU STR.	138.5	-4081.3	-234640.0	2358761.0	1212620.0	93130.0
237	1	SLU STR.	73.3	-4418.8	-313300.0	2454253.0	1428797.0	107400.0
238	1	SLU STR.	-110.9	-3877.8	-245400.0	2136330.0	1199692.0	98300.0
239	1	SLU STR.	-641.3	-3530.3	-276560.0	2132641.0	3181039.0	-162200.0
240	1	SLU STR.	-784.0	-2993.0	-208700.0	1818156.0	2941920.0	-171300.0
241	1	SLU STR.	-1088.6	-3784.7	-282350.0	2269161.0	3797369.0	-232500.0
242	1	SLU STR.	-1238.2	-3247.9	-214510.0	1954749.0	3557411.0	-242100.0
243	1	SLU STR.	-648.5	-3525.5	-276990.0	2138059.0	3383177.0	-157100.0
244	1	SLU STR.	-797.7	-2989.1	-209170.0	1824691.0	3132271.0	-165500.0
245	1	SLU STR.	-552.2	-4077.4	-276520.0	2507282.0	3250740.0	-155200.0
246	1	SLU STR.	-698.0	-3539.9	-208670.0	2192788.0	3011243.0	-164000.0
247	1	SLU STR.	-785.1	-3869.7	-287320.0	2282362.0	3208788.0	-153900.0
248	1	SLU STR.	-932.6	-3332.9	-219470.0	1967950.0	2971088.0	-163400.0
249	1	SLU STR.	1671.6	-3099.3	-275780.0	1810917.0	-528712.8	284100.0
250	1	SLU STR.	1488.9	-2553.2	-207950.0	1490384.0	-789438.0	268300.0
251	1	SLU STR.	1954.6	-3207.9	-281310.0	1838942.0	-1144448.0	358600.0
252	1	SLU STR.	1772.5	-2661.7	-213480.0	1518402.0	-1405301.0	343000.0
253	1	SLU STR.	1736.2	-3082.8	-276270.0	1808934.0	-287859.6	292800.0
254	1	SLU STR.	1545.3	-2535.4	-208430.0	1487253.0	-545561.6	279200.0
255	1	SLU STR.	1635.6	-3641.6	-275740.0	2181996.0	-535230.4	277100.0
256	1	SLU STR.	1443.8	-3095.5	-207900.0	1861465.0	-801348.8	263500.0
257	1	SLU STR.	1539.4	-3436.5	-286500.0	1958380.0	-493478.0	295300.0
258	1	SLU STR.	1354.7	-2890.5	-218670.0	1637864.0	-756431.2	278500.0
259	1	SLE Rare	615.2	-1434.9	-191410.0	860286.8	979418.0	46590.0
260	1	SLE Rare	580.3	-1426.2	-191730.0	860645.2	1097634.0	46510.0
261	1	SLE Rare	520.2	-1658.3	-198550.0	957691.2	1003729.0	54260.0
262	1	SLE Rare	91.7	-2599.1	-230010.0	1372886.0	1015002.0	78010.0
263	1	SLE Rare	223.8	-2308.2	-220360.0	1245283.0	1005555.0	69750.0
264	1	SLE Rare	176.8	-2299.6	-220670.0	1245256.0	1124210.0	71510.0
265	1	SLE Rare	122.5	-2535.3	-227540.0	1346237.0	1018700.0	77120.0
266	1	SLE Rare	568.3	-1555.0	-195150.0	915004.8	1000096.0	51820.0
267	1	SLE Rare	661.5	-1314.5	-187660.0	805341.2	961084.8	41170.0
268	1	SLE Rare	539.1	-1635.4	-197650.0	951745.6	1012287.0	55240.0
269	1	SLE Rare	691.3	-1233.7	-185160.0	768340.4	947654.8	37900.0
270	1	SLE Rare	537.3	-1546.7	-195480.0	915706.4	1116472.0	51650.0
271	1	SLE Rare	625.0	-1306.1	-187980.0	805826.0	1078005.0	41600.0
272	1	SLE Rare	475.2	-1778.3	-202310.0	1012401.0	1021719.0	59420.0
273	1	SLE Rare	565.9	-1537.7	-194800.0	902522.8	985803.2	48680.0
274	1	SLE Rare	45.9	-2720.4	-233770.0	1429450.0	1032510.0	83050.0
275	1	SLE Rare	136.0	-2477.9	-226260.0	1317353.0	996824.8	73000.0
276	1	SLE Rare	151.1	-2510.1	-226620.0	1338210.0	1036126.0	78130.0

277	1	SLE Rare	272.4	-2107.0	-214100.0	1152945.0	972191.6	63840.0
278	1	SLE Rare	180.5	-2429.4	-224110.0	1300524.0	1023658.0	74800.0
279	1	SLE Rare	266.9	-2187.4	-216610.0	1189989.0	984922.0	65140.0
280	1	SLE Rare	163.6	-2420.2	-224430.0	1300424.0	1142628.0	73630.0
281	1	SLE Rare	221.0	-2178.6	-216920.0	1189831.0	1106525.0	66290.0
282	1	SLE Rare	78.8	-2656.4	-231290.0	1400767.0	1037454.0	82160.0
283	1	SLE Rare	131.8	-2414.5	-223770.0	1289740.0	1001512.0	75140.0
284	1	SLE Rare	4369.7	-1383.3	-191550.0	826498.4	4085367.0	-334700.0
285	1	SLE Rare	6927.1	-1314.5	-191660.0	779937.6	6196255.0	-582600.0
286	1	SLE Rare	4355.5	-1385.6	-191900.0	835174.4	4182661.0	-332500.0
287	1	SLE Rare	4256.8	-1625.8	-198710.0	937790.0	4126815.0	-330500.0
288	1	SLE Rare	4003.8	-2575.2	-230190.0	1360023.0	4259460.0	-299000.0
289	1	SLE Rare	4089.2	-2286.0	-220520.0	1232624.0	4223698.0	-308400.0
290	1	SLE Rare	6687.2	-2233.2	-220640.0	1197578.0	6360461.0	-556800.0
291	1	SLE Rare	4084.6	-2284.8	-220810.0	1237472.0	4346151.0	-304400.0
292	1	SLE Rare	3992.3	-2515.7	-227680.0	1334886.0	4248074.0	-301300.0
293	1	SLE Rare	-3285.6	-1405.8	-191250.0	836596.0	-2266273.0	390900.0
294	1	SLE Rare	-5926.9	-1355.8	-191160.0	799196.0	-4446233.0	623900.0
295	1	SLE Rare	-3210.5	-1396.1	-191590.0	836427.2	-2093261.0	398800.0
296	1	SLE Rare	-3371.6	-1642.0	-198410.0	943138.8	-2240596.0	395500.0
297	1	SLE Rare	-3843.7	-2597.8	-229900.0	1369736.0	-2258243.0	423500.0
298	1	SLE Rare	-3700.3	-2303.3	-220240.0	1239295.0	-2259036.0	416000.0
299	1	SLE Rare	-6337.0	-2275.6	-220150.0	1217977.0	-4431439.0	648800.0
300	1	SLE Rare	-3633.6	-2292.0	-220540.0	1237340.0	-2088027.0	424300.0
301	1	SLE Rare	-3786.5	-2530.5	-227410.0	1339660.0	-2240380.0	421700.0
302	1	SLE Rare	-447.9	-1936.6	-203130.0	1126194.0	2121247.0	-112300.0
303	1	SLE Rare	-743.4	-2107.3	-207170.0	1219774.0	2518790.0	-161900.0
304	1	SLE Rare	-464.2	-1934.1	-203420.0	1130092.0	2250294.0	-109500.0
305	1	SLE Rare	-551.9	-2162.5	-210300.0	1225702.0	2134769.0	-106600.0
306	1	SLE Rare	-487.3	-2058.0	-206880.0	1181865.0	2141522.0	-107300.0
307	1	SLE Rare	-409.4	-1815.6	-199370.0	1070573.0	2102870.0	-117300.0
308	1	SLE Rare	-506.1	-2138.8	-209400.0	1219058.0	2161274.0	-105100.0
309	1	SLE Rare	-381.9	-1735.3	-196870.0	1033830.0	2086172.0	-119800.0
310	1	SLE Rare	-778.4	-2229.0	-210910.0	1275480.0	2551595.0	-158200.0
311	1	SLE Rare	-732.9	-1985.7	-203290.0	1161485.0	2503052.0	-165900.0
312	1	SLE Rare	-495.9	-2055.7	-207170.0	1185878.0	2273492.0	-104100.0
313	1	SLE Rare	-433.2	-1812.7	-199670.0	1074426.0	2225020.0	-114700.0
314	1	SLE Rare	-586.3	-2283.7	-214070.0	1282039.0	2161648.0	-102000.0
315	1	SLE Rare	-514.0	-2041.3	-206550.0	1170158.0	2113315.0	-111600.0
316	1	SLE Rare	3434.9	-1924.7	-203310.0	1121259.0	5295187.0	-474800.0
317	1	SLE Rare	6006.7	-1860.1	-203470.0	1078717.0	7410798.0	-725200.0
318	1	SLE Rare	3135.5	-2100.2	-207310.0	1217625.0	5694257.0	-521900.0
319	1	SLE Rare	3415.9	-1925.6	-203590.0	1127470.0	5423912.0	-470300.0
320	1	SLE Rare	3334.9	-2157.8	-210460.0	1225541.0	5313187.0	-466100.0
321	1	SLE Rare	-4197.7	-1910.9	-202990.0	1105102.0	-1016924.0	258700.0
322	1	SLE Rare	-6828.8	-1864.8	-202890.0	1070370.0	-3189461.0	489300.0
323	1	SLE Rare	-4581.4	-2079.6	-206920.0	1195052.0	-643549.3	208800.0
324	1	SLE Rare	-4237.8	-1903.5	-203270.0	1105525.0	-890434.8	259600.0
325	1	SLE Rare	-4279.6	-2139.5	-210170.0	1206736.0	-996946.0	264900.0
326	1	SLE Rare	1215.6	-1654.2	-202620.0	915398.0	-262525.6	197600.0
327	1	SLE Rare	1413.6	-1726.3	-206360.0	933050.0	-675168.0	246400.0
328	1	SLE Rare	1254.1	-1642.3	-202940.0	913373.6	-96412.8	205100.0
329	1	SLE Rare	1126.8	-1879.1	-209770.0	1013792.0	-240081.6	205900.0
330	1	SLE Rare	1169.9	-1773.4	-206370.0	969509.2	-246610.8	202700.0
331	1	SLE Rare	1260.7	-1533.4	-198870.0	860104.4	-278817.2	192700.0
332	1	SLE Rare	1139.9	-1853.9	-208870.0	1006366.0	-235909.6	206100.0
333	1	SLE Rare	1290.5	-1452.6	-196370.0	823114.4	-289740.0	189400.0
334	1	SLE Rare	1368.5	-1847.1	-210110.0	988248.4	-658977.6	251300.0
335	1	SLE Rare	1458.1	-1605.5	-202610.0	877763.6	-691223.2	241400.0
336	1	SLE Rare	1209.2	-1763.1	-206690.0	968573.2	-80797.2	210600.0
337	1	SLE Rare	1298.5	-1521.4	-199190.0	858072.8	-113581.2	200100.0
338	1	SLE Rare	1082.5	-1999.8	-213520.0	1068978.0	-223302.4	210900.0
339	1	SLE Rare	1171.1	-1758.5	-206010.0	958615.2	-256763.2	201000.0
340	1	SLE Rare	5005.7	-1601.4	-202750.0	880570.4	2909682.0	-176900.0
341	1	SLE Rare	7673.9	-1519.4	-202830.0	823925.6	5096863.0	-419000.0
342	1	SLE Rare	5201.4	-1677.1	-206490.0	900756.8	2492173.0	-123300.0
343	1	SLE Rare	5052.0	-1590.8	-203070.0	879399.6	3045235.0	-173500.0
344	1	SLE Rare	4903.4	-1833.9	-209900.0	984368.0	2933403.0	-171200.0

345	1	SLE Rare	-2701.9	-1643.1	-202460.0	904369.6	-3499226.0	541100.0
346	1	SLE Rare	-5341.5	-1597.8	-202360.0	870234.8	-5688985.0	776100.0
347	1	SLE Rare	-2504.6	-1719.4	-206200.0	924930.4	-3912553.0	591900.0
348	1	SLE Rare	-2627.1	-1632.7	-202800.0	903726.4	-3329257.0	548500.0
349	1	SLE Rare	-2793.6	-1872.7	-209610.0	1006128.0	-3481227.0	546700.0
350	1	SLE Rare	1089.3	-287.8	-192940.0	89753.6	1080618.0	-51530.0
351	1	SLE Rare	1131.1	-277.7	-193260.0	89001.6	1235726.0	-43180.0
352	1	SLE Rare	1398.7	486.4	-193990.0	-430069.2	1125044.0	-121200.0
353	1	SLE Rare	995.9	-510.8	-200080.0	186692.4	1109002.0	-43810.0
354	1	SLE Rare	526.9	-1461.8	-231520.0	609317.2	1110228.0	-17520.0
355	1	SLE Rare	667.8	-1169.8	-221870.0	480380.8	1103141.0	-26250.0
356	1	SLE Rare	707.8	-1158.2	-222200.0	478685.2	1260930.0	-19200.0
357	1	SLE Rare	1006.2	-397.8	-222890.0	-38479.2	1180740.0	-99260.0
358	1	SLE Rare	584.5	-1392.5	-229020.0	577194.0	1139138.0	-18790.0
359	1	SLE Rare	112.5	-794.9	-204620.0	358589.2	2282501.0	-186300.0
360	1	SLE Rare	-276.8	-963.4	-208520.0	447902.0	2647782.0	-237200.0
361	1	SLE Rare	78.2	-788.5	-204950.0	360514.0	2395387.0	-187100.0
362	1	SLE Rare	529.7	-7.4	-205660.0	-170908.4	2408569.0	-251000.0
363	1	SLE Rare	14.9	-1020.0	-211770.0	456997.6	2308789.0	-180000.0
364	1	SLE Rare	1692.0	-500.7	-204140.0	140086.4	-161562.4	94140.0
365	1	SLE Rare	1889.7	-571.6	-207880.0	156796.0	-575942.0	142400.0
366	1	SLE Rare	1724.1	-490.7	-204460.0	139291.6	1188.4	103500.0
367	1	SLE Rare	2024.8	274.5	-205170.0	-380944.8	-89624.0	22390.0
368	1	SLE Rare	1606.2	-725.1	-211290.0	238114.4	-139160.8	103200.0
369	1	SLE Rare	600.3	-1977.8	-191360.0	1231736.0	981033.6	42050.0
370	1	SLE Rare	599.5	-1966.2	-191680.0	1229840.0	1122934.0	47440.0
371	1	SLE Rare	576.3	-2339.1	-191330.0	1478696.0	975850.0	37670.0
372	1	SLE Rare	514.0	-2201.4	-198520.0	1329162.0	1005580.0	48730.0
373	1	SLE Rare	81.1	-3140.2	-229970.0	1743828.0	1021732.0	75220.0
374	1	SLE Rare	208.9	-2850.3	-220320.0	1616041.0	1005067.0	66750.0
375	1	SLE Rare	193.1	-2839.4	-220630.0	1614733.0	1149166.0	72000.0
376	1	SLE Rare	191.7	-3212.4	-220300.0	1863487.0	996302.8	60740.0
377	1	SLE Rare	118.0	-3076.5	-227500.0	1716180.0	1027156.0	74860.0
378	1	SLE Rare	-373.5	-2482.9	-203090.0	1499944.0	2182179.0	-105400.0
379	1	SLE Rare	-652.9	-2653.5	-207130.0	1593416.0	2591656.0	-154500.0
380	1	SLE Rare	-377.2	-2479.6	-203370.0	1503550.0	2318742.0	-102000.0
381	1	SLE Rare	-313.1	-2847.4	-203070.0	1749683.0	2228427.0	-100800.0
382	1	SLE Rare	-469.5	-2709.1	-210260.0	1600088.0	2199661.0	-99850.0
383	1	SLE Rare	1171.6	-2199.4	-202570.0	1287927.0	-273614.0	192400.0
384	1	SLE Rare	1362.9	-2272.8	-206310.0	1306730.0	-689856.8	242700.0
385	1	SLE Rare	1215.7	-2188.6	-202900.0	1287632.0	-113813.6	198100.0
386	1	SLE Rare	1149.3	-2561.0	-202540.0	1535315.0	-276986.4	187500.0
387	1	SLE Rare	1084.2	-2424.2	-209720.0	1386902.0	-249894.8	200000.0
388	1	SLE Freq.	645.0	-1377.9	-189540.0	833546.8	942996.4	44710.0
389	1	SLE Freq.	639.1	-1376.1	-189620.0	833930.8	971493.2	44540.0
390	1	SLE Freq.	622.3	-1434.6	-191330.0	858556.8	948670.0	46450.0
391	1	SLE Freq.	247.8	-2251.8	-218500.0	1218921.0	965430.0	67690.0
392	1	SLE Freq.	630.1	-1418.1	-190790.0	851975.6	948807.2	46370.0
393	1	SLE Freq.	659.6	-1337.7	-188290.0	815227.6	935247.2	43310.0
394	1	SLE Freq.	1884.3	-1376.3	-189580.0	833258.4	1972117.0	-86060.0
395	1	SLE Freq.	-641.3	-1378.0	-189480.0	832556.4	-134261.2	157400.0
396	1	SLE Freq.	-416.5	-1879.5	-201270.0	1099340.0	2088015.0	-113800.0
397	1	SLE Freq.	1224.4	-1597.7	-200750.0	888918.0	-309074.4	194200.0
398	1	SLE Freq.	787.2	-998.8	-190040.0	578956.0	967462.8	13720.0
399	1	SLE Freq.	633.1	-1559.7	-189520.0	957966.4	940466.0	42620.0
400	1	SLE Quasi P.	645.0	-1377.9	-189540.0	833546.8	942996.4	44710.0
401	1	SLU A1 sism.	50570.0	7825.8	-190590.0	-5404101.0	31308400.0	-4067000.0
402	1	SLU A1 sism.	51370.0	7188.5	-198280.0	-5016615.0	31904400.0	-4041000.0
403	1	SLU A1 sism.	33480.0	-5067.9	-185780.0	3274151.0	33887600.0	-3808000.0
404	1	SLU A1 sism.	34380.0	-5717.5	-193490.0	3670094.0	34505600.0	-3784000.0
405	1	SLU A1 sism.	-32460.0	5174.6	-185280.0	-3579953.0	-32715200.0	4087000.0
406	1	SLU A1 sism.	-32050.0	4507.2	-193030.0	-3170867.0	-32406000.0	4055000.0
407	1	SLU A1 sism.	-48210.0	-7559.6	-180420.0	4983157.0	-29265200.0	3688000.0
408	1	SLU A1 sism.	-47700.0	-8217.1	-188160.0	5386057.0	-28894000.0	3688000.0
409	1	SLU A1 sism.	44040.0	8017.5	-190720.0	-5559098.0	34254800.0	-4415000.0
410	1	SLU A1 sism.	44770.0	7368.8	-198420.0	-5163255.0	34802400.0	-4361000.0
411	1	SLU A1 sism.	40180.0	-5222.4	-185650.0	3402683.0	31041600.0	-3512000.0
412	1	SLU A1 sism.	41040.0	-5873.3	-193350.0	3799801.0	31634800.0	-3483000.0

413	1	SLU A1 sism.	-39390.0	5375.1	-185440.0	-3741006.0	-29976800.0	3646000.0
414	1	SLU A1 sism.	-39060.0	4702.0	-193170.0	-3328237.0	-29717200.0	3622000.0
415	1	SLU A1 sism.	-41300.0	-7763.5	-180290.0	5146617.0	-32016000.0	4044000.0
416	1	SLU A1 sism.	-40740.0	-8421.9	-188040.0	5549628.0	-31628800.0	4042000.0
417	1	SLU A1 sism.	46290.0	8710.2	-190040.0	-5978227.0	28414800.0	-4110000.0
418	1	SLU A1 sism.	47110.0	8064.3	-197730.0	-5584711.0	28983200.0	-4080000.0
419	1	SLU A1 sism.	29590.0	-4139.5	-185250.0	2668740.0	31270800.0	-3957000.0
420	1	SLU A1 sism.	30470.0	-4790.4	-192960.0	3065846.0	31866400.0	-3928000.0
421	1	SLU A1 sism.	-29790.0	4551.4	-185730.0	-3193167.0	-30764800.0	4029000.0
422	1	SLU A1 sism.	-29100.0	3865.4	-193490.0	-2769848.0	-30282000.0	4040000.0
423	1	SLU A1 sism.	-46190.0	-8141.2	-180830.0	5339949.0	-27752800.0	3621000.0
424	1	SLU A1 sism.	-45460.0	-8826.2	-188580.0	5762147.0	-27235200.0	3656000.0
425	1	SLU A1 sism.	39730.0	8897.7	-190170.0	-6130724.0	31327600.0	-4453000.0
426	1	SLU A1 sism.	40670.0	8265.3	-197870.0	-5746834.0	31980400.0	-4458000.0
427	1	SLU A1 sism.	36320.0	-4296.8	-185130.0	2799611.0	28448400.0	-3657000.0
428	1	SLU A1 sism.	37180.0	-4945.2	-192840.0	3194419.0	29021600.0	-3631000.0
429	1	SLU A1 sism.	-36480.0	4717.6	-185900.0	-3329106.0	-27907600.0	3678000.0
430	1	SLU A1 sism.	-35920.0	4029.9	-193650.0	-2905591.0	-27490400.0	3677000.0
431	1	SLU A1 sism.	-39580.0	-8312.4	-180690.0	5480482.0	-30669600.0	3924000.0
432	1	SLU A1 sism.	-38810.0	-8997.5	-188460.0	5902694.0	-30137200.0	3957000.0
433	1	SLU A1 sism.	40820.0	21310.0	-194190.0	-14447200.0	5612400.0	-1224000.0
434	1	SLU A1 sism.	41530.0	20660.0	-201900.0	-14049200.0	6141600.0	-1203000.0
435	1	SLU A1 sism.	-14540.0	-21430.0	-178030.0	14311600.0	15135200.0	-1075000.0
436	1	SLU A1 sism.	-13630.0	-22050.0	-185830.0	14686000.0	15744400.0	-1058000.0
437	1	SLU A1 sism.	13960.0	20340.0	-192680.0	-13770800.0	-14894800.0	1391000.0
438	1	SLU A1 sism.	14560.0	19640.0	-200400.0	-13336800.0	-14452800.0	1417000.0
439	1	SLU A1 sism.	-39570.0	-22080.0	-176400.0	14749600.0	-4026900.0	623600.0
440	1	SLU A1 sism.	-39260.0	-22710.0	-184150.0	15135200.0	-3772800.0	636000.0
441	1	SLU A1 sism.	39790.0	21550.0	-194040.0	-14596000.0	4864630.0	-1243000.0
442	1	SLU A1 sism.	40410.0	20900.0	-201750.0	-14198000.0	5336000.0	-1233000.0
443	1	SLU A1 sism.	-15730.0	-21190.0	-177880.0	14152800.0	14322400.0	-1120000.0
444	1	SLU A1 sism.	-14810.0	-21810.0	-185670.0	14527200.0	14932800.0	-1104000.0
445	1	SLU A1 sism.	15210.0	20100.0	-192840.0	-13622000.0	-14004800.0	1430000.0
446	1	SLU A1 sism.	15800.0	19400.0	-200550.0	-13188000.0	-13564000.0	1457000.0
447	1	SLU A1 sism.	-39370.0	-22250.0	-176510.0	14850000.0	-3801800.0	551700.0
448	1	SLU A1 sism.	-38680.0	-22900.0	-184280.0	15258000.0	-3313600.0	605200.0
449	1	SLU A1 sism.	18410.0	21880.0	-194710.0	-14905600.0	15049200.0	-2317000.0
450	1	SLU A1 sism.	18950.0	21210.0	-202420.0	-14495200.0	15484000.0	-2287000.0
451	1	SLU A1 sism.	7978.8	-21900.0	-177580.0	14698000.0	5680457.0	-118200.0
452	1	SLU A1 sism.	8967.8	-22500.0	-185380.0	15070000.0	6310133.0	-108900.0
453	1	SLU A1 sism.	-8876.9	20920.0	-193200.0	-14250400.0	-5647233.0	310200.0
454	1	SLU A1 sism.	-8247.4	20230.0	-200910.0	-13817600.0	-5167683.0	325000.0
455	1	SLU A1 sism.	-16030.0	-22500.0	-176000.0	15110000.0	-12933600.0	1813000.0
456	1	SLU A1 sism.	-15490.0	-23140.0	-183770.0	15496800.0	-12588800.0	1786000.0
457	1	SLU A1 sism.	17170.0	22120.0	-194560.0	-15064400.0	14200400.0	-2362000.0
458	1	SLU A1 sism.	17720.0	21450.0	-202270.0	-14654000.0	14626400.0	-2330000.0
459	1	SLU A1 sism.	6866.8	-21640.0	-177430.0	14536800.0	4929014.0	-163500.0
460	1	SLU A1 sism.	7837.2	-22250.0	-185230.0	14910000.0	5534468.0	-155800.0
461	1	SLU A1 sism.	-7626.9	20680.0	-193350.0	-14091600.0	-4789231.0	355700.0
462	1	SLU A1 sism.	-6994.1	20000.0	-201070.0	-13670000.0	-4300295.0	368800.0
463	1	SLU A1 sism.	-15270.0	-22690.0	-176100.0	15232800.0	-12402400.0	1819000.0
464	1	SLU A1 sism.	-14910.0	-23320.0	-183880.0	15618400.0	-12119200.0	1767000.0
529	1	SLU A1 sism.	20180.0	6838.7	-179520.0	-4651647.0	8054600.0	-1301000.0
530	1	SLU A1 sism.	22620.0	4688.4	-205190.0	-3342605.0	9888400.0	-1138000.0
531	1	SLU A1 sism.	3383.5	-6033.1	-174670.0	4009972.0	10816010.0	-1143000.0
532	1	SLU A1 sism.	6468.5	-8136.1	-200590.0	5290331.0	12886220.0	-1054000.0
533	1	SLU A1 sism.	-5127.2	6020.8	-177940.0	-4088493.0	-11385260.0	1340000.0
534	1	SLU A1 sism.	-3158.0	3769.3	-203750.0	-2705314.0	-10011960.0	1286000.0
535	1	SLU A1 sism.	-20540.0	-6744.4	-173090.0	4497322.0	-7755800.0	1004000.0
536	1	SLU A1 sism.	-19090.0	-8858.9	-198950.0	5785062.0	-6647800.0	1031000.0
537	1	SLU A1 sism.	13480.0	7058.8	-179650.0	-4827056.0	10898600.0	-1631000.0
538	1	SLU A1 sism.	16050.0	4862.0	-205350.0	-3484444.0	12806000.0	-1427000.0
539	1	SLU A1 sism.	10120.0	-6176.9	-174530.0	4130228.0	7978400.0	-855800.0
540	1	SLU A1 sism.	13240.0	-8277.4	-200480.0	5410285.0	10044800.0	-781700.0
541	1	SLU A1 sism.	-12180.0	6175.9	-178080.0	-4217108.0	-8713600.0	960200.0
542	1	SLU A1 sism.	-10160.0	3914.5	-203930.0	-2825743.0	-7273200.0	983100.0
543	1	SLU A1 sism.	-13550.0	-6934.1	-172960.0	4651097.0	-10455000.0	1348000.0
544	1	SLU A1 sism.	-12250.0	-8968.3	-198810.0	5881196.0	-9509000.0	1327000.0

545	1	SLU A1 sism.	19080.0	7096.8	-179370.0	-4818617.0	7282600.0	-1319000.0
546	1	SLU A1 sism.	21620.0	4936.1	-205030.0	-3502335.0	9090400.0	-1153000.0
547	1	SLU A1 sism.	2211.6	-5755.9	-174510.0	3828705.0	10026390.0	-1190000.0
548	1	SLU A1 sism.	5338.3	-7870.4	-200440.0	5117448.0	12080600.0	-1103000.0
549	1	SLU A1 sism.	-4293.0	5809.1	-178090.0	-3954086.0	-10775160.0	1351000.0
550	1	SLU A1 sism.	-1985.8	3542.2	-203900.0	-2560068.0	-9116294.0	1335000.0
551	1	SLU A1 sism.	-20520.0	-6887.1	-173190.0	4581452.0	-7663400.0	912500.0
552	1	SLU A1 sism.	-18080.0	-9083.6	-199090.0	5928029.0	-5933600.0	1064000.0
553	1	SLU A1 sism.	12470.0	7292.8	-179490.0	-4977139.0	10183400.0	-1655000.0
554	1	SLU A1 sism.	14890.0	5097.4	-205190.0	-3635685.0	11926800.0	-1462000.0
555	1	SLU A1 sism.	8952.5	-5900.3	-174380.0	3950031.0	7195304.0	-900300.0
556	1	SLU A1 sism.	12090.0	-8019.8	-200320.0	5243379.0	9245800.0	-824200.0
557	1	SLU A1 sism.	-10980.0	5963.4	-178240.0	-4082608.0	-7913600.0	982100.0
558	1	SLU A1 sism.	-8950.2	3678.3	-204080.0	-2674397.0	-6416028.0	1036000.0
559	1	SLU A1 sism.	-13880.0	-7049.7	-173040.0	4714965.0	-10558600.0	1213000.0
560	1	SLU A1 sism.	-11330.0	-9188.8	-198960.0	6021659.0	-8798600.0	1352000.0
1	3	SLU STR.	934.7	-335.5	-263510.0	363563.6	314860.4	56210.0
2	3	SLU STR.	694.6	-255.8	-194280.0	267690.0	285647.2	45000.0
3	3	SLU STR.	958.8	-315.5	-263750.0	344455.2	428151.2	61580.0
4	3	SLU STR.	707.5	-237.5	-194520.0	249896.4	396794.0	49930.0
5	3	SLU STR.	875.4	-141.4	-276230.0	277768.0	12689.2	96220.0
6	3	SLU STR.	633.6	-61.6	-207000.0	181887.2	-16696.8	85730.0
7	3	SLU STR.	434.5	691.3	-331400.0	-94866.0	-1304861.0	269500.0
8	3	SLU STR.	190.7	772.1	-262200.0	-191448.4	-1339115.0	258300.0
9	3	SLU STR.	559.4	437.2	-314700.0	18763.6	-901968.4	217400.0
10	3	SLU STR.	313.0	517.9	-245400.0	-77781.6	-935335.2	205700.0
11	3	SLU STR.	584.4	459.5	-314900.0	-2020.0	-798378.0	218900.0
12	3	SLU STR.	339.6	539.6	-245700.0	-98097.2	-831952.8	208100.0
13	3	SLU STR.	491.7	624.9	-327400.0	-62438.0	-1203000.0	259200.0
14	3	SLU STR.	258.9	708.1	-258100.0	-160796.8	-1261928.0	242500.0
15	3	SLU STR.	929.6	-254.6	-270120.0	332249.6	187655.6	70420.0
16	3	SLU STR.	933.5	-416.6	-256910.0	394995.6	434114.0	43790.0
17	3	SLU STR.	683.6	-174.9	-200890.0	236489.2	159118.4	59530.0
18	3	SLU STR.	699.7	-336.8	-187670.0	299117.2	409267.6	31610.0
19	3	SLU STR.	922.2	-200.5	-274520.0	311254.0	101707.3	79900.0
20	3	SLU STR.	929.2	-469.3	-252500.0	415018.4	512102.8	35450.0
21	3	SLU STR.	676.9	-121.0	-205290.0	215618.8	73284.2	69250.0
22	3	SLU STR.	696.0	-390.1	-183270.0	319515.6	493223.6	23660.0
23	3	SLU STR.	946.1	-234.6	-270360.0	313152.0	306436.8	75850.0
24	3	SLU STR.	965.8	-396.8	-257150.0	376011.2	557696.0	47030.0
25	3	SLU STR.	699.2	-156.1	-201130.0	218233.2	266506.4	64210.0
26	3	SLU STR.	714.2	-318.1	-187920.0	280969.6	530007.6	35950.0
27	3	SLU STR.	866.1	-63.0	-282830.0	248261.2	-113069.2	111000.0
28	3	SLU STR.	884.8	-222.3	-269620.0	308972.4	143964.8	82360.0
29	3	SLU STR.	623.9	17.4	-213600.0	152015.6	-142133.2	100300.0
30	3	SLU STR.	641.6	-142.5	-200390.0	213096.4	114187.2	71330.0
31	3	SLU STR.	423.9	770.9	-338000.0	-125173.2	-1431130.0	284200.0
32	3	SLU STR.	444.8	611.6	-324800.0	-64467.7	-1178629.0	254900.0
33	3	SLU STR.	179.7	851.9	-268800.0	-221922.0	-1466438.0	272900.0
34	3	SLU STR.	201.6	692.3	-255600.0	-161004.8	-1212813.0	243700.0
35	3	SLU STR.	542.3	569.9	-325700.0	-31764.4	-1111926.0	241900.0
36	3	SLU STR.	578.7	305.2	-303700.0	68772.4	-707658.4	188700.0
37	3	SLU STR.	298.6	651.0	-256400.0	-128597.6	-1146172.0	230600.0
38	3	SLU STR.	335.6	385.9	-234420.0	-27710.4	-739029.2	178200.0
39	3	SLU STR.	549.0	516.8	-321300.0	-11544.8	-1027124.0	232100.0
40	3	SLU STR.	566.6	357.5	-308100.0	49168.8	-775712.8	202200.0
41	3	SLU STR.	306.0	597.9	-252000.0	-108366.8	-1062276.0	220800.0
42	3	SLU STR.	323.4	438.2	-238820.0	-47374.1	-808887.2	191100.0
43	3	SLU STR.	568.1	538.2	-321500.0	-31705.2	-902425.6	238500.0
44	3	SLU STR.	594.4	379.7	-308300.0	28467.2	-672469.6	204600.0
45	3	SLU STR.	331.7	619.1	-252300.0	-128367.2	-959598.4	222400.0
46	3	SLU STR.	349.2	459.9	-239070.0	-67729.2	-704293.6	193700.0
47	3	SLU STR.	482.1	704.7	-334000.0	-92921.5	-1326152.0	273900.0
48	3	SLU STR.	511.2	546.8	-320800.0	-33183.6	-1103662.0	238600.0
49	3	SLU STR.	239.8	786.5	-264800.0	-190218.8	-1362229.0	262700.0
50	3	SLU STR.	266.5	628.1	-251500.0	-130175.6	-1132016.0	228600.0
51	3	SLU STR.	7904.6	-491.6	-263180.0	481096.8	6523556.0	450800.0
52	3	SLU STR.	7714.2	-419.6	-193950.0	390655.6	6503705.0	431600.0

53	3	SLU STR.	12690.0	-603.8	-262960.0	565152.4	10682800.0	694900.0
54	3	SLU STR.	12520.0	-530.7	-193730.0	473982.8	10678400.0	673100.0
55	3	SLU STR.	7923.2	-478.6	-263430.0	466830.8	6644789.0	450000.0
56	3	SLU STR.	7735.1	-405.9	-194190.0	376004.4	6626215.0	429700.0
57	3	SLU STR.	7836.2	-297.7	-275890.0	395425.2	6180344.0	486200.0
58	3	SLU STR.	7623.6	-225.8	-206660.0	305094.8	6209836.0	472900.0
59	3	SLU STR.	7398.4	543.1	-331100.0	17113.2	4849802.0	673800.0
60	3	SLU STR.	7235.2	614.9	-261800.0	-73024.0	4864219.0	660700.0
61	3	SLU STR.	7564.6	283.4	-314300.0	134793.2	5276749.0	617900.0
62	3	SLU STR.	7380.4	360.1	-245100.0	41122.8	5277649.0	600800.0
63	3	SLU STR.	12350.0	179.5	-314100.0	212964.8	9451000.0	868300.0
64	3	SLU STR.	12200.0	254.7	-244900.0	120338.4	9469000.0	847900.0
65	3	SLU STR.	7562.5	301.7	-314600.0	116792.4	5399499.0	623300.0
66	3	SLU STR.	7379.0	378.5	-245300.0	23072.4	5400484.0	606400.0
67	3	SLU STR.	7451.6	474.7	-327000.0	51040.8	4947195.0	661400.0
68	3	SLU STR.	7267.3	551.6	-257800.0	-42817.2	4949079.0	644500.0
69	3	SLU STR.	-6622.7	-302.0	-263840.0	333134.0	-6205723.0	-240100.0
70	3	SLU STR.	-6830.5	-237.1	-194610.0	247852.0	-6208655.0	-246900.0
71	3	SLU STR.	-11620.0	-319.4	-264070.0	341025.6	-10519400.0	-425600.0
72	3	SLU STR.	-11820.0	-255.2	-194830.0	256222.8	-10521400.0	-432400.0
73	3	SLU STR.	-6568.8	-276.2	-264090.0	309946.4	-6065261.0	-237300.0
74	3	SLU STR.	-6776.9	-210.8	-194850.0	224290.0	-6068226.0	-244100.0
75	3	SLU STR.	-6641.0	-97.3	-276570.0	239673.6	-6462923.0	-212400.0
76	3	SLU STR.	-6854.4	-33.1	-207330.0	154972.0	-6477531.0	-218700.0
77	3	SLU STR.	-6974.6	741.2	-331800.0	-137138.0	-7784946.0	-91660.0
78	3	SLU STR.	-7193.4	818.0	-262500.0	-230963.6	-7799207.0	-101000.0
79	3	SLU STR.	-6895.6	487.1	-315000.0	-23510.8	-7388471.0	-131000.0
80	3	SLU STR.	-7108.1	563.6	-245800.0	-117046.0	-7405972.0	-140600.0
81	3	SLU STR.	-11900.0	497.6	-315200.0	-35547.2	-11708000.0	-326500.0
82	3	SLU STR.	-12110.0	560.8	-246000.0	-119650.0	-11713200.0	-332400.0
83	3	SLU STR.	-6845.0	513.5	-315300.0	-47203.6	-7233395.0	-126200.0
84	3	SLU STR.	-7060.1	591.5	-246000.0	-141777.6	-7254217.0	-135400.0
85	3	SLU STR.	-6918.9	680.0	-327700.0	-108386.4	-7672273.0	-99720.0
86	3	SLU STR.	-7138.8	757.2	-258500.0	-202465.2	-7677656.0	-107800.0
87	3	SLU STR.	-128.0	-179.8	-283120.0	350380.8	2442639.0	265700.0
88	3	SLU STR.	-378.5	-102.6	-213890.0	256313.2	2408580.0	254600.0
89	3	SLU STR.	-475.2	-130.8	-289540.0	347491.2	3129979.0	334200.0
90	3	SLU STR.	-722.0	-53.9	-220310.0	253669.2	3091359.0	322900.0
91	3	SLU STR.	-118.1	-163.1	-283370.0	333573.2	2556823.0	271600.0
92	3	SLU STR.	-368.5	-87.1	-214140.0	240347.2	2522777.0	260500.0
93	3	SLU STR.	-199.0	9.1	-295800.0	268312.8	2138119.0	306800.0
94	3	SLU STR.	-445.5	85.6	-226600.0	174732.8	2100544.0	295800.0
95	3	SLU STR.	-136.7	-101.0	-289730.0	320623.6	2318601.0	281300.0
96	3	SLU STR.	-121.1	-258.7	-276510.0	380138.0	2569472.0	250600.0
97	3	SLU STR.	-383.9	-24.2	-220490.0	226800.4	2280927.0	270000.0
98	3	SLU STR.	-367.6	-181.8	-207280.0	286311.2	2529892.0	239300.0
99	3	SLU STR.	-141.3	-48.7	-294130.0	300945.2	2233045.0	291800.0
100	3	SLU STR.	-114.4	-311.2	-272110.0	400048.8	2651269.0	240200.0
101	3	SLU STR.	-389.5	28.2	-224900.0	207112.4	2198259.0	280400.0
102	3	SLU STR.	-362.0	-234.1	-202880.0	306090.8	2610558.0	228800.0
103	3	SLU STR.	-479.3	-55.4	-296100.0	320042.0	3000481.0	349900.0
104	3	SLU STR.	-465.8	-209.3	-282930.0	377016.0	3253109.0	318600.0
105	3	SLU STR.	-729.6	23.8	-226910.0	224647.6	2971449.0	339500.0
106	3	SLU STR.	-717.0	-132.3	-213700.0	283180.8	3217960.0	307400.0
107	3	SLU STR.	-128.1	-84.3	-289970.0	303816.0	2434623.0	287000.0
108	3	SLU STR.	-109.1	-242.1	-276760.0	363455.6	2678907.0	256100.0
109	3	SLU STR.	-375.6	-8.2	-220740.0	210481.6	2394934.0	275700.0
110	3	SLU STR.	-361.0	-165.8	-207530.0	270098.4	2643685.0	244700.0
111	3	SLU STR.	-204.1	87.8	-302400.0	238670.0	2008507.0	321700.0
112	3	SLU STR.	-190.2	-69.8	-289230.0	298073.6	2262176.0	291300.0
113	3	SLU STR.	-453.9	164.3	-233210.0	145090.0	1976533.0	311400.0
114	3	SLU STR.	-437.1	6.9	-220000.0	204470.8	2223546.0	280100.0
115	3	SLU STR.	7029.8	-317.5	-282780.0	455001.2	8775571.0	637300.0
116	3	SLU STR.	6862.6	-242.8	-213550.0	362637.2	8772507.0	614900.0
117	3	SLU STR.	11900.0	-438.6	-282560.0	545427.2	12988000.0	870200.0
118	3	SLU STR.	11750.0	-362.7	-213320.0	452327.6	13000000.0	843700.0
119	3	SLU STR.	6720.1	-262.1	-289200.0	447553.2	9496411.0	701500.0
120	3	SLU STR.	6559.2	-180.0	-219970.0	349998.8	9498102.0	678300.0

121	3	SLU STR.	7029.9	-297.9	-283030.0	436048.0	8883589.0	640800.0
122	3	SLU STR.	6866.4	-223.0	-213800.0	343657.6	8880964.0	618300.0
123	3	SLU STR.	6908.4	-127.0	-295500.0	371743.6	8456013.0	684900.0
124	3	SLU STR.	6743.2	-45.0	-226260.0	274301.2	8454180.0	661800.0
125	3	SLU STR.	-7516.0	-121.3	-283460.0	301953.6	-4007917.0	-68580.0
126	3	SLU STR.	-7724.3	-48.2	-214230.0	210888.8	-4013913.0	-78210.0
127	3	SLU STR.	-12470.0	-130.1	-283690.0	303707.2	-8281400.0	-260100.0
128	3	SLU STR.	-12630.0	-49.5	-214450.0	207338.8	-8264600.0	-275300.0
129	3	SLU STR.	-7823.6	-67.8	-289880.0	295832.4	-3308829.0	-11890.0
130	3	SLU STR.	-8019.2	9.3	-220650.0	201886.4	-3303298.0	-21350.0
131	3	SLU STR.	-7475.9	-97.7	-283710.0	280324.0	-3870106.0	-66860.0
132	3	SLU STR.	-7692.7	-26.6	-214470.0	190694.4	-3887121.0	-75130.0
133	3	SLU STR.	-7547.7	74.4	-296200.0	215073.2	-4292724.0	-37070.0
134	3	SLU STR.	-7761.9	149.0	-226950.0	122917.6	-4307431.0	-45270.0
135	3	SLU STR.	1625.0	117.1	-284560.0	110751.6	-2814995.0	-16520.0
136	3	SLU STR.	1391.4	197.3	-215330.0	14610.0	-2839027.0	-28660.0
137	3	SLU STR.	1841.9	265.2	-291450.0	28044.8	-3847975.0	-40870.0
138	3	SLU STR.	1608.7	345.1	-222220.0	-67924.4	-3872956.0	-53090.0
139	3	SLU STR.	1682.8	140.7	-284810.0	89117.2	-2669062.0	-12820.0
140	3	SLU STR.	1447.4	220.7	-215570.0	-6948.8	-2695317.0	-24330.0
141	3	SLU STR.	1594.3	309.6	-297300.0	26125.6	-3097681.0	17600.0
142	3	SLU STR.	1358.2	389.8	-228040.0	-70034.8	-3124014.0	5904.5
143	3	SLU STR.	1618.3	197.2	-291170.0	80037.2	-2940809.0	-4769.9
144	3	SLU STR.	1628.9	37.0	-277960.0	141466.0	-2691529.0	-27940.0
145	3	SLU STR.	1384.2	277.4	-221930.0	-16072.0	-2965901.0	-16840.0
146	3	SLU STR.	1397.4	117.2	-208720.0	45312.0	-2714307.0	-40370.0
147	3	SLU STR.	1610.4	254.2	-295600.0	57080.8	-3025752.0	2416.8
148	3	SLU STR.	1629.9	-16.3	-273550.0	161852.4	-2609415.0	-35440.0
149	3	SLU STR.	1378.7	330.9	-226340.0	-36610.4	-3050560.0	-8956.9
150	3	SLU STR.	1400.2	63.8	-204320.0	65722.8	-2634975.0	-47860.0
151	3	SLU STR.	1835.3	345.3	-298100.0	-2610.0	-3972759.0	-29140.0
152	3	SLU STR.	1846.2	185.0	-284850.0	58821.2	-3723454.0	-52300.0
153	3	SLU STR.	1600.7	425.4	-228830.0	-98760.4	-3999920.0	-41310.0
154	3	SLU STR.	1614.5	265.0	-215620.0	-37217.3	-3749261.0	-64700.0
155	3	SLU STR.	1673.3	220.9	-291410.0	58320.8	-2795203.0	-1033.9
156	3	SLU STR.	1690.7	60.6	-278200.0	119826.8	-2545119.0	-24840.0
157	3	SLU STR.	1438.1	301.1	-222180.0	-37866.7	-2823432.0	-12620.0
158	3	SLU STR.	1455.0	141.0	-208970.0	23486.4	-2571403.0	-36510.0
159	3	SLU STR.	1584.4	389.8	-303900.0	-4637.2	-3223872.0	29770.0
160	3	SLU STR.	1603.0	229.4	-290670.0	56890.8	-2970644.0	5624.3
161	3	SLU STR.	1346.8	470.1	-234650.0	-100848.4	-3251385.0	18200.0
162	3	SLU STR.	1368.5	309.5	-221440.0	-39206.6	-2996775.0	-6275.7
163	3	SLU STR.	8473.4	-24.7	-284230.0	217960.4	3266802.0	395100.0
164	3	SLU STR.	8288.1	48.1	-215000.0	127128.0	3268570.0	381200.0
165	3	SLU STR.	13260.0	-143.0	-284010.0	306458.8	7456200.0	656500.0
166	3	SLU STR.	13070.0	-72.2	-214780.0	216965.2	7446400.0	640100.0
167	3	SLU STR.	8646.8	122.9	-291120.0	135658.0	2206614.0	373700.0
168	3	SLU STR.	8456.7	190.9	-221890.0	48133.2	2203803.0	361600.0
169	3	SLU STR.	8505.7	-2.5	-284480.0	197300.0	3401682.0	398100.0
170	3	SLU STR.	8313.9	64.5	-215250.0	110566.0	3398663.0	384500.0
171	3	SLU STR.	8397.0	166.8	-296900.0	134184.0	2959644.0	434600.0
172	3	SLU STR.	8205.8	244.5	-227710.0	39717.6	2957694.0	421100.0
173	3	SLU STR.	-5966.4	168.3	-284900.0	67569.2	-9349966.0	-324400.0
174	3	SLU STR.	-6182.2	235.3	-215670.0	-19159.6	-9368866.0	-332200.0
175	3	SLU STR.	-10970.0	152.5	-285120.0	74450.0	-13676400.0	-508600.0
176	3	SLU STR.	-11180.0	217.4	-215890.0	-10816.8	-13691600.0	-515100.0
177	3	SLU STR.	-5754.3	319.1	-291800.0	-17070.8	-10381510.0	-351300.0
178	3	SLU STR.	-5968.3	390.2	-222560.0	-106756.4	-10398200.0	-359100.0
179	3	SLU STR.	-5910.1	193.1	-285140.0	45155.6	-9213210.0	-321700.0
180	3	SLU STR.	-6129.9	261.4	-215900.0	-42440.4	-9241587.0	-327600.0
181	3	SLU STR.	-5984.4	363.5	-297600.0	-18956.4	-9623122.0	-295000.0
182	3	SLU STR.	-6197.2	436.5	-228390.0	-110063.6	-9634665.0	-303300.0
183	3	SLU STR.	851.9	944.6	-263540.0	-526152.0	250230.4	37530.0
184	3	SLU STR.	620.2	1028.5	-194310.0	-624917.6	235122.8	20040.0
185	3	SLU STR.	913.7	966.6	-263790.0	-546592.0	400441.6	40910.0
186	3	SLU STR.	685.6	1049.6	-194550.0	-644753.2	382766.0	24440.0
187	3	SLU STR.	857.2	1815.2	-263570.0	-1131522.0	262558.0	-1137.1
188	3	SLU STR.	752.2	1913.5	-194340.0	-1240624.0	320265.2	-36200.0

189	3	SLU STR.	822.9	1138.6	-276260.0	-611726.0	-34658.0	70850.0
190	3	SLU STR.	583.9	1221.0	-207030.0	-709520.0	-56329.6	56650.0
191	3	SLU STR.	396.7	1954.1	-331400.0	-972187.2	-1372400.0	232400.0
192	3	SLU STR.	152.5	2038.6	-262200.0	-1071530.0	-1404702.0	217600.0
193	3	SLU STR.	525.9	1702.0	-314700.0	-860038.8	-960895.6	182500.0
194	3	SLU STR.	282.3	1786.0	-245500.0	-958917.6	-988121.6	168000.0
195	3	SLU STR.	552.2	1726.1	-314900.0	-882028.4	-837242.0	194000.0
196	3	SLU STR.	300.3	1808.3	-245700.0	-979692.4	-867568.8	179000.0
197	3	SLU STR.	495.4	2561.3	-314700.0	-1457352.0	-989554.4	152000.0
198	3	SLU STR.	339.4	2659.5	-245500.0	-1566141.0	-957570.8	126100.0
199	3	SLU STR.	471.9	1894.8	-327400.0	-944876.0	-1262374.0	224400.0
200	3	SLU STR.	226.8	1978.9	-258200.0	-1043869.0	-1294783.0	209800.0
201	3	SLU STR.	-76.1	1104.7	-283150.0	-542365.2	2459863.0	240000.0
202	3	SLU STR.	-206.7	1204.5	-213920.0	-652443.6	2496199.0	208200.0
203	3	SLU STR.	-371.8	1163.9	-289570.0	-552470.4	3179383.0	300700.0
204	3	SLU STR.	-506.3	1264.0	-220340.0	-662777.6	3212243.0	268400.0
205	3	SLU STR.	-60.2	1124.4	-283400.0	-561324.4	2571773.0	245500.0
206	3	SLU STR.	-197.6	1223.9	-214160.0	-671168.0	2608292.0	213900.0
207	3	SLU STR.	120.0	1997.6	-283170.0	-1163516.0	2574395.0	182900.0
208	3	SLU STR.	-18.1	2096.1	-213940.0	-1272534.0	2604825.0	152300.0
209	3	SLU STR.	-183.6	1290.3	-295900.0	-622132.4	2126965.0	287600.0
210	3	SLU STR.	-336.3	1386.0	-226630.0	-729216.4	2156642.0	260600.0
211	3	SLU STR.	1529.6	1407.3	-284600.0	-786174.8	-2894454.0	-49700.0
212	3	SLU STR.	1298.1	1491.0	-215370.0	-884820.0	-2918226.0	-65040.0
213	3	SLU STR.	1751.1	1558.7	-291490.0	-871242.8	-3925872.0	-76650.0
214	3	SLU STR.	1519.9	1642.3	-222260.0	-969880.8	-3949611.0	-92030.0
215	3	SLU STR.	1583.3	1428.3	-284840.0	-805894.8	-2748010.0	-43470.0
216	3	SLU STR.	1353.0	1511.5	-215610.0	-904277.6	-2769641.0	-58520.0
217	3	SLU STR.	1465.0	2271.6	-284620.0	-1386592.0	-2940203.0	-74280.0
218	3	SLU STR.	1227.3	2354.2	-215390.0	-1484502.0	-2966728.0	-89620.0
219	3	SLU STR.	1495.9	1600.0	-297300.0	-870897.6	-3174495.0	-16390.0
220	3	SLU STR.	1264.6	1684.8	-228080.0	-970371.2	-3199249.0	-30610.0
221	3	SLU STR.	1050.2	-1144.2	-263460.0	918902.8	412222.8	77820.0
222	3	SLU STR.	806.0	-1061.9	-194230.0	821230.4	379515.2	67930.0
223	3	SLU STR.	1068.8	-1120.5	-263700.0	897257.6	524851.2	84910.0
224	3	SLU STR.	820.7	-1043.0	-194470.0	802954.0	495484.0	74550.0
225	3	SLU STR.	1119.1	-1683.0	-263430.0	1288960.0	471790.8	91150.0
226	3	SLU STR.	889.7	-1603.6	-194190.0	1193427.0	449166.4	84250.0
227	3	SLU STR.	993.8	-950.5	-276180.0	833458.8	115947.1	118500.0
228	3	SLU STR.	752.4	-868.1	-206940.0	735675.6	87751.9	108800.0
229	3	SLU STR.	531.8	-114.7	-331400.0	458562.8	-1218190.0	290300.0
230	3	SLU STR.	271.2	-36.5	-262100.0	363781.2	-1263455.0	273800.0
231	3	SLU STR.	657.8	-368.8	-314600.0	572259.6	-812061.6	238300.0
232	3	SLU STR.	410.7	-289.4	-245400.0	476622.0	-847812.4	227700.0
233	3	SLU STR.	684.9	-346.9	-314900.0	551724.4	-709718.0	241400.0
234	3	SLU STR.	442.4	-270.4	-245600.0	458151.6	-740914.4	232700.0
235	3	SLU STR.	718.0	-909.2	-314600.0	943404.0	-757541.2	250800.0
236	3	SLU STR.	462.7	-830.8	-245300.0	848390.0	-798778.4	237600.0
237	3	SLU STR.	593.9	-180.2	-327300.0	490425.2	-1113728.0	280700.0
238	3	SLU STR.	358.2	-101.3	-258100.0	395160.8	-1174012.0	265900.0
239	3	SLU STR.	-21.1	-990.5	-283070.0	907160.0	2535469.0	290600.0
240	3	SLU STR.	-269.5	-912.7	-213840.0	812727.6	2502665.0	279900.0
241	3	SLU STR.	-366.2	-941.4	-289490.0	904170.4	3225056.0	359500.0
242	3	SLU STR.	-613.6	-864.2	-220260.0	810101.6	3187365.0	348200.0
243	3	SLU STR.	-11.0	-972.6	-283320.0	889406.0	2652686.0	296600.0
244	3	SLU STR.	-260.1	-896.3	-214080.0	796050.0	2616787.0	285700.0
245	3	SLU STR.	50.1	-1531.3	-283030.0	1278755.0	2598009.0	307200.0
246	3	SLU STR.	-197.8	-1454.1	-213800.0	1184497.0	2565265.0	296700.0
247	3	SLU STR.	-90.1	-801.6	-295800.0	825090.8	2232189.0	331900.0
248	3	SLU STR.	-335.4	-724.6	-226550.0	731153.2	2195757.0	321100.0
249	3	SLU STR.	1770.9	-693.7	-284510.0	667638.0	-2700490.0	3046.6
250	3	SLU STR.	1540.3	-613.6	-215280.0	571528.4	-2724159.0	-8270.1
251	3	SLU STR.	1998.3	-545.1	-291400.0	584614.4	-3727207.0	-19320.0
252	3	SLU STR.	1767.6	-465.1	-222170.0	488508.4	-3750888.0	-30690.0
253	3	SLU STR.	1827.3	-671.0	-284750.0	646620.0	-2556724.0	6583.5
254	3	SLU STR.	1591.2	-589.7	-215520.0	549658.0	-2583060.0	-3474.2
255	3	SLU STR.	1856.6	-1234.7	-284470.0	1039166.0	-2631207.0	14180.0
256	3	SLU STR.	1635.3	-1154.8	-215240.0	943278.4	-2648761.0	4890.7

257	3	SLU STR.	1733.4	-501.8	-297200.0	583412.4	-2986997.0	37400.0
258	3	SLU STR.	1499.8	-421.9	-227990.0	487532.8	-3012019.0	26490.0
259	3	SLE Rare	687.9	-257.0	-194750.0	274144.8	225845.6	40640.0
260	3	SLE Rare	707.7	-243.3	-194910.0	261096.0	303526.4	43620.0
261	3	SLE Rare	651.0	-127.8	-203220.0	217033.6	26430.0	66800.0
262	3	SLE Rare	357.7	427.3	-240010.0	-31343.6	-851077.2	182400.0
263	3	SLE Rare	442.2	255.7	-228700.0	45353.6	-578939.6	147100.0
264	3	SLE Rare	459.2	270.6	-228860.0	31443.2	-510000.8	148200.0
265	3	SLE Rare	397.2	380.8	-237170.0	-8756.0	-778842.0	175100.0
266	3	SLE Rare	685.7	-202.8	-199150.0	253039.6	141795.2	50020.0
267	3	SLE Rare	685.3	-311.2	-190340.0	295147.6	305140.8	32590.0
268	3	SLE Rare	682.1	-166.9	-202090.0	239123.2	85482.8	56180.0
269	3	SLE Rare	683.5	-346.4	-187410.0	308463.2	357014.0	27160.0
270	3	SLE Rare	698.7	-189.4	-199320.0	240231.6	223147.6	53340.0
271	3	SLE Rare	713.2	-297.5	-190510.0	282201.2	389880.4	34100.0
272	3	SLE Rare	642.7	-73.3	-207630.0	195797.2	-59578.4	76210.0
273	3	SLE Rare	657.8	-181.6	-198820.0	237789.6	113319.6	57420.0
274	3	SLE Rare	350.3	480.2	-244400.0	-51464.5	-935368.8	192200.0
275	3	SLE Rare	364.5	374.2	-235610.0	-11125.2	-766762.4	172600.0
276	3	SLE Rare	431.1	344.1	-236040.0	11698.0	-718274.0	163600.0
277	3	SLE Rare	455.0	167.6	-221360.0	78796.8	-449604.8	128000.0
278	3	SLE Rare	435.4	308.7	-233100.0	25184.8	-662358.0	157100.0
279	3	SLE Rare	446.5	202.5	-224290.0	65693.6	-494616.4	137100.0
280	3	SLE Rare	448.0	323.0	-233270.0	11705.2	-578841.2	161400.0
281	3	SLE Rare	465.6	217.4	-224460.0	51768.4	-424930.4	138700.0
282	3	SLE Rare	390.7	433.9	-241580.0	-28962.0	-863018.4	185000.0
283	3	SLE Rare	410.3	328.6	-232770.0	10803.2	-713162.8	161400.0
284	3	SLE Rare	5324.3	-358.9	-194530.0	350865.6	4362911.0	305300.0
285	3	SLE Rare	8507.6	-434.3	-194380.0	407418.4	7135913.0	469900.0
286	3	SLE Rare	5337.0	-350.2	-194690.0	341425.2	4443443.0	304500.0
287	3	SLE Rare	5279.9	-228.8	-203000.0	293152.4	4132582.0	328800.0
288	3	SLE Rare	4984.8	329.3	-239790.0	42742.8	3243180.0	453600.0
289	3	SLE Rare	5096.5	154.0	-228470.0	122124.8	3531578.0	415600.0
290	3	SLE Rare	8290.5	87.4	-228320.0	172310.8	6317864.0	583000.0
291	3	SLE Rare	5097.2	166.5	-228640.0	109923.6	3606669.0	418800.0
292	3	SLE Rare	5021.8	281.6	-236950.0	66208.0	3312617.0	444800.0
293	3	SLE Rare	-4357.5	-231.1	-194970.0	251226.0	-4124897.0	-157900.0
294	3	SLE Rare	-7685.2	-242.7	-195120.0	256522.8	-7000223.0	-281400.0
295	3	SLE Rare	-4320.8	-213.9	-195130.0	235872.8	-4031499.0	-156000.0
296	3	SLE Rare	-4368.3	-95.8	-203450.0	189792.4	-4295197.0	-139200.0
297	3	SLE Rare	-4589.5	460.9	-240240.0	-59802.9	-5173739.0	-58120.0
298	3	SLE Rare	-4536.1	290.0	-228930.0	16454.8	-4908332.0	-85010.0
299	3	SLE Rare	-7873.9	298.6	-229080.0	7246.8	-7790871.0	-215300.0
300	3	SLE Rare	-4501.9	307.3	-229090.0	850.4	-4805228.0	-81880.0
301	3	SLE Rare	-4551.2	418.4	-237400.0	-40016.8	-5098145.0	-64220.0
302	3	SLE Rare	-13.2	-153.0	-207760.0	264861.2	1642412.0	179400.0
303	3	SLE Rare	-247.9	-121.9	-212100.0	264331.6	2106250.0	225200.0
304	3	SLE Rare	-7.1	-141.4	-207930.0	253372.8	1719143.0	183200.0
305	3	SLE Rare	-61.1	-26.8	-216240.0	209913.6	1438669.0	206600.0
306	3	SLE Rare	-19.4	-100.4	-212170.0	244944.4	1559678.0	189600.0
307	3	SLE Rare	-7.2	-205.8	-203360.0	284892.4	1723138.0	169300.0
308	3	SLE Rare	-23.0	-65.3	-215100.0	231634.8	1501239.0	196500.0
309	3	SLE Rare	-3.7	-241.4	-200420.0	298569.2	1782551.0	162800.0
310	3	SLE Rare	-250.2	-69.2	-216500.0	244405.2	2020974.0	236100.0
311	3	SLE Rare	-241.9	-171.7	-207700.0	282201.6	2188967.0	215100.0
312	3	SLE Rare	-13.3	-88.8	-212330.0	233456.0	1637399.0	193500.0
313	3	SLE Rare	-0.1	-194.3	-203520.0	273412.4	1799991.0	173000.0
314	3	SLE Rare	-65.3	26.0	-220640.0	189878.8	1351162.0	216400.0
315	3	SLE Rare	-55.0	-79.6	-211840.0	230056.8	1521406.0	196400.0
316	3	SLE Rare	4737.1	-245.6	-207530.0	335176.8	5854451.0	430000.0
317	3	SLE Rare	7977.0	-324.8	-207390.0	394374.8	8662244.0	585900.0
318	3	SLE Rare	4527.0	-208.4	-211870.0	330302.0	6341245.0	473500.0
319	3	SLE Rare	4737.1	-232.6	-207700.0	322616.8	5925447.0	432300.0
320	3	SLE Rare	4661.9	-118.0	-216010.0	279257.6	5644423.0	461000.0
321	3	SLE Rare	-4949.1	-113.3	-207990.0	232090.0	-2664892.0	-43850.0
322	3	SLE Rare	-8268.7	-120.6	-208140.0	234270.8	-5531243.0	-170600.0
323	3	SLE Rare	-5155.4	-77.2	-212330.0	227958.0	-2192653.0	-5561.3
324	3	SLE Rare	-4920.7	-97.4	-208150.0	217591.6	-2571479.0	-42690.0

325	3	SLE Rare	-4969.1	17.1	-216470.0	174250.4	-2855290.0	-22850.0
326	3	SLE Rare	1145.3	43.5	-208720.0	106181.2	-1851563.0	-7398.0
327	3	SLE Rare	1291.9	143.6	-213380.0	50329.2	-2548969.0	-23860.0
328	3	SLE Rare	1184.4	59.1	-208880.0	91843.2	-1753870.0	-5047.0
329	3	SLE Rare	1125.7	171.8	-217190.0	49809.2	-2039920.0	15190.0
330	3	SLE Rare	1139.4	99.3	-213120.0	84075.2	-1936270.0	-104.6
331	3	SLE Rare	1147.4	-9.9	-204310.0	126690.4	-1769318.0	-14950.0
332	3	SLE Rare	1136.0	135.0	-216060.0	70372.4	-1991680.0	5133.0
333	3	SLE Rare	1147.5	-45.2	-201380.0	140120.4	-1715300.0	-19980.0
334	3	SLE Rare	1288.0	197.0	-217780.0	29896.0	-2631440.0	-16090.0
335	3	SLE Rare	1294.3	90.1	-208970.0	70859.2	-2466683.0	-31420.0
336	3	SLE Rare	1178.4	112.6	-213290.0	71336.8	-1837596.0	2758.5
337	3	SLE Rare	1189.1	6.0	-204480.0	112186.0	-1672314.0	-13060.0
338	3	SLE Rare	1119.4	225.3	-221600.0	29316.4	-2123667.0	23280.0
339	3	SLE Rare	1131.1	118.4	-212790.0	70325.6	-1955270.0	7211.3
340	3	SLE Rare	5700.5	-50.4	-208500.0	177244.4	2197064.0	267900.0
341	3	SLE Rare	8893.8	-128.0	-208350.0	235355.2	4991259.0	441900.0
342	3	SLE Rare	5823.7	48.8	-213160.0	122040.4	1485148.0	252500.0
343	3	SLE Rare	5721.7	-34.7	-208660.0	162861.6	2286609.0	268900.0
344	3	SLE Rare	5650.5	75.6	-216970.0	122525.6	1994061.0	294400.0
345	3	SLE Rare	-3919.4	79.4	-208950.0	76147.2	-6209332.0	-213800.0
346	3	SLE Rare	-7259.8	70.2	-209090.0	79812.0	-9089177.0	-337300.0
347	3	SLE Rare	-3776.3	181.1	-213600.0	19105.6	-6907157.0	-231700.0
348	3	SLE Rare	-3882.5	95.9	-209110.0	61249.6	-6118905.0	-211900.0
349	3	SLE Rare	-3931.6	209.0	-217420.0	18835.2	-6392792.0	-193900.0
350	3	SLE Rare	633.6	596.3	-194770.0	-318950.0	183630.8	28830.0
351	3	SLE Rare	675.4	611.2	-194930.0	-332740.4	284549.2	30950.0
352	3	SLE Rare	598.5	1172.4	-194790.0	-719483.2	167921.2	9195.2
353	3	SLE Rare	615.5	725.6	-203250.0	-376067.2	-5536.0	50990.0
354	3	SLE Rare	332.9	1268.4	-240030.0	-615811.6	-896148.4	158600.0
355	3	SLE Rare	419.5	1098.2	-228720.0	-539984.0	-618656.4	125000.0
356	3	SLE Rare	441.5	1114.7	-228880.0	-555066.4	-533418.8	130500.0
357	3	SLE Rare	396.9	1670.9	-228730.0	-938102.0	-639476.8	105000.0
358	3	SLE Rare	385.8	1227.4	-237190.0	-596982.0	-818210.0	152300.0
359	3	SLE Rare	-1.5	699.1	-207780.0	-327294.4	1639822.0	166400.0
360	3	SLE Rare	-207.8	737.5	-212120.0	-333003.6	2121062.0	208600.0
361	3	SLE Rare	7.2	712.0	-207950.0	-339742.4	1712865.0	170500.0
362	3	SLE Rare	122.9	1292.7	-207790.0	-740119.2	1711746.0	129100.0
363	3	SLE Rare	-49.2	826.3	-216260.0	-382959.6	1432102.0	194500.0
364	3	SLE Rare	1081.1	902.6	-208740.0	-491014.4	-1905274.0	-28750.0
365	3	SLE Rare	1230.1	1005.0	-213400.0	-548494.0	-2601393.0	-47000.0
366	3	SLE Rare	1117.0	916.5	-208900.0	-504078.8	-1806959.0	-24550.0
367	3	SLE Rare	1040.2	1478.5	-208760.0	-891315.2	-1934175.0	-45170.0
368	3	SLE Rare	1059.3	1030.9	-217220.0	-547303.2	-2090885.0	-6673.5
369	3	SLE Rare	768.2	-796.5	-194710.0	644578.8	293982.8	54470.0
370	3	SLE Rare	780.3	-780.3	-194880.0	629830.0	366832.4	59100.0
371	3	SLE Rare	814.7	-1155.5	-194690.0	891160.0	333167.6	63380.0
372	3	SLE Rare	729.6	-667.7	-203190.0	587825.2	94727.6	81390.0
373	3	SLE Rare	423.9	-110.2	-239980.0	337725.2	-791727.2	196400.0
374	3	SLE Rare	508.6	-282.1	-228660.0	414653.2	-518566.8	161100.0
375	3	SLE Rare	526.7	-265.8	-228830.0	399794.8	-450491.2	163000.0
376	3	SLE Rare	549.3	-642.3	-228640.0	662080.8	-482088.8	169100.0
377	3	SLE Rare	465.9	-156.4	-237140.0	360169.2	-719598.0	189400.0
378	3	SLE Rare	57.2	-693.2	-207730.0	635881.6	1703860.0	195800.0
379	3	SLE Rare	-175.4	-662.0	-212070.0	635235.2	2169958.0	242100.0
380	3	SLE Rare	64.6	-681.1	-207890.0	623928.4	1781746.0	199900.0
381	3	SLE Rare	105.1	-1053.5	-207710.0	883324.8	1745610.0	206800.0
382	3	SLE Rare	10.9	-567.2	-216200.0	581060.4	1501312.0	223200.0
383	3	SLE Rare	1242.2	-497.0	-208680.0	477437.6	-1774931.0	5374.8
384	3	SLE Rare	1396.1	-396.6	-213340.0	421293.2	-2469471.0	-9707.0
385	3	SLE Rare	1280.8	-482.1	-208850.0	463546.0	-1679300.0	7699.0
386	3	SLE Rare	1298.3	-857.7	-208660.0	725225.2	-1729208.0	12550.0
387	3	SLE Rare	1218.5	-369.1	-217160.0	421287.2	-1965784.0	28150.0
388	3	SLE Freq.	679.4	-290.4	-192590.0	289944.4	245622.0	35470.0
389	3	SLE Freq.	687.9	-287.3	-192630.0	286979.6	270145.6	35560.0
390	3	SLE Freq.	677.8	-258.7	-194710.0	276147.6	200134.8	40800.0
391	3	SLE Freq.	446.1	221.9	-226540.0	61520.8	-550163.2	139500.0
392	3	SLE Freq.	680.4	-272.4	-194060.0	282992.8	218944.4	38150.0

