ING. FRANCO PES

Progetto Esecutivo

Impianti e opere di completamento del Laboratorio Tecnologie Solari
e Idrogeno da FER e dei Laboratori Biomasse
presso la sede del "*Cluster Tecnologico Energie Rinnovabili*"
SARDEGNA RICERCHE
Uta, zona industriale di Macchiareddu, VI strada ovest

CALCOLI

Gennaio 2014

Il progettista

ORDINE INGEGNERI
PROVINCIA CAGLIARI
N. 1586 Dr. Ing. FRANCO PES

Collaboratrice: Ing. Alice Marongiu

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PREMESSA

La presente Relazione Tecnica concerne i calcoli relativi ai lavori per la realizzazione degli impianti del laboratorio Tecnologie Solari e Idrogeno da FER, in breve laboratorio idrogeno, e il completamento degli impianti gas del laboratorio biomasse esistente e di quello in fase di realizzazione, situati presso la sede del "Cluster Tecnologico Energie Rinnovabili" di Sardegna Ricerche in località Macchiareddu.

La relazione consta di cinque parti distinte:

1. calcoli termotecnici (calcolo fabbisogno tecnico invernale, calcolo carichi termici estivi);
2. calcoli elettrici (dati salienti utenze, verifiche);
3. calcoli strutturali.

CALCOLI TERMOTECNICI

Calcolo fabbisogno tecnico invernale

RIEPILOGO DATI DI PROGETTO

Altitudine	[m]		**6**
Latitudine			**39°17'**
Longitudine			**8 °57'**
Temperatura esterna	[°C]	Te	**3**
Località di riferimento per temperatura esterna			**Uta**
Gradi giorno	[°C•24h]		**1070**
Località di riferimento per gradi giorno			**Uta**
Zona climatica			**C**
Velocità del vento media giornaliera [media annuale]	[m/s]		**4.0**
Direzione prevalente del vento			**NW**
Località di riferimento del vento			**CAGLIARI**
Zona vento			**3**
Località rif. irradiazione			**CAGLIARI ; ORISTANO**

Irradiazione globale su superficie verticale (MJ/m²)

mese	N	NNE NNW	NE NW	ENE WNW	E W	ESE WSW	SE SW	SSE SSW	S	oriz	Te
novembre	2.5	2.5	3.0	4.3	6.1	8.0	9.8	11.3	12.1	8.1	15.5
dicembre	2.1	2.1	2.3	3.4	4.9	6.7	8.5	10.1	10.8	6.4	11.7
gennaio	2.3	2.3	2.7	3.9	5.6	7.4	9.2	10.8	11.5	7.3	10.3
febbraio	3.1	3.1	3.9	5.4	7.2	8.8	10.1	11.2	11.8	9.8	10.8
marzo	4.2	4.7	6.3	8.2	10.0	11.4	12.1	12.4	12.5	14.4	12.8

Inizio riscaldamento			**15-11**
Fine riscaldamento			**31-03**
Durata periodo di riscaldamento	p	[giorno]	**137**
Ore giornaliere di riscaldamento		[ore]	**10**
Situazione esterna :			
Temperatura aria ambiente	Ta	[°C]	**20.0**
Umidità interna	Ui	[%]	**55.0**

Classe di permeabilità all'aria dei serramenti esterni:
(si veda singola struttura finestrata)

RIEPILOGO DISPERSIONI

GLOBALE EDIFICIO	**394.6**	**794.2**	**0.497**	**0.311**	**0.670**	**27820**

Appart/zona/ambiente	A	volume	S/V	Cdr	Cdl	dispers
Piano/Scala: 01 **unico**						**27820**
0101 unico	**394.6**	**794.2**	**0.497**			**27820**
01 unico	394.64	794.16	0.497			27820

CALCOLO DISPERSIONI DI CALORE PER SINGOLO AMBIENTE

AMBIENTE : 010101 unico

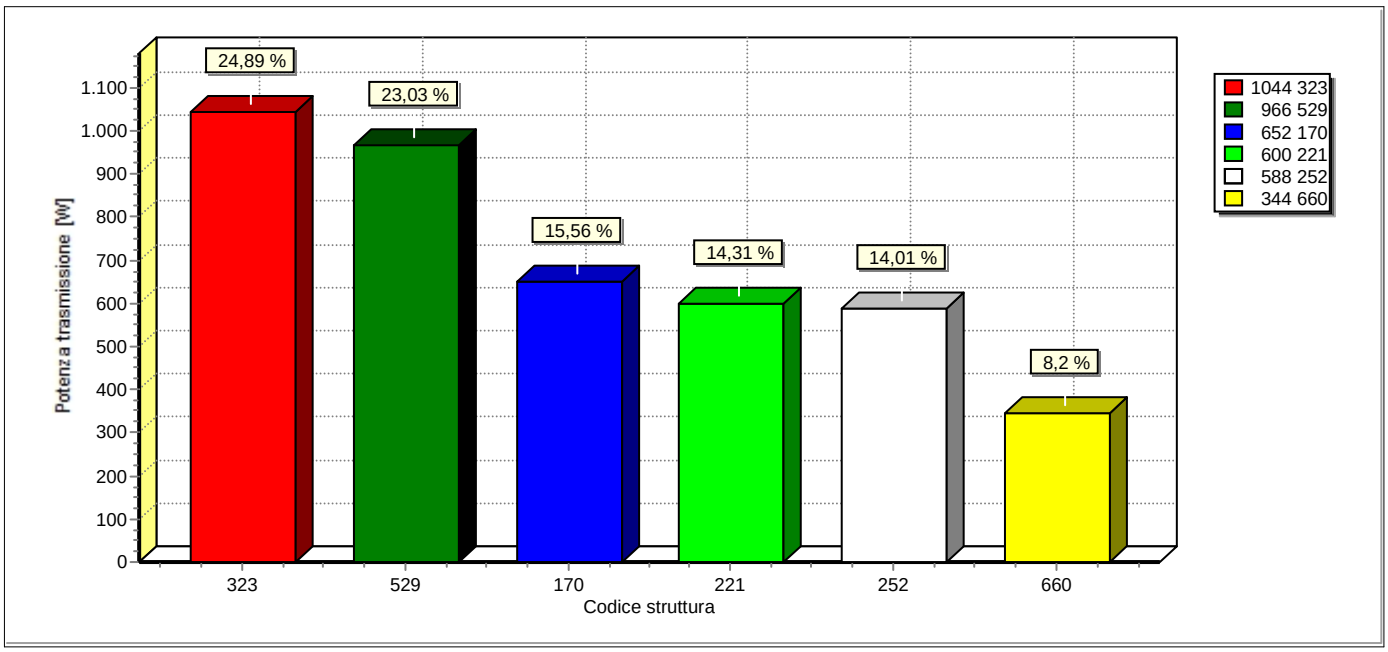
Te = **3**
Ta = **20**

q	ric	largh	lungh	altez	volume	dispvol
1	5.0	130.19	1.00	6.10	794.2	23626

nr	Co-str	q	es	U	dt	lungh	al/la	A	A•U•dt	a.es	disptra
01	170 P.E	1	W	0.34	17	13.46	6.10	69.35	397.28	1.10	437
02	252 S.E	4	W	2.08	17	1.60	1.60	10.24	362.61	1.10	399
03	252 S.E	1	W	2.08	17	1.20	2.10	2.52	89.24	1.10	98
04	170 P.E	1	S	0.34	17	8.55	6.10	37.59	215.38	1.00	215
05	252 S.E	1	S	2.08	17	1.60	1.60	2.56	90.65	1.00	91
06	221 S.E	1	S	2.94	17	3.00	4.00	12.00	599.96	1.00	600
07	323 P.I	1	TF	1.71	4	3.65	6.10	22.26	152.29	1.00	152
08	323 P.I	1	TF	1.71	4	15.83	6.10	96.56	660.49	1.00	660
09	323 P.I	1	TF	1.71	4	5.54	6.10	33.79	231.15	1.00	231
10	660 SOF	1		0.26	10	1.00	130.19	130.19	343.70	1.00	344
11	529 PAV	1	T1	0.74	10	1.00	130.19	130.19	966.01	1.00	966

TOTALI:	dispvol	+	(disptra•au%)		=	A	volume	S/V		
	23626		4194	0%	27820	394.64	794.2	0.50		

RIEPILOGO STRUTTURE UTILIZZATE



nr	CODICE	TRASMITTANZA W/m²K	RESISTENZA m²K/W	RES.VAPORE sm²Pa/kg	S m	PERMEANZA kg/sm²Pa	MASSA kg/m²	CAPACITA' kJ/m²K	TTCI ore	TTCE ore
001	170 P.E	0,316	3,163	70,469	0,455	0,014	533,07	481,10	148,4	274,3
Muratura in calcestruzzo da 12 cm, isolamento da 7.5 cm, intonacata e con controparete in laterizio da 8 cm										
002	221 S.E	2,941	0,340	4,26E5	0,019	2,35E-06	32,02	16,02	0,6	1,0
Portone basculante per box in acciaio, senza rivestimenti										
003	252 S.E	2,083	0,480	1,44E11	0,027	6,96E-12	30,78	25,86	1,4	2,1
Serramento vetrato con telaio in alluminio e taglio termico, vetro-camera 6-15-6.										
004	323 P.I	1,710	0,585	4,921	0,100	0,203	100,00	84,00	6,8	6,8
Muro interno divisorio tipo GASBETON da 8 cm										
005	529 PAV	0,742	1,348	77,325	0,765	0,013	1244,50	1059,78	223,5	173,3
Pavimento su terrapieno, isolato con polistirene, finitura in ceramica										
006	660 SOF	0,264	3,781	1921,466	0,291	5,20E-04	403,25	348,70	194,7	171,5
Copertura laboratorio										

Il progettista

ORDINE INGEGNERI PROVINCIA CAGLIARI
N. 1586 Dr. Ing. FRANCO PES

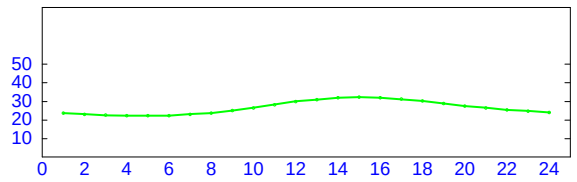
CALCOLI TERMOTECNICI

Calcolo carichi termici estivi

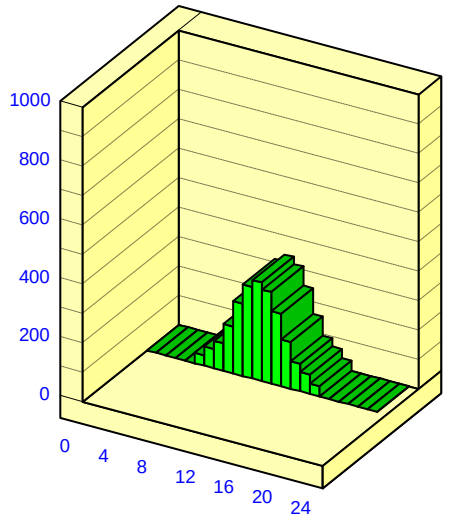
CONDIZIONI ESTERNE DI PROGETTO

Temperatura massima esterna bulbo secco	=	32.5
Escursione massima giornaliera	=	10.0
Umidità relativa esterna	=	40.0
Umidità assoluta esterna	=	12.3
Coefficiente di limpidezza atmosferico	=	1.00

TEMPERATURA ESTERNA

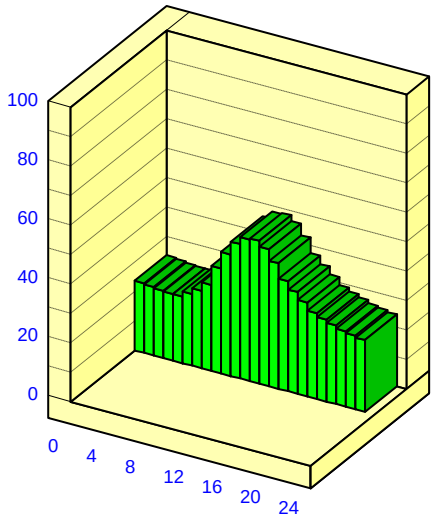


SOLAR HEAT GAIN (W/m²)



S W

TEMPERATURA SOLE-ARIA



PROFILO ORARIO DELLE CONDIZIONI ESTERNE DEL GIORNO 21 Luglio (ora solare)

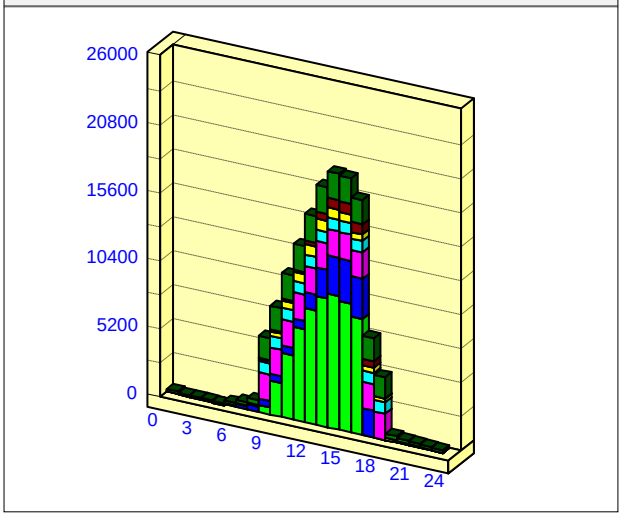
Ora	7	8	9	10	11	12	13	14	15	16	17	18	19	20
	temperatura esterna													
	23.2	24.1	25.4	26.9	28.6	30.2	31.4	32.2	32.5	32.2	31.5	30.4	29.1	27.8
	temperatura sole-aria in [°C]													
S	26.3	29.2	35.6	41.2	45.6	48.1	48.4	46.5	42.7	37.3	34.6	32.0	29.1	27.8
W	26.2	28.1	30.1	32.2	34.2	36.4	46.2	54.7	60.6	62.9	60.1	49.4	29.2	27.8
	apporto solare SGHF in [W/m²]													
S	66	93	160	246	311	334	311	246	160	93	66	34	0	0
W	62	83	99	111	118	130	257	462	611	680	642	428	3	0

DESCRIZIONE DI OGNI AMBIENTE

AMBIENTE :	010101	**unico**			
Uri = 50	q	largh	lungh	altez	volume
Ta = 25	1	130.19	1.00	6.10	794.2

nr	Co-str	q	es	U W/mK	dt K	lungh m	al/la m	A m²	alfa/ Ft·g·Fc
01	P.E 170	1	W	0.34		13.46	6.10	69.35	0.60
02	S.E 252	4	W	2.08		1.60	1.60	10.24	0.41
03	S.E 252	1	W	2.08		1.20	2.10	2.52	0.41
04	P.E 170	1	S	0.34		8.55	6.10	37.59	0.60
05	S.E 252	1	S	2.08		1.60	1.60	2.56	0.41
06	S.E 221	1	S	2.94		3.00	4.00	12.00	0.90
07	P.I 323	1	TF	1.71		3.65	6.10	22.26	
08	P.I 323	1	TF	1.71		15.83	6.10	96.56	
09	P.I 323	1	TF	1.71		5.54	6.10	33.79	
10	SOF 660	1		0.26		1.00	130.19	130.19	0.60
11	PAV 529	1	T1	0.74		1.00	130.19	130.19	

APPORTO SENSIBILE ORARIO



12 2 14 16 6 3 altri

RICAMBI APPORTI: chiave = nessuna

nr	ricambi rinnovo	portata m³/h	aria l/s	prog. oraria
12	5.00	3971	1103.1	1 0.5 9 17
	Qop =	220.617	l/s pers.	

nr	ricambi infiltraz.	portata m³/h	aria l/s	prog. oraria
13	0.00	0	0.0	1 0.5 8 19

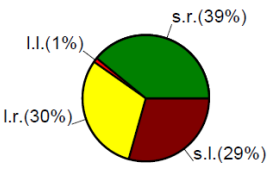
nr	Descrizione apporti	N ns	sensibile latente	% rad	Tot sen[W] Tot lat[W]	Prog. oraria
14	Apparecchiature laboratorio chimico	1 (1)	2000 0	0	2000 0	1 0.5 9 19
15	Stampante Laser	3 (2)	180 0	0	540 0	1 0.5 9 19
16	Personal Computer	3 (2)	300 0	50	900 0	1 0.5 9 19

.... continua

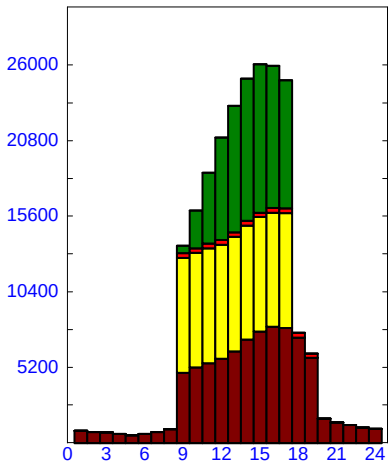
TOTALI: [W]

Carico Massimo teorico 26009 **Ora 15**

Latente		Sensibile	
rinnovo	7881	rinnovo	10176
locale	290	locale	7661
Totale	**8171**	**Totale**	**17837**



CARICO TOTALE ORARIO

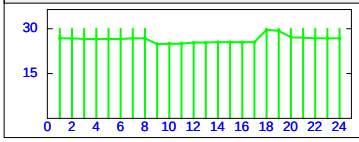


sen.loc. lat.rin. lat.loc. sen.rin.

