ANEJO Nº 6. ESTRUCTURAS

4. Cálculos

Viaducto de Borges Blanques

CÁLCULO TENSIONAL

Hipótesis de cálculo:
SC1.ENV_TREN_GENERICO.VY-

Envolvente de tren de cargas plano genérico. VY-

[0; 1]SC1.SCuniTpos.Barra1.Mx+ + [0; 1]SC1.SCuniTpos.Barra2.Mx+ + [0; 1]SC1.SCuniTpos.Barra3.
Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
1	1	0.00	0.00	-10.96	0.00
1	2	1.00	0.00	-9.99	9.99
2	2	1.00	0.00	-9.99	9.99
2	3	1.18	0.00	-9.82	11.54
3	3	1.18	0.00	-9.82	11.54
3	4	2.35	0.00	-8.75	20.57
4	4	2.35	0.00	-8.75	20.57
4	5	3.53	0.00	-7.75	27.32
5	5	3.53	0.00	-7.75	27.32
5	6	4.70	0.00	-6.82	32.06
6	6	4.70	0.00	-6.82	32.06
6	7	5.88	0.00	-5.96	35.02
7	7	5.88	0.00	-5.96	35.02
7	8	7.05	0.00	-5.17	36.43
8	8	7.05	0.00	-5.17	36.43
8	9	8.23	0.00	-4.44	36.53
9	9	8.23	0.00	-4.44	36.53
9	10	9.40	0.00	-3.78	35.55
10	10	9.40	0.00	-3.78	35.55
10	11	10.58	0.00	-3.19	33.71
11	11	10.58	0.00	-3.19	33.71
11	12	11.75	0.00	-2.66	31.21
12	12	11.75	0.00	-2.66	31.21
12	13	12.93	0.00	-2.19	28.26
13	13	12.93	0.00	-2.19	28.26
13	14	14.10	0.00	-1.78	25.06
14	14	14.10	0.00	-1.78	25.06
14	15	15.28	0.00	-1.43	21.79
15	15	15.28	0.00	-1.43	21.79
15	16	16.45	0.00	-1.13	18.61
16	16	16.45	0.01	-1.13	18.61
16	17	17.63	0.01	-0.89	15.68
17	17	17.63	0.01	-0.89	15.68
17	18	18.80	0.01	-0.70	13.15
18	18	18.80	0.00	-0.70	13.15
18	19	19.98	0.00	-0.56	11.15
19	19	19.98	0.00	-0.56	11.15
19	20	21.15	0.00	-0.46	9.78
20	20	21.15	0.00	-0.46	9.78
20	21	22.33	0.00	-0.41	9.14
21	21	22.33	0.00	-0.41	9.14
21	22	22.50	0.00	-0.40	9.10
22	22	22.50	0.00	-0.40	9.10
22	23	23.50	0.00	-0.39	9.23
23	1023	23.50	0.00	-16.19	-69.82
23	24	24.50	0.00	-15.20	-54.38
24	24	24.50	0.00	-15.20	-54.38
24	25	24.95	0.00	-14.76	-47.93
25	25	24.95	0.00	-14.76	-47.93
25	26	26.40	0.00	-13.39	-29.24
26	26	26.40	0.00	-13.39	-29.24

CÁLCULO TENSIONAL

Hipótesis de cálculo:
SC1.ENV_TREN_GENERICO.VY-

Envolvente de tren de cargas plano genérico. VY-

[0; 1]SC1.SCuniTpos.Barra1.Mx+ + [0; 1]SC1.SCuniTpos.Barra2.Mx+ + [0; 1]SC1.SCuniTpos.Barra3.
Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
26	27	27.85	0.00	-12.08	-13.65
27	27	27.85	0.00	-12.08	-13.65
27	28	29.30	0.00	-10.84	-1.00
28	28	29.30	-0.10	-10.84	-1.00
28	29	30.75	-0.09	-9.67	8.92
29	29	30.75	-0.09	-9.67	8.92
29	30	32.20	-0.08	-8.58	16.35
30	30	32.20	0.00	-8.58	16.35
30	31	33.65	0.00	-7.56	21.53
31	31	33.65	0.00	-7.56	21.53
31	32	35.10	0.00	-6.62	24.75
32	32	35.10	0.00	-6.62	24.75
32	33	36.55	0.00	-5.76	26.29
33	33	36.55	0.00	-5.76	26.29
33	34	38.00	0.00	-4.99	26.45
34	34	38.00	0.00	-4.99	26.45
34	35	39.45	0.00	-4.30	25.53
35	35	39.45	0.00	-4.30	25.53
35	36	40.90	0.00	-3.69	23.83
36	36	40.90	0.00	-3.69	23.83
36	37	42.35	0.00	-3.16	21.67
37	37	42.35	0.00	-3.16	21.67
37	38	43.80	0.00	-2.72	19.33
38	38	43.80	0.03	-2.72	19.33
38	39	45.25	0.02	-2.35	17.11
39	39	45.25	0.02	-2.35	17.11
39	40	46.70	0.02	-2.06	15.25
40	40	46.70	0.00	-2.06	15.25
40	41	48.15	0.00	-1.84	14.02
41	41	48.15	0.00	-1.84	14.02
41	42	49.60	0.00	-1.70	13.64
42	42	49.60	0.00	-1.70	13.64
42	43	51.05	0.00	-1.62	14.29
43	43	51.05	0.00	-1.62	14.29
43	44	51.50	0.00	-1.60	14.71
44	44	51.50	0.00	-1.60	14.71
44	45	52.50	0.00	-1.59	16.05
45	1045	52.50	0.00	-16.51	-76.83
45	46	53.50	0.00	-15.52	-61.08
46	46	53.50	0.00	-15.52	-61.08
46	47	53.95	0.00	-15.08	-54.49
47	47	53.95	0.00	-15.08	-54.49
47	48	55.40	0.00	-13.71	-35.37
48	48	55.40	0.00	-13.71	-35.37
48	49	56.85	0.00	-12.40	-19.37
49	49	56.85	0.00	-12.40	-19.37
49	50	58.30	0.00	-11.16	-6.34
50	50	58.30	-0.11	-11.16	-6.34
50	51	59.75	-0.10	-9.99	3.94
51	51	59.75	-0.10	-9.99	3.94
51	52	61.20	-0.09	-8.90	11.71

CÁLCULO TENSIONAL

Hipótesis de cálculo:
SC1.ENV_TREN_GENERICO.VY-

Envolvente de tren de cargas plano genérico. VY-

[0; 1]SC1.SCuniTpos.Barra1.Mx+ + [0; 1]SC1.SCuniTpos.Barra2.Mx+ + [0; 1]SC1.SCuniTpos.Barra3.

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
52	52	61.20	0.00	-8.90	11.71
52	53	62.65	0.00	-7.88	17.24
53	53	62.65	0.00	-7.88	17.24
53	54	64.10	0.00	-6.95	20.80
54	54	64.10	0.00	-6.95	20.80
54	55	65.55	0.00	-6.09	22.68
55	55	65.55	0.00	-6.09	22.68
55	56	67.00	0.00	-5.32	23.17
56	56	67.00	0.00	-5.32	23.17
56	57	68.45	0.00	-4.63	22.60
57	57	68.45	0.00	-4.63	22.60
57	58	69.90	0.00	-4.02	21.25
58	58	69.90	0.00	-4.02	21.25
58	59	71.35	0.00	-3.49	19.43
59	59	71.35	0.00	-3.49	19.43
59	60	72.80	0.00	-3.04	17.45
60	60	72.80	0.03	-3.04	17.45
60	61	74.25	0.03	-2.68	15.58
61	61	74.25	0.03	-2.68	15.58
61	62	75.70	0.02	-2.38	14.11
62	62	75.70	0.00	-2.38	14.11
62	63	77.15	0.00	-2.17	13.27
63	63	77.15	0.00	-2.17	13.27
63	64	78.60	0.00	-2.02	13.31
64	64	78.60	0.00	-2.02	13.31
64	65	80.05	0.00	-1.94	14.40
65	65	80.05	0.00	-1.94	14.40
65	66	80.50	0.00	-1.92	14.97
66	66	80.50	0.00	-1.92	14.97
66	67	81.50	0.00	-1.91	16.62
67	1067	81.50	0.00	-17.43	-82.42
67	68	82.50	0.00	-16.44	-65.74
68	68	82.50	0.00	-16.44	-65.74
68	69	83.08	0.00	-15.89	-56.84
69	69	83.08	0.00	-15.89	-56.84
69	70	84.65	0.00	-14.40	-35.04
70	70	84.65	0.00	-14.40	-35.04
70	71	86.23	0.00	-12.98	-16.94
71	71	86.23	0.00	-12.98	-16.94
71	72	87.80	0.00	-11.63	-2.34
72	72	87.80	-0.10	-11.63	-2.34
72	73	89.38	-0.09	-10.36	9.03
73	73	89.38	-0.09	-10.36	9.03
73	74	90.95	-0.08	-9.17	17.43
74	74	90.95	0.00	-9.17	17.43
74	75	92.53	0.00	-8.07	23.19
75	75	92.53	0.00	-8.07	23.19
75	76	94.10	0.00	-7.05	26.63
76	76	94.10	0.00	-7.05	26.63
76	77	95.68	0.00	-6.13	28.09
77	77	95.68	0.00	-6.13	28.09

CÁLCULO TENSIONAL

Hipótesis de cálculo:
SC1.ENV_TREN_GENERICO.VY-

Envolvente de tren de cargas plano genérico. VY-

[0; 1]SC1.SCuniTpos.Barra1.Mx+ + [0; 1]SC1.SCuniTpos.Barra2.Mx+ + [0; 1]SC1.SCuniTpos.Barra3.

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
77	78	97.25	0.00	-5.29	27.92
78	78	97.25	0.00	-5.29	27.92
78	79	98.83	0.00	-4.54	26.50
79	79	98.83	0.00	-4.54	26.50
79	80	100.40	0.00	-3.88	24.17
80	80	100.40	0.00	-3.88	24.17
80	81	101.98	0.00	-3.31	21.29
81	81	101.98	0.00	-3.31	21.29
81	82	103.55	0.00	-2.82	18.23
82	82	103.55	0.02	-2.82	18.23
82	83	105.13	0.02	-2.43	15.30
83	83	105.13	0.02	-2.43	15.30
83	84	106.70	0.02	-2.11	12.84
84	84	106.70	0.00	-2.11	12.84
84	85	108.28	0.00	-1.88	11.13
85	85	108.28	0.00	-1.88	11.13
85	86	109.85	0.00	-1.72	10.45
86	86	109.85	0.00	-1.72	10.45
86	87	111.43	0.00	-1.63	11.00
87	87	111.43	0.00	-1.63	11.00
87	88	112.00	0.00	-1.61	11.53
88	88	112.00	0.00	-1.61	11.53
88	89	113.00	0.00	-1.60	12.88
89	1089	113.00	0.00	-17.30	-85.57
89	90	114.00	0.00	-16.31	-69.03
90	90	114.00	0.00	-16.31	-69.03
90	91	114.58	0.00	-15.75	-60.22
91	91	114.58	0.00	-15.75	-60.22
91	92	116.15	0.00	-14.26	-38.66
92	92	116.15	0.00	-14.26	-38.66
92	93	117.73	0.00	-12.85	-20.82
93	93	117.73	0.00	-12.85	-20.82
93	94	119.30	0.00	-11.51	-6.48
94	94	119.30	-0.10	-11.51	-6.48
94	95	120.88	-0.09	-10.26	4.63
95	95	120.88	-0.09	-10.26	4.63
95	96	122.45	-0.08	-9.08	12.82
96	96	122.45	0.00	-9.08	12.82
96	97	124.03	0.00	-8.00	18.40
97	97	124.03	0.00	-8.00	18.40
97	98	125.60	0.00	-7.00	21.71
98	98	125.60	0.00	-7.00	21.71
98	99	127.18	0.00	-6.09	23.11
99	99	127.18	0.00	-6.09	23.11
99	100	128.75	0.00	-5.27	22.95
100	100	128.75	0.00	-5.27	22.95
100	101	130.33	0.00	-4.54	21.61
101	101	130.33	0.00	-4.54	21.61
101	102	131.90	0.00	-3.90	19.42
102	102	131.90	0.00	-3.90	19.42
102	103	133.48	0.00	-3.35	16.75

SC1.ENV_TREN_GENERICO.VY-

CÁLCULO TENSIONAL

Hipótesis de cálculo:

SC1.ENV_TREN_GENERICO.VY-

Envolvente de tren de cargas plano genérico. VY-

[0; 1]SC1.SCuniTpos.Barra1.Mx+ + [0; 1]SC1.SCuniTpos.Barra2.Mx+ + [0; 1]SC1.SCuniTpos.Barra3.

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
103	103	133.48	0.00	-3.35	16.75
103	104	135.05	0.00	-2.88	13.94
104	104	135.05	0.02	-2.88	13.94
104	105	136.63	0.02	-2.50	11.30
105	105	136.63	0.02	-2.50	11.30
105	106	138.20	0.02	-2.20	9.14
106	106	138.20	0.00	-2.20	9.14
106	107	139.78	0.00	-1.98	7.73
107	107	139.78	0.00	-1.98	7.73
107	108	141.35	0.00	-1.82	7.31
108	108	141.35	0.00	-1.82	7.31
108	109	142.93	0.00	-1.74	8.09
109	109	142.93	0.00	-1.74	8.09
109	110	143.50	0.00	-1.72	8.69
110	110	143.50	0.00	-1.72	8.69
110	111	144.50	0.00	-1.71	10.15
111	1111	144.50	0.00	-14.94	-75.02
111	112	145.50	0.00	-13.95	-60.84
112	112	145.50	0.00	-13.95	-60.84
112	113	145.68	0.00	-13.78	-58.52
113	113	145.68	0.00	-13.78	-58.52
113	114	146.85	0.00	-12.66	-44.16
114	114	146.85	0.00	-12.66	-44.16
114	115	148.03	0.00	-11.58	-31.90
115	115	148.03	0.00	-11.58	-31.90
115	116	149.20	0.00	-10.55	-21.67
116	116	149.20	-0.13	-10.55	-21.67
116	117	150.38	-0.11	-9.57	-13.36
117	117	150.38	-0.11	-9.57	-13.36
117	118	151.55	-0.10	-8.64	-6.84
118	118	151.55	0.00	-8.64	-6.84
118	119	152.73	0.00	-7.77	-1.95
119	119	152.73	0.00	-7.77	-1.95
119	120	153.90	0.00	-6.95	1.47
120	120	153.90	0.00	-6.95	1.47
120	121	155.08	0.00	-6.19	3.58
121	121	155.08	0.00	-6.19	3.58
121	122	156.25	0.00	-5.49	4.58
122	122	156.25	0.00	-5.49	4.58
122	123	157.43	0.00	-4.85	4.66
123	123	157.43	0.00	-4.85	4.66
123	124	158.60	0.00	-4.27	4.03
124	124	158.60	0.00	-4.27	4.03
124	125	159.78	0.00	-3.76	2.90
125	125	159.78	0.00	-3.76	2.90
125	126	160.95	0.00	-3.32	1.48
126	126	160.95	0.00	-3.32	1.48
126	127	162.13	0.00	-2.94	0.00
127	127	162.13	0.00	-2.94	0.00
127	128	163.30	0.00	-2.63	-1.30
128	128	163.30	0.00	-2.63	-1.30

SC1.ENV_TREN_GENERICO.VY-

CÁLCULO TENSIONAL

Hipótesis de cálculo:

SC1.ENV_TREN_GENERICO.VY-

Envolvente de tren de cargas plano genérico. VY-

[0; 1]SC1.SCuniTpos.Barra1.Mx+ + [0; 1]SC1.SCuniTpos.Barra2.Mx+ + [0; 1]SC1.SCuniTpos.Barra3.

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
128	129	164.48	0.00	-2.38	-2.19
129	129	164.48	0.00	-2.38	-2.19
129	130	165.65	0.00	-2.21	-2.43
130	130	165.65	0.00	-2.21	-2.43
130	131	166.83	0.00	-2.11	-1.79
131	131	166.83	0.00	-2.11	-1.79
131	132	167.00	0.00	-2.10	-1.60
132	132	167.00	0.00	-2.10	-1.60
132	133	168.00	0.00	-2.07	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:
SC1.ENV_TREN_GENERICO.MZ-

Envolvente de tren de cargas plano genérico. MZ-

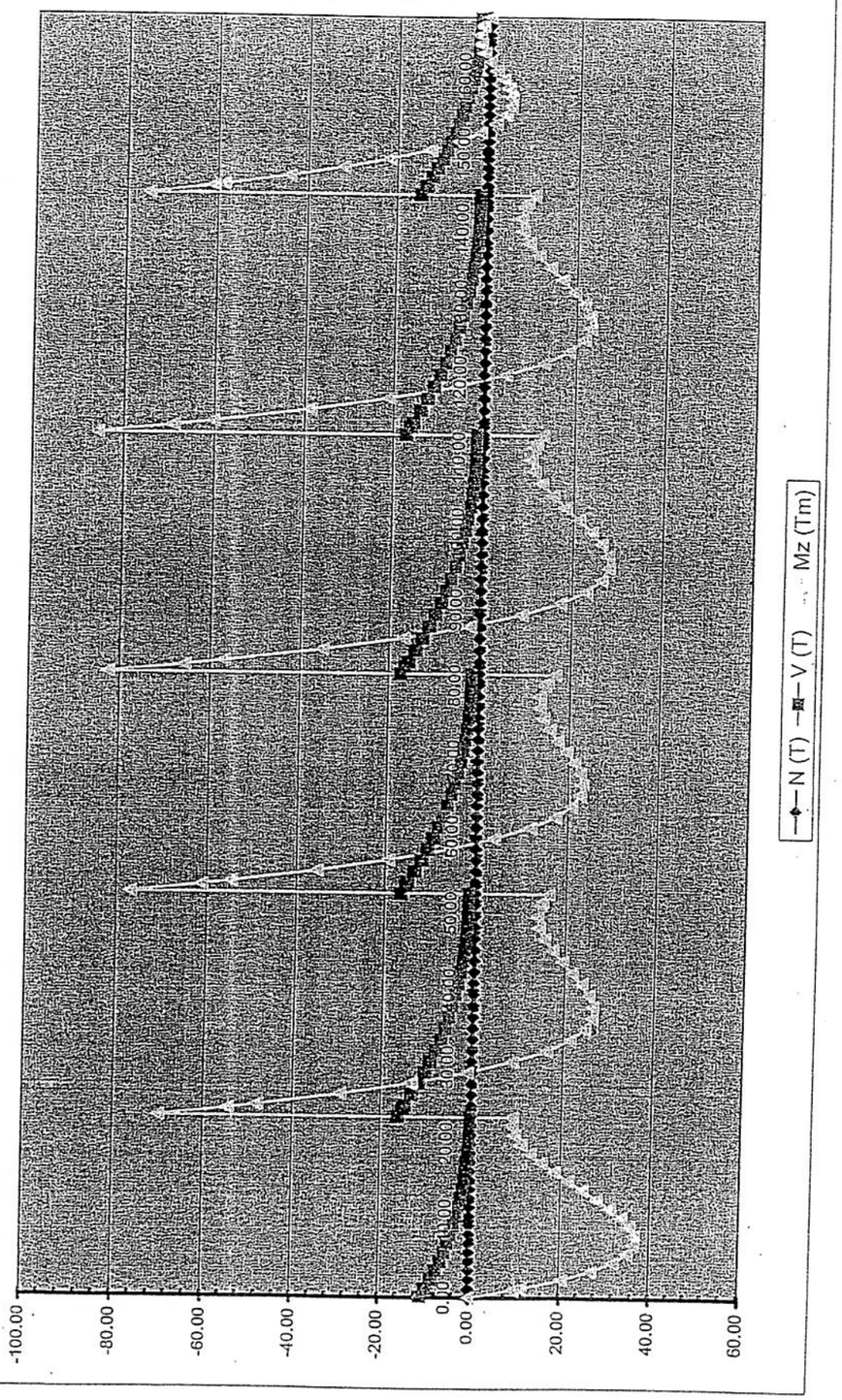
[0; 1]SC1.SCuniTpos.Barra1.Mx+ + [0; 1]SC1.SCuniTpos.Barra2.Mx+ + [0; 1]SC1.SCuniTpos.Barra3.

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
1	1	0.00	0.00	0.00	0.00
1	2	1.00	0.00	1.79	-1.79
2	2	1.00	0.00	1.79	-1.79
2	3	1.18	0.00	1.79	-2.10
3	3	1.18	0.00	1.79	-2.10
3	4	2.35	0.00	1.79	-4.20
4	4	2.35	0.00	1.79	-4.20
4	5	3.53	0.00	1.79	-6.31
5	5	3.53	0.00	1.79	-6.31
5	6	4.70	0.00	1.79	-8.41
6	6	4.70	0.00	1.79	-8.41
6	7	5.88	0.00	1.79	-10.51
7	7	5.88	0.00	1.79	-10.51
7	8	7.05	0.00	1.79	-12.61
8	8	7.05	0.00	1.79	-12.61
8	9	8.23	0.00	1.79	-14.72
9	9	8.23	0.00	1.79	-14.72
9	10	9.40	0.00	1.79	-16.82
10	10	9.40	0.00	1.79	-16.82
10	11	10.58	0.00	1.79	-18.92
11	11	10.58	0.00	1.79	-18.92
11	12	11.75	0.00	1.79	-21.02
12	12	11.75	0.00	1.79	-21.02
12	13	12.93	0.00	1.79	-23.12
13	13	12.93	0.00	1.79	-23.12
13	14	14.10	0.00	1.79	-25.23
14	14	14.10	0.00	1.79	-25.23
14	15	15.28	0.00	1.79	-27.33
15	15	15.28	0.00	1.79	-27.33
15	16	16.45	0.00	1.79	-29.43
16	16	16.45	-0.02	1.79	-29.43
16	17	17.63	-0.02	1.79	-31.53
17	17	17.63	-0.02	1.79	-31.53
17	18	18.80	-0.02	1.79	-33.64
18	18	18.80	0.00	1.79	-33.64
18	19	19.98	0.00	3.05	-35.99
19	19	19.98	0.00	3.05	-35.99
19	20	21.15	0.00	7.53	-42.59
20	20	21.15	0.00	7.53	-42.59
20	21	22.33	0.00	11.36	-54.15
21	21	22.33	0.00	11.36	-54.15
21	22	22.50	0.00	12.44	-56.26
22	22	22.50	0.00	12.44	-56.26
22	23	23.50	0.00	14.72	-69.82
23	1023	23.50	0.00	-16.19	-69.82
23	24	24.50	0.00	-13.39	-54.69
24	24	24.50	0.00	-13.39	-54.69
24	25	24.95	0.00	-12.08	-48.70
25	25	24.95	0.00	-12.08	-48.70
25	26	26.40	0.00	-8.58	-33.40
26	26	26.40	0.00	-8.58	-33.40

28/08/01
Programa DINTEL IDEAM S.A.
SC1.ENV_TREN_GENERICO.VY-
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GRÁFICO DE ESFUERZOS



SC1.ENV_TREN_GENERICO.MZ-

CÁLCULO TENSIONAL

Hipótesis de cálculo:

SC1.ENV_TREN_GENERICO.MZ-

Envolvente de tren de cargas plano genérico. MZ-

[0; 1]SC1.SCuniTpos.Barra1.Mx+ + [0; 1]SC1.SCuniTpos.Barra2.Mx+ + [0; 1]SC1.SCuniTpos.Barra3.

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
26	27	27.85	0.00	-4.30	-24.32
27	27	27.85	0.00	-4.30	-24.32
27	28	29.30	0.00	0.53	-21.64
28	28	29.30	0.00	0.53	-21.64
28	29	30.75	0.00	0.53	-22.42
29	29	30.75	0.00	0.53	-22.42
29	30	32.20	0.00	0.53	-23.19
30	30	32.20	0.00	0.53	-23.19
30	31	33.65	0.00	0.53	-23.97
31	31	33.65	0.00	0.53	-23.97
31	32	35.10	0.00	0.53	-24.74
32	32	35.10	0.00	0.53	-24.74
32	33	36.55	0.00	0.53	-25.52
33	33	36.55	0.00	0.53	-25.52
33	34	38.00	0.00	0.53	-26.29
34	34	38.00	0.00	0.53	-26.29
34	35	39.45	0.00	0.53	-27.07
35	35	39.45	0.00	0.53	-27.07
35	36	40.90	0.00	0.53	-27.84
36	36	40.90	0.00	0.53	-27.84
36	37	42.35	0.00	0.53	-28.62
37	37	42.35	0.00	0.53	-28.62
37	38	43.80	0.00	0.53	-29.39
38	38	43.80	0.00	0.53	-29.39
38	39	45.25	0.00	0.53	-30.17
39	39	45.25	0.00	0.53	-30.17
39	40	46.70	0.00	0.53	-30.94
40	40	46.70	0.00	0.53	-30.94
40	41	48.15	0.00	3.22	-33.15
41	41	48.15	0.00	3.22	-33.15
41	42	49.60	0.00	7.52	-41.24
42	42	49.60	0.00	7.52	-41.24
42	43	51.05	0.00	12.00	-55.97
43	43	51.05	0.00	12.00	-55.97
43	44	51.50	0.00	13.31	-61.84
44	44	51.50	0.00	13.31	-61.84
44	45	52.50	0.00	16.10	-76.83
45	1045	52.50	0.00	-16.51	-76.83
45	46	53.50	0.00	-13.71	-61.42
46	46	53.50	0.00	-13.71	-61.42
46	47	53.95	0.00	-12.40	-55.34
47	47	53.95	0.00	-12.40	-55.34
47	48	55.40	0.00	-7.88	-39.92
48	48	55.40	0.00	-7.88	-39.92
48	49	56.85	0.00	-4.02	-31.18
49	49	56.85	0.00	-4.02	-31.18
49	50	58.30	0.00	0.41	-29.10
50	50	58.30	0.00	0.41	-29.10
50	51	59.75	0.00	0.41	-29.69
51	51	59.75	0.00	0.41	-29.69
51	52	61.20	0.00	0.41	-30.28

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SC1.ENV_TREN_GENERICO.MZ-

CÁLCULO TENSIONAL

Hipótesis de cálculo:

SC1.ENV_TREN_GENERICO.MZ-

Envolvente de tren de cargas plano genérico. MZ-

[0; 1]SC1.SCuniTpos.Barra1.Mx+ + [0; 1]SC1.SCuniTpos.Barra2.Mx+ + [0; 1]SC1.SCuniTpos.Barra3.

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
52	52	61.20	0.00	0.41	-30.28
52	53	62.65	0.00	0.41	-30.87
53	53	62.65	0.00	0.41	-30.87
53	54	64.10	0.00	0.41	-31.46
54	54	64.10	0.00	0.41	-31.46
54	55	65.55	0.00	0.41	-32.05
55	55	65.55	0.00	0.41	-32.05
55	56	67.00	0.00	0.41	-32.64
56	56	67.00	0.00	0.41	-32.64
56	57	68.45	0.00	0.41	-33.23
57	57	68.45	0.00	0.41	-33.23
57	58	69.90	0.00	0.41	-33.82
58	58	69.90	0.00	0.41	-33.82
58	59	71.35	0.00	0.41	-34.41
59	59	71.35	0.00	0.41	-34.41
59	60	72.80	0.00	0.41	-35.00
60	60	72.80	0.00	0.41	-35.00
60	61	74.25	0.00	0.41	-35.59
61	61	74.25	0.00	0.41	-35.59
61	62	75.70	0.00	0.41	-36.18
62	62	75.70	0.00	0.41	-36.18
62	63	77.15	0.00	3.27	-37.92
63	63	77.15	0.00	3.27	-37.92
63	64	78.60	0.00	8.01	-45.91
64	64	78.60	0.00	8.01	-45.91
64	65	80.05	0.00	12.49	-60.93
65	65	80.05	0.00	12.49	-60.93
65	66	80.50	0.00	13.79	-66.97
66	66	80.50	0.00	13.79	-66.97
66	67	81.50	0.00	16.59	-82.42
67	1067	81.50	0.00	-17.43	-82.42
67	68	82.50	0.00	-14.40	-65.99
68	68	82.50	0.00	-14.40	-65.99
68	69	83.08	0.00	-12.98	-57.81
69	69	83.08	0.00	-12.98	-57.81
69	70	84.65	0.00	-8.07	-40.36
70	70	84.65	0.00	-8.07	-40.36
70	71	86.23	0.00	-3.88	-30.80
71	71	86.23	0.00	-3.88	-30.80
71	72	87.80	0.00	0.22	-28.66
72	72	87.80	0.00	0.22	-28.66
72	73	89.38	0.00	0.22	-29.02
73	73	89.38	0.00	0.22	-29.02
73	74	90.95	0.00	0.22	-29.37
74	74	90.95	0.00	0.22	-29.37
74	75	92.53	0.00	0.22	-29.72
75	75	92.53	0.00	0.22	-29.72
75	76	94.10	0.00	0.22	-30.07
76	76	94.10	0.00	0.22	-30.07
76	77	95.68	0.00	0.22	-30.42
77	77	95.68	0.00	0.22	-30.42

CÁLCULO TENSIONAL

Hipótesis de cálculo:
SC1.ENV_TREN_GENERICO.MZ-

Envolvente de tren de cargas plano genérico. MZ-

[0; 1]SC1.SCuniTpos.Barra1.Mx+ + [0; 1]SC1.SCuniTpos.Barra2.Mx+ + [0; 1]SC1.SCuniTpos.Barra3.

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
77	78	97.25	0.00	0.22	-30.77
78	78	97.25	0.00	0.22	-30.77
78	79	98.83	0.00	0.22	-31.12
79	79	98.83	0.00	0.22	-31.12
79	80	100.40	0.00	0.22	-31.47
80	80	100.40	0.00	0.22	-31.47
80	81	101.98	0.00	0.22	-31.82
81	81	101.98	0.00	0.22	-31.82
81	82	103.55	0.00	0.22	-32.17
82	82	103.55	0.00	0.22	-32.17
82	83	105.13	0.00	0.22	-32.52
83	83	105.13	0.00	0.22	-32.52
83	84	106.70	0.00	0.22	-32.87
84	84	106.70	0.00	0.22	-32.87
84	85	108.28	0.00	3.09	-34.68
85	85	108.28	0.00	3.09	-34.68
85	86	109.85	0.00	8.25	-43.68
86	86	109.85	0.00	8.25	-43.68
86	87	111.43	0.00	13.12	-60.86
87	87	111.43	0.00	13.12	-60.86
87	88	112.00	0.00	14.54	-69.06
88	88	112.00	0.00	14.54	-69.06
88	89	113.00	0.00	17.57	-85.57
89	1089	113.00	0.00	-17.30	-85.57
89	90	114.00	0.00	-14.26	-69.33
90	90	114.00	0.00	-14.26	-69.33
90	91	114.58	0.00	-12.85	-61.30
91	91	114.58	0.00	-12.85	-61.30
91	92	116.15	0.00	-8.00	-44.57
92	92	116.15	0.00	-8.00	-44.57
92	93	117.73	0.00	-2.88	-36.01
93	93	117.73	0.00	-2.88	-36.01
93	94	119.30	0.00	-0.71	-33.97
94	94	119.30	-0.01	-0.71	-33.97
94	95	120.88	-0.01	-0.71	-32.86
95	95	120.88	-0.01	-0.71	-32.86
95	96	122.45	-0.01	-0.71	-31.74
96	96	122.45	0.00	-0.71	-31.74
96	97	124.03	0.00	-0.71	-30.63
97	97	124.03	0.00	-0.71	-30.63
97	98	125.60	0.00	-0.71	-29.52
98	98	125.60	0.00	-0.71	-29.52
98	99	127.18	0.00	-0.71	-28.41
99	99	127.18	0.00	-0.71	-28.41
99	100	128.75	0.00	-0.71	-27.30
100	100	128.75	0.00	-0.71	-27.30
100	101	130.33	0.00	-0.71	-26.18
101	101	130.33	0.00	-0.71	-26.18
101	102	131.90	0.00	-0.71	-25.07
102	102	131.90	0.00	-0.71	-25.07
102	103	133.48	0.00	-0.71	-23.96

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SC1.ENV_TREN_GENERICO.MZ-
28/08/01

CÁLCULO TENSIONAL

Hipótesis de cálculo:
SC1.ENV_TREN_GENERICO.MZ-

Envolvente de tren de cargas plano genérico. MZ-

[0; 1]SC1.SCuniTpos.Barra1.Mx+ + [0; 1]SC1.SCuniTpos.Barra2.Mx+ + [0; 1]SC1.SCuniTpos.Barra3.

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
103	103	133.48	0.00	-0.71	-23.96
103	104	135.05	0.00	-0.71	-22.85
104	104	135.05	0.01	-0.71	-22.85
104	105	136.63	0.01	-0.71	-21.74
105	105	136.63	0.01	-0.71	-21.74
105	106	138.20	0.01	-0.71	-20.62
106	106	138.20	0.00	-0.71	-20.62
106	107	139.78	0.00	4.27	-23.24
107	107	139.78	0.00	4.27	-23.24
107	108	141.35	0.00	8.93	-33.26
108	108	141.35	0.00	8.93	-33.26
108	109	142.93	0.00	12.75	-50.69
109	109	142.93	0.00	12.75	-50.69
109	110	143.50	0.00	15.66	-58.79
110	110	143.50	0.00	15.66	-58.79
110	111	144.50	0.00	17.21	-75.03
111	1111	144.50	0.00	-14.94	-75.03
111	112	145.50	0.00	-12.66	-61.25
112	112	145.50	0.00	-12.66	-61.25
112	113	145.68	0.00	-11.58	-59.12
113	113	145.68	0.00	-11.58	-59.12
113	114	146.85	0.00	-7.77	-47.57
114	114	146.85	0.00	-7.77	-47.57
114	115	148.03	0.00	-2.63	-41.43
115	115	148.03	0.00	-2.63	-41.43
115	116	149.20	0.00	-2.07	-38.96
116	116	149.20	-0.02	-2.07	-38.96
116	117	150.38	-0.02	-2.07	-36.52
117	117	150.38	-0.02	-2.07	-36.52
117	118	151.55	-0.02	-2.07	-34.09
118	118	151.55	0.00	-2.07	-34.09
118	119	152.73	0.00	-2.07	-31.65
119	119	152.73	0.00	-2.07	-31.65
119	120	153.90	0.00	-2.07	-29.22
120	120	153.90	0.00	-2.07	-29.22
120	121	155.08	0.00	-2.07	-26.78
121	121	155.08	0.00	-2.07	-26.78
121	122	156.25	0.00	-2.07	-24.35
122	122	156.25	0.00	-2.07	-24.35
122	123	157.43	0.00	-2.07	-21.91
123	123	157.43	0.00	-2.07	-21.91
123	124	158.60	0.00	-2.07	-19.48
124	124	158.60	0.00	-2.07	-19.48
124	125	159.78	0.00	-2.07	-17.04
125	125	159.78	0.00	-2.07	-17.04
125	126	160.95	0.00	-2.07	-14.61
126	126	160.95	0.00	-2.07	-14.61
126	127	162.13	0.00	-2.07	-12.17
127	127	162.13	0.00	-2.07	-12.17
127	128	163.30	0.00	-2.07	-9.74
128	128	163.30	0.00	-2.07	-9.74

CÁLCULO TENSIONAL

Hipótesis de cálculo:

SC1.ENV_TREN_GENERICO.MZ-

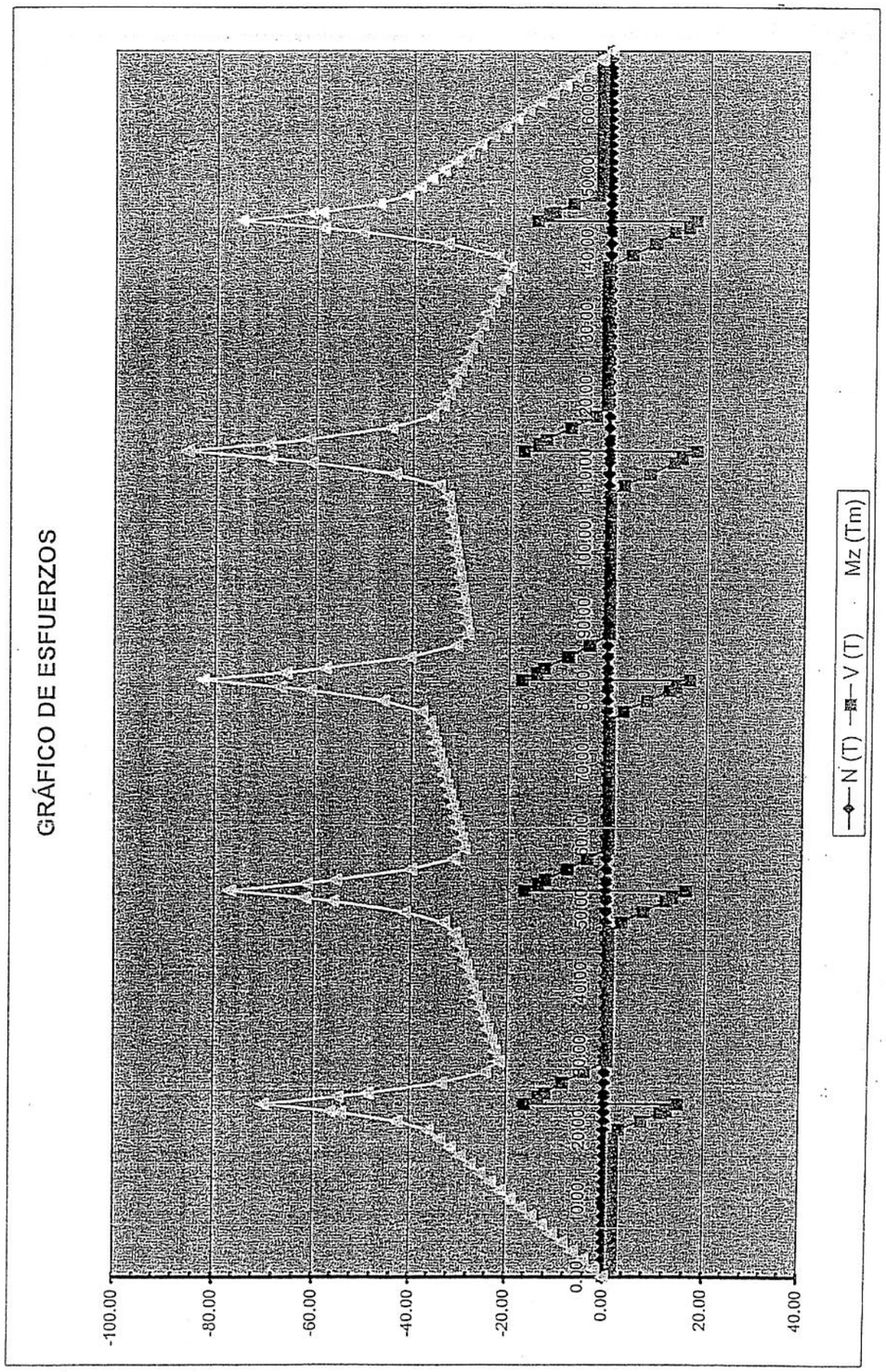
Envolvente de tren de cargas plano genérico. MZ-

[0; 1]SC1.SCuniTpos.Barra1.Mx+ + [0; 1]SC1.SCuniTpos.Barra2.Mx+ + [0; 1]SC1.SCuniTpos.Barra3.

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
128	129	164.48	0.00	-2.07	-7.30
129	129	164.48	0.00	-2.07	-7.30
129	130	165.65	0.00	-2.07	-4.87
130	130	165.65	0.00	-2.07	-4.87
130	131	166.83	0.00	-2.07	-2.43
131	131	166.83	0.00	-2.07	-2.43
131	132	167.00	0.00	-2.07	-2.07
132	132	167.00	0.00	-2.07	-2.07
132	133	168.00	0.00	0.00	0.00

GRÁFICO DE ESFUERZOS



CÁLCULO TENSIONAL

Hipótesis de cálculo:
SC9.ENV_TREN_GENERICO.VY+

Envolvente de tren de cargas plano genérico. VY+

[0; 1]SC9.SCuniTpos.Barra1.Mx+ + [0; 1]SC9.SCuniTpos.Barra2.Mx+ + [0; 1]SC9.SCuniTpos.Barra3.
Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
1	1	0.00	0.00	16.10	0.00
1	2	1.00	0.00	16.33	-11.83
2	2	1.00	0.00	16.33	-11.83
2	3	1.18	0.00	16.42	-13.08
3	3	1.18	0.00	16.42	-13.08
3	4	2.35	0.00	17.37	-15.96
4	4	2.35	0.00	17.37	-15.96
4	5	3.53	0.00	18.94	-10.87
5	5	3.53	0.00	18.94	-10.87
5	6	4.70	0.00	21.15	0.01
6	6	4.70	0.00	21.15	0.01
6	7	5.88	0.00	23.97	14.48
7	7	5.88	0.00	23.97	14.48
7	8	7.05	0.00	27.41	30.41
8	8	7.05	0.00	27.41	30.41
8	9	8.23	0.00	31.45	45.72
9	9	8.23	0.00	31.45	45.72
9	10	9.40	0.00	36.09	58.34
10	10	9.40	0.00	36.09	58.34
10	11	10.58	0.00	41.32	66.32
11	11	10.58	0.00	41.32	66.32
11	12	11.75	0.00	47.11	67.74
12	12	11.75	0.00	47.11	67.74
12	13	12.93	0.00	53.46	60.77
13	13	12.93	0.00	53.46	60.77
13	14	14.10	0.00	60.35	43.69
14	14	14.10	0.00	60.35	43.69
14	15	15.28	0.00	67.77	14.84
15	15	15.28	0.00	67.77	14.84
15	16	16.45	0.00	75.68	-27.31
16	16	16.45	-0.90	75.68	-27.31
16	17	17.63	-0.99	84.08	-84.16
17	17	17.63	-0.99	84.08	-84.16
17	18	18.80	-1.10	92.95	-157.01
18	18	18.80	0.00	92.95	-157.01
18	19	19.98	0.00	102.25	-247.02
19	19	19.98	0.00	102.25	-247.02
19	20	21.15	0.00	111.97	-355.18
20	20	21.15	0.00	111.97	-355.18
20	21	22.33	0.00	122.06	-482.22
21	21	22.33	0.00	122.06	-482.22
21	22	22.50	0.00	123.60	-502.78
22	22	22.50	0.00	123.60	-502.78
22	23	23.50	0.00	132.49	-628.41
23	1023	23.50	0.00	15.28	83.12
23	24	24.50	0.00	15.38	70.11
24	24	24.50	0.00	15.38	70.11
24	25	24.95	0.00	15.49	65.78
25	25	24.95	0.00	15.49	65.78
25	26	26.40	0.00	16.20	58.28
26	26	26.40	0.00	16.20	58.28

CÁLCULO TENSIONAL

Hipótesis de cálculo:
SC9.ENV_TREN_GENERICO.VY+

Envolvente de tren de cargas plano genérico. VY+

[0; 1]SC9.SCuniTpos.Barra1.Mx+ + [0; 1]SC9.SCuniTpos.Barra2.Mx+ + [0; 1]SC9.SCuniTpos.Barra3.
Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
26	27	27.85	0.00	17.48	59.81
27	27	27.85	0.00	17.48	59.81
27	28	29.30	0.00	19.35	68.85
28	28	29.30	0.19	19.35	68.85
28	29	30.75	0.21	21.87	83.54
29	29	30.75	0.21	21.87	83.54
29	30	32.20	0.24	25.05	101.77
30	30	32.20	0.00	25.05	101.77
30	31	33.65	0.00	28.94	121.24
31	31	33.65	0.00	28.94	121.24
31	32	35.10	0.00	33.54	139.50
32	32	35.10	0.00	33.54	139.50
32	33	36.55	0.00	38.88	153.95
33	33	36.55	0.00	38.88	153.95
33	34	38.00	0.00	44.96	161.91
34	34	38.00	0.00	44.96	161.91
34	35	39.45	0.00	51.79	160.65
35	35	39.45	0.00	51.79	160.65
35	36	40.90	0.00	59.36	147.41
36	36	40.90	0.00	59.36	147.41
36	37	42.35	0.00	67.68	119.47
37	37	42.35	0.00	67.68	119.47
37	38	43.80	0.00	76.72	74.19
38	38	43.80	-0.74	76.71	74.19
38	39	45.25	-0.83	86.47	9.01
39	39	45.25	-0.83	86.47	9.01
39	40	46.70	-0.93	96.91	-78.47
40	40	46.70	0.00	96.91	-78.47
40	41	48.15	0.00	108.02	-190.49
41	41	48.15	0.00	108.02	-190.49
41	42	49.60	0.00	119.75	-329.07
42	42	49.60	0.00	119.75	-329.07
42	43	51.05	0.00	132.06	-495.81
43	43	51.05	0.00	132.06	-495.81
43	44	51.50	0.00	135.99	-553.44
44	44	51.50	0.00	135.99	-553.44
44	45	52.50	0.00	144.89	-691.51
45	1045	52.50	0.00	19.63	144.44
45	46	53.50	0.00	19.73	127.12
46	46	53.50	0.00	19.73	127.12
46	47	53.95	0.00	19.84	120.87
47	47	53.95	0.00	19.84	120.87
47	48	55.40	0.00	20.56	107.32
48	48	55.40	0.00	20.56	107.32
48	49	56.85	0.00	21.84	103.04
49	49	56.85	0.00	21.84	103.04
49	50	58.30	0.00	23.73	106.51
50	50	58.30	0.23	23.73	106.51
50	51	59.75	0.25	26.26	115.78
51	51	59.75	0.25	26.26	115.78
51	52	61.20	0.28	29.47	128.70

SC9.ENV_TREN_GENERICO.VY+

CÁLCULO TENSIONAL

Hipótesis de cálculo:

SC9.ENV_TREN_GENERICO.VY+

Envolvente de tren de cargas plano genérico. VY+

[0; 1]SC9.SCuniTpos.Barra1.Mx+ + [0; 1]SC9.SCuniTpos.Barra2.Mx+ + [0; 1]SC9.SCuniTpos.Barra3.