393	3	SLE Freq.	677.2	-308.3	-191120.0	296790.0	271265.2	32550.0
394	3	SLE Freq.	2189.6	-321.4	-192510.0	313468.0	1603752.0	123000.0
395	3	SLE Freq.	-1024.0	-272.7	-192660.0	275824.0	-1209880.0	-35800.0
396	3	SLE Freq.	-6.5	-186.3	-205600.0	280653.6	1670226.0	172000.0
397	3	SLE Freq.	1134.6	9.9	-206560.0	122209.6	-1832846.0	-12910.0
398	3	SLE Freq.	674.1	-6.0	-192590.0	92288.8	236793.2	33410.0
399	3	SLE Freq.	710.6	-471.2	-192580.0	414147.6	270370.8	39630.0
400	3	SLE Quasi P.	679.4	-290.4	-192590.0	289944.4	245622.0	35470.0
401	3	SLU A1 sism.	48250.0	2073.9	-177100.0	-2514865.0	39100000.0	2222000.0
402	3	SLU A1 sism.	47630.0	5305.4	-186110.0	-2209652.0	38805600.0	2297000.0
403	3	SLU A1 sism.	51340.0	-9679.2	-183980.0	5438499.0	41530800.0	3524000.0
404	3	SLU A1 sism.	50290.0	-6470.0	-193000.0	5760395.0	40984800.0	3635000.0
405	3	SLU A1 sism.	-47020.0	4673.0	-191750.0	-4307761.0	-39302400.0	-3053000.0
406	3	SLU A1 sism.	-48340.0	7910.2	-200780.0	-4007222.0	-40080800.0	-2943000.0
407	3	SLU A1 sism.	-46830.0	-6877.3	-198660.0	3501274.0	-38809600.0	-2501000.0
408	3	SLU A1 sism.	-47980.0	-3639.1	-207690.0	3801693.0	-39477600.0	-2387000.0
409	3	SLU A1 sism.	48700.0	2054.8	-176920.0	-2532579.0	39464000.0	1989000.0
410	3	SLU A1 sism.	47800.0	5258.6	-185930.0	-2208037.0	38986000.0	2135000.0
411	3	SLU A1 sism.	51210.0	-9642.0	-184160.0	5444039.0	41385200.0	3650000.0
412	3	SLU A1 sism.	50230.0	-6431.4	-193170.0	5764762.0	40887600.0	3766000.0
413	3	SLU A1 sism.	-47010.0	4649.9	-191580.0	-4322987.0	-39281200.0	-3266000.0
414	3	SLU A1 sism.	-48270.0	7874.2	-200610.0	-4012903.0	-40022400.0	-3130000.0
415	3	SLU A1 sism.	-47000.0	-6832.6	-198840.0	3500909.0	-38930000.0	-2336000.0
416	3	SLU A1 sism.	-48180.0	-3591.9	-207860.0	3799022.0	-39621600.0	-2228000.0
417	3	SLU A1 sism.	57660.0	5386.3	-176000.0	-4778351.0	46139200.0	1695000.0
418	3	SLU A1 sism.	56800.0	8605.4	-185010.0	-4463649.0	45736000.0	1803000.0
419	3	SLU A1 sism.	60570.0	-6353.2	-182890.0	3166378.0	48408400.0	2869000.0
420	3	SLU A1 sism.	59560.0	-3144.3	-191900.0	3487313.0	47917200.0	2985000.0
421	3	SLU A1 sism.	-56640.0	1753.2	-192870.0	-2324387.0	-46486800.0	-2538000.0
422	3	SLU A1 sism.	-57830.0	4975.8	-201900.0	-2013091.0	-47179600.0	-2417000.0
423	3	SLU A1 sism.	-56210.0	-9798.6	-199780.0	5485830.0	-45765200.0	-1954000.0
424	3	SLU A1 sism.	-57300.0	-6578.7	-208810.0	5799443.0	-46406000.0	-1830000.0
425	3	SLU A1 sism.	57840.0	5353.2	-175830.0	-4786385.0	46340800.0	1507000.0
426	3	SLU A1 sism.	57240.0	8598.5	-184830.0	-4489814.0	46088800.0	1532000.0
427	3	SLU A1 sism.	60420.0	-6317.8	-183060.0	3173130.0	48260400.0	2993000.0
428	3	SLU A1 sism.	59420.0	-3107.5	-192070.0	3492895.0	47760400.0	3111000.0
429	3	SLU A1 sism.	-56440.0	1696.6	-192690.0	-2315591.0	-46312800.0	-2704000.0
430	3	SLU A1 sism.	-57590.0	4911.5	-201720.0	-1999384.0	-46990800.0	-2567000.0
431	3	SLU A1 sism.	-56440.0	-9732.7	-199950.0	5470918.0	-45952800.0	-1811000.0
432	3	SLU A1 sism.	-57560.0	-6510.7	-208980.0	5782288.0	-46597200.0	-1692000.0
433	3	SLU A1 sism.	12620.0	17090.0	-174210.0	-12700800.0	9575400.0	-1139000.0
434	3	SLU A1 sism.	11610.0	20300.0	-183240.0	-12381000.0	9036200.0	-999500.0
435	3	SLU A1 sism.	19910.0	-21710.0	-197160.0	13545200.0	15789200.0	2475000.0
436	3	SLU A1 sism.	18840.0	-18460.0	-206190.0	13835200.0	15230800.0	2580000.0
437	3	SLU A1 sism.	-15390.0	17700.0	-178620.0	-13124000.0	-13446800.0	-2222000.0
438	3	SLU A1 sism.	-17180.0	20860.0	-187660.0	-12763200.0	-14521600.0	-1998000.0
439	3	SLU A1 sism.	-11020.0	-20730.0	-201590.0	12857600.0	-9306400.0	190100.0
440	3	SLU A1 sism.	-11750.0	-17490.0	-210610.0	13158800.0	-9698000.0	300600.0
441	3	SLU A1 sism.	15440.0	18050.0	-173880.0	-13356000.0	11713800.0	-1336000.0
442	3	SLU A1 sism.	14430.0	21260.0	-182900.0	-13041200.0	11176600.0	-1198000.0
443	3	SLU A1 sism.	22460.0	-20760.0	-196830.0	12891200.0	17735200.0	2314000.0
444	3	SLU A1 sism.	21400.0	-17510.0	-205850.0	13191200.0	17188000.0	2419000.0
445	3	SLU A1 sism.	-18290.0	16750.0	-178940.0	-12470000.0	-15624800.0	-2007000.0
446	3	SLU A1 sism.	-20010.0	19910.0	-187980.0	-12116200.0	-16661200.0	-1791000.0
447	3	SLU A1 sism.	-13860.0	-21620.0	-201920.0	13464400.0	-11419200.0	351300.0
448	3	SLU A1 sism.	-14590.0	-18390.0	-210950.0	13776800.0	-11810800.0	471900.0
449	3	SLU A1 sism.	12810.0	17030.0	-173670.0	-12763600.0	9904200.0	-1684000.0
450	3	SLU A1 sism.	11800.0	20220.0	-182690.0	-12426400.0	9345000.0	-1532000.0
451	3	SLU A1 sism.	19870.0	-21570.0	-197730.0	13548400.0	15724400.0	2729000.0
452	3	SLU A1 sism.	18730.0	-18340.0	-206760.0	13850800.0	15157600.0	2827000.0
453	3	SLU A1 sism.	-14490.0	17530.0	-178060.0	-13103600.0	-12748800.0	-2803000.0
454	3	SLU A1 sism.	-15840.0	20720.0	-187100.0	-12776400.0	-13550800.0	-2664000.0
455	3	SLU A1 sism.	-11370.0	-20600.0	-202170.0	12872000.0	-9558400.0	681400.0
456	3	SLU A1 sism.	-12310.0	-17350.0	-211200.0	13162000.0	-10027200.0	759600.0
457	3	SLU A1 sism.	15660.0	17980.0	-173330.0	-13417600.0	12039200.0	-1885000.0
458	3	SLU A1 sism.	14650.0	21180.0	-182350.0	-13081600.0	11497000.0	-1724000.0
459	3	SLU A1 sism.	22390.0	-20630.0	-197400.0	12905600.0	17616800.0	2564000.0
460	3	SLU A1 sism.	21260.0	-17390.0	-206430.0	13206800.0	17051200.0	2661000.0

461	3	SLU A1 sism.	-17340.0	16590.0	-178390.0	-12460800.0	-14870800.0	-2593000.0
462	3	SLU A1 sism.	-18700.0	19780.0	-187420.0	-12129600.0	-15684000.0	-2455000.0
463	3	SLU A1 sism.	-14230.0	-21470.0	-202510.0	13466400.0	-11684600.0	853800.0
464	3	SLU A1 sism.	-15170.0	-18220.0	-211550.0	13756400.0	-12160400.0	925500.0
529	3	SLU A1 sism.	15220.0	-301.7	-171710.0	-3842801.0	11697400.0	107300.0
530	3	SLU A1 sism.	12520.0	10380.0	-201770.0	-2762600.0	10298400.0	529000.0
531	3	SLU A1 sism.	18210.0	-12030.0	-178590.0	4090600.0	14065200.0	1282000.0
532	3	SLU A1 sism.	14650.0	-1263.7	-208660.0	5114649.0	12218000.0	1661000.0
533	3	SLU A1 sism.	-12280.0	385.0	-176080.0	-4314200.0	-11079600.0	-1273000.0
534	3	SLU A1 sism.	-16720.0	11090.0	-206180.0	-3246800.0	-13646400.0	-877800.0
535	3	SLU A1 sism.	-11920.0	-11210.0	-182990.0	3527200.0	-10458400.0	-662800.0
536	3	SLU A1 sism.	-14740.0	-351.5	-213080.0	4482184.0	-12048800.0	-330600.0
537	3	SLU A1 sism.	15830.0	-333.3	-171540.0	-3851999.0	12159600.0	-102600.0
538	3	SLU A1 sism.	12630.0	10350.0	-201600.0	-2774000.0	10426600.0	390200.0
539	3	SLU A1 sism.	18090.0	-11990.0	-178760.0	4094800.0	13970800.0	1382000.0
540	3	SLU A1 sism.	14650.0	-1215.8	-208830.0	5111895.0	12208000.0	1742000.0
541	3	SLU A1 sism.	-12010.0	350.2	-175910.0	-4321021.0	-10900200.0	-1449000.0
542	3	SLU A1 sism.	-16290.0	11040.0	-206010.0	-3244800.0	-13414800.0	-1023000.0
543	3	SLU A1 sism.	-12100.0	-11140.0	-183160.0	3507800.0	-10592000.0	-515900.0
544	3	SLU A1 sism.	-14980.0	-308.3	-213250.0	4483000.0	-12157600.0	-202900.0
545	3	SLU A1 sism.	17880.0	681.1	-171390.0	-4513727.0	13725600.0	-60230.0
546	3	SLU A1 sism.	15340.0	11360.0	-201430.0	-3432200.0	12520800.0	345700.0
547	3	SLU A1 sism.	20960.0	-11030.0	-178260.0	3409600.0	16115200.0	1082000.0
548	3	SLU A1 sism.	17370.0	-289.0	-208320.0	4449685.0	14294400.0	1469000.0
549	3	SLU A1 sism.	-15080.0	-507.1	-176410.0	-3708146.0	-13189600.0	-1093000.0
550	3	SLU A1 sism.	-19560.0	10170.0	-206520.0	-2623400.0	-15837200.0	-677800.0
551	3	SLU A1 sism.	-14720.0	-12070.0	-183330.0	4111400.0	-12516400.0	-515600.0
552	3	SLU A1 sism.	-17560.0	-1252.0	-213420.0	5094237.0	-14127200.0	-141400.0
553	3	SLU A1 sism.	18180.0	656.6	-171210.0	-4528795.0	13981600.0	-234100.0
554	3	SLU A1 sism.	15490.0	11330.0	-201260.0	-3439600.0	12658800.0	195100.0
555	3	SLU A1 sism.	20840.0	-10990.0	-178430.0	3413800.0	15990800.0	1183000.0
556	3	SLU A1 sism.	17310.0	-254.5	-208490.0	4456537.0	14217200.0	1567000.0
557	3	SLU A1 sism.	-14960.0	-556.1	-176240.0	-3704265.0	-13065200.0	-1273000.0
558	3	SLU A1 sism.	-19170.0	10100.0	-206340.0	-2605000.0	-15570400.0	-811000.0
559	3	SLU A1 sism.	-14920.0	-11990.0	-183500.0	4084800.0	-12680400.0	-380600.0
560	3	SLU A1 sism.	-17790.0	-1204.6	-213600.0	5092557.0	-14274800.0	-21870.0

Pressione sul terreno ai vertici della base (daN/cmq):

Cmb.	**Plin.**	**Tipo**	**P1** (x=400, y=300)	**P2** (x=400, y=-300)	**P3** (x=-400, y=-300)	**P4** (x=-400, y=300)	**Note**	
1	1	SLU STR.	-0.54	-0.58	-0.54	-0.49	Base	interamente compressa
2	1	SLU STR.	-0.40	-0.43	-0.40	-0.36	Base	interamente compressa
3	1	SLU STR.	-0.54	-0.59	-0.54	-0.49	Base	interamente compressa
4	1	SLU STR.	-0.40	-0.44	-0.40	-0.36	Base	interamente compressa
5	1	SLU STR.	-0.56	-0.61	-0.57	-0.51	Base	interamente compressa
6	1	SLU STR.	-0.42	-0.46	-0.42	-0.38	Base	interamente compressa
7	1	SLU STR.	-0.64	-0.72	-0.68	-0.60	Base	interamente compressa
8	1	SLU STR.	-0.50	-0.57	-0.53	-0.47	Base	interamente compressa
9	1	SLU STR.	-0.62	-0.69	-0.65	-0.57	Base	interamente compressa
10	1	SLU STR.	-0.48	-0.54	-0.50	-0.44	Base	interamente compressa
11	1	SLU STR.	-0.62	-0.69	-0.64	-0.57	Base	interamente compressa
12	1	SLU STR.	-0.48	-0.54	-0.50	-0.44	Base	interamente compressa
13	1	SLU STR.	-0.64	-0.71	-0.67	-0.59	Base	interamente compressa
14	1	SLU STR.	-0.50	-0.56	-0.53	-0.46	Base	interamente compressa

15	1	SLU STR.	-0.55	-0.60	-0.56	-0.50	Base	interamente compressa
16	1	SLU STR.	-0.53	-0.57	-0.53	-0.48	Base	interamente compressa
17	1	SLU STR.	-0.41	-0.45	-0.41	-0.37	Base	interamente compressa
18	1	SLU STR.	-0.39	-0.42	-0.39	-0.35	Base	interamente compressa
19	1	SLU STR.	-0.55	-0.61	-0.56	-0.51	Base	interamente compressa
20	1	SLU STR.	-0.52	-0.56	-0.52	-0.48	Base	interamente compressa
21	1	SLU STR.	-0.41	-0.46	-0.42	-0.38	Base	interamente compressa
22	1	SLU STR.	-0.38	-0.41	-0.38	-0.35	Base	interamente compressa
23	1	SLU STR.	-0.55	-0.60	-0.55	-0.50	Base	interamente compressa
24	1	SLU STR.	-0.53	-0.57	-0.53	-0.48	Base	interamente compressa
25	1	SLU STR.	-0.41	-0.45	-0.41	-0.37	Base	interamente compressa
26	1	SLU STR.	-0.39	-0.42	-0.38	-0.35	Base	interamente compressa
27	1	SLU STR.	-0.57	-0.62	-0.58	-0.52	Base	interamente compressa
28	1	SLU STR.	-0.55	-0.60	-0.55	-0.50	Base	interamente compressa
29	1	SLU STR.	-0.43	-0.47	-0.44	-0.39	Base	interamente compressa
30	1	SLU STR.	-0.41	-0.44	-0.41	-0.37	Base	interamente compressa
31	1	SLU STR.	-0.65	-0.74	-0.69	-0.61	Base	interamente compressa
32	1	SLU STR.	-0.63	-0.71	-0.67	-0.59	Base	interamente compressa
33	1	SLU STR.	-0.51	-0.58	-0.55	-0.48	Base	interamente compressa
34	1	SLU STR.	-0.49	-0.56	-0.52	-0.46	Base	interamente compressa
35	1	SLU STR.	-0.63	-0.71	-0.67	-0.59	Base	interamente compressa
36	1	SLU STR.	-0.60	-0.67	-0.62	-0.56	Base	interamente compressa
37	1	SLU STR.	-0.49	-0.56	-0.52	-0.46	Base	interamente compressa
38	1	SLU STR.	-0.46	-0.51	-0.48	-0.43	Base	interamente compressa
39	1	SLU STR.	-0.63	-0.70	-0.66	-0.58	Base	interamente compressa
40	1	SLU STR.	-0.61	-0.67	-0.63	-0.56	Base	interamente compressa
41	1	SLU STR.	-0.49	-0.55	-0.51	-0.45	Base	interamente compressa
42	1	SLU STR.	-0.47	-0.52	-0.49	-0.43	Base	interamente compressa
43	1	SLU STR.	-0.63	-0.71	-0.66	-0.58	Base	interamente compressa
44	1	SLU STR.	-0.61	-0.68	-0.63	-0.56	Base	interamente compressa
45	1	SLU STR.	-0.49	-0.55	-0.51	-0.45	Base	interamente compressa
46	1	SLU STR.	-0.47	-0.53	-0.49	-0.43	Base	interamente compressa
47	1	SLU STR.	-0.65	-0.73	-0.68	-0.60	Base	interamente compressa
48	1	SLU STR.	-0.62	-0.70	-0.66	-0.58	Base	interamente compressa

49	1	SLU STR.	-0.51	-0.58	-0.54	-0.47	Base	interamente compressa
50	1	SLU STR.	-0.49	-0.55	-0.51	-0.45	Base	interamente compressa
51	1	SLU STR.	-0.61	-0.66	-0.47	-0.42	Base	interamente compressa
52	1	SLU STR.	-0.47	-0.51	-0.33	-0.29	Base	interamente compressa
53	1	SLU STR.	-0.66	-0.71	-0.42	-0.37	Base	interamente compressa
54	1	SLU STR.	-0.52	-0.55	-0.27	-0.24	Base	interamente compressa
55	1	SLU STR.	-0.61	-0.66	-0.47	-0.42	Base	interamente compressa
56	1	SLU STR.	-0.48	-0.51	-0.32	-0.29	Base	interamente compressa
57	1	SLU STR.	-0.63	-0.68	-0.49	-0.44	Base	interamente compressa
58	1	SLU STR.	-0.49	-0.53	-0.35	-0.31	Base	interamente compressa
59	1	SLU STR.	-0.72	-0.80	-0.60	-0.52	Base	interamente compressa
60	1	SLU STR.	-0.58	-0.65	-0.46	-0.39	Base	interamente compressa
61	1	SLU STR.	-0.69	-0.76	-0.57	-0.50	Base	interamente compressa
62	1	SLU STR.	-0.55	-0.61	-0.43	-0.37	Base	interamente compressa
63	1	SLU STR.	-0.74	-0.81	-0.52	-0.45	Base	interamente compressa
64	1	SLU STR.	-0.61	-0.66	-0.37	-0.32	Base	interamente compressa
65	1	SLU STR.	-0.70	-0.77	-0.57	-0.50	Base	interamente compressa
66	1	SLU STR.	-0.56	-0.62	-0.42	-0.36	Base	interamente compressa
67	1	SLU STR.	-0.71	-0.79	-0.59	-0.52	Base	interamente compressa
68	1	SLU STR.	-0.57	-0.64	-0.45	-0.39	Base	interamente compressa
69	1	SLU STR.	-0.46	-0.51	-0.62	-0.57	Base	interamente compressa
70	1	SLU STR.	-0.32	-0.36	-0.47	-0.44	Base	interamente compressa
71	1	SLU STR.	-0.41	-0.46	-0.67	-0.62	Base	interamente compressa
72	1	SLU STR.	-0.27	-0.30	-0.52	-0.49	Base	interamente compressa
73	1	SLU STR.	-0.47	-0.51	-0.61	-0.57	Base	interamente compressa
74	1	SLU STR.	-0.33	-0.36	-0.47	-0.44	Base	interamente compressa
75	1	SLU STR.	-0.48	-0.53	-0.64	-0.59	Base	interamente compressa
76	1	SLU STR.	-0.34	-0.38	-0.50	-0.46	Base	interamente compressa
77	1	SLU STR.	-0.56	-0.65	-0.75	-0.67	Base	interamente compressa
78	1	SLU STR.	-0.43	-0.49	-0.61	-0.54	Base	interamente compressa
79	1	SLU STR.	-0.54	-0.61	-0.72	-0.65	Base	interamente compressa
80	1	SLU STR.	-0.40	-0.46	-0.58	-0.52	Base	interamente compressa
81	1	SLU STR.	-0.49	-0.56	-0.77	-0.70	Base	interamente compressa
82	1	SLU STR.	-0.35	-0.41	-0.63	-0.57	Base	interamente compressa

83	1	SLU STR.	-0.54	-0.62	-0.72	-0.65	Base	interamente compressa
84	1	SLU STR.	-0.41	-0.46	-0.57	-0.51	Base	interamente compressa
85	1	SLU STR.	-0.56	-0.64	-0.75	-0.67	Base	interamente compressa
86	1	SLU STR.	-0.42	-0.49	-0.60	-0.54	Base	interamente compressa
87	1	SLU STR.	-0.59	-0.66	-0.56	-0.50	Base	interamente compressa
88	1	SLU STR.	-0.45	-0.51	-0.42	-0.36	Base	interamente compressa
89	1	SLU STR.	-0.61	-0.68	-0.57	-0.50	Base	interamente compressa
90	1	SLU STR.	-0.47	-0.53	-0.42	-0.36	Base	interamente compressa
91	1	SLU STR.	-0.60	-0.66	-0.56	-0.49	Base	interamente compressa
92	1	SLU STR.	-0.46	-0.51	-0.42	-0.36	Base	interamente compressa
93	1	SLU STR.	-0.61	-0.68	-0.59	-0.51	Base	interamente compressa
94	1	SLU STR.	-0.47	-0.53	-0.44	-0.38	Base	interamente compressa
95	1	SLU STR.	-0.60	-0.67	-0.57	-0.50	Base	interamente compressa
96	1	SLU STR.	-0.58	-0.64	-0.55	-0.49	Base	interamente compressa
97	1	SLU STR.	-0.46	-0.52	-0.43	-0.37	Base	interamente compressa
98	1	SLU STR.	-0.44	-0.49	-0.40	-0.36	Base	interamente compressa
99	1	SLU STR.	-0.61	-0.68	-0.58	-0.51	Base	interamente compressa
100	1	SLU STR.	-0.57	-0.63	-0.54	-0.48	Base	interamente compressa
101	1	SLU STR.	-0.47	-0.53	-0.44	-0.38	Base	interamente compressa
102	1	SLU STR.	-0.44	-0.48	-0.40	-0.35	Base	interamente compressa
103	1	SLU STR.	-0.62	-0.70	-0.58	-0.50	Base	interamente compressa
104	1	SLU STR.	-0.60	-0.67	-0.55	-0.49	Base	interamente compressa
105	1	SLU STR.	-0.48	-0.54	-0.44	-0.37	Base	interamente compressa
106	1	SLU STR.	-0.46	-0.52	-0.41	-0.35	Base	interamente compressa
107	1	SLU STR.	-0.61	-0.68	-0.57	-0.50	Base	interamente compressa
108	1	SLU STR.	-0.58	-0.65	-0.55	-0.48	Base	interamente compressa
109	1	SLU STR.	-0.47	-0.52	-0.43	-0.37	Base	interamente compressa
110	1	SLU STR.	-0.45	-0.50	-0.40	-0.35	Base	interamente compressa
111	1	SLU STR.	-0.62	-0.70	-0.60	-0.52	Base	interamente compressa
112	1	SLU STR.	-0.60	-0.67	-0.57	-0.50	Base	interamente compressa
113	1	SLU STR.	-0.48	-0.55	-0.45	-0.39	Base	interamente compressa
114	1	SLU STR.	-0.46	-0.52	-0.43	-0.37	Base	interamente compressa
115	1	SLU STR.	-0.67	-0.73	-0.49	-0.42	Base	interamente compressa
116	1	SLU STR.	-0.53	-0.58	-0.34	-0.29	Base	interamente compressa

117	1	SLU STR.	-0.72	-0.78	-0.44	-0.37	Base	interamente compressa
118	1	SLU STR.	-0.58	-0.63	-0.29	-0.24	Base	interamente compressa
119	1	SLU STR.	-0.69	-0.76	-0.49	-0.42	Base	interamente compressa
120	1	SLU STR.	-0.55	-0.60	-0.35	-0.29	Base	interamente compressa
121	1	SLU STR.	-0.67	-0.74	-0.48	-0.42	Base	interamente compressa
122	1	SLU STR.	-0.53	-0.58	-0.34	-0.29	Base	interamente compressa
123	1	SLU STR.	-0.69	-0.76	-0.51	-0.44	Base	interamente compressa
124	1	SLU STR.	-0.55	-0.61	-0.37	-0.31	Base	interamente compressa
125	1	SLU STR.	-0.52	-0.58	-0.63	-0.57	Base	interamente compressa
126	1	SLU STR.	-0.38	-0.43	-0.49	-0.44	Base	interamente compressa
127	1	SLU STR.	-0.47	-0.53	-0.68	-0.62	Base	interamente compressa
128	1	SLU STR.	-0.33	-0.38	-0.54	-0.49	Base	interamente compressa
129	1	SLU STR.	-0.54	-0.61	-0.64	-0.57	Base	interamente compressa
130	1	SLU STR.	-0.40	-0.45	-0.50	-0.44	Base	interamente compressa
131	1	SLU STR.	-0.52	-0.59	-0.63	-0.57	Base	interamente compressa
132	1	SLU STR.	-0.38	-0.43	-0.49	-0.44	Base	interamente compressa
133	1	SLU STR.	-0.54	-0.61	-0.66	-0.59	Base	interamente compressa
134	1	SLU STR.	-0.40	-0.46	-0.51	-0.46	Base	interamente compressa
135	1	SLU STR.	-0.54	-0.59	-0.61	-0.56	Base	interamente compressa
136	1	SLU STR.	-0.40	-0.44	-0.46	-0.43	Base	interamente compressa
137	1	SLU STR.	-0.54	-0.60	-0.63	-0.58	Base	interamente compressa
138	1	SLU STR.	-0.40	-0.44	-0.49	-0.45	Base	interamente compressa
139	1	SLU STR.	-0.55	-0.60	-0.61	-0.55	Base	interamente compressa
140	1	SLU STR.	-0.41	-0.45	-0.46	-0.42	Base	interamente compressa
141	1	SLU STR.	-0.56	-0.62	-0.63	-0.58	Base	interamente compressa
142	1	SLU STR.	-0.42	-0.47	-0.49	-0.44	Base	interamente compressa
143	1	SLU STR.	-0.55	-0.61	-0.62	-0.57	Base	interamente compressa
144	1	SLU STR.	-0.53	-0.58	-0.60	-0.55	Base	interamente compressa
145	1	SLU STR.	-0.41	-0.45	-0.48	-0.44	Base	interamente compressa
146	1	SLU STR.	-0.39	-0.43	-0.45	-0.42	Base	interamente compressa
147	1	SLU STR.	-0.56	-0.62	-0.63	-0.57	Base	interamente compressa
148	1	SLU STR.	-0.52	-0.57	-0.59	-0.54	Base	interamente compressa
149	1	SLU STR.	-0.42	-0.46	-0.49	-0.44	Base	interamente compressa
150	1	SLU STR.	-0.38	-0.42	-0.44	-0.41	Base	interamente compressa

151	1	SLU STR.	-0.55	-0.61	-0.64	-0.59	Base	interamente compressa
152	1	SLU STR.	-0.53	-0.58	-0.62	-0.57	Base	interamente compressa
153	1	SLU STR.	-0.41	-0.46	-0.50	-0.46	Base	interamente compressa
154	1	SLU STR.	-0.39	-0.43	-0.47	-0.44	Base	interamente compressa
155	1	SLU STR.	-0.56	-0.61	-0.62	-0.56	Base	interamente compressa
156	1	SLU STR.	-0.54	-0.58	-0.59	-0.54	Base	interamente compressa
157	1	SLU STR.	-0.42	-0.46	-0.47	-0.43	Base	interamente compressa
158	1	SLU STR.	-0.40	-0.43	-0.45	-0.41	Base	interamente compressa
159	1	SLU STR.	-0.57	-0.63	-0.65	-0.58	Base	interamente compressa
160	1	SLU STR.	-0.55	-0.60	-0.62	-0.57	Base	interamente compressa
161	1	SLU STR.	-0.43	-0.48	-0.50	-0.45	Base	interamente compressa
162	1	SLU STR.	-0.41	-0.45	-0.48	-0.44	Base	interamente compressa
163	1	SLU STR.	-0.62	-0.67	-0.53	-0.48	Base	interamente compressa
164	1	SLU STR.	-0.48	-0.51	-0.39	-0.35	Base	interamente compressa
165	1	SLU STR.	-0.67	-0.72	-0.48	-0.43	Base	interamente compressa
166	1	SLU STR.	-0.53	-0.56	-0.34	-0.30	Base	interamente compressa
167	1	SLU STR.	-0.62	-0.67	-0.56	-0.50	Base	interamente compressa
168	1	SLU STR.	-0.48	-0.52	-0.41	-0.37	Base	interamente compressa
169	1	SLU STR.	-0.62	-0.67	-0.53	-0.48	Base	interamente compressa
170	1	SLU STR.	-0.48	-0.52	-0.39	-0.35	Base	interamente compressa
171	1	SLU STR.	-0.64	-0.69	-0.56	-0.50	Base	interamente compressa
172	1	SLU STR.	-0.50	-0.54	-0.41	-0.37	Base	interamente compressa
173	1	SLU STR.	-0.46	-0.52	-0.68	-0.63	Base	interamente compressa
174	1	SLU STR.	-0.33	-0.36	-0.54	-0.50	Base	interamente compressa
175	1	SLU STR.	-0.41	-0.46	-0.73	-0.68	Base	interamente compressa
176	1	SLU STR.	-0.28	-0.31	-0.59	-0.55	Base	interamente compressa
177	1	SLU STR.	-0.47	-0.52	-0.71	-0.65	Base	interamente compressa
178	1	SLU STR.	-0.33	-0.37	-0.56	-0.52	Base	interamente compressa
179	1	SLU STR.	-0.47	-0.52	-0.68	-0.63	Base	interamente compressa
180	1	SLU STR.	-0.33	-0.37	-0.54	-0.50	Base	interamente compressa
181	1	SLU STR.	-0.48	-0.54	-0.71	-0.65	Base	interamente compressa
182	1	SLU STR.	-0.35	-0.39	-0.56	-0.52	Base	interamente compressa
183	1	SLU STR.	-0.57	-0.57	-0.52	-0.52	Base	interamente compressa
184	1	SLU STR.	-0.43	-0.42	-0.38	-0.39	Base	interamente compressa

185	1	SLU STR.	-0.57	-0.57	-0.52	-0.52	Base	interamente compressa
186	1	SLU STR.	-0.43	-0.42	-0.37	-0.39	Base	interamente compressa
187	1	SLU STR.	-0.59	-0.56	-0.51	-0.54	Base	interamente compressa
188	1	SLU STR.	-0.45	-0.40	-0.36	-0.41	Base	interamente compressa
189	1	SLU STR.	-0.59	-0.59	-0.55	-0.54	Base	interamente compressa
190	1	SLU STR.	-0.45	-0.44	-0.40	-0.41	Base	interamente compressa
191	1	SLU STR.	-0.67	-0.71	-0.66	-0.62	Base	interamente compressa
192	1	SLU STR.	-0.53	-0.55	-0.51	-0.49	Base	interamente compressa
193	1	SLU STR.	-0.65	-0.67	-0.62	-0.60	Base	interamente compressa
194	1	SLU STR.	-0.51	-0.52	-0.48	-0.47	Base	interamente compressa
195	1	SLU STR.	-0.65	-0.68	-0.62	-0.60	Base	interamente compressa
196	1	SLU STR.	-0.51	-0.52	-0.48	-0.47	Base	interamente compressa
197	1	SLU STR.	-0.67	-0.66	-0.61	-0.62	Base	interamente compressa
198	1	SLU STR.	-0.53	-0.51	-0.46	-0.49	Base	interamente compressa
199	1	SLU STR.	-0.67	-0.70	-0.65	-0.62	Base	interamente compressa
200	1	SLU STR.	-0.53	-0.55	-0.50	-0.49	Base	interamente compressa
201	1	SLU STR.	-0.62	-0.64	-0.54	-0.52	Base	interamente compressa
202	1	SLU STR.	-0.49	-0.49	-0.39	-0.39	Base	interamente compressa
203	1	SLU STR.	-0.64	-0.66	-0.54	-0.52	Base	interamente compressa
204	1	SLU STR.	-0.50	-0.51	-0.40	-0.39	Base	interamente compressa
205	1	SLU STR.	-0.63	-0.65	-0.54	-0.52	Base	interamente compressa
206	1	SLU STR.	-0.49	-0.49	-0.39	-0.39	Base	interamente compressa
207	1	SLU STR.	-0.65	-0.63	-0.52	-0.54	Base	interamente compressa
208	1	SLU STR.	-0.51	-0.48	-0.38	-0.41	Base	interamente compressa
209	1	SLU STR.	-0.64	-0.67	-0.56	-0.54	Base	interamente compressa
210	1	SLU STR.	-0.50	-0.51	-0.42	-0.41	Base	interamente compressa
211	1	SLU STR.	-0.57	-0.58	-0.59	-0.58	Base	interamente compressa
212	1	SLU STR.	-0.43	-0.42	-0.44	-0.45	Base	interamente compressa
213	1	SLU STR.	-0.57	-0.58	-0.61	-0.60	Base	interamente compressa
214	1	SLU STR.	-0.43	-0.43	-0.46	-0.47	Base	interamente compressa
215	1	SLU STR.	-0.58	-0.58	-0.58	-0.58	Base	interamente compressa
216	1	SLU STR.	-0.44	-0.43	-0.44	-0.45	Base	interamente compressa
217	1	SLU STR.	-0.59	-0.56	-0.57	-0.60	Base	interamente compressa
218	1	SLU STR.	-0.45	-0.41	-0.43	-0.47	Base	interamente compressa

219	1	SLU STR.	-0.59	-0.60	-0.61	-0.60	Base	interamente compressa
220	1	SLU STR.	-0.45	-0.45	-0.47	-0.47	Base	interamente compressa
221	1	SLU STR.	-0.52	-0.60	-0.55	-0.48	Base	interamente compressa
222	1	SLU STR.	-0.39	-0.44	-0.41	-0.35	Base	interamente compressa
223	1	SLU STR.	-0.53	-0.60	-0.55	-0.48	Base	interamente compressa
224	1	SLU STR.	-0.39	-0.45	-0.41	-0.35	Base	interamente compressa
225	1	SLU STR.	-0.52	-0.60	-0.56	-0.47	Base	interamente compressa
226	1	SLU STR.	-0.38	-0.45	-0.42	-0.34	Base	interamente compressa
227	1	SLU STR.	-0.54	-0.62	-0.58	-0.50	Base	interamente compressa
228	1	SLU STR.	-0.41	-0.47	-0.43	-0.37	Base	interamente compressa
229	1	SLU STR.	-0.63	-0.73	-0.69	-0.59	Base	interamente compressa
230	1	SLU STR.	-0.49	-0.58	-0.55	-0.45	Base	interamente compressa
231	1	SLU STR.	-0.60	-0.70	-0.66	-0.56	Base	interamente compressa
232	1	SLU STR.	-0.47	-0.55	-0.51	-0.43	Base	interamente compressa
233	1	SLU STR.	-0.61	-0.70	-0.65	-0.56	Base	interamente compressa
234	1	SLU STR.	-0.47	-0.55	-0.51	-0.43	Base	interamente compressa
235	1	SLU STR.	-0.60	-0.71	-0.66	-0.55	Base	interamente compressa
236	1	SLU STR.	-0.46	-0.56	-0.52	-0.42	Base	interamente compressa
237	1	SLU STR.	-0.62	-0.73	-0.68	-0.58	Base	interamente compressa
238	1	SLU STR.	-0.49	-0.57	-0.54	-0.45	Base	interamente compressa
239	1	SLU STR.	-0.58	-0.67	-0.57	-0.48	Base	interamente compressa
240	1	SLU STR.	-0.44	-0.52	-0.43	-0.35	Base	interamente compressa
241	1	SLU STR.	-0.60	-0.69	-0.58	-0.48	Base	interamente compressa
242	1	SLU STR.	-0.46	-0.54	-0.43	-0.35	Base	interamente compressa
243	1	SLU STR.	-0.59	-0.67	-0.57	-0.48	Base	interamente compressa
244	1	SLU STR.	-0.45	-0.52	-0.42	-0.35	Base	interamente compressa
245	1	SLU STR.	-0.57	-0.68	-0.58	-0.47	Base	interamente compressa
246	1	SLU STR.	-0.44	-0.53	-0.43	-0.34	Base	interamente compressa
247	1	SLU STR.	-0.60	-0.70	-0.60	-0.50	Base	interamente compressa
248	1	SLU STR.	-0.46	-0.54	-0.45	-0.37	Base	interamente compressa
249	1	SLU STR.	-0.53	-0.60	-0.62	-0.55	Base	interamente compressa
250	1	SLU STR.	-0.39	-0.45	-0.48	-0.41	Base	interamente compressa
251	1	SLU STR.	-0.53	-0.61	-0.64	-0.57	Base	interamente compressa
252	1	SLU STR.	-0.39	-0.45	-0.50	-0.44	Base	interamente compressa

253	1	SLU STR.	-0.53	-0.61	-0.62	-0.54	Base	interamente compressa
254	1	SLU STR.	-0.39	-0.46	-0.47	-0.41	Base	interamente compressa
255	1	SLU STR.	-0.52	-0.61	-0.63	-0.54	Base	interamente compressa
256	1	SLU STR.	-0.38	-0.46	-0.48	-0.41	Base	interamente compressa
257	1	SLU STR.	-0.55	-0.63	-0.65	-0.56	Base	interamente compressa
258	1	SLU STR.	-0.41	-0.48	-0.50	-0.43	Base	interamente compressa
259	1	SLE Rare	-0.40	-0.43	-0.40	-0.37	Base	interamente compressa
260	1	SLE Rare	-0.40	-0.43	-0.40	-0.36	Base	interamente compressa
261	1	SLE Rare	-0.41	-0.45	-0.42	-0.38	Base	interamente compressa
262	1	SLE Rare	-0.47	-0.52	-0.49	-0.43	Base	interamente compressa
263	1	SLE Rare	-0.45	-0.50	-0.47	-0.42	Base	interamente compressa
264	1	SLE Rare	-0.45	-0.50	-0.47	-0.42	Base	interamente compressa
265	1	SLE Rare	-0.46	-0.52	-0.49	-0.43	Base	interamente compressa
266	1	SLE Rare	-0.40	-0.44	-0.41	-0.37	Base	interamente compressa
267	1	SLE Rare	-0.39	-0.42	-0.39	-0.36	Base	interamente compressa
268	1	SLE Rare	-0.41	-0.45	-0.42	-0.38	Base	interamente compressa
269	1	SLE Rare	-0.38	-0.42	-0.39	-0.35	Base	interamente compressa
270	1	SLE Rare	-0.41	-0.44	-0.41	-0.37	Base	interamente compressa
271	1	SLE Rare	-0.39	-0.43	-0.39	-0.36	Base	interamente compressa
272	1	SLE Rare	-0.42	-0.46	-0.43	-0.38	Base	interamente compressa
273	1	SLE Rare	-0.40	-0.44	-0.41	-0.37	Base	interamente compressa
274	1	SLE Rare	-0.47	-0.53	-0.50	-0.44	Base	interamente compressa
275	1	SLE Rare	-0.46	-0.51	-0.48	-0.43	Base	interamente compressa
276	1	SLE Rare	-0.46	-0.52	-0.48	-0.43	Base	interamente compressa
277	1	SLE Rare	-0.44	-0.49	-0.45	-0.41	Base	interamente compressa
278	1	SLE Rare	-0.46	-0.51	-0.48	-0.42	Base	interamente compressa
279	1	SLE Rare	-0.44	-0.49	-0.46	-0.41	Base	interamente compressa
280	1	SLE Rare	-0.46	-0.51	-0.48	-0.42	Base	interamente compressa
281	1	SLE Rare	-0.44	-0.49	-0.46	-0.41	Base	interamente compressa
282	1	SLE Rare	-0.47	-0.53	-0.49	-0.44	Base	interamente compressa
283	1	SLE Rare	-0.45	-0.51	-0.48	-0.42	Base	interamente compressa
284	1	SLE Rare	-0.45	-0.48	-0.35	-0.32	Base	interamente compressa
285	1	SLE Rare	-0.48	-0.51	-0.32	-0.29	Base	interamente compressa
286	1	SLE Rare	-0.45	-0.48	-0.35	-0.32	Base	interamente compressa

287	1	SLE Rare	-0.46	-0.50	-0.37	-0.33	Base	interamente compressa
288	1	SLE Rare	-0.52	-0.57	-0.44	-0.38	Base	interamente compressa
289	1	SLE Rare	-0.50	-0.55	-0.42	-0.37	Base	interamente compressa
290	1	SLE Rare	-0.53	-0.58	-0.39	-0.34	Base	interamente compressa
291	1	SLE Rare	-0.50	-0.55	-0.42	-0.37	Base	interamente compressa
292	1	SLE Rare	-0.51	-0.57	-0.44	-0.38	Base	interamente compressa
293	1	SLE Rare	-0.35	-0.38	-0.45	-0.42	Base	interamente compressa
294	1	SLE Rare	-0.31	-0.35	-0.48	-0.45	Base	interamente compressa
295	1	SLE Rare	-0.35	-0.38	-0.45	-0.41	Base	interamente compressa
296	1	SLE Rare	-0.36	-0.40	-0.47	-0.43	Base	interamente compressa
297	1	SLE Rare	-0.42	-0.47	-0.54	-0.49	Base	interamente compressa
298	1	SLE Rare	-0.40	-0.45	-0.52	-0.47	Base	interamente compressa
299	1	SLE Rare	-0.36	-0.41	-0.55	-0.50	Base	interamente compressa
300	1	SLE Rare	-0.40	-0.45	-0.52	-0.47	Base	interamente compressa
301	1	SLE Rare	-0.41	-0.47	-0.54	-0.48	Base	interamente compressa
302	1	SLE Rare	-0.43	-0.48	-0.41	-0.37	Base	interamente compressa
303	1	SLE Rare	-0.45	-0.50	-0.42	-0.37	Base	interamente compressa
304	1	SLE Rare	-0.44	-0.48	-0.41	-0.37	Base	interamente compressa
305	1	SLE Rare	-0.45	-0.50	-0.43	-0.38	Base	interamente compressa
306	1	SLE Rare	-0.44	-0.49	-0.42	-0.37	Base	interamente compressa
307	1	SLE Rare	-0.43	-0.47	-0.40	-0.36	Base	interamente compressa
308	1	SLE Rare	-0.44	-0.50	-0.43	-0.38	Base	interamente compressa
309	1	SLE Rare	-0.42	-0.46	-0.40	-0.36	Base	interamente compressa
310	1	SLE Rare	-0.45	-0.51	-0.43	-0.37	Base	interamente compressa
311	1	SLE Rare	-0.44	-0.49	-0.41	-0.36	Base	interamente compressa
312	1	SLE Rare	-0.44	-0.49	-0.42	-0.37	Base	interamente compressa
313	1	SLE Rare	-0.43	-0.47	-0.40	-0.36	Base	interamente compressa
314	1	SLE Rare	-0.45	-0.51	-0.44	-0.39	Base	interamente compressa
315	1	SLE Rare	-0.44	-0.49	-0.42	-0.37	Base	interamente compressa
316	1	SLE Rare	-0.48	-0.53	-0.36	-0.32	Base	interamente compressa
317	1	SLE Rare	-0.52	-0.56	-0.33	-0.29	Base	interamente compressa
318	1	SLE Rare	-0.50	-0.55	-0.37	-0.32	Base	interamente compressa
319	1	SLE Rare	-0.49	-0.53	-0.36	-0.32	Base	interamente compressa
320	1	SLE Rare	-0.50	-0.55	-0.38	-0.33	Base	interamente compressa

321	1	SLE Rare	-0.38	-0.43	-0.46	-0.42	Base	interamente compressa
322	1	SLE Rare	-0.35	-0.40	-0.49	-0.45	Base	interamente compressa
323	1	SLE Rare	-0.40	-0.45	-0.47	-0.42	Base	interamente compressa
324	1	SLE Rare	-0.39	-0.43	-0.46	-0.41	Base	interamente compressa
325	1	SLE Rare	-0.40	-0.45	-0.48	-0.43	Base	interamente compressa
326	1	SLE Rare	-0.40	-0.44	-0.45	-0.41	Base	interamente compressa
327	1	SLE Rare	-0.40	-0.44	-0.46	-0.42	Base	interamente compressa
328	1	SLE Rare	-0.40	-0.44	-0.44	-0.41	Base	interamente compressa
329	1	SLE Rare	-0.41	-0.45	-0.46	-0.42	Base	interamente compressa
330	1	SLE Rare	-0.41	-0.45	-0.45	-0.41	Base	interamente compressa
331	1	SLE Rare	-0.39	-0.43	-0.44	-0.40	Base	interamente compressa
332	1	SLE Rare	-0.41	-0.45	-0.46	-0.42	Base	interamente compressa
333	1	SLE Rare	-0.39	-0.42	-0.43	-0.40	Base	interamente compressa
334	1	SLE Rare	-0.41	-0.45	-0.47	-0.43	Base	interamente compressa
335	1	SLE Rare	-0.39	-0.43	-0.45	-0.41	Base	interamente compressa
336	1	SLE Rare	-0.41	-0.45	-0.45	-0.41	Base	interamente compressa
337	1	SLE Rare	-0.40	-0.43	-0.43	-0.40	Base	interamente compressa
338	1	SLE Rare	-0.42	-0.46	-0.47	-0.43	Base	interamente compressa
339	1	SLE Rare	-0.41	-0.45	-0.45	-0.41	Base	interamente compressa
340	1	SLE Rare	-0.45	-0.49	-0.40	-0.36	Base	interamente compressa
341	1	SLE Rare	-0.49	-0.52	-0.36	-0.33	Base	interamente compressa
342	1	SLE Rare	-0.45	-0.49	-0.41	-0.37	Base	interamente compressa
343	1	SLE Rare	-0.45	-0.49	-0.39	-0.36	Base	interamente compressa
344	1	SLE Rare	-0.46	-0.50	-0.41	-0.37	Base	interamente compressa
345	1	SLE Rare	-0.35	-0.39	-0.50	-0.46	Base	interamente compressa
346	1	SLE Rare	-0.31	-0.35	-0.53	-0.49	Base	interamente compressa
347	1	SLE Rare	-0.35	-0.39	-0.51	-0.47	Base	interamente compressa
348	1	SLE Rare	-0.35	-0.39	-0.49	-0.46	Base	interamente compressa
349	1	SLE Rare	-0.36	-0.40	-0.51	-0.47	Base	interamente compressa
350	1	SLE Rare	-0.42	-0.42	-0.39	-0.38	Base	interamente compressa
351	1	SLE Rare	-0.42	-0.42	-0.39	-0.38	Base	interamente compressa
352	1	SLE Rare	-0.43	-0.41	-0.38	-0.40	Base	interamente compressa
353	1	SLE Rare	-0.43	-0.44	-0.40	-0.40	Base	interamente compressa
354	1	SLE Rare	-0.49	-0.51	-0.48	-0.45	Base	interamente compressa

355	1	SLE Rare	-0.47	-0.49	-0.46	-0.43	Base	interamente compressa
356	1	SLE Rare	-0.47	-0.49	-0.45	-0.43	Base	interamente compressa
357	1	SLE Rare	-0.48	-0.48	-0.45	-0.45	Base	interamente compressa
358	1	SLE Rare	-0.48	-0.51	-0.47	-0.45	Base	interamente compressa
359	1	SLE Rare	-0.45	-0.47	-0.40	-0.38	Base	interamente compressa
360	1	SLE Rare	-0.47	-0.49	-0.40	-0.38	Base	interamente compressa
361	1	SLE Rare	-0.46	-0.47	-0.40	-0.38	Base	interamente compressa
362	1	SLE Rare	-0.47	-0.46	-0.39	-0.39	Base	interamente compressa
363	1	SLE Rare	-0.47	-0.49	-0.41	-0.40	Base	interamente compressa
364	1	SLE Rare	-0.42	-0.43	-0.43	-0.42	Base	interamente compressa
365	1	SLE Rare	-0.42	-0.43	-0.45	-0.44	Base	interamente compressa
366	1	SLE Rare	-0.42	-0.43	-0.43	-0.42	Base	interamente compressa
367	1	SLE Rare	-0.43	-0.42	-0.42	-0.44	Base	interamente compressa
368	1	SLE Rare	-0.43	-0.44	-0.45	-0.44	Base	interamente compressa
369	1	SLE Rare	-0.39	-0.44	-0.41	-0.36	Base	interamente compressa
370	1	SLE Rare	-0.39	-0.44	-0.41	-0.36	Base	interamente compressa
371	1	SLE Rare	-0.38	-0.44	-0.41	-0.35	Base	interamente compressa
372	1	SLE Rare	-0.40	-0.46	-0.43	-0.37	Base	interamente compressa
373	1	SLE Rare	-0.46	-0.53	-0.50	-0.43	Base	interamente compressa
374	1	SLE Rare	-0.44	-0.51	-0.48	-0.41	Base	interamente compressa
375	1	SLE Rare	-0.44	-0.51	-0.48	-0.41	Base	interamente compressa
376	1	SLE Rare	-0.44	-0.51	-0.48	-0.40	Base	interamente compressa
377	1	SLE Rare	-0.45	-0.53	-0.49	-0.42	Base	interamente compressa
378	1	SLE Rare	-0.43	-0.49	-0.42	-0.36	Base	interamente compressa
379	1	SLE Rare	-0.44	-0.51	-0.42	-0.36	Base	interamente compressa
380	1	SLE Rare	-0.43	-0.49	-0.42	-0.36	Base	interamente compressa
381	1	SLE Rare	-0.42	-0.49	-0.42	-0.35	Base	interamente compressa
382	1	SLE Rare	-0.44	-0.51	-0.44	-0.37	Base	interamente compressa
383	1	SLE Rare	-0.39	-0.44	-0.45	-0.40	Base	interamente compressa
384	1	SLE Rare	-0.39	-0.45	-0.47	-0.41	Base	interamente compressa
385	1	SLE Rare	-0.39	-0.45	-0.45	-0.40	Base	interamente compressa
386	1	SLE Rare	-0.39	-0.45	-0.46	-0.39	Base	interamente compressa
387	1	SLE Rare	-0.40	-0.46	-0.47	-0.41	Base	interamente compressa
388	1	SLE Freq.	-0.39	-0.43	-0.40	-0.36	Base	interamente compressa

389	1	SLE Freq.	-0.39	-0.43	-0.40	-0.36	Base	interamente compressa
390	1	SLE Freq.	-0.40	-0.43	-0.40	-0.37	Base	interamente compressa
391	1	SLE Freq.	-0.44	-0.50	-0.47	-0.41	Base	interamente compressa
392	1	SLE Freq.	-0.39	-0.43	-0.40	-0.36	Base	interamente compressa
393	1	SLE Freq.	-0.39	-0.42	-0.39	-0.36	Base	interamente compressa
394	1	SLE Freq.	-0.41	-0.44	-0.38	-0.35	Base	interamente compressa
395	1	SLE Freq.	-0.38	-0.41	-0.41	-0.38	Base	interamente compressa
396	1	SLE Freq.	-0.43	-0.47	-0.41	-0.36	Base	interamente compressa
397	1	SLE Freq.	-0.39	-0.43	-0.44	-0.40	Base	interamente compressa
398	1	SLE Freq.	-0.40	-0.42	-0.39	-0.37	Base	interamente compressa
399	1	SLE Freq.	-0.39	-0.43	-0.40	-0.36	Base	interamente compressa
400	1	SLE Quasi P.	-0.39	-0.43	-0.40	-0.36	Base	interamente compressa
401	1	SLU A1 sism.	-1.03	-0.78	0.00	0.00	Parzializzata	
402	1	SLU A1 sism.	-1.04	-0.81	0.00	0.00	Parzializzata	
403	1	SLU A1 sism.	-0.87	-1.04	0.00	0.00	Parzializzata	
404	1	SLU A1 sism.	-0.88	-1.07	0.00	0.00	Parzializzata	
405	1	SLU A1 sism.	0.00	0.00	-0.83	-1.01	Parzializzata	
406	1	SLU A1 sism.	0.00	0.00	-0.85	-1.00	Parzializzata	
407	1	SLU A1 sism.	0.00	0.00	-0.96	-0.73	Parzializzata	
408	1	SLU A1 sism.	0.00	-0.04	-0.98	-0.73	Parzializzata	
409	1	SLU A1 sism.	-1.11	-0.83	0.00	0.00	Parzializzata	
410	1	SLU A1 sism.	-1.12	-0.86	0.00	0.00	Parzializzata	
411	1	SLU A1 sism.	-0.81	-0.97	0.00	0.00	Parzializzata	
412	1	SLU A1 sism.	-0.82	-1.00	0.00	0.00	Parzializzata	
413	1	SLU A1 sism.	0.00	0.00	-0.78	-0.95	Parzializzata	
414	1	SLU A1 sism.	0.00	0.00	-0.80	-0.95	Parzializzata	
415	1	SLU A1 sism.	0.00	0.00	-1.04	-0.78	Parzializzata	
416	1	SLU A1 sism.	0.00	0.00	-1.04	-0.77	Parzializzata	
417	1	SLU A1 sism.	-0.98	-0.71	0.00	-0.07	Parzializzata	
418	1	SLU A1 sism.	-1.00	-0.75	0.00	-0.07	Parzializzata	
419	1	SLU A1 sism.	-0.83	-0.95	0.00	0.00	Parzializzata	
420	1	SLU A1 sism.	-0.84	-0.99	0.00	0.00	Parzializzata	
421	1	SLU A1 sism.	0.00	0.00	-0.81	-0.96	Parzializzata	
422	1	SLU A1 sism.	0.00	0.00	-0.82	-0.95	Parzializzata	
423	1	SLU A1 sism.	0.00	-0.04	-0.94	-0.70	Parzializzata	
424	1	SLU A1 sism.	0.00	-0.08	-0.95	-0.70	Parzializzata	
425	1	SLU A1 sism.	-1.05	-0.76	0.00	-0.01	Parzializzata	
426	1	SLU A1 sism.	-1.06	-0.79	0.00	-0.01	Parzializzata	
427	1	SLU A1 sism.	-0.77	-0.90	0.00	0.00	Parzializzata	
428	1	SLU A1 sism.	-0.79	-0.93	-0.01	0.00	Parzializzata	
429	1	SLU A1 sism.	-0.01	0.00	-0.75	-0.90	Parzializzata	
430	1	SLU A1 sism.	-0.03	0.00	-0.77	-0.90	Parzializzata	
431	1	SLU A1 sism.	0.00	0.00	-1.01	-0.74	Parzializzata	
432	1	SLU A1 sism.	0.00	-0.03	-1.02	-0.74	Parzializzata	
433	1	SLU A1 sism.	-0.79	-0.19	-0.02	-0.62	Base	interamente compressa
434	1	SLU A1 sism.	-0.81	-0.22	-0.03	-0.62	Base	interamente compressa
435	1	SLU A1 sism.	-0.31	-0.92	-0.43	0.00	Parzializzata	
436	1	SLU A1 sism.	-0.32	-0.95	-0.44	0.00	Parzializzata	
437	1	SLU A1 sism.	-0.45	0.00	-0.35	-0.93	Parzializzata	
438	1	SLU A1 sism.	-0.47	0.00	-0.36	-0.92	Parzializzata	
439	1	SLU A1 sism.	0.00	-0.61	-0.74	-0.12	Parzializzata	
440	1	SLU A1 sism.	-0.01	-0.64	-0.76	-0.13	Base	interamente compressa
441	1	SLU A1 sism.	-0.78	-0.18	-0.02	-0.63	Base	interamente

compressa								
442	1	SLU A1 sism.	-0.80	-0.21	-0.04	-0.63	Base	interamente
compressa								
443	1	SLU A1 sism.	-0.30	-0.90	-0.44	0.00	Parzializzata	
444	1	SLU A1 sism.	-0.31	-0.93	-0.45	0.00	Parzializzata	
445	1	SLU A1 sism.	-0.47	0.00	-0.34	-0.91	Parzializzata	
446	1	SLU A1 sism.	-0.48	0.00	-0.35	-0.91	Parzializzata	
447	1	SLU A1 sism.	0.00	-0.62	-0.74	-0.12	Parzializzata	
448	1	SLU A1 sism.	-0.01	-0.65	-0.75	-0.12	Base	interamente
compressa								
449	1	SLU A1 sism.	-0.96	-0.33	0.00	-0.48	Parzializzata	
450	1	SLU A1 sism.	-0.97	-0.36	0.00	-0.48	Parzializzata	
451	1	SLU A1 sism.	-0.15	-0.77	-0.59	0.00	Parzializzata	
452	1	SLU A1 sism.	-0.17	-0.80	-0.60	0.00	Parzializzata	
453	1	SLU A1 sism.	-0.61	-0.02	-0.19	-0.79	Base	interamente
compressa								
454	1	SLU A1 sism.	-0.63	-0.05	-0.21	-0.79	Base	interamente
compressa								
455	1	SLU A1 sism.	0.00	-0.48	-0.90	-0.25	Parzializzata	
456	1	SLU A1 sism.	0.00	-0.51	-0.91	-0.25	Parzializzata	
457	1	SLU A1 sism.	-0.95	-0.31	0.00	-0.50	Parzializzata	
458	1	SLU A1 sism.	-0.96	-0.34	0.00	-0.50	Parzializzata	
459	1	SLU A1 sism.	-0.14	-0.75	-0.60	0.00	Parzializzata	
460	1	SLU A1 sism.	-0.16	-0.78	-0.61	0.00	Parzializzata	
461	1	SLU A1 sism.	-0.62	-0.03	-0.18	-0.77	Base	interamente
compressa								
462	1	SLU A1 sism.	-0.64	-0.07	-0.20	-0.77	Base	interamente
compressa								
463	1	SLU A1 sism.	0.00	-0.49	-0.89	-0.24	Parzializzata	
464	1	SLU A1 sism.	0.00	-0.52	-0.91	-0.24	Parzializzata	
529	1	SLU A1 sism.	-0.60	-0.40	-0.15	-0.35	Base	interamente
compressa								
530	1	SLU A1 sism.	-0.65	-0.51	-0.20	-0.34	Base	interamente
compressa								
531	1	SLU A1 sism.	-0.45	-0.62	-0.28	-0.11	Base	interamente
compressa								
532	1	SLU A1 sism.	-0.51	-0.73	-0.33	-0.11	Base	interamente
compressa								
533	1	SLU A1 sism.	-0.28	-0.11	-0.46	-0.63	Base	interamente
compressa								
534	1	SLU A1 sism.	-0.32	-0.21	-0.52	-0.64	Base	interamente
compressa								
535	1	SLU A1 sism.	-0.15	-0.33	-0.58	-0.39	Base	interamente
compressa								
536	1	SLU A1 sism.	-0.19	-0.43	-0.64	-0.40	Base	interamente
compressa								
537	1	SLU A1 sism.	-0.65	-0.44	-0.10	-0.30	Base	interamente
compressa								
538	1	SLU A1 sism.	-0.70	-0.56	-0.16	-0.30	Base	interamente
compressa								
539	1	SLU A1 sism.	-0.40	-0.57	-0.32	-0.15	Base	interamente
compressa								
540	1	SLU A1 sism.	-0.46	-0.69	-0.37	-0.15	Base	interamente
compressa								
541	1	SLU A1 sism.	-0.32	-0.15	-0.42	-0.60	Base	interamente
compressa								
542	1	SLU A1 sism.	-0.37	-0.25	-0.48	-0.60	Base	interamente
compressa								
543	1	SLU A1 sism.	-0.10	-0.29	-0.62	-0.43	Base	interamente
compressa								
544	1	SLU A1 sism.	-0.14	-0.39	-0.69	-0.44	Base	interamente
compressa								
545	1	SLU A1 sism.	-0.59	-0.39	-0.16	-0.36	Base	interamente
compressa								
546	1	SLU A1 sism.	-0.64	-0.50	-0.21	-0.36	Base	interamente
compressa								
547	1	SLU A1 sism.	-0.44	-0.60	-0.29	-0.13	Base	interamente
compressa								

548	1	SLU A1 sism.	-0.50	-0.71	-0.34	-0.12	Base	interamente compressa
549	1	SLU A1 sism.	-0.29	-0.12	-0.46	-0.62	Base	interamente compressa
550	1	SLU A1 sism.	-0.34	-0.23	-0.51	-0.62	Base	interamente compressa
551	1	SLU A1 sism.	-0.15	-0.34	-0.58	-0.39	Base	interamente compressa
552	1	SLU A1 sism.	-0.20	-0.45	-0.63	-0.38	Base	interamente compressa
553	1	SLU A1 sism.	-0.64	-0.43	-0.11	-0.32	Base	interamente compressa
554	1	SLU A1 sism.	-0.69	-0.54	-0.17	-0.32	Base	interamente compressa
555	1	SLU A1 sism.	-0.39	-0.56	-0.33	-0.17	Base	interamente compressa
556	1	SLU A1 sism.	-0.45	-0.67	-0.38	-0.16	Base	interamente compressa
557	1	SLU A1 sism.	-0.33	-0.16	-0.41	-0.58	Base	interamente compressa
558	1	SLU A1 sism.	-0.38	-0.27	-0.47	-0.58	Base	interamente compressa
559	1	SLU A1 sism.	-0.10	-0.29	-0.62	-0.43	Base	interamente compressa
560	1	SLU A1 sism.	-0.15	-0.40	-0.68	-0.43	Base	interamente compressa
1	3	SLU STR.	-0.55	-0.56	-0.55	-0.54	Base	interamente compressa
2	3	SLU STR.	-0.40	-0.41	-0.41	-0.39	Base	interamente compressa
3	3	SLU STR.	-0.55	-0.56	-0.55	-0.54	Base	interamente compressa
4	3	SLU STR.	-0.41	-0.42	-0.40	-0.39	Base	interamente compressa
5	3	SLU STR.	-0.57	-0.58	-0.58	-0.57	Base	interamente compressa
6	3	SLU STR.	-0.43	-0.43	-0.44	-0.43	Base	interamente compressa
7	3	SLU STR.	-0.67	-0.67	-0.71	-0.71	Base	interamente compressa
8	3	SLU STR.	-0.53	-0.52	-0.56	-0.57	Base	interamente compressa
9	3	SLU STR.	-0.64	-0.64	-0.67	-0.67	Base	interamente compressa
10	3	SLU STR.	-0.50	-0.50	-0.52	-0.53	Base	interamente compressa
11	3	SLU STR.	-0.64	-0.64	-0.67	-0.67	Base	interamente compressa
12	3	SLU STR.	-0.50	-0.50	-0.52	-0.53	Base	interamente compressa
13	3	SLU STR.	-0.66	-0.66	-0.70	-0.70	Base	interamente compressa
14	3	SLU STR.	-0.52	-0.51	-0.55	-0.56	Base	interamente compressa
15	3	SLU STR.	-0.56	-0.57	-0.57	-0.55	Base	interamente compressa
16	3	SLU STR.	-0.53	-0.55	-0.54	-0.52	Base	interamente compressa
17	3	SLU STR.	-0.42	-0.43	-0.42	-0.41	Base	interamente compressa
18	3	SLU STR.	-0.39	-0.40	-0.39	-0.38	Base	interamente compressa
19	3	SLU STR.	-0.57	-0.58	-0.58	-0.56	Base	interamente compressa
20	3	SLU STR.	-0.53	-0.54	-0.53	-0.51	Base	interamente compressa
21	3	SLU STR.	-0.42	-0.43	-0.43	-0.42	Base	interamente compressa

22	3	SLU STR.	-0.38	-0.40	-0.38	-0.37	Base	interamente compressa
23	3	SLU STR.	-0.56	-0.57	-0.56	-0.55	Base	interamente compressa
24	3	SLU STR.	-0.54	-0.55	-0.53	-0.52	Base	interamente compressa
25	3	SLU STR.	-0.42	-0.43	-0.42	-0.41	Base	interamente compressa
26	3	SLU STR.	-0.39	-0.41	-0.39	-0.38	Base	interamente compressa
27	3	SLU STR.	-0.58	-0.59	-0.60	-0.59	Base	interamente compressa
28	3	SLU STR.	-0.56	-0.57	-0.57	-0.55	Base	interamente compressa
29	3	SLU STR.	-0.44	-0.45	-0.45	-0.44	Base	interamente compressa
30	3	SLU STR.	-0.41	-0.42	-0.42	-0.41	Base	interamente compressa
31	3	SLU STR.	-0.68	-0.68	-0.72	-0.73	Base	interamente compressa
32	3	SLU STR.	-0.66	-0.66	-0.69	-0.70	Base	interamente compressa
33	3	SLU STR.	-0.54	-0.53	-0.58	-0.59	Base	interamente compressa
34	3	SLU STR.	-0.52	-0.51	-0.55	-0.55	Base	interamente compressa
35	3	SLU STR.	-0.66	-0.66	-0.70	-0.70	Base	interamente compressa
36	3	SLU STR.	-0.62	-0.62	-0.65	-0.64	Base	interamente compressa
37	3	SLU STR.	-0.52	-0.51	-0.55	-0.55	Base	interamente compressa
38	3	SLU STR.	-0.48	-0.48	-0.50	-0.50	Base	interamente compressa
39	3	SLU STR.	-0.65	-0.65	-0.69	-0.69	Base	interamente compressa
40	3	SLU STR.	-0.63	-0.63	-0.66	-0.65	Base	interamente compressa
41	3	SLU STR.	-0.51	-0.51	-0.54	-0.54	Base	interamente compressa
42	3	SLU STR.	-0.49	-0.48	-0.51	-0.51	Base	interamente compressa
43	3	SLU STR.	-0.66	-0.66	-0.68	-0.68	Base	interamente compressa
44	3	SLU STR.	-0.63	-0.63	-0.65	-0.65	Base	interamente compressa
45	3	SLU STR.	-0.51	-0.51	-0.54	-0.54	Base	interamente compressa
46	3	SLU STR.	-0.49	-0.49	-0.51	-0.51	Base	interamente compressa
47	3	SLU STR.	-0.68	-0.67	-0.71	-0.72	Base	interamente compressa
48	3	SLU STR.	-0.65	-0.65	-0.68	-0.69	Base	interamente compressa
49	3	SLU STR.	-0.53	-0.53	-0.57	-0.58	Base	interamente compressa
50	3	SLU STR.	-0.51	-0.50	-0.54	-0.54	Base	interamente compressa
51	3	SLU STR.	-0.64	-0.66	-0.46	-0.44	Base	interamente compressa
52	3	SLU STR.	-0.50	-0.51	-0.31	-0.29	Base	interamente compressa
53	3	SLU STR.	-0.70	-0.73	-0.39	-0.37	Base	interamente compressa
54	3	SLU STR.	-0.56	-0.58	-0.25	-0.23	Base	interamente compressa
55	3	SLU STR.	-0.64	-0.66	-0.45	-0.44	Base	interamente compressa

56	3	SLU STR.	-0.50	-0.52	-0.31	-0.29	Base	interamente compressa
57	3	SLU STR.	-0.66	-0.68	-0.49	-0.47	Base	interamente compressa
58	3	SLU STR.	-0.52	-0.53	-0.34	-0.33	Base	interamente compressa
59	3	SLU STR.	-0.77	-0.77	-0.61	-0.61	Base	interamente compressa
60	3	SLU STR.	-0.62	-0.62	-0.47	-0.47	Base	interamente compressa
61	3	SLU STR.	-0.73	-0.74	-0.58	-0.57	Base	interamente compressa
62	3	SLU STR.	-0.59	-0.59	-0.43	-0.43	Base	interamente compressa
63	3	SLU STR.	-0.80	-0.81	-0.51	-0.50	Base	interamente compressa
64	3	SLU STR.	-0.66	-0.66	-0.36	-0.36	Base	interamente compressa
65	3	SLU STR.	-0.74	-0.74	-0.57	-0.57	Base	interamente compressa
66	3	SLU STR.	-0.59	-0.60	-0.43	-0.43	Base	interamente compressa
67	3	SLU STR.	-0.76	-0.76	-0.61	-0.60	Base	interamente compressa
68	3	SLU STR.	-0.62	-0.61	-0.46	-0.46	Base	interamente compressa
69	3	SLU STR.	-0.45	-0.46	-0.65	-0.64	Base	interamente compressa
70	3	SLU STR.	-0.30	-0.31	-0.51	-0.50	Base	interamente compressa
71	3	SLU STR.	-0.38	-0.39	-0.72	-0.71	Base	interamente compressa
72	3	SLU STR.	-0.24	-0.25	-0.58	-0.56	Base	interamente compressa
73	3	SLU STR.	-0.45	-0.46	-0.65	-0.64	Base	interamente compressa
74	3	SLU STR.	-0.31	-0.32	-0.51	-0.50	Base	interamente compressa
75	3	SLU STR.	-0.47	-0.48	-0.68	-0.67	Base	interamente compressa
76	3	SLU STR.	-0.33	-0.33	-0.54	-0.53	Base	interamente compressa
77	3	SLU STR.	-0.57	-0.57	-0.81	-0.82	Base	interamente compressa
78	3	SLU STR.	-0.43	-0.42	-0.66	-0.67	Base	interamente compressa
79	3	SLU STR.	-0.54	-0.54	-0.77	-0.77	Base	interamente compressa
80	3	SLU STR.	-0.40	-0.39	-0.63	-0.63	Base	interamente compressa
81	3	SLU STR.	-0.47	-0.47	-0.84	-0.84	Base	interamente compressa
82	3	SLU STR.	-0.33	-0.33	-0.69	-0.70	Base	interamente compressa
83	3	SLU STR.	-0.54	-0.54	-0.77	-0.77	Base	interamente compressa
84	3	SLU STR.	-0.40	-0.40	-0.62	-0.63	Base	interamente compressa
85	3	SLU STR.	-0.57	-0.56	-0.80	-0.80	Base	interamente compressa
86	3	SLU STR.	-0.42	-0.41	-0.65	-0.66	Base	interamente compressa
87	3	SLU STR.	-0.62	-0.64	-0.56	-0.54	Base	interamente compressa
88	3	SLU STR.	-0.48	-0.49	-0.41	-0.40	Base	interamente compressa
89	3	SLU STR.	-0.64	-0.66	-0.56	-0.55	Base	interamente compressa