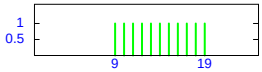
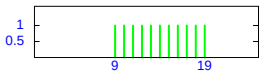
SIMULAZIONE DI FUNZIONAMENTO

Potenza sensibile rimossa = 17493 W
Differenziale termostato = 1.0 °C
ERmax = 17545 W
ERmin = 0 W

TERMOSTATO (T) [°C]
TEMP. REALE (Tr) [°C]



Ora	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
T	30.0	30.0	30.0	30.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	30.0	30.0
Tr	26.6	26.6	26.7	26.8	24.9	25.0	25.2	25.3	25.4	25.5	25.5	25.5	25.4	29.5	29.4

nr	Descrizione apporti	N ns	sensibile latente	% rad	Tot sen[W] Tot lat[W]	Prog. oraria
17	Illuminazione a incandescenza 10W/m²	30 (23)	10 0	80	300 0	
18	Impiegato di ufficio attività moderata amb. 25°C	5 (4)	70 58	70	350 290	

PROFILO ORARIO DEL CARICO TERMICO GLOBALE DEL GIORNO 21 Luglio (ora solare)

Ora	7	8	9	10	11	12	13	14
W	754	903	13558	15924	18542	20989	23160	25004
Ora	15	16	17	18	19	20	21	22
W	26009	25918	24908	7556	6125	1692	1405	1217

RIEPILOGO CARICO TERMICO ESTIVO MESE: Luglio

denominazione zona	dati risultati dall'analisi in regime continuo					potenze di picco unità terminali		
		portata di ventilaz in l/s ; carichi in W				pot necess	a.prim.+FC	tutta aria
	tbs °C *UR %*	volume ***port. rinn***	**ora critica** ***carico tot***	**sens. loc** *sens. rinn*	laten. loc *laten. rinn*	sensibile *totale*	tbs di imm *potenza FC*	tbs di imm *portata l/s*
GLOBALE EDIFICIO		794 *1103.1*	15 *26009*	7661 *10176*	290 *7881*			
01 unico		794 *1103.1*	15 *26009*	7661 *10176*	290 *7881*			
0101 unico		**794** ***1103.1***	**15** ***26009***	**7661** ***10176***	**290** ***7881***			
01 unico	25 *50*	794 *1103.1*	15 *26009*	7661 *10176*	290 *7881*	17837 *26009*		15.0 *622.9*

Il progettista

ORDINE INGEGNERI PROVINCIA CAGLIARI
N. 1586 Dr. Ing. FRANCO PES

CALCOLI ELETTRICI

Dati salienti utenze

Dati salienti utenza

Sigla utenza	Sist.	Circuito	Pn [kW]	Coef.	Pd [kW]	Cos Fi	Ikm max [kA]	Formazione	Lc [m]	Vn [V]	CdtT Ib [%]	Ib [A]	In [A]	Iz [A]
+ESTERNO.Q0														
IG/Q0	TT	3F+N (Distr.)	18.4	1	18.4	0.851	9.52	3x(1x70)+1x35	110	400	0.519	31.4	125	202.6
+ESTERNO.EOLICO														
G-EO	TT	L3-N (Term.)	-3	1	-3	0.8	0.065		0	231	0	16.2	32	67.1
+LABORATORIO.QGL														
IG/FV1	TT	L1-N (Distr.)	-3.9	1	-3.9	1	0.05	3G10	15	231	0	16.9	25	61.9
IG/FV2	TT	L1-N (Distr.)	-3.9	1	-3.9	1	0.05	3G10	15	231	0	16.9	25	61.9
IG/RETE	TT	3F+N (Distr.)	18.4	1	18.4	0.851	4.45		0	400	0.519	31.4	100	30.9
SS/LA	TT	3F+N (Distr.)	30.7	0.6	18.4	0.851	4.45		0	400	0.519	31.4	40	75
S01	TT	L2-N (Term.)	1	1	1	0.9	1.95	3G2.5	10	231	0.861	4.81	10	25.9
S02	TT	L1-N (Term.)	1	1	1	0.9	1.95	3G2.5	10	231	0.811	4.81	10	25.9
S03	TT	L3-N (Term.)	1	1	1	0.9	1.95	3G2.5	10	231	0.824	4.81	10	25.9
S04	TT	L2-N (Term.)	1	1	1	0.9	1.95	3G2.5	10	231	0.861	4.81	10	25.9
S05	TT	L2-N (Term.)	1	1	1	0.9	1.95	3G2.5	10	231	0.861	4.81	10	25.9
S06	TT	L3-N (Term.)	3	1	3	0.9	1.95	3G4	10	231	1.13	14.4	16	35.3
S07	TT	L2-N (Term.)	3	1	3	0.9	1.95	3G4	10	231	1.16	14.4	16	35.3
S08	TT	L3-N (Term.)	1	1	1	0.9	1.95	3G2.5	10	231	0.824	4.81	10	25.9
S09	TT	L1-N (Term.)	1	1	1	0.9	1.95	3G2.5	10	231	0.811	4.81	10	25.9
S10	TT	L3-N (Term.)	0.5	1	0.5	0.9	1.95	3G2.5	10	231	0.653	2.4	10	25.9
Qups/2	TT	L1-N (Distr.)	1.87	1	1.87	0.9	1.95	3G6	30	231	1.27	8.99	16	40.6
43	TT	3F+N (Term.)	10	1	10	0.8	4.45	5G16	20	400	0.706	18	32	72
44	TT	L1-N (Term.)	2.6	1	2.6	0.8	1.95	3G2.5	20	231	2.24	14.1	16	25.9
49	TT	L3-N (Term.)	1.5	1	1.5	0.8	1.95	3G2.5	20	231	1.51	8.12	16	25.9
5	TT	L2-N (Term.)	0.5	1	0.5	0.8	1.95	3G4	80	231	1.38	2.71	10	35.3
AUX	TT	L2-N (Term.)	0.5	1	0.5	0.8	1.95		0	231	0.519	2.71	10	35.3
6	TT	L1-N (Term.)	0.2	1	0.2	0.8	1.95	3G6	75	231	0.685	1.08	10	45.4

Dati salienti utenza

Sigla utenza	Sist.	Circuito	Pn [kW]	Coef.	Pd [kW]	Cos Fi	Ikm max [kA]	Formazione	Lc [m]	Vn [V]	CdtT Ib [%]	Ib [A]	In [A]	Iz [A]
SS/ULP	TT	3F+N (Distr.)	32.8	1	32.8	0.781	0.082		0	400	0	70.2	80	30.9
C-BL/O	TT	3F+N (Distr.)	14.4	1	14.4	0.9	0.082	5G16	10	400	0	28.9	40	67.2
Qups/1	TT	3F+N (Distr.)	6.25	1	6.25	0.9	0.082	5G25	30	400	0	16.4	40	83.3
8A	TT	L1-N (Term.)	6.1	1	6.1	0.6	0.082	3G16	25	231	0	44	63	82.8
8B	TT	L2-N (Term.)	6.1	1	6.1	0.6	0.082	3G16	25	231	0	44	63	82.8
SS/ES-S	TT	L1-N (Distr.)	1.87	1	1.87	0.9	0.635		0	231	1.58	8.99	16	49.7
50-ES/1	TT	L1-N (Term.)	0.5	1	0.5	0.9	0.635	5G2.5	25	231	2.01	2.4	10	18.9
50-ES/2	TT	L1-N (Term.)	0.5	1	0.5	0.9	0.635	5G2.5	25	231	2.01	2.4	10	18.9
50-ES/3	TT	L1-N (Term.)	0.5	1	0.5	0.9	0.635	5G2.5	25	231	2.01	2.4	10	18.9
50-ES/4	TT	L1-N (Term.)	0.37	1	0.37	0.9	0.635	5G2.5	25	231	1.9	1.78	10	18.9
SS/LPC	TT	3F+N (Distr.)	6.25	1	6.25	0.9	0.081		0	400	0	16.4	40	49.7
C-BL/C	TT	3F+N (Distr.)	4.25	1	4.25	0.9	0.081	5G10	10	400	0	6.97	40	49.7
17	TT	L3-N (Term.)	2	1	2	0.9	0.08	3G10	10	231	0	9.62	20	56
+LABORATORIO.Qups/2														
IG-Qups/2	TT	L1-N (Distr.)	1.87	1	1.87	0.9	0.784		0	231	1.27	8.99	16	40.6
By-P/E-E	TT	L1-N (Distr.)	1.87	1	1.87	0.9	0.784		0	231	1.27	8.99	16	30.9
AL-QG/C2	TT	L1-N (Distr.)	1.87	1	1.87	0.9	0.784	3G16	30	231	1.58	8.99	16	74.9
+LABORATORIO.INVERTER														
INV1-1	TT	L1-N (Distr.)	-1.95	1	-1.95	1	0.057		0	231	0	8.45	19.8	n.d.
INV1-2	TT	L1-N (Distr.)	-1.95	1	-1.95	1	0.057		0	231	0	8.45	19.8	n.d.
INV2-1	TT	L1-N (Distr.)	-1.95	1	-1.95	1	0.057		0	231	0	8.45	19.8	n.d.
INV2-2	TT	L1-N (Distr.)	-1.95	1	-1.95	1	0.057		0	231	0	8.45	19.8	n.d.
+LABORATORIO.QDC														
CV-S1	IT	Corr. cont. (Distr.)	-2.03	1	-2.03		0.006	3G16	20	369	-0.225	5.49	6.3	40.6
CV-S2	IT	Corr. cont. (Distr.)	-2.03	1	-2.03		0.006	3G16	20	369	-0.225	5.49	6.3	40.6
CV-S3	IT	Corr. cont. (Distr.)	-2.03	1	-2.03		0.006	3G16	20	369	-0.225	5.49	6.3	40.6

Dati salienti utenza

Sigla utenza	Sist.	Circuito	Pn [kW]	Coef.	Pd [kW]	Cos Fi	Ikm max [kA]	Formazione	Lc [m]	Vn [V]	CdtT Ib [%]	Ib [A]	In [A]	Iz [A]
CV-S4	IT	Corr. cont. (Distr.)	-2.03	1	-2.03		0.006	3G16	20	369	-0.225	5.49	6.3	40.6
Q1.1	IT	Corr. cont. (Distr.)	-2.03	1	-2.03		0.006	2x6	30	369	-0.562	5.49	6.3	40.6
Q1.2	IT	Corr. cont. (Distr.)	-2.03	1	-2.03		0.006	3G16	30	369	-0.562	5.49	6.3	40.6
Q1.3	IT	Corr. cont. (Distr.)	-2.03	1	-2.03		0.006	3G16	30	369	-0.562	5.49	6.3	40.6
Q1.4	IT	Corr. cont. (Distr.)	-2.03	1	-2.03		0.006	3G16	30	369	-0.562	5.49	6.3	40.6
G1	IT	Corr. cont. (Term.)	-2.03	1	-2.03		0.006		0	369	-0.562	5.49	6.3	54
G2	IT	Corr. cont. (Term.)	-2.03	1	-2.03		0.006		0	369	-0.562	5.49	6.3	54
G3	IT	Corr. cont. (Term.)	-2.03	1	-2.03		0.006		0	369	-0.562	5.49	6.3	54
G4	IT	Corr. cont. (Term.)	-2.03	1	-2.03		0.006		0	369	-0.562	5.49	6.3	54
+LABORATORIO.Qups/1														
IG-Qups/1	TT	3F+N (Distr.)	6.25	1	6.25	0.9	0.082		0	400	0	16.4	40	40.6
By-P/E-L	TT	3F+N (Distr.)	6.25	1	6.25	0.9	0.082		0	400	0	16.4	40	30.9
AL-QG/C1	TT	3F+N (Distr.)	6.25	1	6.25	0.9	0.082	5G25	30	400	0	16.4	40	83.3
+LABORATORIO.PEMFC														
G-PEM	TT	3F+N (Term.)	-7	1	-7	0.8	0.027		0	400	0	12.6	32	67.1

Legenda

Pn: potenza nominale dei carichi a valle dell'utenza.
Coef.: coefficiente di contemporaneità (distribuzioni) o di utilizzo (terminali)
Pd: potenza di dimensionamento dell'utenza.
Ikm max: corrente di guasto massima a monte dell'utenza, serve per dimensionare il potere d'interruzione della protezione
Lc: lunghezza cavo [m]
CdtT Ib: caduta di tensione totale alla corrente Ib

Il progettista

ORDINE INGEGNERI PROVINCIA CAGLIARI
N. 1586 Dr. Ing. FRANCO PES

CALCOLI ELETTRICI

Verifiche

Verifiche

Sigla utenza	Coord. Ib<In<Iz	PdI	K²S²>I²t	Sg. mag.<Imagmax	Contatti ind.	CdtT Ib
+ESTERNO.Q0						
IG/Q0	31.4<=125<=202.6 A	40>=9.52 kA	Verificato	1250<1562 A	Non verificato	0.519<=4 %
+ESTERNO.EOLICO						
G-EO	16.2<=32 A (Ib < In)		n.d.		Verificato	
+LABORATORIO.QGL						
IG/FV1	16.9<=25<=61.9 A	6>=0.05 kA	Verificato	No:(250>=32.2 A)	Non verificato	
IG/FV2	16.9<=25<=61.9 A	6>=0.05 kA	Verificato	No:(250>=32.2 A)	Non verificato	
IG/RETE	31.4<=100 A (Ib < In)	40>=4.45 kA	n.d.	1000<1562 A	Verificato	0.519<=4 %
SS/LA	31.4<=40 A (Ib < In)	6>=4.45 kA	n.d.	400<1562 A	Verificato	0.519<=4 %
S01	4.81<=10<=25.9 A	6>=1.95 kA	Verificato	100<680.7 A	Verificato	0.861<=4 %
S02	4.81<=10<=25.9 A	6>=1.95 kA	Verificato	100<680.7 A	Verificato	0.811<=4 %
S03	4.81<=10<=25.9 A	6>=1.95 kA	Verificato	100<680.7 A	Verificato	0.824<=4 %
S04	4.81<=10<=25.9 A	6>=1.95 kA	Verificato	100<680.7 A	Verificato	0.861<=4 %
S05	4.81<=10<=25.9 A	6>=1.95 kA	Verificato	100<680.7 A	Verificato	0.861<=4 %
S06	14.4<=16<=35.3 A	6>=1.95 kA	Verificato	160<865.8 A	Verificato	1.13<=4 %
S07	14.4<=16<=35.3 A	6>=1.95 kA	Verificato	160<865.8 A	Verificato	1.16<=4 %
S08	4.81<=10<=25.9 A	6>=1.95 kA	Verificato	100<680.7 A	Verificato	0.824<=4 %
S09	4.81<=10<=25.9 A	6>=1.95 kA	Verificato	100<680.7 A	Verificato	0.811<=4 %
S10	2.4<=10<=25.9 A	6>=1.95 kA	Verificato	100<680.7 A	Verificato	0.653<=4 %
Qups/2	8.99<=16<=40.6 A	6>=1.95 kA	Verificato	160<594.8 A	Verificato	1.27<=4 %
43	18<=32<=72 A	6>=4.45 kA	Verificato	320<1112 A	Verificato	0.706<=4 %
44	14.1<=16<=25.9 A	6>=1.95 kA	Verificato	160<431.7 A	Verificato	2.24<=4 %
49	8.12<=16<=25.9 A	6>=1.95 kA	Verificato	160<431.7 A	Verificato	1.51<=4 %
5	2.71<=10<=35.3 A	6>=1.95 kA	Verificato	100<205 A	Verificato	1.38<=4 %
AUX	2.71<=10 A (Ib < In)	6>=1.95 kA	n.d.	100<1561 A	Verificato	0.519<=4 %
6	1.08<=10<=45.4 A	6>=1.95 kA	Verificato	100<305.4 A	Verificato	0.685<=4 %
SS/ULP	70.2<=80 A (Ib < In)	40>=0.082 kA	n.d.	Prot. contatti indiretti	Verificato	

Verifiche

Sigla utenza	Coord. Ib<In<Iz	PdI	K²S²>I²t	Sg. mag.<Imagmax	Contatti ind.	CdtT Ib
C-BL/O	28.9<=40<=67.2 A	6>=0.082 kA	Verificato	Prot. contatti indiretti	Verificato	
Qups/1	16.4<=40<=83.3 A	6>=0.082 kA	Verificato	Prot. contatti indiretti	Verificato	
8A	44<=63<=82.8 A	6>=0.082 kA	Verificato	Prot. contatti indiretti	Verificato	
8B	44<=63<=82.8 A	6>=0.082 kA	Verificato	Prot. contatti indiretti	Verificato	
SS/ES-S	8.99<=16 A (Ib < In)	6>=0.635 kA	n.d.	160<480 A	Verificato	1.58<=4 %
50-ES/1	2.4<=10<=18.9 A	6>=0.635 kA	Verificato	100<245.3 A	Verificato	2.01<=4 %
50-ES/2	2.4<=10<=18.9 A	6>=0.635 kA	Verificato	100<245.3 A	Verificato	2.01<=4 %
50-ES/3	2.4<=10<=18.9 A	6>=0.635 kA	Verificato	100<245.3 A	Verificato	2.01<=4 %
50-ES/4	1.78<=10<=18.9 A	6>=0.635 kA	Verificato	100<245.3 A	Verificato	1.9<=4 %
SS/LPC	16.4<=40 A (Ib < In)	6>=0.081 kA	n.d.	Prot. contatti indiretti	Verificato	
C-BL/C	6.97<=40<=49.7 A	6>=0.081 kA	Verificato	Prot. contatti indiretti	Verificato	
17	9.62<=20<=56 A	6>=0.08 kA	Verificato	Prot. contatti indiretti	Verificato	
+LABORATORIO.Qups/2						
IG-Qups/2	8.99<=16 A (Ib < In)	6>=0.784 kA	n.d.	160<594.8 A	Verificato	1.27<=4 %
By-P/E-E	8.99<=16 A (Ib < In)		n.d.		Verificato	1.27<=4 %
AL-QG/C2	8.99<=16<=74.9 A	6>=0.784 kA	Verificato	160<480 A	Verificato	1.58<=4 %
+LABORATORIO.INVERTER						
INV1-1	8.45<=19.8 A (Ib < In)		n.d.		Verificato	
INV1-2	8.45<=19.8 A (Ib < In)		n.d.		Verificato	
INV2-1	8.45<=19.8 A (Ib < In)		n.d.		Verificato	
INV2-2	8.45<=19.8 A (Ib < In)		n.d.		Verificato	
+LABORATORIO.QDC						
CV-S1	5.49<=6.3<=40.6 A		Verificato		Non verificato	0.225<=4 %
CV-S2	5.49<=6.3<=40.6 A		Verificato		Verificato	0.225<=4 %
CV-S3	5.49<=6.3<=40.6 A		Verificato		Verificato	0.225<=4 %
CV-S4	5.49<=6.3<=40.6 A		Verificato		Verificato	0.225<=4 %
Q1.1	5.49<=6.3<=40.6 A	1.6>=0.006 kA	Verificato		Verificato	0.562<=4 %

Verifiche

Sigla utenza	Coord. Ib<In<Iz	PdI	K²S²>I²t	Sg. mag.<Imagmax	Contatti ind.	CdtT Ib
Q1.2	5.49<=6.3<=40.6 A	1.6>=0.006 kA	Verificato		Verificato	0.562<=4 %
Q1.3	5.49<=6.3<=40.6 A	1.6>=0.006 kA	Verificato		Verificato	0.562<=4 %
Q1.4	5.49<=6.3<=40.6 A	1.6>=0.006 kA	Verificato		Verificato	0.562<=4 %
G1	5.49<=6.3 A (Ib < In)		n.d.		Verificato	0.562<=4 %
G2	5.49<=6.3 A (Ib < In)		n.d.		Verificato	0.562<=4 %
G3	5.49<=6.3 A (Ib < In)		n.d.		Verificato	0.562<=4 %
G4	5.49<=6.3 A (Ib < In)		n.d.		Verificato	0.562<=4 %
+LABORATORIO.Qups/1						
IG-Qups/1	16.4<=40 A (Ib < In)	6>=0.082 kA	n.d.	Prot. contatti indiretti	Verificato	
By-P/E-L	16.4<=40 A (Ib < In)		n.d.		Verificato	
AL-QG/C1	16.4<=40<=83.3 A	6>=0.082 kA	Verificato	Prot. contatti indiretti	Verificato	
+LABORATORIO.PEMFC						
G-PEM	12.6<=32 A (Ib < In)		n.d.		Verificato	

Legenda

PdI: potere di interruzione o di cortocircuito della protezione
Imagmax: corrente magnetica massima pari alla corrente di guasto minima
K²S²>I²t: verifica a cortocircuito della linea ("n.d." indica verifica non gestita)
Temperature di riferimento per il calcolo delle correnti minime di cortocircuito secondo: (CENELEC R064-003)
CdtT Ib: caduta di tensione totale alla corrente Ib

Il progettista

ORDINE INGEGNERI PROVINCIA CAGLIARI
N. 1586 Dr. Ing. FRANCO PES

CALCOLI STRUTTURALI

Introduzione

Il presente capitolo, espone i calcoli statici del basamento della turbina eolica da realizzarsi nell'ambito dell'intervento di completamento degli impianti e delle opere del laboratorio tecnologie solari a concentrazione e idrogeno da fer e dei laboratori biomasse, presso la sede del "Cluster Tecnologico Energie Rinnovabili" VI strada Ovest, Macchiareddu, Comune di Uta.

