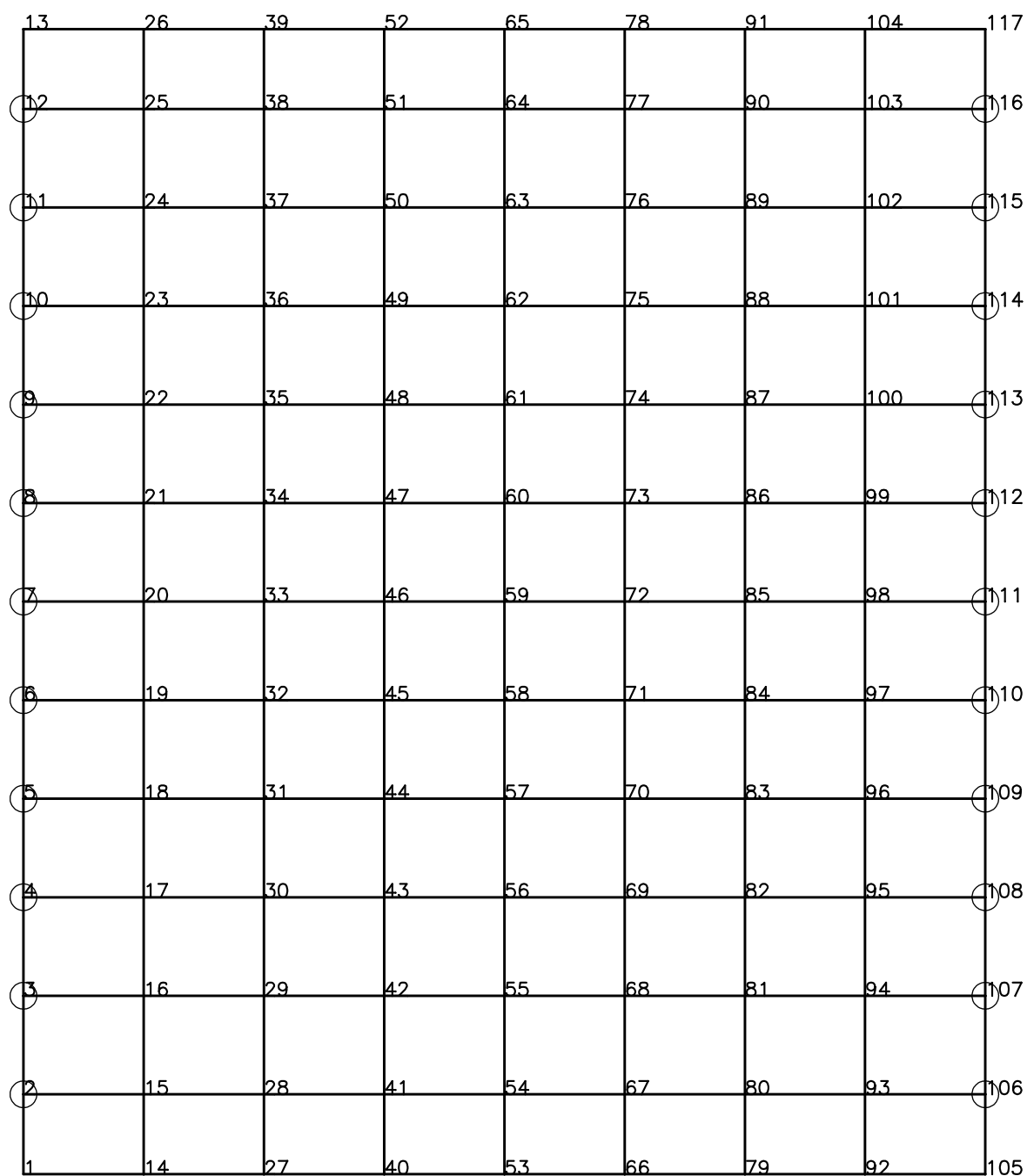


CÁLCULO DEL TABLERO ACTUAL



MODELO EMPARRILLADO TABLERO ACTUAL
NUMERACIÓN DE NUDOS

	97	98	99	100	101	102	103	104	
116	128	140	152	164	176	188	200	212	
89	90	91	92	93	94	95	96		
115	127	139	151	163	175	187	199	211	
81	82	83	84	85	86	87	88		
114	126	138	150	162	174	186	198	210	
73	74	75	76	77	78	79	80		
113	125	137	149	161	173	185	197	209	
65	66	67	68	69	70	71	72		
112	124	136	148	160	172	184	196	208	
57	58	59	60	61	62	63	64		
111	123	135	147	159	171	183	195	207	
49	50	51	52	53	54	55	56		
110	122	134	146	158	170	182	194	206	
41	42	43	44	45	46	47	48		
109	121	133	145	157	169	181	193	205	
33	34	35	36	37	38	39	40		
108	120	132	144	156	168	180	192	204	
25	26	27	28	29	30	31	32		
107	119	131	143	155	167	179	191	203	
17	18	19	20	21	22	23	24		
106	118	130	142	154	166	178	190	202	
9	10	11	12	13	14	15	16		
105	117	129	141	153	165	177	189	201	
1	2	3	4	5	6	7	8		

MODELO EMPARRILLADO TABLERO ACTUAL
NUMERACIÓN DE BARRAS

	81	82	83	84	85	86	87	88	
	73	74	75	76	77	78	79	80	
	65	66	67	68	69	70	71	72	
	57	58	59	60	61	62	63	64	
	49	50	51	52	53	54	55	56	
	41	42	43	44	45	46	47	48	
	33	34	35	36	37	38	39	40	
	25	26	27	28	29	30	31	32	
	17	18	19	20	21	22	23	24	
	9	10	11	12	13	14	15	16	
	1	2	3	4	5	6	7	8	

MODELO EMPARRILLADO TABLERO ACTUAL
 NUMERACIÓN DE TRAMOS DE VIGAS

Calculo automatico de Emparrillados

Cliente : Ayuntamiento de Zaragoza

Obra : Puente calle Alcalde Caballero

Fecha : 11/12/2013

Hora : 17:27

1.- [Datos de la Estructura](#)

2.- [Datos del Emparrillado](#)

2.1.- [Datos de Nudos](#)

2.2.- [Datos de Barras](#)

3.- [Datos de Tramos de Vigas](#)

4.- [Envolvente de esfuerzos](#)

4.1.- [Cortantes](#)

4.2.- [Momentos](#)

5.- [Env. Momentos barras transversales](#)

5.1.- [Cortantes](#)

5.2.- [Momentos](#)

6.- [Envolvente de reacciones](#)

Datos de la Estructura

Luz de cálculo (m)	:	14.450
Ancho (m)	:	17.200
Esviaje (g)	:	100.000
Dist. Eje Viga a Ext. Losa (m)	:	1.200
Ancho de las aceras (m)	:	1.600
Dist. Eje Barrera a Ext. Losa (m)	:	0.100
Espesor de la losa (m)	:	0.250
Espesor riostras (m)	:	0.300

Datos de las Vigas

Viga	Tipo	Canto (m)	Area (m²)	Peso (t/m)	Va (m)	Inercia (m4)	Intereje (m)
1	NERVIO_40_128	1.280	0.512000	1.2800	0.6400	0.069905	1.480
2	NERVIO_40_128	1.280	0.512000	1.2800	0.6400	0.069905	1.480
3	NERVIO_40_128	1.280	0.512000	1.2800	0.6400	0.069905	1.480
4	NERVIO_40_128	1.280	0.512000	1.2800	0.6400	0.069905	1.480
5	NERVIO_40_128	1.280	0.512000	1.2800	0.6400	0.069905	1.480
6	NERVIO_40_128	1.280	0.512000	1.2800	0.6400	0.069905	1.480

7	NERVIO_40_128	1.280	0.512000	1.2800	0.6400	0.069905	1.480
8	NERVIO_40_128	1.280	0.512000	1.2800	0.6400	0.069905	1.480
9	NERVIO_40_128	1.280	0.512000	1.2800	0.6400	0.069905	1.480
10	NERVIO_40_128	1.280	0.512000	1.2800	0.6400	0.069905	1.480
11	NERVIO_40_128	1.280	0.512000	1.2800	0.6400	0.069905	

Acciones sobre estructura

Peso pavimento (t/m ²)	:	0.120
Coeficiente valor inferior	:	1.000
Coeficiente valor superior	:	1.500
Peso Aceras (t/m ²)	:	0.250
Peso Barrera (t/m)	:	0.200
Sobrecarga uso tipo	:	Eurocódigo 1
Número de carriles	:	4.000
Ancho carril	:	3.000
Distancia acera - carril inferior (m)	:	0.000
Distancia acera - carril superior (m)	:	0.000
Peso total Tandem (t)	:	20.000
Distancia de la rueda a la acera (m)	:	0.500
Carga lineal carril (t/m)	:	0.300
Sobrecarga uniforme en aceras (t/m ²)	:	0.500
Coeficiente tandem carril 1	:	3.000
Coeficiente tandem carril 2	:	2.000
Coeficiente tandem carril 3	:	1.000
Coeficiente tandem resto carriles	:	0.000
Coeficiente S.C. Uniforme carril 1	:	9.000
Coeficiente S.C. Uniforme carril 2	:	2.500
Coeficiente S.C. Uniforme carril 3	:	2.500
Coeficiente S.C. Uniforme resto carriles	:	2.500

Coeficientes parciales de seguridad

Acciones	E.L.U.		E.L.S.	
	Favorable	Desfavorable	Favorable	Desfavorable
Peso Propio	1.00	1.35	1.00	1.00
Carga permanente	1.00	1.35	1.00	1.00
Sobrecarga	0.00	1.35	0.00	1.00
Sobrecarga Térmica	0.00	1.50	0.00	1.00
Acciones reológicas	0.00	1.50	0.00	1.00
Pretensado	1.00	1.00	0.95	1.05

Datos del Emparrillado

Datos de Nudos

Nudo	X (m)	Y (m)
1	0.000	0.000
2	-0.000	1.200
3	-0.000	2.680

4	-0.000	4.160
5	-0.000	5.640
6	-0.000	7.120
7	-0.000	8.600
8	-0.000	10.080
9	-0.000	11.560
10	-0.000	13.040
11	-0.000	14.520
12	-0.000	16.000
13	-0.000	17.200
14	1.806	0.000
15	1.806	1.200
16	1.806	2.680
17	1.806	4.160
18	1.806	5.640
19	1.806	7.120
20	1.806	8.600
21	1.806	10.080
22	1.806	11.560
23	1.806	13.040
24	1.806	14.520
25	1.806	16.000
26	1.806	17.200
27	3.612	0.000
28	3.612	1.200
29	3.612	2.680
30	3.612	4.160
31	3.612	5.640
32	3.612	7.120
33	3.612	8.600
34	3.612	10.080
35	3.612	11.560
36	3.612	13.040
37	3.612	14.520
38	3.612	16.000
39	3.612	17.200
40	5.419	0.000
41	5.419	1.200
42	5.419	2.680
43	5.419	4.160
44	5.419	5.640
45	5.419	7.120
46	5.419	8.600
47	5.419	10.080
48	5.419	11.560
49	5.419	13.040
50	5.419	14.520
51	5.419	16.000
52	5.419	17.200
53	7.225	0.000
54	7.225	1.200
55	7.225	2.680
56	7.225	4.160
57	7.225	5.640

58	7.225	7.120
59	7.225	8.600
60	7.225	10.080
61	7.225	11.560
62	7.225	13.040
63	7.225	14.520
64	7.225	16.000
65	7.225	17.200
66	9.031	0.000
67	9.031	1.200
68	9.031	2.680
69	9.031	4.160
70	9.031	5.640
71	9.031	7.120
72	9.031	8.600
73	9.031	10.080
74	9.031	11.560
75	9.031	13.040
76	9.031	14.520
77	9.031	16.000
78	9.031	17.200
79	10.837	0.000
80	10.837	1.200
81	10.837	2.680
82	10.837	4.160
83	10.837	5.640
84	10.837	7.120
85	10.837	8.600
86	10.837	10.080
87	10.837	11.560
88	10.837	13.040
89	10.837	14.520
90	10.837	16.000
91	10.837	17.200
92	12.644	0.000
93	12.644	1.200
94	12.644	2.680
95	12.644	4.160
96	12.644	5.640
97	12.644	7.120
98	12.644	8.600
99	12.644	10.080
100	12.644	11.560
101	12.644	13.040
102	12.644	14.520
103	12.644	16.000
104	12.644	17.200
105	14.450	0.000
106	14.450	1.200
107	14.450	2.680
108	14.450	4.160
109	14.450	5.640
110	14.450	7.120

111	14.450	8.600
112	14.450	10.080
113	14.450	11.560
114	14.450	13.040
115	14.450	14.520
116	14.450	16.000
117	14.450	17.200

Datos de Apoyos

Nudo	Cte. Elástica (t/m)
2	0.00
3	0.00
4	0.00
5	0.00
6	0.00
7	0.00
8	0.00
9	0.00
10	0.00
11	0.00
12	0.00
106	0.00
107	0.00
108	0.00
109	0.00
110	0.00
111	0.00
112	0.00
113	0.00
114	0.00
115	0.00
116	0.00

Datos de Barras

Barra	Nudo I	Nudo J	Ancho (m)	Inercia (m4)	Inercia a torsion (m4)	Area (m²)
1	1	14	0.600	0.000781	0.001153	0.150000
2	14	27	0.600	0.000781	0.001153	0.150000
3	27	40	0.600	0.000781	0.001153	0.150000
4	40	53	0.600	0.000781	0.001153	0.150000
5	53	66	0.600	0.000781	0.001153	0.150000
6	66	79	0.600	0.000781	0.001153	0.150000
7	79	92	0.600	0.000781	0.001153	0.150000
8	92	105	0.600	0.000781	0.001153	0.150000
9	2	15	1.340	0.194259	0.025014	0.847000
10	15	28	1.340	0.194259	0.025014	0.847000
11	28	41	1.340	0.194259	0.025014	0.847000
12	41	54	1.340	0.194259	0.025014	0.847000
13	54	67	1.340	0.194259	0.025014	0.847000
14	67	80	1.340	0.194259	0.025014	0.847000
15	80	93	1.340	0.194259	0.025014	0.847000
16	93	106	1.340	0.194259	0.025014	0.847000

17	3	16	1.480	0.197529	0.025379	0.882000
18	16	29	1.480	0.197529	0.025379	0.882000
19	29	42	1.480	0.197529	0.025379	0.882000
20	42	55	1.480	0.197529	0.025379	0.882000
21	55	68	1.480	0.197529	0.025379	0.882000
22	68	81	1.480	0.197529	0.025379	0.882000
23	81	94	1.480	0.197529	0.025379	0.882000
24	94	107	1.480	0.197529	0.025379	0.882000
25	4	17	1.480	0.197529	0.025379	0.882000
26	17	30	1.480	0.197529	0.025379	0.882000
27	30	43	1.480	0.197529	0.025379	0.882000
28	43	56	1.480	0.197529	0.025379	0.882000
29	56	69	1.480	0.197529	0.025379	0.882000
30	69	82	1.480	0.197529	0.025379	0.882000
31	82	95	1.480	0.197529	0.025379	0.882000
32	95	108	1.480	0.197529	0.025379	0.882000
33	5	18	1.480	0.197529	0.025379	0.882000
34	18	31	1.480	0.197529	0.025379	0.882000
35	31	44	1.480	0.197529	0.025379	0.882000
36	44	57	1.480	0.197529	0.025379	0.882000
37	57	70	1.480	0.197529	0.025379	0.882000
38	70	83	1.480	0.197529	0.025379	0.882000
39	83	96	1.480	0.197529	0.025379	0.882000
40	96	109	1.480	0.197529	0.025379	0.882000
41	6	19	1.480	0.197529	0.025379	0.882000
42	19	32	1.480	0.197529	0.025379	0.882000
43	32	45	1.480	0.197529	0.025379	0.882000
44	45	58	1.480	0.197529	0.025379	0.882000
45	58	71	1.480	0.197529	0.025379	0.882000
46	71	84	1.480	0.197529	0.025379	0.882000
47	84	97	1.480	0.197529	0.025379	0.882000
48	97	110	1.480	0.197529	0.025379	0.882000
49	7	20	1.480	0.197529	0.025379	0.882000
50	20	33	1.480	0.197529	0.025379	0.882000
51	33	46	1.480	0.197529	0.025379	0.882000
52	46	59	1.480	0.197529	0.025379	0.882000
53	59	72	1.480	0.197529	0.025379	0.882000
54	72	85	1.480	0.197529	0.025379	0.882000
55	85	98	1.480	0.197529	0.025379	0.882000
56	98	111	1.480	0.197529	0.025379	0.882000
57	8	21	1.480	0.197529	0.025379	0.882000
58	21	34	1.480	0.197529	0.025379	0.882000
59	34	47	1.480	0.197529	0.025379	0.882000
60	47	60	1.480	0.197529	0.025379	0.882000
61	60	73	1.480	0.197529	0.025379	0.882000
62	73	86	1.480	0.197529	0.025379	0.882000
63	86	99	1.480	0.197529	0.025379	0.882000
64	99	112	1.480	0.197529	0.025379	0.882000
65	9	22	1.480	0.197529	0.025379	0.882000
66	22	35	1.480	0.197529	0.025379	0.882000
67	35	48	1.480	0.197529	0.025379	0.882000
68	48	61	1.480	0.197529	0.025379	0.882000
69	61	74	1.480	0.197529	0.025379	0.882000
70	74	87	1.480	0.197529	0.025379	0.882000

71	87	100	1.480	0.197529	0.025379 0.882000
72	100	113	1.480	0.197529	0.025379 0.882000
73	10	23	1.480	0.197529	0.025379 0.882000
74	23	36	1.480	0.197529	0.025379 0.882000
75	36	49	1.480	0.197529	0.025379 0.882000
76	49	62	1.480	0.197529	0.025379 0.882000
77	62	75	1.480	0.197529	0.025379 0.882000
78	75	88	1.480	0.197529	0.025379 0.882000
79	88	101	1.480	0.197529	0.025379 0.882000
80	101	114	1.480	0.197529	0.025379 0.882000
81	11	24	1.480	0.197529	0.025379 0.882000
82	24	37	1.480	0.197529	0.025379 0.882000
83	37	50	1.480	0.197529	0.025379 0.882000
84	50	63	1.480	0.197529	0.025379 0.882000
85	63	76	1.480	0.197529	0.025379 0.882000
86	76	89	1.480	0.197529	0.025379 0.882000
87	89	102	1.480	0.197529	0.025379 0.882000
88	102	115	1.480	0.197529	0.025379 0.882000
89	12	25	1.340	0.194259	0.025014 0.847000
90	25	38	1.340	0.194259	0.025014 0.847000
91	38	51	1.340	0.194259	0.025014 0.847000
92	51	64	1.340	0.194259	0.025014 0.847000
93	64	77	1.340	0.194259	0.025014 0.847000
94	77	90	1.340	0.194259	0.025014 0.847000
95	90	103	1.340	0.194259	0.025014 0.847000
96	103	116	1.340	0.194259	0.025014 0.847000
97	13	26	0.600	0.000781	0.001153 0.150000
98	26	39	0.600	0.000781	0.001153 0.150000
99	39	52	0.600	0.000781	0.001153 0.150000
100	52	65	0.600	0.000781	0.001153 0.150000
101	65	78	0.600	0.000781	0.001153 0.150000
102	78	91	0.600	0.000781	0.001153 0.150000
103	91	104	0.600	0.000781	0.001153 0.150000
104	104	117	0.600	0.000781	0.001153 0.150000
105	1	2	0.903	0.136813	0.013703 0.609781
106	2	3	0.903	0.136813	0.013703 0.609781
107	3	4	0.903	0.136813	0.013703 0.609781
108	4	5	0.903	0.136813	0.013703 0.609781
109	5	6	0.903	0.136813	0.013703 0.609781
110	6	7	0.903	0.136813	0.013703 0.609781
111	7	8	0.903	0.136813	0.013703 0.609781
112	8	9	0.903	0.136813	0.013703 0.609781
113	9	10	0.903	0.136813	0.013703 0.609781
114	10	11	0.903	0.136813	0.013703 0.609781
115	11	12	0.903	0.136813	0.013703 0.609781
116	12	13	0.903	0.136813	0.013703 0.609781
117	14	15	1.806	0.002352	0.004704 0.451562
118	15	16	1.806	0.002352	0.004704 0.451562
119	16	17	1.806	0.002352	0.004704 0.451562
120	17	18	1.806	0.002352	0.004704 0.451563
121	18	19	1.806	0.002352	0.004704 0.451563
122	19	20	1.806	0.002352	0.004704 0.451563
123	20	21	1.806	0.002352	0.004704 0.451563
124	21	22	1.806	0.002352	0.004704 0.451563

125	22	23	1.806	0.002352	0.004704 0.451563
126	23	24	1.806	0.002352	0.004704 0.451563
127	24	25	1.806	0.002352	0.004704 0.451563
128	25	26	1.806	0.002352	0.004704 0.451563
129	27	28	1.806	0.002352	0.004704 0.451562
130	28	29	1.806	0.002352	0.004704 0.451562
131	29	30	1.806	0.002352	0.004704 0.451562
132	30	31	1.806	0.002352	0.004704 0.451562
133	31	32	1.806	0.002352	0.004704 0.451562
134	32	33	1.806	0.002352	0.004704 0.451562
135	33	34	1.806	0.002352	0.004704 0.451562
136	34	35	1.806	0.002352	0.004704 0.451562
137	35	36	1.806	0.002352	0.004704 0.451562
138	36	37	1.806	0.002352	0.004704 0.451562
139	37	38	1.806	0.002352	0.004704 0.451562
140	38	39	1.806	0.002352	0.004704 0.451562
141	40	41	1.806	0.002352	0.004704 0.451562
142	41	42	1.806	0.002352	0.004704 0.451562
143	42	43	1.806	0.002352	0.004704 0.451562
144	43	44	1.806	0.002352	0.004704 0.451562
145	44	45	1.806	0.002352	0.004704 0.451562
146	45	46	1.806	0.002352	0.004704 0.451562
147	46	47	1.806	0.002352	0.004704 0.451562
148	47	48	1.806	0.002352	0.004704 0.451562
149	48	49	1.806	0.002352	0.004704 0.451562
150	49	50	1.806	0.002352	0.004704 0.451562
151	50	51	1.806	0.002352	0.004704 0.451562
152	51	52	1.806	0.002352	0.004704 0.451562
153	53	54	1.806	0.002352	0.004704 0.451562
154	54	55	1.806	0.002352	0.004704 0.451562
155	55	56	1.806	0.002352	0.004704 0.451562
156	56	57	1.806	0.002352	0.004704 0.451562
157	57	58	1.806	0.002352	0.004704 0.451562
158	58	59	1.806	0.002352	0.004704 0.451562
159	59	60	1.806	0.002352	0.004704 0.451562
160	60	61	1.806	0.002352	0.004704 0.451562
161	61	62	1.806	0.002352	0.004704 0.451562
162	62	63	1.806	0.002352	0.004704 0.451562
163	63	64	1.806	0.002352	0.004704 0.451562
164	64	65	1.806	0.002352	0.004704 0.451562
165	66	67	1.806	0.002352	0.004704 0.451562
166	67	68	1.806	0.002352	0.004704 0.451562
167	68	69	1.806	0.002352	0.004704 0.451562
168	69	70	1.806	0.002352	0.004704 0.451562
169	70	71	1.806	0.002352	0.004704 0.451562
170	71	72	1.806	0.002352	0.004704 0.451562
171	72	73	1.806	0.002352	0.004704 0.451562
172	73	74	1.806	0.002352	0.004704 0.451562
173	74	75	1.806	0.002352	0.004704 0.451562
174	75	76	1.806	0.002352	0.004704 0.451562
175	76	77	1.806	0.002352	0.004704 0.451562
176	77	78	1.806	0.002352	0.004704 0.451562
177	79	80	1.806	0.002352	0.004704 0.451562
178	80	81	1.806	0.002352	0.004704 0.451562

179	81	82	1.806	0.002352	0.004704	0.451562
180	82	83	1.806	0.002352	0.004704	0.451562
181	83	84	1.806	0.002352	0.004704	0.451562
182	84	85	1.806	0.002352	0.004704	0.451562
183	85	86	1.806	0.002352	0.004704	0.451562
184	86	87	1.806	0.002352	0.004704	0.451562
185	87	88	1.806	0.002352	0.004704	0.451562
186	88	89	1.806	0.002352	0.004704	0.451562
187	89	90	1.806	0.002352	0.004704	0.451562
188	90	91	1.806	0.002352	0.004704	0.451562
189	92	93	1.806	0.002352	0.004704	0.451563
190	93	94	1.806	0.002352	0.004704	0.451563
191	94	95	1.806	0.002352	0.004704	0.451563
192	95	96	1.806	0.002352	0.004704	0.451563
193	96	97	1.806	0.002352	0.004704	0.451563
194	97	98	1.806	0.002352	0.004704	0.451563
195	98	99	1.806	0.002352	0.004704	0.451563
196	99	100	1.806	0.002352	0.004704	0.451563
197	100	101	1.806	0.002352	0.004704	0.451563
198	101	102	1.806	0.002352	0.004704	0.451562
199	102	103	1.806	0.002352	0.004704	0.451562
200	103	104	1.806	0.002352	0.004704	0.451562
201	105	106	0.903	0.136813	0.013703	0.609781
202	106	107	0.903	0.136813	0.013703	0.609781
203	107	108	0.903	0.136813	0.013703	0.609781
204	108	109	0.903	0.136813	0.013703	0.609781
205	109	110	0.903	0.136813	0.013703	0.609781
206	110	111	0.903	0.136813	0.013703	0.609781
207	111	112	0.903	0.136813	0.013703	0.609781
208	112	113	0.903	0.136813	0.013703	0.609781
209	113	114	0.903	0.136813	0.013703	0.609781
210	114	115	0.903	0.136813	0.013703	0.609781
211	115	116	0.903	0.136813	0.013703	0.609781
212	116	117	0.903	0.136813	0.013703	0.609781

Datos de Tramos de Vigas

Tramo	Viga	Ancho (m)	Canto (m)	Area (m²)	Va (m)	Vb (m)	Inercia (m4)	Inercia a torsion (m4)
1	1	1.940	1.530	0.9970	0.2679	1.0121	0.218191	0.026577
2	1	1.940	1.530	0.9970	0.2679	1.0121	0.218191	0.026577
3	1	1.940	1.530	0.9970	0.2679	1.0121	0.218191	0.026577
4	1	1.940	1.530	0.9970	0.2679	1.0121	0.218191	0.026577
5	1	1.940	1.530	0.9970	0.2679	1.0121	0.218191	0.026577
6	1	1.940	1.530	0.9970	0.2679	1.0121	0.218191	0.026577
7	1	1.940	1.530	0.9970	0.2679	1.0121	0.218191	0.026577
8	1	1.940	1.530	0.9970	0.2679	1.0121	0.218191	0.026577
9	2	1.480	1.530	0.8820	0.3191	0.9609	0.197529	0.025379
10	2	1.480	1.530	0.8820	0.3191	0.9609	0.197529	0.025379
11	2	1.480	1.530	0.8820	0.3191	0.9609	0.197529	0.025379
12	2	1.480	1.530	0.8820	0.3191	0.9609	0.197529	0.025379
13	2	1.480	1.530	0.8820	0.3191	0.9609	0.197529	0.025379
14	2	1.480	1.530	0.8820	0.3191	0.9609	0.197529	0.025379

[illegible]

69	9	1.480	1.530	0.8820	0.3191	0.9609	0.197529	0.025379
70	9	1.480	1.530	0.8820	0.3191	0.9609	0.197529	0.025379
71	9	1.480	1.530	0.8820	0.3191	0.9609	0.197529	0.025379
72	9	1.480	1.530	0.8820	0.3191	0.9609	0.197529	0.025379
73	10	1.480	1.530	0.8820	0.3191	0.9609	0.197529	0.025379
74	10	1.480	1.530	0.8820	0.3191	0.9609	0.197529	0.025379
75	10	1.480	1.530	0.8820	0.3191	0.9609	0.197529	0.025379
76	10	1.480	1.530	0.8820	0.3191	0.9609	0.197529	0.025379
77	10	1.480	1.530	0.8820	0.3191	0.9609	0.197529	0.025379
78	10	1.480	1.530	0.8820	0.3191	0.9609	0.197529	0.025379
79	10	1.480	1.530	0.8820	0.3191	0.9609	0.197529	0.025379
80	10	1.480	1.530	0.8820	0.3191	0.9609	0.197529	0.025379
81	11	1.940	1.530	0.9970	0.2679	1.0121	0.218191	0.026577
82	11	1.940	1.530	0.9970	0.2679	1.0121	0.218191	0.026577
83	11	1.940	1.530	0.9970	0.2679	1.0121	0.218191	0.026577
84	11	1.940	1.530	0.9970	0.2679	1.0121	0.218191	0.026577
85	11	1.940	1.530	0.9970	0.2679	1.0121	0.218191	0.026577
86	11	1.940	1.530	0.9970	0.2679	1.0121	0.218191	0.026577
87	11	1.940	1.530	0.9970	0.2679	1.0121	0.218191	0.026577
88	11	1.940	1.530	0.9970	0.2679	1.0121	0.218191	0.026577

Envolvente de esfuerzos (Estados límites de servicio)

Cortantes

Viga	Tramo	Peso Propio Tablero	C.P. MAX.	C.P. MIN.	S.C. MAX.	S.C. MIN.	Tandem MAX.	Tandem MIN.	Carril MAX.	Carril MIN.	TOTAL MAX.	TOTAL MIN.
1	1	-18.01	-3.59	-3.85	0.00	-3.83	0.40	-11.55	0.15	-3.98	-21.04	-41.22
-	-	-13.51	-3.59	-3.85	0.00	-3.83	0.40	-11.55	0.15	-3.98	-16.54	-36.72
1	2	-13.51	-2.45	-2.65	0.00	-2.54	0.43	-10.25	0.13	-3.10	-15.39	-32.05
-	-	-9.00	-2.45	-2.65	0.00	-2.54	0.43	-10.25	0.13	-3.10	-10.89	-27.55
1	3	-9.00	-1.41	-1.54	0.00	-1.43	1.70	-8.28	0.09	-1.97	-8.62	-22.22
-	-	-4.50	-1.41	-1.54	0.00	-1.43	1.70	-8.28	0.09	-1.97	-4.12	-17.72
1	4	-4.50	-0.46	-0.50	0.00	-0.46	3.71	-6.06	0.03	-0.67	-1.22	-12.20
-	-	-0.00	-0.46	-0.50	0.00	-0.46	3.71	-6.06	0.03	-0.67	3.29	-7.69
1	5	-0.00	0.50	0.46	0.46	0.00	6.06	-3.71	0.67	-0.03	7.69	-3.29
-	-	4.50	0.50	0.46	0.46	0.00	6.06	-3.71	0.67	-0.03	12.20	1.22
1	6	4.50	1.54	1.41	1.43	0.00	8.28	-1.70	1.97	-0.09	17.72	4.12
-	-	9.00	1.54	1.41	1.43	0.00	8.28	-1.70	1.97	-0.09	22.22	8.62
1	7	9.00	2.65	2.45	2.54	0.00	10.25	-0.43	3.10	-0.13	27.55	10.89
-	-	13.51	2.65	2.45	2.54	0.00	10.25	-0.43	3.10	-0.13	32.05	15.39
1	8	13.51	3.85	3.59	3.83	0.00	11.55	-0.40	3.98	-0.15	36.72	16.54
-	-	18.01	3.85	3.59	3.83	0.00	11.55	-0.40	3.98	-0.15	41.22	21.04
2	9	-15.93	-1.66	-2.11	0.00	-1.12	0.16	-18.95	0.07	-6.04	-17.37	-44.15
-	-	-11.95	-1.66	-2.11	0.00	-1.12	0.16	-18.95	0.07	-6.04	-13.38	-40.17
2	10	-11.95	-1.31	-1.62	0.00	-0.98	3.52	-15.24	0.06	-4.00	-9.68	-33.79
-	-	-7.97	-1.31	-1.62	0.00	-0.98	3.52	-15.24	0.06	-4.00	-5.70	-29.81
2	11	-7.97	-0.85	-1.04	0.00	-0.68	6.79	-12.95	0.04	-2.27	-2.00	-24.90
-	-	-3.98	-0.85	-1.04	0.00	-0.68	6.79	-12.95	0.04	-2.27	1.99	-20.92
2	12	-3.98	-0.30	-0.36	0.00	-0.24	8.83	-10.90	0.01	-0.74	4.56	-16.22
-	-	-0.00	-0.30	-0.36	0.00	-0.24	8.83	-10.90	0.01	-0.74	8.54	-12.23
2	13	-0.00	0.36	0.30	0.24	0.00	10.90	-8.83	0.74	-0.01	12.23	-8.54
-	-	3.98	0.36	0.30	0.24	0.00	10.90	-8.83	0.74	-0.01	16.22	-4.56

2	14	3.98	1.04	0.85	0.68	0.00	12.95	-6.79	2.27	-0.04	20.92	-1.99
-	-	7.97	1.04	0.85	0.68	0.00	12.95	-6.79	2.27	-0.04	24.90	2.00
2	15	7.97	1.62	1.31	0.98	0.00	15.24	-3.52	4.00	-0.06	29.81	5.70
-	-	11.95	1.62	1.31	0.98	0.00	15.24	-3.52	4.00	-0.06	33.79	9.68
2	16	11.95	2.11	1.66	1.12	0.00	18.95	-0.16	6.04	-0.07	40.17	13.38
-	-	15.93	2.11	1.66	1.12	0.00	18.95	-0.16	6.04	-0.07	44.15	17.37
3	17	-15.93	-1.20	-1.73	0.00	-0.26	0.13	-23.81	0.06	-6.16	-16.94	-47.89
-	-	-11.95	-1.20	-1.73	0.00	-0.26	0.13	-23.81	0.06	-6.16	-12.96	-43.90
3	18	-11.95	-0.86	-1.24	0.00	-0.22	4.12	-19.33	0.05	-4.08	-8.63	-36.81
-	-	-7.97	-0.86	-1.24	0.00	-0.22	4.12	-19.33	0.05	-4.08	-4.65	-32.83
3	19	-7.97	-0.52	-0.74	0.00	-0.15	8.37	-16.55	0.03	-2.32	-0.08	-27.73
-	-	-3.98	-0.52	-0.74	0.00	-0.15	8.37	-16.55	0.03	-2.32	3.90	-23.74
3	20	-3.98	-0.17	-0.25	0.00	-0.05	11.30	-14.04	0.01	-0.75	7.15	-19.07
-	-	-0.00	-0.17	-0.25	0.00	-0.05	11.30	-14.04	0.01	-0.75	11.14	-15.09
3	21	-0.00	0.25	0.17	0.05	-0.00	14.04	-11.30	0.75	-0.01	15.09	-11.14
-	-	3.98	0.25	0.17	0.05	-0.00	14.04	-11.30	0.75	-0.01	19.07	-7.15
3	22	3.98	0.74	0.52	0.15	-0.00	16.55	-8.37	2.32	-0.03	23.74	-3.90
-	-	7.97	0.74	0.52	0.15	-0.00	16.55	-8.37	2.32	-0.03	27.73	0.08
3	23	7.97	1.24	0.86	0.22	-0.00	19.33	-4.12	4.08	-0.05	32.83	4.65
-	-	11.95	1.24	0.86	0.22	-0.00	19.33	-4.12	4.08	-0.05	36.81	8.63
3	24	11.95	1.73	1.20	0.26	-0.00	23.81	-0.13	6.16	-0.06	43.90	12.96
-	-	15.93	1.73	1.20	0.26	-0.00	23.81	-0.13	6.16	-0.06	47.89	16.94
4	25	-15.93	-1.07	-1.63	0.03	0.00	0.13	-23.82	0.06	-6.16	-16.78	-47.53
-	-	-11.95	-1.07	-1.63	0.03	0.00	0.13	-23.82	0.06	-6.16	-12.80	-43.55
4	26	-11.95	-0.75	-1.15	0.03	0.00	4.08	-19.30	0.05	-4.10	-8.54	-36.51
-	-	-7.97	-0.75	-1.15	0.03	0.00	4.08	-19.30	0.05	-4.10	-4.56	-32.53
4	27	-7.97	-0.45	-0.69	0.02	0.00	8.31	-16.46	0.03	-2.34	-0.05	-27.46
-	-	-3.98	-0.45	-0.69	0.02	0.00	8.31	-16.46	0.03	-2.34	3.94	-23.47
4	28	-3.98	-0.15	-0.23	0.01	0.00	11.20	-13.91	0.01	-0.76	7.09	-18.89
-	-	-0.00	-0.15	-0.23	0.01	0.00	11.20	-13.91	0.01	-0.76	11.07	-14.91
4	29	-0.00	0.23	0.15	0.00	-0.01	13.91	-11.20	0.76	-0.01	14.91	-11.07
-	-	3.98	0.23	0.15	0.00	-0.01	13.91	-11.20	0.76	-0.01	18.89	-7.09
4	30	3.98	0.69	0.45	0.00	-0.02	16.46	-8.31	2.34	-0.03	23.47	-3.94
-	-	7.97	0.69	0.45	0.00	-0.02	16.46	-8.31	2.34	-0.03	27.46	0.05
4	31	7.97	1.15	0.75	0.00	-0.03	19.30	-4.08	4.10	-0.05	32.53	4.56
-	-	11.95	1.15	0.75	0.00	-0.03	19.30	-4.08	4.10	-0.05	36.51	8.54
4	32	11.95	1.63	1.07	0.00	-0.03	23.82	-0.13	6.16	-0.06	43.55	12.80
-	-	15.93	1.63	1.07	0.00	-0.03	23.82	-0.13	6.16	-0.06	47.53	16.78
5	33	-15.93	-1.06	-1.63	0.08	0.00	0.09	-24.18	0.05	-6.23	-16.77	-47.97
-	-	-11.95	-1.06	-1.63	0.08	0.00	0.09	-24.18	0.05	-6.23	-12.78	-43.99
5	34	-11.95	-0.75	-1.15	0.07	0.00	4.19	-19.56	0.04	-4.14	-8.40	-36.80
-	-	-7.97	-0.75	-1.15	0.07	0.00	4.19	-19.56	0.04	-4.14	-4.41	-32.82
5	35	-7.97	-0.45	-0.69	0.05	0.00	8.52	-16.69	0.03	-2.36	0.19	-27.71
-	-	-3.98	-0.45	-0.69	0.05	0.00	8.52	-16.69	0.03	-2.36	4.17	-23.72
5	36	-3.98	-0.15	-0.23	0.02	0.00	11.44	-14.15	0.01	-0.77	7.34	-19.13
-	-	-0.00	-0.15	-0.23	0.02	0.00	11.44	-14.15	0.01	-0.77	11.32	-15.15
5	37	-0.00	0.23	0.15	0.00	-0.02	14.15	-11.44	0.77	-0.01	15.15	-11.32
-	-	3.98	0.23	0.15	0.00	-0.02	14.15	-11.44	0.77	-0.01	19.13	-7.34
5	38	3.98	0.69	0.45	0.00	-0.05	16.69	-8.52	2.36	-0.03	23.72	-4.17
-	-	7.97	0.69	0.45	0.00	-0.05	16.69	-8.52	2.36	-0.03	27.71	-0.19
5	39	7.97	1.15	0.75	0.00	-0.07	19.56	-4.19	4.14	-0.04	32.82	4.41
-	-	11.95	1.15	0.75	0.00	-0.07	19.56	-4.19	4.14	-0.04	36.80	8.40
5	40	11.95	1.63	1.06	0.00	-0.08	24.18	-0.09	6.23	-0.05	43.99	12.78
-	-	15.93	1.63	1.06	0.00	-0.08	24.18	-0.09	6.23	-0.05	47.97	16.77

6	41	-15.93	-1.07	-1.64	0.09	0.00	0.00	-23.64	0.04	-6.15	-16.87	-47.36
-	-	-11.95	-1.07	-1.64	0.09	0.00	0.00	-23.64	0.04	-6.15	-12.89	-43.37
6	42	-11.95	-0.76	-1.16	0.07	0.00	4.02	-19.16	0.04	-4.10	-8.57	-36.37
-	-	-7.97	-0.76	-1.16	0.07	0.00	4.02	-19.16	0.04	-4.10	-4.59	-32.39
6	43	-7.97	-0.45	-0.69	0.05	0.00	8.24	-16.33	0.03	-2.35	-0.10	-27.34
-	-	-3.98	-0.45	-0.69	0.05	0.00	8.24	-16.33	0.03	-2.35	3.88	-23.36
6	44	-3.98	-0.15	-0.23	0.02	0.00	11.12	-13.81	0.01	-0.76	7.02	-18.79
-	-	-0.00	-0.15	-0.23	0.02	0.00	11.12	-13.81	0.01	-0.76	11.00	-14.81
6	45	0.00	0.23	0.15	0.00	-0.02	13.81	-11.12	0.76	-0.01	14.81	-11.00
-	-	3.98	0.23	0.15	0.00	-0.02	13.81	-11.12	0.76	-0.01	18.79	-7.02
6	46	3.98	0.69	0.45	0.00	-0.05	16.33	-8.24	2.35	-0.03	23.36	-3.88
-	-	7.97	0.69	0.45	0.00	-0.05	16.33	-8.24	2.35	-0.03	27.34	0.10
6	47	7.97	1.16	0.76	0.00	-0.07	19.16	-4.02	4.10	-0.04	32.39	4.59
-	-	11.95	1.16	0.76	0.00	-0.07	19.16	-4.02	4.10	-0.04	36.37	8.57
6	48	11.95	1.64	1.07	0.00	-0.09	23.64	0.00	6.15	-0.04	43.37	12.89
-	-	15.93	1.64	1.07	0.00	-0.09	23.64	0.00	6.15	-0.04	47.36	16.87
7	49	-15.93	-1.06	-1.63	0.08	0.00	0.09	-24.18	0.05	-6.23	-16.77	-47.97
-	-	-11.95	-1.06	-1.63	0.08	0.00	0.09	-24.18	0.05	-6.23	-12.78	-43.99
7	50	-11.95	-0.75	-1.15	0.07	0.00	4.19	-19.56	0.04	-4.14	-8.40	-36.80
-	-	-7.97	-0.75	-1.15	0.07	0.00	4.19	-19.56	0.04	-4.14	-4.41	-32.82
7	51	-7.97	-0.45	-0.69	0.05	0.00	8.52	-16.69	0.03	-2.36	0.19	-27.71
-	-	-3.98	-0.45	-0.69	0.05	0.00	8.52	-16.69	0.03	-2.36	4.17	-23.72
7	52	-3.98	-0.15	-0.23	0.02	0.00	11.44	-14.15	0.01	-0.77	7.34	-19.13
-	-	0.00	-0.15	-0.23	0.02	0.00	11.44	-14.15	0.01	-0.77	11.32	-15.15
7	53	0.00	0.23	0.15	0.00	-0.02	14.15	-11.44	0.77	-0.01	15.15	-11.32
-	-	3.98	0.23	0.15	0.00	-0.02	14.15	-11.44	0.77	-0.01	19.13	-7.34
7	54	3.98	0.69	0.45	0.00	-0.05	16.69	-8.52	2.36	-0.03	23.72	-4.17
-	-	7.97	0.69	0.45	0.00	-0.05	16.69	-8.52	2.36	-0.03	27.71	-0.19
7	55	7.97	1.15	0.75	0.00	-0.07	19.56	-4.19	4.14	-0.04	32.82	4.41
-	-	11.95	1.15	0.75	0.00	-0.07	19.56	-4.19	4.14	-0.04	36.80	8.40
7	56	11.95	1.63	1.06	0.00	-0.08	24.18	-0.09	6.23	-0.05	43.99	12.78
-	-	15.93	1.63	1.06	0.00	-0.08	24.18	-0.09	6.23	-0.05	47.97	16.77
8	57	-15.93	-1.07	-1.63	0.03	0.00	0.13	-23.82	0.06	-6.16	-16.78	-47.53
-	-	-11.95	-1.07	-1.63	0.03	0.00	0.13	-23.82	0.06	-6.16	-12.80	-43.55
8	58	-11.95	-0.75	-1.15	0.03	0.00	4.08	-19.30	0.05	-4.10	-8.54	-36.51
-	-	-7.97	-0.75	-1.15	0.03	0.00	4.08	-19.30	0.05	-4.10	-4.56	-32.53
8	59	-7.97	-0.45	-0.69	0.02	0.00	8.31	-16.46	0.03	-2.34	-0.05	-27.46
-	-	-3.98	-0.45	-0.69	0.02	0.00	8.31	-16.46	0.03	-2.34	3.94	-23.47
8	60	-3.98	-0.15	-0.23	0.01	0.00	11.20	-13.91	0.01	-0.76	7.09	-18.89
-	-	0.00	-0.15	-0.23	0.01	0.00	11.20	-13.91	0.01	-0.76	11.07	-14.91
8	61	0.00	0.23	0.15	0.00	-0.01	13.91	-11.20	0.76	-0.01	14.91	-11.07
-	-	3.98	0.23	0.15	0.00	-0.01	13.91	-11.20	0.76	-0.01	18.89	-7.09
8	62	3.98	0.69	0.45	0.00	-0.02	16.46	-8.31	2.34	-0.03	23.47	-3.94
-	-	7.97	0.69	0.45	0.00	-0.02	16.46	-8.31	2.34	-0.03	27.46	0.05
8	63	7.97	1.15	0.75	0.00	-0.03	19.30	-4.08	4.10	-0.05	32.53	4.56
-	-	11.95	1.15	0.75	0.00	-0.03	19.30	-4.08	4.10	-0.05	36.51	8.54
8	64	11.95	1.63	1.07	0.00	-0.03	23.82	-0.13	6.16	-0.06	43.55	12.80
-	-	15.93	1.63	1.07	0.00	-0.03	23.82	-0.13	6.16	-0.06	47.53	16.78
9	65	-15.93	-1.20	-1.73	0.00	-0.26	0.13	-23.81	0.06	-6.16	-16.94	-47.89
-	-	-11.95	-1.20	-1.73	0.00	-0.26	0.13	-23.81	0.06	-6.16	-12.96	-43.90
9	66	-11.95	-0.86	-1.24	0.00	-0.22	4.12	-19.33	0.05	-4.08	-8.63	-36.81
-	-	-7.97	-0.86	-1.24	0.00	-0.22	4.12	-19.33	0.05	-4.08	-4.65	-32.83
9	67	-7.97	-0.52	-0.74	0.00	-0.15	8.37	-16.55	0.03	-2.32	-0.08	-27.73
-	-	-3.98	-0.52	-0.74	0.00	-0.15	8.37	-16.55	0.03	-2.32	3.90	-23.74

9	68	-3.98	-0.17	-0.25	0.00	-0.05	11.30	-14.04	0.01	-0.75	7.15	-19.07
-	-	0.00	-0.17	-0.25	0.00	-0.05	11.30	-14.04	0.01	-0.75	11.14	-15.09
9	69	0.00	0.25	0.17	0.05	-0.00	14.04	-11.30	0.75	-0.01	15.09	-11.14
-	-	3.98	0.25	0.17	0.05	-0.00	14.04	-11.30	0.75	-0.01	19.07	-7.15
9	70	3.98	0.74	0.52	0.15	-0.00	16.55	-8.37	2.32	-0.03	23.74	-3.90
-	-	7.97	0.74	0.52	0.15	-0.00	16.55	-8.37	2.32	-0.03	27.73	0.08
9	71	7.97	1.24	0.86	0.22	-0.00	19.33	-4.12	4.08	-0.05	32.83	4.65
-	-	11.95	1.24	0.86	0.22	-0.00	19.33	-4.12	4.08	-0.05	36.81	8.63
9	72	11.95	1.73	1.20	0.26	-0.00	23.81	-0.13	6.16	-0.06	43.90	12.96
-	-	15.93	1.73	1.20	0.26	-0.00	23.81	-0.13	6.16	-0.06	47.89	16.94
10	73	-15.93	-1.66	-2.11	0.00	-1.12	0.16	-18.95	0.07	-6.04	-17.37	-44.15
-	-	-11.95	-1.66	-2.11	0.00	-1.12	0.16	-18.95	0.07	-6.04	-13.38	-40.17
10	74	-11.95	-1.31	-1.62	0.00	-0.98	3.52	-15.24	0.06	-4.00	-9.68	-33.79
-	-	-7.97	-1.31	-1.62	0.00	-0.98	3.52	-15.24	0.06	-4.00	-5.70	-29.81
10	75	-7.97	-0.85	-1.04	0.00	-0.68	6.79	-12.95	0.04	-2.27	-2.00	-24.90
-	-	-3.98	-0.85	-1.04	0.00	-0.68	6.79	-12.95	0.04	-2.27	1.99	-20.92
10	76	-3.98	-0.30	-0.36	0.00	-0.24	8.83	-10.90	0.01	-0.74	4.56	-16.22
-	-	0.00	-0.30	-0.36	0.00	-0.24	8.83	-10.90	0.01	-0.74	8.54	-12.23
10	77	0.00	0.36	0.30	0.24	0.00	10.90	-8.83	0.74	-0.01	12.23	-8.54
-	-	3.98	0.36	0.30	0.24	0.00	10.90	-8.83	0.74	-0.01	16.22	-4.56
10	78	3.98	1.04	0.85	0.68	0.00	12.95	-6.79	2.27	-0.04	20.92	-1.99
-	-	7.97	1.04	0.85	0.68	0.00	12.95	-6.79	2.27	-0.04	24.90	2.00
10	79	7.97	1.62	1.31	0.98	0.00	15.24	-3.52	4.00	-0.06	29.81	5.70
-	-	11.95	1.62	1.31	0.98	0.00	15.24	-3.52	4.00	-0.06	33.79	9.68
10	80	11.95	2.11	1.66	1.12	0.00	18.95	-0.16	6.04	-0.07	40.17	13.38
-	-	15.93	2.11	1.66	1.12	0.00	18.95	-0.16	6.04	-0.07	44.15	17.37
11	81	-18.01	-3.59	-3.85	0.00	-3.83	0.40	-11.55	0.15	-3.98	-21.04	-41.22
-	-	-13.51	-3.59	-3.85	0.00	-3.83	0.40	-11.55	0.15	-3.98	-16.54	-36.72
11	82	-13.51	-2.45	-2.65	0.00	-2.54	0.43	-10.25	0.13	-3.10	-15.39	-32.05
-	-	-9.00	-2.45	-2.65	0.00	-2.54	0.43	-10.25	0.13	-3.10	-10.89	-27.55
11	83	-9.00	-1.41	-1.54	0.00	-1.43	1.70	-8.28	0.09	-1.97	-8.62	-22.22
-	-	-4.50	-1.41	-1.54	0.00	-1.43	1.70	-8.28	0.09	-1.97	-4.12	-17.72
11	84	-4.50	-0.46	-0.50	0.00	-0.46	3.71	-6.06	0.03	-0.67	-1.22	-12.20
-	-	0.00	-0.46	-0.50	0.00	-0.46	3.71	-6.06	0.03	-0.67	3.29	-7.69
11	85	0.00	0.50	0.46	0.46	0.00	6.06	-3.71	0.67	-0.03	7.69	-3.29
-	-	4.50	0.50	0.46	0.46	0.00	6.06	-3.71	0.67	-0.03	12.20	1.22
11	86	4.50	1.54	1.41	1.43	0.00	8.28	-1.70	1.97	-0.09	17.72	4.12
-	-	9.00	1.54	1.41	1.43	0.00	8.28	-1.70	1.97	-0.09	22.22	8.62
11	87	9.00	2.65	2.45	2.54	0.00	10.25	-0.43	3.10	-0.13	27.55	10.89
-	-	13.51	2.65	2.45	2.54	0.00	10.25	-0.43	3.10	-0.13	32.05	15.39
11	88	13.51	3.85	3.59	3.83	0.00	11.55	-0.40	3.98	-0.15	36.72	16.54
-	-	18.01	3.85	3.59	3.83	0.00	11.55	-0.40	3.98	-0.15	41.22	21.04

Momentos

Viga	Tramo	Peso Propio Tablero	C.P. MAX.	C.P. MIN.	S.C. MAX.	S.C. MIN.	Tandem MAX.	Tandem MIN.	Carril MAX.	Carril MIN.	TOTAL MAX.	TOTAL MIN.
1	1	-0.00	-0.47	-0.53	0.00	-0.74	1.92	-0.02	0.73	-0.16	2.17	-1.44
-	-	28.46	6.48	5.96	6.19	0.00	21.88	-0.41	7.60	-0.17	70.61	33.84
1	2	28.46	6.33	5.79	5.95	0.00	22.18	-0.34	7.74	-0.15	70.66	33.76
-	-	48.79	11.12	10.22	10.55	0.00	39.29	-0.93	13.34	-0.36	123.09	57.72
1	3	48.79	11.01	10.09	10.37	0.00	39.51	-0.86	13.44	-0.33	123.11	57.70
-	-	60.99	13.78	12.64	12.96	0.00	50.09	-1.27	16.99	-0.49	154.81	71.86

1	4	60.99	13.72	12.57	12.87	0.00	50.21	-1.23	17.04	-0.48	154.83	71.85
-	-	65.06	14.63	13.40	13.71	0.00	53.05	-1.37	18.25	-0.53	164.69	76.55
1	5	65.06	14.63	13.40	13.71	0.00	53.05	-1.37	18.25	-0.53	164.69	76.55
-	-	60.99	13.72	12.57	12.87	0.00	50.21	-1.23	17.04	-0.48	154.83	71.85
1	6	60.99	13.78	12.64	12.96	0.00	50.09	-1.27	16.99	-0.49	154.81	71.86
-	-	48.79	11.01	10.09	10.37	0.00	39.51	-0.86	13.44	-0.33	123.11	57.70
1	7	48.79	11.12	10.22	10.55	0.00	39.29	-0.93	13.34	-0.36	123.09	57.72
-	-	28.46	6.33	5.79	5.95	0.00	22.18	-0.34	7.74	-0.15	70.66	33.76
1	8	28.46	6.48	5.96	6.19	0.00	21.88	-0.41	7.60	-0.17	70.61	33.84
-	-	-0.00	-0.47	-0.53	0.00	-0.74	1.92	-0.02	0.73	-0.16	2.17	-1.44
2	9	0.00	0.29	0.27	0.35	-0.00	0.74	-1.46	0.27	-0.63	1.64	-1.82
-	-	25.18	4.08	3.28	2.37	0.00	33.16	-0.23	10.37	-0.09	75.16	28.14
2	10	25.18	4.17	3.38	2.48	0.00	32.94	-0.21	10.20	-0.08	74.97	28.26
-	-	43.16	7.10	5.74	4.26	0.00	53.37	-0.45	17.41	-0.18	125.30	48.28
2	11	43.16	7.16	5.81	4.34	0.00	53.31	-0.44	17.29	-0.17	125.27	48.36
-	-	53.95	9.04	7.36	5.56	0.00	65.03	-0.60	21.39	-0.24	154.97	60.47
2	12	53.95	9.07	7.39	5.60	0.00	65.00	-0.60	21.33	-0.23	154.95	60.52
-	-	57.55	9.71	7.93	6.03	0.00	68.16	-0.65	22.66	-0.26	164.11	64.57
2	13	57.55	9.71	7.93	6.03	0.00	68.16	-0.65	22.66	-0.26	164.11	64.57
-	-	53.95	9.07	7.39	5.60	0.00	65.00	-0.60	21.33	-0.23	154.95	60.52
2	14	53.95	9.04	7.36	5.56	0.00	65.03	-0.60	21.39	-0.24	154.97	60.47
-	-	43.16	7.16	5.81	4.34	0.00	53.31	-0.44	17.29	-0.17	125.27	48.36
2	15	43.16	7.10	5.74	4.26	0.00	53.37	-0.45	17.41	-0.18	125.30	48.28
-	-	25.18	4.17	3.38	2.48	0.00	32.94	-0.21	10.20	-0.08	74.97	28.26
2	16	25.18	4.08	3.28	2.37	0.00	33.16	-0.23	10.37	-0.09	75.16	28.14
-	-	-0.00	0.29	0.27	0.35	-0.00	0.74	-1.46	0.27	-0.63	1.64	-1.82
3	17	0.00	0.16	0.14	0.24	-0.00	0.85	-1.60	0.33	-0.76	1.59	-2.23
-	-	25.18	3.27	2.33	0.71	-0.00	41.72	-0.17	10.50	-0.08	81.38	27.26
3	18	25.18	3.31	2.38	0.79	-0.00	41.41	-0.15	10.30	-0.07	80.99	27.33
-	-	43.16	5.55	3.93	1.19	-0.00	64.55	-0.34	17.66	-0.16	132.11	46.60
3	19	43.16	5.58	3.97	1.25	-0.00	64.32	-0.32	17.52	-0.15	131.84	46.66
-	-	53.95	6.92	4.91	1.52	-0.00	76.70	-0.45	21.70	-0.21	160.79	58.20
3	20	53.95	6.94	4.93	1.55	-0.00	76.56	-0.44	21.63	-0.21	160.63	58.23
-	-	57.55	7.39	5.25	1.65	-0.00	79.97	-0.48	22.98	-0.23	169.54	62.08
3	21	57.55	7.39	5.25	1.65	-0.00	79.97	-0.48	22.98	-0.23	169.54	62.08
-	-	53.95	6.94	4.93	1.55	-0.00	76.56	-0.44	21.63	-0.21	160.63	58.23
3	22	53.95	6.92	4.91	1.52	-0.00	76.70	-0.45	21.70	-0.21	160.79	58.20
-	-	43.16	5.58	3.97	1.25	-0.00	64.32	-0.32	17.52	-0.15	131.84	46.66
3	23	43.16	5.55	3.93	1.19	-0.00	64.55	-0.34	17.66	-0.16	132.11	46.60
-	-	25.18	3.31	2.38	0.79	-0.00	41.41	-0.15	10.30	-0.07	80.99	27.33
3	24	25.18	3.27	2.33	0.71	-0.00	41.72	-0.17	10.50	-0.08	81.38	27.26
-	-	-0.00	0.16	0.14	0.24	-0.00	0.85	-1.60	0.33	-0.76	1.59	-2.23
4	25	0.00	0.06	0.05	0.11	-0.00	1.12	-1.64	0.37	-0.74	1.66	-2.33
-	-	25.18	2.99	1.99	0.07	-0.01	41.69	-0.18	10.55	-0.08	80.48	26.90
4	26	25.18	3.00	2.01	0.10	-0.01	41.38	-0.16	10.37	-0.07	80.03	26.94
-	-	43.16	5.09	3.37	0.06	-0.02	64.49	-0.36	17.77	-0.16	130.58	46.00
4	27	43.16	5.10	3.38	0.09	-0.02	64.25	-0.34	17.64	-0.15	130.24	46.03
-	-	53.95	6.34	4.19	0.06	-0.03	76.53	-0.48	21.87	-0.21	158.76	57.44
4	28	53.95	6.35	4.20	0.08	-0.03	76.37	-0.47	21.80	-0.20	158.56	57.45
-	-	57.55	6.76	4.47	0.07	-0.03	79.76	-0.51	23.18	-0.22	167.32	61.25
4	29	57.55	6.76	4.47	0.07	-0.03	79.76	-0.51	23.18	-0.22	167.32	61.25
-	-	53.95	6.35	4.20	0.08	-0.03	76.37	-0.47	21.80	-0.20	158.56	57.45
4	30	53.95	6.34	4.19	0.06	-0.03	76.53	-0.48	21.87	-0.21	158.76	57.44
-	-	43.16	5.10	3.38	0.09	-0.02	64.25	-0.34	17.64	-0.15	130.24	46.03

4	31	43.16	5.09	3.37	0.06	-0.02	64.49	-0.36	17.77	-0.16	130.58	46.00
-	-	25.18	3.00	2.01	0.10	-0.01	41.38	-0.16	10.37	-0.07	80.03	26.94
4	32	25.18	2.99	1.99	0.07	-0.01	41.69	-0.18	10.55	-0.08	80.48	26.90
-	-	0.00	0.06	0.05	0.11	-0.00	1.12	-1.64	0.37	-0.74	1.66	-2.33
5	33	0.00	0.01	0.01	0.04	-0.00	1.10	-1.78	0.41	-0.76	1.56	-2.54
-	-	25.18	2.95	1.93	0.00	-0.12	42.30	0.00	10.69	-0.05	81.12	26.93
5	34	25.18	2.95	1.93	0.00	-0.11	41.97	0.00	10.51	-0.04	80.61	26.96
-	-	43.16	5.04	3.28	0.00	-0.24	65.18	-0.07	18.00	-0.12	131.38	46.02
5	35	43.16	5.04	3.29	0.00	-0.23	64.92	-0.03	17.87	-0.11	130.99	46.08
-	-	53.95	6.28	4.09	0.00	-0.32	77.21	-0.12	22.14	-0.16	159.58	57.45
5	36	53.95	6.28	4.09	0.00	-0.32	77.05	-0.10	22.07	-0.15	159.36	57.48
-	-	57.55	6.70	4.36	0.00	-0.35	80.44	-0.13	23.46	-0.17	168.14	61.27
5	37	57.55	6.70	4.36	0.00	-0.35	80.44	-0.13	23.46	-0.17	168.14	61.27
-	-	53.95	6.28	4.09	0.00	-0.32	77.05	-0.10	22.07	-0.15	159.36	57.48
5	38	53.95	6.28	4.09	0.00	-0.32	77.21	-0.12	22.14	-0.16	159.58	57.45
-	-	43.16	5.04	3.29	0.00	-0.23	64.92	-0.03	17.87	-0.11	130.99	46.08
5	39	43.16	5.04	3.28	0.00	-0.24	65.18	-0.07	18.00	-0.12	131.38	46.02
-	-	25.18	2.95	1.93	0.00	-0.11	41.97	0.00	10.51	-0.04	80.61	26.96
5	40	25.18	2.95	1.93	0.00	-0.12	42.30	0.00	10.69	-0.05	81.12	26.93
-	-	0.00	0.01	0.01	0.04	-0.00	1.10	-1.78	0.41	-0.76	1.56	-2.54
6	41	0.00	-0.00	-0.00	0.01	0.00	1.13	-1.65	0.40	-0.73	1.54	-2.38
-	-	25.18	2.95	1.93	0.00	-0.14	41.38	0.00	10.58	-0.02	80.08	26.94
6	42	25.18	2.95	1.93	0.00	-0.14	41.06	0.00	10.41	-0.01	79.60	26.95
-	-	43.16	5.05	3.29	0.00	-0.27	63.99	0.00	17.82	-0.06	130.02	46.12
6	43	43.16	5.05	3.29	0.00	-0.27	63.74	0.00	17.69	-0.05	129.65	46.13
-	-	53.95	6.30	4.10	0.00	-0.36	75.90	0.00	21.93	-0.10	158.09	57.60
6	44	53.95	6.30	4.10	0.00	-0.36	75.75	0.00	21.87	-0.09	157.87	57.61
-	-	57.55	6.72	4.37	0.00	-0.39	79.10	0.00	23.25	-0.10	166.61	61.43
6	45	57.55	6.72	4.37	0.00	-0.39	79.10	0.00	23.25	-0.10	166.61	61.43
-	-	53.95	6.30	4.10	0.00	-0.36	75.75	0.00	21.87	-0.09	157.87	57.61
6	46	53.95	6.30	4.10	0.00	-0.36	75.90	0.00	21.93	-0.10	158.09	57.60
-	-	43.16	5.05	3.29	0.00	-0.27	63.74	0.00	17.69	-0.05	129.65	46.13
6	47	43.16	5.05	3.29	0.00	-0.27	63.99	0.00	17.82	-0.06	130.02	46.12
-	-	25.18	2.95	1.93	0.00	-0.14	41.06	0.00	10.41	-0.01	79.60	26.95
6	48	25.18	2.95	1.93	0.00	-0.14	41.38	0.00	10.58	-0.02	80.08	26.94
-	-	0.00	-0.00	-0.00	0.01	0.00	1.13	-1.65	0.40	-0.73	1.54	-2.38
7	49	0.00	0.01	0.01	0.04	-0.00	1.10	-1.78	0.41	-0.76	1.56	-2.54
-	-	25.18	2.95	1.93	0.00	-0.12	42.30	0.00	10.69	-0.05	81.12	26.93
7	50	25.18	2.95	1.93	0.00	-0.11	41.97	0.00	10.51	-0.04	80.61	26.96
-	-	43.16	5.04	3.28	0.00	-0.24	65.18	-0.07	18.00	-0.12	131.38	46.02
7	51	43.16	5.04	3.29	0.00	-0.23	64.92	-0.03	17.87	-0.11	130.99	46.08
-	-	53.95	6.28	4.09	0.00	-0.32	77.21	-0.12	22.14	-0.16	159.58	57.45
7	52	53.95	6.28	4.09	0.00	-0.32	77.05	-0.10	22.07	-0.15	159.36	57.48
-	-	57.55	6.70	4.36	0.00	-0.35	80.44	-0.13	23.46	-0.17	168.14	61.27
7	53	57.55	6.70	4.36	0.00	-0.35	80.44	-0.13	23.46	-0.17	168.14	61.27
-	-	53.95	6.28	4.09	0.00	-0.32	77.05	-0.10	22.07	-0.15	159.36	57.48
7	54	53.95	6.28	4.09	0.00	-0.32	77.21	-0.12	22.14	-0.16	159.58	57.45
-	-	43.16	5.04	3.29	0.00	-0.23	64.92	-0.03	17.87	-0.11	130.99	46.08
7	55	43.16	5.04	3.28	0.00	-0.24	65.18	-0.07	18.00	-0.12	131.38	46.02
-	-	25.18	2.95	1.93	0.00	-0.11	41.97	0.00	10.51	-0.04	80.61	26.96
7	56	25.18	2.95	1.93	0.00	-0.12	42.30	0.00	10.69	-0.05	81.12	26.93
-	-	-0.00	0.01	0.01	0.04	-0.00	1.10	-1.78	0.41	-0.76	1.56	-2.54
8	57	0.00	0.06	0.05	0.11	-0.00	1.12	-1.64	0.37	-0.74	1.66	-2.33
-	-	25.18	2.99	1.99	0.07	-0.01	41.69	-0.18	10.55	-0.08	80.48	26.90

8	58	25.18	3.00	2.01	0.10	-0.01	41.38	-0.16	10.37	-0.07	80.03	26.94
-	-	43.16	5.09	3.37	0.06	-0.02	64.49	-0.36	17.77	-0.16	130.58	46.00
8	59	43.16	5.10	3.38	0.09	-0.02	64.25	-0.34	17.64	-0.15	130.24	46.03
-	-	53.95	6.34	4.19	0.06	-0.03	76.53	-0.48	21.87	-0.21	158.76	57.44
8	60	53.95	6.35	4.20	0.08	-0.03	76.37	-0.47	21.80	-0.20	158.56	57.45
-	-	57.55	6.76	4.47	0.07	-0.03	79.76	-0.51	23.18	-0.22	167.32	61.25
8	61	57.55	6.76	4.47	0.07	-0.03	79.76	-0.51	23.18	-0.22	167.32	61.25
-	-	53.95	6.35	4.20	0.08	-0.03	76.37	-0.47	21.80	-0.20	158.56	57.45
8	62	53.95	6.34	4.19	0.06	-0.03	76.53	-0.48	21.87	-0.21	158.76	57.44
-	-	43.16	5.10	3.38	0.09	-0.02	64.25	-0.34	17.64	-0.15	130.24	46.03
8	63	43.16	5.09	3.37	0.06	-0.02	64.49	-0.36	17.77	-0.16	130.58	46.00
-	-	25.18	3.00	2.01	0.10	-0.01	41.38	-0.16	10.37	-0.07	80.03	26.94
8	64	25.18	2.99	1.99	0.07	-0.01	41.69	-0.18	10.55	-0.08	80.48	26.90
-	-	0.00	0.06	0.05	0.11	-0.00	1.12	-1.64	0.37	-0.74	1.66	-2.33
9	65	-0.00	0.16	0.14	0.24	-0.00	0.85	-1.60	0.33	-0.76	1.59	-2.23
-	-	25.18	3.27	2.33	0.71	-0.00	41.72	-0.17	10.50	-0.08	81.38	27.26
9	66	25.18	3.31	2.38	0.79	-0.00	41.41	-0.15	10.30	-0.07	80.99	27.33
-	-	43.16	5.55	3.93	1.19	-0.00	64.55	-0.34	17.66	-0.16	132.11	46.60
9	67	43.16	5.58	3.97	1.25	-0.00	64.32	-0.32	17.52	-0.15	131.84	46.66
-	-	53.95	6.92	4.91	1.52	-0.00	76.70	-0.45	21.70	-0.21	160.79	58.20
9	68	53.95	6.94	4.93	1.55	-0.00	76.56	-0.44	21.63	-0.21	160.63	58.23
-	-	57.55	7.39	5.25	1.65	-0.00	79.97	-0.48	22.98	-0.23	169.54	62.08
9	69	57.55	7.39	5.25	1.65	-0.00	79.97	-0.48	22.98	-0.23	169.54	62.08
-	-	53.95	6.94	4.93	1.55	-0.00	76.56	-0.44	21.63	-0.21	160.63	58.23
9	70	53.95	6.92	4.91	1.52	-0.00	76.70	-0.45	21.70	-0.21	160.79	58.20
-	-	43.16	5.58	3.97	1.25	-0.00	64.32	-0.32	17.52	-0.15	131.84	46.66
9	71	43.16	5.55	3.93	1.19	-0.00	64.55	-0.34	17.66	-0.16	132.11	46.60
-	-	25.18	3.31	2.38	0.79	-0.00	41.41	-0.15	10.30	-0.07	80.99	27.33
9	72	25.18	3.27	2.33	0.71	-0.00	41.72	-0.17	10.50	-0.08	81.38	27.26
-	-	0.00	0.16	0.14	0.24	-0.00	0.85	-1.60	0.33	-0.76	1.59	-2.23
10	73	0.00	0.29	0.27	0.35	-0.00	0.74	-1.46	0.27	-0.63	1.64	-1.82
-	-	25.18	4.08	3.28	2.37	0.00	33.16	-0.23	10.37	-0.09	75.16	28.14
10	74	25.18	4.17	3.38	2.48	0.00	32.94	-0.21	10.20	-0.08	74.97	28.26
-	-	43.16	7.10	5.74	4.26	0.00	53.37	-0.45	17.41	-0.18	125.30	48.28
10	75	43.16	7.16	5.81	4.34	0.00	53.31	-0.44	17.29	-0.17	125.27	48.36
-	-	53.95	9.04	7.36	5.56	0.00	65.03	-0.60	21.39	-0.24	154.97	60.47
10	76	53.95	9.07	7.39	5.60	0.00	65.00	-0.60	21.33	-0.23	154.95	60.52
-	-	57.55	9.71	7.93	6.03	0.00	68.16	-0.65	22.66	-0.26	164.11	64.57
10	77	57.55	9.71	7.93	6.03	0.00	68.16	-0.65	22.66	-0.26	164.11	64.57
-	-	53.95	9.07	7.39	5.60	0.00	65.00	-0.60	21.33	-0.23	154.95	60.52
10	78	53.95	9.04	7.36	5.56	0.00	65.03	-0.60	21.39	-0.24	154.97	60.47
-	-	43.16	7.16	5.81	4.34	0.00	53.31	-0.44	17.29	-0.17	125.27	48.36
10	79	43.16	7.10	5.74	4.26	0.00	53.37	-0.45	17.41	-0.18	125.30	48.28
-	-	25.18	4.17	3.38	2.48	0.00	32.94	-0.21	10.20	-0.08	74.97	28.26
10	80	25.18	4.08	3.28	2.37	0.00	33.16	-0.23	10.37	-0.09	75.16	28.14
-	-	-0.00	0.29	0.27	0.35	-0.00	0.74	-1.46	0.27	-0.63	1.64	-1.82
11	81	0.00	-0.47	-0.53	0.00	-0.74	1.92	-0.02	0.73	-0.16	2.17	-1.44
-	-	28.46	6.48	5.96	6.19	0.00	21.88	-0.41	7.60	-0.17	70.61	33.84
11	82	28.46	6.33	5.79	5.95	0.00	22.18	-0.34	7.74	-0.15	70.66	33.76
-	-	48.79	11.12	10.22	10.55	0.00	39.29	-0.93	13.34	-0.36	123.09	57.72
11	83	48.79	11.01	10.09	10.37	0.00	39.51	-0.86	13.44	-0.33	123.11	57.70
-	-	60.99	13.78	12.64	12.96	0.00	50.09	-1.27	16.99	-0.49	154.81	71.86
11	84	60.99	13.72	12.57	12.87	0.00	50.21	-1.23	17.04	-0.48	154.83	71.85
-	-	65.06	14.63	13.40	13.71	0.00	53.05	-1.37	18.25	-0.53	164.69	76.55

11	85	65.06	14.63	13.40	13.71	0.00	53.05	-1.37	18.25	-0.53	164.69	76.55
-	-	60.99	13.72	12.57	12.87	0.00	50.21	-1.23	17.04	-0.48	154.83	71.85
11	86	60.99	13.78	12.64	12.96	0.00	50.09	-1.27	16.99	-0.49	154.81	71.86
-	-	48.79	11.01	10.09	10.37	0.00	39.51	-0.86	13.44	-0.33	123.11	57.70
11	87	48.79	11.12	10.22	10.55	0.00	39.29	-0.93	13.34	-0.36	123.09	57.72
-	-	28.46	6.33	5.79	5.95	0.00	22.18	-0.34	7.74	-0.15	70.66	33.76
11	88	28.46	6.48	5.96	6.19	0.00	21.88	-0.41	7.60	-0.17	70.61	33.84
-	-	0.00	-0.47	-0.53	0.00	-0.74	1.92	-0.02	0.73	-0.16	2.17	-1.44

Envolvente Barras Transversales

Envolvente de cortantes (t/m) (E.L.S.)

Barra	Nudo	C.P.	C.P.	S.C.	S.C.	Tandem/Carril	Tandem/Carril	TOTAL	TOTAL
		MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.
105	1	0.290	0.278	0.315	0.000	0.019	-0.583	0.624	-0.305
105	2	0.790	0.778	0.915	0.000	0.019	-0.583	1.724	0.195
106	2	-2.084	-2.195	0.000	-2.634	5.982	-0.498	3.898	-5.327
106	3	-1.790	-1.965	0.000	-2.434	6.381	-0.053	4.591	-4.452
107	3	-0.007	-0.026	0.000	-0.100	3.192	-2.249	3.185	-2.375
107	4	0.240	0.171	0.000	-0.100	3.698	-1.558	3.938	-1.487
108	4	-0.271	-0.294	0.000	-0.278	3.729	-3.741	3.459	-4.313
108	5	-0.028	-0.093	0.000	-0.278	4.284	-3.198	4.256	-3.570
109	5	-0.071	-0.112	0.000	-0.011	3.693	-3.722	3.621	-3.845
109	6	0.154	0.106	0.000	-0.011	4.269	-3.192	4.423	-3.096
110	6	-0.095	-0.139	0.001	-0.014	3.660	-4.263	3.566	-4.416
110	7	0.128	0.082	0.001	-0.014	4.202	-3.693	4.331	-3.625
111	7	-0.082	-0.128	0.014	-0.001	3.693	-4.202	3.625	-4.331
111	8	0.139	0.095	0.014	-0.001	4.263	-3.660	4.416	-3.566
112	8	-0.106	-0.154	0.011	0.000	3.192	-4.269	3.096	-4.423
112	9	0.112	0.071	0.011	0.000	3.722	-3.693	3.845	-3.621
113	9	0.093	0.028	0.278	0.000	3.198	-4.284	3.570	-4.256
113	10	0.294	0.271	0.278	0.000	3.741	-3.729	4.313	-3.459
114	10	-0.171	-0.240	0.100	0.000	1.558	-3.698	1.487	-3.938
114	11	0.026	0.007	0.100	0.000	2.249	-3.192	2.375	-3.185
115	11	1.965	1.790	2.434	0.000	0.053	-6.381	4.452	-4.591
115	12	2.195	2.084	2.634	0.000	0.498	-5.982	5.327	-3.898
116	12	-0.778	-0.790	0.000	-0.915	0.583	-0.019	-0.195	-1.724
116	13	-0.278	-0.290	0.000	-0.315	0.583	-0.019	0.305	-0.624
117	14	-0.096	-0.099	0.000	-0.099	0.147	-0.001	0.051	-0.199
117	15	0.404	0.401	0.501	-0.000	0.147	-0.001	1.052	0.400
118	15	-0.130	-0.162	0.000	-0.114	0.048	-1.351	-0.082	-1.627
118	16	0.133	0.100	0.086	-0.000	0.608	-0.958	0.827	-0.858
119	16	-0.092	-0.138	0.010	-0.000	0.367	-1.640	0.285	-1.778
119	17	0.128	0.086	0.010	-0.000	1.036	-1.011	1.174	-0.926
120	17	-0.101	-0.145	0.000	-0.013	1.039	-1.626	0.938	-1.784
120	18	0.122	0.077	0.000	-0.013	1.708	-1.029	1.830	-0.965
121	18	-0.096	-0.140	0.000	-0.011	0.978	-1.717	0.882	-1.867
121	19	0.127	0.082	0.000	-0.011	1.597	-1.075	1.724	-1.004
122	19	-0.091	-0.135	0.002	-0.005	1.088	-1.617	0.999	-1.757
122	20	0.131	0.087	0.002	-0.005	1.739	-1.008	1.872	-0.927
123	20	-0.087	-0.131	0.005	-0.002	1.008	-1.739	0.927	-1.872
123	21	0.135	0.091	0.005	-0.002	1.617	-1.088	1.757	-0.999
124	21	-0.082	-0.127	0.011	-0.000	1.075	-1.597	1.004	-1.724

124	22	0.140	0.096	0.011	-0.000	1.717	-0.978	1.867	-0.882
125	22	-0.077	-0.122	0.013	0.000	1.029	-1.708	0.965	-1.830
125	23	0.145	0.101	0.013	0.000	1.626	-1.039	1.784	-0.938
126	23	-0.086	-0.128	0.000	-0.010	1.011	-1.036	0.926	-1.174
126	24	0.138	0.092	0.000	-0.010	1.640	-0.367	1.778	-0.285
127	24	-0.100	-0.133	0.000	-0.086	0.958	-0.608	0.858	-0.827
127	25	0.162	0.130	0.114	0.000	1.351	-0.048	1.627	0.082
128	25	-0.401	-0.404	0.000	-0.501	0.001	-0.147	-0.400	-1.052
128	26	0.099	0.096	0.099	0.000	0.001	-0.147	0.199	-0.051
129	27	-0.017	-0.018	0.000	-0.022	0.075	-0.005	0.058	-0.045
129	28	0.483	0.482	0.578	-0.000	0.075	-0.005	1.136	0.477
130	28	-0.077	-0.119	0.000	-0.014	0.087	-2.012	0.010	-2.145
130	29	0.176	0.152	0.186	-0.000	0.590	-1.576	0.951	-1.424
131	29	-0.100	-0.148	0.016	-0.000	0.537	-2.281	0.453	-2.429
131	30	0.119	0.078	0.016	-0.000	1.210	-1.688	1.345	-1.611
132	30	-0.111	-0.155	0.000	-0.024	1.723	-2.257	1.611	-2.436
132	31	0.112	0.066	0.000	-0.024	2.399	-1.730	2.510	-1.688
133	31	-0.103	-0.146	0.001	-0.020	1.652	-2.415	1.550	-2.582
133	32	0.121	0.075	0.001	-0.020	2.223	-1.796	2.344	-1.741
134	32	-0.093	-0.137	0.003	-0.010	1.807	-2.243	1.718	-2.390
134	33	0.129	0.085	0.003	-0.010	2.446	-1.693	2.579	-1.619
135	33	-0.085	-0.129	0.010	-0.003	1.693	-2.446	1.619	-2.579
135	34	0.137	0.093	0.010	-0.003	2.243	-1.807	2.390	-1.718
136	34	-0.075	-0.121	0.020	-0.001	1.796	-2.223	1.741	-2.344
136	35	0.146	0.103	0.020	-0.001	2.415	-1.652	2.582	-1.550
137	35	-0.066	-0.112	0.024	0.000	1.730	-2.399	1.688	-2.510
137	36	0.155	0.111	0.024	0.000	2.257	-1.723	2.436	-1.611
138	36	-0.078	-0.119	0.000	-0.016	1.688	-1.210	1.611	-1.345
138	37	0.148	0.100	0.000	-0.016	2.281	-0.537	2.429	-0.453
139	37	-0.152	-0.176	0.000	-0.186	1.576	-0.590	1.424	-0.951
139	38	0.119	0.077	0.014	0.000	2.012	-0.087	2.145	-0.010
140	38	-0.482	-0.483	0.000	-0.578	0.005	-0.075	-0.477	-1.136
140	39	0.018	0.017	0.022	0.000	0.005	-0.075	0.045	-0.058
141	40	-0.017	-0.018	0.000	-0.024	0.079	-0.006	0.062	-0.048
141	41	0.483	0.482	0.576	-0.000	0.079	-0.006	1.138	0.476
142	41	-0.026	-0.073	0.062	-0.000	0.115	-2.264	0.150	-2.337
142	42	0.221	0.203	0.262	-0.000	0.588	-1.811	1.071	-1.608
143	42	-0.105	-0.155	0.021	-0.000	0.578	-2.555	0.494	-2.710
143	43	0.112	0.072	0.021	-0.000	1.254	-1.951	1.387	-1.879
144	43	-0.119	-0.162	0.000	-0.033	1.995	-2.503	1.876	-2.698
144	44	0.104	0.058	0.000	-0.033	2.671	-2.015	2.775	-1.990
145	44	-0.107	-0.150	0.001	-0.027	1.947	-2.685	1.840	-2.862
145	45	0.116	0.070	0.001	-0.027	2.484	-2.079	2.602	-2.036
146	45	-0.094	-0.138	0.005	-0.013	2.091	-2.489	2.001	-2.641
146	46	0.128	0.083	0.005	-0.013	2.717	-1.980	2.850	-1.910
147	46	-0.083	-0.128	0.013	-0.005	1.980	-2.717	1.910	-2.850
147	47	0.138	0.094	0.013	-0.005	2.489	-2.091	2.641	-2.001
148	47	-0.070	-0.116	0.027	-0.001	2.079	-2.484	2.036	-2.602
148	48	0.150	0.107	0.027	-0.001	2.685	-1.947	2.862	-1.840
149	48	-0.058	-0.104	0.033	0.000	2.015	-2.671	1.990	-2.775
149	49	0.162	0.119	0.033	0.000	2.503	-1.995	2.698	-1.876
150	49	-0.072	-0.112	0.000	-0.021	1.951	-1.254	1.879	-1.387
150	50	0.155	0.105	0.000	-0.021	2.555	-0.578	2.710	-0.494
151	50	-0.203	-0.221	0.000	-0.262	1.811	-0.588	1.608	-1.071

151	51	0.073	0.026	0.000	-0.062	2.264	-0.115	2.337	-0.150
152	51	-0.482	-0.483	0.000	-0.576	0.006	-0.079	-0.476	-1.138
152	52	0.018	0.017	0.024	0.000	0.006	-0.079	0.048	-0.062
153	53	-0.018	-0.019	0.000	-0.025	0.081	-0.006	0.063	-0.050
153	54	0.482	0.481	0.575	-0.000	0.081	-0.006	1.138	0.475
154	54	-0.007	-0.056	0.088	-0.000	0.124	-2.322	0.205	-2.378
154	55	0.239	0.222	0.288	-0.000	0.589	-1.865	1.116	-1.643
155	55	-0.107	-0.157	0.023	-0.000	0.577	-2.614	0.493	-2.771
155	56	0.110	0.071	0.023	-0.000	1.254	-2.002	1.386	-1.932
156	56	-0.122	-0.165	0.000	-0.036	2.061	-2.571	1.939	-2.772
156	57	0.102	0.056	0.000	-0.036	2.736	-2.076	2.838	-2.056
157	57	-0.109	-0.151	0.001	-0.029	2.022	-2.754	1.914	-2.934
157	58	0.115	0.069	0.001	-0.029	2.548	-2.138	2.664	-2.099
158	58	-0.095	-0.139	0.005	-0.014	2.147	-2.536	2.057	-2.690
158	59	0.128	0.083	0.005	-0.014	2.769	-2.041	2.902	-1.973
159	59	-0.083	-0.128	0.014	-0.005	2.041	-2.769	1.973	-2.902
159	60	0.139	0.095	0.014	-0.005	2.536	-2.147	2.690	-2.057
160	60	-0.069	-0.115	0.029	-0.001	2.138	-2.548	2.099	-2.664
160	61	0.151	0.109	0.029	-0.001	2.754	-2.022	2.934	-1.914
161	61	-0.056	-0.102	0.036	0.000	2.076	-2.736	2.056	-2.838
161	62	0.165	0.122	0.036	0.000	2.571	-2.061	2.772	-1.939
162	62	-0.071	-0.110	0.000	-0.023	2.002	-1.254	1.932	-1.386
162	63	0.157	0.107	0.000	-0.023	2.614	-0.577	2.771	-0.493
163	63	-0.222	-0.239	0.000	-0.288	1.865	-0.589	1.643	-1.116
163	64	0.056	0.007	0.000	-0.088	2.322	-0.124	2.378	-0.205
164	64	-0.481	-0.482	0.000	-0.575	0.006	-0.081	-0.475	-1.138
164	65	0.019	0.018	0.025	0.000	0.006	-0.081	0.050	-0.063
165	66	-0.017	-0.018	0.000	-0.024	0.079	-0.006	0.062	-0.048
165	67	0.483	0.482	0.576	-0.000	0.079	-0.006	1.138	0.476
166	67	-0.026	-0.073	0.062	-0.000	0.115	-2.264	0.150	-2.337
166	68	0.221	0.203	0.262	-0.000	0.588	-1.811	1.071	-1.608
167	68	-0.105	-0.155	0.021	-0.000	0.578	-2.555	0.494	-2.710
167	69	0.112	0.072	0.021	-0.000	1.254	-1.951	1.387	-1.879
168	69	-0.119	-0.162	0.000	-0.033	1.995	-2.503	1.876	-2.698
168	70	0.104	0.058	0.000	-0.033	2.671	-2.015	2.775	-1.990
169	70	-0.107	-0.150	0.001	-0.027	1.947	-2.685	1.840	-2.862
169	71	0.116	0.070	0.001	-0.027	2.484	-2.079	2.602	-2.036
170	71	-0.094	-0.138	0.005	-0.013	2.091	-2.489	2.001	-2.641
170	72	0.128	0.083	0.005	-0.013	2.717	-1.980	2.850	-1.910
171	72	-0.083	-0.128	0.013	-0.005	1.980	-2.717	1.910	-2.850
171	73	0.138	0.094	0.013	-0.005	2.489	-2.091	2.641	-2.001
172	73	-0.070	-0.116	0.027	-0.001	2.079	-2.484	2.036	-2.602
172	74	0.150	0.107	0.027	-0.001	2.685	-1.947	2.862	-1.840
173	74	-0.058	-0.104	0.033	0.000	2.015	-2.671	1.990	-2.775
173	75	0.162	0.119	0.033	0.000	2.503	-1.995	2.698	-1.876
174	75	-0.072	-0.112	0.000	-0.021	1.951	-1.254	1.879	-1.387
174	76	0.155	0.105	0.000	-0.021	2.555	-0.578	2.710	-0.494
175	76	-0.203	-0.221	0.000	-0.262	1.811	-0.588	1.608	-1.071
175	77	0.073	0.026	0.000	-0.062	2.264	-0.115	2.337	-0.150
176	77	-0.482	-0.483	0.000	-0.576	0.006	-0.079	-0.476	-1.138
176	78	0.018	0.017	0.024	0.000	0.006	-0.079	0.048	-0.062
177	79	-0.017	-0.018	0.000	-0.022	0.075	-0.005	0.058	-0.045
177	80	0.483	0.482	0.578	-0.000	0.075	-0.005	1.136	0.477
178	80	-0.077	-0.119	0.000	-0.014	0.087	-2.012	0.010	-2.145

178	81	0.176	0.152	0.186	-0.000	0.590	-1.576	0.951	-1.424
179	81	-0.100	-0.148	0.016	-0.000	0.537	-2.281	0.453	-2.429
179	82	0.119	0.078	0.016	-0.000	1.210	-1.688	1.345	-1.611
180	82	-0.111	-0.155	0.000	-0.024	1.723	-2.257	1.611	-2.436
180	83	0.112	0.066	0.000	-0.024	2.399	-1.730	2.510	-1.688
181	83	-0.103	-0.146	0.001	-0.020	1.652	-2.415	1.550	-2.582
181	84	0.121	0.075	0.001	-0.020	2.223	-1.796	2.344	-1.741
182	84	-0.093	-0.137	0.003	-0.010	1.807	-2.243	1.718	-2.390
182	85	0.129	0.085	0.003	-0.010	2.446	-1.693	2.579	-1.619
183	85	-0.085	-0.129	0.010	-0.003	1.693	-2.446	1.619	-2.579
183	86	0.137	0.093	0.010	-0.003	2.243	-1.807	2.390	-1.718
184	86	-0.075	-0.121	0.020	-0.001	1.796	-2.223	1.741	-2.344
184	87	0.146	0.103	0.020	-0.001	2.415	-1.652	2.582	-1.550
185	87	-0.066	-0.112	0.024	0.000	1.730	-2.399	1.688	-2.510
185	88	0.155	0.111	0.024	0.000	2.257	-1.723	2.436	-1.611
186	88	-0.078	-0.119	0.000	-0.016	1.688	-1.210	1.611	-1.345
186	89	0.148	0.100	0.000	-0.016	2.281	-0.537	2.429	-0.453
187	89	-0.152	-0.176	0.000	-0.186	1.576	-0.590	1.424	-0.951
187	90	0.119	0.077	0.014	0.000	2.012	-0.087	2.145	-0.010
188	90	-0.482	-0.483	0.000	-0.578	0.005	-0.075	-0.477	-1.136
188	91	0.018	0.017	0.022	0.000	0.005	-0.075	0.045	-0.058
189	92	-0.096	-0.099	0.000	-0.099	0.147	-0.001	0.051	-0.199
189	93	0.404	0.401	0.501	-0.000	0.147	-0.001	1.052	0.400
190	93	-0.130	-0.162	0.000	-0.114	0.048	-1.351	-0.082	-1.627
190	94	0.133	0.100	0.086	-0.000	0.608	-0.958	0.827	-0.858
191	94	-0.092	-0.138	0.010	-0.000	0.367	-1.640	0.285	-1.778
191	95	0.128	0.086	0.010	-0.000	1.036	-1.011	1.174	-0.926
192	95	-0.101	-0.145	0.000	-0.013	1.039	-1.626	0.938	-1.784
192	96	0.122	0.077	0.000	-0.013	1.708	-1.029	1.830	-0.965
193	96	-0.096	-0.140	0.000	-0.011	0.978	-1.717	0.882	-1.867
193	97	0.127	0.082	0.000	-0.011	1.597	-1.075	1.724	-1.004
194	97	-0.091	-0.135	0.002	-0.005	1.088	-1.617	0.999	-1.757
194	98	0.131	0.087	0.002	-0.005	1.739	-1.008	1.872	-0.927
195	98	-0.087	-0.131	0.005	-0.002	1.008	-1.739	0.927	-1.872
195	99	0.135	0.091	0.005	-0.002	1.617	-1.088	1.757	-0.999
196	99	-0.082	-0.127	0.011	-0.000	1.075	-1.597	1.004	-1.724
196	100	0.140	0.096	0.011	-0.000	1.717	-0.978	1.867	-0.882
197	100	-0.077	-0.122	0.013	0.000	1.029	-1.708	0.965	-1.830
197	101	0.145	0.101	0.013	0.000	1.626	-1.039	1.784	-0.938
198	101	-0.086	-0.128	0.000	-0.010	1.011	-1.036	0.926	-1.174
198	102	0.138	0.092	0.000	-0.010	1.640	-0.367	1.778	-0.285
199	102	-0.100	-0.133	0.000	-0.086	0.958	-0.608	0.858	-0.827
199	103	0.162	0.130	0.114	0.000	1.351	-0.048	1.627	0.082
200	103	-0.401	-0.404	0.000	-0.501	0.001	-0.147	-0.400	-1.052
200	104	0.099	0.096	0.099	0.000	0.001	-0.147	0.199	-0.051
201	105	0.290	0.278	0.315	0.000	0.019	-0.583	0.624	-0.305
201	106	0.790	0.778	0.915	0.000	0.019	-0.583	1.724	0.195
202	106	-2.084	-2.195	0.000	-2.634	5.982	-0.498	3.898	-5.327
202	107	-1.790	-1.965	0.000	-2.434	6.381	-0.053	4.591	-4.452
203	107	-0.007	-0.026	0.000	-0.100	3.192	-2.249	3.185	-2.375
203	108	0.240	0.171	0.000	-0.100	3.698	-1.558	3.938	-1.487
204	108	-0.271	-0.294	0.000	-0.278	3.729	-3.741	3.459	-4.313
204	109	-0.028	-0.093	0.000	-0.278	4.284	-3.198	4.256	-3.570
205	109	-0.071	-0.112	0.000	-0.011	3.693	-3.722	3.621	-3.845

205	110	0.154	0.106	0.000	-0.011	4.269	-3.192	4.423	-3.096
206	110	-0.095	-0.139	0.001	-0.014	3.660	-4.263	3.566	-4.416
206	111	0.128	0.082	0.001	-0.014	4.202	-3.693	4.331	-3.625
207	111	-0.082	-0.128	0.014	-0.001	3.693	-4.202	3.625	-4.331
207	112	0.139	0.095	0.014	-0.001	4.263	-3.660	4.416	-3.566
208	112	-0.106	-0.154	0.011	0.000	3.192	-4.269	3.096	-4.423
208	113	0.112	0.071	0.011	0.000	3.722	-3.693	3.845	-3.621
209	113	0.093	0.028	0.278	0.000	3.198	-4.284	3.570	-4.256
209	114	0.294	0.271	0.278	0.000	3.741	-3.729	4.313	-3.459
210	114	-0.171	-0.240	0.100	0.000	1.558	-3.698	1.487	-3.938
210	115	0.026	0.007	0.100	0.000	2.249	-3.192	2.375	-3.185
211	115	1.965	1.790	2.434	0.000	0.053	-6.381	4.452	-4.591
211	116	2.195	2.084	2.634	0.000	0.498	-5.982	5.327	-3.898
212	116	-0.778	-0.790	0.000	-0.915	0.583	-0.019	-0.195	-1.724
212	117	-0.278	-0.290	0.000	-0.315	0.583	-0.019	0.305	-0.624

Envolvente de flectores (t.m/m) (E.L.S.)