90	3	SLU STR.	-0.50	-0.51	-0.42	-0.41	Base	interamente compressa
91	3	SLU STR.	-0.62	-0.64	-0.56	-0.54	Base	interamente compressa
92	3	SLU STR.	-0.48	-0.49	-0.41	-0.40	Base	interamente compressa
93	3	SLU STR.	-0.64	-0.66	-0.59	-0.58	Base	interamente compressa
94	3	SLU STR.	-0.50	-0.51	-0.44	-0.44	Base	interamente compressa
95	3	SLU STR.	-0.63	-0.65	-0.57	-0.56	Base	interamente compressa
96	3	SLU STR.	-0.61	-0.62	-0.54	-0.53	Base	interamente compressa
97	3	SLU STR.	-0.49	-0.50	-0.43	-0.42	Base	interamente compressa
98	3	SLU STR.	-0.47	-0.48	-0.40	-0.39	Base	interamente compressa
99	3	SLU STR.	-0.64	-0.65	-0.58	-0.57	Base	interamente compressa
100	3	SLU STR.	-0.60	-0.62	-0.53	-0.52	Base	interamente compressa
101	3	SLU STR.	-0.50	-0.51	-0.44	-0.43	Base	interamente compressa
102	3	SLU STR.	-0.46	-0.47	-0.39	-0.38	Base	interamente compressa
103	3	SLU STR.	-0.66	-0.67	-0.58	-0.56	Base	interamente compressa
104	3	SLU STR.	-0.63	-0.65	-0.55	-0.53	Base	interamente compressa
105	3	SLU STR.	-0.51	-0.52	-0.43	-0.42	Base	interamente compressa
106	3	SLU STR.	-0.49	-0.50	-0.40	-0.39	Base	interamente compressa
107	3	SLU STR.	-0.64	-0.65	-0.57	-0.56	Base	interamente compressa
108	3	SLU STR.	-0.61	-0.63	-0.54	-0.53	Base	interamente compressa
109	3	SLU STR.	-0.49	-0.50	-0.43	-0.42	Base	interamente compressa
110	3	SLU STR.	-0.47	-0.48	-0.40	-0.39	Base	interamente compressa
111	3	SLU STR.	-0.66	-0.67	-0.60	-0.59	Base	interamente compressa
112	3	SLU STR.	-0.63	-0.64	-0.57	-0.56	Base	interamente compressa
113	3	SLU STR.	-0.51	-0.52	-0.46	-0.45	Base	interamente compressa
114	3	SLU STR.	-0.49	-0.50	-0.43	-0.42	Base	interamente compressa
115	3	SLU STR.	-0.72	-0.74	-0.46	-0.44	Base	interamente compressa
116	3	SLU STR.	-0.57	-0.59	-0.32	-0.30	Base	interamente compressa
117	3	SLU STR.	-0.78	-0.80	-0.40	-0.37	Base	interamente compressa
118	3	SLU STR.	-0.64	-0.66	-0.25	-0.23	Base	interamente compressa
119	3	SLU STR.	-0.74	-0.76	-0.46	-0.44	Base	interamente compressa
120	3	SLU STR.	-0.60	-0.61	-0.32	-0.30	Base	interamente compressa
121	3	SLU STR.	-0.72	-0.74	-0.46	-0.44	Base	interamente compressa
122	3	SLU STR.	-0.58	-0.59	-0.31	-0.30	Base	interamente compressa
123	3	SLU STR.	-0.74	-0.76	-0.49	-0.48	Base	interamente compressa

124	3	SLU STR.	-0.60	-0.61	-0.34	-0.33	Base	interamente compressa
125	3	SLU STR.	-0.52	-0.53	-0.66	-0.65	Base	interamente compressa
126	3	SLU STR.	-0.38	-0.39	-0.51	-0.50	Base	interamente compressa
127	3	SLU STR.	-0.46	-0.47	-0.73	-0.71	Base	interamente compressa
128	3	SLU STR.	-0.31	-0.32	-0.58	-0.57	Base	interamente compressa
129	3	SLU STR.	-0.55	-0.56	-0.66	-0.65	Base	interamente compressa
130	3	SLU STR.	-0.40	-0.41	-0.52	-0.51	Base	interamente compressa
131	3	SLU STR.	-0.52	-0.54	-0.66	-0.65	Base	interamente compressa
132	3	SLU STR.	-0.38	-0.39	-0.51	-0.50	Base	interamente compressa
133	3	SLU STR.	-0.55	-0.55	-0.69	-0.68	Base	interamente compressa
134	3	SLU STR.	-0.40	-0.41	-0.54	-0.54	Base	interamente compressa
135	3	SLU STR.	-0.55	-0.55	-0.64	-0.63	Base	interamente compressa
136	3	SLU STR.	-0.40	-0.40	-0.49	-0.49	Base	interamente compressa
137	3	SLU STR.	-0.55	-0.55	-0.67	-0.67	Base	interamente compressa
138	3	SLU STR.	-0.40	-0.40	-0.52	-0.52	Base	interamente compressa
139	3	SLU STR.	-0.55	-0.55	-0.64	-0.63	Base	interamente compressa
140	3	SLU STR.	-0.41	-0.41	-0.49	-0.49	Base	interamente compressa
141	3	SLU STR.	-0.57	-0.57	-0.67	-0.67	Base	interamente compressa
142	3	SLU STR.	-0.43	-0.42	-0.52	-0.53	Base	interamente compressa
143	3	SLU STR.	-0.56	-0.56	-0.65	-0.65	Base	interamente compressa
144	3	SLU STR.	-0.53	-0.54	-0.62	-0.62	Base	interamente compressa
145	3	SLU STR.	-0.42	-0.42	-0.51	-0.51	Base	interamente compressa
146	3	SLU STR.	-0.39	-0.39	-0.48	-0.48	Base	interamente compressa
147	3	SLU STR.	-0.57	-0.57	-0.66	-0.66	Base	interamente compressa
148	3	SLU STR.	-0.53	-0.53	-0.61	-0.61	Base	interamente compressa
149	3	SLU STR.	-0.42	-0.42	-0.52	-0.52	Base	interamente compressa
150	3	SLU STR.	-0.38	-0.39	-0.47	-0.47	Base	interamente compressa
151	3	SLU STR.	-0.56	-0.56	-0.68	-0.68	Base	interamente compressa
152	3	SLU STR.	-0.53	-0.54	-0.65	-0.65	Base	interamente compressa
153	3	SLU STR.	-0.42	-0.41	-0.54	-0.54	Base	interamente compressa
154	3	SLU STR.	-0.39	-0.39	-0.51	-0.51	Base	interamente compressa
155	3	SLU STR.	-0.56	-0.56	-0.65	-0.65	Base	interamente compressa
156	3	SLU STR.	-0.54	-0.54	-0.62	-0.62	Base	interamente compressa
157	3	SLU STR.	-0.42	-0.42	-0.51	-0.51	Base	interamente compressa

158	3	SLU STR.	-0.39	-0.40	-0.48	-0.48	Base	interamente compressa
159	3	SLU STR.	-0.58	-0.58	-0.68	-0.68	Base	interamente compressa
160	3	SLU STR.	-0.56	-0.56	-0.65	-0.65	Base	interamente compressa
161	3	SLU STR.	-0.44	-0.44	-0.54	-0.54	Base	interamente compressa
162	3	SLU STR.	-0.42	-0.41	-0.51	-0.51	Base	interamente compressa
163	3	SLU STR.	-0.64	-0.65	-0.55	-0.54	Base	interamente compressa
164	3	SLU STR.	-0.50	-0.50	-0.40	-0.39	Base	interamente compressa
165	3	SLU STR.	-0.70	-0.71	-0.48	-0.47	Base	interamente compressa
166	3	SLU STR.	-0.56	-0.57	-0.34	-0.33	Base	interamente compressa
167	3	SLU STR.	-0.64	-0.64	-0.57	-0.57	Base	interamente compressa
168	3	SLU STR.	-0.50	-0.50	-0.43	-0.43	Base	interamente compressa
169	3	SLU STR.	-0.64	-0.65	-0.54	-0.54	Base	interamente compressa
170	3	SLU STR.	-0.50	-0.50	-0.40	-0.39	Base	interamente compressa
171	3	SLU STR.	-0.66	-0.67	-0.58	-0.57	Base	interamente compressa
172	3	SLU STR.	-0.52	-0.52	-0.43	-0.43	Base	interamente compressa
173	3	SLU STR.	-0.45	-0.45	-0.74	-0.74	Base	interamente compressa
174	3	SLU STR.	-0.30	-0.30	-0.60	-0.60	Base	interamente compressa
175	3	SLU STR.	-0.38	-0.38	-0.81	-0.81	Base	interamente compressa
176	3	SLU STR.	-0.24	-0.24	-0.66	-0.66	Base	interamente compressa
177	3	SLU STR.	-0.45	-0.45	-0.77	-0.77	Base	interamente compressa
178	3	SLU STR.	-0.30	-0.30	-0.62	-0.63	Base	interamente compressa
179	3	SLU STR.	-0.45	-0.45	-0.74	-0.74	Base	interamente compressa
180	3	SLU STR.	-0.31	-0.30	-0.59	-0.60	Base	interamente compressa
181	3	SLU STR.	-0.47	-0.47	-0.77	-0.77	Base	interamente compressa
182	3	SLU STR.	-0.33	-0.32	-0.62	-0.63	Base	interamente compressa
183	3	SLU STR.	-0.56	-0.54	-0.53	-0.56	Base	interamente compressa
184	3	SLU STR.	-0.42	-0.40	-0.39	-0.41	Base	interamente compressa
185	3	SLU STR.	-0.57	-0.54	-0.53	-0.55	Base	interamente compressa
186	3	SLU STR.	-0.42	-0.40	-0.39	-0.41	Base	interamente compressa
187	3	SLU STR.	-0.58	-0.53	-0.52	-0.57	Base	interamente compressa
188	3	SLU STR.	-0.44	-0.38	-0.37	-0.43	Base	interamente compressa
189	3	SLU STR.	-0.59	-0.56	-0.56	-0.59	Base	interamente compressa
190	3	SLU STR.	-0.45	-0.42	-0.42	-0.45	Base	interamente compressa
191	3	SLU STR.	-0.69	-0.65	-0.69	-0.73	Base	interamente compressa

192	3	SLU STR.	-0.55	-0.50	-0.55	-0.59	Base	interamente compressa
193	3	SLU STR.	-0.66	-0.62	-0.65	-0.69	Base	interamente compressa
194	3	SLU STR.	-0.52	-0.48	-0.51	-0.55	Base	interamente compressa
195	3	SLU STR.	-0.66	-0.62	-0.65	-0.69	Base	interamente compressa
196	3	SLU STR.	-0.52	-0.48	-0.51	-0.55	Base	interamente compressa
197	3	SLU STR.	-0.67	-0.61	-0.64	-0.70	Base	interamente compressa
198	3	SLU STR.	-0.53	-0.46	-0.49	-0.56	Base	interamente compressa
199	3	SLU STR.	-0.68	-0.64	-0.68	-0.72	Base	interamente compressa
200	3	SLU STR.	-0.54	-0.50	-0.54	-0.58	Base	interamente compressa
201	3	SLU STR.	-0.64	-0.62	-0.54	-0.56	Base	interamente compressa
202	3	SLU STR.	-0.50	-0.47	-0.39	-0.42	Base	interamente compressa
203	3	SLU STR.	-0.66	-0.64	-0.54	-0.57	Base	interamente compressa
204	3	SLU STR.	-0.52	-0.50	-0.40	-0.42	Base	interamente compressa
205	3	SLU STR.	-0.64	-0.62	-0.54	-0.56	Base	interamente compressa
206	3	SLU STR.	-0.50	-0.47	-0.39	-0.42	Base	interamente compressa
207	3	SLU STR.	-0.65	-0.61	-0.53	-0.57	Base	interamente compressa
208	3	SLU STR.	-0.51	-0.46	-0.38	-0.43	Base	interamente compressa
209	3	SLU STR.	-0.66	-0.64	-0.57	-0.60	Base	interamente compressa
210	3	SLU STR.	-0.52	-0.49	-0.42	-0.45	Base	interamente compressa
211	3	SLU STR.	-0.56	-0.53	-0.62	-0.65	Base	interamente compressa
212	3	SLU STR.	-0.42	-0.38	-0.48	-0.51	Base	interamente compressa
213	3	SLU STR.	-0.56	-0.53	-0.65	-0.69	Base	interamente compressa
214	3	SLU STR.	-0.42	-0.38	-0.50	-0.54	Base	interamente compressa
215	3	SLU STR.	-0.57	-0.53	-0.62	-0.65	Base	interamente compressa
216	3	SLU STR.	-0.42	-0.39	-0.47	-0.51	Base	interamente compressa
217	3	SLU STR.	-0.58	-0.52	-0.61	-0.67	Base	interamente compressa
218	3	SLU STR.	-0.43	-0.37	-0.46	-0.53	Base	interamente compressa
219	3	SLU STR.	-0.59	-0.55	-0.65	-0.69	Base	interamente compressa
220	3	SLU STR.	-0.45	-0.40	-0.50	-0.55	Base	interamente compressa
221	3	SLU STR.	-0.54	-0.57	-0.56	-0.52	Base	interamente compressa
222	3	SLU STR.	-0.39	-0.43	-0.42	-0.38	Base	interamente compressa
223	3	SLU STR.	-0.54	-0.58	-0.56	-0.52	Base	interamente compressa
224	3	SLU STR.	-0.40	-0.43	-0.41	-0.38	Base	interamente compressa
225	3	SLU STR.	-0.53	-0.58	-0.57	-0.51	Base	interamente compressa

226	3	SLU STR.	-0.39	-0.44	-0.42	-0.37	Base	interamente compressa
227	3	SLU STR.	-0.56	-0.59	-0.59	-0.56	Base	interamente compressa
228	3	SLU STR.	-0.42	-0.45	-0.45	-0.41	Base	interamente compressa
229	3	SLU STR.	-0.66	-0.68	-0.72	-0.70	Base	interamente compressa
230	3	SLU STR.	-0.52	-0.53	-0.57	-0.56	Base	interamente compressa
231	3	SLU STR.	-0.63	-0.65	-0.68	-0.66	Base	interamente compressa
232	3	SLU STR.	-0.49	-0.51	-0.53	-0.51	Base	interamente compressa
233	3	SLU STR.	-0.63	-0.66	-0.68	-0.66	Base	interamente compressa
234	3	SLU STR.	-0.49	-0.51	-0.53	-0.51	Base	interamente compressa
235	3	SLU STR.	-0.62	-0.66	-0.69	-0.65	Base	interamente compressa
236	3	SLU STR.	-0.48	-0.52	-0.54	-0.51	Base	interamente compressa
237	3	SLU STR.	-0.65	-0.67	-0.71	-0.69	Base	interamente compressa
238	3	SLU STR.	-0.51	-0.53	-0.56	-0.55	Base	interamente compressa
239	3	SLU STR.	-0.61	-0.65	-0.57	-0.53	Base	interamente compressa
240	3	SLU STR.	-0.47	-0.50	-0.42	-0.39	Base	interamente compressa
241	3	SLU STR.	-0.63	-0.67	-0.57	-0.53	Base	interamente compressa
242	3	SLU STR.	-0.49	-0.53	-0.43	-0.39	Base	interamente compressa
243	3	SLU STR.	-0.61	-0.65	-0.57	-0.53	Base	interamente compressa
244	3	SLU STR.	-0.47	-0.50	-0.42	-0.39	Base	interamente compressa
245	3	SLU STR.	-0.60	-0.66	-0.58	-0.52	Base	interamente compressa
246	3	SLU STR.	-0.46	-0.51	-0.43	-0.38	Base	interamente compressa
247	3	SLU STR.	-0.63	-0.67	-0.60	-0.56	Base	interamente compressa
248	3	SLU STR.	-0.49	-0.52	-0.45	-0.42	Base	interamente compressa
249	3	SLU STR.	-0.54	-0.56	-0.65	-0.62	Base	interamente compressa
250	3	SLU STR.	-0.39	-0.42	-0.50	-0.48	Base	interamente compressa
251	3	SLU STR.	-0.54	-0.56	-0.68	-0.65	Base	interamente compressa
252	3	SLU STR.	-0.39	-0.41	-0.53	-0.51	Base	interamente compressa
253	3	SLU STR.	-0.54	-0.57	-0.65	-0.62	Base	interamente compressa
254	3	SLU STR.	-0.40	-0.42	-0.50	-0.48	Base	interamente compressa
255	3	SLU STR.	-0.53	-0.57	-0.66	-0.61	Base	interamente compressa
256	3	SLU STR.	-0.39	-0.43	-0.51	-0.47	Base	interamente compressa
257	3	SLU STR.	-0.56	-0.58	-0.68	-0.65	Base	interamente compressa
258	3	SLU STR.	-0.42	-0.44	-0.53	-0.51	Base	interamente compressa
259	3	SLE Rare	-0.40	-0.41	-0.41	-0.40	Base	interamente compressa

260	3	SLE Rare	-0.41	-0.42	-0.41	-0.40	Base	interamente compressa
261	3	SLE Rare	-0.42	-0.43	-0.43	-0.42	Base	interamente compressa
262	3	SLE Rare	-0.49	-0.49	-0.51	-0.51	Base	interamente compressa
263	3	SLE Rare	-0.47	-0.47	-0.49	-0.48	Base	interamente compressa
264	3	SLE Rare	-0.47	-0.47	-0.49	-0.48	Base	interamente compressa
265	3	SLE Rare	-0.48	-0.48	-0.51	-0.51	Base	interamente compressa
266	3	SLE Rare	-0.41	-0.42	-0.42	-0.41	Base	interamente compressa
267	3	SLE Rare	-0.40	-0.41	-0.40	-0.39	Base	interamente compressa
268	3	SLE Rare	-0.42	-0.43	-0.42	-0.41	Base	interamente compressa
269	3	SLE Rare	-0.39	-0.40	-0.39	-0.38	Base	interamente compressa
270	3	SLE Rare	-0.41	-0.42	-0.42	-0.41	Base	interamente compressa
271	3	SLE Rare	-0.40	-0.41	-0.40	-0.38	Base	interamente compressa
272	3	SLE Rare	-0.43	-0.44	-0.44	-0.43	Base	interamente compressa
273	3	SLE Rare	-0.41	-0.42	-0.42	-0.41	Base	interamente compressa
274	3	SLE Rare	-0.50	-0.49	-0.52	-0.52	Base	interamente compressa
275	3	SLE Rare	-0.48	-0.48	-0.50	-0.50	Base	interamente compressa
276	3	SLE Rare	-0.48	-0.48	-0.50	-0.50	Base	interamente compressa
277	3	SLE Rare	-0.45	-0.46	-0.47	-0.47	Base	interamente compressa
278	3	SLE Rare	-0.47	-0.48	-0.50	-0.50	Base	interamente compressa
279	3	SLE Rare	-0.46	-0.46	-0.48	-0.47	Base	interamente compressa
280	3	SLE Rare	-0.48	-0.48	-0.50	-0.49	Base	interamente compressa
281	3	SLE Rare	-0.46	-0.46	-0.48	-0.47	Base	interamente compressa
282	3	SLE Rare	-0.49	-0.49	-0.52	-0.52	Base	interamente compressa
283	3	SLE Rare	-0.47	-0.47	-0.50	-0.50	Base	interamente compressa
284	3	SLE Rare	-0.47	-0.48	-0.34	-0.33	Base	interamente compressa
285	3	SLE Rare	-0.51	-0.52	-0.30	-0.28	Base	interamente compressa
286	3	SLE Rare	-0.47	-0.48	-0.34	-0.33	Base	interamente compressa
287	3	SLE Rare	-0.48	-0.49	-0.36	-0.35	Base	interamente compressa
288	3	SLE Rare	-0.55	-0.55	-0.45	-0.45	Base	interamente compressa
289	3	SLE Rare	-0.53	-0.53	-0.42	-0.42	Base	interamente compressa
290	3	SLE Rare	-0.57	-0.58	-0.38	-0.37	Base	interamente compressa
291	3	SLE Rare	-0.53	-0.53	-0.42	-0.42	Base	interamente compressa
292	3	SLE Rare	-0.54	-0.55	-0.44	-0.44	Base	interamente compressa
293	3	SLE Rare	-0.34	-0.35	-0.48	-0.47	Base	interamente compressa

294	3	SLE Rare	-0.29	-0.30	-0.52	-0.51	Base	interamente compressa
295	3	SLE Rare	-0.34	-0.35	-0.47	-0.46	Base	interamente compressa
296	3	SLE Rare	-0.35	-0.36	-0.49	-0.49	Base	interamente compressa
297	3	SLE Rare	-0.42	-0.42	-0.58	-0.58	Base	interamente compressa
298	3	SLE Rare	-0.40	-0.40	-0.55	-0.55	Base	interamente compressa
299	3	SLE Rare	-0.36	-0.36	-0.60	-0.60	Base	interamente compressa
300	3	SLE Rare	-0.40	-0.40	-0.55	-0.55	Base	interamente compressa
301	3	SLE Rare	-0.42	-0.41	-0.57	-0.58	Base	interamente compressa
302	3	SLE Rare	-0.45	-0.46	-0.41	-0.40	Base	interamente compressa
303	3	SLE Rare	-0.47	-0.48	-0.41	-0.40	Base	interamente compressa
304	3	SLE Rare	-0.45	-0.47	-0.41	-0.40	Base	interamente compressa
305	3	SLE Rare	-0.47	-0.48	-0.43	-0.42	Base	interamente compressa
306	3	SLE Rare	-0.46	-0.47	-0.42	-0.41	Base	interamente compressa
307	3	SLE Rare	-0.44	-0.46	-0.40	-0.39	Base	interamente compressa
308	3	SLE Rare	-0.47	-0.48	-0.43	-0.42	Base	interamente compressa
309	3	SLE Rare	-0.44	-0.45	-0.40	-0.38	Base	interamente compressa
310	3	SLE Rare	-0.48	-0.49	-0.42	-0.41	Base	interamente compressa
311	3	SLE Rare	-0.46	-0.47	-0.40	-0.39	Base	interamente compressa
312	3	SLE Rare	-0.46	-0.47	-0.42	-0.41	Base	interamente compressa
313	3	SLE Rare	-0.45	-0.46	-0.40	-0.39	Base	interamente compressa
314	3	SLE Rare	-0.48	-0.48	-0.44	-0.43	Base	interamente compressa
315	3	SLE Rare	-0.46	-0.47	-0.42	-0.41	Base	interamente compressa
316	3	SLE Rare	-0.52	-0.53	-0.35	-0.33	Base	interamente compressa
317	3	SLE Rare	-0.56	-0.58	-0.30	-0.29	Base	interamente compressa
318	3	SLE Rare	-0.53	-0.55	-0.35	-0.34	Base	interamente compressa
319	3	SLE Rare	-0.52	-0.53	-0.35	-0.33	Base	interamente compressa
320	3	SLE Rare	-0.53	-0.54	-0.37	-0.36	Base	interamente compressa
321	3	SLE Rare	-0.39	-0.40	-0.48	-0.47	Base	interamente compressa
322	3	SLE Rare	-0.34	-0.35	-0.52	-0.52	Base	interamente compressa
323	3	SLE Rare	-0.40	-0.41	-0.48	-0.47	Base	interamente compressa
324	3	SLE Rare	-0.39	-0.40	-0.48	-0.47	Base	interamente compressa
325	3	SLE Rare	-0.40	-0.41	-0.50	-0.49	Base	interamente compressa
326	3	SLE Rare	-0.40	-0.41	-0.47	-0.46	Base	interamente compressa
327	3	SLE Rare	-0.40	-0.41	-0.49	-0.48	Base	interamente compressa

328	3	SLE Rare	-0.41	-0.41	-0.46	-0.46	Base	interamente compressa
329	3	SLE Rare	-0.42	-0.42	-0.49	-0.48	Base	interamente compressa
330	3	SLE Rare	-0.41	-0.42	-0.48	-0.47	Base	interamente compressa
331	3	SLE Rare	-0.40	-0.40	-0.46	-0.45	Base	interamente compressa
332	3	SLE Rare	-0.42	-0.42	-0.48	-0.48	Base	interamente compressa
333	3	SLE Rare	-0.39	-0.40	-0.45	-0.44	Base	interamente compressa
334	3	SLE Rare	-0.41	-0.41	-0.50	-0.49	Base	interamente compressa
335	3	SLE Rare	-0.40	-0.40	-0.48	-0.47	Base	interamente compressa
336	3	SLE Rare	-0.41	-0.42	-0.47	-0.47	Base	interamente compressa
337	3	SLE Rare	-0.40	-0.40	-0.45	-0.45	Base	interamente compressa
338	3	SLE Rare	-0.43	-0.43	-0.50	-0.49	Base	interamente compressa
339	3	SLE Rare	-0.41	-0.41	-0.48	-0.47	Base	interamente compressa
340	3	SLE Rare	-0.47	-0.47	-0.40	-0.40	Base	interamente compressa
341	3	SLE Rare	-0.51	-0.52	-0.36	-0.35	Base	interamente compressa
342	3	SLE Rare	-0.46	-0.47	-0.42	-0.42	Base	interamente compressa
343	3	SLE Rare	-0.47	-0.47	-0.40	-0.40	Base	interamente compressa
344	3	SLE Rare	-0.48	-0.49	-0.42	-0.42	Base	interamente compressa
345	3	SLE Rare	-0.34	-0.34	-0.53	-0.53	Base	interamente compressa
346	3	SLE Rare	-0.29	-0.30	-0.58	-0.58	Base	interamente compressa
347	3	SLE Rare	-0.34	-0.34	-0.55	-0.55	Base	interamente compressa
348	3	SLE Rare	-0.34	-0.34	-0.53	-0.53	Base	interamente compressa
349	3	SLE Rare	-0.35	-0.35	-0.55	-0.55	Base	interamente compressa
350	3	SLE Rare	-0.42	-0.40	-0.40	-0.41	Base	interamente compressa
351	3	SLE Rare	-0.42	-0.40	-0.39	-0.41	Base	interamente compressa
352	3	SLE Rare	-0.42	-0.39	-0.39	-0.42	Base	interamente compressa
353	3	SLE Rare	-0.43	-0.42	-0.42	-0.43	Base	interamente compressa
354	3	SLE Rare	-0.50	-0.47	-0.50	-0.53	Base	interamente compressa
355	3	SLE Rare	-0.48	-0.46	-0.47	-0.50	Base	interamente compressa
356	3	SLE Rare	-0.48	-0.46	-0.47	-0.50	Base	interamente compressa
357	3	SLE Rare	-0.49	-0.45	-0.47	-0.51	Base	interamente compressa
358	3	SLE Rare	-0.49	-0.47	-0.49	-0.52	Base	interamente compressa
359	3	SLE Rare	-0.47	-0.45	-0.40	-0.41	Base	interamente compressa
360	3	SLE Rare	-0.48	-0.47	-0.40	-0.42	Base	interamente compressa
361	3	SLE Rare	-0.47	-0.45	-0.40	-0.41	Base	interamente compressa

362	3	SLE Rare	-0.48	-0.44	-0.39	-0.42	Base	interamente compressa
363	3	SLE Rare	-0.48	-0.46	-0.42	-0.44	Base	interamente compressa
364	3	SLE Rare	-0.42	-0.39	-0.45	-0.47	Base	interamente compressa
365	3	SLE Rare	-0.42	-0.39	-0.47	-0.50	Base	interamente compressa
366	3	SLE Rare	-0.42	-0.40	-0.45	-0.47	Base	interamente compressa
367	3	SLE Rare	-0.42	-0.39	-0.45	-0.48	Base	interamente compressa
368	3	SLE Rare	-0.43	-0.41	-0.47	-0.50	Base	interamente compressa
369	3	SLE Rare	-0.40	-0.42	-0.41	-0.39	Base	interamente compressa
370	3	SLE Rare	-0.40	-0.42	-0.41	-0.39	Base	interamente compressa
371	3	SLE Rare	-0.39	-0.43	-0.42	-0.38	Base	interamente compressa
372	3	SLE Rare	-0.41	-0.44	-0.43	-0.41	Base	interamente compressa
373	3	SLE Rare	-0.48	-0.49	-0.52	-0.51	Base	interamente compressa
374	3	SLE Rare	-0.46	-0.48	-0.49	-0.48	Base	interamente compressa
375	3	SLE Rare	-0.46	-0.48	-0.49	-0.48	Base	interamente compressa
376	3	SLE Rare	-0.46	-0.48	-0.50	-0.47	Base	interamente compressa
377	3	SLE Rare	-0.48	-0.49	-0.51	-0.50	Base	interamente compressa
378	3	SLE Rare	-0.45	-0.47	-0.42	-0.39	Base	interamente compressa
379	3	SLE Rare	-0.46	-0.49	-0.42	-0.39	Base	interamente compressa
380	3	SLE Rare	-0.45	-0.47	-0.42	-0.39	Base	interamente compressa
381	3	SLE Rare	-0.44	-0.48	-0.42	-0.39	Base	interamente compressa
382	3	SLE Rare	-0.46	-0.49	-0.44	-0.41	Base	interamente compressa
383	3	SLE Rare	-0.40	-0.42	-0.47	-0.45	Base	interamente compressa
384	3	SLE Rare	-0.40	-0.41	-0.49	-0.47	Base	interamente compressa
385	3	SLE Rare	-0.40	-0.42	-0.47	-0.45	Base	interamente compressa
386	3	SLE Rare	-0.39	-0.42	-0.48	-0.45	Base	interamente compressa
387	3	SLE Rare	-0.41	-0.43	-0.49	-0.47	Base	interamente compressa
388	3	SLE Freq.	-0.40	-0.41	-0.40	-0.39	Base	interamente compressa
389	3	SLE Freq.	-0.40	-0.41	-0.40	-0.39	Base	interamente compressa
390	3	SLE Freq.	-0.40	-0.41	-0.41	-0.40	Base	interamente compressa
391	3	SLE Freq.	-0.46	-0.46	-0.48	-0.48	Base	interamente compressa
392	3	SLE Freq.	-0.40	-0.41	-0.41	-0.39	Base	interamente compressa
393	3	SLE Freq.	-0.40	-0.41	-0.40	-0.39	Base	interamente compressa
394	3	SLE Freq.	-0.42	-0.43	-0.38	-0.37	Base	interamente compressa
395	3	SLE Freq.	-0.38	-0.39	-0.43	-0.41	Base	interamente compressa

396	3	SLE Freq.	-0.45	-0.46	-0.41	-0.40	Base	interamente compressa
397	3	SLE Freq.	-0.40	-0.40	-0.46	-0.46	Base	interamente compressa
398	3	SLE Freq.	-0.40	-0.41	-0.40	-0.40	Base	interamente compressa
399	3	SLE Freq.	-0.40	-0.41	-0.41	-0.39	Base	interamente compressa
400	3	SLE Quasi P.	-0.40	-0.41	-0.40	-0.39	Base	interamente compressa
401	3	SLU A1 sism.	-1.18	-1.02	0.00	0.00	Parzializzata	
402	3	SLU A1 sism.	-1.15	-1.02	0.00	0.00	Parzializzata	
403	3	SLU A1 sism.	-1.01	-1.36	0.00	0.00	Parzializzata	
404	3	SLU A1 sism.	-0.98	-1.32	0.00	0.00	Parzializzata	
405	3	SLU A1 sism.	0.00	0.00	-0.97	-1.22	Parzializzata	
406	3	SLU A1 sism.	0.00	0.00	-1.01	-1.23	Parzializzata	
407	3	SLU A1 sism.	0.00	0.00	-1.18	-0.99	Parzializzata	
408	3	SLU A1 sism.	0.00	0.00	-1.20	-1.00	Parzializzata	
409	3	SLU A1 sism.	-1.19	-1.03	0.00	0.00	Parzializzata	
410	3	SLU A1 sism.	-1.15	-1.02	0.00	0.00	Parzializzata	
411	3	SLU A1 sism.	-1.00	-1.35	0.00	0.00	Parzializzata	
412	3	SLU A1 sism.	-0.98	-1.32	0.00	0.00	Parzializzata	
413	3	SLU A1 sism.	0.00	0.00	-0.97	-1.22	Parzializzata	
414	3	SLU A1 sism.	0.00	0.00	-1.00	-1.23	Parzializzata	
415	3	SLU A1 sism.	0.00	0.00	-1.18	-0.99	Parzializzata	
416	3	SLU A1 sism.	0.00	0.00	-1.21	-1.00	Parzializzata	
417	3	SLU A1 sism.	-1.62	-1.23	0.00	0.00	Parzializzata	
418	3	SLU A1 sism.	-1.52	-1.19	0.00	0.00	Parzializzata	
419	3	SLU A1 sism.	-1.37	-1.64	0.00	0.00	Parzializzata	
420	3	SLU A1 sism.	-1.29	-1.55	0.00	0.00	Parzializzata	
421	3	SLU A1 sism.	0.00	0.00	-1.27	-1.43	Parzializzata	
422	3	SLU A1 sism.	0.00	0.00	-1.28	-1.42	Parzializzata	
423	3	SLU A1 sism.	0.00	0.00	-1.49	-1.13	Parzializzata	
424	3	SLU A1 sism.	0.00	0.00	-1.50	-1.13	Parzializzata	
425	3	SLU A1 sism.	-1.64	-1.24	0.00	0.00	Parzializzata	
426	3	SLU A1 sism.	-1.54	-1.20	0.00	0.00	Parzializzata	
427	3	SLU A1 sism.	-1.37	-1.63	0.00	0.00	Parzializzata	
428	3	SLU A1 sism.	-1.29	-1.54	0.00	0.00	Parzializzata	
429	3	SLU A1 sism.	0.00	0.00	-1.26	-1.42	Parzializzata	
430	3	SLU A1 sism.	0.00	0.00	-1.28	-1.41	Parzializzata	
431	3	SLU A1 sism.	0.00	0.00	-1.49	-1.13	Parzializzata	
432	3	SLU A1 sism.	0.00	0.00	-1.50	-1.14	Parzializzata	
433	3	SLU A1 sism.	-0.78	-0.25	0.00	-0.48	Parzializzata	
434	3	SLU A1 sism.	-0.78	-0.26	0.00	-0.50	Parzializzata	
435	3	SLU A1 sism.	-0.37	-0.94	-0.45	0.00	Parzializzata	
436	3	SLU A1 sism.	-0.38	-0.96	-0.48	0.00	Parzializzata	
437	3	SLU A1 sism.	-0.43	0.00	-0.31	-0.86	Parzializzata	
438	3	SLU A1 sism.	-0.43	0.00	-0.35	-0.89	Parzializzata	
439	3	SLU A1 sism.	-0.01	-0.54	-0.83	-0.30	Base	interamente compressa
440	3	SLU A1 sism.	-0.01	-0.56	-0.86	-0.32	Base	interamente compressa
441	3	SLU A1 sism.	-0.83	-0.27	0.00	-0.46	Parzializzata	
442	3	SLU A1 sism.	-0.83	-0.28	0.00	-0.48	Parzializzata	
443	3	SLU A1 sism.	-0.42	-0.96	-0.40	0.00	Parzializzata	
444	3	SLU A1 sism.	-0.42	-0.98	-0.43	0.00	Parzializzata	
445	3	SLU A1 sism.	-0.39	0.00	-0.36	-0.88	Parzializzata	
446	3	SLU A1 sism.	-0.38	0.00	-0.40	-0.91	Parzializzata	
447	3	SLU A1 sism.	0.00	-0.52	-0.88	-0.32	Parzializzata	
448	3	SLU A1 sism.	0.00	-0.54	-0.91	-0.34	Parzializzata	
449	3	SLU A1 sism.	-0.78	-0.25	0.00	-0.47	Parzializzata	
450	3	SLU A1 sism.	-0.79	-0.27	0.00	-0.49	Parzializzata	
451	3	SLU A1 sism.	-0.37	-0.94	-0.45	0.00	Parzializzata	
452	3	SLU A1 sism.	-0.38	-0.96	-0.48	0.00	Parzializzata	
453	3	SLU A1 sism.	-0.44	0.00	-0.30	-0.85	Parzializzata	
454	3	SLU A1 sism.	-0.44	0.00	-0.33	-0.87	Parzializzata	
455	3	SLU A1 sism.	0.00	-0.54	-0.84	-0.30	Base	interamente compressa

456	3	SLU A1 sism.	-0.01	-0.56	-0.87	-0.32	Base	interamente compressa
457	3	SLU A1 sism.	-0.83	-0.27	0.00	-0.45	Parzializzata	
458	3	SLU A1 sism.	-0.83	-0.29	0.00	-0.47	Parzializzata	
459	3	SLU A1 sism.	-0.42	-0.96	-0.40	0.00	Parzializzata	
460	3	SLU A1 sism.	-0.42	-0.98	-0.44	0.00	Parzializzata	
461	3	SLU A1 sism.	-0.40	0.00	-0.34	-0.87	Parzializzata	
462	3	SLU A1 sism.	-0.40	0.00	-0.38	-0.89	Parzializzata	
463	3	SLU A1 sism.	0.00	-0.52	-0.89	-0.32	Parzializzata	
464	3	SLU A1 sism.	0.00	-0.54	-0.92	-0.34	Parzializzata	
529	3	SLU A1 sism.	-0.62	-0.46	-0.09	-0.26	Base	interamente compressa
530	3	SLU A1 sism.	-0.64	-0.52	-0.20	-0.32	Base	interamente compressa
531	3	SLU A1 sism.	-0.51	-0.68	-0.24	-0.07	Base	interamente compressa
532	3	SLU A1 sism.	-0.52	-0.73	-0.35	-0.14	Base	interamente compressa
533	3	SLU A1 sism.	-0.28	-0.10	-0.45	-0.63	Base	interamente compressa
534	3	SLU A1 sism.	-0.28	-0.15	-0.58	-0.71	Base	interamente compressa
535	3	SLU A1 sism.	-0.14	-0.29	-0.62	-0.47	Base	interamente compressa
536	3	SLU A1 sism.	-0.16	-0.35	-0.73	-0.54	Base	interamente compressa
537	3	SLU A1 sism.	-0.63	-0.47	-0.09	-0.25	Base	interamente compressa
538	3	SLU A1 sism.	-0.64	-0.53	-0.20	-0.31	Base	interamente compressa
539	3	SLU A1 sism.	-0.51	-0.68	-0.24	-0.07	Base	interamente compressa
540	3	SLU A1 sism.	-0.52	-0.73	-0.35	-0.14	Base	interamente compressa
541	3	SLU A1 sism.	-0.29	-0.11	-0.45	-0.63	Base	interamente compressa
542	3	SLU A1 sism.	-0.29	-0.15	-0.57	-0.71	Base	interamente compressa
543	3	SLU A1 sism.	-0.14	-0.29	-0.62	-0.47	Base	interamente compressa
544	3	SLU A1 sism.	-0.16	-0.35	-0.73	-0.54	Base	interamente compressa
545	3	SLU A1 sism.	-0.67	-0.48	-0.05	-0.24	Base	interamente compressa
546	3	SLU A1 sism.	-0.69	-0.54	-0.15	-0.30	Base	interamente compressa
547	3	SLU A1 sism.	-0.55	-0.69	-0.19	-0.05	Base	interamente compressa
548	3	SLU A1 sism.	-0.56	-0.75	-0.30	-0.12	Base	interamente compressa
549	3	SLU A1 sism.	-0.24	-0.08	-0.50	-0.65	Base	interamente compressa
550	3	SLU A1 sism.	-0.24	-0.13	-0.62	-0.73	Base	interamente compressa
551	3	SLU A1 sism.	-0.10	-0.27	-0.66	-0.49	Base	interamente compressa
552	3	SLU A1 sism.	-0.12	-0.33	-0.77	-0.56	Base	interamente compressa
553	3	SLU A1 sism.	-0.67	-0.48	-0.04	-0.23	Base	interamente compressa
554	3	SLU A1 sism.	-0.69	-0.55	-0.15	-0.29	Base	interamente compressa
555	3	SLU A1 sism.	-0.55	-0.69	-0.19	-0.05	Base	interamente compressa
556	3	SLU A1 sism.	-0.56	-0.75	-0.31	-0.12	Base	interamente compressa
557	3	SLU A1 sism.	-0.24	-0.09	-0.49	-0.65	Base	interamente compressa

558	3	SLU A1 sism.	-0.24	-0.13	-0.62	-0.73	Base	interamente compressa
559	3	SLU A1 sism.	-0.10	-0.27	-0.67	-0.50	Base	interamente compressa
560	3	SLU A1 sism.	-0.12	-0.33	-0.77	-0.56	Base	interamente compressa

Pressione massima = -1.64 daN/cmq (Cmb. n. 425 Plinto n. 3)

VERIFICHE DEL PLINTO

Verifica della base di fondazione.
Copriferro = 4.0 cm
Sezioni maggiormente sollecitate: tangenti alla sagoma del pilastro.

Direzione X.
Tipo sezione: rettangolare (B = 600.0 H = 120.0)
Sezioni verifiche: Sez.1-1 (x = 100.0), Sez.2-2 (x = -100.0)
Armatura inferiore = 76.34 cmq (30 Ø 18)
Armatura superiore = 30.16 cmq (15 Ø 16)

Sez. 1-1 (x = 100.0)

Risultato Med/Mu più gravoso nel plinto n. 3 in Cmb. 419 (SLU A1 sism.)
Med = 22485130.0 daN cm, Mu = 32678420.0 daN cm, Med/Mu = 0.688 < 1 Ok

Sez. 2-2 (x = -100.0)

Risultato Med/Mu più gravoso nel plinto n. 3 in Cmb. 422 (SLU A1 sism.)
Med = 21029460.0 daN cm, Mu = 32678420.0 daN cm, Med/Mu = 0.644 < 1 Ok

Direzione Y.
Tipo sezione: rettangolare (B = 800.0 H = 120.0)
Sezioni verifiche: Sez.3-3 (y = 40.0), Sez.4-4 (y = -40.0)
Armatura inferiore = 101.79 cmq (40 Ø 18)
Armatura superiore = 40.21 cmq (20 Ø 16)

Sez. 3-3 (y = 40.0)

Risultato Med/Mu più gravoso nel plinto n. 1 in Cmb. 463 (SLU A1 sism.)
Med = -4213661.0 daN cm, Mu = -17546830.0 daN cm, Med/Mu = 0.240 < 1 Ok

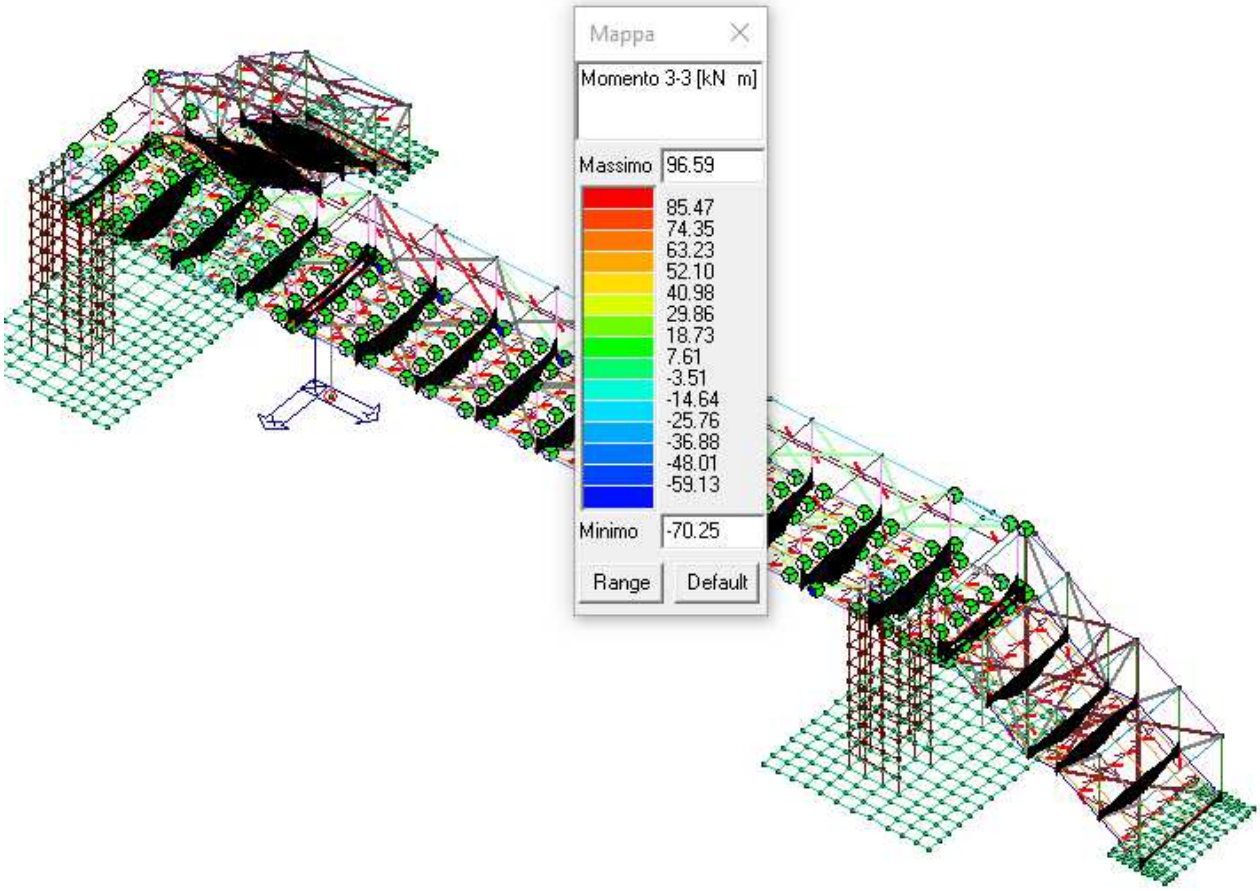
Sez. 4-4 (y = -40.0)

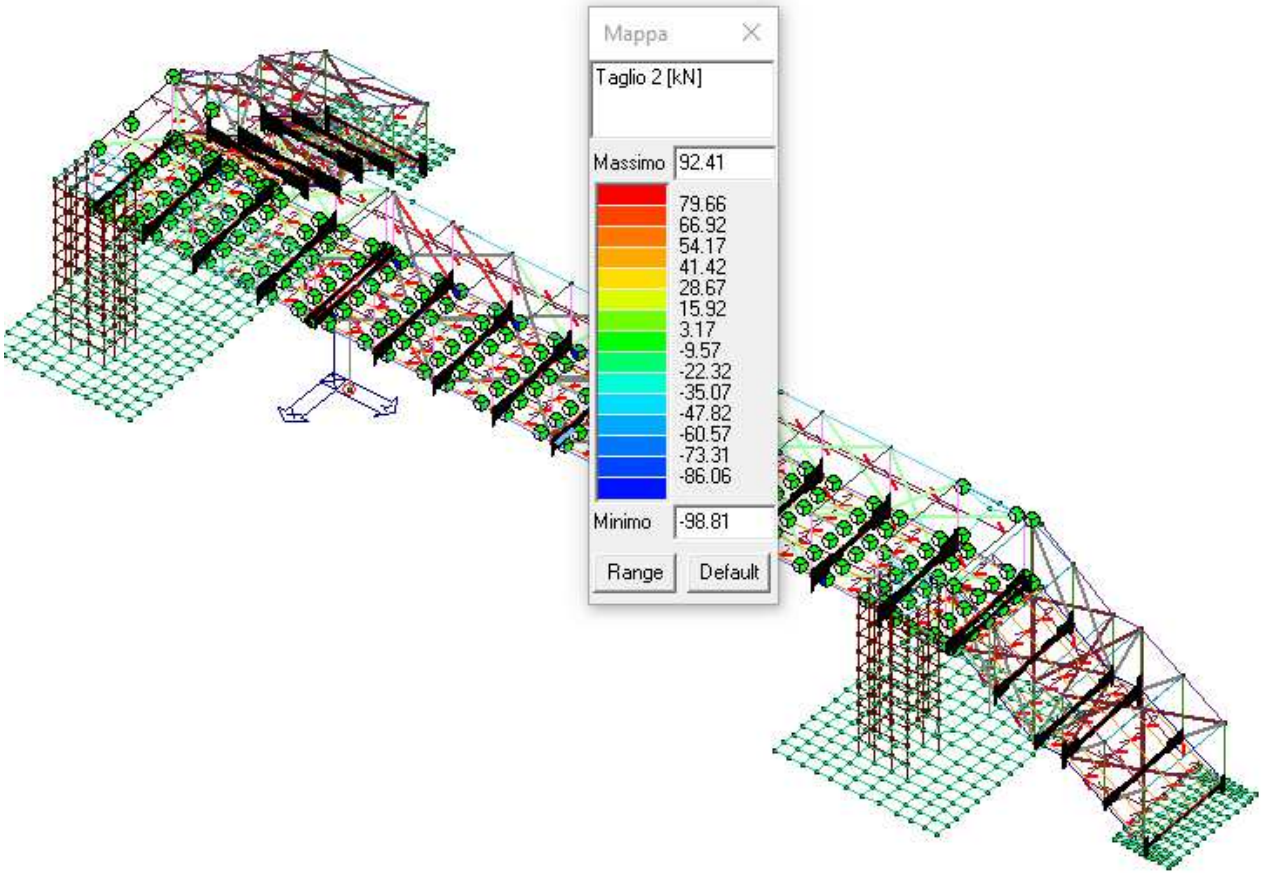
Risultato Med/Mu più gravoso nel plinto n. 3 in Cmb. 464 (SLU A1 sism.)
Med = 9317064.0 daN cm, Mu = 43571240.0 daN cm, Med/Mu = 0.214 < 1 Ok

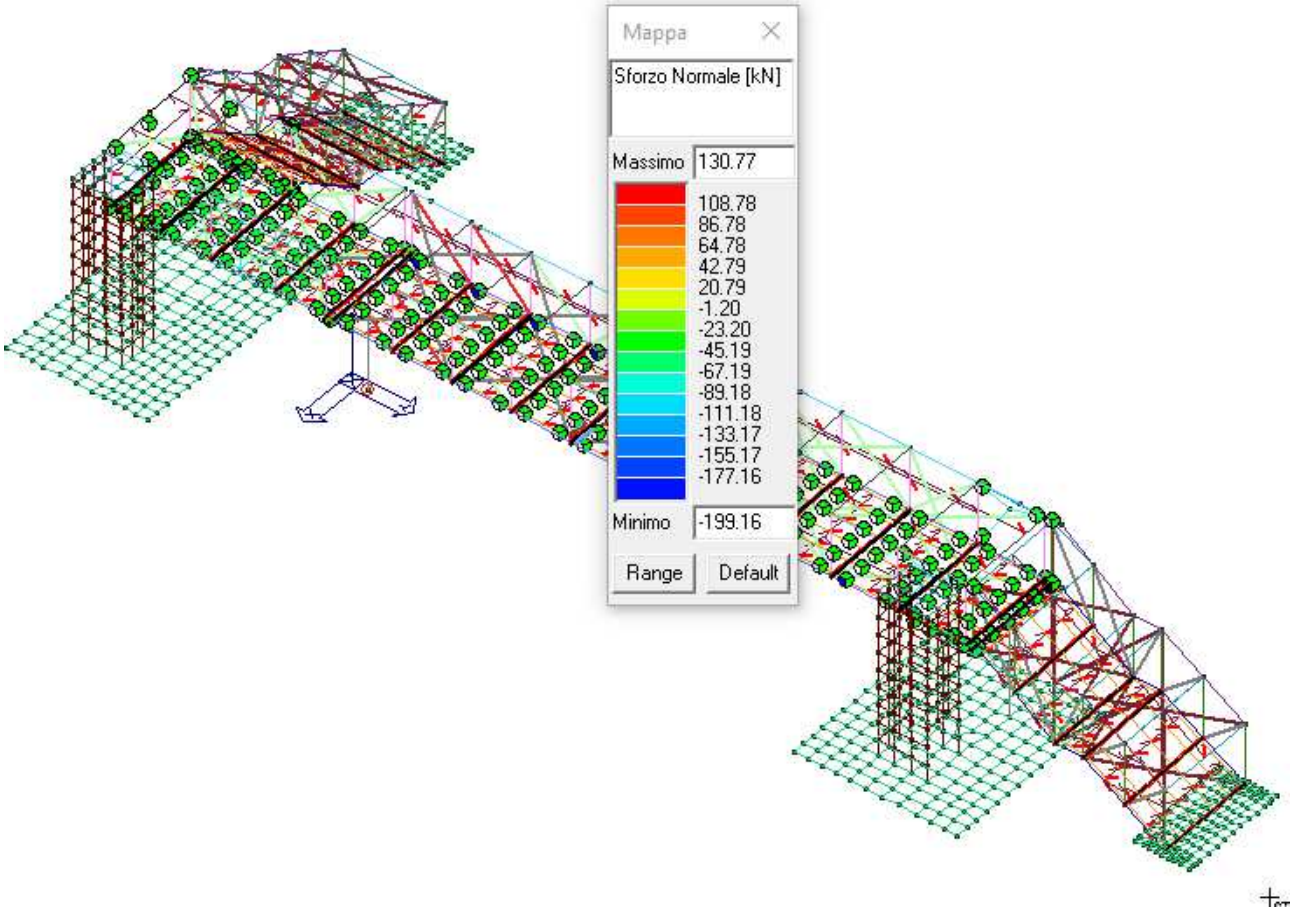
Punzonamento:
Verifiche ai sensi EC2 UNI EN 1992-1-1-2005 par. 6.4.4 e DM 17/01/2018 NTC par. 4.1.2.3.5.4
Carico massimo trasmesso dal pilastro: = 143600.00 daN (Cmb. n. 31 Plinto n. 3)
Sollecitazione di calcolo: VEd = Beta N = 165140.00 daN (Beta = 1.15)
Spessore utile = d = 1160.0 mm
U0 = perimetro pilastro = 5600.0 mm
U1 = perimetro critico (circonda l'area caricata a distanza 2d) = 20177.0 mm
Apc = area perimetro critico = 315013.1 cmq
VEdred = VEd - VEd Apc / Abase = 56762.4 daN
Valori di resistenza:
vRd,max = 4.3506 N/mmq
vRd,c = 0.3265 N/mmq
vEd (perimetro U0) = VEdred / (U0 d) = 0.0874 N/mmq
vEd (perimetro U0) < vRd,max => Spessore utile OK
vEd (perimetro critico U1) = VEdred / (U1 d) = 0.0243 N/mmq
vEd (perimetro critico U1) < vRd,c => Armatura non richiesta.

3. RELAZIONE DI CALCOLO COLLEGAMENTI IN ACCIAIO

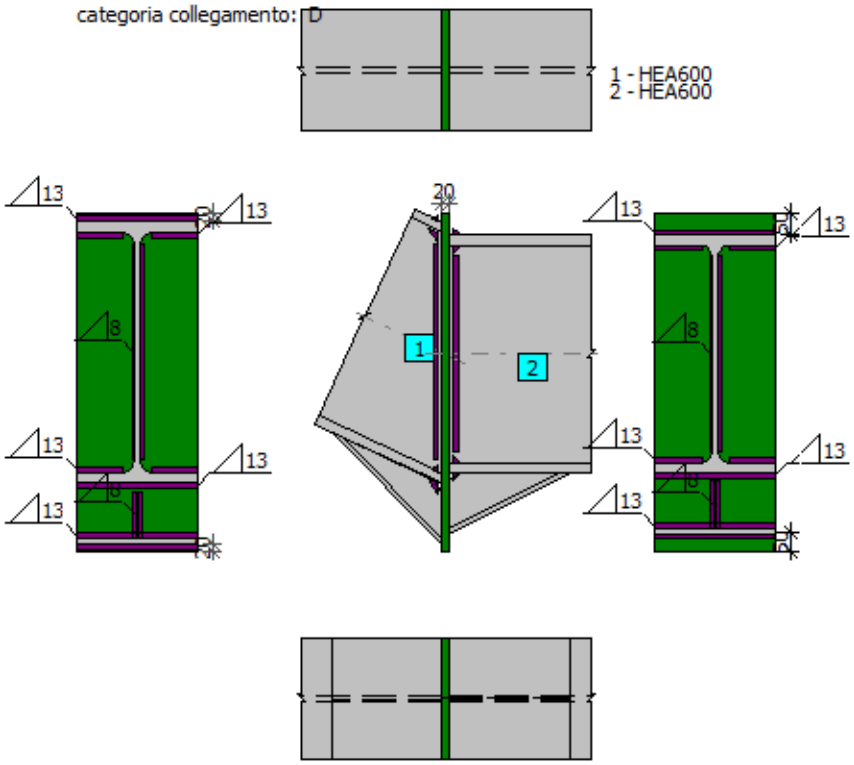
COLLEGAMENTO SALDATO TRAVE IMPALCATO – CAPRIATA



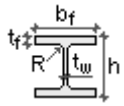

Mappa
Taglio 2 [kN]
Massimo 92.41
79.66
66.92
54.17
41.42
28.67
15.92
3.17
-9.57
-22.32
-35.07
-47.82
-60.57
-73.31
-86.06
Minimo -98.81
Range
Default

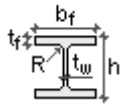

Mappa
Sforzo Normale [kN]
Massimo 130.77
108.78
86.78
64.78
42.79
20.79
-1.20
-23.20
-45.19
-67.19
-89.18
-111.18
-133.17
-155.17
-177.16
Minimo -199.16
Range
Default

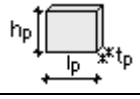
	Trave - trave (piastra frontale)	Rapporto: 0.95	
BeamsRigid v. 1.0.0.10	EN 1993-1-8:2006		



Dati

Trave sinistra IPE300					
	h_b	b_{fb}	t_{fb}	t_{wb}	R_b
	300.00*[mm]*	150.00*[mm]*	10.70*[mm]*	7.10*[mm]*	15.00*[mm]*
	A_b	J_{y0b}	J_{z0b}	y_{0b}	z_{0b}
	53.81*[cm²]*	8356.11*[cm⁴]*	603.78*[cm⁴]*	75.00*[mm]*	150.00*[mm]*
Materiale	Grado	f_y	f_u		
	S 355	355.00*[MPa]*	490.00*[MPa]*		

Trave destra IPE300					
	h_b	b_{fb}	t_{fb}	t_{wb}	R_b
	300.00*[mm]*	150.00*[mm]*	10.70*[mm]*	7.10*[mm]*	15.00*[mm]*
	A_b	J_{y0b}	J_{z0b}	y_{0b}	z_{0b}
	53.81*[cm²]*	8356.11*[cm⁴]*	603.78*[cm⁴]*	75.00*[mm]*	150.00*[mm]*
Materiale	Grado	f_y	f_u		
	S 355	355.00*[MPa]*	490.00*[MPa]*		

Piastra frontale			
	l_p	h_p	t_p
	150.00*[mm]*	340.00*[mm]*	20.00*[mm]*

Materiale	Grado	f_y	f_u
	S 355	355.00*[MPa]*	490.00*[MPa]*

Saldature

Lato sinistro

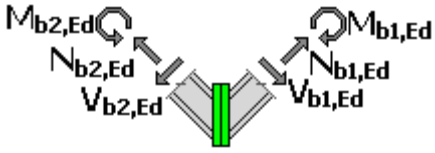
Spessore saldature dell'angolare che collegano flange trave e piastra frontale	a_{fe} =	0.00	*[mm]*
Spessore saldature dell'angolare che collegano flange trave e piastra frontale	a_{fi} =	7.48	*[mm]*
Spessore saldature dell'angolare che collegano anima trave e piastra frontale	a_w =	4.20	*[mm]*

Lato destro

Spessore saldature dell'angolare che collegano flange trave e piastra frontale	a_{fe} =	0.00	*[mm]*
Spessore saldature dell'angolare che collegano flange trave e piastra frontale	a_{fi} =	7.48	*[mm]*
Spessore saldature dell'angolare che collegano anima trave e piastra frontale	a_w =	4.20	*[mm]*

Forze

Forza assiale	$N_{b1,Ed}$ =	131.00	*[kN]*
Forza di taglio	$V_{b1,Ed}$ =	100.00	*[kN]*
Momento flettente	$M_{b1,Ed}$ =	72.00	*[kNm]*
Forza assiale	$N_{b2,Ed}$ =	131.00	*[kN]*
Forza di taglio	$V_{b2,Ed}$ =	100.00	*[kN]*
Momento flettente	$M_{b2,Ed}$ =	72.00	*[kNm]*



Risultati

Lato sinistro

Saldature dell'angolare che collegano trave e piastra frontale

Forze nelle saldature

Forza assiale

$N_0 = N_{b2,Ed}*\cos(\alpha_1) + V_{b2,Ed}*\sin(\alpha_1) = 131.00[kN]*\cos(0.00[Deg]) + 100.00[kN]*\sin(0.00[Deg]) = 131.00[kN]$

Forza di taglio

$V_0 = -N_{b2,Ed}*\sin(\alpha_1) + V_{b2,Ed}*\cos(\alpha_1) = -(131.00[kN])*\sin(0.00[Deg]) + 100.00[kN]*\cos(0.00[Deg]) = 100.00[kN]$

Momento flettente reale

$M_0 = M_{b2,Ed} = 72.00[kNm]$

Proprietŕ geometriche delle saldature

Trave

Area saldature orizzontali sulla flangia superiore

$A_{wfu} = b_{fb}*a_{fe}+(b_{fb}-t_{wb}-2*r_b)*a_{fi} = 150.00[mm]*0.00[mm]+(150.00[mm]-7.10[mm]-2*15.00[mm])*7.48[mm] = 8.44[cm^2]$

Area saldature orizzontali sulla flangia inferiore

$A_{wfl} = b_{fb}*a_{fe}+(b_{fb}-t_{wb}-2*r_b)*a_{fi} = 150.00[mm]*0.00[mm]+(150.00[mm]-7.10[mm]-2*15.00[mm])*7.48[mm] = 8.44[cm^2]$

Area delle saldature verticali

$A_{ww} = 2*[(h_b-2*(t_{fb}-r_b))/\cos(\alpha)]*a_w = 2*[(300.00[mm]-2*(10.70[mm]-15.00[mm]))/\cos(0.00[Deg])]*4.20[mm] = 20.88[cm^2]$

Area di tutte le saldature

$A_w = A_{wfu} + A_{wfl} + A_{ww} = 8.44[cm^2] + 8.44[cm^2] + 20.88[cm^2] = 37.77[cm^2]$

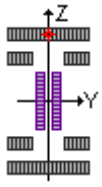
Distanza tra baricentro saldature e baricentro trave

$e_{0w} = 0.00[mm]$

Momento d'inerzia saldature

$I_w = 4180.03[cm^4]$

Punto in cui le sollecitazioni vengono controllate	$z_i = 150.00[mm]$
Modulo elastico delle saldature	
$W_w = 278.67[cm^3]$	
Sollecitazione da forza assiale	
$\sigma_N = N_0/A_w = 131.00[kN]/37.77[cm^2] = 34.68[MPa]$	
Sollecitazione dovuta alla flessione	
$\sigma_M = (M_0*z_i)/I_w = (72.00[kNm]*150.00[mm])/4180.03[cm^4] = 258.37[MPa]$	
Sforzo normale massimo	
$\sigma = \sigma_N + \sigma_M = 34.68[MPa] + 258.37[MPa] = 293.05[MPa]$	
Sforzo normale perpendicolare	
$\sigma_\perp = \sigma/\sqrt{2} = 293.05[MPa]/\sqrt{2} = 207.22[MPa]$	
Sforzo tangente perpendicolare	
$\tau_\perp = \sigma/\sqrt{2} = 293.05[MPa]/\sqrt{2} = 207.22[MPa]$	



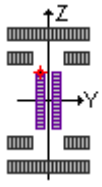
Coefficiente di resistenza saldature

$\beta_w = 0.90$

$\lvert\sigma_\perp\rvert \le 0.9*f_u/\gamma_{M2}$	$\lvert 207.22[MPa]\rvert < 352.80[MPa]$	**0.42**	✓

$\sqrt{[\sigma_\perp^2+3*(\tau_\perp^2)]} \le f_u/(\beta_w*\gamma_{M2})$	$414.44[MPa] < 435.56[MPa]$	**0.95**	✓

Punto in cui le sollecitazioni vengono controllate	$z_i = 124.30[mm]$
Modulo elastico delle saldature	
$W_w = 336.29[cm^3]$	
Sollecitazione da forza assiale	
$\sigma_N = N_0/A_w = 131.00[kN]/37.77[cm^2] = 34.68[MPa]$	
Sollecitazione dovuta alla flessione	
$\sigma_M = (M_0*z_i)/I_w = (72.00[kNm]*124.30[mm])/4180.03[cm^4] = 214.10[MPa]$	
Sforzo normale massimo	
$\sigma = \sigma_N + \sigma_M = 34.68[MPa] + 214.10[MPa] = 248.79[MPa]$	
Sforzo normale perpendicolare	
$\sigma_\perp = \sigma/\sqrt{2} = 248.79[MPa]/\sqrt{2} = 175.92[MPa]$	
Sforzo tangente perpendicolare	
$\tau_\perp = \sigma/\sqrt{2} = 248.79[MPa]/\sqrt{2} = 175.92[MPa]$	
Sforzo tangente parallelo	
$\tau_{II} = V_0/A_{ww} = 100.00[kN]/20.88[cm^2] = 47.89[MPa]$	

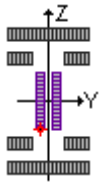


Coefficiente di resistenza saldature

$\beta_w = 0.90$

$\lvert\sigma_\perp\rvert \le 0.9*f_u/\gamma_{M2}$	$\lvert 175.92[MPa]\rvert < 352.80[MPa]$	**0.36**	✓

$\sqrt{[\sigma_\perp^2+3*(\tau_\perp^2+\tau_{II}^2)]} \le f_u/(\beta_w*\gamma_{M2})$	$361.48[MPa] < 435.56[MPa]$	**0.83**	✓

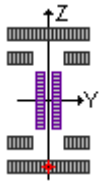
Punto in cui le sollecitazioni vengono controllate	$z_i = -124.30[mm]$
Modulo elastico delle saldature	
$W_w = 336.29[cm^3]$	
Sollecitazione da forza assiale	
$\sigma_N = N_0/A_w = 131.00[kN]/37.77[cm^2] = 34.68[MPa]$	
Sollecitazione dovuta alla flessione	
$\sigma_M = (M_0*z_i)/I_w = (72.00[kNm]*(-124.30[mm]))/4180.03[cm^4] = -214.10[MPa]$	
Sforzo normale massimo	
$\sigma = \sigma_N + \sigma_M = 34.68[MPa] + (-214.10[MPa]) = -179.42[MPa]$	
Sforzo normale perpendicolare	
$\sigma_\perp = \sigma/\sqrt{2} = -179.42[MPa]/\sqrt{2} = -126.87[MPa]$	
Sforzo tangente perpendicolare	
$\tau_\perp = \sigma/\sqrt{2} = -179.42[MPa]/\sqrt{2} = -126.87[MPa]$	
Sforzo tangente parallelo	
$\tau_{II} = V_0/A_{ww} = 100.00[kN]/20.88[cm^2] = 47.89[MPa]$	

Coefficiente di resistenza saldature

$\beta_w = 0.90$

$\lvert\sigma_\perp\rvert \le 0.9*f_u/\gamma_{M2}$	$\lvert -126.87[MPa]\rvert < 352.80[MPa]$	**0.26**	✓

$\sqrt{[\sigma_\perp^2+3*(\tau_\perp^2+\tau_{II}^2)]} \le f_u/(\beta_w*\gamma_{M2})$	$266.95[MPa] < 435.56[MPa]$	**0.61**	✓

Punto in cui le sollecitazioni vengono controllate	$z_i = -150.00[mm]$
Modulo elastico delle saldature	
$W_w = 278.67[cm^3]$	
Sollecitazione da forza assiale	
$\sigma_N = N_0/A_w = 131.00[kN]/37.77[cm^2] = 34.68[MPa]$	
Sollecitazione dovuta alla flessione	
$\sigma_M = (M_0*z_i)/I_w = (72.00[kNm]*(-150.00[mm]))/4180.03[cm^4] = -258.37[MPa]$	
Sforzo normale massimo	
$\sigma = \sigma_N + \sigma_M = 34.68[MPa] + (-258.37[MPa]) = -223.69[MPa]$	
Sforzo normale perpendicolare	
$\sigma_\perp = \sigma/\sqrt{2} = -223.69[MPa]/\sqrt{2} = -158.17[MPa]$	
Sforzo tangente perpendicolare	
$\tau_\perp = \sigma/\sqrt{2} = -223.69[MPa]/\sqrt{2} = -158.17[MPa]$	

Coefficiente di resistenza saldature

$\beta_w = 0.90$

$\lvert\sigma_\perp\rvert \le 0.9*f_u/\gamma_{M2}$	$\lvert -158.17[MPa]\rvert < 352.80[MPa]$	**0.32**	✓

$\sqrt{[\sigma_\perp^2+3*(\tau_\perp^2)]} \le f_u/(\beta_w*\gamma_{M2})$	316.35*[MPa]* < 435.56*[MPa]*	**0.73**	✓

Lato destro

Saldature dell'angolare che collegano trave e piastra frontale

Forze nelle saldature

Forza assiale

$N_0 = N_{b1,Ed}*\cos(\alpha_2) + V_{b1,Ed}*\sin(\alpha_2) = 131.00[kN]*\cos(0.00[Deg]) + 100.00[kN]*\sin(0.00[Deg]) = 131.00[kN]$

Forza di taglio

$V_0 = -N_{b1,Ed}*\sin(\alpha_2) + V_{b1,Ed}*\cos(\alpha_2) = -(131.00[kN])*\sin(0.00[Deg]) + 100.00[kN]*\cos(0.00[Deg]) = 100.00[kN]$

Momento flettente reale

$M_0 = M_{b1,Ed} = 72.00[kNm]$

Proprietŕ geometriche delle saldature

Trave

Area saldature orizzontali sulla flangia superiore

$A_{wfu} = b_{fb}*a_{fe}+(b_{fb}-t_{wb}-2*r_b)*a_{fi} = 150.00[mm]*0.00[mm]+(150.00[mm]-7.10[mm]-2*15.00[mm])*7.48[mm] = 8.44[cm^2]$

Area saldature orizzontali sulla flangia inferiore

$A_{wfl} = b_{fb}*a_{fe}+(b_{fb}-t_{wb}-2*r_b)*a_{fi} = 150.00[mm]*0.00[mm]+(150.00[mm]-7.10[mm]-2*15.00[mm])*7.48[mm] = 8.44[cm^2]$

Area delle saldature verticali

$A_{ww} = 2*[(h_b-2*(t_{fb}-r_b))/\cos(\alpha)]*a_w = 2*[(300.00[mm]-2*(10.70[mm]-15.00[mm]))/\cos(0.00[Deg])]*4.20[mm] = 20.88[cm^2]$

Area di tutte le saldature

$A_w = A_{wfu} + A_{wfl} + A_{ww} = 8.44[cm^2] + 8.44[cm^2] + 20.88[cm^2] = 37.77[cm^2]$

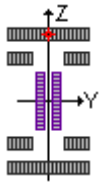
Distanza tra baricentro saldature e baricentro trave

$e_{0w} = 0.00[mm]$

Momento d'inerzia saldature

$I_w = 4180.03[cm^4]$

Punto in cui le sollecitazioni vengono controllate	$z_i = 150.00[mm]$
Modulo elastico delle saldature	
$W_w = 278.67[cm^3]$	
Sollecitazione da forza assiale	
$\sigma_N = N_0/A_w = 131.00[kN]/37.77[cm^2] = 34.68[MPa]$	
Sollecitazione dovuta alla flessione	
$\sigma_M = (M_0*z_i)/I_w = (72.00[kNm]*150.00[mm])/4180.03[cm^4] = 258.37[MPa]$	
Sforzo normale massimo	
$\sigma = \sigma_N + \sigma_M = 34.68[MPa] + 258.37[MPa] = 293.05[MPa]$	
Sforzo normale perpendicolare	
$\sigma_\perp = \sigma/\sqrt{2} = 293.05[MPa]/\sqrt{2} = 207.22[MPa]$	
Sforzo tangente perpendicolare	
$\tau_\perp = \sigma/\sqrt{2} = 293.05[MPa]/\sqrt{2} = 207.22[MPa]$	

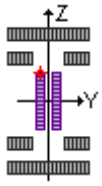


Coefficiente di resistenza saldature

$\beta_w = 0.90$

$\lvert\sigma_\perp\rvert \le 0.9*f_u/\gamma_{M2}$	$\lvert 207.22[MPa]\rvert < 352.80[MPa]$	**0.42**	✓

$\sqrt{[\sigma_\perp^2+3*(\tau_\perp^2)]} \le f_u/(\beta_w*\gamma_{M2})$	$414.44[MPa] < 435.56[MPa]$	**0.95**	✓