Il macchinario in esame è costituito da una turbina eolica ad asse verticale con le seguenti caratteristiche:

- potenza nominale: 3kW;
- diametro del rotore: 3,30 m;
- altezza del rotore: 2,00 m;

posta sulla sommità di un palo in acciaio a sezione tubolare (circolare) rastremata, di altezza pari a 5,70 m.

La fondazione consiste in un semplice basamento parallelepipedo di dimensioni in pianta di 3,00x3,00 m ed altezza di 2,00 m, realizzata con calcestruzzo di classe C28/35 ed armatura in acciaio tipo B450C.

Norme e decreti

Il dimensionamento e la verifica degli elementi strutturali sono rispondenti alle seguenti normative:

- Decreto Min. delle Infrastrutture 14 gennaio 2008 – "Nuove norme tecniche per le costruzioni";
- Circolare 2 febbraio 2009, n. 617 – "Istruzioni per l'applicazione delle norme tecniche per le costruzioni" di cui al D.M. 14 gennaio 2008;
- Classificazione sismica dei Comuni di cui all'Allegato 1 – Allegato A dell'ordinanza n° 3274/03 del 20-03-2003;
- Circolare del Min. LL.PP. del 10-04-1999 n° 65 AA e GG;
- Decreto del Min. LL.PP. del 16-01-1996 recante "Norme tecniche per le costruzioni in zone sismiche";
- Decreto del Min LL.PP. del 09-01 1996 recante "Norme tecniche per il calcolo, l'esecuzione ed il collaudo delle strutture in cemento armato normale e precompresso e per le strutture metalliche";
- Norme C.N.R. 10011-85 – "Costruzioni di acciaio: istruzioni per il calcolo, l'esecuzione, il collaudo e la manutenzione";
- Eurocodici;
- Legge n° 1086/71 e successivi aggiornamenti.

Caratteristiche

Caratteristiche dei materiali

Di seguito si riportano le caratteristiche meccaniche dei materiali utilizzati per le strutture in progetto.

Calcestruzzo per opere di sottofondazione	**C12/15**
Calcestruzzo per strutture di fondazione	**C28/35** Classe di esposizione: XC2+XD1 Massimo rapporto A/C: 0,55 Massima dimensione degli inerti: 25 mm Classe di consistenza: S3
Acciaio tondo per armatura	**B450C**

Caratteristiche del terreno

In mancanza di valutazioni dirette, le caratteristiche del terreno di fondazione sono state dedotte da indagini geologico-geotecniche svolte in lotti prossimi a quello in esame.

I dati geotecnici utilizzati per il calcolo e la verifica delle opere di fondazione sono, a vantaggio della sicurezza:

- profondità del piano di posa: ≥ 2,00 m;
- coefficiente di sottofondazione: k = 6,00 daN/cm³;
- resistenza ammissibile: st = 1,00 daN/cm².

Sarà, comunque, responsabilità del Direttore dei Lavori verificare le reali caratteristiche del piano di posa delle fondazioni e la sua compatibilità con le ipotesi di progetto, ricorrendo, se necessario, ad ulteriori indagini approfondite. In ogni caso, qualora la portanza del terreno in situ non sia tale da garantire la stabilità del manufatto, si dovrà procedere ad un nuovo calcolo di verifica.

Analisi dei carichi

1. Pesi propri

Rotore	4,50 kN
Palo	6,40 kN
TOTALE (carico verticale)	**10,90 kN**

2. Azione del vento

Con riferimento ai simboli utilizzati nel D.M. 14-01-2008, la pressione del vento è stata calcolata utilizzando i coefficienti nel seguito indicati.

Velocità di riferimento V_b*:*

zona 5, $A_s < A_o = 750$ m

$V_b = V_{b,0} = 28$ m/s

Noto V_b si calcola la pressione cinetica di riferimento secondo la relazione:

$$q_b = \frac{1}{2} r V_b^2$$

Calcolo del coefficiente di esposizione C_e:

Classe di rugosità del terreno D, entro i 30 km dal mare, categoria di esposizione II, per cui si ottengono i diversi parametri:

k_r= 0,19; Z_0= 0,05 m; Z_{min}= 4 m

In funzione della quota altimetrica si calcolano i relativi coefficienti di esposizione:

$$C_e(z) = k_r^2 c_t \ln\left(\frac{z}{z_o}\right)\left[7 + c_t \ln\left(\frac{z}{z_0}\right)\right] \qquad \text{per } z \geq z_{min}$$

$$C_e(z) = C_e(z_{min}) \qquad \text{per } z \leq z_{min}$$

Noto C_e (z) si calcola la pressione del vento secondo la relazione:

$$p(z) = q_b\, c_e(z)\, c_p\, c_d$$

3. <u>Azione del sisma</u>

Le azioni prodotte dal sisma sono state determinate secondo le indicazioni del punto 2.7 del D. Min. delle Infrastrutture del 14-01-2008.

<u>Calcolo delle sollecitazioni e verifica degli elementi strutturali</u>

Di seguito si riportano i dati di input, le verifiche globali della struttura ed il dimensionamento e le verifiche di tutti gli elementi strutturali.

1. Dati generali

1.1. Materiali C.A.

Descrizione: *Descrizione o nome assegnato all'elemento.*
Rck: *Resistenza caratteristica cubica. [N/mm²]*
E: *Modulo di elasticità longitudinale del materiale. [N/mm²]*
Gamma: *Peso specifico del materiale. [kN/m³]*
Poisson: *Coefficiente di Poisson, viene impiegato nella modellazione di elementi bidimensionali. Il valore è adimensionale.*
G: *Modulo di elasticità tangenziale del materiale, viene impiegato nella modellazione di aste. [N/mm²]*
Alfa: *Coefficiente longitudinale di dilatazione termica. [° C^{-1}]*

Descrizione	Rck	E	Gamma	Poisson	G	Alfa
C28/35	35	33721,70	25,00	0,10	15328,04	0,000010

1.2. Armature

Descrizione: *Descrizione o nome assegnato all'elemento.*
fyk: *Resistenza caratteristica. [N/mm²]*
Sigma amm.: *Tensione ammissibile. [N/mm²]*
Tipo: *Tipo di barra.*
E: *Modulo di elasticità longitudinale del materiale. [N/mm²]*
Gamma: *Peso specifico del materiale. [kN/m³]*
Poisson: *Coefficiente di Poisson, viene impiegato nella modellazione di elementi bidimensionali. Il valore è adimensionale.*
G: *Modulo di elasticità tangenziale del materiale, viene impiegato nella modellazione di aste. [N/mm²]*
Alfa: *Coefficiente longitudinale di dilatazione termica. [°C^{-1}]*

Descrizione	fyk	Sigma amm.	Tipo	E	Gamma	Poisson	G	Alfa
B450C	430,00	255,00	Aderenza migliorata	206000,00	78,50	0,30	79230,77	0,000012

1.3. Livelli

Descrizione breve: *Nome sintetico assegnato al livello.*
Descrizione: *Nome assegnato al livello.*
Quota: *Quota superiore espressa nel sistema di riferimento assoluto. [cm]*
Spessore: *Spessore del livello. [cm]*

Descrizione breve	Descrizione	Quota	Spessore
L1	Fondazione	-200,0	200,0

2. Risultati numerici

2.1 Pressioni massime sul terreno

Nodo: *Numero del nodo collocato sul terreno.*
uz min: *Spostamento massimo verticale del nodo. [cm]*
Massima: *Pressione massima sul terreno al nodo. [daN/cm²]*

Compressione estrema massima -0,82 daN/cm².

Nodo	uz max	Massima
2	-0,08444	-0,51510
3	-0,08445	-0,51514
4	-0,05952	-0,36306
5	-0,04921	-0,30016
6	-0,10937	-0,66715
7	-0,08444	-0,51508
8	-0,11967	-0,73000
9	-0,11969	-0,73013
10	-0,13427	-0,81902
12	-0,08444	-0,51511
13	-0,08444	-0,51511
14	-0,08445	-0,51512
15	-0,08445	-0,51512
16	-0,08445	-0,51513
17	-0,08445	-0,51513
18	-0,08445	-0,51513
19	-0,08132	-0,49607
20	-0,07821	-0,47705
21	-0,07509	-0,45805
22	-0,07197	-0,43905
23	-0,06886	-0,42005
24	-0,06575	-0,40105
25	-0,06263	-0,38206
26	-0,05640	-0,34406
27	-0,05329	-0,32507
28	-0,05018	-0,30607
29	-0,04920	-0,30011
30	-0,04920	-0,30013
31	-0,04920	-0,30014
32	-0,04921	-0,30015
33	-0,05361	-0,32703
34	-0,05802	-0,35389
35	-0,06242	-0,38076
36	-0,06682	-0,40762
37	-0,07123	-0,43449
38	-0,07563	-0,46136
39	-0,08004	-0,48823
40	-0,08757	-0,53420
41	-0,09069	-0,55321
42	-0,09380	-0,57221
43	-0,09692	-0,59120
44	-0,10003	-0,61019
45	-0,10314	-0,62917
46	-0,10626	-0,64816
47	-0,10625	-0,64814
48	-0,10314	-0,62914
49	-0,10002	-0,61013
50	-0,09690	-0,59112
51	-0,09379	-0,57211
52	-0,09067	-0,55310
53	-0,08756	-0,53409

54	-0,08132	-0,49608
55	-0,07821	-0,47708
56	-0,07509	-0,45808
57	-0,07198	-0,43907
58	-0,06886	-0,42007
59	-0,06575	-0,40107
60	-0,06263	-0,38206
61	-0,11968	-0,73002
62	-0,11968	-0,73004
63	-0,11968	-0,73006
64	-0,11969	-0,73008
65	-0,11969	-0,73010
66	-0,11969	-0,73011
67	-0,11969	-0,73012
68	-0,11529	-0,70327
69	-0,11089	-0,67642
70	-0,10649	-0,64957
71	-0,10208	-0,62271
72	-0,09768	-0,59585
73	-0,09328	-0,56898
74	-0,08887	-0,54209
75	-0,08885	-0,54197
76	-0,09325	-0,56884
77	-0,09766	-0,59571
78	-0,10206	-0,62257
79	-0,10646	-0,64943
80	-0,11087	-0,67629
81	-0,11527	-0,70314
82	-0,11969	-0,73012
83	-0,11969	-0,73011
84	-0,11969	-0,73010
85	-0,12182	-0,74311
86	-0,12493	-0,76209

87	-0,12804	-0,78107
88	-0,13115	-0,80005
89	-0,13115	-0,80005
90	-0,12804	-0,78107
91	-0,12493	-0,76209
92	-0,12182	-0,74311
93	-0,11871	-0,72412
94	-0,11560	-0,70514
95	-0,11248	-0,68614
96	-0,08004	-0,48823
97	-0,07563	-0,46136
98	-0,07123	-0,43449
99	-0,06682	-0,40762
100	-0,06242	-0,38075
101	-0,05801	-0,35388
102	-0,05361	-0,32702
103	-0,08004	-0,48823
104	-0,07563	-0,46135
105	-0,07123	-0,43448
106	-0,06682	-0,40761
107	-0,06242	-0,38074
108	-0,05801	-0,35387
109	-0,05361	-0,32700
110	-0,08004	-0,48823
111	-0,07563	-0,46135
112	-0,07122	-0,43447
113	-0,06682	-0,40759
114	-0,06241	-0,38072
115	-0,05801	-0,35386
116	-0,05360	-0,32699
117	-0,08004	-0,48823
118	-0,07563	-0,46134
119	-0,07122	-0,43445

120	-0,06682	-0,40758
121	-0,06241	-0,38071
122	-0,05801	-0,35384
123	-0,05360	-0,32698
124	-0,08004	-0,48822
125	-0,07563	-0,46133
126	-0,07122	-0,43444
127	-0,06681	-0,40756
128	-0,06241	-0,38069
129	-0,05800	-0,35383
130	-0,05360	-0,32696
131	-0,08003	-0,48821
132	-0,07562	-0,46131
133	-0,07122	-0,43442
134	-0,06681	-0,40755
135	-0,06263	-0,38204
136	-0,05952	-0,36305
137	-0,05640	-0,34406
138	-0,08003	-0,48820
139	-0,07562	-0,46129
140	-0,07197	-0,43903
141	-0,06886	-0,42003
142	-0,06574	-0,40104
143	-0,06263	-0,38205
144	-0,05952	-0,36305
145	-0,08445	-0,51513
146	-0,08133	-0,49609
147	-0,07821	-0,47707
148	-0,07509	-0,45806
149	-0,07198	-0,43906
150	-0,06886	-0,42006
151	-0,06575	-0,40106
152	-0,08757	-0,53417

153	-0,08445	-0,51513
154	-0,08133	-0,49610
155	-0,07821	-0,47708
156	-0,07509	-0,45808
157	-0,07198	-0,43907
158	-0,06886	-0,42007
159	-0,09068	-0,55318
160	-0,08757	-0,53415
161	-0,08445	-0,51512
162	-0,08133	-0,49610
163	-0,07821	-0,47709
164	-0,07510	-0,45808
165	-0,07198	-0,43907
166	-0,09380	-0,57218
167	-0,09068	-0,55315
168	-0,08756	-0,53413
169	-0,08444	-0,51511
170	-0,08133	-0,49610
171	-0,07821	-0,47709
172	-0,07510	-0,45808
173	-0,09691	-0,59117
174	-0,09380	-0,57216
175	-0,09068	-0,55314
176	-0,08756	-0,53412
177	-0,08444	-0,51511
178	-0,08133	-0,49609
179	-0,07821	-0,47709
180	-0,10003	-0,61016
181	-0,09691	-0,59115
182	-0,09379	-0,57214
183	-0,09068	-0,55312
184	-0,08756	-0,53411
185	-0,08444	-0,51510

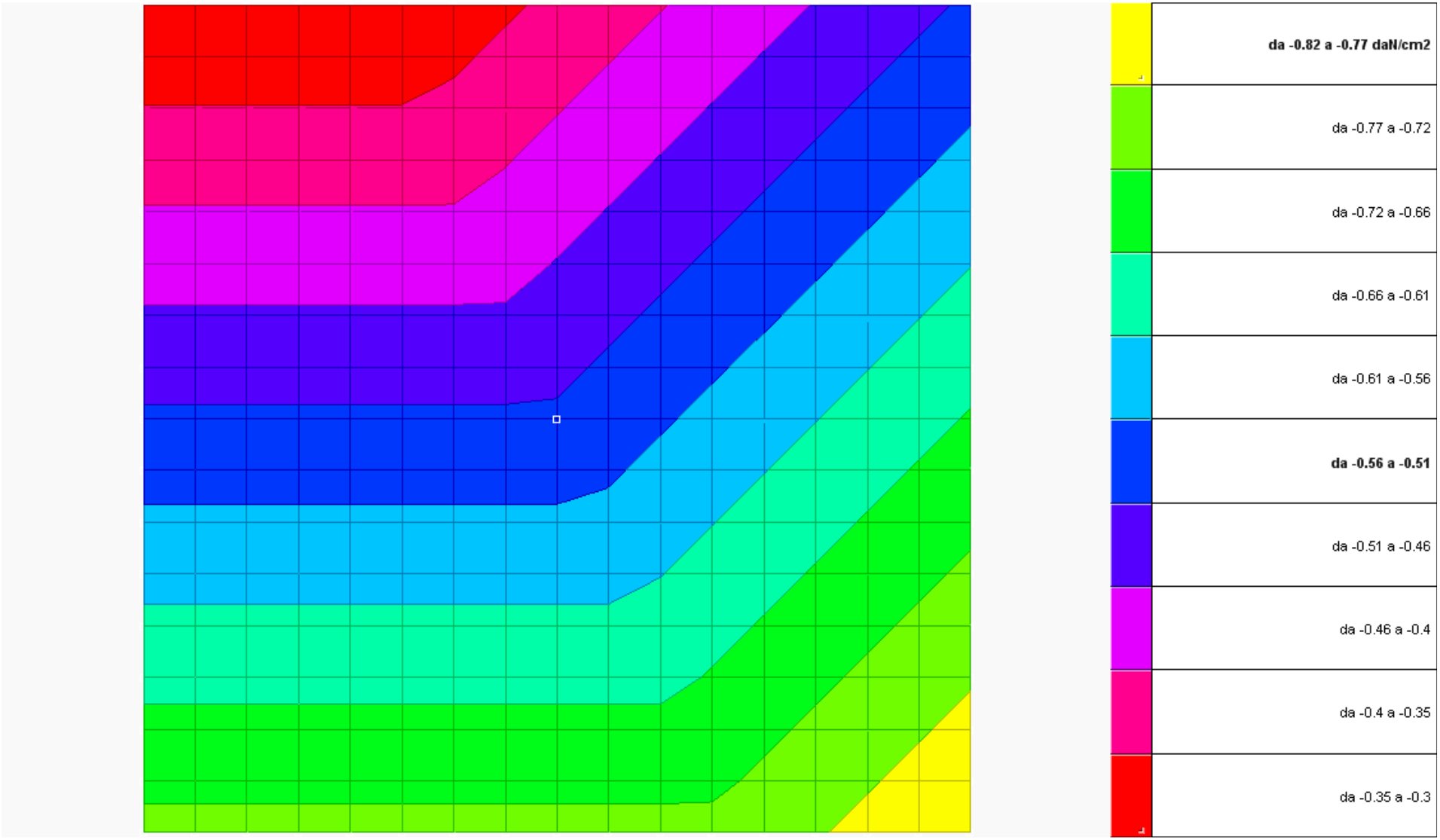
186	-0,08133	-0,49609
187	-0,10314	-0,62915
188	-0,10002	-0,61014
189	-0,09691	-0,59113
190	-0,09379	-0,57212
191	-0,09067	-0,55311
192	-0,08756	-0,53410
193	-0,08444	-0,51509
194	-0,11527	-0,70316
195	-0,11087	-0,67631
196	-0,10647	-0,64945
197	-0,10206	-0,62259
198	-0,09766	-0,59572
199	-0,09325	-0,56885
200	-0,08885	-0,54198
201	-0,11528	-0,70319
202	-0,11087	-0,67633
203	-0,10647	-0,64947
204	-0,10207	-0,62261
205	-0,09766	-0,59574
206	-0,09326	-0,56887
207	-0,08885	-0,54199
208	-0,11528	-0,70321
209	-0,11088	-0,67635
210	-0,10647	-0,64949
211	-0,10207	-0,62263
212	-0,09767	-0,59576
213	-0,09326	-0,56888
214	-0,08885	-0,54200
215	-0,11528	-0,70323
216	-0,11088	-0,67637
217	-0,10648	-0,64951
218	-0,10207	-0,62265

219	-0,09767	-0,59578
220	-0,09326	-0,56890
221	-0,08885	-0,54202
222	-0,11529	-0,70324
223	-0,11088	-0,67639
224	-0,10648	-0,64953
225	-0,10208	-0,62267
226	-0,09767	-0,59580
227	-0,09327	-0,56892
228	-0,08886	-0,54203
229	-0,11529	-0,70326
230	-0,11089	-0,67641
231	-0,10648	-0,64955
232	-0,10208	-0,62269
233	-0,09768	-0,59583
234	-0,09327	-0,56895
235	-0,08886	-0,54205
236	-0,11529	-0,70327
237	-0,11089	-0,67642
238	-0,10649	-0,64956
239	-0,10208	-0,62271
240	-0,09768	-0,59584
241	-0,09327	-0,56897
242	-0,08886	-0,54207
243	-0,11529	-0,70327
244	-0,11089	-0,67642
245	-0,10649	-0,64956
246	-0,10208	-0,62271
247	-0,09768	-0,59584
248	-0,09381	-0,57223
249	-0,09069	-0,55323
250	-0,11529	-0,70326
251	-0,11089	-0,67641