Barra	Nudo	C.P.	C.P.	S.C.	S.C.	Tandem/Carril	Tandem/Carril	TOTAL	TOTAL
		MAX.	MIN.	MAX.	MIN.			MAX.	MIN.
105	1	-0.082	-0.086	0.000	-0.092	0.191	-0.005	0.109	-0.182
105	0	-0.394	-0.405	0.000	-0.370	0.540	-0.016	0.146	-0.792
105	2	-0.815	-0.834	0.000	-0.829	0.889	-0.028	0.074	-1.691
106	2	-2.081	-2.201	0.000	-2.530	5.570	-0.126	3.489	-4.856
106	0	-0.603	-0.638	0.000	-0.689	6.272	-0.010	5.669	-1.337
106	3	0.849	0.771	1.113	0.000	0.165	-3.366	2.126	-2.596
107	3	0.165	0.161	0.040	-0.000	2.223	-1.111	2.428	-0.951
107	0	0.135	0.133	0.113	0.000	7.242	-0.403	7.490	-0.271
107	4	0.039	0.007	0.187	0.000	1.401	-2.607	1.628	-2.600
108	4	-0.205	-0.213	0.000	-0.275	2.791	-2.349	2.586	-2.837
108	0	-0.036	-0.046	0.000	-0.070	6.288	-0.326	6.252	-0.442
108	5	0.056	0.034	0.136	0.000	2.472	-2.791	2.664	-2.757
109	5	-0.002	-0.009	0.000	-0.005	2.793	-2.466	2.791	-2.480
109	0	0.024	0.018	0.004	0.000	7.011	-0.393	7.039	-0.375
109	6	-0.027	-0.041	0.012	0.000	2.383	-2.794	2.367	-2.835
110	6	-0.028	-0.038	0.000	-0.013	2.703	-2.780	2.674	-2.831
110	0	0.015	0.009	0.001	-0.005	6.638	-0.386	6.654	-0.381
110	7	-0.019	-0.030	0.012	-0.005	2.790	-2.765	2.783	-2.800
111	7	-0.019	-0.030	0.012	-0.005	2.790	-2.765	2.783	-2.800
111	0	0.015	0.009	0.001	-0.005	6.638	-0.386	6.654	-0.381
111	8	-0.028	-0.038	0.000	-0.013	2.703	-2.780	2.674	-2.831
112	8	-0.027	-0.041	0.012	0.000	2.383	-2.794	2.367	-2.835
112	0	0.024	0.018	0.004	0.000	7.011	-0.393	7.039	-0.375
112	9	-0.002	-0.009	0.000	-0.005	2.793	-2.466	2.791	-2.480
113	9	0.056	0.034	0.136	0.000	2.472	-2.791	2.664	-2.757
113	0	-0.036	-0.046	0.000	-0.070	6.288	-0.326	6.252	-0.442
113	10	-0.205	-0.213	0.000	-0.275	2.791	-2.349	2.586	-2.837
114	10	0.039	0.007	0.187	0.000	1.401	-2.607	1.628	-2.600
114	0	0.135	0.133	0.113	0.000	7.242	-0.403	7.490	-0.271
114	11	0.165	0.161	0.040	-0.000	2.223	-1.111	2.428	-0.951
115	11	0.849	0.771	1.113	0.000	0.165	-3.366	2.126	-2.596
115	0	-0.603	-0.638	0.000	-0.689	6.272	-0.010	5.669	-1.337
115	12	-2.081	-2.201	0.000	-2.530	5.570	-0.126	3.489	-4.856

116	12	-0.815	-0.834	0.000	-0.829	0.889	-0.028	0.074	-1.691
116	0	-0.394	-0.405	0.000	-0.370	0.540	-0.016	0.146	-0.792
116	13	-0.082	-0.086	0.000	-0.092	0.191	-0.005	0.109	-0.182
117	14	0.012	0.012	0.009	0.000	0.005	-0.009	0.026	0.003
117	0	-0.073	-0.075	0.000	-0.022	0.001	-0.096	-0.072	-0.193
117	15	-0.269	-0.273	0.000	-0.233	0.001	-0.184	-0.267	-0.690
118	15	-0.124	-0.136	0.000	-0.067	0.028	-0.712	-0.096	-0.915
118	0	-0.081	-0.088	0.000	-0.091	3.438	-0.250	3.358	-0.430
118	16	-0.130	-0.130	0.000	-0.155	0.895	-0.249	0.766	-0.534
119	16	-0.082	-0.089	0.000	-0.075	0.656	-0.783	0.574	-0.946
119	0	-0.036	-0.047	0.000	-0.082	4.437	-0.324	4.401	-0.453
119	17	-0.078	-0.082	0.000	-0.089	0.958	-0.368	0.881	-0.539
120	17	-0.058	-0.065	0.001	-0.054	0.950	-0.819	0.893	-0.938
120	0	-0.007	-0.016	0.001	-0.045	3.860	-0.356	3.854	-0.417
120	18	-0.040	-0.048	0.001	-0.036	0.944	-0.887	0.905	-0.971
121	18	-0.035	-0.044	0.001	-0.025	0.906	-0.862	0.873	-0.930
121	0	0.010	0.003	0.001	-0.017	4.307	-0.425	4.318	-0.439
121	19	-0.024	-0.034	0.001	-0.009	1.018	-0.833	0.995	-0.876
122	19	-0.024	-0.034	0.002	-0.008	1.024	-0.872	1.002	-0.914
122	0	0.017	0.011	0.000	-0.004	4.089	-0.411	4.107	-0.404
122	20	-0.020	-0.031	0.000	-0.001	0.932	-0.924	0.912	-0.956
123	20	-0.020	-0.031	0.000	-0.001	0.932	-0.924	0.912	-0.956
123	0	0.017	0.011	0.000	-0.004	4.089	-0.411	4.107	-0.404
123	21	-0.024	-0.034	0.002	-0.008	1.024	-0.872	1.002	-0.914
124	21	-0.024	-0.034	0.001	-0.009	1.018	-0.833	0.995	-0.876
124	0	0.010	0.003	0.001	-0.017	4.307	-0.425	4.318	-0.439
124	22	-0.035	-0.044	0.001	-0.025	0.906	-0.862	0.873	-0.930
125	22	-0.040	-0.048	0.001	-0.036	0.944	-0.887	0.905	-0.971
125	0	-0.007	-0.016	0.001	-0.045	3.860	-0.356	3.854	-0.417
125	23	-0.058	-0.065	0.001	-0.054	0.950	-0.819	0.893	-0.938
126	23	-0.078	-0.082	0.000	-0.089	0.958	-0.368	0.881	-0.539
126	0	-0.036	-0.047	0.000	-0.082	4.437	-0.324	4.401	-0.453
126	24	-0.082	-0.089	0.000	-0.075	0.656	-0.783	0.574	-0.946
127	24	-0.130	-0.130	0.000	-0.155	0.895	-0.249	0.766	-0.534
127	0	-0.081	-0.088	0.000	-0.091	3.438	-0.250	3.358	-0.430
127	25	-0.124	-0.136	0.000	-0.067	0.028	-0.712	-0.096	-0.915
128	25	-0.269	-0.273	0.000	-0.233	0.001	-0.184	-0.267	-0.690
128	0	-0.073	-0.075	0.000	-0.022	0.001	-0.096	-0.072	-0.193
128	26	0.012	0.012	0.009	0.000	0.005	-0.009	0.026	0.003
129	27	0.015	0.015	0.017	0.000	0.001	-0.043	0.033	-0.028
129	0	-0.119	-0.120	0.000	-0.060	0.004	-0.088	-0.115	-0.268
129	28	-0.363	-0.365	0.000	-0.316	0.007	-0.133	-0.356	-0.815
130	28	-0.152	-0.169	0.000	-0.058	0.047	-1.056	-0.106	-1.284
130	0	-0.146	-0.156	0.000	-0.155	3.613	-0.426	3.467	-0.737
130	29	-0.227	-0.236	0.000	-0.293	1.584	-0.363	1.358	-0.892
131	29	-0.140	-0.143	0.000	-0.142	1.267	-1.205	1.127	-1.490
131	0	-0.083	-0.099	0.000	-0.153	4.828	-0.569	4.746	-0.821
131	30	-0.121	-0.124	0.001	-0.165	1.769	-0.538	1.648	-0.826
132	30	-0.088	-0.092	0.001	-0.100	1.736	-1.313	1.649	-1.505
132	0	-0.026	-0.038	0.001	-0.083	4.307	-0.626	4.282	-0.747
132	31	-0.055	-0.060	0.001	-0.065	1.747	-1.429	1.694	-1.553
133	31	-0.046	-0.053	0.002	-0.046	1.687	-1.358	1.643	-1.457
133	0	0.005	-0.003	0.002	-0.031	4.778	-0.755	4.785	-0.789
133	32	-0.026	-0.035	0.001	-0.016	1.864	-1.359	1.839	-1.410

134	32	-0.025	-0.035	0.003	-0.014	1.874	-1.421	1.852	-1.471
134	0	0.017	0.011	0.001	-0.007	4.560	-0.721	4.578	-0.717
134	33	-0.019	-0.029	0.001	-0.002	1.732	-1.472	1.713	-1.503
135	33	-0.019	-0.029	0.001	-0.002	1.732	-1.472	1.713	-1.503
135	0	0.017	0.011	0.001	-0.007	4.560	-0.721	4.578	-0.717
135	34	-0.025	-0.035	0.003	-0.014	1.874	-1.421	1.852	-1.471
136	34	-0.026	-0.035	0.001	-0.016	1.864	-1.359	1.839	-1.410
136	0	0.005	-0.003	0.002	-0.031	4.778	-0.755	4.785	-0.789
136	35	-0.046	-0.053	0.002	-0.046	1.687	-1.358	1.643	-1.457
137	35	-0.055	-0.060	0.001	-0.065	1.747	-1.429	1.694	-1.553
137	0	-0.026	-0.038	0.001	-0.083	4.307	-0.626	4.282	-0.747
137	36	-0.088	-0.092	0.001	-0.100	1.736	-1.313	1.649	-1.505
138	36	-0.121	-0.124	0.001	-0.165	1.769	-0.538	1.648	-0.826
138	0	-0.083	-0.099	0.000	-0.153	4.828	-0.569	4.746	-0.821
138	37	-0.140	-0.143	0.000	-0.142	1.267	-1.205	1.127	-1.490
139	37	-0.227	-0.236	0.000	-0.293	1.584	-0.363	1.358	-0.892
139	0	-0.146	-0.156	0.000	-0.155	3.613	-0.426	3.467	-0.737
139	38	-0.152	-0.169	0.000	-0.058	0.047	-1.056	-0.106	-1.284
140	38	-0.363	-0.365	0.000	-0.316	0.007	-0.133	-0.356	-0.815
140	0	-0.119	-0.120	0.000	-0.060	0.004	-0.088	-0.115	-0.268
140	39	0.015	0.015	0.017	0.000	0.001	-0.043	0.033	-0.028
141	40	0.011	0.010	0.013	0.000	0.002	-0.044	0.026	-0.034
141	0	-0.123	-0.125	0.000	-0.062	0.005	-0.092	-0.119	-0.279
141	41	-0.367	-0.370	0.000	-0.318	0.008	-0.139	-0.359	-0.827
142	41	-0.150	-0.170	0.000	-0.036	0.050	-1.172	-0.100	-1.379
142	0	-0.181	-0.192	0.000	-0.190	3.758	-0.508	3.577	-0.889
142	42	-0.295	-0.309	0.000	-0.384	1.926	-0.458	1.631	-1.151
143	42	-0.179	-0.180	0.000	-0.185	1.606	-1.349	1.427	-1.715
143	0	-0.115	-0.134	0.001	-0.201	5.120	-0.711	5.006	-1.046
143	43	-0.148	-0.155	0.001	-0.216	2.207	-0.665	2.060	-1.036
144	43	-0.109	-0.110	0.001	-0.132	2.101	-1.491	1.993	-1.733
144	0	-0.039	-0.053	0.002	-0.108	4.637	-0.784	4.599	-0.945
144	44	-0.064	-0.067	0.002	-0.084	2.152	-1.630	2.090	-1.782
145	44	-0.054	-0.060	0.003	-0.060	2.091	-1.529	2.041	-1.649
145	0	0.002	-0.007	0.002	-0.040	5.126	-0.953	5.130	-1.001
145	45	-0.026	-0.035	0.002	-0.020	2.293	-1.556	2.268	-1.611
146	45	-0.026	-0.036	0.004	-0.019	2.297	-1.635	2.275	-1.690
146	0	0.017	0.011	0.001	-0.009	4.910	-0.900	4.928	-0.898
146	46	-0.018	-0.028	0.001	-0.002	2.140	-1.673	2.123	-1.703
147	46	-0.018	-0.028	0.001	-0.002	2.140	-1.673	2.123	-1.703
147	0	0.017	0.011	0.001	-0.009	4.910	-0.900	4.928	-0.898
147	47	-0.026	-0.036	0.004	-0.019	2.297	-1.635	2.275	-1.690
148	47	-0.026	-0.035	0.002	-0.020	2.293	-1.556	2.268	-1.611
148	0	0.002	-0.007	0.002	-0.040	5.126	-0.953	5.130	-1.001
148	48	-0.054	-0.060	0.003	-0.060	2.091	-1.529	2.041	-1.649
149	48	-0.064	-0.067	0.002	-0.084	2.152	-1.630	2.090	-1.782
149	0	-0.039	-0.053	0.002	-0.108	4.637	-0.784	4.599	-0.945
149	49	-0.109	-0.110	0.001	-0.132	2.101	-1.491	1.993	-1.733
150	49	-0.148	-0.155	0.001	-0.216	2.207	-0.665	2.060	-1.036
150	0	-0.115	-0.134	0.001	-0.201	5.120	-0.711	5.006	-1.046
150	50	-0.179	-0.180	0.000	-0.185	1.606	-1.349	1.427	-1.715
151	50	-0.295	-0.309	0.000	-0.384	1.926	-0.458	1.631	-1.151
151	0	-0.181	-0.192	0.000	-0.190	3.758	-0.508	3.577	-0.889
151	51	-0.150	-0.170	0.000	-0.036	0.050	-1.172	-0.100	-1.379

152	51	-0.367	-0.370	0.000	-0.318	0.008	-0.139	-0.359	-0.827
152	0	-0.123	-0.125	0.000	-0.062	0.005	-0.092	-0.119	-0.279
152	52	0.011	0.010	0.013	0.000	0.002	-0.044	0.026	-0.034
153	53	0.010	0.009	0.013	0.000	0.002	-0.045	0.025	-0.035
153	0	-0.123	-0.125	0.000	-0.062	0.005	-0.093	-0.119	-0.280
153	54	-0.367	-0.369	0.000	-0.317	0.008	-0.142	-0.359	-0.827
154	54	-0.147	-0.168	0.000	-0.027	0.053	-1.194	-0.094	-1.389
154	0	-0.191	-0.203	0.000	-0.201	3.812	-0.530	3.621	-0.933
154	55	-0.319	-0.334	0.000	-0.414	2.018	-0.487	1.700	-1.236
155	55	-0.193	-0.193	0.000	-0.201	1.697	-1.372	1.505	-1.766
155	0	-0.126	-0.147	0.001	-0.217	5.225	-0.750	5.099	-1.114
155	56	-0.158	-0.166	0.001	-0.234	2.326	-0.707	2.169	-1.107
156	56	-0.116	-0.117	0.001	-0.143	2.178	-1.538	2.063	-1.797
156	0	-0.044	-0.059	0.002	-0.117	4.753	-0.827	4.711	-1.003
156	57	-0.067	-0.070	0.002	-0.091	2.247	-1.679	2.182	-1.840
157	57	-0.056	-0.062	0.003	-0.065	2.198	-1.567	2.145	-1.694
157	0	0.001	-0.009	0.003	-0.043	5.250	-1.009	5.253	-1.062
157	58	-0.027	-0.035	0.002	-0.022	2.408	-1.604	2.384	-1.661
158	58	-0.027	-0.036	0.005	-0.020	2.406	-1.690	2.384	-1.746
158	0	0.017	0.011	0.001	-0.010	5.034	-0.964	5.053	-0.963
158	59	-0.018	-0.028	0.001	-0.002	2.236	-1.718	2.220	-1.748
159	59	-0.018	-0.028	0.001	-0.002	2.236	-1.718	2.220	-1.748
159	0	0.017	0.011	0.001	-0.010	5.034	-0.964	5.053	-0.963
159	60	-0.027	-0.036	0.005	-0.020	2.406	-1.690	2.384	-1.746
160	60	-0.027	-0.035	0.002	-0.022	2.408	-1.604	2.384	-1.661
160	0	0.001	-0.009	0.003	-0.043	5.250	-1.009	5.253	-1.062
160	61	-0.056	-0.062	0.003	-0.065	2.198	-1.567	2.145	-1.694
161	61	-0.067	-0.070	0.002	-0.091	2.247	-1.679	2.182	-1.840
161	0	-0.044	-0.059	0.002	-0.117	4.753	-0.827	4.711	-1.003
161	62	-0.116	-0.117	0.001	-0.143	2.178	-1.538	2.063	-1.797
162	62	-0.158	-0.166	0.001	-0.234	2.326	-0.707	2.169	-1.107
162	0	-0.126	-0.147	0.001	-0.217	5.225	-0.750	5.099	-1.114
162	63	-0.193	-0.193	0.000	-0.201	1.697	-1.372	1.505	-1.766
163	63	-0.319	-0.334	0.000	-0.414	2.018	-0.487	1.700	-1.236
163	0	-0.191	-0.203	0.000	-0.201	3.812	-0.530	3.621	-0.933
163	64	-0.147	-0.168	0.000	-0.027	0.053	-1.194	-0.094	-1.389
164	64	-0.367	-0.369	0.000	-0.317	0.008	-0.142	-0.359	-0.827
164	0	-0.123	-0.125	0.000	-0.062	0.005	-0.093	-0.119	-0.280
164	65	0.010	0.009	0.013	0.000	0.002	-0.045	0.025	-0.035
165	66	0.011	0.010	0.013	0.000	0.002	-0.044	0.026	-0.034
165	0	-0.123	-0.125	0.000	-0.062	0.005	-0.092	-0.119	-0.279
165	67	-0.367	-0.370	0.000	-0.318	0.008	-0.139	-0.359	-0.827
166	67	-0.150	-0.170	0.000	-0.036	0.050	-1.172	-0.100	-1.379
166	0	-0.181	-0.192	0.000	-0.190	3.758	-0.508	3.577	-0.889
166	68	-0.295	-0.309	0.000	-0.384	1.926	-0.458	1.631	-1.151
167	68	-0.179	-0.180	0.000	-0.185	1.606	-1.349	1.427	-1.715
167	0	-0.115	-0.134	0.001	-0.201	5.120	-0.711	5.006	-1.046
167	69	-0.148	-0.155	0.001	-0.216	2.207	-0.665	2.060	-1.036
168	69	-0.109	-0.110	0.001	-0.132	2.101	-1.491	1.993	-1.733
168	0	-0.039	-0.053	0.002	-0.108	4.637	-0.784	4.599	-0.945
168	70	-0.064	-0.067	0.002	-0.084	2.152	-1.630	2.090	-1.782
169	70	-0.054	-0.060	0.003	-0.060	2.091	-1.529	2.041	-1.649
169	0	0.002	-0.007	0.002	-0.040	5.126	-0.953	5.130	-1.001
169	71	-0.026	-0.035	0.002	-0.020	2.293	-1.556	2.268	-1.611

170	71	-0.026	-0.036	0.004	-0.019	2.297	-1.635	2.275	-1.690
170	0	0.017	0.011	0.001	-0.009	4.910	-0.900	4.928	-0.898
170	72	-0.018	-0.028	0.001	-0.002	2.140	-1.673	2.123	-1.703
171	72	-0.018	-0.028	0.001	-0.002	2.140	-1.673	2.123	-1.703
171	0	0.017	0.011	0.001	-0.009	4.910	-0.900	4.928	-0.898
171	73	-0.026	-0.036	0.004	-0.019	2.297	-1.635	2.275	-1.690
172	73	-0.026	-0.035	0.002	-0.020	2.293	-1.556	2.268	-1.611
172	0	0.002	-0.007	0.002	-0.040	5.126	-0.953	5.130	-1.001
172	74	-0.054	-0.060	0.003	-0.060	2.091	-1.529	2.041	-1.649
173	74	-0.064	-0.067	0.002	-0.084	2.152	-1.630	2.090	-1.782
173	0	-0.039	-0.053	0.002	-0.108	4.637	-0.784	4.599	-0.945
173	75	-0.109	-0.110	0.001	-0.132	2.101	-1.491	1.993	-1.733
174	75	-0.148	-0.155	0.001	-0.216	2.207	-0.665	2.060	-1.036
174	0	-0.115	-0.134	0.001	-0.201	5.120	-0.711	5.006	-1.046
174	76	-0.179	-0.180	0.000	-0.185	1.606	-1.349	1.427	-1.715
175	76	-0.295	-0.309	0.000	-0.384	1.926	-0.458	1.631	-1.151
175	0	-0.181	-0.192	0.000	-0.190	3.758	-0.508	3.577	-0.889
175	77	-0.150	-0.170	0.000	-0.036	0.050	-1.172	-0.100	-1.379
176	77	-0.367	-0.370	0.000	-0.318	0.008	-0.139	-0.359	-0.827
176	0	-0.123	-0.125	0.000	-0.062	0.005	-0.092	-0.119	-0.279
176	78	0.011	0.010	0.013	0.000	0.002	-0.044	0.026	-0.034
177	79	0.015	0.015	0.017	0.000	0.001	-0.043	0.033	-0.028
177	0	-0.119	-0.120	0.000	-0.060	0.004	-0.088	-0.115	-0.268
177	80	-0.363	-0.365	0.000	-0.316	0.007	-0.133	-0.356	-0.815
178	80	-0.152	-0.169	0.000	-0.058	0.047	-1.056	-0.106	-1.284
178	0	-0.146	-0.156	0.000	-0.155	3.613	-0.426	3.467	-0.737
178	81	-0.227	-0.236	0.000	-0.293	1.584	-0.363	1.358	-0.892
179	81	-0.140	-0.143	0.000	-0.142	1.267	-1.205	1.127	-1.490
179	0	-0.083	-0.099	0.000	-0.153	4.828	-0.569	4.746	-0.821
179	82	-0.121	-0.124	0.001	-0.165	1.769	-0.538	1.648	-0.826
180	82	-0.088	-0.092	0.001	-0.100	1.736	-1.313	1.649	-1.505
180	0	-0.026	-0.038	0.001	-0.083	4.307	-0.626	4.282	-0.747
180	83	-0.055	-0.060	0.001	-0.065	1.747	-1.429	1.694	-1.553
181	83	-0.046	-0.053	0.002	-0.046	1.687	-1.358	1.643	-1.457
181	0	0.005	-0.003	0.002	-0.031	4.778	-0.755	4.785	-0.789
181	84	-0.026	-0.035	0.001	-0.016	1.864	-1.359	1.839	-1.410
182	84	-0.025	-0.035	0.003	-0.014	1.874	-1.421	1.852	-1.471
182	0	0.017	0.011	0.001	-0.007	4.560	-0.721	4.578	-0.717
182	85	-0.019	-0.029	0.001	-0.002	1.732	-1.472	1.713	-1.503
183	85	-0.019	-0.029	0.001	-0.002	1.732	-1.472	1.713	-1.503
183	0	0.017	0.011	0.001	-0.007	4.560	-0.721	4.578	-0.717
183	86	-0.025	-0.035	0.003	-0.014	1.874	-1.421	1.852	-1.471
184	86	-0.026	-0.035	0.001	-0.016	1.864	-1.359	1.839	-1.410
184	0	0.005	-0.003	0.002	-0.031	4.778	-0.755	4.785	-0.789
184	87	-0.046	-0.053	0.002	-0.046	1.687	-1.358	1.643	-1.457
185	87	-0.055	-0.060	0.001	-0.065	1.747	-1.429	1.694	-1.553
185	0	-0.026	-0.038	0.001	-0.083	4.307	-0.626	4.282	-0.747
185	88	-0.088	-0.092	0.001	-0.100	1.736	-1.313	1.649	-1.505
186	88	-0.121	-0.124	0.001	-0.165	1.769	-0.538	1.648	-0.826
186	0	-0.083	-0.099	0.000	-0.153	4.828	-0.569	4.746	-0.821
186	89	-0.140	-0.143	0.000	-0.142	1.267	-1.205	1.127	-1.490
187	89	-0.227	-0.236	0.000	-0.293	1.584	-0.363	1.358	-0.892
187	0	-0.146	-0.156	0.000	-0.155	3.613	-0.426	3.467	-0.737
187	90	-0.152	-0.169	0.000	-0.058	0.047	-1.056	-0.106	-1.284

188	90	-0.363	-0.365	0.000	-0.316	0.007	-0.133	-0.356	-0.815
188	0	-0.119	-0.120	0.000	-0.060	0.004	-0.088	-0.115	-0.268
188	91	0.015	0.015	0.017	0.000	0.001	-0.043	0.033	-0.028
189	92	0.012	0.012	0.009	0.000	0.005	-0.009	0.026	0.003
189	0	-0.073	-0.075	0.000	-0.022	0.001	-0.096	-0.072	-0.193
189	93	-0.269	-0.273	0.000	-0.233	0.001	-0.184	-0.267	-0.690
190	93	-0.124	-0.136	0.000	-0.067	0.028	-0.712	-0.096	-0.915
190	0	-0.081	-0.088	0.000	-0.091	3.438	-0.250	3.358	-0.430
190	94	-0.130	-0.130	0.000	-0.155	0.895	-0.249	0.766	-0.534
191	94	-0.082	-0.089	0.000	-0.075	0.656	-0.783	0.574	-0.946
191	0	-0.036	-0.047	0.000	-0.082	4.437	-0.324	4.401	-0.453
191	95	-0.078	-0.082	0.000	-0.089	0.958	-0.368	0.881	-0.539
192	95	-0.058	-0.065	0.001	-0.054	0.950	-0.819	0.893	-0.938
192	0	-0.007	-0.016	0.001	-0.045	3.860	-0.356	3.854	-0.417
192	96	-0.040	-0.048	0.001	-0.036	0.944	-0.887	0.905	-0.971
193	96	-0.035	-0.044	0.001	-0.025	0.906	-0.862	0.873	-0.930
193	0	0.010	0.003	0.001	-0.017	4.307	-0.425	4.318	-0.439
193	97	-0.024	-0.034	0.001	-0.009	1.018	-0.833	0.995	-0.876
194	97	-0.024	-0.034	0.002	-0.008	1.024	-0.872	1.002	-0.914
194	0	0.017	0.011	0.000	-0.004	4.089	-0.411	4.107	-0.404
194	98	-0.020	-0.031	0.000	-0.001	0.932	-0.924	0.912	-0.956
195	98	-0.020	-0.031	0.000	-0.001	0.932	-0.924	0.912	-0.956
195	0	0.017	0.011	0.000	-0.004	4.089	-0.411	4.107	-0.404
195	99	-0.024	-0.034	0.002	-0.008	1.024	-0.872	1.002	-0.914
196	99	-0.024	-0.034	0.001	-0.009	1.018	-0.833	0.995	-0.876
196	0	0.010	0.003	0.001	-0.017	4.307	-0.425	4.318	-0.439
196	100	-0.035	-0.044	0.001	-0.025	0.906	-0.862	0.873	-0.930
197	100	-0.040	-0.048	0.001	-0.036	0.944	-0.887	0.905	-0.971
197	0	-0.007	-0.016	0.001	-0.045	3.860	-0.356	3.854	-0.417
197	101	-0.058	-0.065	0.001	-0.054	0.950	-0.819	0.893	-0.938
198	101	-0.078	-0.082	0.000	-0.089	0.958	-0.368	0.881	-0.539
198	0	-0.036	-0.047	0.000	-0.082	4.437	-0.324	4.401	-0.453
198	102	-0.082	-0.089	0.000	-0.075	0.656	-0.783	0.574	-0.946
199	102	-0.130	-0.130	0.000	-0.155	0.895	-0.249	0.766	-0.534
199	0	-0.081	-0.088	0.000	-0.091	3.438	-0.250	3.358	-0.430
199	103	-0.124	-0.136	0.000	-0.067	0.028	-0.712	-0.096	-0.915
200	103	-0.269	-0.273	0.000	-0.233	0.001	-0.184	-0.267	-0.690
200	0	-0.073	-0.075	0.000	-0.022	0.001	-0.096	-0.072	-0.193
200	104	0.012	0.012	0.009	0.000	0.005	-0.009	0.026	0.003
201	105	-0.082	-0.086	0.000	-0.092	0.191	-0.005	0.109	-0.182
201	0	-0.394	-0.405	0.000	-0.370	0.540	-0.016	0.146	-0.792
201	106	-0.815	-0.834	0.000	-0.829	0.889	-0.028	0.074	-1.691
202	106	-2.081	-2.201	0.000	-2.530	5.570	-0.126	3.489	-4.856
202	0	-0.603	-0.638	0.000	-0.689	6.272	-0.010	5.669	-1.337
202	107	0.849	0.771	1.113	0.000	0.165	-3.366	2.126	-2.596
203	107	0.165	0.161	0.040	-0.000	2.223	-1.111	2.428	-0.951
203	0	0.135	0.133	0.113	0.000	7.242	-0.403	7.490	-0.271
203	108	0.039	0.007	0.187	0.000	1.401	-2.607	1.628	-2.600
204	108	-0.205	-0.213	0.000	-0.275	2.791	-2.349	2.586	-2.837
204	0	-0.036	-0.046	0.000	-0.070	6.288	-0.326	6.252	-0.442
204	109	0.056	0.034	0.136	0.000	2.472	-2.791	2.664	-2.757
205	109	-0.002	-0.009	0.000	-0.005	2.793	-2.466	2.791	-2.480
205	0	0.024	0.018	0.004	0.000	7.011	-0.393	7.039	-0.375

205	110	-0.027	-0.041	0.012	0.000	2.383	-2.794	2.367	-2.835
206	110	-0.028	-0.038	0.000	-0.013	2.703	-2.780	2.674	-2.831
206	0	0.015	0.009	0.001	-0.005	6.638	-0.386	6.654	-0.381
206	111	-0.019	-0.030	0.012	-0.005	2.790	-2.765	2.783	-2.800
207	111	-0.019	-0.030	0.012	-0.005	2.790	-2.765	2.783	-2.800
207	0	0.015	0.009	0.001	-0.005	6.638	-0.386	6.654	-0.381
207	112	-0.028	-0.038	0.000	-0.013	2.703	-2.780	2.674	-2.831
208	112	-0.027	-0.041	0.012	0.000	2.383	-2.794	2.367	-2.835
208	0	0.024	0.018	0.004	0.000	7.011	-0.393	7.039	-0.375
208	113	-0.002	-0.009	0.000	-0.005	2.793	-2.466	2.791	-2.480
209	113	0.056	0.034	0.136	0.000	2.472	-2.791	2.664	-2.757
209	0	-0.036	-0.046	0.000	-0.070	6.288	-0.326	6.252	-0.442
209	114	-0.205	-0.213	0.000	-0.275	2.791	-2.349	2.586	-2.837
210	114	0.039	0.007	0.187	0.000	1.401	-2.607	1.628	-2.600
210	0	0.135	0.133	0.113	0.000	7.242	-0.403	7.490	-0.271
210	115	0.165	0.161	0.040	-0.000	2.223	-1.111	2.428	-0.951
211	115	0.849	0.771	1.113	0.000	0.165	-3.366	2.126	-2.596
211	0	-0.603	-0.638	0.000	-0.689	6.272	-0.010	5.669	-1.337
211	116	-2.081	-2.201	0.000	-2.530	5.570	-0.126	3.489	-4.856
212	116	-0.815	-0.834	0.000	-0.829	0.889	-0.028	0.074	-1.691
212	0	-0.394	-0.405	0.000	-0.370	0.540	-0.016	0.146	-0.792
212	117	-0.082	-0.086	0.000	-0.092	0.191	-0.005	0.109	-0.182

Envolvente de reacciones

Nudo	Peso	C.P.	C.P.	S.C.	S.C.	Tandem	Tandem	Carril	Carril	TOTAL	TOTAL
	Propio	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.
2	18.008	6.183	6.023	6.754	0.000	11.391	-1.869	3.379	-0.747	45.716	21.415
3	15.931	0.517	-0.112	0.001	-0.988	27.024	-0.295	8.775	-0.117	52.248	14.419
4	15.931	2.212	1.598	0.421	0.000	32.527	-0.334	8.114	-0.142	59.205	17.053
5	15.931	1.701	1.046	0.000	-0.272	32.491	-0.285	8.230	-0.142	58.353	16.278
6	15.931	1.892	1.242	0.000	-0.083	33.084	-0.305	8.317	-0.156	59.224	16.630
7	15.931	1.866	1.216	0.000	-0.108	32.209	-0.174	8.138	-0.132	58.145	16.732
8	15.931	1.892	1.242	0.000	-0.083	33.084	-0.305	8.317	-0.156	59.224	16.630
9	15.931	1.701	1.046	0.000	-0.272	32.491	-0.285	8.230	-0.142	58.353	16.278
10	15.931	2.212	1.598	0.421	0.000	32.527	-0.334	8.114	-0.142	59.205	17.053
11	15.931	0.517	-0.112	0.001	-0.988	27.024	-0.295	8.775	-0.117	52.248	14.419
12	18.008	6.183	6.023	6.754	0.000	11.391	-1.869	3.379	-0.747	45.716	21.415
106	18.008	6.183	6.023	6.754	0.000	11.391	-1.869	3.379	-0.747	45.716	21.415
107	15.931	0.517	-0.112	0.001	-0.988	27.024	-0.295	8.775	-0.117	52.248	14.419
108	15.931	2.212	1.598	0.421	0.000	32.527	-0.334	8.114	-0.142	59.205	17.053
109	15.931	1.701	1.046	0.000	-0.272	32.491	-0.285	8.230	-0.142	58.353	16.278
110	15.931	1.892	1.242	0.000	-0.083	33.084	-0.305	8.317	-0.156	59.224	16.630
111	15.931	1.866	1.216	0.000	-0.108	32.209	-0.174	8.138	-0.132	58.145	16.732
112	15.931	1.892	1.242	0.000	-0.083	33.084	-0.305	8.317	-0.156	59.224	16.630
113	15.931	1.701	1.046	0.000	-0.272	32.491	-0.285	8.230	-0.142	58.353	16.278
114	15.931	2.212	1.598	0.421	0.000	32.527	-0.334	8.114	-0.142	59.205	17.053
115	15.931	0.517	-0.112	0.001	-0.988	27.024	-0.295	8.775	-0.117	52.248	14.419
116	18.008	6.183	6.023	6.754	0.000	11.391	-1.869	3.379	-0.747	45.716	21.415

CÁLCULO DEL TABLERO AMPLIADO

21	36	51	66	81	96	111	126	147
20	35	50	65	80	95	110	125	146
19 18								145 144
17 16	34	49	64	79	94	109	124	143 142
15	33	48	63	78	93	108	123	141
14	32	47	62	77	92	107	122	140
13	31	46	61	76	91	106	121	139
12	30	45	60	75	90	105	120	138
11	29	44	59	74	89	104	119	137
10	28	43	58	73	88	103	118	136
9	27	42	57	72	87	102	117	135
8	26	41	56	71	86	101	116	134
7	25	40	55	70	85	100	115	133
6	24	39	54	69	84	99	114	132
5								131
4								130
3								129
2	23	38	53	68	83	98	113	128
1	22	37	52	67	82	97	112	127

	113	114	115	116	117	118	119	120	
	140	154	168	182	196	210	224	238	258
	105	106	107	108	109	110	111	112	
139									257
138	153	167	181	195	209	223	237		256
137									255
136	97	98	99	100	101	102	103	104	254
135	89	90	91	92	93	94	95	96	253
134	151	165	179	193	207	221	235		252
81	82	83	84	85	86	87	88		
133	150	164	178	192	206	220	234		251
73	74	75	76	77	78	79	80		
132	149	163	177	191	205	219	233		250
65	66	67	68	69	70	71	72		
131	148	162	176	190	204	218	232		249
57	58	59	60	61	62	63	64		
130	147	161	175	189	203	217	231		248
49	50	51	52	53	54	55	56		
129	146	160	174	188	202	216	230		247
41	42	43	44	45	46	47	48		
128	145	159	173	187	201	215	229		246
33	34	35	36	37	38	39	40		
127	144	158	172	186	200	214	228		245
25	26	27	28	29	30	31	32		
126	143	157	171	185	199	213	227		244
125	17	18	19	20	21	22	23	24	243
124									242
123	142	156	170	184	198	212	226		241
122									240
9	10	11	12	13	14	15	16		
121	141	155	169	183	197	211	225		239
1	2	3	4	5	6	7	8		

○	81	82	83	84	85	86	87	88	○
○									○
○	73	74	75	76	77	78	79	80	○
○									○
○	65	66	67	68	69	70	71	72	○
○									○
○	57	58	59	60	61	62	63	64	○
○									○
○	49	50	51	52	53	54	55	56	○
○									○
○	41	42	43	44	45	46	47	48	○
○									○
○	33	34	35	36	37	38	39	40	○
○									○
○	25	26	27	28	29	30	31	32	○
○									○
○	17	18	19	20	21	22	23	24	○
○									○
○	9	10	11	12	13	14	15	16	○
○									○
○	1	2	3	4	5	6	7	8	○
○									○

Calculo automatico de Emparrillados

Cliente : Ayuntamiento de Zaragoza

Obra : Puente calle Alcalde Caballero, TABLERO AMPLIADO

Fecha : 11/12/2013

Hora : 17:22

1.- [Datos de la Estructura](#)

2.- [Datos del Emparrillado](#)

2.1.- [Datos de Nudos](#)

2.2.- [Datos de Barras](#)

3.- [Datos de Tramos de Vigas](#)

4.- [Envolvente de esfuerzos](#)

4.1.- [Cortantes](#)

4.2.- [Momentos](#)

5.- [Env. Momentos barras transversales](#)

5.1.- [Cortantes](#)

5.2.- [Momentos](#)

6.- [Envolvente de reacciones](#)

Datos de la Estructura

Luz de cálculo (m)	:	14.450
Ancho (m)	:	22.500
Esviaje (g)	:	100.000
Dist. Eje Viga a Ext. Losa (m)	:	3.395
Ancho de las aceras (m)	:	4.600
Dist. Eje Barrera a Ext. Losa (m)	:	0.100
Espesor de la losa (m)	:	0.250
Espesor riostras (m)	:	0.300

Datos de las Vigas

Viga	Tipo	Canto (m)	Area (m²)	Peso (t/m)	Va (m)	Inercia (m4)	Intereje (m)
1	CAJON_ALC_CAB	1.250	1.303140	3.2578	0.7951	0.191568	1.935
2	NERVIO_40_128	1.280	0.512000	1.2800	0.6400	0.069905	1.480
3	NERVIO_40_128	1.280	0.512000	1.2800	0.6400	0.069905	1.480
4	NERVIO_40_128	1.280	0.512000	1.2800	0.6400	0.069905	1.480
5	NERVIO_40_128	1.280	0.512000	1.2800	0.6400	0.069905	1.480
6	NERVIO_40_128	1.280	0.512000	1.2800	0.6400	0.069905	1.480

7	NERVIO_40_128	1.280	0.512000	1.2800	0.6400	0.069905	1.480
8	NERVIO_40_128	1.280	0.512000	1.2800	0.6400	0.069905	1.480
9	NERVIO_40_128	1.280	0.512000	1.2800	0.6400	0.069905	1.480
10	NERVIO_40_128	1.280	0.512000	1.2800	0.6400	0.069905	1.935
11	CAJON_ALC_CAB	1.250	1.303140	3.2578	0.7951	0.191568	

Acciones sobre estructura

Peso pavimento (t/m ²)	:	0.120
Coeficiente valor inferior	:	1.000
Coeficiente valor superior	:	1.500
Peso Aceras (t/m ²)	:	0.500
Peso Barrera (t/m)	:	0.600
Sobrecarga uso tipo	:	Eurocódigo 1
Número de carriles	:	4.000
Ancho carril	:	3.000
Distancia acera - carril inferior (m)	:	0.000
Distancia acera - carril superior (m)	:	0.000
Peso total Tandem (t)	:	20.000
Distancia de la rueda a la acera (m)	:	0.500
Carga lineal carril (t/m)	:	0.300
Sobrecarga uniforme en aceras (t/m ²)	:	0.500
Coeficiente tandem carril 1	:	3.000
Coeficiente tandem carril 2	:	2.000
Coeficiente tandem carril 3	:	1.000
Coeficiente tandem resto carriles	:	0.000
Coeficiente S.C. Uniforme carril 1	:	9.000
Coeficiente S.C. Uniforme carril 2	:	2.500
Coeficiente S.C. Uniforme carril 3	:	2.500
Coeficiente S.C. Uniforme resto carriles	:	2.500

Coeficientes parciales de seguridad

Acciones	E.L.U.		E.L.S.	
	Favorable	Desfavorable	Favorable	Desfavorable
Peso Propio	1.00	1.35	1.00	1.00
Carga permanente	1.00	1.35	1.00	1.00
Sobrecarga	0.00	1.35	0.00	1.00
Sobrecarga Térmica	0.00	1.50	0.00	1.00
Acciones reológicas	0.00	1.50	0.00	1.00
Pretensado	1.00	1.00	0.95	1.05

Datos del Emparrillado

Datos de Nudos

Nudo	X (m)	Y (m)
1	0.000	0.000
2	-0.000	2.070
3	-0.000	2.950

4	-0.000	3.395
5	-0.000	4.450
6	-0.000	4.720
7	-0.000	5.330
8	-0.000	6.810
9	-0.000	8.290
10	-0.000	9.770
11	-0.000	11.250
12	-0.000	12.730
13	-0.000	14.210
14	-0.000	15.690
15	-0.000	17.170
16	-0.000	17.780
17	-0.000	18.050
18	-0.000	19.105
19	-0.000	19.550
20	-0.000	20.430
21	-0.000	22.500
22	1.806	0.000
23	1.806	2.070
24	1.806	4.720
25	1.806	5.330
26	1.806	6.810
27	1.806	8.290
28	1.806	9.770
29	1.806	11.250
30	1.806	12.730
31	1.806	14.210
32	1.806	15.690
33	1.806	17.170
34	1.806	17.780
35	1.806	20.430
36	1.806	22.500
37	3.612	0.000
38	3.612	2.070
39	3.612	4.720
40	3.612	5.330
41	3.612	6.810
42	3.612	8.290
43	3.612	9.770
44	3.612	11.250
45	3.612	12.730
46	3.612	14.210
47	3.612	15.690
48	3.612	17.170
49	3.612	17.780
50	3.612	20.430
51	3.612	22.500
52	5.419	0.000
53	5.419	2.070
54	5.419	4.720
55	5.419	5.330
56	5.419	6.810
57	5.419	8.290

58	5.419	9.770
59	5.419	11.250
60	5.419	12.730
61	5.419	14.210
62	5.419	15.690
63	5.419	17.170
64	5.419	17.780
65	5.419	20.430
66	5.419	22.500
67	7.225	0.000
68	7.225	2.070
69	7.225	4.720
70	7.225	5.330
71	7.225	6.810
72	7.225	8.290
73	7.225	9.770
74	7.225	11.250
75	7.225	12.730
76	7.225	14.210
77	7.225	15.690
78	7.225	17.170
79	7.225	17.780
80	7.225	20.430
81	7.225	22.500
82	9.031	0.000
83	9.031	2.070
84	9.031	4.720
85	9.031	5.330
86	9.031	6.810
87	9.031	8.290
88	9.031	9.770
89	9.031	11.250
90	9.031	12.730
91	9.031	14.210
92	9.031	15.690
93	9.031	17.170
94	9.031	17.780
95	9.031	20.430
96	9.031	22.500
97	10.837	0.000
98	10.837	2.070
99	10.837	4.720
100	10.837	5.330
101	10.837	6.810
102	10.837	8.290
103	10.837	9.770
104	10.837	11.250
105	10.837	12.730
106	10.837	14.210
107	10.837	15.690
108	10.837	17.170
109	10.837	17.780
110	10.837	20.430

111	10.837	22.500
112	12.644	0.000
113	12.644	2.070
114	12.644	4.720
115	12.644	5.330
116	12.644	6.810
117	12.644	8.290
118	12.644	9.770
119	12.644	11.250
120	12.644	12.730
121	12.644	14.210
122	12.644	15.690
123	12.644	17.170
124	12.644	17.780
125	12.644	20.430
126	12.644	22.500
127	14.450	0.000
128	14.450	2.070
129	14.450	2.950
130	14.450	3.395
131	14.450	4.450
132	14.450	4.720
133	14.450	5.330
134	14.450	6.810
135	14.450	8.290
136	14.450	9.770
137	14.450	11.250
138	14.450	12.730
139	14.450	14.210
140	14.450	15.690
141	14.450	17.170
142	14.450	17.780
143	14.450	18.050
144	14.450	19.105
145	14.450	19.550
146	14.450	20.430
147	14.450	22.500

Datos de Apoyos

Nudo	Cte. Elástica (t/m)
3	0.00
5	0.00
7	0.00
8	0.00
9	0.00
10	0.00
11	0.00
12	0.00
13	0.00
14	0.00
15	0.00
17	0.00

19	0.00
129	0.00
131	0.00
133	0.00
134	0.00
135	0.00
136	0.00
137	0.00
138	0.00
139	0.00
140	0.00
141	0.00
143	0.00
145	0.00

Datos de Barras

Barra	Nudo I	Nudo J	Ancho (m)	Inercia (m4)	Inercia a torsion (m4)	Area (m²)
1	1	22	1.035	0.000898	0.001387	0.172500
2	22	37	1.035	0.000898	0.001387	0.172500
3	37	52	1.035	0.000898	0.001387	0.172500
4	52	67	1.035	0.000898	0.001387	0.172500
5	67	82	1.035	0.000898	0.001387	0.172500
6	82	97	1.035	0.000898	0.001387	0.172500
7	97	112	1.035	0.000898	0.001387	0.172500
8	112	127	1.035	0.000898	0.001387	0.172500
9	2	23	2.360	0.305672	0.149179	1.044903
10	23	38	2.360	0.305672	0.149179	1.044903
11	38	53	2.360	0.305672	0.149179	1.044903
12	53	68	2.360	0.305672	0.149179	1.044903
13	68	83	2.360	0.305672	0.149179	1.044903
14	83	98	2.360	0.305672	0.149179	1.044903
15	98	113	2.360	0.305672	0.149179	1.044903
16	113	128	2.360	0.305672	0.149179	1.044903
17	6	24	1.630	0.266866	0.149179	0.923237
18	24	39	1.630	0.266866	0.149179	0.923237
19	39	54	1.630	0.266866	0.149179	0.923237
20	54	69	1.630	0.266866	0.149179	0.923237
21	69	84	1.630	0.266866	0.149179	0.923237
22	84	99	1.630	0.266866	0.149179	0.923237
23	99	114	1.630	0.266866	0.149179	0.923237
24	114	132	1.630	0.266866	0.149179	0.923237
25	7	25	1.045	0.146867	0.023340	0.686167
26	25	40	1.045	0.146867	0.023340	0.686167
27	40	55	1.045	0.146867	0.023340	0.686167
28	55	70	1.045	0.146867	0.023340	0.686167
29	70	85	1.045	0.146867	0.023340	0.686167
30	85	100	1.045	0.146867	0.023340	0.686167
31	100	115	1.045	0.146867	0.023340	0.686167
32	115	133	1.045	0.146867	0.023340	0.686167
33	8	26	1.480	0.168611	0.024094	0.758667
34	26	41	1.480	0.168611	0.024094	0.758667
35	41	56	1.480	0.168611	0.024094	0.758667

36	56	71	1.480	0.168611	0.024094 0.758667
37	71	86	1.480	0.168611	0.024094 0.758667
38	86	101	1.480	0.168611	0.024094 0.758667
39	101	116	1.480	0.168611	0.024094 0.758667
40	116	134	1.480	0.168611	0.024094 0.758667
41	9	27	1.480	0.168611	0.024094 0.758667
42	27	42	1.480	0.168611	0.024094 0.758667
43	42	57	1.480	0.168611	0.024094 0.758667
44	57	72	1.480	0.168611	0.024094 0.758667
45	72	87	1.480	0.168611	0.024094 0.758667
46	87	102	1.480	0.168611	0.024094 0.758667
47	102	117	1.480	0.168611	0.024094 0.758667
48	117	135	1.480	0.168611	0.024094 0.758667
49	10	28	1.480	0.168611	0.024094 0.758667
50	28	43	1.480	0.168611	0.024094 0.758667
51	43	58	1.480	0.168611	0.024094 0.758667
52	58	73	1.480	0.168611	0.024094 0.758667
53	73	88	1.480	0.168611	0.024094 0.758667
54	88	103	1.480	0.168611	0.024094 0.758667
55	103	118	1.480	0.168611	0.024094 0.758667
56	118	136	1.480	0.168611	0.024094 0.758667
57	11	29	1.480	0.168611	0.024094 0.758667
58	29	44	1.480	0.168611	0.024094 0.758667
59	44	59	1.480	0.168611	0.024094 0.758667
60	59	74	1.480	0.168611	0.024094 0.758667
61	74	89	1.480	0.168611	0.024094 0.758667
62	89	104	1.480	0.168611	0.024094 0.758667
63	104	119	1.480	0.168611	0.024094 0.758667
64	119	137	1.480	0.168611	0.024094 0.758667
65	12	30	1.480	0.168611	0.024094 0.758667
66	30	45	1.480	0.168611	0.024094 0.758667
67	45	60	1.480	0.168611	0.024094 0.758667
68	60	75	1.480	0.168611	0.024094 0.758667
69	75	90	1.480	0.168611	0.024094 0.758667
70	90	105	1.480	0.168611	0.024094 0.758667
71	105	120	1.480	0.168611	0.024094 0.758667
72	120	138	1.480	0.168611	0.024094 0.758667
73	13	31	1.480	0.168611	0.024094 0.758667
74	31	46	1.480	0.168611	0.024094 0.758667
75	46	61	1.480	0.168611	0.024094 0.758667
76	61	76	1.480	0.168611	0.024094 0.758667
77	76	91	1.480	0.168611	0.024094 0.758667
78	91	106	1.480	0.168611	0.024094 0.758667
79	106	121	1.480	0.168611	0.024094 0.758667
80	121	139	1.480	0.168611	0.024094 0.758667
81	14	32	1.480	0.168611	0.024094 0.758667
82	32	47	1.480	0.168611	0.024094 0.758667
83	47	62	1.480	0.168611	0.024094 0.758667
84	62	77	1.480	0.168611	0.024094 0.758667
85	77	92	1.480	0.168611	0.024094 0.758667
86	92	107	1.480	0.168611	0.024094 0.758667
87	107	122	1.480	0.168611	0.024094 0.758667
88	122	140	1.480	0.168611	0.024094 0.758667
89	15	33	1.045	0.146867	0.023340 0.686167

90	33	48	1.045	0.146867	0.023340 0.686167
91	48	63	1.045	0.146867	0.023340 0.686167
92	63	78	1.045	0.146867	0.023340 0.686167
93	78	93	1.045	0.146867	0.023340 0.686167
94	93	108	1.045	0.146867	0.023340 0.686167
95	108	123	1.045	0.146867	0.023340 0.686167
96	123	141	1.045	0.146867	0.023340 0.686167
97	16	34	1.630	0.266866	0.149179 0.923237
98	34	49	1.630	0.266866	0.149179 0.923237
99	49	64	1.630	0.266866	0.149179 0.923237
100	64	79	1.630	0.266866	0.149179 0.923237
101	79	94	1.630	0.266866	0.149179 0.923237
102	94	109	1.630	0.266866	0.149179 0.923237
103	109	124	1.630	0.266866	0.149179 0.923237
104	124	142	1.630	0.266866	0.149179 0.923237
105	20	35	2.360	0.305672	0.149179 1.044903
106	35	50	2.360	0.305672	0.149179 1.044903
107	50	65	2.360	0.305672	0.149179 1.044903
108	65	80	2.360	0.305672	0.149179 1.044903
109	80	95	2.360	0.305672	0.149179 1.044903
110	95	110	2.360	0.305672	0.149179 1.044903
111	110	125	2.360	0.305672	0.149179 1.044903
112	125	146	2.360	0.305672	0.149179 1.044903
113	21	36	1.035	0.000898	0.001387 0.172500
114	36	51	1.035	0.000898	0.001387 0.172500
115	51	66	1.035	0.000898	0.001387 0.172500
116	66	81	1.035	0.000898	0.001387 0.172500
117	81	96	1.035	0.000898	0.001387 0.172500
118	96	111	1.035	0.000898	0.001387 0.172500
119	111	126	1.035	0.000898	0.001387 0.172500
120	126	147	1.035	0.000898	0.001387 0.172500
121	1	2	0.903	0.091209	0.005395 0.406521
122	2	3	0.903	0.164128	0.211336 0.646146
123	3	4	0.903	0.164128	0.211336 0.646146
124	4	5	0.903	0.164128	0.211336 0.646146
125	5	6	0.903	0.164128	0.211336 0.646146
126	6	7	0.903	0.091209	0.005395 0.406521
127	7	8	0.903	0.091209	0.005395 0.406521
128	8	9	0.903	0.091209	0.005395 0.406521
129	9	10	0.903	0.091209	0.005395 0.406521
130	10	11	0.903	0.091209	0.005395 0.406521
131	11	12	0.903	0.091209	0.005395 0.406521
132	12	13	0.903	0.091209	0.005395 0.406521
133	13	14	0.903	0.091209	0.005395 0.406521
134	14	15	0.903	0.091209	0.005395 0.406521
135	15	16	0.903	0.091209	0.005395 0.406521
136	16	17	0.903	0.164128	0.211336 0.646146
137	17	18	0.903	0.164128	0.211336 0.646146
138	18	19	0.903	0.164128	0.211336 0.646146
139	19	20	0.903	0.164128	0.211336 0.646146
140	20	21	0.903	0.091209	0.005395 0.406521
141	22	23	1.806	0.001568	0.003136 0.301042
142	23	24	1.806	0.269707	0.422673 0.662292

143	24	25	1.806	0.001568	0.003136 0.301042
144	25	26	1.806	0.001568	0.003136 0.301042
145	26	27	1.806	0.001568	0.003136 0.301042
146	27	28	1.806	0.001568	0.003136 0.301042
147	28	29	1.806	0.001568	0.003136 0.301042
148	29	30	1.806	0.001568	0.003136 0.301042
149	30	31	1.806	0.001568	0.003136 0.301042
150	31	32	1.806	0.001568	0.003136 0.301042
151	32	33	1.806	0.001568	0.003136 0.301042
152	33	34	1.806	0.001568	0.003136 0.301042
153	34	35	1.806	0.269707	0.422673 0.662292
154	35	36	1.806	0.001568	0.003136 0.301042
155	37	38	1.806	0.001568	0.003136 0.301042
156	38	39	1.806	0.269707	0.422673 0.662292
157	39	40	1.806	0.001568	0.003136 0.301042
158	40	41	1.806	0.001568	0.003136 0.301042
159	41	42	1.806	0.001568	0.003136 0.301042
160	42	43	1.806	0.001568	0.003136 0.301042
161	43	44	1.806	0.001568	0.003136 0.301042
162	44	45	1.806	0.001568	0.003136 0.301042
163	45	46	1.806	0.001568	0.003136 0.301042
164	46	47	1.806	0.001568	0.003136 0.301042
165	47	48	1.806	0.001568	0.003136 0.301042
166	48	49	1.806	0.001568	0.003136 0.301042
167	49	50	1.806	0.269707	0.422673 0.662292
168	50	51	1.806	0.001568	0.003136 0.301042
169	52	53	1.806	0.001568	0.003136 0.301042
170	53	54	1.806	0.269707	0.422673 0.662292
171	54	55	1.806	0.001568	0.003136 0.301042
172	55	56	1.806	0.001568	0.003136 0.301042
173	56	57	1.806	0.001568	0.003136 0.301042
174	57	58	1.806	0.001568	0.003136 0.301042
175	58	59	1.806	0.001568	0.003136 0.301042
176	59	60	1.806	0.001568	0.003136 0.301042
177	60	61	1.806	0.001568	0.003136 0.301042
178	61	62	1.806	0.001568	0.003136 0.301042
179	62	63	1.806	0.001568	0.003136 0.301042
180	63	64	1.806	0.001568	0.003136 0.301042
181	64	65	1.806	0.269707	0.422673 0.662292
182	65	66	1.806	0.001568	0.003136 0.301042
183	67	68	1.806	0.001568	0.003136 0.301042
184	68	69	1.806	0.269707	0.422673 0.662292
185	69	70	1.806	0.001568	0.003136 0.301042
186	70	71	1.806	0.001568	0.003136 0.301042
187	71	72	1.806	0.001568	0.003136 0.301042
188	72	73	1.806	0.001568	0.003136 0.301042
189	73	74	1.806	0.001568	0.003136 0.301042
190	74	75	1.806	0.001568	0.003136 0.301042
191	75	76	1.806	0.001568	0.003136 0.301042
192	76	77	1.806	0.001568	0.003136 0.301042
193	77	78	1.806	0.001568	0.003136 0.301042
194	78	79	1.806	0.001568	0.003136 0.301042
195	79	80	1.806	0.269707	0.422673 0.662292

196	80	81	1.806	0.001568	0.003136 0.301042
197	82	83	1.806	0.001568	0.003136 0.301042
198	83	84	1.806	0.269707	0.422673 0.662292
199	84	85	1.806	0.001568	0.003136 0.301042
200	85	86	1.806	0.001568	0.003136 0.301042
201	86	87	1.806	0.001568	0.003136 0.301042
202	87	88	1.806	0.001568	0.003136 0.301042
203	88	89	1.806	0.001568	0.003136 0.301042
204	89	90	1.806	0.001568	0.003136 0.301042
205	90	91	1.806	0.001568	0.003136 0.301042
206	91	92	1.806	0.001568	0.003136 0.301042
207	92	93	1.806	0.001568	0.003136 0.301042
208	93	94	1.806	0.001568	0.003136 0.301042
209	94	95	1.806	0.269707	0.422673 0.662292
210	95	96	1.806	0.001568	0.003136 0.301042
211	97	98	1.806	0.001568	0.003136 0.301042
212	98	99	1.806	0.269707	0.422673 0.662292
213	99	100	1.806	0.001568	0.003136 0.301042
214	100	101	1.806	0.001568	0.003136 0.301042
215	101	102	1.806	0.001568	0.003136 0.301042
216	102	103	1.806	0.001568	0.003136 0.301042
217	103	104	1.806	0.001568	0.003136 0.301042
218	104	105	1.806	0.001568	0.003136 0.301042
219	105	106	1.806	0.001568	0.003136 0.301042
220	106	107	1.806	0.001568	0.003136 0.301042
221	107	108	1.806	0.001568	0.003136 0.301042
222	108	109	1.806	0.001568	0.003136 0.301042
223	109	110	1.806	0.269707	0.422673 0.662292
224	110	111	1.806	0.001568	0.003136 0.301042
225	112	113	1.806	0.001568	0.003136 0.301042
226	113	114	1.806	0.269707	0.422673 0.662292
227	114	115	1.806	0.001568	0.003136 0.301042
228	115	116	1.806	0.001568	0.003136 0.301042
229	116	117	1.806	0.001568	0.003136 0.301042
230	117	118	1.806	0.001568	0.003136 0.301042
231	118	119	1.806	0.001568	0.003136 0.301042
232	119	120	1.806	0.001568	0.003136 0.301042
233	120	121	1.806	0.001568	0.003136 0.301042
234	121	122	1.806	0.001568	0.003136 0.301042
235	122	123	1.806	0.001568	0.003136 0.301042
236	123	124	1.806	0.001568	0.003136 0.301042
237	124	125	1.806	0.269707	0.422673 0.662292
238	125	126	1.806	0.001568	0.003136 0.301042
239	127	128	0.903	0.091209	0.005395 0.406521
240	128	129	0.903	0.164128	0.211336 0.646146
241	129	130	0.903	0.164128	0.211336 0.646146
242	130	131	0.903	0.164128	0.211336 0.646146
243	131	132	0.903	0.164128	0.211336 0.646146
244	132	133	0.903	0.091209	0.005395 0.406521
245	133	134	0.903	0.091209	0.005395 0.406521
246	134	135	0.903	0.091209	0.005395 0.406521
247	135	136	0.903	0.091209	0.005395 0.406521
248	136	137	0.903	0.091209	0.005395 0.406521
249	137	138	0.903	0.091209	0.005395 0.406521

250	138	139	0.903	0.091209	0.005395	0.406521
251	139	140	0.903	0.091209	0.005395	0.406521
252	140	141	0.903	0.091209	0.005395	0.406521
253	141	142	0.903	0.091209	0.005395	0.406521
254	142	143	0.903	0.164128	0.211336	0.646146
255	143	144	0.903	0.164128	0.211336	0.646146
256	144	145	0.903	0.164128	0.211336	0.646146
257	145	146	0.903	0.164128	0.211336	0.646146
258	146	147	0.903	0.091209	0.005395	0.406521

Datos de Tramos de Vigas

Tramo	Viga	Ancho (m)	Canto (m)	Area (m ²)	Va (m)	Vb (m)	Inercia (m ⁴)	Inercia a torsion (m ⁴)
1	1	5.025	1.500	2.1406	0.4351	0.8149	0.627557	1.193429
2	1	5.025	1.500	2.1406	0.4351	0.8149	0.627557	1.193429
3	1	5.025	1.500	2.1406	0.4351	0.8149	0.627557	1.193429
4	1	5.025	1.500	2.1406	0.4351	0.8149	0.627557	1.193429
5	1	5.025	1.500	2.1406	0.4351	0.8149	0.627557	1.193429
6	1	5.025	1.500	2.1406	0.4351	0.8149	0.627557	1.193429
7	1	5.025	1.500	2.1406	0.4351	0.8149	0.627557	1.193429
8	1	5.025	1.500	2.1406	0.4351	0.8149	0.627557	1.193429
9	2	1.045	1.530	0.6862	0.4458	0.8342	0.146867	0.023340
10	2	1.045	1.530	0.6862	0.4458	0.8342	0.146867	0.023340
11	2	1.045	1.530	0.6862	0.4458	0.8342	0.146867	0.023340
12	2	1.045	1.530	0.6862	0.4458	0.8342	0.146867	0.023340
13	2	1.045	1.530	0.6862	0.4458	0.8342	0.146867	0.023340
14	2	1.045	1.530	0.6862	0.4458	0.8342	0.146867	0.023340
15	2	1.045	1.530	0.6862	0.4458	0.8342	0.146867	0.023340
16	2	1.045	1.530	0.6862	0.4458	0.8342	0.146867	0.023340
17	3	1.480	1.530	0.7587	0.3913	0.8887	0.168611	0.024094
18	3	1.480	1.530	0.7587	0.3913	0.8887	0.168611	0.024094
19	3	1.480	1.530	0.7587	0.3913	0.8887	0.168611	0.024094
20	3	1.480	1.530	0.7587	0.3913	0.8887	0.168611	0.024094
21	3	1.480	1.530	0.7587	0.3913	0.8887	0.168611	0.024094
22	3	1.480	1.530	0.7587	0.3913	0.8887	0.168611	0.024094
23	3	1.480	1.530	0.7587	0.3913	0.8887	0.168611	0.024094
24	3	1.480	1.530	0.7587	0.3913	0.8887	0.168611	0.024094
25	4	1.480	1.530	0.7587	0.3913	0.8887	0.168611	0.024094
26	4	1.480	1.530	0.7587	0.3913	0.8887	0.168611	0.024094
27	4	1.480	1.530	0.7587	0.3913	0.8887	0.168611	0.024094
28	4	1.480	1.530	0.7587	0.3913	0.8887	0.168611	0.024094
29	4	1.480	1.530	0.7587	0.3913	0.8887	0.168611	0.024094
30	4	1.480	1.530	0.7587	0.3913	0.8887	0.168611	0.024094
31	4	1.480	1.530	0.7587	0.3913	0.8887	0.168611	0.024094
32	4	1.480	1.530	0.7587	0.3913	0.8887	0.168611	0.024094
33	5	1.480	1.530	0.7587	0.3913	0.8887	0.168611	0.024094
34	5	1.480	1.530	0.7587	0.3913	0.8887	0.168611	0.024094
35	5	1.480	1.530	0.7587	0.3913	0.8887	0.168611	0.024094
36	5	1.480	1.530	0.7587	0.3913	0.8887	0.168611	0.024094
37	5	1.480	1.530	0.7587	0.3913	0.8887	0.168611	0.024094
38	5	1.480	1.530	0.7587	0.3913	0.8887	0.168611	0.024094
39	5	1.480	1.530	0.7587	0.3913	0.8887	0.168611	0.024094

40	5	1.480	1.530	0.7587	0.3913	0.8887	0.168611	0.024094
41	6	1.480	1.530	0.7587	0.3913	0.8887	0.168611	0.024094
42	6	1.480	1.530	0.7587	0.3913	0.8887	0.168611	0.024094
43	6	1.480	1.530	0.7587	0.3913	0.8887	0.168611	0.024094
44	6	1.480	1.530	0.7587	0.3913	0.8887	0.168611	0.024094
45	6	1.480	1.530	0.7587	0.3913	0.8887	0.168611	0.024094
46	6	1.480	1.530	0.7587	0.3913	0.8887	0.168611	0.024094
47	6	1.480	1.530	0.7587	0.3913	0.8887	0.168611	0.024094
48	6	1.480	1.530	0.7587	0.3913	0.8887	0.168611	0.024094
49	7	1.480	1.530	0.7587	0.3913	0.8887	0.168611	0.024094
50	7	1.480	1.530	0.7587	0.3913	0.8887	0.168611	0.024094
51	7	1.480	1.530	0.7587	0.3913	0.8887	0.168611	0.024094
52	7	1.480	1.530	0.7587	0.3913	0.8887	0.168611	0.024094
53	7	1.480	1.530	0.7587	0.3913	0.8887	0.168611	0.024094
54	7	1.480	1.530	0.7587	0.3913	0.8887	0.168611	0.024094
55	7	1.480	1.530	0.7587	0.3913	0.8887	0.168611	0.024094
56	7	1.480	1.530	0.7587	0.3913	0.8887	0.168611	0.024094
57	8	1.480	1.530	0.7587	0.3913	0.8887	0.168611	0.024094
58	8	1.480	1.530	0.7587	0.3913	0.8887	0.168611	0.024094
59	8	1.480	1.530	0.7587	0.3913	0.8887	0.168611	0.024094
60	8	1.480	1.530	0.7587	0.3913	0.8887	0.168611	0.024094
61	8	1.480	1.530	0.7587	0.3913	0.8887	0.168611	0.024094
62	8	1.480	1.530	0.7587	0.3913	0.8887	0.168611	0.024094
63	8	1.480	1.530	0.7587	0.3913	0.8887	0.168611	0.024094
64	8	1.480	1.530	0.7587	0.3913	0.8887	0.168611	0.024094
65	9	1.480	1.530	0.7587	0.3913	0.8887	0.168611	0.024094
66	9	1.480	1.530	0.7587	0.3913	0.8887	0.168611	0.024094
67	9	1.480	1.530	0.7587	0.3913	0.8887	0.168611	0.024094
68	9	1.480	1.530	0.7587	0.3913	0.8887	0.168611	0.024094
69	9	1.480	1.530	0.7587	0.3913	0.8887	0.168611	0.024094
70	9	1.480	1.530	0.7587	0.3913	0.8887	0.168611	0.024094
71	9	1.480	1.530	0.7587	0.3913	0.8887	0.168611	0.024094
72	9	1.480	1.530	0.7587	0.3913	0.8887	0.168611	0.024094
73	10	1.045	1.530	0.6862	0.4458	0.8342	0.146867	0.023340
74	10	1.045	1.530	0.6862	0.4458	0.8342	0.146867	0.023340
75	10	1.045	1.530	0.6862	0.4458	0.8342	0.146867	0.023340
76	10	1.045	1.530	0.6862	0.4458	0.8342	0.146867	0.023340
77	10	1.045	1.530	0.6862	0.4458	0.8342	0.146867	0.023340
78	10	1.045	1.530	0.6862	0.4458	0.8342	0.146867	0.023340
79	10	1.045	1.530	0.6862	0.4458	0.8342	0.146867	0.023340
80	10	1.045	1.530	0.6862	0.4458	0.8342	0.146867	0.023340
81	11	5.025	1.500	2.1406	0.4351	0.8149	0.627557	1.193429
82	11	5.025	1.500	2.1406	0.4351	0.8149	0.627557	1.193429
83	11	5.025	1.500	2.1406	0.4351	0.8149	0.627557	1.193429
84	11	5.025	1.500	2.1406	0.4351	0.8149	0.627557	1.193429
85	11	5.025	1.500	2.1406	0.4351	0.8149	0.627557	1.193429
86	11	5.025	1.500	2.1406	0.4351	0.8149	0.627557	1.193429
87	11	5.025	1.500	2.1406	0.4351	0.8149	0.627557	1.193429
88	11	5.025	1.500	2.1406	0.4351	0.8149	0.627557	1.193429

Envolvente de esfuerzos (Estados límites de servicio)

Cortantes

Viga	Tramo	Peso Propio Tablero	C.P. MAX.	C.P. MIN.	S.C. MAX.	S.C. MIN.	Tandem MAX.	Tandem MIN.	Carril MAX.	Carril MIN.	TOTAL MAX.	TOTAL MIN.
1	1	-46.23	-33.11	-34.19	0.62	-23.34	2.39	-38.38	1.18	-14.43	-75.15	-156.58
-	-	-34.67	-33.11	-34.19	0.62	-23.34	2.39	-38.38	1.18	-14.43	-63.59	-145.02
1	2	-34.67	-23.30	-24.16	0.72	-16.27	1.78	-32.98	0.88	-11.29	-54.60	-119.37
-	-	-23.11	-23.30	-24.16	0.72	-16.27	1.78	-32.98	0.88	-11.29	-43.04	-107.81
1	3	-23.11	-14.04	-14.58	0.71	-9.77	3.03	-25.51	0.58	-7.10	-32.84	-80.08
-	-	-11.56	-14.04	-14.58	0.71	-9.77	3.03	-25.51	0.58	-7.10	-21.28	-68.52
1	4	-11.56	-4.68	-4.87	0.27	-3.26	9.22	-16.96	0.20	-2.41	-6.54	-39.04
-	-	-0.00	-4.68	-4.87	0.27	-3.26	9.22	-16.96	0.20	-2.41	5.01	-27.49
1	5	-0.00	4.87	4.68	3.26	-0.27	16.96	-9.22	2.41	-0.20	27.49	-5.01
-	-	11.56	4.87	4.68	3.26	-0.27	16.96	-9.22	2.41	-0.20	39.04	6.54
1	6	11.56	14.58	14.04	9.77	-0.71	25.51	-3.03	7.10	-0.58	68.52	21.28
-	-	23.11	14.58	14.04	9.77	-0.71	25.51	-3.03	7.10	-0.58	80.08	32.84
1	7	23.11	24.16	23.30	16.27	-0.72	32.98	-1.78	11.29	-0.88	107.81	43.04
-	-	34.67	24.16	23.30	16.27	-0.72	32.98	-1.78	11.29	-0.88	119.37	54.60
1	8	34.67	34.19	33.11	23.34	-0.62	38.38	-2.39	14.43	-1.18	145.02	63.59
-	-	46.23	34.19	33.11	23.34	-0.62	38.38	-2.39	14.43	-1.18	156.58	75.15
2	9	-13.97	-2.52	-2.73	0.00	-1.80	0.07	-10.17	0.03	-2.96	-16.38	-31.63
-	-	-10.48	-2.52	-2.73	0.00	-1.80	0.07	-10.17	0.03	-2.96	-12.89	-28.13
2	10	-10.48	-2.13	-2.27	0.00	-1.55	3.06	-8.56	0.02	-1.81	-9.52	-24.66
-	-	-6.98	-2.13	-2.27	0.00	-1.55	3.06	-8.56	0.02	-1.81	-6.03	-21.17
2	11	-6.98	-1.39	-1.47	0.00	-1.00	4.01	-7.42	0.02	-1.04	-4.35	-17.90
-	-	-3.49	-1.39	-1.47	0.00	-1.00	4.01	-7.42	0.02	-1.04	-0.86	-14.41
2	12	-3.49	-0.47	-0.50	0.00	-0.34	4.94	-6.21	0.01	-0.34	0.98	-10.88
-	-	-0.00	-0.47	-0.50	0.00	-0.34	4.94	-6.21	0.01	-0.34	4.47	-7.39
2	13	-0.00	0.50	0.47	0.34	-0.00	6.21	-4.94	0.34	-0.01	7.39	-4.47
-	-	3.49	0.50	0.47	0.34	-0.00	6.21	-4.94	0.34	-0.01	10.88	-0.98
2	14	3.49	1.47	1.39	1.00	-0.00	7.42	-4.01	1.04	-0.02	14.41	0.86
-	-	6.98	1.47	1.39	1.00	-0.00	7.42	-4.01	1.04	-0.02	17.90	4.35
2	15	6.98	2.27	2.13	1.55	-0.00	8.56	-3.06	1.81	-0.02	21.17	6.03
-	-	10.48	2.27	2.13	1.55	-0.00	8.56	-3.06	1.81	-0.02	24.66	9.52
2	16	10.48	2.73	2.52	1.80	-0.00	10.17	-0.07	2.96	-0.03	28.13	12.89
-	-	13.97	2.73	2.52	1.80	-0.00	10.17	-0.07	2.96	-0.03	31.63	16.38
3	17	-15.93	-1.91	-2.33	0.00	-0.95	0.07	-18.70	0.03	-4.99	-17.74	-42.89
-	-	-11.95	-1.91	-2.33	0.00	-0.95	0.07	-18.70	0.03	-4.99	-13.75	-38.91
3	18	-11.95	-1.48	-1.76	0.00	-0.81	3.38	-14.76	0.03	-3.09	-10.02	-32.37
-	-	-7.97	-1.48	-1.76	0.00	-0.81	3.38	-14.76	0.03	-3.09	-6.04	-28.39
3	19	-7.97	-0.94	-1.10	0.00	-0.55	6.81	-12.53	0.02	-1.68	-2.08	-23.82
-	-	-3.98	-0.94	-1.10	0.00	-0.55	6.81	-12.53	0.02	-1.68	1.91	-19.83
3	20	-3.98	-0.32	-0.37	0.00	-0.19	9.08	-10.88	0.01	-0.53	4.78	-15.96
-	-	-0.00	-0.32	-0.37	0.00	-0.19	9.08	-10.88	0.01	-0.53	8.76	-11.98
3	21	-0.00	0.37	0.32	0.19	-0.00	10.88	-9.08	0.53	-0.01	11.98	-8.76
-	-	3.98	0.37	0.32	0.19	-0.00	10.88	-9.08	0.53	-0.01	15.96	-4.78
3	22	3.98	1.10	0.94	0.55	-0.00	12.53	-6.81	1.68	-0.02	19.83	-1.91
-	-	7.97	1.10	0.94	0.55	-0.00	12.53	-6.81	1.68	-0.02	23.82	2.08
3	23	7.97	1.76	1.48	0.81	-0.00	14.76	-3.38	3.09	-0.03	28.39	6.04
-	-	11.95	1.76	1.48	0.81	-0.00	14.76	-3.38	3.09	-0.03	32.37	10.02
3	24	11.95	2.33	1.91	0.95	-0.00	18.70	-0.07	4.99	-0.03	38.91	13.75
-	-	15.93	2.33	1.91	0.95	-0.00	18.70	-0.07	4.99	-0.03	42.89	17.74
4	25	-15.93	-1.33	-1.85	0.01	-0.28	0.06	-22.31	0.03	-5.65	-17.16	-46.03
-	-	-11.95	-1.33	-1.85	0.01	-0.28	0.06	-22.31	0.03	-5.65	-13.17	-42.04
4	26	-11.95	-0.98	-1.34	0.01	-0.24	3.93	-17.89	0.03	-3.76	-8.97	-35.19
-	-	-7.97	-0.98	-1.34	0.01	-0.24	3.93	-17.89	0.03	-3.76	-4.98	-31.20

4	27	-7.97	-0.60	-0.81	0.01	-0.16	8.09	-15.24	0.02	-2.15	-0.45	-26.33
-	-	-3.98	-0.60	-0.81	0.01	-0.16	8.09	-15.24	0.02	-2.15	3.53	-22.35
4	28	-3.98	-0.20	-0.27	0.00	-0.06	10.78	-13.08	0.01	-0.70	6.61	-18.09
-	-	-0.00	-0.20	-0.27	0.00	-0.06	10.78	-13.08	0.01	-0.70	10.59	-14.11
4	29	-0.00	0.27	0.20	0.06	-0.00	13.08	-10.78	0.70	-0.01	14.11	-10.59
-	-	3.98	0.27	0.20	0.06	-0.00	13.08	-10.78	0.70	-0.01	18.09	-6.61
4	30	3.98	0.81	0.60	0.16	-0.01	15.24	-8.09	2.15	-0.02	22.35	-3.53
-	-	7.97	0.81	0.60	0.16	-0.01	15.24	-8.09	2.15	-0.02	26.33	0.45
4	31	7.97	1.34	0.98	0.24	-0.01	17.89	-3.93	3.76	-0.03	31.20	4.98
-	-	11.95	1.34	0.98	0.24	-0.01	17.89	-3.93	3.76	-0.03	35.19	8.97
4	32	11.95	1.85	1.33	0.28	-0.01	22.31	-0.06	5.65	-0.03	42.04	13.17
-	-	15.93	1.85	1.33	0.28	-0.01	22.31	-0.06	5.65	-0.03	46.03	17.16
5	33	-15.93	-1.12	-1.67	0.02	-0.03	0.00	-21.07	0.01	-6.25	-17.01	-44.95
-	-	-11.95	-1.12	-1.67	0.02	-0.03	0.00	-21.07	0.01	-6.25	-13.03	-40.97
5	34	-11.95	-0.80	-1.19	0.02	-0.03	2.51	-17.09	0.01	-4.15	-10.21	-34.41
-	-	-7.97	-0.80	-1.19	0.02	-0.03	2.51	-17.09	0.01	-4.15	-6.22	-30.43
5	35	-7.97	-0.48	-0.72	0.01	-0.02	5.81	-14.05	0.01	-2.36	-2.61	-25.11
-	-	-3.98	-0.48	-0.72	0.01	-0.02	5.81	-14.05	0.01	-2.36	1.37	-21.13
5	36	-3.98	-0.16	-0.24	0.00	-0.01	8.73	-11.44	0.00	-0.77	4.60	-16.44
-	-	-0.00	-0.16	-0.24	0.00	-0.01	8.73	-11.44	0.00	-0.77	8.58	-12.45
5	37	-0.00	0.24	0.16	0.01	-0.00	11.44	-8.73	0.77	-0.00	12.45	-8.58
-	-	3.98	0.24	0.16	0.01	-0.00	11.44	-8.73	0.77	-0.00	16.44	-4.60
5	38	3.98	0.72	0.48	0.02	-0.01	14.05	-5.81	2.36	-0.01	21.13	-1.37
-	-	7.97	0.72	0.48	0.02	-0.01	14.05	-5.81	2.36	-0.01	25.11	2.61
5	39	7.97	1.19	0.80	0.03	-0.02	17.09	-2.51	4.15	-0.01	30.43	6.22
-	-	11.95	1.19	0.80	0.03	-0.02	17.09	-2.51	4.15	-0.01	34.41	10.21
5	40	11.95	1.67	1.12	0.03	-0.02	21.07	0.00	6.25	-0.01	40.97	13.03
-	-	15.93	1.67	1.12	0.03	-0.02	21.07	0.00	6.25	-0.01	44.95	17.01
6	41	-15.93	-1.07	-1.64	0.05	0.00	0.00	-22.74	0.01	-5.91	-16.94	-46.22
-	-	-11.95	-1.07	-1.64	0.05	0.00	0.00	-22.74	0.01	-5.91	-12.96	-42.24
6	42	-11.95	-0.76	-1.16	0.04	0.00	3.67	-18.52	0.01	-4.00	-8.98	-35.63
-	-	-7.97	-0.76	-1.16	0.04	0.00	3.67	-18.52	0.01	-4.00	-5.00	-31.65
6	43	-7.97	-0.45	-0.70	0.03	0.00	7.71	-15.59	0.00	-2.31	-0.68	-26.56
-	-	-3.98	-0.45	-0.70	0.03	0.00	7.71	-15.59	0.00	-2.31	3.31	-22.58
6	44	-3.98	-0.15	-0.23	0.01	0.00	10.52	-13.15	0.00	-0.76	6.40	-18.12
-	-	-0.00	-0.15	-0.23	0.01	0.00	10.52	-13.15	0.00	-0.76	10.38	-14.14
6	45	-0.00	0.23	0.15	0.00	-0.01	13.15	-10.52	0.76	-0.00	14.14	-10.38
-	-	3.98	0.23	0.15	0.00	-0.01	13.15	-10.52	0.76	-0.00	18.12	-6.40
6	46	3.98	0.70	0.45	0.00	-0.03	15.59	-7.71	2.31	-0.00	22.58	-3.31
-	-	7.97	0.70	0.45	0.00	-0.03	15.59	-7.71	2.31	-0.00	26.56	0.68
6	47	7.97	1.16	0.76	0.00	-0.04	18.52	-3.67	4.00	-0.01	31.65	5.00
-	-	11.95	1.16	0.76	0.00	-0.04	18.52	-3.67	4.00	-0.01	35.63	8.98
6	48	11.95	1.64	1.07	0.00	-0.05	22.74	0.00	5.91	-0.01	42.24	12.96
-	-	15.93	1.64	1.07	0.00	-0.05	22.74	0.00	5.91	-0.01	46.22	16.94
7	49	-15.93	-1.12	-1.67	0.02	-0.03	0.00	-21.07	0.01	-6.25	-17.01	-44.95
-	-	-11.95	-1.12	-1.67	0.02	-0.03	0.00	-21.07	0.01	-6.25	-13.03	-40.97
7	50	-11.95	-0.80	-1.19	0.02	-0.03	2.51	-17.09	0.01	-4.15	-10.21	-34.41
-	-	-7.97	-0.80	-1.19	0.02	-0.03	2.51	-17.09	0.01	-4.15	-6.22	-30.43
7	51	-7.97	-0.48	-0.72	0.01	-0.02	5.81	-14.05	0.01	-2.36	-2.61	-25.11
-	-	-3.98	-0.48	-0.72	0.01	-0.02	5.81	-14.05	0.01	-2.36	1.37	-21.13
7	52	-3.98	-0.16	-0.24	0.00	-0.01	8.73	-11.44	0.00	-0.77	4.60	-16.44
-	-	0.00	-0.16	-0.24	0.00	-0.01	8.73	-11.44	0.00	-0.77	8.58	-12.45
7	53	0.00	0.24	0.16	0.01	-0.00	11.44	-8.73	0.77	-0.00	12.45	-8.58
-	-	3.98	0.24	0.16	0.01	-0.00	11.44	-8.73	0.77	-0.00	16.44	-4.60

7	54	3.98	0.72	0.48	0.02	-0.01	14.05	-5.81	2.36	-0.01	21.13	-1.37
-	-	7.97	0.72	0.48	0.02	-0.01	14.05	-5.81	2.36	-0.01	25.11	2.61
7	55	7.97	1.19	0.80	0.03	-0.02	17.09	-2.51	4.15	-0.01	30.43	6.22
-	-	11.95	1.19	0.80	0.03	-0.02	17.09	-2.51	4.15	-0.01	34.41	10.21
7	56	11.95	1.67	1.12	0.03	-0.02	21.07	0.00	6.25	-0.01	40.97	13.03
-	-	15.93	1.67	1.12	0.03	-0.02	21.07	0.00	6.25	-0.01	44.95	17.01
8	57	-15.93	-1.33	-1.85	0.01	-0.28	0.06	-22.31	0.03	-5.65	-17.16	-46.03
-	-	-11.95	-1.33	-1.85	0.01	-0.28	0.06	-22.31	0.03	-5.65	-13.17	-42.04
8	58	-11.95	-0.98	-1.34	0.01	-0.24	3.93	-17.89	0.03	-3.76	-8.97	-35.19
-	-	-7.97	-0.98	-1.34	0.01	-0.24	3.93	-17.89	0.03	-3.76	-4.98	-31.20
8	59	-7.97	-0.60	-0.81	0.01	-0.16	8.09	-15.24	0.02	-2.15	-0.45	-26.33
-	-	-3.98	-0.60	-0.81	0.01	-0.16	8.09	-15.24	0.02	-2.15	3.53	-22.35
8	60	-3.98	-0.20	-0.27	0.00	-0.06	10.78	-13.08	0.01	-0.70	6.61	-18.09
-	-	0.00	-0.20	-0.27	0.00	-0.06	10.78	-13.08	0.01	-0.70	10.59	-14.11
8	61	0.00	0.27	0.20	0.06	-0.00	13.08	-10.78	0.70	-0.01	14.11	-10.59
-	-	3.98	0.27	0.20	0.06	-0.00	13.08	-10.78	0.70	-0.01	18.09	-6.61
8	62	3.98	0.81	0.60	0.16	-0.01	15.24	-8.09	2.15	-0.02	22.35	-3.53
-	-	7.97	0.81	0.60	0.16	-0.01	15.24	-8.09	2.15	-0.02	26.33	0.45
8	63	7.97	1.34	0.98	0.24	-0.01	17.89	-3.93	3.76	-0.03	31.20	4.98
-	-	11.95	1.34	0.98	0.24	-0.01	17.89	-3.93	3.76	-0.03	35.19	8.97
8	64	11.95	1.85	1.33	0.28	-0.01	22.31	-0.06	5.65	-0.03	42.04	13.17
-	-	15.93	1.85	1.33	0.28	-0.01	22.31	-0.06	5.65	-0.03	46.03	17.16
9	65	-15.93	-1.91	-2.33	0.00	-0.95	0.07	-18.70	0.03	-4.99	-17.74	-42.89
-	-	-11.95	-1.91	-2.33	0.00	-0.95	0.07	-18.70	0.03	-4.99	-13.75	-38.91
9	66	-11.95	-1.48	-1.76	0.00	-0.81	3.38	-14.76	0.03	-3.09	-10.02	-32.37
-	-	-7.97	-1.48	-1.76	0.00	-0.81	3.38	-14.76	0.03	-3.09	-6.04	-28.39
9	67	-7.97	-0.94	-1.10	0.00	-0.55	6.81	-12.53	0.02	-1.68	-2.08	-23.82
-	-	-3.98	-0.94	-1.10	0.00	-0.55	6.81	-12.53	0.02	-1.68	1.91	-19.83
9	68	-3.98	-0.32	-0.37	0.00	-0.19	9.08	-10.88	0.01	-0.53	4.78	-15.96
-	-	0.00	-0.32	-0.37	0.00	-0.19	9.08	-10.88	0.01	-0.53	8.76	-11.98
9	69	0.00	0.37	0.32	0.19	-0.00	10.88	-9.08	0.53	-0.01	11.98	-8.76
-	-	3.98	0.37	0.32	0.19	-0.00	10.88	-9.08	0.53	-0.01	15.96	-4.78
9	70	3.98	1.10	0.94	0.55	-0.00	12.53	-6.81	1.68	-0.02	19.83	-1.91
-	-	7.97	1.10	0.94	0.55	-0.00	12.53	-6.81	1.68	-0.02	23.82	2.08
9	71	7.97	1.76	1.48	0.81	-0.00	14.76	-3.38	3.09	-0.03	28.39	6.04
-	-	11.95	1.76	1.48	0.81	-0.00	14.76	-3.38	3.09	-0.03	32.37	10.02
9	72	11.95	2.33	1.91	0.95	-0.00	18.70	-0.07	4.99	-0.03	38.91	13.75
-	-	15.93	2.33	1.91	0.95	-0.00	18.70	-0.07	4.99	-0.03	42.89	17.74
10	73	-13.97	-2.52	-2.73	0.00	-1.80	0.07	-10.17	0.03	-2.96	-16.38	-31.63
-	-	-10.48	-2.52	-2.73	0.00	-1.80	0.07	-10.17	0.03	-2.96	-12.89	-28.13
10	74	-10.48	-2.13	-2.27	0.00	-1.55	3.06	-8.56	0.02	-1.81	-9.52	-24.66
-	-	-6.98	-2.13	-2.27	0.00	-1.55	3.06	-8.56	0.02	-1.81	-6.03	-21.17
10	75	-6.98	-1.39	-1.47	0.00	-1.00	4.01	-7.42	0.02	-1.04	-4.35	-17.90
-	-	-3.49	-1.39	-1.47	0.00	-1.00	4.01	-7.42	0.02	-1.04	-0.86	-14.41
10	76	-3.49	-0.47	-0.50	0.00	-0.34	4.94	-6.21	0.01	-0.34	0.98	-10.88
-	-	0.00	-0.47	-0.50	0.00	-0.34	4.94	-6.21	0.01	-0.34	4.47	-7.39
10	77	0.00	0.50	0.47	0.34	-0.00	6.21	-4.94	0.34	-0.01	7.39	-4.47
-	-	3.49	0.50	0.47	0.34	-0.00	6.21	-4.94	0.34	-0.01	10.88	-0.98
10	78	3.49	1.47	1.39	1.00	-0.00	7.42	-4.01	1.04	-0.02	14.41	0.86
-	-	6.98	1.47	1.39	1.00	-0.00	7.42	-4.01	1.04	-0.02	17.90	4.35
10	79	6.98	2.27	2.13	1.55	-0.00	8.56	-3.06	1.81	-0.02	21.17	6.03
-	-	10.48	2.27	2.13	1.55	-0.00	8.56	-3.06	1.81	-0.02	24.66	9.52
10	80	10.48	2.73	2.52	1.80	-0.00	10.17	-0.07	2.96	-0.03	28.13	12.89
-	-	13.97	2.73	2.52	1.80	-0.00	10.17	-0.07	2.96	-0.03	31.63	16.38

11	81	-46.23	-33.11	-34.19	0.62	-23.34	2.39	-38.38	1.18	-14.43	-75.15	-156.58
-	-	-34.67	-33.11	-34.19	0.62	-23.34	2.39	-38.38	1.18	-14.43	-63.59	-145.02
11	82	-34.67	-23.30	-24.16	0.72	-16.27	1.78	-32.98	0.88	-11.29	-54.60	-119.37
-	-	-23.11	-23.30	-24.16	0.72	-16.27	1.78	-32.98	0.88	-11.29	-43.04	-107.81
11	83	-23.11	-14.04	-14.58	0.71	-9.77	3.03	-25.51	0.58	-7.10	-32.84	-80.08
-	-	-11.56	-14.04	-14.58	0.71	-9.77	3.03	-25.51	0.58	-7.10	-21.28	-68.52
11	84	-11.56	-4.68	-4.87	0.27	-3.26	9.22	-16.96	0.20	-2.41	-6.54	-39.04
-	-	0.00	-4.68	-4.87	0.27	-3.26	9.22	-16.96	0.20	-2.41	5.01	-27.49
11	85	0.00	4.87	4.68	3.26	-0.27	16.96	-9.22	2.41	-0.20	27.49	-5.01
-	-	11.56	4.87	4.68	3.26	-0.27	16.96	-9.22	2.41	-0.20	39.04	6.54
11	86	11.56	14.58	14.04	9.77	-0.71	25.51	-3.03	7.10	-0.58	68.52	21.28
-	-	23.11	14.58	14.04	9.77	-0.71	25.51	-3.03	7.10	-0.58	80.08	32.84
11	87	23.11	24.16	23.30	16.27	-0.72	32.98	-1.78	11.29	-0.88	107.81	43.04
-	-	34.67	24.16	23.30	16.27	-0.72	32.98	-1.78	11.29	-0.88	119.37	54.60
11	88	34.67	34.19	33.11	23.34	-0.62	38.38	-2.39	14.43	-1.18	145.02	63.59
-	-	46.23	34.19	33.11	23.34	-0.62	38.38	-2.39	14.43	-1.18	156.58	75.15