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
52	52	61.20	0.00	29.47	128.70
52	53	62.65	0.00	33.37	142.91
53	53	62.65	0.00	33.37	142.91
53	54	64.10	0.00	37.99	155.94
54	54	64.10	0.00	37.99	155.94
54	55	65.55	0.00	43.33	165.17
55	55	65.55	0.00	43.33	165.17
55	56	67.00	0.00	49.42	167.91
56	56	67.00	0.00	49.42	167.91
56	57	68.45	0.00	56.24	161.40
57	57	68.45	0.00	56.24	161.40
57	58	69.90	0.00	63.81	142.90
58	58	69.90	0.00	63.81	142.90
58	59	71.35	0.00	72.12	109.67
59	59	71.35	0.00	72.12	109.67
59	60	72.80	0.00	81.15	59.03
60	60	72.80	-0.78	81.15	59.03
60	61	74.25	-0.87	90.89	-11.59
61	61	74.25	-0.87	90.89	-11.59
61	62	75.70	-0.97	101.31	-104.63
62	62	75.70	0.00	101.32	-104.63
62	63	77.15	0.00	112.41	-222.39
63	63	77.15	0.00	112.41	-222.39
63	64	78.60	0.00	124.13	-366.90
64	64	78.60	0.00	124.13	-366.90
64	65	80.05	0.00	136.45	-539.79
65	65	80.05	0.00	136.45	-539.79
65	66	80.50	0.00	140.38	-599.36
66	66	80.50	0.00	140.38	-599.36
66	67	81.50	0.00	149.27	-741.78
67	1067	81.50	0.00	17.13	149.56
67	68	82.50	0.00	17.22	134.71
68	68	82.50	0.00	17.22	134.71
68	69	83.08	0.00	17.36	128.31
69	69	83.08	0.00	17.36	128.31
69	70	84.65	0.00	18.13	118.81
70	70	84.65	0.00	18.13	118.81
70	71	86.23	0.00	19.52	120.26
71	71	86.23	0.00	19.52	120.26
71	72	87.80	0.00	21.58	130.83
72	72	87.80	0.19	21.58	130.83
72	73	89.38	0.21	24.34	148.25
73	73	89.38	0.21	24.34	148.25
73	74	90.95	0.25	27.83	169.95
74	74	90.95	0.00	27.83	169.95
74	75	92.53	0.00	32.07	193.17
75	75	92.53	0.00	32.07	193.17
75	76	94.10	0.00	37.10	214.95
76	76	94.10	0.00	37.10	214.95
76	77	95.68	0.00	42.92	232.20
77	77	95.68	0.00	42.92	232.20

SC9.ENV_TREN_GENERICO.VY+

CÁLCULO TENSIONAL

Hipótesis de cálculo:

SC9.ENV_TREN_GENERICO.VY+

Envolvente de tren de cargas plano genérico. VY+

[0; 1]SC9.SCuniTpos.Barra1.Mx+ + [0; 1]SC9.SCuniTpos.Barra2.Mx+ + [0; 1]SC9.SCuniTpos.Barra3.

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
77	78	97.25	0.00	49.55	241.74
78	78	97.25	0.00	49.55	241.74
78	79	98.83	0.00	56.98	240.32
79	79	98.83	0.00	56.98	240.32
79	80	100.40	0.00	65.22	224.70
80	80	100.40	0.00	65.22	224.70
80	81	101.98	0.00	74.26	191.64
81	81	101.98	0.00	74.26	191.64
81	82	103.55	0.00	84.09	138.01
82	82	103.55	-0.74	84.08	138.01
82	83	105.13	-0.84	94.68	60.77
83	83	105.13	-0.84	94.68	60.77
83	84	106.70	-0.94	106.02	-42.94
84	84	106.70	0.00	106.02	-42.94
84	85	108.28	0.00	118.09	-175.80
85	85	108.28	0.00	118.09	-175.80
85	86	109.85	0.00	130.83	-340.21
86	86	109.85	0.00	130.83	-340.21
86	87	111.43	0.00	144.21	-538.06
87	87	111.43	0.00	144.21	-538.06
87	88	112.00	0.00	149.24	-618.85
88	88	112.00	0.00	149.24	-618.85
88	89	113.00	0.00	158.15	-770.17
89	1089	113.00	0.00	11.70	115.93
89	90	114.00	0.00	11.79	106.54
90	90	114.00	0.00	11.79	106.54
90	91	114.58	0.00	11.94	103.31
91	91	114.58	0.00	11.94	103.31
91	92	116.15	0.00	12.75	102.62
92	92	116.15	0.00	12.75	102.62
92	93	117.73	0.00	14.19	113.01
93	93	117.73	0.00	14.19	113.01
93	94	119.30	0.00	16.33	132.57
94	94	119.30	0.14	16.33	132.57
94	95	120.88	0.17	19.19	158.87
95	95	120.88	0.17	19.19	158.87
95	96	122.45	0.20	22.81	189.19
96	96	122.45	0.00	22.81	189.19
96	97	124.03	0.00	27.21	220.64
97	97	124.03	0.00	27.21	220.64
97	98	125.60	0.00	32.40	250.15
98	98	125.60	0.00	32.40	250.15
98	99	127.18	0.00	38.39	274.56
99	99	127.18	0.00	38.39	274.56
99	100	128.75	0.00	45.19	290.65
100	100	128.75	0.00	45.19	290.65
100	101	130.33	0.00	52.80	295.15
101	101	130.33	0.00	52.80	295.15
101	102	131.90	0.00	61.22	284.84
102	102	131.90	0.00	61.22	284.84
102	103	133.48	0.00	70.43	256.56

CÁLCULO TENSIONAL

Hipótesis de cálculo:
SC9.ENV_TREN_GENERICO.VY+

Envolvente de tren de cargas plano genérico. VY+

[0; 1]SC9.SCuniTpos.Barra1.Mx+ + [0; 1]SC9.SCuniTpos.Barra2.Mx+ + [0; 1]SC9.SCuniTpos.Barra3.

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
103	103	133.48	0.00	70.43	256.56
103	104	135.05	0.00	80.41	207.25
104	104	135.05	-0.71	80.41	207.25
104	105	136.63	-0.80	91.15	134.04
105	105	136.63	-0.80	91.15	134.04
105	106	138.20	-0.91	102.61	34.23
106	106	138.20	0.00	102.61	34.23
106	107	139.78	0.00	114.77	-94.66
107	107	139.78	0.00	114.77	-94.66
107	108	141.35	0.00	127.57	-254.82
108	108	141.35	0.00	127.57	-254.82
108	109	142.93	0.00	140.98	-448.04
109	109	142.93	0.00	140.98	-448.04
109	110	143.50	0.00	146.02	-527.06
110	110	143.50	0.00	146.02	-527.06
110	111	144.50	0.00	154.93	-675.23
111	1111	144.50	0.00	3.89	91.39
111	112	145.50	0.00	4.00	89.88
112	112	145.50	0.00	4.00	89.88
112	113	145.68	0.00	4.04	90.12
113	113	145.68	0.00	4.04	90.12
113	114	146.85	0.00	4.52	95.63
114	114	146.85	0.00	4.52	95.63
114	115	148.03	0.00	5.39	107.70
115	115	148.03	0.00	5.39	107.70
115	116	149.20	0.00	6.68	125.60
116	116	149.20	0.08	6.68	125.60
116	117	150.38	0.10	8.42	148.34
117	117	150.38	0.10	8.42	148.34
117	118	151.55	0.13	10.62	174.72
118	118	151.55	0.00	10.62	174.72
118	119	152.73	0.00	13.32	203.41
119	119	152.73	0.00	13.32	203.41
119	120	153.90	0.00	16.52	232.94
120	120	153.90	0.00	16.52	232.94
120	121	155.08	0.00	20.25	261.73
121	121	155.08	0.00	20.25	261.73
121	122	156.25	0.00	24.52	288.13
122	122	156.25	0.00	24.52	288.13
122	123	157.43	0.00	29.35	310.37
123	123	157.43	0.00	29.35	310.37
123	124	158.60	0.00	34.75	326.62
124	124	158.60	0.00	34.75	326.62
124	125	159.78	0.00	40.73	334.97
125	125	159.78	0.00	40.73	334.97
125	126	160.95	0.00	47.30	333.44
126	126	160.95	0.00	47.30	333.44
126	127	162.13	0.00	54.47	320.00
127	127	162.13	0.00	54.47	320.00
127	128	163.30	0.00	62.25	292.56
128	128	163.30	0.00	62.25	292.56

CÁLCULO TENSIONAL

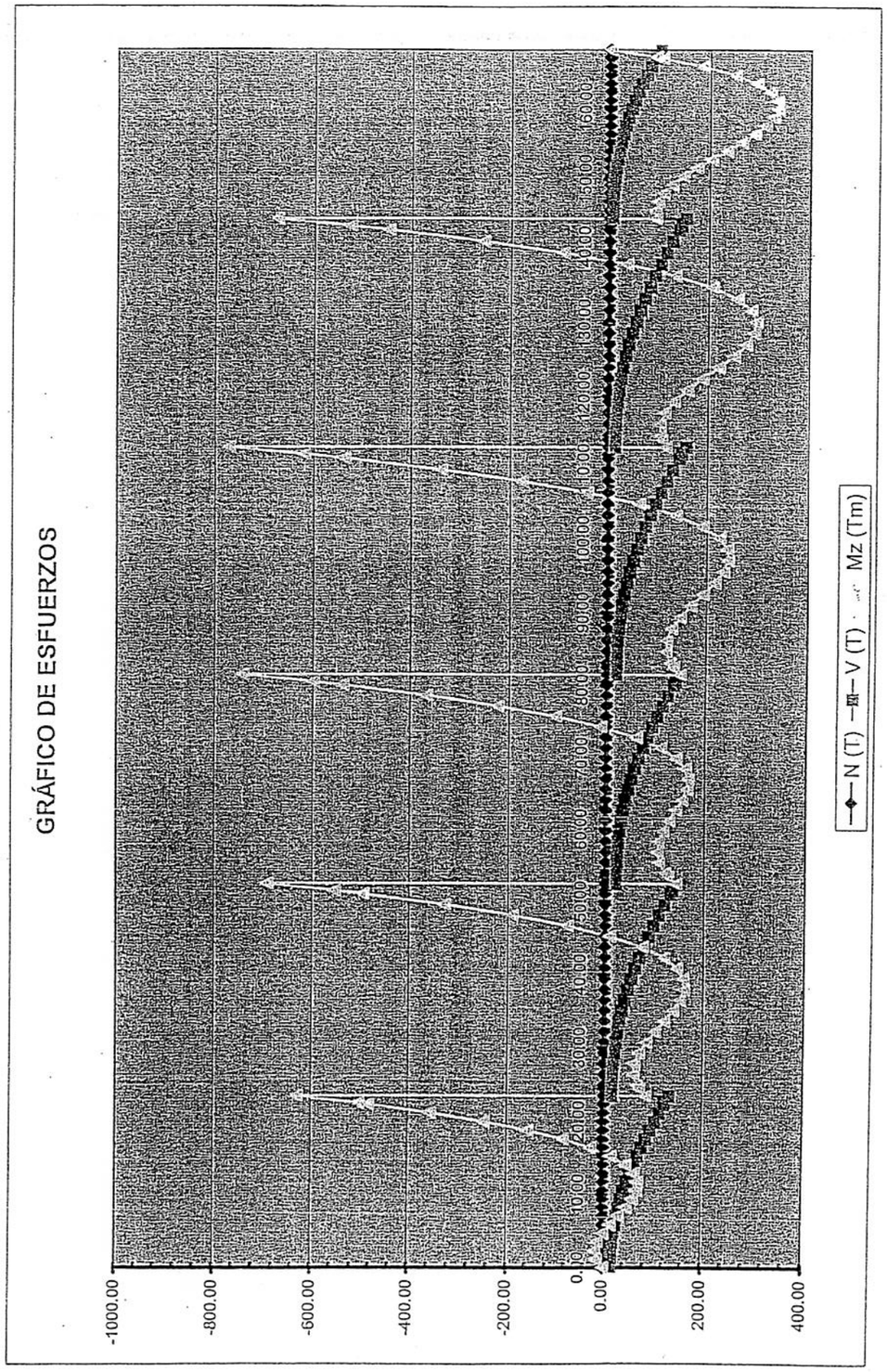
Hipótesis de cálculo:
SC9.ENV_TREN_GENERICO.VY+

Envolvente de tren de cargas plano genérico. VY+

[0; 1]SC9.SCuniTpos.Barra1.Mx+ + [0; 1]SC9.SCuniTpos.Barra2.Mx+ + [0; 1]SC9.SCuniTpos.Barra3.

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
128	129	164.48	0.00	70.64	249.01
129	129	164.48	0.00	70.64	249.01
129	130	165.65	0.00	79.66	187.19
130	130	165.65	0.00	79.66	187.19
130	131	166.83	0.00	89.29	104.92
131	131	166.83	0.00	89.29	104.92
131	132	167.00	0.00	90.78	90.77
132	132	167.00	0.00	90.78	90.77
132	133	168.00	0.00	99.56	0.00



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CÁLCULO TENSIONAL

Hipótesis de cálculo:

SC9.ENV_TREN_GENERICO.MZ+

Envolvente de tren de cargas plano genérico. MZ+

[0; 1]SC9.SCuniTpos.Barra1.Mx+ + [0; 1]SC9.SCuniTpos.Barra2.Mx+ + [0; 1]SC9.SCuniTpos.Barra3.

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
1	1	0.00	0.00	0.00	0.00
1	2	1.00	0.00	-89.65	94.15
2	2	1.00	0.00	-89.65	94.15
2	3	1.18	0.00	-88.07	109.70
3	3	1.18	0.00	-88.07	109.70
3	4	2.35	0.00	-77.50	206.97
4	4	2.35	0.00	-77.50	206.97
4	5	3.53	0.00	-66.92	291.82
5	5	3.53	0.00	-66.92	291.82
5	6	4.70	0.00	-56.35	364.24
6	6	4.70	0.00	-56.35	364.24
6	7	5.88	0.00	-45.77	424.24
7	7	5.88	0.00	-45.77	424.24
7	8	7.05	0.00	-35.20	471.81
8	8	7.05	0.00	-35.20	471.81
8	9	8.23	0.00	-24.62	506.96
9	9	8.23	0.00	-24.62	506.96
9	10	9.40	0.00	-14.05	529.68
10	10	9.40	0.00	-14.05	529.68
10	11	10.58	0.00	-3.47	539.97
11	11	10.58	0.00	-3.47	539.97
11	12	11.75	0.00	7.10	537.84
12	12	11.75	0.00	7.10	537.84
12	13	12.93	0.00	17.68	523.28
13	13	12.93	0.00	17.68	523.28
13	14	14.10	0.00	28.25	496.30
14	14	14.10	0.00	28.25	496.30
14	15	15.28	0.00	38.83	456.89
15	15	15.28	0.00	38.83	456.89
15	16	16.45	0.00	49.40	405.06
16	16	16.45	-0.58	49.40	405.06
16	17	17.63	-0.71	59.97	340.80
17	17	17.63	-0.71	59.97	340.80
17	18	18.80	-0.83	70.55	264.11
18	18	18.80	0.00	70.55	264.11
18	19	19.98	0.00	69.82	177.23
19	19	19.98	0.00	69.82	177.23
19	20	21.15	0.00	40.04	116.19
20	20	21.15	0.00	40.04	116.19
20	21	22.33	0.00	16.12	87.33
21	21	22.33	0.00	16.12	87.33
21	22	22.50	0.00	7.99	85.49
22	22	22.50	0.00	7.99	85.49
22	23	23.50	0.00	-3.54	83.12
23	1023	23.50	0.00	15.28	83.12
23	24	24.50	0.00	-0.90	72.82
24	24	24.50	0.00	-0.90	72.82
24	25	24.95	0.00	-8.62	72.64
25	25	24.95	0.00	-8.62	72.64
25	26	26.40	0.00	-27.15	95.70
26	26	26.40	0.00	-27.15	95.70

CÁLCULO TENSIONAL

Hipótesis de cálculo:
SC9.ENV_TREN_GENERICO.MZ+

Envolvente de tren de cargas plano genérico. MZ+

[0; 1]SC9.SCuniTpos.Barra1.Mx+ + [0; 1]SC9.SCuniTpos.Barra2.Mx+ + [0; 1]SC9.SCuniTpos.Barra3.

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
26	27	27.85	0.00	-52.61	155.84
27	27	27.85	0.00	-52.61	155.84
27	28	29.30	0.00	-83.05	254.66
28	28	29.30	-0.80	-83.05	254.66
28	29	30.75	-0.67	-70.00	365.62
29	29	30.75	-0.67	-70.00	365.62
29	30	32.20	-0.55	-56.95	457.66
30	30	32.20	0.00	-56.95	457.66
30	31	33.65	0.00	-43.90	530.77
31	31	33.65	0.00	-43.90	530.77
31	32	35.10	0.00	-30.85	584.97
32	32	35.10	0.00	-30.85	584.97
32	33	36.55	0.00	-17.80	620.24
33	33	36.55	0.00	-17.80	620.24
33	34	38.00	0.00	-4.75	636.59
34	34	38.00	0.00	-4.75	636.59
34	35	39.45	0.00	8.30	634.01
35	35	39.45	0.00	8.30	634.01
35	36	40.90	0.00	21.35	612.52
36	36	40.90	0.00	21.35	612.52
36	37	42.35	0.00	34.40	572.10
37	37	42.35	0.00	34.40	572.10
37	38	43.80	0.00	47.45	512.75
38	38	43.80	-0.45	47.45	512.75
38	39	45.25	-0.58	60.50	434.49
39	39	45.25	-0.58	60.50	434.49
39	40	46.70	-0.71	73.55	337.30
40	40	46.70	0.00	73.55	337.30
40	41	48.15	0.00	62.47	234.09
41	41	48.15	0.00	62.47	234.09
41	42	49.60	0.00	36.79	164.88
42	42	49.60	0.00	36.79	164.88
42	43	51.05	0.00	9.50	136.52
43	43	51.05	0.00	9.50	136.52
43	44	51.50	0.00	1.82	135.57
44	44	51.50	0.00	1.82	135.57
44	45	52.50	0.00	-14.32	144.44
45	1045	52.50	0.00	19.63	144.44
45	46	53.50	0.00	3.46	130.13
46	46	53.50	0.00	3.46	130.13
46	47	53.95	0.00	-4.26	128.52
47	47	53.95	0.00	-4.26	128.52
47	48	55.40	0.00	-31.88	148.31
48	48	55.40	0.00	-31.88	148.31
48	49	56.85	0.00	-53.64	209.31
49	49	56.85	0.00	-53.64	209.31
49	50	58.30	0.00	-80.41	311.33
50	50	58.30	-0.77	-80.40	311.33
50	51	59.75	-0.65	-67.35	418.45
51	51	59.75	-0.65	-67.35	418.45
51	52	61.20	-0.52	-54.30	506.66

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SC9.ENV_TREN_GENERICO.MZ+

CÁLCULO TENSIONAL

Hipótesis de cálculo:
SC9.ENV_TREN_GENERICO.MZ+

Envolvente de tren de cargas plano genérico. MZ+

[0; 1]SC9.SCuniTpos.Barra1.Mx+ + [0; 1]SC9.SCuniTpos.Barra2.Mx+ + [0; 1]SC9.SCuniTpos.Barra3.

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
52	52	61.20	0.00	-54.30	506.66
52	53	62.65	0.00	-41.25	575.94
53	53	62.65	0.00	-41.25	575.94
53	54	64.10	0.00	-28.21	626.29
54	54	64.10	0.00	-28.21	626.29
54	55	65.55	0.00	-15.16	657.73
55	55	65.55	0.00	-15.16	657.73
55	56	67.00	0.00	-2.11	670.24
56	56	67.00	0.00	-2.11	670.24
56	57	68.45	0.00	10.94	663.84
57	57	68.45	0.00	10.94	663.84
57	58	69.90	0.00	23.99	638.50
58	58	69.90	0.00	23.99	638.50
58	59	71.35	0.00	37.04	594.25
59	59	71.35	0.00	37.04	594.25
59	60	72.80	0.00	50.09	531.07
60	60	72.80	-0.48	50.09	531.07
60	61	74.25	-0.61	63.14	448.98
61	61	74.25	-0.61	63.14	448.98
61	62	75.70	-0.73	76.19	347.95
62	62	75.70	0.00	76.19	347.95
62	63	77.15	0.00	63.44	238.38
63	63	77.15	0.00	63.44	238.38
63	64	78.60	0.00	33.84	166.10
64	64	78.60	0.00	33.84	166.10
64	65	80.05	0.00	6.60	138.19
65	65	80.05	0.00	6.60	138.19
65	66	80.50	0.00	-1.08	138.10
66	66	80.50	0.00	-1.08	138.10
66	67	81.50	0.00	-17.22	149.56
67	1067	81.50	0.00	17.13	149.56
67	68	82.50	0.00	-1.22	137.00
68	68	82.50	0.00	-1.22	137.00
68	69	83.08	0.00	-8.83	137.11
69	69	83.08	0.00	-8.83	137.11
69	70	84.65	0.00	-38.80	166.68
70	70	84.65	0.00	-38.80	166.68
70	71	86.23	0.00	-62.36	244.99
71	71	86.23	0.00	-62.36	244.99
71	72	87.80	0.00	-85.09	367.78
72	72	87.80	-0.75	-85.08	367.78
72	73	89.38	-0.63	-70.91	490.63
73	73	89.38	-0.63	-70.91	490.63
73	74	90.95	-0.50	-56.73	591.15
74	74	90.95	0.00	-56.74	591.15
74	75	92.53	0.00	-42.56	669.34
75	75	92.53	0.00	-42.56	669.34
75	76	94.10	0.00	-28.39	725.21
76	76	94.10	0.00	-28.39	725.21
76	77	95.68	0.00	-14.21	758.76
77	77	95.68	0.00	-14.21	758.76

CÁLCULO TENSIONAL

Hipótesis de cálculo:
SC9.ENV_TREN_GENERICO.MZ+

Envolvente de tren de cargas plano genérico. MZ+

[0; 1]SC9.SCuniTpos.Barra1.Mx+ + [0; 1]SC9.SCuniTpos.Barra2.Mx+ + [0; 1]SC9.SCuniTpos.Barra3.

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
77	78	97.25	0.00	-0.04	769.97
78	78	97.25	0.00	-0.04	769.97
78	79	98.83	0.00	14.14	758.87
79	79	98.83	0.00	14.14	758.87
79	80	100.40	0.00	28.31	725.43
80	80	100.40	0.00	28.31	725.43
80	81	101.98	0.00	42.49	669.68
81	81	101.98	0.00	42.49	669.68
81	82	103.55	0.00	56.66	591.59
82	82	103.55	-0.50	56.66	591.59
82	83	105.13	-0.63	70.84	491.18
83	83	105.13	-0.63	70.84	491.18
83	84	106.70	-0.75	85.01	368.45
84	84	106.70	0.00	85.01	368.45
84	85	108.28	0.00	73.37	236.50
85	85	108.28	0.00	73.37	236.50
85	86	109.85	0.00	41.11	146.97
86	86	109.85	0.00	41.11	146.97
86	87	111.43	0.00	11.46	108.72
87	87	111.43	0.00	11.46	108.72
87	88	112.00	0.00	3.89	106.47
88	88	112.00	0.00	3.89	106.47
88	89	113.00	0.00	-14.43	115.93
89	1089	113.00	0.00	11.70	115.93
89	90	114.00	0.00	-6.60	109.22
90	90	114.00	0.00	-6.60	109.22
90	91	114.58	0.00	-14.16	113.07
91	91	114.58	0.00	-14.16	113.07
91	92	116.15	0.00	-43.67	155.83
92	92	116.15	0.00	-43.67	155.83
92	93	117.73	0.00	-75.51	249.74
93	93	117.73	0.00	-75.51	249.74
93	94	119.30	0.00	-80.93	379.97
94	94	119.30	-0.71	-80.93	379.97
94	95	120.88	-0.59	-66.75	496.28
95	95	120.88	-0.59	-66.75	496.28
95	96	122.45	-0.46	-52.58	590.25
96	96	122.45	0.00	-52.58	590.25
96	97	124.03	0.00	-38.41	661.90
97	97	124.03	0.00	-38.41	661.90
97	98	125.60	0.00	-24.23	711.23
98	98	125.60	0.00	-24.23	711.23
98	99	127.18	0.00	-10.06	738.23
99	99	127.18	0.00	-10.06	738.23
99	100	128.75	0.00	4.12	742.90
100	100	128.75	0.00	4.12	742.90
100	101	130.33	0.00	18.29	725.25
101	101	130.33	0.00	18.29	725.25
101	102	131.90	0.00	32.47	685.27
102	102	131.90	0.00	32.47	685.27
102	103	133.48	0.00	46.64	622.97

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SC9.ENV_TREN_GENERICO.MZ+

CÁLCULO TENSIONAL

Hipótesis de cálculo:
SC9.ENV_TREN_GENERICO.MZ+

Envolvente de tren de cargas plano genérico. MZ+

[0; 1]SC9.SCuniTpos.Barra1.Mx+ + [0; 1]SC9.SCuniTpos.Barra2.Mx+ + [0; 1]SC9.SCuniTpos.Barra3.

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
103	103	133.48	0.00	46.64	622.97
103	104	135.05	0.00	60.82	538.34
104	104	135.05	-0.54	60.82	538.34
104	105	136.63	-0.66	74.99	431.39
105	105	136.63	-0.66	74.99	431.39
105	106	138.20	-0.79	89.17	302.11
106	106	138.20	0.00	89.17	302.11
106	107	139.78	0.00	58.60	184.02
107	107	139.78	0.00	58.60	184.02
107	108	141.35	0.00	30.75	110.34
108	108	141.35	0.00	30.75	110.34
108	109	142.93	0.00	10.57	80.91
109	109	142.93	0.00	10.57	80.91
109	110	143.50	0.00	-10.47	80.28
110	110	143.50	0.00	-10.47	80.28
110	111	144.50	0.00	-15.41	91.39
111	1111	144.50	0.00	3.89	91.39
111	112	145.50	0.00	-7.63	93.54
112	112	145.50	0.00	-7.63	93.54
112	113	145.68	0.00	-15.76	95.51
113	113	145.68	0.00	-15.76	95.51
113	114	146.85	0.00	-39.56	126.33
114	114	146.85	0.00	-39.56	126.33
114	115	148.03	0.00	-75.23	193.43
115	115	148.03	0.00	-75.23	193.43
115	116	149.20	0.00	-69.64	281.16
116	116	149.20	-0.82	-69.64	281.16
116	117	150.38	-0.70	-59.07	356.78
117	117	150.38	-0.70	-59.07	356.78
117	118	151.55	-0.57	-48.49	419.97
118	118	151.55	0.00	-48.49	419.97
118	119	152.73	0.00	-37.92	470.74
119	119	152.73	0.00	-37.92	470.74
119	120	153.90	0.00	-27.34	509.08
120	120	153.90	0.00	-27.34	509.08
120	121	155.08	0.00	-16.77	535.00
121	121	155.08	0.00	-16.77	535.00
121	122	156.25	0.00	-6.19	548.49
122	122	156.25	0.00	-6.19	548.49
122	123	157.43	0.00	4.38	549.56
123	123	157.43	0.00	4.38	549.56
123	124	158.60	0.00	14.96	538.20
124	124	158.60	0.00	14.96	538.20
124	125	159.78	0.00	25.53	514.41
125	125	159.78	0.00	25.53	514.41
125	126	160.95	0.00	36.11	478.20
126	126	160.95	0.00	36.11	478.20
126	127	162.13	0.00	46.68	429.57
127	127	162.13	0.00	46.68	429.57
127	128	163.30	0.00	57.26	368.50
128	128	163.30	0.00	57.26	368.50

CÁLCULO TENSIONAL

Hipótesis de cálculo:
SC9.ENV_TREN_GENERICO.MZ+

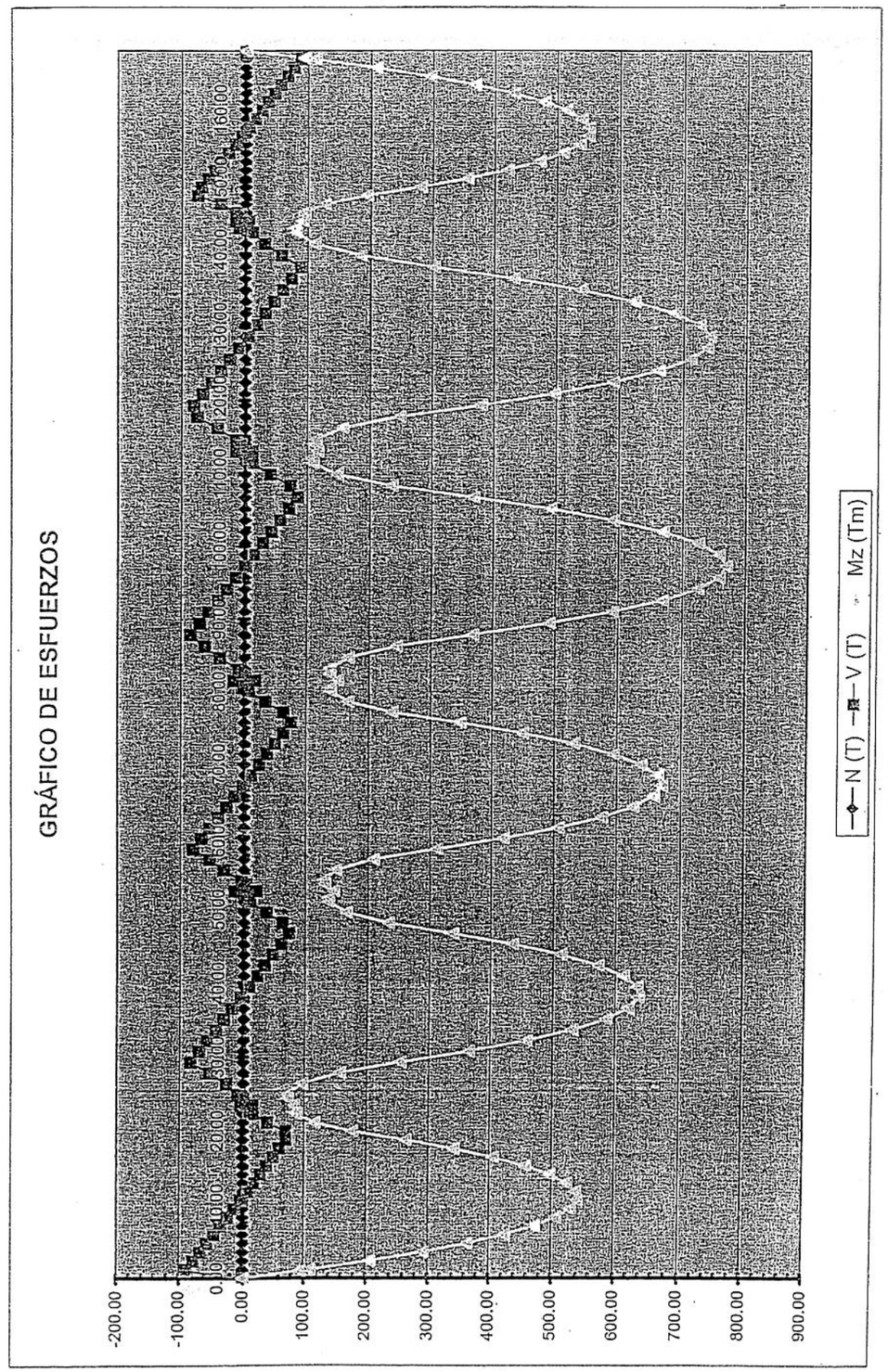
Envolvente de tren de cargas plano genérico. MZ+

[0; 1]SC9.SCuniTpos.Barra1.Mx+ + [0; 1]SC9.SCuniTpos.Barra2.Mx+ + [0; 1]SC9.SCuniTpos.Barra3.

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
128	129	164.48	0.00	67.83	295.02
129	129	164.48	0.00	67.83	295.02
129	130	165.65	0.00	78.41	209.10
130	130	165.65	0.00	78.41	209.10
130	131	166.83	0.00	88.98	110.76
131	131	166.83	0.00	88.98	110.76
131	132	167.00	0.00	90.56	95.05
132	132	167.00	0.00	90.56	95.05
132	133	168.00	0.00	0.00	0.00

28/08/01
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CÁLCULO TENSIONAL

Hipótesis de cálculo:

SC9.ENV_TREN_GENERICO.VY-

Envolvente de tren de cargas plano genérico. VY-

[0; 1]SC9.SCuniTpos.Barra1.Mx+ + [0; 1]SC9.SCuniTpos.Barra2.Mx+ + [0; 1]SC9.SCuniTpos.Barra3.

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
1	1	0.00	0.00	-98.65	0.00
1	2	1.00	0.00	-89.88	89.88
2	2	1.00	0.00	-89.88	89.88
2	3	1.18	0.00	-88.39	103.86
3	3	1.18	0.00	-88.39	103.86
3	4	2.35	0.00	-78.76	185.09
4	4	2.35	0.00	-78.76	185.09
4	5	3.53	0.00	-69.77	245.93
5	5	3.53	0.00	-69.77	245.93
5	6	4.70	0.00	-61.40	288.56
6	6	4.70	0.00	-61.40	288.56
6	7	5.88	0.00	-53.64	315.16
7	7	5.88	0.00	-53.64	315.16
7	8	7.05	0.00	-46.51	327.87
8	8	7.05	0.00	-46.51	327.87
8	9	8.23	0.00	-39.98	328.80
9	9	8.23	0.00	-39.98	328.80
9	10	9.40	0.00	-34.04	319.97
10	10	9.40	0.00	-34.04	319.97
10	11	10.58	0.00	-28.69	303.36
11	11	10.58	0.00	-28.69	303.36
11	12	11.75	0.00	-23.91	280.89
12	12	11.75	0.00	-23.91	280.89
12	13	12.93	0.00	-19.68	254.38
13	13	12.93	0.00	-19.68	254.38
13	14	14.10	0.00	-16.00	225.57
14	14	14.10	0.00	-16.00	225.57
14	15	15.28	0.00	-12.84	196.09
15	15	15.28	0.00	-12.84	196.09
15	16	16.45	0.00	-10.18	167.48
16	16	16.45	0.12	-10.18	167.48
16	17	17.63	0.09	-8.01	141.15
17	17	17.63	0.09	-8.01	141.15
17	18	18.80	0.07	-6.30	118.40
18	18	18.80	0.00	-6.30	118.40
18	19	19.98	0.00	-5.03	100.37
19	19	19.98	0.00	-5.03	100.37
19	20	21.15	0.00	-4.16	88.07
20	20	21.15	0.00	-4.16	88.07
20	21	22.33	0.00	-3.68	82.23
21	21	22.33	0.00	-3.68	82.23
21	22	22.50	0.00	-3.64	81.94
22	22	22.50	0.00	-3.64	81.94
22	23	23.50	0.00	-3.54	83.12
23	1023	23.50	0.00	-145.72	-628.41
23	24	24.50	0.00	-136.82	-489.46
24	24	24.50	0.00	-136.82	-489.46
24	25	24.95	0.00	-132.88	-431.40
25	25	24.95	0.00	-132.88	-431.40
25	26	26.40	0.00	-120.54	-263.15
26	26	26.40	0.00	-120.54	-263.15

SC9.ENV_TREN_GENERICO.VY-

CÁLCULO TENSIONAL

Hipótesis de cálculo:

SC9.ENV_TREN_GENERICO.VY-

Envolvente de tren de cargas plano genérico. VY-

[0; 1]SC9.SCuniTpos.Barra1.Mx+ + [0; 1]SC9.SCuniTpos.Barra2.Mx+ + [0; 1]SC9.SCuniTpos.Barra3.

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
26	27	27.85	0.00	-108.76	-122.85
27	27	27.85	0.00	-108.76	-122.85
27	28	29.30	0.00	-97.59	-8.98
28	28	29.30	-0.94	-97.58	-8.98
28	29	30.75	-0.83	-87.05	80.32
29	29	30.75	-0.83	-87.05	80.32
29	30	32.20	-0.74	-77.19	147.15
30	30	32.20	0.00	-77.19	147.15
30	31	33.65	0.00	-68.03	193.82
31	31	33.65	0.00	-68.03	193.82
31	32	35.10	0.00	-59.58	222.77
32	32	35.10	0.00	-59.58	222.77
32	33	36.55	0.00	-51.87	236.62
33	33	36.55	0.00	-51.87	236.62
33	34	38.00	0.00	-44.90	238.03
34	34	38.00	0.00	-44.90	238.03
34	35	39.45	0.00	-38.67	229.74
35	35	39.45	0.00	-38.67	229.74
35	36	40.90	0.00	-33.20	214.51
36	36	40.90	0.00	-33.20	214.51
36	37	42.35	0.00	-28.46	195.05
37	37	42.35	0.00	-28.46	195.05
37	38	43.80	0.00	-24.46	174.02
38	38	43.80	0.23	-24.46	174.02
38	39	45.25	0.20	-21.16	153.96
39	39	45.25	0.20	-21.16	153.96
39	40	46.70	0.18	-18.55	137.27
40	40	46.70	0.00	-18.55	137.27
40	41	48.15	0.00	-16.60	126.21
41	41	48.15	0.00	-16.60	126.21
41	42	49.60	0.00	-15.28	122.78
42	42	49.60	0.00	-15.28	122.78
42	43	51.05	0.00	-14.55	128.59
43	43	51.05	0.00	-14.55	128.59
43	44	51.50	0.00	-14.43	132.43
44	44	51.50	0.00	-14.43	132.43
44	45	52.50	0.00	-14.32	144.44
45	1045	52.50	0.00	-148.57	-691.51
45	46	53.50	0.00	-139.67	-549.75
46	46	53.50	0.00	-139.67	-549.75
46	47	53.95	0.00	-135.73	-490.44
47	47	53.95	0.00	-135.73	-490.44
47	48	55.40	0.00	-123.40	-318.30
48	48	55.40	0.00	-123.40	-318.30
48	49	56.85	0.00	-111.63	-174.36
49	49	56.85	0.00	-111.63	-174.36
49	50	58.30	0.00	-100.47	-57.09
50	50	58.30	-0.96	-100.47	-57.09
50	51	59.75	-0.86	-89.95	35.45
51	51	59.75	-0.86	-89.95	35.45
51	52	61.20	-0.77	-80.11	105.43

CÁLCULO TENSIONAL

Hipótesis de cálculo:
SC9.ENV_TREN_GENERICO.VY-

Envolvente de tren de cargas plano genérico. VY-

[0; 1]SC9.SCuniTpos.Barra1.Mx+ + [0; 1]SC9.SCuniTpos.Barra2.Mx+ + [0; 1]SC9.SCuniTpos.Barra3.

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
52	52	61.20	0.00	-80.11	105.43
52	53	62.65	0.00	-70.96	155.19
53	53	62.65	0.00	-70.96	155.19
53	54	64.10	0.00	-62.53	187.21
54	54	64.10	0.00	-62.53	187.21
54	55	65.55	0.00	-54.83	204.10
55	55	65.55	0.00	-54.83	204.10
55	56	67.00	0.00	-47.86	208.57
56	56	67.00	0.00	-47.86	208.57
56	57	68.45	0.00	-41.64	203.36
57	57	68.45	0.00	-41.64	203.36
57	58	69.90	0.00	-36.16	191.22
58	58	69.90	0.00	-36.16	191.22
58	59	71.35	0.00	-31.41	174.89
59	59	71.35	0.00	-31.41	174.89
59	60	72.80	0.00	-27.39	157.04
60	60	72.80	0.26	-27.39	157.04
60	61	74.25	0.23	-24.08	140.25
61	61	74.25	0.23	-24.08	140.25
61	62	75.70	0.21	-21.46	126.97
62	62	75.70	0.00	-21.46	126.97
62	63	77.15	0.00	-19.50	119.47
63	63	77.15	0.00	-19.50	119.47
63	64	78.60	0.00	-18.18	119.81
64	64	78.60	0.00	-18.18	119.81
64	65	80.05	0.00	-17.44	129.60
65	65	80.05	0.00	-17.44	129.60
65	66	80.50	0.00	-17.32	134.71
66	66	80.50	0.00	-17.32	134.71
66	67	81.50	0.00	-17.22	149.56
67	1067	81.50	0.00	-156.91	-741.78
67	68	82.50	0.00	-148.00	-591.64
68	68	82.50	0.00	-148.00	-591.64
68	69	83.08	0.00	-142.96	-511.53
69	69	83.08	0.00	-142.96	-511.53
69	70	84.65	0.00	-129.56	-315.37
70	70	84.65	0.00	-129.56	-315.37
70	71	86.23	0.00	-116.78	-152.48
71	71	86.23	0.00	-116.78	-152.48
71	72	87.80	0.00	-104.66	-21.03
72	72	87.80	-0.92	-104.66	-21.03
72	73	89.38	-0.82	-93.24	81.24
73	73	89.38	-0.82	-93.24	81.24
73	74	90.95	-0.73	-82.55	156.90
74	74	90.95	0.00	-82.56	156.90
74	75	92.53	0.00	-72.63	208.72
75	75	92.53	0.00	-72.63	208.72
75	76	94.10	0.00	-63.48	239.66
76	76	94.10	0.00	-63.48	239.66
76	77	95.68	0.00	-55.13	252.79
77	77	95.68	0.00	-55.13	252.79

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CÁLCULO TENSIONAL

Hipótesis de cálculo:
SC9.ENV_TREN_GENERICO.VY-

Envolvente de tren de cargas plano genérico. VY-

[0; 1]SC9.SCuniTpos.Barra1.Mx+ + [0; 1]SC9.SCuniTpos.Barra2.Mx+ + [0; 1]SC9.SCuniTpos.Barra3.