252	-0,10648	-0,64955
253	-0,10315	-0,62921
254	-0,10004	-0,61023
255	-0,09692	-0,59124
256	-0,09381	-0,57223
257	-0,11560	-0,70514
258	-0,11249	-0,68617
259	-0,10937	-0,66719
260	-0,10626	-0,64821
261	-0,10315	-0,62922
262	-0,10004	-0,61023
263	-0,09692	-0,59123
264	-0,11871	-0,72413
265	-0,11560	-0,70515
266	-0,11249	-0,68617
267	-0,10938	-0,66719
268	-0,10626	-0,64821
269	-0,10315	-0,62921
270	-0,10003	-0,61021
271	-0,12182	-0,74311
272	-0,11871	-0,72413
273	-0,11560	-0,70515
274	-0,11249	-0,68617
275	-0,10937	-0,66719
276	-0,10626	-0,64819
277	-0,10315	-0,62920
278	-0,12493	-0,76209
279	-0,12182	-0,74311
280	-0,11871	-0,72413
281	-0,11560	-0,70515
282	-0,11249	-0,68617
283	-0,10937	-0,66717
284	-0,10626	-0,64818

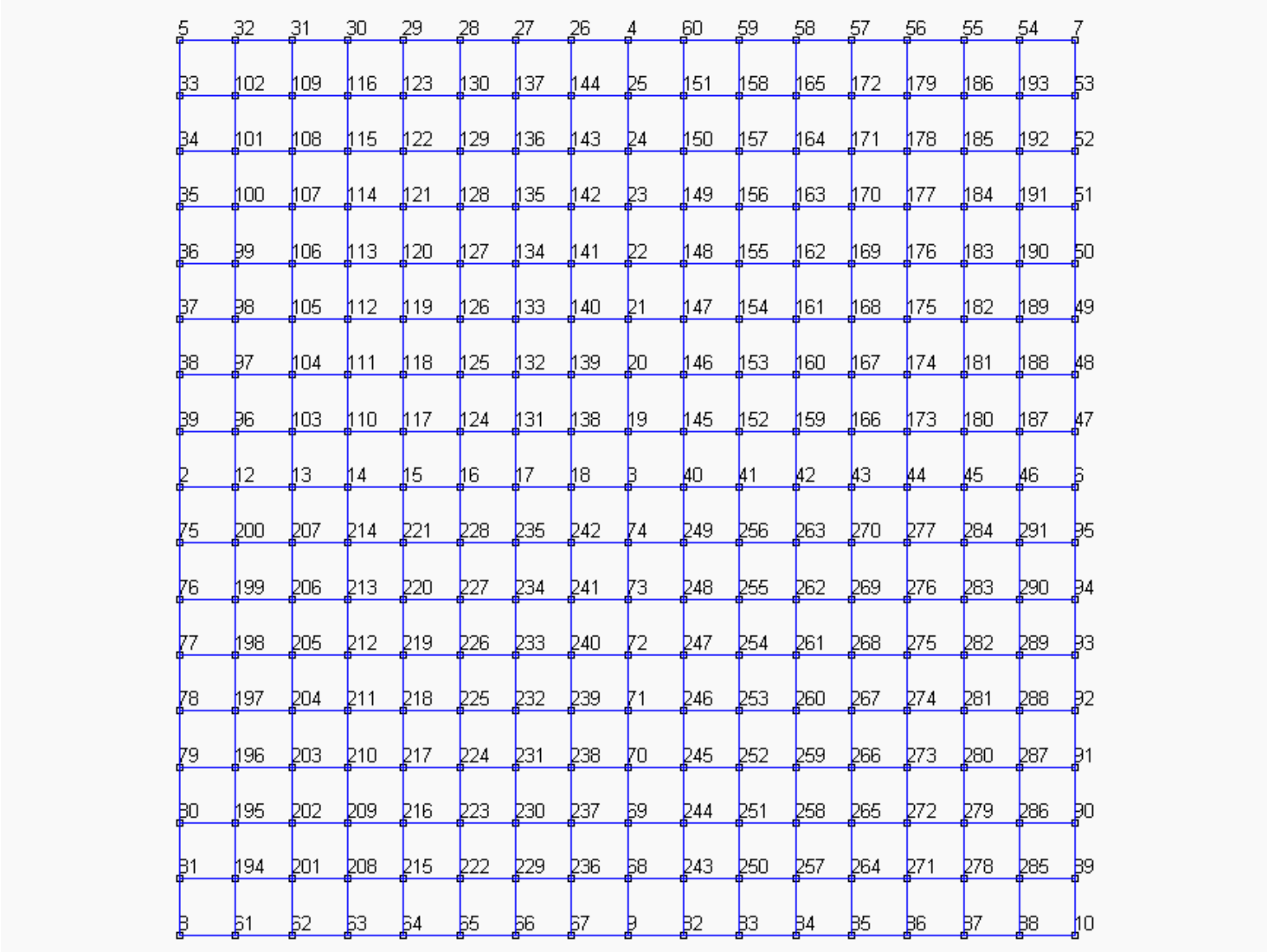
285	-0,12804	-0,78107
286	-0,12493	-0,76209
287	-0,12182	-0,74311
288	-0,11871	-0,72413
289	-0,11560	-0,70514
290	-0,11248	-0,68616
291	-0,10937	-0,66716

Per maggiore chiarezza viene di seguito rappresentata graficamente la distribuzione delle pressioni massime sul terreno.



2.2 Verifiche fondazione

Per comodità di lettura del listato viene di seguito rappresentata graficamente l'indicazione della numerazione dei nodi del modello.



nod. *nodo SAP*
sez. *tipo di sezione (o = orizzontale, v = verticale)*
B *base della sezione*

H *altezza della sezione*
Af+ *area di acciaio dal lato B*
Af- *area di acciaio dal lato A*
c+ *copriferro dal lato B*
c- *copriferro dal lato A*
sc *tensione sul calcestruzzo*
sf *tensione sull'acciaio*
Wk *apertura caratteristica delle fessure*
Sm *distanza media fra le fessure*

forze in kN, momenti in kN*m, tensioni in daN/cm², fessure in mm
acciaio sigma amm. 2500 (daN/cm²)
calcestruzzo Rck 350 (daN/cm²)

nod	sez	B	H	Af+	Af-	c+	c-	sc	c	N	M	sf	c	N	M	Wk	st	Sm	c
2	o	20	200	1.1	1.1	15.6	15.6	-0.4	2	0.00E00	-1.17E04	58.0	2	0.00E00	-1.17E04	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.2	2	0.00E00	-9.33E03	23.1	2	0.00E00	-9.33E03	0.00	0.0	0.0	1
3	o	40	200	2.3	2.3	15.6	15.6	-6.5	1	0.00E00	3.95E05	977.4	1	0.00E00	3.95E05	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-2.3	2	0.00E00	1.38E05	341.4	2	0.00E00	1.38E05	0.00	0.0	0.0	1
4	o	40	200	1.4	1.4	15.6	15.6	-0.2	2	0.00E00	-9.33E03	36.8	2	0.00E00	-9.33E03	0.00	0.0	0.0	1
	v	20	200	1.1	1.1	15.6	15.6	-0.4	2	0.00E00	-1.17E04	58.0	2	0.00E00	-1.17E04	0.00	0.0	0.0	1
5	o	20	200	1.1	1.1	15.6	15.6	0.0	2	0.00E00	1.83E02	0.2	2	0.00E00	1.83E02	0.00	0.0	0.0	1
	v	20	200	1.1	1.1	15.6	15.6	0.0	1	0.00E00	4.65E02	2.3	1	0.00E00	4.65E02	0.00	0.0	0.0	1
6	o	20	200	1.1	1.1	15.6	15.6	-0.5	2	0.00E00	1.52E04	75.4	2	0.00E00	1.52E04	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.2	2	0.00E00	9.30E03	23.0	2	0.00E00	9.30E03	0.00	0.0	0.0	1
7	o	20	200	1.1	1.1	15.6	15.6	0.0	1	0.00E00	-9.82E01	0.1	1	0.00E00	-9.82E01	0.00	0.0	0.0	1
	v	20	200	1.1	1.1	15.6	15.6	0.0	1	0.00E00	4.65E02	2.3	1	0.00E00	4.65E02	0.00	0.0	0.0	1
8	o	20	200	1.1	1.1	15.6	15.6	0.0	2	0.00E00	-1.25E02	0.1	2	0.00E00	-1.25E02	0.00	0.0	0.0	1
	v	20	200	1.1	1.1	15.6	15.6	0.0	1	0.00E00	-1.81E02	0.2	1	0.00E00	-1.81E02	0.00	0.0	0.0	1
9	o	40	200	1.4	1.4	15.6	15.6	-0.2	2	0.00E00	9.30E03	36.7	2	0.00E00	9.30E03	0.00	0.0	0.0	1
	v	20	200	1.1	1.1	15.6	15.6	-0.5	2	0.00E00	1.52E04	75.4	2	0.00E00	1.52E04	0.00	0.0	0.0	1
10	o	20	200	1.1	1.1	15.6	15.6	0.0	2	0.00E00	-1.08E02	0.1	2	0.00E00	-1.08E02	0.00	0.0	0.0	1
	v	20	200	1.1	1.1	15.6	15.6	0.0	1	0.00E00	-1.81E02	0.2	1	0.00E00	-1.81E02	0.00	0.0	0.0	1
12	o	20	200	1.1	1.1	15.6	15.6	-0.4	2	0.00E00	-1.35E04	66.5	2	0.00E00	-1.35E04	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.2	1	0.00E00	-1.08E04	26.7	1	0.00E00	-1.08E04	0.00	0.0	0.0	1
13	o	20	200	1.1	1.1	15.6	15.6	-0.6	2	0.00E00	-1.67E04	82.8	2	0.00E00	-1.67E04	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.3	2	0.00E00	-1.70E04	42.0	2	0.00E00	-1.70E04	0.00	0.0	0.0	1
14	o	40	200	2.3	2.3	15.6	15.6	-0.6	2	0.00E00	-3.71E04	91.8	2	0.00E00	-3.71E04	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.4	2	0.00E00	-2.62E04	64.8	2	0.00E00	-2.62E04	0.00	0.0	0.0	1
15	o	40	200	2.3	2.3	15.6	15.6	-0.9	2	0.00E00	-5.16E04	127.7	2	0.00E00	-5.16E04	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.6	2	0.00E00	-3.79E04	93.8	2	0.00E00	-3.79E04	0.00	0.0	0.0	1
16	o	40	200	2.3	2.3	15.6	15.6	-1.3	2	0.00E00	-7.62E04	188.5	2	0.00E00	-7.62E04	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-1.0	2	0.00E00	-6.31E04	156.2	2	0.00E00	-6.31E04	0.00	0.0	0.0	1
17	o	40	200	2.3	2.3	15.6	15.6	-2.4	2	0.00E00	-1.47E05	364.2	2	0.00E00	-1.47E05	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-1.5	2	0.00E00	-8.97E04	221.8	2	0.00E00	-8.97E04	0.00	0.0	0.0	1

18	o	40	200	2.3	2.3	15.6	15.6	-6.5	1	0.00E00	3.95E05	977.4	1	0.00E00	3.95E05	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-2.3	2	0.00E00	-1.38E05	340.8	2	0.00E00	-1.38E05	0.00	0.0	0.0	1
19	o	40	200	1.4	1.4	15.6	15.6	-4.1	1	0.00E00	-1.96E05	772.6	1	0.00E00	-1.96E05	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-5.9	2	0.00E00	-3.56E05	881.5	2	0.00E00	-3.56E05	0.00	0.0	0.0	1
20	o	40	200	1.4	1.4	15.6	15.6	-1.9	2	0.00E00	-8.97E04	354.0	2	0.00E00	-8.97E04	0.00	0.0	0.0	1
	v	40	200	1.7	1.7	15.6	15.6	-2.8	2	0.00E00	-1.47E05	489.2	2	0.00E00	-1.47E05	0.00	0.0	0.0	1
21	o	40	200	1.4	1.4	15.6	15.6	-1.3	2	0.00E00	-6.31E04	249.2	2	0.00E00	-6.31E04	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-1.3	2	0.00E00	-7.62E04	188.5	2	0.00E00	-7.62E04	0.00	0.0	0.0	1
22	o	40	200	1.4	1.4	15.6	15.6	-0.8	2	0.00E00	-3.79E04	149.7	2	0.00E00	-3.79E04	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.9	2	0.00E00	-5.16E04	127.7	2	0.00E00	-5.16E04	0.00	0.0	0.0	1
23	o	40	200	1.4	1.4	15.6	15.6	-0.5	2	0.00E00	-2.62E04	103.5	2	0.00E00	-2.62E04	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.6	2	0.00E00	-3.71E04	91.8	2	0.00E00	-3.71E04	0.00	0.0	0.0	1
24	o	40	200	1.4	1.4	15.6	15.6	-0.4	2	0.00E00	-1.70E04	67.0	2	0.00E00	-1.70E04	0.00	0.0	0.0	1
	v	20	200	1.1	1.1	15.6	15.6	-0.6	2	0.00E00	-1.67E04	82.8	2	0.00E00	-1.67E04	0.00	0.0	0.0	1
25	o	40	200	1.4	1.4	15.6	15.6	-0.2	2	0.00E00	-8.29E03	32.7	2	0.00E00	-8.29E03	0.00	0.0	0.0	1
	v	20	200	1.1	1.1	15.6	15.6	-0.4	2	0.00E00	-1.35E04	66.5	2	0.00E00	-1.35E04	0.00	0.0	0.0	1
26	o	40	200	2.3	2.3	15.6	15.6	-0.2	2	0.00E00	-9.16E03	22.7	2	0.00E00	-9.16E03	0.00	0.0	0.0	1
	v	20	200	1.1	1.1	15.6	15.6	-0.4	2	0.00E00	-1.25E04	61.9	2	0.00E00	-1.25E04	0.00	0.0	0.0	1
27	o	40	200	2.3	2.3	15.6	15.6	-0.1	2	0.00E00	-7.41E03	18.3	2	0.00E00	-7.41E03	0.00	0.0	0.0	1
	v	20	200	1.1	1.1	15.6	15.6	-0.4	2	0.00E00	-1.16E04	57.3	2	0.00E00	-1.16E04	0.00	0.0	0.0	1
28	o	40	200	2.3	2.3	15.6	15.6	-0.1	2	0.00E00	-5.26E03	13.0	2	0.00E00	-5.26E03	0.00	0.0	0.0	1
	v	20	200	1.1	1.1	15.6	15.6	-0.3	2	0.00E00	-9.34E03	46.2	2	0.00E00	-9.34E03	0.00	0.0	0.0	1
29	o	40	200	2.3	2.3	15.6	15.6	0.0	2	0.00E00	-2.24E03	5.5	2	0.00E00	-2.24E03	0.00	0.0	0.0	1
	v	20	200	1.1	1.1	15.6	15.6	-0.2	2	0.00E00	-6.46E03	32.0	2	0.00E00	-6.46E03	0.00	0.0	0.0	1
30	o	40	200	2.3	2.3	15.6	15.6	0.0	2	0.00E00	1.60E03	4.0	2	0.00E00	1.60E03	0.00	0.0	0.0	1
	v	20	200	1.1	1.1	15.6	15.6	-0.1	2	0.00E00	-3.66E03	18.1	2	0.00E00	-3.66E03	0.00	0.0	0.0	1
31	o	40	200	2.3	2.3	15.6	15.6	0.0	2	0.00E00	1.65E03	4.1	2	0.00E00	1.65E03	0.00	0.0	0.0	1
	v	20	200	1.1	1.1	15.6	15.6	0.0	2	0.00E00	-1.50E03	7.4	2	0.00E00	-1.50E03	0.00	0.0	0.0	1
32	o	39	200	2.3	2.3	15.6	15.6	0.0	2	0.00E00	9.38E02	2.3	2	0.00E00	9.38E02	0.00	0.0	0.0	1
	v	20	200	1.1	1.1	15.6	15.6	0.0	1	0.00E00	1.30E03	6.4	1	0.00E00	1.30E03	0.00	0.0	0.0	1
33	o	20	200	1.1	1.1	15.6	15.6	0.0	1	0.00E00	-1.05E03	5.2	1	0.00E00	-1.05E03	0.00	0.0	0.0	1
	v	39	200	2.3	2.3	15.6	15.6	0.0	1	0.00E00	1.46E03	3.6	1	0.00E00	1.46E03	0.00	0.0	0.0	1
34	o	20	200	1.1	1.1	15.6	15.6	-0.1	1	0.00E00	-2.98E03	14.7	1	0.00E00	-2.98E03	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	0.0	2	0.00E00	1.65E03	4.1	2	0.00E00	1.65E03	0.00	0.0	0.0	1
35	o	20	200	1.1	1.1	15.6	15.6	-0.2	1	0.00E00	-5.40E03	26.7	1	0.00E00	-5.40E03	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.1	1	0.00E00	-3.68E03	9.1	1	0.00E00	-3.68E03	0.00	0.0	0.0	1
36	o	20	200	1.1	1.1	15.6	15.6	-0.3	1	0.00E00	-7.77E03	38.4	1	0.00E00	-7.77E03	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.1	1	0.00E00	-7.34E03	18.2	1	0.00E00	-7.34E03	0.00	0.0	0.0	1
37	o	20	200	1.1	1.1	15.6	15.6	-0.3	1	0.00E00	-9.44E03	46.7	1	0.00E00	-9.44E03	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.2	1	0.00E00	-1.00E04	24.8	1	0.00E00	-1.00E04	0.00	0.0	0.0	1
38	o	20	200	1.1	1.1	15.6	15.6	-0.4	2	0.00E00	-1.16E04	57.3	2	0.00E00	-1.16E04	0.00	0.0	0.0	1
	v	40	200	1.7	1.7	15.6	15.6	-0.2	1	0.00E00	-1.25E04	41.4	1	0.00E00	-1.25E04	0.00	0.0	0.0	1
39	o	20	200	1.1	1.1	15.6	15.6	-0.4	2	0.00E00	-1.25E04	61.9	2	0.00E00	-1.25E04	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.2	1	0.00E00	-1.27E04	31.5	1	0.00E00	-1.27E04	0.00	0.0	0.0	1
40	o	40	200	2.3	2.3	15.6	15.6	-6.5	1	0.00E00	3.95E05	977.4	1	0.00E00	3.95E05	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-2.3	2	0.00E00	1.38E05	341.4	2	0.00E00	1.38E05	0.00	0.0	0.0	1
41	o	40	200	2.3	2.3	15.6	15.6	-2.6	2	0.00E00	1.59E05	393.7	2	0.00E00	1.59E05	0.00	0.0	0.0	1