Momentos

Viga	Tramo	Peso Propio Tablero	C.P. MAX.	C.P. MIN.	S.C. MAX.	S.C. MIN.	Tandem MAX.	Tandem MIN.	Carril MAX.	Carril MIN.	TOTAL MAX.	TOTAL MIN.
1	1	0.00	-0.21	-0.23	0.00	-0.19	0.59	-0.00	0.23	-0.01	0.61	-0.43
-	-	73.06	29.58	28.61	20.65	-0.00	36.22	-0.34	13.53	-0.15	173.05	101.18
1	2	73.06	29.47	28.49	20.55	-0.00	36.49	-0.33	13.63	-0.15	173.21	101.07
-	-	125.25	49.99	48.24	34.66	-0.00	67.41	-0.63	24.20	-0.28	301.52	172.58
1	3	125.25	49.91	48.15	34.59	-0.00	67.58	-0.63	24.27	-0.28	301.60	172.49
-	-	156.56	61.93	59.69	42.79	-0.00	87.25	-0.84	30.92	-0.37	379.47	215.05
1	4	156.56	61.89	59.65	42.76	-0.00	87.35	-0.83	30.96	-0.37	379.52	215.01
-	-	167.00	65.86	63.45	45.46	-0.00	92.70	-0.91	33.22	-0.40	404.23	229.15
1	5	167.00	65.86	63.45	45.46	-0.00	92.70	-0.91	33.22	-0.40	404.23	229.15
-	-	156.56	61.89	59.65	42.76	-0.00	87.35	-0.83	30.96	-0.37	379.52	215.01
1	6	156.56	61.93	59.69	42.79	-0.00	87.25	-0.84	30.92	-0.37	379.47	215.05
-	-	125.25	49.91	48.15	34.59	-0.00	67.58	-0.63	24.27	-0.28	301.60	172.49
1	7	125.25	49.99	48.24	34.66	-0.00	67.41	-0.63	24.20	-0.28	301.52	172.58
-	-	73.06	29.47	28.49	20.55	-0.00	36.49	-0.33	13.63	-0.15	173.21	101.07
1	8	73.06	29.58	28.61	20.65	-0.00	36.22	-0.34	13.53	-0.15	173.05	101.18
-	-	0.00	-0.21	-0.23	0.00	-0.19	0.59	-0.00	0.23	-0.01	0.61	-0.43
2	9	-0.00	0.04	0.03	0.00	-0.02	0.53	-0.17	0.20	-0.12	0.77	-0.28
-	-	22.07	4.97	4.58	3.24	-0.00	18.49	-0.09	5.32	-0.04	54.09	26.52
2	10	22.07	4.99	4.59	3.22	-0.00	18.60	-0.08	5.32	-0.04	54.21	26.55
-	-	37.84	9.09	8.44	6.02	-0.00	28.36	-0.17	8.59	-0.08	89.90	46.02
2	11	37.84	9.10	8.44	6.01	-0.00	28.45	-0.16	8.59	-0.08	89.98	46.04
-	-	47.30	11.74	10.95	7.81	-0.00	34.16	-0.23	10.46	-0.10	111.47	57.92
2	12	47.30	11.74	10.95	7.80	-0.00	34.19	-0.22	10.46	-0.10	111.50	57.92
-	-	50.46	12.65	11.80	8.41	-0.00	35.81	-0.24	11.08	-0.11	118.41	61.90
2	13	50.46	12.65	11.80	8.41	-0.00	35.81	-0.24	11.08	-0.11	118.41	61.90
-	-	47.30	11.74	10.95	7.80	-0.00	34.19	-0.22	10.46	-0.10	111.50	57.92
2	14	47.30	11.74	10.95	7.81	-0.00	34.16	-0.23	10.46	-0.10	111.47	57.92
-	-	37.84	9.10	8.44	6.01	-0.00	28.45	-0.16	8.59	-0.08	89.98	46.04
2	15	37.84	9.09	8.44	6.02	-0.00	28.36	-0.17	8.59	-0.08	89.90	46.02
-	-	22.07	4.99	4.59	3.22	-0.00	18.60	-0.08	5.32	-0.04	54.21	26.55
2	16	22.07	4.97	4.58	3.24	-0.00	18.49	-0.09	5.32	-0.04	54.09	26.52
-	-	-0.00	0.04	0.03	0.00	-0.02	0.53	-0.17	0.20	-0.12	0.77	-0.28
3	17	0.00	0.08	0.07	0.08	-0.00	0.44	-0.70	0.17	-0.36	0.77	-0.99

-	-	25.18	4.29	3.54	1.79	-0.01	33.35	-0.11	8.71	-0.05	73.31	28.55
3	18	25.18	4.33	3.59	1.83	-0.01	33.18	-0.09	8.56	-0.05	73.07	28.62
-	-	43.16	7.50	6.26	3.29	-0.01	50.67	-0.20	14.11	-0.10	118.74	49.11
3	19	43.16	7.53	6.29	3.32	-0.01	50.53	-0.20	14.00	-0.10	118.55	49.15
-	-	53.95	9.52	7.99	4.31	-0.01	59.02	-0.27	17.02	-0.13	143.82	61.53
3	20	53.95	9.54	8.01	4.33	-0.01	58.94	-0.26	16.97	-0.13	143.72	61.56
-	-	57.55	10.22	8.60	4.68	-0.02	61.18	-0.29	17.92	-0.14	151.54	65.70
3	21	57.55	10.22	8.60	4.68	-0.02	61.18	-0.29	17.92	-0.14	151.54	65.70
-	-	53.95	9.54	8.01	4.33	-0.01	58.94	-0.26	16.97	-0.13	143.72	61.56
3	22	53.95	9.52	7.99	4.31	-0.01	59.02	-0.27	17.02	-0.13	143.82	61.53
-	-	43.16	7.53	6.29	3.32	-0.01	50.53	-0.20	14.00	-0.10	118.55	49.15
3	23	43.16	7.50	6.26	3.29	-0.01	50.67	-0.20	14.11	-0.10	118.74	49.11
-	-	25.18	4.33	3.59	1.83	-0.01	33.18	-0.09	8.56	-0.05	73.07	28.62
3	24	25.18	4.29	3.54	1.79	-0.01	33.35	-0.11	8.71	-0.05	73.31	28.55
-	-	-0.00	0.08	0.07	0.08	-0.00	0.44	-0.70	0.17	-0.36	0.77	-0.99
4	25	0.00	0.07	0.06	0.08	-0.00	0.41	-0.93	0.16	-0.34	0.72	-1.20
-	-	25.18	3.40	2.48	0.59	-0.02	39.65	-0.09	9.92	-0.05	78.73	27.50
4	26	25.18	3.43	2.51	0.63	-0.02	39.36	-0.07	9.76	-0.04	78.36	27.56
-	-	43.16	5.86	4.28	1.06	-0.03	60.83	-0.17	16.56	-0.09	127.46	47.15
4	27	43.16	5.88	4.31	1.09	-0.04	60.58	-0.16	16.44	-0.09	127.16	47.19
-	-	53.95	7.35	5.39	1.38	-0.05	71.43	-0.22	20.32	-0.12	154.44	58.96
4	28	53.95	7.36	5.41	1.40	-0.05	71.29	-0.22	20.26	-0.12	154.27	58.98
-	-	57.55	7.86	5.77	1.50	-0.05	74.20	-0.24	21.52	-0.13	162.63	62.90
4	29	57.55	7.86	5.77	1.50	-0.05	74.20	-0.24	21.52	-0.13	162.63	62.90
-	-	53.95	7.36	5.41	1.40	-0.05	71.29	-0.22	20.26	-0.12	154.27	58.98
4	30	53.95	7.35	5.39	1.38	-0.05	71.43	-0.22	20.32	-0.12	154.44	58.96
-	-	43.16	5.88	4.31	1.09	-0.04	60.58	-0.16	16.44	-0.09	127.16	47.19
4	31	43.16	5.86	4.28	1.06	-0.03	60.83	-0.17	16.56	-0.09	127.46	47.15
-	-	25.18	3.43	2.51	0.63	-0.02	39.36	-0.07	9.76	-0.04	78.36	27.56
4	32	25.18	3.40	2.48	0.59	-0.02	39.65	-0.09	9.92	-0.05	78.73	27.50
-	-	0.00	0.07	0.06	0.08	-0.00	0.41	-0.93	0.16	-0.34	0.72	-1.20
5	33	-0.00	0.03	0.03	0.04	0.00	0.52	-0.74	0.19	-0.41	0.78	-1.12
-	-	25.18	3.05	2.05	0.10	-0.04	37.67	0.00	10.96	-0.02	76.95	27.17
5	34	25.18	3.07	2.07	0.12	-0.04	37.50	0.00	10.79	-0.02	76.66	27.19
-	-	43.16	5.23	3.51	0.17	-0.07	60.58	0.00	18.28	-0.04	127.42	46.56
5	35	43.16	5.24	3.52	0.18	-0.07	60.41	0.00	18.16	-0.04	127.15	46.58
-	-	53.95	6.53	4.39	0.22	-0.09	72.93	0.00	22.42	-0.06	156.05	58.20
5	36	53.95	6.54	4.39	0.22	-0.09	72.82	0.00	22.36	-0.05	155.89	58.20
-	-	57.55	6.97	4.68	0.24	-0.10	76.11	0.00	23.74	-0.06	164.60	62.08
5	37	57.55	6.97	4.68	0.24	-0.10	76.11	0.00	23.74	-0.06	164.60	62.08
-	-	53.95	6.54	4.39	0.22	-0.09	72.82	0.00	22.36	-0.05	155.89	58.20
5	38	53.95	6.53	4.39	0.22	-0.09	72.93	0.00	22.42	-0.06	156.05	58.20
-	-	43.16	5.24	3.52	0.18	-0.07	60.41	0.00	18.16	-0.04	127.15	46.58
5	39	43.16	5.23	3.51	0.17	-0.07	60.58	0.00	18.28	-0.04	127.42	46.56
-	-	25.18	3.07	2.07	0.12	-0.04	37.50	0.00	10.79	-0.02	76.66	27.19
5	40	25.18	3.05	2.05	0.10	-0.04	37.67	0.00	10.96	-0.02	76.95	27.17
-	-	0.00	0.03	0.03	0.04	0.00	0.52	-0.74	0.19	-0.41	0.78	-1.12
6	41	0.00	0.02	0.02	0.03	0.00	0.47	-0.84	0.17	-0.32	0.69	-1.14
-	-	25.18	2.97	1.95	0.00	-0.06	40.54	0.00	10.43	-0.00	79.13	27.07
6	42	25.18	2.98	1.96	0.00	-0.05	40.31	0.00	10.30	0.00	78.78	27.09
-	-	43.16	5.08	3.33	0.00	-0.13	63.99	0.00	17.53	-0.01	129.77	46.36
6	43	43.16	5.09	3.34	0.00	-0.11	63.79	0.00	17.43	-0.00	129.48	46.39
-	-	53.95	6.35	4.16	0.00	-0.17	76.26	0.00	21.61	-0.01	158.16	57.93
6	44	53.95	6.35	4.16	0.00	-0.16	76.13	0.00	21.56	-0.01	157.99	57.94

-	-	57.55	6.77	4.43	0.00	-0.18	79.50	0.00	22.92	-0.01	166.74	61.79
6	45	57.55	6.77	4.43	0.00	-0.18	79.50	0.00	22.92	-0.01	166.74	61.79
-	-	53.95	6.35	4.16	0.00	-0.16	76.13	0.00	21.56	-0.01	157.99	57.94
6	46	53.95	6.35	4.16	0.00	-0.17	76.26	0.00	21.61	-0.01	158.16	57.93
-	-	43.16	5.09	3.34	0.00	-0.11	63.79	0.00	17.43	-0.00	129.48	46.39
6	47	43.16	5.08	3.33	0.00	-0.13	63.99	0.00	17.53	-0.01	129.77	46.36
-	-	25.18	2.98	1.96	0.00	-0.05	40.31	0.00	10.30	0.00	78.78	27.09
6	48	25.18	2.97	1.95	0.00	-0.06	40.54	0.00	10.43	-0.00	79.13	27.07
-	-	0.00	0.02	0.02	0.03	0.00	0.47	-0.84	0.17	-0.32	0.69	-1.14
7	49	-0.00	0.03	0.03	0.04	0.00	0.52	-0.74	0.19	-0.41	0.78	-1.12
-	-	25.18	3.05	2.05	0.10	-0.04	37.67	0.00	10.96	-0.02	76.95	27.17
7	50	25.18	3.07	2.07	0.12	-0.04	37.50	0.00	10.79	-0.02	76.66	27.19
-	-	43.16	5.23	3.51	0.17	-0.07	60.58	0.00	18.28	-0.04	127.42	46.56
7	51	43.16	5.24	3.52	0.18	-0.07	60.41	0.00	18.16	-0.04	127.15	46.58
-	-	53.95	6.53	4.39	0.22	-0.09	72.93	0.00	22.42	-0.06	156.05	58.20
7	52	53.95	6.54	4.39	0.22	-0.09	72.82	0.00	22.36	-0.05	155.89	58.20
-	-	57.55	6.97	4.68	0.24	-0.10	76.11	0.00	23.74	-0.06	164.60	62.08
7	53	57.55	6.97	4.68	0.24	-0.10	76.11	0.00	23.74	-0.06	164.60	62.08
-	-	53.95	6.54	4.39	0.22	-0.09	72.82	0.00	22.36	-0.05	155.89	58.20
7	54	53.95	6.53	4.39	0.22	-0.09	72.93	0.00	22.42	-0.06	156.05	58.20
-	-	43.16	5.24	3.52	0.18	-0.07	60.41	0.00	18.16	-0.04	127.15	46.58
7	55	43.16	5.23	3.51	0.17	-0.07	60.58	0.00	18.28	-0.04	127.42	46.56
-	-	25.18	3.07	2.07	0.12	-0.04	37.50	0.00	10.79	-0.02	76.66	27.19
7	56	25.18	3.05	2.05	0.10	-0.04	37.67	0.00	10.96	-0.02	76.95	27.17
-	-	0.00	0.03	0.03	0.04	0.00	0.52	-0.74	0.19	-0.41	0.78	-1.12
8	57	0.00	0.07	0.06	0.08	-0.00	0.41	-0.93	0.16	-0.34	0.72	-1.20
-	-	25.18	3.40	2.48	0.59	-0.02	39.65	-0.09	9.92	-0.05	78.73	27.50
8	58	25.18	3.43	2.51	0.63	-0.02	39.36	-0.07	9.76	-0.04	78.36	27.56
-	-	43.16	5.86	4.28	1.06	-0.03	60.83	-0.17	16.56	-0.09	127.46	47.15
8	59	43.16	5.88	4.31	1.09	-0.04	60.58	-0.16	16.44	-0.09	127.16	47.19
-	-	53.95	7.35	5.39	1.38	-0.05	71.43	-0.22	20.32	-0.12	154.44	58.96
8	60	53.95	7.36	5.41	1.40	-0.05	71.29	-0.22	20.26	-0.12	154.27	58.98
-	-	57.55	7.86	5.77	1.50	-0.05	74.20	-0.24	21.52	-0.13	162.63	62.90
8	61	57.55	7.86	5.77	1.50	-0.05	74.20	-0.24	21.52	-0.13	162.63	62.90
-	-	53.95	7.36	5.41	1.40	-0.05	71.29	-0.22	20.26	-0.12	154.27	58.98
8	62	53.95	7.35	5.39	1.38	-0.05	71.43	-0.22	20.32	-0.12	154.44	58.96
-	-	43.16	5.88	4.31	1.09	-0.04	60.58	-0.16	16.44	-0.09	127.16	47.19
8	63	43.16	5.86	4.28	1.06	-0.03	60.83	-0.17	16.56	-0.09	127.46	47.15
-	-	25.18	3.43	2.51	0.63	-0.02	39.36	-0.07	9.76	-0.04	78.36	27.56
8	64	25.18	3.40	2.48	0.59	-0.02	39.65	-0.09	9.92	-0.05	78.73	27.50
-	-	0.00	0.07	0.06	0.08	-0.00	0.41	-0.93	0.16	-0.34	0.72	-1.20
9	65	-0.00	0.08	0.07	0.08	-0.00	0.44	-0.70	0.17	-0.36	0.77	-0.99
-	-	25.18	4.29	3.54	1.79	-0.01	33.35	-0.11	8.71	-0.05	73.31	28.55
9	66	25.18	4.33	3.59	1.83	-0.01	33.18	-0.09	8.56	-0.05	73.07	28.62
-	-	43.16	7.50	6.26	3.29	-0.01	50.67	-0.20	14.11	-0.10	118.74	49.11
9	67	43.16	7.53	6.29	3.32	-0.01	50.53	-0.20	14.00	-0.10	118.55	49.15
-	-	53.95	9.52	7.99	4.31	-0.01	59.02	-0.27	17.02	-0.13	143.82	61.53
9	68	53.95	9.54	8.01	4.33	-0.01	58.94	-0.26	16.97	-0.13	143.72	61.56
-	-	57.55	10.22	8.60	4.68	-0.02	61.18	-0.29	17.92	-0.14	151.54	65.70
9	69	57.55	10.22	8.60	4.68	-0.02	61.18	-0.29	17.92	-0.14	151.54	65.70
-	-	53.95	9.54	8.01	4.33	-0.01	58.94	-0.26	16.97	-0.13	143.72	61.56
9	70	53.95	9.52	7.99	4.31	-0.01	59.02	-0.27	17.02	-0.13	143.82	61.53
-	-	43.16	7.53	6.29	3.32	-0.01	50.53	-0.20	14.00	-0.10	118.55	49.15
9	71	43.16	7.50	6.26	3.29	-0.01	50.67	-0.20	14.11	-0.10	118.74	49.11

-	-	25.18	4.33	3.59	1.83	-0.01	33.18	-0.09	8.56	-0.05	73.07	28.62
9	72	25.18	4.29	3.54	1.79	-0.01	33.35	-0.11	8.71	-0.05	73.31	28.55
-	-	0.00	0.08	0.07	0.08	-0.00	0.44	-0.70	0.17	-0.36	0.77	-0.99
10	73	-0.00	0.04	0.03	0.00	-0.02	0.53	-0.17	0.20	-0.12	0.77	-0.28
-	-	22.07	4.97	4.58	3.24	-0.00	18.49	-0.09	5.32	-0.04	54.09	26.52
10	74	22.07	4.99	4.59	3.22	-0.00	18.60	-0.08	5.32	-0.04	54.21	26.55
-	-	37.84	9.09	8.44	6.02	-0.00	28.36	-0.17	8.59	-0.08	89.90	46.02
10	75	37.84	9.10	8.44	6.01	-0.00	28.45	-0.16	8.59	-0.08	89.98	46.04
-	-	47.30	11.74	10.95	7.81	-0.00	34.16	-0.23	10.46	-0.10	111.47	57.92
10	76	47.30	11.74	10.95	7.80	-0.00	34.19	-0.22	10.46	-0.10	111.50	57.92
-	-	50.46	12.65	11.80	8.41	-0.00	35.81	-0.24	11.08	-0.11	118.41	61.90
10	77	50.46	12.65	11.80	8.41	-0.00	35.81	-0.24	11.08	-0.11	118.41	61.90
-	-	47.30	11.74	10.95	7.80	-0.00	34.19	-0.22	10.46	-0.10	111.50	57.92
10	78	47.30	11.74	10.95	7.81	-0.00	34.16	-0.23	10.46	-0.10	111.47	57.92
-	-	37.84	9.10	8.44	6.01	-0.00	28.45	-0.16	8.59	-0.08	89.98	46.04
10	79	37.84	9.09	8.44	6.02	-0.00	28.36	-0.17	8.59	-0.08	89.90	46.02
-	-	22.07	4.99	4.59	3.22	-0.00	18.60	-0.08	5.32	-0.04	54.21	26.55
10	80	22.07	4.97	4.58	3.24	-0.00	18.49	-0.09	5.32	-0.04	54.09	26.52
-	-	0.00	0.04	0.03	0.00	-0.02	0.53	-0.17	0.20	-0.12	0.77	-0.28
11	81	-0.00	-0.21	-0.23	0.00	-0.19	0.59	-0.00	0.23	-0.01	0.61	-0.43
-	-	73.06	29.58	28.61	20.65	-0.00	36.22	-0.34	13.53	-0.15	173.05	101.18
11	82	73.06	29.47	28.49	20.55	-0.00	36.49	-0.33	13.63	-0.15	173.21	101.07
-	-	125.25	49.99	48.24	34.66	-0.00	67.41	-0.63	24.20	-0.28	301.52	172.58
11	83	125.25	49.91	48.15	34.59	-0.00	67.58	-0.63	24.27	-0.28	301.60	172.49
-	-	156.56	61.93	59.69	42.79	-0.00	87.25	-0.84	30.92	-0.37	379.47	215.05
11	84	156.56	61.89	59.65	42.76	-0.00	87.35	-0.83	30.96	-0.37	379.52	215.01
-	-	167.00	65.86	63.45	45.46	-0.00	92.70	-0.91	33.22	-0.40	404.23	229.15
11	85	167.00	65.86	63.45	45.46	-0.00	92.70	-0.91	33.22	-0.40	404.23	229.15
-	-	156.56	61.89	59.65	42.76	-0.00	87.35	-0.83	30.96	-0.37	379.52	215.01
11	86	156.56	61.93	59.69	42.79	-0.00	87.25	-0.84	30.92	-0.37	379.47	215.05
-	-	125.25	49.91	48.15	34.59	-0.00	67.58	-0.63	24.27	-0.28	301.60	172.49
11	87	125.25	49.99	48.24	34.66	-0.00	67.41	-0.63	24.20	-0.28	301.52	172.58
-	-	73.06	29.47	28.49	20.55	-0.00	36.49	-0.33	13.63	-0.15	173.21	101.07
11	88	73.06	29.58	28.61	20.65	-0.00	36.22	-0.34	13.53	-0.15	173.05	101.18
-	-	-0.00	-0.21	-0.23	0.00	-0.19	0.59	-0.00	0.23	-0.01	0.61	-0.43

Envolvente Barras Transversales

Envolvente de cortantes (t/m) (E.L.S.)

Barra Nudo		C.P. MAX.	C.P. MIN.	S.C. MAX.	S.C. MIN.	Tandem/Carril MAX.	Tandem/Carril MIN.	TOTAL MAX.	TOTAL MIN.
121	1	0.909	0.907	0.396	0.000	0.001	-0.084	1.305	0.823
121	2	2.544	2.542	1.431	0.000	0.001	-0.084	3.975	2.458
122	2	20.419	20.406	14.153	0.000	2.113	-1.995	36.685	18.411
122	3	20.859	20.846	14.593	0.000	2.113	-1.995	37.565	18.851
123	3	-21.818	-21.995	0.000	-14.430	7.282	-0.050	-14.537	-36.475
123	4	-21.596	-21.772	0.000	-14.208	7.282	-0.050	-14.314	-36.030
124	4	-21.596	-21.772	0.000	-14.208	7.282	-0.050	-14.314	-36.030
124	5	-21.068	-21.245	0.000	-13.680	7.282	-0.050	-13.787	-34.975
125	5	3.263	3.038	1.391	0.000	0.095	-12.848	4.749	-9.810
125	6	3.352	3.134	1.466	0.000	0.095	-12.740	4.913	-9.606
126	6	2.628	2.245	1.125	-0.001	17.844	-0.144	21.597	2.100
126	7	2.738	2.318	1.125	-0.001	18.393	-0.144	22.256	2.173

127	7	-1.149	-1.157	0.000	-0.904	3.139	-1.305	1.990	-3.365
127	8	-0.883	-0.979	0.000	-0.904	3.847	-0.792	2.964	-2.675
128	8	-0.297	-0.322	0.000	-0.337	4.660	-2.261	4.364	-2.919
128	9	-0.030	-0.144	0.000	-0.337	5.197	-1.550	5.167	-2.031
129	9	-0.248	-0.272	0.000	-0.173	3.946	-3.719	3.698	-4.163
129	10	-0.005	-0.071	0.000	-0.173	4.729	-3.238	4.724	-3.482
130	10	-0.107	-0.145	0.000	-0.031	4.211	-4.454	4.104	-4.630
130	11	0.122	0.071	0.000	-0.031	4.687	-3.707	4.809	-3.668
131	11	-0.071	-0.122	0.031	-0.000	3.707	-4.687	3.668	-4.809
131	12	0.145	0.107	0.031	-0.000	4.454	-4.211	4.630	-4.104
132	12	0.071	0.005	0.173	0.000	3.238	-4.729	3.482	-4.724
132	13	0.272	0.248	0.173	0.000	3.719	-3.946	4.163	-3.698
133	13	0.144	0.030	0.337	0.000	1.550	-5.197	2.031	-5.167
133	14	0.322	0.297	0.337	0.000	2.261	-4.660	2.919	-4.364
134	14	0.979	0.883	0.904	0.000	0.792	-3.847	2.675	-2.964
134	15	1.157	1.149	0.904	0.000	1.305	-3.139	3.365	-1.990
135	15	-2.318	-2.738	0.001	-1.125	0.144	-18.393	-2.173	-22.256
135	16	-2.245	-2.628	0.001	-1.125	0.144	-17.844	-2.100	-21.597
136	16	-3.134	-3.352	0.000	-1.466	12.740	-0.095	9.606	-4.913
136	17	-3.038	-3.263	0.000	-1.391	12.848	-0.095	9.810	-4.749
137	17	21.245	21.068	13.680	0.000	0.050	-7.282	34.975	13.787
137	18	21.772	21.596	14.208	0.000	0.050	-7.282	36.030	14.314
138	18	21.772	21.596	14.208	0.000	0.050	-7.282	36.030	14.314
138	19	21.995	21.818	14.430	0.000	0.050	-7.282	36.475	14.537
139	19	-20.846	-20.859	0.000	-14.593	1.995	-2.113	-18.851	-37.565
139	20	-20.406	-20.419	0.000	-14.153	1.995	-2.113	-18.411	-36.685
140	20	-2.542	-2.544	0.000	-1.431	0.084	-0.001	-2.458	-3.975
140	21	-0.907	-0.909	0.000	-0.396	0.084	-0.001	-0.823	-1.305
141	22	-0.371	-0.371	0.000	-0.156	0.015	-0.000	-0.355	-0.527
141	23	1.264	1.264	0.879	-0.000	0.015	-0.000	2.159	1.264
142	23	-1.260	-1.265	0.000	-1.000	0.277	-0.237	-0.983	-2.501
142	24	0.026	0.015	0.266	-0.000	0.326	-0.196	0.618	-0.181
143	24	0.130	0.077	0.237	0.000	0.019	-3.810	0.386	-3.733
143	25	0.203	0.187	0.237	0.000	0.214	-3.489	0.654	-3.302
144	25	-0.011	-0.070	0.097	0.000	0.072	-1.666	0.158	-1.736
144	26	0.196	0.167	0.097	0.000	0.563	-0.865	0.856	-0.699
145	26	-0.074	-0.122	0.021	0.000	0.609	-1.471	0.556	-1.593
145	27	0.145	0.104	0.021	0.000	1.297	-0.897	1.463	-0.793
146	27	-0.092	-0.136	0.001	-0.002	0.961	-1.328	0.870	-1.466
146	28	0.130	0.086	0.001	-0.002	1.498	-0.604	1.629	-0.521
147	28	-0.091	-0.135	0.003	-0.005	0.653	-1.469	0.565	-1.609
147	29	0.131	0.087	0.003	-0.005	1.383	-0.946	1.518	-0.864
148	29	-0.087	-0.131	0.005	-0.003	0.946	-1.383	0.864	-1.518
148	30	0.135	0.091	0.005	-0.003	1.469	-0.653	1.609	-0.565
149	30	-0.086	-0.130	0.002	-0.001	0.604	-1.498	0.521	-1.629
149	31	0.136	0.092	0.002	-0.001	1.328	-0.961	1.466	-0.870
150	31	-0.104	-0.145	0.000	-0.021	0.897	-1.297	0.793	-1.463
150	32	0.122	0.074	0.000	-0.021	1.471	-0.609	1.593	-0.556
151	32	-0.167	-0.196	0.000	-0.097	0.865	-0.563	0.699	-0.856
151	33	0.070	0.011	0.000	-0.097	1.666	-0.072	1.736	-0.158
152	33	-0.187	-0.203	0.000	-0.237	3.489	-0.214	3.302	-0.654
152	34	-0.077	-0.130	0.000	-0.237	3.810	-0.019	3.733	-0.386
153	34	-0.015	-0.026	0.000	-0.266	0.196	-0.326	0.181	-0.618
153	35	1.265	1.260	1.000	0.000	0.237	-0.277	2.501	0.983

154	35	-1.264	-1.264	0.000	-0.879	0.000	-0.015	-1.264	-2.159
154	36	0.371	0.371	0.156	0.000	0.000	-0.015	0.527	0.355
155	37	-0.072	-0.072	0.000	-0.032	0.015	-0.000	-0.057	-0.104
155	38	1.563	1.563	1.003	-0.000	0.015	-0.000	2.581	1.563
156	38	-0.964	-0.964	0.000	-0.779	0.266	-0.468	-0.697	-2.211
156	39	0.323	0.315	0.486	-0.000	0.269	-0.371	1.078	-0.056
157	39	0.398	0.319	0.489	0.000	0.043	-4.972	0.930	-4.652
157	40	0.472	0.429	0.489	0.000	0.237	-4.678	1.197	-4.249
158	40	0.060	-0.014	0.186	0.000	0.134	-2.489	0.379	-2.503
158	41	0.252	0.237	0.186	0.000	0.463	-1.563	0.901	-1.326
159	41	-0.061	-0.112	0.040	0.000	1.003	-2.047	0.983	-2.159
159	42	0.154	0.117	0.040	0.000	1.748	-1.599	1.942	-1.483
160	42	-0.094	-0.138	0.002	-0.004	1.635	-1.867	1.543	-2.010
160	43	0.128	0.084	0.002	-0.004	2.042	-1.086	2.172	-1.006
161	43	-0.093	-0.137	0.005	-0.009	1.154	-2.009	1.067	-2.156
161	44	0.130	0.085	0.005	-0.009	1.949	-1.628	2.084	-1.553
162	44	-0.085	-0.130	0.009	-0.005	1.628	-1.949	1.553	-2.084
162	45	0.137	0.093	0.009	-0.005	2.009	-1.154	2.156	-1.067
163	45	-0.084	-0.128	0.004	-0.002	1.086	-2.042	1.006	-2.172
163	46	0.138	0.094	0.004	-0.002	1.867	-1.635	2.010	-1.543
164	46	-0.117	-0.154	0.000	-0.040	1.599	-1.748	1.483	-1.942
164	47	0.112	0.061	0.000	-0.040	2.047	-1.003	2.159	-0.983
165	47	-0.237	-0.252	0.000	-0.186	1.563	-0.463	1.326	-0.901
165	48	0.014	-0.060	0.000	-0.186	2.489	-0.134	2.503	-0.379
166	48	-0.429	-0.472	0.000	-0.489	4.678	-0.237	4.249	-1.197
166	49	-0.319	-0.398	0.000	-0.489	4.972	-0.043	4.652	-0.930
167	49	-0.315	-0.323	0.000	-0.486	0.371	-0.269	0.056	-1.078
167	50	0.964	0.964	0.779	0.000	0.468	-0.266	2.211	0.697
168	50	-1.563	-1.563	0.000	-1.003	0.000	-0.015	-1.563	-2.581
168	51	0.072	0.072	0.032	0.000	0.000	-0.015	0.104	0.057
169	52	-0.010	-0.010	0.000	-0.008	0.013	-0.000	0.003	-0.017
169	53	1.625	1.625	1.027	-0.000	0.013	-0.000	2.666	1.625
170	53	-0.960	-0.961	0.000	-0.772	0.347	-0.514	-0.614	-2.248
170	54	0.326	0.318	0.493	-0.000	0.347	-0.406	1.166	-0.089
171	54	0.543	0.452	0.613	0.000	0.058	-5.370	1.214	-4.918
171	55	0.616	0.562	0.613	0.000	0.255	-5.100	1.485	-4.537
172	55	0.111	0.028	0.248	0.000	0.172	-2.987	0.531	-2.959
172	56	0.294	0.289	0.248	0.000	0.397	-1.982	0.939	-1.693
173	56	-0.053	-0.107	0.053	0.000	1.141	-2.312	1.140	-2.419
173	57	0.160	0.124	0.053	0.000	1.915	-1.944	2.128	-1.819
174	57	-0.095	-0.140	0.003	-0.006	1.926	-2.151	1.833	-2.297
174	58	0.126	0.082	0.003	-0.006	2.251	-1.339	2.380	-1.262
175	58	-0.094	-0.138	0.007	-0.012	1.408	-2.228	1.321	-2.378
175	59	0.128	0.083	0.007	-0.012	2.238	-1.936	2.373	-1.865
176	59	-0.083	-0.128	0.012	-0.007	1.936	-2.238	1.865	-2.373
176	60	0.138	0.094	0.012	-0.007	2.228	-1.408	2.378	-1.321
177	60	-0.082	-0.126	0.006	-0.003	1.339	-2.251	1.262	-2.380
177	61	0.140	0.095	0.006	-0.003	2.151	-1.926	2.297	-1.833
178	61	-0.124	-0.160	0.000	-0.053	1.944	-1.915	1.819	-2.128
178	62	0.107	0.053	0.000	-0.053	2.312	-1.141	2.419	-1.140
179	62	-0.289	-0.294	0.000	-0.248	1.982	-0.397	1.693	-0.939
179	63	-0.028	-0.111	0.000	-0.248	2.987	-0.172	2.959	-0.531
180	63	-0.562	-0.616	0.000	-0.613	5.100	-0.255	4.537	-1.485
180	64	-0.452	-0.543	0.000	-0.613	5.370	-0.058	4.918	-1.214

181	64	-0.318	-0.326	0.000	-0.493	0.406	-0.347	0.089	-1.166
181	65	0.961	0.960	0.772	0.000	0.514	-0.347	2.248	0.614
182	65	-1.625	-1.625	0.000	-1.027	0.000	-0.013	-1.625	-2.666
182	66	0.010	0.010	0.008	0.000	0.000	-0.013	0.017	-0.003
183	67	-0.003	-0.004	0.000	-0.005	0.013	-0.000	0.009	-0.009
183	68	1.632	1.631	1.030	-0.000	0.013	-0.000	2.674	1.631
184	68	-0.957	-0.959	0.000	-0.771	0.373	-0.526	-0.584	-2.255
184	69	0.329	0.321	0.494	-0.000	0.373	-0.418	1.197	-0.097
185	69	0.581	0.488	0.646	0.000	0.063	-5.485	1.291	-4.997
185	70	0.655	0.598	0.646	0.000	0.263	-5.224	1.563	-4.626
186	70	0.130	0.044	0.270	0.000	0.185	-3.120	0.586	-3.076
186	71	0.310	0.308	0.270	0.000	0.374	-2.089	0.955	-1.781
187	71	-0.050	-0.105	0.057	0.000	1.168	-2.370	1.175	-2.475
187	72	0.162	0.127	0.057	0.000	1.951	-2.028	2.170	-1.901
188	72	-0.096	-0.141	0.003	-0.006	1.997	-2.218	1.904	-2.365
188	73	0.126	0.082	0.003	-0.006	2.294	-1.396	2.423	-1.321
189	73	-0.095	-0.138	0.008	-0.013	1.466	-2.272	1.379	-2.423
189	74	0.128	0.083	0.008	-0.013	2.306	-2.009	2.442	-1.940
190	74	-0.083	-0.128	0.013	-0.008	2.009	-2.306	1.940	-2.442
190	75	0.138	0.095	0.013	-0.008	2.272	-1.466	2.423	-1.379
191	75	-0.082	-0.126	0.006	-0.003	1.396	-2.294	1.321	-2.423
191	76	0.141	0.096	0.006	-0.003	2.218	-1.997	2.365	-1.904
192	76	-0.127	-0.162	0.000	-0.057	2.028	-1.951	1.901	-2.170
192	77	0.105	0.050	0.000	-0.057	2.370	-1.168	2.475	-1.175
193	77	-0.308	-0.310	0.000	-0.270	2.089	-0.374	1.781	-0.955
193	78	-0.044	-0.130	0.000	-0.270	3.120	-0.185	3.076	-0.586
194	78	-0.598	-0.655	0.000	-0.646	5.224	-0.263	4.626	-1.563
194	79	-0.488	-0.581	0.000	-0.646	5.485	-0.063	4.997	-1.291
195	79	-0.321	-0.329	0.000	-0.494	0.418	-0.373	0.097	-1.197
195	80	0.959	0.957	0.771	0.000	0.526	-0.373	2.255	0.584
196	80	-1.631	-1.632	0.000	-1.030	0.000	-0.013	-1.631	-2.674
196	81	0.004	0.003	0.005	0.000	0.000	-0.013	0.009	-0.009
197	82	-0.010	-0.010	0.000	-0.008	0.013	-0.000	0.003	-0.017
197	83	1.625	1.625	1.027	-0.000	0.013	-0.000	2.666	1.625
198	83	-0.960	-0.961	0.000	-0.772	0.347	-0.514	-0.614	-2.248
198	84	0.326	0.318	0.493	-0.000	0.347	-0.406	1.166	-0.089
199	84	0.543	0.452	0.613	0.000	0.058	-5.370	1.214	-4.918
199	85	0.616	0.562	0.613	0.000	0.255	-5.100	1.485	-4.537
200	85	0.111	0.028	0.248	0.000	0.172	-2.987	0.531	-2.959
200	86	0.294	0.289	0.248	0.000	0.397	-1.982	0.939	-1.693
201	86	-0.053	-0.107	0.053	0.000	1.141	-2.312	1.140	-2.419
201	87	0.160	0.124	0.053	0.000	1.915	-1.944	2.128	-1.819
202	87	-0.095	-0.140	0.003	-0.006	1.926	-2.151	1.833	-2.297
202	88	0.126	0.082	0.003	-0.006	2.251	-1.339	2.380	-1.262
203	88	-0.094	-0.138	0.007	-0.012	1.408	-2.228	1.321	-2.378
203	89	0.128	0.083	0.007	-0.012	2.238	-1.936	2.373	-1.865
204	89	-0.083	-0.128	0.012	-0.007	1.936	-2.238	1.865	-2.373
204	90	0.138	0.094	0.012	-0.007	2.228	-1.408	2.378	-1.321
205	90	-0.082	-0.126	0.006	-0.003	1.339	-2.251	1.262	-2.380
205	91	0.140	0.095	0.006	-0.003	2.151	-1.926	2.297	-1.833
206	91	-0.124	-0.160	0.000	-0.053	1.944	-1.915	1.819	-2.128
206	92	0.107	0.053	0.000	-0.053	2.312	-1.141	2.419	-1.140
207	92	-0.289	-0.294	0.000	-0.248	1.982	-0.397	1.693	-0.939

207	93	-0.028	-0.111	0.000	-0.248	2.987	-0.172	2.959	-0.531
208	93	-0.562	-0.616	0.000	-0.613	5.100	-0.255	4.537	-1.485
208	94	-0.452	-0.543	0.000	-0.613	5.370	-0.058	4.918	-1.214
209	94	-0.318	-0.326	0.000	-0.493	0.406	-0.347	0.089	-1.166
209	95	0.961	0.960	0.772	0.000	0.514	-0.347	2.248	0.614
210	95	-1.625	-1.625	0.000	-1.027	0.000	-0.013	-1.625	-2.666
210	96	0.010	0.010	0.008	0.000	0.000	-0.013	0.017	-0.003
211	97	-0.072	-0.072	0.000	-0.032	0.015	-0.000	-0.057	-0.104
211	98	1.563	1.563	1.003	-0.000	0.015	-0.000	2.581	1.563
212	98	-0.964	-0.964	0.000	-0.779	0.266	-0.468	-0.697	-2.211
212	99	0.323	0.315	0.486	-0.000	0.269	-0.371	1.078	-0.056
213	99	0.398	0.319	0.489	0.000	0.043	-4.972	0.930	-4.652
213	100	0.472	0.429	0.489	0.000	0.237	-4.678	1.197	-4.249
214	100	0.060	-0.014	0.186	0.000	0.134	-2.489	0.379	-2.503
214	101	0.252	0.237	0.186	0.000	0.463	-1.563	0.901	-1.326
215	101	-0.061	-0.112	0.040	0.000	1.003	-2.047	0.983	-2.159
215	102	0.154	0.117	0.040	0.000	1.748	-1.599	1.942	-1.483
216	102	-0.094	-0.138	0.002	-0.004	1.635	-1.867	1.543	-2.010
216	103	0.128	0.084	0.002	-0.004	2.042	-1.086	2.172	-1.006
217	103	-0.093	-0.137	0.005	-0.009	1.154	-2.009	1.067	-2.156
217	104	0.130	0.085	0.005	-0.009	1.949	-1.628	2.084	-1.553
218	104	-0.085	-0.130	0.009	-0.005	1.628	-1.949	1.553	-2.084
218	105	0.137	0.093	0.009	-0.005	2.009	-1.154	2.156	-1.067
219	105	-0.084	-0.128	0.004	-0.002	1.086	-2.042	1.006	-2.172
219	106	0.138	0.094	0.004	-0.002	1.867	-1.635	2.010	-1.543
220	106	-0.117	-0.154	0.000	-0.040	1.599	-1.748	1.483	-1.942
220	107	0.112	0.061	0.000	-0.040	2.047	-1.003	2.159	-0.983
221	107	-0.237	-0.252	0.000	-0.186	1.563	-0.463	1.326	-0.901
221	108	0.014	-0.060	0.000	-0.186	2.489	-0.134	2.503	-0.379
222	108	-0.429	-0.472	0.000	-0.489	4.678	-0.237	4.249	-1.197
222	109	-0.319	-0.398	0.000	-0.489	4.972	-0.043	4.652	-0.930
223	109	-0.315	-0.323	0.000	-0.486	0.371	-0.269	0.056	-1.078
223	110	0.964	0.964	0.779	0.000	0.468	-0.266	2.211	0.697
224	110	-1.563	-1.563	0.000	-1.003	0.000	-0.015	-1.563	-2.581
224	111	0.072	0.072	0.032	0.000	0.000	-0.015	0.104	0.057
225	112	-0.371	-0.371	0.000	-0.156	0.015	-0.000	-0.355	-0.527
225	113	1.264	1.264	0.879	-0.000	0.015	-0.000	2.159	1.264
226	113	-1.260	-1.265	0.000	-1.000	0.277	-0.237	-0.983	-2.501
226	114	0.026	0.015	0.266	-0.000	0.326	-0.196	0.618	-0.181
227	114	0.130	0.077	0.237	0.000	0.019	-3.810	0.386	-3.733
227	115	0.203	0.187	0.237	0.000	0.214	-3.489	0.654	-3.302
228	115	-0.011	-0.070	0.097	0.000	0.072	-1.666	0.158	-1.736
228	116	0.196	0.167	0.097	0.000	0.563	-0.865	0.856	-0.699
229	116	-0.074	-0.122	0.021	0.000	0.609	-1.471	0.556	-1.593
229	117	0.145	0.104	0.021	0.000	1.297	-0.897	1.463	-0.793
230	117	-0.092	-0.136	0.001	-0.002	0.961	-1.328	0.870	-1.466
230	118	0.130	0.086	0.001	-0.002	1.498	-0.604	1.629	-0.521
231	118	-0.091	-0.135	0.003	-0.005	0.653	-1.469	0.565	-1.609
231	119	0.131	0.087	0.003	-0.005	1.383	-0.946	1.518	-0.864
232	119	-0.087	-0.131	0.005	-0.003	0.946	-1.383	0.864	-1.518
232	120	0.135	0.091	0.005	-0.003	1.469	-0.653	1.609	-0.565
233	120	-0.086	-0.130	0.002	-0.001	0.604	-1.498	0.521	-1.629
233	121	0.136	0.092	0.002	-0.001	1.328	-0.961	1.466	-0.870

234	121	-0.104	-0.145	0.000	-0.021	0.897	-1.297	0.793	-1.463
234	122	0.122	0.074	0.000	-0.021	1.471	-0.609	1.593	-0.556
235	122	-0.167	-0.196	0.000	-0.097	0.865	-0.563	0.699	-0.856
235	123	0.070	0.011	0.000	-0.097	1.666	-0.072	1.736	-0.158
236	123	-0.187	-0.203	0.000	-0.237	3.489	-0.214	3.302	-0.654
236	124	-0.077	-0.130	0.000	-0.237	3.810	-0.019	3.733	-0.386
237	124	-0.015	-0.026	0.000	-0.266	0.196	-0.326	0.181	-0.618
237	125	1.265	1.260	1.000	0.000	0.237	-0.277	2.501	0.983
238	125	-1.264	-1.264	0.000	-0.879	0.000	-0.015	-1.264	-2.159
238	126	0.371	0.371	0.156	0.000	0.000	-0.015	0.527	0.355
239	127	0.909	0.907	0.396	0.000	0.001	-0.084	1.305	0.823
239	128	2.544	2.542	1.431	0.000	0.001	-0.084	3.975	2.458
240	128	20.419	20.406	14.153	0.000	2.113	-1.995	36.685	18.411
240	129	20.859	20.846	14.593	0.000	2.113	-1.995	37.565	18.851
241	129	-21.818	-21.995	0.000	-14.430	7.282	-0.050	-14.537	-36.475
241	130	-21.596	-21.772	0.000	-14.208	7.282	-0.050	-14.314	-36.030
242	130	-21.596	-21.772	0.000	-14.208	7.282	-0.050	-14.314	-36.030
242	131	-21.068	-21.245	0.000	-13.680	7.282	-0.050	-13.787	-34.975
243	131	3.263	3.038	1.391	0.000	0.095	-12.848	4.749	-9.810
243	132	3.352	3.134	1.466	0.000	0.095	-12.740	4.913	-9.606
244	132	2.628	2.245	1.125	-0.001	17.844	-0.144	21.597	2.100
244	133	2.738	2.318	1.125	-0.001	18.393	-0.144	22.256	2.173
245	133	-1.149	-1.157	0.000	-0.904	3.139	-1.305	1.990	-3.365
245	134	-0.883	-0.979	0.000	-0.904	3.847	-0.792	2.964	-2.675
246	134	-0.297	-0.322	0.000	-0.337	4.660	-2.261	4.364	-2.919
246	135	-0.030	-0.144	0.000	-0.337	5.197	-1.550	5.167	-2.031
247	135	-0.248	-0.272	0.000	-0.173	3.946	-3.719	3.698	-4.163
247	136	-0.005	-0.071	0.000	-0.173	4.729	-3.238	4.724	-3.482
248	136	-0.107	-0.145	0.000	-0.031	4.211	-4.454	4.104	-4.630
248	137	0.122	0.071	0.000	-0.031	4.687	-3.707	4.809	-3.668
249	137	-0.071	-0.122	0.031	-0.000	3.707	-4.687	3.668	-4.809
249	138	0.145	0.107	0.031	-0.000	4.454	-4.211	4.630	-4.104
250	138	0.071	0.005	0.173	0.000	3.238	-4.729	3.482	-4.724
250	139	0.272	0.248	0.173	0.000	3.719	-3.946	4.163	-3.698
251	139	0.144	0.030	0.337	0.000	1.550	-5.197	2.031	-5.167
251	140	0.322	0.297	0.337	0.000	2.261	-4.660	2.919	-4.364
252	140	0.979	0.883	0.904	0.000	0.792	-3.847	2.675	-2.964
252	141	1.157	1.149	0.904	0.000	1.305	-3.139	3.365	-1.990
253	141	-2.318	-2.738	0.001	-1.125	0.144	-18.393	-2.173	-22.256
253	142	-2.245	-2.628	0.001	-1.125	0.144	-17.844	-2.100	-21.597
254	142	-3.134	-3.352	0.000	-1.466	12.740	-0.095	9.606	-4.913
254	143	-3.038	-3.263	0.000	-1.391	12.848	-0.095	9.810	-4.749
255	143	21.245	21.068	13.680	0.000	0.050	-7.282	34.975	13.787
255	144	21.772	21.596	14.208	0.000	0.050	-7.282	36.030	14.314
256	144	21.772	21.596	14.208	0.000	0.050	-7.282	36.030	14.314
256	145	21.995	21.818	14.430	0.000	0.050	-7.282	36.475	14.537
257	145	-20.846	-20.859	0.000	-14.593	1.995	-2.113	-18.851	-37.565
257	146	-20.406	-20.419	0.000	-14.153	1.995	-2.113	-18.411	-36.685
258	146	-2.542	-2.544	0.000	-1.431	0.084	-0.001	-2.458	-3.975
258	147	-0.907	-0.909	0.000	-0.396	0.084	-0.001	-0.823	-1.305

Envolvente de flectores (t.m/m) (E.L.S.)

Barra Nudo		C.P. MAX.	C.P. MIN.	S.C. MAX.	S.C. MIN.	Tandem/Carril MAX.	Tandem/Carril MIN.	TOTAL MAX.	TOTAL MIN.
121	1	-0.399	-0.401	0.000	-0.155	0.052	-0.000	-0.348	-0.556
121	0	-2.167	-2.170	0.000	-0.832	0.137	-0.001	-2.029	-3.003
121	2	-4.529	-4.534	0.000	-2.046	0.224	-0.002	-4.305	-6.582
122	2	-6.124	-6.276	0.000	-3.288	7.080	-0.056	0.956	-9.620
122	0	-15.151	-15.309	0.000	-9.564	6.721	-0.044	-8.430	-24.917
122	3	-24.275	-24.438	0.000	-15.937	6.891	-0.049	-17.384	-40.424
123	3	-24.275	-24.438	0.000	-15.937	6.891	-0.049	-17.384	-40.424
123	0	-19.432	-19.557	0.000	-12.738	5.280	-0.073	-14.152	-32.368
123	4	-14.615	-14.700	0.000	-9.565	3.670	-0.100	-10.945	-24.365
124	4	-14.615	-14.700	0.000	-9.565	3.670	-0.100	-10.945	-24.365
124	0	-3.285	-3.293	0.000	-2.140	0.197	-0.805	-3.088	-6.238
124	5	7.991	7.890	5.146	0.000	0.027	-4.381	13.164	3.510
125	5	7.991	7.890	5.146	0.000	0.027	-4.381	13.164	3.510
125	0	7.546	7.476	4.954	0.000	0.020	-2.962	12.520	4.513
125	6	7.095	7.054	4.756	0.000	1.265	-1.940	13.116	5.114
126	6	1.431	1.283	0.771	-0.000	7.076	-0.057	9.277	1.225
126	0	0.621	0.592	0.427	0.000	3.421	-0.021	4.469	0.571
126	7	-0.109	-0.206	0.085	0.000	0.030	-3.980	0.006	-4.187
127	7	-1.017	-1.030	0.000	-0.795	1.671	-0.882	0.654	-2.708
127	0	-0.207	-0.216	0.000	-0.127	4.111	-0.708	3.904	-1.051
127	8	0.550	0.486	0.542	0.000	0.458	-3.183	1.550	-2.696
128	8	-0.132	-0.182	0.000	-0.262	3.582	-0.914	3.450	-1.358
128	0	0.039	0.023	0.000	-0.013	5.767	-0.257	5.806	-0.248
128	9	0.163	0.110	0.236	0.000	1.665	-3.423	2.064	-3.312
129	9	-0.164	-0.170	0.000	-0.155	3.086	-2.386	2.922	-2.712
129	0	-0.012	-0.019	0.000	-0.028	4.868	-0.449	4.857	-0.496
129	10	0.066	0.041	0.101	0.000	2.518	-3.105	2.685	-3.064
130	10	-0.040	-0.044	0.000	-0.031	3.140	-2.866	3.100	-2.941
130	0	0.014	0.006	0.000	-0.008	5.252	-0.435	5.265	-0.436
130	11	-0.013	-0.027	0.017	-0.002	2.932	-3.160	2.937	-3.189
131	11	-0.013	-0.027	0.017	-0.002	2.932	-3.160	2.937	-3.189
131	0	0.014	0.006	0.000	-0.008	5.252	-0.435	5.265	-0.436
131	12	-0.040	-0.044	0.000	-0.031	3.140	-2.866	3.100	-2.941
132	12	0.066	0.041	0.101	0.000	2.518	-3.105	2.685	-3.064
132	0	-0.012	-0.019	0.000	-0.028	4.868	-0.449	4.857	-0.496
132	13	-0.164	-0.170	0.000	-0.155	3.086	-2.386	2.922	-2.712
133	13	0.163	0.110	0.236	0.000	1.665	-3.423	2.064	-3.312
133	0	0.039	0.023	0.000	-0.013	5.767	-0.257	5.806	-0.248
133	14	-0.132	-0.182	0.000	-0.262	3.582	-0.914	3.450	-1.358
134	14	0.550	0.486	0.542	0.000	0.458	-3.183	1.550	-2.696
134	0	-0.207	-0.216	0.000	-0.127	4.111	-0.708	3.904	-1.051
134	15	-1.017	-1.030	0.000	-0.795	1.671	-0.882	0.654	-2.708
135	15	-0.109	-0.206	0.085	0.000	0.030	-3.980	0.006	-4.187
135	0	0.621	0.592	0.427	0.000	3.421	-0.021	4.469	0.571
135	16	1.431	1.283	0.771	-0.000	7.076	-0.057	9.277	1.225
136	16	7.095	7.054	4.756	0.000	1.265	-1.940	13.116	5.114
136	0	7.546	7.476	4.954	0.000	0.020	-2.962	12.520	4.513
136	17	7.991	7.890	5.146	0.000	0.027	-4.381	13.164	3.510
137	17	7.991	7.890	5.146	0.000	0.027	-4.381	13.164	3.510
137	0	-3.285	-3.293	0.000	-2.140	0.197	-0.805	-3.088	-6.238
137	18	-14.615	-14.700	0.000	-9.565	3.670	-0.100	-10.945	-24.365
138	18	-14.615	-14.700	0.000	-9.565	3.670	-0.100	-10.945	-24.365

138	0	-19.432	-19.557	0.000	-12.738	5.280	-0.073	-14.152	-32.368
138	19	-24.275	-24.438	0.000	-15.937	6.891	-0.049	-17.384	-40.424
139	19	-24.275	-24.438	0.000	-15.937	6.891	-0.049	-17.384	-40.424
139	0	-15.151	-15.309	0.000	-9.564	6.721	-0.044	-8.430	-24.917
139	20	-6.124	-6.276	0.000	-3.288	7.080	-0.056	0.956	-9.620
140	20	-4.529	-4.534	0.000	-2.046	0.224	-0.002	-4.305	-6.582
140	0	-2.167	-2.170	0.000	-0.832	0.137	-0.001	-2.029	-3.003
140	21	-0.399	-0.401	0.000	-0.155	0.052	-0.000	-0.348	-0.556
141	22	0.061	0.061	0.018	-0.000	0.002	-0.001	0.082	0.061
141	0	-0.384	-0.384	0.000	-0.088	0.000	-0.016	-0.383	-0.488
141	23	-1.424	-1.425	0.000	-0.731	0.000	-0.032	-1.424	-2.187
142	23	-2.402	-2.405	0.000	-1.348	0.118	-0.593	-2.284	-4.347
142	0	-1.165	-1.174	0.000	-0.463	0.055	-0.635	-1.110	-2.271
142	24	-0.804	-0.818	0.000	-0.452	0.066	-0.994	-0.737	-2.264
143	24	0.055	0.024	0.137	0.000	0.031	-1.885	0.223	-1.861
143	0	0.010	-0.008	0.065	0.000	1.206	-0.901	1.281	-0.909
143	25	-0.047	-0.057	0.000	-0.008	0.629	-0.589	0.582	-0.653
144	25	0.013	-0.009	0.061	0.000	0.115	-0.974	0.189	-0.983
144	0	-0.006	-0.012	0.000	-0.011	2.655	-0.354	2.648	-0.377
144	26	-0.102	-0.102	0.000	-0.083	0.656	-0.232	0.554	-0.417
145	26	-0.049	-0.057	0.001	-0.024	0.676	-0.722	0.628	-0.803
145	0	-0.016	-0.027	0.000	-0.040	3.464	-0.228	3.448	-0.295
145	27	-0.071	-0.074	0.000	-0.055	0.842	-0.486	0.771	-0.615
146	27	-0.046	-0.053	0.001	-0.027	0.878	-0.555	0.833	-0.635
146	0	-0.002	-0.011	0.000	-0.025	3.029	-0.307	3.027	-0.343
146	28	-0.042	-0.049	0.000	-0.024	0.642	-0.712	0.600	-0.785
147	28	-0.034	-0.042	0.000	-0.014	0.663	-0.758	0.629	-0.814
147	0	0.008	0.001	0.000	-0.013	3.216	-0.323	3.224	-0.335
147	29	-0.030	-0.040	0.000	-0.011	0.815	-0.603	0.785	-0.654
148	29	-0.030	-0.040	0.000	-0.011	0.815	-0.603	0.785	-0.654
148	0	0.008	0.001	0.000	-0.013	3.216	-0.323	3.224	-0.335
148	30	-0.034	-0.042	0.000	-0.014	0.663	-0.758	0.629	-0.814
149	30	-0.042	-0.049	0.000	-0.024	0.642	-0.712	0.600	-0.785
149	0	-0.002	-0.011	0.000	-0.025	3.029	-0.307	3.027	-0.343
149	31	-0.046	-0.053	0.001	-0.027	0.878	-0.555	0.833	-0.635
150	31	-0.071	-0.074	0.000	-0.055	0.842	-0.486	0.771	-0.615
150	0	-0.016	-0.027	0.000	-0.040	3.464	-0.228	3.448	-0.295
150	32	-0.049	-0.057	0.001	-0.024	0.676	-0.722	0.628	-0.803
151	32	-0.102	-0.102	0.000	-0.083	0.656	-0.232	0.554	-0.417
151	0	-0.006	-0.012	0.000	-0.011	2.655	-0.354	2.648	-0.377
151	33	0.013	-0.009	0.061	0.000	0.115	-0.974	0.189	-0.983
152	33	-0.047	-0.057	0.000	-0.008	0.629	-0.589	0.582	-0.653
152	0	0.010	-0.008	0.065	0.000	1.206	-0.901	1.281	-0.909
152	34	0.055	0.024	0.137	0.000	0.031	-1.885	0.223	-1.861
153	34	-0.804	-0.818	0.000	-0.452	0.066	-0.994	-0.737	-2.264
153	0	-1.165	-1.174	0.000	-0.463	0.055	-0.635	-1.110	-2.271
153	35	-2.402	-2.405	0.000	-1.348	0.118	-0.593	-2.284	-4.347
154	35	-1.424	-1.425	0.000	-0.731	0.000	-0.032	-1.424	-2.187
154	0	-0.384	-0.384	0.000	-0.088	0.000	-0.016	-0.383	-0.488
154	36	0.061	0.061	0.018	-0.000	0.002	-0.001	0.082	0.061
155	37	0.083	0.083	0.034	0.000	0.000	-0.010	0.117	0.073
155	0	-0.671	-0.672	0.000	-0.201	0.000	-0.025	-0.671	-0.897
155	38	-2.022	-2.022	0.000	-0.971	0.000	-0.040	-2.021	-3.033
156	38	-1.417	-1.442	0.000	-0.569	0.008	-1.486	-1.408	-3.497

156	0	-0.578	-0.604	0.025	0.000	0.040	-1.357	-0.514	-1.960
156	39	-0.615	-0.642	0.000	-0.256	0.139	-1.579	-0.475	-2.476
157	39	0.175	0.121	0.287	0.000	0.077	-2.915	0.539	-2.794
157	0	0.048	0.015	0.138	0.000	1.043	-1.638	1.229	-1.623
157	40	-0.090	-0.107	0.000	-0.012	0.676	-1.033	0.587	-1.153
158	40	0.046	0.012	0.118	0.000	0.172	-1.702	0.337	-1.690
158	0	-0.027	-0.031	0.001	-0.019	2.862	-0.643	2.836	-0.693
158	41	-0.164	-0.174	0.000	-0.157	1.280	-0.374	1.117	-0.705
159	41	-0.072	-0.078	0.001	-0.044	1.287	-1.206	1.216	-1.328
159	0	-0.044	-0.060	0.001	-0.074	3.925	-0.404	3.881	-0.537
159	42	-0.109	-0.113	0.000	-0.103	1.579	-0.697	1.471	-0.913
160	42	-0.066	-0.070	0.001	-0.049	1.620	-0.891	1.556	-1.010
160	0	-0.017	-0.029	0.000	-0.046	3.494	-0.537	3.477	-0.613
160	43	-0.059	-0.063	0.000	-0.045	1.256	-1.105	1.198	-1.212
161	43	-0.044	-0.051	0.000	-0.026	1.295	-1.226	1.251	-1.303
161	0	0.001	-0.008	0.000	-0.023	3.645	-0.563	3.646	-0.594
161	44	-0.038	-0.045	0.000	-0.020	1.515	-0.970	1.478	-1.036
162	44	-0.038	-0.045	0.000	-0.020	1.515	-0.970	1.478	-1.036
162	0	0.001	-0.008	0.000	-0.023	3.645	-0.563	3.646	-0.594
162	45	-0.044	-0.051	0.000	-0.026	1.295	-1.226	1.251	-1.303
163	45	-0.059	-0.063	0.000	-0.045	1.256	-1.105	1.198	-1.212
163	0	-0.017	-0.029	0.000	-0.046	3.494	-0.537	3.477	-0.613
163	46	-0.066	-0.070	0.001	-0.049	1.620	-0.891	1.556	-1.010
164	46	-0.109	-0.113	0.000	-0.103	1.579	-0.697	1.471	-0.913
164	0	-0.044	-0.060	0.001	-0.074	3.925	-0.404	3.881	-0.537
164	47	-0.072	-0.078	0.001	-0.044	1.287	-1.206	1.216	-1.328
165	47	-0.164	-0.174	0.000	-0.157	1.280	-0.374	1.117	-0.705
165	0	-0.027	-0.031	0.001	-0.019	2.862	-0.643	2.836	-0.693
165	48	0.046	0.012	0.118	0.000	0.172	-1.702	0.337	-1.690
166	48	-0.090	-0.107	0.000	-0.012	0.676	-1.033	0.587	-1.153
166	0	0.048	0.015	0.138	0.000	1.043	-1.638	1.229	-1.623
166	49	0.175	0.121	0.287	0.000	0.077	-2.915	0.539	-2.794
167	49	-0.615	-0.642	0.000	-0.256	0.139	-1.579	-0.475	-2.476
167	0	-0.578	-0.604	0.025	0.000	0.040	-1.357	-0.514	-1.960
167	50	-1.417	-1.442	0.000	-0.569	0.008	-1.486	-1.408	-3.497
168	50	-2.022	-2.022	0.000	-0.971	0.000	-0.040	-2.021	-3.033
168	0	-0.671	-0.672	0.000	-0.201	0.000	-0.025	-0.671	-0.897
168	51	0.083	0.083	0.034	0.000	0.000	-0.010	0.117	0.073
169	52	0.042	0.042	0.019	0.000	0.000	-0.013	0.061	0.029
169	0	-0.776	-0.777	0.000	-0.241	0.000	-0.026	-0.776	-1.044
169	53	-2.191	-2.191	0.000	-1.037	0.000	-0.040	-2.190	-3.268
170	53	-1.373	-1.405	0.000	-0.488	0.011	-1.715	-1.362	-3.608
170	0	-0.538	-0.571	0.097	0.000	0.055	-1.652	-0.386	-2.223
170	54	-0.578	-0.613	0.000	-0.193	0.172	-1.951	-0.406	-2.757
171	54	0.252	0.185	0.376	0.000	0.108	-3.443	0.736	-3.258
171	0	0.081	0.038	0.189	0.000	0.984	-2.123	1.254	-2.084
171	55	-0.101	-0.125	0.002	0.000	0.596	-1.291	0.497	-1.415
172	55	0.072	0.031	0.161	0.000	0.206	-2.153	0.439	-2.123
172	0	-0.039	-0.043	0.001	-0.023	2.975	-0.832	2.936	-0.899
172	56	-0.208	-0.224	0.001	-0.207	1.655	-0.466	1.447	-0.897
173	56	-0.088	-0.093	0.001	-0.058	1.604	-1.447	1.518	-1.599
173	0	-0.063	-0.082	0.001	-0.097	4.246	-0.516	4.183	-0.694
173	57	-0.132	-0.141	0.000	-0.135	2.006	-0.735	1.874	-1.011
174	57	-0.080	-0.082	0.002	-0.064	2.024	-1.088	1.947	-1.234
174	0	-0.027	-0.042	0.000	-0.020	0.000	-0.000	-0.000	-0.000

174	0	-0.027	-0.042	0.000	-0.060	3.828	-0.666	3.801	-0.768
174	58	-0.070	-0.072	0.000	-0.058	1.628	-1.230	1.558	-1.360
175	58	-0.050	-0.056	0.000	-0.034	1.689	-1.428	1.638	-1.518
175	0	-0.003	-0.013	0.000	-0.030	3.956	-0.700	3.953	-0.744
175	59	-0.042	-0.049	0.000	-0.026	1.897	-1.116	1.854	-1.192
176	59	-0.042	-0.049	0.000	-0.026	1.897	-1.116	1.854	-1.192
176	0	-0.003	-0.013	0.000	-0.030	3.956	-0.700	3.953	-0.744
176	60	-0.050	-0.056	0.000	-0.034	1.689	-1.428	1.638	-1.518
177	60	-0.070	-0.072	0.000	-0.058	1.628	-1.230	1.558	-1.360
177	0	-0.027	-0.042	0.000	-0.060	3.828	-0.666	3.801	-0.768
177	61	-0.080	-0.082	0.002	-0.064	2.024	-1.088	1.947	-1.234
178	61	-0.132	-0.141	0.000	-0.135	2.006	-0.735	1.874	-1.011
178	0	-0.063	-0.082	0.001	-0.097	4.246	-0.516	4.183	-0.694
178	62	-0.088	-0.093	0.001	-0.058	1.604	-1.447	1.518	-1.599
179	62	-0.208	-0.224	0.001	-0.207	1.655	-0.466	1.447	-0.897
179	0	-0.039	-0.043	0.001	-0.023	2.975	-0.832	2.936	-0.899
179	63	0.072	0.031	0.161	0.000	0.206	-2.153	0.439	-2.123
180	63	-0.101	-0.125	0.002	0.000	0.596	-1.291	0.497	-1.415
180	0	0.081	0.038	0.189	0.000	0.984	-2.123	1.254	-2.084
180	64	0.252	0.185	0.376	0.000	0.108	-3.443	0.736	-3.258
181	64	-0.578	-0.613	0.000	-0.193	0.172	-1.951	-0.406	-2.757
181	0	-0.538	-0.571	0.097	0.000	0.055	-1.652	-0.386	-2.223
181	65	-1.373	-1.405	0.000	-0.488	0.011	-1.715	-1.362	-3.608
182	65	-2.191	-2.191	0.000	-1.037	0.000	-0.040	-2.190	-3.268
182	0	-0.776	-0.777	0.000	-0.241	0.000	-0.026	-0.776	-1.044
182	66	0.042	0.042	0.019	0.000	0.000	-0.013	0.061	0.029
183	67	0.027	0.026	0.013	0.000	0.000	-0.014	0.039	0.013
183	0	-0.798	-0.799	0.000	-0.250	0.000	-0.027	-0.798	-1.075
183	68	-2.219	-2.220	0.000	-1.048	0.000	-0.039	-2.219	-3.307
184	68	-1.366	-1.400	0.000	-0.472	0.012	-1.771	-1.354	-3.642
184	0	-0.535	-0.570	0.111	0.000	0.060	-1.735	-0.364	-2.305
184	69	-0.579	-0.616	0.001	-0.182	0.182	-2.083	-0.397	-2.881
185	69	0.276	0.204	0.404	0.000	0.118	-3.602	0.798	-3.398
185	0	0.093	0.047	0.207	0.000	0.974	-2.271	1.273	-2.224
185	70	-0.101	-0.127	0.010	0.000	0.602	-1.313	0.511	-1.439
186	70	0.082	0.038	0.177	0.000	0.218	-2.285	0.477	-2.247
186	0	-0.044	-0.047	0.001	-0.024	3.010	-0.893	2.967	-0.964
186	71	-0.224	-0.242	0.001	-0.224	1.757	-0.496	1.534	-0.962
187	71	-0.094	-0.098	0.002	-0.063	1.686	-1.513	1.594	-1.675
187	0	-0.070	-0.089	0.001	-0.105	4.355	-0.554	4.286	-0.748
187	72	-0.140	-0.151	0.000	-0.146	2.128	-0.716	1.988	-1.013
188	72	-0.084	-0.086	0.002	-0.070	2.132	-1.157	2.050	-1.312
188	0	-0.031	-0.046	0.000	-0.065	3.947	-0.703	3.916	-0.814
188	73	-0.074	-0.075	0.000	-0.063	1.739	-1.244	1.665	-1.382
189	73	-0.053	-0.058	0.000	-0.037	1.799	-1.484	1.746	-1.579
189	0	-0.005	-0.015	0.000	-0.033	4.067	-0.736	4.062	-0.784
189	74	-0.044	-0.050	0.000	-0.029	1.999	-1.151	1.955	-1.230
190	74	-0.044	-0.050	0.000	-0.029	1.999	-1.151	1.955	-1.230
190	0	-0.005	-0.015	0.000	-0.033	4.067	-0.736	4.062	-0.784
190	75	-0.053	-0.058	0.000	-0.037	1.799	-1.484	1.746	-1.579
191	75	-0.074	-0.075	0.000	-0.063	1.739	-1.244	1.665	-1.382
191	0	-0.031	-0.046	0.000	-0.065	3.947	-0.703	3.916	-0.814
191	76	-0.084	-0.086	0.002	-0.070	2.132	-1.157	2.050	-1.312
192	76	-0.140	-0.151	0.000	-0.146	2.128	-0.716	1.988	-1.013
192	0	-0.070	-0.089	0.001	-0.105	4.355	-0.554	4.286	-0.748

192	0	-0.070	-0.089	0.001	-0.105	4.355	-0.554	4.286	-0.748
192	77	-0.094	-0.098	0.002	-0.063	1.686	-1.513	1.594	-1.675
193	77	-0.224	-0.242	0.001	-0.224	1.757	-0.496	1.534	-0.962
193	0	-0.044	-0.047	0.001	-0.024	3.010	-0.893	2.967	-0.964
193	78	0.082	0.038	0.177	0.000	0.218	-2.285	0.477	-2.247
194	78	-0.101	-0.127	0.010	0.000	0.602	-1.313	0.511	-1.439
194	0	0.093	0.047	0.207	0.000	0.974	-2.271	1.273	-2.224
194	79	0.276	0.204	0.404	0.000	0.118	-3.602	0.798	-3.398
195	79	-0.579	-0.616	0.001	-0.182	0.182	-2.083	-0.397	-2.881
195	0	-0.535	-0.570	0.111	0.000	0.060	-1.735	-0.364	-2.305
195	80	-1.366	-1.400	0.000	-0.472	0.012	-1.771	-1.354	-3.642
196	80	-2.219	-2.220	0.000	-1.048	0.000	-0.039	-2.219	-3.307
196	0	-0.798	-0.799	0.000	-0.250	0.000	-0.027	-0.798	-1.075
196	81	0.027	0.026	0.013	0.000	0.000	-0.014	0.039	0.013
197	82	0.042	0.042	0.019	0.000	0.000	-0.013	0.061	0.029
197	0	-0.776	-0.777	0.000	-0.241	0.000	-0.026	-0.776	-1.044
197	83	-2.191	-2.191	0.000	-1.037	0.000	-0.040	-2.190	-3.268
198	83	-1.373	-1.405	0.000	-0.488	0.011	-1.715	-1.362	-3.608
198	0	-0.538	-0.571	0.097	0.000	0.055	-1.652	-0.386	-2.223
198	84	-0.578	-0.613	0.000	-0.193	0.172	-1.951	-0.406	-2.757
199	84	0.252	0.185	0.376	0.000	0.108	-3.443	0.736	-3.258
199	0	0.081	0.038	0.189	0.000	0.984	-2.123	1.254	-2.084
199	85	-0.101	-0.125	0.002	0.000	0.596	-1.291	0.497	-1.415
200	85	0.072	0.031	0.161	0.000	0.206	-2.153	0.439	-2.123
200	0	-0.039	-0.043	0.001	-0.023	2.975	-0.832	2.936	-0.899
200	86	-0.208	-0.224	0.001	-0.207	1.655	-0.466	1.447	-0.897
201	86	-0.088	-0.093	0.001	-0.058	1.604	-1.447	1.518	-1.599
201	0	-0.063	-0.082	0.001	-0.097	4.246	-0.516	4.183	-0.694
201	87	-0.132	-0.141	0.000	-0.135	2.006	-0.735	1.874	-1.011
202	87	-0.080	-0.082	0.002	-0.064	2.024	-1.088	1.947	-1.234
202	0	-0.027	-0.042	0.000	-0.060	3.828	-0.666	3.801	-0.768
202	88	-0.070	-0.072	0.000	-0.058	1.628	-1.230	1.558	-1.360
203	88	-0.050	-0.056	0.000	-0.034	1.689	-1.428	1.638	-1.518
203	0	-0.003	-0.013	0.000	-0.030	3.956	-0.700	3.953	-0.744
203	89	-0.042	-0.049	0.000	-0.026	1.897	-1.116	1.854	-1.192
204	89	-0.042	-0.049	0.000	-0.026	1.897	-1.116	1.854	-1.192
204	0	-0.003	-0.013	0.000	-0.030	3.956	-0.700	3.953	-0.744
204	90	-0.050	-0.056	0.000	-0.034	1.689	-1.428	1.638	-1.518
205	90	-0.070	-0.072	0.000	-0.058	1.628	-1.230	1.558	-1.360
205	0	-0.027	-0.042	0.000	-0.060	3.828	-0.666	3.801	-0.768
205	91	-0.080	-0.082	0.002	-0.064	2.024	-1.088	1.947	-1.234
206	91	-0.132	-0.141	0.000	-0.135	2.006	-0.735	1.874	-1.011
206	0	-0.063	-0.082	0.001	-0.097	4.246	-0.516	4.183	-0.694
206	92	-0.088	-0.093	0.001	-0.058	1.604	-1.447	1.518	-1.599
207	92	-0.208	-0.224	0.001	-0.207	1.655	-0.466	1.447	-0.897
207	0	-0.039	-0.043	0.001	-0.023	2.975	-0.832	2.936	-0.899
207	93	0.072	0.031	0.161	0.000	0.206	-2.153	0.439	-2.123
208	93	-0.101	-0.125	0.002	0.000	0.596	-1.291	0.497	-1.415
208	0	0.081	0.038	0.189	0.000	0.984	-2.123	1.254	-2.084
208	94	0.252	0.185	0.376	0.000	0.108	-3.443	0.736	-3.258
209	94	-0.578	-0.613	0.000	-0.193	0.172	-1.951	-0.406	-2.757
209	0	-0.538	-0.571	0.097	0.000	0.055	-1.652	-0.386	-2.223
209	95	-1.373	-1.405	0.000	-0.488	0.011	-1.715	-1.362	-3.608
210	95	-2.191	-2.191	0.000	-1.037	0.000	-0.040	-2.190	-3.268

210	0	-0.776	-0.777	0.000	-0.241	0.000	-0.026	-0.776	-1.044
210	96	0.042	0.042	0.019	0.000	0.000	-0.013	0.061	0.029
211	97	0.083	0.083	0.034	0.000	0.000	-0.010	0.117	0.073
211	0	-0.671	-0.672	0.000	-0.201	0.000	-0.025	-0.671	-0.897
211	98	-2.022	-2.022	0.000	-0.971	0.000	-0.040	-2.021	-3.033
212	98	-1.417	-1.442	0.000	-0.569	0.008	-1.486	-1.408	-3.497
212	0	-0.578	-0.604	0.025	0.000	0.040	-1.357	-0.514	-1.960
212	99	-0.615	-0.642	0.000	-0.256	0.139	-1.579	-0.475	-2.476
213	99	0.175	0.121	0.287	0.000	0.077	-2.915	0.539	-2.794
213	0	0.048	0.015	0.138	0.000	1.043	-1.638	1.229	-1.623
213	100	-0.090	-0.107	0.000	-0.012	0.676	-1.033	0.587	-1.153
214	100	0.046	0.012	0.118	0.000	0.172	-1.702	0.337	-1.690
214	0	-0.027	-0.031	0.001	-0.019	2.862	-0.643	2.836	-0.693
214	101	-0.164	-0.174	0.000	-0.157	1.280	-0.374	1.117	-0.705
215	101	-0.072	-0.078	0.001	-0.044	1.287	-1.206	1.216	-1.328
215	0	-0.044	-0.060	0.001	-0.074	3.925	-0.404	3.881	-0.537
215	102	-0.109	-0.113	0.000	-0.103	1.579	-0.697	1.471	-0.913
216	102	-0.066	-0.070	0.001	-0.049	1.620	-0.891	1.556	-1.010
216	0	-0.017	-0.029	0.000	-0.046	3.494	-0.537	3.477	-0.613
216	103	-0.059	-0.063	0.000	-0.045	1.256	-1.105	1.198	-1.212
217	103	-0.044	-0.051	0.000	-0.026	1.295	-1.226	1.251	-1.303
217	0	0.001	-0.008	0.000	-0.023	3.645	-0.563	3.646	-0.594
217	104	-0.038	-0.045	0.000	-0.020	1.515	-0.970	1.478	-1.036
218	104	-0.038	-0.045	0.000	-0.020	1.515	-0.970	1.478	-1.036
218	0	0.001	-0.008	0.000	-0.023	3.645	-0.563	3.646	-0.594
218	105	-0.044	-0.051	0.000	-0.026	1.295	-1.226	1.251	-1.303
219	105	-0.059	-0.063	0.000	-0.045	1.256	-1.105	1.198	-1.212
219	0	-0.017	-0.029	0.000	-0.046	3.494	-0.537	3.477	-0.613
219	106	-0.066	-0.070	0.001	-0.049	1.620	-0.891	1.556	-1.010
220	106	-0.109	-0.113	0.000	-0.103	1.579	-0.697	1.471	-0.913
220	0	-0.044	-0.060	0.001	-0.074	3.925	-0.404	3.881	-0.537
220	107	-0.072	-0.078	0.001	-0.044	1.287	-1.206	1.216	-1.328
221	107	-0.164	-0.174	0.000	-0.157	1.280	-0.374	1.117	-0.705
221	0	-0.027	-0.031	0.001	-0.019	2.862	-0.643	2.836	-0.693
221	108	0.046	0.012	0.118	0.000	0.172	-1.702	0.337	-1.690
222	108	-0.090	-0.107	0.000	-0.012	0.676	-1.033	0.587	-1.153
222	0	0.048	0.015	0.138	0.000	1.043	-1.638	1.229	-1.623
222	109	0.175	0.121	0.287	0.000	0.077	-2.915	0.539	-2.794
223	109	-0.615	-0.642	0.000	-0.256	0.139	-1.579	-0.475	-2.476
223	0	-0.578	-0.604	0.025	0.000	0.040	-1.357	-0.514	-1.960
223	110	-1.417	-1.442	0.000	-0.569	0.008	-1.486	-1.408	-3.497
224	110	-2.022	-2.022	0.000	-0.971	0.000	-0.040	-2.021	-3.033
224	0	-0.671	-0.672	0.000	-0.201	0.000	-0.025	-0.671	-0.897
224	111	0.083	0.083	0.034	0.000	0.000	-0.010	0.117	0.073
225	112	0.061	0.061	0.018	-0.000	0.002	-0.001	0.082	0.061
225	0	-0.384	-0.384	0.000	-0.088	0.000	-0.016	-0.383	-0.488
225	113	-1.424	-1.425	0.000	-0.731	0.000	-0.032	-1.424	-2.187
226	113	-2.402	-2.405	0.000	-1.348	0.118	-0.593	-2.284	-4.347
226	0	-1.165	-1.174	0.000	-0.463	0.055	-0.635	-1.110	-2.271
226	114	-0.804	-0.818	0.000	-0.452	0.066	-0.994	-0.737	-2.264
227	114	0.055	0.024	0.137	0.000	0.031	-1.885	0.223	-1.861
227	0	0.010	-0.008	0.065	0.000	1.206	-0.901	1.281	-0.909
227	115	-0.047	-0.057	0.000	-0.008	0.629	-0.589	0.582	-0.653
228	115	0.013	-0.009	0.061	0.000	0.115	-0.974	0.189	-0.983

228	0	-0.006	-0.012	0.000	-0.011	2.655	-0.354	2.648	-0.377
228	116	-0.102	-0.102	0.000	-0.083	0.656	-0.232	0.554	-0.417
229	116	-0.049	-0.057	0.001	-0.024	0.676	-0.722	0.628	-0.803
229	0	-0.016	-0.027	0.000	-0.040	3.464	-0.228	3.448	-0.295
229	117	-0.071	-0.074	0.000	-0.055	0.842	-0.486	0.771	-0.615
230	117	-0.046	-0.053	0.001	-0.027	0.878	-0.555	0.833	-0.635
230	0	-0.002	-0.011	0.000	-0.025	3.029	-0.307	3.027	-0.343
230	118	-0.042	-0.049	0.000	-0.024	0.642	-0.712	0.600	-0.785
231	118	-0.034	-0.042	0.000	-0.014	0.663	-0.758	0.629	-0.814
231	0	0.008	0.001	0.000	-0.013	3.216	-0.323	3.224	-0.335
231	119	-0.030	-0.040	0.000	-0.011	0.815	-0.603	0.785	-0.654
232	119	-0.030	-0.040	0.000	-0.011	0.815	-0.603	0.785	-0.654
232	0	0.008	0.001	0.000	-0.013	3.216	-0.323	3.224	-0.335
232	120	-0.034	-0.042	0.000	-0.014	0.663	-0.758	0.629	-0.814
233	120	-0.042	-0.049	0.000	-0.024	0.642	-0.712	0.600	-0.785
233	0	-0.002	-0.011	0.000	-0.025	3.029	-0.307	3.027	-0.343
233	121	-0.046	-0.053	0.001	-0.027	0.878	-0.555	0.833	-0.635
234	121	-0.071	-0.074	0.000	-0.055	0.842	-0.486	0.771	-0.615
234	0	-0.016	-0.027	0.000	-0.040	3.464	-0.228	3.448	-0.295
234	122	-0.049	-0.057	0.001	-0.024	0.676	-0.722	0.628	-0.803
235	122	-0.102	-0.102	0.000	-0.083	0.656	-0.232	0.554	-0.417
235	0	-0.006	-0.012	0.000	-0.011	2.655	-0.354	2.648	-0.377
235	123	0.013	-0.009	0.061	0.000	0.115	-0.974	0.189	-0.983
236	123	-0.047	-0.057	0.000	-0.008	0.629	-0.589	0.582	-0.653
236	0	0.010	-0.008	0.065	0.000	1.206	-0.901	1.281	-0.909
236	124	0.055	0.024	0.137	0.000	0.031	-1.885	0.223	-1.861
237	124	-0.804	-0.818	0.000	-0.452	0.066	-0.994	-0.737	-2.264
237	0	-1.165	-1.174	0.000	-0.463	0.055	-0.635	-1.110	-2.271
237	125	-2.402	-2.405	0.000	-1.348	0.118	-0.593	-2.284	-4.347
238	125	-1.424	-1.425	0.000	-0.731	0.000	-0.032	-1.424	-2.187
238	0	-0.384	-0.384	0.000	-0.088	0.000	-0.016	-0.383	-0.488
238	126	0.061	0.061	0.018	-0.000	0.002	-0.001	0.082	0.061
239	127	-0.399	-0.401	0.000	-0.155	0.052	-0.000	-0.348	-0.556
239	0	-2.167	-2.170	0.000	-0.832	0.137	-0.001	-2.029	-3.003
239	128	-4.529	-4.534	0.000	-2.046	0.224	-0.002	-4.305	-6.582
240	128	-6.124	-6.276	0.000	-3.288	7.080	-0.056	0.956	-9.620
240	0	-15.151	-15.309	0.000	-9.564	6.721	-0.044	-8.430	-24.917
240	129	-24.275	-24.438	0.000	-15.937	6.891	-0.049	-17.384	-40.424
241	129	-24.275	-24.438	0.000	-15.937	6.891	-0.049	-17.384	-40.424
241	0	-19.432	-19.557	0.000	-12.738	5.280	-0.073	-14.152	-32.368
241	130	-14.615	-14.700	0.000	-9.565	3.670	-0.100	-10.945	-24.365
242	130	-14.615	-14.700	0.000	-9.565	3.670	-0.100	-10.945	-24.365
242	0	-3.285	-3.293	0.000	-2.140	0.197	-0.805	-3.088	-6.238
242	131	7.991	7.890	5.146	0.000	0.027	-4.381	13.164	3.510
243	131	7.991	7.890	5.146	0.000	0.027	-4.381	13.164	3.510
243	0	7.546	7.476	4.954	0.000	0.020	-2.962	12.520	4.513
243	132	7.095	7.054	4.756	0.000	1.265	-1.940	13.116	5.114
244	132	1.431	1.283	0.771	-0.000	7.076	-0.057	9.277	1.225
244	0	0.621	0.592	0.427	0.000	3.421	-0.021	4.469	0.571
244	133	-0.109	-0.206	0.085	0.000	0.030	-3.980	0.006	-4.187
245	133	-1.017	-1.030	0.000	-0.795	1.671	-0.882	0.654	-2.708
245	0	-0.207	-0.216	0.000	-0.127	4.111	-0.708	3.904	-1.051
245	134	0.550	0.486	0.542	0.000	0.458	-3.183	1.550	-2.696

246	134	-0.132	-0.182	0.000	-0.262	3.582	-0.914	3.450	-1.358
246	0	0.039	0.023	0.000	-0.013	5.767	-0.257	5.806	-0.248
246	135	0.163	0.110	0.236	0.000	1.665	-3.423	2.064	-3.312
247	135	-0.164	-0.170	0.000	-0.155	3.086	-2.386	2.922	-2.712
247	0	-0.012	-0.019	0.000	-0.028	4.868	-0.449	4.857	-0.496
247	136	0.066	0.041	0.101	0.000	2.518	-3.105	2.685	-3.064
248	136	-0.040	-0.044	0.000	-0.031	3.140	-2.866	3.100	-2.941
248	0	0.014	0.006	0.000	-0.008	5.252	-0.435	5.265	-0.436
248	137	-0.013	-0.027	0.017	-0.002	2.932	-3.160	2.937	-3.189
249	137	-0.013	-0.027	0.017	-0.002	2.932	-3.160	2.937	-3.189
249	0	0.014	0.006	0.000	-0.008	5.252	-0.435	5.265	-0.436
249	138	-0.040	-0.044	0.000	-0.031	3.140	-2.866	3.100	-2.941
250	138	0.066	0.041	0.101	0.000	2.518	-3.105	2.685	-3.064
250	0	-0.012	-0.019	0.000	-0.028	4.868	-0.449	4.857	-0.496
250	139	-0.164	-0.170	0.000	-0.155	3.086	-2.386	2.922	-2.712
251	139	0.163	0.110	0.236	0.000	1.665	-3.423	2.064	-3.312
251	0	0.039	0.023	0.000	-0.013	5.767	-0.257	5.806	-0.248
251	140	-0.132	-0.182	0.000	-0.262	3.582	-0.914	3.450	-1.358
252	140	0.550	0.486	0.542	0.000	0.458	-3.183	1.550	-2.696
252	0	-0.207	-0.216	0.000	-0.127	4.111	-0.708	3.904	-1.051
252	141	-1.017	-1.030	0.000	-0.795	1.671	-0.882	0.654	-2.708
253	141	-0.109	-0.206	0.085	0.000	0.030	-3.980	0.006	-4.187
253	0	0.621	0.592	0.427	0.000	3.421	-0.021	4.469	0.571
253	142	1.431	1.283	0.771	-0.000	7.076	-0.057	9.277	1.225
254	142	7.095	7.054	4.756	0.000	1.265	-1.940	13.116	5.114
254	0	7.546	7.476	4.954	0.000	0.020	-2.962	12.520	4.513
254	143	7.991	7.890	5.146	0.000	0.027	-4.381	13.164	3.510
255	143	7.991	7.890	5.146	0.000	0.027	-4.381	13.164	3.510
255	0	-3.285	-3.293	0.000	-2.140	0.197	-0.805	-3.088	-6.238
255	144	-14.615	-14.700	0.000	-9.565	3.670	-0.100	-10.945	-24.365
256	144	-14.615	-14.700	0.000	-9.565	3.670	-0.100	-10.945	-24.365
256	0	-19.432	-19.557	0.000	-12.738	5.280	-0.073	-14.152	-32.368
256	145	-24.275	-24.438	0.000	-15.937	6.891	-0.049	-17.384	-40.424
257	145	-24.275	-24.438	0.000	-15.937	6.891	-0.049	-17.384	-40.424
257	0	-15.151	-15.309	0.000	-9.564	6.721	-0.044	-8.430	-24.917
257	146	-6.124	-6.276	0.000	-3.288	7.080	-0.056	0.956	-9.620
258	146	-4.529	-4.534	0.000	-2.046	0.224	-0.002	-4.305	-6.582
258	0	-2.167	-2.170	0.000	-0.832	0.137	-0.001	-2.029	-3.003
258	147	-0.399	-0.401	0.000	-0.155	0.052	-0.000	-0.348	-0.556

Envolvente de reacciones

Nudo	Peso Propio	C.P. MAX.	C.P. MIN.	S.C. MAX.	S.C. MIN.	Tandem MAX.	Tandem MIN.	Carril MAX.	Carril MIN.	TOTAL MAX.	TOTAL MIN.
3	23.114	38.702	38.532	26.212	0.000	0.040	-5.218	0.329	-2.324	88.397	54.104
5	23.114	-21.771	-22.134	0.000	-13.611	12.238	-0.073	4.650	-0.037	18.232	-12.740
7	13.967	6.241	5.655	3.631	0.000	22.416	-0.303	8.471	-0.130	54.725	19.188
8	15.931	1.804	1.321	0.433	-0.001	24.368	-0.278	6.728	-0.133	49.264	16.840
9	15.931	2.067	1.426	0.132	-0.008	30.417	-0.246	7.721	-0.110	56.269	16.994
10	15.931	1.800	1.149	0.000	-0.118	25.998	-0.198	8.602	-0.117	52.332	16.648
11	15.931	1.857	1.197	0.000	-0.106	30.222	-0.072	7.741	-0.041	55.752	16.910
12	15.931	1.800	1.149	0.000	-0.118	25.998	-0.198	8.602	-0.117	52.332	16.648

13	15.931	2.067	1.426	0.132	-0.008	30.417	-0.246	7.721	-0.110	56.269	16.994
14	15.931	1.804	1.321	0.433	-0.001	24.368	-0.278	6.728	-0.133	49.264	16.840
15	13.967	6.241	5.655	3.631	0.000	22.416	-0.303	8.471	-0.130	54.725	19.188
17	23.114	-21.771	-22.134	0.000	-13.611	12.238	-0.073	4.650	-0.037	18.232	-12.740
19	23.114	38.702	38.532	26.212	0.000	0.040	-5.218	0.329	-2.324	88.397	54.104
129	23.114	38.702	38.532	26.212	0.000	0.040	-5.218	0.329	-2.324	88.397	54.104
131	23.114	-21.771	-22.134	0.000	-13.611	12.238	-0.073	4.650	-0.037	18.232	-12.740
133	13.967	6.241	5.655	3.631	0.000	22.416	-0.303	8.471	-0.130	54.725	19.188
134	15.931	1.804	1.321	0.433	-0.001	24.368	-0.278	6.728	-0.133	49.264	16.840
135	15.931	2.067	1.426	0.132	-0.008	30.417	-0.246	7.721	-0.110	56.269	16.994
136	15.931	1.800	1.149	0.000	-0.118	25.998	-0.198	8.602	-0.117	52.332	16.648
137	15.931	1.857	1.197	0.000	-0.106	30.222	-0.072	7.741	-0.041	55.752	16.910
138	15.931	1.800	1.149	0.000	-0.118	25.998	-0.198	8.602	-0.117	52.332	16.648
139	15.931	2.067	1.426	0.132	-0.008	30.417	-0.246	7.721	-0.110	56.269	16.994
140	15.931	1.804	1.321	0.433	-0.001	24.368	-0.278	6.728	-0.133	49.264	16.840
141	13.967	6.241	5.655	3.631	0.000	22.416	-0.303	8.471	-0.130	54.725	19.188
143	23.114	-21.771	-22.134	0.000	-13.611	12.238	-0.073	4.650	-0.037	18.232	-12.740
145	23.114	38.702	38.532	26.212	0.000	0.040	-5.218	0.329	-2.324	88.397	54.104