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
77	78	97.25	0.00	-47.58	251.31
78	78	97.25	0.00	-47.58	251.31
78	79	98.83	0.00	-40.84	238.46
79	79	98.83	0.00	-40.84	238.46
79	80	100.40	0.00	-34.90	217.50
80	80	100.40	0.00	-34.90	217.50
80	81	101.98	0.00	-29.76	191.64
81	81	101.98	0.00	-29.76	191.64
81	82	103.55	0.00	-25.42	164.03
82	82	103.55	0.22	-25.42	164.03
82	83	105.13	0.19	-21.84	137.70
83	83	105.13	0.19	-21.84	137.70
83	84	106.70	0.17	-19.00	115.52
84	84	106.70	0.00	-19.01	115.52
84	85	108.28	0.00	-16.89	100.17
85	85	108.28	0.00	-16.89	100.17
85	86	109.85	0.00	-15.46	94.03
86	86	109.85	0.00	-15.46	94.03
86	87	111.43	0.00	-14.67	99.02
87	87	111.43	0.00	-14.67	99.02
87	88	112.00	0.00	-14.52	103.82
88	88	112.00	0.00	-14.52	103.82
88	89	113.00	0.00	-14.43	115.93
89	1089	113.00	0.00	-155.69	-770.17
89	90	114.00	0.00	-146.78	-621.28
90	90	114.00	0.00	-146.78	-621.28
90	91	114.58	0.00	-141.75	-541.94
91	91	114.58	0.00	-141.75	-541.94
91	92	116.15	0.00	-128.38	-347.95
92	92	116.15	0.00	-128.38	-347.95
92	93	117.73	0.00	-115.65	-187.39
93	93	117.73	0.00	-115.65	-187.39
93	94	119.30	0.00	-103.62	-58.31
94	94	119.30	-0.91	-103.61	-58.31
94	95	120.88	-0.81	-92.30	41.70
95	95	120.88	-0.81	-92.30	41.70
95	96	122.45	-0.72	-81.74	115.36
96	96	122.45	0.00	-81.75	115.36
96	97	124.03	0.00	-71.97	165.58
97	97	124.03	0.00	-71.97	165.58
97	98	125.60	0.00	-62.98	195.40
98	98	125.60	0.00	-62.98	195.40
98	99	127.18	0.00	-54.80	207.99
99	99	127.18	0.00	-54.80	207.99
99	100	128.75	0.00	-47.43	206.59
100	100	128.75	0.00	-47.43	206.59
100	101	130.33	0.00	-40.86	194.45
101	101	130.33	0.00	-40.86	194.45
101	102	131.90	0.00	-35.11	174.79
102	102	131.90	0.00	-35.11	174.79
102	103	133.48	0.00	-30.14	150.78

SC9.ENV_TREN_GENERICO.VY-

CÁLCULO TENSIONAL

Hipótesis de cálculo:

SC9.ENV_TREN_GENERICO.VY-

Envolvente de tren de cargas plano genérico. VY-

[0; 1]SC9.SCuniTpos.Barra1.Mx+ + [0; 1]SC9.SCuniTpos.Barra2.Mx+ + [0; 1]SC9.SCuniTpos.Barra3.

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
103	103	133.48	0.00	-30.14	150.78
103	104	135.05	0.00	-25.95	125.46
104	104	135.05	0.23	-25.95	125.46
104	105	136.63	0.20	-22.51	101.73
105	105	136.63	0.20	-22.51	101.73
105	106	138.20	0.17	-19.80	82.27
106	106	138.20	0.00	-19.80	82.27
106	107	139.78	0.00	-17.78	69.56
107	107	139.78	0.00	-17.78	69.56
107	108	141.35	0.00	-16.41	65.80
108	108	141.35	0.00	-16.41	65.80
108	109	142.93	0.00	-15.64	72.77
109	109	142.93	0.00	-15.64	72.77
109	110	143.50	0.00	-15.50	78.23
110	110	143.50	0.00	-15.50	78.23
110	111	144.50	0.00	-15.41	91.39
111	1111	144.50	0.00	-134.48	-675.23
111	112	145.50	0.00	-125.59	-547.62
112	112	145.50	0.00	-125.59	-547.62
112	113	145.68	0.00	-124.06	-526.73
113	113	145.68	0.00	-124.06	-526.73
113	114	146.85	0.00	-113.97	-397.43
114	114	146.85	0.00	-113.97	-397.43
114	115	148.03	0.00	-104.26	-287.11
115	115	148.03	0.00	-104.26	-287.11
115	116	149.20	0.00	-94.98	-195.05
116	116	149.20	-1.12	-94.97	-195.05
116	117	150.38	-1.02	-86.13	-120.26
117	117	150.38	-1.02	-86.13	-120.26
117	118	151.55	-0.92	-77.76	-61.54
118	118	151.55	0.00	-77.77	-61.54
118	119	152.73	0.00	-69.89	-17.54
119	119	152.73	0.00	-69.89	-17.54
119	120	153.90	0.00	-62.51	13.19
120	120	153.90	0.00	-62.51	13.19
120	121	155.08	0.00	-55.67	32.23
121	121	155.08	0.00	-55.67	32.23
121	122	156.25	0.00	-49.37	41.24
122	122	156.25	0.00	-49.37	41.24
122	123	157.43	0.00	-43.62	41.97
123	123	157.43	0.00	-43.62	41.97
123	124	158.60	0.00	-38.44	36.28
124	124	158.60	0.00	-38.44	36.28
124	125	159.78	0.00	-33.85	26.05
125	125	159.78	0.00	-33.85	26.05
125	126	160.95	0.00	-29.84	13.29
126	126	160.95	0.00	-29.84	13.29
126	127	162.13	0.00	-26.44	0.00
127	127	162.13	0.00	-26.44	0.00
127	128	163.30	0.00	-23.64	-11.71
128	128	163.30	0.00	-23.64	-11.71

SC9.ENV_TREN_GENERICO.VY-

CÁLCULO TENSIONAL

Hipótesis de cálculo:

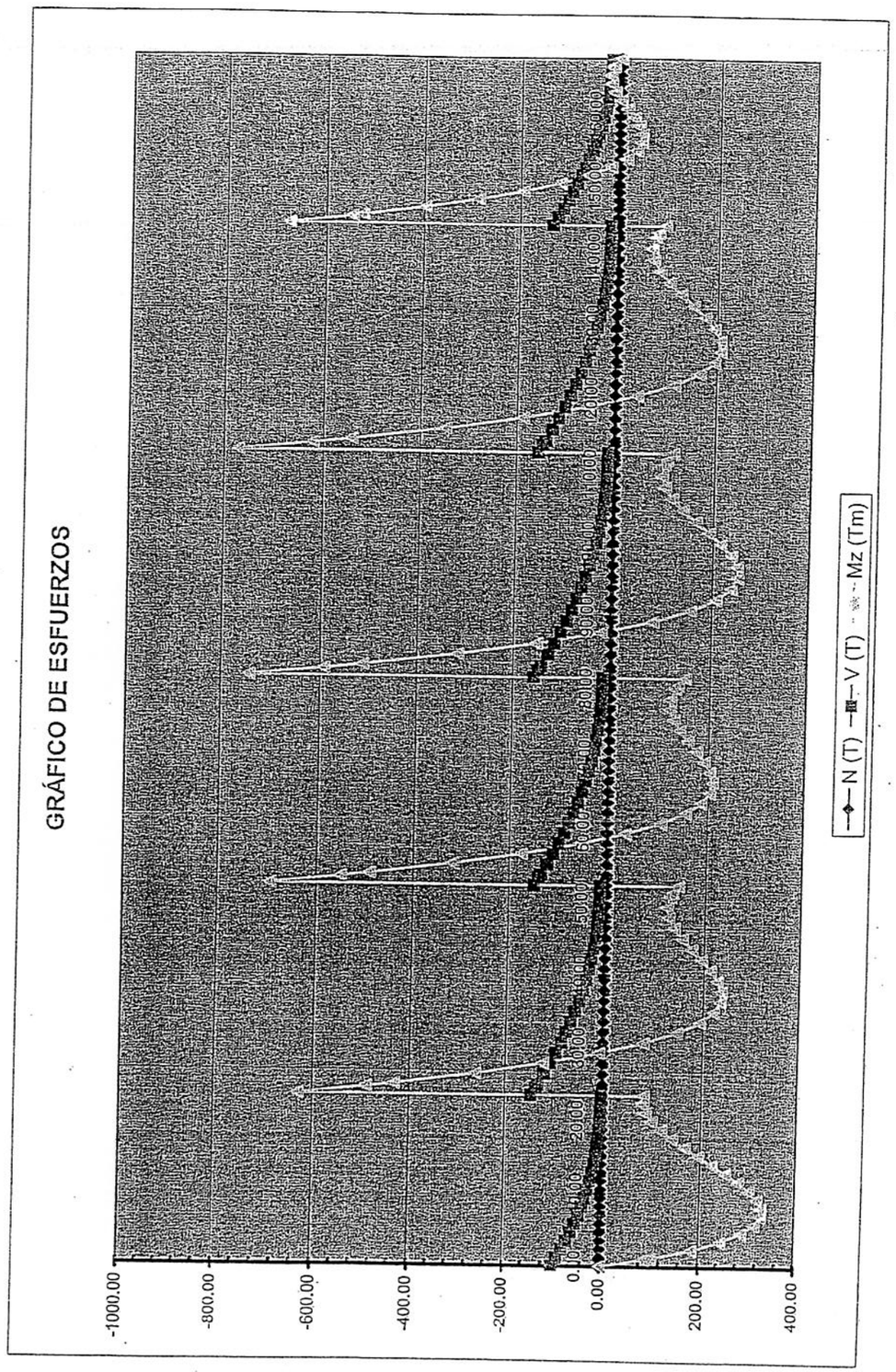
SC9.ENV_TREN_GENERICO.VY-

Envolvente de tren de cargas plano genérico. VY-

[0; 1]SC9.SCuniTpos.Barra1.Mx+ + [0; 1]SC9.SCuniTpos.Barra2.Mx+ + [0; 1]SC9.SCuniTpos.Barra3.

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
128	129	164.48	0.00	-21.46	-19.74
129	129	164.48	0.00	-21.46	-19.74
129	130	165.65	0.00	-19.90	-21.91
130	130	165.65	0.00	-19.90	-21.91
130	131	166.83	0.00	-18.96	-16.07
131	131	166.83	0.00	-18.96	-16.07
131	132	167.00	0.00	-18.88	-14.38
132	132	167.00	0.00	-18.88	-14.38
132	133	168.00	0.00	-18.65	0.00



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SC9.ENV_TREN_GENERICO.VY-
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CÁLCULO TENSIONAL

Hipótesis de cálculo:

SC9.ENV_TREN_GENERICO.MZ-

Envolvente de tren de cargas plano genérico. MZ-

[0; 1]SC9.SCuniTpos.Barra1.Mx+ + [0; 1]SC9.SCuniTpos.Barra2.Mx+ + [0; 1]SC9.SCuniTpos.Barra3.

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
1	1	0.00	0.00	0.00	0.00
1	2	1.00	0.00	16.10	-16.10
2	2	1.00	0.00	16.10	-16.10
2	3	1.18	0.00	16.10	-18.92
3	3	1.18	0.00	16.10	-18.92
3	4	2.35	0.00	16.10	-37.84
4	4	2.35	0.00	16.10	-37.84
4	5	3.53	0.00	16.10	-56.76
5	5	3.53	0.00	16.10	-56.76
5	6	4.70	0.00	16.10	-75.68
6	6	4.70	0.00	16.10	-75.68
6	7	5.88	0.00	16.10	-94.60
7	7	5.88	0.00	16.10	-94.60
7	8	7.05	0.00	16.10	-113.52
8	8	7.05	0.00	16.10	-113.52
8	9	8.23	0.00	16.10	-132.44
9	9	8.23	0.00	16.10	-132.44
9	10	9.40	0.00	16.10	-151.36
10	10	9.40	0.00	16.10	-151.36
10	11	10.58	0.00	16.10	-170.28
11	11	10.58	0.00	16.10	-170.28
11	12	11.75	0.00	16.10	-189.20
12	12	11.75	0.00	16.10	-189.20
12	13	12.93	0.00	16.10	-208.12
13	13	12.93	0.00	16.10	-208.12
13	14	14.10	0.00	16.10	-227.04
14	14	14.10	0.00	16.10	-227.04
14	15	15.28	0.00	16.10	-245.97
15	15	15.28	0.00	16.10	-245.97
15	16	16.45	0.00	16.10	-264.89
16	16	16.45	-0.19	16.10	-264.89
16	17	17.63	-0.19	16.10	-283.81
17	17	17.63	-0.19	16.10	-283.81
17	18	18.80	-0.19	16.10	-302.73
18	18	18.80	0.00	16.10	-302.73
18	19	19.98	0.00	27.41	-323.88
19	19	19.98	0.00	27.41	-323.88
19	20	21.15	0.00	67.77	-383.29
20	20	21.15	0.00	67.77	-383.29
20	21	22.33	0.00	102.25	-487.32
21	21	22.33	0.00	102.25	-487.32
21	22	22.50	0.00	111.97	-506.33
22	22	22.50	0.00	111.97	-506.33
22	23	23.50	0.00	132.49	-628.41
23	1023	23.50	0.00	-145.72	-628.41
23	24	24.50	0.00	-120.54	-492.18
24	24	24.50	0.00	-120.54	-492.18
24	25	24.95	0.00	-108.76	-438.26
25	25	24.95	0.00	-108.76	-438.26
25	26	26.40	0.00	-77.19	-300.57
26	26	26.40	0.00	-77.19	-300.57

SC9.ENV_TREN_GENERICO.MZ-

CÁLCULO TENSIONAL

Hipótesis de cálculo:

SC9.ENV_TREN_GENERICO.MZ-

Envolvente de tren de cargas plano genérico. MZ-

[0; 1]SC9.SCuniTpos.Barra1.Mx+ + [0; 1]SC9.SCuniTpos.Barra2.Mx+ + [0; 1]SC9.SCuniTpos.Barra3.

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
26	27	27.85	0.00	-38.67	-218.88
27	27	27.85	0.00	-38.67	-218.88
27	28	29.30	0.00	4.81	-194.79
28	28	29.30	0.05	4.81	-194.79
28	29	30.75	0.05	4.81	-201.77
29	29	30.75	0.05	4.81	-201.77
29	30	32.20	0.05	4.81	-208.74
30	30	32.20	0.00	4.81	-208.74
30	31	33.65	0.00	4.81	-215.72
31	31	33.65	0.00	4.81	-215.72
31	32	35.10	0.00	4.81	-222.69
32	32	35.10	0.00	4.81	-222.69
32	33	36.55	0.00	4.81	-229.67
33	33	36.55	0.00	4.81	-229.67
33	34	38.00	0.00	4.81	-236.65
34	34	38.00	0.00	4.81	-236.65
34	35	39.45	0.00	4.81	-243.62
35	35	39.45	0.00	4.81	-243.62
35	36	40.90	0.00	4.81	-250.60
36	36	40.90	0.00	4.81	-250.60
36	37	42.35	0.00	4.81	-257.57
37	37	42.35	0.00	4.81	-257.57
37	38	43.80	0.00	4.81	-264.55
38	38	43.80	-0.05	4.81	-264.55
38	39	45.25	-0.05	4.81	-271.52
39	39	45.25	-0.05	4.81	-271.52
39	40	46.70	-0.05	4.81	-278.50
40	40	46.70	0.00	4.81	-278.50
40	41	48.15	0.00	28.94	-298.37
41	41	48.15	0.00	28.94	-298.37
41	42	49.60	0.00	67.68	-371.17
42	42	49.60	0.00	67.68	-371.17
42	43	51.05	0.00	108.02	-503.74
43	43	51.05	0.00	108.02	-503.74
43	44	51.50	0.00	119.75	-556.58
44	44	51.50	0.00	119.75	-556.58
44	45	52.50	0.00	144.89	-691.51
45	1045	52.50	0.00	-148.57	-691.51
45	46	53.50	0.00	-123.40	-552.76
46	46	53.50	0.00	-123.40	-552.76
46	47	53.95	0.00	-111.63	-498.08
47	47	53.95	0.00	-111.63	-498.08
47	48	55.40	0.00	-70.96	-359.29
48	48	55.40	0.00	-70.96	-359.29
48	49	56.85	0.00	-36.16	-280.63
49	49	56.85	0.00	-36.16	-280.63
49	50	58.30	0.00	3.66	-261.91
50	50	58.30	0.03	3.66	-261.91
50	51	59.75	0.03	3.66	-267.22
51	51	59.75	0.03	3.66	-267.22
51	52	61.20	0.03	3.66	-272.53

SC9.ENV_TREN_GENERICO.MZ-

CÁLCULO TENSIONAL

Hipótesis de cálculo:

SC9.ENV_TREN_GENERICO.MZ-

Envolvente de tren de cargas plano genérico. MZ-

[0; 1]SC9.SCuniTpos.Barra1.Mx+ + [0; 1]SC9.SCuniTpos.Barra2.Mx+ + [0; 1]SC9.SCuniTpos.Barra3.

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
52	52	61.20	0.00	3.66	-272.53
52	53	62.65	0.00	3.66	-277.84
53	53	62.65	0.00	3.66	-277.84
53	54	64.10	0.00	3.66	-283.14
54	54	64.10	0.00	3.66	-283.14
54	55	65.55	0.00	3.66	-288.45
55	55	65.55	0.00	3.66	-288.45
55	56	67.00	0.00	3.66	-293.76
56	56	67.00	0.00	3.66	-293.76
56	57	68.45	0.00	3.66	-299.07
57	57	68.45	0.00	3.66	-299.07
57	58	69.90	0.00	3.66	-304.38
58	58	69.90	0.00	3.66	-304.38
58	59	71.35	0.00	3.66	-309.69
59	59	71.35	0.00	3.66	-309.69
59	60	72.80	0.00	3.66	-315.00
60	60	72.80	-0.03	3.66	-315.00
60	61	74.25	-0.03	3.66	-320.31
61	61	74.25	-0.03	3.66	-320.31
61	62	75.70	-0.03	3.66	-325.62
62	62	75.70	0.00	3.66	-325.62
62	63	77.15	0.00	29.47	-341.30
63	63	77.15	0.00	29.47	-341.30
63	64	78.60	0.00	72.12	-413.20
64	64	78.60	0.00	72.12	-413.20
64	65	80.05	0.00	112.41	-548.38
65	65	80.05	0.00	112.41	-548.38
65	66	80.50	0.00	124.13	-602.76
66	66	80.50	0.00	124.13	-602.76
66	67	81.50	0.00	149.27	-741.78
67	1067	81.50	0.00	-156.91	-741.78
67	68	82.50	0.00	-129.56	-593.93
68	68	82.50	0.00	-129.56	-593.93
68	69	83.08	0.00	-116.78	-520.33
69	69	83.08	0.00	-116.78	-520.33
69	70	84.65	0.00	-72.63	-363.24
70	70	84.65	0.00	-72.63	-363.24
70	71	86.23	0.00	-34.90	-277.21
71	71	86.23	0.00	-34.90	-277.21
71	72	87.80	0.00	2.00	-257.98
72	72	87.80	0.02	2.00	-257.98
72	73	89.38	0.02	2.00	-261.14
73	73	89.38	0.02	2.00	-261.14
73	74	90.95	0.02	2.00	-264.30
74	74	90.95	0.00	2.00	-264.30
74	75	92.53	0.00	2.00	-267.45
75	75	92.53	0.00	2.00	-267.45
75	76	94.10	0.00	2.00	-270.61
76	76	94.10	0.00	2.00	-270.61
76	77	95.68	0.00	2.00	-273.77
77	77	95.68	0.00	2.00	-273.77

CÁLCULO TENSIONAL

Hipótesis de cálculo:
SC9.ENV_TREN_GENERICO.MZ-

Envolvente de tren de cargas plano genérico. MZ-

[0; 1]SC9.SCuniTpos.Barra1.Mx+ + [0; 1]SC9.SCuniTpos.Barra2.Mx+ + [0; 1]SC9.SCuniTpos.Barra3.
Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
77	78	97.25	0.00	2.00	-276.92
78	78	97.25	0.00	2.00	-276.92
78	79	98.83	0.00	2.00	-280.08
79	79	98.83	0.00	2.00	-280.08
79	80	100.40	0.00	2.00	-283.24
80	80	100.40	0.00	2.00	-283.24
80	81	101.98	0.00	2.00	-286.39
81	81	101.98	0.00	2.00	-286.39
81	82	103.55	0.00	2.00	-289.55
82	82	103.55	-0.02	2.00	-289.55
82	83	105.13	-0.02	2.00	-292.71
83	83	105.13	-0.02	2.00	-292.71
83	84	106.70	-0.02	2.00	-295.87
84	84	106.70	0.00	2.00	-295.87
84	85	108.28	0.00	27.83	-312.14
85	85	108.28	0.00	27.83	-312.14
85	86	109.85	0.00	74.26	-393.14
86	86	109.85	0.00	74.26	-393.14
86	87	111.43	0.00	118.09	-547.77
87	87	111.43	0.00	118.09	-547.77
87	88	112.00	0.00	130.83	-621.51
88	88	112.00	0.00	130.83	-621.51
88	89	113.00	0.00	158.15	-770.17
89	1089	113.00	0.00	-155.69	-770.17
89	90	114.00	0.00	-128.38	-623.96
90	90	114.00	0.00	-128.38	-623.96
90	91	114.58	0.00	-115.65	-551.69
91	91	114.58	0.00	-115.65	-551.69
91	92	116.15	0.00	-71.97	-401.16
92	92	116.15	0.00	-71.97	-401.16
92	93	117.73	0.00	-25.95	-324.11
93	93	117.73	0.00	-25.95	-324.11
93	94	119.30	0.00	-6.35	-305.71
94	94	119.30	-0.06	-6.35	-305.71
94	95	120.88	-0.06	-6.35	-295.70
95	95	120.88	-0.06	-6.35	-295.70
95	96	122.45	-0.06	-6.35	-285.70
96	96	122.45	0.00	-6.35	-285.70
96	97	124.03	0.00	-6.35	-275.69
97	97	124.03	0.00	-6.35	-275.69
97	98	125.60	0.00	-6.35	-265.68
98	98	125.60	0.00	-6.35	-265.68
98	99	127.18	0.00	-6.35	-255.67
99	99	127.18	0.00	-6.35	-255.67
99	100	128.75	0.00	-6.35	-245.66
100	100	128.75	0.00	-6.35	-245.66
100	101	130.33	0.00	-6.35	-235.65
101	101	130.33	0.00	-6.35	-235.65
101	102	131.90	0.00	-6.35	-225.64
102	102	131.90	0.00	-6.35	-225.64
102	103	133.48	0.00	-6.35	-215.64

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28/08/01

CÁLCULO TENSIONAL

Hipótesis de cálculo:
SC9.ENV_TREN_GENERICO.MZ-

Envolvente de tren de cargas plano genérico. MZ-

[0; 1]SC9.SCuniTpos.Barra1.Mx+ + [0; 1]SC9.SCuniTpos.Barra2.Mx+ + [0; 1]SC9.SCuniTpos.Barra3.
Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
103	103	133.48	0.00	-6.35	-215.64
103	104	135.05	0.00	-6.35	-205.63
104	104	135.05	0.06	-6.35	-205.63
104	105	136.63	0.06	-6.35	-195.62
105	105	136.63	0.06	-6.35	-195.62
105	106	138.20	0.06	-6.35	-185.61
106	106	138.20	0.00	-6.35	-185.61
106	107	139.78	0.00	38.39	-209.12
107	107	139.78	0.00	38.39	-209.12
107	108	141.35	0.00	80.41	-299.36
108	108	141.35	0.00	80.41	-299.36
108	109	142.93	0.00	114.77	-456.17
109	109	142.93	0.00	114.77	-456.17
109	110	143.50	0.00	140.98	-529.12
110	110	143.50	0.00	140.98	-529.12
110	111	144.50	0.00	154.93	-675.23
111	1111	144.50	0.00	-134.48	-675.23
111	112	145.50	0.00	-113.97	-551.27
112	112	145.50	0.00	-113.97	-551.27
112	113	145.68	0.00	-104.26	-532.12
113	113	145.68	0.00	-104.26	-532.12
113	114	146.85	0.00	-69.89	-428.12
114	114	146.85	0.00	-69.89	-428.12
114	115	148.03	0.00	-23.64	-372.84
115	115	148.03	0.00	-23.64	-372.84
115	116	149.20	0.00	-18.65	-350.61
116	116	149.20	-0.22	-18.65	-350.61
116	117	150.38	-0.22	-18.65	-328.70
117	117	150.38	-0.22	-18.65	-328.70
117	118	151.55	-0.22	-18.65	-306.78
118	118	151.55	0.00	-18.65	-306.78
118	119	152.73	0.00	-18.65	-284.87
119	119	152.73	0.00	-18.65	-284.87
119	120	153.90	0.00	-18.65	-262.96
120	120	153.90	0.00	-18.65	-262.96
120	121	155.08	0.00	-18.65	-241.04
121	121	155.08	0.00	-18.65	-241.04
121	122	156.25	0.00	-18.65	-219.13
122	122	156.25	0.00	-18.65	-219.13
122	123	157.43	0.00	-18.65	-197.22
123	123	157.43	0.00	-18.65	-197.22
123	124	158.60	0.00	-18.65	-175.31
124	124	158.60	0.00	-18.65	-175.31
124	125	159.78	0.00	-18.65	-153.39
125	125	159.78	0.00	-18.65	-153.39
125	126	160.95	0.00	-18.65	-131.48
126	126	160.95	0.00	-18.65	-131.48
126	127	162.13	0.00	-18.65	-109.57
127	127	162.13	0.00	-18.65	-109.57
127	128	163.30	0.00	-18.65	-87.65
128	128	163.30	0.00	-18.65	-87.65

CÁLCULO TENSIONAL

Hipótesis de cálculo:

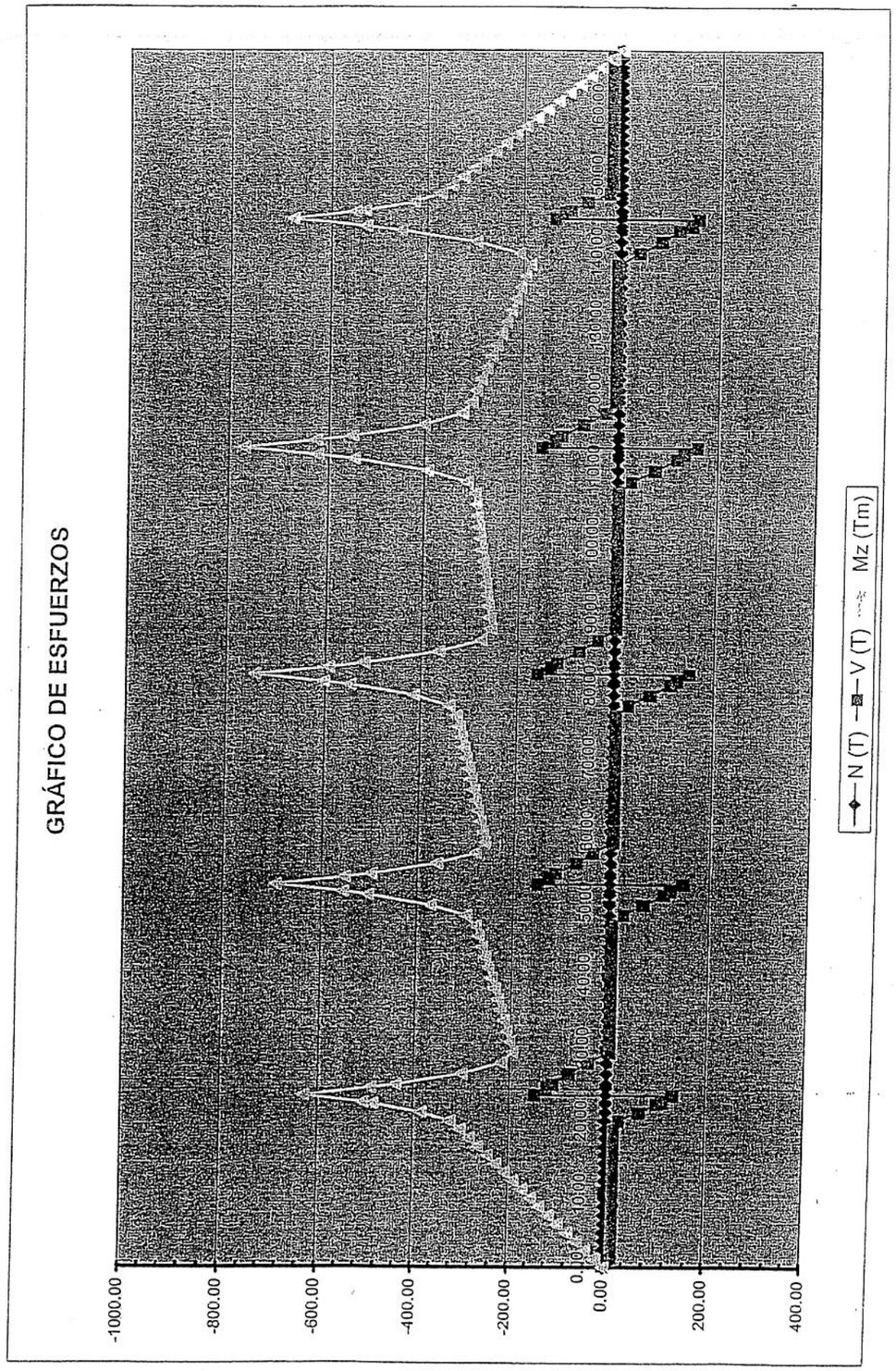
SC9.ENV_TREN_GENERICO.MZ-

Envolvente de tren de cargas plano genérico. MZ-

[0; 1]SC9.SCuniTpos.Barra1.Mx+ + [0; 1]SC9.SCuniTpos.Barra2.Mx+ + [0; 1]SC9.SCuniTpos.Barra3.

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
128	129	164.48	0.00	-18.65	-65.74
129	129	164.48	0.00	-18.65	-65.74
129	130	165.65	0.00	-18.65	-43.83
130	130	165.65	0.00	-18.65	-43.83
130	131	166.83	0.00	-18.65	-21.91
131	131	166.83	0.00	-18.65	-21.91
131	132	167.00	0.00	-18.65	-18.65
132	132	167.00	0.00	-18.65	-18.65
132	133	168.00	0.00	0.00	0.00



CÁLCULO TENSIONAL

Hipótesis de cálculo:
TREN30.EnvTrenGen.VY+

Envolvente de tren de cargas plano genérico. VY+

[0; 1]TREN30.PaseoTren.Nudo1.Pos2.Mx+ + [0; 1]TREN30.PaseoTren.Nudo1.Pos3.Mx+ + [0; 1]TRE

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
1	1	0.00	0.00	2.92	0.00
1	2	1.00	0.00	2.92	-2.92
2	2	1.00	0.00	2.92	-2.92
2	3	1.18	0.00	2.92	-3.43
3	3	1.18	0.00	2.92	-3.43
3	4	2.35	0.00	2.92	-6.86
4	4	2.35	0.00	2.92	-6.86
4	5	3.53	0.00	2.92	-10.29
5	5	3.53	0.00	2.92	-10.29
5	6	4.70	0.00	2.92	-13.73
6	6	4.70	0.00	2.92	-13.73
6	7	5.88	0.00	2.92	-17.16
7	7	5.88	0.00	2.92	-17.16
7	8	7.05	0.00	2.92	-20.59
8	8	7.05	0.00	2.92	-20.59
8	9	8.23	0.00	2.92	-24.02
9	9	8.23	0.00	2.92	-24.02
9	10	9.40	0.00	2.92	-27.45
10	10	9.40	0.00	2.92	-27.45
10	11	10.58	0.00	4.72	74.73
11	11	10.58	0.00	4.72	74.73
11	12	11.75	0.00	6.47	66.26
12	12	11.75	0.00	6.47	66.26
12	13	12.93	0.00	8.48	83.65
13	13	12.93	0.00	8.48	83.65
13	14	14.10	0.00	10.34	62.95
14	14	14.10	0.00	10.34	62.95
14	15	15.28	0.00	12.54	65.25
15	15	15.28	0.00	12.54	65.25
15	16	16.45	0.00	14.39	57.86
16	16	16.45	-0.17	14.39	57.86
16	17	17.63	-0.20	16.55	40.36
17	17	17.63	-0.20	16.55	40.36
17	18	18.80	-0.22	18.93	20.16
18	18	18.80	0.00	18.93	20.16
18	19	19.98	0.00	21.19	-3.16
19	19	19.98	0.00	21.19	-3.16
19	20	21.15	0.00	23.32	-29.07
20	20	21.15	0.00	23.32	-29.07
20	21	22.33	0.00	25.34	-57.31
21	21	22.33	0.00	25.34	-57.31
21	22	22.50	0.00	25.34	-61.74
22	22	22.50	0.00	25.34	-61.74
22	23	23.50	0.00	27.22	-87.32
23	1023	23.50	0.00	2.79	15.15
23	24	24.50	0.00	2.79	12.37
24	24	24.50	0.00	2.79	12.37
24	25	24.95	0.00	2.79	11.11
25	25	24.95	0.00	2.79	11.11
25	26	26.40	0.00	2.79	7.07
26	26	26.40	0.00	2.79	7.07

CÁLCULO TENSIONAL

Hipótesis de cálculo:
TREN30.EnvTrenGen.VY+

Envolvente de tren de cargas plano genérico. VY+

[0; 1]TREN30.PaseoTren.Nudo1.Pos2.Mx+ + [0; 1]TREN30.PaseoTren.Nudo1.Pos3.Mx+ + [0; 1]TRE

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
26	27	27.85	0.00	2.79	3.04
27	27	27.85	0.00	2.79	3.04
27	28	29.30	0.00	2.79	-1.00
28	28	29.30	0.03	2.79	-1.00
28	29	30.75	0.03	2.79	-5.04
29	29	30.75	0.03	2.79	-5.04
29	30	32.20	0.03	2.79	-9.08
30	30	32.20	0.00	2.79	-9.08
30	31	33.65	0.00	2.79	-13.12
31	31	33.65	0.00	2.79	-13.12
31	32	35.10	0.00	2.98	39.78
32	32	35.10	0.00	2.98	39.78
32	33	36.55	0.00	4.03	48.01
33	33	36.55	0.00	4.03	48.01
33	34	38.00	0.00	5.38	56.65
34	34	38.00	0.00	5.38	56.65
34	35	39.45	0.00	6.47	59.22
35	35	39.45	0.00	6.47	59.22
35	36	40.90	0.00	8.28	110.11
36	36	40.90	0.00	8.28	110.11
36	37	42.35	0.00	10.59	90.48
37	37	42.35	0.00	10.59	90.48
37	38	43.80	0.00	13.09	72.66
38	38	43.80	-0.13	13.09	72.66
38	39	45.25	-0.15	15.78	71.63
39	39	45.25	-0.15	15.78	71.63
39	40	46.70	-0.17	18.09	38.72
40	40	46.70	0.00	18.09	38.72
40	41	48.15	0.00	20.59	10.04
41	41	48.15	0.00	20.59	10.04
41	42	49.60	0.00	23.28	0.00
42	42	49.60	0.00	23.28	0.00
42	43	51.05	0.00	25.59	-46.20
43	43	51.05	0.00	25.59	-46.20
43	44	51.50	0.00	25.59	-57.71
44	44	51.50	0.00	25.59	-57.71
44	45	52.50	0.00	28.88	-62.65
45	1045	52.50	0.00	3.31	17.31
45	46	53.50	0.00	3.31	13.99
46	46	53.50	0.00	3.31	13.99
46	47	53.95	0.00	3.31	12.50
47	47	53.95	0.00	3.31	12.50
47	48	55.40	0.00	3.31	7.69
48	48	55.40	0.00	3.31	7.69
48	49	56.85	0.00	3.31	2.89
49	49	56.85	0.00	3.31	2.89
49	50	58.30	0.00	3.31	-1.92
50	50	58.30	0.03	3.31	-1.92
50	51	59.75	0.03	3.31	-6.72
51	51	59.75	0.03	3.31	-6.72
51	52	61.20	0.03	3.31	-11.53

CÁLCULO TENSIONAL

Hipótesis de cálculo:
TREN30.EnvTrenGen.VY+

Envolvente de tren de cargas plano genérico. VY+

[0; 1]TREN30.PaseoTren.Nudo1.Pos2.Mx+ + [0; 1]TREN30.PaseoTren.Nudo1.Pos3.Mx+ + [0; 1]TRE

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
52	52	61.20	0.00	3.31	-11.53
52	53	62.65	0.00	3.31	-16.34
53	53	62.65	0.00	3.31	-16.34
53	54	64.10	0.00	3.31	-21.14
54	54	64.10	0.00	3.31	-21.14
54	55	65.55	0.00	3.31	-25.95
55	55	65.55	0.00	3.31	-25.95
55	56	67.00	0.00	5.16	55.65
56	56	67.00	0.00	5.16	55.65
56	57	68.45	0.00	6.29	59.00
57	57	68.45	0.00	6.29	59.00
57	58	69.90	0.00	8.29	112.96
58	58	69.90	0.00	8.29	112.96
58	59	71.35	0.00	10.62	92.84
59	59	71.35	0.00	10.62	92.84
59	60	72.80	0.00	13.13	74.69
60	60	72.80	-0.13	13.13	74.69
60	61	74.25	-0.15	15.79	74.43
61	61	74.25	-0.15	15.79	74.43
61	62	75.70	-0.17	18.12	40.94
62	62	75.70	0.00	18.12	40.94
62	63	77.15	0.00	20.63	11.89
63	63	77.15	0.00	20.63	11.89
63	64	78.60	0.00	23.29	2.76
64	64	78.60	0.00	23.29	2.76
64	65	80.05	0.00	25.62	-44.11
65	65	80.05	0.00	25.62	-44.11
65	66	80.50	0.00	25.62	-55.64
66	66	80.50	0.00	25.62	-55.64
66	67	81.50	0.00	28.89	-59.87
67	1067	81.50	0.00	2.85	16.14
67	68	82.50	0.00	2.85	13.29
68	68	82.50	0.00	2.85	13.29
68	69	83.08	0.00	2.85	11.66
69	69	83.08	0.00	2.85	11.66
69	70	84.65	0.00	2.85	7.17
70	70	84.65	0.00	2.85	7.17
70	71	86.23	0.00	2.85	2.69
71	71	86.23	0.00	2.85	2.69
71	72	87.80	0.00	2.85	-1.79
72	72	87.80	0.03	2.85	-1.79
72	73	89.38	0.03	2.85	-6.28
73	73	89.38	0.03	2.85	-6.28
73	74	90.95	0.03	2.85	-10.76
74	74	90.95	0.00	2.85	-10.76
74	75	92.53	0.00	2.85	-15.25
75	75	92.53	0.00	2.85	-15.25
75	76	94.10	0.00	2.99	43.75
76	76	94.10	0.00	2.99	43.75
76	77	95.68	0.00	4.75	62.00
77	77	95.68	0.00	4.75	62.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:
TREN30.EnvTrenGen.VY+

Envolvente de tren de cargas plano genérico. VY+

[0; 1]TREN30.PaseoTren.Nudo1.Pos2.Mx+ + [0; 1]TREN30.PaseoTren.Nudo1.Pos3.Mx+ + [0; 1]TRE

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
77	78	97.25	0.00	5.77	66.57
78	78	97.25	0.00	5.77	66.57
78	79	98.83	0.00	7.53	75.63
79	79	98.83	0.00	7.53	75.63
79	80	100.40	0.00	9.46	81.18
80	80	100.40	0.00	9.46	81.18
80	81	101.98	0.00	11.55	82.48
81	81	101.98	0.00	11.55	82.48
81	82	103.55	0.00	13.87	103.98
82	82	103.55	-0.12	13.87	103.98
82	83	105.13	-0.15	16.63	88.37
83	83	105.13	-0.15	16.63	88.37
83	84	106.70	-0.17	19.47	66.15
84	84	106.70	0.00	19.47	66.15
84	85	108.28	0.00	22.36	37.45
85	85	108.28	0.00	22.36	37.45
85	86	109.85	0.00	25.25	2.83
86	86	109.85	0.00	25.25	2.83
86	87	111.43	0.00	28.10	-37.19
87	87	111.43	0.00	28.10	-37.19
87	88	112.00	0.00	28.59	-62.95
88	88	112.00	0.00	28.59	-62.95
88	89	113.00	0.00	31.24	-72.85
89	1089	113.00	0.00	1.78	9.49
89	90	114.00	0.00	1.78	7.71
90	90	114.00	0.00	1.78	7.71
90	91	114.58	0.00	1.78	6.69
91	91	114.58	0.00	1.78	6.69
91	92	116.15	0.00	1.78	3.89
92	92	116.15	0.00	1.78	3.89
92	93	117.73	0.00	1.78	1.09
93	93	117.73	0.00	1.78	1.09
93	94	119.30	0.00	1.78	-1.72
94	94	119.30	0.02	1.78	-1.72
94	95	120.88	0.02	1.78	-4.52
95	95	120.88	0.02	1.78	-4.52
95	96	122.45	0.02	1.78	-7.32
96	96	122.45	0.00	1.78	-7.32
96	97	124.03	0.00	1.78	-10.12
97	97	124.03	0.00	1.78	-10.12
97	98	125.60	0.00	2.67	38.20
98	98	125.60	0.00	2.67	38.20
98	99	127.18	0.00	4.73	60.12
99	99	127.18	0.00	4.73	60.12
99	100	128.75	0.00	5.81	64.80
100	100	128.75	0.00	5.81	64.80
100	101	130.33	0.00	7.63	73.83
101	101	130.33	0.00	7.63	73.83
101	102	131.90	0.00	9.63	79.09
102	102	131.90	0.00	9.63	79.09
102	103	133.48	0.00	11.78	79.87

TREN30.EnvTrenGen.VY+

CÁLCULO TENSIONAL

Hipótesis de cálculo:

TREN30.EnvTrenGen.VY+

Envolvente de tren de cargas plano genérico. VY+

[0; 1]TREN30.PaseoTren.Nudo1.Pos2.Mx+ + [0; 1]TREN30.PaseoTren.Nudo1.Pos3.Mx+ + [0; 1]TRE