	v	40	200	2.3	2.3	15.6	15.6	-1.6	2	0.00E00	9.78E04	242.0	2	0.00E00	9.78E04	0.00	0.0	0.0	1
42	o	40	200	2.3	2.3	15.6	15.6	-1.5	2	0.00E00	8.86E04	219.2	2	0.00E00	8.86E04	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-1.1	2	0.00E00	6.78E04	167.7	2	0.00E00	6.78E04	0.00	0.0	0.0	1
43	o	40	200	2.3	2.3	15.6	15.6	-1.0	2	0.00E00	6.26E04	154.7	2	0.00E00	6.26E04	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.7	2	0.00E00	4.03E04	99.6	2	0.00E00	4.03E04	0.00	0.0	0.0	1
44	o	40	200	2.3	2.3	15.6	15.6	-0.8	2	0.00E00	4.64E04	114.7	2	0.00E00	4.64E04	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.4	2	0.00E00	2.70E04	66.8	2	0.00E00	2.70E04	0.00	0.0	0.0	1
45	o	20	200	1.1	1.1	15.6	15.6	-0.7	2	0.00E00	2.10E04	104.0	2	0.00E00	2.10E04	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.3	2	0.00E00	1.69E04	41.7	2	0.00E00	1.69E04	0.00	0.0	0.0	1
46	o	20	200	1.1	1.1	15.6	15.6	-0.6	2	0.00E00	1.73E04	85.5	2	0.00E00	1.73E04	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.2	1	0.00E00	-1.08E04	26.7	1	0.00E00	-1.08E04	0.00	0.0	0.0	1
47	o	20	200	1.1	1.1	15.6	15.6	-0.4	2	0.00E00	1.30E04	64.2	2	0.00E00	1.30E04	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.2	1	0.00E00	-1.27E04	31.5	1	0.00E00	-1.27E04	0.00	0.0	0.0	1
48	o	20	200	1.1	1.1	15.6	15.6	-0.3	2	0.00E00	9.87E03	48.8	2	0.00E00	9.87E03	0.00	0.0	0.0	1
	v	40	200	1.7	1.7	15.6	15.6	-0.2	1	0.00E00	-1.25E04	41.4	1	0.00E00	-1.25E04	0.00	0.0	0.0	1
49	o	20	200	1.1	1.1	15.6	15.6	-0.3	1	0.00E00	-9.44E03	46.7	1	0.00E00	-9.44E03	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.2	1	0.00E00	-1.00E04	24.8	1	0.00E00	-1.00E04	0.00	0.0	0.0	1
50	o	20	200	1.1	1.1	15.6	15.6	-0.3	1	0.00E00	-7.77E03	38.4	1	0.00E00	-7.77E03	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.1	1	0.00E00	-7.34E03	18.2	1	0.00E00	-7.34E03	0.00	0.0	0.0	1
51	o	20	200	1.1	1.1	15.6	15.6	-0.2	1	0.00E00	-5.40E03	26.7	1	0.00E00	-5.40E03	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.1	2	0.00E00	-4.29E03	10.6	2	0.00E00	-4.29E03	0.00	0.0	0.0	1
52	o	20	200	1.1	1.1	15.6	15.6	-0.1	1	0.00E00	-2.98E03	14.7	1	0.00E00	-2.98E03	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	0.0	2	0.00E00	-1.70E03	4.2	2	0.00E00	-1.70E03	0.00	0.0	0.0	1
53	o	20	200	1.1	1.1	15.6	15.6	0.0	2	0.00E00	-1.15E03	5.7	2	0.00E00	-1.15E03	0.00	0.0	0.0	1
	v	39	200	2.3	2.3	15.6	15.6	0.0	1	0.00E00	1.46E03	3.6	1	0.00E00	1.46E03	0.00	0.0	0.0	1
54	o	39	200	2.3	2.3	15.6	15.6	0.0	1	0.00E00	2.16E02	0.1	1	0.00E00	2.16E02	0.00	0.0	0.0	1
	v	20	200	1.1	1.1	15.6	15.6	0.0	1	0.00E00	1.30E03	6.4	1	0.00E00	1.30E03	0.00	0.0	0.0	1
55	o	40	200	2.3	2.3	15.6	15.6	0.0	2	0.00E00	1.27E03	3.1	2	0.00E00	1.27E03	0.00	0.0	0.0	1
	v	20	200	1.1	1.1	15.6	15.6	-0.1	2	0.00E00	2.84E03	14.0	2	0.00E00	2.84E03	0.00	0.0	0.0	1
56	o	40	200	2.3	2.3	15.6	15.6	-0.1	2	0.00E00	3.48E03	8.6	2	0.00E00	3.48E03	0.00	0.0	0.0	1
	v	20	200	1.1	1.1	15.6	15.6	-0.2	2	0.00E00	4.57E03	22.6	2	0.00E00	4.57E03	0.00	0.0	0.0	1
57	o	40	200	2.3	2.3	15.6	15.6	-0.1	2	0.00E00	5.80E03	14.4	2	0.00E00	5.80E03	0.00	0.0	0.0	1
	v	20	200	1.1	1.1	15.6	15.6	-0.2	2	0.00E00	5.53E03	27.3	2	0.00E00	5.53E03	0.00	0.0	0.0	1
58	o	40	200	2.3	2.3	15.6	15.6	-0.1	2	0.00E00	8.00E03	19.8	2	0.00E00	8.00E03	0.00	0.0	0.0	1
	v	20	200	1.1	1.1	15.6	15.6	-0.2	1	0.00E00	-5.54E03	27.4	1	0.00E00	-5.54E03	0.00	0.0	0.0	1
59	o	40	200	2.3	2.3	15.6	15.6	-0.1	2	0.00E00	8.71E03	21.5	2	0.00E00	8.71E03	0.00	0.0	0.0	1
	v	20	200	1.1	1.1	15.6	15.6	-0.3	1	0.00E00	-7.98E03	39.5	1	0.00E00	-7.98E03	0.00	0.0	0.0	1
60	o	40	200	2.3	2.3	15.6	15.6	-0.1	2	0.00E00	-4.70E03	11.6	2	0.00E00	-4.70E03	0.00	0.0	0.0	1
	v	20	200	1.1	1.1	15.6	15.6	-0.3	1	0.00E00	-9.52E03	47.1	1	0.00E00	-9.52E03	0.00	0.0	0.0	1
61	o	39	200	2.3	2.3	15.6	15.6	0.0	2	0.00E00	-3.26E02	0.2	2	0.00E00	-3.26E02	0.00	0.0	0.0	1
	v	20	200	1.1	1.1	15.6	15.6	0.0	2	0.00E00	-1.15E03	5.7	2	0.00E00	-1.15E03	0.00	0.0	0.0	1
62	o	40	200	2.3	2.3	15.6	15.6	0.0	2	0.00E00	-1.70E03	4.2	2	0.00E00	-1.70E03	0.00	0.0	0.0	1
	v	20	200	1.1	1.1	15.6	15.6	-0.1	2	0.00E00	-2.59E03	12.8	2	0.00E00	-2.59E03	0.00	0.0	0.0	1
63	o	40	200	2.3	2.3	15.6	15.6	-0.1	2	0.00E00	-4.29E03	10.6	2	0.00E00	-4.29E03	0.00	0.0	0.0	1
	v	20	200	1.1	1.1	15.6	15.6	-0.1	2	0.00E00	-3.73E03	18.4	2	0.00E00	-3.73E03	0.00	0.0	0.0	1
64	o	40	200	2.3	2.3	15.6	15.6	-0.1	2	0.00E00	-6.74E03	16.7	2	0.00E00	-6.74E03	0.00	0.0	0.0	1
	v	20	200	1.1	1.1	15.6	15.6	-0.2	1	0.00E00	5.32E03	26.3	1	0.00E00	5.32E03	0.00	0.0	0.0	1

65	o	40	200	2.3	2.3	15.6	15.6	-0.1	2	0.00E00	-8.87E03	21.9	2	0.00E00	-8.87E03	0.00	0.0	0.0	1
	v	20	200	1.1	1.1	15.6	15.6	-0.3	1	0.00E00	8.51E03	42.1	1	0.00E00	8.51E03	0.00	0.0	0.0	1
66	o	40	200	2.3	2.3	15.6	15.6	-0.2	2	0.00E00	-9.35E03	23.1	2	0.00E00	-9.35E03	0.00	0.0	0.0	1
	v	20	200	1.1	1.1	15.6	15.6	-0.4	1	0.00E00	1.14E04	56.4	1	0.00E00	1.14E04	0.00	0.0	0.0	1
67	o	40	200	2.3	2.3	15.6	15.6	-0.1	2	0.00E00	-4.78E03	11.8	2	0.00E00	-4.78E03	0.00	0.0	0.0	1
	v	20	200	1.1	1.1	15.6	15.6	-0.4	1	0.00E00	1.31E04	65.0	1	0.00E00	1.31E04	0.00	0.0	0.0	1
68	o	40	200	1.4	1.4	15.6	15.6	-0.2	2	0.00E00	-7.27E03	28.7	2	0.00E00	-7.27E03	0.00	0.0	0.0	1
	v	20	200	1.1	1.1	15.6	15.6	-0.6	2	0.00E00	1.73E04	85.5	2	0.00E00	1.73E04	0.00	0.0	0.0	1
69	o	40	200	1.4	1.4	15.6	15.6	-0.4	2	0.00E00	1.69E04	66.6	2	0.00E00	1.69E04	0.00	0.0	0.0	1
	v	20	200	1.1	1.1	15.6	15.6	-0.7	2	0.00E00	2.10E04	104.0	2	0.00E00	2.10E04	0.00	0.0	0.0	1
70	o	40	200	1.4	1.4	15.6	15.6	-0.6	2	0.00E00	2.70E04	106.7	2	0.00E00	2.70E04	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.8	2	0.00E00	4.64E04	114.7	2	0.00E00	4.64E04	0.00	0.0	0.0	1
71	o	40	200	1.4	1.4	15.6	15.6	-0.8	2	0.00E00	4.03E04	158.9	2	0.00E00	4.03E04	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-1.0	2	0.00E00	6.26E04	154.7	2	0.00E00	6.26E04	0.00	0.0	0.0	1
72	o	40	200	1.4	1.4	15.6	15.6	-1.4	2	0.00E00	6.78E04	267.6	2	0.00E00	6.78E04	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-1.5	2	0.00E00	8.86E04	219.2	2	0.00E00	8.86E04	0.00	0.0	0.0	1
73	o	40	200	1.4	1.4	15.6	15.6	-2.0	2	0.00E00	9.78E04	386.2	2	0.00E00	9.78E04	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-2.6	2	0.00E00	1.59E05	393.7	2	0.00E00	1.59E05	0.00	0.0	0.0	1
74	o	40	200	1.4	1.4	15.6	15.6	-4.4	1	0.00E00	2.11E05	834.4	1	0.00E00	2.11E05	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-6.2	2	0.00E00	3.76E05	929.8	2	0.00E00	3.76E05	0.00	0.0	0.0	1
75	o	20	200	1.1	1.1	15.6	15.6	-0.4	1	0.00E00	1.18E04	58.2	1	0.00E00	1.18E04	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.2	1	0.00E00	1.24E04	30.6	1	0.00E00	1.24E04	0.00	0.0	0.0	1
76	o	20	200	1.1	1.1	15.6	15.6	-0.4	1	0.00E00	1.25E04	61.7	1	0.00E00	1.25E04	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.2	1	0.00E00	1.18E04	29.1	1	0.00E00	1.18E04	0.00	0.0	0.0	1
77	o	20	200	1.1	1.1	15.6	15.6	-0.4	1	0.00E00	1.15E04	56.8	1	0.00E00	1.15E04	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.2	1	0.00E00	9.15E03	22.6	1	0.00E00	9.15E03	0.00	0.0	0.0	1
78	o	20	200	1.1	1.1	15.6	15.6	-0.3	1	0.00E00	9.19E03	45.5	1	0.00E00	9.19E03	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.1	1	0.00E00	6.10E03	15.1	1	0.00E00	6.10E03	0.00	0.0	0.0	1
79	o	20	200	1.1	1.1	15.6	15.6	-0.2	1	0.00E00	6.27E03	31.0	1	0.00E00	6.27E03	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.1	2	0.00E00	3.48E03	8.6	2	0.00E00	3.48E03	0.00	0.0	0.0	1
80	o	20	200	1.1	1.1	15.6	15.6	-0.1	1	0.00E00	3.39E03	16.8	1	0.00E00	3.39E03	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	0.0	1	0.00E00	-1.42E03	3.5	1	0.00E00	-1.42E03	0.00	0.0	0.0	1
81	o	20	200	1.1	1.1	15.6	15.6	0.0	2	0.00E00	1.25E03	6.2	2	0.00E00	1.25E03	0.00	0.0	0.0	1
	v	39	200	2.3	2.3	15.6	15.6	0.0	1	0.00E00	-5.17E02	0.3	1	0.00E00	-5.17E02	0.00	0.0	0.0	1
82	o	40	200	2.3	2.3	15.6	15.6	-0.1	2	0.00E00	8.79E03	21.7	2	0.00E00	8.79E03	0.00	0.0	0.0	1
	v	20	200	1.1	1.1	15.6	15.6	-0.5	2	0.00E00	1.57E04	77.7	2	0.00E00	1.57E04	0.00	0.0	0.0	1
83	o	40	200	2.3	2.3	15.6	15.6	-0.1	2	0.00E00	6.73E03	16.7	2	0.00E00	6.73E03	0.00	0.0	0.0	1
	v	20	200	1.1	1.1	15.6	15.6	-0.5	2	0.00E00	1.43E04	70.5	2	0.00E00	1.43E04	0.00	0.0	0.0	1
84	o	40	200	2.3	2.3	15.6	15.6	-0.1	2	0.00E00	4.44E03	11.0	2	0.00E00	4.44E03	0.00	0.0	0.0	1
	v	20	200	1.1	1.1	15.6	15.6	-0.4	2	0.00E00	1.14E04	56.3	2	0.00E00	1.14E04	0.00	0.0	0.0	1
85	o	40	200	2.3	2.3	15.6	15.6	0.0	1	0.00E00	-2.41E03	6.0	1	0.00E00	-2.41E03	0.00	0.0	0.0	1
	v	20	200	1.1	1.1	15.6	15.6	-0.3	2	0.00E00	7.88E03	39.0	2	0.00E00	7.88E03	0.00	0.0	0.0	1
86	o	40	200	2.3	2.3	15.6	15.6	0.0	1	0.00E00	-1.65E03	4.1	1	0.00E00	-1.65E03	0.00	0.0	0.0	1
	v	20	200	1.1	1.1	15.6	15.6	-0.1	2	0.00E00	4.53E03	22.4	2	0.00E00	4.53E03	0.00	0.0	0.0	1
87	o	40	200	2.3	2.3	15.6	15.6	0.0	2	0.00E00	-1.20E03	3.0	2	0.00E00	-1.20E03	0.00	0.0	0.0	1
	v	20	200	1.1	1.1	15.6	15.6	-0.1	2	0.00E00	1.93E03	9.6	2	0.00E00	1.93E03	0.00	0.0	0.0	1
88	o	39	200	2.3	2.3	15.6	15.6	0.0	2	0.00E00	-5.70E02	0.3	2	0.00E00	-5.70E02	0.00	0.0	0.0	1

	v	20	200	1.1	1.1	15.6	15.6	0.0	1	0.00E00	-6.92E02	3.4	1	0.00E00	-6.92E02	0.00	0.0	0.0	1
89	o	20	200	1.1	1.1	15.6	15.6	0.0	1	0.00E00	1.09E03	5.4	1	0.00E00	1.09E03	0.00	0.0	0.0	1
	v	39	200	2.3	2.3	15.6	15.6	0.0	2	0.00E00	-5.70E02	0.3	2	0.00E00	-5.70E02	0.00	0.0	0.0	1
90	o	20	200	1.1	1.1	15.6	15.6	-0.1	1	0.00E00	3.39E03	16.8	1	0.00E00	3.39E03	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	0.0	1	0.00E00	-1.42E03	3.5	1	0.00E00	-1.42E03	0.00	0.0	0.0	1
91	o	20	200	1.1	1.1	15.6	15.6	-0.2	1	0.00E00	6.27E03	31.0	1	0.00E00	6.27E03	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	0.0	1	0.00E00	2.40E03	5.9	1	0.00E00	2.40E03	0.00	0.0	0.0	1
92	o	20	200	1.1	1.1	15.6	15.6	-0.3	1	0.00E00	9.19E03	45.5	1	0.00E00	9.19E03	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.1	1	0.00E00	6.10E03	15.1	1	0.00E00	6.10E03	0.00	0.0	0.0	1
93	o	20	200	1.1	1.1	15.6	15.6	-0.4	1	0.00E00	1.15E04	56.8	1	0.00E00	1.15E04	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.2	1	0.00E00	9.15E03	22.6	1	0.00E00	9.15E03	0.00	0.0	0.0	1
94	o	20	200	1.1	1.1	15.6	15.6	-0.5	2	0.00E00	1.43E04	70.5	2	0.00E00	1.43E04	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.2	1	0.00E00	1.18E04	29.1	1	0.00E00	1.18E04	0.00	0.0	0.0	1
95	o	20	200	1.1	1.1	15.6	15.6	-0.5	2	0.00E00	1.57E04	77.7	2	0.00E00	1.57E04	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.2	1	0.00E00	1.24E04	30.6	1	0.00E00	1.24E04	0.00	0.0	0.0	1
96	o	20	200	1.1	1.1	15.6	15.6	-0.5	2	0.00E00	-1.45E04	71.5	2	0.00E00	-1.45E04	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.2	1	0.00E00	1.11E04	27.4	1	0.00E00	1.11E04	0.00	0.0	0.0	1
97	o	20	200	1.1	1.1	15.6	15.6	-0.4	2	0.00E00	-1.32E04	65.1	2	0.00E00	-1.32E04	0.00	0.0	0.0	1
	v	40	200	1.7	1.7	15.6	15.6	-0.3	1	0.00E00	1.66E04	55.2	1	0.00E00	1.66E04	0.00	0.0	0.0	1
98	o	20	200	1.1	1.1	15.6	15.6	-0.4	1	0.00E00	-1.14E04	56.4	1	0.00E00	-1.14E04	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.2	1	0.00E00	1.39E04	34.3	1	0.00E00	1.39E04	0.00	0.0	0.0	1
99	o	20	200	1.1	1.1	15.6	15.6	-0.3	1	0.00E00	-9.06E03	44.8	1	0.00E00	-9.06E03	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.2	1	0.00E00	1.02E04	25.2	1	0.00E00	1.02E04	0.00	0.0	0.0	1
100	o	20	200	1.1	1.1	15.6	15.6	-0.2	1	0.00E00	-6.09E03	30.1	1	0.00E00	-6.09E03	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.1	1	0.00E00	6.81E03	16.8	1	0.00E00	6.81E03	0.00	0.0	0.0	1
101	o	20	200	1.1	1.1	15.6	15.6	-0.1	1	0.00E00	-3.30E03	16.3	1	0.00E00	-3.30E03	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.1	1	0.00E00	4.58E03	11.3	1	0.00E00	4.58E03	0.00	0.0	0.0	1
102	o	39	200	2.3	2.3	15.6	15.6	0.0	1	0.00E00	-2.18E03	5.4	1	0.00E00	-2.18E03	0.00	0.0	0.0	1
	v	20	200	1.1	1.1	15.6	15.6	-0.1	1	0.00E00	1.88E03	9.3	1	0.00E00	1.88E03	0.00	0.0	0.0	1
103	o	20	200	1.1	1.1	15.6	15.6	-0.6	2	0.00E00	-1.79E04	88.8	2	0.00E00	-1.79E04	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.2	1	0.00E00	1.41E04	34.8	1	0.00E00	1.41E04	0.00	0.0	0.0	1
104	o	20	200	1.1	1.1	15.6	15.6	-0.5	1	0.00E00	-1.58E04	78.4	1	0.00E00	-1.58E04	0.00	0.0	0.0	1
	v	40	200	1.7	1.7	15.6	15.6	-0.4	1	0.00E00	2.00E04	66.6	1	0.00E00	2.00E04	0.00	0.0	0.0	1
105	o	20	200	1.1	1.1	15.6	15.6	-0.5	1	0.00E00	-1.41E04	69.6	1	0.00E00	-1.41E04	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.2	1	0.00E00	1.49E04	36.9	1	0.00E00	1.49E04	0.00	0.0	0.0	1
106	o	20	200	1.1	1.1	15.6	15.6	-0.3	1	0.00E00	-1.04E04	51.5	1	0.00E00	-1.04E04	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.2	1	0.00E00	9.80E03	24.2	1	0.00E00	9.80E03	0.00	0.0	0.0	1
107	o	20	200	1.1	1.1	15.6	15.6	-0.2	1	0.00E00	-6.48E03	32.1	1	0.00E00	-6.48E03	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.1	1	0.00E00	6.20E03	15.3	1	0.00E00	6.20E03	0.00	0.0	0.0	1
108	o	40	200	2.3	2.3	15.6	15.6	-0.1	1	0.00E00	-6.62E03	16.4	1	0.00E00	-6.62E03	0.00	0.0	0.0	1
	v	20	200	1.1	1.1	15.6	15.6	-0.1	1	0.00E00	2.43E03	12.0	1	0.00E00	2.43E03	0.00	0.0	0.0	1
109	o	40	200	2.3	2.3	15.6	15.6	0.0	1	0.00E00	-2.57E03	6.4	1	0.00E00	-2.57E03	0.00	0.0	0.0	1
	v	20	200	1.1	1.1	15.6	15.6	-0.1	2	0.00E00	-1.54E03	7.6	2	0.00E00	-1.54E03	0.00	0.0	0.0	1
110	o	40	200	2.3	2.3	15.6	15.6	-0.7	2	0.00E00	-4.04E04	99.9	2	0.00E00	-4.04E04	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.5	1	0.00E00	2.78E04	68.9	1	0.00E00	2.78E04	0.00	0.0	0.0	1
111	o	40	200	2.3	2.3	15.6	15.6	-0.6	1	0.00E00	-3.68E04	91.1	1	0.00E00	-3.68E04	0.00	0.0	0.0	1
	v	40	200	1.7	1.7	15.6	15.6	-0.4	1	0.00E00	2.27E04	75.3	1	0.00E00	2.27E04	0.00	0.0	0.0	1