COMPARACIÓN DE ESFUERZOS EN VIGAS

COMPARACIÓN ESFUERZOS CORTANTES (t)

<i>Viga</i>	<i>Tramo</i>	<i>TABLERO ACTUAL</i>		<i>TABLERO AMPLIADO</i>		<i>DIFERENCIA</i>	
		<i>MAX.</i>	<i>MIN.</i>	<i>MAX.</i>	<i>MIN.</i>	<i>MAX.</i>	<i>MIN.</i>
2	9	-17,37	-44,15	-16,38	-31,63	0,99	12,52
-	-	-13,38	-40,17	-12,89	-28,13	0,49	12,04
3	17	-16,94	-47,89	-17,74	-42,89	-0,80	5,00
-	-	-12,96	-43,90	-13,75	-38,91	-0,79	4,99
4	25	-16,78	-47,53	-17,16	-46,03	-0,38	1,50
-	-	-12,80	-43,55	-13,17	-42,04	-0,37	1,51
5	33	-16,77	-47,97	-17,01	-44,95	-0,24	3,02
-	-	-12,78	-43,99	-13,03	-40,97	-0,25	3,02
6	41	-16,87	-47,36	-16,94	-46,22	-0,07	1,14
-	-	-12,89	-43,37	-12,96	-42,24	-0,07	1,13
7	49	-16,77	-47,97	-17,01	-44,95	-0,24	3,02
-	-	-12,78	-43,99	-13,03	-40,97	-0,25	3,02
8	57	-16,78	-47,53	-17,16	-46,03	-0,38	1,50
-	-	-12,80	-43,55	-13,17	-42,04	-0,37	1,51
9	65	-16,94	-47,89	-17,74	-42,89	-0,80	5,00
-	-	-12,96	-43,90	-13,75	-38,91	-0,79	4,99
10	73	-17,37	-44,15	-16,38	-31,63	0,99	12,52
-	-	-13,38	-40,17	-12,89	-28,13	0,49	12,04

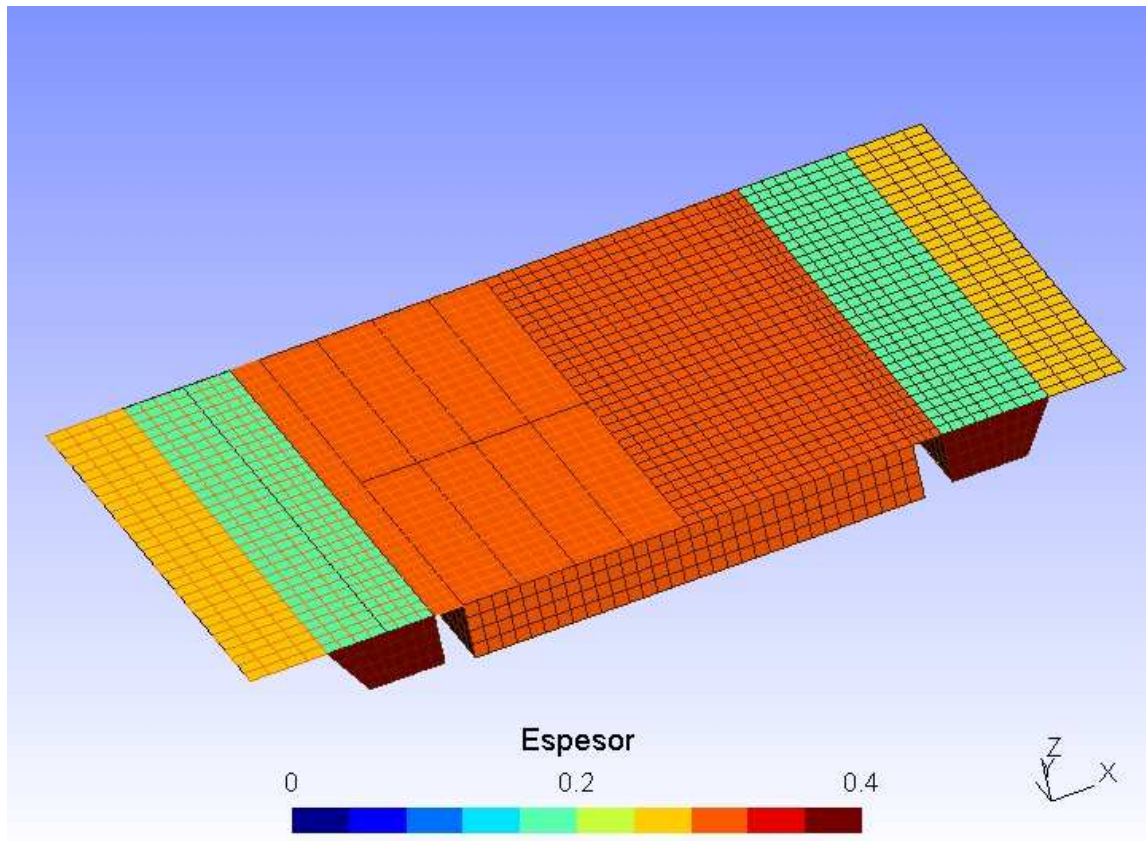
COMPARACIÓN MOMENTOS FLECTORES (t.m)

<i>Viga</i>	<i>Tramo</i>	<i>TABLERO ACTUAL</i>		<i>TABLERO AMPLIADO</i>		<i>DIFERENCIA</i>	
		<i>MAX.</i>	<i>MIN.</i>	<i>MAX.</i>	<i>MIN.</i>	<i>MAX.</i>	<i>MIN.</i>
2	13	164,11	64,57	118,41	61,90	-45,70	-2,67
3	21	169,54	62,08	151,54	65,70	-18,00	3,62
4	29	167,32	61,25	162,63	62,90	-4,69	1,65
5	37	168,14	61,27	164,60	62,08	-3,54	0,81
6	45	166,61	61,43	166,74	61,79	0,13	0,36
7	53	168,14	61,27	164,60	62,08	-3,54	0,81
8	61	167,32	61,25	162,63	62,90	-4,69	1,65
9	69	169,54	62,08	151,54	65,70	-18,00	3,62
10	77	164,11	64,57	118,41	61,90	-45,70	-2,67

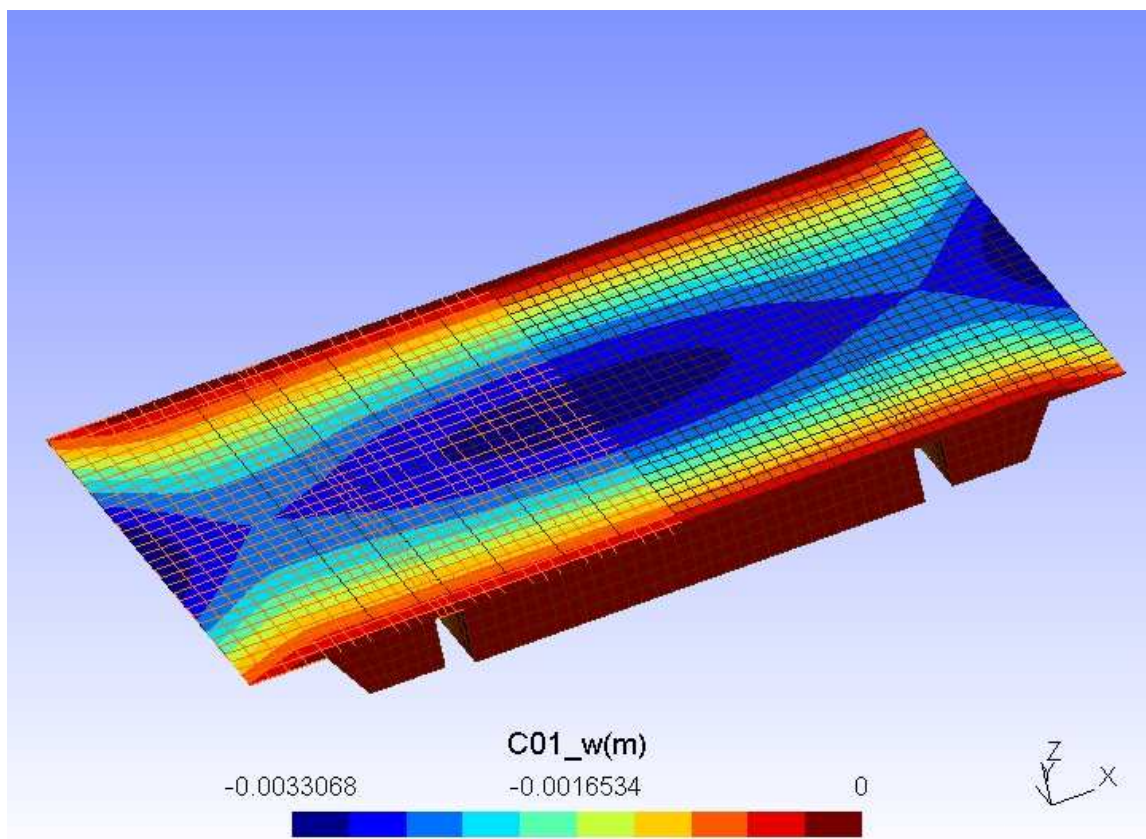
COMPARACIÓN REACCIONES (t)

<i>Nudo</i>	<i>TABLERO ACTUAL</i>		<i>TABLERO AMPLIADO</i>		<i>DIFERENCIA</i>	
	<i>MAX.</i>	<i>MIN.</i>	<i>MAX.</i>	<i>MIN.</i>	<i>MAX.</i>	<i>MIN.</i>
7	52,25	14,42	54,73	19,19	2,48	4,77
8	59,21	17,05	49,26	16,84	-9,94	-0,21
9	58,35	16,28	56,27	16,99	-2,08	0,72
10	59,22	16,63	52,33	16,65	-6,89	0,02
11	58,15	16,73	55,75	16,91	-2,39	0,18
12	59,22	16,63	52,33	16,65	-6,89	0,02
13	58,35	16,28	56,27	16,99	-2,08	0,72
14	59,21	17,05	49,26	16,84	-9,94	-0,21
15	52,25	14,42	54,73	19,19	2,48	4,77

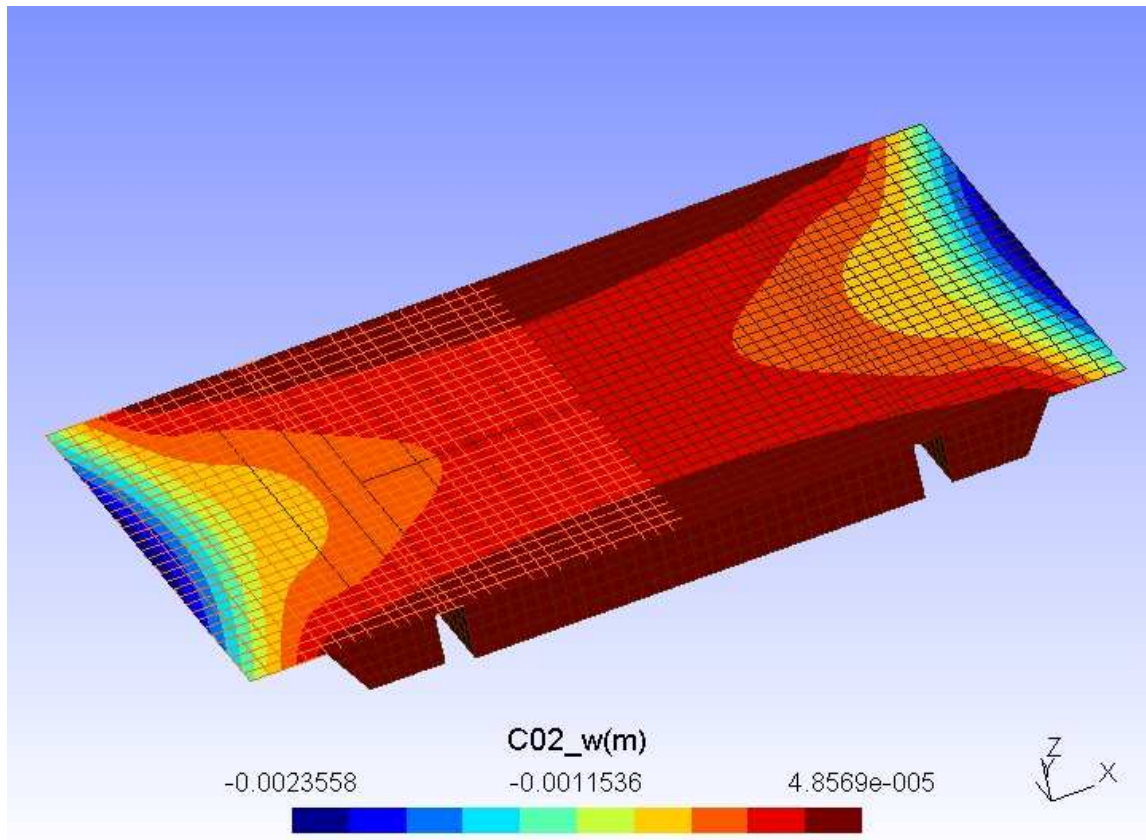
***MODELO DE CÁLCULO DE
ELEMENTOS FINITOS – TABLERO
AMPLIADO***



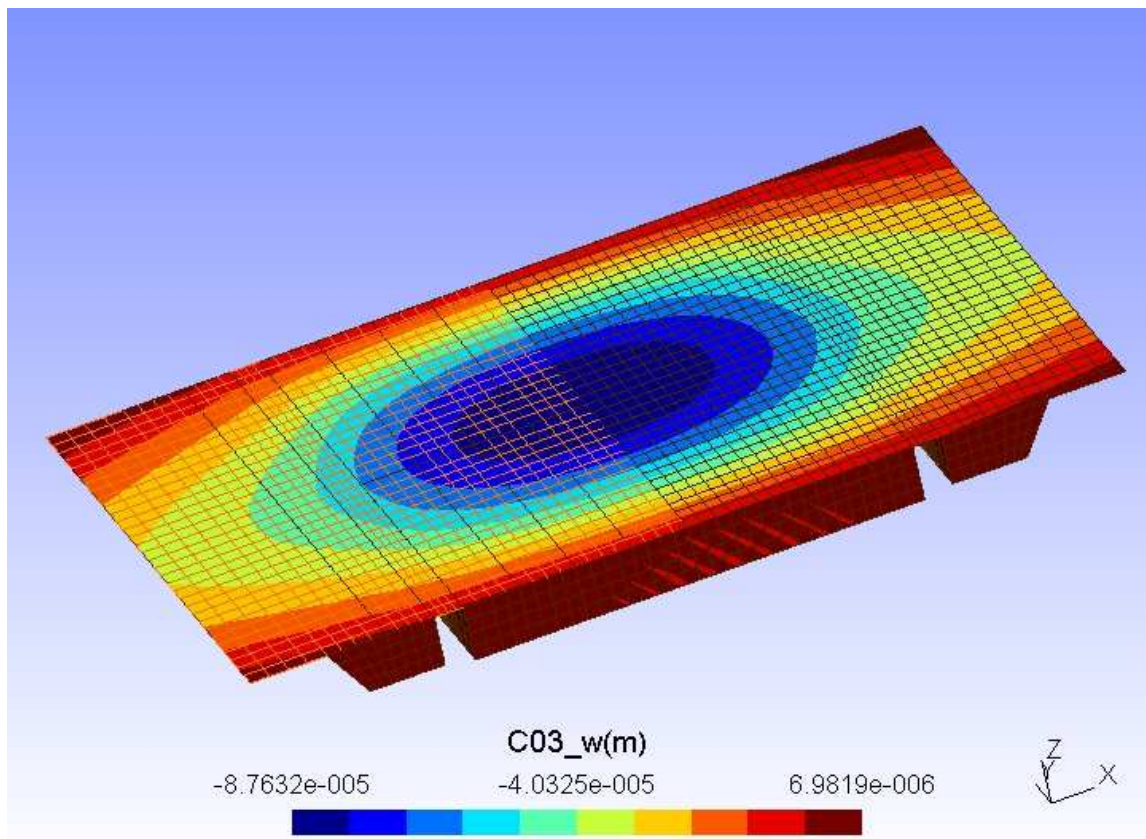
000-Espesores.jpg



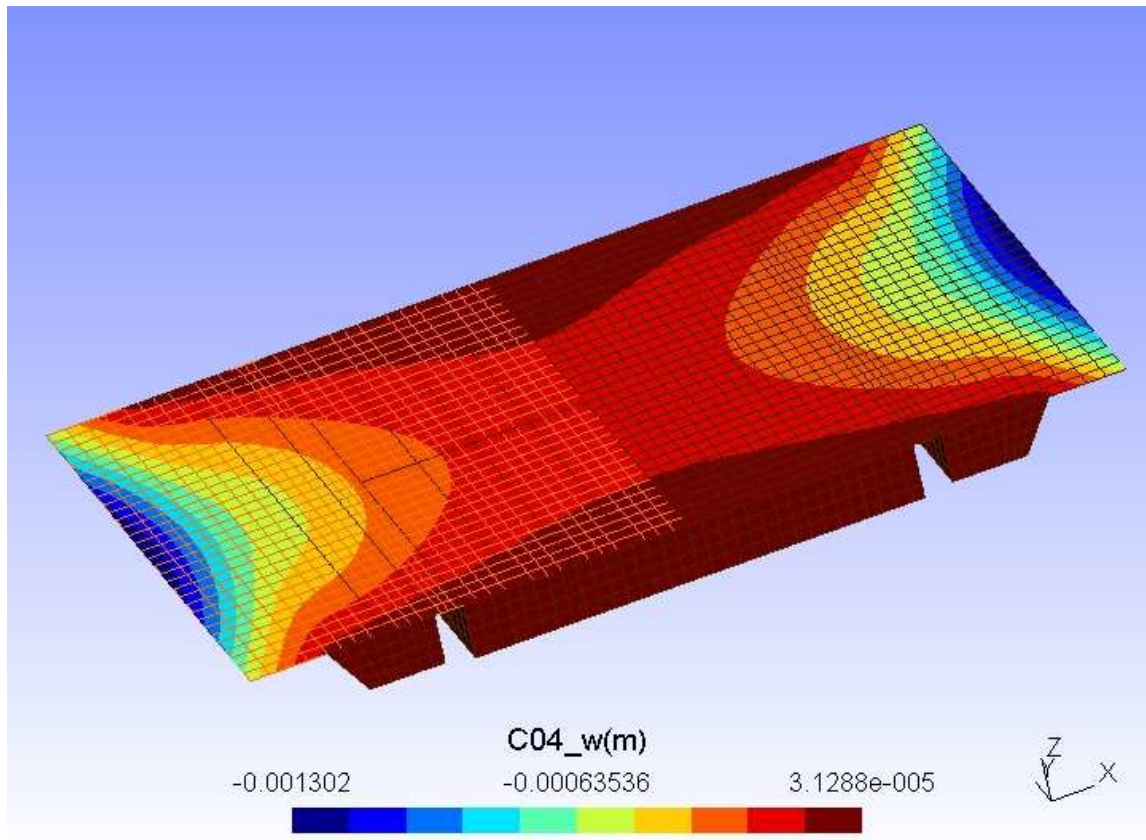
003-PESO PROPIO - Desplazamientos w(m).jpg



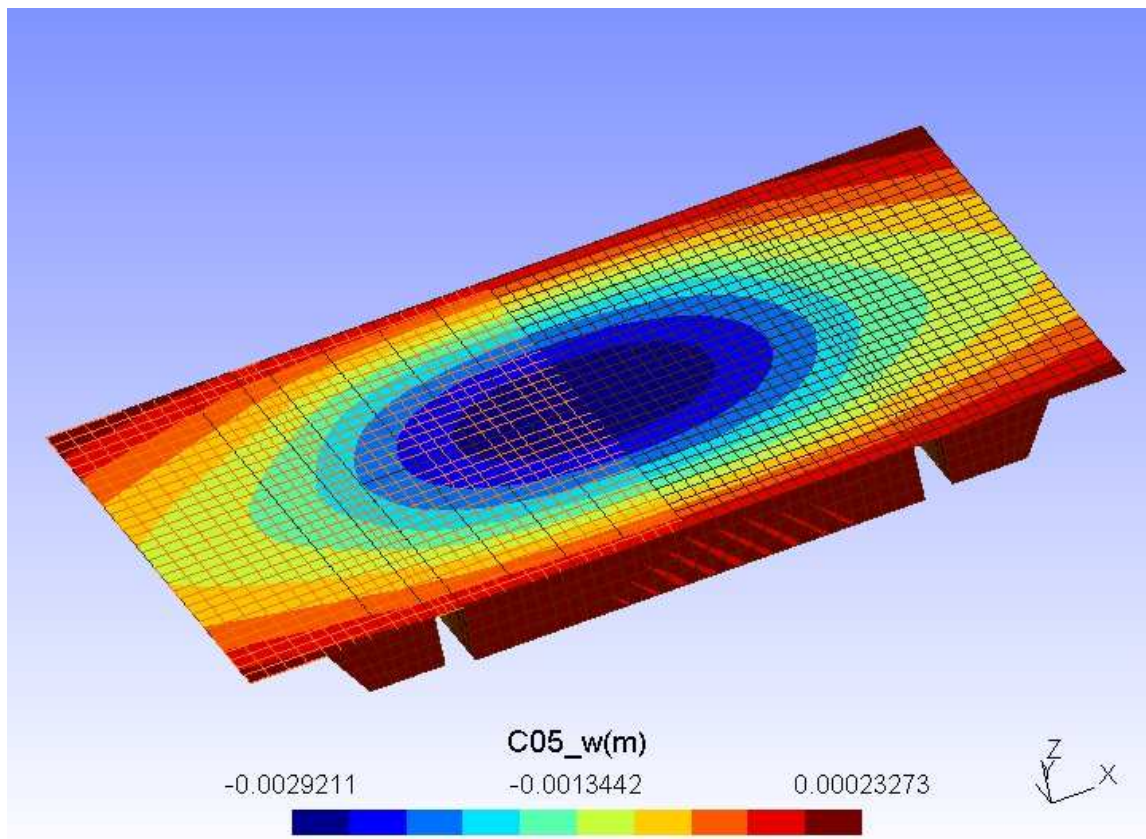
009-CARGA PERMANENTE - Desplazamientos $w(m)$.jpg



015-INC. PÈSO PAVIMENTO - Desplazamientos $w(m)$.jpg

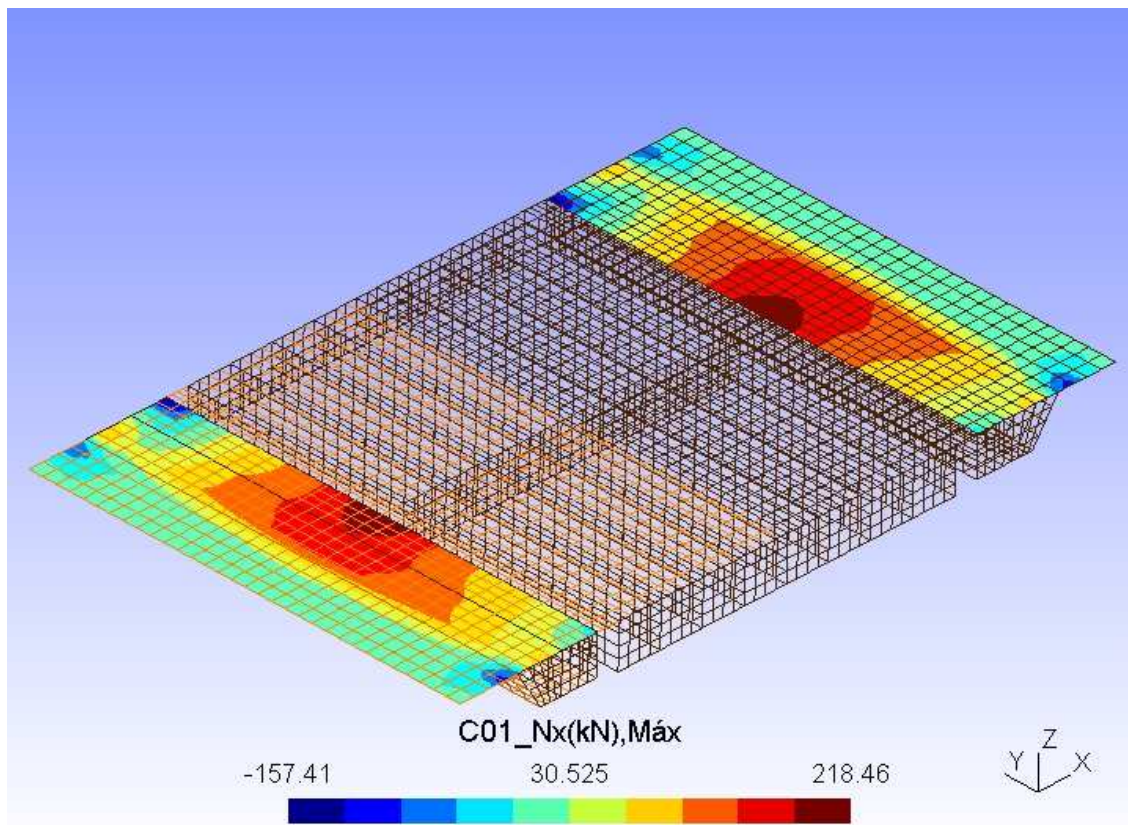


021-S.C. ACERAS - Desplazamientos $w(m)$.jpg

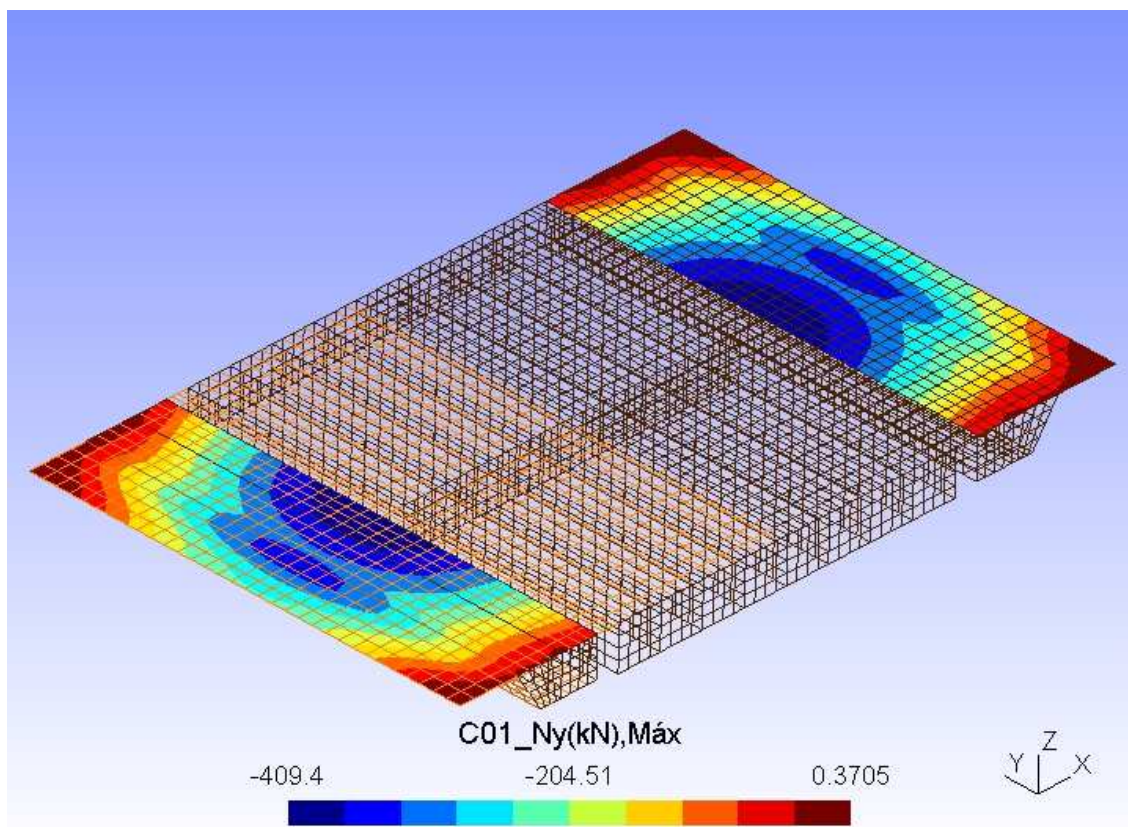


027-S.C. USO - Desplazamientos $w(m)$.jpg

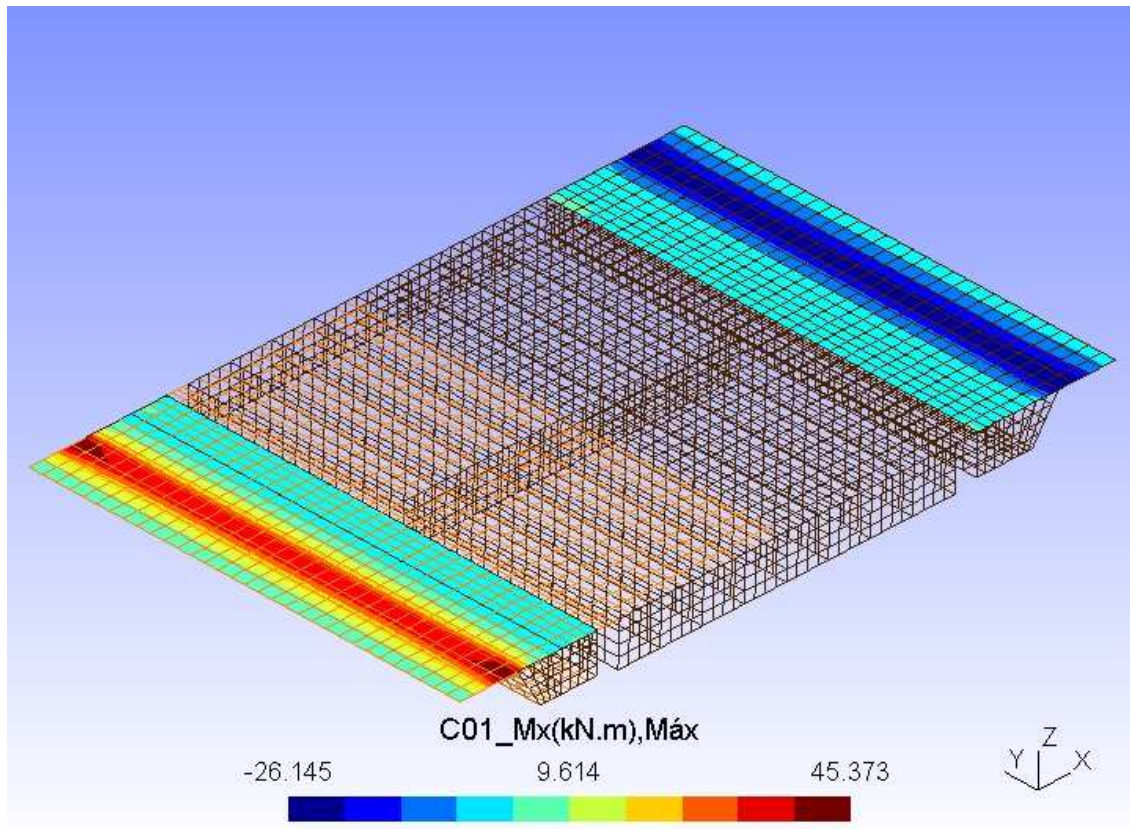
COMBINACIÓN 1 - ESFUERZOS EN ELU



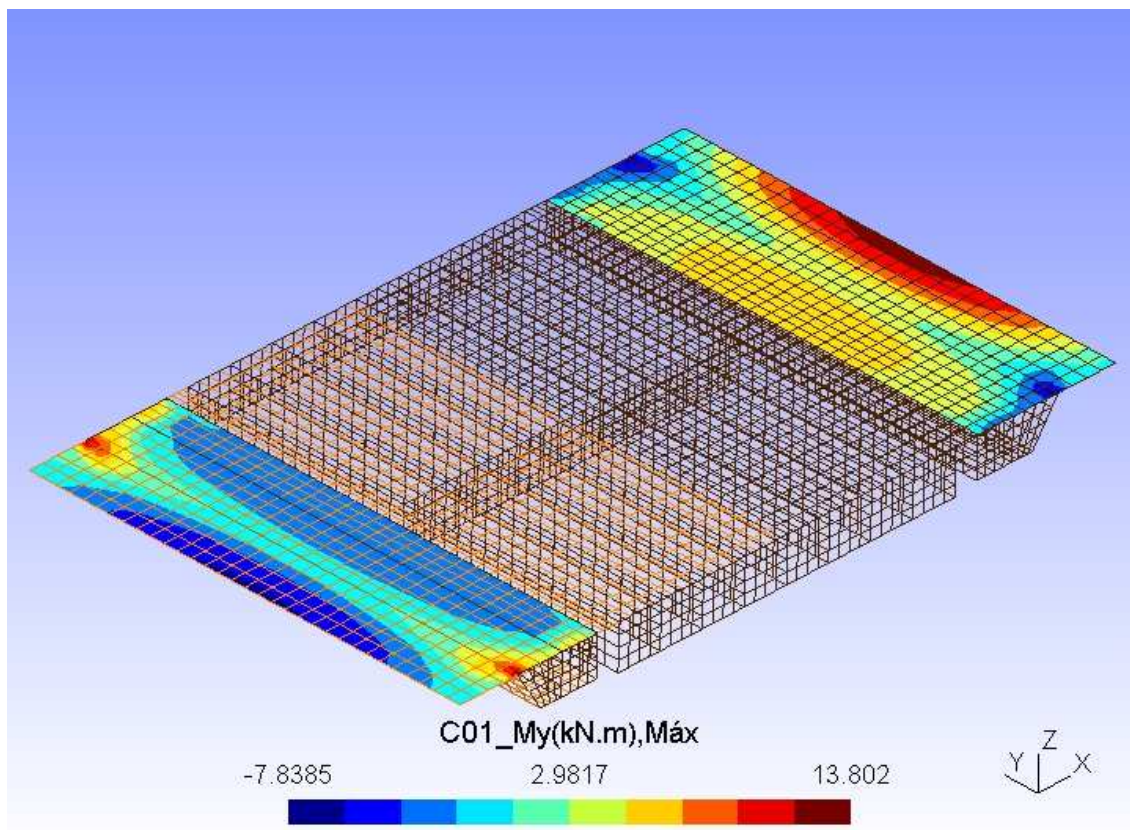
000-Combinación 1 - Esfuerzos Axiles N_x Máx.jpg



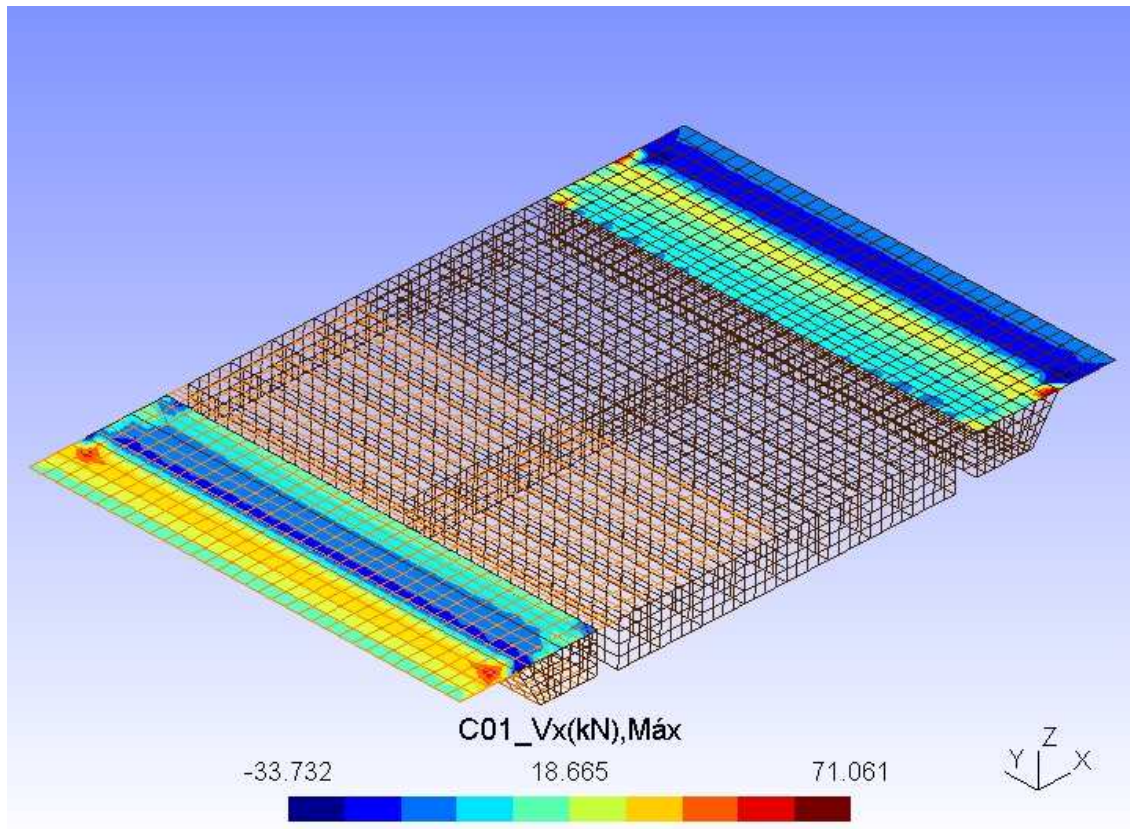
001-Combinación 1 - Esfuerzos Axiles N_y Máx.jpg



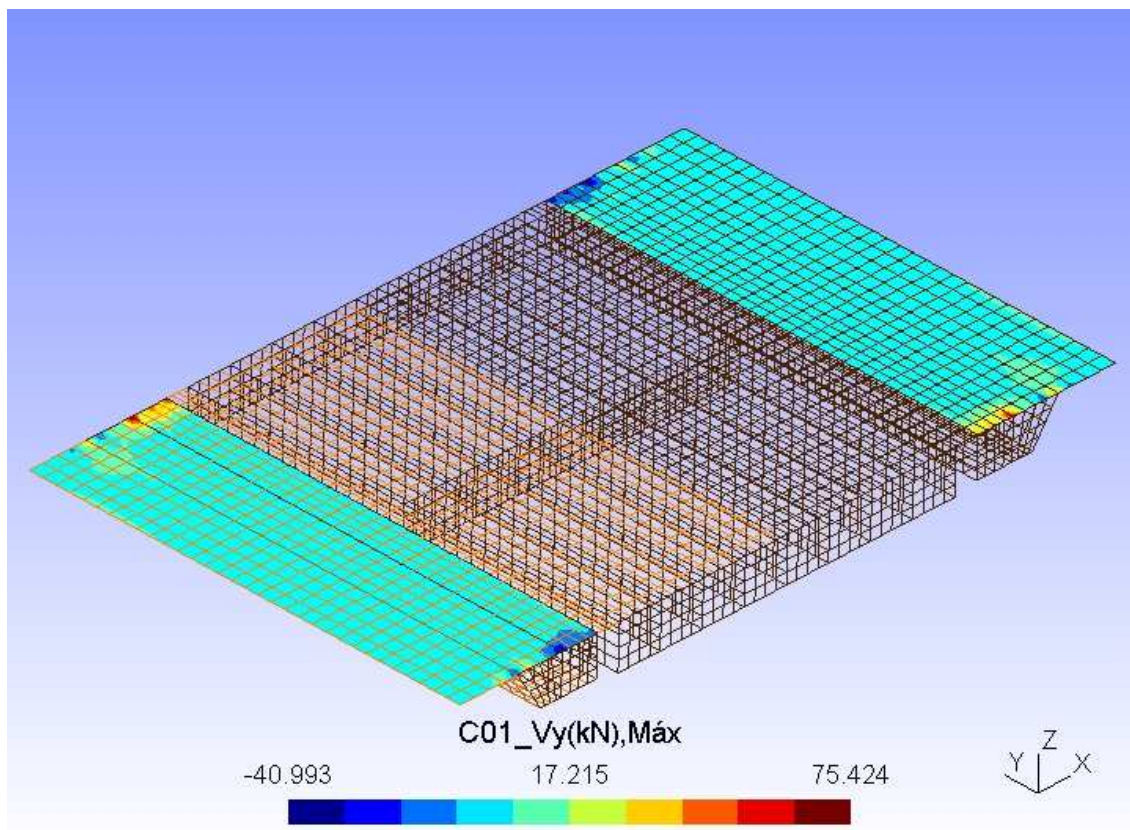
002-Combinación 1 - Momentos Flectores M_x Máx.jpg



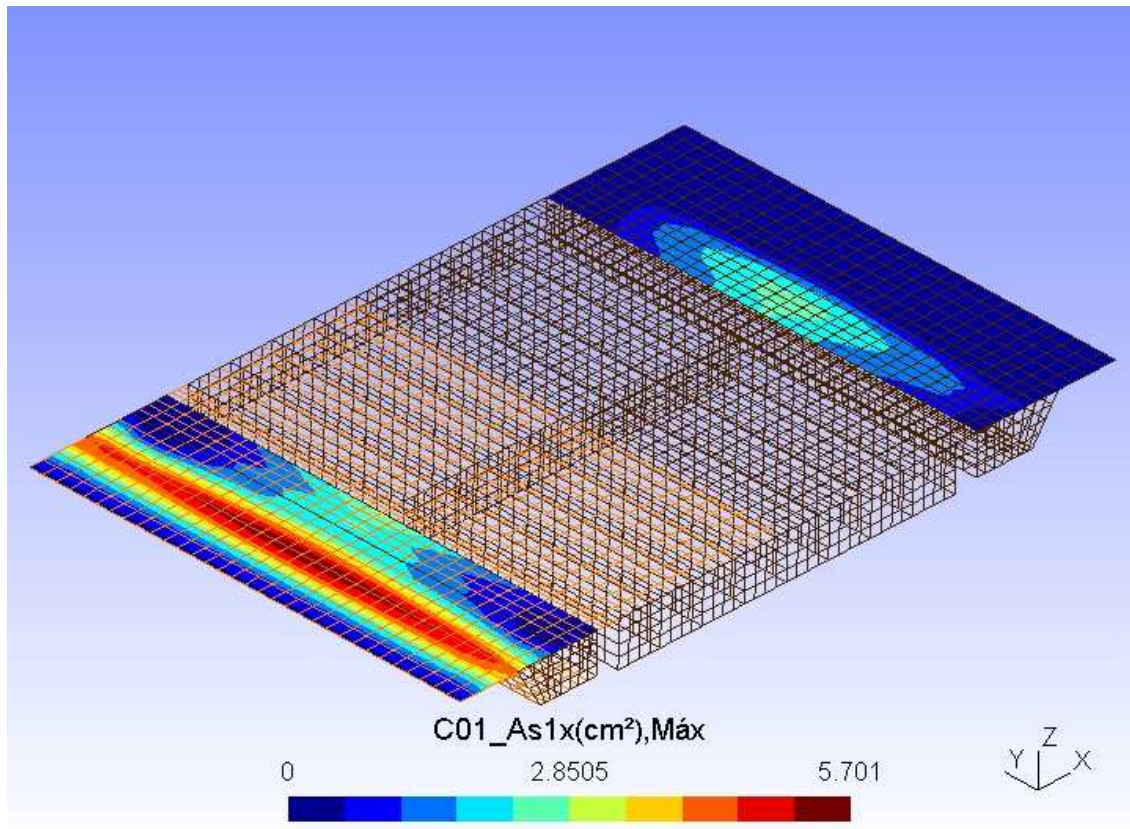
003-Combinación 1 - Momentos Flectores M_y Máx.jpg



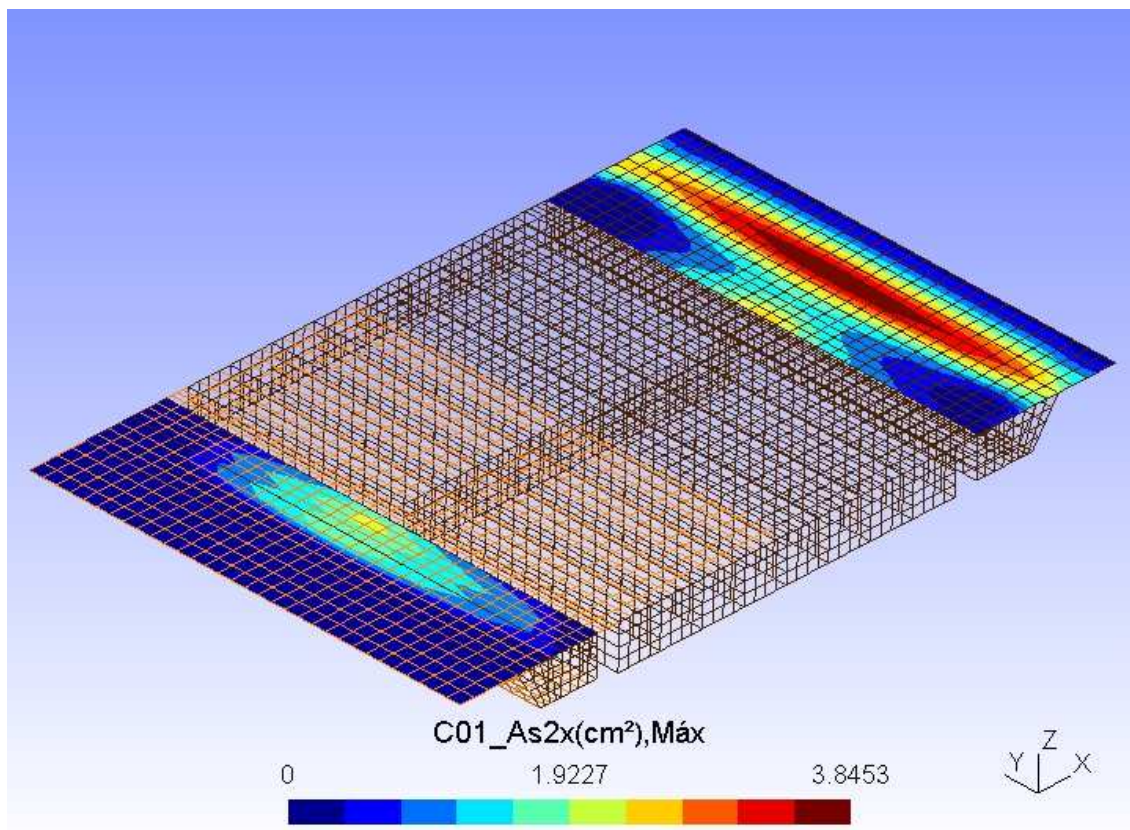
004-Combinación 1 - Esfuerzos Cortantes V_x Máx.jpg



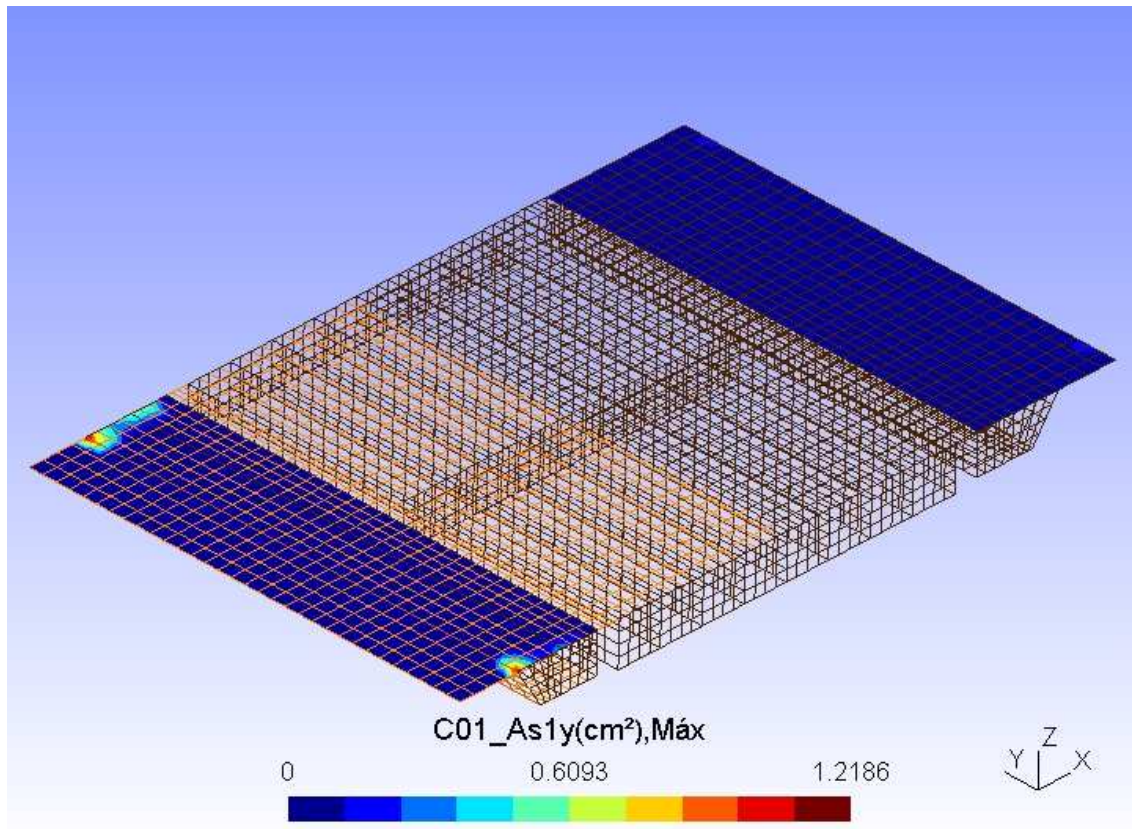
005-Combinación 1 - Esfuerzos cortantes V_y Máx.jpg



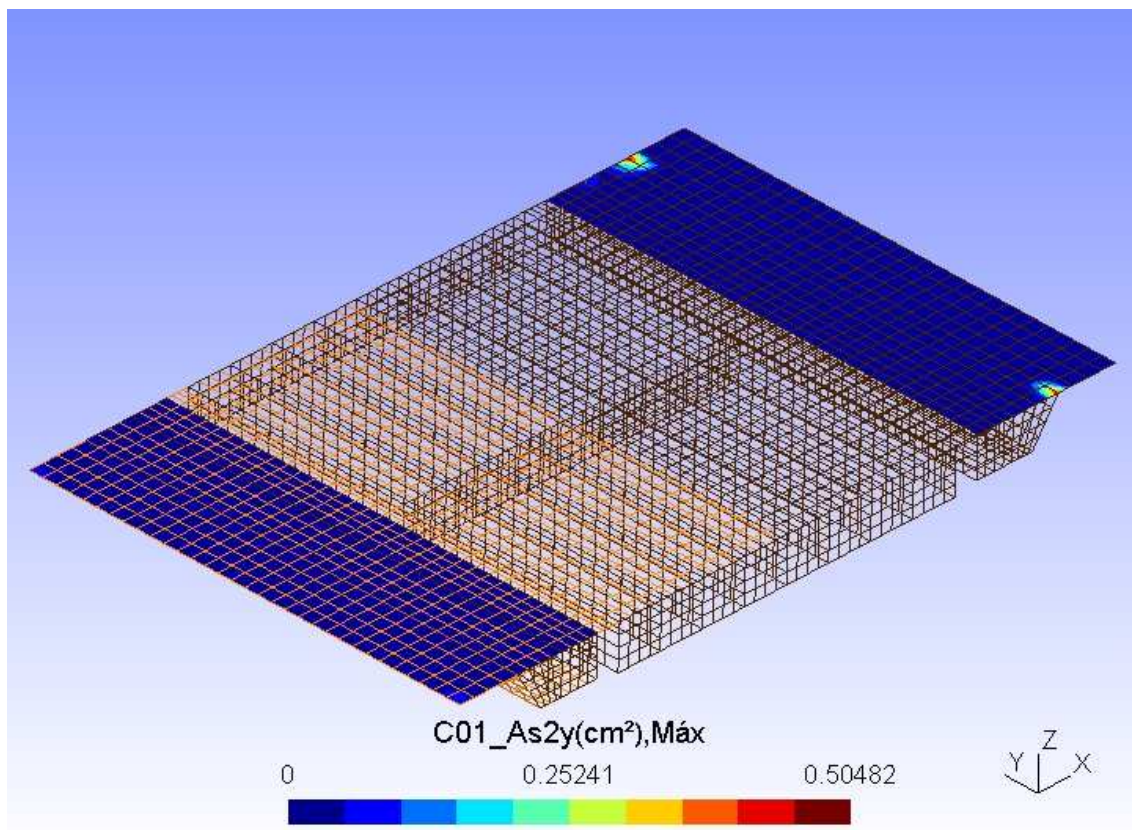
006-Combinación 1 - Armadura As1x Máx.jpg



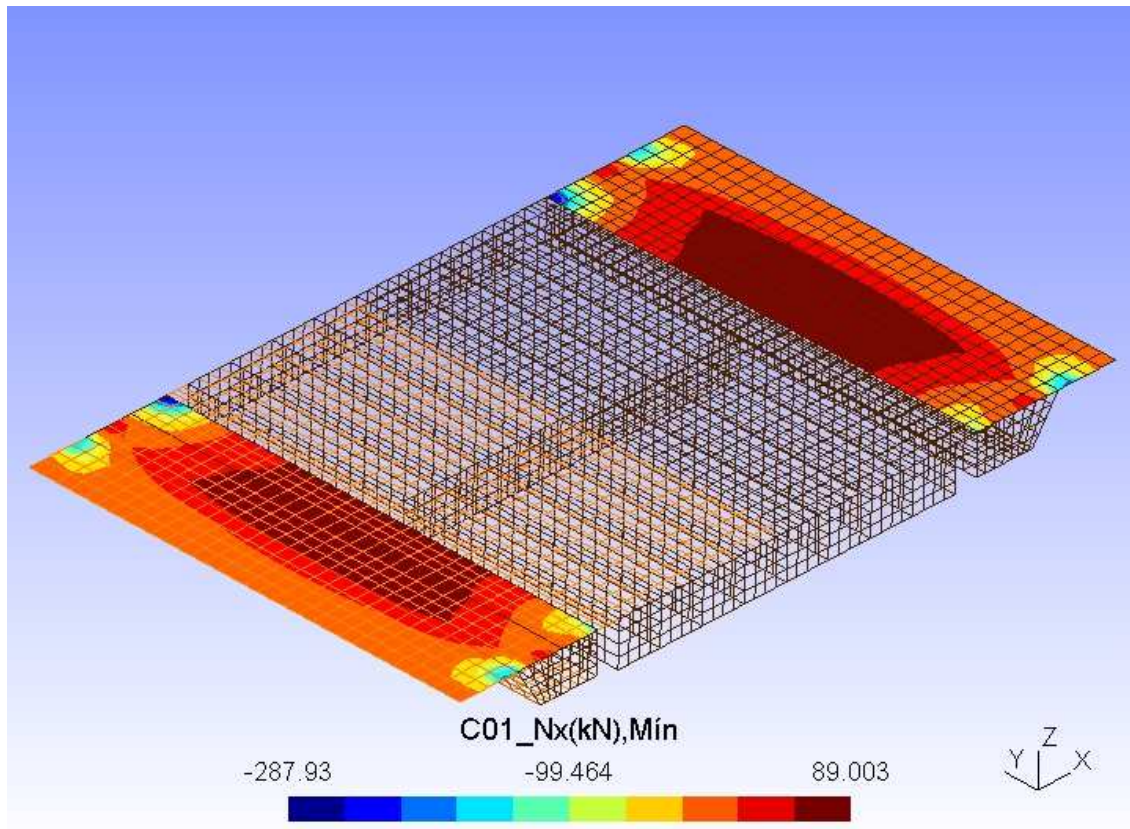
007-Combinación 1 - Armadura As2x Máx.jpg



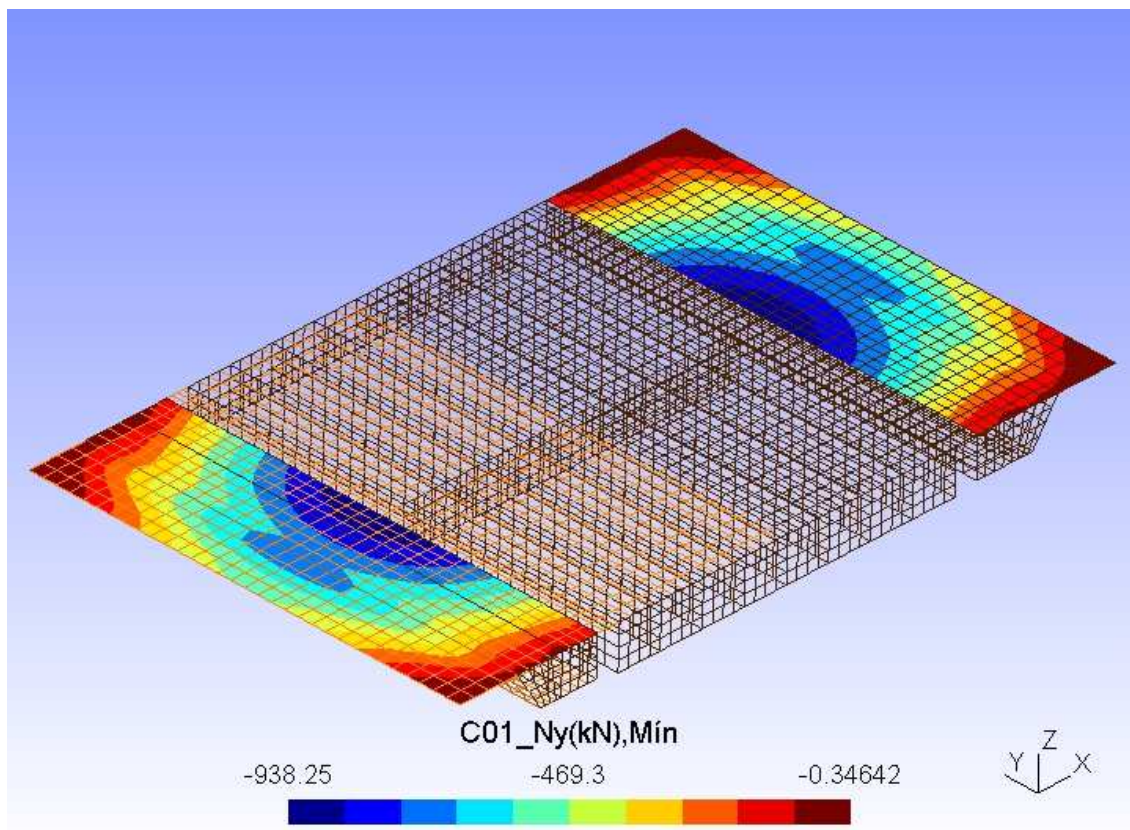
008-Combinación 1 - Armadura As1y Máx.jpg



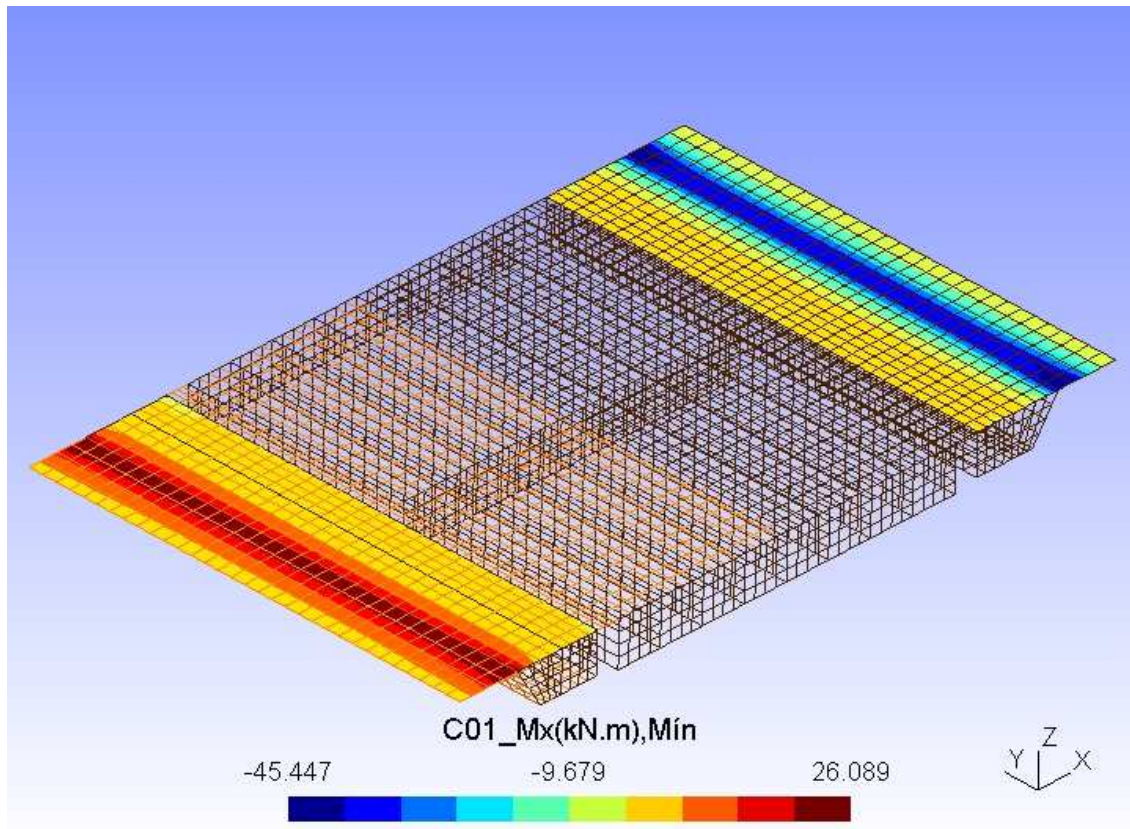
009-Combinación 1 - Armadura As2y Máx.jpg



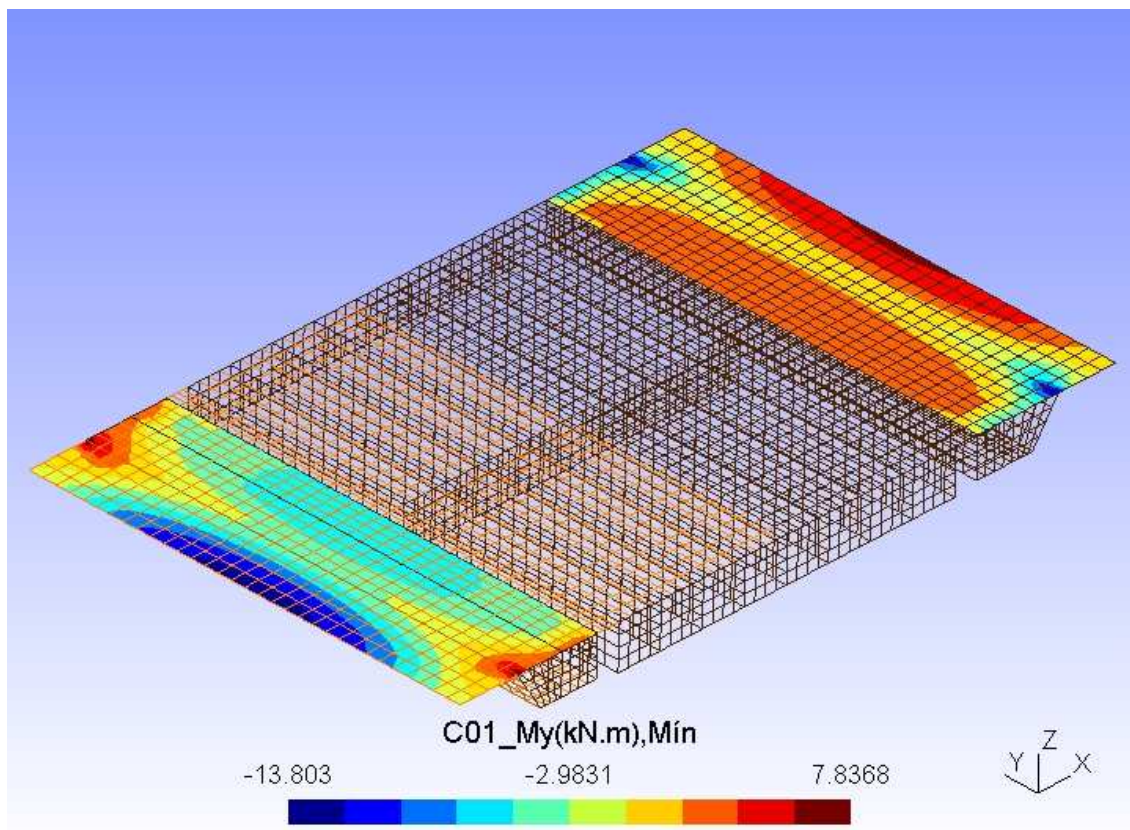
010-Combinación 1 - Esfuerzos Axiles N_x Mín.jpg



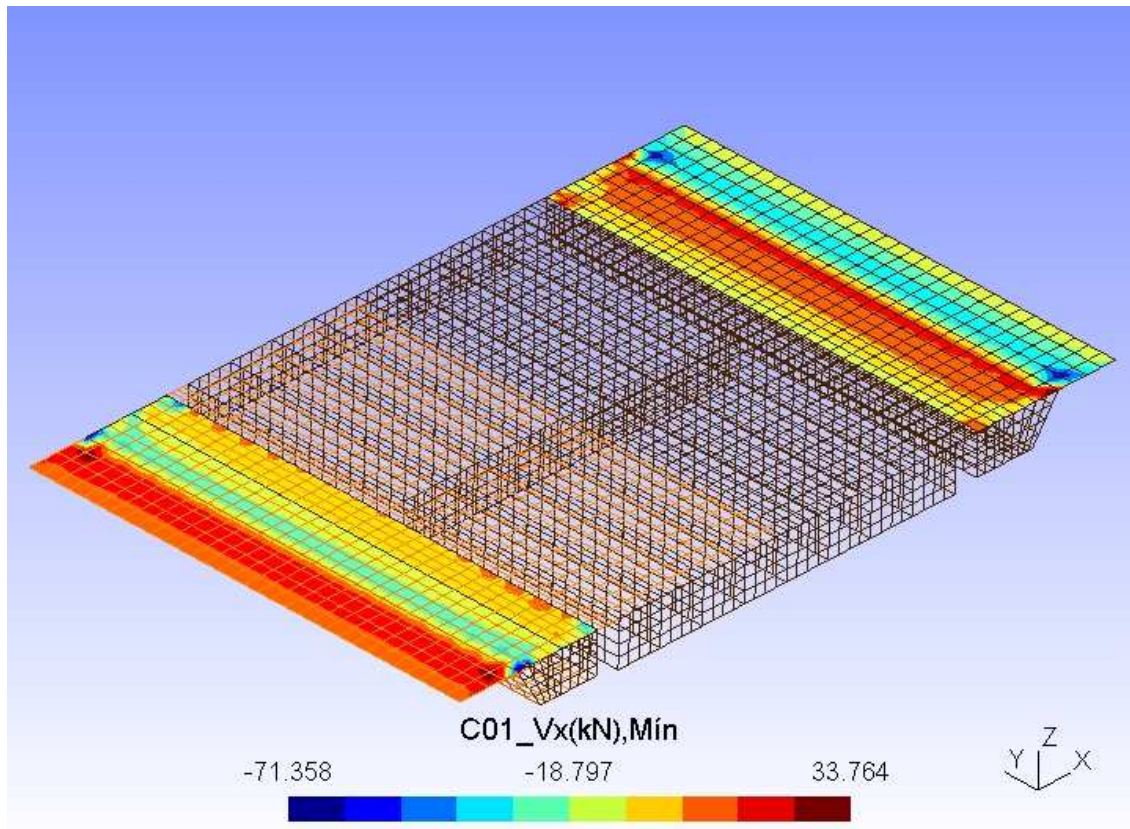
011-Combinación 1 - Esfuerzos Axiles N_y Mín.jpg



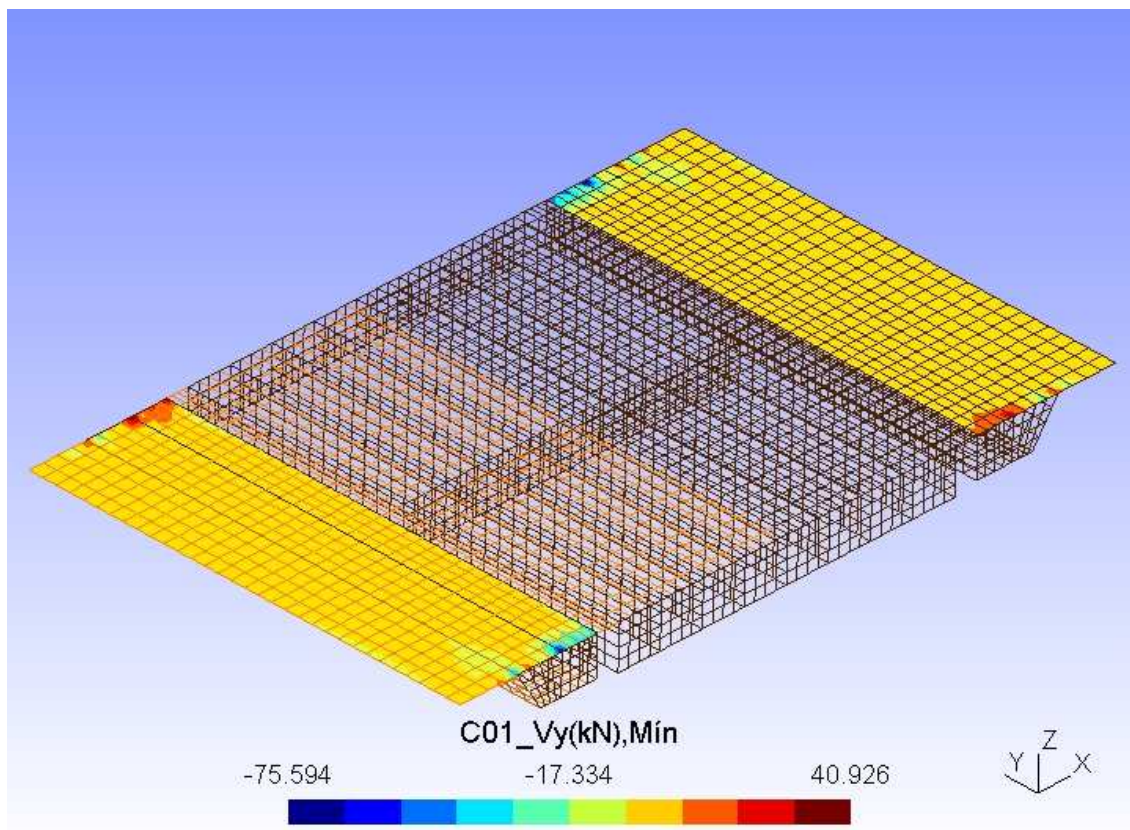
012-Combinación 1 - Momentos Flectores M_x Mín.jpg



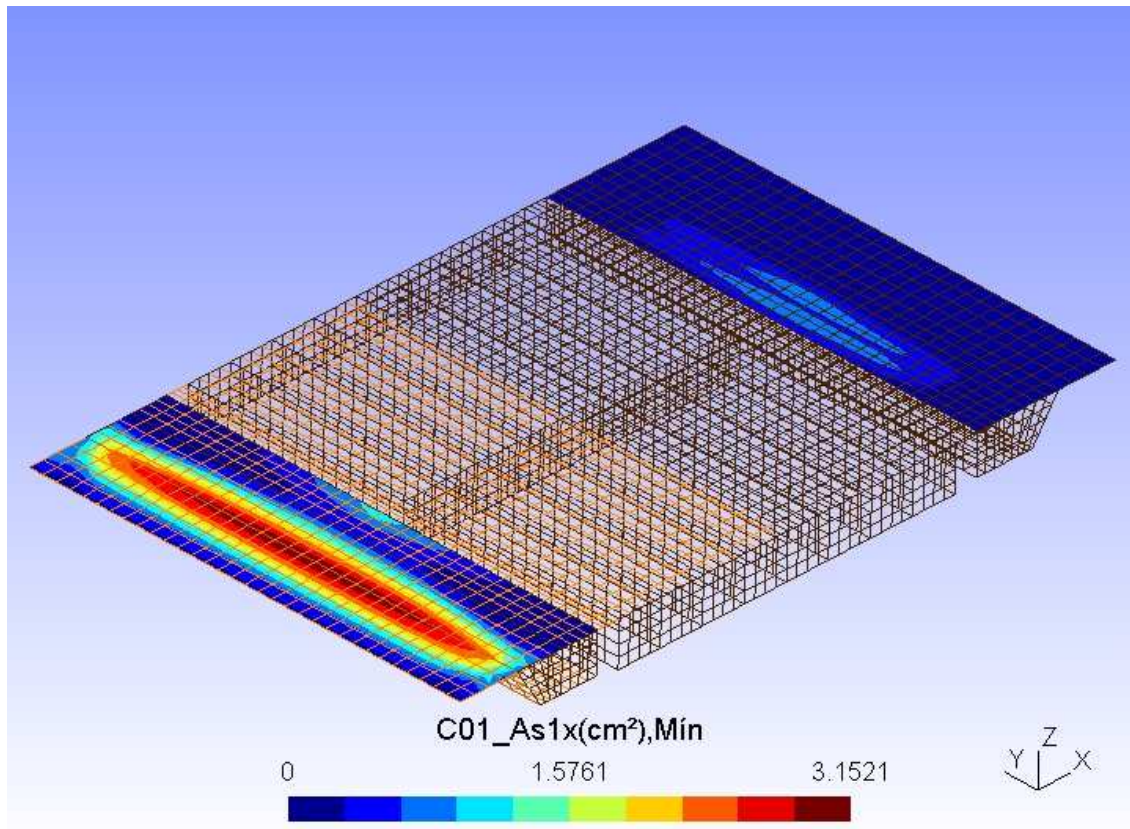
013-Combinación 1 - Momentos Flectores M_y Mín.jpg



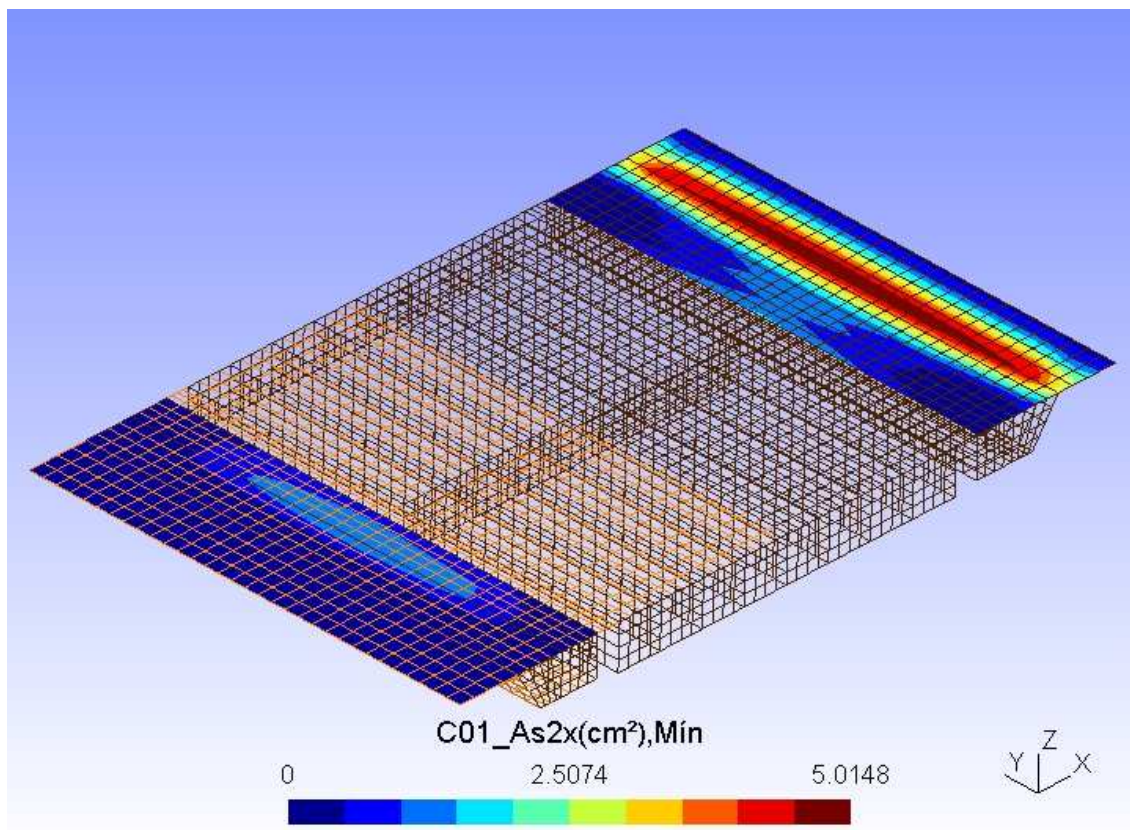
014-Combinación 1 - Esfuerzos Cortantes V_x Mín.jpg



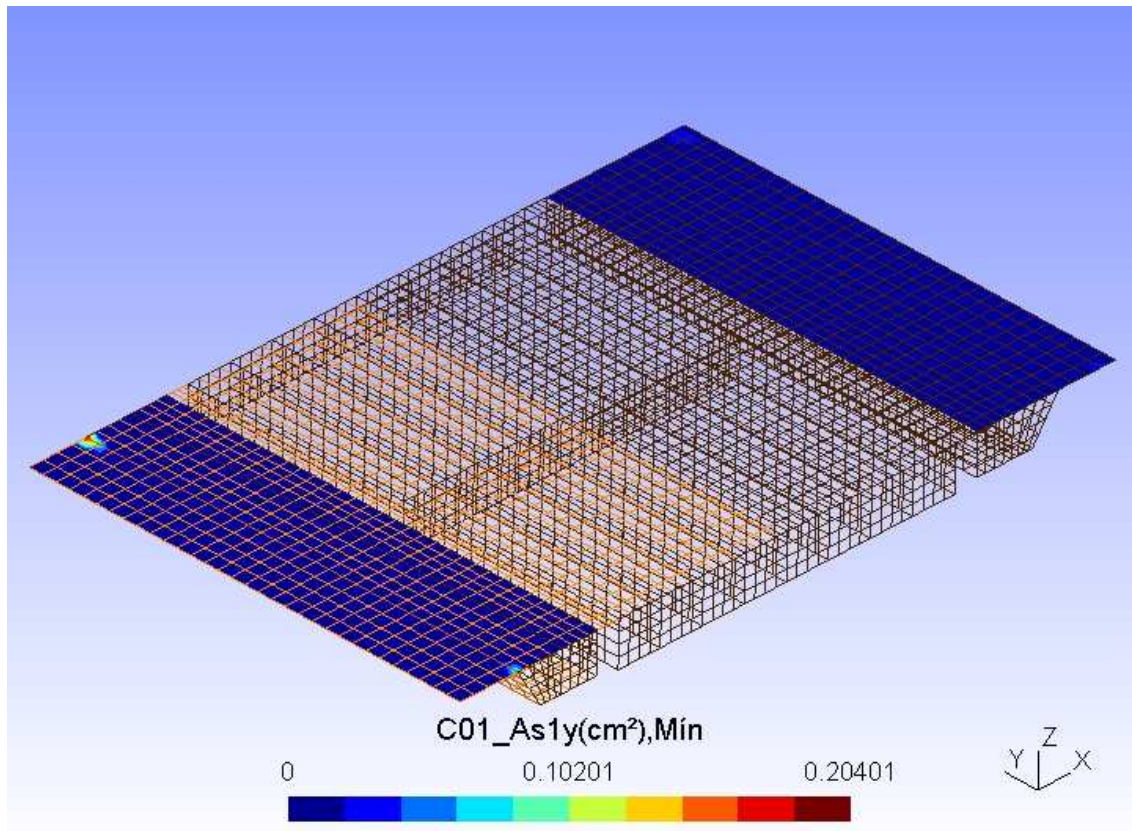
015-Combinación 1 - Esfuerzos cortantes V_y Mín.jpg



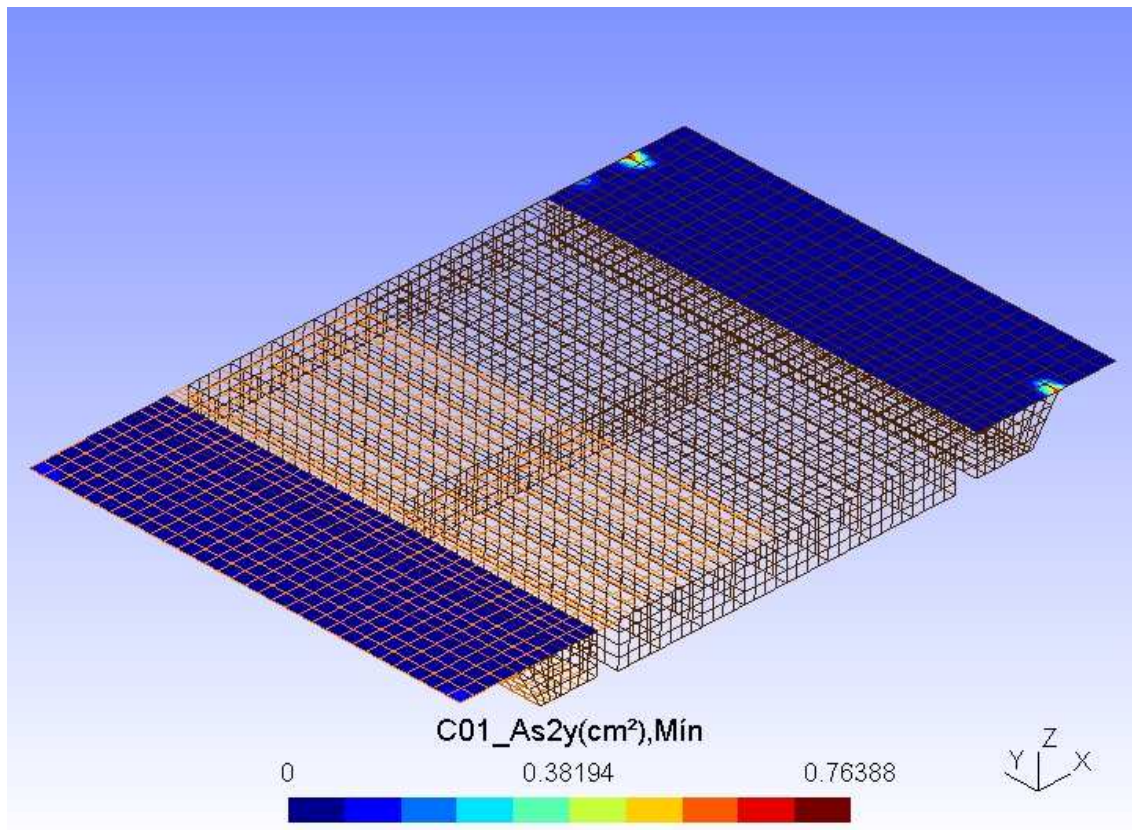
016-Combinación 1 - Armadura As1x Mín.jpg



017-Combinación 1 - Armadura As2x Mín.jpg

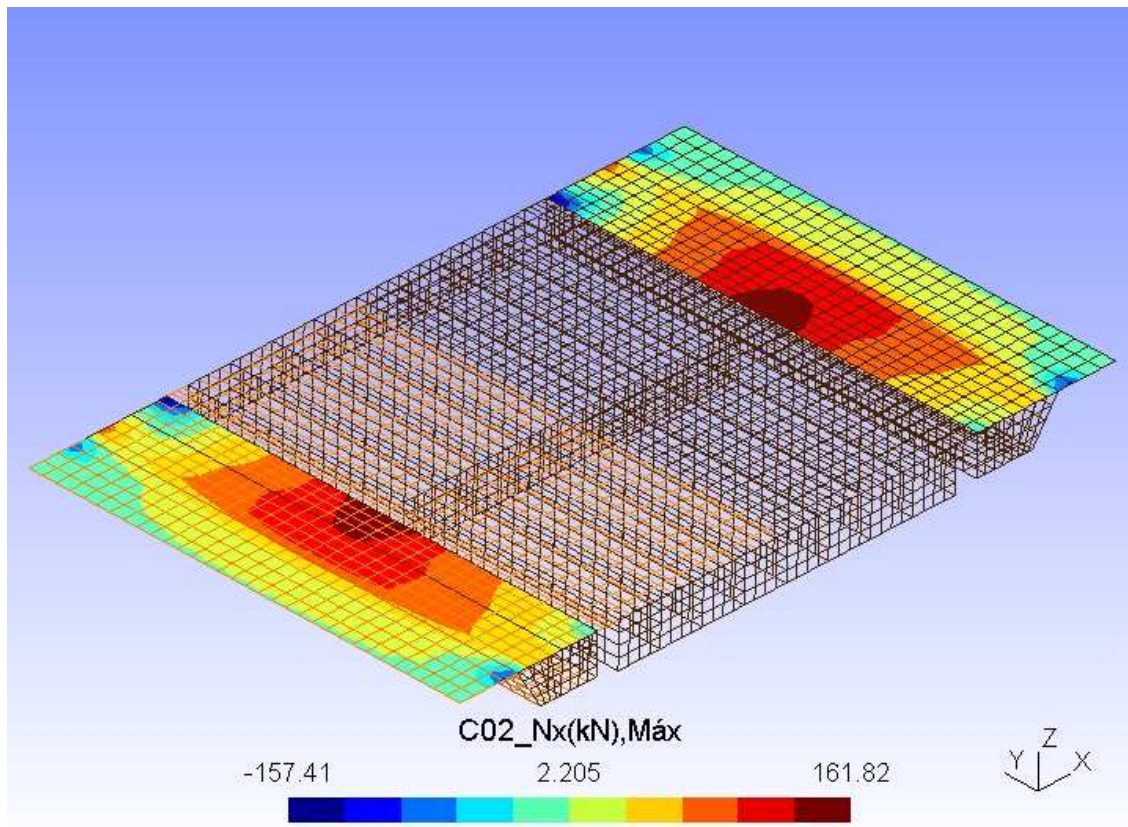


018-Combinación 1 - Armadura $As1y$ Mín.jpg

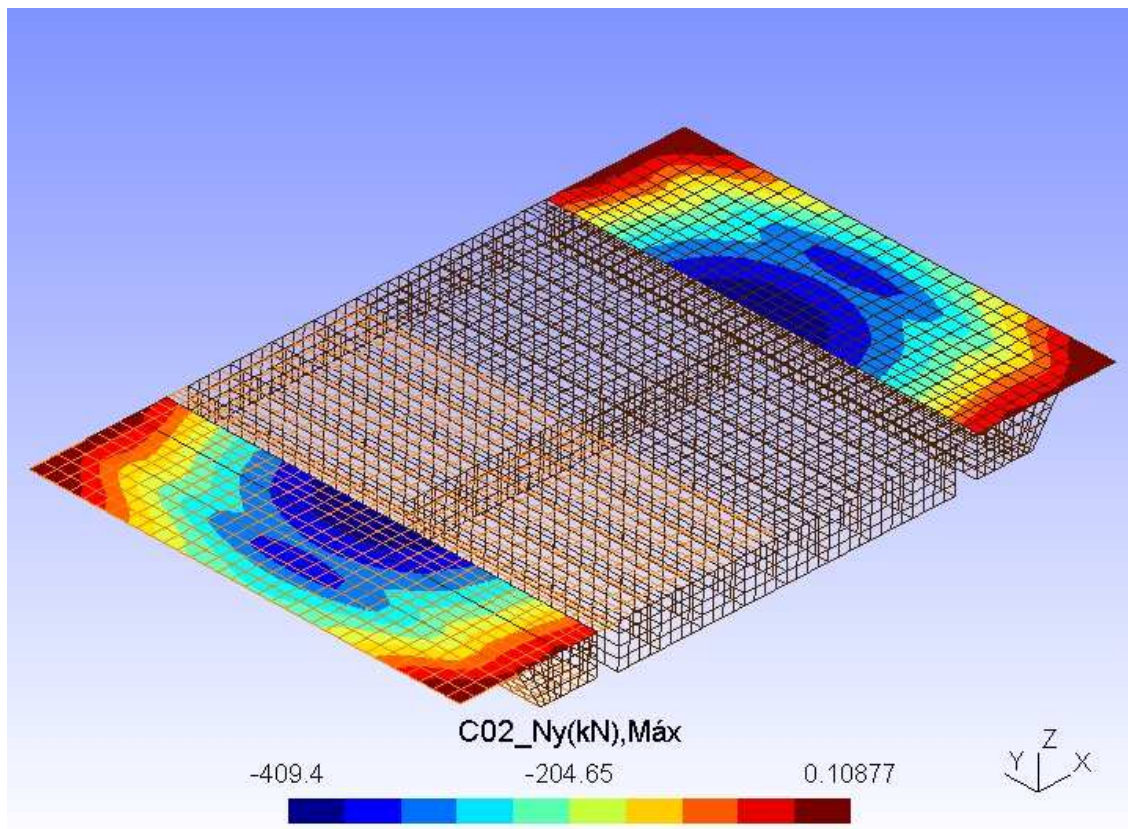


019-Combinación 1 - Armadura $As2y$ Mín.jpg

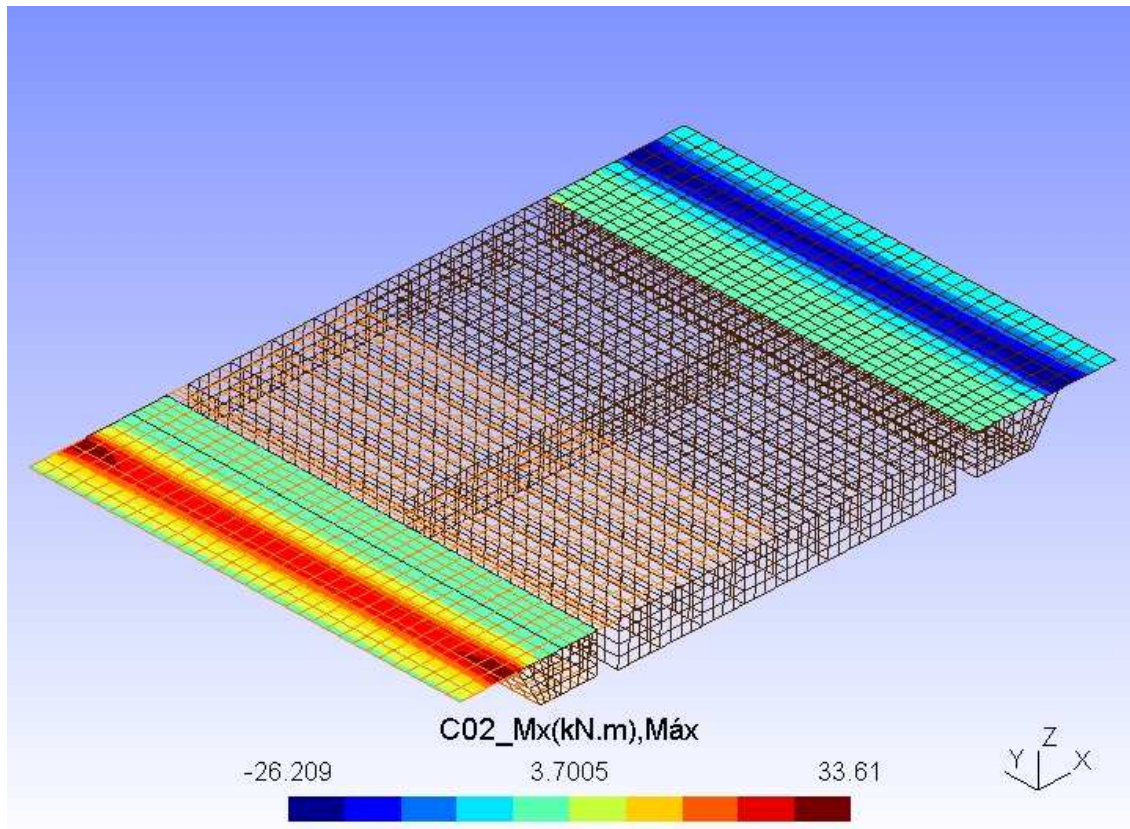
COMBINACIÓN 2 - ESFUERZOS EN ELS CARACTERÍSTICA