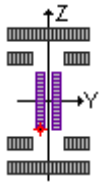
Punto in cui le sollecitazioni vengono controllate	$z_i = 124.30[mm]$
Modulo elastico delle saldature	
$W_w = 336.29[cm^3]$	
Sollecitazione da forza assiale	
$\sigma_N = N_0/A_w = 131.00[kN]/37.77[cm^2] = 34.68[MPa]$	
Sollecitazione dovuta alla flessione	
$\sigma_M = (M_0*z_i)/I_w = (72.00[kNm]*124.30[mm])/4180.03[cm^4] = 214.10[MPa]$	
Sforzo normale massimo	
$\sigma = \sigma_N + \sigma_M = 34.68[MPa] + 214.10[MPa] = 248.79[MPa]$	
Sforzo normale perpendicolare	
$\sigma_\perp = \sigma/\sqrt{2} = 248.79[MPa]/\sqrt{2} = 175.92[MPa]$	
Sforzo tangente perpendicolare	
$\tau_\perp = \sigma/\sqrt{2} = 248.79[MPa]/\sqrt{2} = 175.92[MPa]$	
Sforzo tangente parallelo	
$\tau_{II} = V_0/A_{ww} = 100.00[kN]/20.88[cm^2] = 47.89[MPa]$	

Coefficiente di resistenza saldature

$\beta_w = 0.90$

$\lvert\sigma_\perp\rvert \le 0.9*f_u/\gamma_{M2}$	$\lvert 175.92[MPa]\rvert < 352.80[MPa]$	**0.36**	✓

$\sqrt{[\sigma_\perp^2+3*(\tau_\perp^2+\tau_{II}^2)]} \le f_u/(\beta_w*\gamma_{M2})$	$361.48[MPa] < 435.56[MPa]$	**0.83**	✓

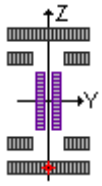
Punto in cui le sollecitazioni vengono controllate	$z_i = -124.30[mm]$
Modulo elastico delle saldature	
$W_w = 336.29[cm^3]$	
Sollecitazione da forza assiale	
$\sigma_N = N_0/A_w = 131.00[kN]/37.77[cm^2] = 34.68[MPa]$	
Sollecitazione dovuta alla flessione	
$\sigma_M = (M_0*z_i)/I_w = (72.00[kNm]*(-124.30[mm]))/4180.03[cm^4] = -214.10[MPa]$	
Sforzo normale massimo	
$\sigma = \sigma_N + \sigma_M = 34.68[MPa] + (-214.10[MPa]) = -179.42[MPa]$	
Sforzo normale perpendicolare	
$\sigma_\perp = \sigma/\sqrt{2} = -179.42[MPa]/\sqrt{2} = -126.87[MPa]$	
Sforzo tangente perpendicolare	
$\tau_\perp = \sigma/\sqrt{2} = -179.42[MPa]/\sqrt{2} = -126.87[MPa]$	
Sforzo tangente parallelo	
$\tau_{II} = V_0/A_{ww} = 100.00[kN]/20.88[cm^2] = 47.89[MPa]$	

Coefficiente di resistenza saldature

$\beta_w = 0.90$

$\lvert\sigma_\perp\rvert \le 0.9*f_u/\gamma_{M2}$	$\lvert$-126.87*[MPa]*$\rvert$ < 352.80*[MPa]*	**0.26**	✓

$\sqrt{[\sigma_\perp^2+3*(\tau_\perp^2+\tau_{II}^2)]} \le f_u/(\beta_w*\gamma_{M2})$	266.95*[MPa]* < 435.56*[MPa]*	**0.61**	✓

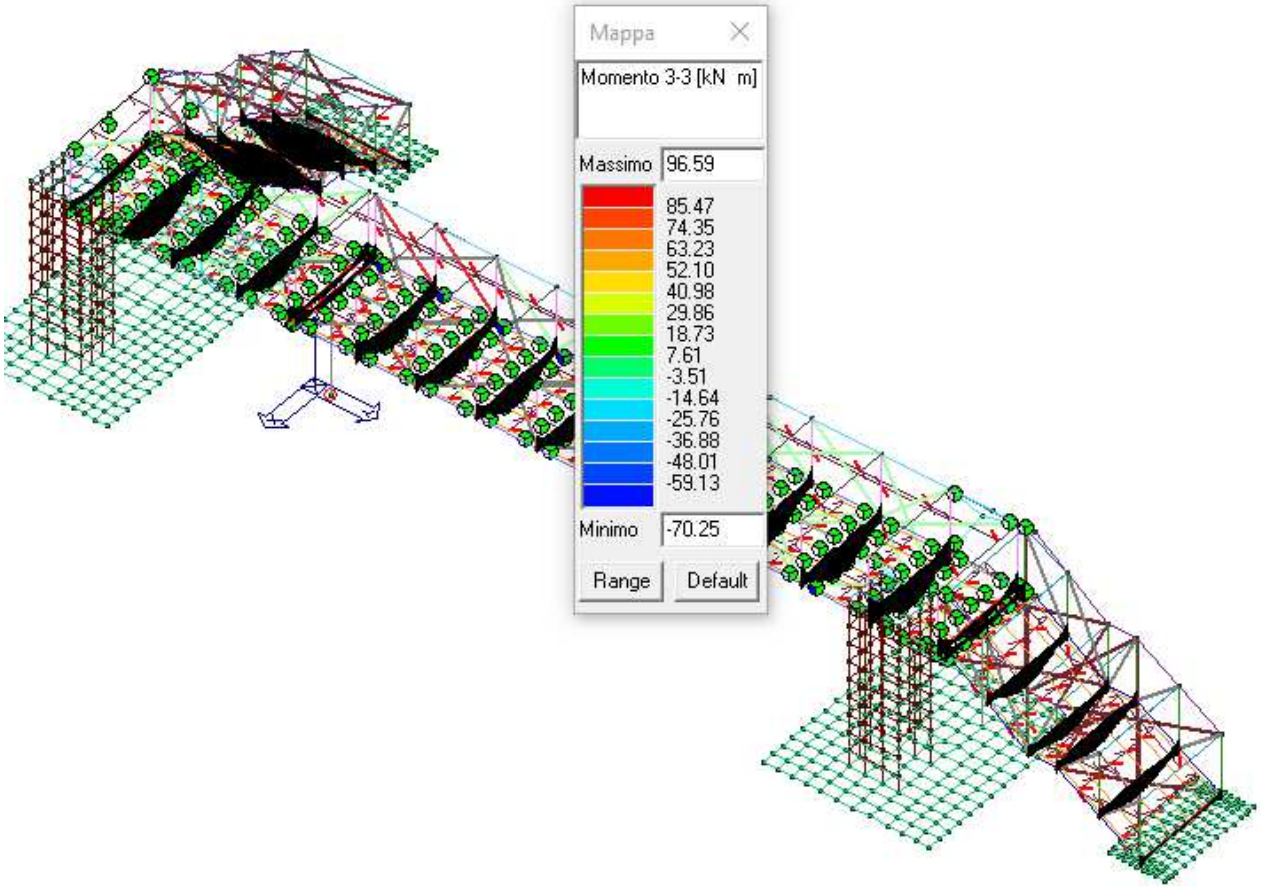
Punto in cui le sollecitazioni vengono controllate	z_i = -150.00*[mm]*
Modulo elastico delle saldature	
W_w = 278.67*[cm³]*	
Sollecitazione da forza assiale	
$\sigma_N = N_0/A_w$ = 131.00*[kN]*/37.77*[cm²]* = 34.68*[MPa]*	
Sollecitazione dovuta alla flessione	
$\sigma_M = (M_0*z_i)/I_w$ = (72.00*[kNm]**(-150.00*[mm]*))/4180.03*[cm⁴]* = -258.37*[MPa]*	
Sforzo normale massimo	
$\sigma = \sigma_N + \sigma_M$ = 34.68*[MPa]* + (-258.37*[MPa]*) = -223.69*[MPa]*	
Sforzo normale perpendicolare	
$\sigma_\perp = \sigma/\sqrt{2}$ = -223.69*[MPa]*/√2 = -158.17*[MPa]*	
Sforzo tangente perpendicolare	
$\tau_\perp = \sigma/\sqrt{2}$ = -223.69*[MPa]*/√2 = -158.17*[MPa]*	

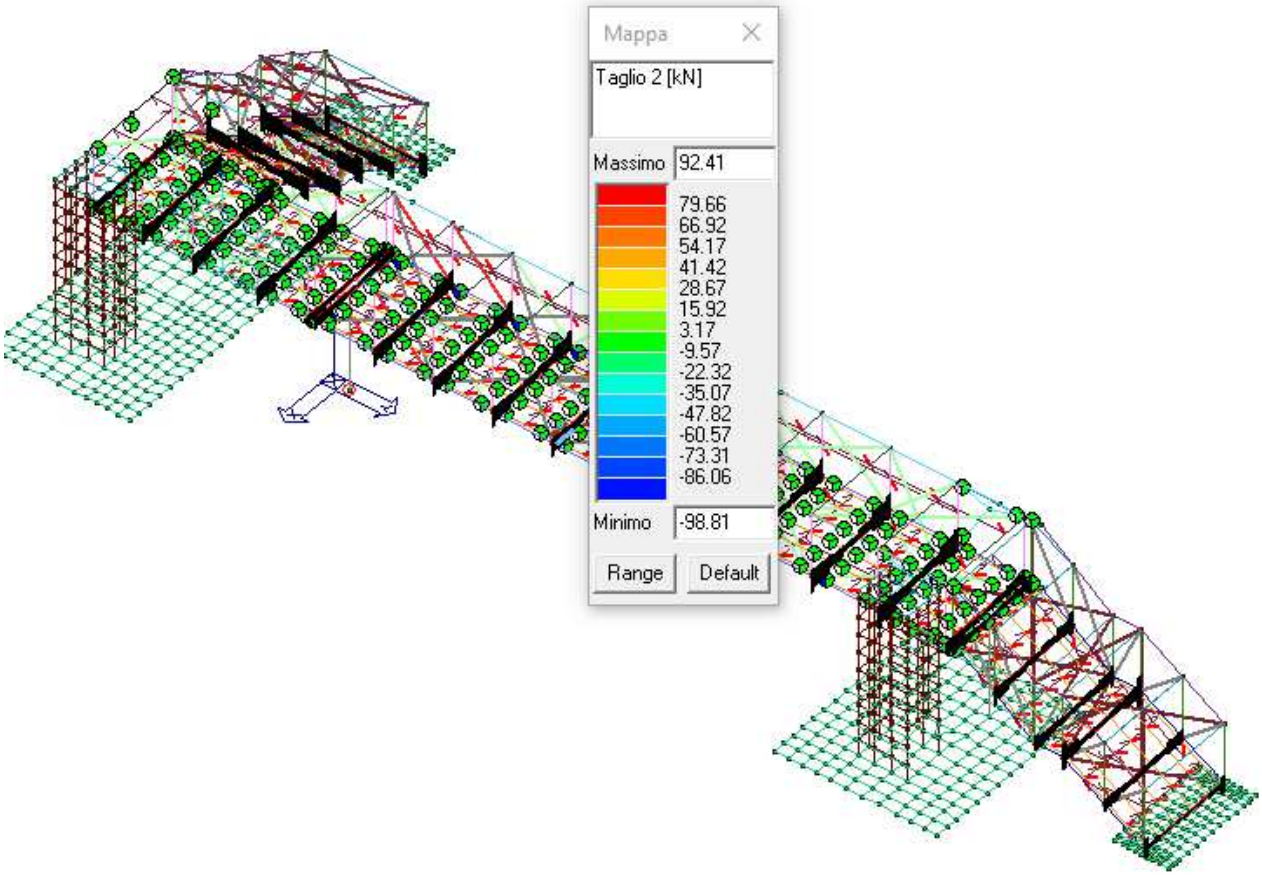
Coefficiente di resistenza saldature

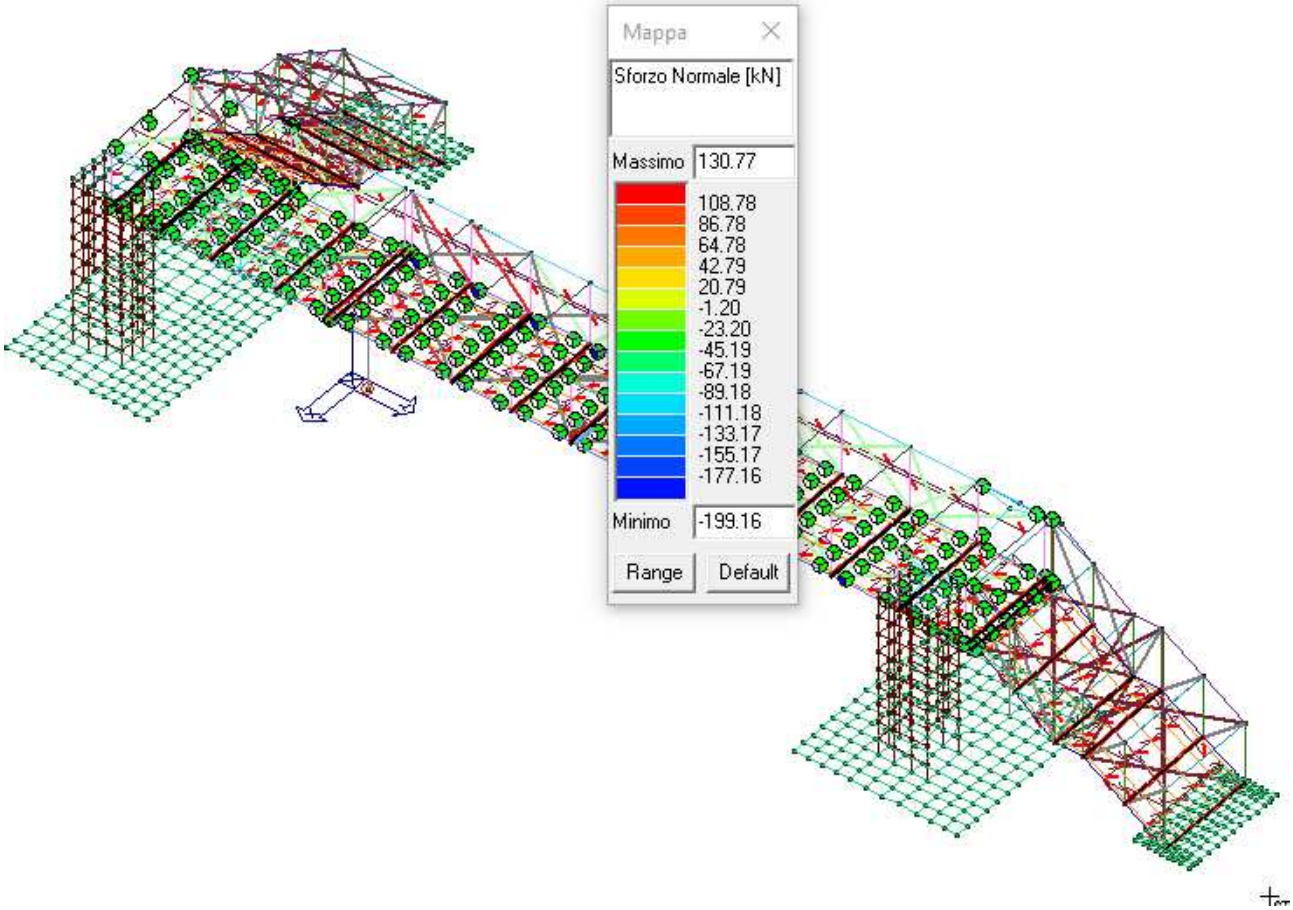
β_w = 0.90

$\lvert\sigma_\perp\rvert \le 0.9*f_u/\gamma_{M2}$	$\lvert$-158.17*[MPa]*$\rvert$ < 352.80*[MPa]*	**0.32**	✓

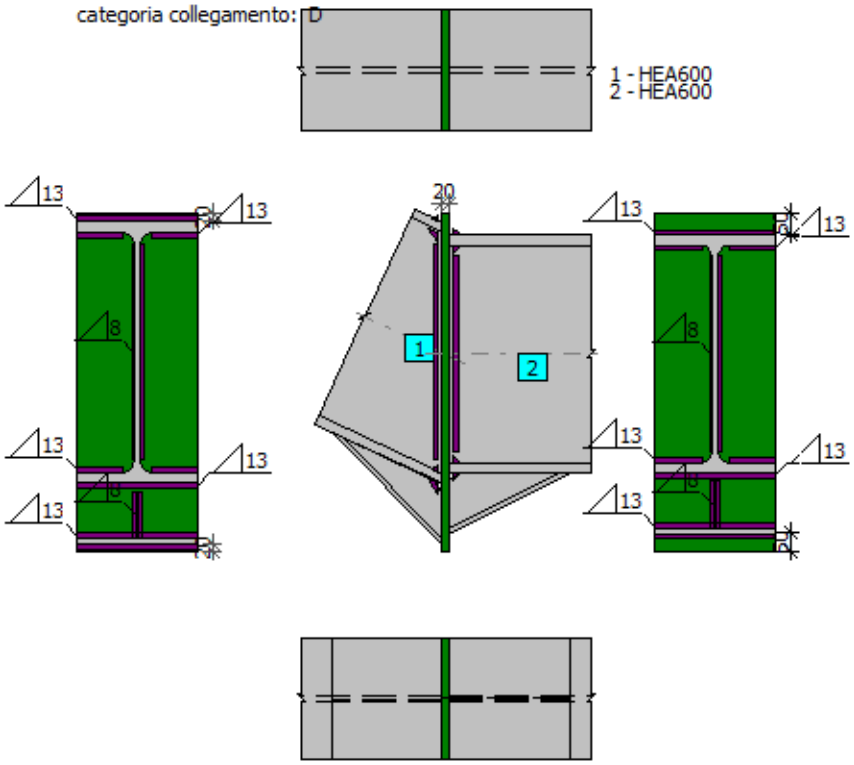
$\sqrt{[\sigma_\perp^2+3*(\tau_\perp^2)]} \le f_u/(\beta_w*\gamma_{M2})$	316.35*[MPa]* < 435.56*[MPa]*	**0.73**	✓


Mappa
Momento 3-3 [kN m]
Massimo 96.59
85.47
74.35
63.23
52.10
40.98
29.86
18.73
7.61
-3.51
-14.64
-25.76
-36.88
-48.01
-59.13
Minimo -70.25
Range
Default

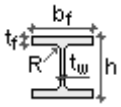

Mappa
Taglio 2 [kN]
Massimo 92.41
79.66
66.92
54.17
41.42
28.67
15.92
3.17
-9.57
-22.32
-35.07
-47.82
-60.57
-73.31
-86.06
Minimo -98.81
Range
Default


Mappa
Sforzo Normale [kN]
Massimo 130.77
108.78
86.78
64.78
42.79
20.79
-1.20
-23.20
-45.19
-67.19
-89.18
-111.18
-133.17
-155.17
-177.16
Minimo -199.16
Range
Default

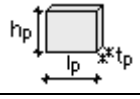
	Trave - trave (piastra frontale)	Rapporto: 0.60	
BeamsRigid v. 1.0.0.10	EN 1993-1-8:2006		



Dati

Trave sinistra IPE300					
	h_b	b_{fb}	t_{fb}	t_{wb}	R_b
	300.00*[mm]*	150.00*[mm]*	10.70*[mm]*	7.10*[mm]*	15.00*[mm]*
	A_b	J_{y0b}	J_{z0b}	y_{0b}	z_{0b}
	53.81*[cm²]*	8356.11*[cm⁴]*	603.78*[cm⁴]*	75.00*[mm]*	150.00*[mm]*
Materiale	Grado	f_y	f_u		
	S 355	355.00*[MPa]*	490.00*[MPa]*		

Trave destra IPE300					
	h_b	b_{fb}	t_{fb}	t_{wb}	R_b
	300.00*[mm]*	150.00*[mm]*	10.70*[mm]*	7.10*[mm]*	15.00*[mm]*
	A_b	J_{y0b}	J_{z0b}	y_{0b}	z_{0b}
	53.81*[cm²]*	8356.11*[cm⁴]*	603.78*[cm⁴]*	75.00*[mm]*	150.00*[mm]*
Materiale	Grado	f_y	f_u		
	S 355	355.00*[MPa]*	490.00*[MPa]*		

Piastra frontale			
	l_p	h_p	t_p
	180.00*[mm]*	320.00*[mm]*	20.00*[mm]*

Materiale	Grado	f_y	f_u
	S 355	355.00*[MPa]*	490.00*[MPa]*

Bulloni di collegamento piastre frontali

Grado bullone	Grado	8.8	
Limite di snervamento	f_{yb} =	640.00	*[MPa]*
Resistenza a tensione	f_{ub} =	800.00	*[MPa]*
Diametro bullone	d =	24.00	*[mm]*
Diametro apertura bullone	d_0 =	27.00	*[mm]*
Area sezione bullone	A =	4.52	*[cm²]*
Area effetiva sezione bullone	A_s =	3.53	*[cm²]*
Numero righe	w =	3.00	
Distanza dal bordo orizzontale	e_1 =	50.00	*[mm]*
Spaziatura orizzontale	w_1 =	80.00	*[mm]*

Numero di bulloni nelle righe m_1=2; m_2=2; m_3=2

Spaziatura verticale tra le righe p`$_1$=100.00*[mm]*; p`$_2$=100.00*[mm]*

Saldature

Lato sinistro

Spessore saldature dell'angolare che collegano flange trave e piastra frontale	a_{fe} =	7.00	*[mm]*
Spessore saldature dell'angolare che collegano flange trave e piastra frontale	a_{fi} =	7.48	*[mm]*
Spessore saldature dell'angolare che collegano anima trave e piastra frontale	a_w =	4.20	*[mm]*

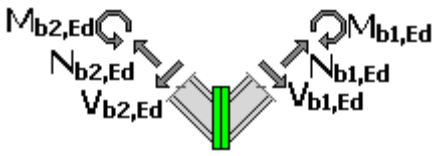
Lato destro

Spessore saldature dell'angolare che collegano flange trave e piastra frontale	a_{fe} =	7.00	*[mm]*
Spessore saldature dell'angolare che collegano flange trave e piastra frontale	a_{fi} =	7.48	*[mm]*
Spessore saldature dell'angolare che collegano anima trave e piastra frontale	a_w =	4.20	*[mm]*

Avvertenze

Forze

Forza assiale	$N_{b1,Ed}$ =	131.00	*[kN]*
Forza di taglio	$V_{b1,Ed}$ =	100.00	*[kN]*
Momento flettente	$M_{b1,Ed}$ =	72.00	*[kNm]*
Forza assiale	$N_{b2,Ed}$ =	131.00	*[kN]*
Forza di taglio	$V_{b2,Ed}$ =	100.00	*[kN]*
Momento flettente	$M_{b2,Ed}$ =	72.00	*[kNm]*



Risultati

Lato sinistro

Bulloni di collegamento piastre frontali

Resistenza a trazione di un bullone
$F_{t,Rd} = (k_2*f_{ub}*A_s)/\gamma_{M2} = (0.90*800.00[MPa]*3.53[cm^2])/1.25 = 203.33[kN]$

Area della sezione di taglio del bullone
$A = A_s = 3.53[cm^2]$
Resistenza al taglio del bullone in una superficie
$F_{v,Rd} = (\alpha_v*m*f_{ub}*A)/\gamma_{M2} = (0.60*1*800.00[MPa]*3.53[cm^2])/1.25 = 135.55[kN]$
Resistenza a punzonatura per taglio di un bullone
$B_{p,Rd} = (0.6*\pi*d_m*t_p*f_{up})/\gamma_{M2} = (0.6*\pi*37.99[mm]*20.00[mm]*490.00[MPa])/1.25 = 561.42[kN]$

Flangia e anima della trave in compressione

Modulo di resistenza di plastica
$W_{pl} = 602.10[cm^3]$
La resistenza di progetto per la piegatura della sezione
$M_{c,Rd} = (W_{pl}*f_{yb})/\gamma_{M0} = (602.10[cm^3]*355.00[MPa])/1.00 = 213.74[kNm]$

Distanza tra le flange dellatrave
$h_f = 289.30[mm]$
Resistenza di progetto della flangia colonna soggetta a compressione trasversale
$F_{c,fb,Rd} = M_{c,Rd}/h_f = 213.74[kNm]/289.30[mm] = 738.83[kN]$

Zona tesa

FILA BULLONI 1

Piastra terminale in flessione

Parametri geometrici

Distanza bullone da bordo esterno
$e_{ep} = 50.00[mm]$
Distanza bullone da anima trave
$m_{ep} = 0.5*(w-t_{wb}-0.8*\sqrt{2}*a_w) = 0.5*(80.00[mm]-7.10[mm]-0.8*\sqrt{2}*4.20[mm]) = 31.70[mm]$
Distanza $_{min}$
$e_{min} = 50.00[mm]$
parametro di calcolo n
$n = \min(e_{min}; 1.25*m_{ep}) = \min(50.00[mm]; 1.25*31.70[mm]) = 39.62[mm]$
parametro di calcolo
$m_2 = p_1+e_1-e_{p1}-t_{fb}-0.8*a_f*\sqrt{2} = 100.00[mm]+50.00[mm]-0.00[mm]-10.70[mm]-0.8*7.00[mm]*\sqrt{2} = 30.84[mm]$
$\lambda_1 = m_{ep}/(m_{ep}+e_{ep}) = 31.70[mm]/(31.70[mm] + 50.00[mm]) = 0.39$
$\lambda_2 = m_2/(m_{ep}+e_{ep}) = 30.84[mm]/(31.70[mm] + 50.00[mm]) = 0.38$

$\alpha = 6.76$

Lunghezza effettiva di un bullone a forma circolare

$l_{eff,cp} = 2*\pi*m_{ep} = 2*\pi*31.70[mm] = 199.17[mm]$

Lunghezza effettiva per un bullone a forma non circolare

$l_{eff,nc} = \alpha * m_{ep} = 6.76*31.70[mm] = 214.29[mm]$

Lunghezza effettiva per un bullone modo 1
$l_{eff,1} = \min(l_{eff,cp}; l_{eff,nc}) = 199.17[mm]$
Lunghezza effettiva per un bullone modo 2
$l_{eff,2} = l_{eff,nc} = 214.29[mm]$

Modello 1: Cedimento completo della piastra terminale

$M_{pl,1,Rd} = (0.25*l_{eff,1}*t_p^2*f_{yp})/\gamma_{M0} = (0.25*199.17[mm]*(20.00[mm])^2*355.00[MPa])/1.00 = 7.07[kNm]$

Metodo 1
$F_{T,1,Rd1} = (4*M_{pl,1,Rd})/m_{ep} = 4*7.07[kNm]/31.70[mm] = 892.21[kN]$

Metodo 2 (metodo alternativo)
Parametri per la zona d'appoggio
$e_w = 0.25*d_w = 0.25*33.30[mm] = 11.00[mm]$
$F_{T,1,Rd2} = [(8*n-2*e_w)*M_{pl,1,Rd}]/[2*m_{ep}*n-e_w*(m_{ep}+n)] = [(8*39.62[mm]-2*11.00[mm])*7.07[kNm]]/[2*31.70[mm]*39.62[mm]-11.00[mm]*(31.70[mm]+39.62[mm])] = 1207.38[kN]$
$F_{T,1,Rd} = \min(F_{T,1,Rd1}; F_{T,1,Rd2}) = (892.21[kN]; 1207.38[kN]) = 892.21[kN]$

Modello 2: Rottura bullone con cedimento della piastra terminale

$M_{pl,2,Rd} = (0.25*l_{eff,2}*t_p^2*f_{yp})/\gamma_{M0} = (0.25*214.29[mm]*(20.00[mm])^2*355.00[MPa])/1.00 = 7.61[kNm]$

$F_{T,2,Rd} = (2*M_{pl,2,Rd}+n*\Sigma F_{t,Rd})/(m_{ep}+n) = (2*7.61[kNm]+39.62[mm]*2*203.33[kN])/(31.70[mm]+39.62[mm]) = 439.25[kN]$

Modello 3: Rottura bullone

$F_{T,3,Rd} = \Sigma F_{t,Rd} = 2*203.33[kN] = 406.66[kN]$

Componente di resistenza
$F_{t,ep,Rd(1)} = \min(F_{T,1,Rd}; F_{T,2,Rd}; F_{T,3,Rd}) = (892.21[kN]; 439.25[kN]; 406.66[kN]) = 406.66[kN]$

Anima trave in flessione

Larghezza effettiva dell'anima della trave in tensione
$b_{eff,t,wb} = l_{eff1(1)} = 199.17[mm]$
Componente di resistenza
$F_{t,wb,Rd(1)} = (b_{eff,t,wb}*t_{wb}*f_{yb})/\gamma_{M0} = (199.17[mm]*7.10[mm]*355.00[MPa])/1.00 = 502.00[kN]$

Resistenza riga di bulloni 1
$F_{t,Rd(1)N} = \min[F_{t,ep,Rd(1)}; F_{t,wb,Rd(1)}] = \min[406.66[kN]; 502.00[kN]] = 406.66[kN]$

$F_{t,Rd(1)M} = \min \begin{bmatrix} F_{t,ep,Rd(1)}; F_{t,wb,Rd(1)} \\ F_{cfb,Rd} \end{bmatrix} = \min \begin{bmatrix} 406.66[kN]; 502.00[kN] \\ 738.83[kN] \end{bmatrix} = 406.66[kN]$

FILA BULLONI 2

Piastra terminale in flessione

Parametri geometrici

Distanza bullone da bordo esterno
$e_{ep} = 50.00[mm]$
Distanza bullone da anima trave
$m_{ep} = 0.5*(w-t_{wb}-0.8*\sqrt{2}*a_w) = 0.5*(80.00[mm]-7.10[mm]-0.8*\sqrt{2}*4.20[mm]) = 31.70[mm]$
Distanza $_{min}$
$e_{min} = 50.00[mm]$
parametro di calcolo n
$n = \min(e_{min}; 1.25*m_{ep}) = \min(50.00[mm]; 1.25*31.70[mm]) = 39.62[mm]$

Lunghezza effettiva di un bullone a forma circolare

$l_{eff,cp} = 2*\pi*m_{ep} = 2*\pi*31.70[mm] = 199.17[mm]$

Lunghezza effettiva per un bullone a forma non circolare

$l_{eff,nc} = 4*m+1.25*e = 4*31.70[mm]+1.25*50.00[mm] = 189.29[mm]$

Lunghezza effettiva per un bullone modo 1
$l_{eff,1} = \min(l_{eff,cp}; l_{eff,nc}) = 189.29[mm]$
Lunghezza effettiva per un bullone modo 2
$l_{eff,2} = l_{eff,nc} = 189.29[mm]$

Modello 1: Cedimento completo della piastra terminale

$M_{pl,1,Rd} = (0.25*l_{eff,1}*t_p^2*f_{yp})/\gamma_{M0} = (0.25*189.29[mm]*(20.00[mm])^2*355.00[MPa])/1.00 = 6.72[kNm]$

Metodo 1
$F_{T,1,Rd1} = (4*M_{pl,1,Rd})/m_{ep} = 4*6.72[kNm]/31.70[mm] = 847.98[kN]$

Metodo 2 (metodo alternativo)
Parametri per la zona d'appoggio
$e_w = 0.25*d_w = 0.25*33.30[mm] = 11.00[mm]$
$F_{T,1,Rd2} = [(8*n-2*e_w)*M_{pl,1,Rd}]/[2*m_{ep}*n-e_w*(m_{ep}+n)] = [(8*39.62[mm]-2*11.00[mm])*6.72[kNm]]/[2*31.70[mm]*39.62[mm]-11.00[mm]*(31.70[mm]+39.62[mm])] = 1147.53[kN]$
$F_{T,1,Rd} = \min(F_{T,1,Rd1}; F_{T,1,Rd2}) = (847.98[kN]; 1147.53[kN]) = 847.98[kN]$
Modello 2: Rottura bullone con cedimento della piastra terminale

$M_{pl,2,Rd} = (0.25*l_{eff,2}*t_p^2*f_{yp})/\gamma_{M0} = (0.25*189.29[mm]*(20.00[mm])^2*355.00[MPa])/1.00 = 6.72[kNm]$

$F_{T,2,Rd} = (2*M_{pl,2,Rd}+n*\Sigma F_{t,Rd})/(m_{ep}+n) = (2*6.72[kNm]+39.62[mm]*2*203.33[kN])/(31.70[mm]+39.62[mm]) = 414.36[kN]$

Modello 3: Rottura bullone

$F_{T,3,Rd} = \Sigma F_{t,Rd} = 2*203.33[kN] = 406.66[kN]$

Componente di resistenza
$F_{t,ep,Rd(1)} = \min(F_{T,1,Rd}; F_{T,2,Rd}; F_{T,3,Rd}) = (847.98[kN]; 414.36[kN]; 406.66[kN]) = 406.66[kN]$

Resistenza riga di bulloni 2

$$F_{t,Rd(2)N} = \min\left[\frac{F_{t,ep,Rd(2)}}{}\right] = \min\left[\frac{406.66[kN]}{}\right] = 406.66[kN]$$

$$F_{t,Rd(2)M} = \min\begin{bmatrix} F_{t,ep,Rd(2)} \\ \\ F_{cfb,Rd}-F_{t,Rd(1)M} \end{bmatrix} = \min\begin{bmatrix} 406.66[kN] \\ \\ 738.83[kN]-406.66[kN] \end{bmatrix} = 332.18[kN]$$

FILA BULLONI 3

Piastra terminale in flessione

Parametri geometrici

Distanza bullone da bordo esterno
$e_{ep} = 50.00[mm]$
Distanza bullone da anima trave
$m_{ep} = 0.5*(w-t_{wb}-0.8*\sqrt{2}*a_w) = 0.5*(80.00[mm]-7.10[mm]-0.8*\sqrt{2}*4.20[mm]) = 31.70[mm]$
Distanza $_{min}$
$e_{min} = 50.00[mm]$
parametro di calcolo n
$n = \min(e_{min}; 1.25*m_{ep}) = \min(50.00[mm]; 1.25*31.70[mm]) = 39.62[mm]$

Lunghezza effettiva di un bullone a forma circolare

$l_{eff,cp} = 2*\pi*m_{ep} = 2*\pi*31.70[mm] = 199.17[mm]$

Lunghezza effettiva per un bullone a forma non circolare

$l_{eff,nc} = 4*m+1.25*e = 4*31.70[mm]+1.25*50.00[mm] = 189.29[mm]$

Lunghezza effettiva per un bullone modo 1
$l_{eff,1} = \min(l_{eff,cp}; l_{eff,nc}) = 189.29[mm]$
Lunghezza effettiva per un bullone modo 2
$l_{eff,2} = l_{eff,nc} = 189.29[mm]$

Modello 1: Cedimento completo della piastra terminale

$M_{pl,1,Rd} = (0.25*l_{eff,1}*t_p^2*f_{yp})/\gamma_{M0} = (0.25*189.29[mm]*(20.00[mm])^2*355.00[MPa])/1.00 = 6.72[kNm]$

Metodo 1

$F_{T,1,Rd1} = (4*M_{pl,1,Rd})/m_{ep} = 4*6.72[kNm]/31.70[mm] = 847.98[kN]$

Metodo 2 (metodo alternativo)

Parametri per la zona d'appoggio

$e_w = 0.25*d_w = 0.25*33.30[mm] = 11.00[mm]$

$F_{T,1,Rd2} = [(8*n-2*e_w)*M_{pl,1,Rd}]/[2*m_{ep}*n-e_w*(m_{ep}+n)] = [(8*39.62[mm]-2*11.00[mm])*6.72[kNm]]/[2*31.70[mm]*39.62[mm]-11.00[mm]*(31.70[mm]+39.62[mm])] = 1147.53[kN]$

$F_{T,1,Rd} = \min(F_{T,1,Rd1}; F_{T,1,Rd2}) = (847.98[kN]; 1147.53[kN]) = 847.98[kN]$

Modello 2: Rottura bullone con cedimento della piastra terminale

$M_{pl,2,Rd} = (0.25*l_{eff,2}*t_p^2*f_{yp})/\gamma_{M0} = (0.25*189.29[mm]*(20.00[mm])^2*355.00[MPa])/1.00 = 6.72[kNm]$

$F_{T,2,Rd} = (2*M_{pl,2,Rd}+n*\Sigma F_{t,Rd})/(m_{ep}+n) = (2*6.72[kNm]+39.62[mm]*2*203.33[kN])/(31.70[mm]+39.62[mm]) = 414.36[kN]$

Modello 3: Rottura bullone

$F_{T,3,Rd} = \Sigma F_{t,Rd} = 2*203.33[kN] = 406.66[kN]$

Componente di resistenza

$F_{t,ep,Rd(1)} = \min(F_{T,1,Rd}; F_{T,2,Rd}; F_{T,3,Rd}) = (847.98[kN]; 414.36[kN]; 406.66[kN]) = 406.66[kN]$

Anima trave in flessione

Larghezza effettiva dell'anima della trave in tensione

$b_{eff,t,wb} = l_{eff1(3)} = 189.29[mm]$

Componente di resistenza

$F_{t,wb,Rd(3)}=(b_{eff,t,wb}*t_{wb}*f_{yb})/\gamma_{M0} = (189.29[mm]*7.10[mm]*355.00[MPa])/1.00 = 477.11[kN]$

Resistenza riga di bulloni 3

$F_{t,Rd(3)N} = \min[F_{t,ep,Rd(3)}; F_{t,wb,Rd(3)}] = \min[406.66[kN]; 477.11[kN]] = 406.66[kN]$

Resistenza a flessione

Momento flettente reale

$M_0 = M_{b2,Ed} = 72.00[kNm]$

Momento resistente di progetto del giunto, senza considerare le forze assiali

$M_{j,Rd} = F_{t,Rd(1)M}* h_1 + F_{t,Rd(2)M}* h_2 = 406.66[kN]*244.65[mm] + 332.18[kN]*144.65[mm] = 147.54[kNm]$

$\|M_0\|/M_{j,Rd} \le 1$	$0.49 < 1.00$	**0.49**	✓

Resistenza a tensione

Forza assiale

$N_0 = N_{b2,Ed}*\cos(\alpha_1) + V_{b2,Ed}*\sin(\alpha_1) = 131.00[kN]*\cos(0.00[Deg]) + 100.00[kN]*\sin(0.00[Deg]) = 131.00[kN]$

Resistenza di progetto assiale del giunto, senaza considerare il momento applicato

$N_{j,Rd} = F_{t,Rd(1)N} + F_{t,Rd(2)N} + F_{t,Rd(3)N} = 406.66[kN] + 406.66[kN] + 406.66[kN] = 1219.97[kN]$

$\lvert N_0\rvert/N_{j,Rd} \le 1$	0.11 < 1.00	**0.11**	✓

Resistenza a trazione e flessione

$N_0/N_{j,Rd} + \lvert M_0\rvert/M_{j,Rd} \le 1$	0.60 < 1.00	**0.60**	✓

Resistenza a taglio

Forza di taglio

$V_0 = -N_{b1,Ed}*\sin(\alpha) + V_{b1,Ed}*\cos(\alpha) = -(131.00[kN])*\sin(0.00[Deg]) + 100.00[kN]*\cos(0.00[Deg]) = 100.00[kN]$

FILA BULLONI 1

Bullone di supporto sulla piastra

Coefficiente determinato dalla spaziatura bulloni

$\alpha_{ep} = \min(1.0; f_{ub}/f_{up}; e_1/d_0) = \min(1.0; 800.00[MPa]/490.00[MPa]; 50.00[mm]/27.00[mm]) = 1.00$

Coefficiente determinato dalla spaziatura bulloni

$k_1 = \min(2.5; 2.8*e_2/d_0) = \min(2.5; 2.8*50.00[mm]/27.00[mm]) = 2.50$

Resistenza del bullone di supporto

$F_{b,Rd} = k_1*\alpha_b*f_{up}*d*t_p = 2.50*1.00*490.00[MPa]*24.00[mm]*20.00[mm] = 470.40[kN]$

Resistenza riga di bulloni 1

$V_{Rd(1)} = m_1*\min(F_{b,Rd}; F_{v,Rd}) = 2*\min(470.40[kN]; 135.55[kN]) = 271.10[kN]$

FILA BULLONI 2

Bullone di supporto sulla piastra

Coefficiente determinato dalla spaziatura bulloni

$\alpha_{ep} = \min(1.0; f_{ub}/f_{up}; p_1/(3*d_0)-0.25) = \min(1.0; 800.00[MPa]/490.00[MPa]; 100.00[mm]/(3*27.00[mm])-0.25) = 0.98$

Coefficiente determinato dalla spaziatura bulloni

$k_1 = \min(2.5; 1.4*p_2/d_0-1.7) = \min(2.5; 1.4*80.00[mm]/27.00[mm]-1.7) = 2.50$

Resistenza del bullone di supporto

$F_{b,Rd} = k_1*\alpha_b*f_{up}*d*t_p = 2.50*0.98*490.00[MPa]*24.00[mm]*20.00[mm] = 463.14[kN]$

Resistenza riga di bulloni 2

$V_{Rd(2)} = m_2*\min(F_{b,Rd}; F_{v,Rd}) = 2*\min(463.14[kN]; 135.55[kN]) = 271.10[kN]$

FILA BULLONI 3

Bullone di supporto sulla piastra

Coefficiente determinato dalla spaziatura bulloni
$\alpha_{ep} = \min(1.0; f_{ub}/f_{up}; e_1/d_0) = \min(1.0; 800.00[MPa]/490.00[MPa]; 70.00[mm]/27.00[mm]) = 1.00$
Coefficiente determinato dalla spaziatura bulloni
$k_1 = \min(2.5; 2.8*e_2/d_0) = \min(2.5; 2.8*50.00[mm]/27.00[mm]) = 2.50$
Resistenza del bullone di supporto
$F_{b,Rd} = k_1*\alpha_b*f_{up}*d*t_p = 2.50*1.00*490.00[MPa]*24.00[mm]*20.00[mm] = 470.40[kN]$

Resistenza riga di bulloni 3
$V_{Rd(3)} = m_3*\min(F_{b,Rd}; F_{v,Rd}) = 2*\min(470.40[kN]; 135.55[kN]) = 271.10[kN]$

$V_{j,Rd} = V_{Rd(1)} + V_{Rd(2)} + V_{Rd(3)} = 271.10[kN] + 271.10[kN] + 271.10[kN] = 813.31[kN]$

$\lvert V_0\rvert/V_{j,Rd} \le 1$	$\lvert 100.00[kN]\rvert < 813.31[kN]$	**0.12**	✓

Saldature dell'angolare che collegano trave e piastra frontale

Forze nelle saldature
Forza assiale
$N_0 = N_{b2,Ed}*\cos(\alpha_1) + V_{b2,Ed}*\sin(\alpha_1) = 131.00[kN]*\cos(0.00[Deg]) + 100.00[kN]*\sin(0.00[Deg]) = 131.00[kN]$
Forza di taglio
$V_0 = -N_{b2,Ed}*\sin(\alpha_1) + V_{b2,Ed}*\cos(\alpha_1) = -(131.00[kN])*\sin(0.00[Deg]) + 100.00[kN]*\cos(0.00[Deg]) = 100.00[kN]$
Momento flettente reale
$M_0 = M_{b2,Ed} = 72.00[kNm]$

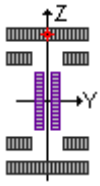
Proprietŕ geometriche delle saldature

Trave

Area saldature orizzontali sulla flangia superiore
$A_{wfu} = b_{fb}*a_{fe}+(b_{fb}-t_{wb}-2*r_b)*a_{fi} = 150.00[mm]*7.00[mm]+(150.00[mm]-7.10[mm]-2*15.00[mm])*7.48[mm] = 18.94[cm^2]$
Area saldature orizzontali sulla flangia inferiore
$A_{wfl} = b_{fb}*a_{fe}+(b_{fb}-t_{wb}-2*r_b)*a_{fi} = 150.00[mm]*7.00[mm]+(150.00[mm]-7.10[mm]-2*15.00[mm])*7.48[mm] = 18.94[cm^2]$
Area delle saldature verticali
$A_{ww} = 2*[(h_b-2*(t_{fb}-r_b))/\cos(\alpha)]*a_w = 2*[(300.00[mm]-2*(10.70[mm]-15.00[mm]))/\cos(0.00[Deg])]*4.20[mm] = 20.88[cm^2]$

Area di tutte le saldature
$A_w = A_{wfu} + A_{wfl} + A_{ww} = 18.94[cm^2] + 18.94[cm^2] + 20.88[cm^2] = 58.77[cm^2]$
Distanza tra baricentro saldature e baricentro trave
$e_{0w} = 0.00[mm]$
Momento d'inerzia saldature
$I_w = 9128.96[cm^4]$

Punto in cui le sollecitazioni vengono controllate	z_i = 153.50*[mm]*
Modulo elastico delle saldature	
W_w = 594.72*[cm³]*	
Sollecitazione da forza assiale	
$\sigma_N = N_0/A_w$ = 131.00*[kN]*/58.77*[cm²]* = 22.29*[MPa]*	
Sollecitazione dovuta alla flessione	
$\sigma_M = (M_0 * z_i)/I_w$ = (72.00*[kNm]**153.50*[mm]*)/9128.96*[cm⁴]* = 121.07*[MPa]*	
Sforzo normale massimo	
$\sigma = \sigma_N + \sigma_M$ = 22.29*[MPa]* + 121.07*[MPa]* = 143.35*[MPa]*	
Sforzo normale perpendicolare	
$\sigma_\perp = \sigma/\sqrt{2}$ = 143.35*[MPa]*/√2 = 101.37*[MPa]*	
Sforzo tangente perpendicolare	
$\tau_\perp = \sigma/\sqrt{2}$ = 143.35*[MPa]*/√2 = 101.37*[MPa]*	

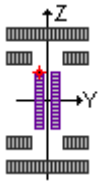


Coefficiente di resistenza saldature

β_w = 0.90

$\lvert\sigma_\perp\rvert \le 0.9 * f_u/\gamma_{M2}$	|101.37*[MPa]*| < 352.80*[MPa]*	**0.21**	✓
$\sqrt{[\sigma_\perp^2+3*(\tau_\perp^2)]} \le f_u/(\beta_w*\gamma_{M2})$	202.73*[MPa]* < 435.56*[MPa]*	**0.47**	✓

Punto in cui le sollecitazioni vengono controllate	z_i = 124.30*[mm]*
Modulo elastico delle saldature	
W_w = 734.43*[cm³]*	
Sollecitazione da forza assiale	
$\sigma_N = N_0/A_w$ = 131.00*[kN]*/58.77*[cm²]* = 22.29*[MPa]*	
Sollecitazione dovuta alla flessione	
$\sigma_M = (M_0 * z_i)/I_w$ = (72.00*[kNm]**124.30*[mm]*)/9128.96*[cm⁴]* = 98.04*[MPa]*	
Sforzo normale massimo	
$\sigma = \sigma_N + \sigma_M$ = 22.29*[MPa]* + 98.04*[MPa]* = 120.32*[MPa]*	
Sforzo normale perpendicolare	
$\sigma_\perp = \sigma/\sqrt{2}$ = 120.32*[MPa]*/√2 = 85.08*[MPa]*	
Sforzo tangente perpendicolare	
$\tau_\perp = \sigma/\sqrt{2}$ = 120.32*[MPa]*/√2 = 85.08*[MPa]*	
Sforzo tangente parallelo	
$\tau_{II} = V_0/A_{ww}$ = 100.00*[kN]*/20.88*[cm²]* = 47.89*[MPa]*	

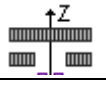


Coefficiente di resistenza saldature

β_w = 0.90

$\lvert\sigma_\perp\rvert \le 0.9 * f_u/\gamma_{M2}$	|85.08*[MPa]*| < 352.80*[MPa]*	**0.17**	✓
$\sqrt{[\sigma_\perp^2+3*(\tau_\perp^2+\tau_{II}^2)]} \le f_u/(\beta_w*\gamma_{M2})$	189.30*[MPa]* < 435.56*[MPa]*	**0.43**	✓

Punto in cui le sollecitazioni vengono controllate	z_i = -124.30*[mm]*
Modulo elastico delle saldature	
W_w = 734.43*[cm³]*	



Sollecitazione da forza assiale
$\sigma_N = N_0/A_w = 131.00[kN]/58.77[cm^2] = 22.29[MPa]$
Sollecitazione dovuta alla flessione
$\sigma_M = (M_0*z_i)/I_w = (72.00[kNm]*(-124.30[mm]))/9128.96[cm^4] = -98.04[MPa]$
Sforzo normale massimo
$\sigma = \sigma_N + \sigma_M = 22.29[MPa] + (-98.04[MPa]) = -75.75[MPa]$
Sforzo normale perpendicolare
$\sigma_\perp = \sigma/\sqrt{2} = -75.75[MPa]/\sqrt{2} = -53.56[MPa]$
Sforzo tangente perpendicolare
$\tau_\perp = \sigma/\sqrt{2} = -75.75[MPa]/\sqrt{2} = -53.56[MPa]$
Sforzo tangente parallelo
$\tau_{II} = V_0/A_{ww} = 100.00[kN]/20.88[cm^2] = 47.89[MPa]$

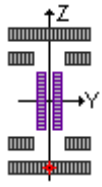
Coefficiente di resistenza saldature

$\beta_w = 0.90$

$\lvert\sigma_\perp\rvert \le 0.9*f_u/\gamma_{M2}$	$\lvert -53.56[MPa]\rvert < 352.80[MPa]$	**0.11**	✓

$\sqrt{[\sigma_\perp^2+3*(\tau_\perp^2+\tau_{II}^2)]} \le f_u/(\beta_w*\gamma_{M2})$	$135.48[MPa] < 435.56[MPa]$	**0.31**	✓

Punto in cui le sollecitazioni vengono controllate	$z_i = -153.50[mm]$
Modulo elastico delle saldature	
$W_w = 594.72[cm^3]$	
Sollecitazione da forza assiale	
$\sigma_N = N_0/A_w = 131.00[kN]/58.77[cm^2] = 22.29[MPa]$	
Sollecitazione dovuta alla flessione	
$\sigma_M = (M_0*z_i)/I_w = (72.00[kNm]*(-153.50[mm]))/9128.96[cm^4] = -121.07[MPa]$	
Sforzo normale massimo	
$\sigma = \sigma_N + \sigma_M = 22.29[MPa] + (-121.07[MPa]) = -98.78[MPa]$	
Sforzo normale perpendicolare	
$\sigma_\perp = \sigma/\sqrt{2} = -98.78[MPa]/\sqrt{2} = -69.85[MPa]$	
Sforzo tangente perpendicolare	
$\tau_\perp = \sigma/\sqrt{2} = -98.78[MPa]/\sqrt{2} = -69.85[MPa]$	



Coefficiente di resistenza saldature

$\beta_w = 0.90$

$\lvert\sigma_\perp\rvert \le 0.9*f_u/\gamma_{M2}$	$\lvert -69.85[MPa]\rvert < 352.80[MPa]$	**0.14**	✓

$\sqrt{[\sigma_\perp^2+3*(\tau_\perp^2)]} \le f_u/(\beta_w*\gamma_{M2})$	$139.69[MPa] < 435.56[MPa]$	**0.32**	✓

Rigidezza di rotazione del giunto

Lunghezza di allungamento del bullone

$L_b = t_p+0.5*(m+k)+t_{wa} = 20.00[mm]+0.5*(22.30[mm]+15.00[mm])+4.00[mm]=66.65[mm]$

$k_{10} = (3.2*A_s)/L_b = (3.2*3.53[cm^2])/66.65[mm] = 8.47[mm]$

Fila bulloni 1

Piastra terminale in flessione
$k_{4,1} = (0.9*l_{eff}*t_p^3)/m_x^3 = (0.9*199.17[mm]*20.00[mm]^3)/0.00[mm]^3 = 0.00[mm]$
$k_{eff,1} = 1/(1/k_4+1/k_5+1/k_{10}) = 1/(1/0.00[mm] + 1/45.02[mm] +1/8.47[mm]) = 7.48[mm]$
Fila bulloni 2

Piastra terminale in flessione
$k_{4,2} = (0.9*l_{eff}*t_p^3)/m_x^3 = (0.9*189.29[mm]*20.00[mm]^3)/0.00[mm]^3 = 0.00[mm]$
$k_{eff,2} = 1/(1/k_4+1/k_5+1/k_{10}) = 1/(1/0.00[mm] + 1/42.79[mm] +1/8.47[mm]) = 7.41[mm]$
Fila bulloni 3

Piastra terminale in flessione
$k_{4,3} = (0.9*l_{eff}*t_p^3)/m_x^3 = (0.9*189.29[mm]*20.00[mm]^3)/0.00[mm]^3 = 0.00[mm]$
$k_{eff,3} = 1/(1/k_4+1/k_5+1/k_{10}) = 1/(1/0.00[mm] + 1/42.79[mm] +1/8.47[mm]) = 7.41[mm]$

Braccio di leva delle forze interne
$z_{eq} = [k_{eff,1}*h_1^2+k_{eff,2}*h_2^2+k_{eff,3}*h_3^2]/[k_{eff,1}*h_1+k_{eff,2}*h_2+k_{eff,3}*h_3] = [7.48[mm]*244.65[mm]^2+7.41[mm]*144.65[mm]^2+7.41[mm]*44.65[mm]^2]/[7.48[mm]*244.65[mm]+7.41[mm]*144.65[mm]+7.41[mm]*44.65[mm]] = 190.99[mm]$
Coefficiente di rigidezza equivalente
$k_{eq} = [k_{eff,1}*h_1+k_{eff,2}*h_2+k_{eff,3}*h_3]/z_{eq} = [7.48[mm]*244.65[mm]+7.41[mm]*144.65[mm]+7.41[mm]*44.65[mm]]/190.99[mm] = 16.15[mm]$
Rigidezza di rotazione iniziale del giunto
$S_{j,ini} = E*z_{eq}^2/(1/k_{eq}) = (210000.00[MPa]*(190.99[mm])^2)/(1/16.15[mm]) = 123683.04[kNm]$
Rigidezza di rotazione del giunto chiodato
$S_{j,pin} = (0.5*E*I_{yb})/L_b = (0.5*210000.00[MPa]*8356.11[cm^4])/4000.00[mm] = 2193.48[kNm]$
Rigidezza di rotazione del giunto rigido
$S_{j,rig} = (k_b*E*I_{yb})/L_b = (25.00*210000.00[MPa]*8356.11[cm^4])/4000.00[mm] = 109673.93[kNm]$

Classificazione dei giunti
Rigido

Lato destro

Bulloni di collegamento piastre frontali

Resistenza a trazione di un bullone
$F_{t,Rd} = (k_2*f_{ub}*A_s)/\gamma_{M2} = (0.90*800.00[MPa]*3.53[cm^2])/1.25 = 203.33[kN]$

Area della sezione di taglio del bullone
$A = A_s = 3.53[cm^2]$
Resistenza al taglio del bullone in una superficie
$F_{v,Rd} = (\alpha_v*m*f_{ub}*A)/\gamma_{M2} = (0.60*1*800.00[MPa]*3.53[cm^2])/1.25 = 135.55[kN]$
Resistenza a punzonatura per taglio di un bullone
$B_{p,Rd} = (0.6*\pi*d_m*t_p*f_{up})/\gamma_{M2} = (0.6*\pi*37.99[mm]*20.00[mm]*490.00[MPa])/1.25 = 561.42[kN]$

Flangia e anima della trave in compressione

Modulo di resistenza di plastica
W_{pl} = 602.10*[cm³]*
La resistenza di progetto per la piegatura della sezione
$M_{c,Rd} = (W_{pl}*f_{yb})/\gamma_{M0}$ = (602.10*[cm³]**355.00*[MPa]*)/1.00 = 213.74*[kNm]*

Distanza tra le flange dellatrave
h_f = 289.30*[mm]*
Resistenza di progetto della flangia colonna soggetta a compressione trasversale
$F_{c,fb,Rd} = M_{c,Rd}/h_f$ = 213.74*[kNm]*/289.30*[mm]* = 738.83*[kN]*

Zona tesa

FILA BULLONI 1

Piastra terminale in flessione

Parametri geometrici

Distanza bullone da bordo esterno
e_{ep} = 50.00*[mm]*
Distanza bullone da anima trave
$m_{ep} = 0.5*(w-t_{wb}-0.8*\sqrt{2}*a_w)$ = 0.5*(80.00*[mm]*-7.10*[mm]*-0.8*√2*4.20*[mm]*) = 31.70*[mm]*
Distanza $_{min}$
e_{min} = 50.00*[mm]*
parametro di calcolo n
$n = \min(e_{min}; 1.25*m_{ep})$ = min(50.00*[mm]*; 1.25*31.70*[mm]*) = 39.62*[mm]*
parametro di calcolo
$m_2 = p_1+e_1-e_{p1}-t_{fb}-0.8*a_f*\sqrt{2}$ = 100.00*[mm]*+50.00*[mm]*-0.00*[mm]*-10.70*[mm]*-0.8*7.00*[mm]**√2 = 30.84*[mm]*
$\lambda_1 = m_{ep}/(m_{ep}+e_{ep})$ = 31.70*[mm]*/(31.70*[mm]* + 50.00*[mm]*) = 0.39
$\lambda_2 = m_2/(m_{ep}+e_{ep})$ = 30.84*[mm]*/(31.70*[mm]* + 50.00*[mm]*) = 0.38

α = 6.76

Lunghezza effettiva di un bullone a forma circolare

$l_{eff,cp} = 2*\pi*m_{ep}$ = 2*π*31.70*[mm]* = 199.17*[mm]*

Lunghezza effettiva per un bullone a forma non circolare

$l_{eff,nc} = \alpha*m_{ep}$ = 6.76*31.70*[mm]* = 214.29*[mm]*

Lunghezza effettiva per un bullone modo 1
$l_{eff,1} = \min(l_{eff,cp}; l_{eff,nc})$ = 199.17*[mm]*
Lunghezza effettiva per un bullone modo 2

$l_{eff,2} = l_{eff,nc} = 214.29$*[mm]*

Modello 1: Cedimento completo della piastra terminale

$M_{pl,1,Rd} = (0.25*l_{eff,1}*t_p^2*f_{yp})/\gamma_{M0} = (0.25*199.17$*[mm]*$*(20.00$*[mm]*$)^2*355.00$*[MPa]*$)/1.00 = 7.07$*[kNm]*

Metodo 1

$F_{T,1,Rd1} = (4*M_{pl,1,Rd})/m_{ep} = 4*7.07$*[kNm]*$/31.70$*[mm]* $= 892.21$*[kN]*

Metodo 2 (metodo alternativo)

Parametri per la zona d'appoggio

$e_w = 0.25*d_w = 0.25*33.30$*[mm]* $= 11.00$*[mm]*

$F_{T,1,Rd2} = [(8*n-2*e_w)*M_{pl,1,Rd}]/[2*m_{ep}*n-e_w*(m_{ep}+n)] = [(8*39.62$*[mm]*$-2*11.00$*[mm]*$)*7.07$*[kNm]*$]/[2*31.70$*[mm]*$*39.62$*[mm]*$-11.00$*[mm]*$*(31.70$*[mm]*$+39.62$*[mm]*$)] = 1207.38$*[kN]*

$F_{T,1,Rd} = \min(F_{T,1,Rd1}; F_{T,1,Rd2}) = (892.21$*[kN]*$; 1207.38$*[kN]*$) = 892.21$*[kN]*

Modello 2: Rottura bullone con cedimento della piastra terminale

$M_{pl,2,Rd} = (0.25*l_{eff,2}*t_p^2*f_{yp})/\gamma_{M0} = (0.25*214.29$*[mm]*$*(20.00$*[mm]*$)^2*355.00$*[MPa]*$)/1.00 = 7.61$*[kNm]*

$F_{T,2,Rd} = (2*M_{pl,2,Rd}+n*\Sigma F_{t,Rd})/(m_{ep}+n) = (2*7.61$*[kNm]*$+39.62$*[mm]*$*2*203.33$*[kN]*$)/(31.70$*[mm]*$+39.62$*[mm]*$) = 439.25$*[kN]*

Modello 3: Rottura bullone

$F_{T,3,Rd} = \Sigma F_{t,Rd} = 2*203.33$*[kN]* $= 406.66$*[kN]*

Componente di resistenza

$F_{t,ep,Rd(1)} = \min(F_{T,1,Rd}; F_{T,2,Rd}; F_{T,3,Rd}) = (892.21$*[kN]*$; 439.25$*[kN]*$; 406.66$*[kN]*$) = 406.66$*[kN]*

Anima trave in flessione

Larghezza effettiva dell'anima della trave in tensione

$b_{eff,t,wb} = l_{eff1(1)} = 199.17$*[mm]*

Componente di resistenza

$F_{t,wb,Rd(1)}=(b_{eff,t,wb}*t_{wb}*f_{yb})/\gamma_{M0} = (199.17$*[mm]*$*7.10$*[mm]*$*355.00$*[MPa]*$)/1.00 = 502.00$*[kN]*

Resistenza riga di bulloni 1

$F_{t,Rd(1)N} = \min[F_{t,ep,Rd(1)}; F_{t,wb,Rd(1)}] = \min[406.66$*[kN]*$; 502.00$*[kN]*$] = 406.66$*[kN]*

$$F_{t,Rd(1)M} = \min \begin{bmatrix} F_{t,ep,Rd(1)}; F_{t,wb,Rd(1)} \\ F_{cfb,Rd} \end{bmatrix} = \min \begin{bmatrix} 406.66\text{[kN]}; 502.00\text{[kN]} \\ 738.83\text{[kN]} \end{bmatrix} = 406.66\text{[kN]}$$

FILA BULLONI 2

Piastra terminale in flessione

Parametri geometrici

Distanza bullone da bordo esterno
e_{ep} = 50.00*[mm]*
Distanza bullone da anima trave
m_{ep} = 0.5*(w-t_{wb}-0.8*√2*a_w) = 0.5*(80.00*[mm]*-7.10*[mm]*-0.8*√2*4.20*[mm]*) = 31.70*[mm]*
Distanza $_{min}$
e_{min} = 50.00*[mm]*
parametro di calcolo n
n = min(e_{min}; 1.25*m_{ep}) = min(50.00*[mm]*; 1.25*31.70*[mm]*) = 39.62*[mm]*

Lunghezza effettiva di un bullone a forma circolare

$l_{eff,cp}$ = 2*π*m_{ep} = 2*π*31.70*[mm]* = 199.17*[mm]*

Lunghezza effettiva per un bullone a forma non circolare

$l_{eff,nc}$ = 4*m+1.25*e = 4*31.70*[mm]*+1.25*50.00*[mm]* = 189.29*[mm]*

Lunghezza effettiva per un bullone modo 1
$l_{eff,1}$ = min($l_{eff,cp}$; $l_{eff,nc}$) = 189.29*[mm]*
Lunghezza effettiva per un bullone modo 2
$l_{eff,2}$ = $l_{eff,nc}$ = 189.29*[mm]*

Modello 1: Cedimento completo della piastra terminale

$M_{pl,1,Rd}$ = (0.25*$l_{eff,1}$*t_p^2*f_{yp})/γ_{M0} = (0.25*189.29*[mm]**(20.00*[mm]*)^2*355.00*[MPa]*)/1.00 = 6.72*[kNm]*

Metodo 1
$F_{T,1,Rd1}$ = (4*$M_{pl,1,Rd}$)/m_{ep} = 4*6.72*[kNm]*/31.70*[mm]* = 847.98*[kN]*

Metodo 2 (metodo alternativo)
Parametri per la zona d'appoggio
e_w = 0.25*d_w = 0.25*33.30*[mm]* = 11.00*[mm]*
$F_{T,1,Rd2}$ = [(8*n-2*e_w)*$M_{pl,1,Rd}$]/[2*m_{ep}*n-e_w*(m_{ep}+n)] = [(8*39.62*[mm]*-2*11.00*[mm]*)*6.72*[kNm]*]/[2*31.70*[mm]**39.62*[mm]*-11.00*[mm]**(31.70*[mm]*+39.62*[mm]*)] = 1147.53*[kN]*
$F_{T,1,Rd}$ = min($F_{T,1,Rd1}$; $F_{T,1,Rd2}$) = (847.98*[kN]*; 1147.53*[kN]*) = 847.98*[kN]*

Modello 2: Rottura bullone con cedimento della piastra terminale

$M_{pl,2,Rd}$ = (0.25*$l_{eff,2}$*t_p^2*f_{yp})/γ_{M0} = (0.25*189.29*[mm]**(20.00*[mm]*)^2*355.00*[MPa]*)/1.00 = 6.72*[kNm]*

$F_{T,2,Rd}$ = (2*$M_{pl,2,Rd}$+n*Σ$F_{t,Rd}$)/(m_{ep}+n) = (2*6.72*[kNm]*+39.62*[mm]**2*203.33*[kN]*)/(31.70*[mm]*+39.62*[mm]*) = 414.36*[kN]*

Modello 3: Rottura bullone

$F_{T,3,Rd}$ = Σ$F_{t,Rd}$ = 2*203.33*[kN]* = 406.66*[kN]*

Componente di resistenza
$F_{t,ep,Rd(1)}$ = min($F_{T,1,Rd}$; $F_{T,2,Rd}$; $F_{T,3,Rd}$) = (847.98*[kN]*; 414.36*[kN]*; 406.66*[kN]*) = 406.66*[kN]*

Resistenza riga di bulloni 2

$F_{t,Rd(2)N}$ = min[$F_{t,ep,Rd(2)}$]= min[406.66*[kN]*]= 406.66*[kN]*

$F_{t,Rd(2)M}$ = min [$F_{t,ep,Rd(2)}$] = min [406.66*[kN]*] = 332.18*[kN]*
[$F_{cfb,Rd}$-$F_{t,Rd(1)M}$] [738.83*[kN]*-406.66*[kN]*]

FILA BULLONI 3

Piastra terminale in flessione

Parametri geometrici

Distanza bullone da bordo esterno
e_{ep} = 50.00*[mm]*
Distanza bullone da anima trave
m_{ep} = 0.5*(w-t_{wb}-0.8*$\sqrt{2}$*a_w) = 0.5*(80.00*[mm]*-7.10*[mm]*-0.8*$\sqrt{2}$*4.20*[mm]*) = 31.70*[mm]*
Distanza $_{min}$
e_{min} = 50.00*[mm]*
parametro di calcolo n
n = min(e_{min}; 1.25*m_{ep}) = min(50.00*[mm]*; 1.25*31.70*[mm]*) = 39.62*[mm]*

Lunghezza effettiva di un bullone a forma circolare

$l_{eff,cp}$ = 2*π*m_{ep} = 2*π*31.70*[mm]* = 199.17*[mm]*

Lunghezza effettiva per un bullone a forma non circolare

$l_{eff,nc}$ = 4*m+1.25*e = 4*31.70*[mm]*+1.25*50.00*[mm]* = 189.29*[mm]*

Lunghezza effettiva per un bullone modo 1
$l_{eff,1}$ = min($l_{eff,cp}$; $l_{eff,nc}$) = 189.29*[mm]*
Lunghezza effettiva per un bullone modo 2
$l_{eff,2}$ = $l_{eff,nc}$ = 189.29*[mm]*

Modello 1: Cedimento completo della piastra terminale

$M_{pl,1,Rd}$ = (0.25*$l_{eff,1}$*t_p^2*f_{yp})/γ_{M0} = (0.25*189.29*[mm]**(20.00*[mm]*)^2*355.00*[MPa]*)/1.00 = 6.72*[kNm]*

Metodo 1
$F_{T,1,Rd1}$ = (4*$M_{pl,1,Rd}$)/m_{ep} = 4*6.72*[kNm]*/31.70*[mm]* = 847.98*[kN]*

Metodo 2 (metodo alternativo)
Parametri per la zona d'appoggio
e_w = 0.25*d_w = 0.25*33.30*[mm]* = 11.00*[mm]*

$F_{T,1,Rd2} = [(8*n-2*e_w)*M_{pl,1,Rd}]/[2*m_{ep}*n-e_w*(m_{ep}+n)] = [(8*39.62[mm]-2*11.00[mm])*6.72[kNm]]/[2*31.70[mm]*39.62[mm]-11.00[mm]*(31.70[mm]+39.62[mm])] = 1147.53[kN]$

$F_{T,1,Rd} = \min(F_{T,1,Rd1}; F_{T,1,Rd2}) = (847.98[kN]; 1147.53[kN]) = 847.98[kN]$

Modello 2: Rottura bullone con cedimento della piastra terminale

$M_{pl,2,Rd} = (0.25*l_{eff,2}*t_p^2*f_{yp})/\gamma_{M0} = (0.25*189.29[mm]*(20.00[mm])^2*355.00[MPa])/1.00 = 6.72[kNm]$

$F_{T,2,Rd} = (2*M_{pl,2,Rd}+n*\Sigma F_{t,Rd})/(m_{ep}+n) = (2*6.72[kNm]+39.62[mm]*2*203.33[kN])/(31.70[mm]+39.62[mm]) = 414.36[kN]$

Modello 3: Rottura bullone

$F_{T,3,Rd} = \Sigma F_{t,Rd} = 2*203.33[kN] = 406.66[kN]$

Componente di resistenza

$F_{t,ep,Rd(1)} = \min(F_{T,1,Rd}; F_{T,2,Rd}; F_{T,3,Rd}) = (847.98[kN]; 414.36[kN]; 406.66[kN]) = 406.66[kN]$

Anima trave in flessione

Larghezza effettiva dell'anima della trave in tensione

$b_{eff,t,wb} = l_{eff1(3)} = 189.29[mm]$

Componente di resistenza

$F_{t,wb,Rd(3)}=(b_{eff,t,wb}*t_{wb}*f_{yb})/\gamma_{M0} = (189.29[mm]*7.10[mm]*355.00[MPa])/1.00 = 477.11[kN]$

Resistenza riga di bulloni 3

$F_{t,Rd(3)N} = \min[F_{t,ep,Rd(3)}; F_{t,wb,Rd(3)}] = \min[406.66[kN]; 477.11[kN]] = 406.66[kN]$

Resistenza a flessione

Momento flettente reale

$M_0 = M_{b1,Ed} = 72.00[kNm]$

Momento resistente di progetto del giunto, senza considerare le forze assiali

$M_{j,Rd} = F_{t,Rd(1)M}* h_1 + F_{t,Rd(2)M}* h_2 = 406.66[kN]*244.65[mm] + 332.18[kN]*144.65[mm] = 147.54[kNm]$

$\lvert M_0\rvert/M_{j,Rd} \le 1$	0.49 < 1.00	**0.49**	✓

Resistenza a tensione

Forza assiale

$N_0 = N_{b1,Ed}*\cos(\alpha_2) + V_{b1,Ed}*\sin(\alpha_2) = 131.00[kN]*\cos(0.00[Deg]) + 100.00[kN]*\sin(0.00[Deg]) = 131.00[kN]$

Resistenza di progetto assiale del giunto, senaza considerare il momento applicato

$N_{j,Rd} = F_{t,Rd(1)N} + F_{t,Rd(2)N} + F_{t,Rd(3)N} = 406.66[kN] + 406.66[kN] + 406.66[kN] = 1219.97[kN]$

$\lvert N_0\rvert/N_{j,Rd} \le 1$	0.11 < 1.00	**0.11**	✓

Resistenza a trazione e flessione			
$N_0/N_{j,Rd} + \|M_0\|/M_{j,Rd} \leq 1$	0.60 < 1.00	**0.60**	✓

Resistenza a taglio

Forza di taglio

$V_0 = -N_{b1,Ed}*\sin(\alpha) + V_{b1,Ed}*\cos(\alpha) = -(131.00[kN])*\sin(0.00[Deg]) + 100.00[kN]*\cos(0.00[Deg]) = 100.00[kN]$