112	o	40	200	2.3	2.3	15.6	15.6	-0.5	1	0.00E00	-3.12E04	77.1	1	0.00E00	-3.12E04	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.2	1	0.00E00	1.42E04	35.1	1	0.00E00	1.42E04	0.00	0.0	0.0	1
113	o	40	200	2.3	2.3	15.6	15.6	-0.4	1	0.00E00	-2.18E04	53.8	1	0.00E00	-2.18E04	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.1	1	0.00E00	7.90E03	19.5	1	0.00E00	7.90E03	0.00	0.0	0.0	1
114	o	40	200	2.3	2.3	15.6	15.6	-0.2	1	0.00E00	-1.35E04	33.3	1	0.00E00	-1.35E04	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.1	2	0.00E00	-7.13E03	17.6	2	0.00E00	-7.13E03	0.00	0.0	0.0	1
115	o	40	200	2.3	2.3	15.6	15.6	-0.1	1	0.00E00	-7.44E03	18.4	1	0.00E00	-7.44E03	0.00	0.0	0.0	1
	v	20	200	1.1	1.1	15.6	15.6	-0.1	2	0.00E00	-3.57E03	17.7	2	0.00E00	-3.57E03	0.00	0.0	0.0	1
116	o	40	200	2.3	2.3	15.6	15.6	-0.1	1	0.00E00	-3.30E03	8.1	1	0.00E00	-3.30E03	0.00	0.0	0.0	1
	v	20	200	1.1	1.1	15.6	15.6	-0.1	2	0.00E00	-3.71E03	18.4	2	0.00E00	-3.71E03	0.00	0.0	0.0	1
117	o	40	200	2.3	2.3	15.6	15.6	-0.9	2	0.00E00	-5.53E04	136.9	2	0.00E00	-5.53E04	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.5	1	0.00E00	3.24E04	80.2	1	0.00E00	3.24E04	0.00	0.0	0.0	1
118	o	40	200	2.3	2.3	15.6	15.6	-0.8	1	0.00E00	-4.99E04	123.3	1	0.00E00	-4.99E04	0.00	0.0	0.0	1
	v	40	200	1.7	1.7	15.6	15.6	-0.4	1	0.00E00	2.23E04	74.2	1	0.00E00	2.23E04	0.00	0.0	0.0	1
119	o	40	200	2.3	2.3	15.6	15.6	-0.6	1	0.00E00	-3.72E04	92.1	1	0.00E00	-3.72E04	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.3	2	0.00E00	-1.52E04	37.7	2	0.00E00	-1.52E04	0.00	0.0	0.0	1
120	o	40	200	2.3	2.3	15.6	15.6	-0.4	1	0.00E00	-2.43E04	60.2	1	0.00E00	-2.43E04	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.2	2	0.00E00	-1.40E04	34.7	2	0.00E00	-1.40E04	0.00	0.0	0.0	1
121	o	40	200	2.3	2.3	15.6	15.6	-0.3	1	0.00E00	-1.58E04	39.1	1	0.00E00	-1.58E04	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.2	2	0.00E00	-1.40E04	34.6	2	0.00E00	-1.40E04	0.00	0.0	0.0	1
122	o	40	200	2.3	2.3	15.6	15.6	-0.2	1	0.00E00	-9.19E03	22.7	1	0.00E00	-9.19E03	0.00	0.0	0.0	1
	v	20	200	1.1	1.1	15.6	15.6	-0.2	2	0.00E00	-7.01E03	34.7	2	0.00E00	-7.01E03	0.00	0.0	0.0	1
123	o	40	200	2.3	2.3	15.6	15.6	-0.1	1	0.00E00	-4.29E03	10.6	1	0.00E00	-4.29E03	0.00	0.0	0.0	1
	v	20	200	1.1	1.1	15.6	15.6	-0.2	2	0.00E00	-6.80E03	33.6	2	0.00E00	-6.80E03	0.00	0.0	0.0	1
124	o	40	200	2.3	2.3	15.6	15.6	-1.2	2	0.00E00	-7.33E04	181.4	2	0.00E00	-7.33E04	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.7	2	0.00E00	-4.44E04	109.7	2	0.00E00	-4.44E04	0.00	0.0	0.0	1
125	o	40	200	2.3	2.3	15.6	15.6	-1.1	1	0.00E00	-6.83E04	169.0	1	0.00E00	-6.83E04	0.00	0.0	0.0	1
	v	40	200	1.7	1.7	15.6	15.6	-0.6	2	0.00E00	-3.05E04	101.4	2	0.00E00	-3.05E04	0.00	0.0	0.0	1
126	o	40	200	2.3	2.3	15.6	15.6	-0.7	1	0.00E00	-4.33E04	107.1	1	0.00E00	-4.33E04	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.4	2	0.00E00	-2.66E04	65.8	2	0.00E00	-2.66E04	0.00	0.0	0.0	1
127	o	40	200	2.3	2.3	15.6	15.6	-0.5	1	0.00E00	-2.93E04	72.5	1	0.00E00	-2.93E04	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.4	2	0.00E00	-2.58E04	63.7	2	0.00E00	-2.58E04	0.00	0.0	0.0	1
128	o	40	200	2.3	2.3	15.6	15.6	-0.3	1	0.00E00	-1.87E04	46.2	1	0.00E00	-1.87E04	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.4	2	0.00E00	-2.39E04	59.1	2	0.00E00	-2.39E04	0.00	0.0	0.0	1
129	o	40	200	2.3	2.3	15.6	15.6	-0.2	1	0.00E00	-1.04E04	25.6	1	0.00E00	-1.04E04	0.00	0.0	0.0	1
	v	20	200	1.1	1.1	15.6	15.6	-0.4	2	0.00E00	-1.14E04	56.4	2	0.00E00	-1.14E04	0.00	0.0	0.0	1
130	o	40	200	2.3	2.3	15.6	15.6	-0.1	1	0.00E00	-4.57E03	11.3	1	0.00E00	-4.57E03	0.00	0.0	0.0	1
	v	20	200	1.1	1.1	15.6	15.6	-0.3	2	0.00E00	-1.03E04	50.7	2	0.00E00	-1.03E04	0.00	0.0	0.0	1
131	o	40	200	2.3	2.3	15.6	15.6	-2.6	1	0.00E00	-1.57E05	388.4	1	0.00E00	-1.57E05	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-1.1	2	0.00E00	-6.54E04	161.7	2	0.00E00	-6.54E04	0.00	0.0	0.0	1
132	o	40	200	2.3	2.3	15.6	15.6	-1.4	1	0.00E00	-8.19E04	202.7	1	0.00E00	-8.19E04	0.00	0.0	0.0	1
	v	40	200	1.7	1.7	15.6	15.6	-1.0	2	0.00E00	-5.06E04	168.3	2	0.00E00	-5.06E04	0.00	0.0	0.0	1
133	o	40	200	2.3	2.3	15.6	15.6	-0.8	1	0.00E00	-5.05E04	125.0	1	0.00E00	-5.05E04	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.8	2	0.00E00	-4.91E04	121.5	2	0.00E00	-4.91E04	0.00	0.0	0.0	1
134	o	40	200	2.3	2.3	15.6	15.6	-0.5	1	0.00E00	-3.26E04	80.5	1	0.00E00	-3.26E04	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.7	2	0.00E00	-4.19E04	103.7	2	0.00E00	-4.19E04	0.00	0.0	0.0	1
135	o	40	200	2.3	2.3	15.6	15.6	-0.3	1	0.00E00	-1.92E04	47.5	1	0.00E00	-1.92E04	0.00	0.0	0.0	1

	v	40	200	2.3	2.3	15.6	15.6	-0.6	2	0.00E00	-3.45E04	85.3	2	0.00E00	-3.45E04	0.00	0.0	0.0	1
136	o	40	200	2.3	2.3	15.6	15.6	-0.2	1	0.00E00	-9.65E03	23.9	1	0.00E00	-9.65E03	0.00	0.0	0.0	1
	v	20	200	1.1	1.1	15.6	15.6	-0.5	2	0.00E00	-1.56E04	77.3	2	0.00E00	-1.56E04	0.00	0.0	0.0	1
137	o	40	200	2.3	2.3	15.6	15.6	-0.1	2	0.00E00	5.26E03	13.0	2	0.00E00	5.26E03	0.00	0.0	0.0	1
	v	20	200	1.1	1.1	15.6	15.6	-0.4	2	0.00E00	-1.32E04	65.1	2	0.00E00	-1.32E04	0.00	0.0	0.0	1
138	o	40	200	2.3	2.3	15.6	15.6	-3.0	1	0.00E00	-1.80E05	444.4	1	0.00E00	-1.80E05	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-1.8	2	0.00E00	-1.11E05	274.7	2	0.00E00	-1.11E05	0.00	0.0	0.0	1
139	o	40	200	2.3	2.3	15.6	15.6	-1.4	1	0.00E00	-8.62E04	213.2	1	0.00E00	-8.62E04	0.00	0.0	0.0	1
	v	40	200	1.7	1.7	15.6	15.6	-2.2	2	0.00E00	-1.15E05	381.3	2	0.00E00	-1.15E05	0.00	0.0	0.0	1
140	o	40	200	2.3	2.3	15.6	15.6	-0.9	1	0.00E00	-5.14E04	127.2	1	0.00E00	-5.14E04	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-1.2	2	0.00E00	-7.33E04	181.4	2	0.00E00	-7.33E04	0.00	0.0	0.0	1
141	o	40	200	2.3	2.3	15.6	15.6	-0.5	1	0.00E00	-3.03E04	75.0	1	0.00E00	-3.03E04	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.9	2	0.00E00	-5.53E04	136.9	2	0.00E00	-5.53E04	0.00	0.0	0.0	1
142	o	40	200	2.3	2.3	15.6	15.6	-0.3	2	0.00E00	-1.87E04	46.3	2	0.00E00	-1.87E04	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.7	2	0.00E00	-4.04E04	99.9	2	0.00E00	-4.04E04	0.00	0.0	0.0	1
143	o	40	200	2.3	2.3	15.6	15.6	-0.2	2	0.00E00	-9.45E03	23.4	2	0.00E00	-9.45E03	0.00	0.0	0.0	1
	v	20	200	1.1	1.1	15.6	15.6	-0.6	2	0.00E00	-1.79E04	88.8	2	0.00E00	-1.79E04	0.00	0.0	0.0	1
144	o	40	200	2.3	2.3	15.6	15.6	-0.1	2	0.00E00	6.28E03	15.5	2	0.00E00	6.28E03	0.00	0.0	0.0	1
	v	20	200	1.1	1.1	15.6	15.6	-0.5	2	0.00E00	-1.45E04	71.5	2	0.00E00	-1.45E04	0.00	0.0	0.0	1
145	o	40	200	2.3	2.3	15.6	15.6	-3.0	1	0.00E00	-1.80E05	444.4	1	0.00E00	-1.80E05	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-2.3	2	0.00E00	1.37E05	339.8	2	0.00E00	1.37E05	0.00	0.0	0.0	1
146	o	40	200	2.3	2.3	15.6	15.6	-1.5	2	0.00E00	-9.19E04	227.4	2	0.00E00	-9.19E04	0.00	0.0	0.0	1
	v	40	200	1.7	1.7	15.6	15.6	-1.4	2	0.00E00	7.11E04	236.3	2	0.00E00	7.11E04	0.00	0.0	0.0	1
147	o	40	200	2.3	2.3	15.6	15.6	-1.1	2	0.00E00	-6.54E04	161.8	2	0.00E00	-6.54E04	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.9	1	0.00E00	-5.19E04	128.4	1	0.00E00	-5.19E04	0.00	0.0	0.0	1
148	o	40	200	2.3	2.3	15.6	15.6	-0.7	2	0.00E00	-4.35E04	107.6	2	0.00E00	-4.35E04	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.6	1	0.00E00	-3.89E04	96.3	1	0.00E00	-3.89E04	0.00	0.0	0.0	1
149	o	40	200	2.3	2.3	15.6	15.6	-0.5	2	0.00E00	-3.05E04	75.4	2	0.00E00	-3.05E04	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.5	1	0.00E00	-3.00E04	74.3	1	0.00E00	-3.00E04	0.00	0.0	0.0	1
150	o	40	200	2.3	2.3	15.6	15.6	-0.3	2	0.00E00	-2.04E04	50.4	2	0.00E00	-2.04E04	0.00	0.0	0.0	1
	v	20	200	1.1	1.1	15.6	15.6	-0.4	1	0.00E00	-1.34E04	66.0	1	0.00E00	-1.34E04	0.00	0.0	0.0	1
151	o	40	200	2.3	2.3	15.6	15.6	-0.2	2	0.00E00	-1.38E04	34.0	2	0.00E00	-1.38E04	0.00	0.0	0.0	1
	v	20	200	1.1	1.1	15.6	15.6	-0.4	1	0.00E00	-1.10E04	54.2	1	0.00E00	-1.10E04	0.00	0.0	0.0	1
152	o	40	200	2.3	2.3	15.6	15.6	-2.6	1	0.00E00	-1.57E05	388.4	1	0.00E00	-1.57E05	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-1.6	2	0.00E00	9.96E04	246.3	2	0.00E00	9.96E04	0.00	0.0	0.0	1
153	o	40	200	2.3	2.3	15.6	15.6	-1.4	1	0.00E00	-8.19E04	202.7	1	0.00E00	-8.19E04	0.00	0.0	0.0	1
	v	40	200	1.7	1.7	15.6	15.6	-1.4	2	0.00E00	7.17E04	238.1	2	0.00E00	7.17E04	0.00	0.0	0.0	1
154	o	40	200	2.3	2.3	15.6	15.6	-0.8	2	0.00E00	-5.08E04	125.5	2	0.00E00	-5.08E04	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.7	2	0.00E00	4.41E04	109.2	2	0.00E00	4.41E04	0.00	0.0	0.0	1
155	o	40	200	2.3	2.3	15.6	15.6	-0.6	2	0.00E00	-3.93E04	97.1	2	0.00E00	-3.93E04	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.5	2	0.00E00	2.84E04	70.2	2	0.00E00	2.84E04	0.00	0.0	0.0	1
156	o	40	200	2.3	2.3	15.6	15.6	-0.5	2	0.00E00	-2.94E04	72.6	2	0.00E00	-2.94E04	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.4	1	0.00E00	-2.22E04	55.0	1	0.00E00	-2.22E04	0.00	0.0	0.0	1
157	o	40	200	2.3	2.3	15.6	15.6	-0.3	2	0.00E00	-2.08E04	51.4	2	0.00E00	-2.08E04	0.00	0.0	0.0	1
	v	20	200	1.1	1.1	15.6	15.6	-0.3	1	0.00E00	-1.05E04	51.8	1	0.00E00	-1.05E04	0.00	0.0	0.0	1
158	o	40	200	2.3	2.3	15.6	15.6	-0.2	2	0.00E00	-1.42E04	35.0	2	0.00E00	-1.42E04	0.00	0.0	0.0	1
	v	20	200	1.1	1.1	15.6	15.6	-0.3	1	0.00E00	-9.03E03	44.7	1	0.00E00	-9.03E03	0.00	0.0	0.0	1