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
103	103	133.48	0.00	11.78	79.87
103	104	135.05	0.00	14.27	99.98
104	104	135.05	-0.13	14.27	99.98
104	105	136.63	-0.15	17.05	83.62
105	105	136.63	-0.15	17.05	83.62
105	106	138.20	-0.18	19.89	60.67
106	106	138.20	0.00	19.89	60.67
106	107	139.78	0.00	22.79	31.23
107	107	139.78	0.00	22.79	31.23
107	108	141.35	0.00	25.68	-3.98
108	108	141.35	0.00	25.68	-3.98
108	109	142.93	0.00	28.51	-44.40
109	109	142.93	0.00	28.51	-44.40
109	110	143.50	0.00	28.91	-53.66
110	110	143.50	0.00	28.91	-53.66
110	111	144.50	0.00	31.67	-81.08
111	1111	144.50	0.00	0.73	17.24
111	112	145.50	0.00	0.73	16.51
112	112	145.50	0.00	0.73	16.51
112	113	145.68	0.00	0.73	16.38
113	113	145.68	0.00	0.73	16.38
113	114	146.85	0.00	0.73	15.52
114	114	146.85	0.00	0.73	15.52
114	115	148.03	0.00	0.73	14.66
115	115	148.03	0.00	0.73	14.66
115	116	149.20	0.00	0.73	13.79
116	116	149.20	0.01	0.73	13.79
116	117	150.38	0.01	0.73	12.93
117	117	150.38	0.01	0.73	12.93
117	118	151.55	0.01	0.73	12.07
118	118	151.55	0.00	0.73	12.07
118	119	152.73	0.00	0.73	11.21
119	119	152.73	0.00	0.73	11.21
119	120	153.90	0.00	0.73	10.34
120	120	153.90	0.00	0.73	10.34
120	121	155.08	0.00	1.48	19.14
121	121	155.08	0.00	1.48	19.14
121	122	156.25	0.00	1.48	17.40
122	122	156.25	0.00	1.48	17.40
122	123	157.43	0.00	3.61	101.43
123	123	157.43	0.00	3.61	101.43
123	124	158.60	0.00	5.53	51.98
124	124	158.60	0.00	5.53	51.98
124	125	159.78	0.00	7.47	92.58
125	125	159.78	0.00	7.47	92.58
125	126	160.95	0.00	9.49	89.26
126	126	160.95	0.00	9.49	89.26
126	127	162.13	0.00	11.61	81.75
127	127	162.13	0.00	11.61	81.75
127	128	163.30	0.00	13.82	69.69
128	128	163.30	0.00	13.82	69.69

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TREN30.EnvTrenGen.VY+

CÁLCULO TENSIONAL

Hipótesis de cálculo:

TREN30.EnvTrenGen.VY+

Envolvente de tren de cargas plano genérico. VY+

[0; 1]TREN30.PaseoTren.Nudo1.Pos2.Mx+ + [0; 1]TREN30.PaseoTren.Nudo1.Pos3.Mx+ + [0; 1]TRE

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
128	129	164.48	0.00	15.91	56.07
129	129	164.48	0.00	15.91	56.07
129	130	165.65	0.00	17.81	41.85
130	130	165.65	0.00	17.81	41.85
130	131	166.83	0.00	19.76	23.22
131	131	166.83	0.00	19.76	23.22
131	132	167.00	0.00	20.14	20.13
132	132	167.00	0.00	20.14	20.13
132	133	168.00	0.00	21.76	0.00

CÁLCULO TENSIONAL

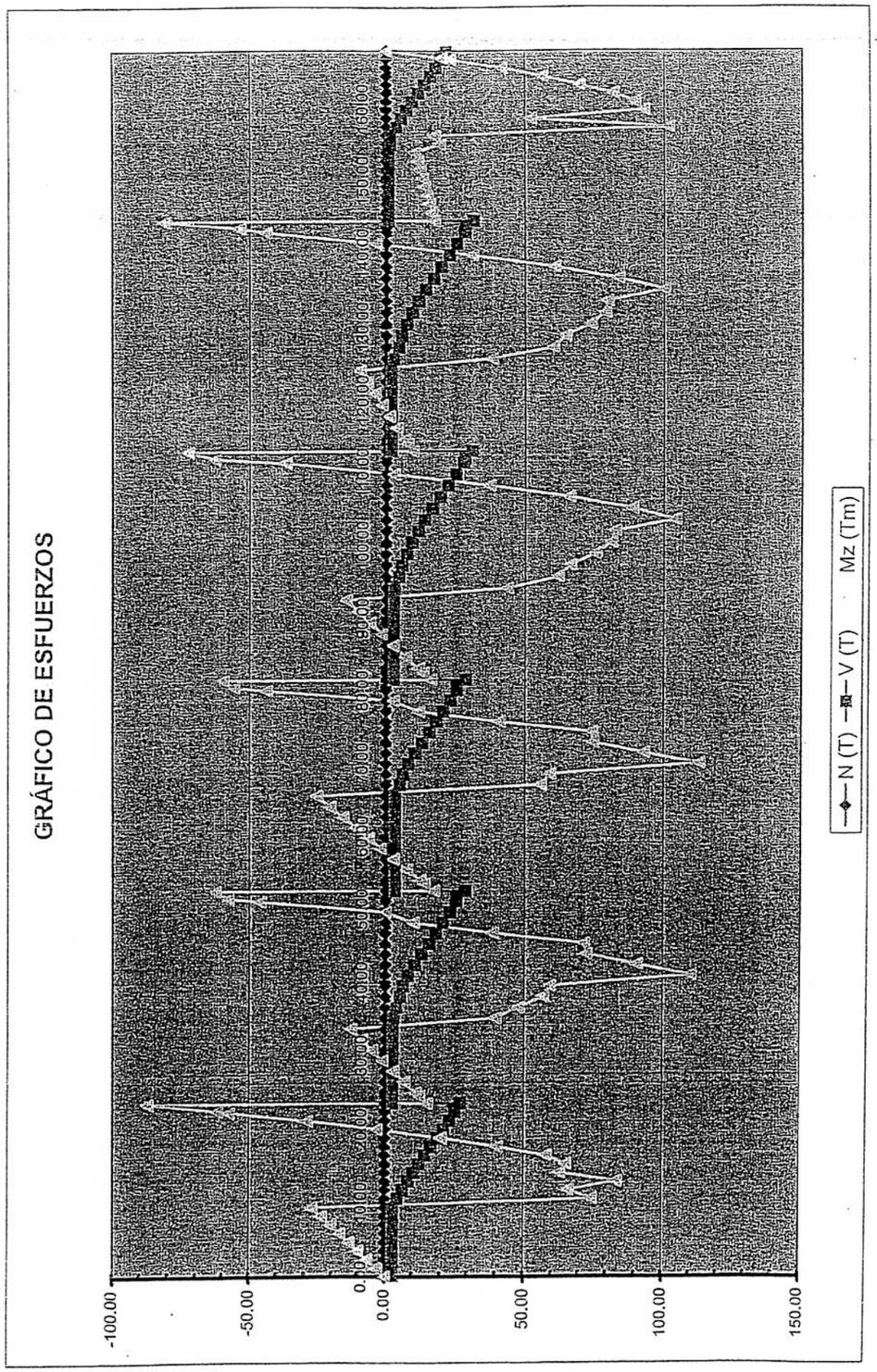
Hipótesis de cálculo:
TREN30.EnvTrenGen.MZ+

Envolvente de tren de cargas plano genérico. MZ+

[0; 1]TREN30.PaseoTren.Nudo1.Pos2.Mx+ + [0; 1]TREN30.PaseoTren.Nudo1.Pos3.Mx+ + [0; 1]TRE

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
1	1	0.00	0.00	0.00	0.00
1	2	1.00	0.00	-20.04	20.04
2	2	1.00	0.00	-20.04	20.04
2	3	1.18	0.00	-19.66	23.10
3	3	1.18	0.00	-19.66	23.10
3	4	2.35	0.00	-17.70	41.60
4	4	2.35	0.00	-17.70	41.60
4	5	3.53	0.00	-15.80	55.69
5	5	3.53	0.00	-15.80	55.69
5	6	4.70	0.00	-13.72	69.19
6	6	4.70	0.00	-13.72	69.19
6	7	5.88	0.00	-11.50	81.11
7	7	5.88	0.00	-11.50	81.11
7	8	7.05	0.00	-2.70	89.54
8	8	7.05	0.00	-2.70	89.54
8	9	8.23	0.00	-0.80	94.69
9	9	8.23	0.00	-0.80	94.69
9	10	9.40	0.00	1.28	98.40
10	10	9.40	0.00	1.28	98.40
10	11	10.58	0.00	-3.50	100.29
11	11	10.58	0.00	-3.50	100.29
11	12	11.75	0.00	4.80	97.52
12	12	11.75	0.00	4.80	97.52
12	13	12.93	0.00	1.28	93.87
13	13	12.93	0.00	1.28	93.87
13	14	14.10	0.00	8.78	87.63
14	14	14.10	0.00	8.78	87.63
14	15	15.28	0.00	4.80	80.60
15	15	15.28	0.00	4.80	80.60
15	16	16.45	0.00	6.70	70.09
16	16	16.45	-0.08	6.70	70.09
16	17	17.63	-0.10	8.78	56.67
17	17	17.63	-0.10	8.78	56.67
17	18	18.80	-0.13	11.00	39.99
18	18	18.80	0.00	11.00	39.99
18	19	19.98	0.00	19.80	21.52
19	19	19.98	0.00	19.80	21.52
19	20	21.15	0.00	-0.64	13.64
20	20	21.15	0.00	-0.64	13.64
20	21	22.33	0.00	-0.64	14.39
21	21	22.33	0.00	-0.64	14.39
21	22	22.50	0.00	-0.64	14.51
22	22	22.50	0.00	-0.64	14.51
22	23	23.50	0.00	-0.64	15.15
23	1023	23.50	0.00	2.79	15.15
23	24	24.50	0.00	2.79	12.37
24	24	24.50	0.00	2.79	12.37
24	25	24.95	0.00	2.79	11.11
25	25	24.95	0.00	2.79	11.11
25	26	26.40	0.00	2.79	7.07
26	26	26.40	0.00	2.79	7.07



2L 3/01
Programa DINTEL IDEAM S.A.
TREN30.EnvTrenGen.VY+
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TREN30.EnvTrenGen.MZ+

CÁLCULO TENSIONAL

Hipótesis de cálculo:

TREN30.EnvTrenGen.MZ+

Envolvente de tren de cargas plano genérico. MZ+

[0; 1]TREN30.PaseoTren.Nudo1.Pos2.Mx+ + [0; 1]TREN30.PaseoTren.Nudo1.Pos3.Mx+ + [0; 1]TRE

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
26	27	27.85	0.00	-14.22	26.67
27	27	27.85	0.00	-14.22	26.67
27	28	29.30	0.00	-12.42	50.05
28	28	29.30	-0.12	-12.42	50.05
28	29	30.75	-0.09	-9.68	70.50
29	29	30.75	-0.09	-9.68	70.50
29	30	32.20	-0.06	-6.72	87.63
30	30	32.20	0.00	-6.72	87.63
30	31	33.65	0.00	-4.92	99.42
31	31	33.65	0.00	-4.92	99.42
31	32	35.10	0.00	-8.62	109.15
32	32	35.10	0.00	-8.62	109.15
32	33	36.55	0.00	0.78	115.45
33	33	36.55	0.00	0.78	115.45
33	34	38.00	0.00	-2.92	115.68
34	34	38.00	0.00	-2.92	115.68
34	35	39.45	0.00	-1.12	115.96
35	35	39.45	0.00	-1.12	115.96
35	36	40.90	0.00	8.28	110.11
36	36	40.90	0.00	8.28	110.11
36	37	42.35	0.00	4.58	100.92
37	37	42.35	0.00	4.58	100.92
37	38	43.80	0.00	6.38	89.62
38	38	43.80	-0.06	6.38	89.62
38	39	45.25	-0.09	9.35	72.94
39	39	45.25	-0.09	9.35	72.94
39	40	46.70	-0.12	12.08	53.01
40	40	46.70	0.00	12.08	53.01
40	41	48.15	0.00	13.88	30.13
41	41	48.15	0.00	13.88	30.13
41	42	49.60	0.00	-0.73	15.18
42	42	49.60	0.00	-0.73	15.18
42	43	51.05	0.00	-0.73	16.24
43	43	51.05	0.00	-0.73	16.24
43	44	51.50	0.00	-0.73	16.57
44	44	51.50	0.00	-0.73	16.57
44	45	52.50	0.00	-0.73	17.31
45	1045	52.50	0.00	3.31	17.31
45	46	53.50	0.00	3.31	13.99
46	46	53.50	0.00	3.31	13.99
46	47	53.95	0.00	3.31	12.50
47	47	53.95	0.00	3.31	12.50
47	48	55.40	0.00	0.44	9.25
48	48	55.40	0.00	0.44	9.25
48	49	56.85	0.00	-14.21	29.63
49	49	56.85	0.00	-14.21	29.63
49	50	58.30	0.00	-12.41	52.99
50	50	58.30	-0.12	-12.41	52.99
50	51	59.75	-0.09	-9.66	73.38
51	51	59.75	-0.09	-9.66	73.38
51	52	61.20	-0.06	-6.71	90.56

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TREN30.EnvTrenGen.MZ+

CÁLCULO TENSIONAL

Hipótesis de cálculo:

TREN30.EnvTrenGen.MZ+

Envolvente de tren de cargas plano genérico. MZ+

[0; 1]TREN30.PaseoTren.Nudo1.Pos2.Mx+ + [0; 1]TREN30.PaseoTren.Nudo1.Pos3.Mx+ + [0; 1]TRE

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
52	52	61.20	0.00	-6.71	90.56
52	53	62.65	0.00	-4.91	102.31
53	53	62.65	0.00	-4.91	102.31
53	54	64.10	0.00	-8.61	112.03
54	54	64.10	0.00	-8.61	112.03
54	55	65.55	0.00	0.79	118.33
55	55	65.55	0.00	0.79	118.33
55	56	67.00	0.00	-2.91	118.52
56	56	67.00	0.00	-2.91	118.52
56	57	68.45	0.00	-1.11	118.82
57	57	68.45	0.00	-1.11	118.82
57	58	69.90	0.00	8.29	112.96
58	58	69.90	0.00	8.29	112.96
58	59	71.35	0.00	4.59	103.75
59	59	71.35	0.00	4.59	103.75
59	60	72.80	0.00	6.39	92.45
60	60	72.80	-0.06	6.39	92.45
60	61	74.25	-0.09	9.35	75.71
61	61	74.25	-0.09	9.35	75.71
61	62	75.70	-0.12	12.09	55.82
62	62	75.70	0.00	12.09	55.82
62	63	77.15	0.00	13.89	32.94
63	63	77.15	0.00	13.89	32.94
63	64	78.60	0.00	-0.68	14.17
64	64	78.60	0.00	-0.68	14.17
64	65	80.05	0.00	-0.68	15.16
65	65	80.05	0.00	-0.68	15.16
65	66	80.50	0.00	-0.68	15.46
66	66	80.50	0.00	-0.68	15.46
66	67	81.50	0.00	-0.68	16.14
67	1067	81.50	0.00	2.85	16.14
67	68	82.50	0.00	2.85	13.29
68	68	82.50	0.00	2.85	13.29
68	69	83.08	0.00	0.49	12.10
69	69	83.08	0.00	0.49	12.10
69	70	84.65	0.00	0.49	11.32
70	70	84.65	0.00	0.49	11.32
70	71	86.23	0.00	-22.64	34.31
71	71	86.23	0.00	-22.64	34.31
71	72	87.80	0.00	-19.75	63.49
72	72	87.80	-0.17	-19.75	63.49
72	73	89.38	-0.15	-16.90	86.18
73	73	89.38	-0.15	-16.90	86.18
73	74	90.95	-0.07	-7.64	107.40
74	74	90.95	0.00	-7.64	107.40
74	75	92.53	0.00	-4.75	122.91
75	75	92.53	0.00	-4.75	122.91
75	76	94.10	0.00	-9.02	133.12
76	76	94.10	0.00	-9.02	133.12
76	77	95.68	0.00	-6.26	140.43
77	77	95.68	0.00	-6.26	140.43

CÁLCULO TENSIONAL

Hipótesis de cálculo:
TREN30.EnvTrenGen.MZ+

Envolvente de tren de cargas plano genérico. MZ+

[0; 1]TREN30.PaseoTren.Nudo1.Pos2.Mx+ + [0; 1]TREN30.PaseoTren.Nudo1.Pos3.Mx+ + [0; 1]TRE

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
77	78	97.25	0.00	-3.03	141.11
78	78	97.25	0.00	-3.03	141.11
78	79	98.83	0.00	5.98	140.88
79	79	98.83	0.00	5.98	140.88
79	80	100.40	0.00	8.74	134.02
80	80	100.40	0.00	8.74	134.02
80	81	101.98	0.00	4.47	124.24
81	81	101.98	0.00	4.47	124.24
81	82	103.55	0.00	7.36	109.19
82	82	103.55	-0.06	7.36	109.19
82	83	105.13	-0.15	16.63	88.37
83	83	105.13	-0.15	16.63	88.37
83	84	106.70	-0.17	19.47	66.15
84	84	106.70	0.00	19.47	66.15
84	85	108.28	0.00	22.36	37.45
85	85	108.28	0.00	22.36	37.45
85	86	109.85	0.00	-0.37	8.34
86	86	109.85	0.00	-0.37	8.34
86	87	111.43	0.00	-0.37	8.92
87	87	111.43	0.00	-0.37	8.92
87	88	112.00	0.00	-2.33	10.23
88	88	112.00	0.00	-2.33	10.23
88	89	113.00	0.00	-2.33	12.56
89	1089	113.00	0.00	0.49	12.56
89	90	114.00	0.00	0.49	12.07
90	90	114.00	0.00	0.49	12.07
90	91	114.58	0.00	0.49	11.79
91	91	114.58	0.00	0.49	11.79
91	92	116.15	0.00	0.49	11.01
92	92	116.15	0.00	0.49	11.01
92	93	117.73	0.00	-22.21	37.58
93	93	117.73	0.00	-22.21	37.58
93	94	119.30	0.00	-19.32	66.04
94	94	119.30	-0.17	-19.32	66.04
94	95	120.88	-0.15	-16.49	88.05
95	95	120.88	-0.15	-16.49	88.05
95	96	122.45	-0.06	-7.21	108.63
96	96	122.45	0.00	-7.21	108.63
96	97	124.03	0.00	-4.32	123.45
97	97	124.03	0.00	-4.32	123.45
97	98	125.60	0.00	-8.59	133.00
98	98	125.60	0.00	-8.59	133.00
98	99	127.18	0.00	-5.83	139.63
99	99	127.18	0.00	-5.83	139.63
99	100	128.75	0.00	-2.61	139.65
100	100	128.75	0.00	-2.61	139.65
100	101	130.33	0.00	6.41	138.74
101	101	130.33	0.00	6.41	138.74
101	102	131.90	0.00	9.17	131.19
102	102	131.90	0.00	9.17	131.19
102	103	133.48	0.00	4.89	120.77

CÁLCULO TENSIONAL

Hipótesis de cálculo:
TREN30.EnvTrenGen.MZ+

Envolvente de tren de cargas plano genérico. MZ+

[0; 1]TREN30.PaseoTren.Nudo1.Pos2.Mx+ + [0; 1]TREN30.PaseoTren.Nudo1.Pos3.Mx+ + [0; 1]TRE

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
103	103	133.48	0.00	4.89	120.77
103	104	135.05	0.00	7.79	105.01
104	104	135.05	-0.07	7.79	105.01
104	105	136.63	-0.15	17.05	83.62
105	105	136.63	-0.15	17.05	83.62
105	106	138.20	-0.18	19.89	60.67
106	106	138.20	0.00	19.89	60.67
106	107	139.78	0.00	22.79	31.23
107	107	139.78	0.00	22.79	31.23
107	108	141.35	0.00	-2.91	8.08
108	108	141.35	0.00	-2.91	8.08
108	109	142.93	0.00	-2.91	12.66
109	109	142.93	0.00	-2.91	12.66
109	110	143.50	0.00	-2.91	14.33
110	110	143.50	0.00	-2.91	14.33
110	111	144.50	0.00	-2.91	17.24
111	1111	144.50	0.00	0.73	17.24
111	112	145.50	0.00	0.73	16.51
112	112	145.50	0.00	0.73	16.51
112	113	145.68	0.00	0.73	16.38
113	113	145.68	0.00	0.73	16.38
113	114	146.85	0.00	0.73	15.52
114	114	146.85	0.00	0.73	15.52
114	115	148.03	0.00	-19.69	23.69
115	115	148.03	0.00	-19.69	23.69
115	116	149.20	0.00	-10.89	42.03
116	116	149.20	-0.13	-10.89	42.03
116	117	150.38	-0.10	-8.68	58.57
117	117	150.38	-0.10	-8.68	58.57
117	118	151.55	-0.08	-6.59	71.85
118	118	151.55	0.00	-6.59	71.85
118	119	152.73	0.00	-4.69	82.26
119	119	152.73	0.00	-4.69	82.26
119	120	153.90	0.00	-8.68	89.15
120	120	153.90	0.00	-8.68	89.15
120	121	155.08	0.00	-1.18	95.26
121	121	155.08	0.00	-1.18	95.26
121	122	156.25	0.00	-4.69	98.79
122	122	156.25	0.00	-4.69	98.79
122	123	157.43	0.00	3.61	101.43
123	123	157.43	0.00	3.61	101.43
123	124	158.60	0.00	-1.18	99.41
124	124	158.60	0.00	-1.18	99.41
124	125	159.78	0.00	0.91	95.57
125	125	159.78	0.00	0.91	95.57
125	126	160.95	0.00	2.81	90.31
126	126	160.95	0.00	2.81	90.31
126	127	162.13	0.00	11.61	81.75
127	127	162.13	0.00	11.61	81.75
127	128	163.30	0.00	13.82	69.69
128	128	163.30	0.00	13.82	69.69

CÁLCULO TENSIONAL

Hipótesis de cálculo:

TREN30.EnvTrenGen.MZ+

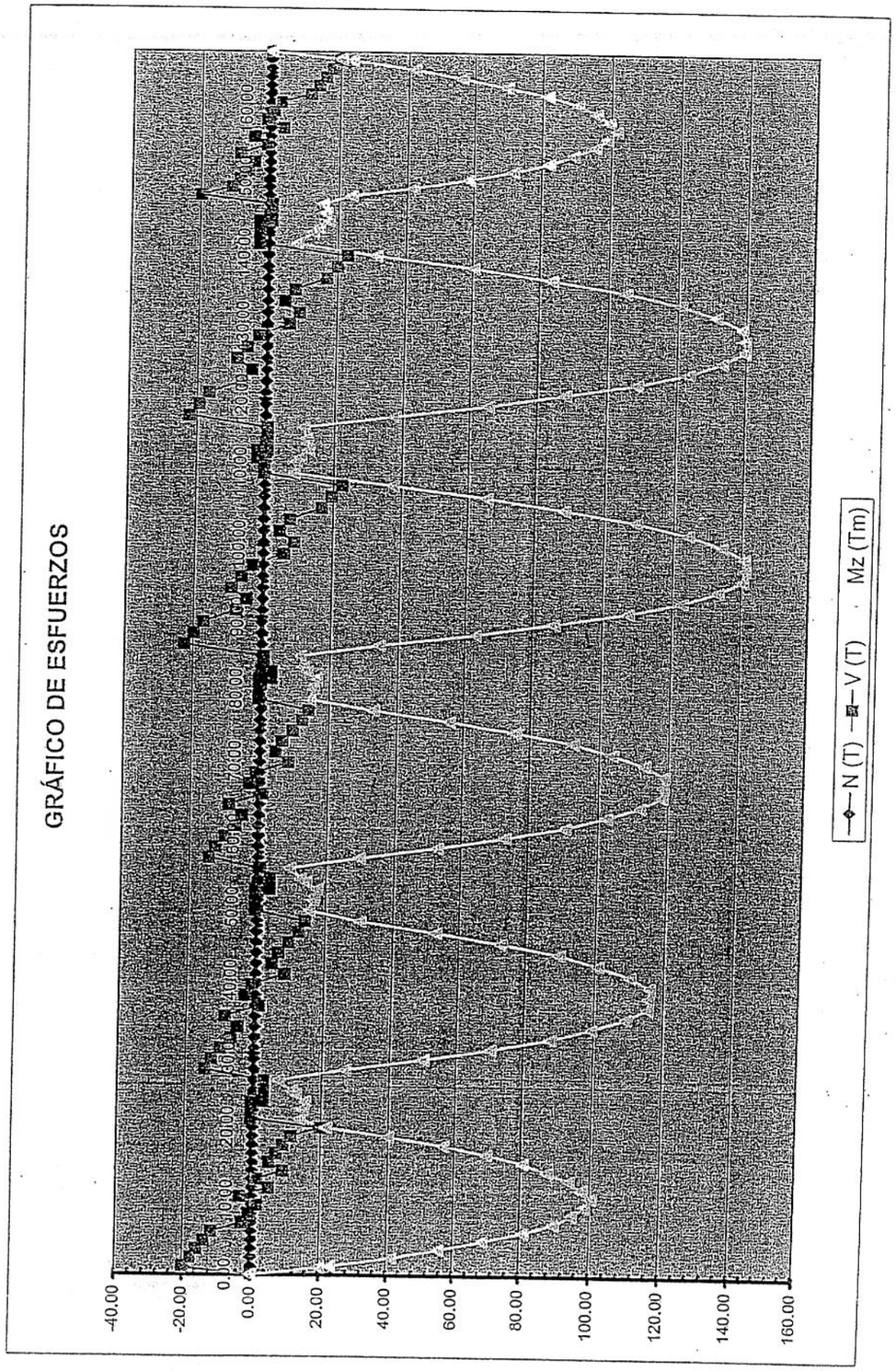
Envolvente de tren de cargas plano genérico. MZ+

[0; 1]TREN30.PaseoTren.Nudo1.Pos2.Mx+ + [0; 1]TREN30.PaseoTren.Nudo1.Pos3.Mx+ + [0; 1]TRE

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
128	129	164.48	0.00	15.91	56.07
129	129	164.48	0.00	15.91	56.07
129	130	165.65	0.00	17.81	41.85
130	130	165.65	0.00	17.81	41.85
130	131	166.83	0.00	19.76	23.22
131	131	166.83	0.00	19.76	23.22
131	132	167.00	0.00	20.14	20.13
132	132	167.00	0.00	20.14	20.13
132	133	168.00	0.00	0.00	0.00

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TREN30.EnvTrenGen.MZ+
28/08/01



CÁLCULO TENSIONAL

Hipótesis de cálculo:
TREN30.EnvTrenGen.VY-

Envolvente de tren de cargas plano genérico. VY-

[0; 1]TREN30.PaseoTren.Nudo1.Pos2.Mx+ + [0; 1]TREN30.PaseoTren.Nudo1.Pos3.Mx+ + [0; 1]TRE

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
1	1	0.00	0.00	-21.66	0.00
1	2	1.00	0.00	-20.04	20.04
2	2	1.00	0.00	-20.04	20.04
2	3	1.18	0.00	-19.66	23.10
3	3	1.18	0.00	-19.66	23.10
3	4	2.35	0.00	-17.70	41.60
4	4	2.35	0.00	-17.70	41.60
4	5	3.53	0.00	-15.80	55.69
5	5	3.53	0.00	-15.80	55.69
5	6	4.70	0.00	-13.72	69.19
6	6	4.70	0.00	-13.72	69.19
6	7	5.88	0.00	-11.50	81.11
7	7	5.88	0.00	-11.50	81.11
7	8	7.05	0.00	-9.38	88.51
8	8	7.05	0.00	-9.38	88.51
8	9	8.23	0.00	-7.36	91.74
9	9	8.23	0.00	-7.36	91.74
9	10	9.40	0.00	-5.64	52.98
10	10	9.40	0.00	-5.64	52.98
10	11	10.58	0.00	-3.50	100.29
11	11	10.58	0.00	-3.50	100.29
11	12	11.75	0.00	-2.06	24.15
12	12	11.75	0.00	-2.06	24.15
12	13	12.93	0.00	-0.82	10.64
13	13	12.93	0.00	-0.82	10.64
13	14	14.10	0.00	-0.82	11.60
14	14	14.10	0.00	-0.82	11.60
14	15	15.28	0.00	-0.64	9.85
15	15	15.28	0.00	-0.64	9.85
15	16	16.45	0.00	-0.64	10.61
16	16	16.45	0.01	-0.64	10.61
16	17	17.63	0.01	-0.64	11.36
17	17	17.63	0.01	-0.64	11.36
17	18	18.80	0.01	-0.64	12.12
18	18	18.80	0.00	-0.64	12.12
18	19	19.98	0.00	-0.64	12.88
19	19	19.98	0.00	-0.64	12.88
19	20	21.15	0.00	-0.64	13.64
20	20	21.15	0.00	-0.64	13.64
20	21	22.33	0.00	-0.64	14.39
21	21	22.33	0.00	-0.64	14.39
21	22	22.50	0.00	-0.64	14.51
22	22	22.50	0.00	-0.64	14.51
22	23	23.50	0.00	-0.64	15.15
23	1023	23.50	0.00	-29.22	-67.60
23	24	24.50	0.00	-25.87	-61.25
24	24	24.50	0.00	-25.87	-61.25
24	25	24.95	0.00	-25.87	-49.60
25	25	24.95	0.00	-25.87	-49.60
25	26	26.40	0.00	-23.62	-3.93
26	26	26.40	0.00	-23.62	-3.93

CÁLCULO TENSIONAL

Hipótesis de cálculo:
TREN30.EnvTrenGen.VY-

Envolvente de tren de cargas plano genérico. VY-

[0; 1]TREN30.PaseoTren.Nudo1.Pos2.Mx+ + [0; 1]TREN30.PaseoTren.Nudo1.Pos3.Mx+ + [0; 1]TRE

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
26	27	27.85	0.00	-20.83	7.97
27	27	27.85	0.00	-20.83	7.97
27	28	29.30	0.00	-18.37	36.54
28	28	29.30	-0.18	-18.37	36.54
28	29	30.75	-0.15	-16.12	69.18
29	29	30.75	-0.15	-16.12	69.18
29	30	32.20	-0.13	-13.33	71.67
30	30	32.20	0.00	-13.33	71.67
30	31	33.65	0.00	-10.87	89.54
31	31	33.65	0.00	-10.87	89.54
31	32	35.10	0.00	-8.62	109.15
32	32	35.10	0.00	-8.62	109.15
32	33	36.55	0.00	-6.39	57.33
33	33	36.55	0.00	-6.39	57.33
33	34	38.00	0.00	-5.24	54.29
34	34	38.00	0.00	-5.24	54.29
34	35	39.45	0.00	-3.26	38.43
35	35	39.45	0.00	-3.26	38.43
35	36	40.90	0.00	-2.06	-13.33
36	36	40.90	0.00	-2.06	-13.33
36	37	42.35	0.00	-2.06	-10.35
37	37	42.35	0.00	-2.06	-10.35
37	38	43.80	0.00	-2.06	-7.37
38	38	43.80	0.02	-2.06	-7.37
38	39	45.25	0.02	-2.06	-4.39
39	39	45.25	0.02	-2.06	-4.39
39	40	46.70	0.02	-2.06	-1.40
40	40	46.70	0.00	-2.06	-1.40
40	41	48.15	0.00	-2.06	1.58
41	41	48.15	0.00	-2.06	1.58
41	42	49.60	0.00	-2.06	4.56
42	42	49.60	0.00	-2.06	4.56
42	43	51.05	0.00	-2.06	7.54
43	43	51.05	0.00	-2.06	7.54
43	44	51.50	0.00	-2.06	8.46
44	44	51.50	0.00	-2.06	8.46
44	45	52.50	0.00	-2.06	10.52
45	1045	52.50	0.00	-29.21	-64.59
45	46	53.50	0.00	-25.89	-59.05
46	46	53.50	0.00	-25.89	-59.05
46	47	53.95	0.00	-25.89	-47.40
47	47	53.95	0.00	-25.89	-47.40
47	48	55.40	0.00	-23.61	-0.99
48	48	55.40	0.00	-23.61	-0.99
48	49	56.85	0.00	-20.87	9.81
49	49	56.85	0.00	-20.87	9.81
49	50	58.30	0.00	-18.39	38.83
50	50	58.30	-0.18	-18.39	38.83
50	51	59.75	-0.15	-16.11	72.10
51	51	59.75	-0.15	-16.11	72.10
51	52	61.20	-0.13	-13.37	73.66

CÁLCULO TENSIONAL

Hipótesis de cálculo:
TREN30.EnvTrenGen.VY-

Envolvente de tren de cargas plano genérico. VY-

[0; 1]TREN30.PaseoTren.Nudo1.Pos2.Mx+ + [0; 1]TREN30.PaseoTren.Nudo1.Pos3.Mx+ + [0; 1]TRE

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
52	52	61.20	0.00	-13.37	73.66
52	53	62.65	0.00	-10.89	91.91
53	53	62.65	0.00	-10.89	91.91
53	54	64.10	0.00	-8.61	112.03
54	54	64.10	0.00	-8.61	112.03
54	55	65.55	0.00	-6.26	57.60
55	55	65.55	0.00	-6.26	57.60
55	56	67.00	0.00	-5.09	54.00
56	56	67.00	0.00	-5.09	54.00
56	57	68.45	0.00	-2.82	34.19
57	57	68.45	0.00	-2.82	34.19
57	58	69.90	0.00	-2.64	-17.76
58	58	69.90	0.00	-2.64	-17.76
58	59	71.35	0.00	-2.64	-13.93
59	59	71.35	0.00	-2.64	-13.93
59	60	72.80	0.00	-2.64	-10.10
60	60	72.80	0.03	-2.64	-10.10
60	61	74.25	0.03	-2.64	-6.27
61	61	74.25	0.03	-2.64	-6.27
61	62	75.70	0.03	-2.64	-2.44
62	62	75.70	0.00	-2.64	-2.44
62	63	77.15	0.00	-2.64	1.39
63	63	77.15	0.00	-2.64	1.39
63	64	78.60	0.00	-2.64	5.22
64	64	78.60	0.00	-2.64	5.22
64	65	80.05	0.00	-2.64	9.05
65	65	80.05	0.00	-2.64	9.05
65	66	80.50	0.00	-2.64	10.24
66	66	80.50	0.00	-2.64	10.24
66	67	81.50	0.00	-2.64	12.88
67	1067	81.50	0.00	-31.52	-77.32
67	68	82.50	0.00	-28.80	-65.83
68	68	82.50	0.00	-28.80	-65.83
68	69	83.08	0.00	-28.37	-41.02
69	69	83.08	0.00	-28.37	-41.02
69	70	84.65	0.00	-25.53	-0.70
70	70	84.65	0.00	-25.53	-0.70
70	71	86.23	0.00	-22.64	34.31
71	71	86.23	0.00	-22.64	34.31
71	72	87.80	0.00	-19.75	63.49
72	72	87.80	-0.17	-19.75	63.49
72	73	89.38	-0.15	-16.90	86.18
73	73	89.38	-0.15	-16.90	86.18
73	74	90.95	-0.12	-14.13	102.26
74	74	90.95	0.00	-14.13	102.26
74	75	92.53	0.00	-11.69	81.35
75	75	92.53	0.00	-11.69	81.35
75	76	94.10	0.00	-9.55	80.25
76	76	94.10	0.00	-9.55	80.25
76	77	95.68	0.00	-7.57	74.71
77	77	95.68	0.00	-7.57	74.71

CÁLCULO TENSIONAL

Hipótesis de cálculo:
TREN30.EnvTrenGen.VY-

Envolvente de tren de cargas plano genérico. VY-

[0; 1]TREN30.PaseoTren.Nudo1.Pos2.Mx+ + [0; 1]TREN30.PaseoTren.Nudo1.Pos3.Mx+ + [0; 1]TRE

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
77	78	97.25	0.00	-5.76	65.46
78	78	97.25	0.00	-5.76	65.46
78	79	98.83	0.00	-4.70	60.64
79	79	98.83	0.00	-4.70	60.64
79	80	100.40	0.00	-2.66	38.58
80	80	100.40	0.00	-2.66	38.58
80	81	101.98	0.00	-2.33	-13.16
81	81	101.98	0.00	-2.33	-13.16
81	82	103.55	0.00	-2.33	-9.49
82	82	103.55	0.02	-2.33	-9.49
82	83	105.13	0.02	-2.33	-5.81
83	83	105.13	0.02	-2.33	-5.81
83	84	106.70	0.02	-2.33	-2.14
84	84	106.70	0.00	-2.33	-2.14
84	85	108.28	0.00	-2.33	1.54
85	85	108.28	0.00	-2.33	1.54
85	86	109.85	0.00	-2.33	5.21
86	86	109.85	0.00	-2.33	5.21
86	87	111.43	0.00	-2.33	8.89
87	87	111.43	0.00	-2.33	8.89
87	88	112.00	0.00	-2.33	10.23
88	88	112.00	0.00	-2.33	10.23
88	89	113.00	0.00	-2.33	12.56
89	1089	113.00	0.00	-31.09	-72.04
89	90	114.00	0.00	-28.47	-62.45
90	90	114.00	0.00	-28.47	-62.45
90	91	114.58	0.00	-27.95	-36.62
91	91	114.58	0.00	-27.95	-36.62
91	92	116.15	0.00	-25.11	3.19
92	92	116.15	0.00	-25.11	3.19
92	93	117.73	0.00	-22.21	37.58
93	93	117.73	0.00	-22.21	37.58
93	94	119.30	0.00	-19.32	66.04
94	94	119.30	-0.17	-19.32	66.04
94	95	120.88	-0.15	-16.49	88.05
95	95	120.88	-0.15	-16.49	88.05
95	96	122.45	-0.12	-13.74	103.47
96	96	122.45	0.00	-13.74	103.47
96	97	124.03	0.00	-11.53	82.31
97	97	124.03	0.00	-11.53	82.31
97	98	125.60	0.00	-9.47	81.27
98	98	125.60	0.00	-9.47	81.27
98	99	127.18	0.00	-7.59	76.18
99	99	127.18	0.00	-7.59	76.18
99	100	128.75	0.00	-5.90	67.81
100	100	128.75	0.00	-5.90	67.81
100	101	130.33	0.00	-4.91	63.91
101	101	130.33	0.00	-4.91	63.91
101	102	131.90	0.00	-2.91	-19.39
102	102	131.90	0.00	-2.91	-19.39
102	103	133.48	0.00	-2.91	-14.81

CÁLCULO TENSIONAL

Hipótesis de cálculo:
TREN30.EnvTrenGen.VY-

Envolvente de tren de cargas plano genérico. VY-

[0; 1]TREN30.PaseoTren.Nudo1.Pos2.Mx+ + [0; 1]TREN30.PaseoTren.Nudo1.Pos3.Mx+ + [0; 1]TRE

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
103	103	133.48	0.00	-2.91	-14.81
103	104	135.05	0.00	-2.91	-10.23
104	104	135.05	0.03	-2.91	-10.23
104	105	136.63	0.03	-2.91	-5.66
105	105	136.63	0.03	-2.91	-5.66
105	106	138.20	0.03	-2.91	-1.08
106	106	138.20	0.00	-2.91	-1.08
106	107	139.78	0.00	-2.91	3.50
107	107	139.78	0.00	-2.91	3.50
107	108	141.35	0.00	-2.91	8.08
108	108	141.35	0.00	-2.91	8.08
108	109	142.93	0.00	-2.91	12.66
109	109	142.93	0.00	-2.91	12.66
109	110	143.50	0.00	-2.91	14.33
110	110	143.50	0.00	-2.91	14.33
110	111	144.50	0.00	-2.91	17.24
111	1111	144.50	0.00	-27.23	-87.60
111	112	145.50	0.00	-25.32	-61.44
112	112	145.50	0.00	-25.32	-61.44
112	113	145.68	0.00	-25.32	-57.01
113	113	145.68	0.00	-25.32	-57.01
113	114	146.85	0.00	-23.29	-28.33
114	114	146.85	0.00	-23.29	-28.33
114	115	148.03	0.00	-21.14	-2.09
115	115	148.03	0.00	-21.14	-2.09
115	116	149.20	0.00	-18.87	21.44
116	116	149.20	-0.22	-18.87	21.44
116	117	150.38	-0.19	-16.47	41.73
117	117	150.38	-0.19	-16.47	41.73
117	118	151.55	-0.17	-14.30	59.30
118	118	151.55	0.00	-14.30	59.30
118	119	152.73	0.00	-12.44	66.72
119	119	152.73	0.00	-12.44	66.72
119	120	153.90	0.00	-10.32	63.14
120	120	153.90	0.00	-10.32	63.14
120	121	155.08	0.00	-8.40	84.67
121	121	155.08	0.00	-8.40	84.67
121	122	156.25	0.00	-6.51	65.76
122	122	156.25	0.00	-6.51	65.76
122	123	157.43	0.00	-4.73	74.60
123	123	157.43	0.00	-4.73	74.60
123	124	158.60	0.00	-3.51	-33.02
124	124	158.60	0.00	-3.51	-33.02
124	125	159.78	0.00	-3.51	-28.90
125	125	159.78	0.00	-3.51	-28.90
125	126	160.95	0.00	-3.51	-24.77
126	126	160.95	0.00	-3.51	-24.77
126	127	162.13	0.00	-3.51	-20.64
127	127	162.13	0.00	-3.51	-20.64
127	128	163.30	0.00	-3.51	-16.51
128	128	163.30	0.00	-3.51	-16.51

CÁLCULO TENSIONAL

Hipótesis de cálculo:
TREN30.EnvTrenGen.VY-

Envolvente de tren de cargas plano genérico. VY-

[0; 1]TREN30.PaseoTren.Nudo1.Pos2.Mx+ + [0; 1]TREN30.PaseoTren.Nudo1.Pos3.Mx+ + [0; 1]TRE

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
128	129	164.48	0.00	-3.51	-12.38
129	129	164.48	0.00	-3.51	-12.38
129	130	165.65	0.00	-3.51	-8.26
130	130	165.65	0.00	-3.51	-8.26
130	131	166.83	0.00	-3.51	-4.13
131	131	166.83	0.00	-3.51	-4.13
131	132	167.00	0.00	-3.51	-3.51
132	132	167.00	0.00	-3.51	-3.51
132	133	168.00	0.00	-3.51	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:
TREN30.EnvTrenGen.MZ-

Envolvente de tren de cargas plano genérico. MZ-

[0; 1]TREN30.PaseoTren.Nudo1.Pos2.Mx+ + [0; 1]TREN30.PaseoTren.Nudo1.Pos3.Mx+ + [0; 1]TRE