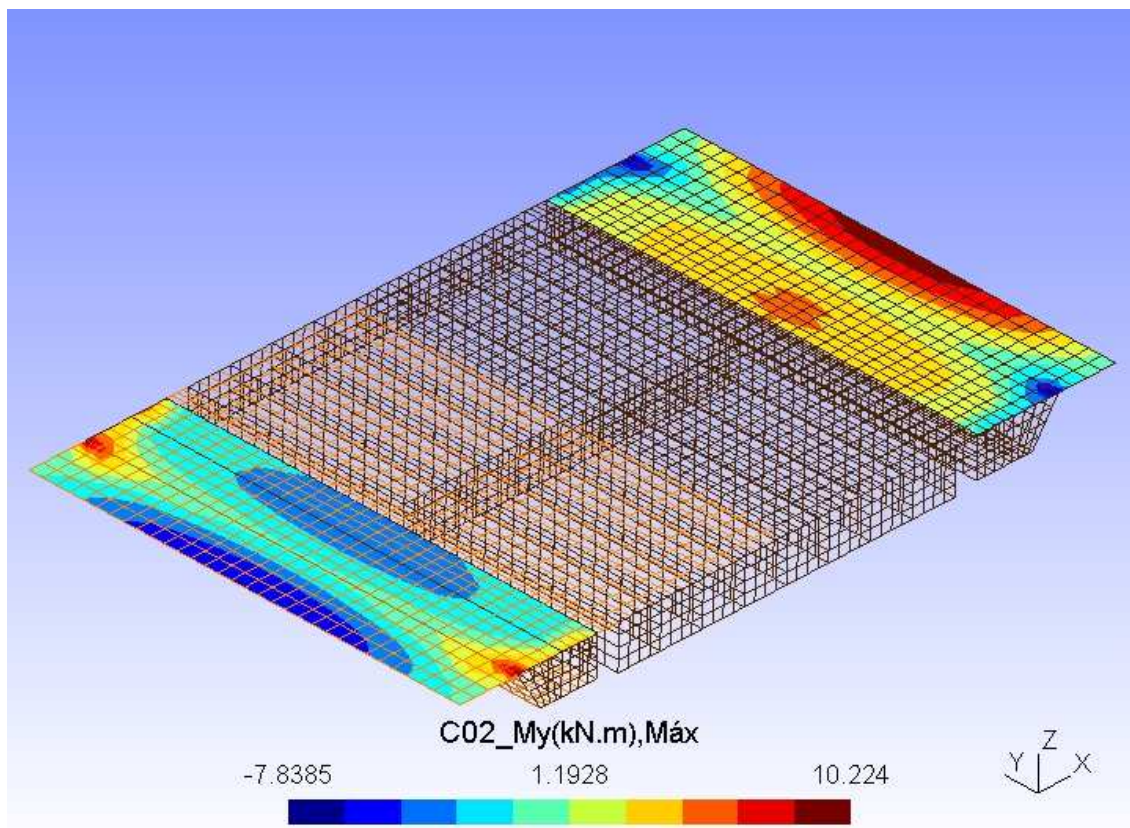
020-Combinación 2 - Esfuerzos Axiles Nx Máx.jpg



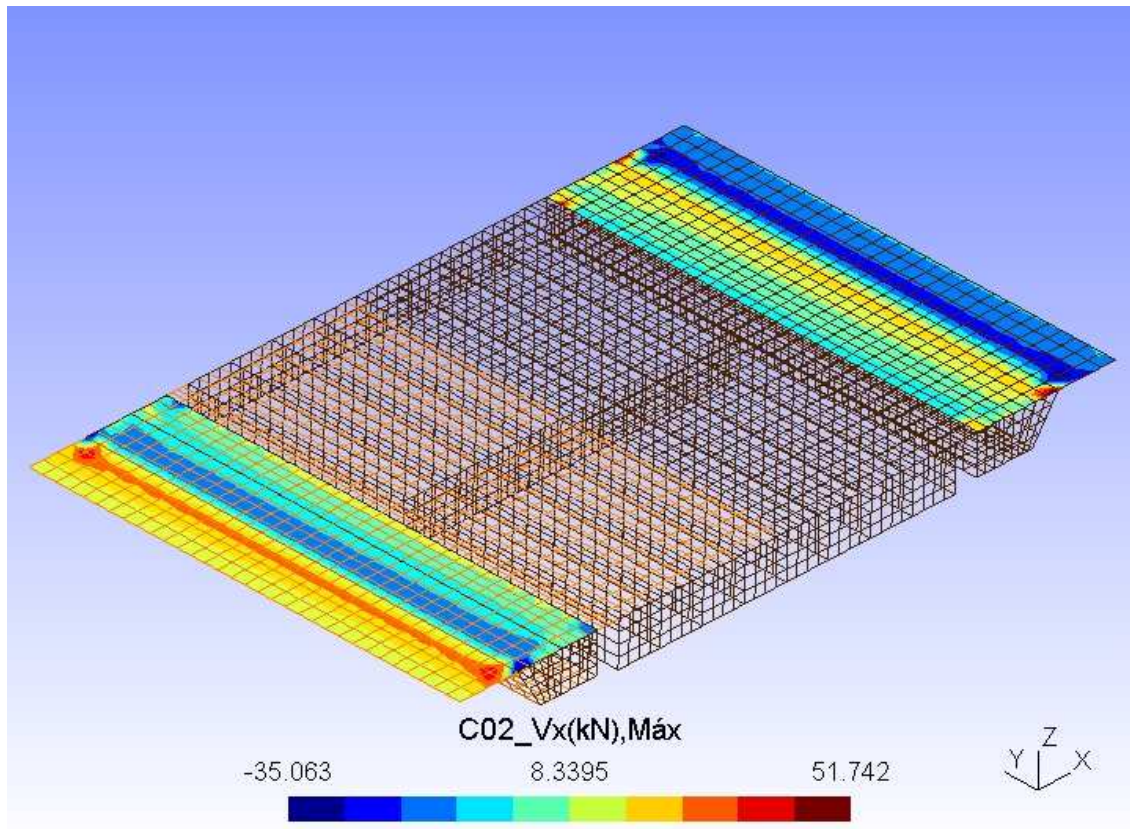
021-Combinación 2 - Esfuerzos Axiles Ny Máx.jpg



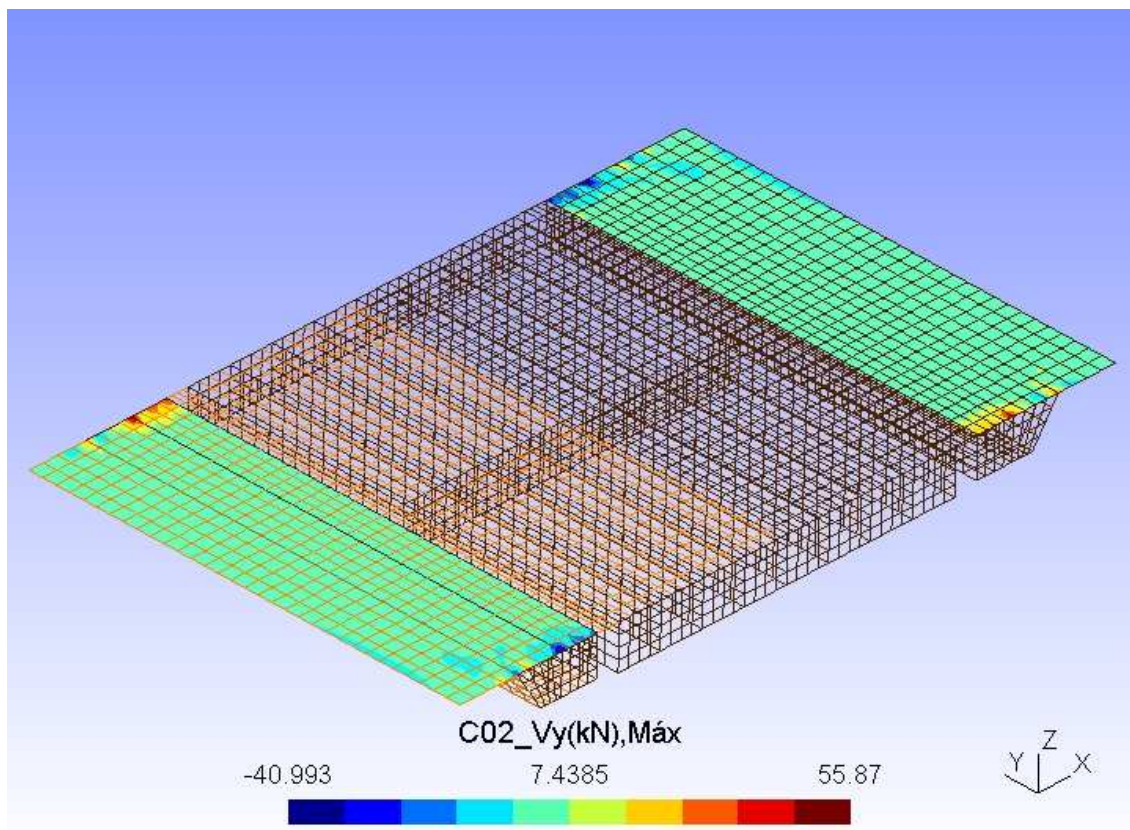
022-Combinación 2 - Momentos Flectores M_x Máx.jpg



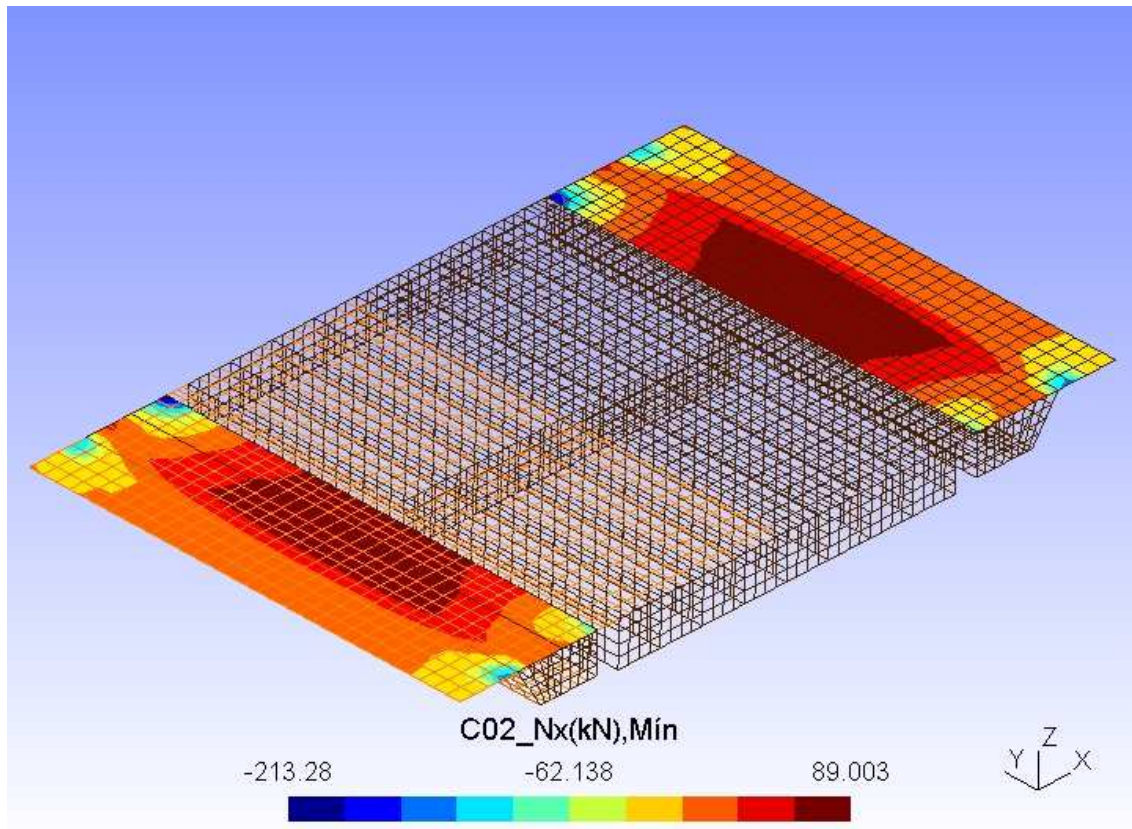
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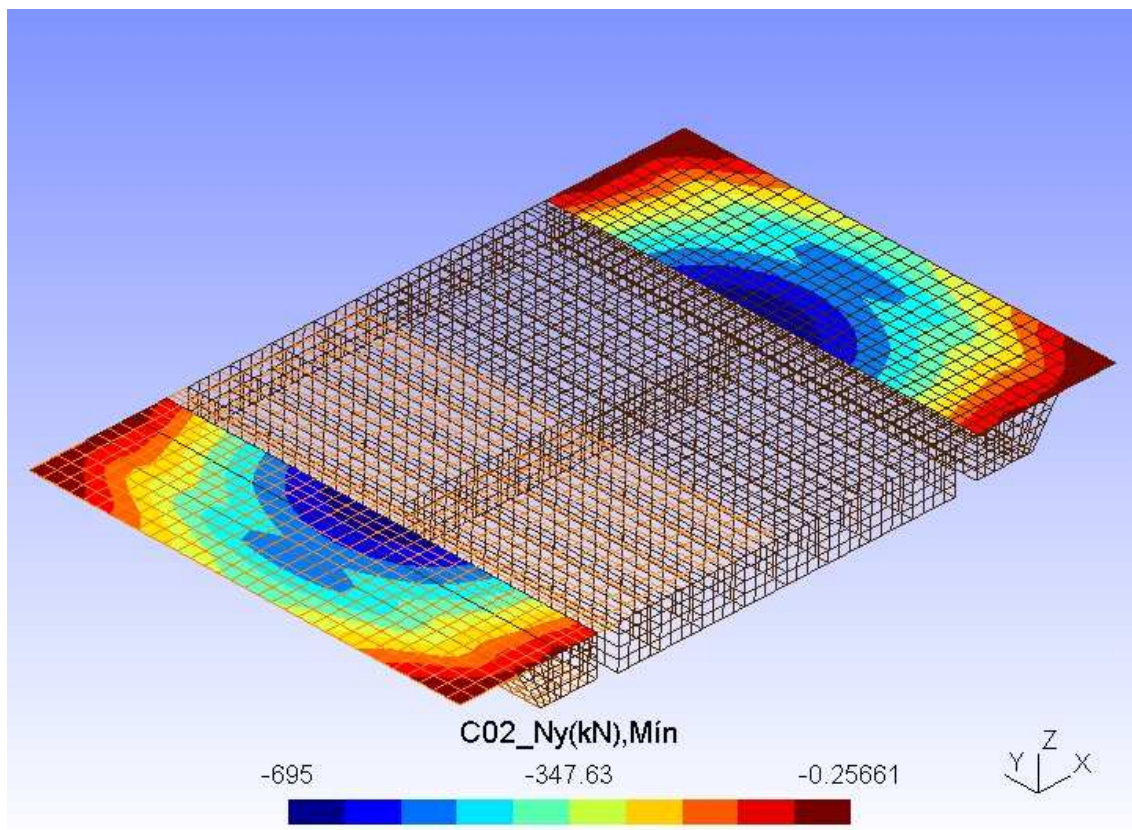
024-Combinación 2 - Esfuerzos Cortantes Vx Máx.jpg



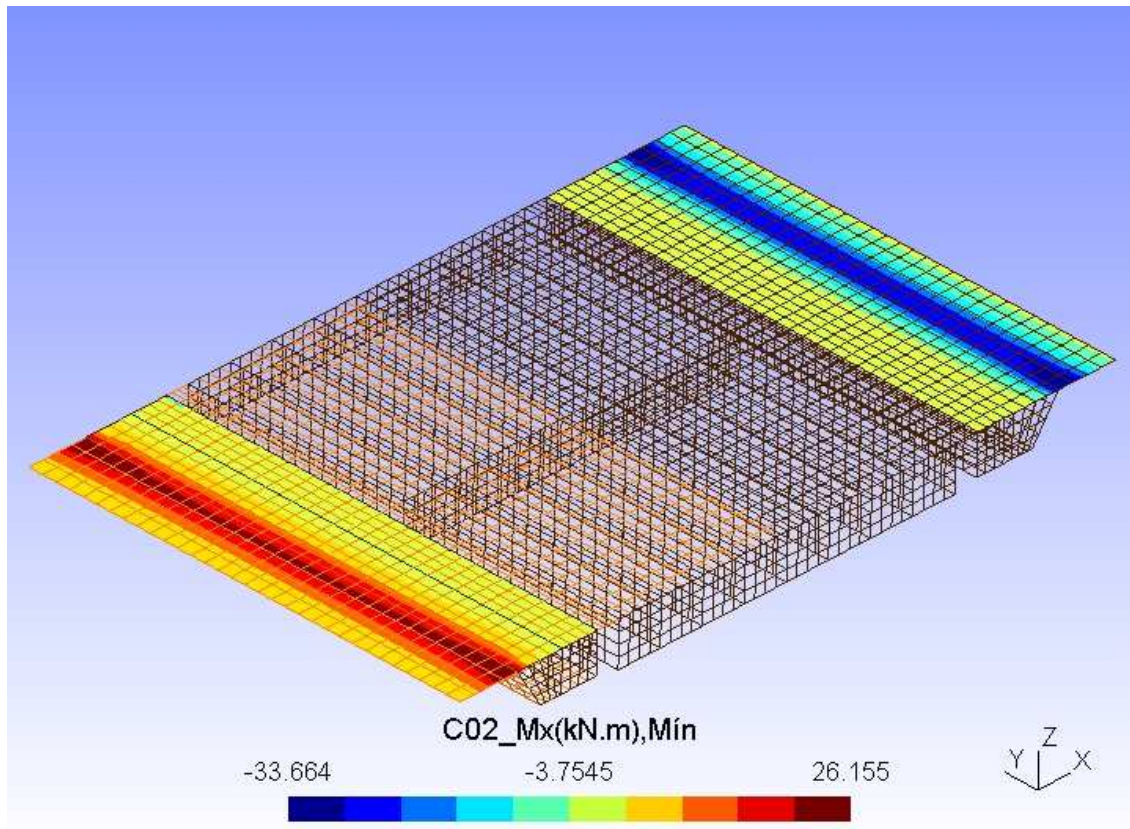
025-Combinación 2 - Esfuerzos cortantes Vy Máx.jpg



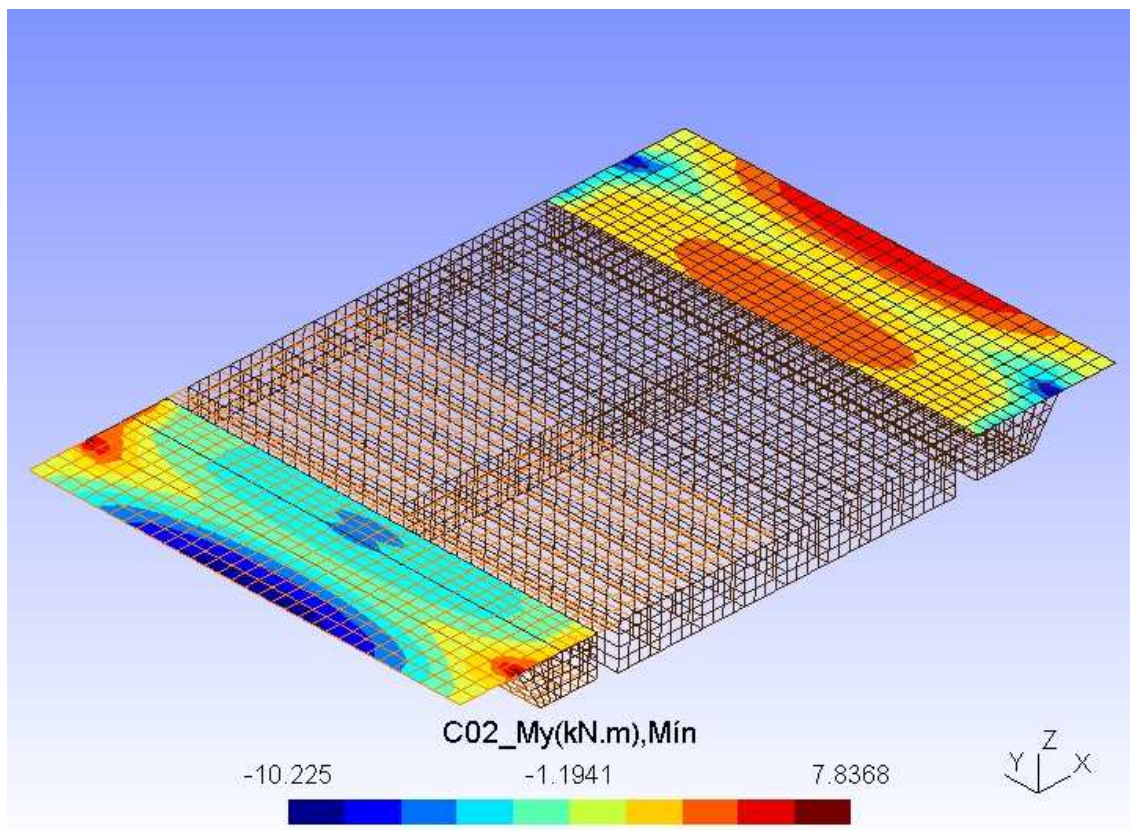
030-Combinación 2 - Esfuerzos Axiles N_x Mín.jpg



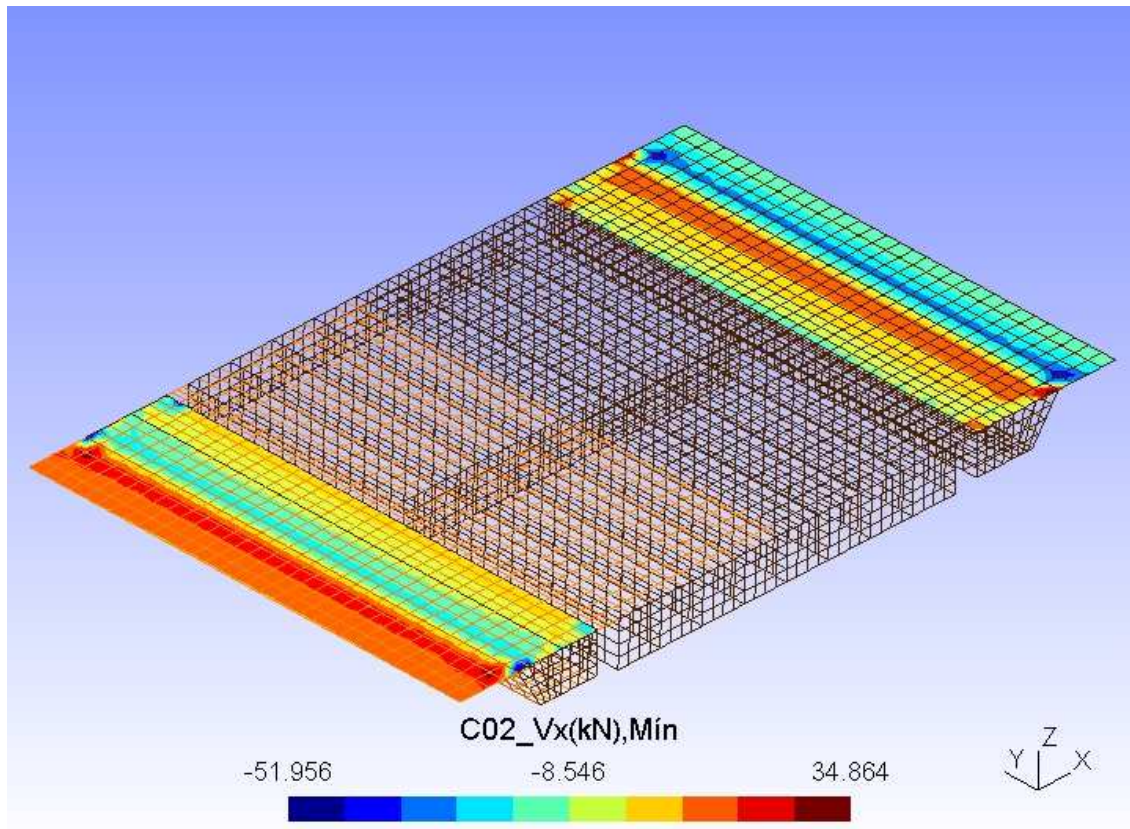
031-Combinación 2 - Esfuerzos Axiles N_y Mín.jpg



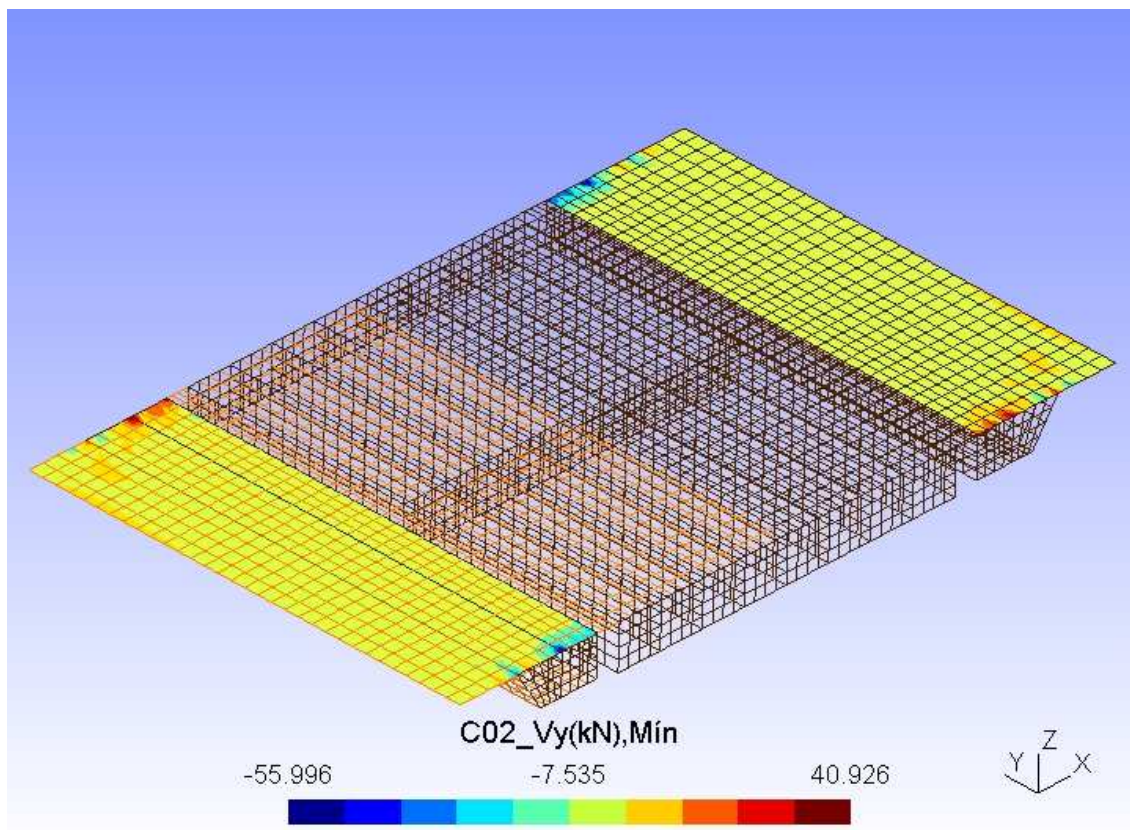
032-Combinación 2 - Momentos Flectores M_x Mín.jpg



033-Combinación 2 - Momentos Flectores M_y Mín.jpg

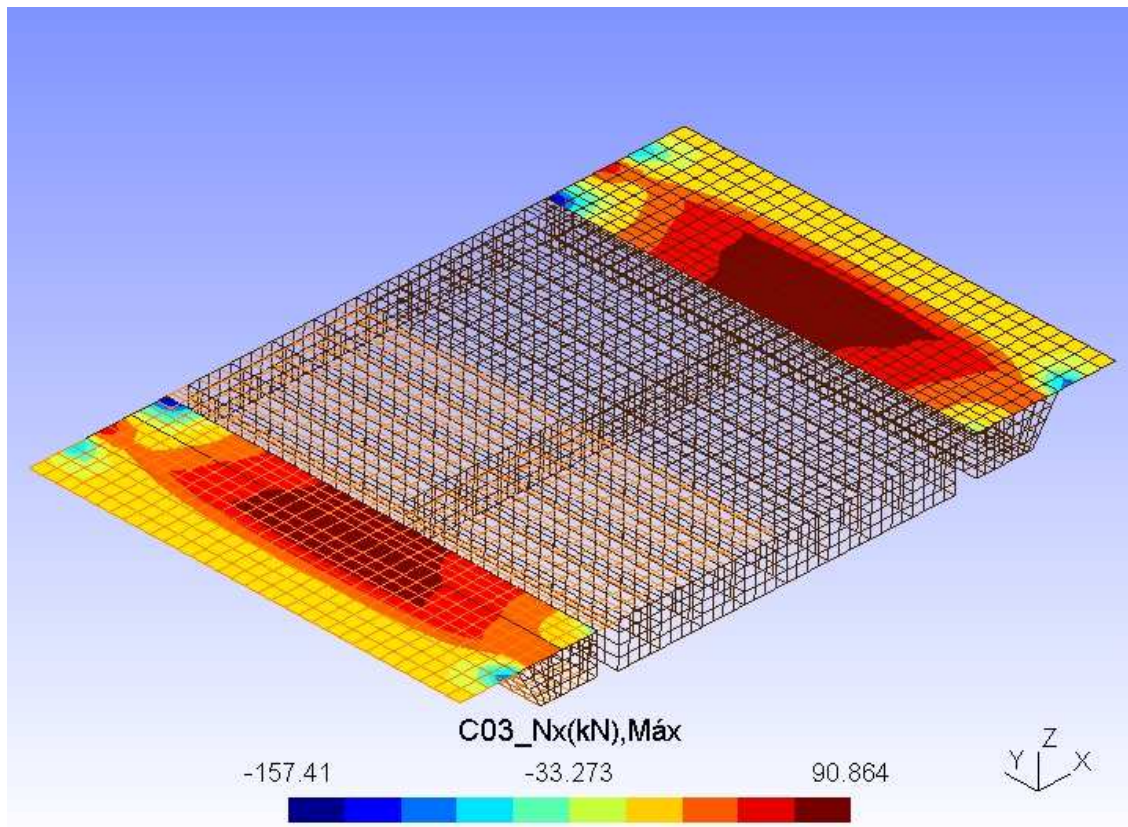


034-Combinación 2 - Esfuerzos Cortantes V_x Mín.jpg

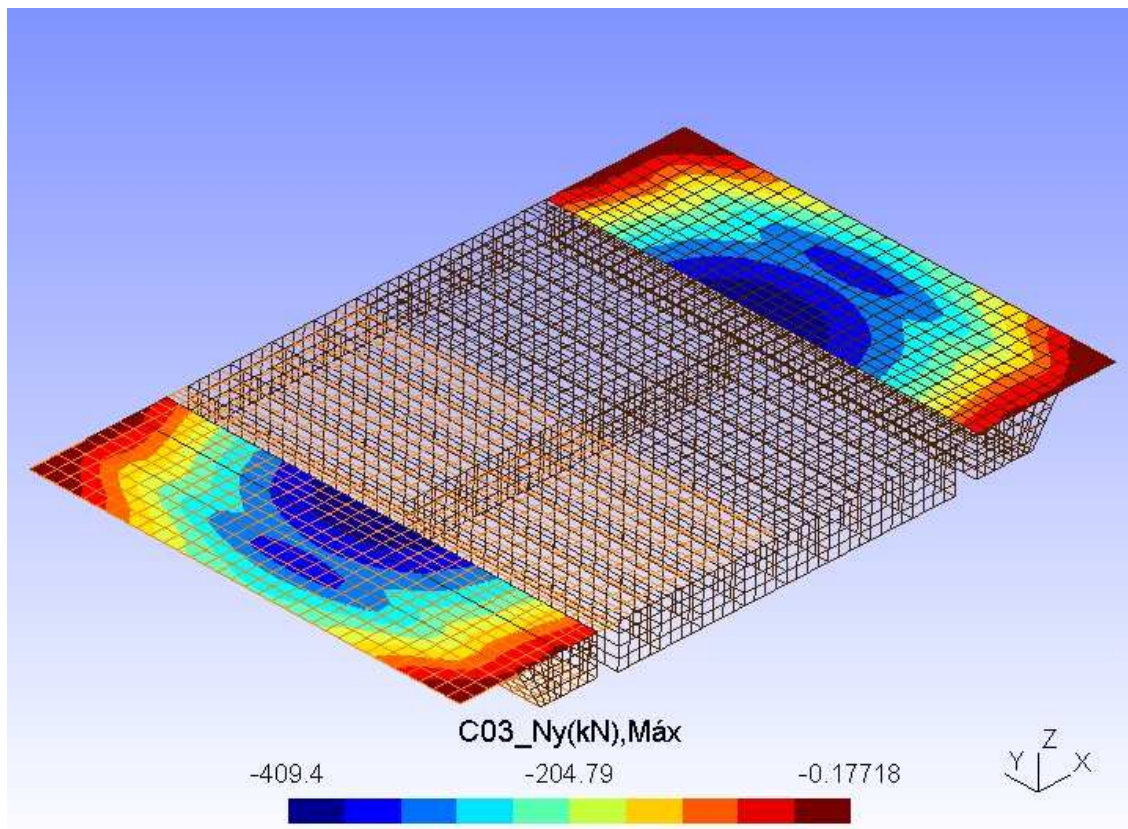


035-Combinación 2 - Esfuerzos cortantes V_y Mín.jpg

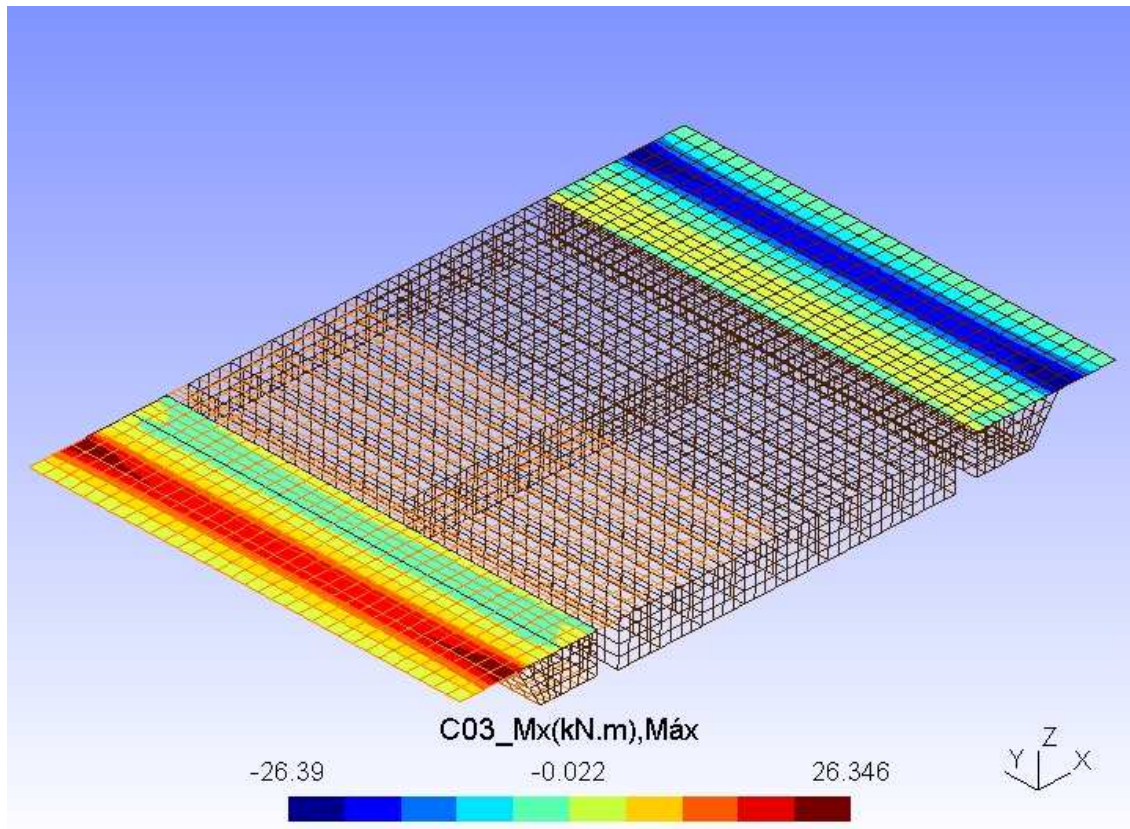
COMBINACIÓN 3 - ESFUERZOS EN ELS CUASIPERMANENTE



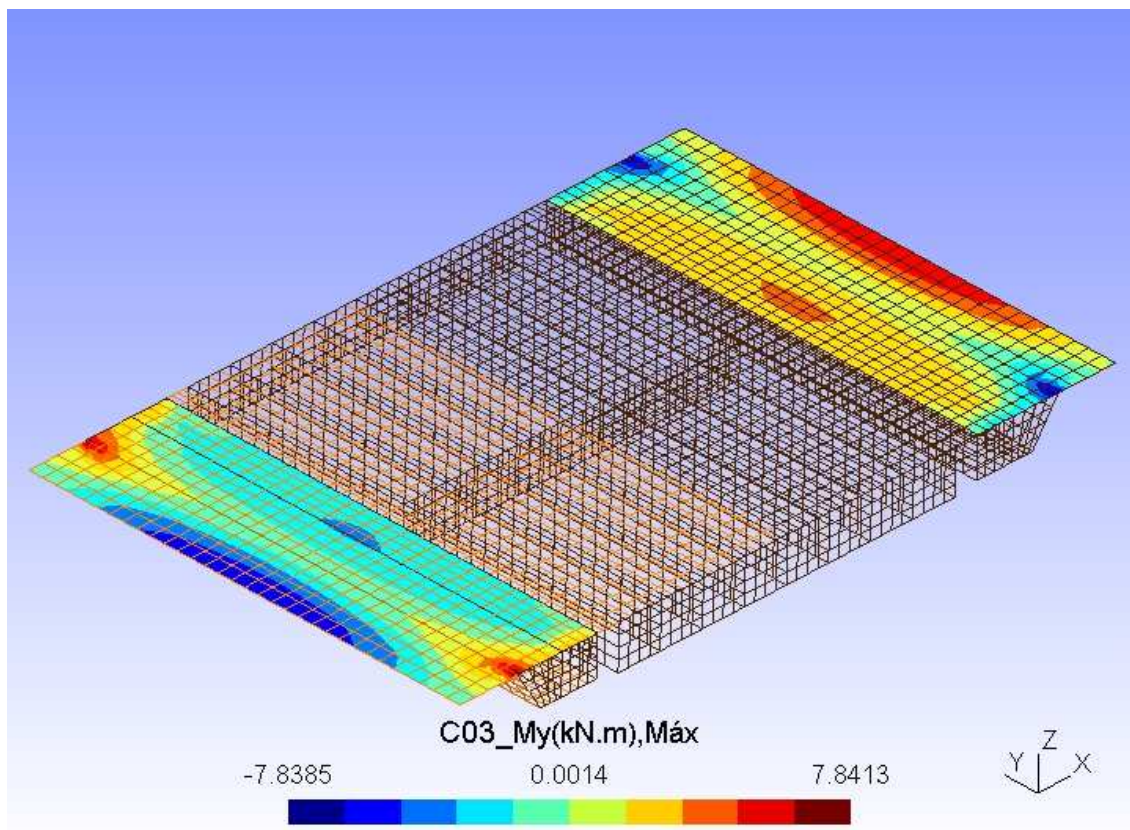
040-Combinación 3 - Esfuerzos Axiles N_x Máx.jpg



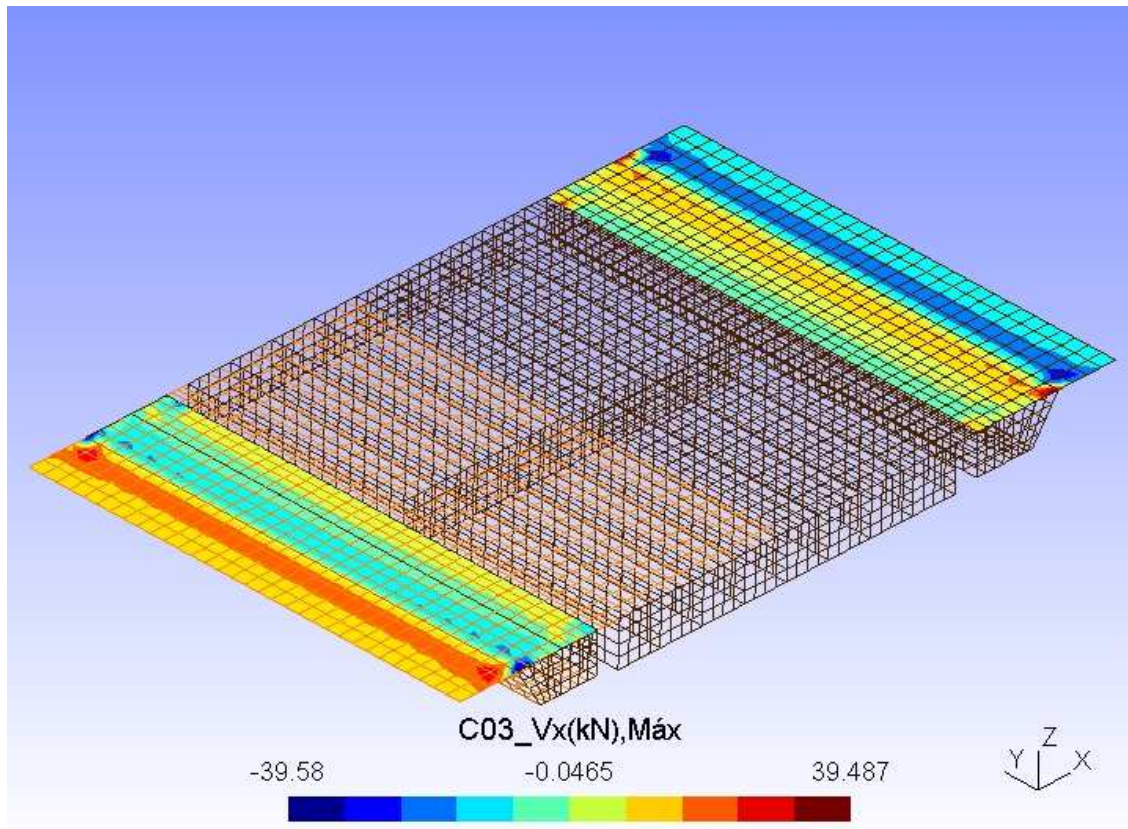
041-Combinación 3 - Esfuerzos Axiles N_y Máx.jpg



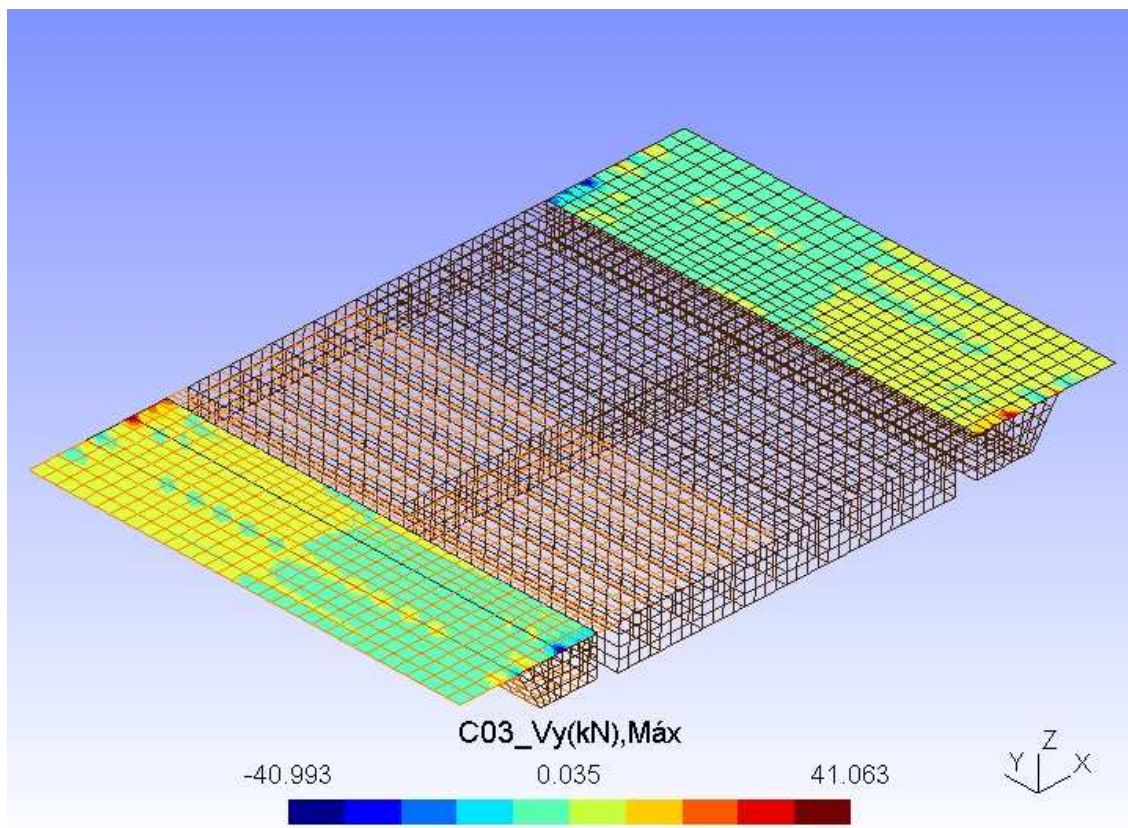
042-Combinación 3 - Momentos Flectores M_x Máx.jpg



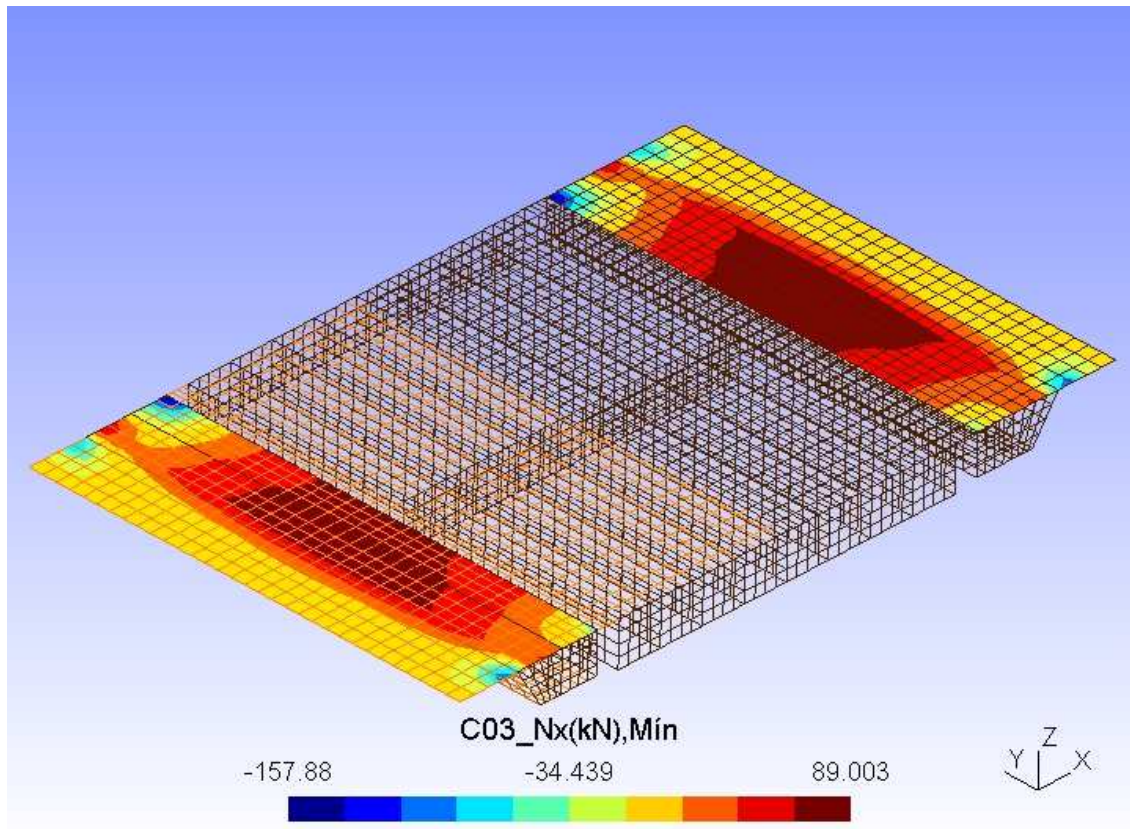
043-Combinación 3 - Momentos Flectores M_y Máx.jpg



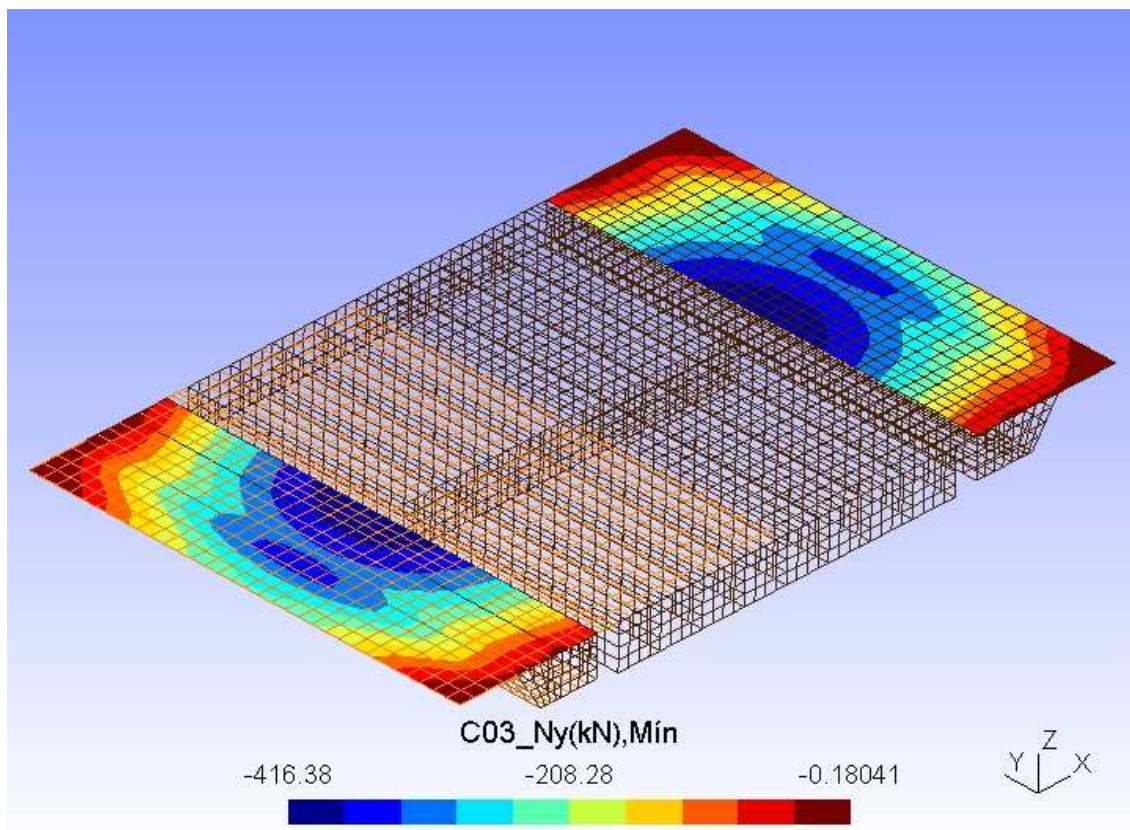
044-Combinación 3 - Esfuerzos Cortantes Vx Máx.jpg



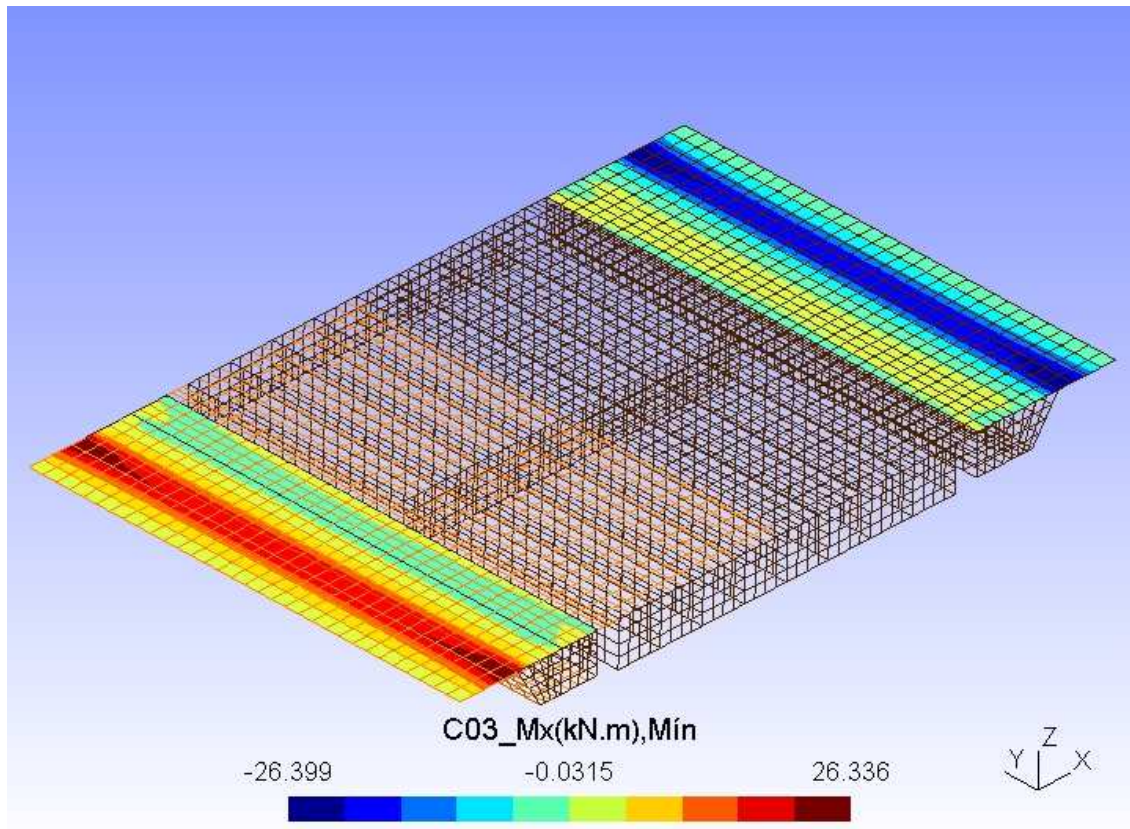
045-Combinación 3 - Esfuerzos cortantes Vy Máx.jpg



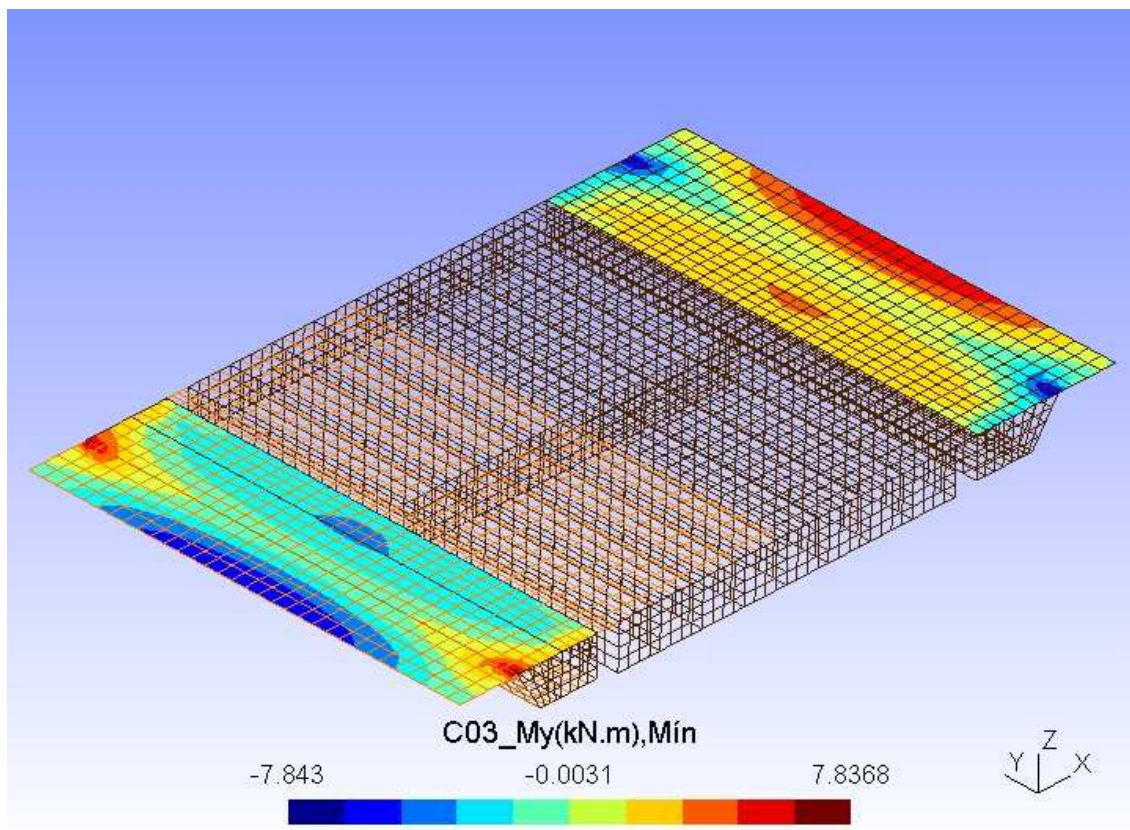
050-Combinación 3 - Esfuerzos Axiles N_x Mín.jpg



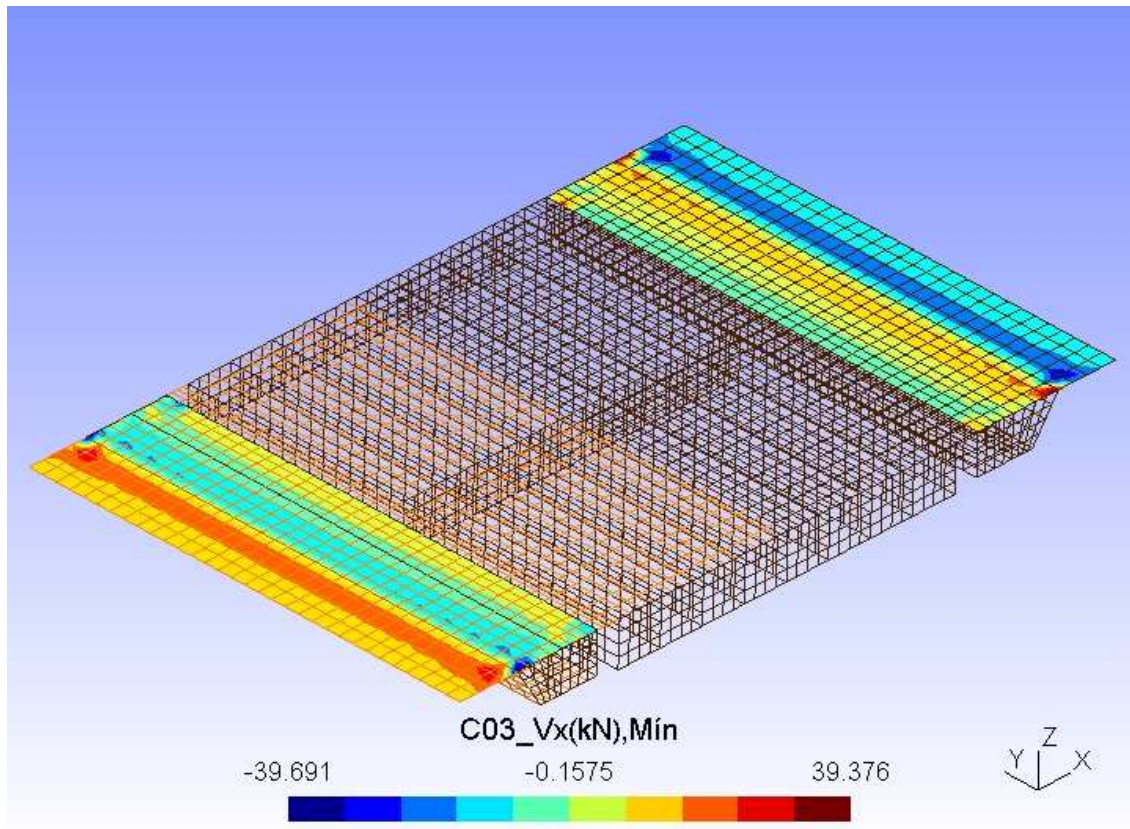
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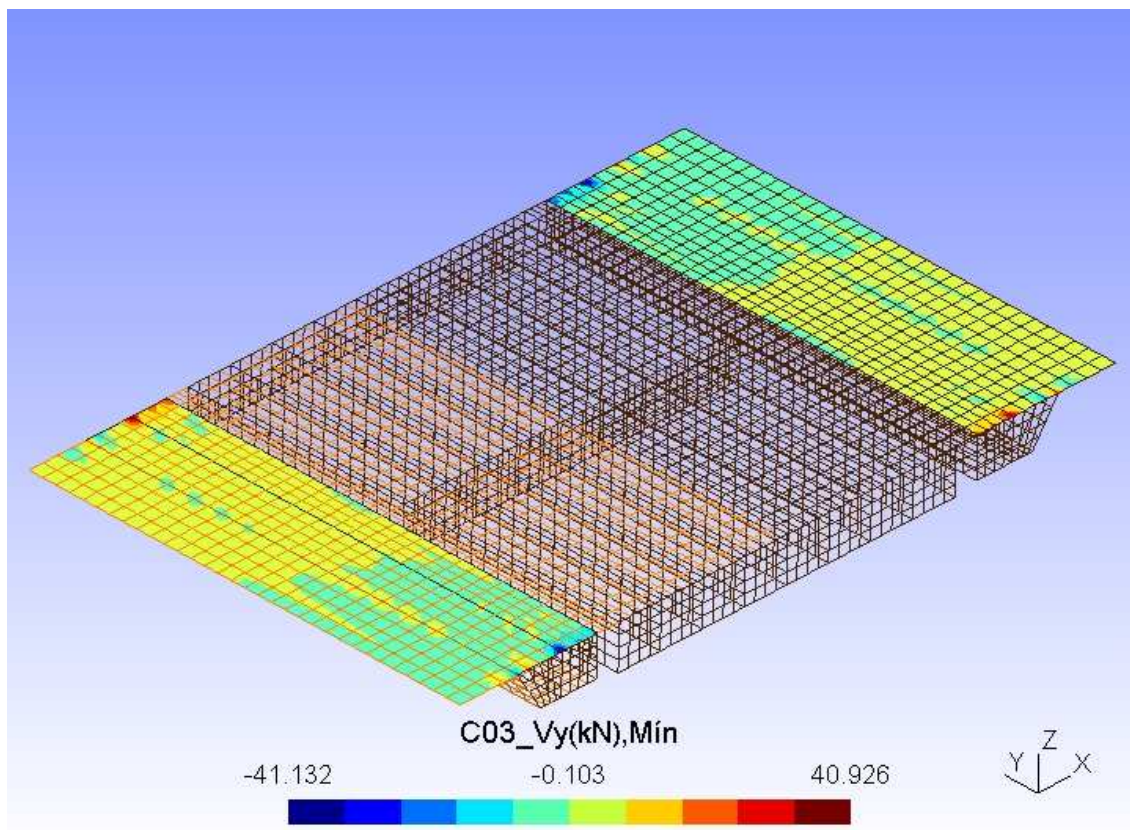
052-Combinación 3 - Momentos Flectores M_x Mín.jpg



053-Combinación 3 - Momentos Flectores M_y Mín.jpg

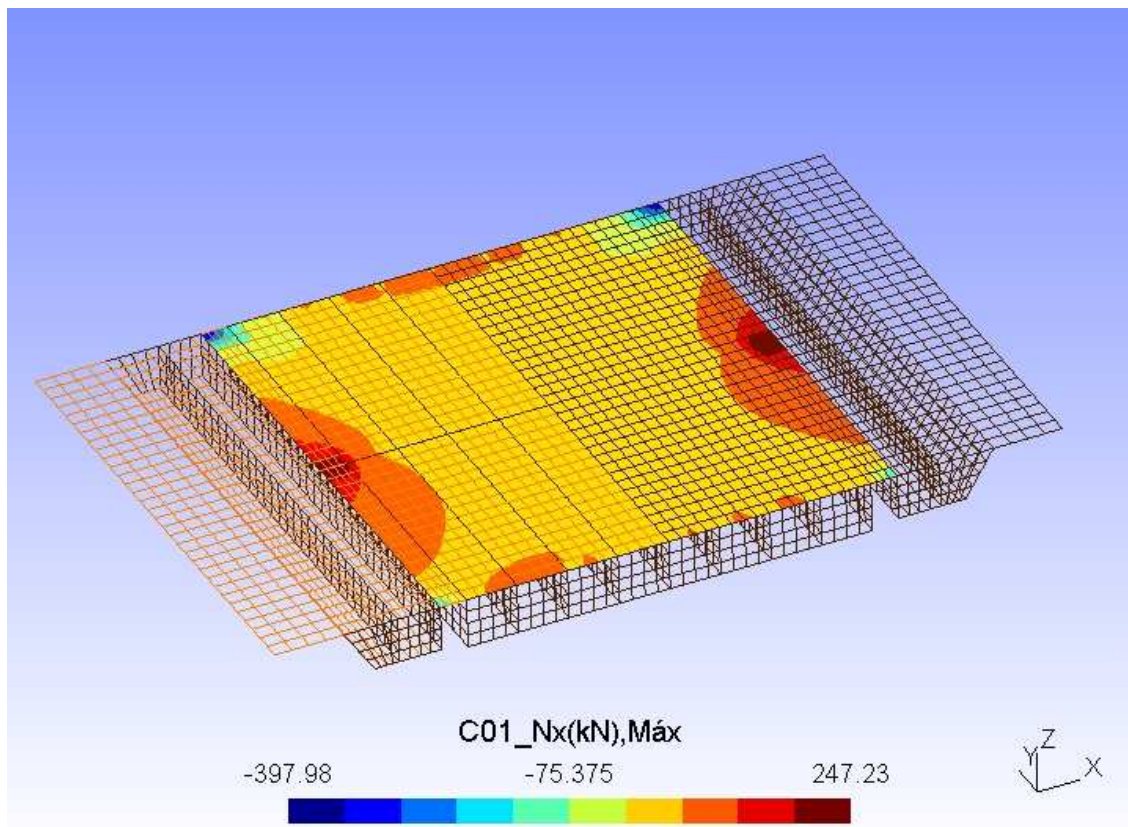


054-Combinación 3 - Esfuerzos Cortantes V_x Mín.jpg

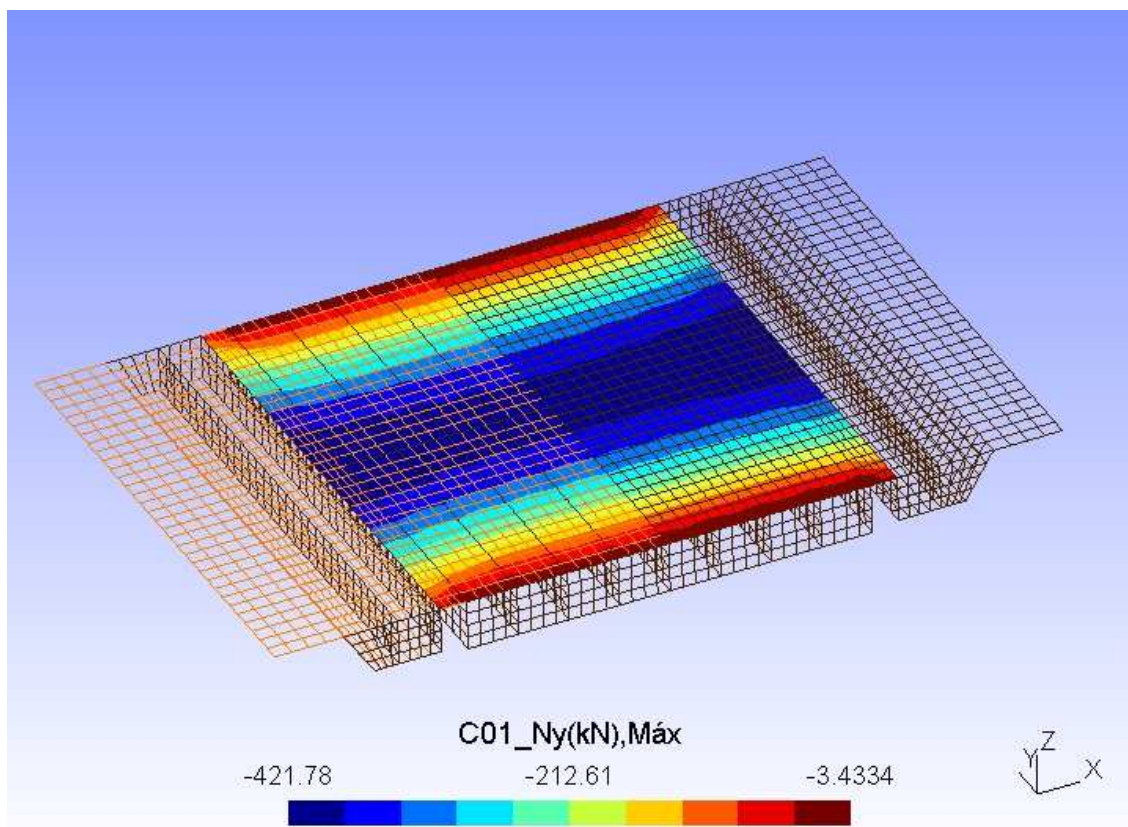


055-Combinación 3 - Esfuerzos cortantes V_y Mín.jpg

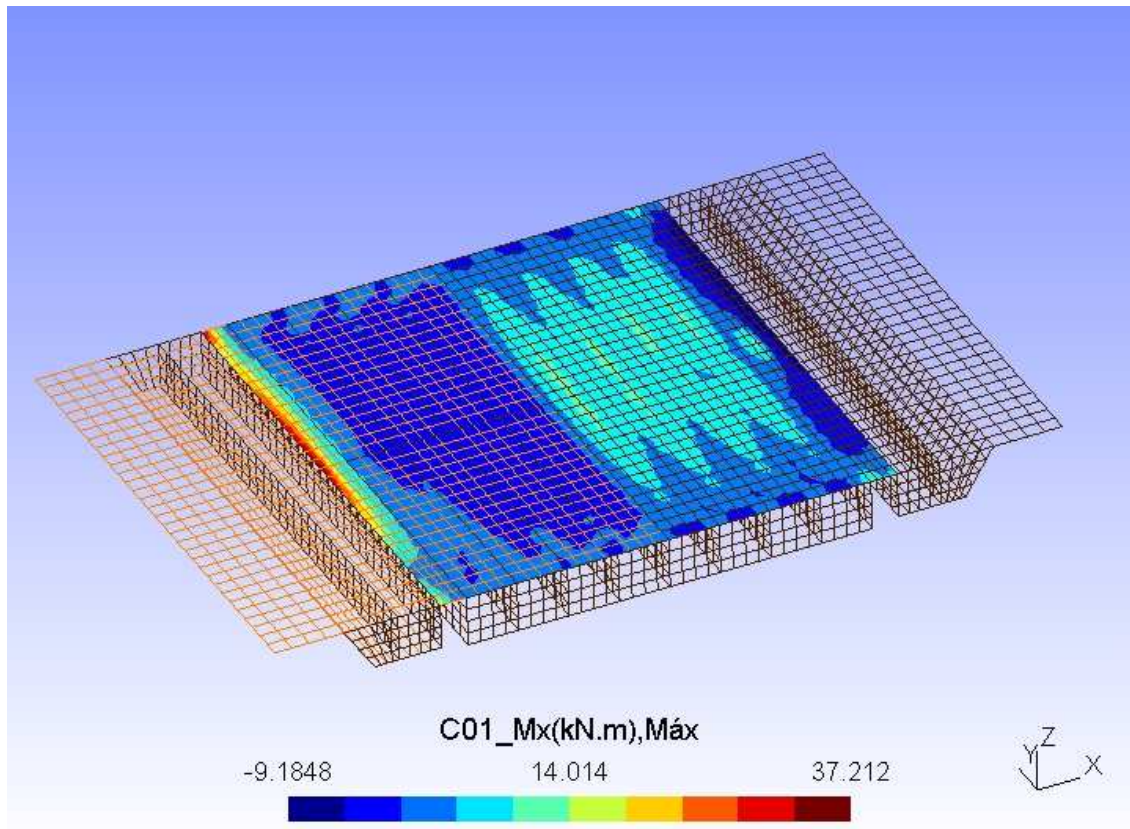
COMBINACIÓN 1 - ESFUERZOS EN ELU



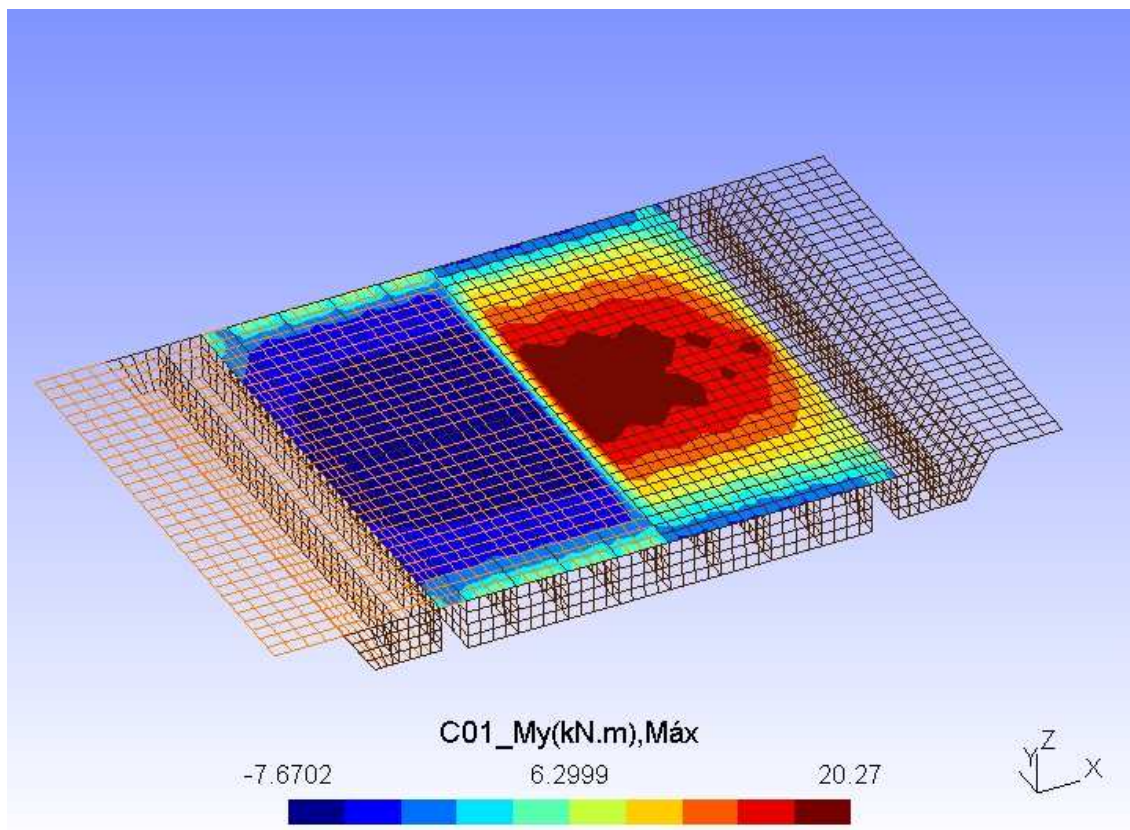
000-Combinación 1 - Esfuerzos Axiles N_x Máx.jpg



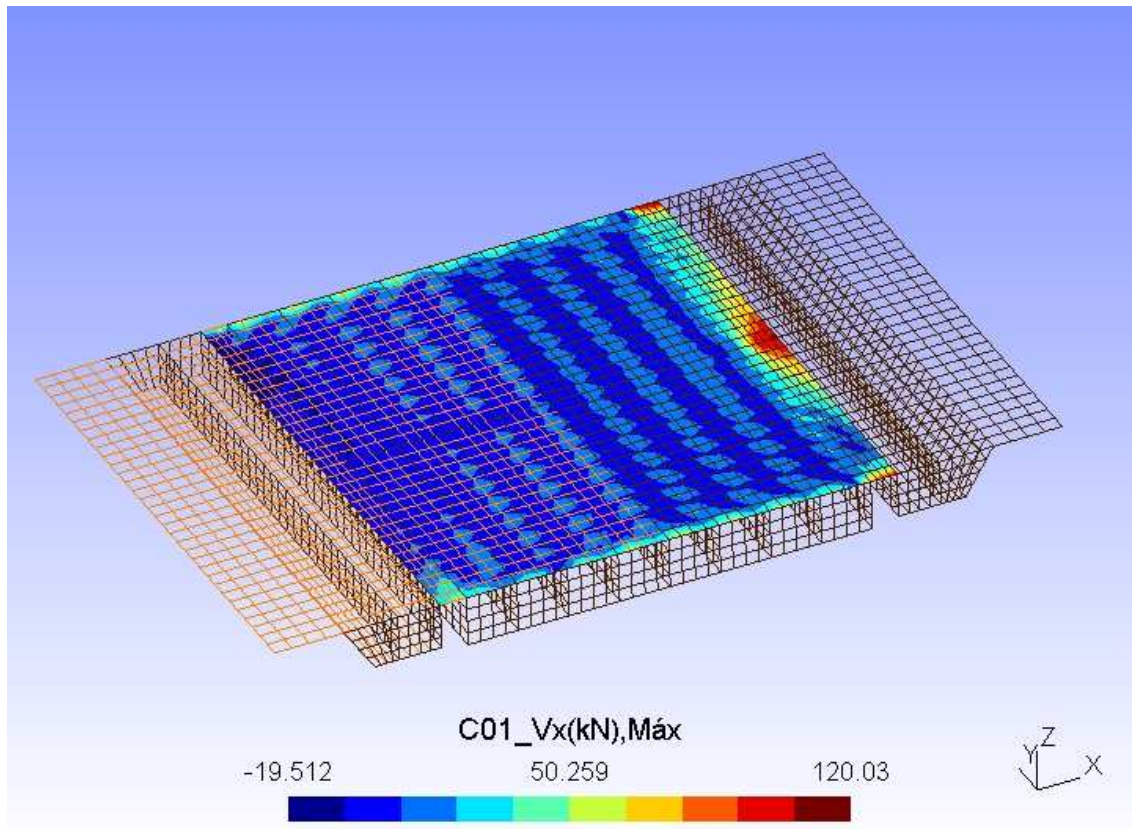
001-Combinación 1 - Esfuerzos Axiles N_y Máx.jpg



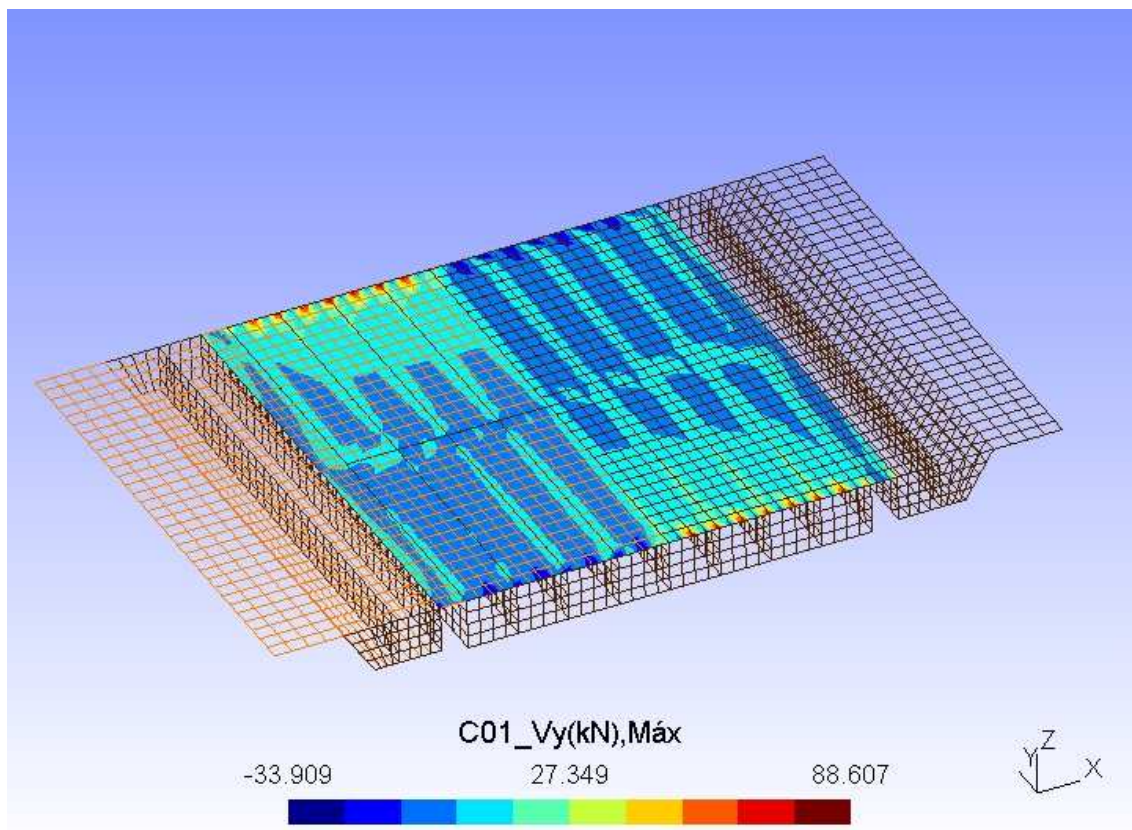
002-Combinación 1 - Momentos Flectores M_x Máx.jpg



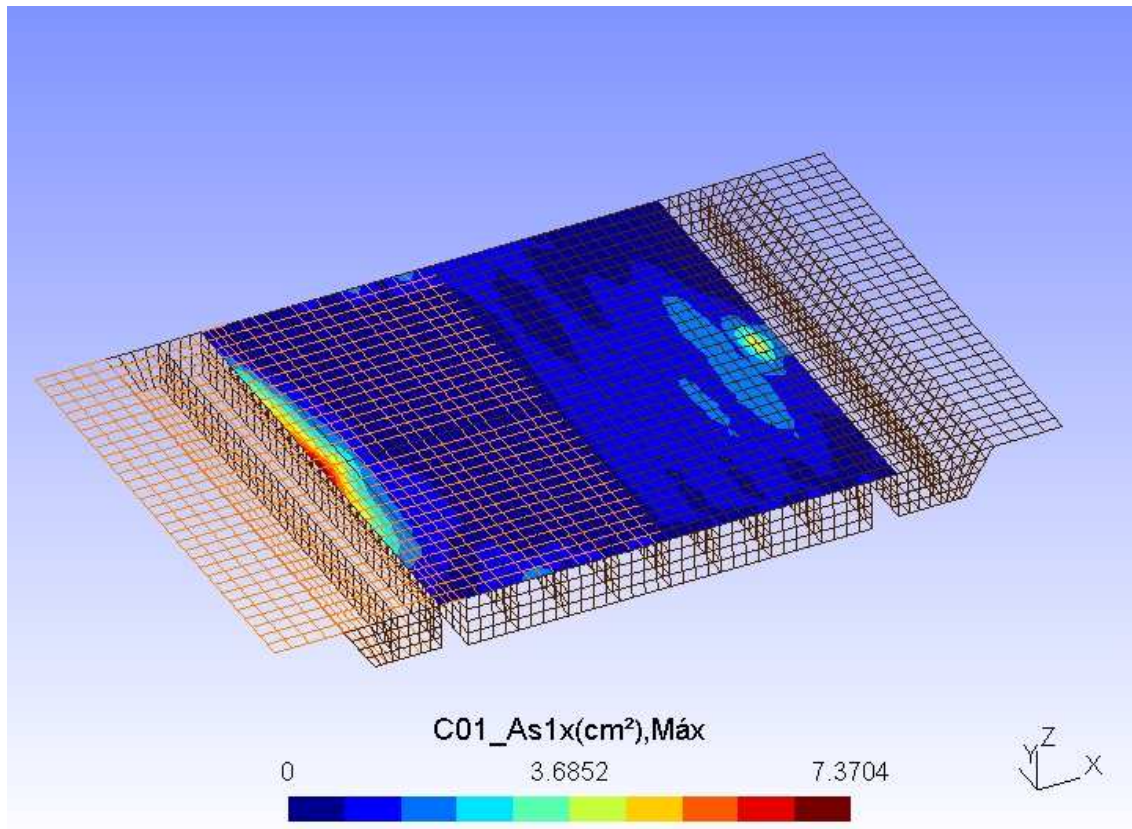
003-Combinación 1 - Momentos Flectores M_y Máx.jpg



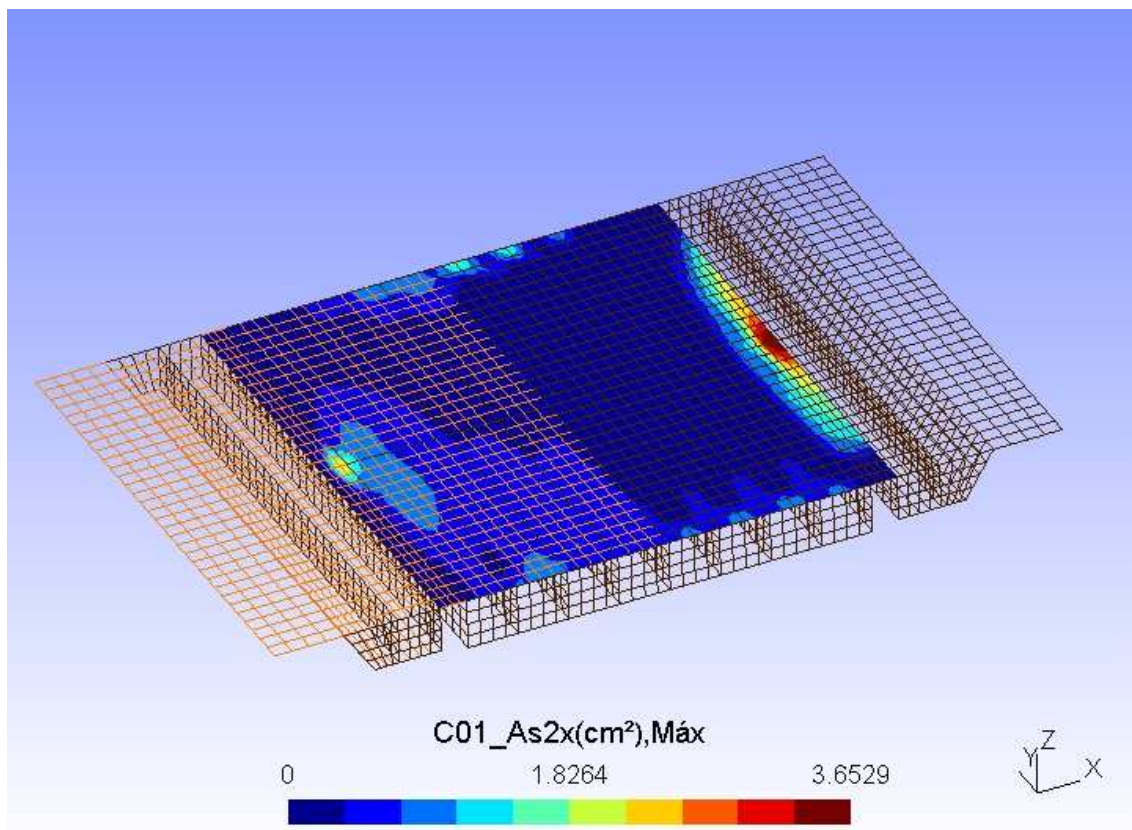
004-Combinación 1 - Esfuerzos Cortantes V_x Máx.jpg



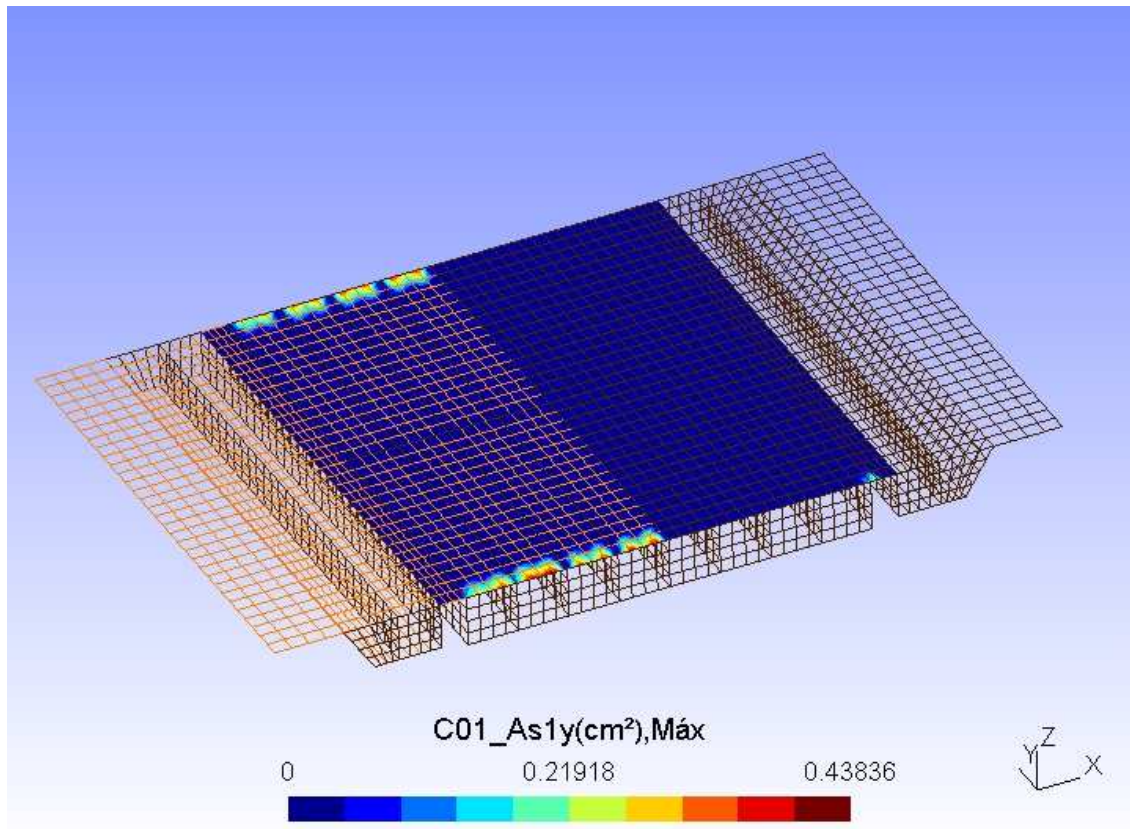
005-Combinación 1 - Esfuerzos cortantes V_y Máx.jpg



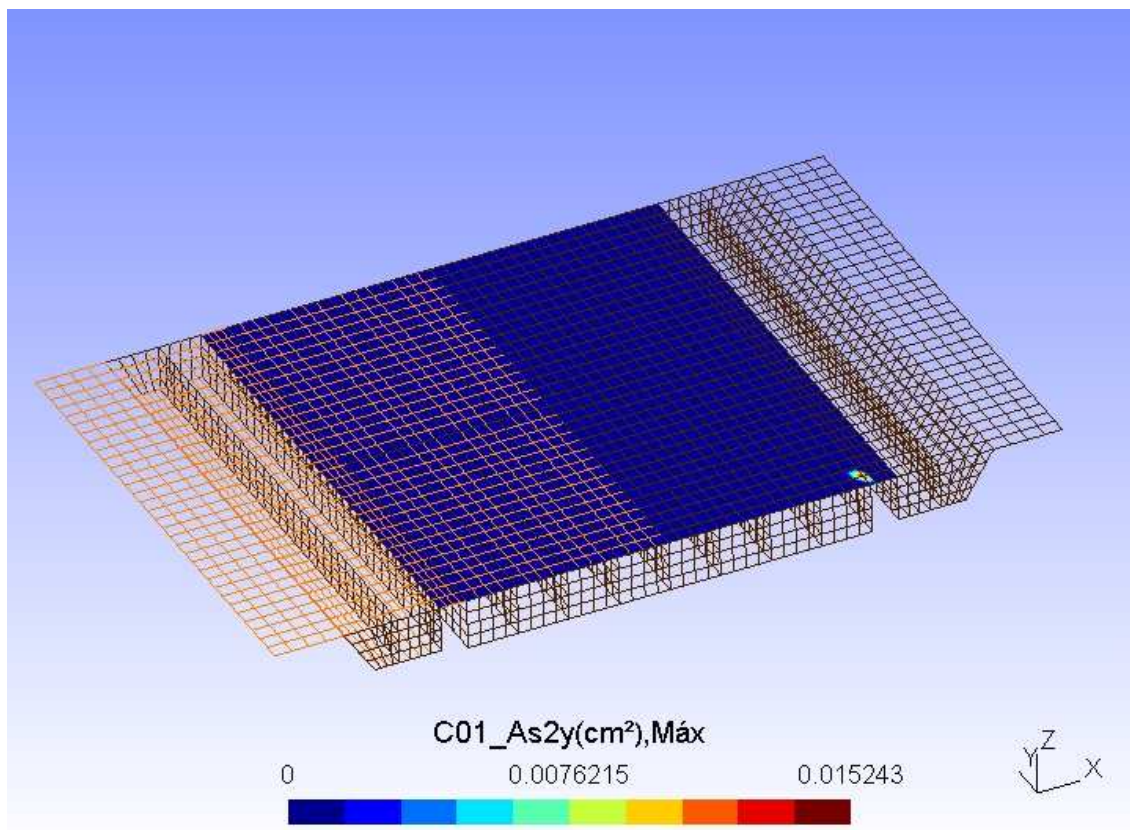
006-Combinación 1 - Armadura As1x Máx.jpg