FILA BULLONI 1

Bullone di supporto sulla piastra

Coefficiente determinato dalla spaziatura bulloni

$\alpha_{ep} = \min(1.0; f_{ub}/f_{up}; e_1/d_0) = \min(1.0; 800.00[MPa]/490.00[MPa]; 50.00[mm]/27.00[mm]) = 1.00$

Coefficiente determinato dalla spaziatura bulloni

$k_1 = \min(2.5; 2.8*e_2/d_0) = \min(2.5; 2.8*50.00[mm]/27.00[mm]) = 2.50$

Resistenza del bullone di supporto

$F_{b,Rd} = k_1*\alpha_b*f_{up}*d*t_p = 2.50*1.00*490.00[MPa]*24.00[mm]*20.00[mm] = 470.40[kN]$

Resistenza riga di bulloni 1

$V_{Rd(1)} = m_1*\min(F_{b,Rd}; F_{v,Rd}) = 2*\min(470.40[kN]; 135.55[kN]) = 271.10[kN]$

FILA BULLONI 2

Bullone di supporto sulla piastra

Coefficiente determinato dalla spaziatura bulloni

$\alpha_{ep} = \min(1.0; f_{ub}/f_{up}; p_1/(3*d_0)-0.25) = \min(1.0; 800.00[MPa]/490.00[MPa]; 100.00[mm]/(3*27.00[mm])-0.25) = 0.98$

Coefficiente determinato dalla spaziatura bulloni

$k_1 = \min(2.5; 1.4*p_2/d_0-1.7) = \min(2.5; 1.4*80.00[mm]/27.00[mm] -1.7) = 2.50$

Resistenza del bullone di supporto

$F_{b,Rd} = k_1*\alpha_b*f_{up}*d*t_p = 2.50*0.98*490.00[MPa]*24.00[mm]*20.00[mm] = 463.14[kN]$

Resistenza riga di bulloni 2

$V_{Rd(2)} = m_2*\min(F_{b,Rd}; F_{v,Rd}) = 2*\min(463.14[kN]; 135.55[kN]) = 271.10[kN]$

FILA BULLONI 3

Bullone di supporto sulla piastra

Coefficiente determinato dalla spaziatura bulloni

$\alpha_{ep} = \min(1.0; f_{ub}/f_{up}; e_1/d_0) = \min(1.0; 800.00[MPa]/490.00[MPa]; 70.00[mm]/27.00[mm]) = 1.00$

Coefficiente determinato dalla spaziatura bulloni

k_1 = min(2.5; 2.8*e_2/d_0) = min(2.5; 2.8*50.00*[mm]*/27.00*[mm]*) = 2.50
Resistenza del bullone di supporto
$F_{b,Rd}$ = k_1*α_b*f_{up}*d*t_p = 2.50*1.00*490.00*[MPa]*24.00*[mm]*20.00*[mm]* = 470.40*[kN]*

Resistenza riga di bulloni 3
$V_{Rd(3)}$ = m_3*min($F_{b,Rd}$; $F_{v,Rd}$) = 2*min(470.40*[kN]*; 135.55*[kN]*) = 271.10*[kN]*

$V_{j,Rd}$ = $V_{Rd(1)}$ + $V_{Rd(2)}$ + $V_{Rd(3)}$ = 271.10*[kN]* + 271.10*[kN]* + 271.10*[kN]* = 813.31*[kN]*

$\lvert V_0\rvert/V_{j,Rd} \le 1$	|100.00*[kN]*| < 813.31*[kN]*	**0.12**	✓

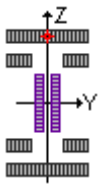
Saldature dell'angolare che collegano trave e piastra frontale

Forze nelle saldature
Forza assiale
N_0 = $N_{b1,Ed}$*cos(α_2) + $V_{b1,Ed}$*sin(α_2) = 131.00*[kN]*cos(0.00*[Deg]*) + 100.00*[kN]*sin(0.00*[Deg]*) = 131.00*[kN]*
Forza di taglio
V_0 = -$N_{b1,Ed}$*sin(α_2) + $V_{b1,Ed}$*cos(α_2) = -(131.00*[kN]*)*sin(0.00*[Deg]*) + 100.00*[kN]*cos(0.00*[Deg]*) = 100.00*[kN]*
Momento flettente reale
M_0 = $M_{b1,Ed}$= 72.00*[kNm]*

Proprietŕ geometriche delle saldature

Trave
Area saldature orizzontali sulla flangia superiore
A_{wfu} = b_{fb}*a_{fe}+(b_{fb}-t_{wb}-2*r_b)*a_{fi} = 150.00*[mm]*7.00*[mm]*+(150.00*[mm]*-7.10*[mm]*-2*15.00*[mm]*)*7.48*[mm]* = 18.94*[cm^2]*
Area saldature orizzontali sulla flangia inferiore
A_{wfl} = b_{fb}*a_{fe}+(b_{fb}-t_{wb}-2*r_b)*a_{fi} = 150.00*[mm]*7.00*[mm]*+(150.00*[mm]*-7.10*[mm]*-2*15.00*[mm]*)*7.48*[mm]* = 18.94*[cm^2]*
Area delle saldature verticali
A_{ww} = 2*[(h_b-2*(t_{fb}-r_b))/cos(α)]*a_w = 2*[(300.00*[mm]*-2*(10.70*[mm]*-15.00*[mm]*))/cos(0.00*[Deg]*)]*4.20*[mm]* = 20.88*[cm^2]*

Area di tutte le saldature
A_w = A_{wfu} + A_{wfl} + A_{ww} = 18.94*[cm^2]* + 18.94*[cm^2]* + 20.88*[cm^2]* = 58.77*[cm^2]*
Distanza tra baricentro saldature e baricentro trave
e_{0w} = 0.00*[mm]*
Momento d'inerzia saldature
I_w = 9128.96*[cm^4]*

Punto in cui le sollecitazioni vengono controllate	z_i = 153.50*[mm]*
Modulo elastico delle saldature	
W_w = 594.72*[cm^3]*	
Sollecitazione da forza assiale	
σ_N = N_0/A_w = 131.00*[kN]*/58.77*[cm^2]* = 22.29*[MPa]*	
Sollecitazione dovuta alla flessione	
σ_M = (M_0*z_i)/I_w = (72.00*[kNm]*153.50*[mm]*)/9128.96*[cm^4]* = 121.07*[MPa]*	
Sforzo normale massimo	

$\sigma = \sigma_N + \sigma_M = 22.29[MPa] + 121.07[MPa] = 143.35[MPa]$	
Sforzo normale perpendicolare	
$\sigma_\perp = \sigma/\sqrt{2} = 143.35[MPa]/\sqrt{2} = 101.37[MPa]$	
Sforzo tangente perpendicolare	
$\tau_\perp = \sigma/\sqrt{2} = 143.35[MPa]/\sqrt{2} = 101.37[MPa]$	

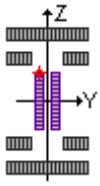
Coefficiente di resistenza saldature

$\beta_w = 0.90$

$\lvert\sigma_\perp\rvert \le 0.9*f_u/\gamma_{M2}$	$\lvert 101.37[MPa]\rvert < 352.80[MPa]$	**0.21**	✓

$\sqrt{[\sigma_\perp^2+3*(\tau_\perp^2)]} \le f_u/(\beta_w*\gamma_{M2})$	$202.73[MPa] < 435.56[MPa]$	**0.47**	✓

Punto in cui le sollecitazioni vengono controllate	$z_i = 124.30[mm]$
Modulo elastico delle saldature	
$W_w = 734.43[cm^3]$	
Sollecitazione da forza assiale	
$\sigma_N = N_0/A_w = 131.00[kN]/58.77[cm^2] = 22.29[MPa]$	
Sollecitazione dovuta alla flessione	
$\sigma_M = (M_0*z_i)/I_w = (72.00[kNm]*124.30[mm])/9128.96[cm^4] = 98.04[MPa]$	
Sforzo normale massimo	
$\sigma = \sigma_N + \sigma_M = 22.29[MPa] + 98.04[MPa] = 120.32[MPa]$	
Sforzo normale perpendicolare	
$\sigma_\perp = \sigma/\sqrt{2} = 120.32[MPa]/\sqrt{2} = 85.08[MPa]$	
Sforzo tangente perpendicolare	
$\tau_\perp = \sigma/\sqrt{2} = 120.32[MPa]/\sqrt{2} = 85.08[MPa]$	
Sforzo tangente parallelo	
$\tau_{II} = V_0/A_{ww} = 100.00[kN]/20.88[cm^2] = 47.89[MPa]$	



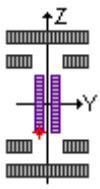
Coefficiente di resistenza saldature

$\beta_w = 0.90$

$\lvert\sigma_\perp\rvert \le 0.9*f_u/\gamma_{M2}$	$\lvert 85.08[MPa]\rvert < 352.80[MPa]$	**0.17**	✓

$\sqrt{[\sigma_\perp^2+3*(\tau_\perp^2+\tau_{II}^2)]} \le f_u/(\beta_w*\gamma_{M2})$	$189.30[MPa] < 435.56[MPa]$	**0.43**	✓

Punto in cui le sollecitazioni vengono controllate	$z_i = -124.30[mm]$
Modulo elastico delle saldature	
$W_w = 734.43[cm^3]$	
Sollecitazione da forza assiale	
$\sigma_N = N_0/A_w = 131.00[kN]/58.77[cm^2] = 22.29[MPa]$	
Sollecitazione dovuta alla flessione	
$\sigma_M = (M_0*z_i)/I_w = (72.00[kNm]*(-124.30[mm]))/9128.96[cm^4] = -98.04[MPa]$	
Sforzo normale massimo	
$\sigma = \sigma_N + \sigma_M = 22.29[MPa] + (-98.04[MPa]) = -75.75[MPa]$	
Sforzo normale perpendicolare	
$\sigma_\perp = \sigma/\sqrt{2} = -75.75[MPa]/\sqrt{2} = -53.56[MPa]$	



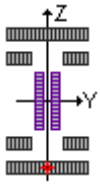
Sforzo tangente perpendicolare	
$\tau_{\perp} = \sigma/\sqrt{2} = -75.75[MPa]/\sqrt{2} = -53.56[MPa]$	
Sforzo tangente parallelo	
$\tau_{II} = V_0/A_{ww} = 100.00[kN]/20.88[cm^2] = 47.89[MPa]$	

Coefficiente di resistenza saldature

$\beta_w = 0.90$

$\lvert\sigma_{\perp}\rvert \le 0.9*f_u/\gamma_{M2}$	$\lvert -53.56[MPa]\rvert < 352.80[MPa]$	**0.11**	✓
$\sqrt{[\sigma_{\perp}^2+3*(\tau_{\perp}^2+\tau_{II}^2)]} \le f_u/(\beta_w*\gamma_{M2})$	$135.48[MPa] < 435.56[MPa]$	**0.31**	✓

Punto in cui le sollecitazioni vengono controllate	$z_i = -153.50[mm]$
Modulo elastico delle saldature	
$W_w = 594.72[cm^3]$	
Sollecitazione da forza assiale	
$\sigma_N = N_0/A_w = 131.00[kN]/58.77[cm^2] = 22.29[MPa]$	
Sollecitazione dovuta alla flessione	
$\sigma_M = (M_0*z_i)/I_w = (72.00[kNm]*(-153.50[mm]))/9128.96[cm^4] = -121.07[MPa]$	
Sforzo normale massimo	
$\sigma = \sigma_N + \sigma_M = 22.29[MPa] + (-121.07[MPa]) = -98.78[MPa]$	
Sforzo normale perpendicolare	
$\sigma_{\perp} = \sigma/\sqrt{2} = -98.78[MPa]/\sqrt{2} = -69.85[MPa]$	
Sforzo tangente perpendicolare	
$\tau_{\perp} = \sigma/\sqrt{2} = -98.78[MPa]/\sqrt{2} = -69.85[MPa]$	



Coefficiente di resistenza saldature

$\beta_w = 0.90$

$\lvert\sigma_{\perp}\rvert \le 0.9*f_u/\gamma_{M2}$	$\lvert -69.85[MPa]\rvert < 352.80[MPa]$	**0.14**	✓
$\sqrt{[\sigma_{\perp}^2+3*(\tau_{\perp}^2)]} \le f_u/(\beta_w*\gamma_{M2})$	$139.69[MPa] < 435.56[MPa]$	**0.32**	✓

Rigidezza di rotazione del giunto

Lunghezza di allungamento del bullone

$L_b = t_p+0.5*(m+k)+t_{wa} = 20.00[mm]+0.5*(22.30[mm]+15.00[mm])+4.00[mm]=66.65[mm]$

$k_{10} = (3.2*A_s)/L_b = (3.2*3.53[cm^2])/66.65[mm] = 8.47[mm]$

Fila bulloni 1

Piastra terminale in flessione

$k_{4,1} = (0.9*l_{eff}*t_p^3)/m_x^3 = (0.9*199.17[mm]*20.00[mm]^3)/0.00[mm]^3 = 0.00[mm]$

$k_{eff,1} = 1/(\ 1/k_4+1/k_5+1/k_{10}\ ) = 1/(\ 1/0.00[mm] + 1/45.02[mm] +1/8.47[mm]\ ) = 7.48[mm]$

Fila bulloni 2

Piastra terminale in flessione

$k_{4,2} = (0.9*l_{eff}*t_p^3)/m_x^3 = (0.9*189.29[mm]*20.00[mm]^3)/0.00[mm]^3 = 0.00[mm]$

$k_{eff,2} = 1/(\ 1/k_4+1/k_5+1/k_{10}\ ) = 1/(\ 1/0.00[mm] + 1/42.79[mm] +1/8.47[mm]\ ) = 7.41[mm]$

Fila bulloni 3

Piastra terminale in flessione

$k_{4,3} = (0.9*l_{eff}*t_p^3)/m_x^3 = (0.9*189.29[mm]*20.00[mm]^3)/0.00[mm]^3 = 0.00[mm]$

$k_{eff,3} = 1/(1/k_4+1/k_5+1/k_{10}) = 1/(1/0.00[mm] + 1/42.79[mm] +1/8.47[mm]) = 7.41[mm]$

Braccio di leva delle forze interne

$z_{eq} = [k_{eff,1}*h_1^2+k_{eff,2}*h_2^2+k_{eff,3}*h_3^2]/[k_{eff,1}*h_1+k_{eff,2}*h_2+k_{eff,3}*h_3] = [7.48[mm]*244.65[mm]^2+7.41[mm]*144.65[mm]^2+7.41[mm]*44.65[mm]^2]/[7.48[mm]*244.65[mm]+7.41[mm]*144.65[mm]+7.41[mm]*44.65[mm]] = 190.99[mm]$

Coefficiente di rigidezza equivalente

$k_{eq} = [k_{eff,1}*h_1+k_{eff,2}*h_2+k_{eff,3}*h_3]/z_{eq} = [7.48[mm]*244.65[mm]+7.41[mm]*144.65[mm]+7.41[mm]*44.65[mm]]/190.99[mm] = 16.15[mm]$

Rigidezza di rotazione iniziale del giunto

$S_{j,ini} = E*z_{eq}^2/(1/k_{eq}) = (210000.00[MPa]*(190.99[mm])^2)/(1/16.15[mm]) = 123683.04[kNm]$

Rigidezza di rotazione del giunto chiodato

$S_{j,pin} = (0.5*E*I_{yb})/L_b = (0.5*210000.00[MPa]*8356.11[cm^4])/4000.00[mm] = 2193.48[kNm]$

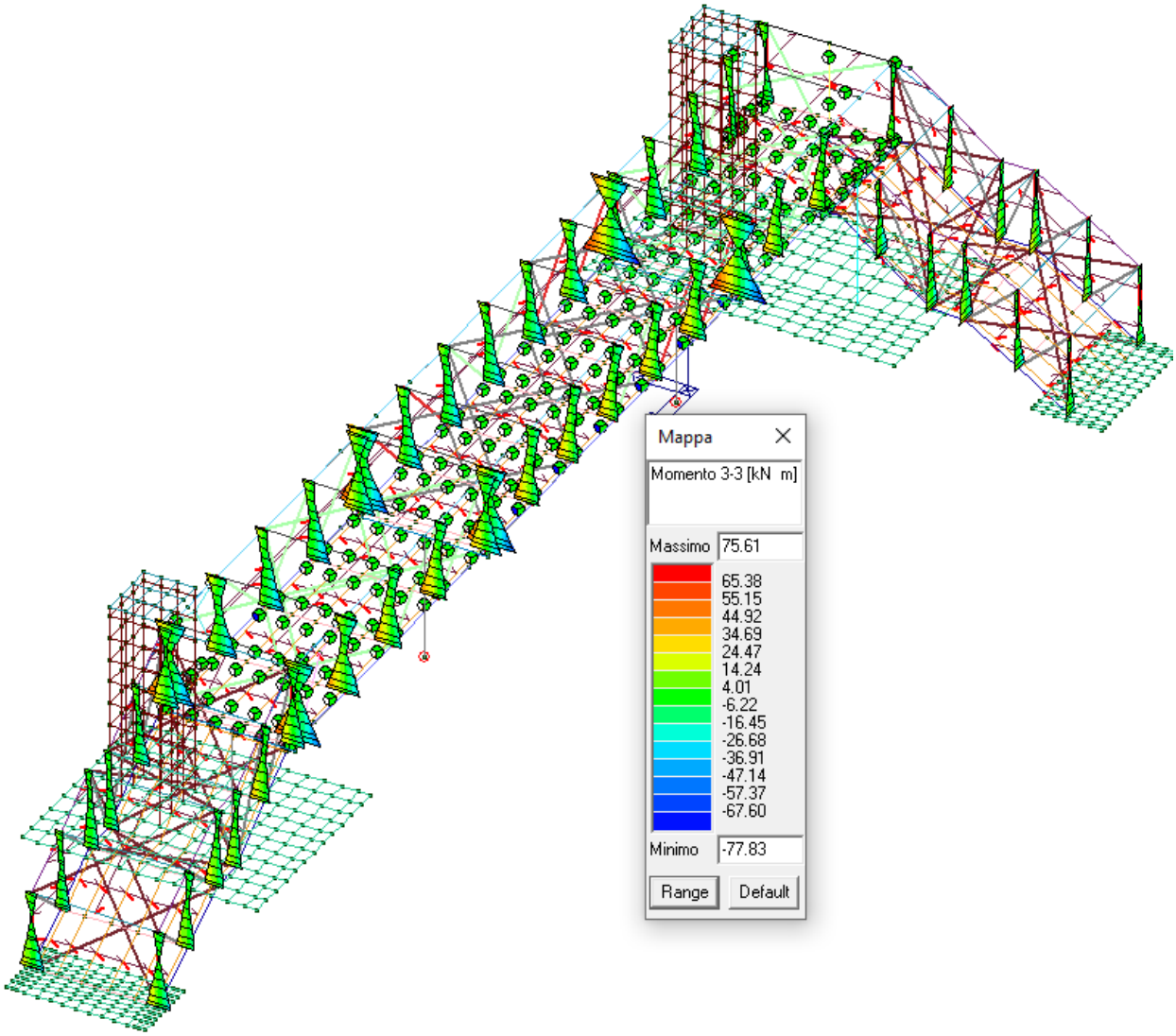
Rigidezza di rotazione del giunto rigido

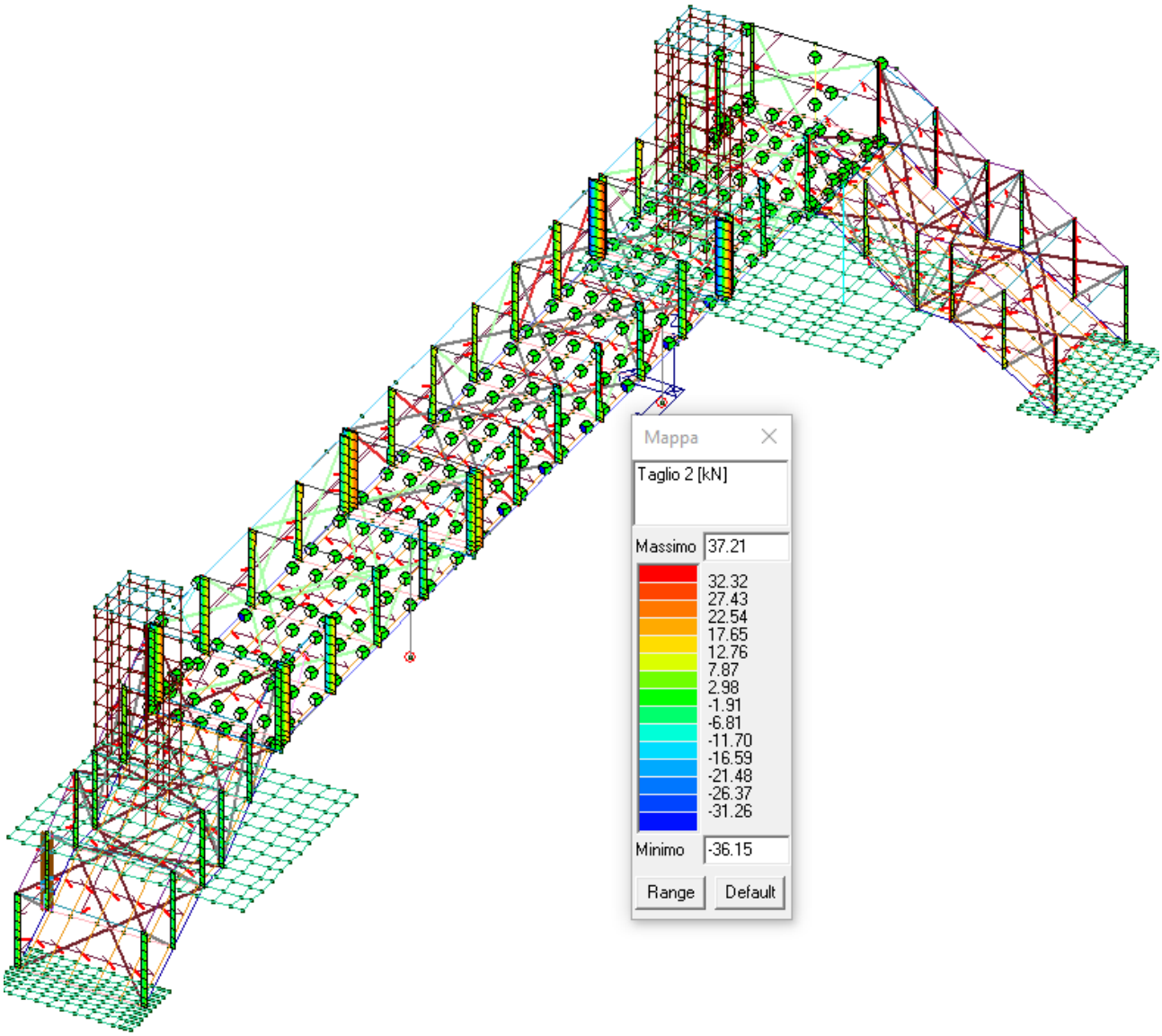
$S_{j,rig} = (k_b*E*I_{yb})/L_b = (25.00*210000.00[MPa]*8356.11[cm^4])/4000.00[mm] = 109673.93[kNm]$

Classificazione dei giunti

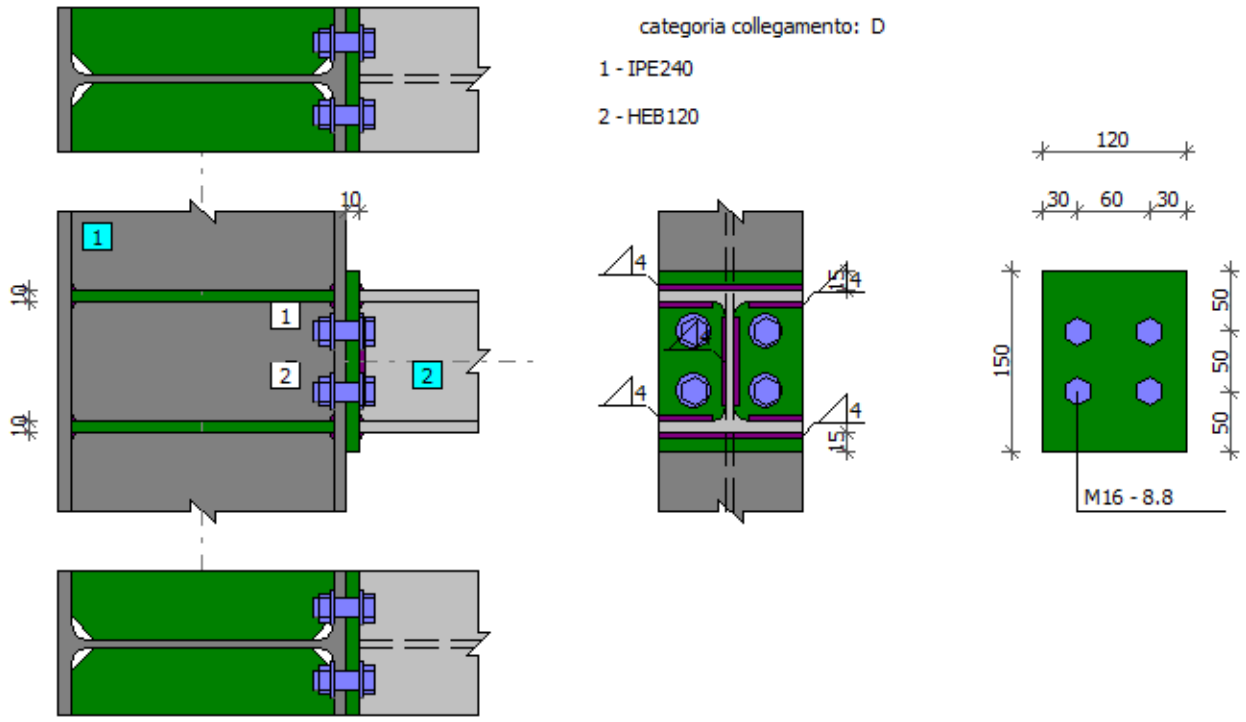
Rigido

COLLEGAMENTO SALDATO MONTANTE CAPRIATA – IMPALCATO



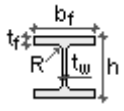

Mappa
Taglio 2 [kN]
Massimo 37.21
32.32
27.43
22.54
17.65
12.76
7.87
2.98
-1.91
-6.81
-11.70
-16.59
-21.48
-26.37
-31.26
Minimo -36.15
Range
Default

	Trave - Colonna (piastra frontale)	Rapporto: 0.90	
BeamRigidColumn v. 1.0.0.10	EC3 1991-1-8: 2008		



Dati

Colonna IPE300					
	h_c	b_{fc}	t_{fc}	t_{wc}	R_c
	300.00*[mm]*	150.00*[mm]*	10.70*[mm]*	7.10*[mm]*	15.00*[mm]*
	A_c	J_{y0c}	J_{z0c}	y_{0c}	z_{0c}
	53.81*[cm²]*	8356.11*[cm⁴]*	603.78*[cm⁴]*	75.00*[mm]*	150.00*[mm]*
Materiale	Grado	f_y	f_u		
	S 355	355.00*[MPa]*	490.00*[MPa]*		

Trave HEA200					
	h_b	b_{fb}	t_{fb}	t_{wb}	R_b
	190.00*[mm]*	200.00*[mm]*	10.00*[mm]*	6.50*[mm]*	18.00*[mm]*
	A_b	J_{y0b}	J_{z0b}	y_{0b}	z_{0b}
	53.83*[cm²]*	3692.16*[cm⁴]*	1335.51*[cm⁴]*	100.00*[mm]*	95.00*[mm]*
Materiale	Grado	f_y	f_u		
	S 355	355.00*[MPa]*	490.00*[MPa]*		

Saldature

Spessore saldature dell'angolare che collegano flange trave e flangia colonna a_f = 7.00 *[mm]*

Spessore saldature dell'angolare che collegano anima trave e flangia colonna a_w = 4.00 *[mm]*

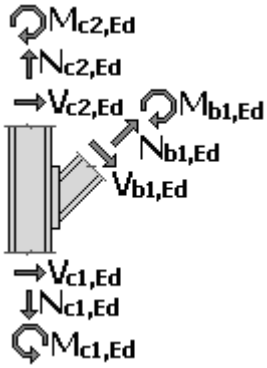
Coefficienti materiali

Coefficiente	γ_{M0} =	1.00
Coefficiente	γ_{M1} =	1.00
Coefficiente	γ_{M2} =	1.25

Forze

Trave destra

Forza assiale	$N_{b1,Ed}$ =	0.00	*[kN]*
Forza di taglio	$V_{b1,Ed}$ =	40.00	*[kN]*
Momento flettente	$M_{b1,Ed}$ =	80.00	*[kNm]*
Colonna inferiore			
Forza assiale	$N_{c1,Ed}$ =	0.00	*[kN]*
Forza di taglio	$V_{c1,Ed}$ =	0.00	*[kN]*
Momento flettente	$M_{c1,Ed}$ =	0.00	*[kNm]*
Colonna superiore			
Forza assiale	$N_{c2,Ed}$ =	0.00	*[kN]*
Forza di taglio	$V_{c2,Ed}$ =	0.00	*[kN]*
Momento flettente	$M_{c2,Ed}$ =	0.00	*[kNm]*



Risultati

Pannello d'anima della colonna soggetto a taglio

Area di taglio della colonna

$A_{vc} = A_c - 2*b_{fc}*t_{fc} + (t_{wc} + 2*r_c)*t_{fc} = 53.81[cm^2] - 2*150.00[mm]*10.70[mm] + (7.10[mm] + 2*15.00[mm])*10.70[mm] = 25.68[cm^2]$

Momento resistente plastico della flangia colonna

$M_{pl,fc,Rd} = (0.25*b_{fc}*t_{fc}^2*f_{yc})/\gamma_{M0} = (0.25*150.00[mm]*(10.70[mm])^2*355.00[MPa])/1.00 = 1.52[kNm]$

La distanza tra gli assi centrali dei rinforzi

$d_s = 180.00[mm]$

Resistenza di taglio aggiuntiva dei rinforzi

$V_{wp,add,Rd} = (4*M_{pl,fc,Rd})/d_s = (4*1.52[kNm])/180.00[mm] = 18.34[kN]$

Momento resistente plastico del rinforzo

$M_{pl,st,Rd} = 0.25[kNm]$

Resistenza plastica a taglio nel pannello d'anima della colonna

$V_{wp,Rd} = (0.9*A_{vc}*f_{ywc})/(\sqrt{3}*\gamma_{M0}) + V_{wp,add,Rd} = (0.9*25.68[cm^2]*355.00[MPa])/(\sqrt{3}*1.00) + 18.34[kN] = 492.08[kN]$

Risultante forza di taglio dell'anima del pannello

$V_{wp,Ed} = (M_{b1,Ed} - M_{b2,Ed})/z - 0.5*(V_{c1,Ed} - V_{c2,Ed}) = (80.00[kNm] - 0.00[kNm])/180.00[mm] - 0.5*(0.00[kN] - 0.00[kN]) = 444.44[kN]$

$V_{wp,Ed} \le V_{wp,Rd}$	$444.44[kN] < 492.08[kN]$	**0.90**	✓

Anima colonna in compressione trasversale

parametro di calcolo

$s_p = \min[t_p + c; 2*t_p] = \min[20.00[mm] + 20.00[mm]; 2*20.00[mm]] = 40.00[mm]$

Larghezza effettiva dell'anima colonna in compressione

$b_{eff,c,wc} = t_{fb}+2*\sqrt{2}*a_f+5*(t_{fc}+r_c)+s_p = 10.00[mm]+2*\sqrt{2}*7.00[mm]+5*(10.70[mm]+15.00[mm])+40.00[mm] = 158.30[mm]$

Fattore di riduzione

$\omega = 1/\sqrt{[1+1.3*((b_{eff,c,wc}*t_{wc})/A_{vc})^2]} = 1/\sqrt{[1+1.3*((158.30[mm]*7.10[mm])/25.68[cm^2])^2} = 0.89$

Resistenza di progetto della flangia colonna soggetta a compressione trasversale

$F_{c,wc,Rd1} = (\omega*k_{wc}*\rho*b_{eff,c,wc}*t_{wc}*f_{y,wc})/\gamma_{M0} = (0.89*1.00*158.30[mm]*7.10[mm]*355.00[MPa])/1.00 = 357.02[kN]$

Profonditŕ anima della colonna

$d_{wc} = h_c-2*(t_{fc}+r_c) = 300.00[mm]-2*(10.70[mm]+15.00[mm]) = 248.60[mm]$

Snellezza piastra

$\bar{\lambda}_p = 0.932*\sqrt{[(b_{eff,c,wc}*d_{wc}*f_{y,wc})/(E*t_{wc}^2)]} = 0.932*\sqrt{[(158.30[mm]*248.60[mm]*355.00[MPa])/(210000.00[MPa]*(7.10[mm])^2)]} = 1.07$

Riduzione del fattore d'instabilitŕ per la piastra

$\rho=(\bar{\lambda}_p-0.22)/\bar{\lambda}_p^2 = (1.07-0.22)/(1.07)^2 = 0.76$

$F_{c,wc,Rd2} = (\omega*k_{wc}*\rho*b_{eff,c,wc}*t_{wc}*f_{y,wc})/\gamma_{M1} = (0.89*1.00*0.76*158.30[mm]*7.10[mm]*355.00[MPa])/1.00 = 271.16[kN]$

$F_{c,wc,Rd,st} = ((b_{fc}-t_{wc})*t_s*f_{y,s})/\gamma_{M0} = (150.00[mm]*7.10[mm]*10.00[mm]*355.00[MPa])/1.00 = 507.30[kN]$

Resistenza di progetto della flangia colonna soggetta a compressione trasversale

$F_{c,wc,Rd} = \min(F_{c,wc,Rd1}; F_{c,wc,Rd2}) + F_{c,wc,Rd,st} = \min(357.02[kN]; 271.16[kN]) + 507.30[kN] = 778.46[kN]$

Flangia e anima della trave in compressione

Modulo di resistenza di plastica

$W_{pl} = 406.96[cm^3]$

La resistenza di progetto per la piegatura della sezione

$M_{c,Rd} = (W_{pl}*f_{yb})/\gamma_{M0} = (406.96[cm^3]*355.00[MPa])/1.00 = 144.47[kNm]$

Distanza tra le flange dellatrave

$h_f = 180.00[mm]$

Resistenza di progetto della flangia colonna soggetta a compressione trasversale

$F_{c,fb,Rd} = M_{c,Rd}/h_f = 144.47[kNm]/180.00[mm] = 802.62[kN]$

Anima colonna in tensione trasversale

Area di taglio della colonna

$A_{vc} = A_c-2*b_{fc}*t_{fc}+(t_{wc}+r_c)*t_{fc} = 53.81[cm^2]-2*150.00[mm]*10.70[mm]+(7.10[mm]+15.00[mm])*10.70[mm] = 25.68[cm^2]$

Larghezza effettiva dell'anima colonna in tensione

$b_{eff,t,wc} = l_{eff,1()} = 158.30[mm]$

Fattore di riduzione

$\omega = 1/\sqrt{[1+1.3*((b_{eff,t,wc}*t_{wc})/A_{vc})^2]} = 1/\sqrt{[1+1.3*((158.30*7.10[mm])/25.68[cm^2])^2} = 0.89$

$F_{t,wc,Rd,st} = ((b_{fc}-t_{wc})*t_s*f_{y,s})/\gamma_{M0} = (150.00[mm]*7.10[mm]*10.00[mm]*355.00[MPa])/1.00 = 507.30[kN]$

Resistenza di progetto dell'anima colonna soggetta a tensione trasversale

$F_{t,wc,Rd()} = (\omega*b_{eff,t,wc}*t_{wc}*f_{y,wc})/\gamma_{M0} + F_{t,wc,Rd,st} = (0.89*158.30[mm]*7.10[mm]*355.00[MPa])/1.00 + 507.30[kN] = 864.31[kN]$

Flangia della colonna in flessione

Larghezza effettiva di un giunto a T senza irrigidimenti

$b_{eff,bfc} = t_{wc} + 2*s + 7*k*t_{fc} = 7.10[mm] + 2*0.00[mm] + 7*0.00*10.70[mm] = 200.00[mm]$

Resistenza di progetto della flangia colonna soggetta a flessione trasversale

$F_{fc,Rd} = b_{eff,bfc}*t_{fb}*f_{yb}/\gamma_{M0} = 200.00[mm]*10.00[mm]*355.00[MPa]/1.00 = 710.00[kN]$

Resistenza a flessione

Momento flettente reale

$M_0 = M_{b1,Ed} = 80.00[kNm]$

Momento resistente di progetto del giunto, senza considerare le forze assiali

$M_{j,Rd} = \min[V_{wp,Rd}; F_{c,wc,Rd}; F_{t,wc,Rd}; F_{c,fb,Rd}; F_{fc,Rd}]*z = [492.08[kN]; 778.46[kN]; 864.31[kN]; 802.62[kN]; 710.00[kN]]*180.00[mm] = 88.57[kNm]$

$\lvert M_0\rvert/M_{j,Rd} \le 1$	0.90 < 1.00	**0.90**	✓

Saldature dell'angolare che collegano trave e flangia colonna

Forze nelle saldature

Forza assiale

$N_0 = N_{b1,Ed}*\cos(\alpha) + V_{b1,Ed}*\sin(\alpha) = 0.00[kN]*\cos(0.00[Deg]) + 40.00[kN]*\sin(0.00[Deg]) = 0.00[kN]$

Forza di taglio

$V_0 = -N_{b1,Ed}*\sin(\alpha) + V_{b1,Ed}*\cos(\alpha) = -(0.00[kN])*\sin(0.00[Deg]) + 40.00[kN]*\cos(0.00[Deg]) = 40.00[kN]$

Momento flettente reale

$M_0 = M_{b1,Ed} = 80.00[kNm]$

Proprietŕ geometriche delle saldature

Trave

Area saldature orizzontali sulla flangia superiore

$A_{wfu} = [b_{fb}+(b_{fb}-t_{wb}-2*r_b)]*a_f = [200.00[mm]+(200.00[mm]-6.50[mm]-2*18.00[mm])]*7.00[mm] = 25.03[cm^2]$

Area saldature orizzontali sulla flangia inferiore

$A_{wfl} = [b_{fb}+(b_{fb}-t_{wb}-2*r_b)]*a_f = [200.00[mm]+(200.00[mm]-6.50[mm]-2*18.00[mm])]*7.00[mm] = 25.03[cm^2]$

Area delle saldature verticali

$A_{ww} = 2*[(h_b-2*(t_{fb}-r_b))/\cos(\alpha)]*a_w = 2*[(190.00[mm]-2*(10.00[mm]-18.00[mm]))/\cos(0.00[Deg])]*4.00[mm] = 10.72[cm^2]$

Area di tutte le saldature

$A_w = A_{wfu} + A_{wfl} + A_{ww} = 25.03[cm^2] + 25.03[cm^2] + 10.72[cm^2] = 60.77[cm^2]$

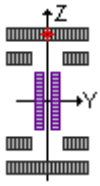
Distanza tra baricentro saldature e baricentro trave

$e_{0w} = 0.00[mm]$

Momento d'inerzia saldature

$I_w = 4343.70[cm^4]$

Punto in cui le sollecitazioni vengono controllate	z_i = 98.50*[mm]*
Modulo elastico delle saldature	
W_w = 440.98*[cm³]*	
Sollecitazione da forza assiale	
$\sigma_N = N_0/A_w$ = 0.00*[kN]*/60.77*[cm²]* = 0.00*[MPa]*	
Sollecitazione dovuta alla flessione	
$\sigma_M = (M_0*z_i)/I_w$ = (80.00*[kNm]**98.50*[mm]*)/4343.70*[cm⁴]* = 181.41*[MPa]*	
Sforzo normale massimo	
$\sigma = \sigma_N + \sigma_M$ = 0.00*[MPa]* + 181.41*[MPa]* = 181.41*[MPa]*	
Sforzo normale perpendicolare	
$\sigma_\perp = \sigma/\sqrt{2}$ = 181.41*[MPa]*/√2 = 128.28*[MPa]*	
Sforzo tangente perpendicolare	
$\tau_\perp = \sigma/\sqrt{2}$ = 181.41*[MPa]*/√2 = 128.28*[MPa]*	



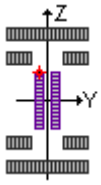
Coefficiente di resistenza saldature

β_w = 0.90

$\lvert\sigma_\perp\rvert \le 0.9*f_u/\gamma_{M2}$	|128.28*[MPa]*| < 352.80*[MPa]*	**0.26**	✓

$\sqrt{[\sigma_\perp^2+3*(\tau_\perp^2)]} \le f_u/(\beta_w*\gamma_{M2})$	256.56*[MPa]* < 435.56*[MPa]*	**0.59**	✓

Punto in cui le sollecitazioni vengono controllate	z_i = 67.00*[mm]*
Modulo elastico delle saldature	
W_w = 648.31*[cm³]*	
Sollecitazione da forza assiale	
$\sigma_N = N_0/A_w$ = 0.00*[kN]*/60.77*[cm²]* = 0.00*[MPa]*	
Sollecitazione dovuta alla flessione	
$\sigma_M = (M_0*z_i)/I_w$ = (80.00*[kNm]**67.00*[mm]*)/4343.70*[cm⁴]* = 123.40*[MPa]*	
Sforzo normale massimo	
$\sigma = \sigma_N + \sigma_M$ = 0.00*[MPa]* + 123.40*[MPa]* = 123.40*[MPa]*	
Sforzo normale perpendicolare	
$\sigma_\perp = \sigma/\sqrt{2}$ = 123.40*[MPa]*/√2 = 87.25*[MPa]*	
Sforzo tangente perpendicolare	
$\tau_\perp = \sigma/\sqrt{2}$ = 123.40*[MPa]*/√2 = 87.25*[MPa]*	
Sforzo tangente parallelo	
$\tau_{II} = V_0/A_{ww}$ = 40.00*[kN]*/10.72*[cm²]* = 37.31*[MPa]*	



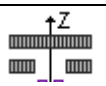
Coefficiente di resistenza saldature

β_w = 0.90

$\lvert\sigma_\perp\rvert \le 0.9*f_u/\gamma_{M2}$	|87.25*[MPa]*| < 352.80*[MPa]*	**0.18**	✓

$\sqrt{[\sigma_\perp^2+3*(\tau_\perp^2+\tau_{II}^2)]} \le f_u/(\beta_w*\gamma_{M2})$	186.09*[MPa]* < 435.56*[MPa]*	**0.43**	✓

Punto in cui le sollecitazioni vengono controllate	z_i = -67.00*[mm]*
Modulo elastico delle saldature	
W_w = 648.31*[cm³]*	



Sollecitazione da forza assiale
$\sigma_N = N_0/A_w = 0.00[kN]/60.77[cm^2] = 0.00[MPa]$
Sollecitazione dovuta alla flessione
$\sigma_M = (M_0*z_i)/I_w = (80.00[kNm]*(-67.00[mm]))/4343.70[cm^4] = -123.40[MPa]$
Sforzo normale massimo
$\sigma = \sigma_N + \sigma_M = 0.00[MPa] + (-123.40[MPa]) = -123.40[MPa]$
Sforzo normale perpendicolare
$\sigma_\perp = \sigma/\sqrt{2} = -123.40[MPa]/\sqrt{2} = -87.25[MPa]$
Sforzo tangente perpendicolare
$\tau_\perp = \sigma/\sqrt{2} = -123.40[MPa]/\sqrt{2} = -87.25[MPa]$
Sforzo tangente parallelo
$\tau_{II} = V_0/A_{ww} = 40.00[kN]/10.72[cm^2] = 37.31[MPa]$

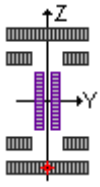
Coefficiente di resistenza saldature

$\beta_w = 0.90$

$\lvert\sigma_\perp\rvert \le 0.9*f_u/\gamma_{M2}$	$\lvert -87.25[MPa]\rvert < 352.80[MPa]$	**0.18**	✓

$\sqrt{[\sigma_\perp^2+3*(\tau_\perp^2+\tau_{II}^2)]} \le f_u/(\beta_w*\gamma_{M2})$	$186.09[MPa] < 435.56[MPa]$	**0.43**	✓

Punto in cui le sollecitazioni vengono controllate	$z_i = -98.50[mm]$
Modulo elastico delle saldature	
$W_w = 440.98[cm^3]$	
Sollecitazione da forza assiale	
$\sigma_N = N_0/A_w = 0.00[kN]/60.77[cm^2] = 0.00[MPa]$	
Sollecitazione dovuta alla flessione	
$\sigma_M = (M_0*z_i)/I_w = (80.00[kNm]*(-98.50[mm]))/4343.70[cm^4] = -181.41[MPa]$	
Sforzo normale massimo	
$\sigma = \sigma_N + \sigma_M = 0.00[MPa] + (-181.41[MPa]) = -181.41[MPa]$	
Sforzo normale perpendicolare	
$\sigma_\perp = \sigma/\sqrt{2} = -181.41[MPa]/\sqrt{2} = -128.28[MPa]$	
Sforzo tangente perpendicolare	
$\tau_\perp = \sigma/\sqrt{2} = -181.41[MPa]/\sqrt{2} = -128.28[MPa]$	



Coefficiente di resistenza saldature

$\beta_w = 0.90$

$\lvert\sigma_\perp\rvert \le 0.9*f_u/\gamma_{M2}$	$\lvert -128.28[MPa]\rvert < 352.80[MPa]$	**0.26**	✓

$\sqrt{[\sigma_\perp^2+3*(\tau_\perp^2)]} \le f_u/(\beta_w*\gamma_{M2})$	$256.56[MPa] < 435.56[MPa]$	**0.59**	✓

Rigidezza di rotazione del giunto

Pannello d'anima della colonna soggetto a taglio

$k_1 = (0.385*A_{vc})/(\beta*h) = (0.385*25.68[cm^2])/(1.00*2568.17[mm]) = 5.42[mm]$

Anima colonna in compressione trasversale

k_2 = oo

Anima colonna in tensione trasversale

$k_3 = (0.7*b_{eff,t,wc}*t_{wc})/d_c = (0.7*150.00[mm]*7.10[mm])/2568.17[mm] = 7.28[mm]$

Rigidezza di rotazione iniziale del giunto

$S_{j,ini} = E*z_{eq}^2/(1/k_1+1/k_2+1/k_3) = (210000.00[MPa]*(180.00[mm])^2)/(1/5.42[mm] + 1/oo + 1/7.28[mm]) = 13596.33[kNm]$

Rigidezza di rotazione del giunto chiodato

$S_{j,pin} = (0.5*E*I_{yb})/L_b = (0.5*210000.00[MPa]*3692.16[cm^4])/4000.00[mm] = 969.19[kNm]$

Rigidezza di rotazione del giunto rigido

$S_{j,rig} = (0.5*E*I_{yb})/L_b = (0.5*210000.00[MPa]*3692.16[cm^4])/4000.00[mm] = 48459.54[kNm]$

Scala di rigidezza

$\mu = 1.00$

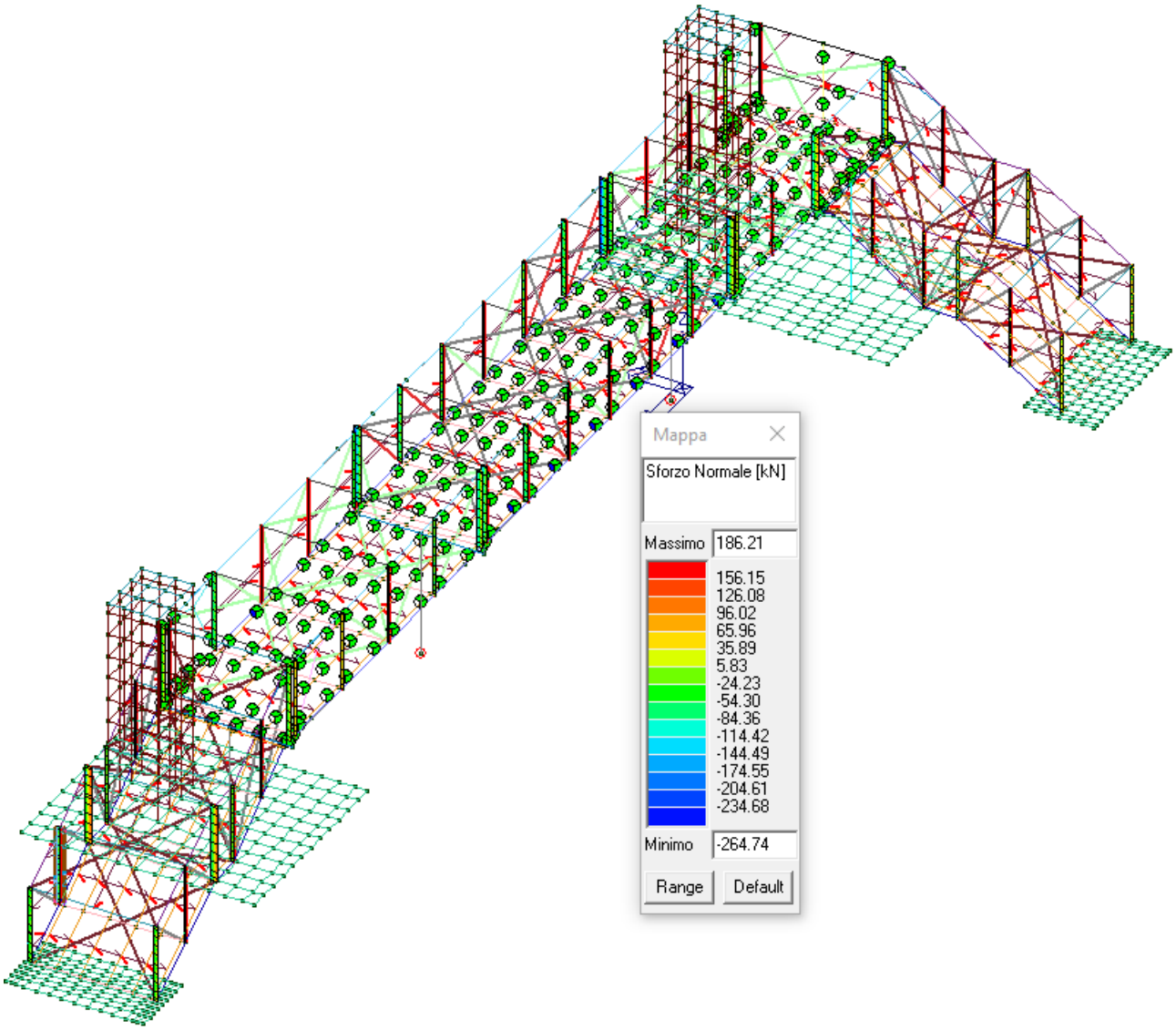
Rigidezza di rotazione del giunto

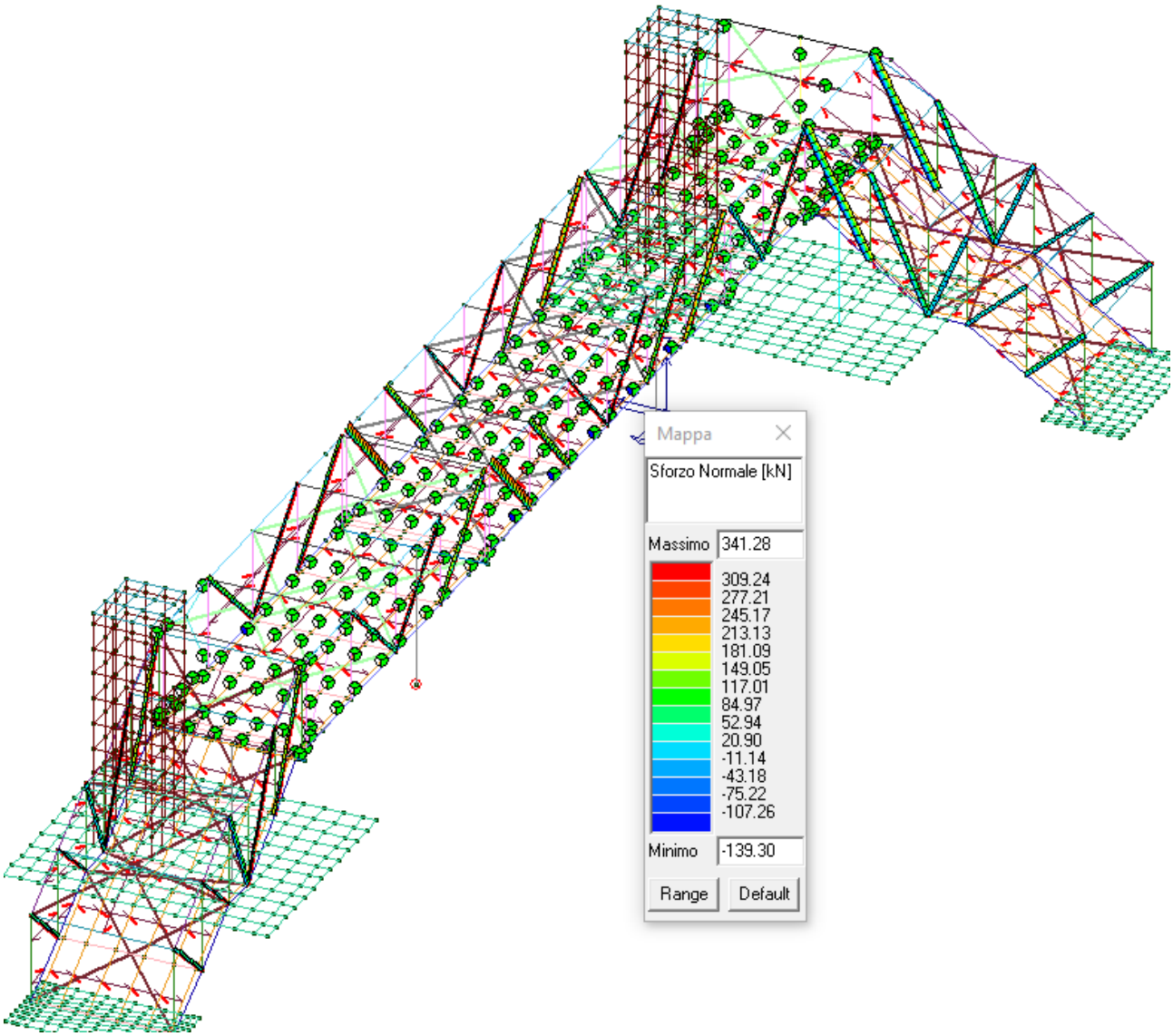
$S_j = S_{j,ini}/\mu = 13596.33[kNm]/1.00 = 13596.33[kNm]$

Classificazione dei giunti

Semi-rigido

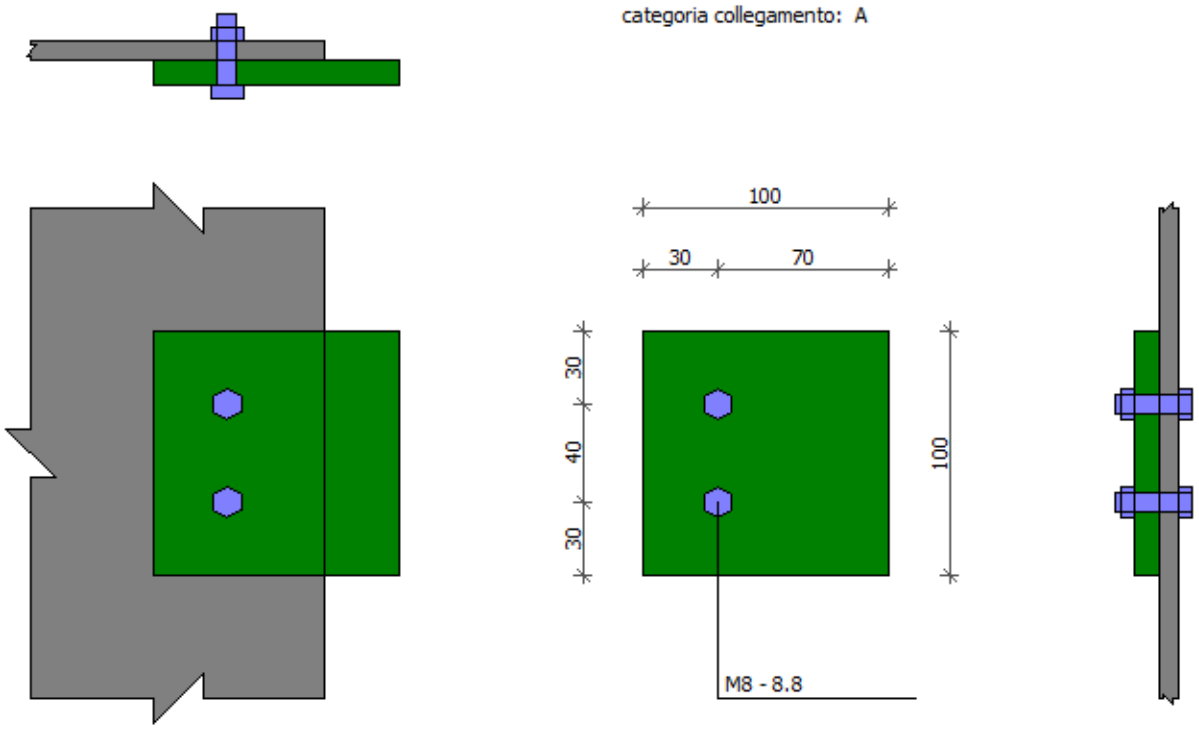
Lo sforzo normale viene affidato alle saldature delle nervature verticali:



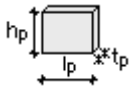


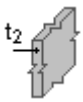
inclinazione per sforzo massimo = 47 °
azione verticale = 345 kN * sen 47° = 253 kN
azione orizzontale = 345 kN * cos 47° = 235 kN
Azione totale di progetto parallela al cordone = 253 kN + 190 kN = 445 kN
Azione totale di progetto perpendicolare al cordone = 235 kN

	Piastra a piastra	Rapporto: 0.53	
PlateToPlate v. 1.0.0.10	EN 1993-1-8:2006		



Dati

Piastra			
	l_p	h_p	t_p
	12.00*[mm]*	250.00*[mm]*	12.00*[mm]*
Materiale	Grado	f_y	f_u
	S 355	355.00*[MPa]*	490.00*[MPa]*

Elemento			
	t_2		
	6.50*[mm]*		
Materiale	Grado	f_y	f_u
	S 355	355.00*[MPa]*	490.00*[MPa]*

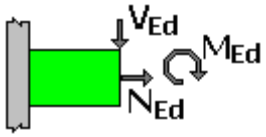
Saldature

Spessore saldatura dell'angolare piastra di collegamento ed elementi a_w = 8.00 *[mm]*

Forze

Carichi di progetto

Forza assiale	N_{Ed} =	235.00	*[kN]*
Forza di taglio	V_{Ed} =	445.00	*[kN]*
Momento flettente	M_{Ed} =	0.00	*[kNm]*



Risultati

Saldature dell'angolare che collegano piastra e elemento

Forze nelle saldature

Forza assiale
$N_0 = 0.5*N_{Ed} = 0.5*235.00[kN] = 117.50[kN]$
Forza di taglio
$V_0 = 0.5*V_{Ed} = 0.5*445.00[kN] = 222.50[kN]$
Eccentricitŕ della forza relativa al baricentro delle saldature
$e_0 = 12.00[mm]$
Momento flettente reale
$M_0 = 0.5*M_{Ed} + V_0*e_0 = 0.5*0.00[kNm] + 222.50[kN]*12.00[mm] = 2.67[kNm]$

Area delle saldature
$A_s = l*a = 250.00[mm]*8.00[mm] = 20.00[cm^2]$
Modulo elastico di resistenza della saldatura
$W_s = [l^2*a]/6 = [(250.00[mm])^2*8.00[mm]]/6 = 83.33[cm^3]$
Tensione massima
$\sigma = N_0/A_s + M_0/W_s = 117.50[kN]/20.00[cm^2] + 2.67[kNm]/83.33[cm^3] = 90.79[MPa]$
Sforzo normale perpendicolare
$\sigma_\perp = \sigma/\sqrt{2} = 90.79[MPa]/\sqrt{2} = 64.20[MPa]$

$\lvert\sigma_\perp\rvert \le 0.9*f_u/\gamma_{M2}$	$\lvert 64.20[MPa]\rvert < 352.80[MPa]$	**0.18**	✓

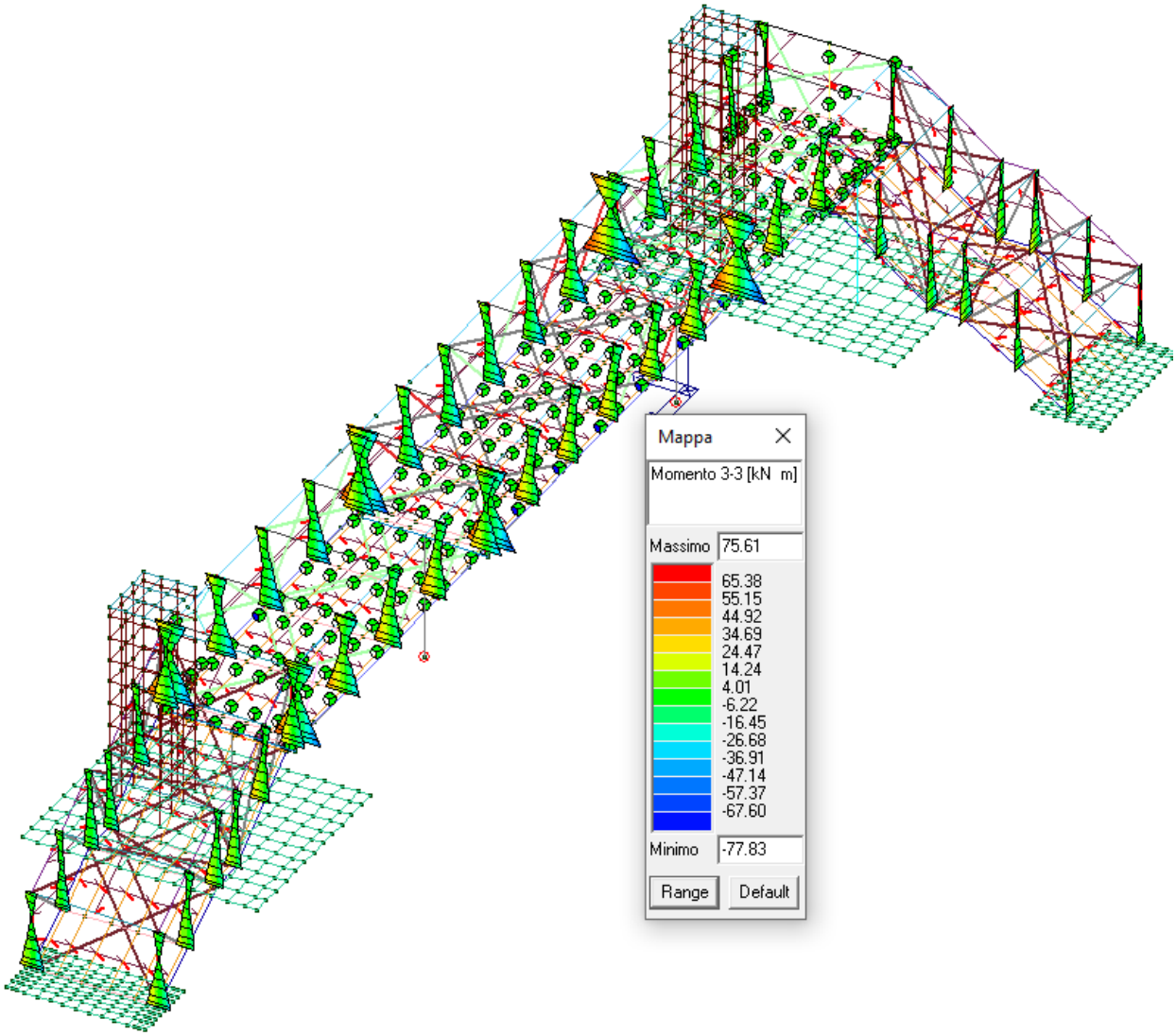
Sforzo tangente perpendicolare
$\tau_\perp = \sigma/\sqrt{2} = 90.79[MPa]/\sqrt{2} = 64.20[MPa]$
Sforzo tangente parallelo
$\tau_{II} = V_0/A_s = 222.50[kN]/20.00[cm^2] = 111.25[MPa]$

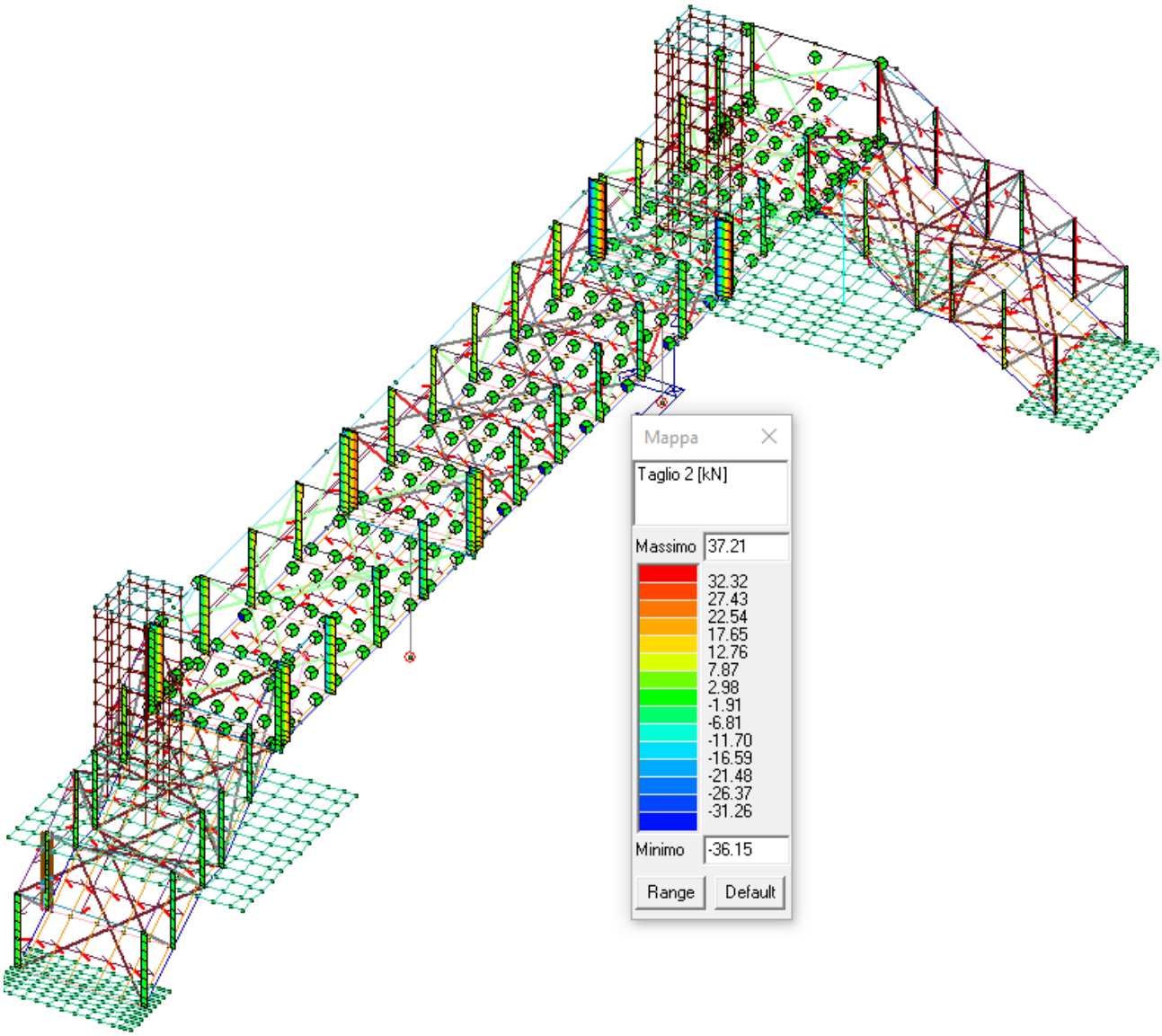
Sforzo equivalente
$\sqrt{[\sigma_\perp^2+3*(\tau_\perp^2+\tau_{II}^2)]} = \sqrt{[(64.20[MPa])^2+3*((64.20[MPa])^2+(111.25[MPa])^2)]} = 231.55[MPa]$

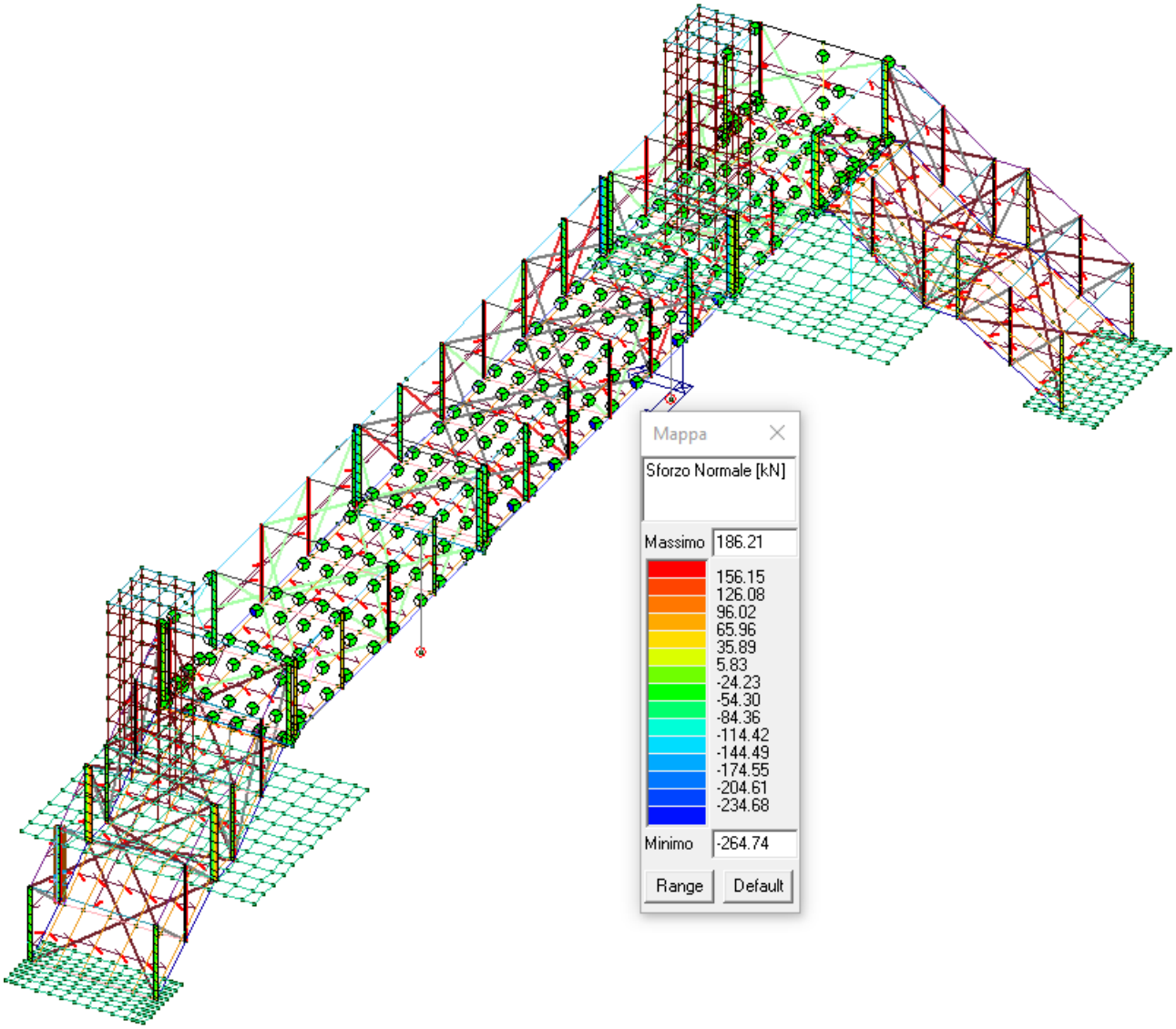
Coefficiente di correlazione
$\beta_w = 0.90$