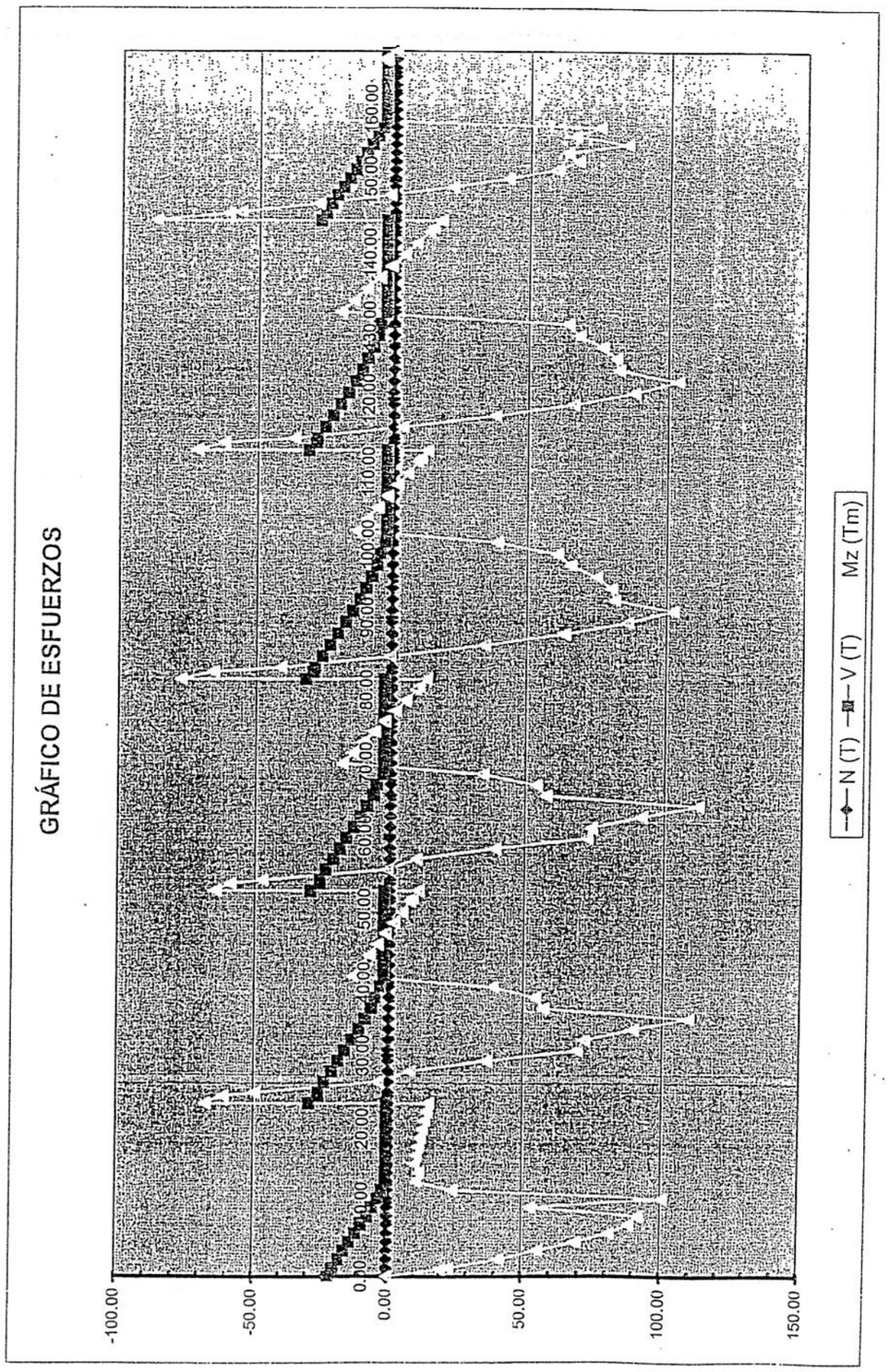
Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
1	1	0.00	0.00	0.00	0.00
1	2	1.00	0.00	2.92	-2.92
2	2	1.00	0.00	2.92	-2.92
2	3	1.18	0.00	2.92	-3.43
3	3	1.18	0.00	2.92	-3.43
3	4	2.35	0.00	2.92	-6.86
4	4	2.35	0.00	2.92	-6.86
4	5	3.53	0.00	2.92	-10.29
5	5	3.53	0.00	2.92	-10.29
5	6	4.70	0.00	2.92	-13.73
6	6	4.70	0.00	2.92	-13.73
6	7	5.88	0.00	2.92	-17.16
7	7	5.88	0.00	2.92	-17.16
7	8	7.05	0.00	2.92	-20.59
8	8	7.05	0.00	2.92	-20.59
8	9	8.23	0.00	2.92	-24.02
9	9	8.23	0.00	2.92	-24.02
9	10	9.40	0.00	2.92	-27.45
10	10	9.40	0.00	2.92	-27.45
10	11	10.58	0.00	2.92	-30.88
11	11	10.58	0.00	2.92	-30.88
11	12	11.75	0.00	2.92	-34.32
12	12	11.75	0.00	2.92	-34.32
12	13	12.93	0.00	2.92	-37.75
13	13	12.93	0.00	2.92	-37.75
13	14	14.10	0.00	2.92	-41.18
14	14	14.10	0.00	2.92	-41.18
14	15	15.28	0.00	2.92	-44.61
15	15	15.28	0.00	2.92	-44.61
15	16	16.45	0.00	2.92	-48.04
16	16	16.45	-0.03	2.92	-48.04
16	17	17.63	-0.03	2.92	-51.47
17	17	17.63	-0.03	2.92	-51.47
17	18	18.80	-0.03	2.92	-54.91
18	18	18.80	0.00	2.92	-54.91
18	19	19.98	0.00	2.92	-58.34
19	19	19.98	0.00	2.92	-58.34
19	20	21.15	0.00	2.92	-61.77
20	20	21.15	0.00	2.92	-61.77
20	21	22.33	0.00	19.03	-71.55
21	21	22.33	0.00	19.03	-71.55
21	22	22.50	0.00	19.03	-74.88
22	22	22.50	0.00	19.03	-74.88
22	23	23.50	0.00	20.45	-94.58
23	1023	23.50	0.00	-25.36	-94.58
23	24	24.50	0.00	-22.35	-72.00
24	24	24.50	0.00	-22.35	-72.00
24	25	24.95	0.00	-21.80	-62.05
25	25	24.95	0.00	-21.80	-62.05
25	26	26.40	0.00	-2.06	-43.13
26	26	26.40	0.00	-2.06	-43.13

28/08/01

Programa DINTEL IDEAM S.A.
TREN30.EnvTrenGen.VY-

est f/ fisurada.xls



TREN30.EnvTrenGen.MZ-

CÁLCULO TENSIONAL

Hipótesis de cálculo:

TREN30.EnvTrenGen.MZ-

Envolvente de tren de cargas plano genérico. MZ-

[0; 1]TREN30.PaseoTren.Nudo1.Pos2.Mx+ + [0; 1]TREN30.PaseoTren.Nudo1.Pos3.Mx+ + [0; 1]TRE

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
26	27	27.85	0.00	-2.06	-40.15
27	27	27.85	0.00	-2.06	-40.15
27	28	29.30	0.00	-2.06	-37.17
28	28	29.30	-0.02	-2.06	-37.17
28	29	30.75	-0.02	-2.06	-34.19
29	29	30.75	-0.02	-2.06	-34.19
29	30	32.20	-0.02	-2.06	-31.21
30	30	32.20	0.00	-2.06	-31.21
30	31	33.65	0.00	-2.06	-28.23
31	31	33.65	0.00	-2.06	-28.23
31	32	35.10	0.00	-2.06	-25.25
32	32	35.10	0.00	-2.06	-25.25
32	33	36.55	0.00	-2.06	-22.27
33	33	36.55	0.00	-2.06	-22.27
33	34	38.00	0.00	2.79	-25.23
34	34	38.00	0.00	2.79	-25.23
34	35	39.45	0.00	2.79	-29.27
35	35	39.45	0.00	2.79	-29.27
35	36	40.90	0.00	2.79	-33.31
36	36	40.90	0.00	2.79	-33.31
36	37	42.35	0.00	2.79	-37.35
37	37	42.35	0.00	2.79	-37.35
37	38	43.80	0.00	2.79	-41.39
38	38	43.80	-0.03	2.79	-41.39
38	39	45.25	-0.03	2.79	-45.42
39	39	45.25	-0.03	2.79	-45.42
39	40	46.70	-0.03	2.79	-49.46
40	40	46.70	0.00	2.79	-49.46
40	41	48.15	0.00	2.79	-53.50
41	41	48.15	0.00	2.79	-53.50
41	42	49.60	0.00	2.79	-57.54
42	42	49.60	0.00	2.79	-57.54
42	43	51.05	0.00	19.25	-66.69
43	43	51.05	0.00	19.25	-66.69
43	44	51.50	0.00	19.25	-75.35
44	44	51.50	0.00	19.25	-75.35
44	45	52.50	0.00	23.61	-97.49
45	1045	52.50	0.00	-23.71	-97.49
45	46	53.50	0.00	-19.27	-74.68
46	46	53.50	0.00	-19.27	-74.68
46	47	53.95	0.00	-19.27	-66.01
47	47	53.95	0.00	-19.27	-66.01
47	48	55.40	0.00	-2.64	-56.05
48	48	55.40	0.00	-2.64	-56.05
48	49	56.85	0.00	-2.64	-52.22
49	49	56.85	0.00	-2.64	-52.22
49	50	58.30	0.00	-2.64	-48.40
50	50	58.30	-0.03	-2.64	-48.40
50	51	59.75	-0.03	-2.64	-44.57
51	51	59.75	-0.03	-2.64	-44.57
51	52	61.20	-0.03	-2.64	-40.74

TREN30.EnvTrenGen.MZ-

CÁLCULO TENSIONAL

Hipótesis de cálculo:

TREN30.EnvTrenGen.MZ-

Envolvente de tren de cargas plano genérico. MZ-

[0; 1]TREN30.PaseoTren.Nudo1.Pos2.Mx+ + [0; 1]TREN30.PaseoTren.Nudo1.Pos3.Mx+ + [0; 1]TRE

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
52	52	61.20	0.00	-2.64	-40.74
52	53	62.65	0.00	-2.64	-36.91
53	53	62.65	0.00	-2.64	-36.91
53	54	64.10	0.00	-2.64	-33.08
54	54	64.10	0.00	-2.64	-33.08
54	55	65.55	0.00	-2.64	-29.25
55	55	65.55	0.00	-2.64	-29.25
55	56	67.00	0.00	3.31	-30.75
56	56	67.00	0.00	3.31	-30.75
56	57	68.45	0.00	3.31	-35.56
57	57	68.45	0.00	3.31	-35.56
57	58	69.90	0.00	3.31	-40.36
58	58	69.90	0.00	3.31	-40.36
58	59	71.35	0.00	3.31	-45.17
59	59	71.35	0.00	3.31	-45.17
59	60	72.80	0.00	3.31	-49.98
60	60	72.80	-0.03	3.31	-49.98
60	61	74.25	-0.03	3.31	-54.78
61	61	74.25	-0.03	3.31	-54.78
61	62	75.70	-0.03	3.31	-59.59
62	62	75.70	0.00	3.31	-59.59
62	63	77.15	0.00	3.31	-64.39
63	63	77.15	0.00	3.31	-64.39
63	64	78.60	0.00	3.31	-69.20
64	64	78.60	0.00	3.31	-69.20
64	65	80.05	0.00	3.31	-74.00
65	65	80.05	0.00	3.31	-74.00
65	66	80.50	0.00	19.68	-79.22
66	66	80.50	0.00	19.68	-79.22
66	67	81.50	0.00	23.74	-99.29
67	1067	81.50	0.00	-24.23	-99.29
67	68	82.50	0.00	-23.13	-75.92
68	68	82.50	0.00	-23.13	-75.92
68	69	83.08	0.00	-19.51	-63.31
69	69	83.08	0.00	-19.51	-63.31
69	70	84.65	0.00	-2.33	-53.58
70	70	84.65	0.00	-2.33	-53.58
70	71	86.23	0.00	-2.33	-49.90
71	71	86.23	0.00	-2.33	-49.90
71	72	87.80	0.00	-2.33	-46.23
72	72	87.80	-0.02	-2.33	-46.23
72	73	89.38	-0.02	-2.33	-42.55
73	73	89.38	-0.02	-2.33	-42.55
73	74	90.95	-0.02	-2.33	-38.88
74	74	90.95	0.00	-2.33	-38.88
74	75	92.53	0.00	-2.33	-35.20
75	75	92.53	0.00	-2.33	-35.20
75	76	94.10	0.00	-2.33	-31.53
76	76	94.10	0.00	-2.33	-31.53
76	77	95.68	0.00	-2.33	-27.86
77	77	95.68	0.00	-2.33	-27.86

CÁLCULO TENSIONAL

Hipótesis de cálculo:

TREN30.EnvTrenGen.MZ-

Envolvente de tren de cargas plano genérico. MZ-

[0; 1]TREN30.PaseoTren.Nudo1.Pos2.Mx+ + [0; 1]TREN30.PaseoTren.Nudo1.Pos3.Mx+ + [0; 1]TRE

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
77	78	97.25	0.00	2.85	-28.70
78	78	97.25	0.00	2.85	-28.70
78	79	98.83	0.00	2.85	-33.18
79	79	98.83	0.00	2.85	-33.18
79	80	100.40	0.00	2.85	-37.67
80	80	100.40	0.00	2.85	-37.67
80	81	101.98	0.00	2.85	-42.15
81	81	101.98	0.00	2.85	-42.15
81	82	103.55	0.00	2.85	-46.64
82	82	103.55	-0.03	2.85	-46.64
82	83	105.13	-0.03	2.85	-51.12
83	83	105.13	-0.03	2.85	-51.12
83	84	106.70	-0.03	2.85	-55.60
84	84	106.70	0.00	2.85	-55.60
84	85	108.28	0.00	2.85	-60.09
85	85	108.28	0.00	2.85	-60.09
85	86	109.85	0.00	2.85	-64.57
86	86	109.85	0.00	2.85	-64.57
86	87	111.43	0.00	2.85	-69.06
87	87	111.43	0.00	2.85	-69.06
87	88	112.00	0.00	19.84	-77.97
88	88	112.00	0.00	19.84	-77.97
88	89	113.00	0.00	24.24	-100.56
89	1089	113.00	0.00	-24.19	-100.56
89	90	114.00	0.00	-19.83	-78.24
90	90	114.00	0.00	-19.83	-78.24
90	91	114.58	0.00	-2.91	-69.77
91	91	114.58	0.00	-2.91	-69.77
91	92	116.15	0.00	-2.91	-65.19
92	92	116.15	0.00	-2.91	-65.19
92	93	117.73	0.00	-2.91	-60.61
93	93	117.73	0.00	-2.91	-60.61
93	94	119.30	0.00	-2.91	-56.03
94	94	119.30	-0.03	-2.91	-56.03
94	95	120.88	-0.03	-2.91	-51.45
95	95	120.88	-0.03	-2.91	-51.45
95	96	122.45	-0.03	-2.91	-46.87
96	96	122.45	0.00	-2.91	-46.87
96	97	124.03	0.00	-2.91	-42.29
97	97	124.03	0.00	-2.91	-42.29
97	98	125.60	0.00	-2.91	-37.71
98	98	125.60	0.00	-2.91	-37.71
98	99	127.18	0.00	-2.91	-33.13
99	99	127.18	0.00	-2.91	-33.13
99	100	128.75	0.00	-2.91	-28.55
100	100	128.75	0.00	-2.91	-28.55
100	101	130.33	0.00	-2.91	-23.97
101	101	130.33	0.00	-2.91	-23.97
101	102	131.90	0.00	1.78	-24.14
102	102	131.90	0.00	1.78	-24.14
102	103	133.48	0.00	1.78	-26.94

CÁLCULO TENSIONAL

Hipótesis de cálculo:

TREN30.EnvTrenGen.MZ-

Envolvente de tren de cargas plano genérico. MZ-

[0; 1]TREN30.PaseoTren.Nudo1.Pos2.Mx+ + [0; 1]TREN30.PaseoTren.Nudo1.Pos3.Mx+ + [0; 1]TRE

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
103	103	133.48	0.00	1.78	-26.94
103	104	135.05	0.00	1.78	-29.74
104	104	135.05	-0.02	1.78	-29.74
104	105	136.63	-0.02	1.78	-32.54
105	105	136.63	-0.02	1.78	-32.54
105	106	138.20	-0.02	1.78	-35.35
106	106	138.20	0.00	1.78	-35.35
106	107	139.78	0.00	1.78	-38.15
107	107	139.78	0.00	1.78	-38.15
107	108	141.35	0.00	1.78	-40.95
108	108	141.35	0.00	1.78	-40.95
108	109	142.93	0.00	22.41	-61.02
109	109	142.93	0.00	22.41	-61.02
109	110	143.50	0.00	22.41	-73.91
110	110	143.50	0.00	22.41	-73.91
110	111	144.50	0.00	25.97	-99.64
111	1111	144.50	0.00	-21.02	-99.64
111	112	145.50	0.00	-15.96	-81.10
112	112	145.50	0.00	-15.96	-81.10
112	113	145.68	0.00	-3.51	-78.43
113	113	145.68	0.00	-3.51	-78.43
113	114	146.85	0.00	-3.51	-74.30
114	114	146.85	0.00	-3.51	-74.30
114	115	148.03	0.00	-3.51	-70.18
115	115	148.03	0.00	-3.51	-70.18
115	116	149.20	0.00	-3.51	-66.05
116	116	149.20	-0.04	-3.51	-66.05
116	117	150.38	-0.04	-3.51	-61.92
117	117	150.38	-0.04	-3.51	-61.92
117	118	151.55	-0.04	-3.51	-57.79
118	118	151.55	0.00	-3.51	-57.79
118	119	152.73	0.00	-3.51	-53.66
119	119	152.73	0.00	-3.51	-53.66
119	120	153.90	0.00	-3.51	-49.54
120	120	153.90	0.00	-3.51	-49.54
120	121	155.08	0.00	-3.51	-45.41
121	121	155.08	0.00	-3.51	-45.41
121	122	156.25	0.00	-3.51	-41.28
122	122	156.25	0.00	-3.51	-41.28
122	123	157.43	0.00	-3.51	-37.15
123	123	157.43	0.00	-3.51	-37.15
123	124	158.60	0.00	-3.51	-33.02
124	124	158.60	0.00	-3.51	-33.02
124	125	159.78	0.00	-3.51	-28.90
125	125	159.78	0.00	-3.51	-28.90
125	126	160.95	0.00	-3.51	-24.77
126	126	160.95	0.00	-3.51	-24.77
126	127	162.13	0.00	-3.51	-20.64
127	127	162.13	0.00	-3.51	-20.64
127	128	163.30	0.00	-3.51	-16.51
128	128	163.30	0.00	-3.51	-16.51

CÁLCULO TENSIONAL

Hipótesis de cálculo:
TREN30.EnvTrenGen.MZ-

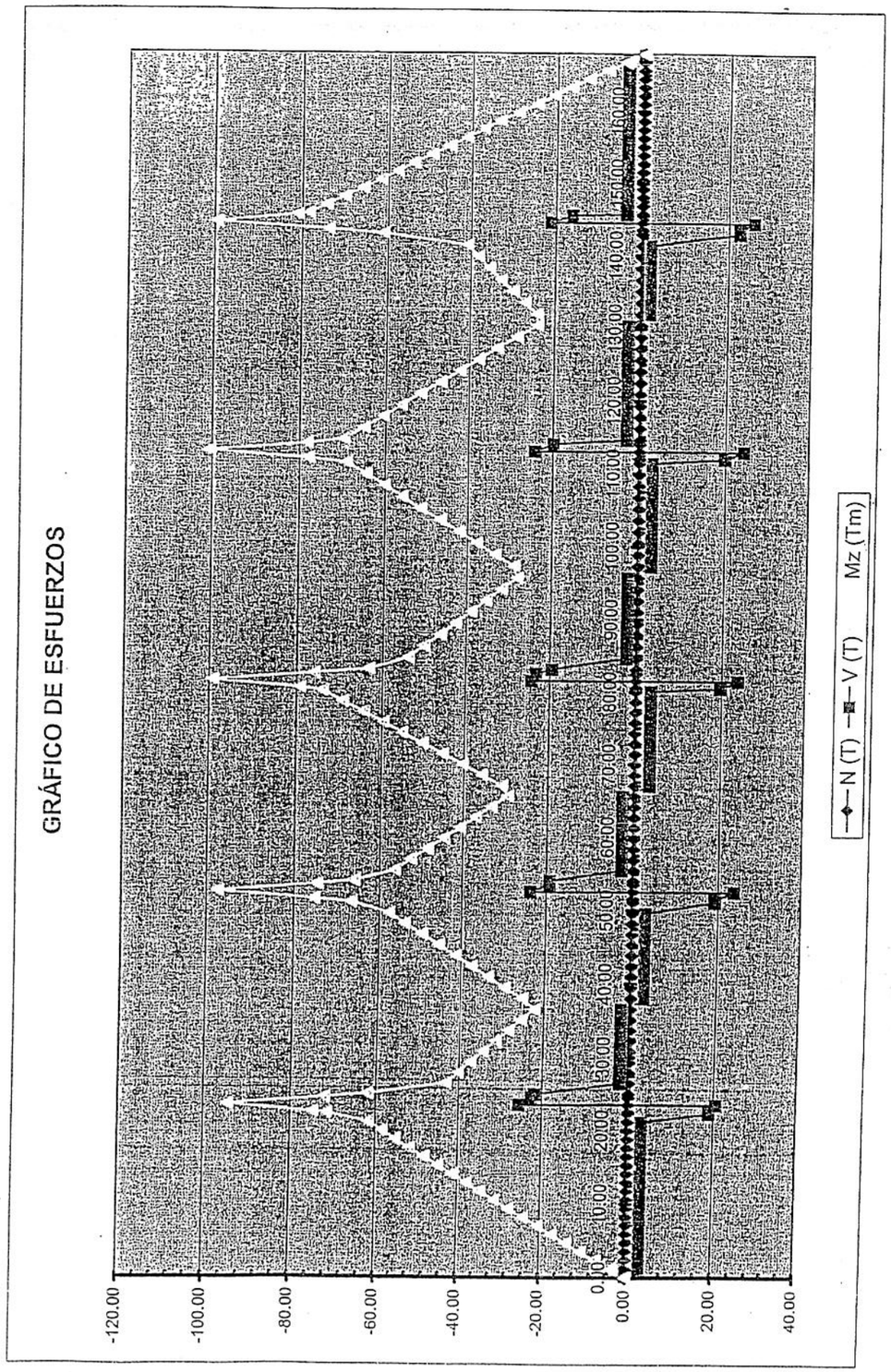
Envolvente de tren de cargas plano genérico. MZ-

[0; 1]TREN30.PaseoTren.Nudo1.Pos2.Mx+ + [0; 1]TREN30.PaseoTren.Nudo1.Pos3.Mx+ + [0; 1]TRE

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
128	129	164.48	0.00	-3.51	-12.38
129	129	164.48	0.00	-3.51	-12.38
129	130	165.65	0.00	-3.51	-8.26
130	130	165.65	0.00	-3.51	-8.26
130	131	166.83	0.00	-3.51	-4.13
131	131	166.83	0.00	-3.51	-4.13
131	132	167.00	0.00	-3.51	-3.51
132	132	167.00	0.00	-3.51	-3.51
132	133	168.00	0.00	0.00	0.00

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TREN30.EnvTrenGen.MZ- 28/08/01



CÁLCULO TENSIONAL

Hipótesis de cálculo:

PASEO.ENV_TREN_GENERICO.VY+

Envolvente de tren de cargas plano genérico. VY+

[0; 1]PASEO.SCuniTpos.Barra1.Mx+ + [0; 1]PASEO.SCuniTpos.Barra2.Mx+ + [0; 1]PASEO.SCuniTp

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
1	1	0.00	0.00	1.34	0.00
1	2	1.00	0.00	1.36	-0.99
2	2	1.00	0.00	1.36	-0.99
2	3	1.18	0.00	1.37	-1.09
3	3	1.18	0.00	1.37	-1.09
3	4	2.35	0.00	1.45	-1.33
4	4	2.35	0.00	1.45	-1.33
4	5	3.53	0.00	1.58	-0.91
5	5	3.53	0.00	1.58	-0.91
5	6	4.70	0.00	1.76	0.00
6	6	4.70	0.00	1.76	0.00
6	7	5.88	0.00	2.00	1.21
7	7	5.88	0.00	2.00	1.21
7	8	7.05	0.00	2.28	2.54
8	8	7.05	0.00	2.28	2.54
8	9	8.23	0.00	2.62	3.81
9	9	8.23	0.00	2.62	3.81
9	10	9.40	0.00	3.01	4.86
10	10	9.40	0.00	3.01	4.86
10	11	10.58	0.00	3.44	5.53
11	11	10.58	0.00	3.44	5.53
11	12	11.75	0.00	3.93	5.65
12	12	11.75	0.00	3.93	5.65
12	13	12.93	0.00	4.45	5.07
13	13	12.93	0.00	4.45	5.07
13	14	14.10	0.00	5.03	3.64
14	14	14.10	0.00	5.03	3.64
14	15	15.28	0.00	5.65	1.24
15	15	15.28	0.00	5.65	1.24
15	16	16.45	0.00	6.31	-2.27
16	16	16.45	-0.07	6.31	-2.27
16	17	17.63	-0.08	7.01	-7.01
17	17	17.63	-0.08	7.01	-7.01
17	18	18.80	-0.09	7.75	-13.08
18	18	18.80	0.00	7.75	-13.08
18	19	19.98	0.00	8.52	-20.58
19	19	19.98	0.00	8.52	-20.58
19	20	21.15	0.00	9.33	-29.60
20	20	21.15	0.00	9.33	-29.60
20	21	22.33	0.00	10.17	-40.18
21	21	22.33	0.00	10.17	-40.18
21	22	22.50	0.00	10.30	-41.90
22	22	22.50	0.00	10.30	-41.90
22	23	23.50	0.00	11.04	-52.37
23	1023	23.50	0.00	1.27	6.93
23	24	24.50	0.00	1.28	5.84
24	24	24.50	0.00	1.28	5.84
24	25	24.95	0.00	1.29	5.48
25	25	24.95	0.00	1.29	5.48
25	26	26.40	0.00	1.35	4.86
26	26	26.40	0.00	1.35	4.86

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PASEO.ENV_TREN_GENERICO.VY+

Envolvente de tren de cargas plano genérico. VY+

[0; 1]PASEO.SCuniTpos.Barra1.Mx+ + [0; 1]PASEO.SCuniTpos.Barra2.Mx+ + [0; 1]PASEO.SCuniTp

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
26	27	27.85	0.00	1.46	4.98
27	27	27.85	0.00	1.46	4.98
27	28	29.30	0.00	1.61	5.74
28	28	29.30	0.01	1.61	5.74
28	29	30.75	0.02	1.82	6.96
29	29	30.75	0.02	1.82	6.96
29	30	32.20	0.02	2.09	8.48
30	30	32.20	0.00	2.09	8.48
30	31	33.65	0.00	2.41	10.10
31	31	33.65	0.00	2.41	10.10
31	32	35.10	0.00	2.80	11.63
32	32	35.10	0.00	2.80	11.63
32	33	36.55	0.00	3.24	12.83
33	33	36.55	0.00	3.24	12.83
33	34	38.00	0.00	3.75	13.49
34	34	38.00	0.00	3.75	13.49
34	35	39.45	0.00	4.32	13.39
35	35	39.45	0.00	4.32	13.39
35	36	40.90	0.00	4.95	12.28
36	36	40.90	0.00	4.95	12.28
36	37	42.35	0.00	5.64	9.96
37	37	42.35	0.00	5.64	9.96
37	38	43.80	0.00	6.39	6.18
38	38	43.80	-0.06	6.39	6.18
38	39	45.25	-0.07	7.21	0.75
39	39	45.25	-0.07	7.21	0.75
39	40	46.70	-0.08	8.08	-6.54
40	40	46.70	0.00	8.08	-6.54
40	41	48.15	0.00	9.00	-15.87
41	41	48.15	0.00	9.00	-15.87
41	42	49.60	0.00	9.98	-27.42
42	42	49.60	0.00	9.98	-27.42
42	43	51.05	0.00	11.00	-41.32
43	43	51.05	0.00	11.00	-41.32
43	44	51.50	0.00	11.33	-46.12
44	44	51.50	0.00	11.33	-46.12
44	45	52.50	0.00	12.07	-57.63
45	1045	52.50	0.00	1.64	12.04
45	46	53.50	0.00	1.64	10.59
46	46	53.50	0.00	1.64	10.59
46	47	53.95	0.00	1.65	10.07
47	47	53.95	0.00	1.65	10.07
47	48	55.40	0.00	1.71	8.94
48	48	55.40	0.00	1.71	8.94
48	49	56.85	0.00	1.82	8.59
49	49	56.85	0.00	1.82	8.59
49	50	58.30	0.00	1.98	8.88
50	50	58.30	0.02	1.98	8.88
50	51	59.75	0.02	2.19	9.65
51	51	59.75	0.02	2.19	9.65
51	52	61.20	0.02	2.46	10.72

CÁLCULO TENSIONAL

Hipótesis de cálculo:
PASEO.ENV_TREN_GENERICO.VY+

Envolvente de tren de cargas plano genérico. VY+

[0; 1]PASEO.SCuniTpos.Barra1.Mx+ + [0; 1]PASEO.SCuniTpos.Barra2.Mx+ + [0; 1]PASEO.SCuniTp

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
52	52	61.20	0.00	2.46	10.72
52	53	62.65	0.00	2.78	11.91
53	53	62.65	0.00	2.78	11.91
53	54	64.10	0.00	3.17	13.00
54	54	64.10	0.00	3.17	13.00
54	55	65.55	0.00	3.61	13.76
55	55	65.55	0.00	3.61	13.76
55	56	67.00	0.00	4.12	13.99
56	56	67.00	0.00	4.12	13.99
56	57	68.45	0.00	4.69	13.45
57	57	68.45	0.00	4.69	13.45
57	58	69.90	0.00	5.32	11.91
58	58	69.90	0.00	5.32	11.91
58	59	71.35	0.00	6.01	9.14
59	59	71.35	0.00	6.01	9.14
59	60	72.80	0.00	6.76	4.92
60	60	72.80	-0.06	6.76	4.92
60	61	74.25	-0.07	7.57	-0.96
61	61	74.25	-0.07	7.57	-0.96
61	62	75.70	-0.08	8.44	-8.72
62	62	75.70	0.00	8.44	-8.72
62	63	77.15	0.00	9.37	-18.53
63	63	77.15	0.00	9.37	-18.53
63	64	78.60	0.00	10.34	-30.57
64	64	78.60	0.00	10.34	-30.57
64	65	80.05	0.00	11.37	-44.98
65	65	80.05	0.00	11.37	-44.98
65	66	80.50	0.00	11.70	-49.95
66	66	80.50	0.00	11.70	-49.95
66	67	81.50	0.00	12.44	-61.81
67	1067	81.50	0.00	1.43	12.46
67	68	82.50	0.00	1.43	11.23
68	68	82.50	0.00	1.43	11.23
68	69	83.08	0.00	1.45	10.69
69	69	83.08	0.00	1.45	10.69
69	70	84.65	0.00	1.51	9.90
70	70	84.65	0.00	1.51	9.90
70	71	86.23	0.00	1.63	10.02
71	71	86.23	0.00	1.63	10.02
71	72	87.80	0.00	1.80	10.90
72	72	87.80	0.02	1.80	10.90
72	73	89.38	0.02	2.03	12.35
73	73	89.38	0.02	2.03	12.35
73	74	90.95	0.02	2.32	14.16
74	74	90.95	0.00	2.32	14.16
74	75	92.53	0.00	2.67	16.10
75	75	92.53	0.00	2.67	16.10
75	76	94.10	0.00	3.09	17.91
76	76	94.10	0.00	3.09	17.91
76	77	95.68	0.00	3.58	19.35
77	77	95.68	0.00	3.58	19.35

CÁLCULO TENSIONAL

Hipótesis de cálculo:
PASEO.ENV_TREN_GENERICO.VY+

Envolvente de tren de cargas plano genérico. VY+

[0; 1]PASEO.SCuniTpos.Barra1.Mx+ + [0; 1]PASEO.SCuniTpos.Barra2.Mx+ + [0; 1]PASEO.SCuniTp

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
77	78	97.25	0.00	4.13	20.14
78	78	97.25	0.00	4.13	20.14
78	79	98.83	0.00	4.75	20.03
79	79	98.83	0.00	4.75	20.03
79	80	100.40	0.00	5.43	18.72
80	80	100.40	0.00	5.43	18.72
80	81	101.98	0.00	6.19	15.97
81	81	101.98	0.00	6.19	15.97
81	82	103.55	0.00	7.01	11.50
82	82	103.55	-0.06	7.01	11.50
82	83	105.13	-0.07	7.89	5.06
83	83	105.13	-0.07	7.89	5.06
83	84	106.70	-0.08	8.83	-3.58
84	84	106.70	0.00	8.84	-3.58
84	85	108.28	0.00	9.84	-14.65
85	85	108.28	0.00	9.84	-14.65
85	86	109.85	0.00	10.90	-28.35
86	86	109.85	0.00	10.90	-28.35
86	87	111.43	0.00	12.02	-44.84
87	87	111.43	0.00	12.02	-44.84
87	88	112.00	0.00	12.44	-51.57
88	88	112.00	0.00	12.44	-51.57
88	89	113.00	0.00	13.18	-64.18
89	1089	113.00	0.00	0.97	9.66
89	90	114.00	0.00	0.98	8.88
90	90	114.00	0.00	0.98	8.88
90	91	114.58	0.00	1.00	8.61
91	91	114.58	0.00	1.00	8.61
91	92	116.15	0.00	1.06	8.55
92	92	116.15	0.00	1.06	8.55
92	93	117.73	0.00	1.18	9.42
93	93	117.73	0.00	1.18	9.42
93	94	119.30	0.00	1.36	11.05
94	94	119.30	0.01	1.36	11.05
94	95	120.88	0.01	1.60	13.24
95	95	120.88	0.01	1.60	13.24
95	96	122.45	0.02	1.90	15.77
96	96	122.45	0.00	1.90	15.77
96	97	124.03	0.00	2.27	18.39
97	97	124.03	0.00	2.27	18.39
97	98	125.60	0.00	2.70	20.85
98	98	125.60	0.00	2.70	20.85
98	99	127.18	0.00	3.20	22.88
99	99	127.18	0.00	3.20	22.88
99	100	128.75	0.00	3.77	24.22
100	100	128.75	0.00	3.77	24.22
100	101	130.33	0.00	4.40	24.60
101	101	130.33	0.00	4.40	24.60
101	102	131.90	0.00	5.10	23.74
102	102	131.90	0.00	5.10	23.74
102	103	133.48	0.00	5.87	21.38

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PASEO.ENV_TREN_GENERICO.VY+

Envolvente de tren de cargas plano genérico. VY+

[0; 1]PASEO.SCuniTpos.Barra1.Mx+ + [0; 1]PASEO.SCuniTpos.Barra2.Mx+ + [0; 1]PASEO.SCuniTp

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
103	103	133.48	0.00	5.87	21.38
103	104	135.05	0.00	6.70	17.27
104	104	135.05	-0.06	6.70	17.27
104	105	136.63	-0.07	7.60	11.17
105	105	136.63	-0.07	7.60	11.17
105	106	138.20	-0.08	8.55	2.85
106	106	138.20	0.00	8.55	2.85
106	107	139.78	0.00	9.56	-7.89
107	107	139.78	0.00	9.56	-7.89
107	108	141.35	0.00	10.63	-21.23
108	108	141.35	0.00	10.63	-21.23
108	109	142.93	0.00	11.75	-37.34
109	109	142.93	0.00	11.75	-37.34
109	110	143.50	0.00	12.17	-43.92
110	110	143.50	0.00	12.17	-43.92
110	111	144.50	0.00	12.91	-56.27
111	1111	144.50	0.00	0.32	7.61
111	112	145.50	0.00	0.33	7.49
112	112	145.50	0.00	0.33	7.49
112	113	145.68	0.00	0.34	7.51
113	113	145.68	0.00	0.34	7.51
113	114	146.85	0.00	0.38	7.97
114	114	146.85	0.00	0.38	7.97
114	115	148.03	0.00	0.45	8.97
115	115	148.03	0.00	0.45	8.97
115	116	149.20	0.00	0.56	10.47
116	116	149.20	0.01	0.56	10.47
116	117	150.38	0.01	0.70	12.36
117	117	150.38	0.01	0.70	12.36
117	118	151.55	0.01	0.89	14.56
118	118	151.55	0.00	0.89	14.56
118	119	152.73	0.00	1.11	16.95
119	119	152.73	0.00	1.11	16.95
119	120	153.90	0.00	1.38	19.41
120	120	153.90	0.00	1.38	19.41
120	121	155.08	0.00	1.69	21.81
121	121	155.08	0.00	1.69	21.81
121	122	156.25	0.00	2.04	24.01
122	122	156.25	0.00	2.04	24.01
122	123	157.43	0.00	2.45	25.86
123	123	157.43	0.00	2.45	25.86
123	124	158.60	0.00	2.90	27.22
124	124	158.60	0.00	2.90	27.22
124	125	159.78	0.00	3.39	27.91
125	125	159.78	0.00	3.39	27.91
125	126	160.95	0.00	3.94	27.79
126	126	160.95	0.00	3.94	27.79
126	127	162.13	0.00	4.54	26.67
127	127	162.13	0.00	4.54	26.67
127	128	163.30	0.00	5.19	24.38
128	128	163.30	0.00	5.19	24.38

est17 fisurada.xls
Programa DINTEL IDEAM S.A.
PASEO.ENV_TREN_GENERICO.VY+
28/08/01

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PASEO.ENV_TREN_GENERICO.VY+

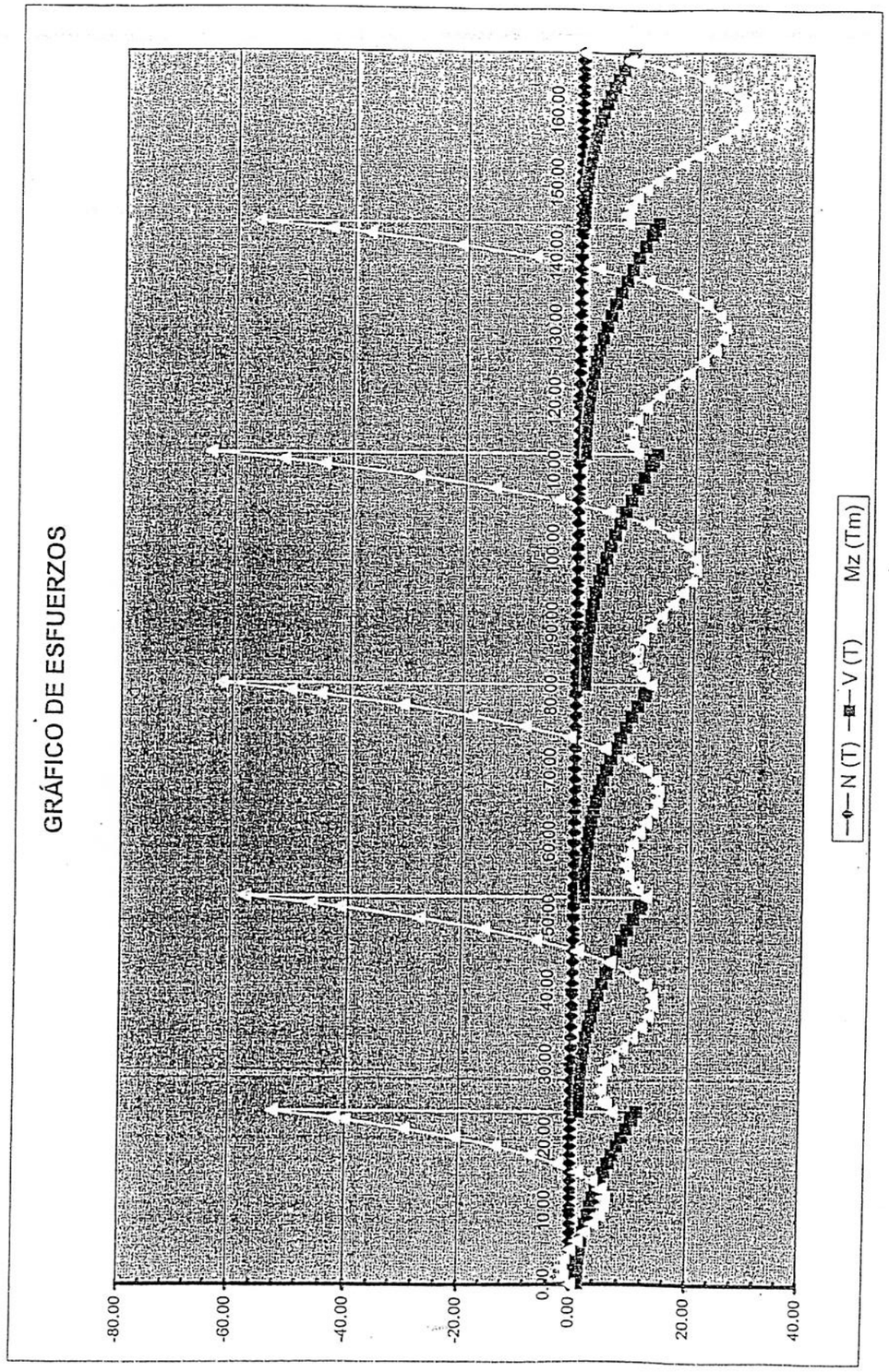
Envolvente de tren de cargas plano genérico. VY+

[0; 1]PASEO.SCuniTpos.Barra1.Mx+ + [0; 1]PASEO.SCuniTpos.Barra2.Mx+ + [0; 1]PASEO.SCuniTp

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
128	129	164.48	0.00	5.89	20.75
129	129	164.48	0.00	5.89	20.75
129	130	165.65	0.00	6.64	15.60
130	130	165.65	0.00	6.64	15.60
130	131	166.83	0.00	7.44	8.74
131	131	166.83	0.00	7.44	8.74
131	132	167.00	0.00	7.57	7.56
132	132	167.00	0.00	7.57	7.56
132	133	168.00	0.00	8.30	0.00

GRÁFICO DE ESFUERZOS



CÁLCULO TENSIONAL

Hipótesis de cálculo:

PASEO.ENV_TREN_GENERICO.MZ+

Envolvente de tren de cargas plano genérico. MZ+

[0; 1]PASEO.SCuniTpos.Barra1.Mx+ + [0; 1]PASEO.SCuniTpos.Barra2.Mx+ + [0; 1]PASEO.SCuniTp

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
1	1	0.00	0.00	0.00	0.00
1	2	1.00	0.00	-7.47	7.85
2	2	1.00	0.00	-7.47	7.85
2	3	1.18	0.00	-7.34	9.14
3	3	1.18	0.00	-7.34	9.14
3	4	2.35	0.00	-6.46	17.25
4	4	2.35	0.00	-6.46	17.25
4	5	3.53	0.00	-5.58	24.32
5	5	3.53	0.00	-5.58	24.32
5	6	4.70	0.00	-4.70	30.35
6	6	4.70	0.00	-4.70	30.35
6	7	5.88	0.00	-3.81	35.35
7	7	5.88	0.00	-3.81	35.35
7	8	7.05	0.00	-2.93	39.32
8	8	7.05	0.00	-2.93	39.32
8	9	8.23	0.00	-2.05	42.25
9	9	8.23	0.00	-2.05	42.25
9	10	9.40	0.00	-1.17	44.14
10	10	9.40	0.00	-1.17	44.14
10	11	10.58	0.00	-0.29	45.00
11	11	10.58	0.00	-0.29	45.00
11	12	11.75	0.00	0.59	44.82
12	12	11.75	0.00	0.59	44.82
12	13	12.93	0.00	1.47	43.61
13	13	12.93	0.00	1.47	43.61
13	14	14.10	0.00	2.35	41.36
14	14	14.10	0.00	2.35	41.36
14	15	15.28	0.00	3.24	38.07
15	15	15.28	0.00	3.24	38.07
15	16	16.45	0.00	4.12	33.75
16	16	16.45	-0.05	4.12	33.75
16	17	17.63	-0.06	5.00	28.40
17	17	17.63	-0.06	5.00	28.40
17	18	18.80	-0.07	5.88	22.01
18	18	18.80	0.00	5.88	22.01
18	19	19.98	0.00	5.82	14.77
19	19	19.98	0.00	5.82	14.77
19	20	21.15	0.00	3.34	9.68
20	20	21.15	0.00	3.34	9.68
20	21	22.33	0.00	1.34	7.28
21	21	22.33	0.00	1.34	7.28
21	22	22.50	0.00	0.67	7.12
22	22	22.50	0.00	0.67	7.12
22	23	23.50	0.00	-0.29	6.93
23	1023	23.50	0.00	1.27	6.93
23	24	24.50	0.00	-0.07	6.07
24	24	24.50	0.00	-0.07	6.07
24	25	24.95	0.00	-0.72	6.05
25	25	24.95	0.00	-0.72	6.05
25	26	26.40	0.00	-2.26	7.97
26	26	26.40	0.00	-2.26	7.97