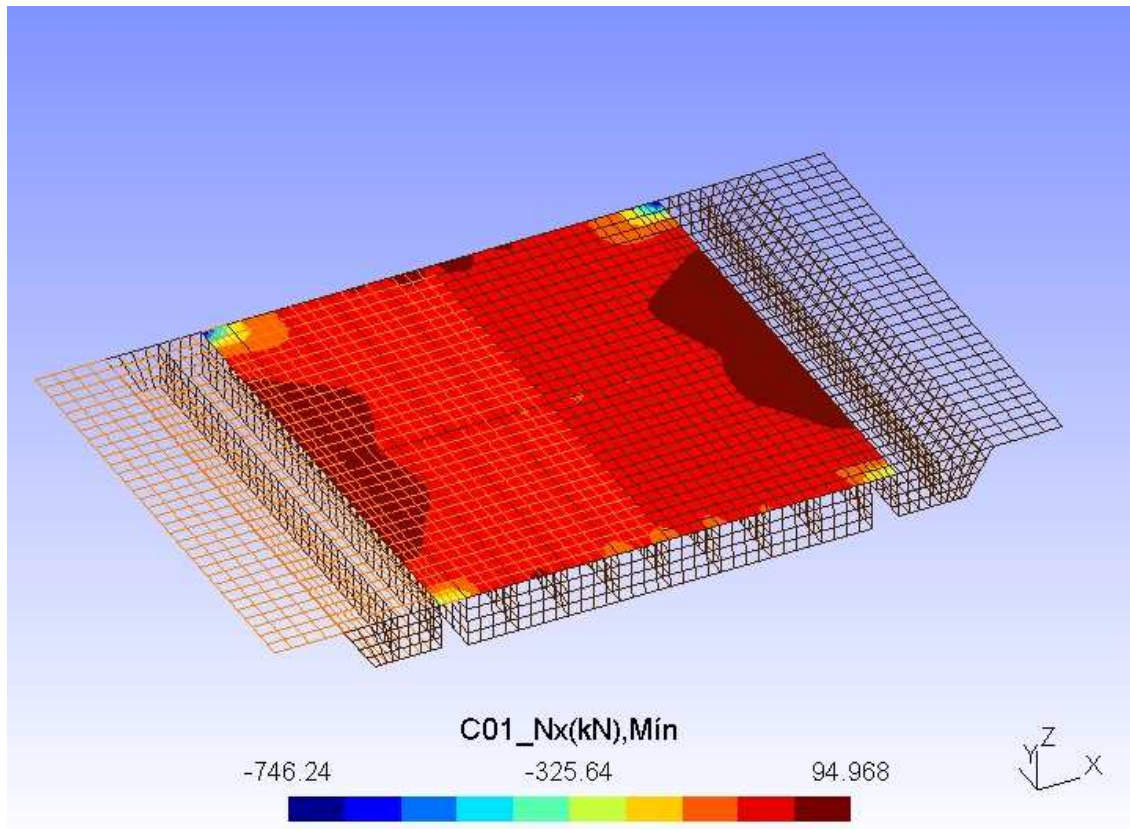
007-Combinación 1 - Armadura As2x Máx.jpg



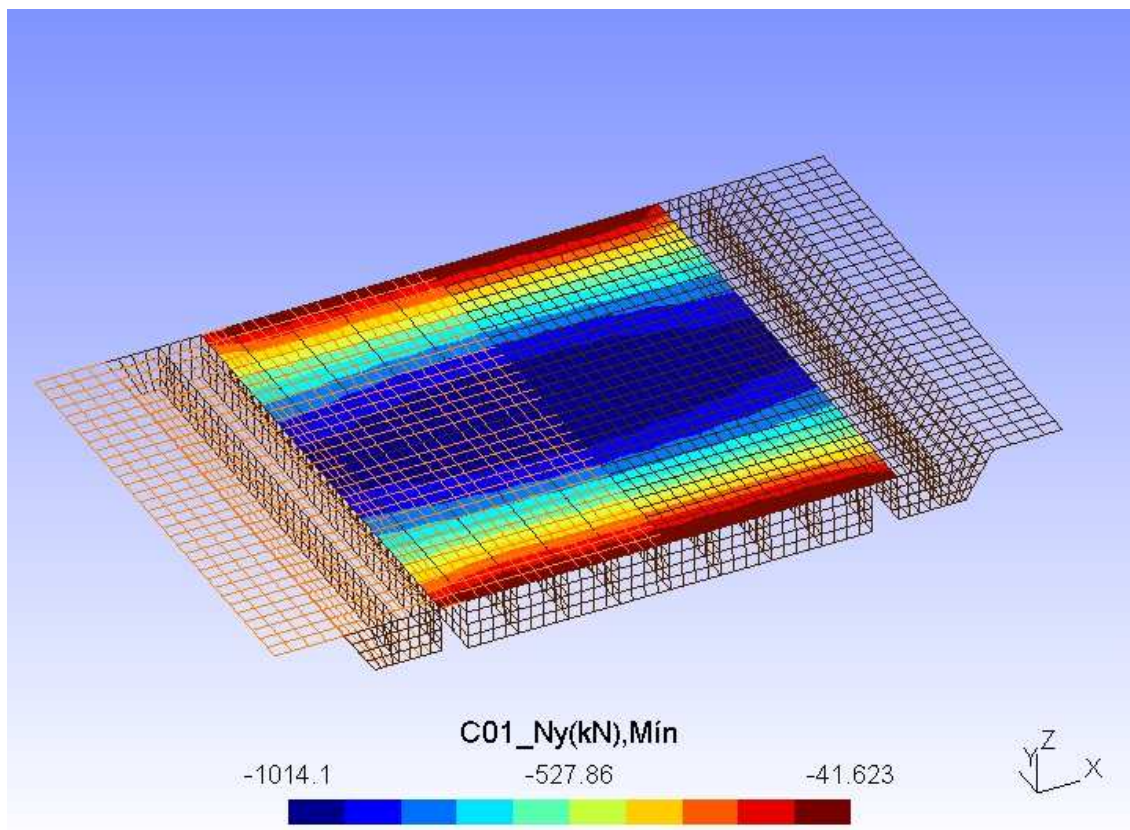
008-Combinación 1 - Armadura As1y Máx.jpg



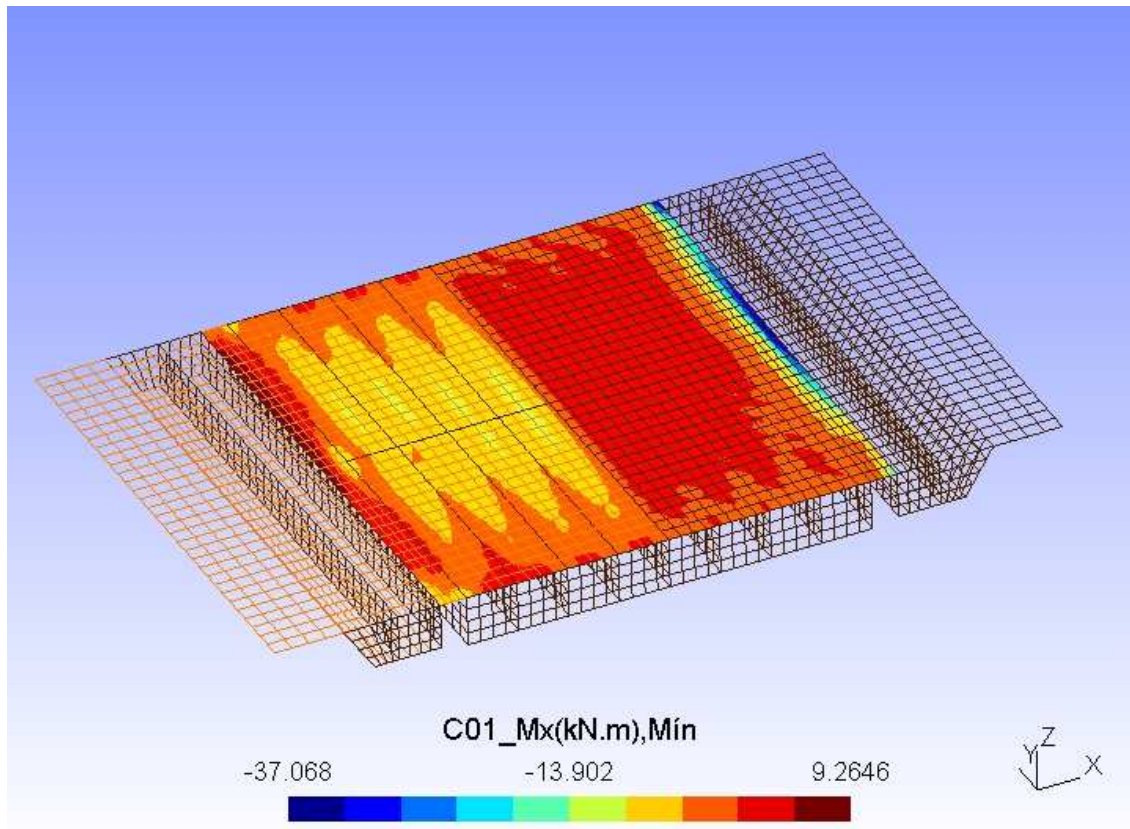
009-Combinación 1 - Armadura As2y Máx.jpg



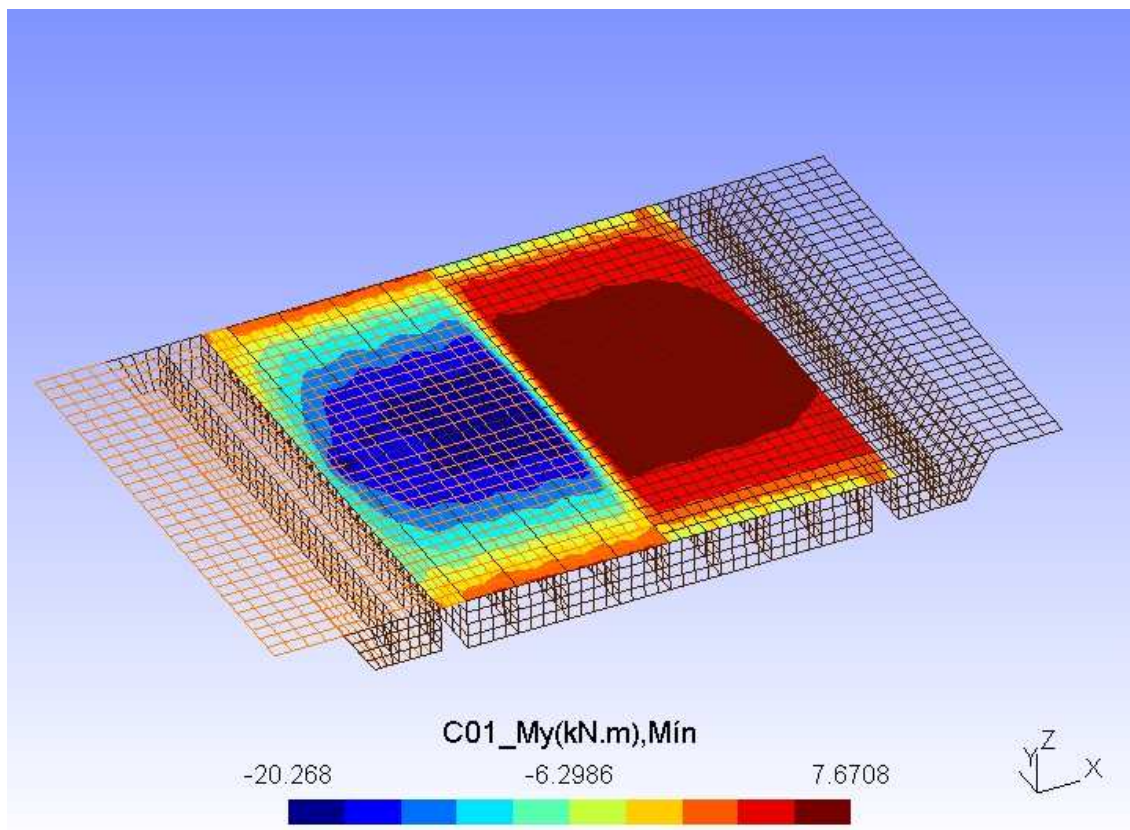
010-Combinación 1 - Esfuerzos Axiles N_x Mín.jpg



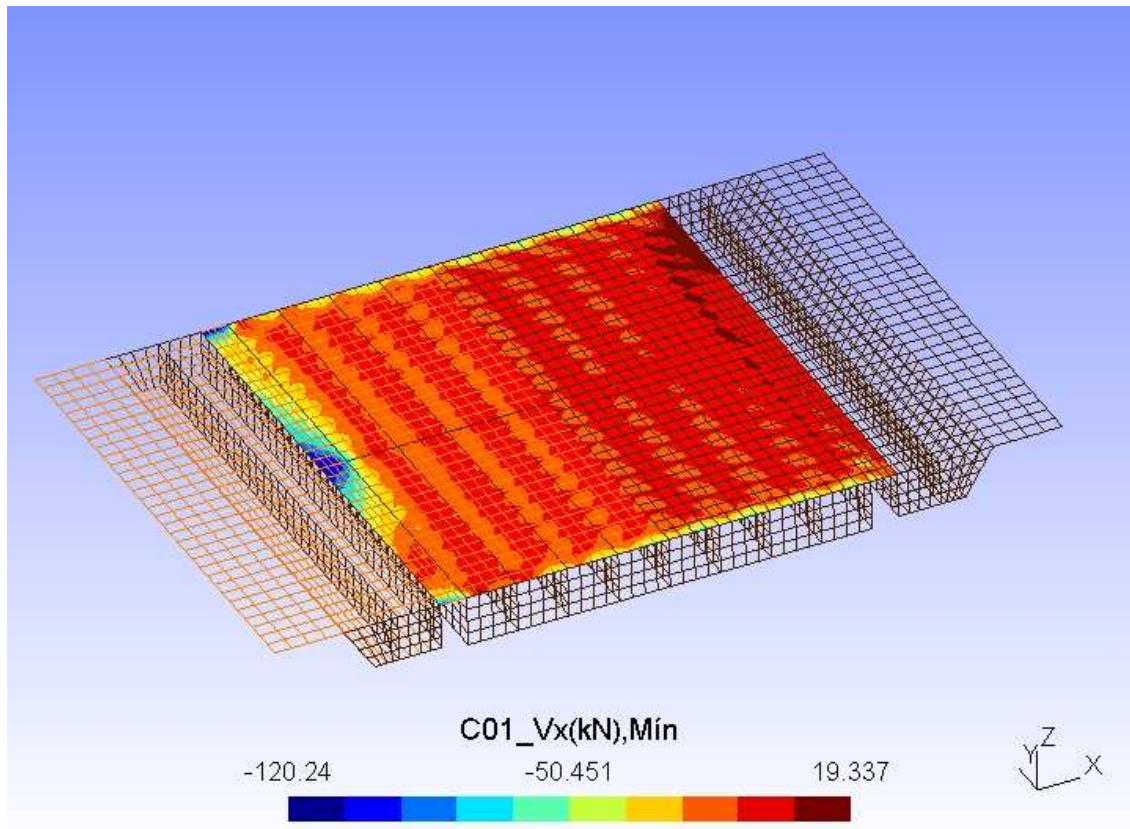
011-Combinación 1 - Esfuerzos Axiles N_y Mín.jpg



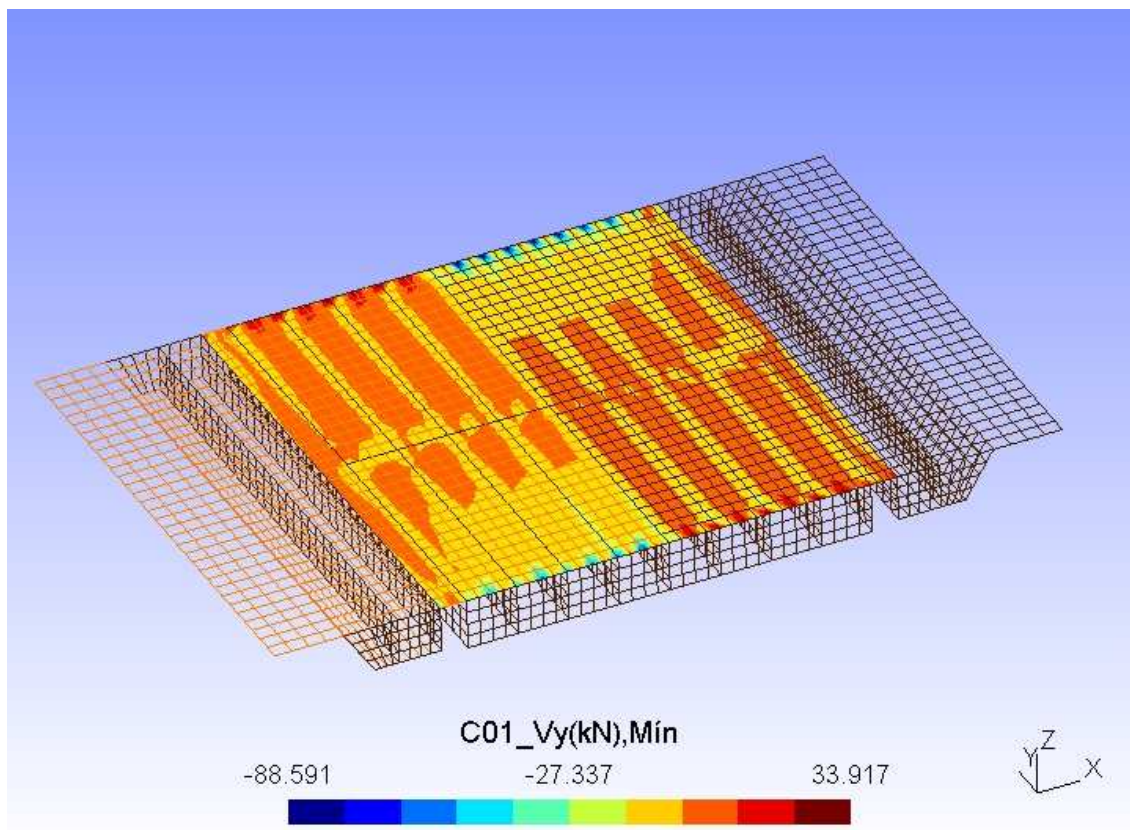
012-Combinación 1 - Momentos Flectores M_x Mín.jpg



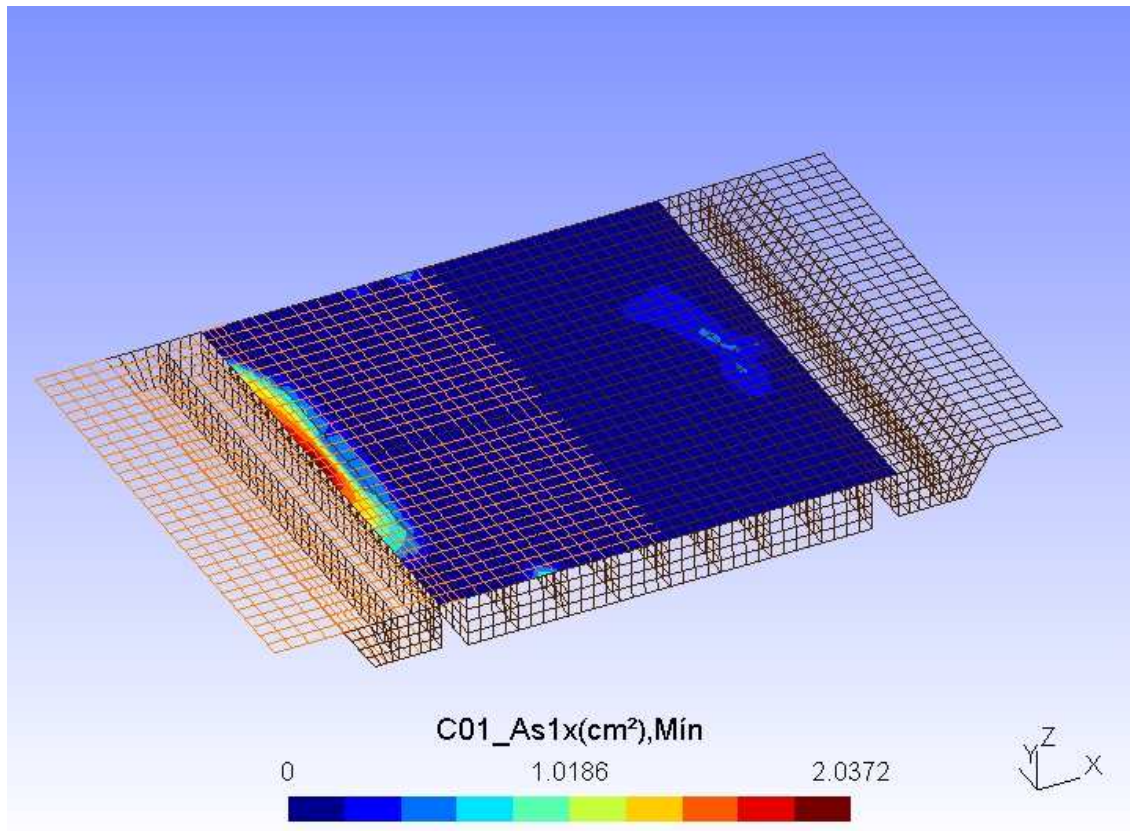
013-Combinación 1 - Momentos Flectores M_y Mín.jpg



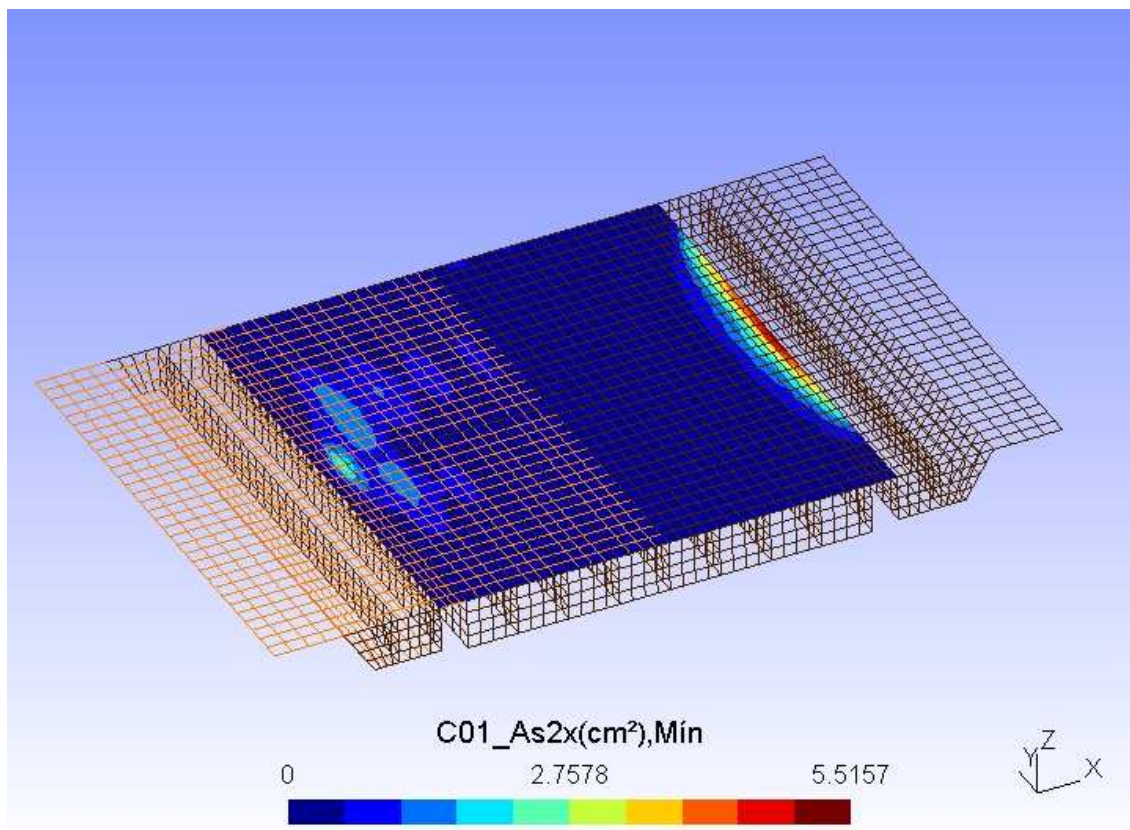
014-Combinación 1 - Esfuerzos Cortantes V_x Mín.jpg



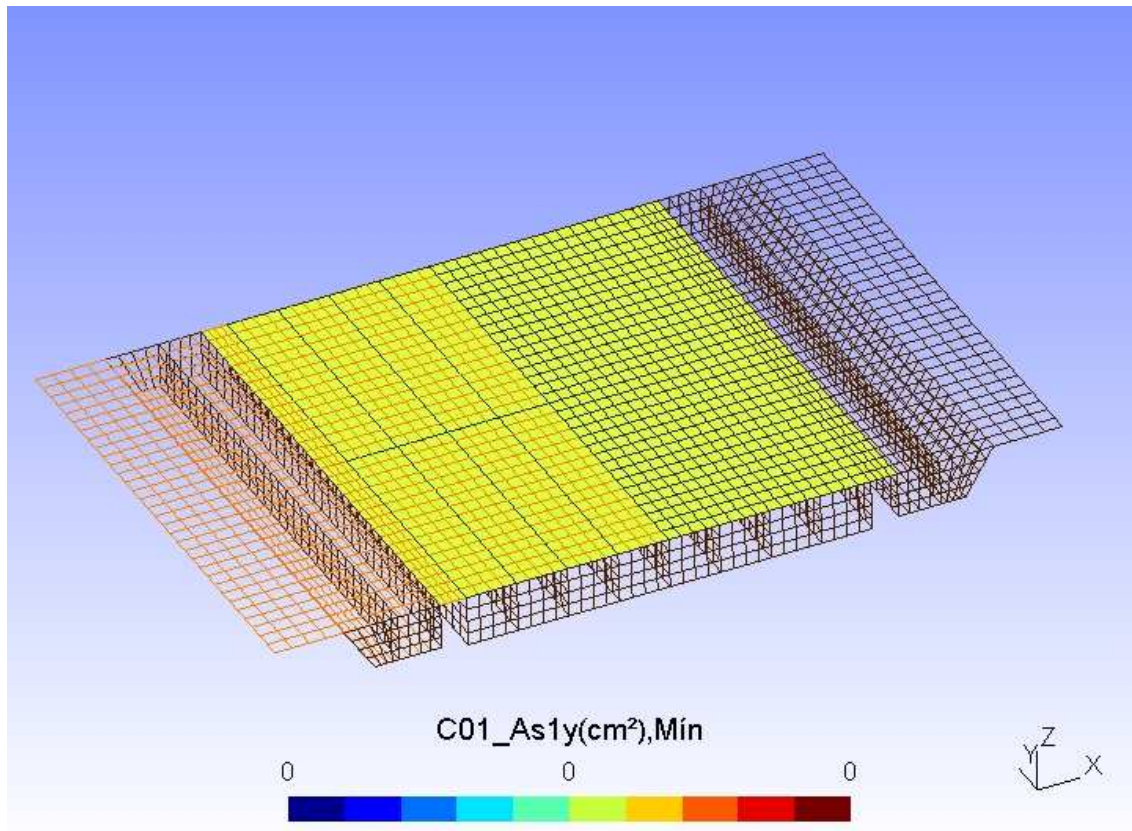
015-Combinación 1 - Esfuerzos cortantes V_y Mín.jpg



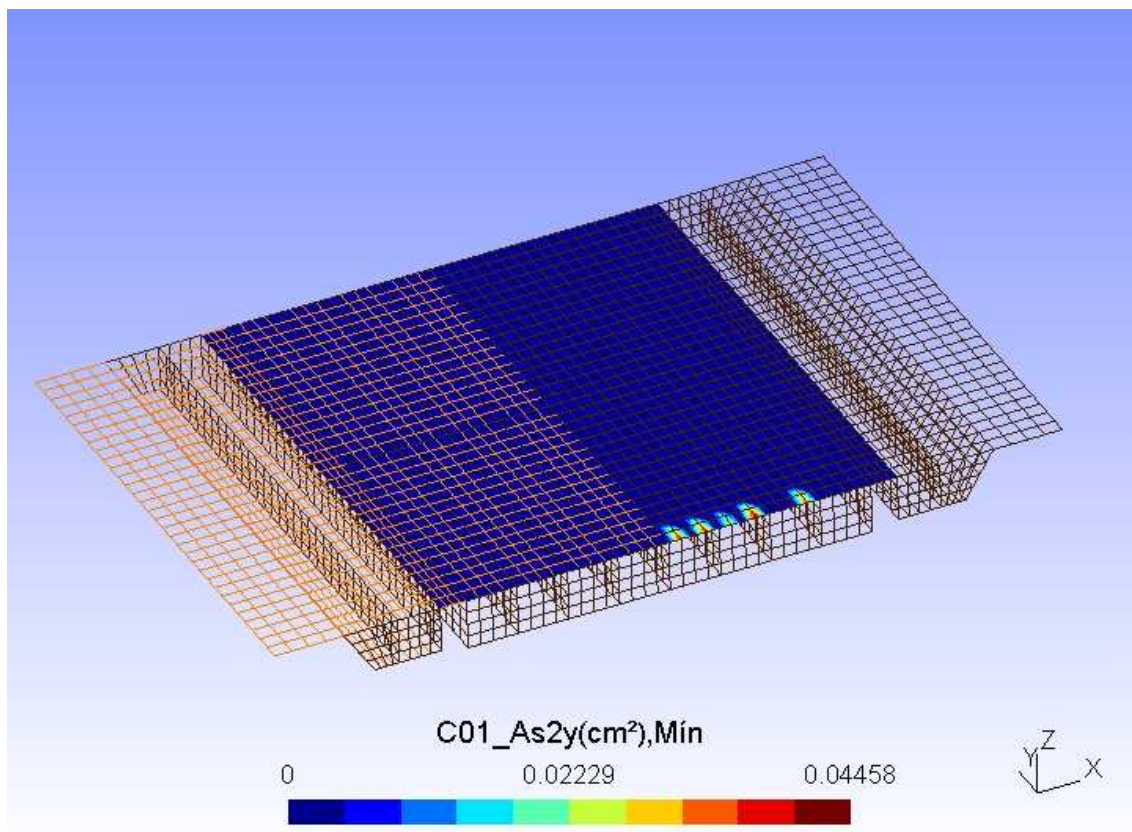
016-Combinación 1 - Armadura As1x Mín.jpg



017-Combinación 1 - Armadura As2x Mín.jpg

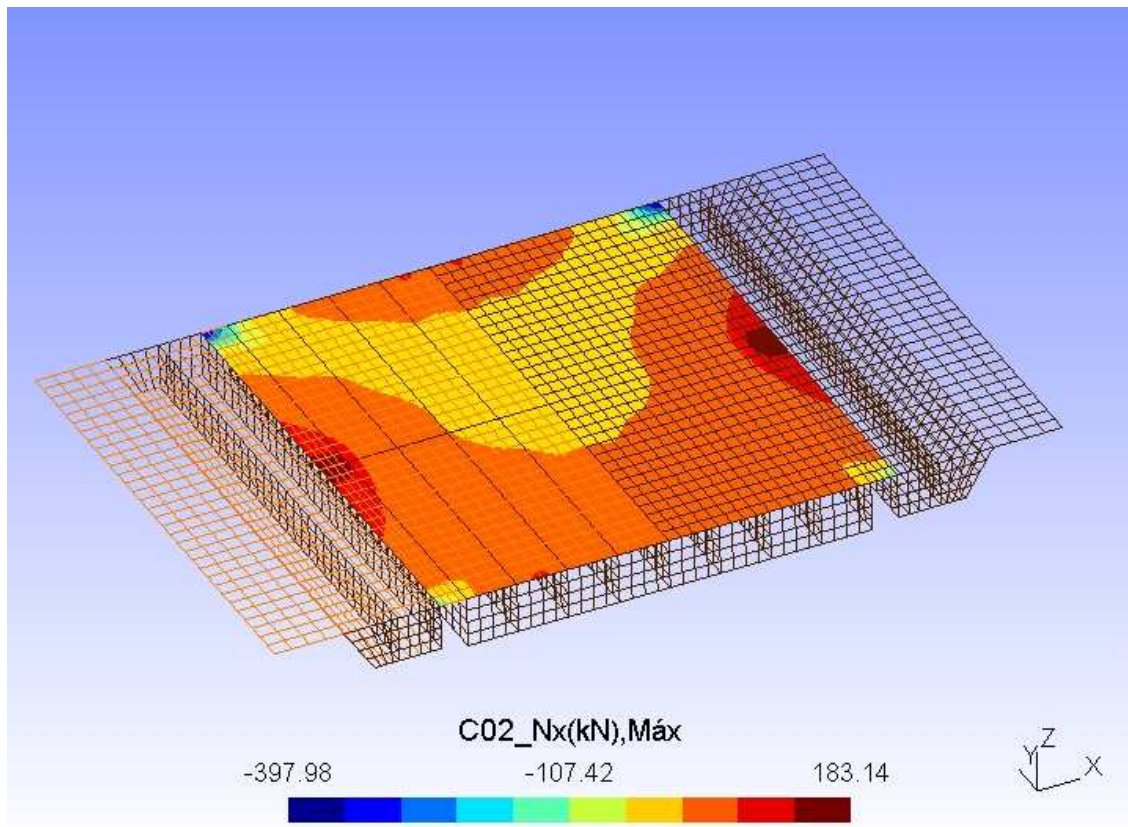


018-Combinación 1 - Armadura As1y Mín.jpg

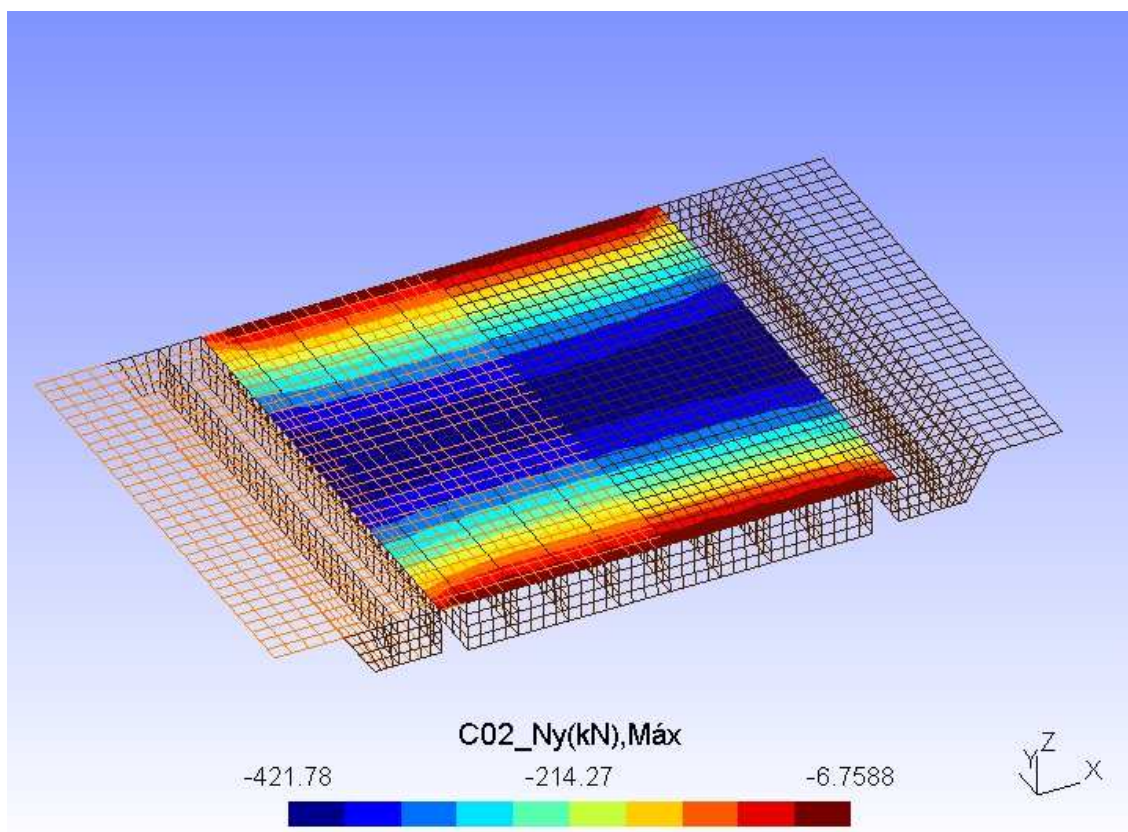


019-Combinación 1 - Armadura As2y Mín.jpg

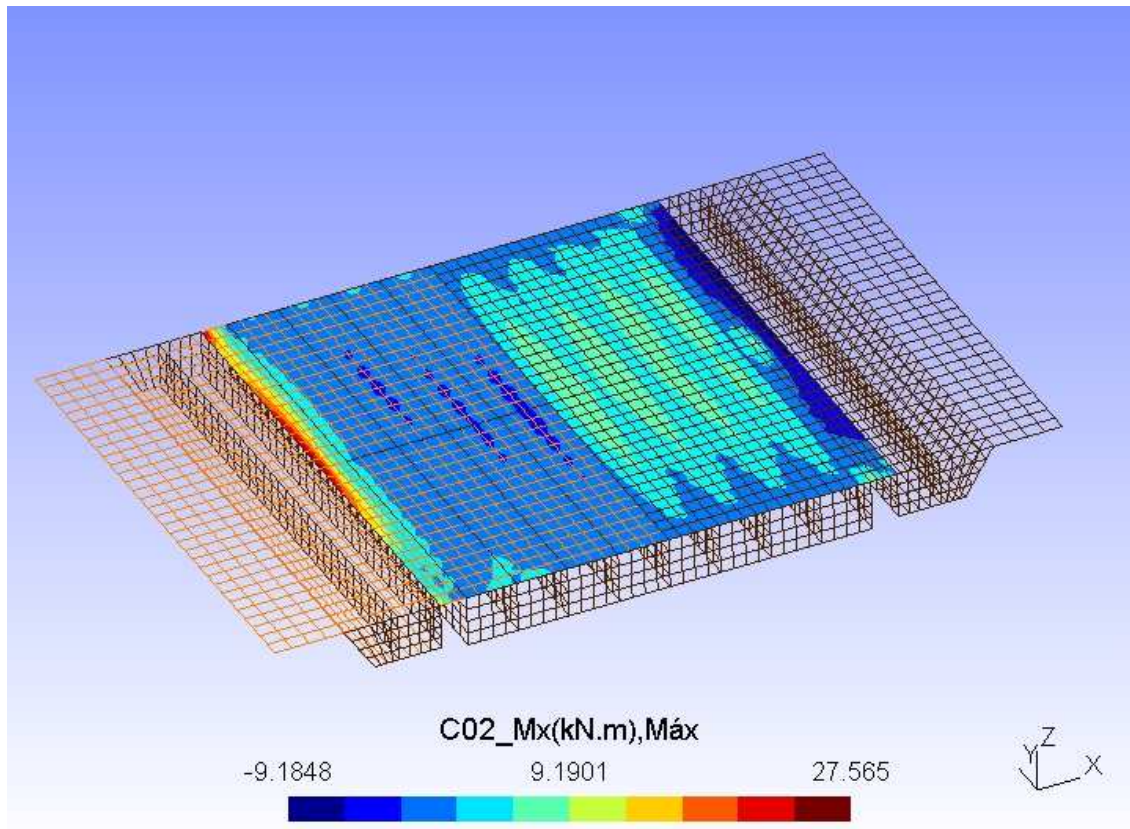
COMBINACIÓN 2 - ESFUERZOS EN ELS CARACTERÍSTICA



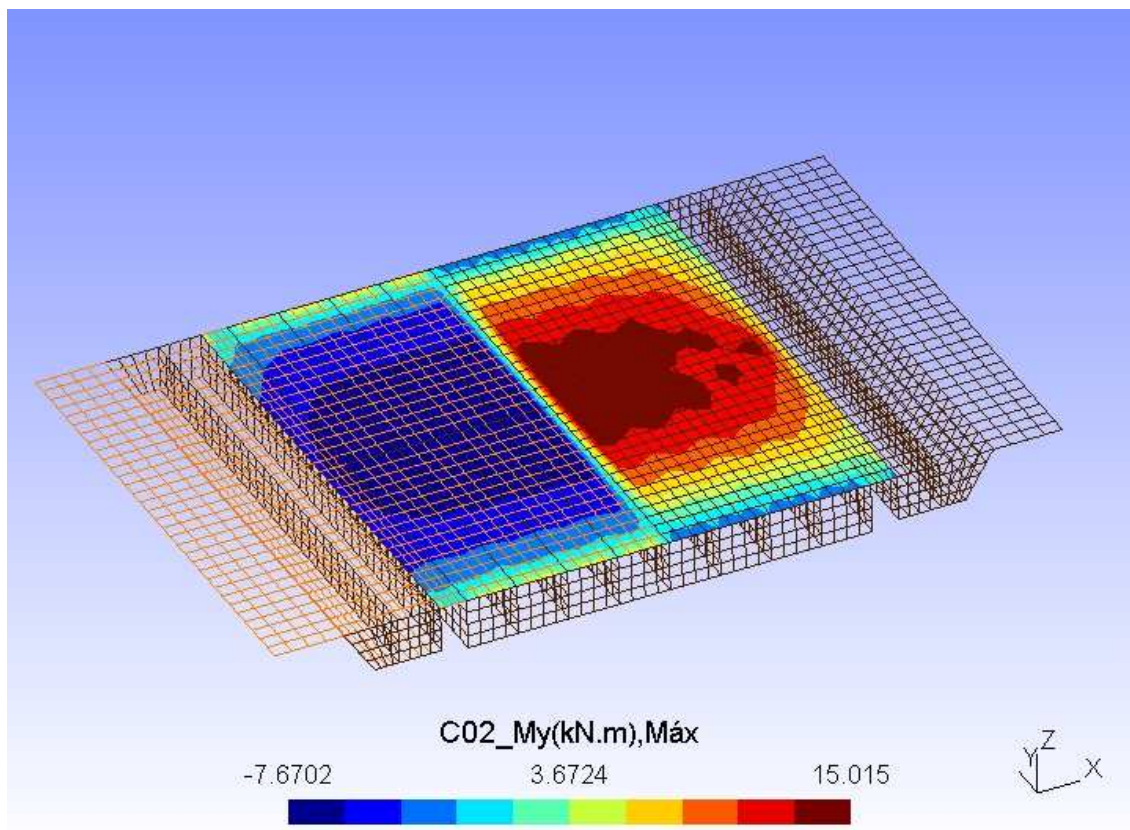
020-Combinación 2 - Esfuerzos Axiles Nx Máx.jpg



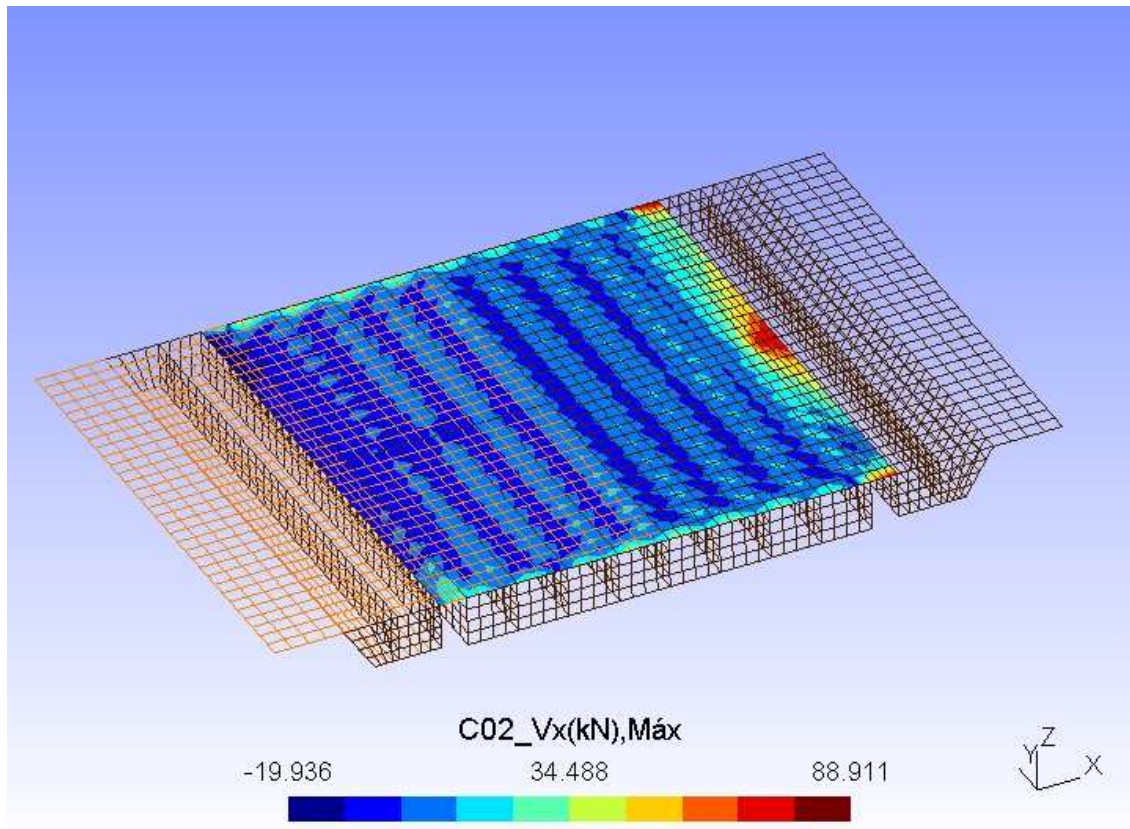
021-Combinación 2 - Esfuerzos Axiles Ny Máx.jpg



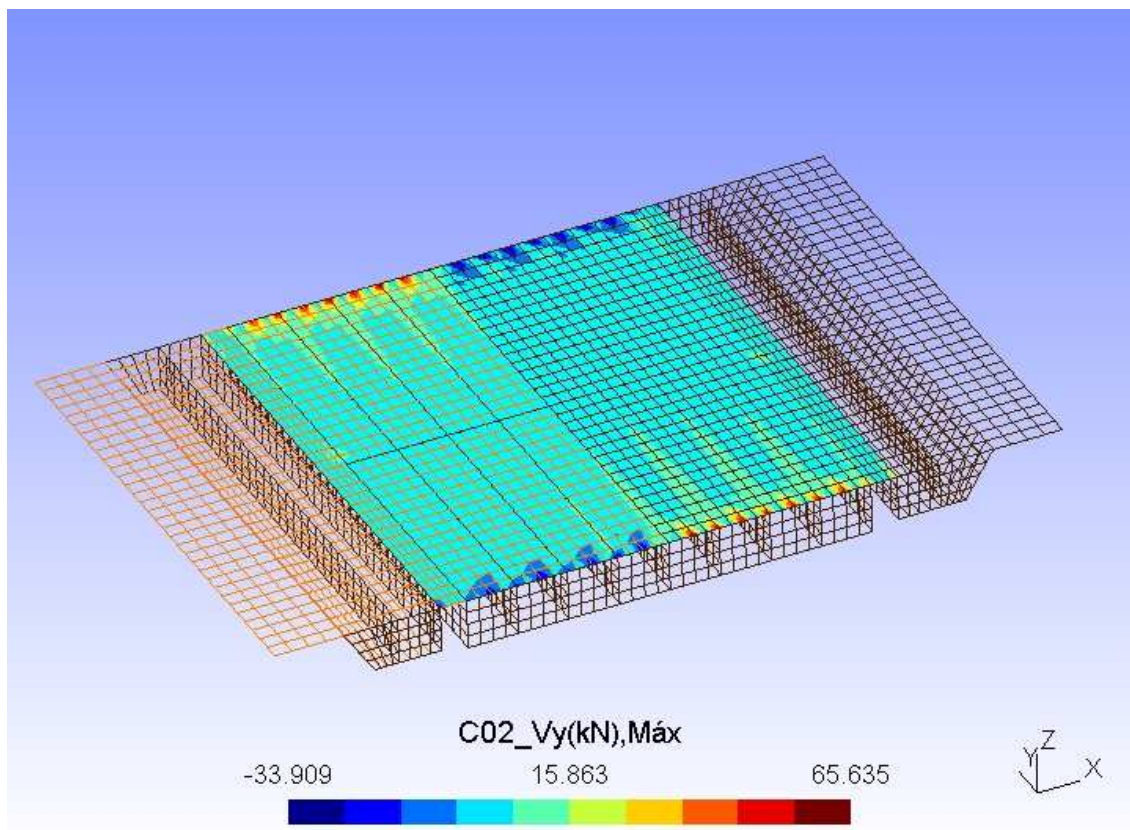
022-Combinación 2 - Momentos Flectores M_x Máx.jpg



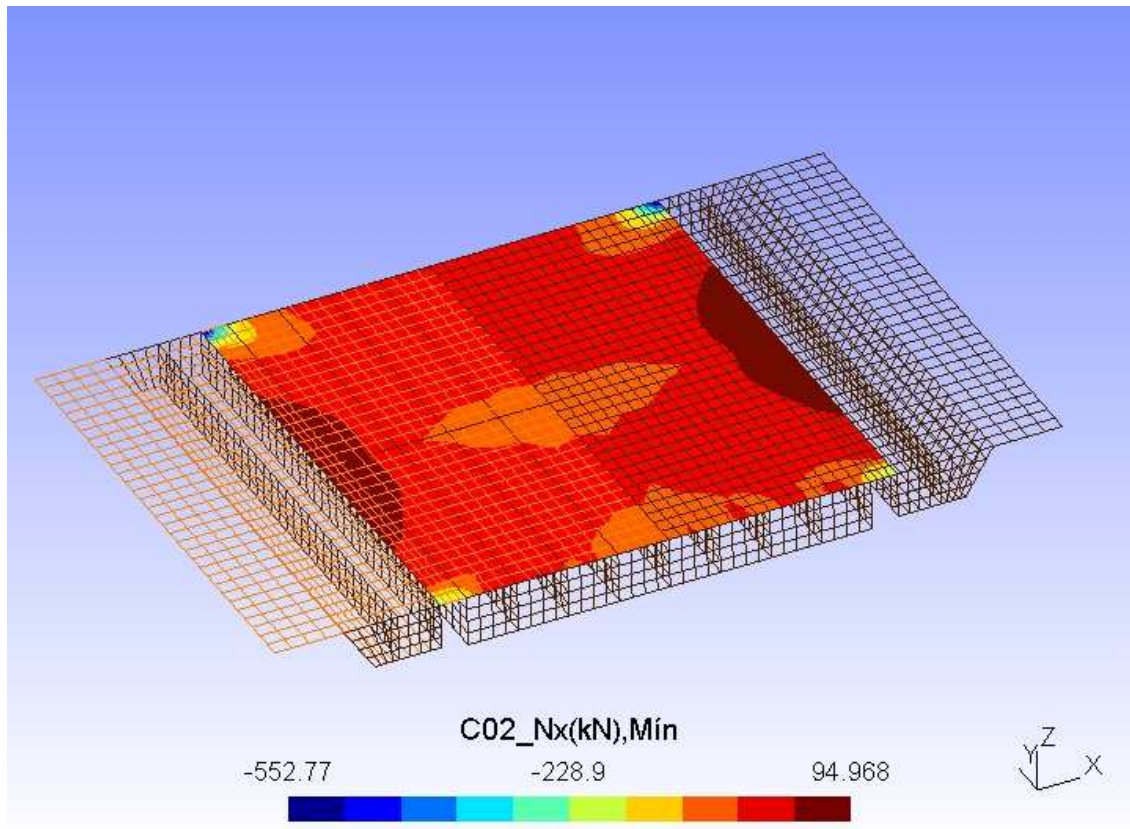
023-Combinación 2 - Momentos Flectores M_y Máx.jpg



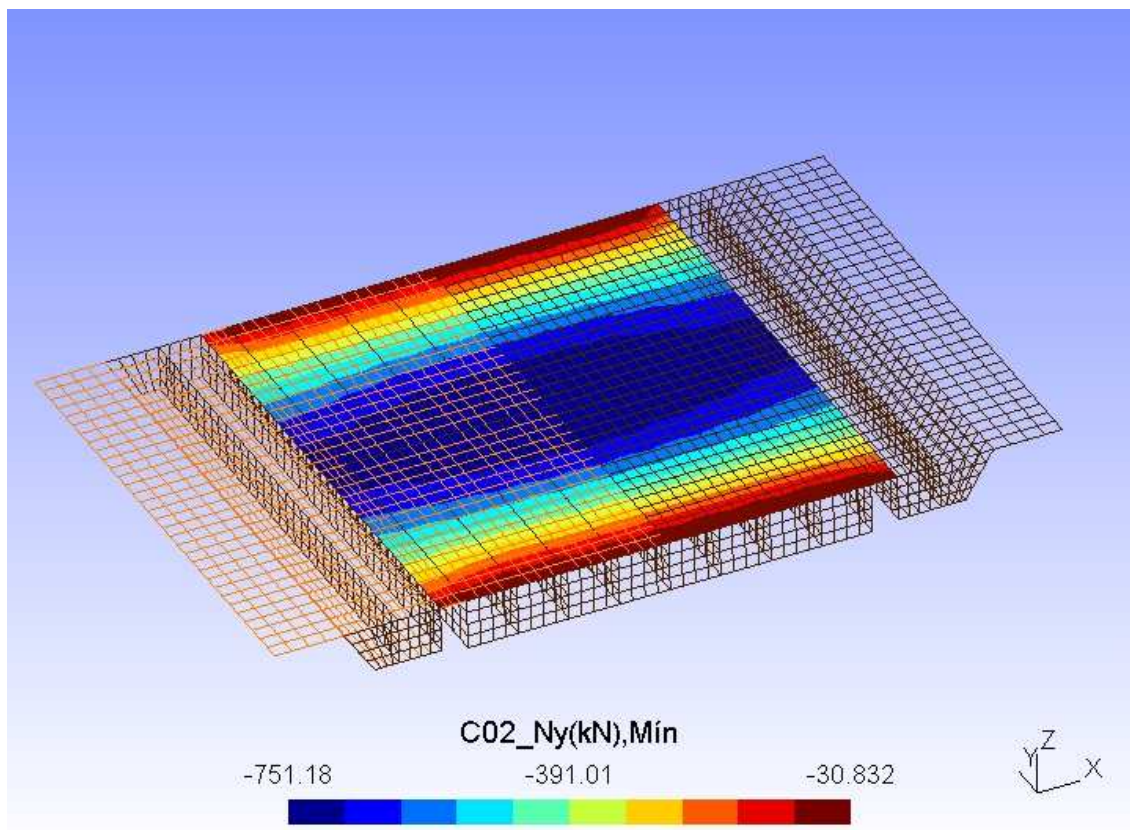
024-Combinación 2 - Esfuerzos Cortantes V_x Máx.jpg



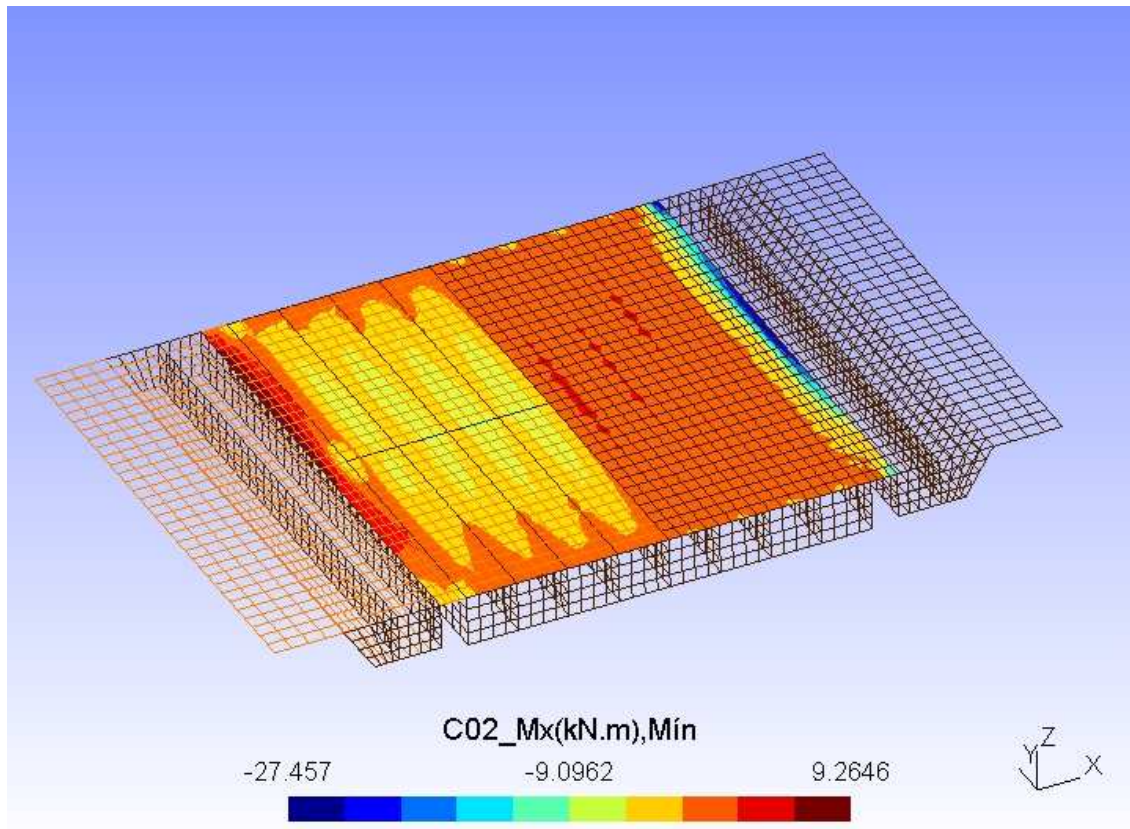
025-Combinación 2 - Esfuerzos cortantes V_y Máx.jpg



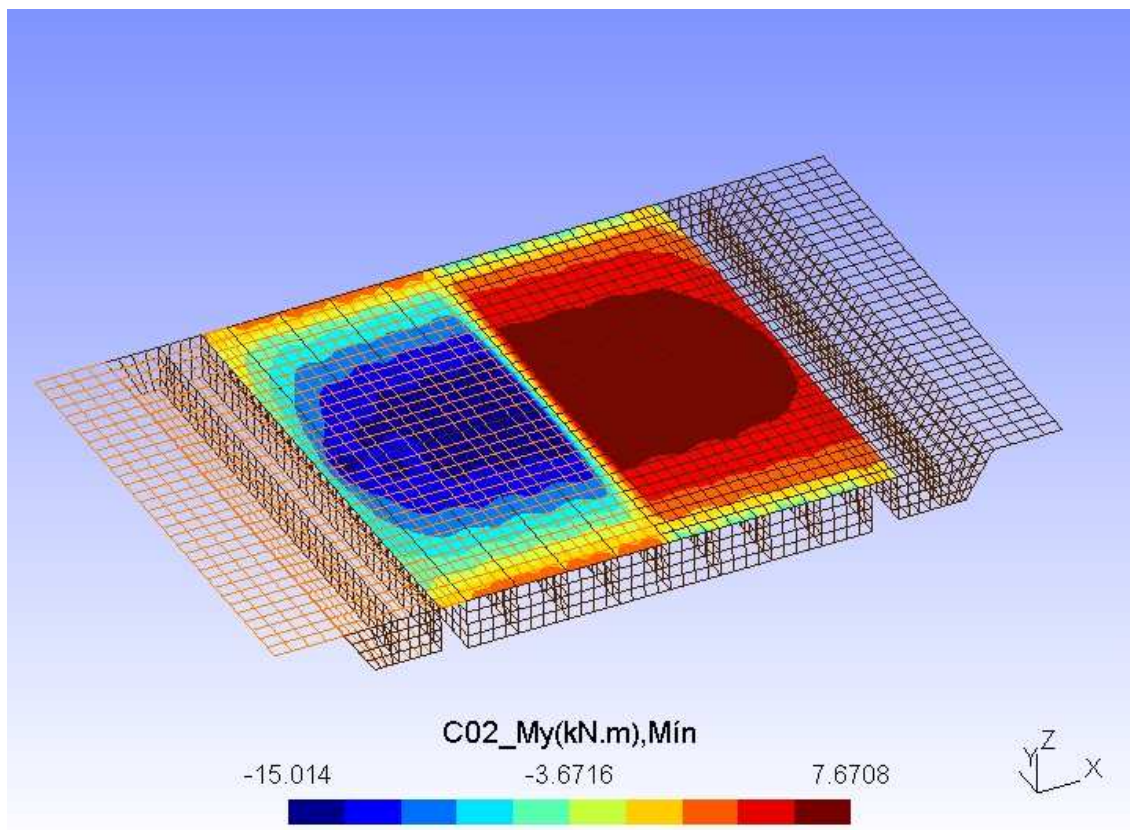
030-Combinación 2 - Esfuerzos Axiales N_x Mín.jpg



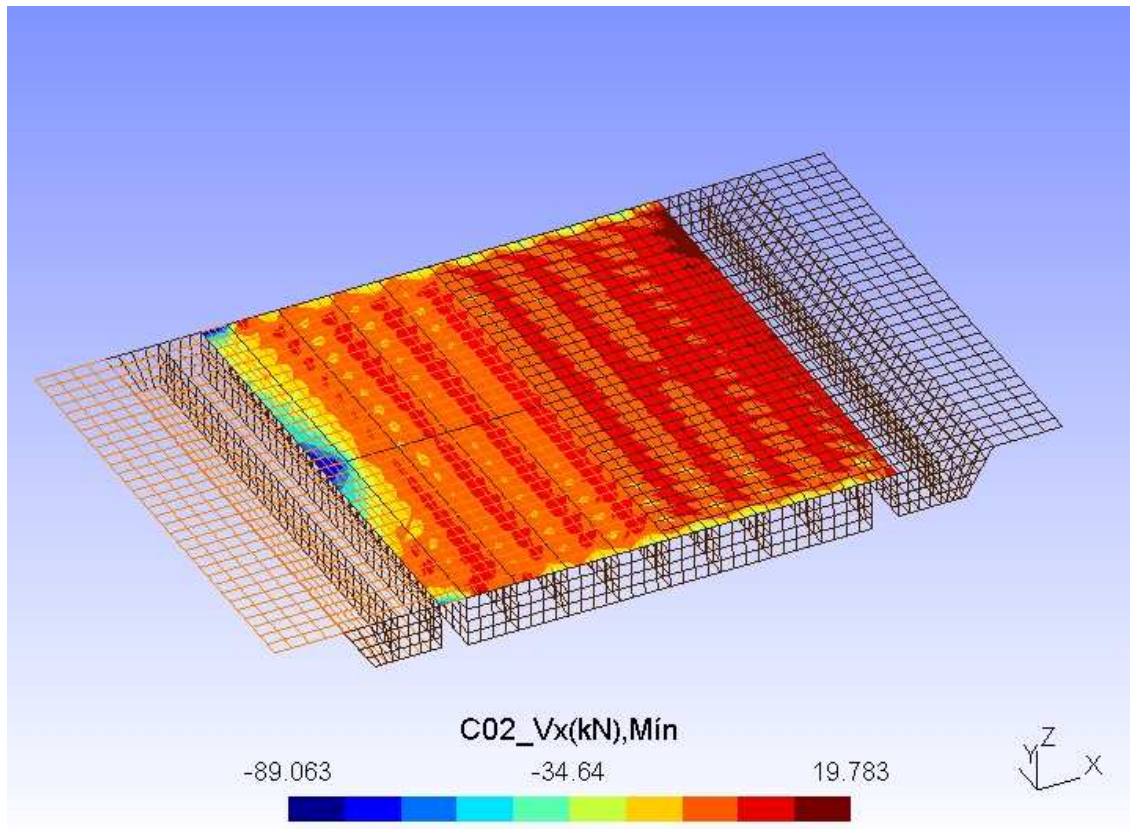
031-Combinación 2 - Esfuerzos Axiales N_y Mín.jpg



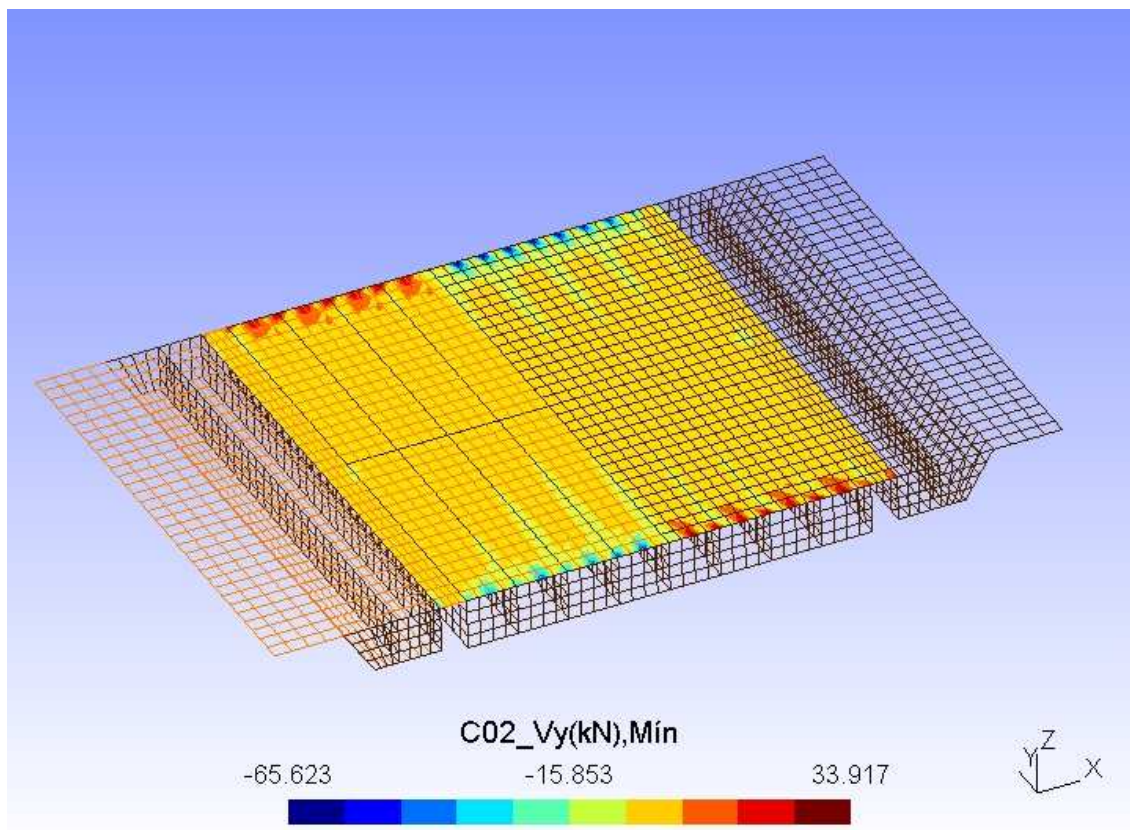
032-Combinación 2 - Momentos Flectores M_x Mín.jpg



033-Combinación 2 - Momentos Flectores M_y Mín.jpg

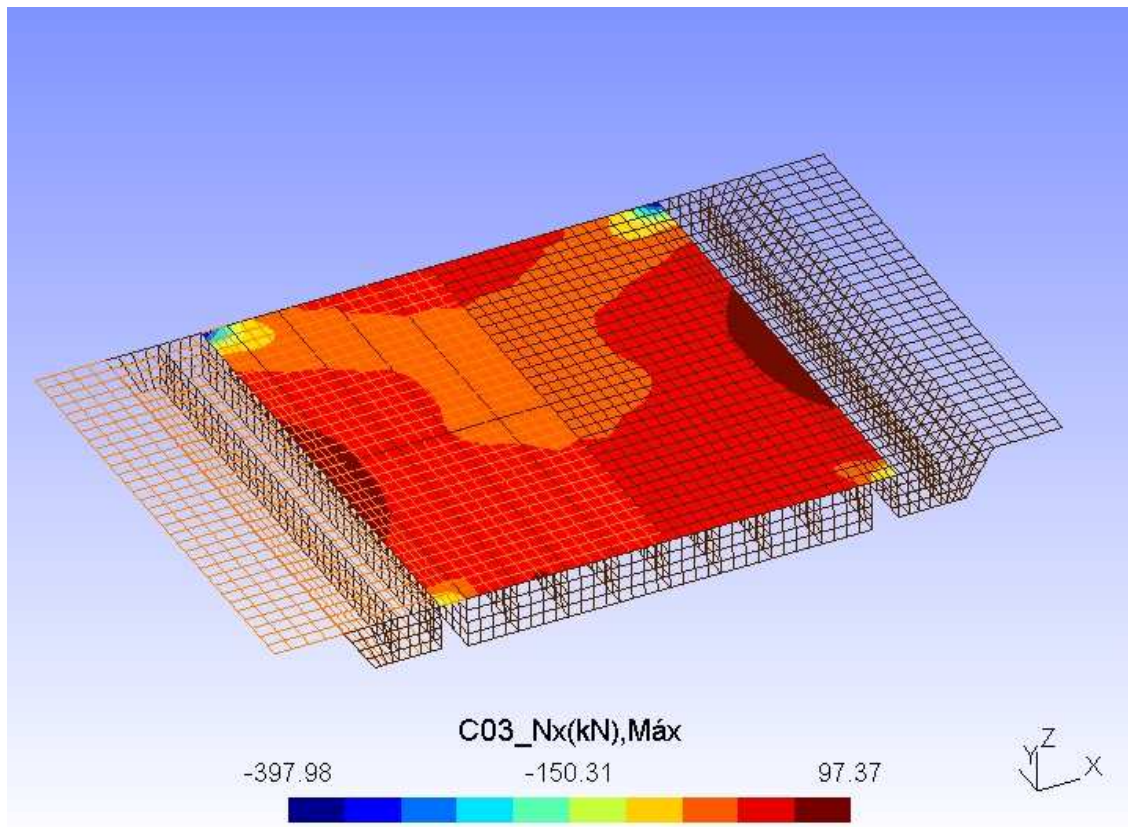


034-Combinación 2 - Esfuerzos Cortantes Vx Mín.jpg

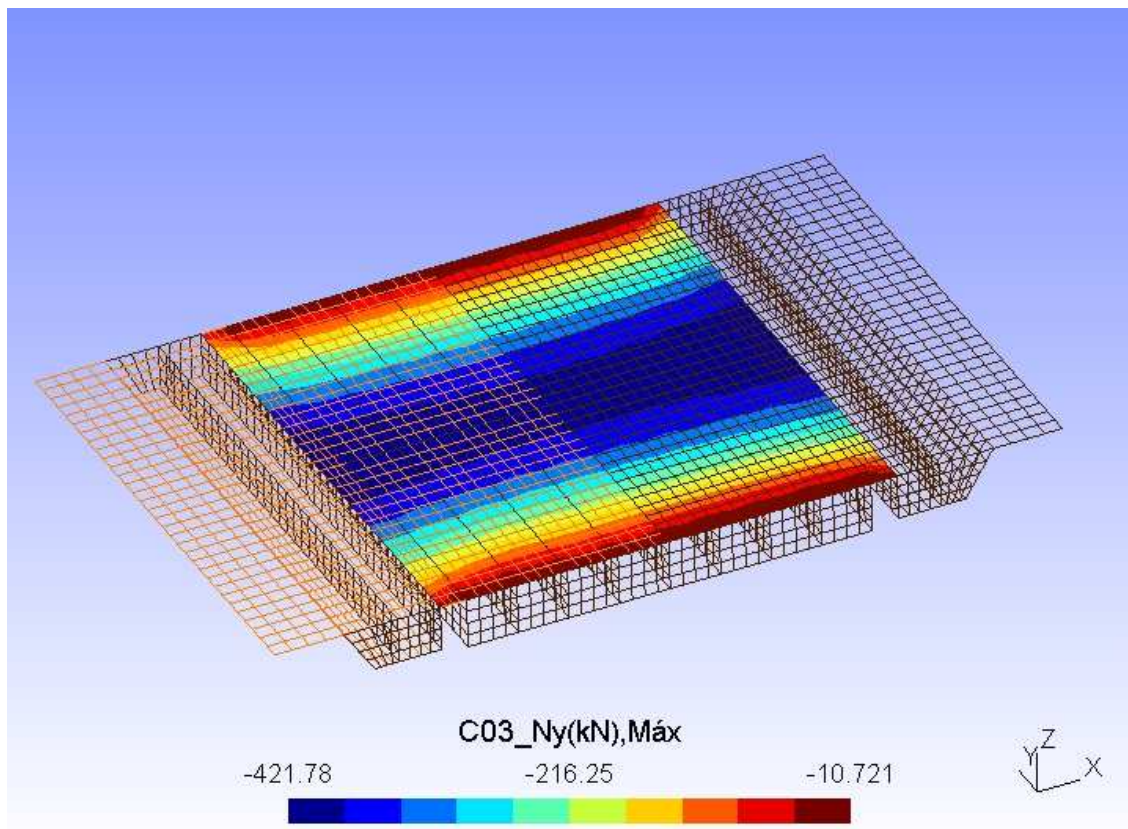


035-Combinación 2 - Esfuerzos cortantes Vy Mín.jpg

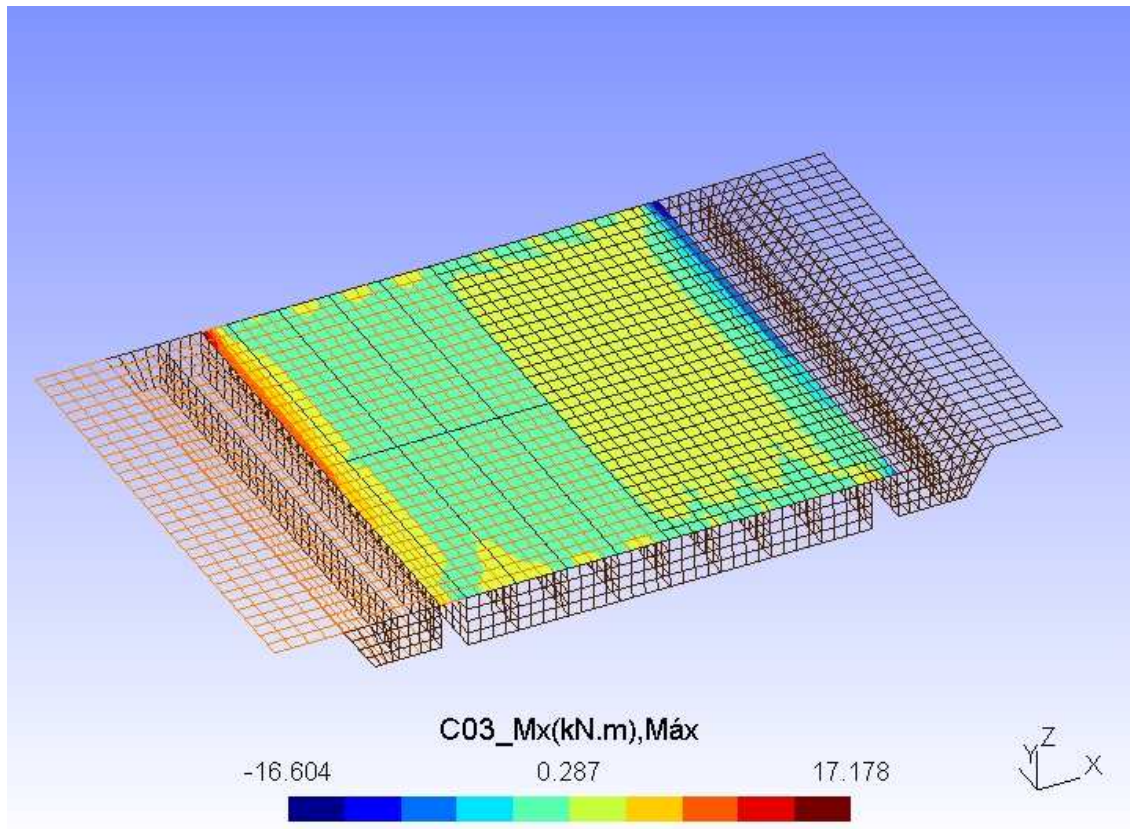
COMBINACIÓN 3 - ESFUERZOS EN ELS CUASIPERMANENTE



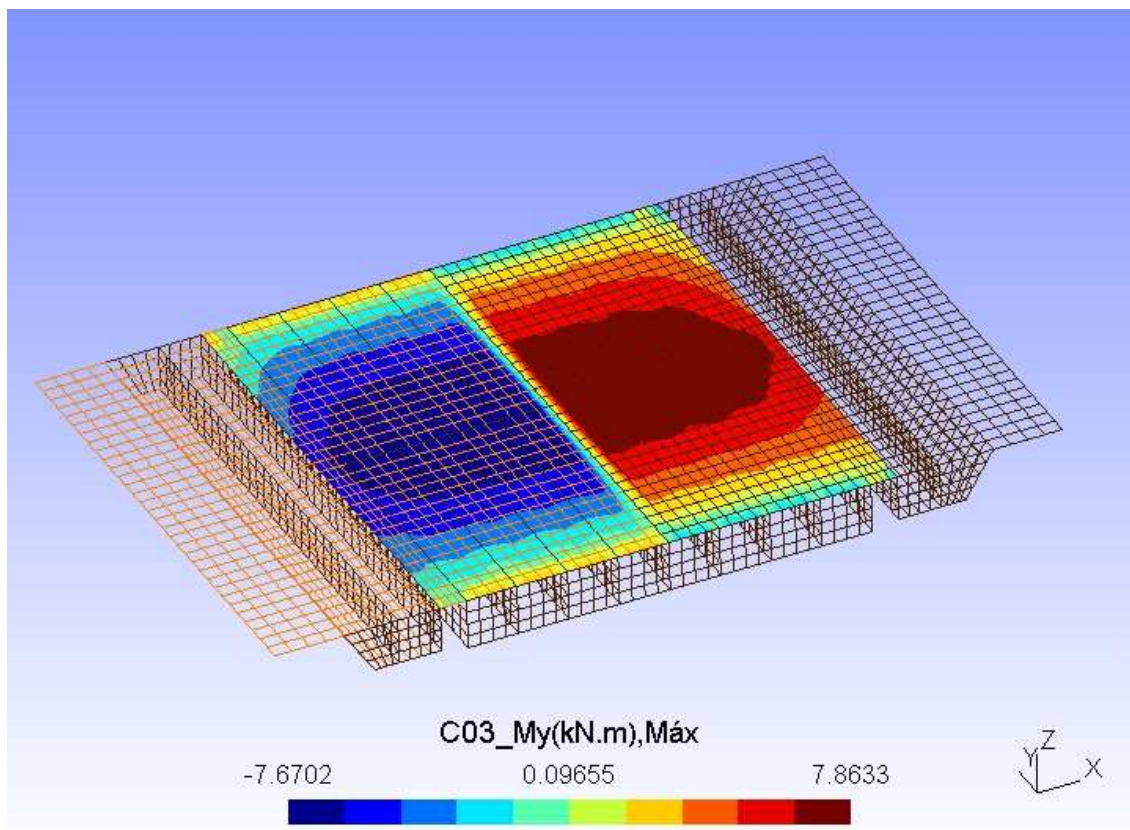
040-Combinación 3 - Esfuerzos Axiles Nx Máx.jpg



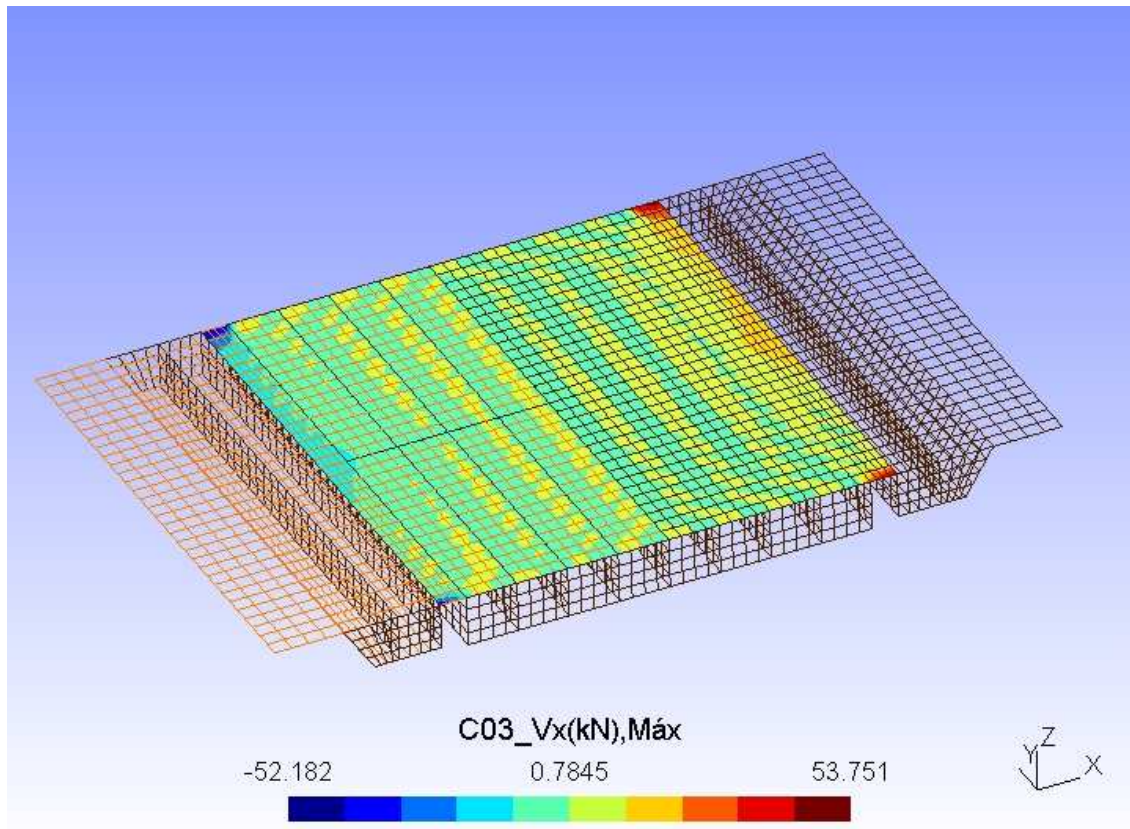
041-Combinación 3 - Esfuerzos Axiles Ny Máx.jpg



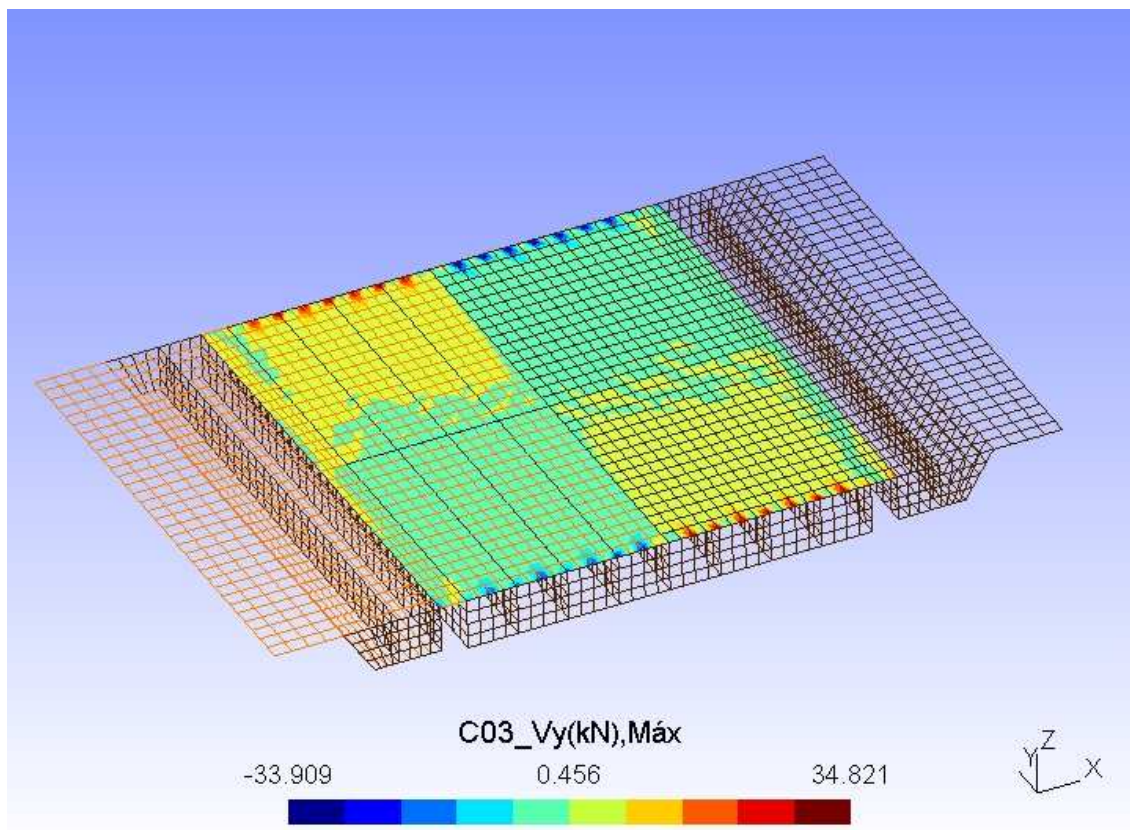
042-Combinación 3 - Momentos Flectores M_x Máx.jpg



043-Combinación 3 - Momentos Flectores M_y Máx.jpg



044-Combinación 3 - Esfuerzos Cortantes V_x Máx.jpg



045-Combinación 3 - Esfuerzos cortantes V_y Máx.jpg

DIMENSIONAMIENTO VIGA AMPLIACIÓN TABLERO

TENSIONES NORMALES DEBIDAS A FLEXIÓN

Viga ampliación puente Avda. Alcalde Caballero

Características mecánicas de las secciones

	<i>Inicial</i>	<i>Semifinal</i>	<i>Final</i>
Canto (m)	1,500000	1,500000	1,500000
Inercia (m ⁴)	0,639629	0,639629	0,639629
Area (m ²)	2,293245	2,293245	2,293245
V _b (m)	0,888530	0,888530	0,888530
V _c (m)	0,611470	0,611470	0,611470

Valores representativos de acciones variables

Ψ_0	Ψ_1	Ψ_2
0,60	0,50	0,20

Esfuerzos y tensiones antes de pretensado

	V (t)	M (t.m)	T (t.m)	σ_a (t/m ²)	σ_b (t/m ²)	σ_c (t/m ²)	$\sigma_{tb,f}$ (t/m ²)
Peso propio	0,000	167,002	0,000	-159,650	231,988	-159,650	0,000
C. Permanent.	0,000	65,861	0,000	-62,962	91,490	-62,962	0,000
Sobrecarga	0,000	45,457	0,000	-43,456	63,146	-43,456	0,000
Tándem	0,000	92,697	0,000	-88,616	128,769	-88,616	0,000
Carril	0,000	33,216	0,000	-31,754	46,141	-31,754	0,000
TOTAL...	0,000	404,233	0,000	-386,437	561,534	-386,437	0,000
C. caract.	0,000	390,947	0,000	-373,736	543,077	-373,736	0,000
C. frecuente	0,000	308,583	0,000	-294,998	428,663	-294,998	0,000
C. cuasi-perm.	0,000	267,137	0,000	-255,377	371,089	-255,377	0,000

Tensiones introducidas mediante pretensado

Pérdidas de pretensado (%):

Instantáneas: 5,00%

Totales : 20,00%

c.d.g. Pretensado

0,050

Cota	Cables	P (t/cable)	P (t)	M (t.m)	σ_a (t/m ²)	σ_b (t/m ²)	$\sigma_{tb,f}$ (t/m ²)
0,050	26	19,6	509,600	-427,315	186,285	-815,815	-222,218
1,450	4	19,6	78,400	44,019	-76,269	26,961	-34,187
TOTAL...	Inicial		558,600	-364,131	104,515	-749,412	-243,585
	Final		470,400	-306,637	88,013	-631,083	-205,124

Ponderación del pretensado (Estados límites de servicio)

Efecto favorable : 0,95

Efecto desfavorable : 1,05

Tensiones totales

	σ_a (t/m ²)	σ_b (t/m ²)	σ_c (t/m ²)	$\sigma_{tb,f}$ (t/m ²)
Peso propio + pretensado	-49,909	-554,894	-	-255,764
Finales máximas	-302,825	-37,995	-386,437	-194,868
Combinación característica	-290,123	-56,452	-373,736	-194,868
Combinación frecuente	-211,386	-170,866	-294,998	-194,868
Combinación cuasi-perman.	-171,764	-228,440	-255,377	-194,868

(Tracciones positivas)

Tensión de compresión máxima en viga (MPa) :

5,444

<= 30,000

Tensión de tracción máxima en viga (MPa) :

-0,373

(Tracción positiva)

Tensión de compresión máxima en losa (MPa) :

3,791

Tensión en el c.d.g de la armadura activa (MPa) :

-4,078

(Debida a cargas permanentes)

Estado límite de agotamiento frente a solicitaciones normales**Características de la losa:**

B (m) : 4,670

 f_{ck} (MPa) : 50,000 γ_c : 1,400 f_{cd} (MPa) : 35,714**Pretensado:** f_{pk} (MPa) : 1710,000 γ_s : 1,100 f_{pd} (MPa) : 1554,545**Coefficientes parciales de seguridad para las acciones:** γ_G : 1,350 γ_Q : 1,350 γ_P : 1,000**Comprobación de la sección:**

d (m) : 1,450

Md (t.m) : 545,715

0.8x (m): 0,026

Us (t) : 379,797

 A_s (cm²) : 23,967 (Sección de la armadura activa)

Extremo

TENSIONES NORMALES DEBIDAS A FLEXIÓN

Viga ampliación puente Avda. Alcalde Caballero

Características mecánicas de las secciones

	Inicial	Semifinal	Final
Canto (m)	1,500000	1,500000	1,500000
Inercia (m ⁴)	0,639629	0,639629	0,639629
Area (m ²)	2,293245	2,293245	2,293245
V _b (m)	0,888530	0,888530	0,888530
V _c (m)	0,611470	0,611470	0,611470

Valores representativos de acciones variables

Ψ_0	Ψ_1	Ψ_2
0,60	0,50	0,20

Esfuerzos y tensiones antes de pretensado

	V (t)	M (t.m)	T (t.m)	σ_a (t/m ²)	σ_b (t/m ²)	σ_c (t/m ²)	$\sigma_{lb,f}$ (t/m ²)
Peso propio	-46,230	0,000	0,000	0,000	0,000	0,000	0,000
C. Permanent.	-34,194	0,000	-6,879	0,000	0,000	0,000	0,000
Sobrecarga	-23,337	0,000	-4,861	0,000	0,000	0,000	0,000
Tándem	-38,381	0,000	9,406	0,000	0,000	0,000	0,000
Carril	-14,434	0,000	3,880	0,000	0,000	0,000	0,000
TOTAL...	-156,576	0,000	1,546	0,000	0,000	0,000	0,000
C. caract.	-150,802	0,000	-0,006	0,000	0,000	0,000	0,000
C. frecuente	-114,170	0,000	-3,831	0,000	0,000	0,000	0,000
C. cuasi-perm.	-95,654	0,000	-5,194	0,000	0,000	0,000	0,000

Tensiones introducidas mediante pretensado

Pérdidas de pretensado (%):

Instantáneas: 5,00%
Totales : 20,00%

c.d.g. Pretensado

0,050

Cota	Cables	P (t/cable)	P (t)	M (t.m)	σ_a (t/m ²)	σ_b (t/m ²)	$\sigma_{lb,f}$ (t/m ²)
0,050	26	19,6	509,600	-427,315	186,285	-815,815	-222,218
1,450	4	19,6	78,400	44,019	-76,269	26,961	-34,187
TOTAL...	Inicial		558,600	-364,131	104,515	-749,412	-243,585
	Final		470,400	-306,637	88,013	-631,083	-205,124