159	o	40	200	2.3	2.3	15.6	15.6	-1.2	1	0.00E00	-6.99E04	172.9	1	0.00E00	-6.99E04	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-1.2	2	0.00E00	7.19E04	177.8	2	0.00E00	7.19E04	0.00	0.0	0.0	1
160	o	40	200	2.3	2.3	15.6	15.6	-1.1	1	0.00E00	-6.83E04	169.0	1	0.00E00	-6.83E04	0.00	0.0	0.0	1
	v	40	200	1.7	1.7	15.6	15.6	-1.1	2	0.00E00	5.65E04	187.7	2	0.00E00	5.65E04	0.00	0.0	0.0	1
161	o	40	200	2.3	2.3	15.6	15.6	-0.7	1	0.00E00	-4.33E04	107.1	1	0.00E00	-4.33E04	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.6	2	0.00E00	3.67E04	90.8	2	0.00E00	3.67E04	0.00	0.0	0.0	1
162	o	40	200	2.3	2.3	15.6	15.6	-0.5	1	0.00E00	-2.93E04	72.5	1	0.00E00	-2.93E04	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.4	2	0.00E00	2.53E04	62.5	2	0.00E00	2.53E04	0.00	0.0	0.0	1
163	o	40	200	2.3	2.3	15.6	15.6	-0.4	2	0.00E00	-2.40E04	59.3	2	0.00E00	-2.40E04	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.3	2	0.00E00	1.98E04	49.0	2	0.00E00	1.98E04	0.00	0.0	0.0	1
164	o	40	200	2.3	2.3	15.6	15.6	-0.3	2	0.00E00	-1.82E04	44.9	2	0.00E00	-1.82E04	0.00	0.0	0.0	1
	v	20	200	1.1	1.1	15.6	15.6	-0.3	2	0.00E00	8.98E03	44.4	2	0.00E00	8.98E03	0.00	0.0	0.0	1
165	o	40	200	2.3	2.3	15.6	15.6	-0.2	2	0.00E00	-1.27E04	31.5	2	0.00E00	-1.27E04	0.00	0.0	0.0	1
	v	20	200	1.1	1.1	15.6	15.6	-0.2	2	0.00E00	7.26E03	35.9	2	0.00E00	7.26E03	0.00	0.0	0.0	1
166	o	40	200	2.3	2.3	15.6	15.6	-0.8	1	0.00E00	-5.04E04	124.6	1	0.00E00	-5.04E04	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.8	2	0.00E00	4.74E04	117.1	2	0.00E00	4.74E04	0.00	0.0	0.0	1
167	o	40	200	2.3	2.3	15.6	15.6	-0.8	1	0.00E00	-4.99E04	123.3	1	0.00E00	-4.99E04	0.00	0.0	0.0	1
	v	40	200	1.7	1.7	15.6	15.6	-0.8	2	0.00E00	4.36E04	145.0	2	0.00E00	4.36E04	0.00	0.0	0.0	1
168	o	40	200	2.3	2.3	15.6	15.6	-0.6	1	0.00E00	-3.72E04	92.1	1	0.00E00	-3.72E04	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.5	2	0.00E00	3.29E04	81.3	2	0.00E00	3.29E04	0.00	0.0	0.0	1
169	o	40	200	2.3	2.3	15.6	15.6	-0.4	1	0.00E00	-2.43E04	60.2	1	0.00E00	-2.43E04	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.4	2	0.00E00	2.15E04	53.1	2	0.00E00	2.15E04	0.00	0.0	0.0	1
170	o	40	200	2.3	2.3	15.6	15.6	-0.3	2	0.00E00	-1.71E04	42.4	2	0.00E00	-1.71E04	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.3	2	0.00E00	1.60E04	39.5	2	0.00E00	1.60E04	0.00	0.0	0.0	1
171	o	40	200	2.3	2.3	15.6	15.6	-0.2	2	0.00E00	-1.41E04	35.0	2	0.00E00	-1.41E04	0.00	0.0	0.0	1
	v	20	200	1.1	1.1	15.6	15.6	-0.2	2	0.00E00	7.21E03	35.7	2	0.00E00	7.21E03	0.00	0.0	0.0	1
172	o	40	200	2.3	2.3	15.6	15.6	-0.2	2	0.00E00	-1.01E04	25.0	2	0.00E00	-1.01E04	0.00	0.0	0.0	1
	v	20	200	1.1	1.1	15.6	15.6	-0.2	2	0.00E00	6.44E03	31.9	2	0.00E00	6.44E03	0.00	0.0	0.0	1
173	o	40	200	2.3	2.3	15.6	15.6	-0.6	2	0.00E00	3.55E04	87.9	2	0.00E00	3.55E04	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.5	2	0.00E00	3.24E04	80.1	2	0.00E00	3.24E04	0.00	0.0	0.0	1
174	o	40	200	2.3	2.3	15.6	15.6	-0.6	1	0.00E00	-3.68E04	91.1	1	0.00E00	-3.68E04	0.00	0.0	0.0	1
	v	40	200	1.7	1.7	15.6	15.6	-0.6	2	0.00E00	3.23E04	107.2	2	0.00E00	3.23E04	0.00	0.0	0.0	1
175	o	40	200	2.3	2.3	15.6	15.6	-0.5	1	0.00E00	-3.12E04	77.1	1	0.00E00	-3.12E04	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.4	2	0.00E00	2.69E04	66.5	2	0.00E00	2.69E04	0.00	0.0	0.0	1
176	o	40	200	2.3	2.3	15.6	15.6	-0.4	1	0.00E00	-2.18E04	53.8	1	0.00E00	-2.18E04	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.3	2	0.00E00	1.94E04	48.0	2	0.00E00	1.94E04	0.00	0.0	0.0	1
177	o	40	200	2.3	2.3	15.6	15.6	-0.2	1	0.00E00	-1.35E04	33.3	1	0.00E00	-1.35E04	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.2	2	0.00E00	1.30E04	32.0	2	0.00E00	1.30E04	0.00	0.0	0.0	1
178	o	40	200	2.3	2.3	15.6	15.6	-0.2	2	0.00E00	-9.68E03	24.0	2	0.00E00	-9.68E03	0.00	0.0	0.0	1
	v	20	200	1.1	1.1	15.6	15.6	-0.2	2	0.00E00	5.45E03	27.0	2	0.00E00	5.45E03	0.00	0.0	0.0	1
179	o	40	200	2.3	2.3	15.6	15.6	-0.1	2	0.00E00	-7.24E03	17.9	2	0.00E00	-7.24E03	0.00	0.0	0.0	1
	v	20	200	1.1	1.1	15.6	15.6	-0.2	2	0.00E00	4.87E03	24.1	2	0.00E00	4.87E03	0.00	0.0	0.0	1
180	o	20	200	1.1	1.1	15.6	15.6	-0.5	2	0.00E00	1.63E04	80.5	2	0.00E00	1.63E04	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.3	2	0.00E00	2.11E04	52.1	2	0.00E00	2.11E04	0.00	0.0	0.0	1
181	o	20	200	1.1	1.1	15.6	15.6	-0.5	1	0.00E00	-1.58E04	78.4	1	0.00E00	-1.58E04	0.00	0.0	0.0	1
	v	40	200	1.7	1.7	15.6	15.6	-0.4	2	0.00E00	2.22E04	73.9	2	0.00E00	2.22E04	0.00	0.0	0.0	1
182	o	20	200	1.1	1.1	15.6	15.6	-0.5	1	0.00E00	-1.41E04	69.6	1	0.00E00	-1.41E04	0.00	0.0	0.0	1

	v	40	200	2.3	2.3	15.6	15.6	-0.3	2	0.00E00	2.02E04	50.0	2	0.00E00	2.02E04	0.00	0.0	0.0	1
183	o	20	200	1.1	1.1	15.6	15.6	-0.3	1	0.00E00	-1.04E04	51.5	1	0.00E00	-1.04E04	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.3	2	0.00E00	1.60E04	39.6	2	0.00E00	1.60E04	0.00	0.0	0.0	1
184	o	20	200	1.1	1.1	15.6	15.6	-0.2	1	0.00E00	-6.48E03	32.1	1	0.00E00	-6.48E03	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.2	2	0.00E00	1.11E04	27.5	2	0.00E00	1.11E04	0.00	0.0	0.0	1
185	o	20	200	1.1	1.1	15.6	15.6	-0.1	2	0.00E00	-3.78E03	18.7	2	0.00E00	-3.78E03	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.1	2	0.00E00	7.29E03	18.0	2	0.00E00	7.29E03	0.00	0.0	0.0	1
186	o	40	200	2.3	2.3	15.6	15.6	-0.1	2	0.00E00	-4.43E03	11.0	2	0.00E00	-4.43E03	0.00	0.0	0.0	1
	v	20	200	1.1	1.1	15.6	15.6	-0.1	2	0.00E00	3.09E03	15.3	2	0.00E00	3.09E03	0.00	0.0	0.0	1
187	o	20	200	1.1	1.1	15.6	15.6	-0.5	2	0.00E00	1.43E04	70.7	2	0.00E00	1.43E04	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.2	1	0.00E00	1.11E04	27.4	1	0.00E00	1.11E04	0.00	0.0	0.0	1
188	o	20	200	1.1	1.1	15.6	15.6	-0.4	1	0.00E00	-1.21E04	60.1	1	0.00E00	-1.21E04	0.00	0.0	0.0	1
	v	40	200	1.7	1.7	15.6	15.6	-0.3	1	0.00E00	1.66E04	55.2	1	0.00E00	1.66E04	0.00	0.0	0.0	1
189	o	20	200	1.1	1.1	15.6	15.6	-0.4	1	0.00E00	-1.14E04	56.4	1	0.00E00	-1.14E04	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.2	1	0.00E00	1.39E04	34.3	1	0.00E00	1.39E04	0.00	0.0	0.0	1
190	o	20	200	1.1	1.1	15.6	15.6	-0.3	1	0.00E00	-9.06E03	44.8	1	0.00E00	-9.06E03	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.2	2	0.00E00	1.14E04	28.2	2	0.00E00	1.14E04	0.00	0.0	0.0	1
191	o	20	200	1.1	1.1	15.6	15.6	-0.2	1	0.00E00	-6.09E03	30.1	1	0.00E00	-6.09E03	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.1	2	0.00E00	8.44E03	20.9	2	0.00E00	8.44E03	0.00	0.0	0.0	1
192	o	20	200	1.1	1.1	15.6	15.6	-0.1	1	0.00E00	-3.30E03	16.3	1	0.00E00	-3.30E03	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.1	2	0.00E00	5.32E03	13.1	2	0.00E00	5.32E03	0.00	0.0	0.0	1
193	o	20	200	1.1	1.1	15.6	15.6	-0.1	2	0.00E00	-1.59E03	7.9	2	0.00E00	-1.59E03	0.00	0.0	0.0	1
	v	39	200	2.3	2.3	15.6	15.6	-0.1	1	0.00E00	3.10E03	7.7	1	0.00E00	3.10E03	0.00	0.0	0.0	1
194	o	39	200	2.3	2.3	15.6	15.6	-0.1	2	0.00E00	2.99E03	7.4	2	0.00E00	2.99E03	0.00	0.0	0.0	1
	v	20	200	1.1	1.1	15.6	15.6	-0.1	2	0.00E00	-1.59E03	7.9	2	0.00E00	-1.59E03	0.00	0.0	0.0	1
195	o	20	200	1.1	1.1	15.6	15.6	-0.1	1	0.00E00	3.39E03	16.7	1	0.00E00	3.39E03	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.1	2	0.00E00	-4.43E03	11.0	2	0.00E00	-4.43E03	0.00	0.0	0.0	1
196	o	20	200	1.1	1.1	15.6	15.6	-0.2	1	0.00E00	6.62E03	32.7	1	0.00E00	6.62E03	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.1	2	0.00E00	-7.24E03	17.9	2	0.00E00	-7.24E03	0.00	0.0	0.0	1
197	o	20	200	1.1	1.1	15.6	15.6	-0.3	1	0.00E00	1.03E04	51.1	1	0.00E00	1.03E04	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.2	2	0.00E00	-1.01E04	25.0	2	0.00E00	-1.01E04	0.00	0.0	0.0	1
198	o	20	200	1.1	1.1	15.6	15.6	-0.4	1	0.00E00	1.34E04	66.2	1	0.00E00	1.34E04	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.2	1	0.00E00	-1.32E04	32.5	1	0.00E00	-1.32E04	0.00	0.0	0.0	1
199	o	20	200	1.1	1.1	15.6	15.6	-0.5	1	0.00E00	1.49E04	73.6	1	0.00E00	1.49E04	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.3	1	0.00E00	-1.61E04	39.7	1	0.00E00	-1.61E04	0.00	0.0	0.0	1
200	o	20	200	1.1	1.1	15.6	15.6	-0.5	1	0.00E00	1.40E04	69.3	1	0.00E00	1.40E04	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.3	1	0.00E00	-1.73E04	42.8	1	0.00E00	-1.73E04	0.00	0.0	0.0	1
201	o	40	200	2.3	2.3	15.6	15.6	-0.1	2	0.00E00	5.32E03	13.1	2	0.00E00	5.32E03	0.00	0.0	0.0	1
	v	20	200	1.1	1.1	15.6	15.6	-0.1	2	0.00E00	-3.05E03	15.1	2	0.00E00	-3.05E03	0.00	0.0	0.0	1
202	o	40	200	2.3	2.3	15.6	15.6	-0.1	1	0.00E00	7.40E03	18.3	1	0.00E00	7.40E03	0.00	0.0	0.0	1
	v	20	200	1.1	1.1	15.6	15.6	-0.1	2	0.00E00	-3.78E03	18.7	2	0.00E00	-3.78E03	0.00	0.0	0.0	1
203	o	20	200	1.1	1.1	15.6	15.6	-0.2	1	0.00E00	6.81E03	33.7	1	0.00E00	6.81E03	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.2	2	0.00E00	-9.68E03	24.0	2	0.00E00	-9.68E03	0.00	0.0	0.0	1
204	o	20	200	1.1	1.1	15.6	15.6	-0.4	1	0.00E00	1.14E04	56.3	1	0.00E00	1.14E04	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.2	2	0.00E00	-1.41E04	35.0	2	0.00E00	-1.41E04	0.00	0.0	0.0	1
205	o	20	200	1.1	1.1	15.6	15.6	-0.5	1	0.00E00	1.59E04	78.9	1	0.00E00	1.59E04	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.3	2	0.00E00	-1.82E04	44.9	2	0.00E00	-1.82E04	0.00	0.0	0.0	1

206	o	20	200	1.1	1.1	15.6	15.6	-0.6	1	0.00E00	1.87E04	92.3	1	0.00E00	1.87E04	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.3	2	0.00E00	-2.08E04	51.4	2	0.00E00	-2.08E04	0.00	0.0	0.0	1
207	o	20	200	1.1	1.1	15.6	15.6	-0.6	1	0.00E00	1.81E04	89.3	1	0.00E00	1.81E04	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.4	1	0.00E00	-2.13E04	52.6	1	0.00E00	-2.13E04	0.00	0.0	0.0	1
208	o	40	200	2.3	2.3	15.6	15.6	-0.1	2	0.00E00	8.44E03	20.9	2	0.00E00	8.44E03	0.00	0.0	0.0	1
	v	20	200	1.1	1.1	15.6	15.6	-0.2	2	0.00E00	-4.70E03	23.3	2	0.00E00	-4.70E03	0.00	0.0	0.0	1
209	o	40	200	2.3	2.3	15.6	15.6	-0.2	2	0.00E00	1.11E04	27.5	2	0.00E00	1.11E04	0.00	0.0	0.0	1
	v	20	200	1.1	1.1	15.6	15.6	-0.2	2	0.00E00	-5.46E03	27.0	2	0.00E00	-5.46E03	0.00	0.0	0.0	1
210	o	40	200	2.3	2.3	15.6	15.6	-0.3	1	0.00E00	1.55E04	38.3	1	0.00E00	1.55E04	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.2	2	0.00E00	-1.20E04	29.6	2	0.00E00	-1.20E04	0.00	0.0	0.0	1
211	o	40	200	2.3	2.3	15.6	15.6	-0.4	1	0.00E00	2.36E04	58.5	1	0.00E00	2.36E04	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.3	2	0.00E00	-1.71E04	42.4	2	0.00E00	-1.71E04	0.00	0.0	0.0	1
212	o	40	200	2.3	2.3	15.6	15.6	-0.6	1	0.00E00	3.48E04	86.1	1	0.00E00	3.48E04	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.4	2	0.00E00	-2.40E04	59.3	2	0.00E00	-2.40E04	0.00	0.0	0.0	1
213	o	40	200	2.3	2.3	15.6	15.6	-0.7	1	0.00E00	4.25E04	105.2	1	0.00E00	4.25E04	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.5	2	0.00E00	-2.94E04	72.6	2	0.00E00	-2.94E04	0.00	0.0	0.0	1
214	o	40	200	2.3	2.3	15.6	15.6	-0.7	1	0.00E00	4.11E04	101.7	1	0.00E00	4.11E04	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.5	2	0.00E00	-3.05E04	75.4	2	0.00E00	-3.05E04	0.00	0.0	0.0	1
215	o	40	200	2.3	2.3	15.6	15.6	-0.2	2	0.00E00	1.14E04	28.2	2	0.00E00	1.14E04	0.00	0.0	0.0	1
	v	20	200	1.1	1.1	15.6	15.6	-0.2	2	0.00E00	-5.64E03	27.9	2	0.00E00	-5.64E03	0.00	0.0	0.0	1
216	o	40	200	2.3	2.3	15.6	15.6	-0.3	2	0.00E00	1.60E04	39.6	2	0.00E00	1.60E04	0.00	0.0	0.0	1
	v	20	200	1.1	1.1	15.6	15.6	-0.2	2	0.00E00	-7.40E03	36.6	2	0.00E00	-7.40E03	0.00	0.0	0.0	1
217	o	40	200	2.3	2.3	15.6	15.6	-0.3	1	0.00E00	1.95E04	48.2	1	0.00E00	1.95E04	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.3	2	0.00E00	-1.62E04	40.1	2	0.00E00	-1.62E04	0.00	0.0	0.0	1
218	o	40	200	2.3	2.3	15.6	15.6	-0.5	1	0.00E00	2.83E04	70.1	1	0.00E00	2.83E04	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.3	2	0.00E00	-2.00E04	49.4	2	0.00E00	-2.00E04	0.00	0.0	0.0	1
219	o	40	200	2.3	2.3	15.6	15.6	-0.7	1	0.00E00	4.09E04	101.0	1	0.00E00	4.09E04	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.5	2	0.00E00	-2.92E04	72.3	2	0.00E00	-2.92E04	0.00	0.0	0.0	1
220	o	40	200	2.3	2.3	15.6	15.6	-0.9	1	0.00E00	5.57E04	137.9	1	0.00E00	5.57E04	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.6	2	0.00E00	-3.93E04	97.1	2	0.00E00	-3.93E04	0.00	0.0	0.0	1
221	o	40	200	2.3	2.3	15.6	15.6	-1.0	1	0.00E00	5.91E04	146.2	1	0.00E00	5.91E04	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.7	2	0.00E00	-4.35E04	107.6	2	0.00E00	-4.35E04	0.00	0.0	0.0	1
222	o	40	200	2.3	2.3	15.6	15.6	-0.2	2	0.00E00	1.39E04	34.3	2	0.00E00	1.39E04	0.00	0.0	0.0	1
	v	20	200	1.1	1.1	15.6	15.6	-0.3	1	0.00E00	9.19E03	45.5	1	0.00E00	9.19E03	0.00	0.0	0.0	1
223	o	40	200	2.3	2.3	15.6	15.6	-0.3	2	0.00E00	2.02E04	50.0	2	0.00E00	2.02E04	0.00	0.0	0.0	1
	v	20	200	1.1	1.1	15.6	15.6	-0.3	1	0.00E00	9.86E03	48.8	1	0.00E00	9.86E03	0.00	0.0	0.0	1
224	o	40	200	2.3	2.3	15.6	15.6	-0.4	2	0.00E00	2.69E04	66.5	2	0.00E00	2.69E04	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.3	1	0.00E00	1.94E04	48.0	1	0.00E00	1.94E04	0.00	0.0	0.0	1
225	o	40	200	2.3	2.3	15.6	15.6	-0.6	1	0.00E00	3.49E04	86.3	1	0.00E00	3.49E04	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.4	2	0.00E00	-2.61E04	64.5	2	0.00E00	-2.61E04	0.00	0.0	0.0	1
226	o	40	200	2.3	2.3	15.6	15.6	-0.8	1	0.00E00	4.90E04	121.3	1	0.00E00	4.90E04	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.6	2	0.00E00	-3.46E04	85.6	2	0.00E00	-3.46E04	0.00	0.0	0.0	1
227	o	40	200	2.3	2.3	15.6	15.6	-1.2	1	0.00E00	7.45E04	184.2	1	0.00E00	7.45E04	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.8	2	0.00E00	-5.08E04	125.5	2	0.00E00	-5.08E04	0.00	0.0	0.0	1
228	o	40	200	2.3	2.3	15.6	15.6	-1.3	1	0.00E00	8.00E04	197.9	1	0.00E00	8.00E04	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-1.1	2	0.00E00	-6.54E04	161.8	2	0.00E00	-6.54E04	0.00	0.0	0.0	1
229	o	40	200	2.3	2.3	15.6	15.6	-0.2	2	0.00E00	1.48E04	36.5	2	0.00E00	1.48E04	0.00	0.0	0.0	1