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PASEO.ENV_TREN_GENERICO.MZ+

Envolvente de tren de cargas plano genérico. MZ+

[0; 1]PASEO.SCuniTpos.Barra1.Mx+ + [0; 1]PASEO.SCuniTpos.Barra2.Mx+ + [0; 1]PASEO.SCuniTp

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
26	27	27.85	0.00	-4.38	12.99
27	27	27.85	0.00	-4.38	12.99
27	28	29.30	0.00	-6.92	21.22
28	28	29.30	-0.07	-6.92	21.22
28	29	30.75	-0.06	-5.83	30.47
29	29	30.75	-0.06	-5.83	30.47
29	30	32.20	-0.05	-4.75	38.14
30	30	32.20	0.00	-4.75	38.14
30	31	33.65	0.00	-3.66	44.23
31	31	33.65	0.00	-3.66	44.23
31	32	35.10	0.00	-2.57	48.75
32	32	35.10	0.00	-2.57	48.75
32	33	36.55	0.00	-1.48	51.69
33	33	36.55	0.00	-1.48	51.69
33	34	38.00	0.00	-0.40	53.05
34	34	38.00	0.00	-0.40	53.05
34	35	39.45	0.00	0.69	52.83
35	35	39.45	0.00	0.69	52.83
35	36	40.90	0.00	1.78	51.04
36	36	40.90	0.00	1.78	51.04
36	37	42.35	0.00	2.87	47.67
37	37	42.35	0.00	2.87	47.67
37	38	43.80	0.00	3.95	42.73
38	38	43.80	-0.04	3.95	42.73
38	39	45.25	-0.05	5.04	36.21
39	39	45.25	-0.05	5.04	36.21
39	40	46.70	-0.06	6.13	28.11
40	40	46.70	0.00	6.13	28.11
40	41	48.15	0.00	5.21	19.51
41	41	48.15	0.00	5.21	19.51
41	42	49.60	0.00	3.07	13.74
42	42	49.60	0.00	3.07	13.74
42	43	51.05	0.00	0.79	11.38
43	43	51.05	0.00	0.79	11.38
43	44	51.50	0.00	0.15	11.30
44	44	51.50	0.00	0.15	11.30
44	45	52.50	0.00	-1.19	12.04
45	1045	52.50	0.00	1.64	12.04
45	46	53.50	0.00	0.29	10.84
46	46	53.50	0.00	0.29	10.84
46	47	53.95	0.00	-0.36	10.71
47	47	53.95	0.00	-0.36	10.71
47	48	55.40	0.00	-2.66	12.36
48	48	55.40	0.00	-2.66	12.36
48	49	56.85	0.00	-4.47	17.44
49	49	56.85	0.00	-4.47	17.44
49	50	58.30	0.00	-6.70	25.94
50	50	58.30	-0.06	-6.70	25.94
50	51	59.75	-0.05	-5.61	34.87
51	51	59.75	-0.05	-5.61	34.87
51	52	61.20	-0.04	-4.53	42.22

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PASEO.ENV_TREN_GENERICO.MZ+

Envolvente de tren de cargas plano genérico. MZ+

[0; 1]PASEO.SCuniTpos.Barra1.Mx+ + [0; 1]PASEO.SCuniTpos.Barra2.Mx+ + [0; 1]PASEO.SCuniTp

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
52	52	61.20	0.00	-4.53	42.22
52	53	62.65	0.00	-3.44	47.99
53	53	62.65	0.00	-3.44	47.99
53	54	64.10	0.00	-2.35	52.19
54	54	64.10	0.00	-2.35	52.19
54	55	65.55	0.00	-1.26	54.81
55	55	65.55	0.00	-1.26	54.81
55	56	67.00	0.00	-0.18	55.85
56	56	67.00	0.00	-0.18	55.85
56	57	68.45	0.00	0.91	55.32
57	57	68.45	0.00	0.91	55.32
57	58	69.90	0.00	2.00	53.21
58	58	69.90	0.00	2.00	53.21
58	59	71.35	0.00	3.09	49.52
59	59	71.35	0.00	3.09	49.52
59	60	72.80	0.00	4.17	44.26
60	60	72.80	-0.04	4.17	44.26
60	61	74.25	-0.05	5.26	37.41
61	61	74.25	-0.05	5.26	37.41
61	62	75.70	-0.06	6.35	29.00
62	62	75.70	0.00	6.35	29.00
62	63	77.15	0.00	5.29	19.87
63	63	77.15	0.00	5.29	19.87
63	64	78.60	0.00	2.82	13.84
64	64	78.60	0.00	2.82	13.84
64	65	80.05	0.00	0.55	11.52
65	65	80.05	0.00	0.55	11.52
65	66	80.50	0.00	-0.09	11.51
66	66	80.50	0.00	-0.09	11.51
66	67	81.50	0.00	-1.43	12.46
67	1067	81.50	0.00	1.43	12.46
67	68	82.50	0.00	-0.10	11.42
68	68	82.50	0.00	-0.10	11.42
68	69	83.08	0.00	-0.74	11.43
69	69	83.08	0.00	-0.74	11.43
69	70	84.65	0.00	-3.23	13.89
70	70	84.65	0.00	-3.23	13.89
70	71	86.23	0.00	-5.20	20.42
71	71	86.23	0.00	-5.20	20.42
71	72	87.80	0.00	-7.09	30.65
72	72	87.80	-0.06	-7.09	30.65
72	73	89.38	-0.05	-5.91	40.89
73	73	89.38	-0.05	-5.91	40.89
73	74	90.95	-0.04	-4.73	49.26
74	74	90.95	0.00	-4.73	49.26
74	75	92.53	0.00	-3.55	55.78
75	75	92.53	0.00	-3.55	55.78
75	76	94.10	0.00	-2.37	60.43
76	76	94.10	0.00	-2.37	60.43
76	77	95.68	0.00	-1.18	63.23
77	77	95.68	0.00	-1.18	63.23

CÁLCULO TENSIONAL

Hipótesis de cálculo:
PASEO.ENV_TREN_GENERICO.MZ+

Envolvente de tren de cargas plano genérico. MZ+

[0; 1]PASEO.SCuniTpos.Barra1.Mx+ + [0; 1]PASEO.SCuniTpos.Barra2.Mx+ + [0; 1]PASEO.SCuniTp

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
77	78	97.25	0.00	0.00	64.16
78	78	97.25	0.00	0.00	64.16
78	79	98.83	0.00	1.18	63.24
79	79	98.83	0.00	1.18	63.24
79	80	100.40	0.00	2.36	60.45
80	80	100.40	0.00	2.36	60.45
80	81	101.98	0.00	3.54	55.81
81	81	101.98	0.00	3.54	55.81
81	82	103.55	0.00	4.72	49.30
82	82	103.55	-0.04	4.72	49.30
82	83	105.13	-0.05	5.90	40.93
83	83	105.13	-0.05	5.90	40.93
83	84	106.70	-0.06	7.08	30.70
84	84	106.70	0.00	7.08	30.70
84	85	108.28	0.00	6.11	19.71
85	85	108.28	0.00	6.11	19.71
85	86	109.85	0.00	3.43	12.25
86	86	109.85	0.00	3.43	12.25
86	87	111.43	0.00	0.95	9.06
87	87	111.43	0.00	0.95	9.06
87	88	112.00	0.00	0.32	8.87
88	88	112.00	0.00	0.32	8.87
88	89	113.00	0.00	-1.20	9.66
89	1089	113.00	0.00	0.97	9.66
89	90	114.00	0.00	-0.55	9.10
90	90	114.00	0.00	-0.55	9.10
90	91	114.58	0.00	-1.18	9.42
91	91	114.58	0.00	-1.18	9.42
91	92	116.15	0.00	-3.64	12.99
92	92	116.15	0.00	-3.64	12.99
92	93	117.73	0.00	-6.29	20.81
93	93	117.73	0.00	-6.29	20.81
93	94	119.30	0.00	-6.74	31.66
94	94	119.30	-0.06	-6.74	31.66
94	95	120.88	-0.05	-5.56	41.36
95	95	120.88	-0.05	-5.56	41.36
95	96	122.45	-0.04	-4.38	49.19
96	96	122.45	0.00	-4.38	49.19
96	97	124.03	0.00	-3.20	55.16
97	97	124.03	0.00	-3.20	55.16
97	98	125.60	0.00	-2.02	59.27
98	98	125.60	0.00	-2.02	59.27
98	99	127.18	0.00	-0.84	61.52
99	99	127.18	0.00	-0.84	61.52
99	100	128.75	0.00	0.34	61.91
100	100	128.75	0.00	0.34	61.91
100	101	130.33	0.00	1.52	60.44
101	101	130.33	0.00	1.52	60.44
101	102	131.90	0.00	2.71	57.11
102	102	131.90	0.00	2.71	57.11
102	103	133.48	0.00	3.89	51.91

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PASEO.ENV_TREN_GENERICO.MZ+

CÁLCULO TENSIONAL

Hipótesis de cálculo:
PASEO.ENV_TREN_GENERICO.MZ+

Envolvente de tren de cargas plano genérico. MZ+

[0; 1]PASEO.SCuniTpos.Barra1.Mx+ + [0; 1]PASEO.SCuniTpos.Barra2.Mx+ + [0; 1]PASEO.SCuniTp

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
103	103	133.48	0.00	3.89	51.91
103	104	135.05	0.00	5.07	44.86
104	104	135.05	-0.04	5.07	44.86
104	105	136.63	-0.05	6.25	35.95
105	105	136.63	-0.05	6.25	35.95
105	106	138.20	-0.07	7.43	25.18
106	106	138.20	0.00	7.43	25.18
106	107	139.78	0.00	4.88	15.34
107	107	139.78	0.00	4.88	15.34
107	108	141.35	0.00	2.56	9.20
108	108	141.35	0.00	2.56	9.20
108	109	142.93	0.00	0.88	6.74
109	109	142.93	0.00	0.88	6.74
109	110	143.50	0.00	-0.87	6.69
110	110	143.50	0.00	-0.87	6.69
110	111	144.50	0.00	-1.28	7.62
111	1111	144.50	0.00	0.32	7.62
111	112	145.50	0.00	-0.64	7.79
112	112	145.50	0.00	-0.64	7.79
112	113	145.68	0.00	-1.31	7.96
113	113	145.68	0.00	-1.31	7.96
113	114	146.85	0.00	-3.30	10.53
114	114	146.85	0.00	-3.30	10.53
114	115	148.03	0.00	-6.27	16.12
115	115	148.03	0.00	-6.27	16.12
115	116	149.20	0.00	-5.80	23.43
116	116	149.20	-0.07	-5.80	23.43
116	117	150.38	-0.06	-4.92	29.73
117	117	150.38	-0.06	-4.92	29.73
117	118	151.55	-0.05	-4.04	35.00
118	118	151.55	0.00	-4.04	35.00
118	119	152.73	0.00	-3.16	39.23
119	119	152.73	0.00	-3.16	39.23
119	120	153.90	0.00	-2.28	42.42
120	120	153.90	0.00	-2.28	42.42
120	121	155.08	0.00	-1.40	44.58
121	121	155.08	0.00	-1.40	44.58
121	122	156.25	0.00	-0.52	45.71
122	122	156.25	0.00	-0.52	45.71
122	123	157.43	0.00	0.36	45.80
123	123	157.43	0.00	0.36	45.80
123	124	158.60	0.00	1.25	44.85
124	124	158.60	0.00	1.25	44.85
124	125	159.78	0.00	2.13	42.87
125	125	159.78	0.00	2.13	42.87
125	126	160.95	0.00	3.01	39.85
126	126	160.95	0.00	3.01	39.85
126	127	162.13	0.00	3.89	35.80
127	127	162.13	0.00	3.89	35.80
127	128	163.30	0.00	4.77	30.71
128	128	163.30	0.00	4.77	30.71

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PASEO.ENV_TREN_GENERICO.MZ+

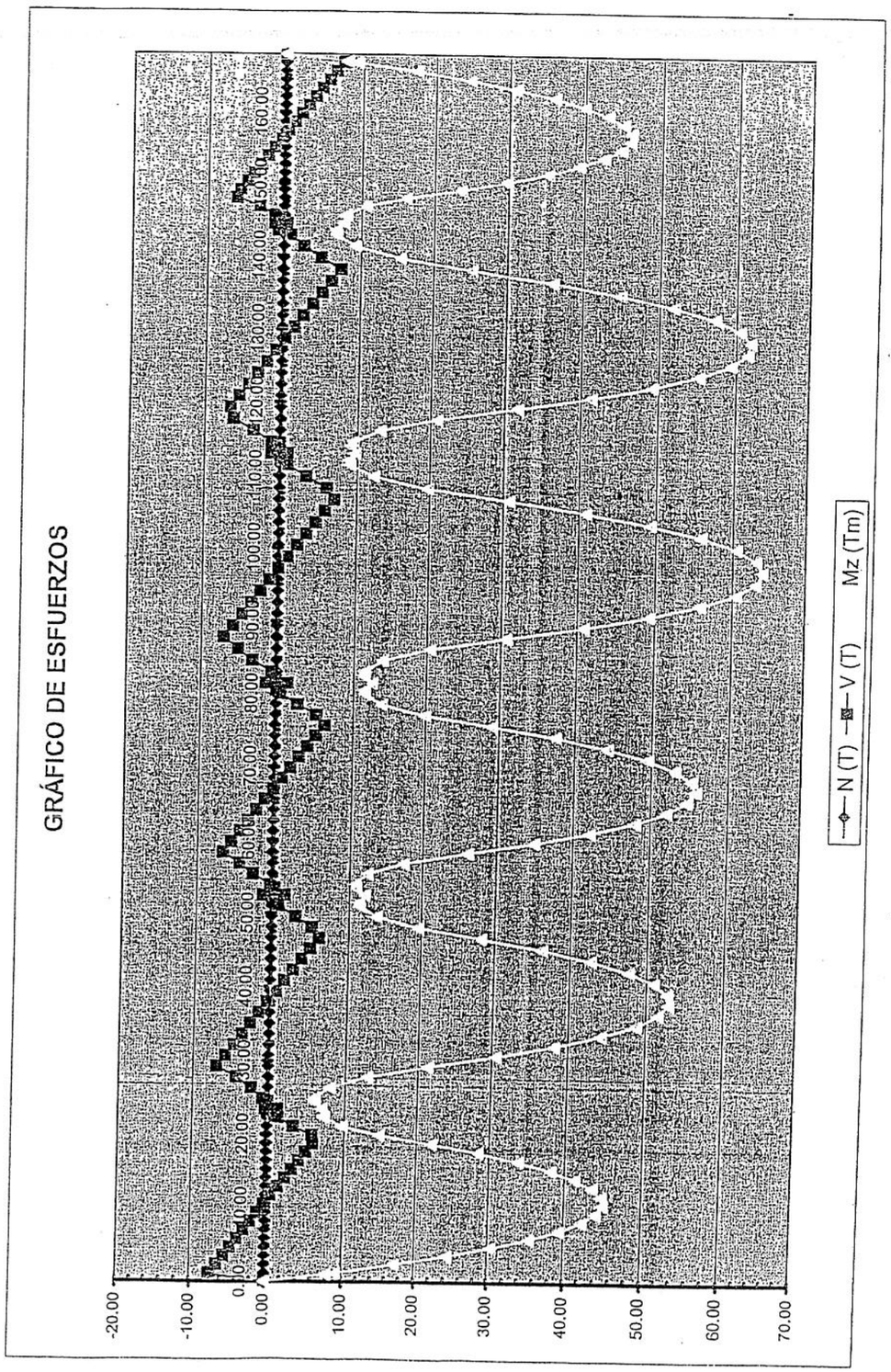
Envolvente de tren de cargas plano genérico. MZ+

[0; 1]PASEO.SCuniTpos.Barra1.Mx+ + [0; 1]PASEO.SCuniTpos.Barra2.Mx+ + [0; 1]PASEO.SCuniTp

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
128	129	164.48	0.00	5.65	24.58
129	129	164.48	0.00	5.65	24.58
129	130	165.65	0.00	6.53	17.43
130	130	165.65	0.00	6.53	17.43
130	131	166.83	0.00	7.42	9.23
131	131	166.83	0.00	7.42	9.23
131	132	167.00	0.00	7.55	7.92
132	132	167.00	0.00	7.55	7.92
132	133	168.00	0.00	0.00	0.00

28/08/01
Programa DINTEL IDEAM S.A.
PASEO.ENV_TREN_GENERICO.MZ+
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PASEO.ENV_TREN_GENERICO.VY-

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PASEO.ENV_TREN_GENERICO.VY-

Envolvente de tren de cargas plano genérico. VY-

[0; 1]PASEO.SCuniTpos.Barra1.Mx+ + [0; 1]PASEO.SCuniTpos.Barra2.Mx+ + [0; 1]PASEO.SCuniTp

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
1	1	0.00	0.00	-8.22	0.00
1	2	1.00	0.00	-7.49	7.49
2	2	1.00	0.00	-7.49	7.49
2	3	1.18	0.00	-7.37	8.65
3	3	1.18	0.00	-7.37	8.65
3	4	2.35	0.00	-6.56	15.42
4	4	2.35	0.00	-6.56	15.42
4	5	3.53	0.00	-5.81	20.49
5	5	3.53	0.00	-5.81	20.49
5	6	4.70	0.00	-5.12	24.05
6	6	4.70	0.00	-5.12	24.05
6	7	5.88	0.00	-4.47	26.26
7	7	5.88	0.00	-4.47	26.26
7	8	7.05	0.00	-3.88	27.32
8	8	7.05	0.00	-3.88	27.32
8	9	8.23	0.00	-3.33	27.40
9	9	8.23	0.00	-3.33	27.40
9	10	9.40	0.00	-2.84	26.66
10	10	9.40	0.00	-2.84	26.66
10	11	10.58	0.00	-2.39	25.28
11	11	10.58	0.00	-2.39	25.28
11	12	11.75	0.00	-1.99	23.41
12	12	11.75	0.00	-1.99	23.41
12	13	12.93	0.00	-1.64	21.20
13	13	12.93	0.00	-1.64	21.20
13	14	14.10	0.00	-1.33	18.80
14	14	14.10	0.00	-1.33	18.80
14	15	15.28	0.00	-1.07	16.34
15	15	15.28	0.00	-1.07	16.34
15	16	16.45	0.00	-0.85	13.96
16	16	16.45	0.01	-0.85	13.96
16	17	17.63	0.01	-0.67	11.76
17	17	17.63	0.01	-0.67	11.76
17	18	18.80	0.01	-0.53	9.87
18	18	18.80	0.00	-0.53	9.87
18	19	19.98	0.00	-0.42	8.36
19	19	19.98	0.00	-0.42	8.36
19	20	21.15	0.00	-0.35	7.34
20	20	21.15	0.00	-0.35	7.34
20	21	22.33	0.00	-0.31	6.85
21	21	22.33	0.00	-0.31	6.85
21	22	22.50	0.00	-0.30	6.83
22	22	22.50	0.00	-0.30	6.83
22	23	23.50	0.00	-0.29	6.93
23	1023	23.50	0.00	-12.14	-52.37
23	24	24.50	0.00	-11.40	-40.79
24	24	24.50	0.00	-11.40	-40.79
24	25	24.95	0.00	-11.07	-35.95
25	25	24.95	0.00	-11.07	-35.95
25	26	26.40	0.00	-10.05	-21.93
26	26	26.40	0.00	-10.05	-21.93

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PASEO.ENV_TREN_GENERICO.VY-

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PASEO.ENV_TREN_GENERICO.VY-

Envolvente de tren de cargas plano genérico. VY-

[0; 1]PASEO.SCuniTpos.Barra1.Mx+ + [0; 1]PASEO.SCuniTpos.Barra2.Mx+ + [0; 1]PASEO.SCuniTp

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
26	27	27.85	0.00	-9.06	-10.24
27	27	27.85	0.00	-9.06	-10.24
27	28	29.30	0.00	-8.13	-0.75
28	28	29.30	-0.08	-8.13	-0.75
28	29	30.75	-0.07	-7.25	6.69
29	29	30.75	-0.07	-7.25	6.69
29	30	32.20	-0.06	-6.43	12.26
30	30	32.20	0.00	-6.43	12.26
30	31	33.65	0.00	-5.67	16.15
31	31	33.65	0.00	-5.67	16.15
31	32	35.10	0.00	-4.97	18.56
32	32	35.10	0.00	-4.97	18.56
32	33	36.55	0.00	-4.32	19.72
33	33	36.55	0.00	-4.32	19.72
33	34	38.00	0.00	-3.74	19.84
34	34	38.00	0.00	-3.74	19.84
34	35	39.45	0.00	-3.22	19.14
35	35	39.45	0.00	-3.22	19.14
35	36	40.90	0.00	-2.77	17.88
36	36	40.90	0.00	-2.77	17.88
36	37	42.35	0.00	-2.37	16.25
37	37	42.35	0.00	-2.37	16.25
37	38	43.80	0.00	-2.04	14.50
38	38	43.80	0.02	-2.04	14.50
38	39	45.25	0.02	-1.76	12.83
39	39	45.25	0.02	-1.76	12.83
39	40	46.70	0.01	-1.55	11.44
40	40	46.70	0.00	-1.55	11.44
40	41	48.15	0.00	-1.38	10.52
41	41	48.15	0.00	-1.38	10.52
41	42	49.60	0.00	-1.27	10.23
42	42	49.60	0.00	-1.27	10.23
42	43	51.05	0.00	-1.21	10.71
43	43	51.05	0.00	-1.21	10.71
43	44	51.50	0.00	-1.20	11.03
44	44	51.50	0.00	-1.20	11.03
44	45	52.50	0.00	-1.19	12.03
45	1045	52.50	0.00	-12.38	-57.63
45	46	53.50	0.00	-11.64	-45.81
46	46	53.50	0.00	-11.64	-45.81
46	47	53.95	0.00	-11.31	-40.87
47	47	53.95	0.00	-11.31	-40.87
47	48	55.40	0.00	-10.28	-26.53
48	48	55.40	0.00	-10.28	-26.53
48	49	56.85	0.00	-9.30	-14.53
49	49	56.85	0.00	-9.30	-14.53
49	50	58.30	0.00	-8.37	-4.76
50	50	58.30	-0.08	-8.37	-4.76
50	51	59.75	-0.07	-7.50	2.95
51	51	59.75	-0.07	-7.50	2.95
51	52	61.20	-0.06	-6.68	8.79

CÁLCULO TENSIONAL

Hipótesis de cálculo:
PASEO.ENV_TREN_GENERICO.VY-

Envolvente de tren de cargas plano genérico. VY-

[0; 1]PASEO.SCuniTpos.Barra1.Mx+ + [0; 1]PASEO.SCuniTpos.Barra2.Mx+ + [0; 1]PASEO.SCuniTp

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
52	52	61.20	0.00	-6.68	8.79
52	53	62.65	0.00	-5.91	12.93
53	53	62.65	0.00	-5.91	12.93
53	54	64.10	0.00	-5.21	15.60
54	54	64.10	0.00	-5.21	15.60
54	55	65.55	0.00	-4.57	17.01
55	55	65.55	0.00	-4.57	17.01
55	56	67.00	0.00	-3.99	17.38
56	56	67.00	0.00	-3.99	17.38
56	57	68.45	0.00	-3.47	16.95
57	57	68.45	0.00	-3.47	16.95
57	58	69.90	0.00	-3.01	15.94
58	58	69.90	0.00	-3.01	15.94
58	59	71.35	0.00	-2.62	14.57
59	59	71.35	0.00	-2.62	14.57
59	60	72.80	0.00	-2.28	13.09
60	60	72.80	0.02	-2.28	13.09
60	61	74.25	0.02	-2.01	11.69
61	61	74.25	0.02	-2.01	11.69
61	62	75.70	0.02	-1.79	10.58
62	62	75.70	0.00	-1.79	10.58
62	63	77.15	0.00	-1.63	9.96
63	63	77.15	0.00	-1.63	9.96
63	64	78.60	0.00	-1.52	9.98
64	64	78.60	0.00	-1.52	9.98
64	65	80.05	0.00	-1.45	10.80
65	65	80.05	0.00	-1.45	10.80
65	66	80.50	0.00	-1.44	11.23
66	66	80.50	0.00	-1.44	11.23
66	67	81.50	0.00	-1.43	12.46
67	1067	81.50	0.00	-13.08	-61.81
67	68	82.50	0.00	-12.33	-49.30
68	68	82.50	0.00	-12.33	-49.30
68	69	83.08	0.00	-11.91	-42.63
69	69	83.08	0.00	-11.91	-42.63
69	70	84.65	0.00	-10.80	-26.28
70	70	84.65	0.00	-10.80	-26.28
70	71	86.23	0.00	-9.73	-12.71
71	71	86.23	0.00	-9.73	-12.71
71	72	87.80	0.00	-8.72	-1.75
72	72	87.80	-0.08	-8.72	-1.75
72	73	89.38	-0.07	-7.77	6.77
73	73	89.38	-0.07	-7.77	6.77
73	74	90.95	-0.06	-6.88	13.08
74	74	90.95	0.00	-6.88	13.08
74	75	92.53	0.00	-6.05	17.39
75	75	92.53	0.00	-6.05	17.39
75	76	94.10	0.00	-5.29	19.97
76	76	94.10	0.00	-5.29	19.97
76	77	95.68	0.00	-4.59	21.07
77	77	95.68	0.00	-4.59	21.07

CÁLCULO TENSIONAL

Hipótesis de cálculo:
PASEO.ENV_TREN_GENERICO.VY-

Envolvente de tren de cargas plano genérico. VY-

[0; 1]PASEO.SCuniTpos.Barra1.Mx+ + [0; 1]PASEO.SCuniTpos.Barra2.Mx+ + [0; 1]PASEO.SCuniTp

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
77	78	97.25	0.00	-3.96	20.94
78	78	97.25	0.00	-3.96	20.94
78	79	98.83	0.00	-3.40	19.87
79	79	98.83	0.00	-3.40	19.87
79	80	100.40	0.00	-2.91	18.13
80	80	100.40	0.00	-2.91	18.13
80	81	101.98	0.00	-2.48	15.97
81	81	101.98	0.00	-2.48	15.97
81	82	103.55	0.00	-2.12	13.67
82	82	103.55	0.02	-2.12	13.67
82	83	105.13	0.02	-1.82	11.48
83	83	105.13	0.02	-1.82	11.48
83	84	106.70	0.01	-1.58	9.63
84	84	106.70	0.00	-1.58	9.63
84	85	108.28	0.00	-1.41	8.35
85	85	108.28	0.00	-1.41	8.35
85	86	109.85	0.00	-1.29	7.84
86	86	109.85	0.00	-1.29	7.84
86	87	111.43	0.00	-1.22	8.25
87	87	111.43	0.00	-1.22	8.25
87	88	112.00	0.00	-1.21	8.65
88	88	112.00	0.00	-1.21	8.65
88	89	113.00	0.00	-1.20	9.66
89	1089	113.00	0.00	-12.97	-64.18
89	90	114.00	0.00	-12.23	-51.77
90	90	114.00	0.00	-12.23	-51.77
90	91	114.58	0.00	-11.81	-45.16
91	91	114.58	0.00	-11.81	-45.16
91	92	116.15	0.00	-10.70	-29.00
92	92	116.15	0.00	-10.70	-29.00
92	93	117.73	0.00	-9.64	-15.62
93	93	117.73	0.00	-9.64	-15.62
93	94	119.30	0.00	-8.63	-4.86
94	94	119.30	-0.08	-8.63	-4.86
94	95	120.88	-0.07	-7.69	3.48
95	95	120.88	-0.07	-7.69	3.48
95	96	122.45	-0.06	-6.81	9.61
96	96	122.45	0.00	-6.81	9.61
96	97	124.03	0.00	-6.00	13.80
97	97	124.03	0.00	-6.00	13.80
97	98	125.60	0.00	-5.25	16.28
98	98	125.60	0.00	-5.25	16.28
98	99	127.18	0.00	-4.57	17.33
99	99	127.18	0.00	-4.57	17.33
99	100	128.75	0.00	-3.95	17.22
100	100	128.75	0.00	-3.95	17.22
100	101	130.33	0.00	-3.41	16.20
101	101	130.33	0.00	-3.41	16.20
101	102	131.90	0.00	-2.93	14.57
102	102	131.90	0.00	-2.93	14.57
102	103	133.48	0.00	-2.51	12.56

CÁLCULO TENSIONAL

Hipótesis de cálculo:
PASEO.ENV_TREN_GENERICO.VY-

Envolvente de tren de cargas plano genérico. VY-

[0; 1]PASEO.SCuniTpos.Barra1.Mx+ + [0; 1]PASEO.SCuniTpos.Barra2.Mx+ + [0; 1]PASEO.SCuniTp

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
103	103	133.48	0.00	-2.51	12.56
103	104	135.05	0.00	-2.16	10.46
104	104	135.05	0.02	-2.16	10.46
104	105	136.63	0.02	-1.88	8.48
105	105	136.63	0.02	-1.88	8.48
105	106	138.20	0.01	-1.65	6.86
106	106	138.20	0.00	-1.65	6.86
106	107	139.78	0.00	-1.48	5.80
107	107	139.78	0.00	-1.48	5.80
107	108	141.35	0.00	-1.37	5.48
108	108	141.35	0.00	-1.37	5.48
108	109	142.93	0.00	-1.30	6.06
109	109	142.93	0.00	-1.30	6.06
109	110	143.50	0.00	-1.29	6.52
110	110	143.50	0.00	-1.29	6.52
110	111	144.50	0.00	-1.28	7.62
111	1111	144.50	0.00	-11.21	-56.27
111	112	145.50	0.00	-10.47	-45.63
112	112	145.50	0.00	-10.47	-45.63
112	113	145.68	0.00	-10.34	-43.89
113	113	145.68	0.00	-10.34	-43.89
113	114	146.85	0.00	-9.50	-33.12
114	114	146.85	0.00	-9.50	-33.12
114	115	148.03	0.00	-8.69	-23.92
115	115	148.03	0.00	-8.69	-23.92
115	116	149.20	0.00	-7.91	-16.25
116	116	149.20	-0.09	-7.91	-16.25
116	117	150.38	-0.08	-7.18	-10.02
117	117	150.38	-0.08	-7.18	-10.02
117	118	151.55	-0.08	-6.48	-5.13
118	118	151.55	0.00	-6.48	-5.13
118	119	152.73	0.00	-5.82	-1.46
119	119	152.73	0.00	-5.82	-1.46
119	120	153.90	0.00	-5.21	1.10
120	120	153.90	0.00	-5.21	1.10
120	121	155.08	0.00	-4.64	2.69
121	121	155.08	0.00	-4.64	2.69
121	122	156.25	0.00	-4.11	3.44
122	122	156.25	0.00	-4.11	3.44
122	123	157.43	0.00	-3.63	3.50
123	123	157.43	0.00	-3.63	3.50
123	124	158.60	0.00	-3.20	3.02
124	124	158.60	0.00	-3.20	3.02
124	125	159.78	0.00	-2.82	2.17
125	125	159.78	0.00	-2.82	2.17
125	126	160.95	0.00	-2.49	1.11
126	126	160.95	0.00	-2.49	1.11
126	127	162.13	0.00	-2.20	0.00
127	127	162.13	0.00	-2.20	0.00
127	128	163.30	0.00	-1.97	-0.98
128	128	163.30	0.00	-1.97	-0.98

CÁLCULO TENSIONAL

Hipótesis de cálculo:
PASEO.ENV_TREN_GENERICO.VY-

Envolvente de tren de cargas plano genérico. VY-

[0; 1]PASEO.SCuniTpos.Barra1.Mx+ + [0; 1]PASEO.SCuniTpos.Barra2.Mx+ + [0; 1]PASEO.SCuniTp

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
128	129	164.48	0.00	-1.79	-1.64
129	129	164.48	0.00	-1.79	-1.64
129	130	165.65	0.00	-1.66	-1.83
130	130	165.65	0.00	-1.66	-1.83
130	131	166.83	0.00	-1.58	-1.34
131	131	166.83	0.00	-1.58	-1.34
131	132	167.00	0.00	-1.57	-1.20
132	132	167.00	0.00	-1.57	-1.20
132	133	168.00	0.00	-1.55	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:

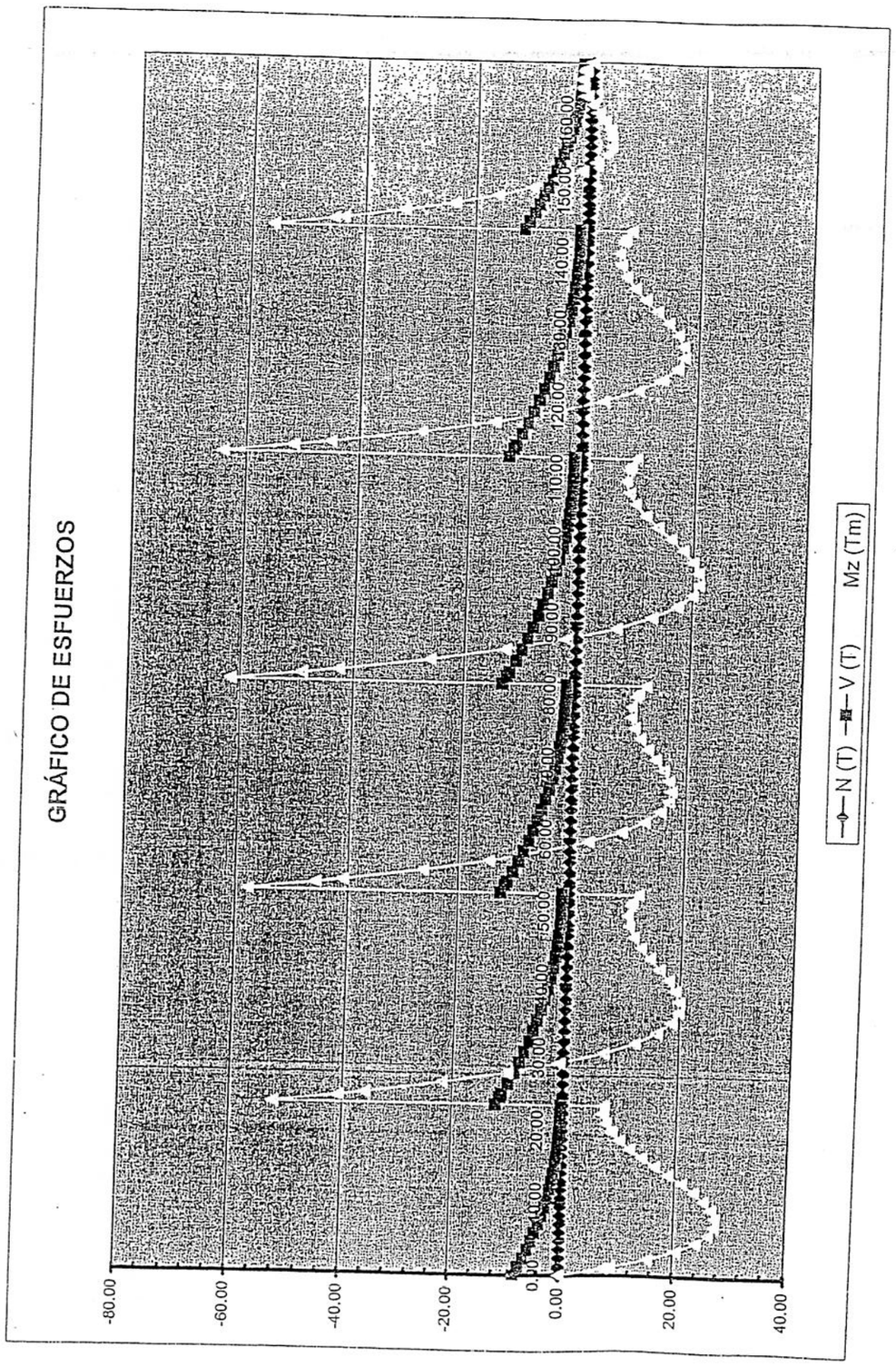
PASEO.ENV_TREN_GENERICO.MZ-

Envolvente de tren de cargas plano genérico. MZ-

[0; 1]PASEO.SCuniTpos.Barra1.Mx+ + [0; 1]PASEO.SCuniTpos.Barra2.Mx+ + [0; 1]PASEO.SCuniTp

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
1	1	0.00	0.00	0.00	0.00
1	2	1.00	0.00	1.34	-1.34
2	2	1.00	0.00	1.34	-1.34
2	3	1.18	0.00	1.34	-1.58
3	3	1.18	0.00	1.34	-1.58
3	4	2.35	0.00	1.34	-3.15
4	4	2.35	0.00	1.34	-3.15
4	5	3.53	0.00	1.34	-4.73
5	5	3.53	0.00	1.34	-4.73
5	6	4.70	0.00	1.34	-6.31
6	6	4.70	0.00	1.34	-6.31
6	7	5.88	0.00	1.34	-7.88
7	7	5.88	0.00	1.34	-7.88
7	8	7.05	0.00	1.34	-9.46
8	8	7.05	0.00	1.34	-9.46
8	9	8.23	0.00	1.34	-11.04
9	9	8.23	0.00	1.34	-11.04
9	10	9.40	0.00	1.34	-12.61
10	10	9.40	0.00	1.34	-12.61
10	11	10.58	0.00	1.34	-14.19
11	11	10.58	0.00	1.34	-14.19
11	12	11.75	0.00	1.34	-15.77
12	12	11.75	0.00	1.34	-15.77
12	13	12.93	0.00	1.34	-17.34
13	13	12.93	0.00	1.34	-17.34
13	14	14.10	0.00	1.34	-18.92
14	14	14.10	0.00	1.34	-18.92
14	15	15.28	0.00	1.34	-20.50
15	15	15.28	0.00	1.34	-20.50
15	16	16.45	0.00	1.34	-22.07
16	16	16.45	-0.02	1.34	-22.07
16	17	17.63	-0.02	1.34	-23.65
17	17	17.63	-0.02	1.34	-23.65
17	18	18.80	-0.02	1.34	-25.23
18	18	18.80	0.00	1.34	-25.23
18	19	19.98	0.00	2.28	-26.99
19	19	19.98	0.00	2.28	-26.99
19	20	21.15	0.00	5.65	-31.94
20	20	21.15	0.00	5.65	-31.94
20	21	22.33	0.00	8.52	-40.61
21	21	22.33	0.00	8.52	-40.61
21	22	22.50	0.00	9.33	-42.19
22	22	22.50	0.00	9.33	-42.19
22	23	23.50	0.00	11.04	-52.37
23	1023	23.50	0.00	-12.14	-52.37
23	24	24.50	0.00	-10.05	-41.01
24	24	24.50	0.00	-10.05	-41.01
24	25	24.95	0.00	-9.06	-36.52
25	25	24.95	0.00	-9.06	-36.52
25	26	26.40	0.00	-6.43	-25.05
26	26	26.40	0.00	-6.43	-25.05



Programa DINTEL IDEAM S.A.
PASEO.ENV_TREN_GENERICO.VY-

28/08/01

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CÁLCULO TENSIONAL

Hipótesis de cálculo:
PASEO.ENV_TREN_GENERICO.MZ-
Envolvente de tren de cargas plano genérico. MZ-
[0; 1]PASEO.SCuniTpos.Barra1.Mx+ + [0; 1]PASEO.SCuniTpos.Barra2.Mx+ + [0; 1]PASEO.SCuniTp
Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
26	27	27.85	0.00	-3.22	-18.24
27	27	27.85	0.00	-3.22	-18.24
27	28	29.30	0.00	0.40	-16.23
28	28	29.30	0.00	0.40	-16.23
28	29	30.75	0.00	0.40	-16.81
29	29	30.75	0.00	0.40	-16.81
29	30	32.20	0.00	0.40	-17.40
30	30	32.20	0.00	0.40	-17.40
30	31	33.65	0.00	0.40	-17.98
31	31	33.65	0.00	0.40	-17.98
31	32	35.10	0.00	0.40	-18.56
32	32	35.10	0.00	0.40	-18.56
32	33	36.55	0.00	0.40	-19.14
33	33	36.55	0.00	0.40	-19.14
33	34	38.00	0.00	0.40	-19.72
34	34	38.00	0.00	0.40	-19.72
34	35	39.45	0.00	0.40	-20.30
35	35	39.45	0.00	0.40	-20.30
35	36	40.90	0.00	0.40	-20.88
36	36	40.90	0.00	0.40	-20.88
36	37	42.35	0.00	0.40	-21.46
37	37	42.35	0.00	0.40	-21.46
37	38	43.80	0.00	0.40	-22.05
38	38	43.80	0.00	0.40	-22.05
38	39	45.25	0.00	0.40	-22.63
39	39	45.25	0.00	0.40	-22.63
39	40	46.70	0.00	0.40	-23.21
40	40	46.70	0.00	0.40	-23.21
40	41	48.15	0.00	2.41	-24.86
41	41	48.15	0.00	2.41	-24.86
41	42	49.60	0.00	5.64	-30.93
42	42	49.60	0.00	5.64	-30.93
42	43	51.05	0.00	9.00	-41.98
43	43	51.05	0.00	9.00	-41.98
43	44	51.50	0.00	9.98	-46.38
44	44	51.50	0.00	9.98	-46.38
44	45	52.50	0.00	12.07	-57.63
45	1045	52.50	0.00	-12.38	-57.63
45	46	53.50	0.00	-10.28	-46.06
46	46	53.50	0.00	-10.28	-46.06
46	47	53.95	0.00	-9.30	-41.51
47	47	53.95	0.00	-9.30	-41.51
47	48	55.40	0.00	-5.91	-29.94
48	48	55.40	0.00	-5.91	-29.94
48	49	56.85	0.00	-3.01	-23.39
49	49	56.85	0.00	-3.01	-23.39
49	50	58.30	0.00	0.30	-21.83
50	50	58.30	0.00	0.30	-21.83
50	51	59.75	0.00	0.30	-22.27
51	51	59.75	0.00	0.30	-22.27
51	52	61.20	0.00	0.30	-22.71

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Programa DINTEL IDEAM S.A.
PASEO.ENV_TREN_GENERICO.MZ-
28/08/01