$\sqrt{[\sigma_\perp^2+3*(\tau_\perp^2+\tau_{II}^2)]} \le f_u/(\beta_w*\gamma_{M2})$	$231.55[MPa] < 435.56[MPa]$	**0.53**	✓

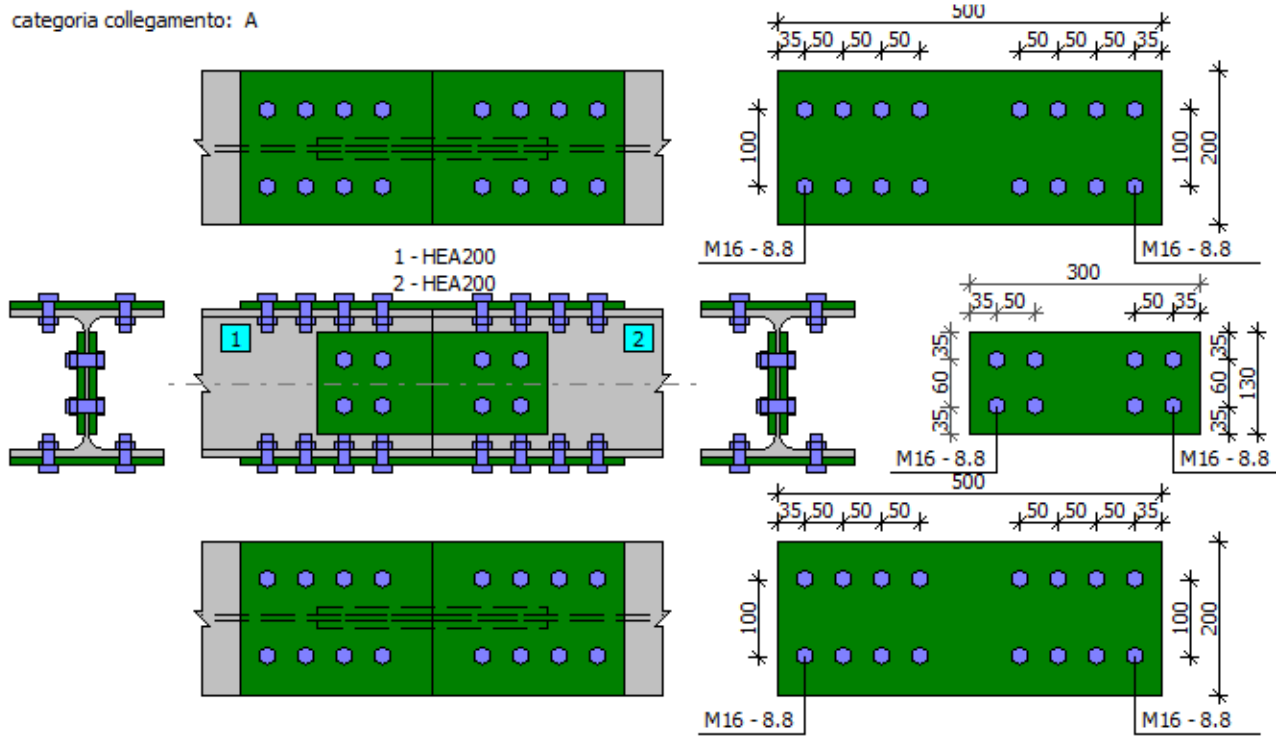
COLLEGAMENTO IMBULLONATO INTERRUZIONE MONTANTE CAPRIATA



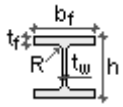

Mappa
Taglio 2 [kN]
Massimo 37.21
32.32
27.43
22.54
17.65
12.76
7.87
2.98
-1.91
-6.81
-11.70
-16.59
-21.48
-26.37
-31.26
Minimo -36.15
Range
Default


Mappa
Sforzo Normale [kN]
Massimo
186.21
156.15
126.08
96.02
65.96
35.89
5.83
-24.23
-54.30
-84.36
-114.42
-144.49
-174.55
-204.61
-234.68
Minimo
-264.74
Range
Default

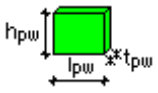
	Trave - trave (giunto)	Rapporto: 0.96	
BeamsSplice v. 1.0.0.10	EN 1993-1-8:2006		



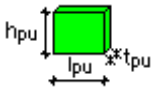
Dati

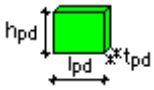
Trave sinistra HEA200					
	h_b	b_{fb}	t_{fb}	t_{wb}	R_b
	190.00*[mm]*	200.00*[mm]*	10.00*[mm]*	6.50*[mm]*	18.00*[mm]*
	A_b	J_{y0b}	J_{z0b}	y_{0b}	z_{0b}
	53.83*[cm²]*	3692.16*[cm⁴]*	1335.51*[cm⁴]*	100.00*[mm]*	95.00*[mm]*
Materiale	Grado	f_y	f_u		
	S 355	355.00*[MPa]*	490.00*[MPa]*		

Trave destra HEA200					
	h_b	b_{fb}	t_{fb}	t_{wb}	R_b
	190.00*[mm]*	200.00*[mm]*	10.00*[mm]*	6.50*[mm]*	18.00*[mm]*
	A_b	J_{y0b}	J_{z0b}	y_{0b}	z_{0b}
	53.83*[cm²]*	3692.16*[cm⁴]*	1335.51*[cm⁴]*	100.00*[mm]*	95.00*[mm]*
Materiale	Grado	f_y	f_u		
	S 355	355.00*[MPa]*	490.00*[MPa]*		

Anima piastra			
	l_{pw}	h_{pw}	t_{pw}
	300.00*[mm]*	130.00*[mm]*	10.00*[mm]*

Materiale	Grado	f_y	f_u
	S 355	355.00*[MPa]*	490.00*[MPa]*

Flangia sopra piastra			
	l_{pu}	h_{pu}	t_{pu}
	500.00*[mm]*	200.00*[mm]*	10.00*[mm]*
Materiale	Grado	f_y	f_u
	S 355	355.00*[MPa]*	490.00*[MPa]*

Flangia sotto piastra			
	l_{pd}	h_{pd}	t_{pd}
	500.00*[mm]*	200.00*[mm]*	10.00*[mm]*
Materiale	Grado	f_y	f_u
	S 355	355.00*[MPa]*	490.00*[MPa]*

Lato sinistro

Bulloni di collegamento piastra di giunzione e anima della trave

Grado bullone	Grado	8.8	
Limite di snervamento	f_{yb} =	640.00	*[MPa]*
Resistenza a tensione	f_{ub} =	800.00	*[MPa]*
Diametro bullone	d =	16.00	*[mm]*
Diametro apertura bullone	d_0 =	18.00	*[mm]*
Area sezione bullone	A =	2.01	*[cm²]*
Area effetiva sezione bullone	A_s =	1.57	*[cm²]*
Numero righe	w =	2.00	
Numbero colonne	k =	2.00	
Distanza dal bordo orizzontale	e_1 =	35.00	*[mm]*
Distanza dal bordo verticale	e_2 =	35.00	*[mm]*
Spaziatura verticale	p_1 =	60.00	*[mm]*
Spaziatura orizzontale	p_2 =	50.00	*[mm]*

Bulloni di collegamento piastra di giunzione e flangia della trave

Grado bullone	Grado	8.8	
Limite di snervamento	f_{yb} =	640.00	*[MPa]*
Resistenza a tensione	f_{ub} =	800.00	*[MPa]*
Diametro bullone	d =	16.00	*[mm]*
Diametro apertura bullone	d_0 =	18.00	*[mm]*
Area sezione bullone	A =	2.01	*[cm²]*
Area effetiva sezione bullone	A_s =	1.57	*[cm²]*
Numero righe	w =	4.00	
Numbero colonne	k =	1.00	
Distanza dal bordo orizzontale	e_1 =	35.00	*[mm]*
Distanza dal bordo verticale	e_2 =	100.00	*[mm]*
Spaziatura verticale	p_1 =	50.00	*[mm]*
Spaziatura orizzontale	p_2 =	30.00	*[mm]*

Bulloni di collegamento piastra di giunzione e flangia della trave

Grado bullone	Grado	8.8	
Limite di snervamento	f_{yb} =	640.00	*[MPa]*
Resistenza a tensione	f_{ub} =	800.00	*[MPa]*
Diametro bullone	d =	16.00	*[mm]*
Diametro apertura bullone	d_0 =	18.00	*[mm]*
Area sezione bullone	A =	2.01	*[cm²]*
Area effetiva sezione bullone	A_s =	1.57	*[cm²]*
Numero righe	w =	4.00	
Numbero colonne	k =	1.00	
Distanza dal bordo orizzontale	e_1 =	35.00	*[mm]*
Distanza dal bordo verticale	e_2 =	100.00	*[mm]*
Spaziatura verticale	p_1 =	50.00	*[mm]*
Spaziatura orizzontale	p_2 =	30.00	*[mm]*

Lato destro

Bulloni di collegamento piastra di giunzione e anima della trave

Grado bullone	Grado	8.8	
Limite di snervamento	f_{yb} =	640.00	*[MPa]*
Resistenza a tensione	f_{ub} =	800.00	*[MPa]*
Diametro bullone	d =	16.00	*[mm]*
Diametro apertura bullone	d_0 =	18.00	*[mm]*
Area sezione bullone	A =	2.01	*[cm²]*
Area effetiva sezione bullone	A_s =	1.57	*[cm²]*
Numero righe	w =	2.00	
Numbero colonne	k =	2.00	
Distanza dal bordo orizzontale	e_1 =	35.00	*[mm]*
Distanza dal bordo verticale	e_2 =	35.00	*[mm]*
Spaziatura verticale	p_1 =	60.00	*[mm]*
Spaziatura orizzontale	p_2 =	50.00	*[mm]*

Bulloni di collegamento piastra di giunzione e flangia della trave

Grado bullone	Grado	8.8	
Limite di snervamento	f_{yb} =	640.00	*[MPa]*
Resistenza a tensione	f_{ub} =	800.00	*[MPa]*
Diametro bullone	d =	16.00	*[mm]*
Diametro apertura bullone	d_0 =	18.00	*[mm]*
Area sezione bullone	A =	2.01	*[cm²]*
Area effetiva sezione bullone	A_s =	1.57	*[cm²]*
Numero righe	w =	4.00	
Numbero colonne	k =	1.00	
Distanza dal bordo orizzontale	e_1 =	35.00	*[mm]*
Distanza dal bordo verticale	e_2 =	100.00	*[mm]*
Spaziatura verticale	p_1 =	50.00	*[mm]*
Spaziatura orizzontale	p_2 =	30.00	*[mm]*

Bulloni di collegamento piastra di giunzione e flangia della trave

Grado bullone	Grado	8.8	
Limite di snervamento	f_{yb} =	640.00	*[MPa]*
Resistenza a tensione	f_{ub} =	800.00	*[MPa]*
Diametro bullone	d =	16.00	*[mm]*
Diametro apertura bullone	d_0 =	18.00	*[mm]*
Area sezione bullone	A =	2.01	*[cm²]*
Area effetiva sezione bullone	A_s =	1.57	*[cm²]*
Numero righe	w =	4.00	
Numbero colonne	k =	1.00	
Distanza dal bordo orizzontale	e_1 =	35.00	*[mm]*
Distanza dal bordo verticale	e_2 =	100.00	*[mm]*
Spaziatura verticale	p_1 =	50.00	*[mm]*
Spaziatura orizzontale	p_2 =	30.00	*[mm]*

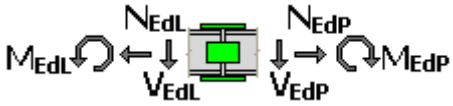
Coefficienti materiali

Coefficiente	γ_{M0} =	1.00
Coefficiente	γ_{M2} =	1.25

Forze

Carichi di progetto ULS

Forza assiale	N_{EdL} =	190.00	*[kN]*
Forza di taglio	V_{EdL} =	40.00	*[kN]*
Momento flettente	M_{EdL} =	80.00	*[kNm]*
Forza assiale	N_{EdP} =	190.00	*[kN]*
Forza di taglio	V_{EdP} =	40.00	*[kN]*
Momento flettente	M_{EdP} =	80.00	*[kNm]*



Risultati

Lato sinistro

Bulloni di collegamento piastra di giunzione e anima della trave

Area della sezione di taglio del bullone
A = A_s = 1.57*[cm²]*
Resistenza al taglio del bullone in una superficie
$F_{v,Rd}$ = (α_v*m*f_{ub}*A)/γ_{M2} = (0.60*2*800.00*[MPa]*1.57*[cm²]*)/1.25 = 120.58*[kN]*
Bullone di supporto

Bullone di supporto sulla trave

	e_{11} = 65.00*[mm]*
	e_{12} = 65.00*[mm]*

	e_{21} = 65.00*[mm]*
e_{1min} = min[e_{11}; e_{12}] = 65.00*[mm]*	
e_{2min} = min[e_{21}] = 65.00*[mm]*	

Direzione X

Coefficiente determinato dalla spaziatura bulloni

k_{1x} = min[2.8*(e_{1min}/d_0)-1.7; 1.4*(p_1/d_0)-1.7; 2.5] = min[2.8*(65.00*[mm]*/18.00*[mm]*)-1.7; 1.4*(60.00*[mm]*/18.00*[mm]*)-1.7; 2.5] = 2.50

k_{1x} > 0	2.50 > 0.00	✓

Coefficiente determinato dalla spaziatura bulloni

α_{bx} = min[e_{2min}/(3*d_0); p_2/(3*d_0)-0.25; f_{ub}/f_u; 1] = min[65.00*[mm]*/(3*18.00*[mm]*); (50.00*[mm]*/(3*18.00*[mm]*))-0.25; 800.00*[MPa]*/490.00*[MPa]*; 1] = 0.68

α_{bx} > 0	0.68 > 0.00	✓

Resistenza del bullone di supporto

$F_{b,Rd1x}$ = (k_{1x}*α_{bx}*f_u*d*Σt_i)/γ_{M2} = (2.50*0.68*490.00*[MPa]*16.00*[mm]*6.50*[mm]*)/1.25 = 68.89*[kN]*

Direzione Z

Coefficiente determinato dalla spaziatura bulloni

k_{1z} = min[2.8*(e_{2min}/d_0)-1.7; 1.4*(p_2/d_0)-1.7; 2.5] = min[2.8*(65.00*[mm]*/18.00*[mm]*)-1.7; 1.4*(50.00*[mm]*/18.00*[mm]*)-1.7; 2.5] = 2.19

k_{1z} > 0	2.19 > 0.00	✓

Coefficiente determinato dalla spaziatura bulloni

α_{bz} = min[e_{1min}/(3*d_0); p_1/(3*d_0)-0.25; f_{ub}/f_u; 1] = min[65.00*[mm]*/(3*18.00*[mm]*); (60.00*[mm]*/(3*18.00*[mm]*))-0.25; 800.00*[MPa]*/490.00*[MPa]*; 1] = 0.86

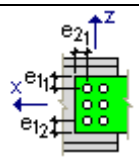
α_{bz} > 0	0.86 > 0.00	✓

Resistenza del bullone di supporto

$F_{b,Rd1z}$ = (k_{1z}*α_{bz}*f_u*d*Σt_i)/γ_{M2} = (2.19*0.86*490.00*[MPa]*16.00*[mm]*6.50*[mm]*)/1.25 = 76.84*[kN]*

Bullone di supporto

Supporto bullone sll'anima della piastra

	e_{11} = 35.00*[mm]*
	e_{12} = 35.00*[mm]*
	e_{21} = 35.00*[mm]*
e_{1min} = min[e_{11}; e_{12}] = 35.00*[mm]*	
e_{2min} = min[e_{21}] = 35.00*[mm]*	

Direzione X

Coefficiente determinato dalla spaziatura bulloni

k_{1x} = min[2.8*(e_{1min}/d_0)-1.7; 1.4*(p_1/d_0)-1.7; 2.5] = min[2.8*(35.00*[mm]*/18.00*[mm]*)-1.7; 1.4*(60.00*[mm]*/18.00*[mm]*)-1.7; 2.5] = 2.50

k_{1x} > 0	2.50 > 0.00	✓

Coefficiente determinato dalla spaziatura bulloni

α_{bx} = min[e_{2min}/(3*d_0); p_2/(3*d_0)-0.25; f_{ub}/f_u; 1] = min[35.00*[mm]*/(3*18.00*[mm]*); (50.00*[mm]*/(3*18.00*[mm]*))-0.25; 800.00*[MPa]*/490.00*[MPa]*; 1] = 0.65

α_{bx} > 0	0.65 > 0.00	✓

Resistenza del bullone di supporto

$F_{b,Rd2x}$ = (k_{1x}*α_{bx}*f_u*d*Σt_i)/γ_{M2} = (2.50*0.68*490.00*[MPa]**16.00*[mm]**10.00*[mm]*)/1.25 = 101.63*[kN]*

Direzione Z

Coefficiente determinato dalla spaziatura bulloni

k_{1z} = min[2.8*(e_{2min}/d_0)-1.7; 1.4*(p_2/d_0)-1.7; 2.5] = min[2.8*(35.00*[mm]*/18.00*[mm]*)-1.7; 1.4*(50.00*[mm]*/18.00*[mm]*)-1.7; 2.5] = 2.19

k_{1z} > 0	2.19 > 0.00	✓

Coefficiente determinato dalla spaziatura bulloni

α_{bz} = min[e_{1min}/(3*d_0); p_1/(3*d_0)-0.25; f_{ub}/f_u; 1] = min[35.00*[mm]*/(3*18.00*[mm]*); (60.00*[mm]*/(3*18.00*[mm]*))-0.25; 800.00*[MPa]*/490.00*[MPa]*; 1] = 0.65

α_{bz} > 0	0.65 > 0.00	✓

Resistenza del bullone di supporto

$F_{b,Rd2z}$ = (k_{1z}*α_{bz}*f_u*d*Σt_i)/γ_{M2} = (2.19*0.65*490.00*[MPa]**16.00*[mm]**10.00*[mm]*)/1.25 = 88.98*[kN]*

Stato limite ultimo

Momento d'inerzia anima trave

I_w = [t_{wb}*h_{wb}^3]/12 = [6.50*[mm]**(170.00*[mm]*)^3]/12 = 266.12*[cm^4]*

Momento parziale anima trave

M_w = [M_{EdL}*I_w]/I_{y0} = [80.00*[kNm]**266.12*[cm^4]*]/3692.16*[cm^4]* = 5.77*[kNm]*

Forze nei bulloni

Forza assiale

N_0 = N_{EdL}*A_{wb}/A_b = 190.00*[kN]**13.83*[cm^2]*/53.83*[cm^2]* = 48.82*[kN]*

Forza di taglio

V_0 = V_{EdL} = 40.00*[kN]*

Eccentricitŕ della forza relativa al baricentro dei bulloni

e_0 = 90.00*[mm]*

Momento flettente reale

M_0 = M_w+V_0*e_0 = 5.77*[kNm]* + 40.00*[kN]**90.00*[mm]* = 9.37*[kNm]*

Direzione X

Componente di forza nel bullone dovuta all'azione longitudinale

$F_{N,Ed}$ = N_0/n_b = 48.82*[kN]*/4 = 12.20*[kN]*

Componente di forza nel bullone dovuta al momento in direzione x
$F_{Mx,Ed} = (M_0 * z_{max})/\Sigma[x_i^2+z_i^2] = (9.37[kNm]*30.00[mm])/61.00[cm^2] = 46.06[kN]$
Forza totale sul bullone nella direzione X
$F_{x,Ed} = F_{N,Ed} + F_{Mx,Ed} = 12.20[kN] + 46.06[kN] = 58.27[kN]$

Progetto effettivo di capacitŕ del bullone
$F_{x,Rd} = \min[F_{b,Rd1x}; F_{b,Rd2x}] = \min[68.89[kN]; 101.63[kN]] = 68.89[kN]$

$\|F_{x,Ed}\| \le F_{x,Rd}$	$\|58.27[kN]\| < 68.89[kN]$	**0.85**	✓

Direzione Z

Componente di forza nel bullone dovuta all'azione di taglio
$F_{V,Ed} = V_0/n_b = 40.00[kN]/4 = 10.00[kN]$
Componente di forza nel bullone dovuta al momento in direzione z
$F_{Mz,Ed} = (M_0 * x_{max})/\Sigma[x_i^2+z_i^2] = (9.37[kNm]*25.00[mm])/61.00[cm^2] = 38.39[kN]$
Forza totale sul bullone nella direzione Z
$F_{z,Ed} = F_{V,Ed} + F_{Mz,Ed} = 10.00[kN] + 38.39[kN] = 48.39[kN]$

Progetto effettivo di capacitŕ del bullone
$F_{z,Rd} = \min[F_{b,Rd1z}; F_{b,Rd2z}] = \min[76.84[kN]; 88.98[kN]] = 76.84[kN]$

$\|F_{z,Ed}\| \le F_{z,Rd}$	$\|48.39[kN]\| < 76.84[kN]$	**0.63**	✓

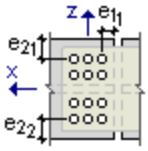
Risultante forza di taglio nel bullone
$F_{Ed} = \sqrt{[F_{x,Ed}^2 + F_{z,Ed}^2]} = \sqrt{[(58.27[kN])^2 + (48.39[kN])^2]} = 75.74[kN]$

$F_{Ed} \le F_{v,Rd}$	$75.74[kN] < 120.58[kN]$	**0.63**	✓

Bulloni di collegamento piastra di giunzione e flangia della trave

Area della sezione di taglio del bullone
$A = A_s = 1.57[cm^2]$
Resistenza al taglio del bullone in una superficie
$F_{v,Rd} = (\alpha_v * m * f_{ub} * A)/\gamma_{M2} = (0.60*1*800.00[MPa]*1.57[cm^2])/1.25 = 60.29[kN]$
Bullone di supporto

Bullone di supporto sulla flangia della trave

	$e_{11} = 65.00[mm]$
	$e_{21} = 50.00[mm]$
$e_{1min} = \min[e_{11}] = 65.00[mm]$	
$e_{2min} = \min[e_{21}] = 50.00[mm]$	

Direzione X

Coefficiente determinato dalla spaziatura bulloni

k_{1x} = min[2.8*(e_{1min}/d_0)-1.7; 1.4*(p_1/d_0)-1.7; 2.5] = min[2.8*(65.00*[mm]*/18.00*[mm]*)-1.7; 1.4*(50.00*[mm]*/18.00*[mm]*)-1.7; 2.5] = 2.19

k_{1x} > 0	2.19 > 0.00	✓

Coefficiente determinato dalla spaziatura bulloni

α_{bx} = min[e_{2min}/(3*d_0); f_{ub}/f_u; 1] = min[50.00*[mm]*/(3*18.00*[mm]*); 800.00*[MPa]*/490.00*[MPa]*; 1] = 0.93

α_{bx} > 0	0.93 > 0.00	✓

Resistenza del bullone di supporto

$F_{b,Rd1x}$ = (k_{1x}*α_{bx}*f_u*d*Σt_i)/γ_{M2} = (2.19*0.93*490.00*[MPa]*16.00*[mm]*10.00*[mm]*)/1.25 = 127.12*[kN]*

Direzione Z

Coefficiente determinato dalla spaziatura bulloni

k_{1z} = min[2.8*(e_{2min}/d_0)-1.7; 2.5] = min[2.8*(50.00*[mm]*/18.00*[mm]*)-1.7; 2.5] = 2.50

k_{1z} > 0	2.50 > 0.00	✓

Coefficiente determinato dalla spaziatura bulloni

α_{bz} = min[e_{1min}/(3*d_0); p_1/(3*d_0)-0.25; f_{ub}/f_u; 1] = min[65.00*[mm]*/(3*18.00*[mm]*); (50.00*[mm]*/(3*18.00*[mm]*))-0.25; 800.00*[MPa]*/490.00*[MPa]*; 1] = 0.68

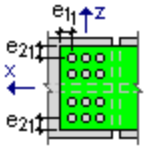
α_{bz} > 0	0.68 > 0.00	✓

Resistenza del bullone di supporto

$F_{b,Rd1z}$ = (k_{1z}*α_{bz}*f_u*d*Σt_i)/γ_{M2} = (2.50*0.68*490.00*[MPa]*16.00*[mm]*10.00*[mm]*)/1.25 = 105.99*[kN]*

Bullone di supporto

Supporto bullone su flangia piatta

	e_{11} = 35.00*[mm]*
	e_{21} = 50.00*[mm]*
e_{1min} = min[e_{11}] = 35.00*[mm]*	
e_{2min} = min[e_{21}] = 50.00*[mm]*	

Direzione X

Coefficiente determinato dalla spaziatura bulloni

k_{1x} = min[2.8*(e_{1min}/d_0)-1.7; 1.4*(p_1/d_0)-1.7; 2.5] = min[2.8*(35.00*[mm]*/18.00*[mm]*)-1.7; 1.4*(50.00*[mm]*/18.00*[mm]*)-1.7; 2.5] = 2.19

k_{1x} > 0	2.19 > 0.00	✓

Coefficiente determinato dalla spaziatura bulloni

α_{bx} = min[e_{2min}/(3*d_0); f_{ub}/f_u; 1] = min[50.00*[mm]*/(3*18.00*[mm]*); 800.00*[MPa]*/490.00*[MPa]*; 1] = 0.93

$\alpha_{bx} > 0$	0.93 > 0.00	✓

Resistenza del bullone di supporto

$F_{b,Rd2x} = (k_{1x}*\alpha_{bx}*f_u*d*\Sigma t_i)/\gamma_{M2} = (2.19*0.93*490.00[MPa]*16.00[mm]*10.00[mm])/1.25 = 127.12[kN]$

Direzione Z

Coefficiente determinato dalla spaziatura bulloni

$k_{1z} = \min[2.8*(e_{2min}/d_0)-1.7; 2.5] = \min[2.8*(50.00[mm]/18.00[mm])-1.7; 2.5] = 2.50$

$k_{1z} > 0$	2.50 > 0.00	✓

Coefficiente determinato dalla spaziatura bulloni

$\alpha_{bz} = \min[e_{1min}/(3*d_0); p_1/(3*d_0)-0.25; f_{ub}/f_u; 1] = \min[35.00[mm]/(3*18.00[mm]); (50.00[mm]/(3*18.00[mm]))-0.25; 800.00[MPa]/490.00[MPa]; 1] = 0.65$

$\alpha_{bz} > 0$	0.65 > 0.00	✓

Resistenza del bullone di supporto

$F_{b,Rd2z} = (k_{1z}*\alpha_{bz}*f_u*d*\Sigma t_i)/\gamma_{M2} = (2.50*0.65*490.00[MPa]*16.00[mm]*10.00[mm])/1.25 = 101.63[kN]$

Stato limite ultimo

Momento d'inerzia anima trave

$I_w = [t_{wb}*h_{wb}^3]/12 = [6.50[mm]*(170.00[mm])^3]/12 = 266.12[cm^4]$

Momento parziale anima trave

$M_w = [M_{EdL}*I_w]/I_{y0} = [80.00[kNm]*266.12[cm^4]]/3692.16[cm^4] = 5.77[kNm]$

Momento parziale flange trave

$M_f = M_{EdL}-M_w = 80.00[kNm]-5.77[kNm] = 74.23[kNm]$

Forze nei bulloni

Forza assiale

$N_0 = M_f/h_b + N_{EdL}*A_{fb}/A_b = 74.23[kNm]/190.00[mm] + 190.00[kN]*20.00[cm^2]/53.83[cm^2] = 461.30[kN]$

Risultante forza di taglio nel bullone

$F_{Ed} = N_0/n_b = 461.30[kN]/8 = 57.66[kN]$

Progetto effettivo di capacitŕ del bullone

$F_{Rd} = \min[F_{vRd}; F_{bRd1x}; F_{bRd2x}; F_{bRd1z}; F_{bRd2z}] = \min[60.29[kN]; 127.12[kN]; 127.12[kN]; 105.99[kN]; 101.63[kN]] = 60.29[kN]$

Coefficiente di riduzione per lunghi collegamenti

$\beta_{Lf} = \max[0.75; \min[1.0; 1 - (L-15*d)/(200*d)]] = \max[0.75; \min[1.0; 1 - (150.00[mm]-15*16.00[mm])/(200*16.00[mm])]] = 1.00$

$\lvert F_{Ed}\rvert \le \beta_{Lf}*F_{Rd}$	$\lvert 57.66[kN]\rvert < 60.29[kN]$	**0.96** ✓

Bulloni di collegamento flangia piatta e flangia inferiore trave

Area della sezione di taglio del bullone

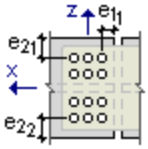
$A = A_s = 1.57[cm^2]$

Resistenza al taglio del bullone in una superficie

$F_{v,Rd} = (\alpha_v * m * f_{ub} * A)/\gamma_{M2} = (0.60*1*800.00[MPa]*1.57[cm^2])/1.25 = 60.29[kN]$

Bullone di supporto

Bullone di supporto sulla flangia della trave

	$e_{11} = 65.00[mm]$
	$e_{21} = 50.00[mm]$
$e_{1min} = \min[e_{11}] = 65.00[mm]$	
$e_{2min} = \min[e_{21}] = 50.00[mm]$	

Direzione X

Coefficiente determinato dalla spaziatura bulloni

$k_{1x} = \min[2.8*(e_{1min}/d_0)-1.7; 1.4*(p_1/d_0)-1.7; 2.5] = \min[2.8*(65.00[mm]/18.00[mm])-1.7; 1.4*(50.00[mm]/18.00[mm])-1.7; 2.5] = 2.19$

$k_{1x} > 0$ 2.19 > 0.00 ✓

Coefficiente determinato dalla spaziatura bulloni

$\alpha_{bx} = \min[e_{2min}/(3*d_0); f_{ub}/f_u; 1] = \min[50.00[mm]/(3*18.00[mm]); 800.00[MPa]/490.00[MPa]; 1] = 0.93$

$\alpha_{bx} > 0$ 0.93 > 0.00 ✓

Resistenza del bullone di supporto

$F_{b,Rd1x} = (k_{1x}*\alpha_{bx}*f_u*d*\Sigma t_i)/\gamma_{M2} = (2.19*0.93*490.00[MPa]*16.00[mm]*10.00[mm])/1.25 = 127.12[kN]$

Direzione Z

Coefficiente determinato dalla spaziatura bulloni

$k_{1z} = \min[2.8*(e_{2min}/d_0)-1.7; 2.5] = \min[2.8*(50.00[mm]/18.00[mm])-1.7; 2.5] = 2.50$

$k_{1z} > 0$ 2.50 > 0.00 ✓

Coefficiente determinato dalla spaziatura bulloni

$\alpha_{bz} = \min[e_{1min}/(3*d_0); p_1/(3*d_0)-0.25; f_{ub}/f_u; 1] = \min[65.00[mm]/(3*18.00[mm]); (50.00[mm]/(3*18.00[mm]))-0.25; 800.00[MPa]/490.00[MPa]; 1] = 0.68$

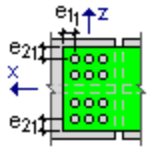
$\alpha_{bz} > 0$ 0.68 > 0.00 ✓

Resistenza del bullone di supporto

$F_{b,Rd1z} = (k_{1z}*\alpha_{bz}*f_u*d*\Sigma t_i)/\gamma_{M2} = (2.50*0.68*490.00[MPa]*16.00[mm]*10.00[mm])/1.25 = 105.99[kN]$

Bullone di supporto

Supporto bullone su flangia piatta

	e_{11} = 35.00*[mm]*
	e_{21} = 50.00*[mm]*
e_{1min} = min[e_{11}] = 35.00*[mm]*	
e_{2min} = min[e_{21}] = 50.00*[mm]*	

Direzione X

Coefficiente determinato dalla spaziatura bulloni

k_{1x} = min[2.8*(e_{1min}/d_0)-1.7; 1.4*(p_1/d_0)-1.7; 2.5] = min[2.8*(35.00*[mm]*/18.00*[mm]*)-1.7; 1.4*(50.00*[mm]*/18.00*[mm]*)-1.7; 2.5] = 2.19

k_{1x} > 0	2.19 > 0.00	✓

Coefficiente determinato dalla spaziatura bulloni

α_{bx} = min[e_{2min}/(3*d_0); f_{ub}/f_u; 1] = min[50.00*[mm]*/(3*18.00*[mm]*); 800.00*[MPa]*/490.00*[MPa]*; 1] = 0.93

α_{bx} > 0	0.93 > 0.00	✓

Resistenza del bullone di supporto

$F_{b,Rd2x}$ = (k_{1x}*α_{bx}*f_u*d*Σt_i)/γ_{M2} = (2.19*0.93*490.00*[MPa]**16.00*[mm]**10.00*[mm]*)/1.25 = 127.12*[kN]*

Direzione Z

Coefficiente determinato dalla spaziatura bulloni

k_{1z} = min[2.8*(e_{2min}/d_0)-1.7; 2.5] = min[2.8*(50.00*[mm]*/18.00*[mm]*)-1.7; 2.5] = 2.50

k_{1z} > 0	2.50 > 0.00	✓

Coefficiente determinato dalla spaziatura bulloni

α_{bz} = min[e_{1min}/(3*d_0); p_1/(3*d_0)-0.25; f_{ub}/f_u; 1] = min[35.00*[mm]*/(3*18.00*[mm]*); (50.00*[mm]*/(3*18.00*[mm]*))-0.25; 800.00*[MPa]*/490.00*[MPa]*; 1] = 0.65

α_{bz} > 0	0.65 > 0.00	✓

Resistenza del bullone di supporto

$F_{b,Rd2z}$ = (k_{1z}*α_{bz}*f_u*d*Σt_i)/γ_{M2} = (2.50*0.65*490.00*[MPa]**16.00*[mm]**10.00*[mm]*)/1.25 = 101.63*[kN]*

Stato limite ultimo

Momento d'inerzia anima trave

I_w = [t_{wb}*h_{wb}^3]/12 = [6.50*[mm]**(170.00*[mm]*)^3]/12 = 266.12*[cm^4]*

Momento parziale anima trave

M_w = [M_{EdL}*I_w]/I_{y0} = [80.00*[kNm]**266.12*[cm^4]*]/3692.16*[cm^4]* = 5.77*[kNm]*

Momento parziale flange trave

M_f = M_{EdL}-M_w = 80.00*[kNm]*-5.77*[kNm]* = 74.23*[kNm]*

Forze nei bulloni

Forza assiale

$N_0 = N_{EdL}*A_{fb}/A_b - M_f/h_b = 190.00[kN]*20.00[cm^2]/53.83[cm^2] - 74.23[kNm]/190.00[mm] = -320.11[kN]$

Risultante forza di taglio nel bullone

$F_{Ed} = N_0/n_b = -320.11[kN]/8 = -40.01[kN]$

Progetto effettivo di capacitŕ del bullone

$F_{Rd} = \min[F_{vRd}; F_{bRd1x}; F_{bRd2x}; F_{bRd1z}; F_{bRd2z}] = \min[60.29[kN]; 127.12[kN]; 127.12[kN]; 105.99[kN]; 101.63[kN]] = 60.29[kN]$

Coefficiente di riduzione per lunghi collegamenti

$\beta_{Lf} = \max[0.75; \min[1.0; 1 - (L-15*d)/(200*d)]] = \max[0.75; \min[1.0; 1 - (150.00[mm]-15*16.00[mm])/(200*16.00[mm])]] = 1.00$

$\lvert F_{Ed}\rvert \le \beta_{Lf}*F_{Rd}$	$\lvert -40.01[kN]\rvert < 60.29[kN]$	**0.66**	✓

Lacerazione blocco

Anima piastra

Forze interne

Forza di taglio

$V_0 = 0.5*V_{EdL} = 0.5*40.00[kN] = 20.00[kN]$

Superficie netta della sezione in tensione

$A_{nt} = [w_t - (n_t - 0.5)*d_0]*t = [110.00[mm] - (2 - 0.5)*18.00[mm]]*10.00[mm] = 13.30[cm^2]$

Superficie netta della sezione di taglio

$A_{nv} = [h_v - (n_v - 0.5)*d_0]*t = [125.00[mm] - (2 - 0.5)*18.00[mm]]*10.00[mm] = 9.80[cm^2]$

Resistenza lacerzione blocco

$V_{eff,2,Rd} = 0.5*f_u*A_{nt}/\gamma_{M2} + (1/\sqrt{3})*f_y*A_{nv}/\gamma_{M0} = 0.5*490.00[MPa]*13.30[cm^2]/1.25 + (1/\sqrt{3})*355.00[MPa]*9.80[cm^2]/1.00 = 461.54[kN]$

$\lvert V_0\rvert \le V_{eff,2,Rd}$	$\lvert 20.00[kN]\rvert < 461.54[kN]$	**0.04**	✓

Trave

Forze interne

Forza di taglio

$V_0 = V_{EdL} = 40.00[kN]$

Superficie netta della sezione in tensione

$A_{nt} = [w_t - (n_t - 0.5)*d_0]*t = [40.00[mm] - (2 - 0.5)*18.00[mm]]*6.50[mm] = 4.10[cm^2]$

Superficie netta della sezione di taglio

$A_{nv} = [h_v - (n_v - 0.5)*d_0]*t = [155.00[mm] - (2 - 0.5)*18.00[mm]]*6.50[mm] = 8.32[cm^2]$

Resistenza lacerzione blocco

$V_{eff,2,Rd} = 0.5*f_u*A_{nt}/\gamma_{M2} + (1/\sqrt{3})*f_y*A_{nv}/\gamma_{M0} = 0.5*490.00[MPa]*4.10[cm^2]/1.25 + (1/\sqrt{3})*355.00[MPa]*8.32[cm^2]/1.00 =$

250.79*[kN]*

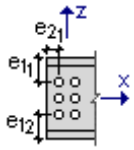
$\|V_0\| \le V_{eff,2,Rd}$	|40.00*[kN]*| < 250.79*[kN]*	**0.16**	✓

Lato destro

Bulloni di collegamento piastra di giunzione e anima della trave

Area della sezione di taglio del bullone
$A = A_s = 1.57$*[cm²]*
Resistenza al taglio del bullone in una superficie
$F_{v,Rd} = (\alpha_v * m * f_{ub} * A)/\gamma_{M2} = (0.60*2*800.00$*[MPa]*$*1.57$*[cm²]*$)/1.25 = 120.58$*[kN]*
Bullone di supporto

Bullone di supporto sulla trave

	e_{11} = 65.00*[mm]*
	e_{12} = 65.00*[mm]*
	e_{21} = 65.00*[mm]*
$e_{1min} = \min[e_{11}; e_{12}]$ = 65.00*[mm]*	
$e_{2min} = \min[e_{21}]$ = 65.00*[mm]*	

Direzione X

Coefficiente determinato dalla spaziatura bulloni
$k_{1x} = \min[2.8*(e_{1min}/d_0)-1.7; 1.4*(p_1/d_0)-1.7; 2.5] = \min[2.8*(65.00$*[mm]*$/18.00$*[mm]*$)-1.7; 1.4*(60.00$*[mm]*$/18.00$*[mm]*$)-1.7; 2.5] = 2.50$

$k_{1x} > 0$	2.50 > 0.00	✓

Coefficiente determinato dalla spaziatura bulloni
$\alpha_{bx} = \min[e_{2min}/(3*d_0); p_2/(3*d_0)-0.25; f_{ub}/f_u; 1] = \min[65.00$*[mm]*$/(3*18.00$*[mm]*$); (50.00$*[mm]*$/(3*18.00$*[mm]*$))-0.25; 800.00$*[MPa]*$/490.00$*[MPa]*$; 1] = 0.68$

$\alpha_{bx} > 0$	0.68 > 0.00	✓

Resistenza del bullone di supporto
$F_{b,Rd1x} = (k_{1x}*\alpha_{bx}*f_u*d*\Sigma t_i)/\gamma_{M2} = (2.50*0.68*490.00$*[MPa]*$*16.00$*[mm]*$*6.50$*[mm]*$)/1.25 = 68.89$*[kN]*

Direzione Z

Coefficiente determinato dalla spaziatura bulloni
$k_{1z} = \min[2.8*(e_{2min}/d_0)-1.7; 1.4*(p_2/d_0)-1.7; 2.5] = \min[2.8*(65.00$*[mm]*$/18.00$*[mm]*$)-1.7; 1.4*(50.00$*[mm]*$/18.00$*[mm]*$)-1.7; 2.5] = 2.19$

$k_{1z} > 0$	2.19 > 0.00	✓

Coefficiente determinato dalla spaziatura bulloni

α_{bz} = min[e_{1min}/(3*d_0); p_1/(3*d_0)-0.25; f_{ub}/f_u; 1] = min[65.00*[mm]*/(3*18.00*[mm]*); (60.00*[mm]*/(3*18.00*[mm]*))-0.25; 800.00*[MPa]*/490.00*[MPa]*; 1] = 0.86

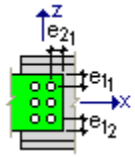
α_{bz} > 0	0.86 > 0.00	✓

Resistenza del bullone di supporto

$F_{b,Rd1z}$ = (k_{1z}*α_{bz}*f_u*d*Σt_i)/γ_{M2} = (2.19*0.86*490.00*[MPa]**16.00*[mm]**6.50*[mm]*)/1.25 = 76.84*[kN]*

Bullone di supporto

Supporto bullone sll'anima della piastra

	e_{11} = 35.00*[mm]*
	e_{12} = 35.00*[mm]*
	e_{21} = 35.00*[mm]*
e_{1min} = min[e_{11}; e_{12}] = 35.00*[mm]*	
e_{2min} = min[e_{21}] = 35.00*[mm]*	

Direzione X

Coefficiente determinato dalla spaziatura bulloni

k_{1x} = min[2.8*(e_{1min}/d_0)-1.7; 1.4*(p_1/d_0)-1.7; 2.5] = min[2.8*(35.00*[mm]*/18.00*[mm]*)-1.7; 1.4*(60.00*[mm]*/18.00*[mm]*)-1.7; 2.5] = 2.50

k_{1x} > 0	2.50 > 0.00	✓

Coefficiente determinato dalla spaziatura bulloni

α_{bx} = min[e_{2min}/(3*d_0); p_2/(3*d_0)-0.25; f_{ub}/f_u; 1] = min[35.00*[mm]*/(3*18.00*[mm]*); (50.00*[mm]*/(3*18.00*[mm]*))-0.25; 800.00*[MPa]*/490.00*[MPa]*; 1] = 0.65

α_{bx} > 0	0.65 > 0.00	✓

Resistenza del bullone di supporto

$F_{b,Rd2x}$ = (k_{1x}*α_{bx}*f_u*d*Σt_i)/γ_{M2} = (2.50*0.68*490.00*[MPa]**16.00*[mm]**10.00*[mm]*)/1.25 = 101.63*[kN]*

Direzione Z

Coefficiente determinato dalla spaziatura bulloni

k_{1z} = min[2.8*(e_{2min}/d_0)-1.7; 1.4*(p_2/d_0)-1.7; 2.5] = min[2.8*(35.00*[mm]*/18.00*[mm]*)-1.7; 1.4*(50.00*[mm]*/18.00*[mm]*)-1.7; 2.5] = 2.19

k_{1z} > 0	2.19 > 0.00	✓

Coefficiente determinato dalla spaziatura bulloni

α_{bz} = min[e_{1min}/(3*d_0); p_1/(3*d_0)-0.25; f_{ub}/f_u; 1] = min[35.00*[mm]*/(3*18.00*[mm]*); (60.00*[mm]*/(3*18.00*[mm]*))-0.25; 800.00*[MPa]*/490.00*[MPa]*; 1] = 0.65

α_{bz} > 0	0.65 > 0.00	✓

Resistenza del bullone di supporto

$F_{b,Rd2z}$ = (k_{1z}*α_{bz}*f_u*d*Σt_i)/γ_{M2} = (2.19*0.65*490.00*[MPa]**16.00*[mm]**10.00*[mm]*)/1.25 = 88.98*[kN]*

Stato limite ultimo

Momento d'inerzia anima trave

$I_w = [t_{wb}*h_{wb}^3]/12 = [6.50[mm]*(170.00[mm])^3]/12 = 266.12[cm^4]$

Momento parziale anima trave

$M_w = [M_{EdP}*I_w]/I_{y0} = [80.00[kNm]*266.12[cm^4]]/3692.16[cm^4] = 5.77[kNm]$

Forze nei bulloni

Forza assiale

$N_0 = N_{EdP}*A_{wb}/A_b = 190.00[kN]*13.83[cm^2]/53.83[cm^2] = 48.82[kN]$

Forza di taglio

$V_0 = V_{EdP} = 40.00[kN]$

Eccentricitŕ della forza relativa al baricentro dei bulloni

$e_0 = 90.00[mm]$

Momento flettente reale

$M_0 = M_w+V_0*e_0 = 5.77[kNm] + 40.00[kN]*90.00[mm] = 9.37[kNm]$

Direzione X

Componente di forza nel bullone dovuta all'azione longitudinale

$F_{N,Ed} = N_0/n_b = 48.82[kN]/4 = 12.20[kN]$

Componente di forza nel bullone dovuta al momento in direzione x

$F_{Mx,Ed} = (M_0*z_{max})/\Sigma[x_i^2+z_i^2] = (9.37[kNm]*30.00[mm])/61.00[cm^2] = 46.06[kN]$

Forza totale sul bullone nella direzione X

$F_{x,Ed} = F_{N,Ed} + F_{Mx,Ed} = 12.20[kN] + 46.06[kN] = 58.27[kN]$

Progetto effettivo di capacitŕ del bullone

$F_{x,Rd} = \min[F_{b,Rd1x}; F_{b,Rd2x}] = \min[68.89[kN]; 101.63[kN]] = 68.89[kN]$

$\|F_{x,Ed}\| \le F_{x,Rd}$	$\|58.27[kN]\| < 68.89[kN]$	**0.85**	✓

Direzione Z

Componente di forza nel bullone dovuta all'azione di taglio

$F_{V,Ed} = V_0/n_b = 40.00[kN]/4 = 10.00[kN]$

Componente di forza nel bullone dovuta al momento in direzione z

$F_{Mz,Ed} = (M_0*x_{max})/\Sigma[x_i^2+z_i^2] = (9.37[kNm]*25.00[mm])/61.00[cm^2] = 38.39[kN]$

Forza totale sul bullone nella direzione Z

$F_{z,Ed} = F_{V,Ed} + F_{Mz,Ed} = 10.00[kN] + 38.39[kN] = 48.39[kN]$

Progetto effettivo di capacitŕ del bullone

$F_{z,Rd} = \min[F_{b,Rd1z}; F_{b,Rd2z}] = \min[76.84[kN]; 88.98[kN]] = 76.84[kN]$

$\|F_{z,Ed}\| \le F_{z,Rd}$	$\|48.39[kN]\| < 76.84[kN]$	**0.63**	✓

Risultante forza di taglio nel bullone

$F_{Ed} = \sqrt{[F_{x,Ed}^2 + F_{z,Ed}^2]} = \sqrt{[(58.27[kN])^2 + (48.39[kN])^2]} = 75.74[kN]$

$F_{Ed} \leq F_{v,Rd}$	75.74*[kN]* < 120.58*[kN]*	**0.63**	✓

Bulloni di collegamento piastra di giunzione e flangia della trave

Area della sezione di taglio del bullone

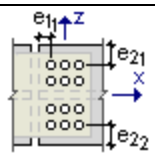
$A = A_s = 1.57$*[cm²]*

Resistenza al taglio del bullone in una superficie

$F_{v,Rd} = (\alpha_v * m * f_{ub} * A)/\gamma_{M2} = (0.60*1*800.00$*[MPa]*$*1.57$*[cm²]*$)/1.25 = 60.29$*[kN]*

Bullone di supporto

Bullone di supporto sulla flangia della trave

	$e_{11} = 65.00$*[mm]*
	$e_{21} = 50.00$*[mm]*
$e_{1min} = \min[e_{11}] = 65.00$*[mm]*	
$e_{2min} = \min[e_{21}] = 50.00$*[mm]*	

Direzione X

Coefficiente determinato dalla spaziatura bulloni

$k_{1x} = \min[2.8*(e_{1min}/d_0)-1.7; 1.4*(p_1/d_0)-1.7; 2.5] = \min[2.8*(65.00$*[mm]*$/18.00$*[mm]*$)-1.7; 1.4*(50.00$*[mm]*$/18.00$*[mm]*$)-1.7; 2.5] = 2.19$

$k_{1x} > 0$	2.19 > 0.00	✓

Coefficiente determinato dalla spaziatura bulloni

$\alpha_{bx} = \min[e_{2min}/(3*d_0); f_{ub}/f_u; 1] = \min[50.00$*[mm]*$/(3*18.00$*[mm]*$); 800.00$*[MPa]*$/490.00$*[MPa]*$; 1] = 0.93$

$\alpha_{bx} > 0$	0.93 > 0.00	✓

Resistenza del bullone di supporto

$F_{b,Rd1x} = (k_{1x}*\alpha_{bx}*f_u*d*\Sigma t_i)/\gamma_{M2} = (2.19*0.93*490.00$*[MPa]*$*16.00$*[mm]*$*10.00$*[mm]*$)/1.25 = 127.12$*[kN]*

Direzione Z

Coefficiente determinato dalla spaziatura bulloni

$k_{1z} = \min[2.8*(e_{2min}/d_0)-1.7; 2.5] = \min[2.8*(50.00$*[mm]*$/18.00$*[mm]*$)-1.7; 2.5] = 2.50$

$k_{1z} > 0$	2.50 > 0.00	✓

Coefficiente determinato dalla spaziatura bulloni

$\alpha_{bz} = \min[e_{1min}/(3*d_0); p_1/(3*d_0)-0.25; f_{ub}/f_u; 1] = \min[65.00$*[mm]*$/(3*18.00$*[mm]*$); (50.00$*[mm]*$/(3*18.00$*[mm]*$))-0.25; 800.00$*[MPa]*$/490.00$*[MPa]*$; 1] = 0.68$

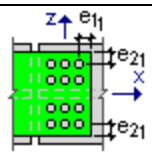
$\alpha_{bz} > 0$	0.68 > 0.00	✓

Resistenza del bullone di supporto

$F_{b,Rd1z} = (k_{1z}*\alpha_{bz}*f_u*d*\Sigma t_i)/\gamma_{M2} = (2.50*0.68*490.00[MPa]*16.00[mm]*10.00[mm])/1.25 = 105.99[kN]$

Bullone di supporto

Supporto bullone su flangia piatta

	$e_{11} = 35.00[mm]$
	$e_{21} = 50.00[mm]$
$e_{1min} = \min[e_{11}] = 35.00[mm]$	
$e_{2min} = \min[e_{21}] = 50.00[mm]$	

Direzione X

Coefficiente determinato dalla spaziatura bulloni

$k_{1x} = \min[2.8*(e_{1min}/d_0)-1.7; 1.4*(p_1/d_0)-1.7; 2.5] = \min[2.8*(35.00[mm]/18.00[mm])-1.7; 1.4*(50.00[mm]/18.00[mm])-1.7; 2.5] = 2.19$

$k_{1x} > 0$	2.19 > 0.00	✓

Coefficiente determinato dalla spaziatura bulloni

$\alpha_{bx} = \min[e_{2min}/(3*d_0); f_{ub}/f_u; 1] = \min[50.00[mm]/(3*18.00[mm]); 800.00[MPa]/490.00[MPa]; 1] = 0.93$

$\alpha_{bx} > 0$	0.93 > 0.00	✓

Resistenza del bullone di supporto

$F_{b,Rd2x} = (k_{1x}*\alpha_{bx}*f_u*d*\Sigma t_i)/\gamma_{M2} = (2.19*0.93*490.00[MPa]*16.00[mm]*10.00[mm])/1.25 = 127.12[kN]$

Direzione Z

Coefficiente determinato dalla spaziatura bulloni

$k_{1z} = \min[2.8*(e_{2min}/d_0)-1.7; 2.5] = \min[2.8*(50.00[mm]/18.00[mm])-1.7; 2.5] = 2.50$

$k_{1z} > 0$	2.50 > 0.00	✓

Coefficiente determinato dalla spaziatura bulloni

$\alpha_{bz} = \min[e_{1min}/(3*d_0); p_1/(3*d_0)-0.25; f_{ub}/f_u; 1] = \min[35.00[mm]/(3*18.00[mm]); (50.00[mm]/(3*18.00[mm]))-0.25; 800.00[MPa]/490.00[MPa]; 1] = 0.65$

$\alpha_{bz} > 0$	0.65 > 0.00	✓

Resistenza del bullone di supporto

$F_{b,Rd2z} = (k_{1z}*\alpha_{bz}*f_u*d*\Sigma t_i)/\gamma_{M2} = (2.50*0.65*490.00[MPa]*16.00[mm]*10.00[mm])/1.25 = 101.63[kN]$

Stato limite ultimo

Momento d'inerzia anima trave

$I_w = [t_{wb}*h_{wb}^3]/12 = [6.50[mm]*(170.00[mm])^3]/12 = 266.12[cm^4]$

Momento parziale anima trave

$M_w = [M_{EdP}*I_w]/I_{y0} = [80.00[kNm]*266.12[cm^4]]/3692.16[cm^4] = 5.77[kNm]$

Momento parziale flange trave

$M_f = M_{EdP}-M_w = 80.00[kNm]-5.77[kNm] = 74.23[kNm]$

Forze nei bulloni

Forza assiale

$N_0 = M_f/h_b + N_{EdL}*A_{fb}/A_b = 74.23[kNm]/190.00[mm] + 190.00[kN]*20.00[cm^2]/53.83[cm^2] = 461.30[kN]$

Risultante forza di taglio nel bullone

$F_{Ed} = N_0/n_b = 461.30[kN]/8 = 57.66[kN]$

Progetto effettivo di capacitŕ del bullone

$F_{Rd} = \min[F_{vRd}; F_{bRd1x}; F_{bRd2x}; F_{bRd1z}; F_{bRd2z}] = \min[60.29[kN]; 127.12[kN]; 127.12[kN]; 105.99[kN]; 101.63[kN]] = 60.29[kN]$

Coefficiente di riduzione per lunghi collegamenti

$\beta_{Lf} = \max[0.75; \min[1.0; 1 - (L-15*d)/(200*d)]] = \max[0.75; \min[1.0; 1 - (150.00[mm]-15*16.00[mm])/(200*16.00[mm])]] = 1.00$

$\lvert F_{Ed}\rvert \le \beta_{Lf}*F_{Rd}$	$\lvert 57.66[kN]\rvert < 60.29[kN]$	**0.96**	✓

Bulloni di collegamento flangia piatta e flangia inferiore trave

Area della sezione di taglio del bullone

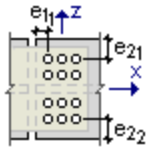
$A = A_s = 1.57[cm^2]$

Resistenza al taglio del bullone in una superficie

$F_{v,Rd} = (\alpha_v*m*f_{ub}*A)/\gamma_{M2} = (0.60*1*800.00[MPa]*1.57[cm^2])/1.25 = 60.29[kN]$

Bullone di supporto

Bullone di supporto sulla flangia della trave

	$e_{11} = 65.00[mm]$
	$e_{21} = 50.00[mm]$
$e_{1min} = \min[e_{11}] = 65.00[mm]$	
$e_{2min} = \min[e_{21}] = 50.00[mm]$	

Direzione X

Coefficiente determinato dalla spaziatura bulloni

$k_{1x} = \min[2.8*(e_{1min}/d_0)-1.7; 1.4*(p_1/d_0)-1.7; 2.5] = \min[2.8*(65.00[mm]/18.00[mm])-1.7; 1.4*(50.00[mm]/18.00[mm])-1.7; 2.5] = 2.19$

$k_{1x} > 0$	$2.19 > 0.00$	✓

Coefficiente determinato dalla spaziatura bulloni

$\alpha_{bx} = \min[e_{2min}/(3*d_0); f_{ub}/f_u; 1] = \min[50.00[mm]/(3*18.00[mm]); 800.00[MPa]/490.00[MPa]; 1] = 0.93$

$\alpha_{bx} > 0$	0.93 > 0.00	✓

Resistenza del bullone di supporto

$F_{b,Rd1x} = (k_{1x}*\alpha_{bx}*f_u*d*\Sigma t_i)/\gamma_{M2} = (2.19*0.93*490.00[MPa]*16.00[mm]*10.00[mm])/1.25 = 127.12[kN]$

Direzione Z

Coefficiente determinato dalla spaziatura bulloni

$k_{1z} = \min[2.8*(e_{2min}/d_0)-1.7; 2.5] = \min[2.8*(50.00[mm]/18.00[mm])-1.7; 2.5] = 2.50$

$k_{1z} > 0$	2.50 > 0.00	✓

Coefficiente determinato dalla spaziatura bulloni

$\alpha_{bz} = \min[e_{1min}/(3*d_0); p_1/(3*d_0)-0.25; f_{ub}/f_u; 1] = \min[65.00[mm]/(3*18.00[mm]); (50.00[mm]/(3*18.00[mm]))-0.25; 800.00[MPa]/490.00[MPa]; 1] = 0.68$

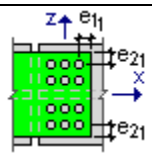
$\alpha_{bz} > 0$	0.68 > 0.00	✓

Resistenza del bullone di supporto

$F_{b,Rd1z} = (k_{1z}*\alpha_{bz}*f_u*d*\Sigma t_i)/\gamma_{M2} = (2.50*0.68*490.00[MPa]*16.00[mm]*10.00[mm])/1.25 = 105.99[kN]$

Bullone di supporto

Supporto bullone su flangia piatta

	$e_{11} = 35.00[mm]$
	$e_{21} = 50.00[mm]$
$e_{1min} = \min[e_{11}] = 35.00[mm]$	
$e_{2min} = \min[e_{21}] = 50.00[mm]$	

Direzione X

Coefficiente determinato dalla spaziatura bulloni

$k_{1x} = \min[2.8*(e_{1min}/d_0)-1.7; 1.4*(p_1/d_0)-1.7; 2.5] = \min[2.8*(35.00[mm]/18.00[mm])-1.7; 1.4*(50.00[mm]/18.00[mm])-1.7; 2.5] = 2.19$

$k_{1x} > 0$	2.19 > 0.00	✓

Coefficiente determinato dalla spaziatura bulloni

$\alpha_{bx} = \min[e_{2min}/(3*d_0); f_{ub}/f_u; 1] = \min[50.00[mm]/(3*18.00[mm]); 800.00[MPa]/490.00[MPa]; 1] = 0.93$

$\alpha_{bx} > 0$	0.93 > 0.00	✓

Resistenza del bullone di supporto

$F_{b,Rd2x} = (k_{1x}*\alpha_{bx}*f_u*d*\Sigma t_i)/\gamma_{M2} = (2.19*0.93*490.00[MPa]*16.00[mm]*10.00[mm])/1.25 = 127.12[kN]$

Direzione Z

Coefficiente determinato dalla spaziatura bulloni

k_{1z} = min[2.8*(e_{2min}/d_0)-1.7; 2.5] = min[2.8*(50.00*[mm]*/18.00*[mm]*)-1.7; 2.5] = 2.50

k_{1z} > 0	2.50 > 0.00	✓

Coefficiente determinato dalla spaziatura bulloni

α_{bz} = min[e_{1min}/(3*d_0); p_1/(3*d_0)-0.25; f_{ub}/f_u; 1] = min[35.00*[mm]*/(3*18.00*[mm]*); (50.00*[mm]*/(3*18.00*[mm]*))-0.25; 800.00*[MPa]*/490.00*[MPa]*; 1] = 0.65

α_{bz} > 0	0.65 > 0.00	✓

Resistenza del bullone di supporto

$F_{b,Rd2z}$ = (k_{1z}*α_{bz}*f_u*d*Σt_i)/γ_{M2} = (2.50*0.65*490.00*[MPa]**16.00*[mm]**10.00*[mm]*)/1.25 = 101.63*[kN]*

Stato limite ultimo

Momento d'inerzia anima trave

I_w = [t_{wb}*h_{wb}^3]/12 = [6.50*[mm]**(170.00*[mm]*)^3]/12 = 266.12*[cm^4]*

Momento parziale anima trave

M_w = [M_{EdP}*I_w]/I_{y0} = [80.00*[kNm]**266.12*[cm^4]*]/3692.16*[cm^4]* = 5.77*[kNm]*

Momento parziale flange trave

M_f = M_{EdP}-M_w = 80.00*[kNm]*-5.77*[kNm]* = 74.23*[kNm]*

Forze nei bulloni

Forza assiale

N_0 = N_{EdL}*A_{fb}/A_b - M_f/h_b = 190.00*[kN]**20.00*[cm^2]*/53.83*[cm^2]* - 74.23*[kNm]*/190.00*[mm]* = -320.11*[kN]*

Risultante forza di taglio nel bullone

F_{Ed} = N_0/n_b = -320.11*[kN]*/8 = -40.01*[kN]*

Progetto effettivo di capacitŕ del bullone

F_{Rd} = min[F_{vRd}; F_{bRd1x}; F_{bRd2x}; F_{bRd1z}; F_{bRd2z}] = min[60.29*[kN]*; 127.12*[kN]*; 127.12*[kN]*; 105.99*[kN]*; 101.63*[kN]*] = 60.29*[kN]*

Coefficiente di riduzione per lunghi collegamenti

β_{Lf} = max[0.75; min[1.0; 1 - (L-15*d)/(200*d)]] = max[0.75; min[1.0; 1 - (150.00*[mm]*-15*16.00*[mm]*)/(200*16.00*[mm]*)]] = 1.00

$\lvert F_{Ed}\rvert \le \beta_{Lf}$*$F_{Rd}$	|-40.01*[kN]*| < 60.29*[kN]*	**0.66** ✓

Lacerazione blocco

Anima piastra

Forze interne

Forza di taglio

V_0 = 0.5*V_{EdP} = 0.5*40.00*[kN]* = 20.00*[kN]*

Superficie netta della sezione in tensione

A_{nt} = [w_t - (n_t - 0.5)*d_0]*t = [110.00*[mm]* - (2 - 0.5)*18.00*[mm]*]*10.00*[mm]* = 13.30*[cm^2]*

Superficie netta della sezione di taglio

A_{nv} = [h_v - (n_v - 0.5)*d_0]*t = [125.00*[mm]* - (2 - 0.5)*18.00*[mm]*]*10.00*[mm]* = 9.80*[cm^2]*

Resistenza lacerzione blocco

$V_{eff,2,Rd} = 0.5*f_u*A_{nt}/\gamma_{M2} + (1/\sqrt{3})*f_y*A_{nv}/\gamma_{M0} = 0.5*490.00[MPa]*13.30[cm^2]/1.25 + (1/\sqrt{3})*355.00[MPa]*9.80[cm^2]/1.00 = 461.54[kN]$

$\|V_0\| \le V_{eff,2,Rd}$	$\|20.00[kN]\| < 461.54[kN]$	**0.04**	✓

Trave

Forze interne

Forza di taglio

$V_0 = V_{EdP} = 40.00[kN]$

Superficie netta della sezione in tensione

$A_{nt} = [w_t - (n_t - 0.5)*d_0]*t = [40.00[mm] - (2 - 0.5)*18.00[mm]]*6.50[mm] = 4.10[cm^2]$

Superficie netta della sezione di taglio

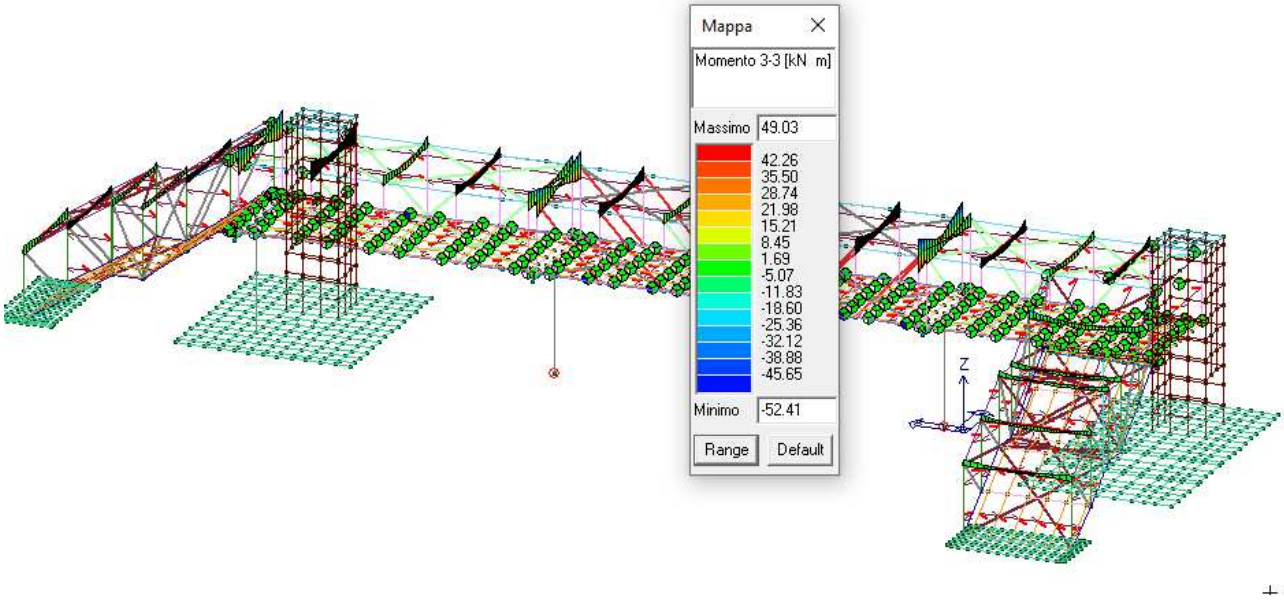
$A_{nv} = [h_v - (n_v - 0.5)*d_0]*t = [155.00[mm] - (2 - 0.5)*18.00[mm]]*6.50[mm] = 8.32[cm^2]$

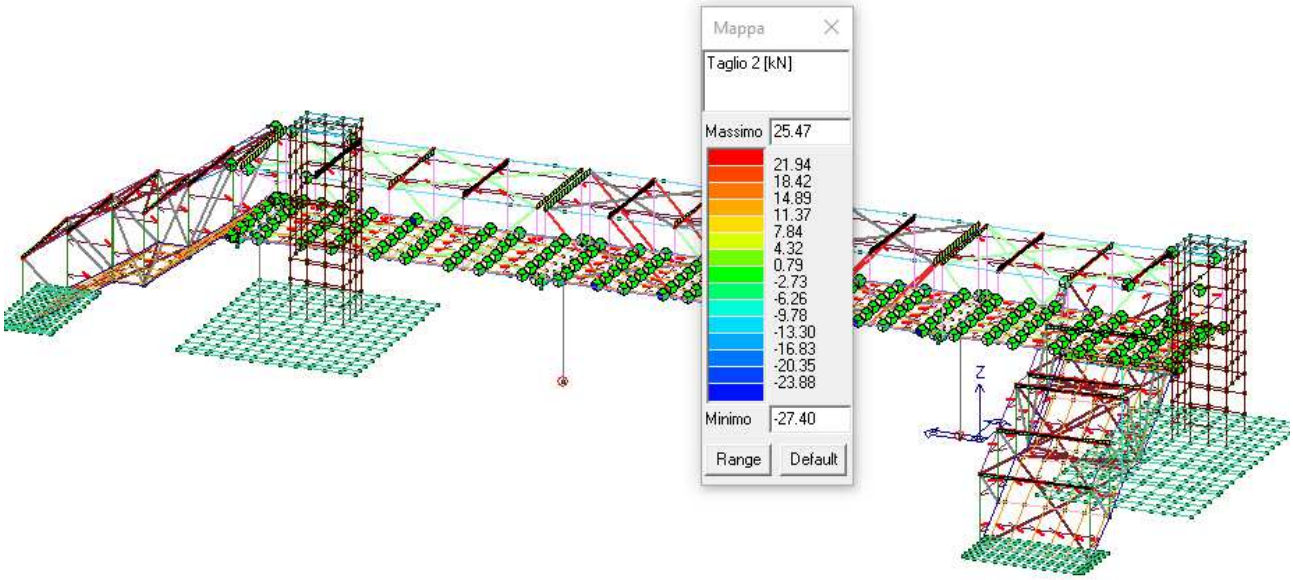
Resistenza lacerzione blocco

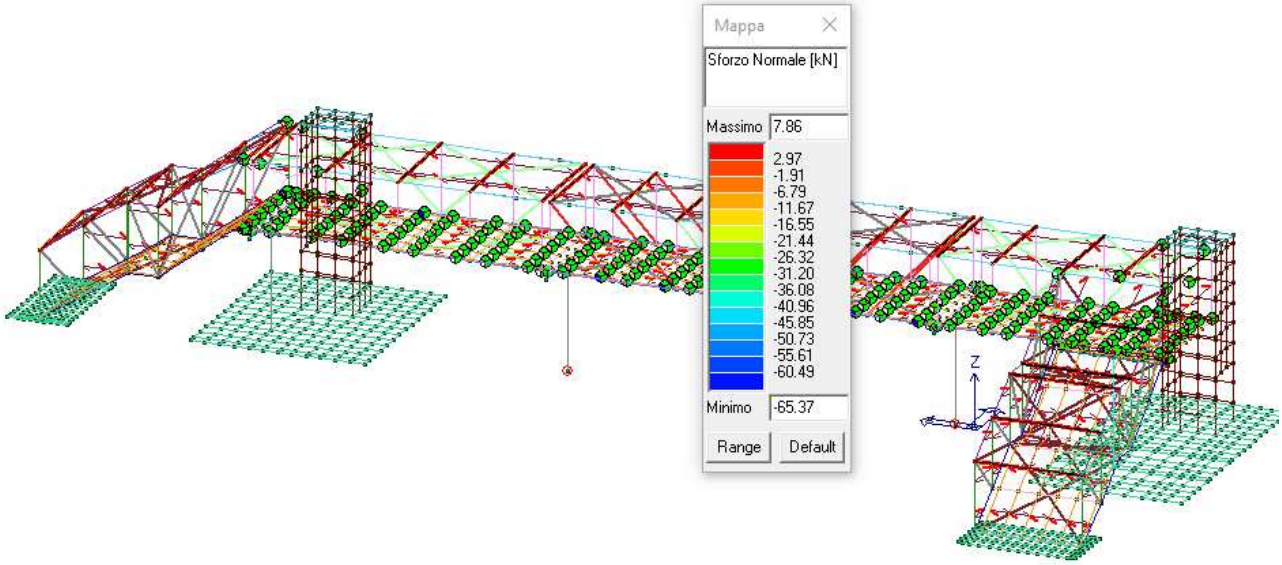
$V_{eff,2,Rd} = 0.5*f_u*A_{nt}/\gamma_{M2} + (1/\sqrt{3})*f_y*A_{nv}/\gamma_{M0} = 0.5*490.00[MPa]*4.10[cm^2]/1.25 + (1/\sqrt{3})*355.00[MPa]*8.32[cm^2]/1.00 = 250.79[kN]$