	v	20	200	1.1	1.1	15.6	15.6	-0.4	1	0.00E00	1.28E04	63.1	1	0.00E00	1.28E04	0.00	0.0	0.0	1
230	o	40	200	2.3	2.3	15.6	15.6	-0.4	2	0.00E00	2.22E04	55.0	2	0.00E00	2.22E04	0.00	0.0	0.0	1
	v	20	200	1.1	1.1	15.6	15.6	-0.5	1	0.00E00	1.47E04	72.6	1	0.00E00	1.47E04	0.00	0.0	0.0	1
231	o	40	200	2.3	2.3	15.6	15.6	-0.5	2	0.00E00	3.23E04	79.8	2	0.00E00	3.23E04	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.5	1	0.00E00	3.12E04	77.1	1	0.00E00	3.12E04	0.00	0.0	0.0	1
232	o	40	200	2.3	2.3	15.6	15.6	-0.7	2	0.00E00	4.36E04	108.0	2	0.00E00	4.36E04	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.6	1	0.00E00	3.47E04	85.7	1	0.00E00	3.47E04	0.00	0.0	0.0	1
233	o	40	200	2.3	2.3	15.6	15.6	-1.0	1	0.00E00	5.84E04	144.5	1	0.00E00	5.84E04	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.8	2	0.00E00	-4.57E04	113.0	2	0.00E00	-4.57E04	0.00	0.0	0.0	1
234	o	40	200	2.3	2.3	15.6	15.6	-1.5	1	0.00E00	9.03E04	223.3	1	0.00E00	9.03E04	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-1.1	2	0.00E00	-6.91E04	170.8	2	0.00E00	-6.91E04	0.00	0.0	0.0	1
235	o	40	200	2.3	2.3	15.6	15.6	-2.8	1	0.00E00	1.69E05	416.8	1	0.00E00	1.69E05	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-1.5	2	0.00E00	-9.19E04	227.4	2	0.00E00	-9.19E04	0.00	0.0	0.0	1
236	o	40	200	2.3	2.3	15.6	15.6	-0.2	2	0.00E00	9.28E03	23.0	2	0.00E00	9.28E03	0.00	0.0	0.0	1
	v	20	200	1.1	1.1	15.6	15.6	-0.5	1	0.00E00	1.49E04	73.8	1	0.00E00	1.49E04	0.00	0.0	0.0	1
237	o	40	200	2.3	2.3	15.6	15.6	-0.3	2	0.00E00	2.11E04	52.1	2	0.00E00	2.11E04	0.00	0.0	0.0	1
	v	20	200	1.1	1.1	15.6	15.6	-0.6	1	0.00E00	1.78E04	88.2	1	0.00E00	1.78E04	0.00	0.0	0.0	1
238	o	40	200	2.3	2.3	15.6	15.6	-0.5	2	0.00E00	3.24E04	80.1	2	0.00E00	3.24E04	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.7	1	0.00E00	3.97E04	98.3	1	0.00E00	3.97E04	0.00	0.0	0.0	1
239	o	40	200	2.3	2.3	15.6	15.6	-0.8	2	0.00E00	4.74E04	117.1	2	0.00E00	4.74E04	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.8	1	0.00E00	5.04E04	124.8	1	0.00E00	5.04E04	0.00	0.0	0.0	1
240	o	40	200	2.3	2.3	15.6	15.6	-1.2	2	0.00E00	7.19E04	177.8	2	0.00E00	7.19E04	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-1.1	1	0.00E00	6.59E04	163.0	1	0.00E00	6.59E04	0.00	0.0	0.0	1
241	o	40	200	2.3	2.3	15.6	15.6	-1.6	2	0.00E00	9.96E04	246.3	2	0.00E00	9.96E04	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-1.1	2	0.00E00	-6.91E04	171.0	2	0.00E00	-6.91E04	0.00	0.0	0.0	1
242	o	40	200	2.3	2.3	15.6	15.6	-3.2	1	0.00E00	1.93E05	477.1	1	0.00E00	1.93E05	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-2.0	2	0.00E00	-1.22E05	302.5	2	0.00E00	-1.22E05	0.00	0.0	0.0	1
243	o	40	200	2.3	2.3	15.6	15.6	-0.2	2	0.00E00	-1.07E04	26.4	2	0.00E00	-1.07E04	0.00	0.0	0.0	1
	v	20	200	1.1	1.1	15.6	15.6	-0.6	2	0.00E00	1.78E04	88.3	2	0.00E00	1.78E04	0.00	0.0	0.0	1
244	o	40	200	2.3	2.3	15.6	15.6	-0.1	2	0.00E00	8.71E03	21.6	2	0.00E00	8.71E03	0.00	0.0	0.0	1
	v	20	200	1.1	1.1	15.6	15.6	-0.7	2	0.00E00	2.16E04	107.0	2	0.00E00	2.16E04	0.00	0.0	0.0	1
245	o	40	200	2.3	2.3	15.6	15.6	-0.3	2	0.00E00	1.87E04	46.3	2	0.00E00	1.87E04	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.8	2	0.00E00	4.82E04	119.1	2	0.00E00	4.82E04	0.00	0.0	0.0	1
246	o	40	200	2.3	2.3	15.6	15.6	-0.6	1	0.00E00	3.42E04	84.6	1	0.00E00	3.42E04	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-1.1	2	0.00E00	6.41E04	158.6	2	0.00E00	6.41E04	0.00	0.0	0.0	1
247	o	40	200	2.3	2.3	15.6	15.6	-1.0	1	0.00E00	5.82E04	144.0	1	0.00E00	5.82E04	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-1.4	2	0.00E00	8.35E04	206.4	2	0.00E00	8.35E04	0.00	0.0	0.0	1
248	o	40	200	2.3	2.3	15.6	15.6	-1.6	1	0.00E00	9.63E04	238.2	1	0.00E00	9.63E04	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-2.1	2	0.00E00	1.27E05	313.4	2	0.00E00	1.27E05	0.00	0.0	0.0	1
249	o	40	200	2.3	2.3	15.6	15.6	-3.2	1	0.00E00	1.93E05	477.1	1	0.00E00	1.93E05	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-2.0	2	0.00E00	1.21E05	299.3	2	0.00E00	1.21E05	0.00	0.0	0.0	1
250	o	40	200	2.3	2.3	15.6	15.6	-0.1	2	0.00E00	-8.46E03	20.9	2	0.00E00	-8.46E03	0.00	0.0	0.0	1
	v	20	200	1.1	1.1	15.6	15.6	-0.5	2	0.00E00	1.59E04	78.6	2	0.00E00	1.59E04	0.00	0.0	0.0	1
251	o	40	200	2.3	2.3	15.6	15.6	-0.2	1	0.00E00	1.11E04	27.5	1	0.00E00	1.11E04	0.00	0.0	0.0	1
	v	20	200	1.1	1.1	15.6	15.6	-0.6	2	0.00E00	1.84E04	91.2	2	0.00E00	1.84E04	0.00	0.0	0.0	1
252	o	40	200	2.3	2.3	15.6	15.6	-0.4	1	0.00E00	2.21E04	54.7	1	0.00E00	2.21E04	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.7	2	0.00E00	4.02E04	99.4	2	0.00E00	4.02E04	0.00	0.0	0.0	1

253	o	40	200	2.3	2.3	15.6	15.6	-0.6	1	0.00E00	3.77E04	93.3	1	0.00E00	3.77E04	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.8	2	0.00E00	4.78E04	118.3	2	0.00E00	4.78E04	0.00	0.0	0.0	1
254	o	40	200	2.3	2.3	15.6	15.6	-1.0	1	0.00E00	5.84E04	144.5	1	0.00E00	5.84E04	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.9	2	0.00E00	5.65E04	139.6	2	0.00E00	5.65E04	0.00	0.0	0.0	1
255	o	40	200	2.3	2.3	15.6	15.6	-1.5	1	0.00E00	9.03E04	223.3	1	0.00E00	9.03E04	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-1.0	2	0.00E00	6.06E04	149.8	2	0.00E00	6.06E04	0.00	0.0	0.0	1
256	o	40	200	2.3	2.3	15.6	15.6	-2.8	1	0.00E00	1.69E05	416.8	1	0.00E00	1.69E05	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-1.2	2	0.00E00	7.33E04	181.3	2	0.00E00	7.33E04	0.00	0.0	0.0	1
257	o	40	200	2.3	2.3	15.6	15.6	-0.1	2	0.00E00	-5.91E03	14.6	2	0.00E00	-5.91E03	0.00	0.0	0.0	1
	v	20	200	1.1	1.1	15.6	15.6	-0.4	2	0.00E00	1.22E04	60.5	2	0.00E00	1.22E04	0.00	0.0	0.0	1
258	o	40	200	2.3	2.3	15.6	15.6	-0.2	1	0.00E00	1.24E04	30.8	1	0.00E00	1.24E04	0.00	0.0	0.0	1
	v	20	200	1.1	1.1	15.6	15.6	-0.4	2	0.00E00	1.33E04	65.7	2	0.00E00	1.33E04	0.00	0.0	0.0	1
259	o	40	200	2.3	2.3	15.6	15.6	-0.4	1	0.00E00	2.24E04	55.3	1	0.00E00	2.24E04	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.5	2	0.00E00	2.77E04	68.6	2	0.00E00	2.77E04	0.00	0.0	0.0	1
260	o	40	200	2.3	2.3	15.6	15.6	-0.6	1	0.00E00	3.49E04	86.3	1	0.00E00	3.49E04	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.5	2	0.00E00	3.15E04	78.0	2	0.00E00	3.15E04	0.00	0.0	0.0	1
261	o	40	200	2.3	2.3	15.6	15.6	-0.8	1	0.00E00	4.90E04	121.3	1	0.00E00	4.90E04	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.6	2	0.00E00	3.37E04	83.4	2	0.00E00	3.37E04	0.00	0.0	0.0	1
262	o	40	200	2.3	2.3	15.6	15.6	-1.2	1	0.00E00	7.45E04	184.2	1	0.00E00	7.45E04	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.6	2	0.00E00	3.51E04	86.9	2	0.00E00	3.51E04	0.00	0.0	0.0	1
263	o	40	200	2.3	2.3	15.6	15.6	-1.4	2	0.00E00	8.35E04	206.4	2	0.00E00	8.35E04	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.8	2	0.00E00	4.78E04	118.2	2	0.00E00	4.78E04	0.00	0.0	0.0	1
264	o	40	200	2.3	2.3	15.6	15.6	-0.1	1	0.00E00	5.68E03	14.1	1	0.00E00	5.68E03	0.00	0.0	0.0	1
	v	20	200	1.1	1.1	15.6	15.6	-0.3	2	0.00E00	8.08E03	40.0	2	0.00E00	8.08E03	0.00	0.0	0.0	1
265	o	40	200	2.3	2.3	15.6	15.6	-0.2	1	0.00E00	1.16E04	28.7	1	0.00E00	1.16E04	0.00	0.0	0.0	1
	v	20	200	1.1	1.1	15.6	15.6	-0.3	2	0.00E00	8.34E03	41.3	2	0.00E00	8.34E03	0.00	0.0	0.0	1
266	o	40	200	2.3	2.3	15.6	15.6	-0.3	1	0.00E00	1.95E04	48.2	1	0.00E00	1.95E04	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.3	2	0.00E00	1.77E04	43.9	2	0.00E00	1.77E04	0.00	0.0	0.0	1
267	o	40	200	2.3	2.3	15.6	15.6	-0.5	1	0.00E00	2.83E04	70.1	1	0.00E00	2.83E04	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.3	2	0.00E00	1.91E04	47.1	2	0.00E00	1.91E04	0.00	0.0	0.0	1
268	o	40	200	2.3	2.3	15.6	15.6	-0.7	1	0.00E00	4.09E04	101.0	1	0.00E00	4.09E04	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.3	2	0.00E00	1.84E04	45.6	2	0.00E00	1.84E04	0.00	0.0	0.0	1
269	o	40	200	2.3	2.3	15.6	15.6	-0.9	1	0.00E00	5.57E04	137.9	1	0.00E00	5.57E04	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.4	1	0.00E00	-2.15E04	53.2	1	0.00E00	-2.15E04	0.00	0.0	0.0	1
270	o	40	200	2.3	2.3	15.6	15.6	-1.1	2	0.00E00	6.41E04	158.6	2	0.00E00	6.41E04	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.5	2	0.00E00	2.87E04	70.9	2	0.00E00	2.87E04	0.00	0.0	0.0	1
271	o	40	200	2.3	2.3	15.6	15.6	-0.1	1	0.00E00	4.63E03	11.5	1	0.00E00	4.63E03	0.00	0.0	0.0	1
	v	20	200	1.1	1.1	15.6	15.6	-0.1	2	0.00E00	4.42E03	21.9	2	0.00E00	4.42E03	0.00	0.0	0.0	1
272	o	40	200	2.3	2.3	15.6	15.6	-0.2	1	0.00E00	9.38E03	23.2	1	0.00E00	9.38E03	0.00	0.0	0.0	1
	v	20	200	1.1	1.1	15.6	15.6	-0.1	2	0.00E00	4.51E03	22.3	2	0.00E00	4.51E03	0.00	0.0	0.0	1
273	o	40	200	2.3	2.3	15.6	15.6	-0.3	1	0.00E00	1.55E04	38.3	1	0.00E00	1.55E04	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.2	2	0.00E00	9.22E03	22.8	2	0.00E00	9.22E03	0.00	0.0	0.0	1
274	o	40	200	2.3	2.3	15.6	15.6	-0.4	1	0.00E00	2.36E04	58.5	1	0.00E00	2.36E04	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.1	2	0.00E00	8.76E03	21.7	2	0.00E00	8.76E03	0.00	0.0	0.0	1
275	o	40	200	2.3	2.3	15.6	15.6	-0.6	1	0.00E00	3.48E04	86.1	1	0.00E00	3.48E04	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.2	1	0.00E00	-1.44E04	35.7	1	0.00E00	-1.44E04	0.00	0.0	0.0	1
276	o	40	200	2.3	2.3	15.6	15.6	-0.7	1	0.00E00	4.25E04	105.2	1	0.00E00	4.25E04	0.00	0.0	0.0	1

	v	40	200	2.3	2.3	15.6	15.6	-0.4	1	0.00E00	-2.12E04	52.5	1	0.00E00	-2.12E04	0.00	0.0	0.0	1
277	o	40	200	2.3	2.3	15.6	15.6	-0.8	2	0.00E00	4.82E04	119.1	2	0.00E00	4.82E04	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.3	2	0.00E00	1.87E04	46.3	2	0.00E00	1.87E04	0.00	0.0	0.0	1
278	o	40	200	2.3	2.3	15.6	15.6	-0.1	1	0.00E00	3.21E03	7.9	1	0.00E00	3.21E03	0.00	0.0	0.0	1
	v	20	200	1.1	1.1	15.6	15.6	-0.1	2	0.00E00	1.81E03	8.9	2	0.00E00	1.81E03	0.00	0.0	0.0	1
279	o	40	200	2.3	2.3	15.6	15.6	-0.1	1	0.00E00	7.40E03	18.3	1	0.00E00	7.40E03	0.00	0.0	0.0	1
	v	20	200	1.1	1.1	15.6	15.6	-0.1	1	0.00E00	-2.01E03	9.9	1	0.00E00	-2.01E03	0.00	0.0	0.0	1
280	o	20	200	1.1	1.1	15.6	15.6	-0.2	1	0.00E00	6.81E03	33.7	1	0.00E00	6.81E03	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.1	1	0.00E00	-5.87E03	14.5	1	0.00E00	-5.87E03	0.00	0.0	0.0	1
281	o	20	200	1.1	1.1	15.6	15.6	-0.4	1	0.00E00	1.14E04	56.3	1	0.00E00	1.14E04	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.2	1	0.00E00	-1.02E04	25.4	1	0.00E00	-1.02E04	0.00	0.0	0.0	1
282	o	20	200	1.1	1.1	15.6	15.6	-0.5	1	0.00E00	1.59E04	78.9	1	0.00E00	1.59E04	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.2	1	0.00E00	-1.50E04	37.0	1	0.00E00	-1.50E04	0.00	0.0	0.0	1
283	o	20	200	1.1	1.1	15.6	15.6	-0.6	1	0.00E00	1.87E04	92.3	1	0.00E00	1.87E04	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.3	1	0.00E00	-1.93E04	47.8	1	0.00E00	-1.93E04	0.00	0.0	0.0	1
284	o	20	200	1.1	1.1	15.6	15.6	-0.7	2	0.00E00	2.16E04	107.0	2	0.00E00	2.16E04	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.4	1	0.00E00	-2.13E04	52.6	1	0.00E00	-2.13E04	0.00	0.0	0.0	1
285	o	39	200	2.3	2.3	15.6	15.6	0.0	1	0.00E00	2.24E03	5.5	1	0.00E00	2.24E03	0.00	0.0	0.0	1
	v	20	200	1.1	1.1	15.6	15.6	0.0	1	0.00E00	-1.44E03	7.1	1	0.00E00	-1.44E03	0.00	0.0	0.0	1
286	o	20	200	1.1	1.1	15.6	15.6	-0.1	1	0.00E00	3.39E03	16.7	1	0.00E00	3.39E03	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.1	1	0.00E00	-3.98E03	9.8	1	0.00E00	-3.98E03	0.00	0.0	0.0	1
287	o	20	200	1.1	1.1	15.6	15.6	-0.2	1	0.00E00	6.62E03	32.7	1	0.00E00	6.62E03	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.1	1	0.00E00	-6.67E03	16.5	1	0.00E00	-6.67E03	0.00	0.0	0.0	1
288	o	20	200	1.1	1.1	15.6	15.6	-0.3	1	0.00E00	1.03E04	51.1	1	0.00E00	1.03E04	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.2	1	0.00E00	-9.91E03	24.5	1	0.00E00	-9.91E03	0.00	0.0	0.0	1
289	o	20	200	1.1	1.1	15.6	15.6	-0.4	1	0.00E00	1.34E04	66.2	1	0.00E00	1.34E04	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.2	1	0.00E00	-1.32E04	32.5	1	0.00E00	-1.32E04	0.00	0.0	0.0	1
290	o	20	200	1.1	1.1	15.6	15.6	-0.5	2	0.00E00	1.59E04	78.6	2	0.00E00	1.59E04	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.3	1	0.00E00	-1.61E04	39.7	1	0.00E00	-1.61E04	0.00	0.0	0.0	1
291	o	20	200	1.1	1.1	15.6	15.6	-0.6	2	0.00E00	1.78E04	88.3	2	0.00E00	1.78E04	0.00	0.0	0.0	1
	v	40	200	2.3	2.3	15.6	15.6	-0.3	1	0.00E00	-1.73E04	42.8	1	0.00E00	-1.73E04	0.00	0.0	0.0	1

Il progettista

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