Extremo

Ponderación del pretensado (Estados límites de servicio)

Efecto favorable : 0,95
Efecto desfavorable : 1,05

Tensiones totales

	σ_a (t/m ²)	σ_b (t/m ²)	σ_c (t/m ²)	$\sigma_{b,t}$ (t/m ²)
Peso propio + pretensado	109,741	-786,882	-	-255,764
Finales máximas	83,612	-599,529	0,000	-194,868
Combinación característica	83,612	-599,529	0,000	-194,868
Combinación frecuente	83,612	-599,529	0,000	-194,868
Combinación cuasi-perman.	83,612	-599,529	0,000	-194,868

(Tracciones positivas)

Tensión de compresión máxima en viga (MPa) : 7,719 <= 30,000
Tensión de tracción máxima en viga (MPa) : 1,077 (Tracción positiva)
Tensión de compresión máxima en losa (MPa) : 0,000
Tensión en el c.d.g de la armadura activa (MPa) : -7,072 (Debida a cargas permanentes)

Estado límite de agotamiento frente a sollicitaciones normales

Características de la losa:

B (m) : 4,670
f_{ck} (MPa) : 50,000 γ_c : 1,400 f_{cd} (MPa) : 35,714

Pretensado:

f_{pk} (MPa) : 1710,000 γ_s : 1,100 f_{pd} (MPa) : 1554,545

Coefficientes parciales de seguridad para las acciones:

γ_G : 1,350
 γ_Q : 1,350
 γ_p : 1,000

Comprobación de la sección:

d (m) : 1,450
Md (t.m) : 0,000
0.8x (m) : 0,000
Us (t) : 0,000
A_s (cm²) : 0,000 (Sección de la armadura activa)

DIMENSIONAMIENTO A ESFUERZO CORTANTE Y TORSIÓN

Características del hormigón:

f_{ck} (MPa) :	50,000	f_{cd} (Mpa) :	35,714
$f_{ct,m}$ (MPa) :	4,072		

Características del acero pasivo:

f_{yk} (MPa) :	500
f_{yd} (MPa) :	454,55

Características de la sección final:

S_x (m ³) :	0,546	Momento estático respecto al c.d.g. final
b_o (m) :	0,600	Ancho total del alma
d (m) :	1,450	Canto útil
b (m) :	1,500	Diámetro de la circunferencia inscrita
c_o (m) :	0,040	Dist. armaduras longitudinales al paramento
h_o (m) :	0,200	Espesor del alma
A_e (m ²) :	2,967	Area del contorno medio sección eficaz
U (m) :	7,443	Perímetro del contorno medio

Solicitaciones tangentes:

V_{rd} (t) :	211,378	Esfuerzo cortante mayorado
T_d (t.m) :	2,088	Momento torsor mayorado

1.- ESFUERZO CORTANTE (Según EHE)

Angulo θ de inclinación de las fisuras :

$\sigma_{x,d}$ (MPa) :	-1,610	Tensión normal de cálculo en el c.d.g de la sección final
$\cotg \theta$:	1,181	(tracciones positivas)
$\theta(^{\circ})$:	40,250	

Esfuerzo cortante de agotamiento por compresión oblicua (Art. 44.2.3.1.):

f_{1cd} (MPa) :	21,429	Resistencia a compresión del hormigón
σ'_{cd} (MPa) :	-1,610	Tensión axil efectiva en la sección (tracción positiva)
$\cotg \theta$:	1,181	
K :	1,000	Coefficiente de reducción por efecto del esfuerzo axil
V_{u1} (t) :	937,164	> 211,378 CUMPLE

Esfuerzo cortante de agotamiento por tracción en el alma (Art. 44.2.3.2.2.):

ξ :	1,371	
A_s (cm ²) :	0,000	Armadura pasiva traccionada anclada
A_p (cm ²) :	35,761	Armadura activa traccionada anclada
ρ_l :	0,014	Cuantía geométrica de la armadura longitudinal traccionada
V_{cu} (t) :	71,608	Contribución del hormigón a la resistencia a cortante
A_{α} (cm ² /m) :	30,160	1Ø12 c/0,15
V_{su} (t) :	189,574	Contribución del acero a la resistencia a cortante
V_{u2} (t) :	261,182	>= 211,378 CUMPLE

Extremo

2.- TORSIÓN

Agotamiento por compresión del hormigón (Art. 48.2.2)

h_e (m) :	0,250		
T_{u1} (t.m) :	76,297	=>	2,088

Agotamiento por tracción de la armadura transversal (Art. 48.2.3)

A_t (cm ² /m) :	0,086
$A_{t,real}$:	1,000
T_{u2} (t.m) :	24,924

Agotamiento por tracción de la armadura longitudinal

A_{s1} (cm ²) :	0,642
$A_{s1,real}$:	10,000
T_{u3} (t.m) :	35,357

3.- TORSIÓN Y FLEXIÓN (Art. 48.2.4)

T_d / T_{u1} :	0,027		
V_{rd} / V_{u1} :	0,226		
	0,253	<=	1,000 CUMPLE

CÁLCULO DE APOYOS DE NEOPRENO

REACCIONES CORRIENDO EL VUELCO DE LA VIGA Y LA LONGITUD TOTAL

Nudo	Peso Propio	C.P. MAX.	C.P. MIN.	S.C. MAX.	S.C. MIN.	Tandem MAX.	Tandem MIN.	Carril MAX.	Carril MIN.	TOTAL ELS MAX.	TOTAL ELS MIN.	TOTAL ELU MAX.	TOTAL ELU MIN.
3	39,052	40,845	40,665	27,663	0,000	0,040	-5,218	0,347	-2,453	107,947	72,047	145,729	69,362
5	4,663	-22,976	-23,359	0,000	-14,365	12,238	-0,073	4,907	-0,039	-1,168	-33,173	6,465	-46,416
7	14,740	6,587	5,968	3,832	0,000	22,416	-0,303	8,940	-0,137	56,515	20,268	76,295	20,114
8	16,813	1,904	1,394	0,457	-0,001	24,368	-0,278	7,100	-0,140	50,642	17,788	68,367	17,641
9	16,813	2,181	1,505	0,139	-0,008	30,417	-0,246	8,148	-0,116	57,699	17,947	77,894	17,818
10	16,813	1,900	1,213	0,000	-0,125	25,998	-0,198	9,078	-0,123	53,789	17,580	72,615	17,423
11	16,813	1,960	1,263	0,000	-0,112	30,222	-0,072	8,170	-0,043	57,164	17,849	77,172	17,770
12	16,813	1,900	1,213	0,000	-0,125	25,998	-0,198	9,078	-0,123	53,789	17,580	72,615	17,423
13	16,813	2,181	1,505	0,139	-0,008	30,417	-0,246	8,148	-0,116	57,699	17,947	77,894	17,818
14	16,813	1,904	1,394	0,457	-0,001	24,368	-0,278	7,100	-0,140	50,642	17,788	68,367	17,641
15	14,740	6,587	5,968	3,832	0,000	22,416	-0,303	8,940	-0,137	56,515	20,268	76,295	20,114
17	4,663	-22,976	-23,359	0,000	-14,365	12,238	-0,073	4,907	-0,039	-1,168	-33,173	6,465	-46,416
19	39,052	40,845	40,665	27,663	0,000	0,040	-5,218	0,347	-2,453	107,947	72,047	145,729	69,362

AMPLIACIÓN PUENTE AVDA. ALCALDE CABALLERO**CARGAS MAXIMAS Y MINIMAS EN APOYOS (t)**

	VANO 1			
	3	5	129	131
<i>peso propio</i>	39,052	4,663	39,052	4,663
<i>C. Permanente Máxima</i>	40,845	-22,976	40,845	-22,976
<i>C. Permanente Mínima</i>	40,665	-23,359	40,665	-23,359
<i>S.C. Máxima</i>	27,663	0,000	27,663	0,000
<i>S.C. Mínima</i>	0,000	-14,365	0,000	-14,365
<i>Tándem Máximo</i>	0,040	12,238	0,040	12,238
<i>Tándem mínimo</i>	-5,218	-0,073	-5,218	-0,073
<i>Carril Máximo</i>	0,347	4,907	0,347	4,907
<i>Carril mínimo</i>	-2,453	-0,039	-2,453	-0,039

MÁXIMA (Tn)	107,947	-1,168	107,947	-1,168
MÍNIMA (Tn)	72,047	-33,173	72,047	-33,173

**DIMENSIONAMIENTO DE NEOPRENOS
DESPLAZ (x ml)**

	VANO 1			
	3	5	129	131
<i>Dist. Pto dilatación nula (m)</i>	14,95	14,95	0,50	0,50
<i>Desplazamiento (m)</i>	0,012	0,012	0,000	0,000
<i>Dimensiones del apoyo</i>				
<i>a (mm)</i>	400	300	400	300
<i>b (mm)</i>	250	200	250	200
<i>Tensiones medias (Kg /cm²)</i>				
$\sigma_{C,TL}$	107,947	-1,947	107,947	-1,947
σ_{min}	72,047	-55,288	72,047	-55,288
$\sigma_{C,LL}$	35,900	53,342	35,900	53,342
<i>Espesores capas</i>				
<i>Neopreno (mm)</i>	8,00	8,00	8,00	8,00
<i>Acero (mm)</i>	3,00	3,00	3,00	3,00
<i>Nº de capas</i>	3	3	3	3
<i>h neopreno (m)</i>	0,024	0,024	0,024	0,024
<i>tang γ</i>	0,498	0,498	0,017	0,017
<i>h total (mm)</i>	41,000	41,000	41,000	41,000

CÁLCULO DE REFUERZOS BAJO APOYOS

CARGAS CONCENTRADAS SOBRE MACIZOS

Ampliación puente avda. Alcalde Caballero

1. - Geometría

a (m) :	1,000
b (m) :	0,850
a1 (m) :	0,400
b1 (m) :	0,250
Ac (m²) :	0,850
Ac1 (m²) :	0,100

2. - Datos del Hormigón

fck (Mpa) :	25,00
Ec (Mpa) :	27264,04
fct,m (Mpa) :	2,56
γ_c :	1,5
fcd (Mpa) :	16,667

3. - Datos del acero

fyk (Mpa) :	500,00
Es (Mpa) :	200000,00
γ_s :	1,15
fyd (MPa) :	434,78

4. - Cargas actuantes

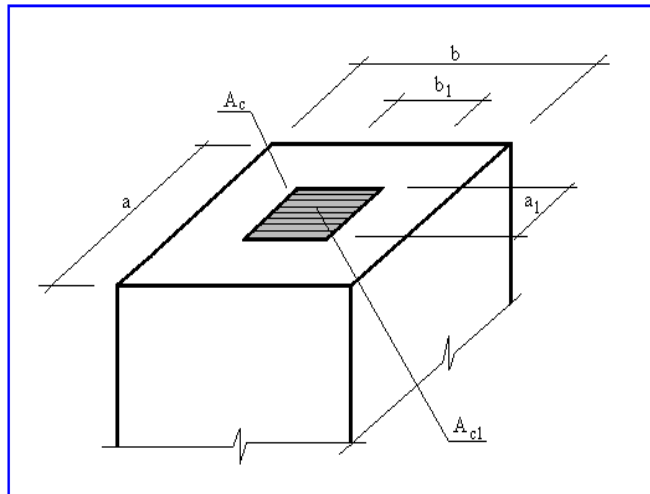
Nd (t) :	145,73
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5. - Comprobación de nudos y bielas

f3cd (Mpa) :	48,59
Nd,máx (t) :	495,32

6. - Armaduras transversales

Tad (t) :	21,86	Aa (cm²) :	5,361
Tbd (t) :	25,72	Ab (cm²) :	6,307



File Name: modelo bielas refuerzo apoyo estribo.txt
 Date and Time Created: 11/12/2013 18:34:39
 Associated Input Data File Name: modelo bielas refuerzo apoyo estribo.CST

P R O J E C T D E S C R I P T I O N :

PROJECT NAME: Refuerzo apoyo vigas ampliación puente Alcalde Caballero
 DESIGNER:
 DATE: 12/11/2013
 PROJECT NOTE:

G E N E R A L P R O P E R T I E S :

UNIT: SI Unit
 D-REGION THICKNESS: 400.0 mm
 CONCRETE CYLINDER STRENGTH: 20.00 MPa
 CONCRETE TENSILE STRENGTH: 0.00 MPa
 NON-PRESTRESSED REINFORCEMENT YIELD STRENGTH: 400.00 MPa

S T R U C T U R E ' S B O U N D A R I E S D A T A :

BOUNDARY ID	POSITION	# OF CORNERS	ENCLOSED AREA (mm ²)	ENCLOSED AREA CENTROID X (mm)	ENCLOSED AREA CENTROID Y (mm)
OStrB	Outer	4	800000.1	1000.0	100.0

BOUNDARY ID	CORNER COORDINATES	
	X (mm)	Y (mm)
OStrB	0.0	300.0
	0.0	-100.0
	2000.0	-100.0
	2000.0	300.0

L O A D C O N D I T I O N S :

LC1

S T R U T - A N D - T I E N O D E C O O R D I N A T E S :

LOAD CONDITION: LC1

NODE ID	X (mm)	Y (mm)	FUNCTION
N1	200.0	300.0	Load/Support
N2	200.0	250.0	Strut-and-Tie
N3	400.0	0.0	Strut-and-Tie
N4	600.0	250.0	Strut-and-Tie
N5	800.0	0.0	Strut-and-Tie
N6	1000.0	250.0	Strut-and-Tie
N7	1200.0	0.0	Strut-and-Tie
N8	1400.0	250.0	Strut-and-Tie
N9	1600.0	0.0	Strut-and-Tie
N10	1700.0	250.0	Strut-and-Tie
N11	1700.0	0.0	Strut-and-Tie
N12	1700.0	300.0	Load/Support

NODE ID	X (mm)	Y (mm)	FUNCTION
N13	400.0	-100.0	Load/Support
N14	1700.0	-100.0	Load/Support
N15	2000.0	250.0	Load/Support

S T R U T - A N D - T I E E L E M E N T D A T A :

LOAD CONDITION: LC1

ELEMENT ID	CONNECTIVITY		LENGTH (mm)
	END I	END J	
E1	N1	N2	50.0
E2	N3	N2	320.2
E3	N3	N4	320.2
E4	N5	N4	320.2
E5	N5	N6	320.2
E6	N6	N7	320.2
E7	N7	N8	320.2
E8	N8	N9	320.2
E9	N10	N9	269.3
E10	N9	N11	100.0
E11	N11	N10	250.0
E12	N10	N12	50.0
E13	N10	N8	300.0
E14	N8	N6	400.0
E15	N6	N4	400.0
E16	N4	N2	400.0
E17	N3	N5	400.0
E18	N5	N7	400.0
E19	N7	N9	400.0
E20	N3	N13	100.0
E21	N11	N14	100.0
E22	N15	N10	300.0

ELEMENT ID	DIRECTION (deg.)	FUNCTION
E1	270.00	Strut-and-Tie
E2	128.66	Strut-and-Tie
E3	51.34	Strut-and-Tie
E4	128.66	Strut-and-Tie
E5	51.34	Strut-and-Tie
E6	308.66	Strut-and-Tie
E7	51.34	Strut-and-Tie
E8	308.66	Strut-and-Tie
E9	248.20	Strut-and-Tie
E10	0.00	Stabilizer
E11	90.00	Strut-and-Tie
E12	90.00	Strut-and-Tie
E13	180.00	Strut-and-Tie
E14	180.00	Strut-and-Tie
E15	180.00	Strut-and-Tie
E16	180.00	Strut-and-Tie
E17	0.00	Strut-and-Tie
E18	0.00	Strut-and-Tie
E19	0.00	Strut-and-Tie
E20	270.00	Strut-and-Tie
E21	270.00	Strut-and-Tie
E22	180.00	Stabilizer

S T R U T - A N D - T I E P R O P E R T Y T Y P E S :

STRUT TYPES:

STRUT TYPE	STRUT EQUATION	EFFECTIVENESS FACTOR	PHI FACTOR	STRESS LIMIT (MPa)
CStrut	USER (0)	1.000	0.600	12.00

NOTATION FOR ACI STRUT EQUATIONS:

- (0) ACI Prismatic Struts
- (1) ACI Bottle-Shaped Struts w/ Steel
- (2) ACI Bottle-Shaped Struts w/o Steel
- (3) ACI Struts in Tension Members
- (4) ACI Struts for All Other Cases

NOTATION FOR USER-DEFINED/GENERAL STRUT EQUATIONS:

- (0) User-Defined
- (1) Nielsen (1978)
- (2) Ramirez & Breen (1983)
- (3) Marti (1985)
- (4) Schlaich (1987) Uncracked Strut
- (5) Schlaich (1987) Strut w/ Reinf/Tensile Strain Perp to Its Axis
- (6) Schlaich (1987) Strut w/ Skew Reinf/Tensile Strain to Its Axis
- (7) Schlaich (1987) Strut w/ Severe Crack Width
- (8) MacGregor (1997) Uncracked Strut
- (9) MacGregor (1997) Cracked Strut w/ Transv Steel
- (10) MacGregor (1997) Cracked Strut w/o Transv Steel
- (11) MacGregor (1997) Strut in Tension Zone

S T R U T - A N D - T I E P R O P E R T Y A S S I G N M E N T S :

LOAD CONDITION: LC1

ELEMENTS:

ELEMENT ID	PROPERTY TYPE	RELATIVE STIFFNESS
E1	(Not Yet Assigned)	1.000
E2	CStrut	1.000
E3	CStrut	1.000
E4	(Not Yet Assigned)	1.000
E5	CStrut	1.000
E6	(Not Yet Assigned)	1.000
E7	CStrut	1.000
E8	(Not Yet Assigned)	1.000
E9	CStrut	1.000
E10	(Not Yet Assigned)	1.000
E11	(Not Yet Assigned)	1.000
E12	(Not Yet Assigned)	1.000
E13	(Not Yet Assigned)	1.000
E14	(Not Yet Assigned)	1.000
E15	(Not Yet Assigned)	1.000
E16	(Not Yet Assigned)	1.000
E17	CStrut	1.000
E18	CStrut	1.000
E19	CStrut	1.000
E20	CStrut	1.000

ELEMENT ID	PROPERTY TYPE	RELATIVE STIFFNESS
E21	(Not Yet Assigned)	1.000
E22	(Not Yet Assigned)	1.000

ELEMENT ID	PROVIDED WIDTH (mm)	THICKNESS SCALE FACTOR
E1	0.0	1.0
E2	429.4	1.0
E3	100.0	1.0
E4	0.0	1.0
E5	100.0	1.0
E6	0.0	1.0
E7	100.0	1.0
E8	0.0	1.0
E9	80.0	1.0
E10	0.0	1.0
E11	0.0	1.0
E12	0.0	1.0
E13	0.0	1.0
E14	0.0	1.0
E15	0.0	1.0
E16	0.0	1.0
E17	205.5	1.0
E18	192.3	1.0
E19	100.0	1.0
E20	700.0	1.0
E21	0.0	1.0
E22	0.0	1.0

S T R U C T U R E ' S B O U N D A R Y C O N D I T I O N S :

LOAD CONDITION: LC1

BEARING PLATES:

NODE ID	LENGTH (mm)	WIDTH (mm)	THICKNESS (mm)
N1	400.0	250.0	10.0
N12	300.0	200.0	10.0

BOUNDARY FORCES OR SUPPORTS:

NODE ID	LOAD (kN)	SUPPORT	DIRECTION (deg.)
N1	-1457.3	-	360.00
N12	344.9	-	0.00
N13	-	YES	180.00
N14	-	YES	180.00
N15	-	YES	270.00

SIGN CONVENTION:

(+) Force pointing away from the node
 (-) Force pointing toward the node
 Zero force = free node/no support

STRUCTURE ' S B O D Y F O R C E S O R S U P P O R T S :

LOAD CONDITION: LC1

NODE ID	1-DIRECTION		LOCAL AXIS DIRECTION (deg.)
	FORCE (kN)	SUPPORT	
N1	0.0	-	0.00
N2	0.0	-	0.00
N3	0.0	-	0.00
N4	0.0	-	0.00
N5	0.0	-	0.00
N6	0.0	-	0.00
N7	0.0	-	0.00
N8	0.0	-	0.00
N9	0.0	-	0.00
N10	0.0	-	0.00
N11	0.0	-	0.00
N12	0.0	-	0.00
N13	0.0	-	0.00
N14	0.0	-	0.00
N15	0.0	-	0.00

NODE ID	2-DIRECTION		LOCAL AXIS DIRECTION (deg.)
	FORCE (kN)	SUPPORT	
N1	0.0	-	90.00
N2	0.0	-	90.00
N3	0.0	-	90.00
N4	0.0	-	90.00
N5	0.0	-	90.00
N6	0.0	-	90.00
N7	0.0	-	90.00
N8	0.0	-	90.00
N9	0.0	-	90.00
N10	0.0	-	90.00
N11	0.0	-	90.00
N12	0.0	-	90.00
N13	0.0	-	90.00
N14	0.0	-	90.00
N15	0.0	-	90.00

SIGN CONVENTION:

(+) Force pointing away from the node

(-) Force pointing toward the node

Zero force = free node/no support

DESIGN C A L C U L A T I O N R E S U L T S :

LOAD CONDITION: LC1

ELEMENTS:

ELEMENT ID	FORCE	STRESS	STRESS LIMIT/YIELD	FORCE
	(kN)	(MPa)	(MPa)	
E1	-1457.3	NA	NA	
E2	-1866.2	10.87	12.00	-
E3	-287.1	7.18	12.00	-
E4	287.1	NA	NA	

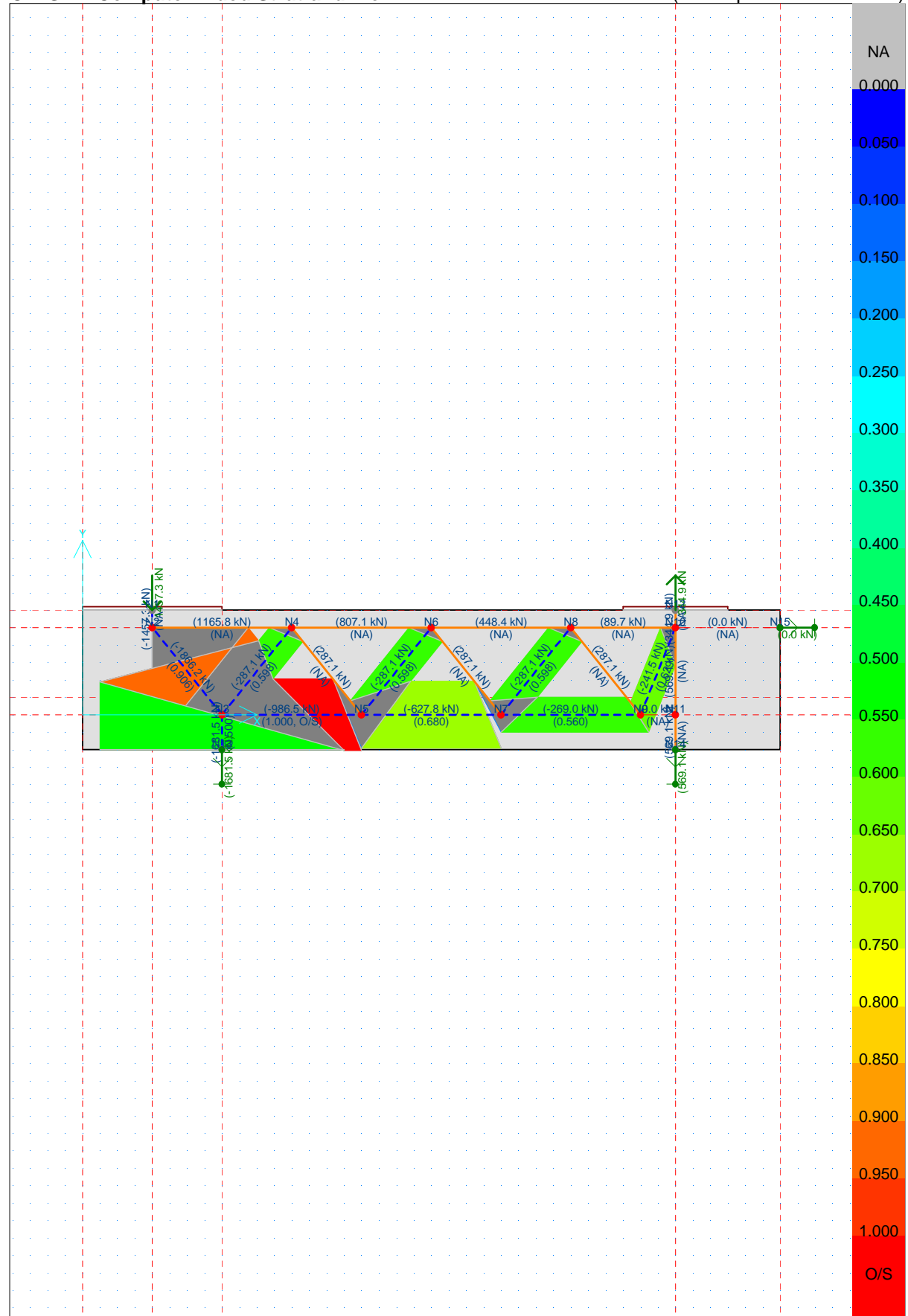
ELEMENT ID	FORCE (kN)	STRESS (MPa)	STRESS LIMIT/YIELD (MPa)	FORCE (kN)
E5	-287.1	7.18	12.00	-
E6	287.1	NA	NA	
E7	-287.1	7.18	12.00	-
E8	287.1	NA	NA	
E9	-241.5	7.55	12.00	-
E10	0.0	NA	NA	
E11	569.1	NA	NA	
E12	344.9	NA	NA	
E13	89.7	NA	NA	
E14	448.4	NA	NA	
E15	807.1	NA	NA	
E16	1165.8	NA	NA	
E17	-986.5	12.00	12.00	-
E18	-627.8	8.16	12.00	-
E19	-269.0	6.73	12.00	-
E20	-1681.5	6.01	12.00	-
E21	569.1	NA	NA	
E22	0.0	NA	NA	

ELEMENT ID	STRESS RATIO	f'c RATIO	Beta RATIO
E1	NA	NA	NA
E2	0.906	0.543	1.065
E3	0.598	0.359	0.704
E4	NA	NA	NA
E5	0.598	0.359	0.704
E6	NA	NA	NA
E7	0.598	0.359	0.704
E8	NA	NA	NA
E9	0.629	0.377	0.740
E10	NA	NA	NA
E11	NA	NA	NA
E12	NA	NA	NA
E13	NA	NA	NA
E14	NA	NA	NA
E15	NA	NA	NA
E16	NA	NA	NA
E17	1.000	0.600	1.176
E18	0.680	0.408	0.800
E19	0.560	0.336	0.659
E20	0.500	0.300	0.589
E21	NA	NA	NA
E22	NA	NA	NA

NODES :

NODE ID	NODE FACE	FORCE (kN)	STRESS (MPa)	STRESS LIMIT (MPa)
N1	E1	-1457.3	NA	NA
N2	E1	-1457.3	NA	NA
	E2	-1866.2	10.87	NA
	E16	1165.8	NA	NA
N3	E2	-1866.2	10.87	NA
	E3	-287.1	7.18	NA
	E17	-986.5	12.00	NA

NODE ID	NODE FACE	FORCE (kN)	STRESS (MPa)	STRESS LIMIT (MPa)
	E20	-1681.5	6.01	NA
N4	E3	-287.1	7.18	NA
	E4	287.1	NA	NA
	E15	807.1	NA	NA
	E16	1165.8	NA	NA
N5	E4	287.1	NA	NA
	E5	-287.1	7.18	NA
	E17	-986.5	12.00	NA
	E18	-627.8	8.16	NA
N6	E5	-287.1	7.18	NA
	E6	287.1	NA	NA
	E14	448.4	NA	NA
	E15	807.1	NA	NA
N7	E6	287.1	NA	NA
	E7	-287.1	7.18	NA
	E18	-627.8	8.16	NA
	E19	-269.0	6.73	NA
N8	E7	-287.1	7.18	NA
	E8	287.1	NA	NA
	E13	89.7	NA	NA
	E14	448.4	NA	NA
N9	E8	287.1	NA	NA
	E9	-241.5	7.55	NA
	E10	0.0	NA	NA
	E19	-269.0	6.73	NA
N10	E9	-241.5	7.55	NA
	E11	569.1	NA	NA
	E12	344.9	NA	NA
	E13	89.7	NA	NA
	E22	0.0	NA	NA
N11	E10	0.0	NA	NA
	E11	569.1	NA	NA
	E21	569.1	NA	NA
N12	E12	344.9	NA	NA
N13	E20	-1681.5	6.01	NA
N14	E21	569.1	NA	NA
N15	E22	0.0	NA	NA



CÁLCULO DE LA PLACAS DE VOLADIZO

CÁLCULO PLACAS DE VOLADIZO

Ampliación avda. Alcalde Caballero

1. - Geometría

Long. Vuelo (m):	3,100
Long. Vano (m):	2,950
Long. Total (m):	6,050
Espesor (m):	0,250
Ancho acera (m):	4,600
Zapata	
Ancho (m)	0,700
Canto (m):	0,400
Contrapeso	
Ancho (m)	1,000
Canto (m):	1,300

2. - Acciones

Cargas permanentes	
Acera (kN/m ²)	5,000
Pavimento (kN/m ²)	1,200
Barandilla (kN/m):	6,000
S.C. Uso	
Acera (kN/m ²)	5,000
Calzada (kN/m ²)	20,000

3. - Coeficientes de seguridad

Comprobaciones de equilibrio	P.P. + C.P.	S.C. Uso
Favorable	0,900	0,000
Desfavorable	1,100	1,350
Comprobaciones resistentes	P.P. + C.P.	S.C. Uso
Favorable	1,000	0,000
Desfavorable	1,350	1,350
Comprobaciones en servicio	P.P. + C.P.	S.C. Uso
Favorable	1,000	0,000
Desfavorable	1,000	1,000
Coeficiente Chi ²		0,000

4. - Comprobación del ELU de equilibrio

	Momentos (kN.m/m)	
	Volcadores	Estabilizadores
P.P. Placa	33,034	24,476
P.P. Contrapeso	0,000	86,288
C.P. Acera	26,428	5,063
C.P. Barandilla	20,460	0,000
C.P. Pavimento	0,000	3,484
S.C. Uso voladizo	32,434	0,000
total	112,356	119,310

5. - Comprobación del ELU de agotamiento

	Momentos (kN/m/m)	Cortantes (kN/m)
P.P. Placa	40,542	26,156
C.P. Acera	32,434	20,925
C.P. Barandilla	25,110	8,100
S.C. Uso voladizo	32,434	20,925
total...	130,520	76,106

Cargas totales (P.P. + C.P. + S.C. Uso) mayoradas

Sobre acera (kN/m ²)	21,938
Sobre calzada (kN/m ²)	37,058
Sobre borde (kN/m)	8,100
carga total (kN/m)	162,746

6. - Comprobación del ELS de fisuración

	Momentos (kN/m/m)
P.P. Placa	30,031
C.P. Acera	24,025
C.P. Barandilla	18,600
S.C. Uso voladizo	0,000
total...	72,656

7. - Comprobación de la tensión en apoyo de riostra

Cargas totales (P.P. + C.P. + S.C. Uso) sin mayorar

Sobre acera (kN/m ²)	16,250
Sobre calzada (kN/m ²)	27,450
Sobre borde (kN/m)	6,000
carga total (kN/m)	120,553

Carga s/ riostra (kN/m)

117,110

Carga s/ contrapeso (kN/m)

3,443

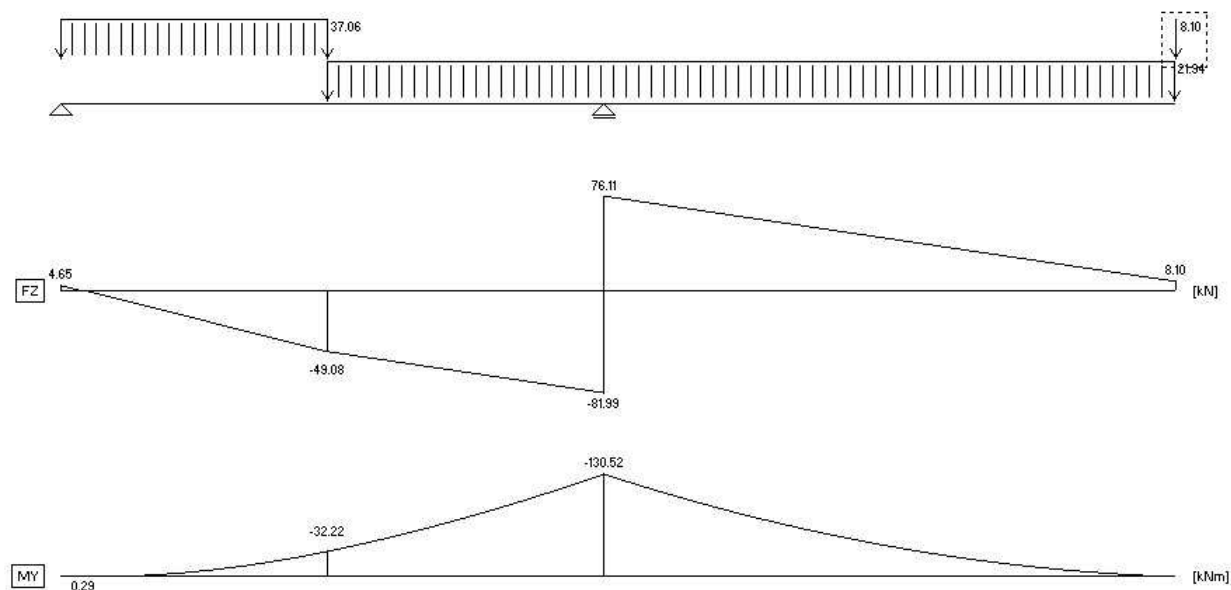
Reacción s/ terreno (kN/m)

124,110

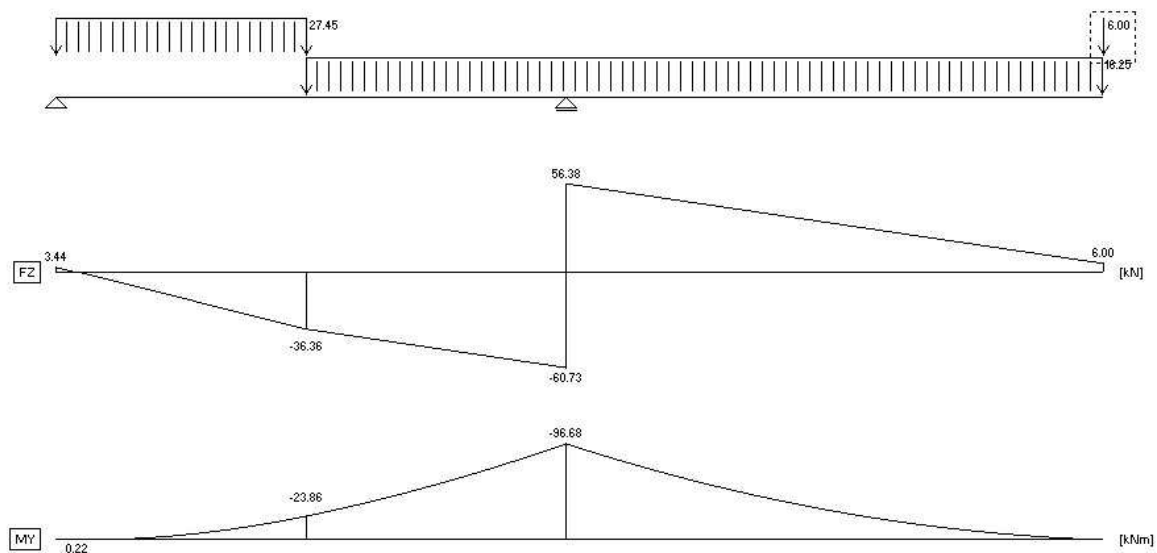
Tensión terreno (kN/m²)

177,300

Placas de voladizo: esfuerzos en ELU (agotamiento frente a flexión y cortante):



Placas de voladizo; esfuerzos en ELS (cargas máximas transmitidas a la zapata de apoyo):





PRONTUARIO INFORMÁTICO DEL HORMIGÓN ESTRUCTURAL 3.1.5 SEGÚN EHE-08

Cátedra de Hormigón Estructural ETSICCPM - IECA

Obra: Ampliación avda. Alcalde Caballero, placas de voladizo
Fecha: 18/12/2013
Hora: 13:42:21

Dimensionamiento de secciones a flexión simple

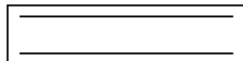
1 Datos

- Materiales

Tipo de hormigón : HA-35_PLACAS
Tipo de acero : B-500-S_PLACAS
fck [MPa] = 35.00
fyk [MPa] = 500.00
 γ_c = 1.40
 γ_s = 1.10

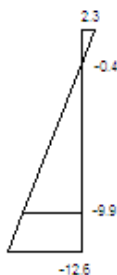
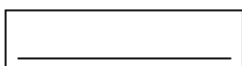
- Sección

Sección : VOLADIZO
b [m] = 1.00
h [m] = 0.25
ri [m] = 0.045
rs [m] = 0.045



2 Dimensionamiento

Md [kN·m] = 130.52



Plano de deformación de agotamiento

x [m] = 0.039
1/r [1/m] · 1.E-3 = 59.7

$$\begin{aligned}\epsilon_s \cdot 1.E-3 &= 2.3 \\ \epsilon_i \cdot 1.E-3 &= -12.6\end{aligned}$$

Deformación y tensión de armaduras

Profundidad [m]	Armadura [cm ²]	Deformación ·1.E ⁻³	Tensión [MPa]
0.045	0.0	-0.4	0.0
0.205	15.1	-9.9	454.5

$$At_{est} [cm^2] = 15.1$$

ϕ [mm]	12	14	16	20	25
n° ϕ	14	10	8	5	4
n° capas	1	1	1	1	1
At [cm ²]	15.8	15.4	16.1	15.7	19.6
wk [mm]	0.27	0.30	0.31	0.38	0.33



PRONTUARIO INFORMÁTICO DEL HORMIGÓN ESTRUCTURAL 3.1.5 SEGÚN EHE-08

Cátedra de Hormigón Estructural ETSICCPM - IECA

Obra: Ampliación avda. Alcalde Caballero, placas de voladizo
Fecha: 18/12/2013
Hora: 13:44:14

Cálculo de secciones a cortante

1 Datos

- Materiales

Tipo de hormigón : HA-35_PLACAS
Tipo de acero : B-500-S_PLACAS
fck [MPa] = 35.00
fyk [MPa] = 500.00
 γ_c = 1.40
 γ_s = 1.10

- Control del hormigón

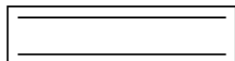
Control normal

- Tipo de elemento estructural

Tipo : elemento sin armadura a cortante

- Sección

Sección : VOLADIZO
b0 [m] = 1.00
h [m] = 0.25



2 Comprobación

ρ_l [$\cdot 10^{-3}$] = 5
Nd [kN] = 0.0
Vu [kN] = 179.3



PRONTUARIO INFORMÁTICO DEL HORMIGÓN ESTRUCTURAL 3.1.5 SEGÚN EHE-08

Cátedra de Hormigón Estructural ETSICCPM - IECA

Obra: Ampliación avda. Alcalde Caballero, placas de voladizo
Fecha: 18/12/2013
Hora: 13:46:44

Comprobación del Estado Límite de Servicio de fisuración debido a solicitaciones normales

1 Datos

- Materiales

Tipo de hormigón: HA-35_PLACAS
Tipo de acero: B-500-S_PLACAS
fck [MPa] = 35.00
fyk [MPa] = 500.00

- Ambiente

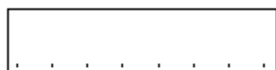
Clase general de exposición : IIa
Clases específicas de exposición :

- Geometría de la sección

Sección : VOLADIZO
b [m] = 1.00
h [m] = 0.25

- Armado de la sección

ϕ [mm] = 16



capa	nº barras	Separación [mm]
1	8	38.0

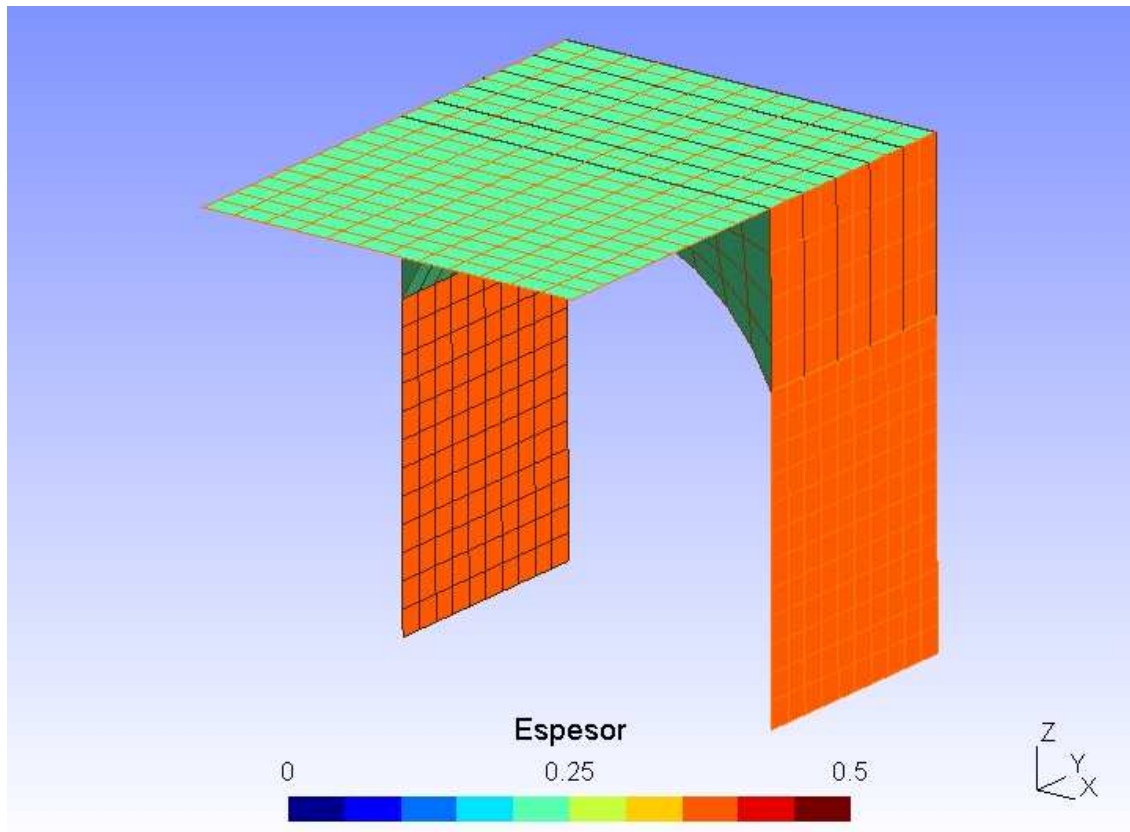
As [cm²] = 16.1
Ac,ef [cm²] = 625.0

2 Resultados

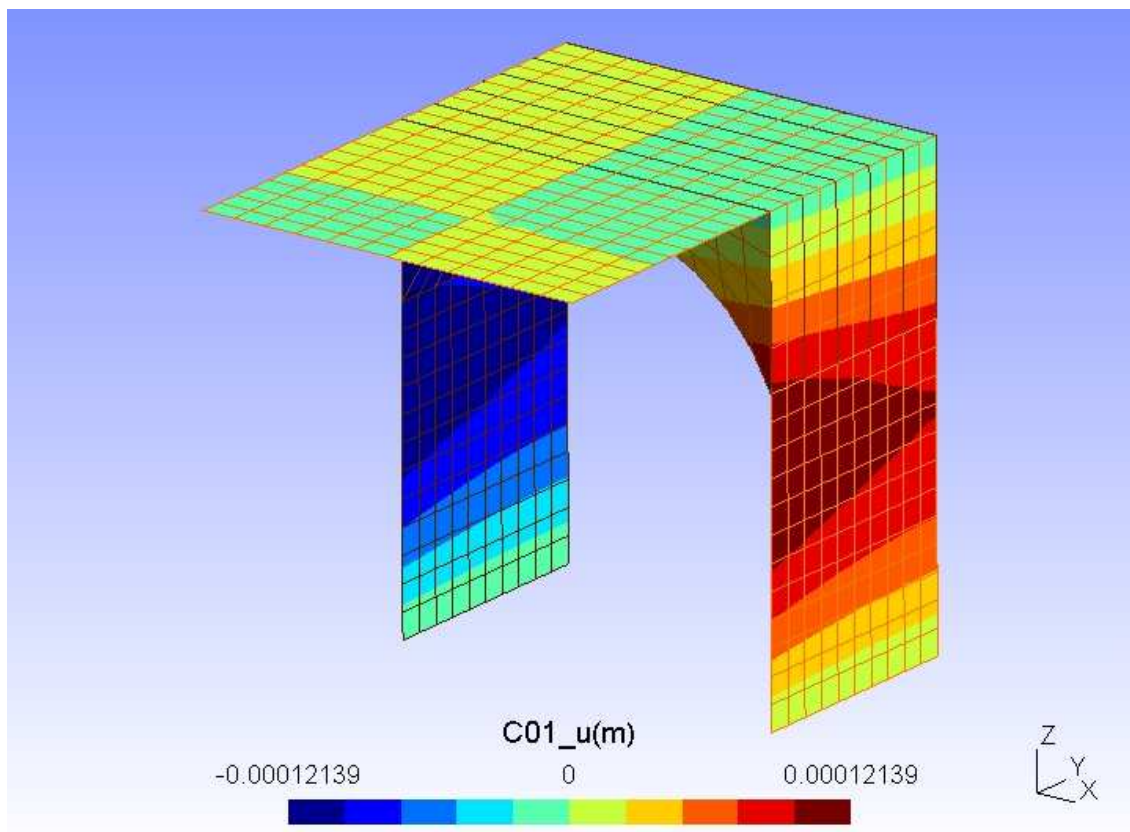
M_k [kN·m] = 72.656
 Separación media entre fisuras s_m [mm] = 118.0
 Deformación media de las armaduras ϵ_{sm} [.1.E-3] = 0.90
 Tensión en las armaduras en el instante de fisuración σ_{sr} [MPa] = 158.9
 Tensión en las armaduras en servicio σ_s [MPa] = 234.3
 Abertura característica de fisura w_k [mm] = 0.18

Clase de exposición	w_k max [mm]	
	Armado	Pretensado
I	0.4	0.2
IIa, IIb, H	0.3	0.2
IIIa, IIIb, IV, F	0.2	Decompresión
IIIc, Qa, Qb, Qc	0.1	

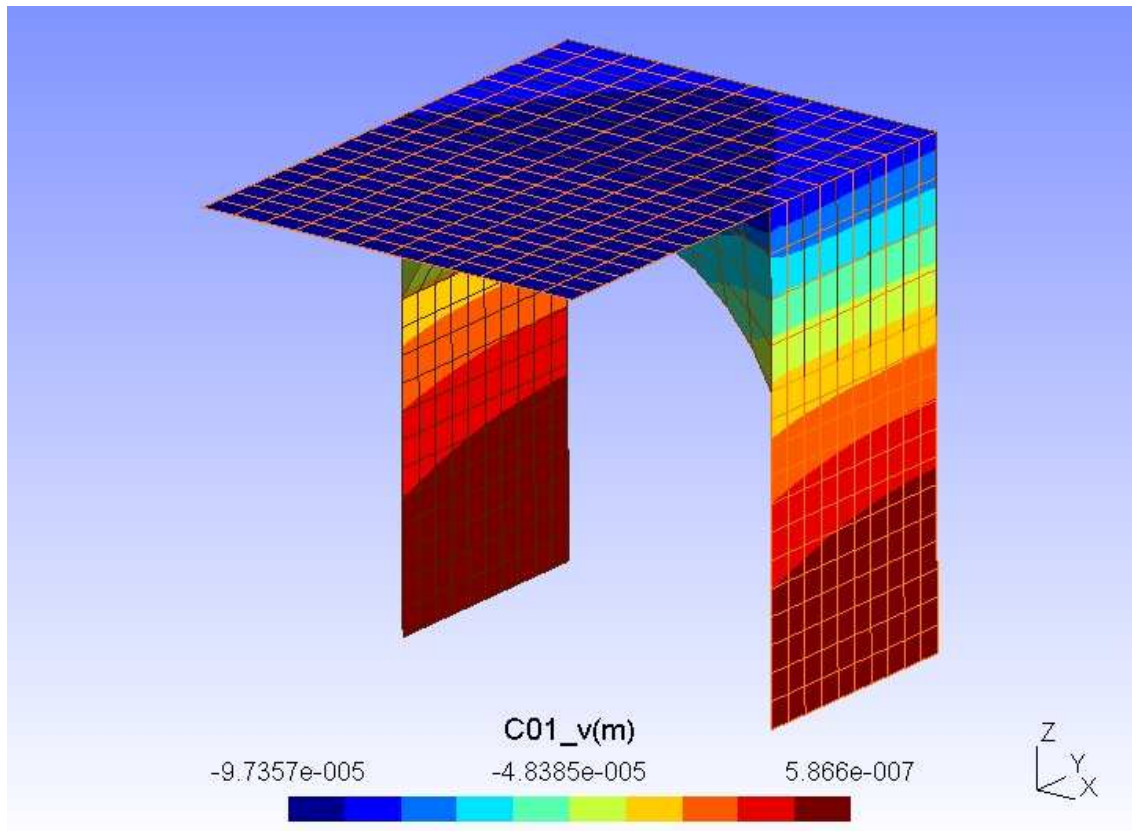
CÁLCULO DE LA REPOSICIÓN DE BÓVEDA PARA PASO INFERIOR



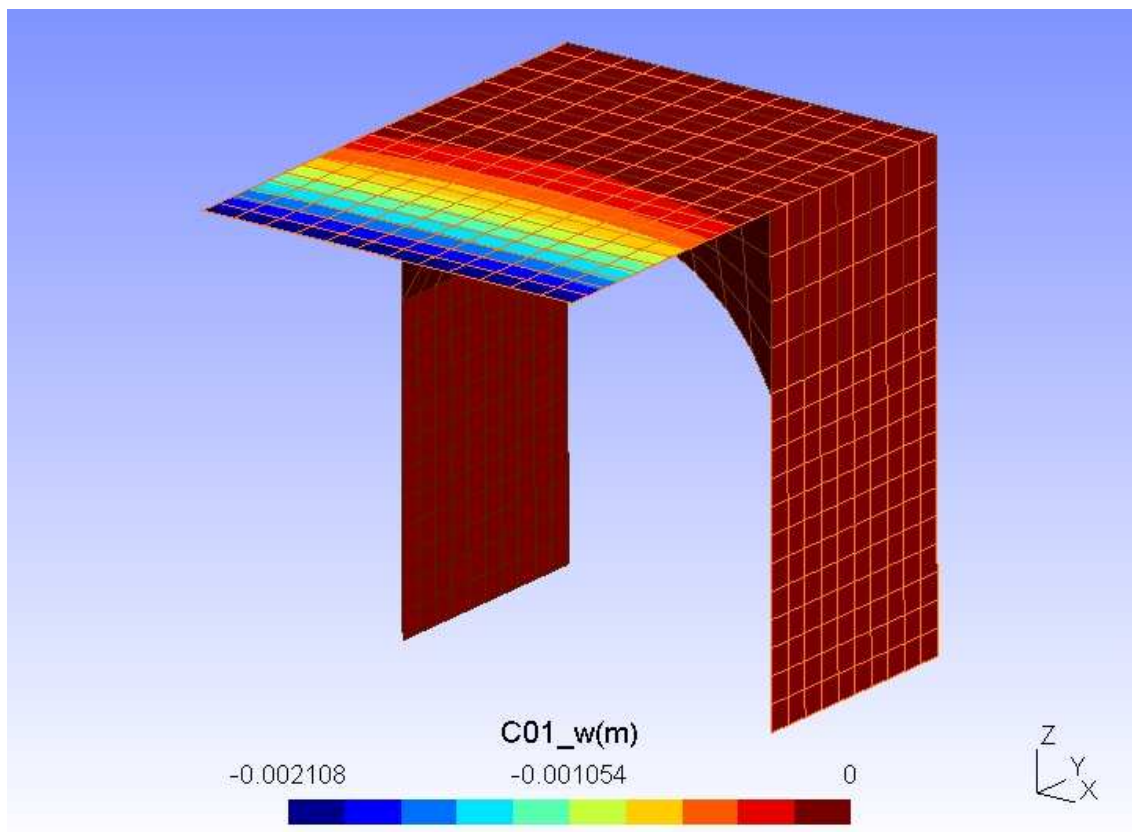
000-Espesores.jpg



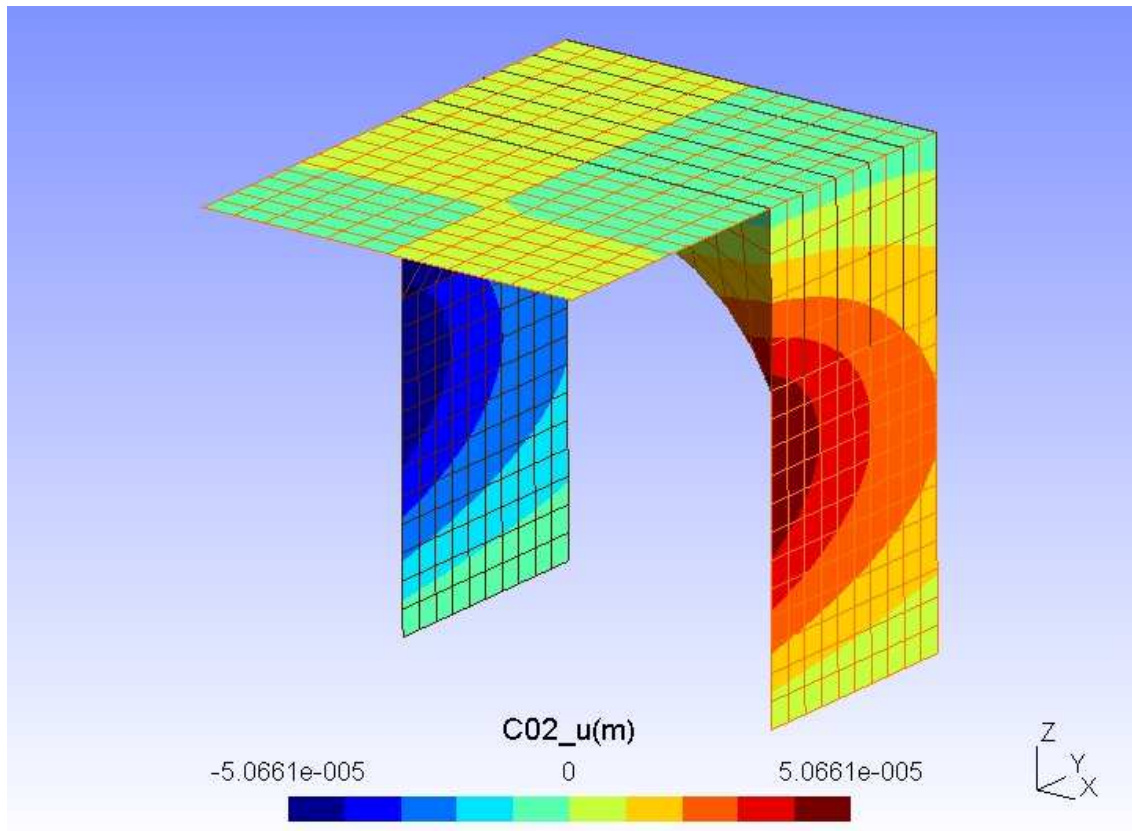
001-PESO PROPIO - Desplazamientos u(m).jpg



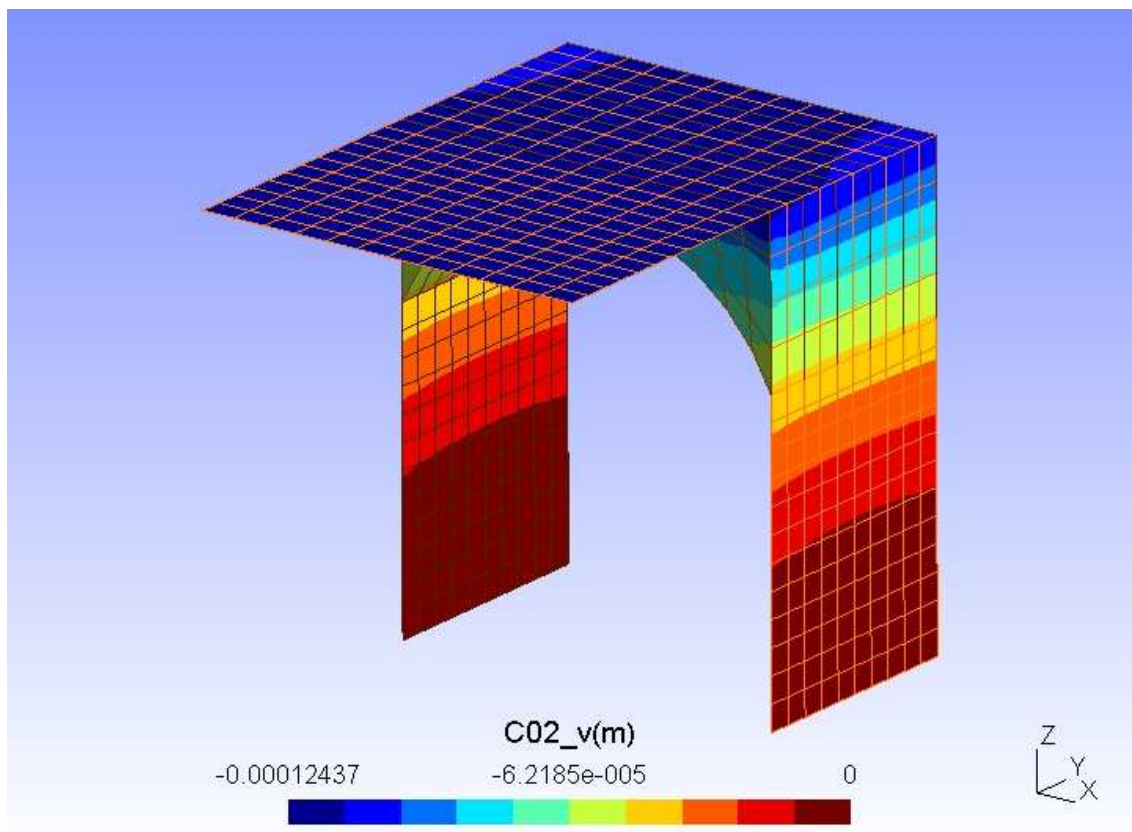
002-PESO PROPIO - Desplazamientos v(m).jpg



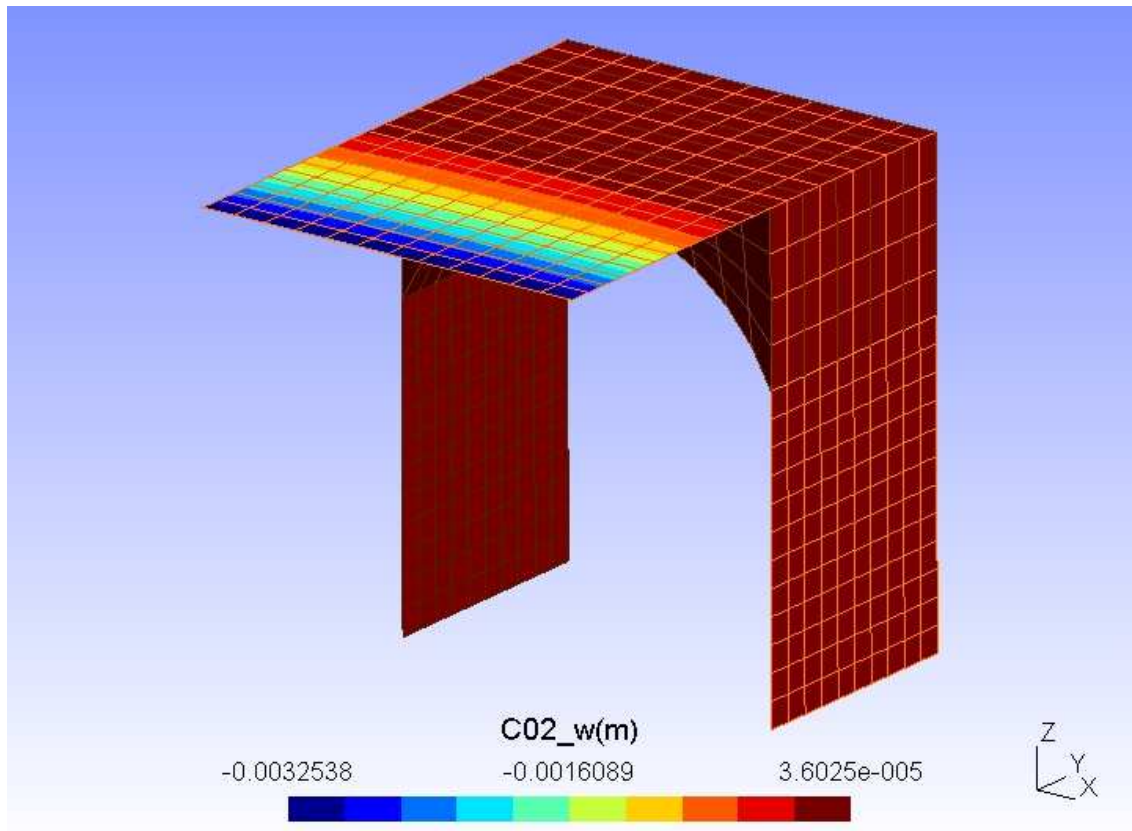
003-PESO PROPIO - Desplazamientos w(m).jpg



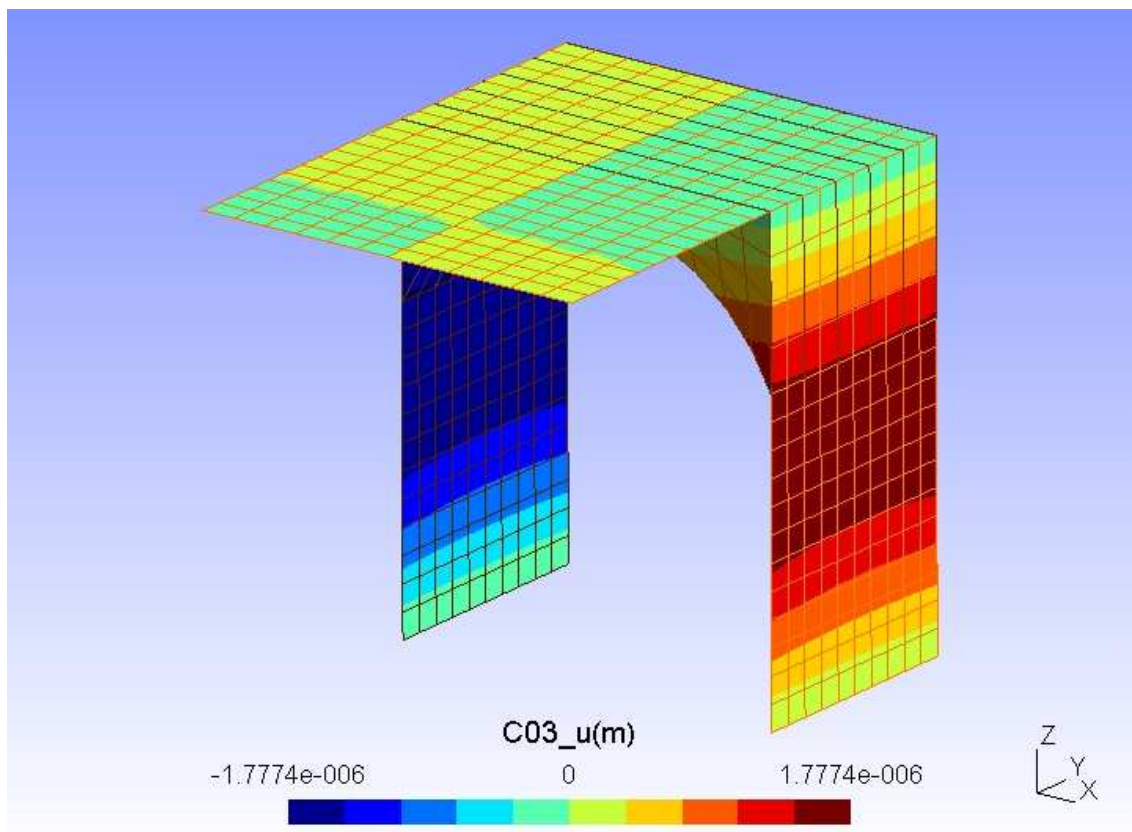
007-CARGA PERMANENTE - Desplazamientos $u(m)$.jpg



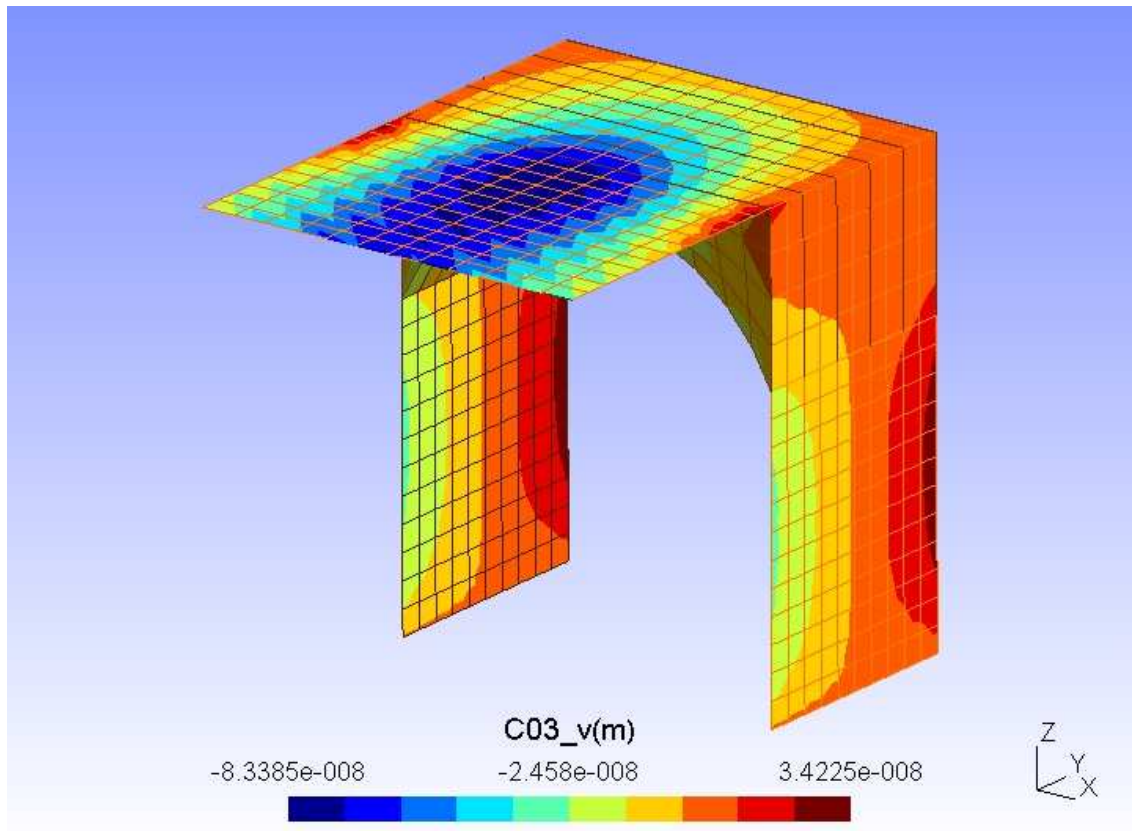
008-CARGA PERMANENTE - Desplazamientos $v(m)$.jpg



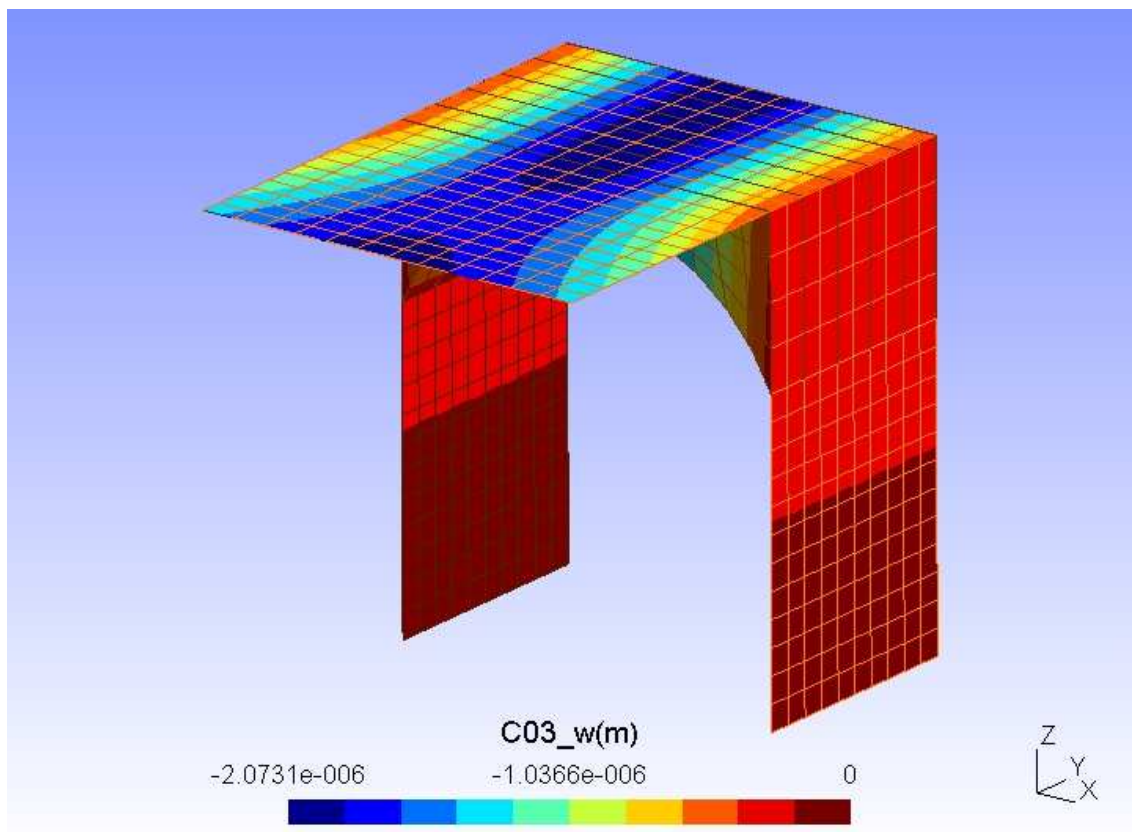
009-CARGA PERMANENTE - Desplazamientos $w(m)$.jpg



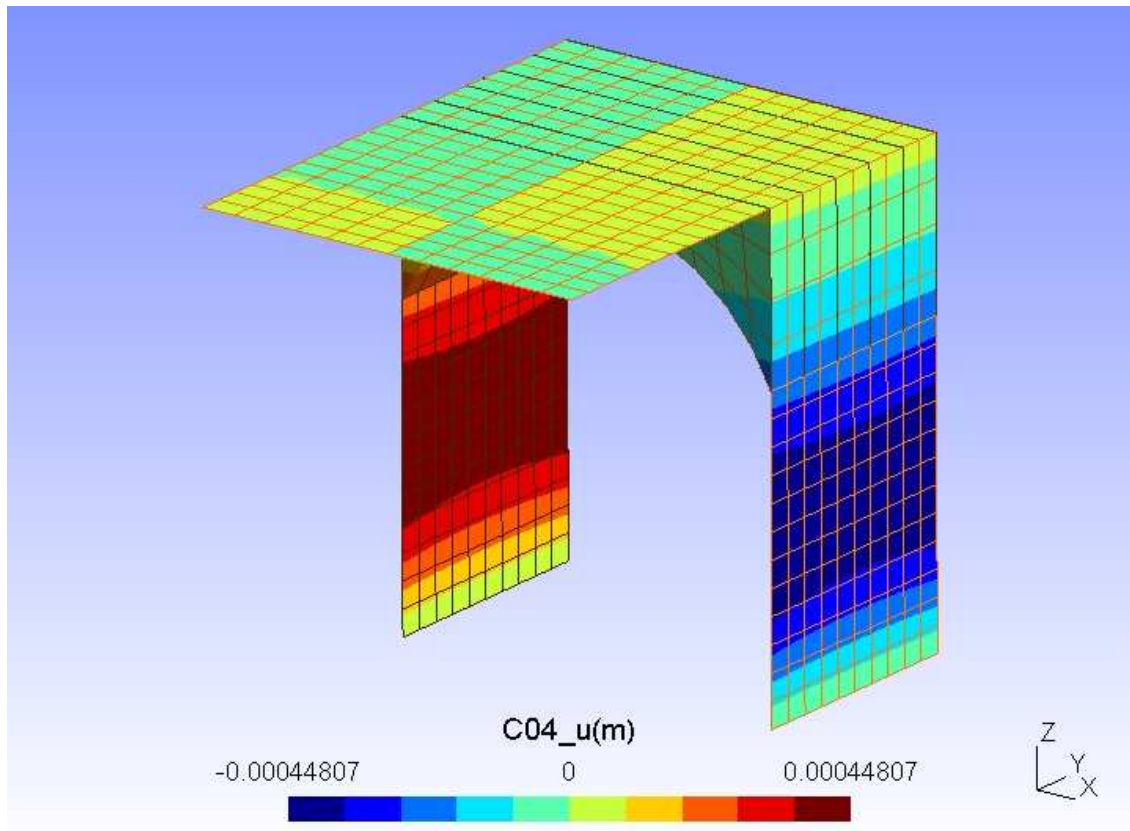
013-INC. PESO PAVIMENTO - Desplazamientos $u(m)$.jpg



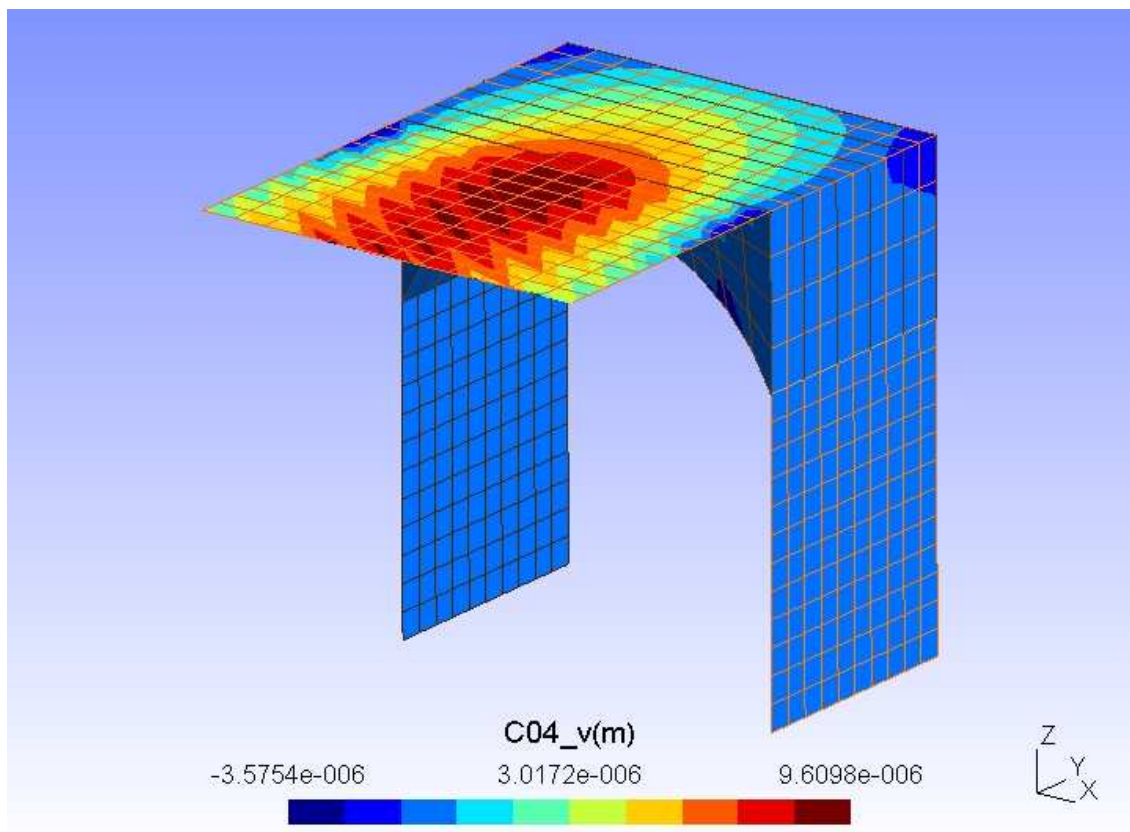
014-INC. PESO PAVIMENTO - Desplazamientos v(m).jpg



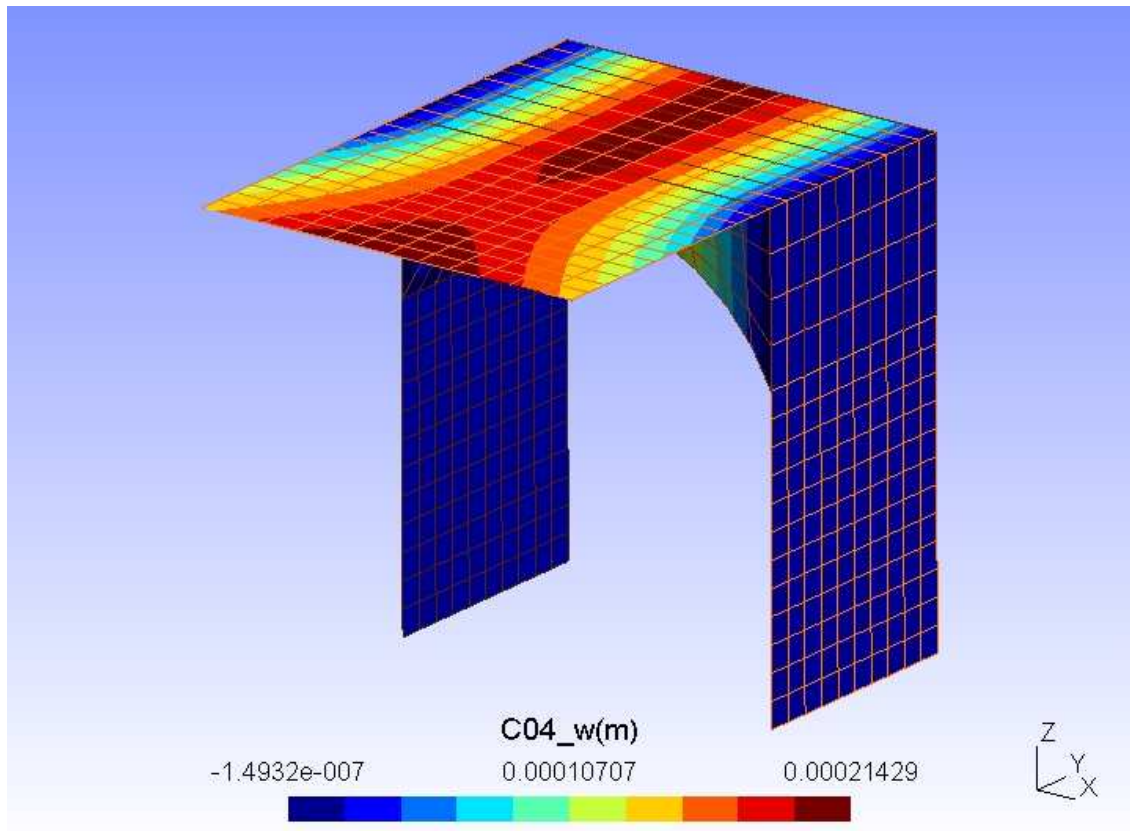
015-INC. PESO PAVIMENTO - Desplazamientos w(m).jpg



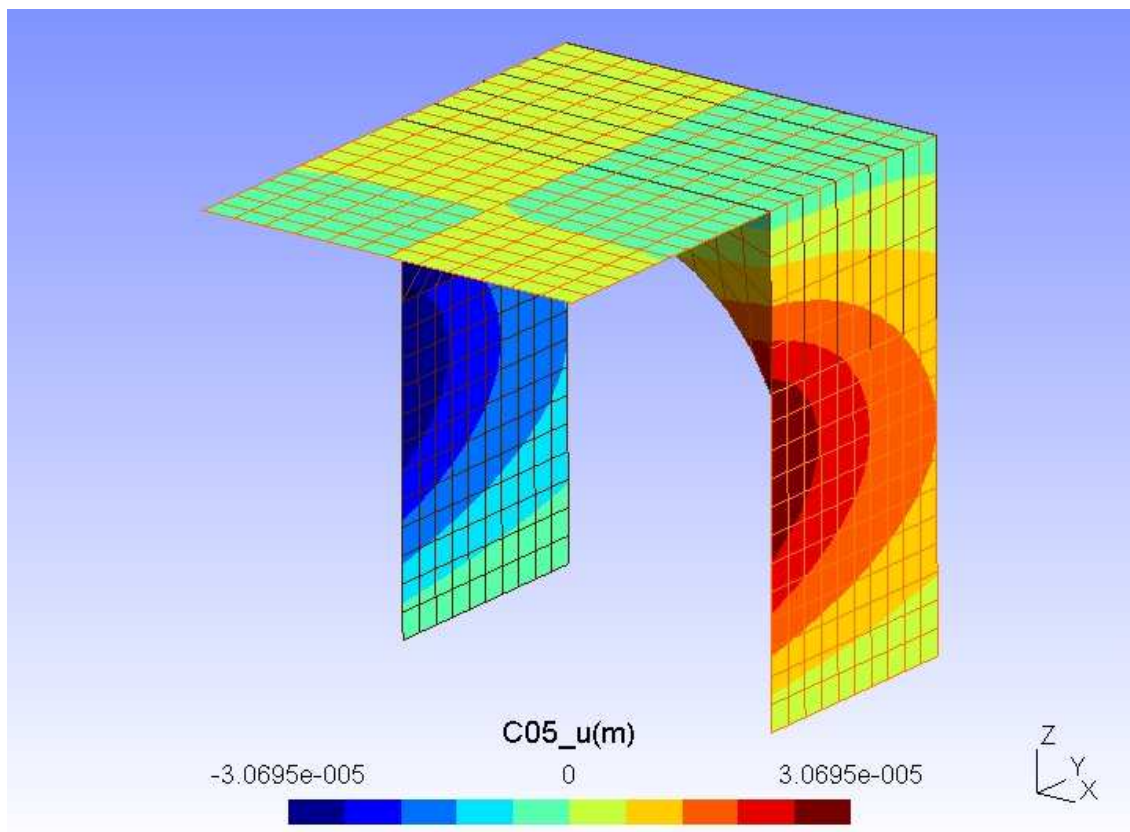
019-EMP. TIERRAS REPOSO - Desplazamientos $u(m)$.jpg



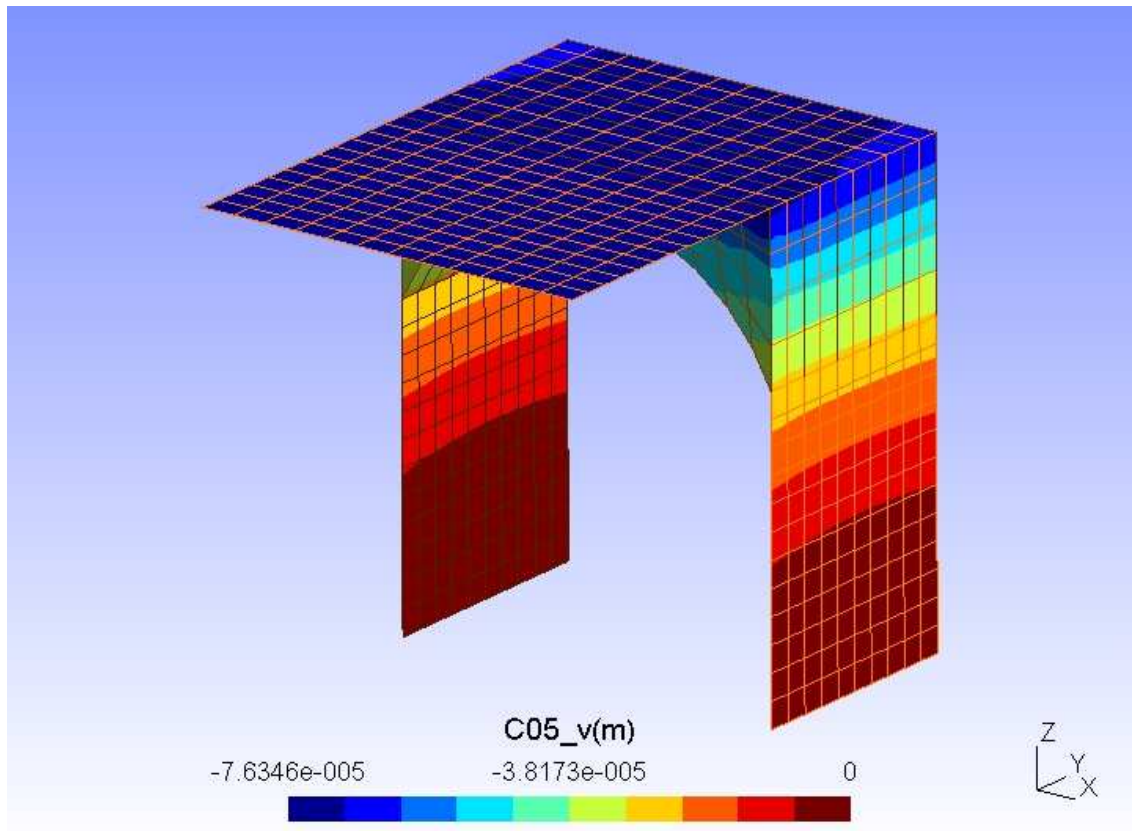
020-EMP. TIERRAS REPOSO - Desplazamientos $v(m)$.jpg



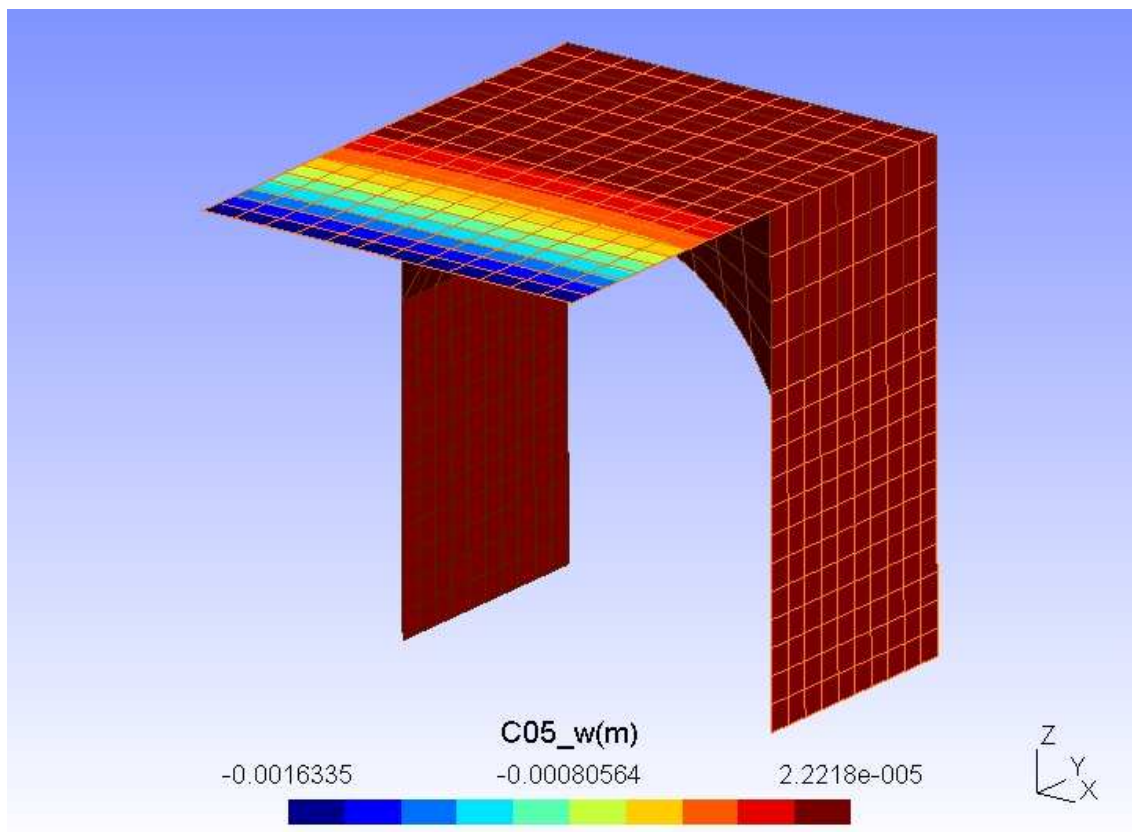
021-EMP. TIERRAS REPOSO - Desplazamientos w(m).jpg



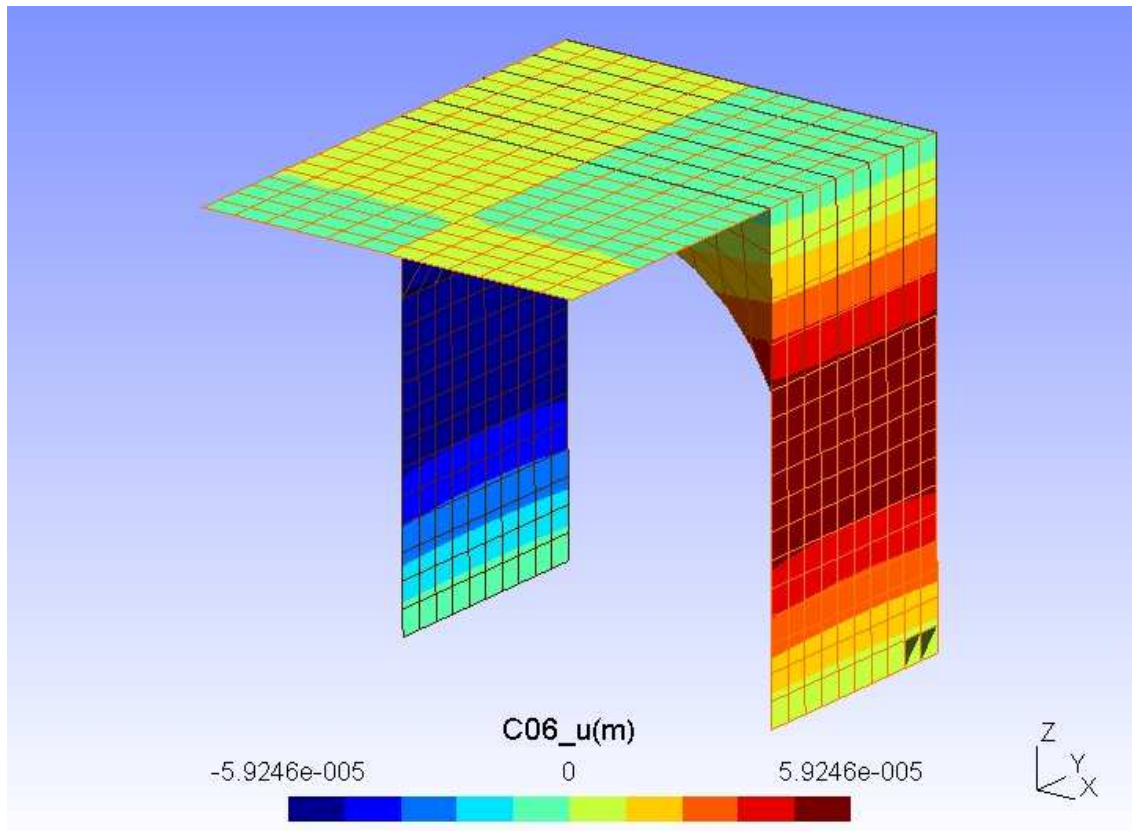
025-S.C. USO VOLADIZO - Desplazamientos u(m).jpg