CÁLCULO TENSIONAL

Hipótesis de cálculo:
PASEO.ENV_TREN_GENERICO.MZ-
Envolvente de tren de cargas plano genérico. MZ-
[0; 1]PASEO.SCuniTpos.Barra1.Mx+ + [0; 1]PASEO.SCuniTpos.Barra2.Mx+ + [0; 1]PASEO.SCuniTp
Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
52	52	61.20	0.00	0.30	-22.71
52	53	62.65	0.00	0.30	-23.15
53	53	62.65	0.00	0.30	-23.15
53	54	64.10	0.00	0.30	-23.60
54	54	64.10	0.00	0.30	-23.60
54	55	65.55	0.00	0.30	-24.04
55	55	65.55	0.00	0.30	-24.04
55	56	67.00	0.00	0.30	-24.48
56	56	67.00	0.00	0.30	-24.48
56	57	68.45	0.00	0.30	-24.92
57	57	68.45	0.00	0.30	-24.92
57	58	69.90	0.00	0.30	-25.37
58	58	69.90	0.00	0.30	-25.37
58	59	71.35	0.00	0.30	-25.81
59	59	71.35	0.00	0.30	-25.81
59	60	72.80	0.00	0.30	-26.25
60	60	72.80	0.00	0.30	-26.25
60	61	74.25	0.00	0.30	-26.69
61	61	74.25	0.00	0.30	-26.69
61	62	75.70	0.00	0.30	-27.14
62	62	75.70	0.00	0.30	-27.14
62	63	77.15	0.00	2.46	-28.44
63	63	77.15	0.00	2.46	-28.44
63	64	78.60	0.00	6.01	-34.43
64	64	78.60	0.00	6.01	-34.43
64	65	80.05	0.00	9.37	-45.70
65	65	80.05	0.00	9.37	-45.70
65	66	80.50	0.00	10.34	-50.23
66	66	80.50	0.00	10.34	-50.23
66	67	81.50	0.00	12.44	-61.81
67	1067	81.50	0.00	-13.08	-61.81
67	68	82.50	0.00	-10.80	-49.49
68	68	82.50	0.00	-10.80	-49.49
68	69	83.08	0.00	-9.73	-43.36
69	69	83.08	0.00	-9.73	-43.36
69	70	84.65	0.00	-6.05	-30.27
70	70	84.65	0.00	-6.05	-30.27
70	71	86.23	0.00	-2.91	-23.10
71	71	86.23	0.00	-2.91	-23.10
71	72	87.80	0.00	0.17	-21.50
72	72	87.80	0.00	0.17	-21.50
72	73	89.38	0.00	0.17	-21.76
73	73	89.38	0.00	0.17	-21.76
73	74	90.95	0.00	0.17	-22.02
74	74	90.95	0.00	0.17	-22.02
74	75	92.53	0.00	0.17	-22.29
75	75	92.53	0.00	0.17	-22.29
75	76	94.10	0.00	0.17	-22.55
76	76	94.10	0.00	0.17	-22.55
76	77	95.68	0.00	0.17	-22.81
77	77	95.68	0.00	0.17	-22.81

CÁLCULO TENSIONAL

Hipótesis de cálculo:
PASEO.ENV_TREN_GENERICO.MZ-

Envolvente de tren de cargas plano genérico. MZ-

[0; 1]PASEO.SCuniTpos.Barra1.Mx+ + [0; 1]PASEO.SCuniTpos.Barra2.Mx+ + [0; 1]PASEO.SCuniTp

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
77	78	97.25	0.00	0.17	-23.08
78	78	97.25	0.00	0.17	-23.08
78	79	98.83	0.00	0.17	-23.34
79	79	98.83	0.00	0.17	-23.34
79	80	100.40	0.00	0.17	-23.60
80	80	100.40	0.00	0.17	-23.60
80	81	101.98	0.00	0.17	-23.87
81	81	101.98	0.00	0.17	-23.87
81	82	103.55	0.00	0.17	-24.13
82	82	103.55	0.00	0.17	-24.13
82	83	105.13	0.00	0.17	-24.39
83	83	105.13	0.00	0.17	-24.39
83	84	106.70	0.00	0.17	-24.66
84	84	106.70	0.00	0.17	-24.66
84	85	108.28	0.00	2.32	-26.01
85	85	108.28	0.00	2.32	-26.01
85	86	109.85	0.00	6.19	-32.76
86	86	109.85	0.00	6.19	-32.76
86	87	111.43	0.00	9.84	-45.65
87	87	111.43	0.00	9.84	-45.65
87	88	112.00	0.00	10.90	-51.79
88	88	112.00	0.00	10.90	-51.79
88	89	113.00	0.00	13.18	-64.18
89	1089	113.00	0.00	-12.97	-64.18
89	90	114.00	0.00	-10.70	-52.00
90	90	114.00	0.00	-10.70	-52.00
90	91	114.58	0.00	-9.64	-45.97
91	91	114.58	0.00	-9.64	-45.97
91	92	116.15	0.00	-6.00	-33.43
92	92	116.15	0.00	-6.00	-33.43
92	93	117.73	0.00	-2.16	-27.01
93	93	117.73	0.00	-2.16	-27.01
93	94	119.30	0.00	-0.53	-25.48
94	94	119.30	0.00	-0.53	-25.48
94	95	120.88	0.00	-0.53	-24.64
95	95	120.88	0.00	-0.53	-24.64
95	96	122.45	0.00	-0.53	-23.81
96	96	122.45	0.00	-0.53	-23.81
96	97	124.03	0.00	-0.53	-22.97
97	97	124.03	0.00	-0.53	-22.97
97	98	125.60	0.00	-0.53	-22.14
98	98	125.60	0.00	-0.53	-22.14
98	99	127.18	0.00	-0.53	-21.31
99	99	127.18	0.00	-0.53	-21.31
99	100	128.75	0.00	-0.53	-20.47
100	100	128.75	0.00	-0.53	-20.47
100	101	130.33	0.00	-0.53	-19.64
101	101	130.33	0.00	-0.53	-19.64
101	102	131.90	0.00	-0.53	-18.80
102	102	131.90	0.00	-0.53	-18.80
102	103	133.48	0.00	-0.53	-17.97

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PASEO.ENV_TREN_GENERICO.MZ-
28/08/01

CÁLCULO TENSIONAL

Hipótesis de cálculo:
PASEO.ENV_TREN_GENERICO.MZ-

Envolvente de tren de cargas plano genérico. MZ-

[0; 1]PASEO.SCuniTpos.Barra1.Mx+ + [0; 1]PASEO.SCuniTpos.Barra2.Mx+ + [0; 1]PASEO.SCuniTp

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
103	103	133.48	0.00	-0.53	-17.97
103	104	135.05	0.00	-0.53	-17.14
104	104	135.05	0.00	-0.53	-17.14
104	105	136.63	0.00	-0.53	-16.30
105	105	136.63	0.00	-0.53	-16.30
105	106	138.20	0.00	-0.53	-15.47
106	106	138.20	0.00	-0.53	-15.47
106	107	139.78	0.00	3.20	-17.43
107	107	139.78	0.00	3.20	-17.43
107	108	141.35	0.00	6.70	-24.95
108	108	141.35	0.00	6.70	-24.95
108	109	142.93	0.00	9.56	-38.01
109	109	142.93	0.00	9.56	-38.01
109	110	143.50	0.00	11.75	-44.09
110	110	143.50	0.00	11.75	-44.09
110	111	144.50	0.00	12.91	-56.27
111	1111	144.50	0.00	-11.21	-56.27
111	112	145.50	0.00	-9.50	-45.94
112	112	145.50	0.00	-9.50	-45.94
112	113	145.68	0.00	-8.69	-44.34
113	113	145.68	0.00	-8.69	-44.34
113	114	146.85	0.00	-5.82	-35.68
114	114	146.85	0.00	-5.82	-35.68
114	115	148.03	0.00	-1.97	-31.07
115	115	148.03	0.00	-1.97	-31.07
115	116	149.20	0.00	-1.55	-29.22
116	116	149.20	-0.02	-1.55	-29.22
116	117	150.38	-0.02	-1.55	-27.39
117	117	150.38	-0.02	-1.55	-27.39
117	118	151.55	-0.02	-1.55	-25.57
118	118	151.55	0.00	-1.55	-25.57
118	119	152.73	0.00	-1.55	-23.74
119	119	152.73	0.00	-1.55	-23.74
119	120	153.90	0.00	-1.55	-21.91
120	120	153.90	0.00	-1.55	-21.91
120	121	155.08	0.00	-1.55	-20.09
121	121	155.08	0.00	-1.55	-20.09
121	122	156.25	0.00	-1.55	-18.26
122	122	156.25	0.00	-1.55	-18.26
122	123	157.43	0.00	-1.55	-16.43
123	123	157.43	0.00	-1.55	-16.43
123	124	158.60	0.00	-1.55	-14.61
124	124	158.60	0.00	-1.55	-14.61
124	125	159.78	0.00	-1.55	-12.78
125	125	159.78	0.00	-1.55	-12.78
125	126	160.95	0.00	-1.55	-10.96
126	126	160.95	0.00	-1.55	-10.96
126	127	162.13	0.00	-1.55	-9.13
127	127	162.13	0.00	-1.55	-9.13
127	128	163.30	0.00	-1.55	-7.30
128	128	163.30	0.00	-1.55	-7.30

CÁLCULO TENSIONAL

Hipótesis de cálculo:

PASEO.ENV_TREN_GENERICO.MZ-

Envolvente de tren de cargas plano genérico. MZ-

[0; 1]PASEO.SCuniTpos.Barra1.Mx+ + [0; 1]PASEO.SCuniTpos.Barra2.Mx+ + [0; 1]PASEO.SCuniTp

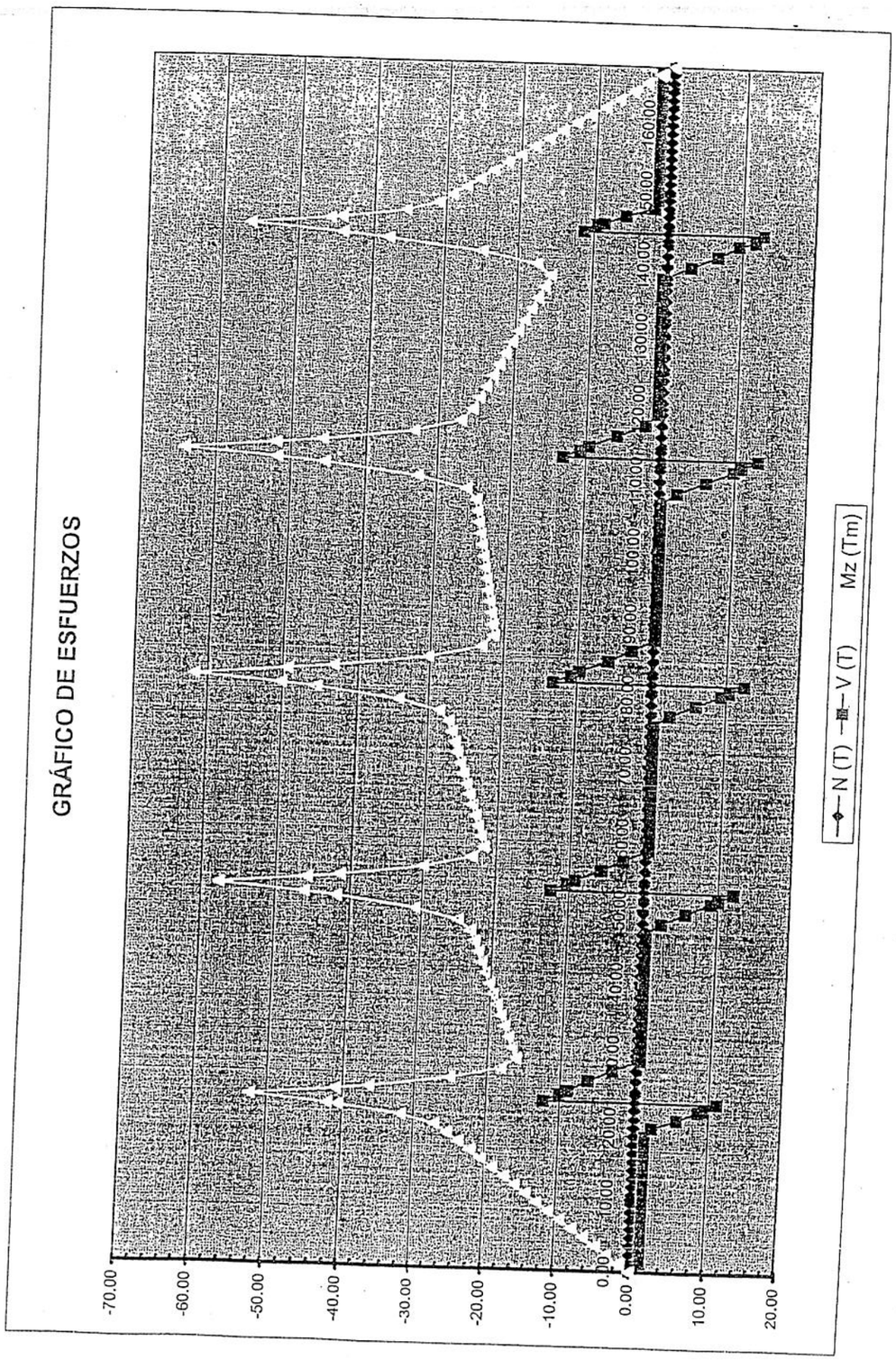
Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
128	129	164.48	0.00	-1.55	-5.48
129	129	164.48	0.00	-1.55	-5.48
129	130	165.65	0.00	-1.55	-3.65
130	130	165.65	0.00	-1.55	-3.65
130	131	166.83	0.00	-1.55	-1.83
131	131	166.83	0.00	-1.55	-1.83
131	132	167.00	0.00	-1.55	-1.55
132	132	167.00	0.00	-1.55	-1.55
132	133	168.00	0.00	0.00	0.00

28/08/01

Programa DINTEL IDEAM S.A.
PASEO.ENV_TREN_GENERICO.MZ-

esf f7 fisurada.xls



CÁLCULO TENSIONAL

Hipótesis de cálculo:
IPF75B.MZ+ SC1+SC9+TREN 30 Mz+ (Gobierno)
Tren IPF75B.Mz+
[1; 1]SC1.ENV_TREN_GENERICO.MZ+ + [1; 1]SC9.ENV_TREN_GENERICO.MZ+ + [1; 1]TREN30.I
Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
1	1	0.00	0.00	0.00	0.00
1	2	1.00	0.00	-119.65	124.65
2	2	1.00	0.00	-119.65	124.65
2	3	1.18	0.00	-117.52	144.99
3	3	1.18	0.00	-117.52	144.99
3	4	2.35	0.00	-103.81	271.57
4	4	2.35	0.00	-103.81	271.57
4	5	3.53	0.00	-90.16	379.93
5	5	3.53	0.00	-90.16	379.93
5	6	4.70	0.00	-76.33	473.90
6	6	4.70	0.00	-76.33	473.90
6	7	5.88	0.00	-62.36	552.49
7	7	5.88	0.00	-62.36	552.49
7	8	7.05	0.00	-41.81	613.77
8	8	7.05	0.00	-41.81	613.77
8	9	8.23	0.00	-28.16	657.98
9	9	8.23	0.00	-28.16	657.98
9	10	9.40	0.00	-14.33	686.93
10	10	9.40	0.00	-14.33	686.93
10	11	10.58	0.00	-7.36	700.26
11	11	10.58	0.00	-7.36	700.26
11	12	11.75	0.00	12.69	695.12
12	12	11.75	0.00	12.69	695.12
12	13	12.93	0.00	20.92	675.29
13	13	12.93	0.00	20.92	675.29
13	14	14.10	0.00	40.17	639.07
14	14	14.10	0.00	40.17	639.07
14	15	15.28	0.00	47.94	588.26
15	15	15.28	0.00	47.94	588.26
15	16	16.45	0.00	61.59	520.16
16	16	16.45	-0.73	61.59	520.16
16	17	17.63	-0.89	75.41	435.34
17	17	17.63	-0.89	75.41	435.34
17	18	18.80	-1.05	89.39	333.45
18	18	18.80	0.00	89.39	333.45
18	19	19.98	0.00	97.38	218.44
19	19	19.98	0.00	97.38	218.44
19	20	21.15	0.00	43.85	142.74
20	20	21.15	0.00	43.85	142.74
20	21	22.33	0.00	17.27	111.42
21	21	22.33	0.00	17.27	111.42
21	22	22.50	0.00	8.24	109.50
22	22	22.50	0.00	8.24	109.50
22	23	23.50	0.00	-4.57	107.51
23	1023	23.50	0.00	19.77	107.51
23	24	24.50	0.00	1.79	93.28
24	24	24.50	0.00	1.79	93.28
24	25	24.95	0.00	-6.79	91.82
25	25	24.95	0.00	-6.79	91.82
25	26	26.40	0.00	-27.38	113.40
26	26	26.40	0.00	-27.38	113.40

IPF75B fisurada.xls
Programa DINTEL IDEAM S.A.
IPF75B.MZ+
28/08/01

CÁLCULO TENSIONAL

Hipótesis de cálculo:
IPF75B.MZ+
Tren IPF75B.Mz+
[1; 1]SC1.ENV_TREN_GENERICO.MZ+ + [1; 1]SC9.ENV_TREN_GENERICO.MZ+ + [1; 1]TREN30.I
Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
26	27	27.85	0.00	-72.68	199.83
27	27	27.85	0.00	-72.68	199.83
27	28	29.30	0.00	-104.70	333.01
28	28	29.30	-1.01	-104.70	333.01
28	29	30.75	-0.83	-87.46	476.74
29	29	30.75	-0.83	-87.46	476.74
29	30	32.20	-0.67	-70.00	596.14
30	30	32.20	0.00	-70.00	596.14
30	31	33.65	0.00	-53.70	689.17
31	31	33.65	0.00	-53.70	689.17
31	32	35.10	0.00	-42.90	759.12
32	32	35.10	0.00	-42.90	759.12
32	33	36.55	0.00	-19.00	804.61
33	33	36.55	0.00	-19.00	804.61
33	34	38.00	0.00	-8.20	823.00
34	34	38.00	0.00	-8.20	823.00
34	35	39.45	0.00	8.10	820.42
35	35	39.45	0.00	8.10	820.42
35	36	40.90	0.00	32.00	790.69
36	36	40.90	0.00	32.00	790.69
36	37	42.35	0.00	42.80	736.59
37	37	42.35	0.00	42.80	736.59
37	38	43.80	0.00	59.10	659.34
38	38	43.80	-0.56	59.10	659.34
38	39	45.25	-0.73	76.57	555.71
39	39	45.25	-0.73	76.57	555.71
39	40	46.70	-0.91	93.80	427.79
40	40	46.70	0.00	93.80	427.79
40	41	48.15	0.00	83.29	290.23
41	41	48.15	0.00	83.29	290.23
41	42	49.60	0.00	40.15	198.38
42	42	49.60	0.00	40.15	198.38
42	43	51.05	0.00	9.83	167.93
43	43	51.05	0.00	9.83	167.93
43	44	51.50	0.00	1.29	167.20
44	44	51.50	0.00	1.29	167.20
44	45	52.50	0.00	-16.64	177.80
45	1045	52.50	0.00	25.12	177.80
45	46	53.50	0.00	7.15	158.58
46	46	53.50	0.00	7.15	158.58
46	47	53.95	0.00	-1.42	155.30
47	47	53.95	0.00	-1.42	155.30
47	48	55.40	0.00	-34.98	174.04
48	48	55.40	0.00	-34.98	174.04
48	49	56.85	0.00	-73.81	262.20
49	49	56.85	0.00	-73.81	262.20
49	50	58.30	0.00	-101.75	398.91
50	50	58.30	-0.98	-101.74	398.91
50	51	59.75	-0.81	-84.49	538.32
51	51	59.75	-0.81	-84.49	538.32
51	52	61.20	-0.64	-67.04	653.52

IPF75B.MZ+

CÁLCULO TENSIONAL

Hipótesis de cálculo:

IPF75B.MZ+

Tren IPF75B.Mz+

[1; 1]SC1.ENV_TREN_GENERICO.MZ+ + [1; 1]SC9.ENV_TREN_GENERICO.MZ+ + [1; 1]TREN30.I

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
52	52	61.20	0.00	-67.04	653.52
52	53	62.65	0.00	-50.74	742.24
53	53	62.65	0.00	-50.74	742.24
53	54	64.10	0.00	-39.95	807.91
54	54	64.10	0.00	-39.95	807.91
54	55	65.55	0.00	-16.05	849.14
55	55	65.55	0.00	-16.05	849.14
55	56	67.00	0.00	-5.25	863.23
56	56	67.00	0.00	-5.25	863.23
56	57	68.45	0.00	11.05	856.42
57	57	68.45	0.00	11.05	856.42
57	58	69.90	0.00	34.95	822.40
58	58	69.90	0.00	34.95	822.40
58	59	71.35	0.00	45.75	764.03
59	59	71.35	0.00	45.75	764.03
59	60	72.80	0.00	62.05	682.53
60	60	72.80	-0.59	62.05	682.53
60	61	74.25	-0.77	79.51	574.58
61	61	74.25	-0.77	79.51	574.58
61	62	75.70	-0.93	96.75	442.43
62	62	75.70	0.00	96.75	442.43
62	63	77.15	0.00	84.38	297.81
63	63	77.15	0.00	84.38	297.81
63	64	78.60	0.00	36.92	198.73
64	64	78.60	0.00	36.92	198.73
64	65	80.05	0.00	6.65	168.70
65	65	80.05	0.00	6.65	168.70
65	66	80.50	0.00	-1.88	168.90
66	66	80.50	0.00	-1.88	168.90
66	67	81.50	0.00	-19.81	182.32
67	1067	81.50	0.00	21.88	182.32
67	68	82.50	0.00	1.49	165.51
68	68	82.50	0.00	1.49	165.51
68	69	83.08	0.00	-9.32	164.44
69	69	83.08	0.00	-9.32	164.44
69	70	84.65	0.00	-42.62	196.52
70	70	84.65	0.00	-42.62	196.52
70	71	86.23	0.00	-91.93	306.52
71	71	86.23	0.00	-91.93	306.52
71	72	87.80	0.00	-114.29	472.13
72	72	87.80	-1.00	-114.28	472.13
72	73	89.38	-0.85	-95.69	631.32
73	73	89.38	-0.85	-95.69	631.32
73	74	90.95	-0.63	-70.67	764.23
74	74	90.95	0.00	-70.68	764.23
74	75	92.53	0.00	-52.04	866.62
75	75	92.53	0.00	-52.04	866.62
75	76	94.10	0.00	-40.56	938.91
76	76	94.10	0.00	-40.56	938.91
76	77	95.68	0.00	-22.05	983.50
77	77	95.68	0.00	-22.05	983.50

IPF75B fisurada.xls Programa DINTEL IDEAM S.A. 28/08/01

IPF75B.MZ+

CÁLCULO TENSIONAL

Hipótesis de cálculo:

IPF75B.MZ+

Tren IPF75B.Mz+

[1; 1]SC1.ENV_TREN_GENERICO.MZ+ + [1; 1]SC9.ENV_TREN_GENERICO.MZ+ + [1; 1]TREN30.I

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
77	78	97.25	0.00	-3.07	996.63
78	78	97.25	0.00	-3.07	996.63
78	79	98.83	0.00	21.69	984.07
79	79	98.83	0.00	21.69	984.07
79	80	100.40	0.00	40.20	940.05
80	80	100.40	0.00	40.20	940.05
80	81	101.98	0.00	51.68	868.33
81	81	101.98	0.00	51.68	868.33
81	82	103.55	0.00	70.32	766.51
82	82	103.55	-0.62	70.32	766.51
82	83	105.13	-0.85	95.34	634.13
83	83	105.13	-0.85	95.34	634.13
83	84	106.70	-1.00	113.93	475.54
84	84	106.70	0.00	113.93	475.54
84	85	108.28	0.00	103.88	300.23
85	85	108.28	0.00	103.88	300.23
85	86	109.85	0.00	45.31	171.64
86	86	109.85	0.00	45.31	171.64
86	87	111.43	0.00	12.36	129.72
87	87	111.43	0.00	12.36	129.72
87	88	112.00	0.00	1.99	128.53
88	88	112.00	0.00	1.99	128.53
88	89	113.00	0.00	-18.36	141.37
89	1089	113.00	0.00	13.49	141.37
89	90	114.00	0.00	-6.84	133.43
90	90	114.00	0.00	-6.84	133.43
90	91	114.58	0.00	-15.24	137.42
91	91	114.58	0.00	-15.24	137.42
91	92	116.15	0.00	-48.03	184.15
92	92	116.15	0.00	-48.03	184.15
92	93	117.73	0.00	-106.11	315.07
93	93	117.73	0.00	-106.11	315.07
93	94	119.30	0.00	-109.24	488.23
94	94	119.30	-0.96	-109.24	488.23
94	95	120.88	-0.81	-90.66	639.47
95	95	120.88	-0.81	-90.66	639.47
95	96	122.45	-0.57	-65.63	764.46
96	96	122.45	0.00	-65.63	764.46
96	97	124.03	0.00	-47.00	858.89
97	97	124.03	0.00	-47.00	858.89
97	98	125.60	0.00	-35.51	923.26
98	98	125.60	0.00	-35.51	923.26
98	99	127.18	0.00	-17.01	959.89
99	99	127.18	0.00	-17.01	959.89
99	100	128.75	0.00	1.97	965.09
100	100	128.75	0.00	1.97	965.09
100	101	130.33	0.00	26.73	944.57
101	101	130.33	0.00	26.73	944.57
101	102	131.90	0.00	45.25	892.60
102	102	131.90	0.00	45.25	892.60
102	103	133.48	0.00	56.71	812.96

CÁLCULO TENSIONAL

Hipótesis de cálculo:
IPF75B.MZ+

Tren IPF75B.Mz+

[1; 1]SC1.ENV_TREN_GENERICO.MZ+ + [1; 1]SC9.ENV_TREN_GENERICO.MZ+ + [1; 1]TREN30.I

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
103	103	133.48	0.00	56.71	812.96
103	104	135.05	0.00	75.37	703.17
104	104	135.05	-0.67	75.37	703.17
104	105	136.63	-0.88	100.37	562.94
105	105	136.63	-0.88	100.37	562.94
105	106	138.20	-1.06	118.97	396.35
106	106	138.20	0.00	118.97	396.35
106	107	139.78	0.00	87.90	235.70
107	107	139.78	0.00	87.90	235.70
107	108	141.35	0.00	31.26	130.68
108	108	141.35	0.00	31.26	130.68
108	109	142.93	0.00	8.83	102.56
109	109	142.93	0.00	8.83	102.56
109	110	143.50	0.00	-14.54	103.53
110	110	143.50	0.00	-14.54	103.53
110	111	144.50	0.00	-20.03	118.78
111	1111	144.50	0.00	5.05	118.78
111	112	145.50	0.00	-7.75	120.44
112	112	145.50	0.00	-7.75	120.44
112	113	145.68	0.00	-16.78	122.50
113	113	145.68	0.00	-16.78	122.50
113	114	146.85	0.00	-43.23	155.89
114	114	146.85	0.00	-43.23	155.89
114	115	148.03	0.00	-103.28	238.61
115	115	148.03	0.00	-103.28	238.61
115	116	149.20	0.00	-88.27	354.43
116	116	149.20	-1.04	-88.27	354.43
116	117	150.38	-0.88	-74.31	454.99
117	117	150.38	-0.88	-74.31	454.99
117	118	151.55	-0.71	-60.47	538.48
118	118	151.55	0.00	-60.47	538.48
118	119	152.73	0.00	-46.82	605.30
119	119	152.73	0.00	-46.82	605.30
119	120	153.90	0.00	-39.06	654.79
120	120	153.90	0.00	-39.06	654.79
120	121	155.08	0.00	-19.81	689.70
121	121	155.08	0.00	-19.81	689.70
121	122	156.25	0.00	-11.57	708.22
122	122	156.25	0.00	-11.57	708.22
122	123	157.43	0.00	8.48	712.05
123	123	157.43	0.00	8.48	712.05
123	124	158.60	0.00	15.44	697.41
124	124	158.60	0.00	15.44	697.41
124	125	159.78	0.00	29.28	667.14
125	125	159.78	0.00	29.28	667.14
125	126	160.95	0.00	42.93	621.64
126	126	160.95	0.00	42.93	621.64
126	127	162.13	0.00	63.48	559.05
127	127	162.13	0.00	63.48	559.05
127	128	163.30	0.00	77.44	479.13
128	128	163.30	0.00	77.44	479.13

IPF75B fisurada.xls

Programa DINTEL IDEAM S.A.
IPF75B.MZ+

28/08/01

CÁLCULO TENSIONAL

Hipótesis de cálculo:
IPF75B.MZ+

Tren IPF75B.Mz+

[1; 1]SC1.ENV_TREN_GENERICO.MZ+ + [1; 1]SC9.ENV_TREN_GENERICO.MZ+ + [1; 1]TREN30.I

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
128	129	164.48	0.00	91.28	383.87
129	129	164.48	0.00	91.28	383.87
129	130	165.65	0.00	104.93	274.18
130	130	165.65	0.00	104.93	274.18
130	131	166.83	0.00	118.63	146.29
131	131	166.83	0.00	118.63	146.29
131	132	167.00	0.00	120.76	125.74
132	132	167.00	0.00	120.76	125.74
132	133	168.00	0.00	0.00	0.00

CÁLCULO TENSIONAL

Hipótesis de cálculo:
IPF75B.Mz- SC1 + SC9 + TREN3) Mz -

Envolvente IPF75B.Mz-

[1; 1]SC1.ENV_TREN_GENERICO.MZ- + [1; 1]SC9.ENV_TREN_GENERICO.MZ- + [1; 1]TREN30.E

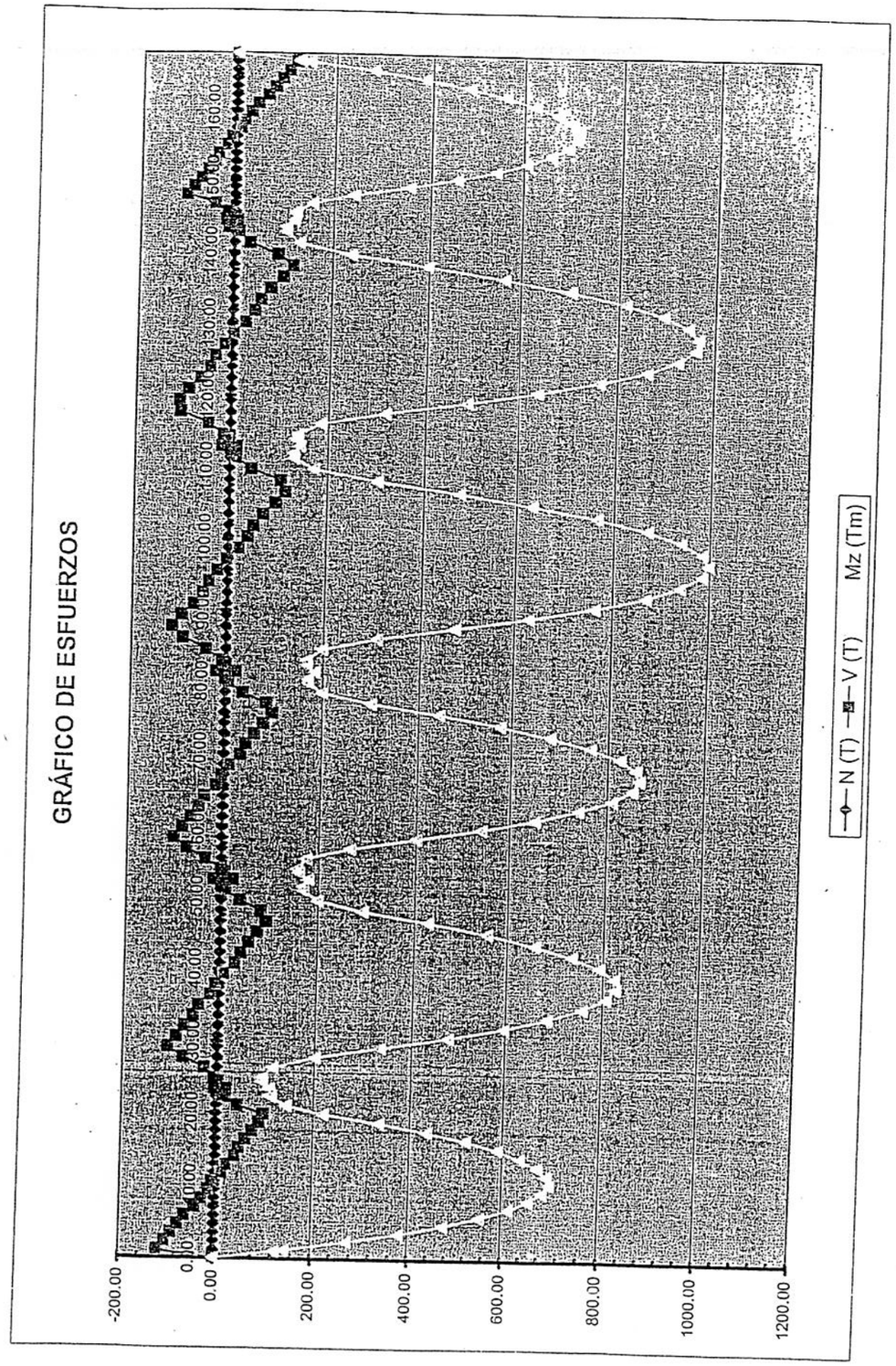
Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
1	1	0.00	0.00	0.00	0.00
1	2	1.00	0.00	20.81	-20.81
2	2	1.00	0.00	20.81	-20.81
2	3	1.18	0.00	20.81	-24.45
3	3	1.18	0.00	20.81	-24.45
3	4	2.35	0.00	20.81	-48.90
4	4	2.35	0.00	20.81	-48.90
4	5	3.53	0.00	20.81	-73.36
5	5	3.53	0.00	20.81	-73.36
5	6	4.70	0.00	20.81	-97.82
6	6	4.70	0.00	20.81	-97.82
6	7	5.88	0.00	20.81	-122.27
7	7	5.88	0.00	20.81	-122.27
7	8	7.05	0.00	20.81	-146.72
8	8	7.05	0.00	20.81	-146.72
8	9	8.23	0.00	20.81	-171.18
9	9	8.23	0.00	20.81	-171.18
9	10	9.40	0.00	20.81	-195.63
10	10	9.40	0.00	20.81	-195.63
10	11	10.58	0.00	20.81	-220.08
11	11	10.58	0.00	20.81	-220.08
11	12	11.75	0.00	20.81	-244.54
12	12	11.75	0.00	20.81	-244.54
12	13	12.93	0.00	20.81	-268.99
13	13	12.93	0.00	20.81	-268.99
13	14	14.10	0.00	20.81	-293.45
14	14	14.10	0.00	20.81	-293.45
14	15	15.28	0.00	20.81	-317.91
15	15	15.28	0.00	20.81	-317.91
15	16	16.45	0.00	20.81	-342.36
16	16	16.45	-0.24	20.81	-342.36
16	17	17.63	-0.24	20.81	-366.81
17	17	17.63	-0.24	20.81	-366.81
17	18	18.80	-0.24	20.81	-391.28
18	18	18.80	0.00	20.81	-391.28
18	19	19.98	0.00	33.38	-418.21
19	19	19.98	0.00	33.38	-418.21
19	20	21.15	0.00	78.22	-487.65
20	20	21.15	0.00	78.22	-487.65
20	21	22.33	0.00	132.64	-613.02
21	21	22.33	0.00	132.64	-613.02
21	22	22.50	0.00	143.44	-637.47
22	22	22.50	0.00	143.44	-637.47
22	23	23.50	0.00	167.66	-792.81
23	1023	23.50	0.00	-187.27	-792.81
23	24	24.50	0.00	-156.28	-618.87
24	24	24.50	0.00	-156.28	-618.87
24	25	24.95	0.00	-142.64	-549.01
25	25	24.95	0.00	-142.64	-549.01
25	26	26.40	0.00	-87.83	-377.10
26	26	26.40	0.00	-87.83	-377.10

28/08/01

Programa DINTEL IDEAM S.A.
IPF75B.MZ+

GRÁFICO DE ESFUERZOS



IPF75B fisurada.xls

CÁLCULO TENSIONAL

Hipótesis de cálculo:

IPF75B.Mz-

Envolvente IPF75B.Mz-

[1; 1]SC1.ENV_TREN_GENERICO.MZ- + [1; 1]SC9.ENV_TREN_GENERICO.MZ- + [1; 1]TREN30.E

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
26	27	27.85	0.00	-45.03	-283.35
27	27	27.85	0.00	-45.03	-283.35
27	28	29.30	0.00	3.28	-253.60
28	28	29.30	0.03	3.28	-253.60
28	29	30.75	0.03	3.28	-258.38
29	29	30.75	0.03	3.28	-258.38
29	30	32.20	0.03	3.28	-263.14
30	30	32.20	0.00	3.28	-263.14
30	31	33.65	0.00	3.28	-267.92
31	31	33.65	0.00	3.28	-267.92
31	32	35.10	0.00	3.28	-272.68
32	32	35.10	0.00	3.28	-272.68
32	33	36.55	0.00	3.28	-277.46
33	33	36.55	0.00	3.28	-277.46
33	34	38.00	0.00	8.13	-288.17
34	34	38.00	0.00	8.13	-288.17
34	35	39.45	0.00	8.13	-299.96
35	35	39.45	0.00	8.13	-299.96
35	36	40.90	0.00	8.13	-311.75
36	36	40.90	0.00	8.13	-311.75
36	37	42.35	0.00	8.13	-323.54
37	37	42.35	0.00	8.13	-323.54
37	38	43.80	0.00	8.13	-335.33
38	38	43.80	-0.08	8.13	-335.33
38	39	45.25	-0.08	8.13	-347.11
39	39	45.25	-0.08	8.13	-347.11
39	40	46.70	-0.08	8.13	-358.90
40	40	46.70	0.00	8.13	-358.90
40	41	48.15	0.00	34.95	-385.02
41	41	48.15	0.00	34.95	-385.02
41	42	49.60	0.00	77.99	-469.95
42	42	49.60	0.00	77.99	-469.95
42	43	51.05	0.00	139.27	-626.40
43	43	51.05	0.00	139.27	-626.40
43	44	51.50	0.00	152.31	-693.77
44	44	51.50	0.00	152.31	-693.77
44	45	52.50	0.00	184.60	-865.83
45	1045	52.50	0.00	-188.79	-865.83
45	46	53.50	0.00	-156.38	-688.86
46	46	53.50	0.00	-156.38	-688.86
46	47	53.95	0.00	-143.30	-619.43
47	47	53.95	0.00	-143.30	-619.43
47	48	55.40	0.00	-81.48	-455.26
48	48	55.40	0.00	-81.48	-455.26
48	49	56.85	0.00	-42.82	-364.03
49	49	56.85	0.00	-42.82	-364.03
49	50	58.30	0.00	1.43	-339.41
50	50	58.30	0.00	1.43	-339.41
50	51	59.75	0.00	1.43	-341.48
51	51	59.75	0.00	1.43	-341.48
51	52	61.20	0.00	1.43	-343.55

IPF75B fisurada.xls Programa DINTEL IDEAM S.A. 28/08/01
IPF75B.Mz-

CÁLCULO TENSIONAL

Hipótesis de cálculo:

IPF75B.Mz-

Envolvente IPF75B.Mz-

[1; 1]SC1.ENV_TREN_GENERICO.MZ- + [1; 1]SC9.ENV_TREN_GENERICO.MZ- + [1; 1]TREN30.E

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
52	52	61.20	0.00	1.43	-343.55
52	53	62.65	0.00	1.43	-345.62
53	53	62.65	0.00	1.43	-345.62
53	54	64.10	0.00	1.43	-347.68
54	54	64.10	0.00	1.43	-347.68
54	55	65.55	0.00	1.43	-349.75
55	55	65.55	0.00	1.43	-349.75
55	56	67.00	0.00	7.38	-357.15
56	56	67.00	0.00	7.38	-357.15
56	57	68.45	0.00	7.38	-367.86
57	57	68.45	0.00	7.38	-367.86
57	58	69.90	0.00	7.38	-378.56
58	58	69.90	0.00	7.38	-378.56
58	59	71.35	0.00	7.38	-389.27
59	59	71.35	0.00	7.38	-389.27
59	60	72.80	0.00	7.38	-399.98
60	60	72.80	-0.06	7.38	-399.98
60	61	74.25	-0.06	7.38	-410.68
61	61	74.25	-0.06	7.38	-410.68
61	62	75.70	-0.06	7.38	-421.39
62	62	75.70	0.00	7.38	-421.39
62	63	77.15	0.00	36.05	-443.61
63	63	77.15	0.00	36.05	-443.61
63	64	78.60	0.00	83.44	-528.31
64	64	78.60	0.00	83.44	-528.31
64	65	80.05	0.00	128.21	-683.31
65	65	80.05	0.00	128.21	-683.31
65	66	80.50	0.00	157.60	-748.95
66	66	80.50	0.00	157.60	-748.95
66	67	81.50	0.00	189.60	-923.49
67	1067	81.50	0.00	-198.57	-923.49
67	68	82.50	0.00	-167.09	-735.84
68	68	82.50	0.00	-167.09	-735.84
68	69	83.08	0.00	-149.27	-641.45
69	69	83.08	0.00	-149.27	-641.45
69	70	84.65	0.00	-83.03	-457.18
70	70	84.65	0.00	-83.03	-457.18
70	71	86.23	0.00	-41.11	-357.91
71	71	86.23	0.00	-41.11	-357.91
71	72	87.80	0.00	-0.11	-332.87
72	72	87.80	0.00	-0.11	-332.87
72	73	89.38	0.00	-0.11	-332.71
73	73	89.38	0.00	-0.11	-332.71
73	74	90.95	0.00	-0.11	-332.55
74	74	90.95	0.00	-0.11	-332.55
74	75	92.53	0.00	-0.11	-332.37
75	75	92.53	0.00	-0.11	-332.37
75	76	94.10	0.00	-0.11	-332.21
76	76	94.10	0.00	-0.11	-332.21
76	77	95.68	0.00	-0.11	-332.05
77	77	95.68	0.00	-0.11	-332.05

CÁLCULO TENSIONAL

Hipótesis de cálculo:
IPF75B.Mz-

Envolvente IPF75B.Mz-

[1; 1]SC1.ENV_TREN_GENERICO.MZ- + [1; 1]SC9.ENV_TREN_GENERICO.MZ- + [1; 1]TREN30.E

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
77	78	97.25	0.00	5.07	-336.39
78	78	97.25	0.00	5.07	-336.39
78	79	98.83	0.00	5.07	-344.38
79	79	98.83	0.00	5.07	-344.38
79	80	100.40	0.00	5.07	-352.38
80	80	100.40	0.00	5.07	-352.38
80	81	101.98	0.00	5.07	-360.36
81	81	101.98	0.00	5.07	-360.36
81	82	103.55	0.00	5.07	-368.36
82	82	103.55	-0.05	5.07	-368.36
82	83	105.13	-0.05	5.07	-376.35
83	83	105.13	-0.05	5.07	-376.35
83	84	106.70	-0.05	5.07	-384.34
84	84	106.70	0.00	5.07	-384.34
84	85	108.28	0.00	33.77	-406.91
85	85	108.28	0.00	33.77	-406.91
85	86	109.85	0.00	85.36	-501.39
86	86	109.85	0.00	85.36	-501.39
86	87	111.43	0.00	134.06	-677.69
87	87	111.43	0.00	134.06	-677.69
87	88	112.00	0.00	165.21	-768.54
88	88	112.00	0.00	165.21	-768.54
88	89	113.00	0.00	199.96	-956.30
89	1089	113.00	0.00	-197.18	-956.30
89	90	114.00	0.00	-162.47	-771.53
90	90	114.00	0.00	-162.47	-771.53
90	91	114.58	0.00	-131.41	-682.76
91	91	114.58	0.00	-131.41	-682.76
91	92	116.15	0.00	-82.88	-510.92
92	92	116.15	0.00	-82.88	-510.92
92	93	117.73	0.00	-31.74	-420.73
93	93	117.73	0.00	-31.74	-420.73
93	94	119.30	0.00	-9.97	-395.71
94	94	119.30	-0.10	-9.97	-395.71
94	95	120.88	-0.10	-9.97	-380.01
95	95	120.88	-0.10	-9.97	-380.01
95	96	122.45	-0.10	-9.97	-364.31
96	96	122.45	0.00	-9.97	-364.31
96	97	124.03	0.00	-9.97	-348.61
97	97	124.03	0.00	-9.97	-348.61
97	98	125.60	0.00	-9.97	-332.91
98	98	125.60	0.00	-9.97	-332.91
98	99	127.18	0.00	-9.97	-317.21
99	99	127.18	0.00	-9.97	-317.21
99	100	128.75	0.00	-9.97	-301.51
100	100	128.75	0.00	-9.97	-301.51
100	101	130.33	0.00	-9.97	-285.80
101	101	130.33	0.00	-9.97	-285.80
101	102	131.90	0.00	-5.28	-274.85
102	102	131.90	0.00	-5.28	-274.85
102	103	133.48	0.00	-5.28	-266.54