$\|V_0\| \le V_{eff,2,Rd}$	$\|40.00[kN]\| < 250.79[kN]$	**0.16**	✓

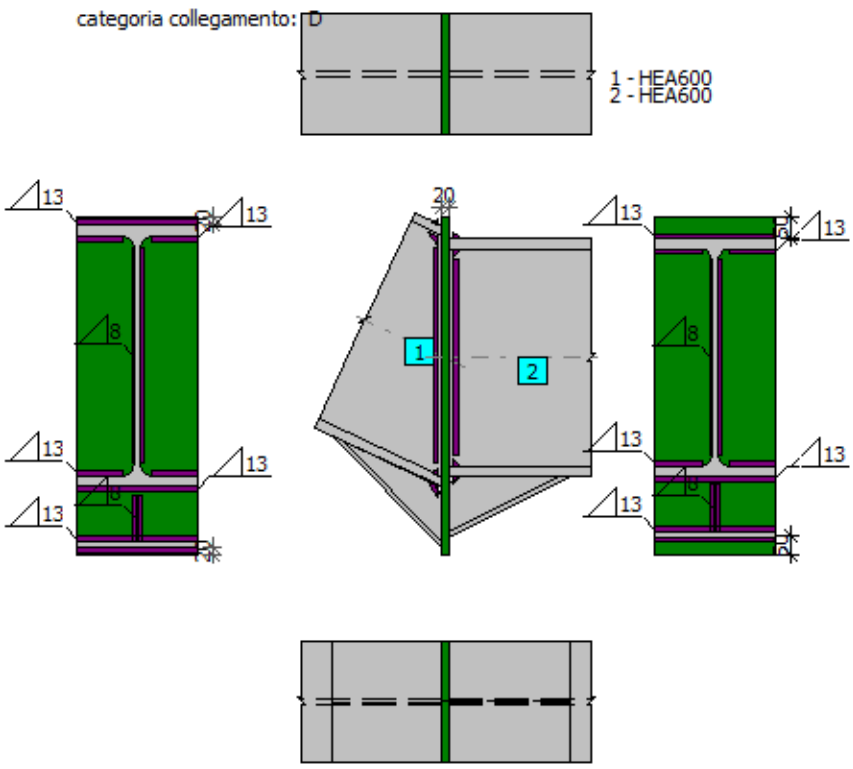
COLLEGAMENTO TRAVERSO COPERTURA – CORRENTE SUPERIORE



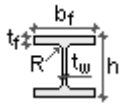


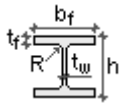


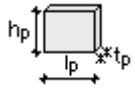
	Trave - trave (piastra frontale)	Rapporto: 0.99	
BeamsRigid v. 1.0.0.10	EN 1993-1-8:2006		



Dati

Trave sinistra HEA200					
	h_b	b_{fb}	t_{fb}	t_{wb}	R_b
	190.00*[mm]*	200.00*[mm]*	10.00*[mm]*	6.50*[mm]*	18.00*[mm]*
	A_b	J_{y0b}	J_{z0b}	y_{0b}	z_{0b}
	53.83*[cm²]*	3692.16*[cm⁴]*	1335.51*[cm⁴]*	100.00*[mm]*	95.00*[mm]*
Materiale	Grado	f_y	f_u		
	S 355	355.00*[MPa]*	490.00*[MPa]*		

Trave destra HEA200					
	h_b	b_{fb}	t_{fb}	t_{wb}	R_b
	190.00*[mm]*	200.00*[mm]*	10.00*[mm]*	6.50*[mm]*	18.00*[mm]*
	A_b	J_{y0b}	J_{z0b}	y_{0b}	z_{0b}
	53.83*[cm²]*	3692.16*[cm⁴]*	1335.51*[cm⁴]*	100.00*[mm]*	95.00*[mm]*
Materiale	Grado	f_y	f_u		
	S 355	355.00*[MPa]*	490.00*[MPa]*		

Piastra frontale				
	l_p	h_p	t_p	
	200.00*[mm]*	210.00*[mm]*	20.00*[mm]*	
Materiale	Grado	f_y	f_u	
	S 355	355.00*[MPa]*	490.00*[MPa]*	

Saldature

Lato sinistro

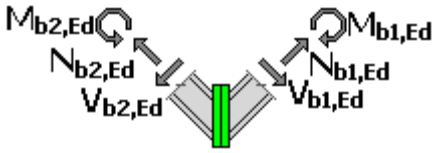
Spessore saldature dell'angolare che collegano flange trave e piastra frontale	a_{fe} =	0.00	*[mm]*
Spessore saldature dell'angolare che collegano flange trave e piastra frontale	a_{fi} =	7.00	*[mm]*
Spessore saldature dell'angolare che collegano anima trave e piastra frontale	a_w =	4.50	*[mm]*

Lato destro

Spessore saldature dell'angolare che collegano flange trave e piastra frontale	a_{fe} =	0.00	*[mm]*
Spessore saldature dell'angolare che collegano flange trave e piastra frontale	a_{fi} =	7.00	*[mm]*
Spessore saldature dell'angolare che collegano anima trave e piastra frontale	a_w =	4.50	*[mm]*

Forze

Forza assiale	$N_{b1,Ed}$ =	8.00	*[kN]*
Forza di taglio	$V_{b1,Ed}$ =	28.00	*[kN]*
Momento flettente	$M_{b1,Ed}$ =	52.50	*[kNm]*
Forza assiale	$N_{b2,Ed}$ =	8.00	*[kN]*
Forza di taglio	$V_{b2,Ed}$ =	28.00	*[kN]*
Momento flettente	$M_{b2,Ed}$ =	52.50	*[kNm]*



Risultati

Lato sinistro

Saldature dell'angolare che collegano trave e piastra frontale

Forze nelle saldature

Forza assiale

$N_0 = N_{b2,Ed}*\cos(\alpha_1) + V_{b2,Ed}*\sin(\alpha_1) = 8.00[kN]*\cos(0.00[Deg]) + 28.00[kN]*\sin(0.00[Deg]) = 8.00[kN]$

Forza di taglio

$V_0 = -N_{b2,Ed}*\sin(\alpha_1) + V_{b2,Ed}*\cos(\alpha_1) = -(8.00[kN])*\sin(0.00[Deg]) + 28.00[kN]*\cos(0.00[Deg]) = 28.00[kN]$

Momento flettente reale

$M_0 = M_{b2,Ed} = 52.50[kNm]$

Proprietŕ geometriche delle saldature

Trave

Area saldature orizzontali sulla flangia superiore

$A_{wfu} = b_{fb}*a_{fe}+(b_{fb}-t_{wb}-2*r_b)*a_{fi} = 200.00[mm]*0.00[mm]+(200.00[mm]-6.50[mm]-2*18.00[mm])*7.00[mm] = 11.03[cm^2]$

Area saldature orizzontali sulla flangia inferiore

$A_{wfl} = b_{fb}*a_{fe}+(b_{fb}-t_{wb}-2*r_b)*a_{fi} = 200.00[mm]*0.00[mm]+(200.00[mm]-6.50[mm]-2*18.00[mm])*7.00[mm] = 11.03[cm^2]$

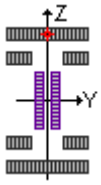
Area delle saldature verticali

$A_{ww} = 2*[(h_b-2*(t_{fb}-r_b))/\cos(\alpha)]*a_w = 2*[(190.00[mm]-2*(10.00[mm]-18.00[mm]))/\cos(0.00[Deg])]*4.50[mm] = 12.06[cm^2]$

Area di tutte le saldature

$A_w = A_{wfu} + A_{wfl} + A_{ww} = 11.03[cm^2] + 11.03[cm^2] + 12.06[cm^2] = 34.11[cm^2]$
Distanza tra baricentro saldature e baricentro trave
$e_{0w} = 0.00[mm]$
Momento d'inerzia saldature
$I_w = 1645.97[cm^4]$

Punto in cui le sollecitazioni vengono controllate	$z_i = 95.00[mm]$
Modulo elastico delle saldature	
$W_w = 173.26[cm^3]$	
Sollecitazione da forza assiale	
$\sigma_N = N_0/A_w = 8.00[kN]/34.11[cm^2] = 2.35[MPa]$	
Sollecitazione dovuta alla flessione	
$\sigma_M = (M_0*z_i)/I_w = (52.50[kNm]*95.00[mm])/1645.97[cm^4] = 303.01[MPa]$	
Sforzo normale massimo	
$\sigma = \sigma_N + \sigma_M = 2.35[MPa] + 303.01[MPa] = 305.36[MPa]$	
Sforzo normale perpendicolare	
$\sigma_\perp = \sigma/\sqrt{2} = 305.36[MPa]/\sqrt{2} = 215.92[MPa]$	
Sforzo tangente perpendicolare	
$\tau_\perp = \sigma/\sqrt{2} = 305.36[MPa]/\sqrt{2} = 215.92[MPa]$	

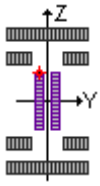


Coefficiente di resistenza saldature
$\beta_w = 0.90$

$\lvert\sigma_\perp\rvert \le 0.9*f_u/\gamma_{M2}$	$\lvert 215.92[MPa]\rvert < 352.80[MPa]$	**0.44**	✓

$\sqrt{[\sigma_\perp^2+3*(\tau_\perp^2)]} \le f_u/(\beta_w*\gamma_{M2})$	$431.84[MPa] < 435.56[MPa]$	**0.99**	✓

Punto in cui le sollecitazioni vengono controllate	$z_i = 67.00[mm]$
Modulo elastico delle saldature	
$W_w = 245.67[cm^3]$	
Sollecitazione da forza assiale	
$\sigma_N = N_0/A_w = 8.00[kN]/34.11[cm^2] = 2.35[MPa]$	
Sollecitazione dovuta alla flessione	
$\sigma_M = (M_0*z_i)/I_w = (52.50[kNm]*67.00[mm])/1645.97[cm^4] = 213.70[MPa]$	
Sforzo normale massimo	
$\sigma = \sigma_N + \sigma_M = 2.35[MPa] + 213.70[MPa] = 216.05[MPa]$	
Sforzo normale perpendicolare	
$\sigma_\perp = \sigma/\sqrt{2} = 216.05[MPa]/\sqrt{2} = 152.77[MPa]$	
Sforzo tangente perpendicolare	
$\tau_\perp = \sigma/\sqrt{2} = 216.05[MPa]/\sqrt{2} = 152.77[MPa]$	
Sforzo tangente parallelo	
$\tau_{II} = V_0/A_{ww} = 28.00[kN]/12.06[cm^2] = 23.22[MPa]$	

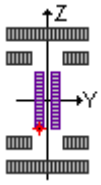


Coefficiente di resistenza saldature
$\beta_w = 0.90$

$\lvert\sigma_\perp\rvert \le 0.9*f_u/\gamma_{M2}$	$\lvert 152.77[MPa]\rvert < 352.80[MPa]$	**0.31**	✓

$\sqrt{[\sigma_\perp^2+3*(\tau_\perp^2+\tau_{II}^2)]} \le f_u/(\beta_w*\gamma_{M2})$	308.17*[MPa]* < 435.56*[MPa]*	**0.71**

Punto in cui le sollecitazioni vengono controllate	z_i = -67.00*[mm]*
Modulo elastico delle saldature	
W_w = 245.67*[cm³]*	
Sollecitazione da forza assiale	
$\sigma_N = N_0/A_w$ = 8.00*[kN]*/34.11*[cm²]* = 2.35*[MPa]*	
Sollecitazione dovuta alla flessione	
$\sigma_M = (M_0*z_i)/I_w$ = (52.50*[kNm]**(-67.00*[mm]*))/1645.97*[cm⁴]* = -213.70*[MPa]*	
Sforzo normale massimo	
$\sigma = \sigma_N + \sigma_M$ = 2.35*[MPa]* + (-213.70*[MPa]*) = -211.36*[MPa]*	
Sforzo normale perpendicolare	
$\sigma_\perp = \sigma/\sqrt{2}$ = -211.36*[MPa]*/√2 = -149.45*[MPa]*	
Sforzo tangente perpendicolare	
$\tau_\perp = \sigma/\sqrt{2}$ = -211.36*[MPa]*/√2 = -149.45*[MPa]*	
Sforzo tangente parallelo	
$\tau_{II} = V_0/A_{ww}$ = 28.00*[kN]*/12.06*[cm²]* = 23.22*[MPa]*	



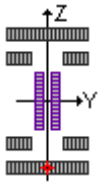
Coefficiente di resistenza saldature

β_w = 0.90

$\lvert\sigma_\perp\rvert \le 0.9*f_u/\gamma_{M2}$	|-149.45*[MPa]*| < 352.80*[MPa]*	**0.31**

$\sqrt{[\sigma_\perp^2+3*(\tau_\perp^2+\tau_{II}^2)]} \le f_u/(\beta_w*\gamma_{M2})$	301.60*[MPa]* < 435.56*[MPa]*	**0.69**

Punto in cui le sollecitazioni vengono controllate	z_i = -95.00*[mm]*
Modulo elastico delle saldature	
W_w = 173.26*[cm³]*	
Sollecitazione da forza assiale	
$\sigma_N = N_0/A_w$ = 8.00*[kN]*/34.11*[cm²]* = 2.35*[MPa]*	
Sollecitazione dovuta alla flessione	
$\sigma_M = (M_0*z_i)/I_w$ = (52.50*[kNm]**(-95.00*[mm]*))/1645.97*[cm⁴]* = -303.01*[MPa]*	
Sforzo normale massimo	
$\sigma = \sigma_N + \sigma_M$ = 2.35*[MPa]* + (-303.01*[MPa]*) = -300.67*[MPa]*	
Sforzo normale perpendicolare	
$\sigma_\perp = \sigma/\sqrt{2}$ = -300.67*[MPa]*/√2 = -212.60*[MPa]*	
Sforzo tangente perpendicolare	
$\tau_\perp = \sigma/\sqrt{2}$ = -300.67*[MPa]*/√2 = -212.60*[MPa]*	



Coefficiente di resistenza saldature

β_w = 0.90

$\lvert\sigma_\perp\rvert \le 0.9*f_u/\gamma_{M2}$	|-212.60*[MPa]*| < 352.80*[MPa]*	**0.43**

$\sqrt{[\sigma_\perp^2+3*(\tau_\perp^2)]} \le f_u/(\beta_w*\gamma_{M2})$	425.21*[MPa]* < 435.56*[MPa]*	**0.98**

Lato destro

Saldature dell'angolare che collegano trave e piastra frontale

Forze nelle saldature

Forza assiale

$N_0 = N_{b1,Ed}*\cos(\alpha_2) + V_{b1,Ed}*\sin(\alpha_2) = 8.00[kN]*\cos(0.00[Deg]) + 28.00[kN]*\sin(0.00[Deg]) = 8.00[kN]$

Forza di taglio

$V_0 = -N_{b1,Ed}*\sin(\alpha_2) + V_{b1,Ed}*\cos(\alpha_2) = -(8.00[kN])*\sin(0.00[Deg]) + 28.00[kN]*\cos(0.00[Deg]) = 28.00[kN]$

Momento flettente reale

$M_0 = M_{b1,Ed} = 52.50[kNm]$

Proprietŕ geometriche delle saldature

Trave

Area saldature orizzontali sulla flangia superiore

$A_{wfu} = b_{fb}*a_{fe}+(b_{fb}-t_{wb}-2*r_b)*a_{fi} = 200.00[mm]*0.00[mm]+(200.00[mm]-6.50[mm]-2*18.00[mm])*7.00[mm] = 11.03[cm^2]$

Area saldature orizzontali sulla flangia inferiore

$A_{wfl} = b_{fb}*a_{fe}+(b_{fb}-t_{wb}-2*r_b)*a_{fi} = 200.00[mm]*0.00[mm]+(200.00[mm]-6.50[mm]-2*18.00[mm])*7.00[mm] = 11.03[cm^2]$

Area delle saldature verticali

$A_{ww} = 2*[(h_b-2*(t_{fb}-r_b))/\cos(\alpha)]*a_w = 2*[(190.00[mm]-2*(10.00[mm]-18.00[mm]))/\cos(0.00[Deg])]*4.50[mm] = 12.06[cm^2]$

Area di tutte le saldature

$A_w = A_{wfu} + A_{wfl} + A_{ww} = 11.03[cm^2] + 11.03[cm^2] + 12.06[cm^2] = 34.11[cm^2]$

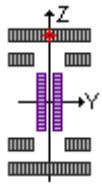
Distanza tra baricentro saldature e baricentro trave

$e_{0w} = 0.00[mm]$

Momento d'inerzia saldature

$I_w = 1645.97[cm^4]$

Punto in cui le sollecitazioni vengono controllate	$z_i = 95.00[mm]$
Modulo elastico delle saldature	
$W_w = 173.26[cm^3]$	
Sollecitazione da forza assiale	
$\sigma_N = N_0/A_w = 8.00[kN]/34.11[cm^2] = 2.35[MPa]$	
Sollecitazione dovuta alla flessione	
$\sigma_M = (M_0*z_i)/I_w = (52.50[kNm]*95.00[mm])/1645.97[cm^4] = 303.01[MPa]$	
Sforzo normale massimo	
$\sigma = \sigma_N + \sigma_M = 2.35[MPa] + 303.01[MPa] = 305.36[MPa]$	
Sforzo normale perpendicolare	
$\sigma_\perp = \sigma/\sqrt{2} = 305.36[MPa]/\sqrt{2} = 215.92[MPa]$	
Sforzo tangente perpendicolare	
$\tau_\perp = \sigma/\sqrt{2} = 305.36[MPa]/\sqrt{2} = 215.92[MPa]$	



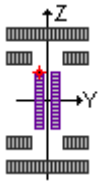
Coefficiente di resistenza saldature

$\beta_w = 0.90$

$\lvert\sigma_\perp\rvert \le 0.9*f_u/\gamma_{M2}$	$\lvert 215.92[MPa]\rvert < 352.80[MPa]$	**0.44**	✓

$\sqrt{[\sigma_\perp^2+3*(\tau_\perp^2)]} \le f_u/(\beta_w*\gamma_{M2})$	431.84*[MPa]* < 435.56*[MPa]*	**0.99**

Punto in cui le sollecitazioni vengono controllate	z_i = 67.00*[mm]*
Modulo elastico delle saldature	
W_w = 245.67*[cm³]*	
Sollecitazione da forza assiale	
$\sigma_N = N_0/A_w$ = 8.00*[kN]*/34.11*[cm²]* = 2.35*[MPa]*	
Sollecitazione dovuta alla flessione	
$\sigma_M = (M_0*z_i)/I_w$ = (52.50*[kNm]**67.00*[mm]*)/1645.97*[cm⁴]* = 213.70*[MPa]*	
Sforzo normale massimo	
$\sigma = \sigma_N + \sigma_M$ = 2.35*[MPa]* + 213.70*[MPa]* = 216.05*[MPa]*	
Sforzo normale perpendicolare	
$\sigma_\perp = \sigma/\sqrt{2}$ = 216.05*[MPa]*/√2 = 152.77*[MPa]*	
Sforzo tangente perpendicolare	
$\tau_\perp = \sigma/\sqrt{2}$ = 216.05*[MPa]*/√2 = 152.77*[MPa]*	
Sforzo tangente parallelo	
$\tau_{II} = V_0/A_{ww}$ = 28.00*[kN]*/12.06*[cm²]* = 23.22*[MPa]*	



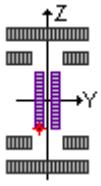
Coefficiente di resistenza saldature

β_w = 0.90

$\lvert\sigma_\perp\rvert \le 0.9*f_u/\gamma_{M2}$	|152.77*[MPa]*| < 352.80*[MPa]*	**0.31**

$\sqrt{[\sigma_\perp^2+3*(\tau_\perp^2+\tau_{II}^2)]} \le f_u/(\beta_w*\gamma_{M2})$	308.17*[MPa]* < 435.56*[MPa]*	**0.71**

Punto in cui le sollecitazioni vengono controllate	z_i = -67.00*[mm]*
Modulo elastico delle saldature	
W_w = 245.67*[cm³]*	
Sollecitazione da forza assiale	
$\sigma_N = N_0/A_w$ = 8.00*[kN]*/34.11*[cm²]* = 2.35*[MPa]*	
Sollecitazione dovuta alla flessione	
$\sigma_M = (M_0*z_i)/I_w$ = (52.50*[kNm]**(-67.00*[mm]*))/1645.97*[cm⁴]* = -213.70*[MPa]*	
Sforzo normale massimo	
$\sigma = \sigma_N + \sigma_M$ = 2.35*[MPa]* + (-213.70*[MPa]*) = -211.36*[MPa]*	
Sforzo normale perpendicolare	
$\sigma_\perp = \sigma/\sqrt{2}$ = -211.36*[MPa]*/√2 = -149.45*[MPa]*	
Sforzo tangente perpendicolare	
$\tau_\perp = \sigma/\sqrt{2}$ = -211.36*[MPa]*/√2 = -149.45*[MPa]*	
Sforzo tangente parallelo	
$\tau_{II} = V_0/A_{ww}$ = 28.00*[kN]*/12.06*[cm²]* = 23.22*[MPa]*	



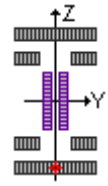
Coefficiente di resistenza saldature

β_w = 0.90

$\lvert\sigma_\perp\rvert \le 0.9*f_u/\gamma_{M2}$	|-149.45*[MPa]*| < 352.80*[MPa]*	**0.31**

$\sqrt{[\sigma_\perp^2+3*(\tau_\perp^2+\tau_{II}^2)]} \le f_u/(\beta_w*\gamma_{M2})$	301.60*[MPa]* < 435.56*[MPa]*	**0.69**	✓

Punto in cui le sollecitazioni vengono controllate	z_i = -95.00*[mm]*
Modulo elastico delle saldature	
W_w = 173.26*[cm³]*	
Sollecitazione da forza assiale	
$\sigma_N = N_0/A_w$ = 8.00*[kN]*/34.11*[cm²]* = 2.35*[MPa]*	
Sollecitazione dovuta alla flessione	
$\sigma_M = (M_0*z_i)/I_w$ = (52.50*[kNm]**(-95.00*[mm]*))/1645.97*[cm⁴]* = -303.01*[MPa]*	
Sforzo normale massimo	
$\sigma = \sigma_N + \sigma_M$ = 2.35*[MPa]* + (-303.01*[MPa]*) = -300.67*[MPa]*	
Sforzo normale perpendicolare	
$\sigma_\perp = \sigma/\sqrt{2}$ = -300.67*[MPa]*/√2 = -212.60*[MPa]*	
Sforzo tangente perpendicolare	
$\tau_\perp = \sigma/\sqrt{2}$ = -300.67*[MPa]*/√2 = -212.60*[MPa]*	



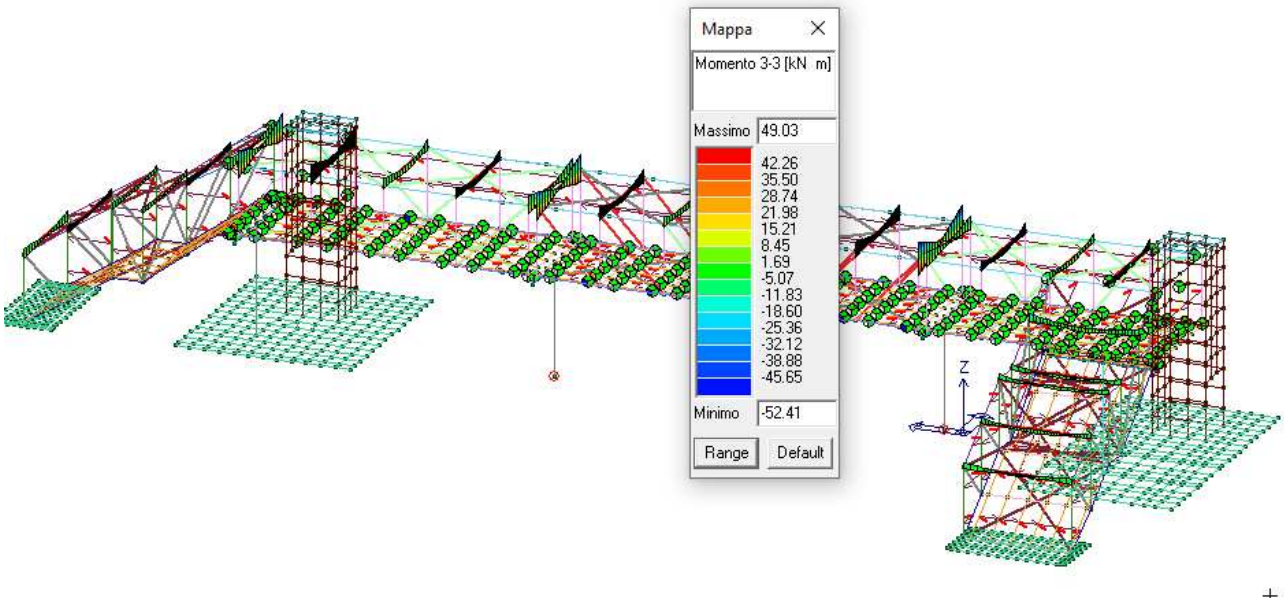
Coefficiente di resistenza saldature

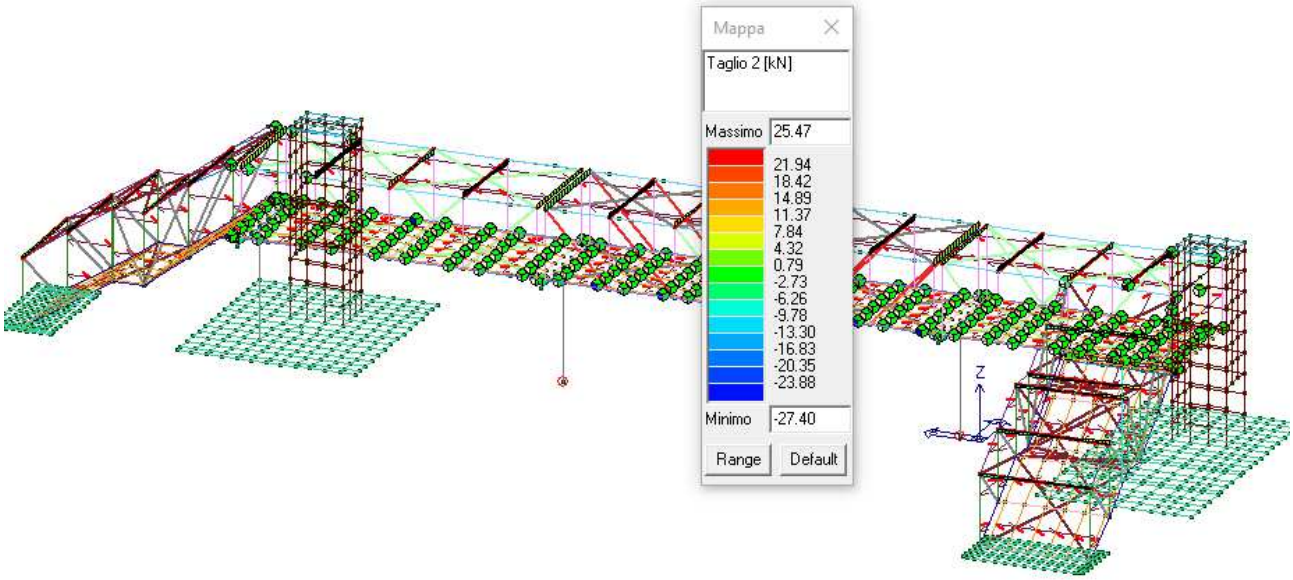
β_w = 0.90

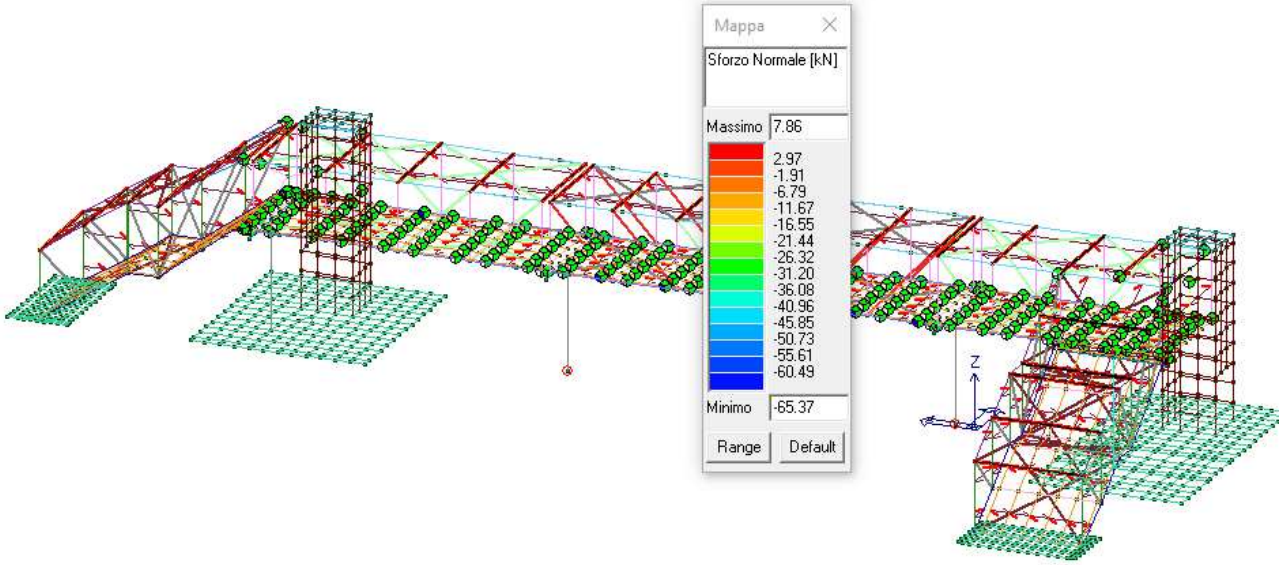
$\lvert\sigma_\perp\rvert \le 0.9*f_u/\gamma_{M2}$	|-212.60*[MPa]*| < 352.80*[MPa]*	**0.43**	✓

$\sqrt{[\sigma_\perp^2+3*(\tau_\perp^2)]} \le f_u/(\beta_w*\gamma_{M2})$	425.21*[MPa]* < 435.56*[MPa]*	**0.98**	✓

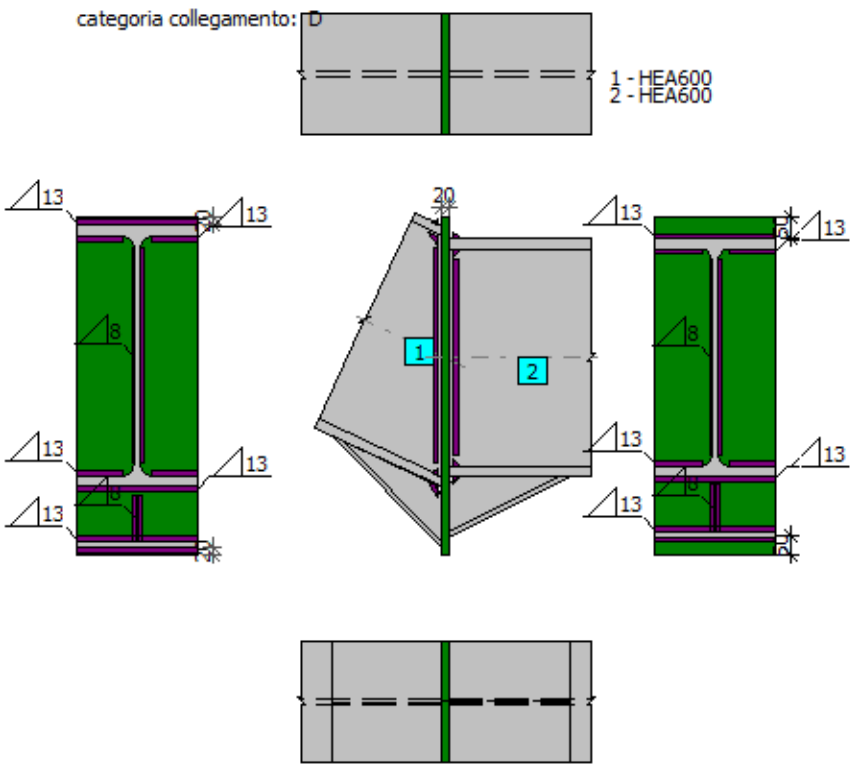
COLLEGAMENTO INTERRUZIONE TRAVERSO COPERTURA



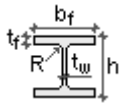


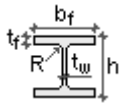


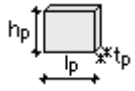
	Trave - trave (piastra frontale)	Rapporto: 0.71	
BeamsRigid v. 1.0.0.10	EN 1993-1-8:2006		



Dati

Trave sinistra HEA200					
	h_b	b_{fb}	t_{fb}	t_{wb}	R_b
	190.00*[mm]*	200.00*[mm]*	10.00*[mm]*	6.50*[mm]*	18.00*[mm]*
	A_b	J_{y0b}	J_{z0b}	y_{0b}	z_{0b}
	53.83*[cm²]*	3692.16*[cm⁴]*	1335.51*[cm⁴]*	100.00*[mm]*	95.00*[mm]*
Materiale	Grado	f_y	f_u		
	S 355	355.00*[MPa]*	490.00*[MPa]*		

Trave destra HEA200					
	h_b	b_{fb}	t_{fb}	t_{wb}	R_b
	190.00*[mm]*	200.00*[mm]*	10.00*[mm]*	6.50*[mm]*	18.00*[mm]*
	A_b	J_{y0b}	J_{z0b}	y_{0b}	z_{0b}
	53.83*[cm²]*	3692.16*[cm⁴]*	1335.51*[cm⁴]*	100.00*[mm]*	95.00*[mm]*
Materiale	Grado	f_y	f_u		
	S 355	355.00*[MPa]*	490.00*[MPa]*		

Piastra frontale			
	l_p	h_p	t_p
	200.00*[mm]*	230.00*[mm]*	20.00*[mm]*
Materiale	Grado	f_y	f_u
	S 355	355.00*[MPa]*	490.00*[MPa]*

Bulloni di collegamento piastre frontali

Grado bullone Grado 8.8

Limite di snervamento	f_{yb} =	640.00	*[MPa]*
Resistenza a tensione	f_{ub} =	800.00	*[MPa]*
Diametro bullone	d =	20.00	*[mm]*
Diametro apertura bullone	d_0 =	22.00	*[mm]*
Area sezione bullone	A =	3.14	*[cm²]*
Area effetiva sezione bullone	A_s =	2.45	*[cm²]*
Numero righe	w =	3.00	
Distanza dal bordo orizzontale	e_1 =	60.00	*[mm]*
Spaziatura orizzontale	w_1 =	100.00	*[mm]*

Numero di bulloni nelle righe m_1=2; m_2=2; m_3=2

Spaziatura verticale tra le righe p`$_1$=55.00*[mm]*; p`$_2$=55.00*[mm]*

Saldature

Lato sinistro

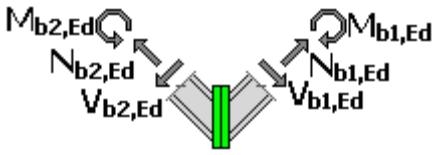
Spessore saldature dell'angolare che collegano flange trave e piastra frontale	a_f =	7.00	*[mm]*
Spessore saldature dell'angolare che collegano anima trave e piastra frontale	a_w =	4.50	*[mm]*

Lato destro

Spessore saldature dell'angolare che collegano flange trave e piastra frontale	a_f =	7.00	*[mm]*
Spessore saldature dell'angolare che collegano anima trave e piastra frontale	a_w =	4.50	*[mm]*

Forze

Forza assiale	$N_{b1,Ed}$ =	8.00	*[kN]*
Forza di taglio	$V_{b1,Ed}$ =	28.00	*[kN]*
Momento flettente	$M_{b1,Ed}$ =	52.50	*[kNm]*
Forza assiale	$N_{b2,Ed}$ =	8.00	*[kN]*
Forza di taglio	$V_{b2,Ed}$ =	28.00	*[kN]*
Momento flettente	$M_{b2,Ed}$ =	52.50	*[kNm]*



Risultati

Lato sinistro

Bulloni di collegamento piastre frontali

Resistenza a trazione di un bullone

$F_{t,Rd} = (k_2*f_{ub}*A_s)/\gamma_{M2}$ = (0.90*800.00*[MPa]*2.45*[cm²]*)/1.25 = 141.12*[kN]*

Area della sezione di taglio del bullone

A = A_s = 2.45*[cm²]*

Resistenza al taglio del bullone in una superficie

$F_{v,Rd} = (\alpha_v*m*f_{ub}*A)/\gamma_{M2}$ = (0.60*1*800.00*[MPa]*2.45*[cm²]*)/1.25 = 94.08*[kN]*

Resistenza a punzonatura per taglio di un bullone

$B_{p,Rd} = (0.6*\pi*d_m*t_p*f_{up})/\gamma_{M2}$ = (0.6*π*31.77*[mm]*20.00*[mm]*490.00*[MPa]*)/1.25 = 469.42*[kN]*

Flangia e anima della trave in compressione

Modulo di resistenza di plastica
W_{pl} = 406.96*[cm³]*
La resistenza di progetto per la piegatura della sezione
$M_{c,Rd} = (W_{pl}*f_{yb})/\gamma_{M0}$ = (406.96*[cm³]*355.00*[MPa]*)/1.00 = 144.47*[kNm]*

Distanza tra le flange dellatrave
h_f = 180.00*[mm]*
Resistenza di progetto della flangia colonna soggetta a compressione trasversale
$F_{c,fb,Rd} = M_{c,Rd}/h_f$ = 144.47*[kNm]*/180.00*[mm]* = 802.62*[kN]*

Zona tesa

FILA BULLONI 1

Piastra terminale in flessione

Parametri geometrici

Distanza bullone da bordo esterno
e_{ep} = 50.00*[mm]*
Distanza bullone da anima trave
$m_{ep} = 0.5*(w-t_{wb}-0.8*\sqrt{2}*a_w)$ = 0.5*(100.00*[mm]*-6.50*[mm]*-0.8*$\sqrt{2}$*4.50*[mm]*) = 41.66*[mm]*
Distanza $_{min}$
e_{min} = 50.00*[mm]*
parametro di calcolo n
$n = \min(e_{min}; 1.25*m_{ep})$ = min(50.00*[mm]*; 1.25*41.66*[mm]*) = 50.00*[mm]*
parametro di calcolo
$m_2 = p_1+e_1-e_{p1}-t_{fb}-0.8*a_f*\sqrt{2}$ = 55.00*[mm]*+60.00*[mm]*-20.00*[mm]*-10.00*[mm]*-0.8*7.00*[mm]*$\sqrt{2}$ = 22.08*[mm]*
$\lambda_1 = m_{ep}/(m_{ep}+e_{ep})$ = 41.66*[mm]*/(41.66*[mm]* + 50.00*[mm]*) = 0.45
$\lambda_2 = m_2/(m_{ep}+e_{ep})$ = 22.08*[mm]*/(41.66*[mm]* + 50.00*[mm]*) = 0.24

α = 7.06

Lunghezza effettiva di un bullone a forma circolare

$l_{eff,cp} = 2*\pi*m_{ep}$ = 2*π*41.66*[mm]* = 261.75*[mm]*

Lunghezza effettiva per un bullone a forma non circolare

$l_{eff,nc} = \alpha*m_{ep}$ = 7.06*41.66*[mm]* = 294.29*[mm]*

Lunghezza effettiva per un bullone modo 1
$l_{eff,1} = \min(l_{eff,cp}; l_{eff,nc})$ = 261.75*[mm]*
Lunghezza effettiva per un bullone modo 2
$l_{eff,2} = l_{eff,nc}$ = 294.29*[mm]*

Modello 1: Cedimento completo della piastra terminale

$M_{pl,1,Rd} = (0.25*l_{eff,1}*t_p^2*f_{yp})/\gamma_{M0} = (0.25*261.75[mm]*(20.00[mm])^2*355.00[MPa])/1.00 = 9.29[kNm]$

Metodo 1

$F_{T,1,Rd1} = (4*M_{pl,1,Rd})/m_{ep} = 4*9.29[kNm]/41.66[mm] = 892.21[kN]$

Metodo 2 (metodo alternativo)

Parametri per la zona d'appoggio

$e_w = 0.25*d_w = 0.25*27.70[mm] = 9.25[mm]$

$F_{T,1,Rd2} = [(8*n-2*e_w)*M_{pl,1,Rd}]/[2*m_{ep}*n-e_w*(m_{ep}+n)] = [(8*50.00[mm]-2*9.25[mm])*9.29[kNm]]/[2*41.66[mm]*50.00[mm]-9.25[mm]*(41.66[mm]+50.00[mm])] = 1068.39[kN]$

$F_{T,1,Rd} = \min(F_{T,1,Rd1}; F_{T,1,Rd2}) = (892.21[kN]; 1068.39[kN]) = 892.21[kN]$

Modello 2: Rottura bullone con cedimento della piastra terminale

$M_{pl,2,Rd} = (0.25*l_{eff,2}*t_p^2*f_{yp})/\gamma_{M0} = (0.25*294.29[mm]*(20.00[mm])^2*355.00[MPa])/1.00 = 10.45[kNm]$

$F_{T,2,Rd} = (2*M_{pl,2,Rd}+n*\Sigma F_{t,Rd})/(m_{ep}+n) = (2*10.45[kNm]+50.00[mm]*2*141.12[kN])/(41.66[mm]+50.00[mm]) = 381.92[kN]$

Modello 3: Rottura bullone

$F_{T,3,Rd} = \Sigma F_{t,Rd} = 2*141.12[kN] = 282.24[kN]$

Componente di resistenza

$F_{t,ep,Rd(1)} = \min(F_{T,1,Rd}; F_{T,2,Rd}; F_{T,3,Rd}) = (892.21[kN]; 381.92[kN]; 282.24[kN]) = 282.24[kN]$

Anima trave in flessione

Larghezza effettiva dell'anima della trave in tensione

$b_{eff,t,wb} = l_{eff1(1)} = 261.75[mm]$

Componente di resistenza

$F_{t,wb,Rd(1)}=(b_{eff,t,wb}*t_{wb}*f_{yb})/\gamma_{M0} = (261.75[mm]*6.50[mm]*355.00[MPa])/1.00 = 603.99[kN]$

Resistenza riga di bulloni 1

$F_{t,Rd(1)N} = \min[F_{t,ep,Rd(1)}; F_{t,wb,Rd(1)}] = \min[282.24[kN]; 603.99[kN]] = 282.24[kN]$

$F_{t,Rd(1)M} = \min \begin{bmatrix} F_{t,ep,Rd(1)}; F_{t,wb,Rd(1)} \\ F_{cfb,Rd} \end{bmatrix} = \min \begin{bmatrix} 282.24[kN]; 603.99[kN] \\ 802.62[kN] \end{bmatrix} = 282.24[kN]$

FILA BULLONI 2

Piastra terminale in flessione

Parametri geometrici

Distanza bullone da bordo esterno

e_{ep} = 50.00*[mm]*
Distanza bullone da anima trave
m_{ep} = 0.5*(w-t_{wb}-0.8*√2*a_w) = 0.5*(100.00*[mm]*-6.50*[mm]*-0.8*√2*4.50*[mm]*) = 41.66*[mm]*
Distanza $_{min}$
e_{min} = 50.00*[mm]*
parametro di calcolo n
n = min(e_{min}; 1.25*m_{ep}) = min(50.00*[mm]*; 1.25*41.66*[mm]*) = 50.00*[mm]*

Lunghezza effettiva di un bullone a forma circolare

$l_{eff,cp}$ = 2*π*m_{ep} = 2*π*41.66*[mm]* = 261.75*[mm]*

Lunghezza effettiva per un bullone a forma non circolare

$l_{eff,nc}$ = 4*m+1.25*e = 4*41.66*[mm]*+1.25*50.00*[mm]* = 229.14*[mm]*

Lunghezza effettiva per un bullone modo 1
$l_{eff,1}$ = min($l_{eff,cp}$; $l_{eff,nc}$) = 229.14*[mm]*
Lunghezza effettiva per un bullone modo 2
$l_{eff,2}$ = $l_{eff,nc}$ = 229.14*[mm]*

Modello 1: Cedimento completo della piastra terminale

$M_{pl,1,Rd}$ = (0.25*$l_{eff,1}$*t_p^2*f_{yp})/γ_{M0} = (0.25*229.14*[mm]*(20.00*[mm]*)^2*355.00*[MPa]*)/1.00 = 8.13*[kNm]*

Metodo 1
$F_{T,1,Rd1}$ = (4*$M_{pl,1,Rd}$)/m_{ep} = 4*8.13*[kNm]*/41.66*[mm]* = 781.04*[kN]*

Metodo 2 (metodo alternativo)
Parametri per la zona d'appoggio
e_w = 0.25*d_w = 0.25*27.70*[mm]* = 9.25*[mm]*
$F_{T,1,Rd2}$ = [(8*n-2*e_w)*$M_{pl,1,Rd}$]/[2*m_{ep}*n-e_w*(m_{ep}+n)] = [(8*50.00*[mm]*-2*9.25*[mm]*)*8.13*[kNm]*]/[2*41.66*[mm]**50.00*[mm]*-9.25*[mm]**(41.66*[mm]*+50.00*[mm]*)] = 935.26*[kN]*
$F_{T,1,Rd}$ = min($F_{T,1,Rd1}$; $F_{T,1,Rd2}$) = (781.04*[kN]*; 935.26*[kN]*) = 781.04*[kN]*

Modello 2: Rottura bullone con cedimento della piastra terminale

$M_{pl,2,Rd}$ = (0.25*$l_{eff,2}$*t_p^2*f_{yp})/γ_{M0} = (0.25*229.14*[mm]*(20.00*[mm]*)^2*355.00*[MPa]*)/1.00 = 8.13*[kNm]*

$F_{T,2,Rd}$ = (2*$M_{pl,2,Rd}$+n*Σ$F_{t,Rd}$)/(m_{ep}+n) = (2*8.13*[kNm]*+50.00*[mm]**2*141.12*[kN]*)/(41.66*[mm]*+50.00*[mm]*) = 331.45*[kN]*

Modello 3: Rottura bullone

$F_{T,3,Rd}$ = Σ$F_{t,Rd}$ = 2*141.12*[kN]* = 282.24*[kN]*

Componente di resistenza
$F_{t,ep,Rd(1)}$ = min($F_{T,1,Rd}$; $F_{T,2,Rd}$; $F_{T,3,Rd}$) = (781.04*[kN]*; 331.45*[kN]*; 282.24*[kN]*) = 282.24*[kN]*

Resistenza riga di bulloni 2

$F_{t,Rd(2)N}$ = min[$F_{t,ep,Rd(2)}$]= min[282.24*[kN]*]= 282.24*[kN]*

$F_{t,Rd(2)M}$ = min [$F_{t,ep,Rd(2)}$] / [$F_{cfb,Rd}$-$F_{t,Rd(1)M}$] = min [282.24*[kN]*] / [802.62*[kN]*-282.24*[kN]*] = 282.24*[kN]*

FILA BULLONI 3

Piastra terminale in flessione

Parametri geometrici

Distanza bullone da bordo esterno
e_{ep} = 50.00*[mm]*
Distanza bullone da anima trave
m_{ep} = 0.5*(w-t_{wb}-0.8*$\sqrt{2}$*a_w) = 0.5*(100.00*[mm]*-6.50*[mm]*-0.8*$\sqrt{2}$*4.50*[mm]*) = 41.66*[mm]*
Distanza $_{min}$
e_{min} = 50.00*[mm]*
parametro di calcolo n
n = min(e_{min}; 1.25*m_{ep}) = min(50.00*[mm]*; 1.25*41.66*[mm]*) = 50.00*[mm]*

Lunghezza effettiva di un bullone a forma circolare

$l_{eff,cp}$ = 2*π*m_{ep} = 2*π*41.66*[mm]* = 261.75*[mm]*

Lunghezza effettiva per un bullone a forma non circolare

$l_{eff,nc}$ = 4*m+1.25*e = 4*41.66*[mm]*+1.25*50.00*[mm]* = 229.14*[mm]*

Lunghezza effettiva per un bullone modo 1
$l_{eff,1}$ = min($l_{eff,cp}$; $l_{eff,nc}$) = 229.14*[mm]*
Lunghezza effettiva per un bullone modo 2
$l_{eff,2}$ = $l_{eff,nc}$ = 229.14*[mm]*

Modello 1: Cedimento completo della piastra terminale

$M_{pl,1,Rd}$ = (0.25*$l_{eff,1}$*t_p^2*f_{yp})/γ_{M0} = (0.25*229.14*[mm]**(20.00*[mm]*)^2*355.00*[MPa]*)/1.00 = 8.13*[kNm]*

Metodo 1
$F_{T,1,Rd1}$ = (4*$M_{pl,1,Rd}$)/m_{ep} = 4*8.13*[kNm]*/41.66*[mm]* = 781.04*[kN]*

Metodo 2 (metodo alternativo)
Parametri per la zona d'appoggio
e_w = 0.25*d_w = 0.25*27.70*[mm]* = 9.25*[mm]*
$F_{T,1,Rd2}$ = [(8*n-2*e_w)*$M_{pl,1,Rd}$]/[2*m_{ep}*n-e_w*(m_{ep}+n)] = [(8*50.00*[mm]*-

2*9.25*[mm]*8.13*[kNm]*/[2*41.66*[mm]*50.00*[mm]*-9.25*[mm]*(41.66*[mm]*+50.00*[mm]*)] = 935.26*[kN]*

$F_{T,1,Rd}$ = min($F_{T,1,Rd1}$; $F_{T,1,Rd2}$) = (781.04*[kN]*; 935.26*[kN]*) = 781.04*[kN]*

Modello 2: Rottura bullone con cedimento della piastra terminale

$M_{pl,2,Rd}$ = (0.25*$l_{eff,2}$*t_p^2*f_{yp})/γ_{M0} = (0.25*229.14*[mm]*(20.00*[mm]*)^2*355.00*[MPa]*)/1.00 = 8.13*[kNm]*

$F_{T,2,Rd}$ = (2*$M_{pl,2,Rd}$+n*$\Sigma F_{t,Rd}$)/(m_{ep}+n) = (2*8.13*[kNm]*+50.00*[mm]*2*141.12*[kN]*)/(41.66*[mm]*+50.00*[mm]*) = 331.45*[kN]*

Modello 3: Rottura bullone

$F_{T,3,Rd}$ = $\Sigma F_{t,Rd}$ = 2*141.12*[kN]* = 282.24*[kN]*

Componente di resistenza

$F_{t,ep,Rd(1)}$ = min($F_{T,1,Rd}$; $F_{T,2,Rd}$; $F_{T,3,Rd}$) = (781.04*[kN]*; 331.45*[kN]*; 282.24*[kN]*) = 282.24*[kN]*

Anima trave in flessione

Larghezza effettiva dell'anima della trave in tensione

$b_{eff,t,wb}$ = $l_{eff1(3)}$ = 229.14*[mm]*

Componente di resistenza

$F_{t,wb,Rd(3)}$=($b_{eff,t,wb}$*t_{wb}*f_{yb})/γ_{M0} = (229.14*[mm]*6.50*[mm]*355.00*[MPa]*)/1.00 = 528.73*[kN]*

Resistenza riga di bulloni 3

$F_{t,Rd(3)N}$ = min[$F_{t,ep,Rd(3)}$; $F_{t,wb,Rd(3)}$]= min[282.24*[kN]*; 528.73*[kN]*]= 282.24*[kN]*

Resistenza a flessione

Momento flettente reale

M_0 = $M_{b2,Ed}$= 52.50*[kNm]*

Momento resistente di progetto del giunto, senza considerare le forze assiali

$M_{j,Rd}$ = $F_{t,Rd(1)M}$* h_1 + $F_{t,Rd(2)M}$* h_2 = 282.24*[kN]*145.00*[mm]* + 282.24*[kN]*90.00*[mm]* = 74.66*[kNm]*

$\lvert M_0 \rvert / M_{j,Rd} \leq 1$	0.70 < 1.00	**0.70**	✓

Resistenza a tensione

Forza assiale

N_0 = $N_{b2,Ed}$*cos(α_1) + $V_{b2,Ed}$*sin(α_1) = 8.00*[kN]*cos(0.00*[Deg]*) + 28.00*[kN]*sin(0.00*[Deg]*) = 8.00*[kN]*

Resistenza di progetto assiale del giunto, senaza considerare il momento applicato

$N_{j,Rd}$ = $F_{t,Rd(1)N}$ + $F_{t,Rd(2)N}$ + $F_{t,Rd(3)N}$ = 282.24*[kN]* + 282.24*[kN]* + 282.24*[kN]* = 846.72*[kN]*

$\lvert N_0 \rvert / N_{j,Rd} \leq 1$	0.01 < 1.00	**0.01**	✓

Resistenza a trazione e flessione			
$N_0/N_{j,Rd} + \|M_0\|/M_{j,Rd} \leq 1$	0.71 < 1.00	**0.71**	✓

Resistenza a taglio

Forza di taglio

$V_0 = -N_{b1,Ed}*\sin(\alpha) + V_{b1,Ed}*\cos(\alpha) = -(8.00[kN])*\sin(0.00[Deg]) + 28.00[kN]*\cos(0.00[Deg]) = 28.00[kN]$

FILA BULLONI 1

Bullone di supporto sulla piastra

Coefficiente determinato dalla spaziatura bulloni

$\alpha_{ep} = \min(1.0; f_{ub}/f_{up}; e_1/d_0) = \min(1.0; 800.00[MPa]/490.00[MPa]; 60.00[mm]/22.00[mm]) = 1.00$

Coefficiente determinato dalla spaziatura bulloni

$k_1 = \min(2.5; 2.8*e_2/d_0) = \min(2.5; 2.8*50.00[mm]/22.00[mm]) = 2.50$

Resistenza del bullone di supporto

$F_{b,Rd} = k_1*\alpha_b*f_{up}*d*t_p = 2.50*1.00*490.00[MPa]*20.00[mm]*20.00[mm] = 392.00[kN]$

Resistenza riga di bulloni 1

$V_{Rd(1)} = m_1*\min(F_{b,Rd}; F_{v,Rd}) = 2*\min(392.00[kN]; 94.08[kN]) = 188.16[kN]$

FILA BULLONI 2

Bullone di supporto sulla piastra

Coefficiente determinato dalla spaziatura bulloni

$\alpha_{ep} = \min(1.0; f_{ub}/f_{up}; p_1/(3*d_0)-0.25) = \min(1.0; 800.00[MPa]/490.00[MPa]; 55.00[mm]/(3*22.00[mm])-0.25) = 0.58$

Coefficiente determinato dalla spaziatura bulloni

$k_1 = \min(2.5; 1.4*p_2/d_0-1.7) = \min(2.5; 1.4*100.00[mm]/22.00[mm]-1.7) = 2.50$

Resistenza del bullone di supporto

$F_{b,Rd} = k_1*\alpha_b*f_{up}*d*t_p = 2.50*0.58*490.00[MPa]*20.00[mm]*20.00[mm] = 228.67[kN]$

Resistenza riga di bulloni 2

$V_{Rd(2)} = m_2*\min(F_{b,Rd}; F_{v,Rd}) = 2*\min(228.67[kN]; 94.08[kN]) = 188.16[kN]$

FILA BULLONI 3

Bullone di supporto sulla piastra

Coefficiente determinato dalla spaziatura bulloni

$\alpha_{ep} = \min(1.0; f_{ub}/f_{up}; e_1/d_0) = \min(1.0; 800.00[MPa]/490.00[MPa]; 60.00[mm]/22.00[mm]) = 1.00$

Coefficiente determinato dalla spaziatura bulloni

$k_1 = \min(2.5; 2.8*e_2/d_0) = \min(2.5; 2.8*50.00[mm]/22.00[mm]) = 2.50$

Resistenza del bullone di supporto

$F_{b,Rd} = k_1*\alpha_b*f_{up}*d*t_p = 2.50*1.00*490.00[MPa]*20.00[mm]*20.00[mm] = 392.00[kN]$

Resistenza riga di bulloni 3

$V_{Rd(3)} = m_3*\min(F_{b,Rd}; F_{v,Rd}) = 2*\min(392.00[kN]; 94.08[kN]) = 188.16[kN]$

$V_{j,Rd} = V_{Rd(1)} + V_{Rd(2)} + V_{Rd(3)} = 188.16[kN] + 188.16[kN] + 188.16[kN] = 564.48[kN]$

$\lvert V_0\rvert/V_{j,Rd} \le 1$	$\lvert 28.00[kN]\rvert < 564.48[kN]$	**0.05**	✓

Saldature dell'angolare che collegano trave e piastra frontale

Forze nelle saldature

Forza assiale

$N_0 = N_{b2,Ed}*\cos(\alpha_1) + V_{b2,Ed}*\sin(\alpha_1) = 8.00[kN]*\cos(0.00[Deg]) + 28.00[kN]*\sin(0.00[Deg]) = 8.00[kN]$

Forza di taglio

$V_0 = -N_{b2,Ed}*\sin(\alpha_1) + V_{b2,Ed}*\cos(\alpha_1) = -(8.00[kN])*\sin(0.00[Deg]) + 28.00[kN]*\cos(0.00[Deg]) = 28.00[kN]$

Momento flettente reale

$M_0 = M_{b2,Ed} = 52.50[kNm]$

Proprietŕ geometriche delle saldature

Trave

Area saldature orizzontali sulla flangia superiore

$A_{wfu} = [b_{fb}+(b_{fb}-t_{wb}-2*r_b)]*a_f = [200.00[mm]+(200.00[mm]-6.50[mm]-2*18.00[mm])]*7.00[mm] = 25.03[cm^2]$

Area saldature orizzontali sulla flangia inferiore

$A_{wfl} = [b_{fb}+(b_{fb}-t_{wb}-2*r_b)]*a_f = [200.00[mm]+(200.00[mm]-6.50[mm]-2*18.00[mm])]*7.00[mm] = 25.03[cm^2]$

Area delle saldature verticali

$A_{ww} = 2*[(h_b-2*(t_{fb}-r_b))/\cos(\alpha)]*a_w = 2*[(190.00[mm]-2*(10.00[mm]-18.00[mm]))/\cos(0.00[Deg])]*4.50[mm] = 12.06[cm^2]$

Area di tutte le saldature

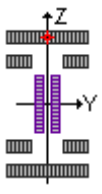
$A_w = A_{wfu} + A_{wfl} + A_{ww} = 25.03[cm^2] + 25.03[cm^2] + 12.06[cm^2] = 62.11[cm^2]$

Distanza tra baricentro saldature e baricentro trave

$e_{0w} = 0.00[mm]$

Momento d'inerzia saldature

$I_w = 4363.75[cm^4]$

Punto in cui le sollecitazioni vengono controllate	$z_i = 98.50[mm]$
Modulo elastico delle saldature	
$W_w = 443.02[cm^3]$	
Sollecitazione da forza assiale	
$\sigma_N = N_0/A_w = 8.00[kN]/62.11[cm^2] = 1.29[MPa]$	
Sollecitazione dovuta alla flessione	
$\sigma_M = (M_0*z_i)/I_w = (52.50[kNm]*98.50[mm]/4363.75[cm^4] = 118.50[MPa]$	
Sforzo normale massimo	
$\sigma = \sigma_N + \sigma_M = 1.29[MPa] + 118.50[MPa] = 119.79[MPa]$	

Sforzo normale perpendicolare	
$\sigma_{\perp} = \sigma/\sqrt{2} = 119.79[MPa]/\sqrt{2} = 84.71[MPa]$	
Sforzo tangente perpendicolare	
$\tau_{\perp} = \sigma/\sqrt{2} = 119.79[MPa]/\sqrt{2} = 84.71[MPa]$	

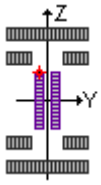
Coefficiente di resistenza saldature

$\beta_w = 0.90$

$\lvert\sigma_{\perp}\rvert \le 0.9*f_u/\gamma_{M2}$	$\lvert 84.71[MPa]\rvert < 352.80[MPa]$	**0.17**	✓

$\sqrt{[\sigma_{\perp}^2+3*(\tau_{\perp}^2)]} \le f_u/(\beta_w*\gamma_{M2})$	$169.41[MPa] < 435.56[MPa]$	**0.39**	✓

Punto in cui le sollecitazioni vengono controllate	$z_i = 67.00[mm]$
Modulo elastico delle saldature	
$W_w = 651.31[cm^3]$	
Sollecitazione da forza assiale	
$\sigma_N = N_0/A_w = 8.00[kN]/62.11[cm^2] = 1.29[MPa]$	
Sollecitazione dovuta alla flessione	
$\sigma_M = (M_0*z_i)/I_w = (52.50[kNm]*67.00[mm])/4363.75[cm^4] = 80.61[MPa]$	
Sforzo normale massimo	
$\sigma = \sigma_N + \sigma_M = 1.29[MPa] + 80.61[MPa] = 81.90[MPa]$	
Sforzo normale perpendicolare	
$\sigma_{\perp} = \sigma/\sqrt{2} = 81.90[MPa]/\sqrt{2} = 57.91[MPa]$	
Sforzo tangente perpendicolare	
$\tau_{\perp} = \sigma/\sqrt{2} = 81.90[MPa]/\sqrt{2} = 57.91[MPa]$	
Sforzo tangente parallelo	
$\tau_{II} = V_0/A_{ww} = 28.00[kN]/12.06[cm^2] = 23.22[MPa]$	



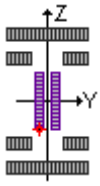
Coefficiente di resistenza saldature

$\beta_w = 0.90$

$\lvert\sigma_{\perp}\rvert \le 0.9*f_u/\gamma_{M2}$	$\lvert 57.91[MPa]\rvert < 352.80[MPa]$	**0.12**	✓

$\sqrt{[\sigma_{\perp}^2+3*(\tau_{\perp}^2+\tau_{II}^2)]} \le f_u/(\beta_w*\gamma_{M2})$	$122.60[MPa] < 435.56[MPa]$	**0.28**	✓

Punto in cui le sollecitazioni vengono controllate	$z_i = -67.00[mm]$
Modulo elastico delle saldature	
$W_w = 651.31[cm^3]$	
Sollecitazione da forza assiale	
$\sigma_N = N_0/A_w = 8.00[kN]/62.11[cm^2] = 1.29[MPa]$	
Sollecitazione dovuta alla flessione	
$\sigma_M = (M_0*z_i)/I_w = (52.50[kNm]*(-67.00[mm]))/4363.75[cm^4] = -80.61[MPa]$	
Sforzo normale massimo	
$\sigma = \sigma_N + \sigma_M = 1.29[MPa] + (-80.61[MPa]) = -79.32[MPa]$	
Sforzo normale perpendicolare	
$\sigma_{\perp} = \sigma/\sqrt{2} = -79.32[MPa]/\sqrt{2} = -56.09[MPa]$	
Sforzo tangente perpendicolare	



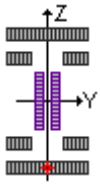
$\tau_{\perp} = \sigma/\sqrt{2} = -79.32[MPa]/\sqrt{2} = -56.09[MPa]$	
Sforzo tangente parallelo	
$\tau_{II} = V_0/A_{ww} = 28.00[kN]/12.06[cm^2] = 23.22[MPa]$	

Coefficiente di resistenza saldature

$\beta_w = 0.90$

$\lvert\sigma_{\perp}\rvert \le 0.9*f_u/\gamma_{M2}$	$\lvert-56.09[MPa]\rvert < 352.80[MPa]$	**0.11**	✓
$\sqrt{[\sigma_{\perp}^2+3*(\tau_{\perp}^2+\tau_{II}^2)]} \le f_u/(\beta_w*\gamma_{M2})$	$119.16[MPa] < 435.56[MPa]$	**0.27**	✓

Punto in cui le sollecitazioni vengono controllate	$z_i = -98.50[mm]$
Modulo elastico delle saldature	
$W_w = 443.02[cm^3]$	
Sollecitazione da forza assiale	
$\sigma_N = N_0/A_w = 8.00[kN]/62.11[cm^2] = 1.29[MPa]$	
Sollecitazione dovuta alla flessione	
$\sigma_M = (M_0*z_i)/I_w = (52.50[kNm]*(-98.50[mm]))/4363.75[cm^4] = -118.50[MPa]$	
Sforzo normale massimo	
$\sigma = \sigma_N + \sigma_M = 1.29[MPa] + (-118.50[MPa]) = -117.22[MPa]$	
Sforzo normale perpendicolare	
$\sigma_{\perp} = \sigma/\sqrt{2} = -117.22[MPa]/\sqrt{2} = -82.88[MPa]$	
Sforzo tangente perpendicolare	
$\tau_{\perp} = \sigma/\sqrt{2} = -117.22[MPa]/\sqrt{2} = -82.88[MPa]$	



Coefficiente di resistenza saldature

$\beta_w = 0.90$

$\lvert\sigma_{\perp}\rvert \le 0.9*f_u/\gamma_{M2}$	$\lvert-82.88[MPa]\rvert < 352.80[MPa]$	**0.17**	✓
$\sqrt{[\sigma_{\perp}^2+3*(\tau_{\perp}^2)]} \le f_u/(\beta_w*\gamma_{M2})$	$165.77[MPa] < 435.56[MPa]$	**0.38**	✓

Rigidezza di rotazione del giunto

Lunghezza di allungamento del bullone

$L_b = t_p+0.5*(m+k)+t_{wa} = 20.00[mm]+0.5*(19.00[mm]+12.50[mm])+3.00[mm]=61.75[mm]$

$k_{10} = (3.2*A_s)/L_b = (3.2*2.45[cm^2])/61.75[mm] = 6.35[mm]$

Fila bulloni 1

Piastra terminale in flessione

$k_{4,1} = (0.9*l_{eff}*t_p^3)/m_x^3 = (0.9*261.75[mm]*20.00[mm]^3)/0.00[mm]^3 = 0.00[mm]$

$k_{eff,1} = 1/(1/k_4+1/k_5+1/k_{10}) = 1/(1/0.00[mm] + 1/26.07[mm] +1/6.35[mm]) = 5.10[mm]$

Fila bulloni 2

Piastra terminale in flessione

$k_{4,2} = (0.9*l_{eff}*t_p^3)/m_x^3 = (0.9*229.14[mm]*20.00[mm]^3)/0.00[mm]^3 = 0.00[mm]$

$k_{eff,2} = 1/(1/k_4+1/k_5+1/k_{10}) = 1/(1/0.00[mm] + 1/22.82[mm] +1/6.35[mm]) = 4.97[mm]$

Fila bulloni 3

Piastra terminale in flessione

$k_{4,3} = (0.9*l_{eff}*t_p^3)/m_x^3 = (0.9*229.14[mm]*20.00[mm]^3)/0.00[mm]^3 = 0.00[mm]$

$k_{eff,3} = 1/(1/k_4+1/k_5+1/k_{10}) = 1/(1/0.00[mm] + 1/22.82[mm] +1/6.35[mm]) = 5.10[mm]$

Braccio di leva delle forze interne

$z_{eq} = [k_{eff,1}*h_1^2+k_{eff,2}*h_2^2+k_{eff,3}*h_3^2]/[k_{eff,1}*h_1+k_{eff,2}*h_2+k_{eff,3}*h_3] = [5.10[mm]*145.00[mm]^2+4.97[mm]*90.00[mm]^2+5.10[mm]*35.00[mm]^2]/[5.10[mm]*145.00[mm]+4.97[mm]*90.00[mm]+5.10[mm]*35.00[mm]] = 112.89[mm]$

Coefficiente di rigidezza equivalente

$k_{eq} = [k_{eff,1}*h_1+k_{eff,2}*h_2+k_{eff,3}*h_3]/z_{eq} = [5.10[mm]*145.00[mm]+4.97[mm]*90.00[mm]+5.10[mm]*35.00[mm]]/112.89[mm] = 12.06[mm]$

Rigidezza di rotazione iniziale del giunto

$S_{j,ini} = E*z_{eq}^2/(1/k_{eq}) = (210000.00[MPa]*(112.89[mm])^2)/(1/12.06[mm]) = 32265.42[kNm]$

Rigidezza di rotazione del giunto chiodato

$S_{j,pin} = (0.5*E*I_{yb})/L_b = (0.5*210000.00[MPa]*3692.16[cm^4])/4000.00[mm] = 969.19[kNm]$

Rigidezza di rotazione del giunto rigido

$S_{j,rig} = (k_b*E*I_{yb})/L_b = (25.00*210000.00[MPa]*3692.16[cm^4])/4000.00[mm] = 48459.54[kNm]$

Classificazione dei giunti

Semi-rigido

Lato destro

Bulloni di collegamento piastre frontali

Resistenza a trazione di un bullone

$F_{t,Rd} = (k_2*f_{ub}*A_s)/\gamma_{M2} = (0.90*800.00[MPa]*2.45[cm^2])/1.25 = 141.12[kN]$

Area della sezione di taglio del bullone

$A = A_s = 2.45[cm^2]$

Resistenza al taglio del bullone in una superficie

$F_{v,Rd} = (\alpha_v*m*f_{ub}*A)/\gamma_{M2} = (0.60*1*800.00[MPa]*2.45[cm^2])/1.25 = 94.08[kN]$

Resistenza a punzonatura per taglio di un bullone

$B_{p,Rd} = (0.6*\pi*d_m*t_p*f_{up})/\gamma_{M2} = (0.6*\pi*31.77[mm]*20.00[mm]*490.00[MPa])/1.25 = 469.42[kN]$

Flangia e anima della trave in compressione

Modulo di resistenza di plastica

$W_{pl} = 406.96[cm^3]$

La resistenza di progetto per la piegatura della sezione

$M_{c,Rd} = (W_{pl}*f_{yb})/\gamma_{M0} = (406.96[cm^3]*355.00[MPa])/1.00 = 144.47[kNm]$

Distanza tra le flange dellatrave

$h_f = 180.00[mm]$

Resistenza di progetto della flangia colonna soggetta a compressione trasversale
$F_{c,fb,Rd} = M_{c,Rd}/h_f = 144.47[kNm]/180.00[mm] = 802.62[kN]$

Zona tesa

FILA BULLONI 1

Piastra terminale in flessione

Parametri geometrici

Distanza bullone da bordo esterno
$e_{ep} = 50.00[mm]$
Distanza bullone da anima trave
$m_{ep} = 0.5*(w-t_{wb}-0.8*\sqrt{2}*a_w) = 0.5*(100.00[mm]-6.50[mm]-0.8*\sqrt{2}*4.50[mm]) = 41.66[mm]$
Distanza $_{min}$
$e_{min} = 50.00[mm]$
parametro di calcolo n
$n = \min(e_{min}; 1.25*m_{ep}) = \min(50.00[mm]; 1.25*41.66[mm]) = 50.00[mm]$
parametro di calcolo
$m_2 = p_1+e_1-e_{p1}-t_{fb}-0.8*a_f*\sqrt{2} = 55.00[mm]+60.00[mm]-20.00[mm]-10.00[mm]-0.8*7.00[mm]*\sqrt{2} = 22.08[mm]$
$\lambda_1 = m_{ep}/(m_{ep}+e_{ep}) = 41.66[mm]/(41.66[mm] + 50.00[mm]) = 0.45$
$\lambda_2 = m_2/(m_{ep}+e_{ep}) = 22.08[mm]/(41.66[mm] + 50.00[mm]) = 0.24$