IPF75B fisurada.xls Programa DINTEL IDEAM S.A. 28/08/01
IPF75B.Mz-

CÁLCULO TENSIONAL

Hipótesis de cálculo:
IPF75B.Mz-

Envolvente IPF75B.Mz-

[1; 1]SC1.ENV_TREN_GENERICO.MZ- + [1; 1]SC9.ENV_TREN_GENERICO.MZ- + [1; 1]TREN30.E

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
103	103	133.48	0.00	-5.28	-266.54
103	104	135.05	0.00	-5.28	-258.22
104	104	135.05	0.05	-5.28	-258.22
104	105	136.63	0.05	-5.28	-249.90
105	105	136.63	0.05	-5.28	-249.90
105	106	138.20	0.05	-5.28	-241.58
106	106	138.20	0.00	-5.28	-241.58
106	107	139.78	0.00	44.44	-270.51
107	107	139.78	0.00	44.44	-270.51
107	108	141.35	0.00	91.12	-373.57
108	108	141.35	0.00	91.12	-373.57
108	109	142.93	0.00	149.93	-567.88
109	109	142.93	0.00	149.93	-567.88
109	110	143.50	0.00	179.05	-661.82
110	110	143.50	0.00	179.05	-661.82
110	111	144.50	0.00	198.11	-849.90
111	1111	144.50	0.00	-170.44	-849.90
111	112	145.50	0.00	-142.59	-693.62
112	112	145.50	0.00	-142.59	-693.62
112	113	145.68	0.00	-119.35	-669.67
113	113	145.68	0.00	-119.35	-669.67
113	114	146.85	0.00	-81.17	-549.99
114	114	146.85	0.00	-81.17	-549.99
114	115	148.03	0.00	-29.78	-484.45
115	115	148.03	0.00	-29.78	-484.45
115	116	149.20	0.00	-24.23	-455.62
116	116	149.20	-0.28	-24.23	-455.62
116	117	150.38	-0.28	-24.23	-427.14
117	117	150.38	-0.28	-24.23	-427.14
117	118	151.55	-0.28	-24.23	-398.66
118	118	151.55	0.00	-24.23	-398.66
118	119	152.73	0.00	-24.23	-370.18
119	119	152.73	0.00	-24.23	-370.18
119	120	153.90	0.00	-24.23	-341.72
120	120	153.90	0.00	-24.23	-341.72
120	121	155.08	0.00	-24.23	-313.23
121	121	155.08	0.00	-24.23	-313.23
121	122	156.25	0.00	-24.23	-284.76
122	122	156.25	0.00	-24.23	-284.76
122	123	157.43	0.00	-24.23	-256.28
123	123	157.43	0.00	-24.23	-256.28
123	124	158.60	0.00	-24.23	-227.81
124	124	158.60	0.00	-24.23	-227.81
124	125	159.78	0.00	-24.23	-199.33
125	125	159.78	0.00	-24.23	-199.33
125	126	160.95	0.00	-24.23	-170.86
126	126	160.95	0.00	-24.23	-170.86
126	127	162.13	0.00	-24.23	-142.38
127	127	162.13	0.00	-24.23	-142.38
127	128	163.30	0.00	-24.23	-113.90
128	128	163.30	0.00	-24.23	-113.90

CÁLCULO TENSIONAL

Hipótesis de cálculo:

IPF75B.Mz-

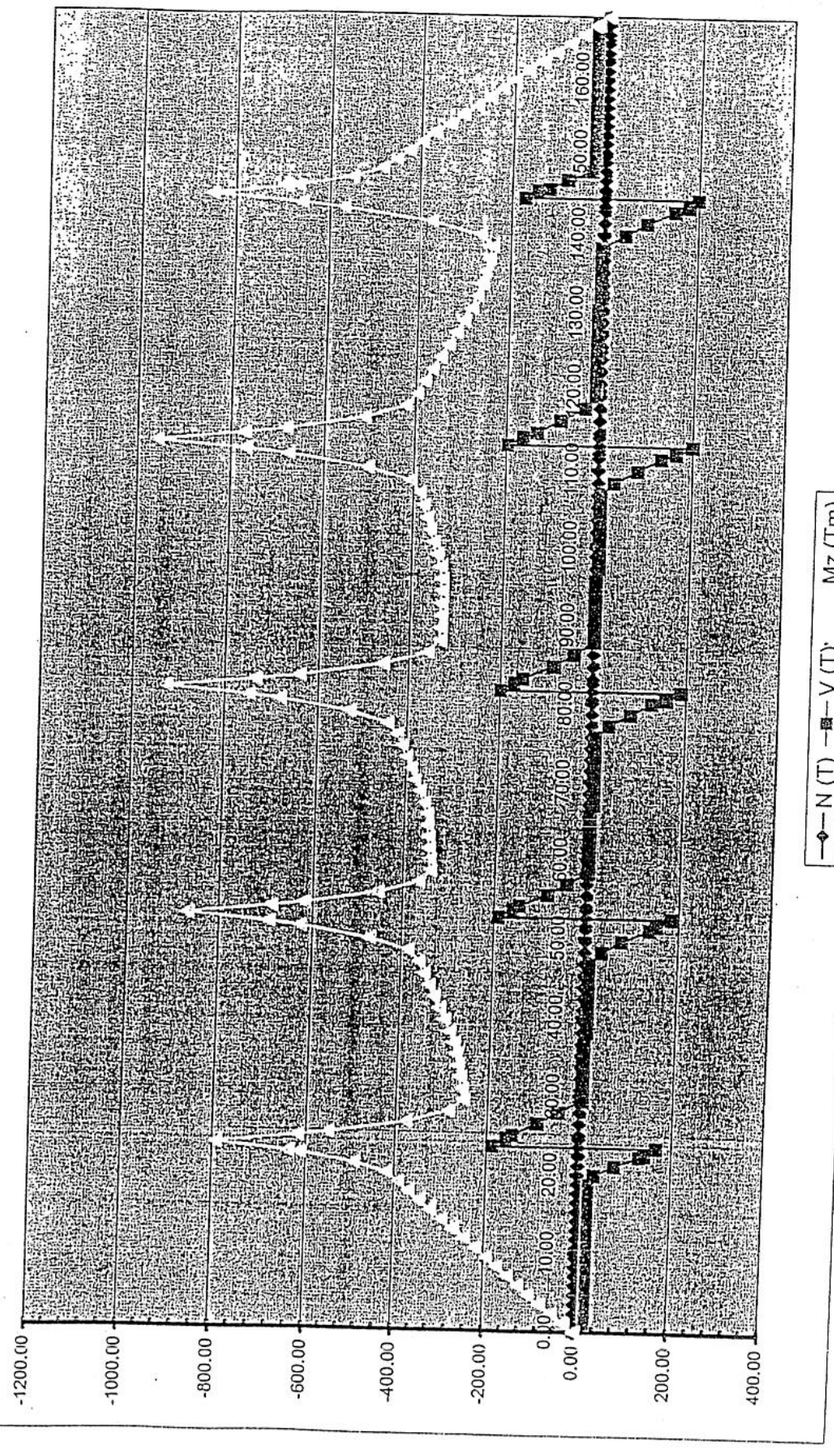
Envolvente IPF75B.Mz-

[1; 1]SC1.ENV_TREN_GENERICO.MZ- + [1; 1]SC9.ENV_TREN_GENERICO.MZ- + [1; 1)TREN30.E

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
128	129	164.48	0.00	-24.23	-85.42
129	129	164.48	0.00	-24.23	-85.42
129	130	165.65	0.00	-24.23	-56.96
130	130	165.65	0.00	-24.23	-56.96
130	131	166.83	0.00	-24.23	-28.47
131	131	166.83	0.00	-24.23	-28.47
131	132	167.00	0.00	-24.23	-24.23
132	132	167.00	0.00	-24.23	-24.23
132	133	168.00	0.00	0.00	0.00

GRÁFICO DE ESFUERZOS



CÁLCULO TENSIONAL

Hipótesis de cálculo:
IPF75B.VY+

Envolvente IPF75B.Vy+

[1; 1]SC1.ENV_TREN_GENERICO.VY+ + [1; 1]SC9.ENV_TREN_GENERICO.VY+ + [1; 1]TREN30.E

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
1	1	0.00	0.00	20.81	0.00
1	2	1.00	0.00	21.06	-16.06
2	2	1.00	0.00	21.06	-16.06
2	3	1.18	0.00	21.16	-17.96
3	3	1.18	0.00	21.16	-17.96
3	4	2.35	0.00	22.22	-24.59
4	4	2.35	0.00	22.22	-24.59
4	5	3.53	0.00	23.97	-22.37
5	5	3.53	0.00	23.97	-22.37
5	6	4.70	0.00	26.42	-13.72
6	6	4.70	0.00	26.42	-13.72
6	7	5.88	0.00	29.55	-1.07
7	7	5.88	0.00	29.55	-1.07
7	8	7.05	0.00	33.38	13.20
8	8	7.05	0.00	33.38	13.20
8	9	8.23	0.00	37.87	26.78
9	9	8.23	0.00	37.87	26.78
9	10	9.40	0.00	43.02	37.37
10	10	9.40	0.00	43.02	37.37
10	11	10.58	0.00	50.63	148.42
11	11	10.58	0.00	50.63	148.42
11	12	11.75	0.00	58.81	141.53
12	12	11.75	0.00	58.81	141.53
12	13	12.93	0.00	67.88	151.17
13	13	12.93	0.00	67.88	151.17
13	14	14.10	0.00	77.40	111.49
14	14	14.10	0.00	77.40	111.49
14	15	15.28	0.00	87.84	81.74
15	15	15.28	0.00	87.84	81.74
15	16	16.45	0.00	98.48	27.52
16	16	16.45	-1.17	98.48	27.52
16	17	17.63	-1.30	109.97	-53.15
17	17	17.63	-1.30	109.97	-53.15
17	18	18.80	-1.44	122.21	-154.29
18	18	18.80	0.00	122.21	-154.29
18	19	19.98	0.00	134.80	-277.63
19	19	19.98	0.00	134.80	-277.63
19	20	21.15	0.00	147.73	-423.71
20	20	21.15	0.00	147.73	-423.71
20	21	22.33	0.00	160.96	-593.11
21	21	22.33	0.00	160.96	-593.11
21	22	22.50	0.00	162.67	-620.38
22	22	22.50	0.00	162.67	-620.38
22	23	23.50	0.00	174.43	-785.55
23	1023	23.50	0.00	19.77	107.51
23	24	24.50	0.00	19.88	90.27
24	24	24.50	0.00	19.88	90.27
24	25	24.95	0.00	20.00	84.20
25	25	24.95	0.00	20.00	84.20
25	26	26.40	0.00	20.79	71.83
26	26	26.40	0.00	20.79	71.83

CÁLCULO TENSIONAL

Hipótesis de cálculo:
IPF75B.VY+

Envolvente IPF75B.Vy+

[1; 1]SC1.ENV_TREN_GENERICO.VY+ + [1; 1]SC9.ENV_TREN_GENERICO.VY+ + [1; 1]TREN30.E

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
26	27	27.85	0.00	22.21	69.50
27	27	27.85	0.00	22.21	69.50
27	28	29.30	0.00	24.29	75.50
28	28	29.30	0.24	24.29	75.50
28	29	30.75	0.26	27.09	87.78
29	29	30.75	0.26	27.09	87.78
29	30	32.20	0.30	30.62	104.00
30	30	32.20	0.00	30.62	104.00
30	31	33.65	0.00	34.95	121.59
31	31	33.65	0.00	34.95	121.59
31	32	35.10	0.00	40.25	194.78
32	32	35.10	0.00	40.25	194.78
32	33	36.55	0.00	47.23	219.07
33	33	36.55	0.00	47.23	219.07
33	34	38.00	0.00	55.34	236.55
34	34	38.00	0.00	55.34	236.55
34	35	39.45	0.00	64.01	237.72
35	35	39.45	0.00	64.01	237.72
35	36	40.90	0.00	74.24	273.90
36	36	40.90	0.00	74.24	273.90
36	37	42.35	0.00	85.79	223.22
37	37	42.35	0.00	85.79	223.22
37	38	43.80	0.00	98.33	155.09
38	38	43.80	-0.95	98.32	155.09
38	39	45.25	-1.07	111.86	81.64
39	39	45.25	-1.07	111.86	81.64
39	40	46.70	-1.20	125.77	-48.47
40	40	46.70	0.00	125.77	-48.47
40	41	48.15	0.00	140.61	-201.62
41	41	48.15	0.00	140.61	-201.62
41	42	49.60	0.00	156.34	-365.63
42	42	49.60	0.00	156.34	-365.63
42	43	51.05	0.00	172.32	-597.10
43	43	51.05	0.00	172.32	-597.10
43	44	51.50	0.00	176.69	-672.64
44	44	51.50	0.00	176.69	-672.64
44	45	52.50	0.00	189.87	-830.99
45	1045	52.50	0.00	25.12	177.80
45	46	53.50	0.00	25.23	155.23
46	46	53.50	0.00	25.23	155.23
46	47	53.95	0.00	25.35	146.80
47	47	53.95	0.00	25.35	146.80
47	48	55.40	0.00	26.15	126.93
48	48	55.40	0.00	26.15	126.93
48	49	56.85	0.00	27.58	117.38
49	49	56.85	0.00	27.58	117.38
49	50	58.30	0.00	29.68	116.42
50	50	58.30	0.28	29.68	116.42
50	51	59.75	0.31	32.49	121.92
51	51	59.75	0.31	32.49	121.92
51	52	61.20	0.34	36.05	131.47

CÁLCULO TENSIONAL

Hipótesis de cálculo:
IPF75B.VY+

Envolvente IPF75B.Vy+

[1; 1]SC1.ENV_TREN_GENERICO.VY+ + [1; 1]SC9.ENV_TREN_GENERICO.VY+ + [1; 1]TREN30.E

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
52	52	61.20	0.00	36.05	131.47
52	53	62.65	0.00	40.39	142.45
53	53	62.65	0.00	40.39	142.45
53	54	64.10	0.00	45.52	152.13
54	54	64.10	0.00	45.52	152.13
54	55	65.55	0.00	51.45	157.57
55	55	65.55	0.00	51.45	157.57
55	56	67.00	0.00	60.07	242.22
56	56	67.00	0.00	60.07	242.22
56	57	68.45	0.00	68.78	238.33
57	57	68.45	0.00	68.78	238.33
57	58	69.90	0.00	79.19	271.74
58	58	69.90	0.00	79.19	271.74
58	59	71.35	0.00	90.75	214.70
59	59	71.35	0.00	90.75	214.70
59	60	72.80	0.00	103.30	140.28
60	60	72.80	-1.00	103.30	140.28
60	61	74.25	-1.12	116.78	61.55
61	61	74.25	-1.12	116.78	61.55
61	62	75.70	-1.25	130.69	-75.32
62	62	75.70	0.00	130.70	-75.32
62	63	77.15	0.00	145.53	-235.21
63	63	77.15	0.00	145.53	-235.21
63	64	78.60	0.00	161.21	-404.91
64	64	78.60	0.00	161.21	-404.91
64	65	80.05	0.00	177.23	-643.88
65	65	80.05	0.00	177.23	-643.88
65	66	80.50	0.00	181.60	-721.60
66	66	80.50	0.00	181.60	-721.60
66	67	81.50	0.00	194.75	-884.07
67	1067	81.50	0.00	21.88	182.32
67	68	82.50	0.00	21.98	162.97
68	68	82.50	0.00	21.98	162.97
68	69	83.08	0.00	22.14	154.23
69	69	83.08	0.00	22.14	154.23
69	70	84.65	0.00	22.99	139.18
70	70	84.65	0.00	22.99	139.18
70	71	86.23	0.00	24.54	136.31
71	71	86.23	0.00	24.54	136.31
71	72	87.80	0.00	26.83	143.58
72	72	87.80	0.24	26.83	143.58
72	73	89.38	0.26	29.89	158.44
73	73	89.38	0.26	29.89	158.44
73	74	90.95	0.31	33.77	178.07
74	74	90.95	0.00	33.77	178.07
74	75	92.53	0.00	38.48	199.38
75	75	92.53	0.00	38.48	199.38
75	76	94.10	0.00	44.21	282.58
76	76	94.10	0.00	44.21	282.58
76	77	95.68	0.00	52.44	320.00
77	77	95.68	0.00	52.44	320.00

IPF75B fisurada.xls Programa DINTEL IDEAM S.A. 31/08/01
IPF75B.VY+

CÁLCULO TENSIONAL

Hipótesis de cálculo:
IPF75B.VY+

Envolvente IPF75B.Vy+

[1; 1]SC1.ENV_TREN_GENERICO.VY+ + [1; 1]SC9.ENV_TREN_GENERICO.VY+ + [1; 1]TREN30.E

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
77	78	97.25	0.00	60.83	335.17
78	78	97.25	0.00	60.83	335.17
78	79	98.83	0.00	70.84	342.65
79	79	98.83	0.00	70.84	342.65
79	80	100.40	0.00	81.93	330.85
80	80	100.40	0.00	81.93	330.85
80	81	101.98	0.00	94.06	295.41
81	81	101.98	0.00	94.06	295.41
81	82	103.55	0.00	107.30	257.32
82	82	103.55	-0.94	107.29	257.32
82	83	105.13	-1.08	121.83	155.89
83	83	105.13	-1.08	121.83	155.89
83	84	106.70	-1.21	137.27	18.44
84	84	106.70	0.00	137.27	18.44
84	85	108.28	0.00	153.57	-157.88
85	85	108.28	0.00	153.57	-157.88
85	86	109.85	0.00	170.62	-375.18
86	86	109.85	0.00	170.62	-375.18
86	87	111.43	0.00	188.33	-635.03
87	87	111.43	0.00	188.33	-635.03
87	88	112.00	0.00	194.41	-750.56
88	88	112.00	0.00	194.41	-750.56
88	89	113.00	0.00	206.96	-928.59
89	1089	113.00	0.00	14.78	138.30
89	90	114.00	0.00	14.88	126.09
90	90	114.00	0.00	14.88	126.09
90	91	114.58	0.00	15.05	121.48
91	91	114.58	0.00	15.05	121.48
91	92	116.15	0.00	15.95	117.91
92	92	116.15	0.00	15.95	117.91
92	93	117.73	0.00	17.55	126.66
93	93	117.73	0.00	17.55	126.66
93	94	119.30	0.00	19.92	145.58
94	94	119.30	0.18	19.92	145.58
94	95	120.88	0.21	23.10	172.00
95	95	120.88	0.21	23.10	172.00
95	96	122.45	0.24	27.12	202.89
96	96	122.45	0.00	27.12	202.89
96	97	124.03	0.00	32.01	235.03
97	97	124.03	0.00	32.01	235.03
97	98	125.60	0.00	38.67	316.14
98	98	125.60	0.00	38.67	316.14
98	99	127.18	0.00	47.39	365.19
99	99	127.18	0.00	47.39	365.19
99	100	128.75	0.00	56.02	387.74
100	100	128.75	0.00	56.02	387.74
100	101	130.33	0.00	66.30	401.77
101	101	130.33	0.00	66.30	401.77
101	102	131.90	0.00	77.65	395.58
102	102	131.90	0.00	77.65	395.58
102	103	133.48	0.00	90.04	364.94

CÁLCULO TENSIONAL

Hipótesis de cálculo:
IPF75B.VY+

Envolvente IPF75B.Vy+

[1; 1]SC1.ENV_TREN_GENERICO.VY+ + [1; 1]SC9.ENV_TREN_GENERICO.VY+ + [1; 1]TREN30.E

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
103	103	133.48	0.00	90.04	364.94
103	104	135.05	0.00	103.61	330.26
104	104	135.05	-0.92	103.61	330.26
104	105	136.63	-1.04	118.33	232.55
105	105	136.63	-1.04	118.33	232.55
105	106	138.20	-1.19	133.90	98.70
106	106	138.20	0.00	133.90	98.70
106	107	139.78	0.00	150.31	-73.95
107	107	139.78	0.00	150.31	-73.95
107	108	141.35	0.00	167.42	-287.11
108	108	141.35	0.00	167.42	-287.11
108	109	142.93	0.00	185.15	-542.22
109	109	142.93	0.00	185.15	-542.22
109	110	143.50	0.00	191.15	-639.28
110	110	143.50	0.00	191.15	-639.28
110	111	144.50	0.00	203.81	-831.34
111	1111	144.50	0.00	5.05	118.78
111	112	145.50	0.00	5.17	116.38
112	112	145.50	0.00	5.17	116.38
112	113	145.68	0.00	5.22	116.51
113	113	145.68	0.00	5.22	116.51
113	114	146.85	0.00	5.75	121.77
114	114	146.85	0.00	5.75	121.77
114	115	148.03	0.00	6.72	134.33
115	115	148.03	0.00	6.72	134.33
115	116	149.20	0.00	8.15	153.34
116	116	149.20	0.10	8.15	153.34
116	117	150.38	0.12	10.09	177.75
117	117	150.38	0.12	10.09	177.75
117	118	151.55	0.15	12.53	206.20
118	118	151.55	0.00	12.53	206.20
118	119	152.73	0.00	15.53	237.22
119	119	152.73	0.00	15.53	237.22
119	120	153.90	0.00	19.09	269.16
120	120	153.90	0.00	19.09	269.16
120	121	155.08	0.00	23.98	309.95
121	121	155.08	0.00	23.98	309.95
121	122	156.25	0.00	28.72	337.54
122	122	156.25	0.00	28.72	337.54
122	123	157.43	0.00	36.22	446.28
123	123	157.43	0.00	36.22	446.28
123	124	158.60	0.00	44.14	414.89
124	124	158.60	0.00	44.14	414.89
124	125	159.78	0.00	52.73	464.77
125	125	159.78	0.00	52.73	464.77
125	126	160.95	0.00	62.05	459.75
126	126	160.95	0.00	62.05	459.75
126	127	162.13	0.00	72.13	437.30
127	127	162.13	0.00	72.13	437.30
127	128	163.30	0.00	82.99	394.76
128	128	163.30	0.00	82.99	394.76

IPF75B fisurada.xls
Programa DINTEL IDEAM S.A.
IPF75B.VY+
31/08/01

CÁLCULO TENSIONAL

Hipótesis de cálculo:
IPF75B.VY+

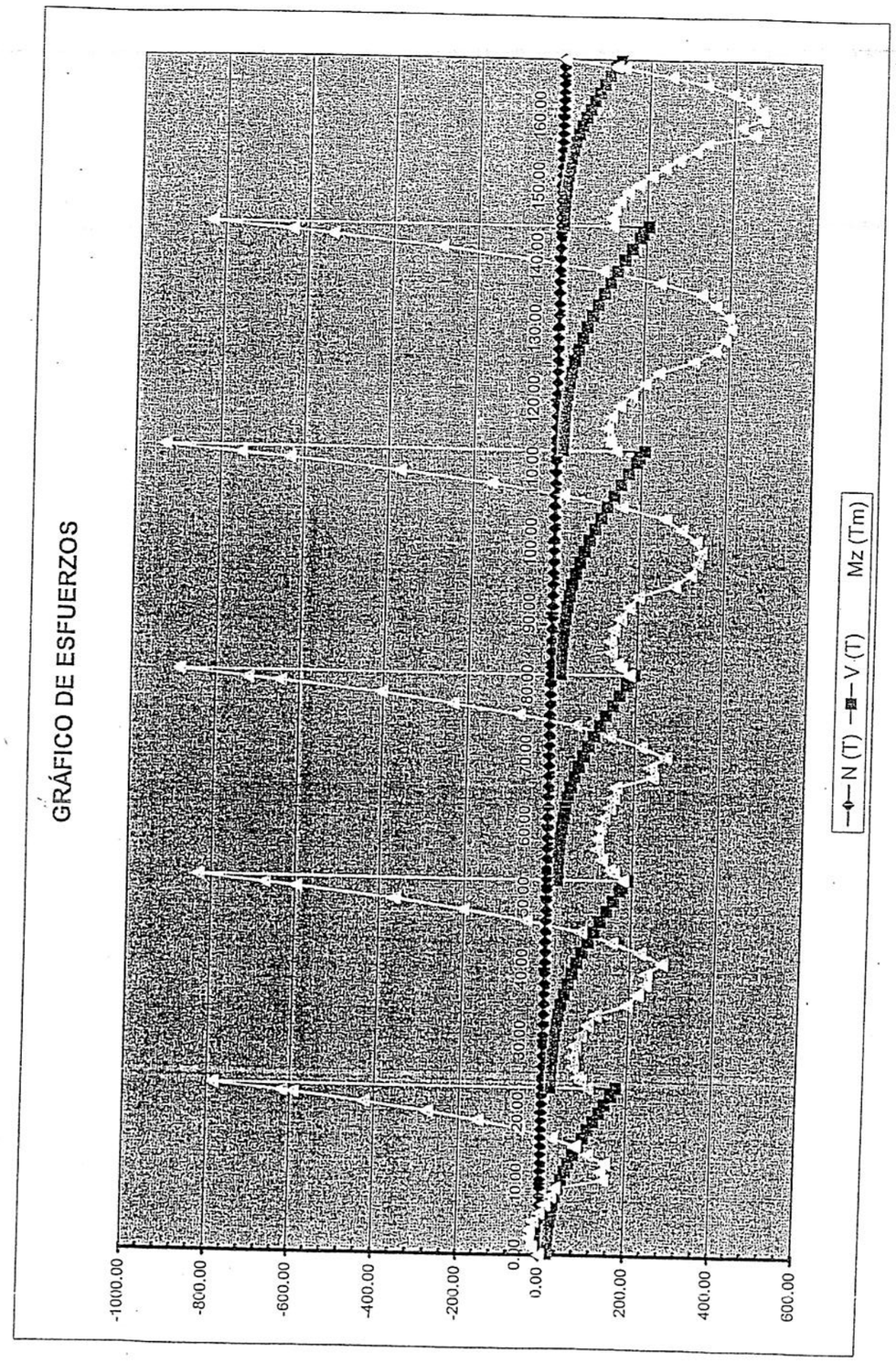
Envolvente IPF75B.Vy+

[1; 1]SC1.ENV_TREN_GENERICO.VY+ + [1; 1]SC9.ENV_TREN_GENERICO.VY+ + [1; 1]TREN30.E

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
128	129	164.48	0.00	94.40	332.75
129	129	164.48	0.00	94.40	332.75
129	130	165.65	0.00	106.32	249.84
130	130	165.65	0.00	106.32	249.84
130	131	166.83	0.00	118.97	139.80
131	131	166.83	0.00	118.97	139.80
131	132	167.00	0.00	121.01	120.99
132	132	167.00	0.00	121.01	120.99
132	133	168.00	0.00	132.38	0.00

GRÁFICO DE ESFUERZOS



CÁLCULO TENSIONAL

Hipótesis de cálculo:

IPF75B.VY-

Envolvente IPF75B.Vy-

[1; 1]SC1.ENV_TREN_GENERICO.VY- + [1; 1]SC9.ENV_TREN_GENERICO.VY- + [1; 1]TREN30.Er

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
1	1	0.00	0.00	-131.27	0.00
1	2	1.00	0.00	-119.91	119.91
2	2	1.00	0.00	-119.91	119.91
2	3	1.18	0.00	-117.87	138.50
3	3	1.18	0.00	-117.87	138.50
3	4	2.35	0.00	-105.21	247.26
4	4	2.35	0.00	-105.21	247.26
4	5	3.53	0.00	-93.32	328.94
5	5	3.53	0.00	-93.32	328.94
5	6	4.70	0.00	-81.94	389.81
6	6	4.70	0.00	-81.94	389.81
6	7	5.88	0.00	-71.10	431.29
7	7	5.88	0.00	-71.10	431.29
7	8	7.05	0.00	-61.06	452.81
8	8	7.05	0.00	-61.06	452.81
8	9	8.23	0.00	-51.78	457.07
9	9	8.23	0.00	-51.78	457.07
9	10	9.40	0.00	-43.46	408.50
10	10	9.40	0.00	-43.46	408.50
10	11	10.58	0.00	-35.38	437.36
11	11	10.58	0.00	-35.38	437.36
11	12	11.75	0.00	-28.63	336.25
12	12	11.75	0.00	-28.63	336.25
12	13	12.93	0.00	-22.69	293.28
13	13	12.93	0.00	-22.69	293.28
13	14	14.10	0.00	-18.60	262.23
14	14	14.10	0.00	-18.60	262.23
14	15	15.28	0.00	-14.91	227.73
15	15	15.28	0.00	-14.91	227.73
15	16	16.45	0.00	-11.95	196.70
16	16	16.45	0.14	-11.95	196.70
16	17	17.63	0.11	-9.54	168.19
17	17	17.63	0.11	-9.54	168.19
17	18	18.80	0.09	-7.64	143.67
18	18	18.80	0.00	-7.64	143.67
18	19	19.98	0.00	-6.23	124.40
19	19	19.98	0.00	-6.23	124.40
19	20	21.15	0.00	-5.26	111.49
20	20	21.15	0.00	-5.26	111.49
20	21	22.33	0.00	-4.73	105.76
21	21	22.33	0.00	-4.73	105.76
21	22	22.50	0.00	-4.68	105.55
22	22	22.50	0.00	-4.68	105.55
22	23	23.50	0.00	-4.57	107.50
23	1023	23.50	0.00	-191.13	-765.83
23	24	24.50	0.00	-177.89	-605.09
24	24	24.50	0.00	-177.89	-605.09
24	25	24.95	0.00	-173.51	-528.93
25	25	24.95	0.00	-173.51	-528.93
25	26	26.40	0.00	-157.55	-296.32
26	26	26.40	0.00	-157.55	-296.32

CÁLCULO TENSIONAL

Hipótesis de cálculo:
IPF75B.VY-

Envolvente IPF75B.Vy-

[1; 1]SC1.ENV_TREN_GENERICO.VY- + [1; 1]SC9.ENV_TREN_GENERICO.VY- + [1; 1]TREN30.Er

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
26	27	27.85	0.00	-141.67	-128.53
27	27	27.85	0.00	-141.67	-128.53
27	28	29.30	0.00	-126.80	26.56
28	28	29.30	-1.22	-126.79	26.56
28	29	30.75	-1.07	-112.84	158.42
29	29	30.75	-1.07	-112.84	158.42
29	30	32.20	-0.95	-99.10	235.17
30	30	32.20	0.00	-99.10	235.17
30	31	33.65	0.00	-86.46	304.89
31	31	33.65	0.00	-86.46	304.89
31	32	35.10	0.00	-74.82	356.67
32	32	35.10	0.00	-74.82	356.67
32	33	36.55	0.00	-64.02	320.24
33	33	36.55	0.00	-64.02	320.24
33	34	38.00	0.00	-55.13	318.77
34	34	38.00	0.00	-55.13	318.77
34	35	39.45	0.00	-46.23	293.70
35	35	39.45	0.00	-46.23	293.70
35	36	40.90	0.00	-38.95	225.01
36	36	40.90	0.00	-38.95	225.01
36	36	40.90	0.00	-38.95	225.01
36	37	42.35	0.00	-33.68	206.37
37	37	42.35	0.00	-33.68	206.37
37	38	43.80	0.00	-29.24	185.98
38	38	43.80	0.28	-29.24	185.98
38	39	45.25	0.24	-25.57	166.68
39	39	45.25	0.24	-25.57	166.68
39	40	46.70	0.22	-22.67	151.12
40	40	46.70	0.00	-22.67	151.12
40	41	48.15	0.00	-20.50	141.81
41	41	48.15	0.00	-20.50	141.81
41	42	49.60	0.00	-19.04	140.98
42	42	49.60	0.00	-19.04	140.98
42	43	51.05	0.00	-18.23	150.42
43	43	51.05	0.00	-18.23	150.42
43	44	51.50	0.00	-18.09	155.60
44	44	51.50	0.00	-18.09	155.60
44	45	52.50	0.00	-17.97	171.01
45	1045	52.50	0.00	-194.29	-832.93
45	46	53.50	0.00	-181.08	-669.88
46	46	53.50	0.00	-181.08	-669.88
46	47	53.95	0.00	-176.70	-592.33
47	47	53.95	0.00	-176.70	-592.33
47	48	55.40	0.00	-160.72	-354.66
48	48	55.40	0.00	-160.72	-354.66
48	49	56.85	0.00	-144.90	-183.92
49	49	56.85	0.00	-144.90	-183.92
49	50	58.30	0.00	-130.02	-24.60
50	50	58.30	-1.25	-130.02	-24.60
50	51	59.75	-1.11	-116.05	111.49
51	51	59.75	-1.11	-116.05	111.49
51	52	61.20	-0.99	-102.38	190.80

CÁLCULO TENSIONAL

Hipótesis de cálculo:
IPF75B.VY-

Envolvente IPF75B.Vy-

[1; 1]SC1.ENV_TREN_GENERICO.VY- + [1; 1]SC9.ENV_TREN_GENERICO.VY- + [1; 1]TREN30.Er

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
52	52	61.20	0.00	-102.38	190.80
52	53	62.65	0.00	-89.73	264.34
53	53	62.65	0.00	-89.73	264.34
53	54	64.10	0.00	-78.09	320.04
54	54	64.10	0.00	-78.09	320.04
54	55	65.55	0.00	-67.18	284.38
55	55	65.55	0.00	-67.18	284.38
55	56	67.00	0.00	-58.27	285.74
56	56	67.00	0.00	-58.27	285.74
56	57	68.45	0.00	-49.09	260.15
57	57	68.45	0.00	-49.09	260.15
57	58	69.90	0.00	-42.82	194.71
58	58	69.90	0.00	-42.82	194.71
58	59	71.35	0.00	-37.54	180.39
59	59	71.35	0.00	-37.54	180.39
59	60	72.80	0.00	-33.07	164.39
60	60	72.80	0.32	-33.07	164.39
60	61	74.25	0.29	-29.40	149.56
61	61	74.25	0.29	-29.40	149.56
61	62	75.70	0.26	-26.48	138.64
62	62	75.70	0.00	-26.48	138.64
62	63	77.15	0.00	-24.31	134.13
63	63	77.15	0.00	-24.31	134.13
63	64	78.60	0.00	-22.84	138.34
64	64	78.60	0.00	-22.84	138.34
64	65	80.05	0.00	-22.02	153.05
65	65	80.05	0.00	-22.02	153.05
65	66	80.50	0.00	-21.88	159.92
66	66	80.50	0.00	-21.88	159.92
66	67	81.50	0.00	-21.77	179.06
67	1067	81.50	0.00	-205.86	-901.52
67	68	82.50	0.00	-193.24	-723.21
68	68	82.50	0.00	-193.24	-723.21
68	69	83.08	0.00	-187.22	-609.39
69	69	83.08	0.00	-187.22	-609.39
69	70	84.65	0.00	-169.49	-351.11
70	70	84.65	0.00	-169.49	-351.11
70	71	86.23	0.00	-152.40	-135.11
71	71	86.23	0.00	-152.40	-135.11
71	72	87.80	0.00	-136.04	40.12
72	72	87.80	-1.19	-136.04	40.12
72	73	89.38	-1.06	-120.50	176.45
73	73	89.38	-1.06	-120.50	176.45
73	74	90.95	-0.93	-105.85	276.59
74	74	90.95	0.00	-105.86	276.59
74	75	92.53	0.00	-92.39	313.26
75	75	92.53	0.00	-92.39	313.26
75	76	94.10	0.00	-80.08	346.54
76	76	94.10	0.00	-80.08	346.54
76	77	95.68	0.00	-68.83	355.59
77	77	95.68	0.00	-68.83	355.59

CÁLCULO TENSIONAL

Hipótesis de cálculo:
IPF75B.VY-

Envolvente IPF75B.Vy-

[1; 1]SC1.ENV_TREN_GENERICO.VY- + [1; 1]SC9.ENV_TREN_GENERICO.VY- + [1; 1]TREN30.Er

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
77	78	97.25	0.00	-58.63	344.69
78	78	97.25	0.00	-58.63	344.69
78	79	98.83	0.00	-50.08	325.60
79	79	98.83	0.00	-50.08	325.60
79	80	100.40	0.00	-41.44	280.25
80	80	100.40	0.00	-41.44	280.25
80	81	101.98	0.00	-35.40	199.77
81	81	101.98	0.00	-35.40	199.77
81	82	103.55	0.00	-30.57	172.77
82	82	103.55	0.26	-30.57	172.77
82	83	105.13	0.23	-26.60	147.19
83	83	105.13	0.23	-26.60	147.19
83	84	106.70	0.21	-23.44	126.22
84	84	106.70	0.00	-23.45	126.22
84	85	108.28	0.00	-21.10	112.84
85	85	108.28	0.00	-21.10	112.84
85	86	109.85	0.00	-19.51	109.69
86	86	109.85	0.00	-19.51	109.69
86	87	111.43	0.00	-18.63	118.91
87	87	111.43	0.00	-18.63	118.91
87	88	112.00	0.00	-18.46	125.58
88	88	112.00	0.00	-18.46	125.58
88	89	113.00	0.00	-18.36	141.37
89	1089	113.00	0.00	-204.08	-927.78
89	90	114.00	0.00	~~-191.56~~	-752.76
90	90	114.00	0.00	-191.56	-752.76
90	91	114.58	0.00	-185.45	-638.78
91	91	114.58	0.00	-185.45	-638.78
91	92	116.15	0.00	-167.75	-383.42
92	92	116.15	0.00	-167.75	-383.42
92	93	117.73	0.00	-150.71	-170.63
93	93	117.73	0.00	-150.71	-170.63
93	94	119.30	0.00	-134.45	1.25
94	94	119.30	-1.18	-134.44	1.25
94	95	120.88	-1.05	-119.05	134.38
95	95	120.88	-1.05	-119.05	134.38
95	96	122.45	-0.92	-104.56	231.65
96	96	122.45	0.00	-104.57	231.65
96	97	124.03	0.00	-91.50	266.29
97	97	124.03	0.00	-91.50	266.29
97	98	125.60	0.00	-79.45	298.38
98	98	125.60	0.00	-79.45	298.38
98	99	127.18	0.00	-68.48	307.28
99	99	127.18	0.00	-68.48	307.28
99	100	128.75	0.00	-58.60	297.35
100	100	128.75	0.00	-58.60	297.35
100	101	130.33	0.00	-50.31	279.97
101	101	130.33	0.00	-50.31	279.97
101	102	131.90	0.00	-41.92	174.82
102	102	131.90	0.00	-41.92	174.82
102	103	133.48	0.00	-36.40	152.72

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CÁLCULO TENSIONAL

Hipótesis de cálculo:
IPF75B.VY-

Envolvente IPF75B.Vy-

[1; 1]SC1.ENV_TREN_GENERICO.VY- + [1; 1]SC9.ENV_TREN_GENERICO.VY- + [1; 1]TREN30.Er

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
103	103	133.48	0.00	-36.40	152.72
103	104	135.05	0.00	-31.74	129.17
104	104	135.05	0.28	-31.74	129.17
104	105	136.63	0.25	-27.92	107.37
105	105	136.63	0.25	-27.92	107.37
105	106	138.20	0.22	-24.91	90.33
106	106	138.20	0.00	-24.91	90.33
106	107	139.78	0.00	-22.67	80.79
107	107	139.78	0.00	-22.67	80.79
107	108	141.35	0.00	-21.14	81.19
108	108	141.35	0.00	-21.14	81.19
108	109	142.93	0.00	-20.29	93.52
109	109	142.93	0.00	-20.29	93.52
109	110	143.50	0.00	-20.13	101.25
110	110	143.50	0.00	-20.13	101.25
110	111	144.50	0.00	-20.03	118.78
111	1111	144.50	0.00	-176.65	-837.85
111	112	145.50	0.00	-164.86	-669.90
112	112	145.50	0.00	-164.86	-669.90
112	113	145.68	0.00	-163.16	-642.26
113	113	145.68	0.00	-163.16	-642.26
113	114	146.85	0.00	-149.92	-469.92
114	114	146.85	0.00	-149.92	-469.92
114	115	148.03	0.00	-136.98	-321.10
115	115	148.03	0.00	-136.98	-321.10
115	116	149.20	0.00	-124.40	-195.28
116	116	149.20	-1.47	-124.39	-195.28
116	117	150.38	-1.32	-112.17	-91.89
117	117	150.38	-1.32	-112.17	-91.89
117	118	151.55	-1.19	-100.70	-9.08
118	118	151.55	0.00	-100.71	-9.08
118	119	152.73	0.00	-90.10	47.23
119	119	152.73	0.00	-90.10	47.23
119	120	153.90	0.00	-79.78	77.80
120	120	153.90	0.00	-79.78	77.80
120	121	155.08	0.00	-70.26	120.48
121	121	155.08	0.00	-70.26	120.48
121	122	156.25	0.00	-61.37	111.58
122	122	156.25	0.00	-61.37	111.58
122	123	157.43	0.00	-53.20	121.23
123	123	157.43	0.00	-53.20	121.23
123	124	158.60	0.00	-46.22	7.29
124	124	158.60	0.00	-46.22	7.29
124	125	159.78	0.00	-41.12	0.05
125	125	159.78	0.00	-41.12	0.05
125	126	160.95	0.00	-36.67	-10.00
126	126	160.95	0.00	-36.67	-10.00
126	127	162.13	0.00	-32.89	-20.64
127	127	162.13	0.00	-32.89	-20.64
127	128	163.30	0.00	-29.78	-29.52
128	128	163.30	0.00	-29.78	-29.52

CÁLCULO TENSIONAL

Hipótesis de cálculo:
IPF75B.VY-

Envolvente IPF75B.Vy-

[1; 1]SC1.ENV_TREN_GENERICO.VY- + [1; 1]SC9.ENV_TREN_GENERICO.VY- + [1; 1]TREN30.Er

Coef. exc:

Barra	Nudo	X	N (T)	Vy (T)	Mz (Tm)
128	129	164.48	0.00	-27.35	-34.31
129	129	164.48	0.00	-27.35	-34.31
129	130	165.65	0.00	-25.62	-32.60
130	130	165.65	0.00	-25.62	-32.60
130	131	166.83	0.00	-24.58	-21.99
131	131	166.83	0.00	-24.58	-21.99
131	132	167.00	0.00	-24.49	-19.49
132	132	167.00	0.00	-24.49	-19.49
132	133	168.00	0.00	-24.23	0.00

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