$\alpha = 7.06$

Lunghezza effettiva di un bullone a forma circolare

$l_{eff,cp} = 2*\pi*m_{ep} = 2*\pi*41.66[mm] = 261.75[mm]$

Lunghezza effettiva per un bullone a forma non circolare

$l_{eff,nc} = \alpha*m_{ep} = 7.06*41.66[mm] = 294.29[mm]$

Lunghezza effettiva per un bullone modo 1
$l_{eff,1} = \min(l_{eff,cp}; l_{eff,nc}) = 261.75[mm]$
Lunghezza effettiva per un bullone modo 2
$l_{eff,2} = l_{eff,nc} = 294.29[mm]$

Modello 1: Cedimento completo della piastra terminale

$M_{pl,1,Rd} = (0.25*l_{eff,1}*t_p^2*f_{yp})/\gamma_{M0} = (0.25*261.75[mm]*(20.00[mm])^2*355.00[MPa])/1.00 = 9.29[kNm]$

Metodo 1
$F_{T,1,Rd1} = (4*M_{pl,1,Rd})/m_{ep} = 4*9.29[kNm]/41.66[mm] = 892.21[kN]$

Metodo 2 (metodo alternativo)

Parametri per la zona d'appoggio

$e_w = 0.25*d_w = 0.25*27.70[mm] = 9.25[mm]$

$F_{T,1,Rd2} = [(8*n-2*e_w)*M_{pl,1,Rd}]/[2*m_{ep}*n-e_w*(m_{ep}+n)] = [(8*50.00[mm]-2*9.25[mm])*9.29[kNm]]/[2*41.66[mm]*50.00[mm]-9.25[mm]*(41.66[mm]+50.00[mm])] = 1068.39[kN]$

$F_{T,1,Rd} = \min(F_{T,1,Rd1}; F_{T,1,Rd2}) = (892.21[kN]; 1068.39[kN]) = 892.21[kN]$

Modello 2: Rottura bullone con cedimento della piastra terminale

$M_{pl,2,Rd} = (0.25*l_{eff,2}*t_p^2*f_{yp})/\gamma_{M0} = (0.25*294.29[mm]*(20.00[mm])^2*355.00[MPa])/1.00 = 10.45[kNm]$

$F_{T,2,Rd} = (2*M_{pl,2,Rd}+n*\Sigma F_{t,Rd})/(m_{ep}+n) = (2*10.45[kNm]+50.00[mm]*2*141.12[kN])/(41.66[mm]+50.00[mm]) = 381.92[kN]$

Modello 3: Rottura bullone

$F_{T,3,Rd} = \Sigma F_{t,Rd} = 2*141.12[kN] = 282.24[kN]$

Componente di resistenza

$F_{t,ep,Rd(1)} = \min(F_{T,1,Rd}; F_{T,2,Rd}; F_{T,3,Rd}) = (892.21[kN]; 381.92[kN]; 282.24[kN]) = 282.24[kN]$

Anima trave in flessione

Larghezza effettiva dell'anima della trave in tensione

$b_{eff,t,wb} = l_{eff1(1)} = 261.75[mm]$

Componente di resistenza

$F_{t,wb,Rd(1)}=(b_{eff,t,wb}*t_{wb}*f_{yb})/\gamma_{M0} = (261.75[mm]*6.50[mm]*355.00[MPa])/1.00 = 603.99[kN]$

Resistenza riga di bulloni 1

$F_{t,Rd(1)N} = \min[F_{t,ep,Rd(1)}; F_{t,wb,Rd(1)}] = \min[282.24[kN]; 603.99[kN]] = 282.24[kN]$

$$F_{t,Rd(1)M} = \min \begin{bmatrix} F_{t,ep,Rd(1)}; F_{t,wb,Rd(1)} \\ F_{cfb,Rd} \end{bmatrix} = \min \begin{bmatrix} 282.24[kN]; 603.99[kN] \\ 802.62[kN] \end{bmatrix} = 282.24[kN]$$

FILA BULLONI 2

Piastra terminale in flessione

Parametri geometrici

Distanza bullone da bordo esterno

$e_{ep} = 50.00[mm]$

Distanza bullone da anima trave

$m_{ep} = 0.5*(w-t_{wb}-0.8*\sqrt{2}*a_w) = 0.5*(100.00[mm]-6.50[mm]-0.8*\sqrt{2}*4.50[mm]) = 41.66[mm]$

Distanza $_{min}$

$e_{min} = 50.00[mm]$

parametro di calcolo n

$n = \min(e_{min}; 1.25*m_{ep}) = \min(50.00[mm]; 1.25*41.66[mm]) = 50.00[mm]$

Lunghezza effettiva di un bullone a forma circolare

$l_{eff,cp} = 2*\pi*m_{ep} = 2*\pi*41.66[mm] = 261.75[mm]$

Lunghezza effettiva per un bullone a forma non circolare

$l_{eff,nc} = 4*m+1.25*e = 4*41.66[mm]+1.25*50.00[mm] = 229.14[mm]$

Lunghezza effettiva per un bullone modo 1
$l_{eff,1} = \min(l_{eff,cp}; l_{eff,nc}) = 229.14[mm]$
Lunghezza effettiva per un bullone modo 2
$l_{eff,2} = l_{eff,nc} = 229.14[mm]$

Modello 1: Cedimento completo della piastra terminale

$M_{pl,1,Rd} = (0.25*l_{eff,1}*t_p^2*f_{yp})/\gamma_{M0} = (0.25*229.14[mm]*(20.00[mm])^2*355.00[MPa])/1.00 = 8.13[kNm]$

Metodo 1
$F_{T,1,Rd1} = (4*M_{pl,1,Rd})/m_{ep} = 4*8.13[kNm]/41.66[mm] = 781.04[kN]$

Metodo 2 (metodo alternativo)
Parametri per la zona d'appoggio
$e_w = 0.25*d_w = 0.25*27.70[mm] = 9.25[mm]$
$F_{T,1,Rd2} = [(8*n-2*e_w)*M_{pl,1,Rd}]/[2*m_{ep}*n-e_w*(m_{ep}+n)] = [(8*50.00[mm]-2*9.25[mm])*8.13[kNm]]/[2*41.66[mm]*50.00[mm]-9.25[mm]*(41.66[mm]+50.00[mm])] = 935.26[kN]$
$F_{T,1,Rd} = \min(F_{T,1,Rd1}; F_{T,1,Rd2}) = (781.04[kN]; 935.26[kN]) = 781.04[kN]$

Modello 2: Rottura bullone con cedimento della piastra terminale

$M_{pl,2,Rd} = (0.25*l_{eff,2}*t_p^2*f_{yp})/\gamma_{M0} = (0.25*229.14[mm]*(20.00[mm])^2*355.00[MPa])/1.00 = 8.13[kNm]$

$F_{T,2,Rd} = (2*M_{pl,2,Rd}+n*\Sigma F_{t,Rd})/(m_{ep}+n) = (2*8.13[kNm]+50.00[mm]*2*141.12[kN])/(41.66[mm]+50.00[mm]) = 331.45[kN]$

Modello 3: Rottura bullone

$F_{T,3,Rd} = \Sigma F_{t,Rd} = 2*141.12[kN] = 282.24[kN]$

Componente di resistenza
$F_{t,ep,Rd(1)} = \min(F_{T,1,Rd}; F_{T,2,Rd}; F_{T,3,Rd}) = (781.04[kN]; 331.45[kN]; 282.24[kN]) = 282.24[kN]$

Resistenza riga di bulloni 2

$$F_{t,Rd(2)N} = \min\left[\frac{F_{t,ep,Rd(2)}}{}\right] = \min\left[\frac{282.24[kN]}{}\right] = 282.24[kN]$$

$$F_{t,Rd(2)M} = \min\begin{bmatrix} F_{t,ep,Rd(2)} \\ \\ F_{cfb,Rd}-F_{t,Rd(1)M} \end{bmatrix} = \min\begin{bmatrix} 282.24[kN] \\ \\ 802.62[kN]-282.24[kN] \end{bmatrix} = 282.24[kN]$$

FILA BULLONI 3

Piastra terminale in flessione

Parametri geometrici

Distanza bullone da bordo esterno
e_{ep} = 50.00*[mm]*
Distanza bullone da anima trave
$m_{ep} = 0.5*(w-t_{wb}-0.8*\sqrt{2}*a_w) = 0.5*(100.00[mm]-6.50[mm]-0.8*\sqrt{2}*4.50[mm]) = 41.66[mm]$
Distanza $_{min}$
e_{min} = 50.00*[mm]*
parametro di calcolo n
$n = \min(e_{min}; 1.25*m_{ep}) = \min(50.00[mm]; 1.25*41.66[mm]) = 50.00[mm]$

Lunghezza effettiva di un bullone a forma circolare

$l_{eff,cp} = 2*\pi*m_{ep} = 2*\pi*41.66[mm] = 261.75[mm]$

Lunghezza effettiva per un bullone a forma non circolare

$l_{eff,nc} = 4*m+1.25*e = 4*41.66[mm]+1.25*50.00[mm] = 229.14[mm]$

Lunghezza effettiva per un bullone modo 1
$l_{eff,1} = \min(l_{eff,cp}; l_{eff,nc}) = 229.14[mm]$
Lunghezza effettiva per un bullone modo 2
$l_{eff,2} = l_{eff,nc} = 229.14[mm]$

Modello 1: Cedimento completo della piastra terminale

$M_{pl,1,Rd} = (0.25*l_{eff,1}*t_p^2*f_{yp})/\gamma_{M0} = (0.25*229.14[mm]*(20.00[mm])^2*355.00[MPa])/1.00 = 8.13[kNm]$

Metodo 1
$F_{T,1,Rd1} = (4*M_{pl,1,Rd})/m_{ep} = 4*8.13[kNm]/41.66[mm] = 781.04[kN]$

Metodo 2 (metodo alternativo)
Parametri per la zona d'appoggio
$e_w = 0.25*d_w = 0.25*27.70[mm] = 9.25[mm]$
$F_{T,1,Rd2} = [(8*n-2*e_w)*M_{pl,1,Rd}]/[2*m_{ep}*n-e_w*(m_{ep}+n)] = [(8*50.00[mm]-2*9.25[mm])*8.13[kNm]]/[2*41.66[mm]*50.00[mm]-9.25[mm]*(41.66[mm]+50.00[mm])] = 935.26[kN]$
$F_{T,1,Rd} = \min(F_{T,1,Rd1}; F_{T,1,Rd2}) = (781.04[kN]; 935.26[kN]) = 781.04[kN]$

Modello 2: Rottura bullone con cedimento della piastra terminale

$M_{pl,2,Rd} = (0.25*l_{eff,2}*t_p^2*f_{yp})/\gamma_{M0} = (0.25*229.14[mm]*(20.00[mm])^2*355.00[MPa])/1.00 = 8.13[kNm]$

$F_{T,2,Rd} = (2*M_{pl,2,Rd}+n*\Sigma F_{t,Rd})/(m_{ep}+n) = (2*8.13[kNm]+50.00[mm]*2*141.12[kN])/(41.66[mm]+50.00[mm]) = 331.45[kN]$

Modello 3: Rottura bullone

$F_{T,3,Rd} = \Sigma F_{t,Rd} = 2*141.12[kN] = 282.24[kN]$

Componente di resistenza
$F_{t,ep,Rd(1)} = \min(F_{T,1,Rd}; F_{T,2,Rd}; F_{T,3,Rd}) = (781.04[kN]; 331.45[kN]; 282.24[kN]) = 282.24[kN]$

Anima trave in flessione

Larghezza effettiva dell'anima della trave in tensione
$b_{eff,t,wb} = l_{eff1(3)} = 229.14[mm]$
Componente di resistenza
$F_{t,wb,Rd(3)}=(b_{eff,t,wb}*t_{wb}*f_{yb})/\gamma_{M0} = (229.14[mm]*6.50[mm]*355.00[MPa])/1.00 = 528.73[kN]$

Resistenza riga di bulloni 3

$F_{t,Rd(3)N} = \min[\ F_{t,ep,Rd(3)}; F_{t,wb,Rd(3)}\ ] = \min[\ 282.24[kN]; 528.73[kN]\ ] = 282.24[kN]$

Resistenza a flessione

Momento flettente reale
$M_0 = M_{b1,Ed} = 52.50[kNm]$

Momento resistente di progetto del giunto, senza considerare le forze assiali
$M_{j,Rd} = F_{t,Rd(1)M}* h_1 + F_{t,Rd(2)M}* h_2 = 282.24[kN]*145.00[mm] + 282.24[kN]*90.00[mm] = 74.66[kNm]$

$\lvert M_0\rvert/M_{j,Rd} \le 1$	0.70 < 1.00	**0.70**	✓

Resistenza a tensione

Forza assiale
$N_0 = N_{b1,Ed}*\cos(\alpha_2) + V_{b1,Ed}*\sin(\alpha_2) = 8.00[kN]*\cos(0.00[Deg]) + 28.00[kN]*\sin(0.00[Deg]) = 8.00[kN]$

Resistenza di progetto assiale del giunto, senaza considerare il momento applicato
$N_{j,Rd} = F_{t,Rd(1)N} + F_{t,Rd(2)N} + F_{t,Rd(3)N} = 282.24[kN] + 282.24[kN] + 282.24[kN] = 846.72[kN]$

$\lvert N_0\rvert/N_{j,Rd} \le 1$	0.01 < 1.00	**0.01**	✓

Resistenza a trazione e flessione

$N_0/N_{j,Rd} + \lvert M_0\rvert/M_{j,Rd} \le 1$	0.71 < 1.00	**0.71**	✓

Resistenza a taglio

Forza di taglio
$V_0 = -N_{b1,Ed}*\sin(\alpha) + V_{b1,Ed}*\cos(\alpha) = -(8.00[kN])*\sin(0.00[Deg]) + 28.00[kN]*\cos(0.00[Deg]) = 28.00[kN]$

FILA BULLONI 1

Bullone di supporto sulla piastra

Coefficiente determinato dalla spaziatura bulloni
$\alpha_{ep} = \min(1.0; f_{ub}/f_{up}; e_1/d_0) = \min(1.0; 800.00[MPa]/490.00[MPa]; 60.00[mm]/22.00[mm]) = 1.00$
Coefficiente determinato dalla spaziatura bulloni
$k_1 = \min(2.5; 2.8*e_2/d_0) = \min(2.5; 2.8*50.00[mm]/22.00[mm]) = 2.50$
Resistenza del bullone di supporto
$F_{b,Rd} = k_1*\alpha_b*f_{up}*d*t_p = 2.50*1.00*490.00[MPa]*20.00[mm]*20.00[mm] = 392.00[kN]$

Resistenza riga di bulloni 1
$V_{Rd(1)} = m_1*\min(F_{b,Rd}; F_{v,Rd}) = 2*\min(392.00[kN]; 94.08[kN]) = 188.16[kN]$

FILA BULLONI 2

Bullone di supporto sulla piastra

Coefficiente determinato dalla spaziatura bulloni
$\alpha_{ep} = \min(1.0; f_{ub}/f_{up}; p_1/(3*d_0)-0.25) = \min(1.0; 800.00[MPa]/490.00[MPa]; 55.00[mm]/(3*22.00[mm])-0.25) = 0.58$
Coefficiente determinato dalla spaziatura bulloni
$k_1 = \min(2.5; 1.4*p_2/d_0-1.7) = \min(2.5; 1.4*100.00[mm]/22.00[mm] -1.7) = 2.50$
Resistenza del bullone di supporto
$F_{b,Rd} = k_1*\alpha_b*f_{up}*d*t_p = 2.50*0.58*490.00[MPa]*20.00[mm]*20.00[mm] = 228.67[kN]$

Resistenza riga di bulloni 2
$V_{Rd(2)} = m_2*\min(F_{b,Rd}; F_{v,Rd}) = 2*\min(228.67[kN]; 94.08[kN]) = 188.16[kN]$

FILA BULLONI 3

Bullone di supporto sulla piastra

Coefficiente determinato dalla spaziatura bulloni
$\alpha_{ep} = \min(1.0; f_{ub}/f_{up}; e_1/d_0) = \min(1.0; 800.00[MPa]/490.00[MPa]; 60.00[mm]/22.00[mm]) = 1.00$
Coefficiente determinato dalla spaziatura bulloni
$k_1 = \min(2.5; 2.8*e_2/d_0) = \min(2.5; 2.8*50.00[mm]/22.00[mm]) = 2.50$
Resistenza del bullone di supporto
$F_{b,Rd} = k_1*\alpha_b*f_{up}*d*t_p = 2.50*1.00*490.00[MPa]*20.00[mm]*20.00[mm] = 392.00[kN]$

Resistenza riga di bulloni 3
$V_{Rd(3)} = m_3*\min(F_{b,Rd}; F_{v,Rd}) = 2*\min(392.00[kN]; 94.08[kN]) = 188.16[kN]$

$V_{j,Rd} = V_{Rd(1)} + V_{Rd(2)} + V_{Rd(3)} = 188.16[kN] + 188.16[kN] + 188.16[kN] = 564.48[kN]$

$\|V_0\|/V_{j,Rd} \leq 1$	$\|28.00[kN]\| < 564.48[kN]$	**0.05**	✓

Saldature dell'angolare che collegano trave e piastra frontale

Forze nelle saldature

Forza assiale

$N_0 = N_{b1,Ed}*\cos(\alpha_2) + V_{b1,Ed}*\sin(\alpha_2) = 8.00[kN]*\cos(0.00[Deg]) + 28.00[kN]*\sin(0.00[Deg]) = 8.00[kN]$

Forza di taglio

$V_0 = -N_{b1,Ed}*\sin(\alpha_2) + V_{b1,Ed}*\cos(\alpha_2) = -(8.00[kN])*\sin(0.00[Deg]) + 28.00[kN]*\cos(0.00[Deg]) = 28.00[kN]$

Momento flettente reale

$M_0 = M_{b1,Ed} = 52.50[kNm]$

Proprietŕ geometriche delle saldature

Trave

Area saldature orizzontali sulla flangia superiore

$A_{wfu} = [b_{fb}+(b_{fb}-t_{wb}-2*r_b)]*a_f = [200.00[mm]+(200.00[mm]-6.50[mm]-2*18.00[mm])]*7.00[mm] = 25.03[cm^2]$

Area saldature orizzontali sulla flangia inferiore

$A_{wfl} = [b_{fb}+(b_{fb}-t_{wb}-2*r_b)]*a_f = [200.00[mm]+(200.00[mm]-6.50[mm]-2*18.00[mm])]*7.00[mm] = 25.03[cm^2]$

Area delle saldature verticali

$A_{ww} = 2*[(h_b-2*(t_{fb}-r_b))/\cos(\alpha)]*a_w = 2*[(190.00[mm]-2*(10.00[mm]-18.00[mm]))/\cos(0.00[Deg])]*4.50[mm] = 12.06[cm^2]$

Area di tutte le saldature

$A_w = A_{wfu} + A_{wfl} + A_{ww} = 25.03[cm^2] + 25.03[cm^2] + 12.06[cm^2] = 62.11[cm^2]$

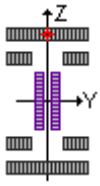
Distanza tra baricentro saldature e baricentro trave

$e_{0w} = 0.00[mm]$

Momento d'inerzia saldature

$I_w = 4363.75[cm^4]$

Punto in cui le sollecitazioni vengono controllate	$z_i = 98.50[mm]$
Modulo elastico delle saldature	
$W_w = 443.02[cm^3]$	
Sollecitazione da forza assiale	
$\sigma_N = N_0/A_w = 8.00[kN]/62.11[cm^2] = 1.29[MPa]$	
Sollecitazione dovuta alla flessione	
$\sigma_M = (M_0*z_i)/I_w = (52.50[kNm]*98.50[mm]/4363.75[cm^4] = 118.50[MPa]$	
Sforzo normale massimo	
$\sigma = \sigma_N + \sigma_M = 1.29[MPa] + 118.50[MPa] = 119.79[MPa]$	
Sforzo normale perpendicolare	
$\sigma_\perp = \sigma/\sqrt{2} = 119.79[MPa]/\sqrt{2} = 84.71[MPa]$	
Sforzo tangente perpendicolare	
$\tau_\perp = \sigma/\sqrt{2} = 119.79[MPa]/\sqrt{2} = 84.71[MPa]$	

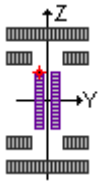


Coefficiente di resistenza saldature

$\beta_w = 0.90$

$\lvert\sigma_\perp\rvert \le 0.9*f_u/\gamma_{M2}$	$\lvert 84.71[MPa]\rvert < 352.80[MPa]$	**0.17**	✓

$\sqrt{[\sigma_\perp^2+3*(\tau_\perp^2)]} \le f_u/(\beta_w*\gamma_{M2})$	$169.41[MPa] < 435.56[MPa]$	**0.39**	✓

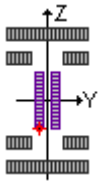
Punto in cui le sollecitazioni vengono controllate	$z_i = 67.00[mm]$
Modulo elastico delle saldature	
$W_w = 651.31[cm^3]$	
Sollecitazione da forza assiale	
$\sigma_N = N_0/A_w = 8.00[kN]/62.11[cm^2] = 1.29[MPa]$	
Sollecitazione dovuta alla flessione	
$\sigma_M = (M_0*z_i)/I_w = (52.50[kNm]*67.00[mm])/4363.75[cm^4] = 80.61[MPa]$	
Sforzo normale massimo	
$\sigma = \sigma_N + \sigma_M = 1.29[MPa] + 80.61[MPa] = 81.90[MPa]$	
Sforzo normale perpendicolare	
$\sigma_\perp = \sigma/\sqrt{2} = 81.90[MPa]/\sqrt{2} = 57.91[MPa]$	
Sforzo tangente perpendicolare	
$\tau_\perp = \sigma/\sqrt{2} = 81.90[MPa]/\sqrt{2} = 57.91[MPa]$	
Sforzo tangente parallelo	
$\tau_{II} = V_0/A_{ww} = 28.00[kN]/12.06[cm^2] = 23.22[MPa]$	

Coefficiente di resistenza saldature

$\beta_w = 0.90$

$\lvert\sigma_\perp\rvert \le 0.9*f_u/\gamma_{M2}$	$\lvert 57.91[MPa]\rvert < 352.80[MPa]$	**0.12**	✓

$\sqrt{[\sigma_\perp^2+3*(\tau_\perp^2+\tau_{II}^2)]} \le f_u/(\beta_w*\gamma_{M2})$	$122.60[MPa] < 435.56[MPa]$	**0.28**	✓

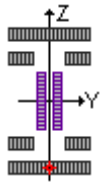
Punto in cui le sollecitazioni vengono controllate	$z_i = -67.00[mm]$
Modulo elastico delle saldature	
$W_w = 651.31[cm^3]$	
Sollecitazione da forza assiale	
$\sigma_N = N_0/A_w = 8.00[kN]/62.11[cm^2] = 1.29[MPa]$	
Sollecitazione dovuta alla flessione	
$\sigma_M = (M_0*z_i)/I_w = (52.50[kNm]*(-67.00[mm]))/4363.75[cm^4] = -80.61[MPa]$	
Sforzo normale massimo	
$\sigma = \sigma_N + \sigma_M = 1.29[MPa] + (-80.61[MPa]) = -79.32[MPa]$	
Sforzo normale perpendicolare	
$\sigma_\perp = \sigma/\sqrt{2} = -79.32[MPa]/\sqrt{2} = -56.09[MPa]$	
Sforzo tangente perpendicolare	
$\tau_\perp = \sigma/\sqrt{2} = -79.32[MPa]/\sqrt{2} = -56.09[MPa]$	
Sforzo tangente parallelo	
$\tau_{II} = V_0/A_{ww} = 28.00[kN]/12.06[cm^2] = 23.22[MPa]$	

Coefficiente di resistenza saldature

$\beta_w = 0.90$

$\lvert\sigma_\perp\rvert \le 0.9*f_u/\gamma_{M2}$	$\lvert -56.09[MPa]\rvert < 352.80[MPa]$	**0.11**	✓

$\sqrt{[\sigma_\perp^2+3*(\tau_\perp^2+\tau_{II}^2)]} \le f_u/(\beta_w*\gamma_{M2})$	119.16*[MPa]* < 435.56*[MPa]*	**0.27**	✓

Punto in cui le sollecitazioni vengono controllate	z_i = -98.50*[mm]*
Modulo elastico delle saldature	
W_w = 443.02*[cm³]*	
Sollecitazione da forza assiale	
$\sigma_N = N_0/A_w$ = 8.00*[kN]*/62.11*[cm²]* = 1.29*[MPa]*	
Sollecitazione dovuta alla flessione	
$\sigma_M = (M_0*z_i)/I_w$ = (52.50*[kNm]**(-98.50*[mm]*))/4363.75*[cm⁴]* = -118.50*[MPa]*	
Sforzo normale massimo	
$\sigma = \sigma_N + \sigma_M$ = 1.29*[MPa]* + (-118.50*[MPa]*) = -117.22*[MPa]*	
Sforzo normale perpendicolare	
$\sigma_\perp = \sigma/\sqrt{2}$ = -117.22*[MPa]*/$\sqrt{2}$ = -82.88*[MPa]*	
Sforzo tangente perpendicolare	
$\tau_\perp = \sigma/\sqrt{2}$ = -117.22*[MPa]*/$\sqrt{2}$ = -82.88*[MPa]*	

Coefficiente di resistenza saldature

β_w = 0.90

$\lvert\sigma_\perp\rvert \le 0.9*f_u/\gamma_{M2}$	|-82.88*[MPa]*| < 352.80*[MPa]*	**0.17**	✓

$\sqrt{[\sigma_\perp^2+3*(\tau_\perp^2)]} \le f_u/(\beta_w*\gamma_{M2})$	165.77*[MPa]* < 435.56*[MPa]*	**0.38**	✓

Rigidezza di rotazione del giunto

Lunghezza di allungamento del bullone

$L_b = t_p+0.5*(m+k)+t_{wa}$ = 20.00*[mm]*+0.5*(19.00*[mm]*+12.50*[mm]*)+3.00*[mm]*=61.75*[mm]*

$k_{10} = (3.2*A_s)/L_b$ = (3.2*2.45*[cm²]*)/61.75*[mm]* = 6.35*[mm]*

Fila bulloni 1

Piastra terminale in flessione

$k_{4,1} = (0.9*l_{eff}*t_p^3)/m_x^3$ = (0.9*261.75*[mm]**20.00*[mm]*³)/0.00*[mm]*³ = 0.00*[mm]*

$k_{eff,1}$ = 1/(1/k_4+1/k_5+1/k_{10}) = 1/(1/0.00*[mm]* + 1/26.07*[mm]* +1/6.35*[mm]*) = 5.10*[mm]*

Fila bulloni 2

Piastra terminale in flessione

$k_{4,2} = (0.9*l_{eff}*t_p^3)/m_x^3$ = (0.9*229.14*[mm]**20.00*[mm]*³)/0.00*[mm]*³ = 0.00*[mm]*

$k_{eff,2}$ = 1/(1/k_4+1/k_5+1/k_{10}) = 1/(1/0.00*[mm]* + 1/22.82*[mm]* +1/6.35*[mm]*) = 4.97*[mm]*

Fila bulloni 3

Piastra terminale in flessione

$k_{4,3} = (0.9*l_{eff}*t_p^3)/m_x^3$ = (0.9*229.14*[mm]**20.00*[mm]*³)/0.00*[mm]*³ = 0.00*[mm]*

$k_{eff,3}$ = 1/(1/k_4+1/k_5+1/k_{10}) = 1/(1/0.00*[mm]* + 1/22.82*[mm]* +1/6.35*[mm]*) = 5.10*[mm]*

Braccio di leva delle forze interne

$z_{eq} = [k_{eff,1}*h_1^2+k_{eff,2}*h_2^2+k_{eff,3}*h_3^2]/[k_{eff,1}*h_1+k_{eff,2}*h_2+k_{eff,3}*h_3] =$ [5.10*[mm]*145.00[mm]*2+4.97[mm]*90.00[mm]*2+5.10[mm]*35.00[mm]*2]/[5.10[mm]*145.00[mm]+4.97[mm]*90.00[mm]+5.10[mm]*35.00[mm]] = 112.89[mm]

Coefficiente di rigidezza equivalente

$k_{eq} = [k_{eff,1}*h_1+k_{eff,2}*h_2+k_{eff,3}*h_3]/z_{eq} =$ [5.10[mm]*145.00[mm]+4.97[mm]*90.00[mm]+5.10[mm]*35.00[mm]]/112.89[mm] = 12.06[mm]

Rigidezza di rotazione iniziale del giunto

$S_{j,ini} = E*z_{eq}^2/(1/k_{eq})$ = (210000.00[MPa]*(112.89[mm])2)/(1/12.06[mm]) = 32265.42[kNm]

Rigidezza di rotazione del giunto chiodato

$S_{j,pin} = (0.5*E*I_{yb})/L_b$ = (0.5*210000.00[MPa]*3692.16[cm4])/4000.00[mm] = 969.19[kNm]

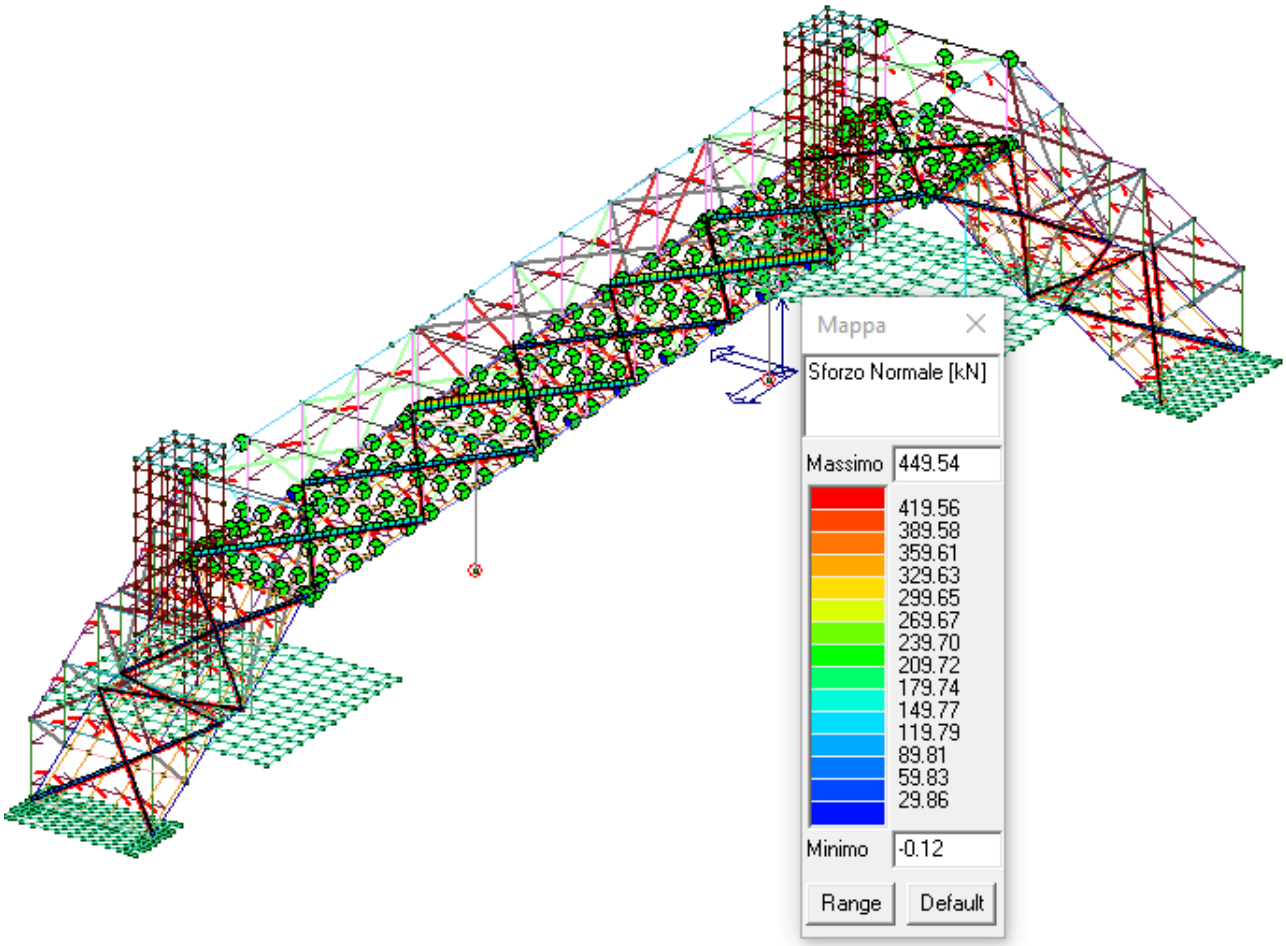
Rigidezza di rotazione del giunto rigido

$S_{j,rig} = (k_b*E*I_{yb})/L_b$ = (25.00*210000.00[MPa]*3692.16[cm4])/4000.00[mm] = 48459.54[kNm]

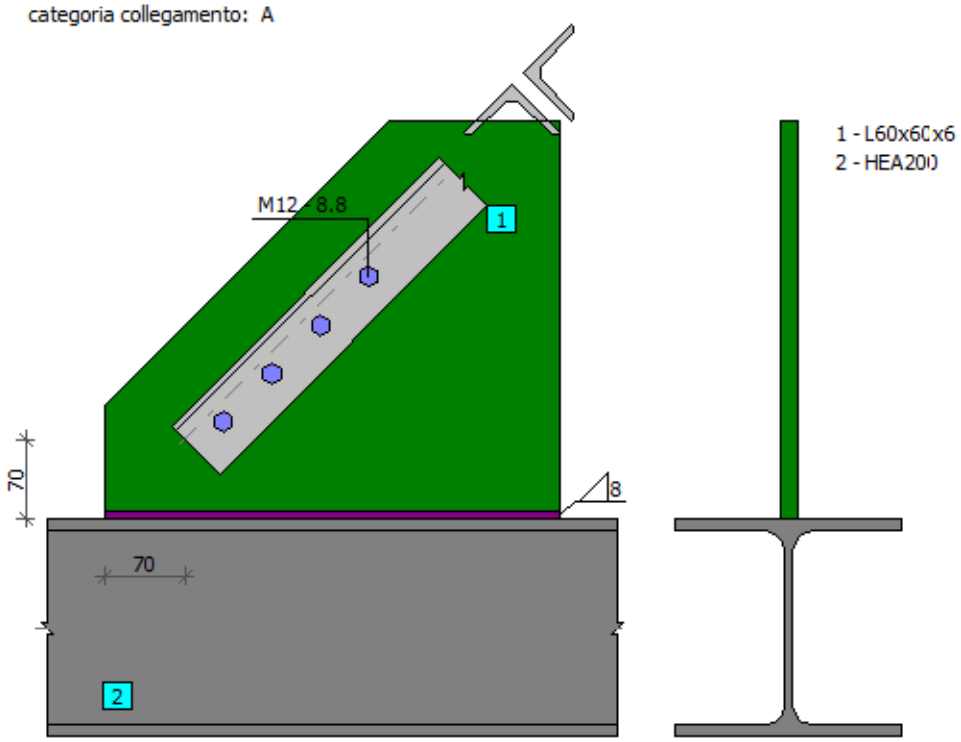
Classificazione dei giunti

Semi-rigido

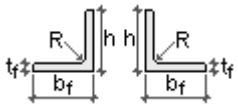
COLLEGAMENTO CONTROVENTI DI PIANO



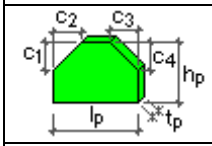
	Barra - nodo piastra	Rapporto: 0.93	
TrussBar v. 1.0.0.10	EN 1993-1-8: 2006		



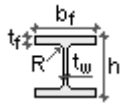
Dati

Barra L100x100x10					
	h	b_f	t_f	t_w	R
	100.00*[mm]*	100.00*[mm]*	10.00*[mm]*	10.00*[mm]*	12.00*[mm]*
	A	J_{y0}	J_{z0}	y_0	z_0
	38.31*[cm²]*	0.00*[cm⁴]*	0.00*[cm⁴]*	28.22*[mm]*	28.22*[mm]*
Materiale	Grado	f_y	f_u		
	S 275	275.00*[MPa]*	430.00*[MPa]*		

Barra angolare	α =	45.00	*[Deg]*
Spostamento orizzontale della barra	d_x =	70.00	*[mm]*
Spostamento verticale della barra	d_z =	70.00	*[mm]*

Piastra							
	h_p	l_p	t_p	c_1	c_2	c_3	c_4
	350.00*[mm]*	400.00*[mm]*	20.00*[mm]*	250.00*[mm]*	250.00*[mm]*	0.00*[mm]*	0.00*[mm]*
Materiale	Grado	f_y	f_u				
	S 355	355.00*[MPa]*	490.00*[MPa]*				

Elemento principale IPE300

	h_m	b_{fm}	t_{fm}	t_{wm}	R_m
	300.00*[mm]*	150.00*[mm]*	10.70*[mm]*	7.10*[mm]*	15.00*[mm]*
	A_m	J_{y0m}	J_{z0m}	y_{0m}	z_{0m}
	53.81*[cm²]*	8356.11*[cm⁴]*	603.78*[cm⁴]*	75.00*[mm]*	150.00*[mm]*
Materiale	Grado	f_y	f_u		
	S 355	355.00*[MPa]*	490.00*[MPa]*		

Bulloni di collegamento per barra e traliccio piatto

Grado bullone	Grado	8.8	
Limite di snervamento	f_{yb} =	640.00	*[MPa]*
Resistenza a tensione	f_{ub} =	800.00	*[MPa]*
Diametro bullone	d =	16.00	*[mm]*
Diametro apertura bullone	d_0 =	18.00	*[mm]*
Area sezione bullone	A =	2.01	*[cm²]*
Area effetiva sezione bullone	A_s =	1.57	*[cm²]*
Numero righe	w =	4.00	
Numbero colonne	k =	1.00	
Distanza dal bordo orizzontale	e_1 =	35.00	*[mm]*
Distanza dal bordo verticale	e_2 =	50.00	*[mm]*
Spaziatura verticale	p_1 =	60.00	*[mm]*
Spaziatura orizzontale	p_2 =	60.00	*[mm]*

Saldature

Spessore saldatura dell'angolare che collegano traliccio piatto e elemento principale	a_{pm} =	5.00	*[mm]*

Coefficienti materiali

Coefficiente	γ_{M0} =	1.00
Coefficiente	γ_{M2} =	1.25

Forze

Carichi di progetto ULS

Forza assiale N_{Ed} = 450.00 *[kN]*

Risultati

Bulloni di collegamento per barra e traliccio piatto

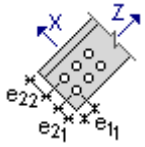
Area della sezione di taglio del bullone

$A = A_s = 1.57$*[cm²]*

Resistenza al taglio del bullone in una superficie

$F_{v,Rd} = (\alpha_v * m * f_{ub} * A)/\gamma_{M2} = (0.60*2*800.00$*[MPa]*$*1.57$*[cm²]*$)/1.25 = 120.58$*[kN]*

Bullone di supporto

	e_{11} = 35.00*[mm]*
	e_{21} = 50.00*[mm]*
	e_{22} = 50.00*[mm]*
e_{1min} = min[e_{11}] = 35.00*[mm]*	
e_{2min} = min[e_{21}; e_{22}] = 50.00*[mm]*	

Direzione X

Coefficiente determinato dalla spaziatura bulloni

k_{1x} = min[2.8*(e_{1min}/d_0)-1.7; 1.4*(p_1/d_0)-1.7; 2.5] = min[2.8*(35.00*[mm]*/18.00*[mm]*)-1.7; 1.4*(60.00*[mm]*/18.00*[mm]*)-1.7; 2.5] = 2.50

k_{1x} > 0	2.50 > 0.00	✓

Coefficiente determinato dalla spaziatura bulloni

α_{bx} = min[e_{2min}/(3*d_0); f_{ub}/f_u; 1] = min[50.00*[mm]*/(3*18.00*[mm]*); 800.00*[MPa]*/430.00*[MPa]*; 1] = 0.93

α_{bx} > 0	0.93 > 0.00	✓

Resistenza del bullone di supporto

$F_{b,Rd1x}$ = (k_{1x}*α_{bx}*f_u*d*Σt_i)/γ_{M2} = (2.50*0.93*430.00*[MPa]*16.00*[mm]*20.00*[mm]*)/1.25 = 254.81*[kN]*

Direzione Z

Coefficiente determinato dalla spaziatura bulloni

k_{1z} = min[2.8*(e_{2min}/d_0)-1.7; 2.5] = min[2.8*(50.00*[mm]*/18.00*[mm]*)-1.7; 2.5] = 2.50

k_{1z} > 0	2.50 > 0.00	✓

Coefficiente determinato dalla spaziatura bulloni

α_{bz} = min[e_{1min}/(3*d_0); p_1/(3*d_0)-0.25; f_{ub}/f_u; 1] = min[35.00*[mm]*/(3*18.00*[mm]*); (60.00*[mm]*/(3*18.00*[mm]*))-0.25; 800.00*[MPa]*/430.00*[MPa]*; 1] = 0.65

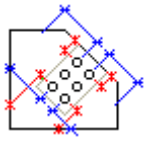
α_{bz} > 0	0.65 > 0.00	✓

Resistenza del bullone di supporto

$F_{b,Rd1z}$ = (k_{1z}*α_{bz}*f_u*d*Σt_i)/γ_{M2} = (2.50*0.65*430.00*[MPa]*16.00*[mm]*20.00*[mm]*)/1.25 = 178.37*[kN]*

Bullone di supporto

Bullone di supporto sulla piastra

	e_{11} = 112.22*[mm]*
	e_{21} = 92.49*[mm]*
e_{1min} = min[e_{11}] = 112.22*[mm]*	
e_{2min} = min[e_{21}] = 92.49*[mm]*	

Direzione X

Coefficiente determinato dalla spaziatura bulloni

k_{1x} = min[2.8*(e_{1min}/d_0)-1.7; 1.4*(p_1/d_0)-1.7; 2.5] = min[2.8*(112.22*[mm]*/18.00*[mm]*)-1.7; 1.4*(60.00*[mm]*/18.00*[mm]*)-1.7; 2.5] = 2.50

k_{1x} > 0	2.50 > 0.00	✓

Coefficiente determinato dalla spaziatura bulloni

α_{bx} = min[e_{2min}/(3*d_0); f_{ub}/f_u; 1] = min[92.49*[mm]*/(3*18.00*[mm]*); 800.00*[MPa]*/430.00*[MPa]*; 1] = 1.00

α_{bx} > 0	1.00 > 0.00	✓

Resistenza del bullone di supporto

$F_{b,Rd2x}$ = (k_{1x}*α_{bx}*f_u*d*Σt_i)/γ_{M2} = (2.50*0.93*490.00*[MPa]**16.00*[mm]**20.00*[mm]*)/1.25 = 313.60*[kN]*

Direzione Z

Coefficiente determinato dalla spaziatura bulloni

k_{1z} = min[2.8*(e_{2min}/d_0)-1.7; 2.5] = min[2.8*(92.49*[mm]*/18.00*[mm]*)-1.7; 2.5] = 2.50

k_{1z} > 0	2.50 > 0.00	✓

Coefficiente determinato dalla spaziatura bulloni

α_{bz} = min[e_{1min}/(3*d_0); p_1/(3*d_0)-0.25; f_{ub}/f_u; 1] = min[112.22*[mm]*/(3*18.00*[mm]*); (60.00*[mm]*/(3*18.00*[mm]*))-0.25; 800.00*[MPa]*/490.00*[MPa]*; 1] = 0.86

α_{bz} > 0	0.86 > 0.00	✓

Resistenza del bullone di supporto

$F_{b,Rd2z}$ = (k_{1z}*α_{bz}*f_u*d*Σt_i)/γ_{M2} = (2.50*0.86*490.00*[MPa]**16.00*[mm]**20.00*[mm]*)/1.25 = 270.04*[kN]*

Stato limite ultimo

Forze nei bulloni

Forza di taglio

V_0 = N_{Ed} = 450.00*[kN]*

Eccentricitŕ della forza relativa al baricentro dei bulloni

e_0 = 0.00*[mm]*

Momento flettente reale

M_0 = V_0*e_0 = 450.00*[kN]**0.00*[mm]* = 0.00*[kNm]*

Direzione Z

Componente di forza nel bullone dovuta all'azione di taglio

$F_{V,Ed}$ = V_0/n_b = 450.00*[kN]*/4 = 112.50*[kN]*

Forza totale sul bullone nella direzione Z

$F_{z,Ed}$ = $F_{V,Ed}$ = 112.50*[kN]*

Progetto effettivo di capacitŕ del bullone

$F_{z,Rd} = \min[F_{b,Rd1z}; F_{b,Rd2z}] = \min[178.37[kN]; 270.04[kN]] = 178.37[kN]$

$\|F_{z,Ed}\| \le F_{z,Rd}$	$\|112.50[kN]\| < 178.37[kN]$	**0.63**	✓

Risultante forza di taglio nel bullone

$F_{Ed} = F_{z,Ed} = 112.50[kN]$

$F_{Ed} \le F_{v,Rd}$	$112.50[kN] < 120.58[kN]$	**0.93**	✓

Lacerazione blocco

Forze interne

Forza di taglio

$V_0 = 0.5*N_{Ed} = 0.5*450.00[kN] = 225.00[kN]$

Superficie netta della sezione in tensione

$A_{nt} = [w_t - (n_t - 0.5)*d_0]*t = [50.00[mm] - (1 - 0.5)*18.00[mm]]*10.00[mm] = 4.10[cm^2]$

Superficie netta della sezione di taglio

$A_{nv} = [h_v - (n_v - 0.5)*d_0]*t = [215.00[mm] - (4 - 0.5)*18.00[mm]]*10.00[mm] = 15.20[cm^2]$

Resistenza lacerzione blocco

$V_{eff,2,Rd} = 0.5*f_u*A_{nt}/\gamma_{M2} + (1/\sqrt{3})*f_y*A_{nv}/\gamma_{M0} = 0.5*430.00[MPa]*4.10[cm^2]/1.25 + (1/\sqrt{3})*275.00[MPa]*15.20[cm^2]/1.00 = 311.85[kN]$

$\|V_0\| \le V_{eff,2,Rd}$	$\|225.00[kN]\| < 311.85[kN]$	**0.72**	✓

Resistenza del profilato

Forze interne

Forza assiale

$N_0 = N_{Ed} = 450.00[kN]$

Coefficiente di riduzione

$\beta = 0.5 + 0.2/(2.5 * d_0) * (p_1-2.5*d_0) = 0.5 + 0.3/(2.5*18.00[mm])*(60.00[mm]-2.5*18.00[mm]) = 0.57$

Superficie netta di una sezione trasversale

$A_{net} = 31.11[cm^2]$

Resistenza a stato limite ultimo di progetto dovuto alle forze normali alla sezione netta senza considerare i fori di fissaggio

$N_{u,Rd} = (0.9*A_{net}*f_u)/\gamma_{M2} = (0.9*31.11[cm^2]*430.00[MPa])/1.25 = 606.42[kN]$

$N_0 \le N_{u,Rd}$	$450.00[kN] < 606.42[kN]$	**0.74**	✓

Resistenza plastica di progetto alle forze normali della sezione trasversale lorda

$N_{pl,Rd} =(A*f_y)/\gamma_{M0} = (38.31[cm^2]*275.00[MPa])/1.00 = 948.15[kN]$

$N_0 \leq N_{pl,Rd}$	450.00*[kN]* < 948.15*[kN]*	**0.47**	✓

Saldature dell'angolare che collegano traliccio piatto e elemento principale

Forze nelle saldature

Forza assiale
$N_0 = 0.5*N_{Ed}*\sin(\alpha) = 0.5*450.00$*[kN]*$*\sin(45.00$*[Deg]*$) = 159.10$*[kN]*
Forza di taglio
$V_0 = 0.5*N_{Ed}*\cos(\alpha) = 0.5*450.00$*[kN]*$*\cos(45.00$*[Deg]*$) = 159.10$*[kN]*
Eccentricitŕ della forza relativa al baricentro delle saldature
$e_0 = 141.42$*[mm]*
Momento flettente reale
$M_0 = 0.5*N_{Ed}*e_0 = 0.5*450.00$*[kN]*$*141.42$*[mm]* $= 31.82$*[kNm]*

Area delle saldature
$A_s = l*a = 400.00$*[mm]*$*8.00$*[mm]* $= 32.00$*[cm²]*
Modulo elastico di resistenza della saldatura
$W_s = [l^2*a]/6 = [(400.00$*[mm]*$)^2*8.00$*[mm]*$]/6 = 213.33$*[cm³]*
Tensione massima
$\sigma = N_0/A_s + M_0/W_s = 159.10$*[kN]*$/32.00$*[cm²]* $+ 31.82$*[kNm]*$/213.33$*[cm³]* $= 198.87$*[MPa]*
Sforzo normale perpendicolare
$\sigma_\perp = \sigma/\sqrt{2} = 198.87$*[MPa]*$/\sqrt{2} = 140.63$*[MPa]*

$\lvert\sigma_\perp\rvert \leq 0.9*f_u/\gamma_{M2}$	$\lvert 140.63$*[MPa]*$\rvert <$ 352.80*[MPa]*	**0.40**	✓

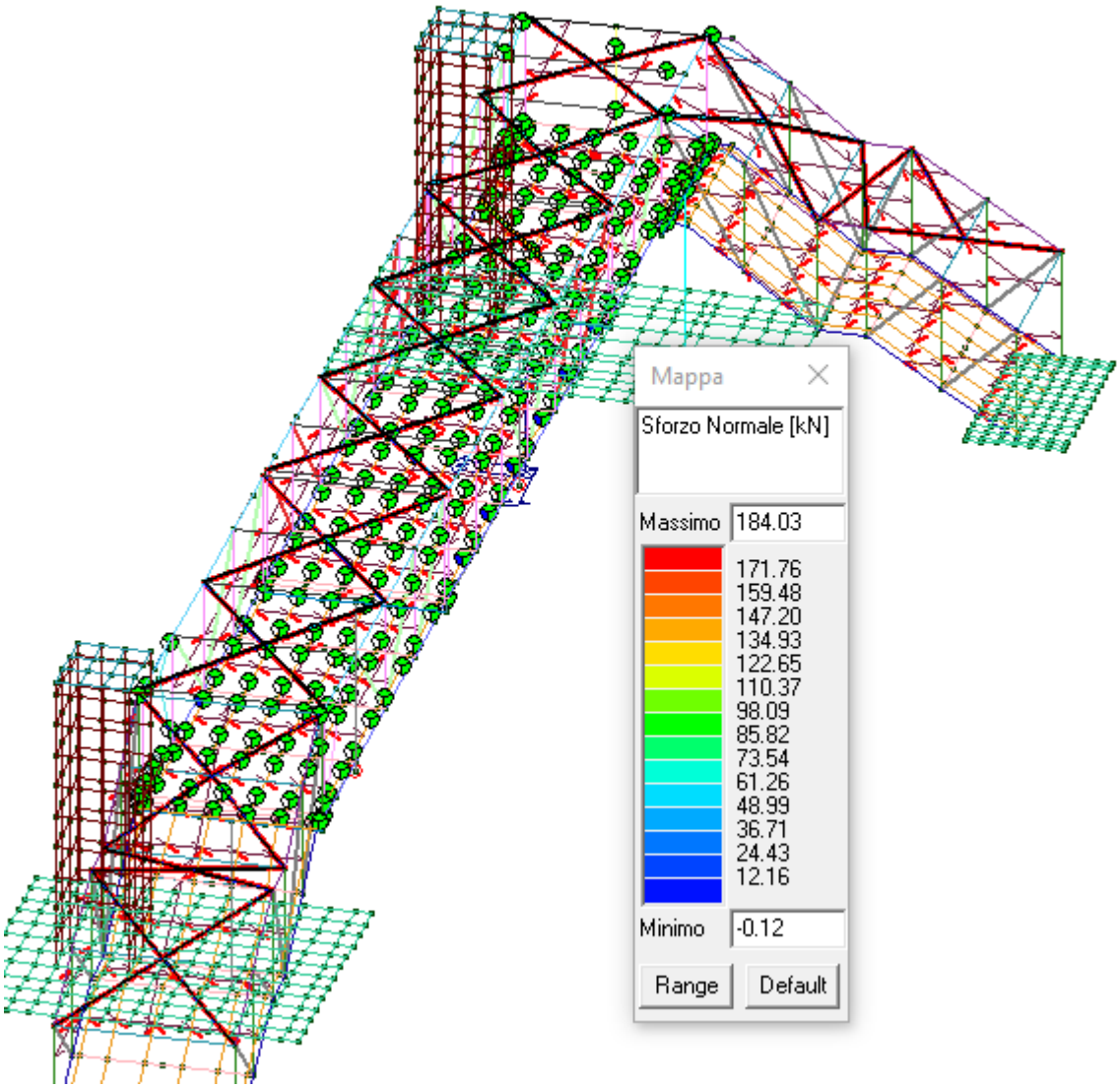
Sforzo tangente perpendicolare
$\tau_\perp = \sigma/\sqrt{2} = 198.87$*[MPa]*$/\sqrt{2} = 140.63$*[MPa]*
Sforzo tangente parallelo
$\tau_{II} = V_0/A_s = 159.10$*[kN]*$/32.00$*[cm²]* $= 49.72$*[MPa]*

Sforzo equivalente
$\sqrt{[\sigma_\perp^2+3*(\tau_\perp^2+\tau_{II}^2)]} = \sqrt{[(140.63$*[MPa]*$)^2+3*((140.63$*[MPa]*$)^2+(49.72$*[MPa]*$)^2)]} = 294.14$*[MPa]*

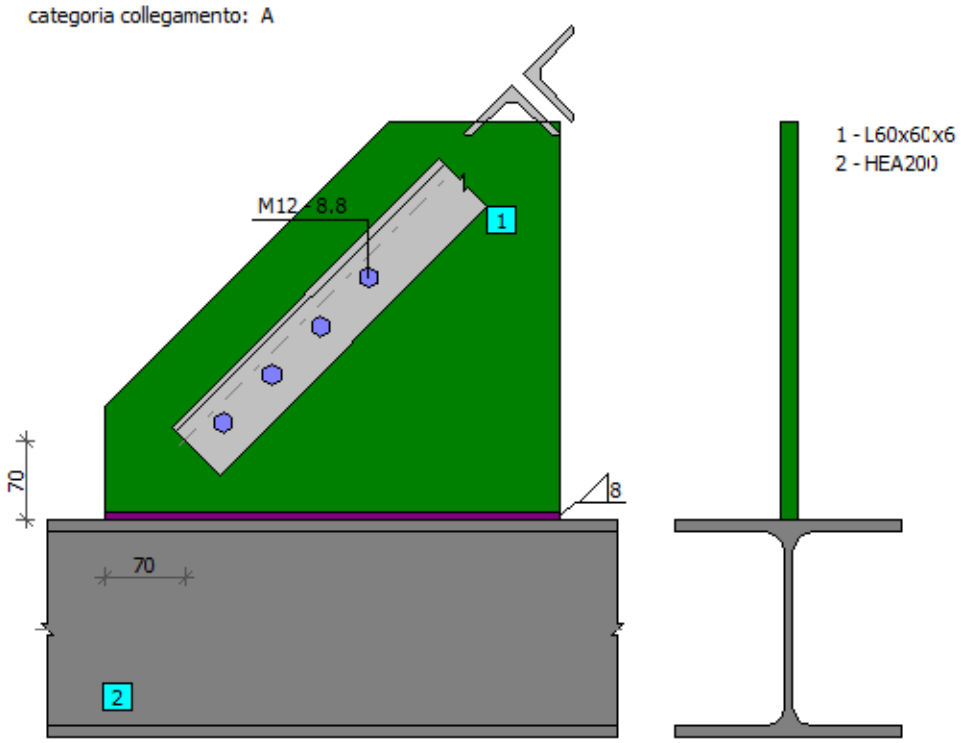
Coefficiente di correlazione
$\beta_w = 0.90$

$\sqrt{[\sigma_\perp^2+3*(\tau_\perp^2+\tau_{II}^2)]} \leq f_u/(\beta_w*\gamma_{M2})$	294.14*[MPa]* < 435.56*[MPa]*	**0.68**	✓

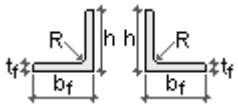
COLLEGAMENTO CONTROVENTI DI FALDA



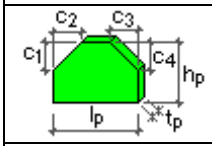
TrussBar v. 1.0.0.10	**Barra - nodo piastra**	Rapporto: 0.73	
	EN 1993-1-8: 2006		



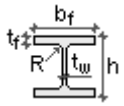
Dati

Barra L60x60x6					
	h	b_f	t_f	t_w	R
	60.00*[mm]*	60.00*[mm]*	6.00*[mm]*	6.00*[mm]*	8.00*[mm]*
	A	J_{y0}	J_{z0}	y_0	z_0
	13.82*[cm²]*	0.00*[cm⁴]*	0.00*[cm⁴]*	16.88*[mm]*	16.88*[mm]*
Materiale	Grado	f_y	f_u		
	S 275	275.00*[MPa]*	430.00*[MPa]*		

Barra angolare	α =	45.00	*[Deg]*
Spostamento orizzontale della barra	d_x =	70.00	*[mm]*
Spostamento verticale della barra	d_z =	70.00	*[mm]*

Piastra							
	h_p	l_p	t_p	c_1	c_2	c_3	c_4
	350.00*[mm]*	400.00*[mm]*	15.00*[mm]*	250.00*[mm]*	250.00*[mm]*	0.00*[mm]*	0.00*[mm]*
Materiale	Grado	f_y	f_u				
	S 355	355.00*[MPa]*	490.00*[MPa]*				

Elemento principale HEA200

	h_m	b_{fm}	t_{fm}	t_{wm}	R_m
	190.00*[mm]*	200.00*[mm]*	10.00*[mm]*	6.50*[mm]*	18.00*[mm]*
	A_m	J_{y0m}	J_{z0m}	y_{0m}	z_{0m}
	53.83*[cm²]*	3692.16*[cm⁴]*	1335.51*[cm⁴]*	100.00*[mm]*	95.00*[mm]*
Materiale	Grado	f_y	f_u		
	S 355	355.00*[MPa]*	490.00*[MPa]*		

Bulloni di collegamento per barra e traliccio piatto

Grado bullone	Grado	8.8	
Limite di snervamento	f_{yb} =	640.00	*[MPa]*
Resistenza a tensione	f_{ub} =	800.00	*[MPa]*
Diametro bullone	d =	12.00	*[mm]*
Diametro apertura bullone	d_0 =	14.00	*[mm]*
Area sezione bullone	A =	1.13	*[cm²]*
Area effetiva sezione bullone	A_s =	0.84	*[cm²]*
Numero righe	w =	4.00	
Numbero colonne	k =	1.00	
Distanza dal bordo orizzontale	e_1 =	35.00	*[mm]*
Distanza dal bordo verticale	e_2 =	30.00	*[mm]*
Spaziatura verticale	p_1 =	60.00	*[mm]*
Spaziatura orizzontale	p_2 =	60.00	*[mm]*

Saldature

Spessore saldatura dell'angolare che collegano traliccio piatto e elemento principale	a_{pm} =	5.00	*[mm]*

Coefficienti materiali

Coefficiente	γ_{M0} =	1.00
Coefficiente	γ_{M2} =	1.25

Forze

Carichi di progetto ULS

Forza assiale N_{Ed} = 190.00 *[kN]*

Risultati

Bulloni di collegamento per barra e traliccio piatto

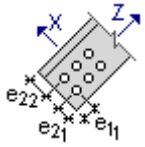
Area della sezione di taglio del bullone

$A = A_s = 0.84$*[cm²]*

Resistenza al taglio del bullone in una superficie

$F_{v,Rd} = (\alpha_v * m * f_{ub} * A)/\gamma_{M2} = (0.60*2*800.00$*[MPa]*$*0.84$*[cm²]*$)/1.25 = 64.74$*[kN]*

Bullone di supporto

	e11 = 35.00*[mm]*
	e21 = 30.00*[mm]*
	e22 = 30.00*[mm]*
e1min = min[e11] = 35.00*[mm]*	
e2min = min[e21; e22] = 30.00*[mm]*	

Direzione X

Coefficiente determinato dalla spaziatura bulloni

k_{1x} = min[2.8*(e_{1min}/d_0)-1.7; 1.4*(p_1/d_0)-1.7; 2.5] = min[2.8*(35.00*[mm]*/14.00*[mm]*)-1.7; 1.4*(60.00*[mm]*/14.00*[mm]*)-1.7; 2.5] = 2.50

k_{1x} > 0	2.50 > 0.00	✓

Coefficiente determinato dalla spaziatura bulloni

α_{bx} = min[e_{2min}/(3*d_0); f_{ub}/f_u; 1] = min[30.00*[mm]*/(3*14.00*[mm]*); 800.00*[MPa]*/430.00*[MPa]*; 1] = 0.71

α_{bx} > 0	0.71 > 0.00	✓

Resistenza del bullone di supporto

$F_{b,Rd1x}$ = (k_{1x}*α_{bx}*f_u*d*Σt_i)/γ_{M2} = (2.50*0.71*430.00*[MPa]**12.00*[mm]**12.00*[mm]*)/1.25 = 88.46*[kN]*

Direzione Z

Coefficiente determinato dalla spaziatura bulloni

k_{1z} = min[2.8*(e_{2min}/d_0)-1.7; 2.5] = min[2.8*(30.00*[mm]*/14.00*[mm]*)-1.7; 2.5] = 2.50

k_{1z} > 0	2.50 > 0.00	✓

Coefficiente determinato dalla spaziatura bulloni

α_{bz} = min[e_{1min}/(3*d_0); p_1/(3*d_0)-0.25; f_{ub}/f_u; 1] = min[35.00*[mm]*/(3*14.00*[mm]*); (60.00*[mm]*/(3*14.00*[mm]*))-0.25; 800.00*[MPa]*/430.00*[MPa]*; 1] = 0.83

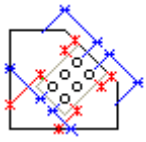
α_{bz} > 0	0.83 > 0.00	✓

Resistenza del bullone di supporto

$F_{b,Rd1z}$ = (k_{1z}*α_{bz}*f_u*d*Σt_i)/γ_{M2} = (2.50*0.83*430.00*[MPa]**12.00*[mm]**12.00*[mm]*)/1.25 = 103.20*[kN]*

Bullone di supporto

Bullone di supporto sulla piastra

	e11 = 120.87*[mm]*
	e21 = 83.84*[mm]*
e1min = min[e11] = 120.87*[mm]*	
e2min = min[e21] = 83.84*[mm]*	

Direzione X

Coefficiente determinato dalla spaziatura bulloni

k_{1x} = min[2.8*(e_{1min}/d_0)-1.7; 1.4*(p_1/d_0)-1.7; 2.5] = min[2.8*(120.87*[mm]*/14.00*[mm]*)-1.7; 1.4*(60.00*[mm]*/14.00*[mm]*)-1.7; 2.5] = 2.50

k_{1x} > 0	2.50 > 0.00	✓

Coefficiente determinato dalla spaziatura bulloni

α_{bx} = min[e_{2min}/(3*d_0); f_{ub}/f_u; 1] = min[83.84*[mm]*/(3*14.00*[mm]*); 800.00*[MPa]*/430.00*[MPa]*; 1] = 1.00

α_{bx} > 0	1.00 > 0.00	✓

Resistenza del bullone di supporto

$F_{b,Rd2x}$ = (k_{1x}*α_{bx}*f_u*d*Σt_i)/γ_{M2} = (2.50*0.71*490.00*[MPa]**12.00*[mm]**15.00*[mm]*)/1.25 = 176.40*[kN]*

Direzione Z

Coefficiente determinato dalla spaziatura bulloni

k_{1z} = min[2.8*(e_{2min}/d_0)-1.7; 2.5] = min[2.8*(83.84*[mm]*/14.00*[mm]*)-1.7; 2.5] = 2.50

k_{1z} > 0	2.50 > 0.00	✓

Coefficiente determinato dalla spaziatura bulloni

α_{bz} = min[e_{1min}/(3*d_0); p_1/(3*d_0)-0.25; f_{ub}/f_u; 1] = min[120.87*[mm]*/(3*14.00*[mm]*); (60.00*[mm]*/(3*14.00*[mm]*))-0.25; 800.00*[MPa]*/490.00*[MPa]*; 1] = 1.00

α_{bz} > 0	1.00 > 0.00	✓

Resistenza del bullone di supporto

$F_{b,Rd2z}$ = (k_{1z}*α_{bz}*f_u*d*Σt_i)/γ_{M2} = (2.50*1.00*490.00*[MPa]**12.00*[mm]**15.00*[mm]*)/1.25 = 176.40*[kN]*

Stato limite ultimo

Forze nei bulloni

Forza di taglio

V_0 = N_{Ed} = 190.00*[kN]*

Eccentricitŕ della forza relativa al baricentro dei bulloni

e_0 = 0.00*[mm]*

Momento flettente reale

M_0 = V_0*e_0 = 190.00*[kN]**0.00*[mm]* = 0.00*[kNm]*

Direzione Z

Componente di forza nel bullone dovuta all'azione di taglio

$F_{V,Ed}$ = V_0/n_b = 190.00*[kN]*/4 = 47.50*[kN]*

Forza totale sul bullone nella direzione Z

$F_{z,Ed}$ = $F_{V,Ed}$ = 47.50*[kN]*

Progetto effettivo di capacitŕ del bullone

$F_{z,Rd} = \min[F_{b,Rd1z}; F_{b,Rd2z}] = \min[103.20[kN]; 176.40[kN]] = 103.20[kN]$

$\|F_{z,Ed}\| \le F_{z,Rd}$	$\|47.50[kN]\| < 103.20[kN]$	**0.46**	✓

Risultante forza di taglio nel bullone

$F_{Ed} = F_{z,Ed} = 47.50[kN]$

$F_{Ed} \le F_{v,Rd}$	$47.50[kN] < 64.74[kN]$	**0.73**	✓

Lacerazione blocco

Forze interne

Forza di taglio

$V_0 = 0.5*N_{Ed} = 0.5*190.00[kN] = 95.00[kN]$

Superficie netta della sezione in tensione

$A_{nt} = [w_t - (n_t - 0.5)*d_0]*t = [30.00[mm] - (1 - 0.5)*14.00[mm]]*6.00[mm] = 1.38[cm^2]$

Superficie netta della sezione di taglio

$A_{nv} = [h_v - (n_v - 0.5)*d_0]*t = [215.00[mm] - (4 - 0.5)*14.00[mm]]*6.00[mm] = 9.96[cm^2]$

Resistenza lacerzione blocco

$V_{eff,2,Rd} = 0.5*f_u*A_{nt}/\gamma_{M2} + (1/\sqrt{3})*f_y*A_{nv}/\gamma_{M0} = 0.5*430.00[MPa]*1.38[cm^2]/1.25 + (1/\sqrt{3})*275.00[MPa]*9.96[cm^2]/1.00 = 181.87[kN]$

$\|V_0\| \le V_{eff,2,Rd}$	$\|95.00[kN]\| < 181.87[kN]$	**0.52**	✓

Resistenza del profilato

Forze interne

Forza assiale

$N_0 = N_{Ed} = 190.00[kN]$

Coefficiente di riduzione

$\beta = 0.5 + 0.2/(2.5 * d_0) * (p_1-2.5*d_0) = 0.5 + 0.3/(2.5*14.00[mm])*(60.00[mm]-2.5*14.00[mm]) = 0.64$

Superficie netta di una sezione trasversale

$A_{net} = 10.46[cm^2]$

Resistenza a stato limite ultimo di progetto dovuto alle forze normali alla sezione netta senza considerare i fori di fissaggio

$N_{u,Rd} = (0.9*A_{net}*f_u)/\gamma_{M2} = (0.9*10.46[cm^2]*430.00[MPa])/1.25 = 231.26[kN]$

$N_0 \le N_{u,Rd}$	$190.00[kN] < 231.26[kN]$	**0.82**	✓

Resistenza plastica di progetto alle forze normali della sezione trasversale lorda

$N_{pl,Rd} =(A*f_y)/\gamma_{M0} = (13.82[cm^2]*275.00[MPa])/1.00 = 341.98[kN]$

$N_0 \leq N_{pl,Rd}$	190.00*[kN]* < 341.98*[kN]*	**0.56**	✓

Saldature dell'angolare che collegano traliccio piatto e elemento principale

Forze nelle saldature

Forza assiale
$N_0 = 0.5*N_{Ed}*\sin(\alpha) = 0.5*190.00$*[kN]*$*\sin(45.00$*[Deg]*$) = 67.18$*[kN]*
Forza di taglio
$V_0 = 0.5*N_{Ed}*\cos(\alpha) = 0.5*190.00$*[kN]*$*\cos(45.00$*[Deg]*$) = 67.18$*[kN]*
Eccentricitŕ della forza relativa al baricentro delle saldature
$e_0 = 141.42$*[mm]*
Momento flettente reale
$M_0 = 0.5*N_{Ed}*e_0 = 0.5*190.00$*[kN]*$*141.42$*[mm]* $= 13.44$*[kNm]*

Area delle saldature
$A_s = l*a = 400.00$*[mm]*$*8.00$*[mm]* $= 32.00$*[cm²]*
Modulo elastico di resistenza della saldatura
$W_s = [l^2*a]/6 = [(400.00$*[mm]*$)^2*8.00$*[mm]*$]/6 = 213.33$*[cm³]*
Tensione massima
$\sigma = N_0/A_s + M_0/W_s = 67.18$*[kN]*$/32.00$*[cm²]* $+ 13.44$*[kNm]*$/213.33$*[cm³]* $= 83.97$*[MPa]*
Sforzo normale perpendicolare
$\sigma_\perp = \sigma/\sqrt{2} = 83.97$*[MPa]*$/\sqrt{2} = 59.38$*[MPa]*

$\lvert\sigma_\perp\rvert \leq 0.9*f_u/\gamma_{M2}$	$\lvert 59.38$*[MPa]*$\rvert$ < 352.80*[MPa]*	**0.17**	✓

Sforzo tangente perpendicolare
$\tau_\perp = \sigma/\sqrt{2} = 83.97$*[MPa]*$/\sqrt{2} = 59.38$*[MPa]*
Sforzo tangente parallelo
$\tau_{II} = V_0/A_s = 67.18$*[kN]*$/32.00$*[cm²]* $= 20.99$*[MPa]*

Sforzo equivalente
$\sqrt{[\sigma_\perp^2+3*(\tau_\perp^2+\tau_{II}^2)]} = \sqrt{[(59.38$*[MPa]*$)^2+3*((59.38$*[MPa]*$)^2+(20.99$*[MPa]*$)^2)]} = 124.19$*[MPa]*

Coefficiente di correlazione
$\beta_w = 0.90$

$\sqrt{[\sigma_\perp^2+3*(\tau_\perp^2+\tau_{II}^2)]} \leq f_u/(\beta_w*\gamma_{M2})$	124.19*[MPa]* < 435.56*[MPa]*	**0.29**	✓