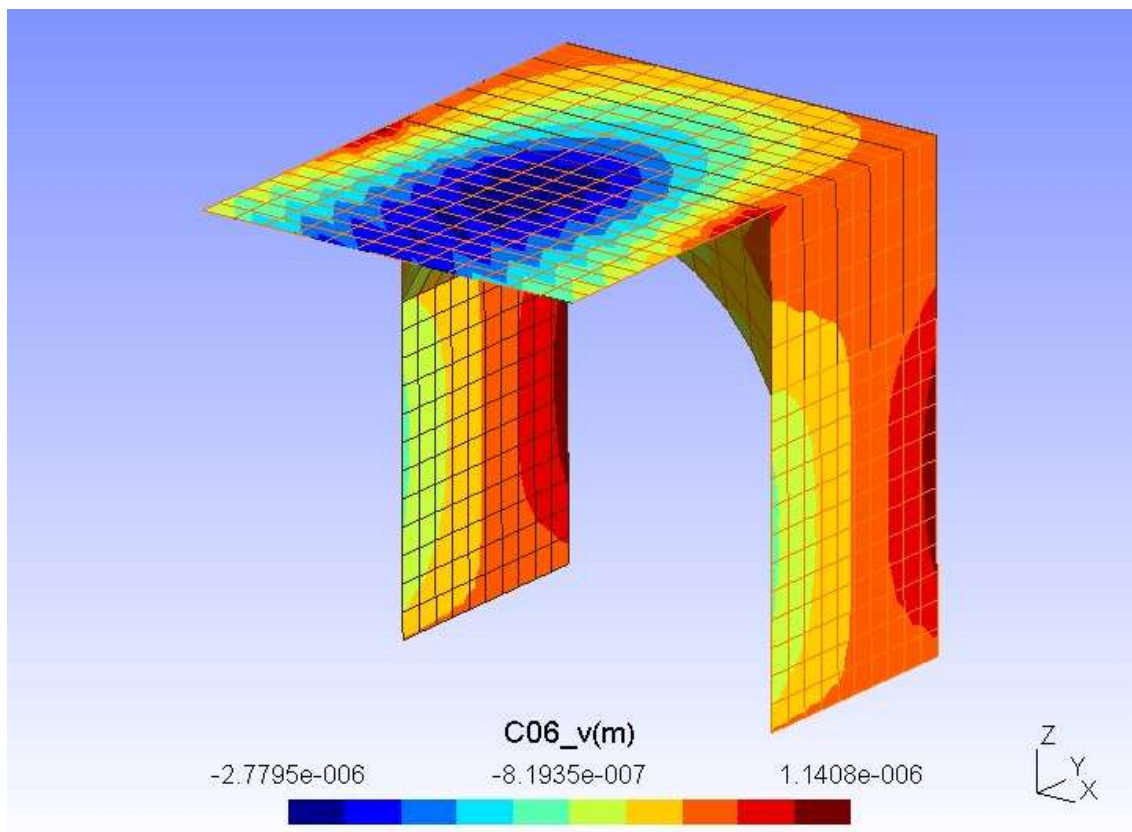
026-S.C. USO VOLADIZO - Desplazamientos $v(m)$.jpg



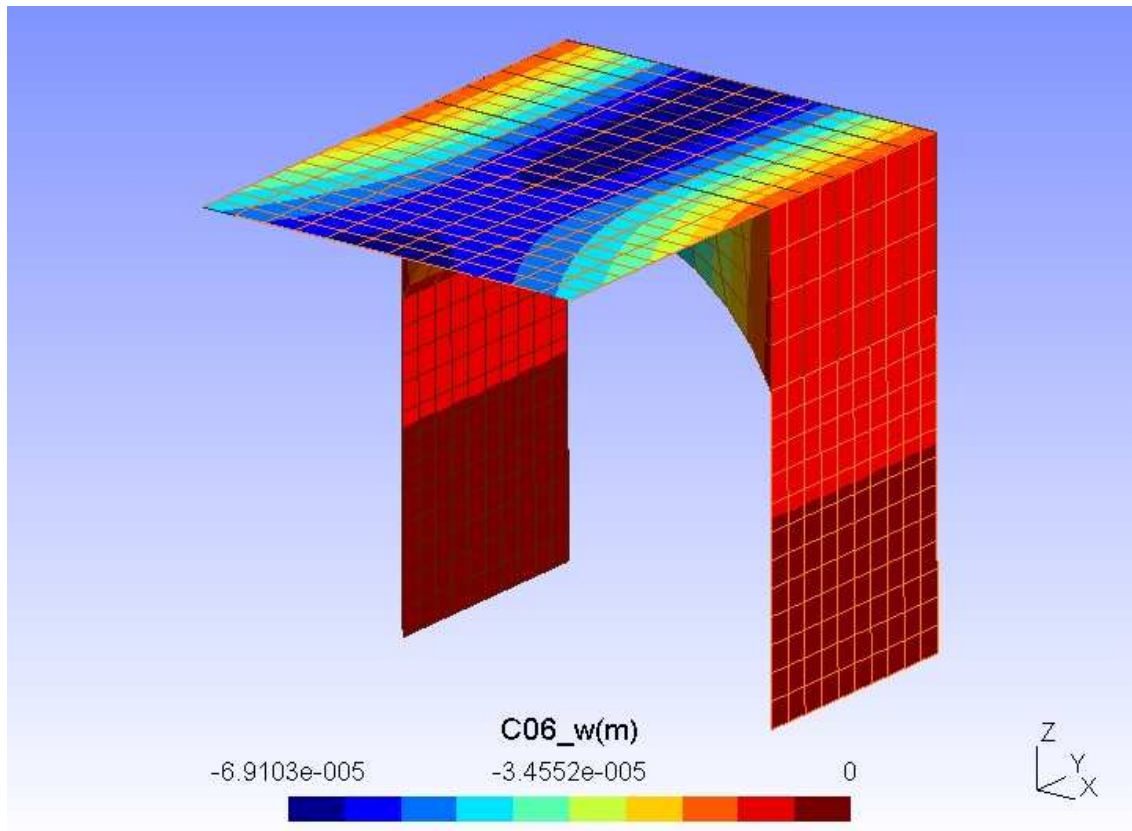
027-S.C. USO VOLADIZO - Desplazamientos $w(m)$.jpg



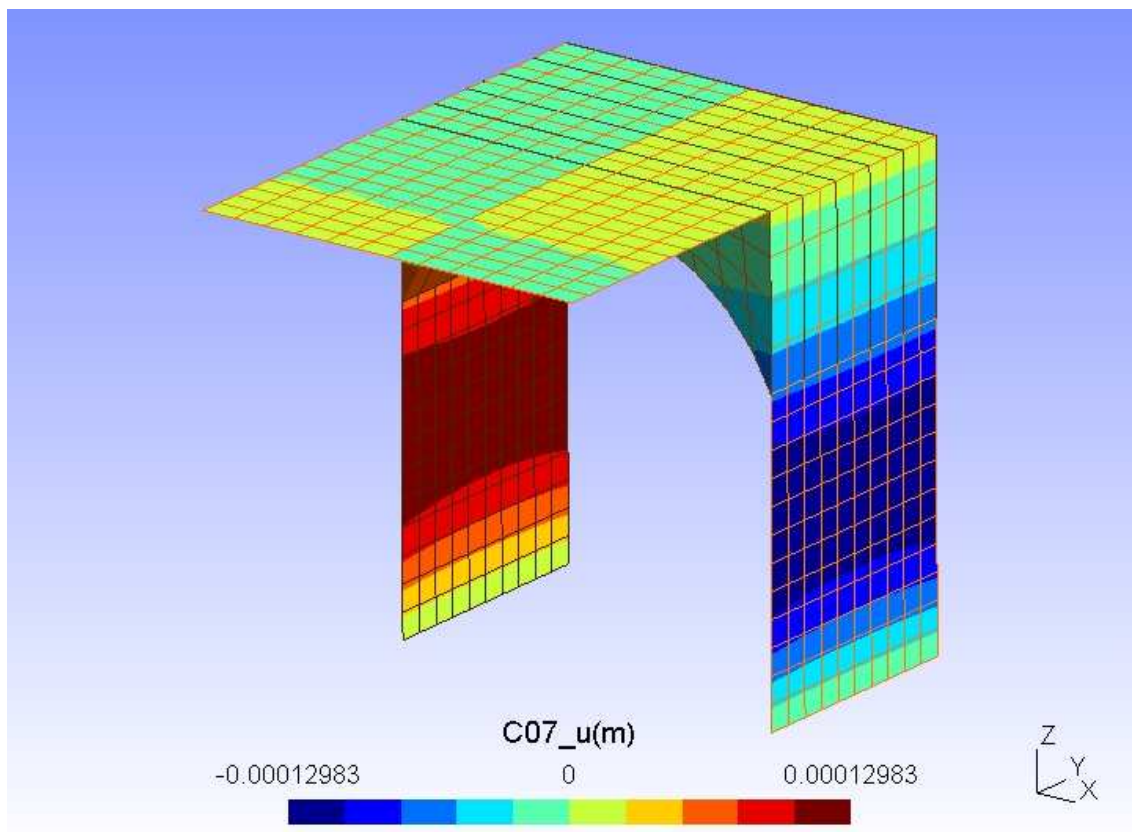
031-S.C. USO LOSA - Desplazamientos $u(m)$.jpg



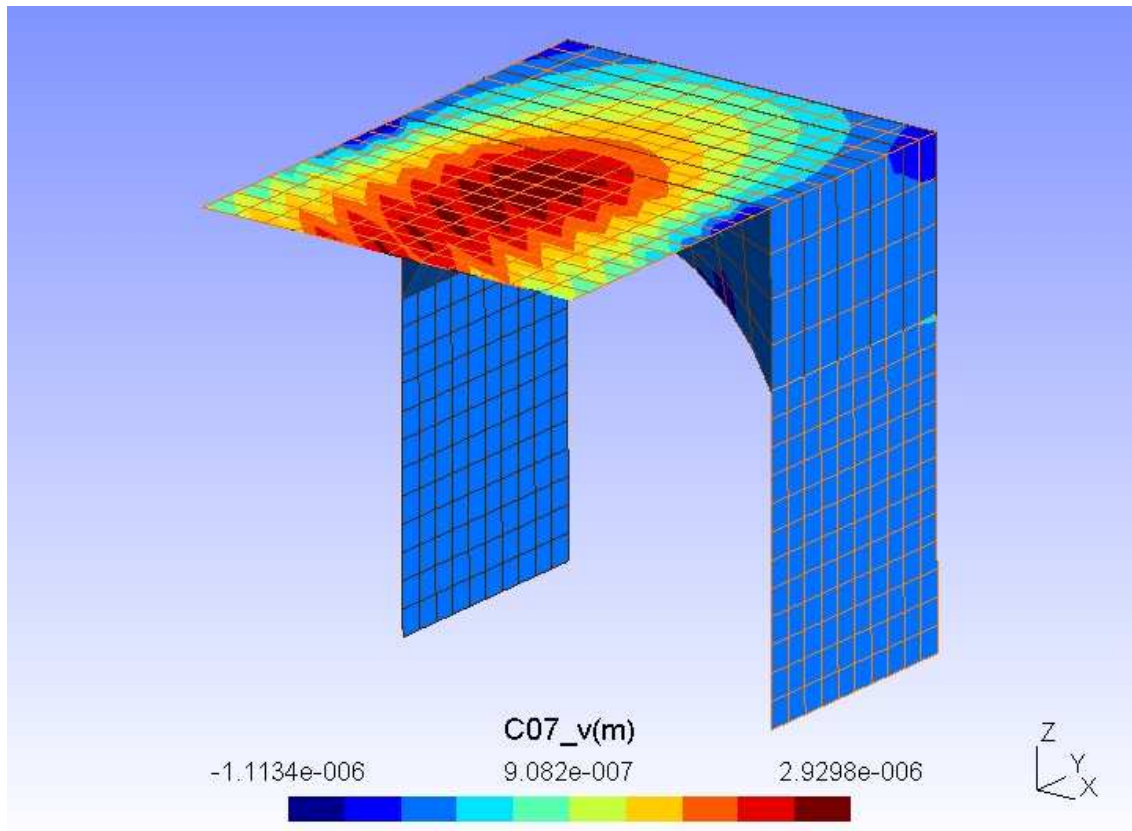
032-S.C. USO LOSA - Desplazamientos $v(m)$.jpg



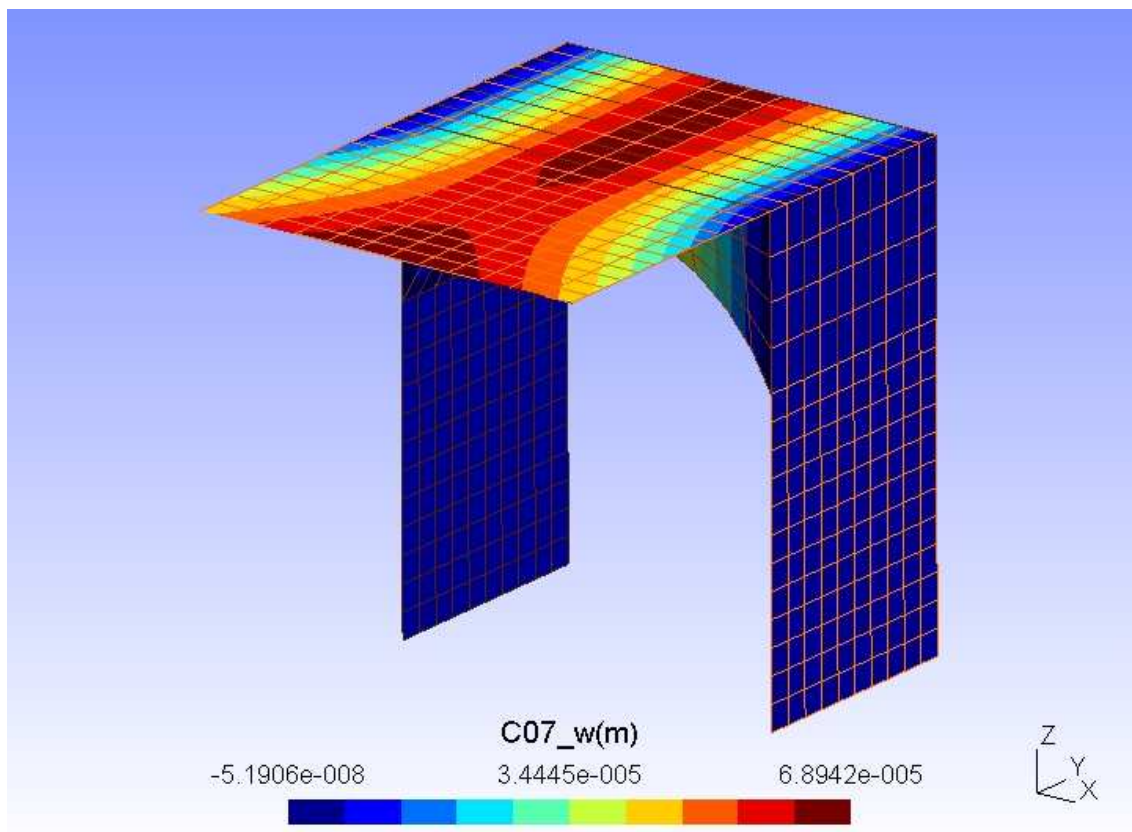
033-S.C. USO LOSA - Desplazamientos w(m).jpg



037-S.C. USO CALZADA - Desplazamientos u(m).jpg

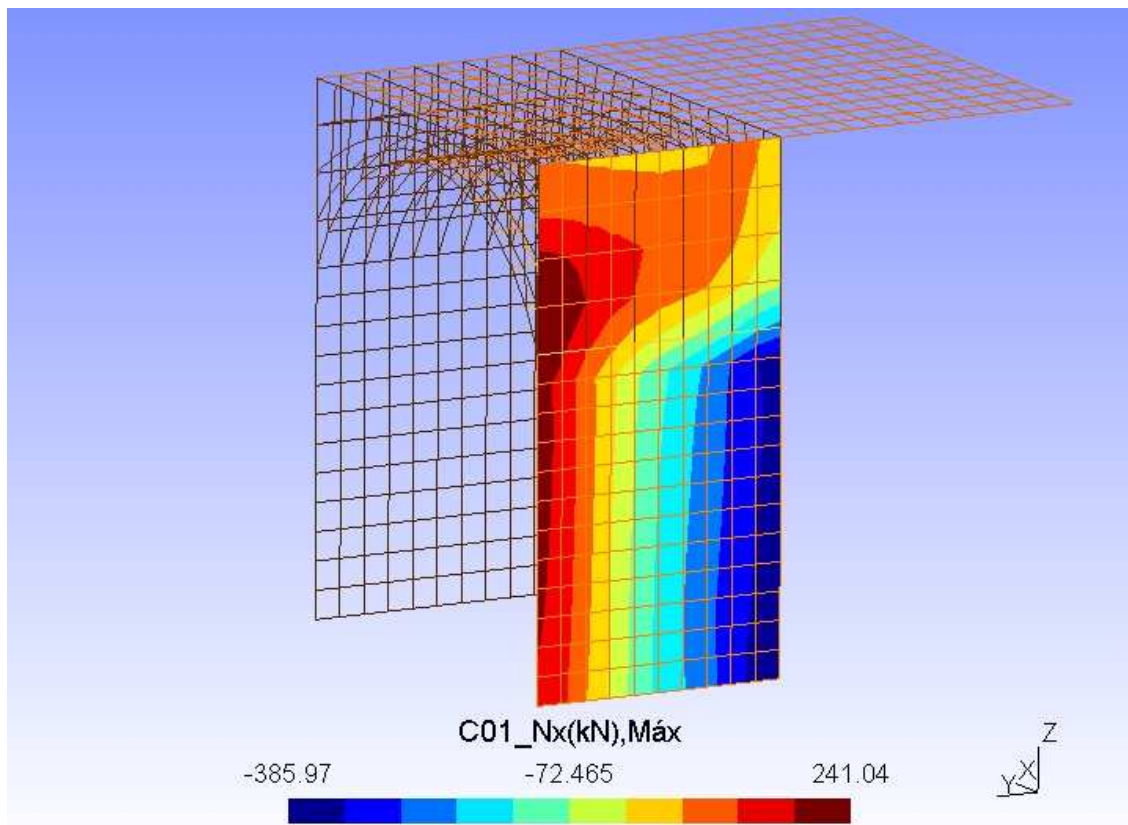


038-S.C. USO CALZADA - Desplazamientos v(m).jpg

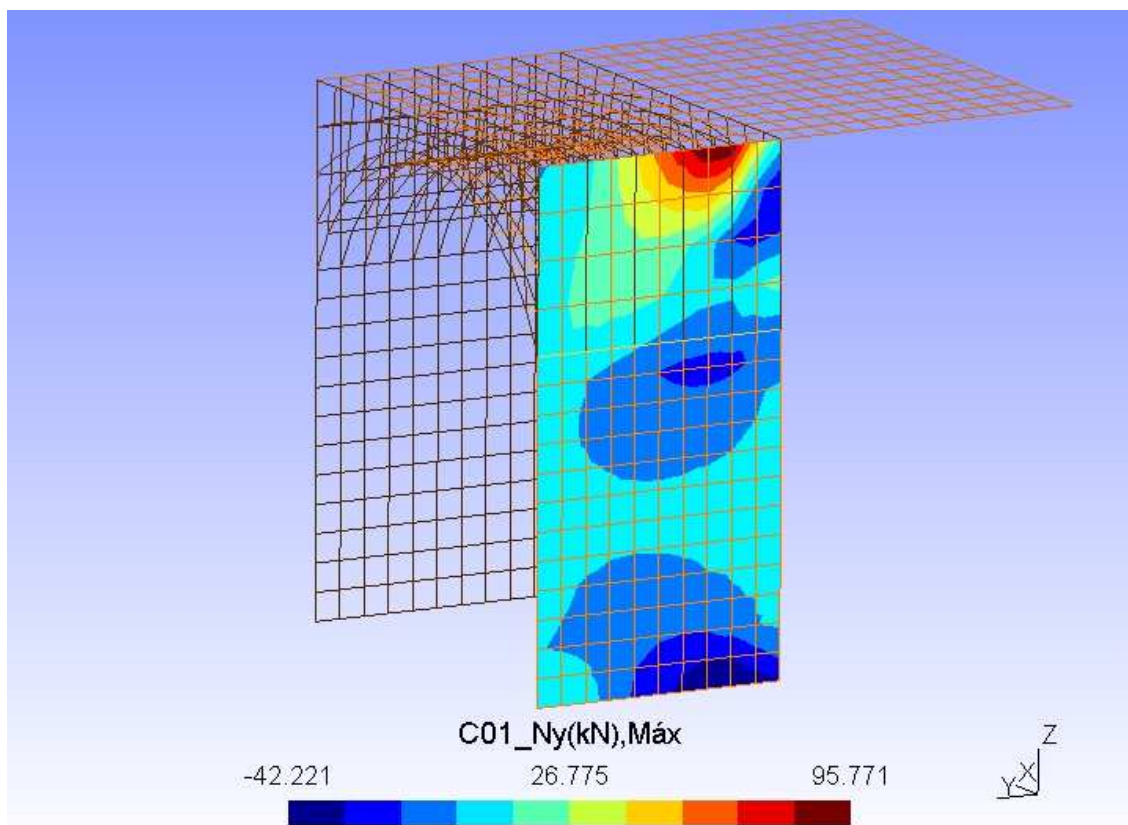


039-S.C. USO CALZADA - Desplazamientos w(m).jpg

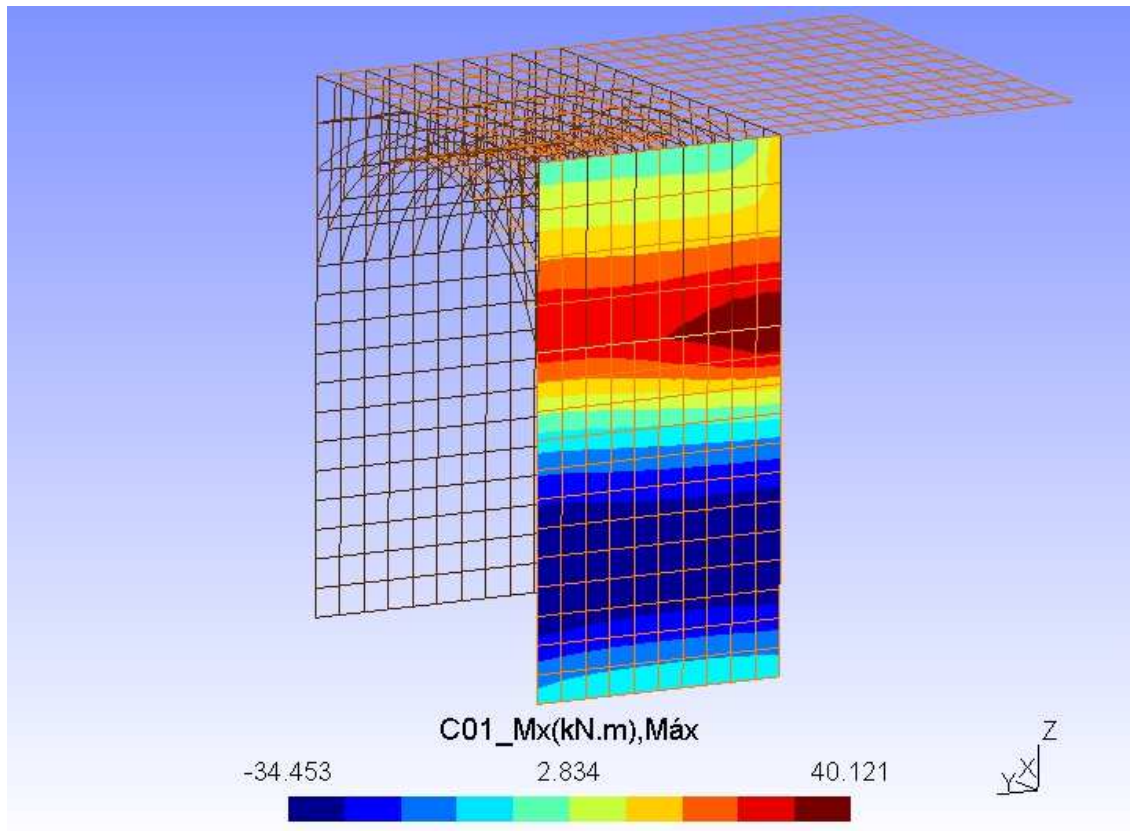
COMBINACIÓN 1 - ESFUERZOS EN ELU



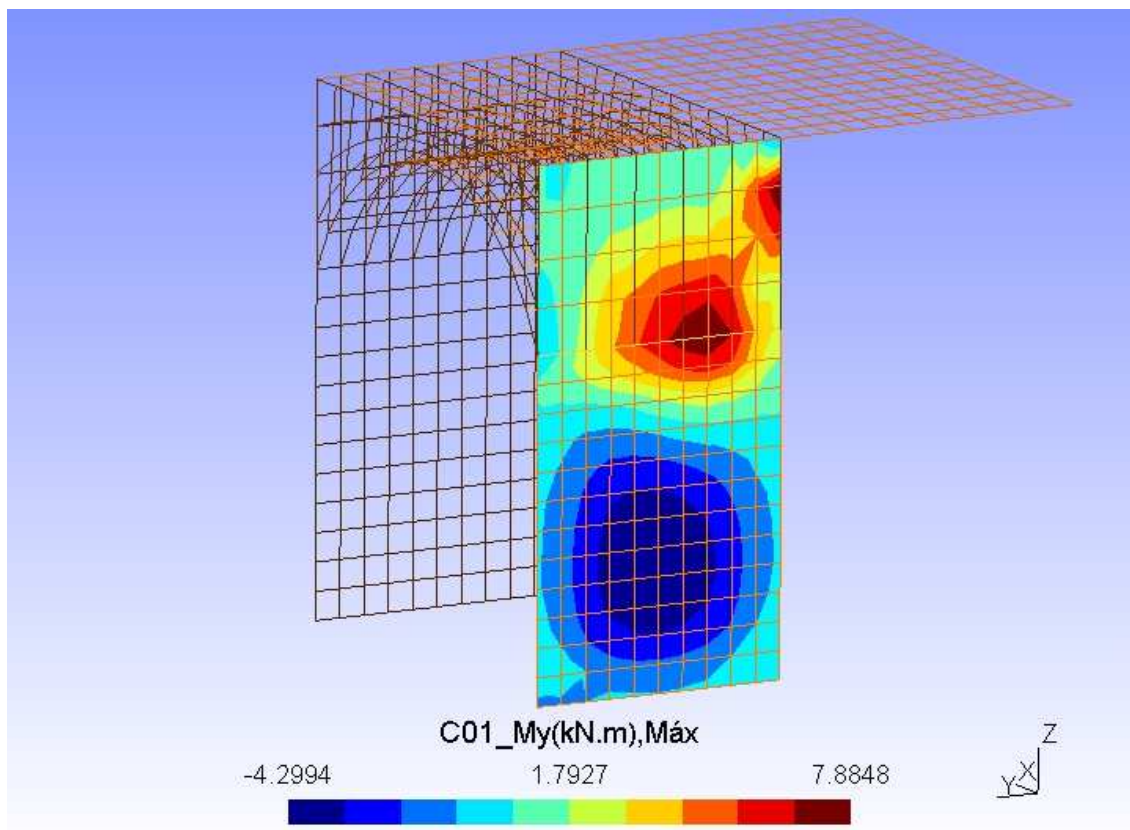
000-Combinación 1 - Esfuerzos Axiles Nx Máx.jpg



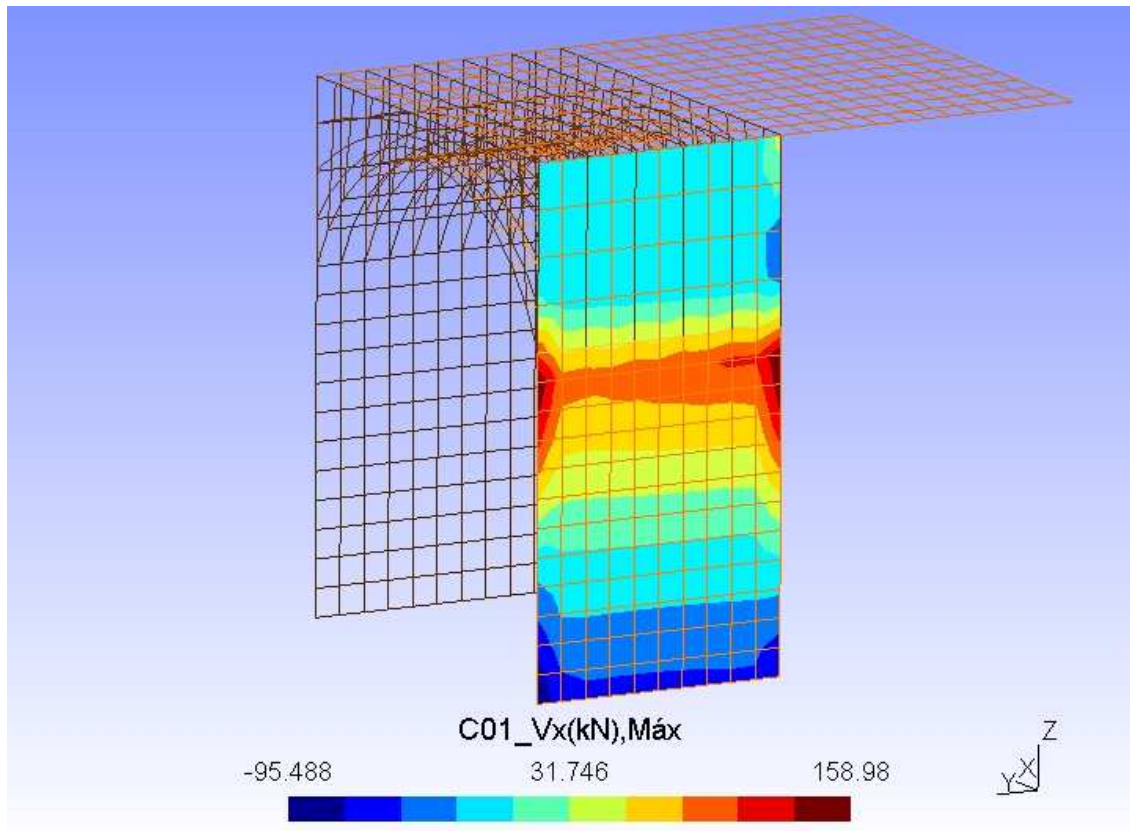
001-Combinación 1 - Esfuerzos Axiles Ny Máx.jpg



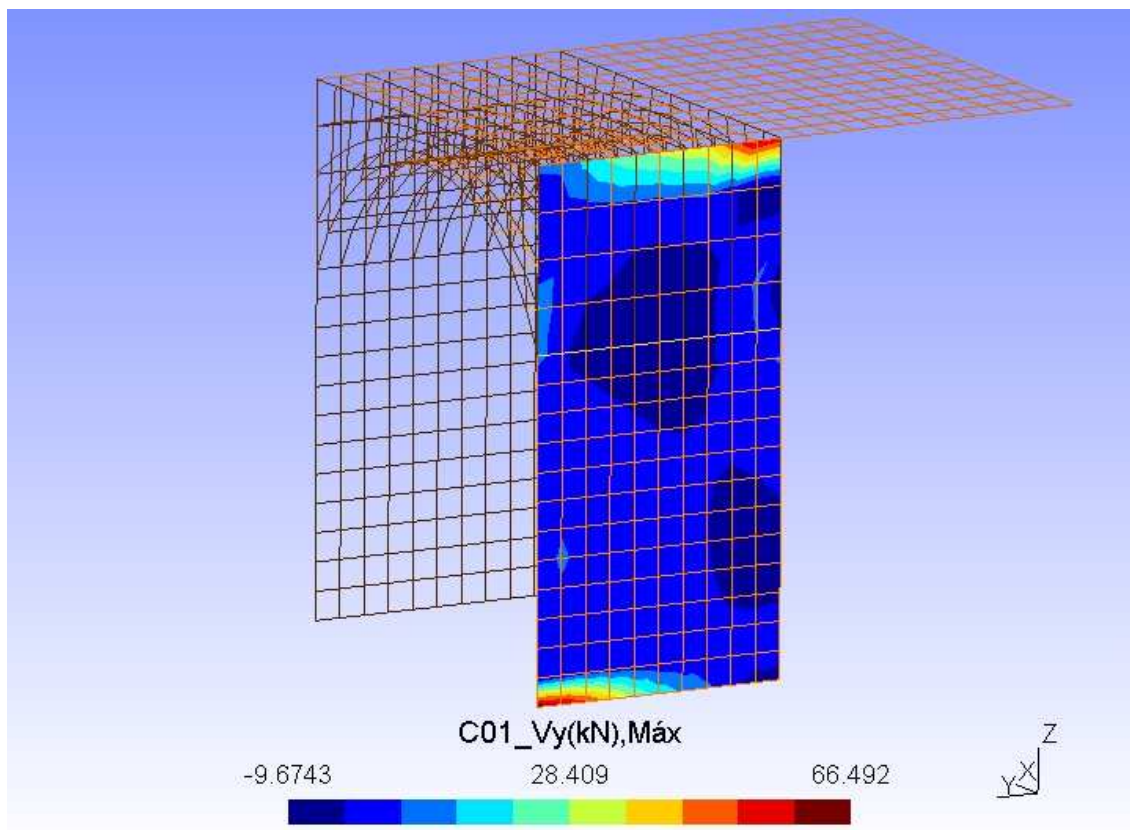
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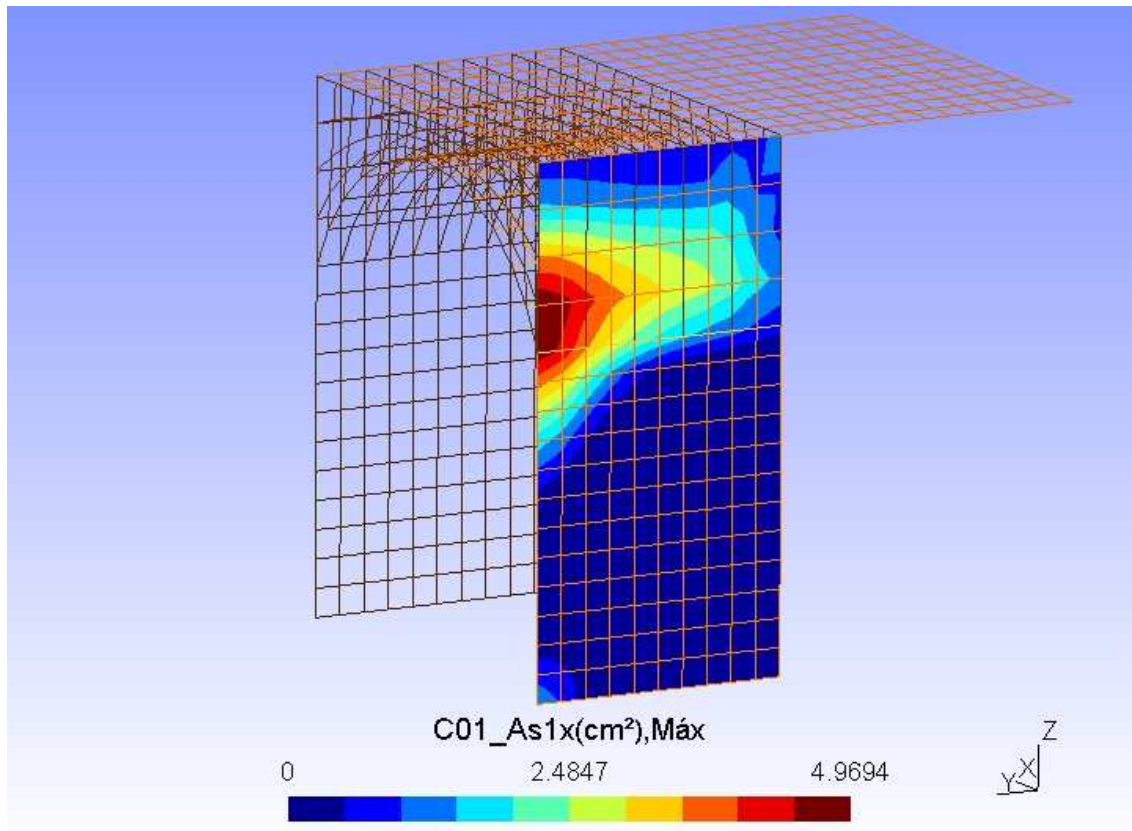
003-Combinación 1 - Momentos Flectores M_y Máx.jpg



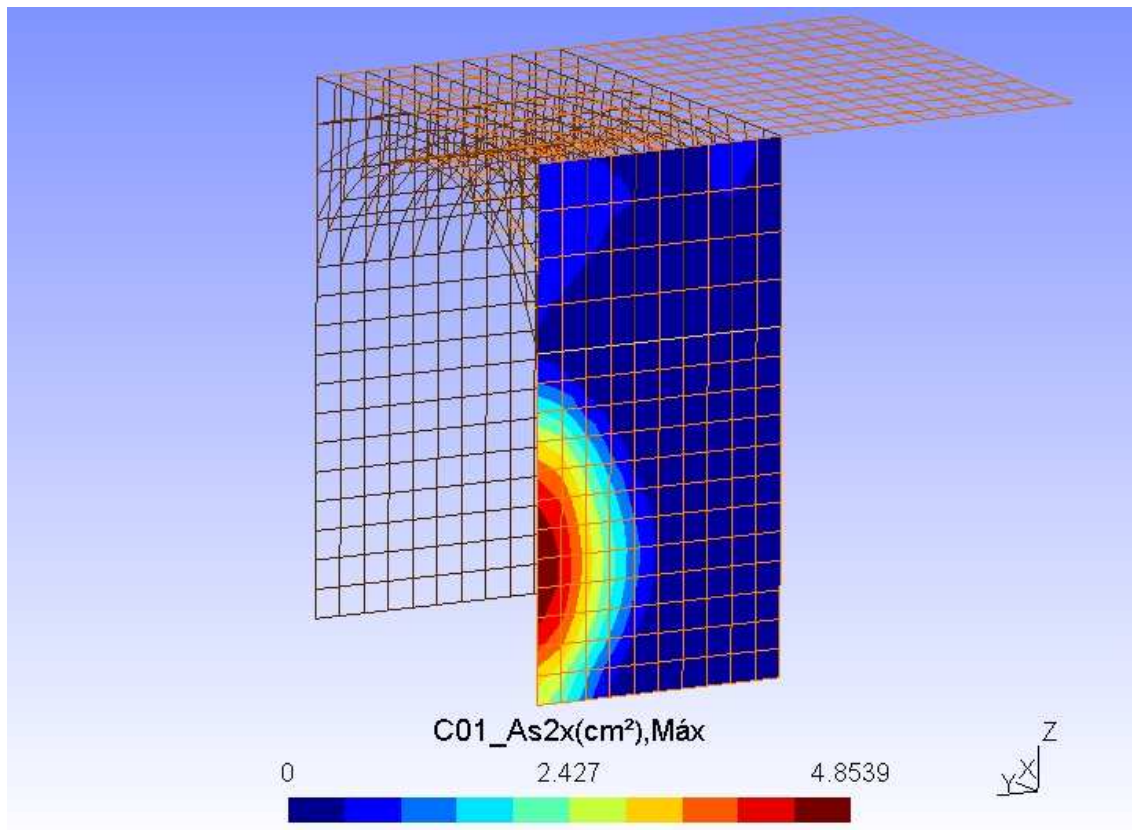
004-Combinación 1 - Esfuerzos Cortantes Vx Máx.jpg



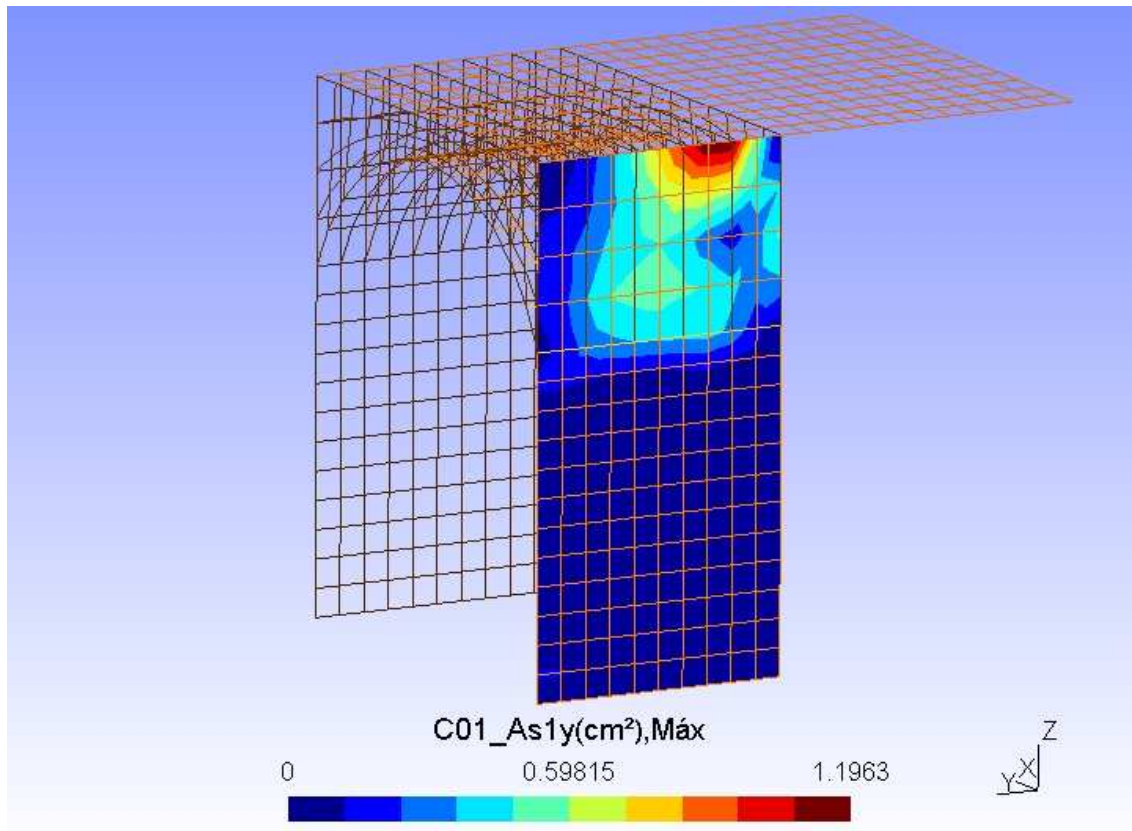
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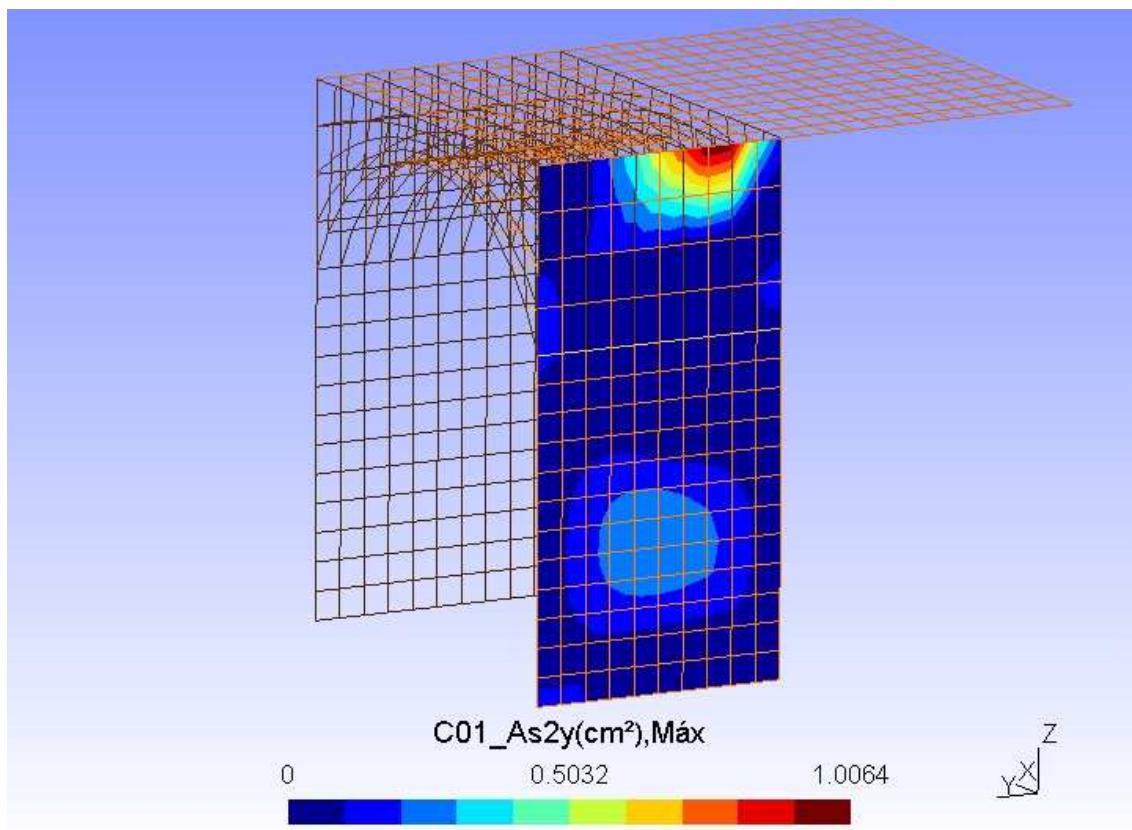
006-Combinación 1 - Armadura As1x Máx.jpg



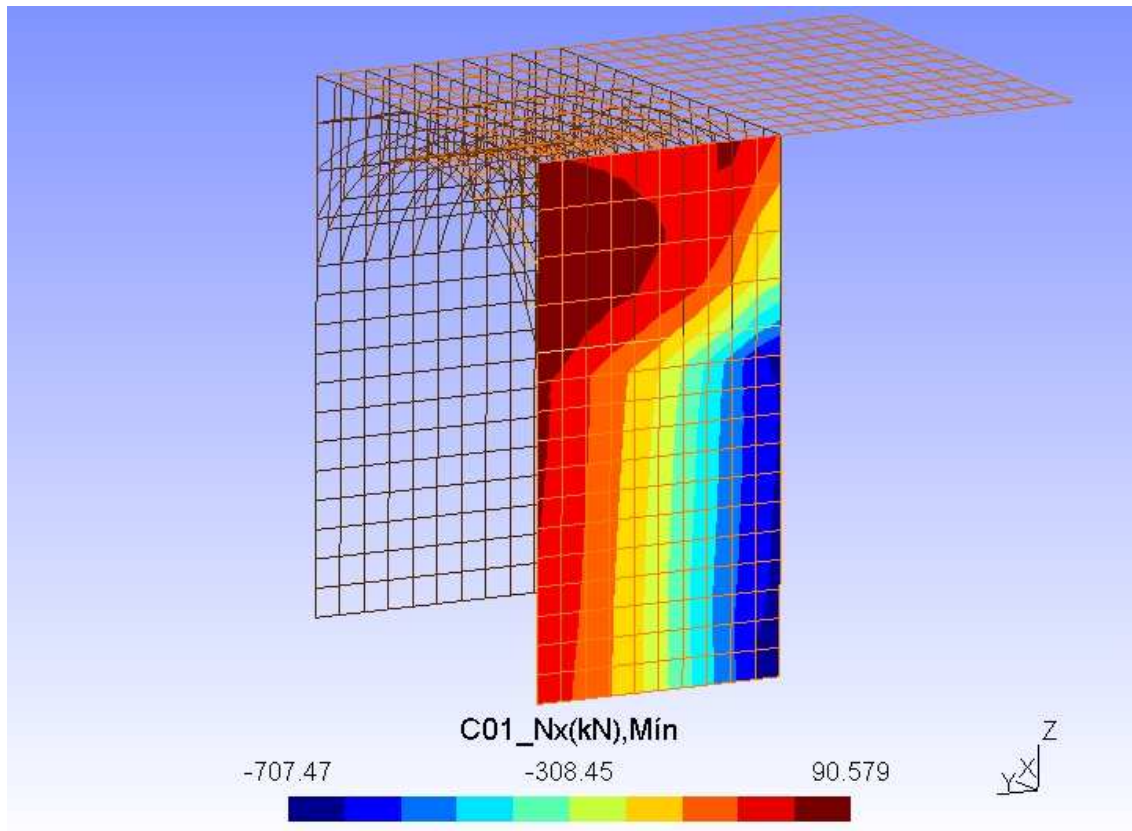
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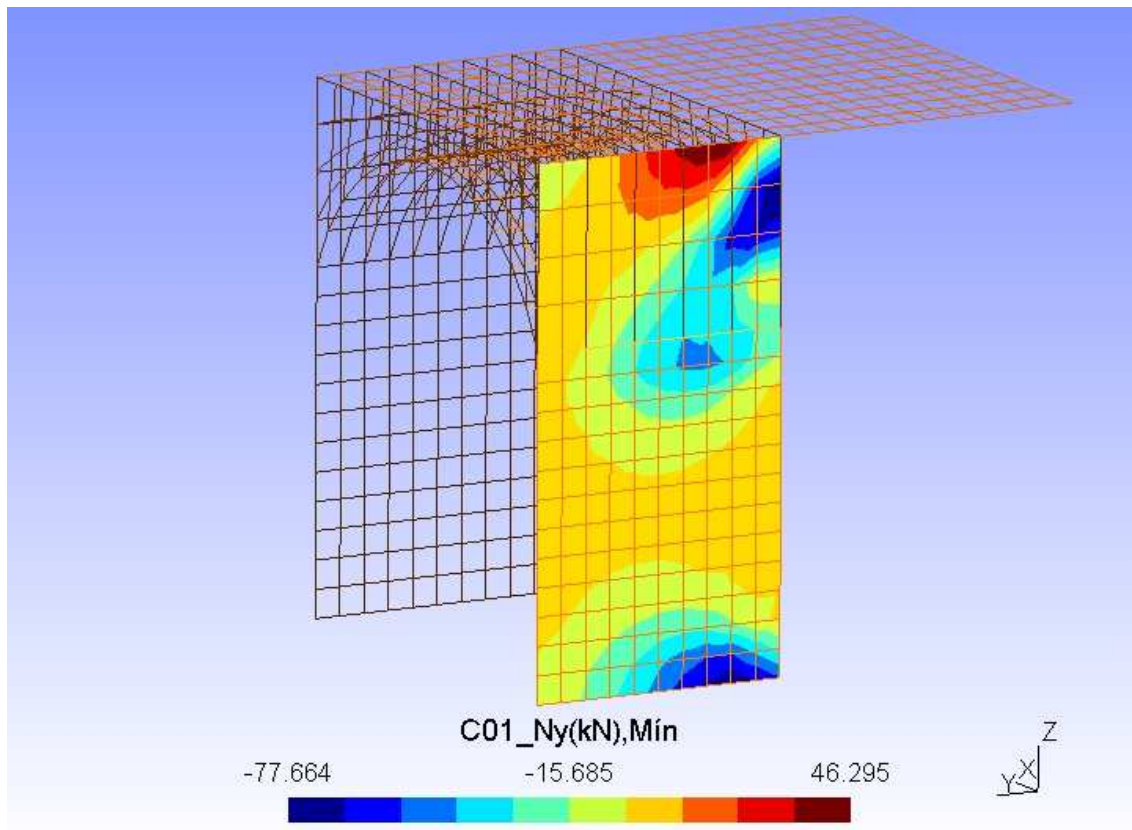
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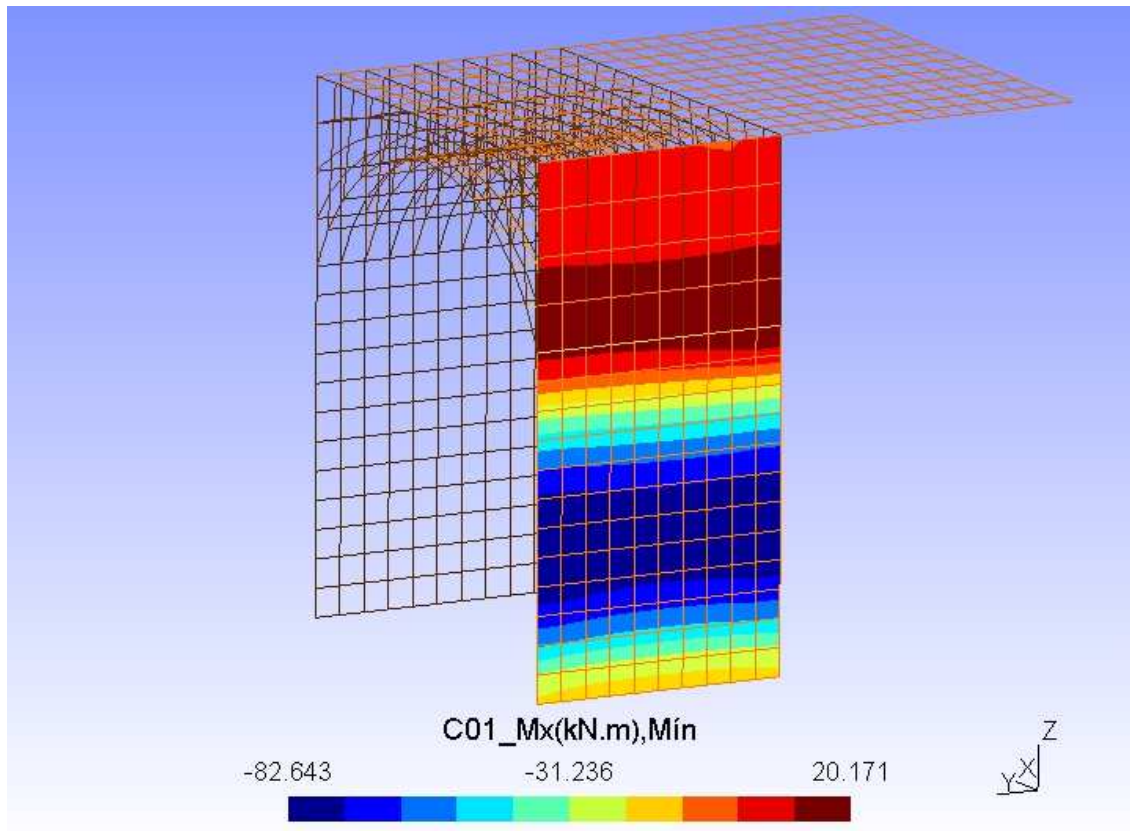
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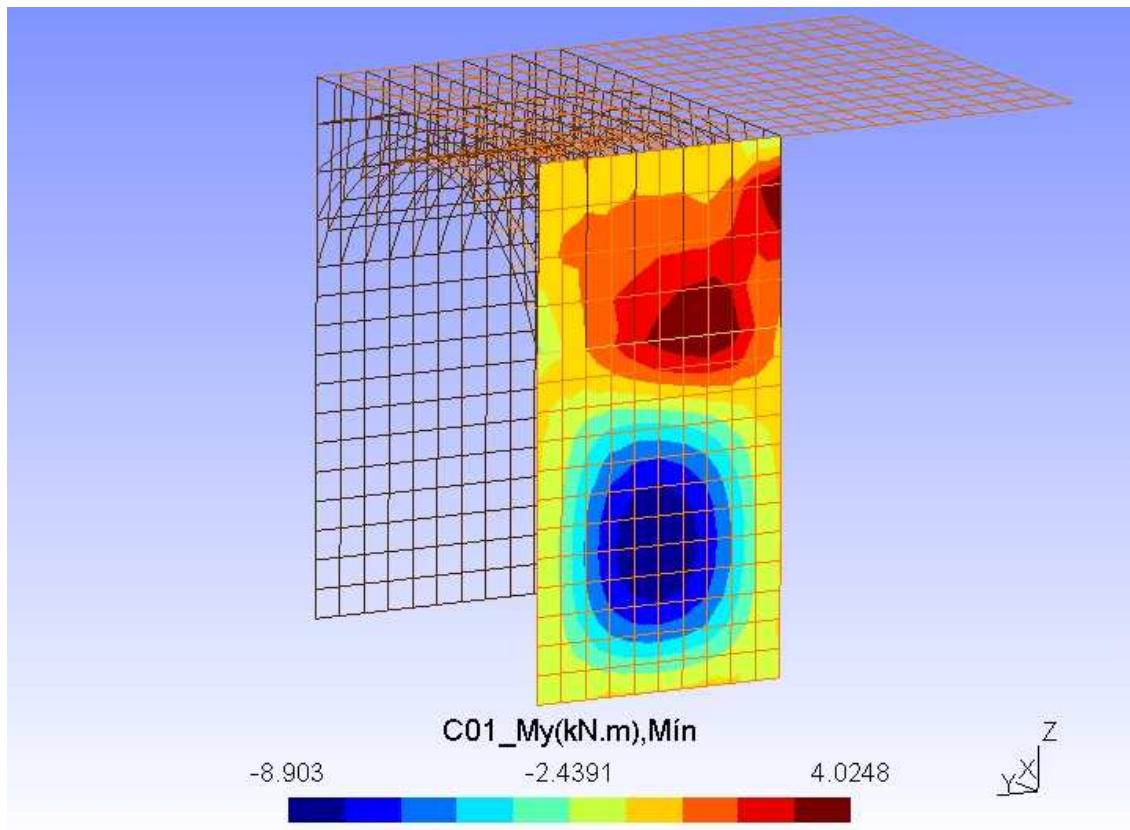
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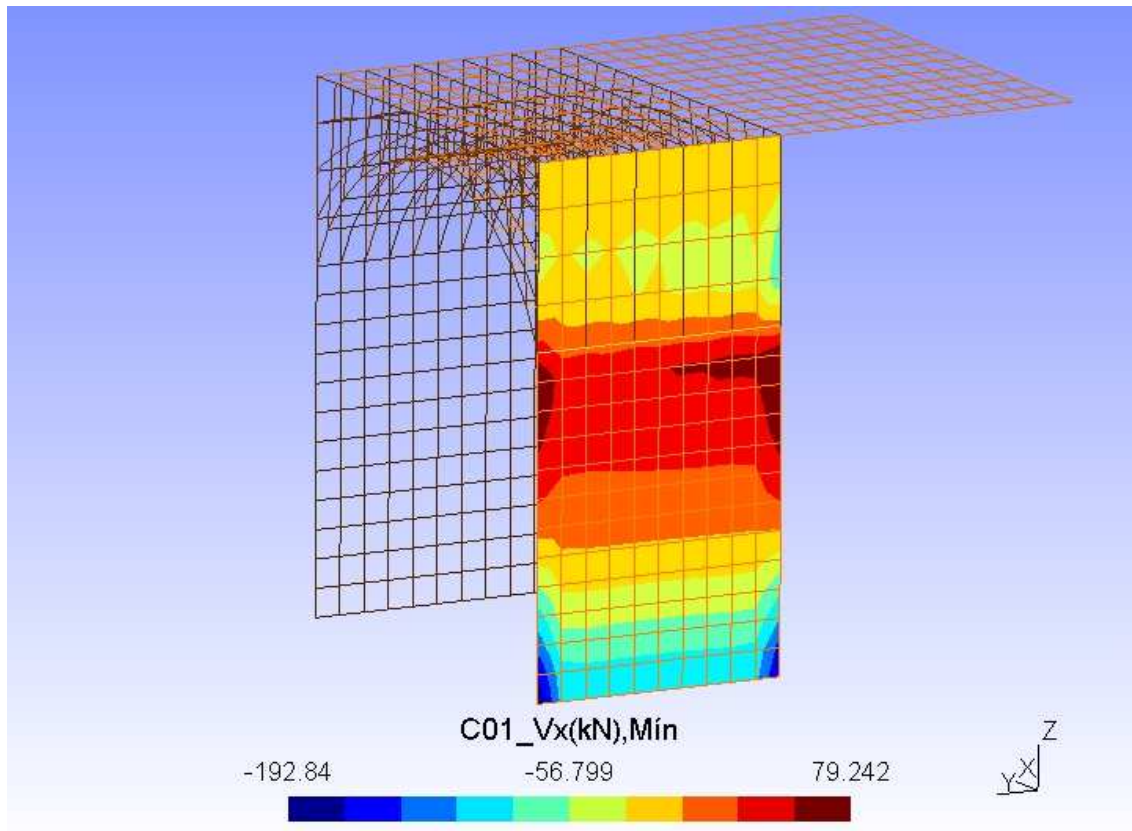
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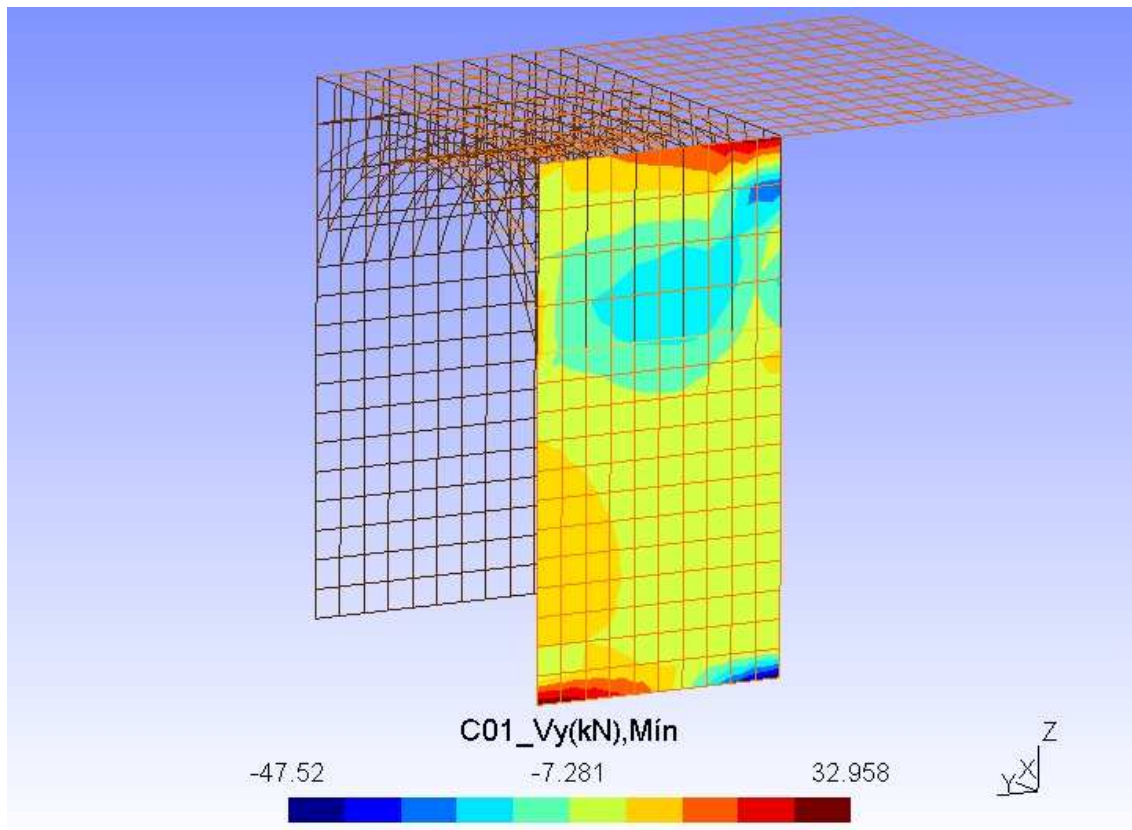
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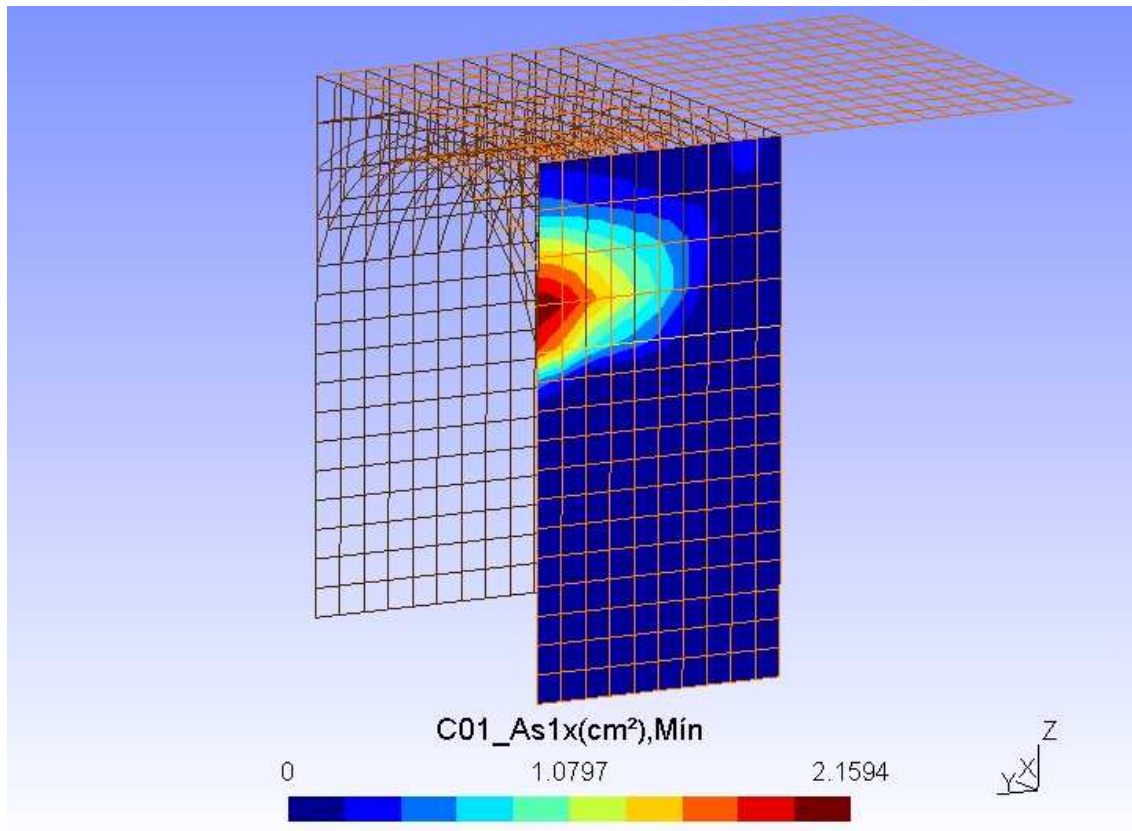
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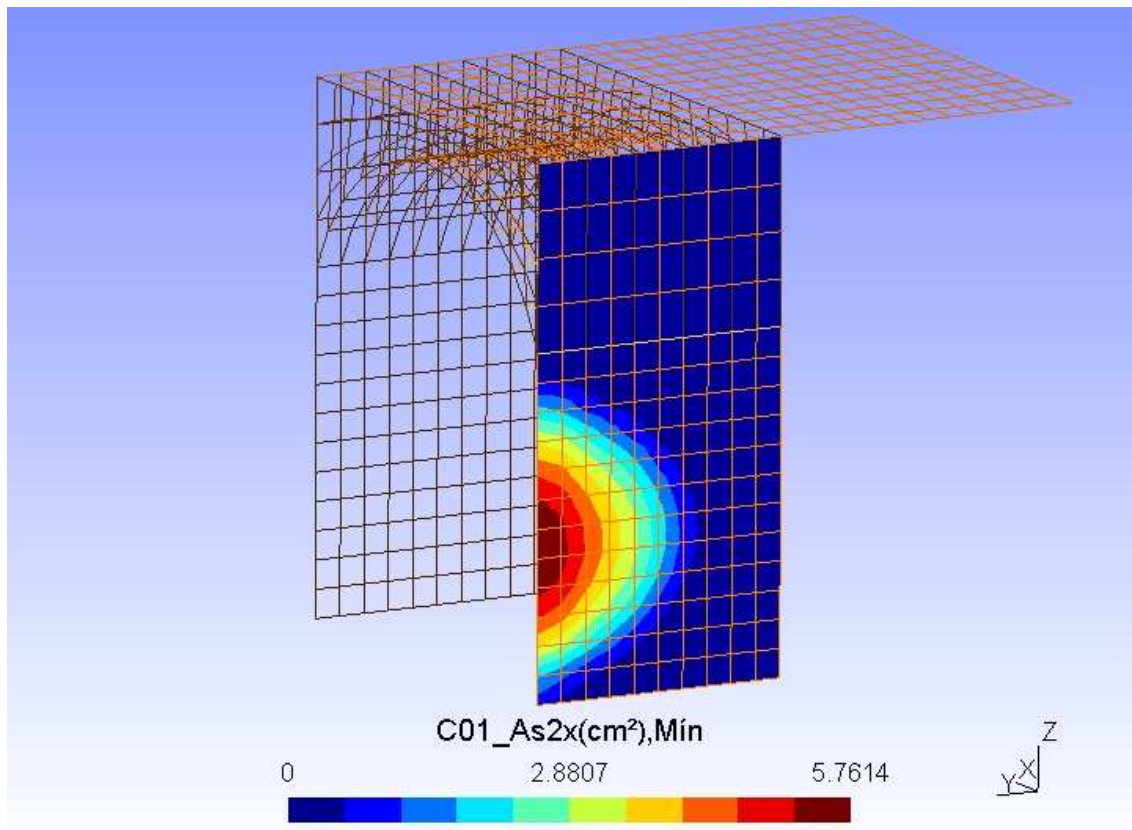
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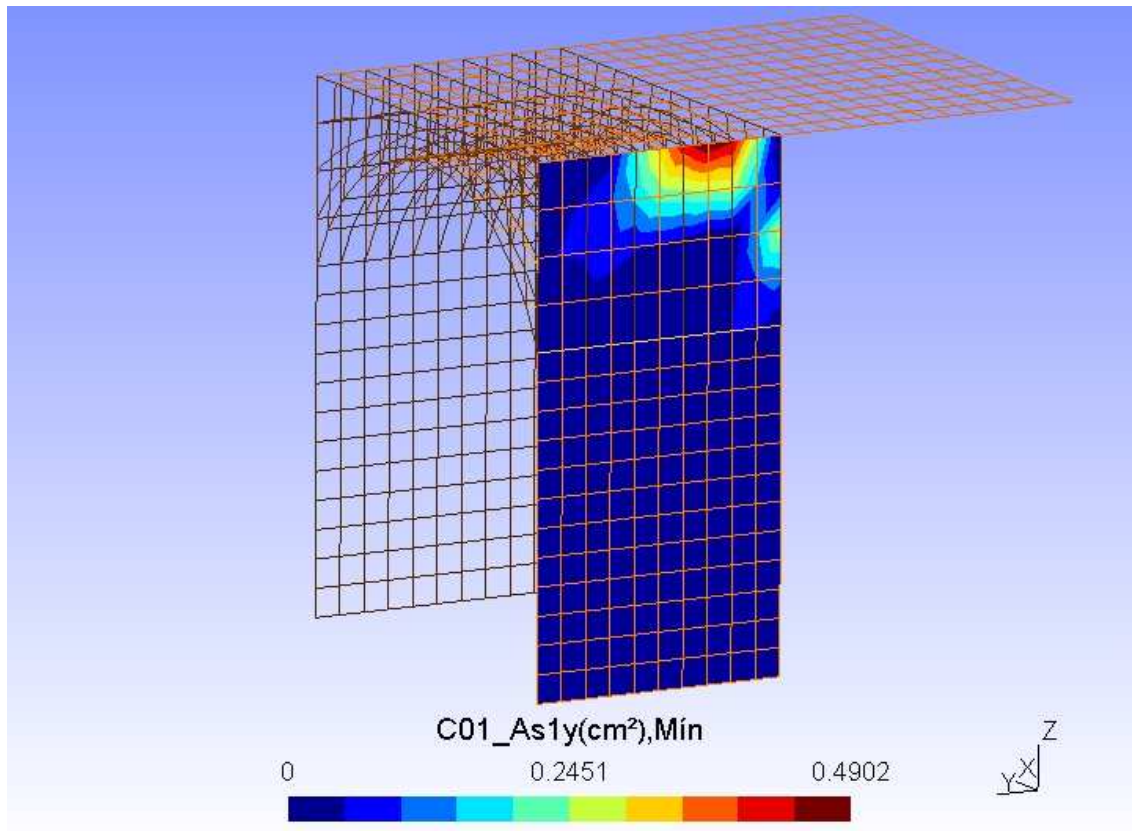
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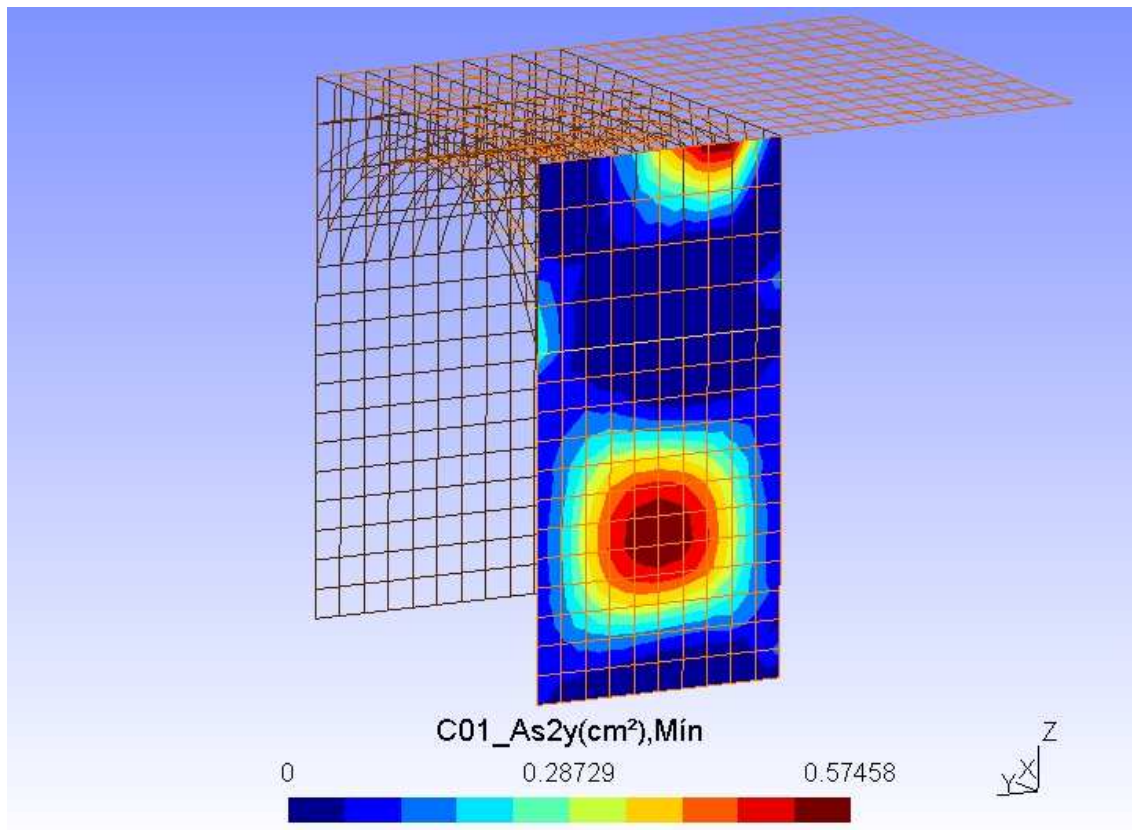
016-Combinación 1 - Armadura $As1x$ Mín.jpg



017-Combinación 1 - Armadura $As2x$ Mín.jpg

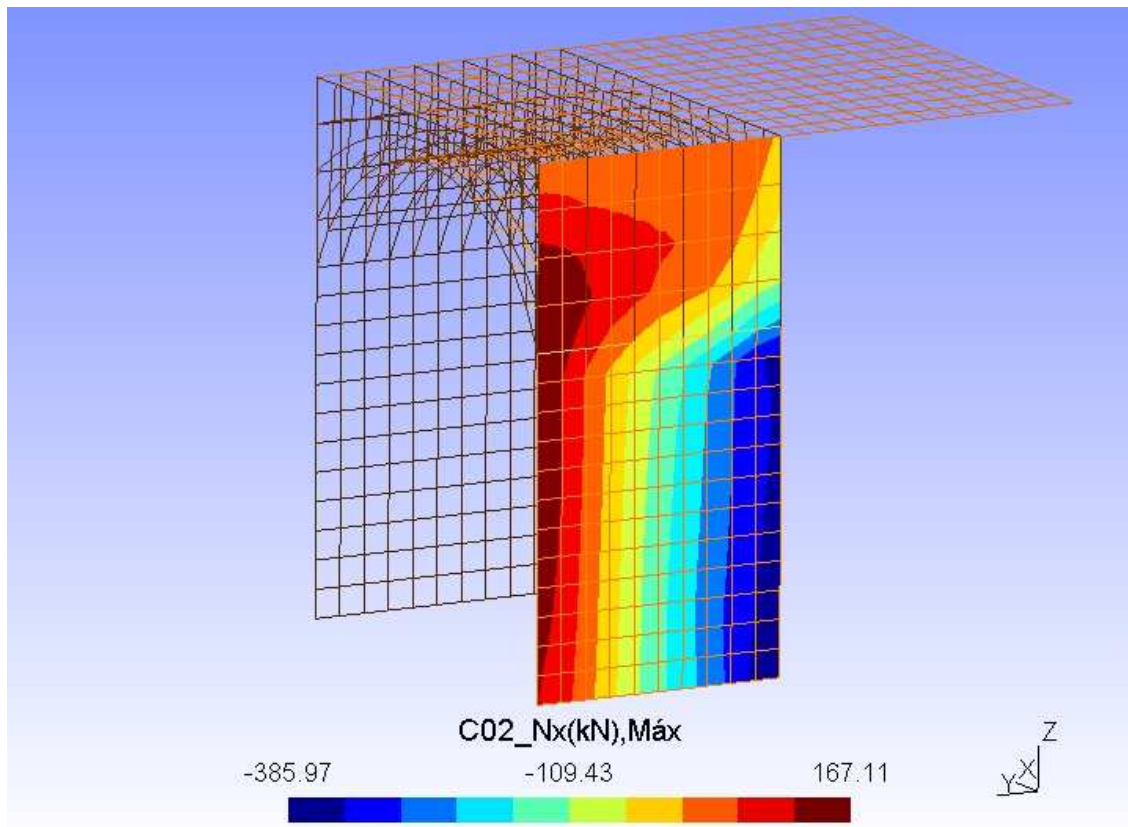


018-Combinación 1 - Armadura $As1y$ Mín.jpg

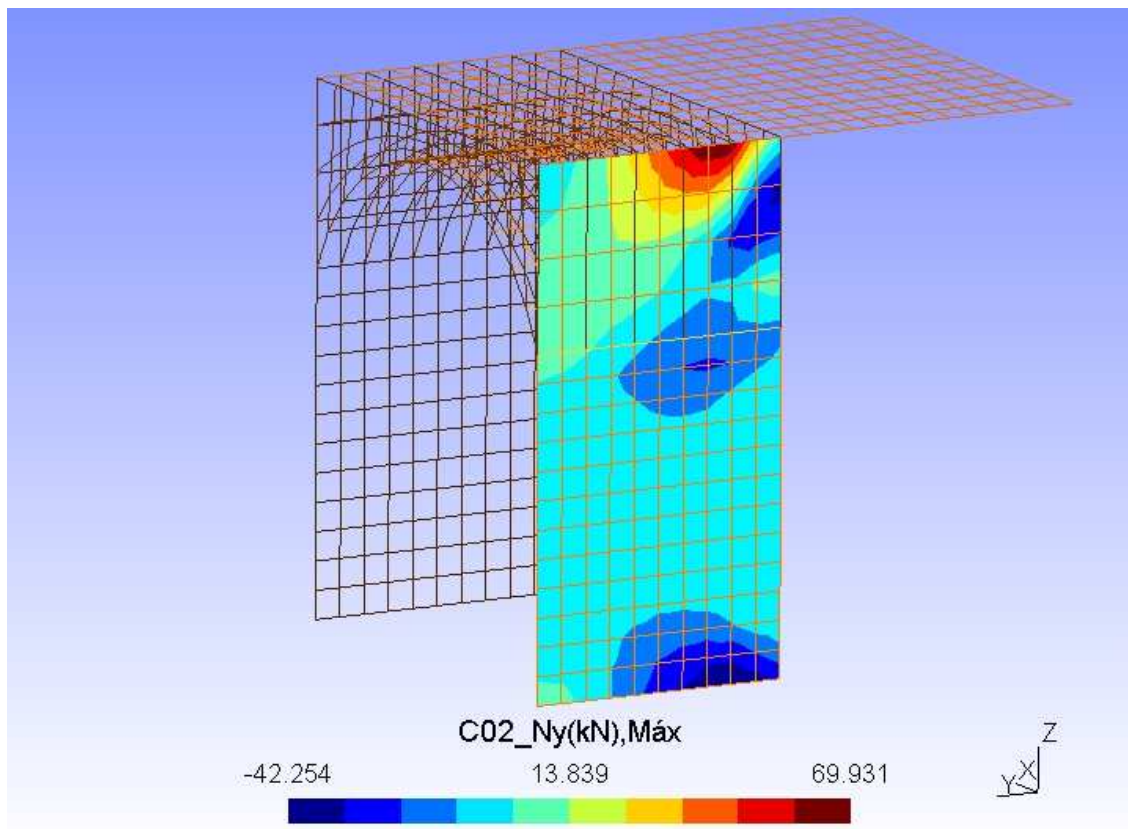


019-Combinación 1 - Armadura $As2y$ Mín.jpg

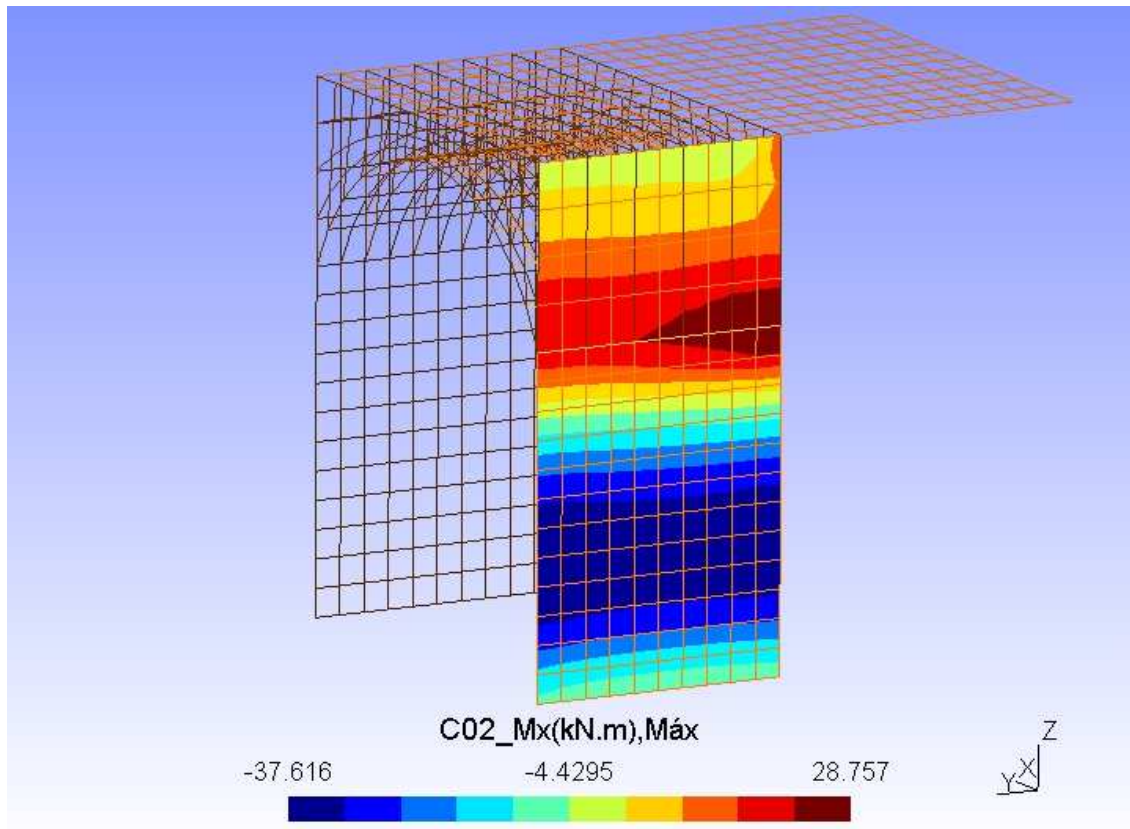
COMBINACIÓN 2 - ESFUERZOS EN ELS CARACTERÍSTICA



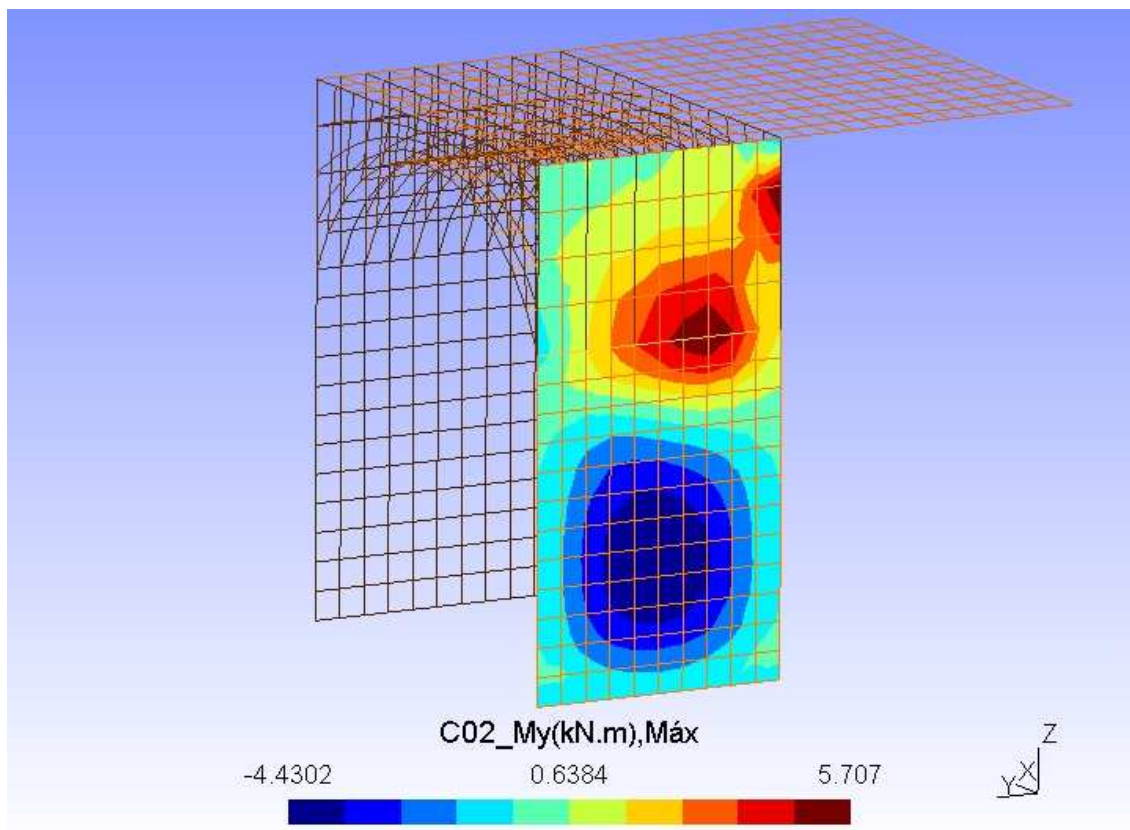
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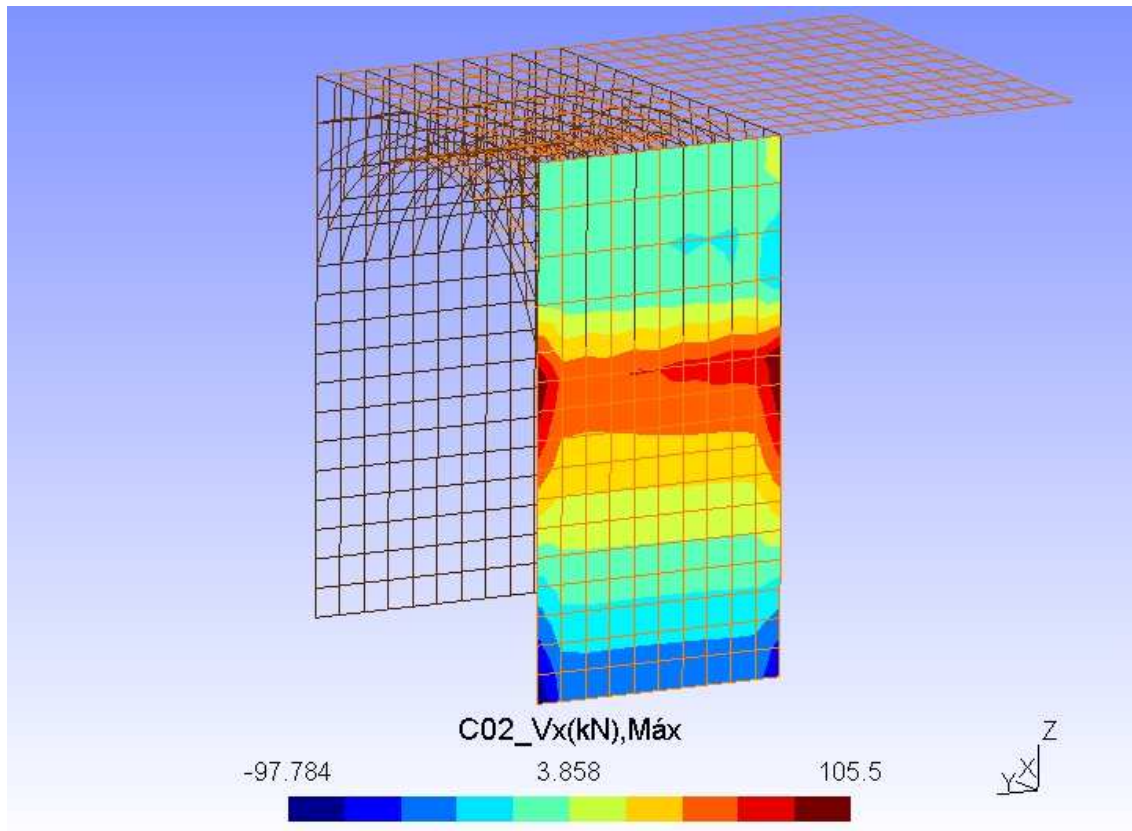
021-Combinación 2 - Esfuerzos Axiles Ny Máx.jpg



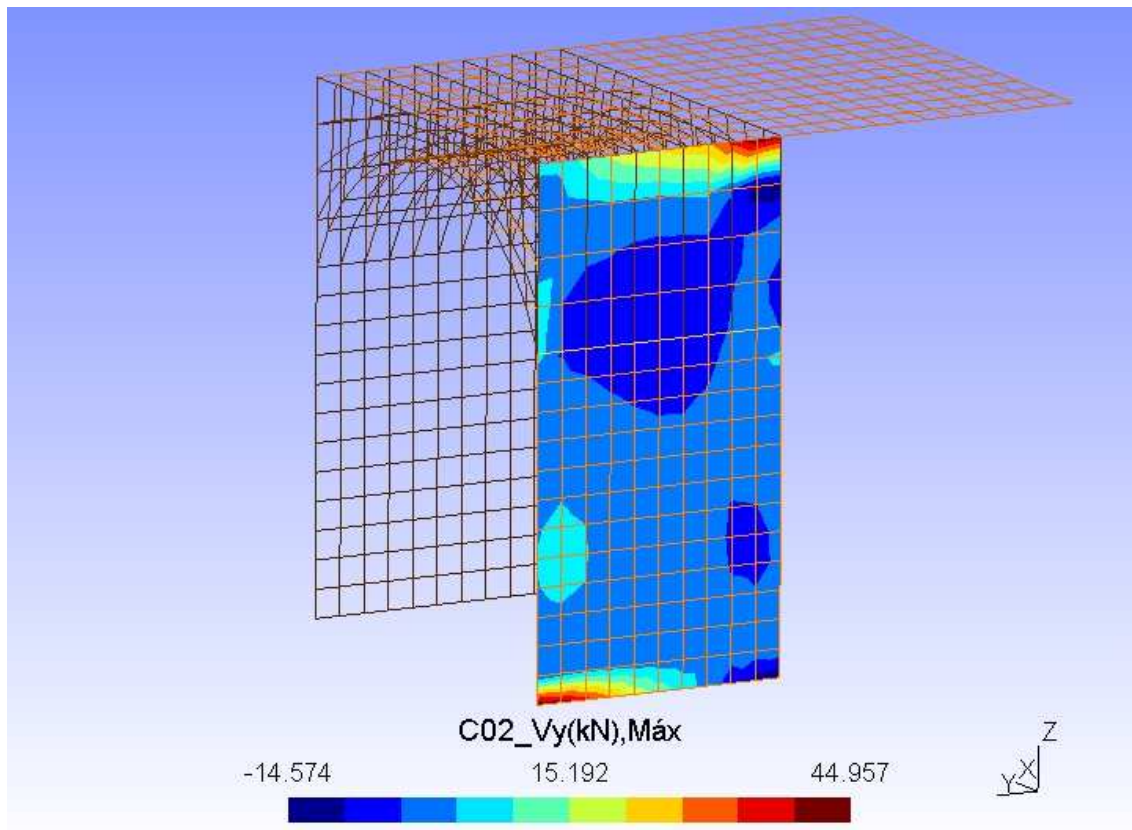
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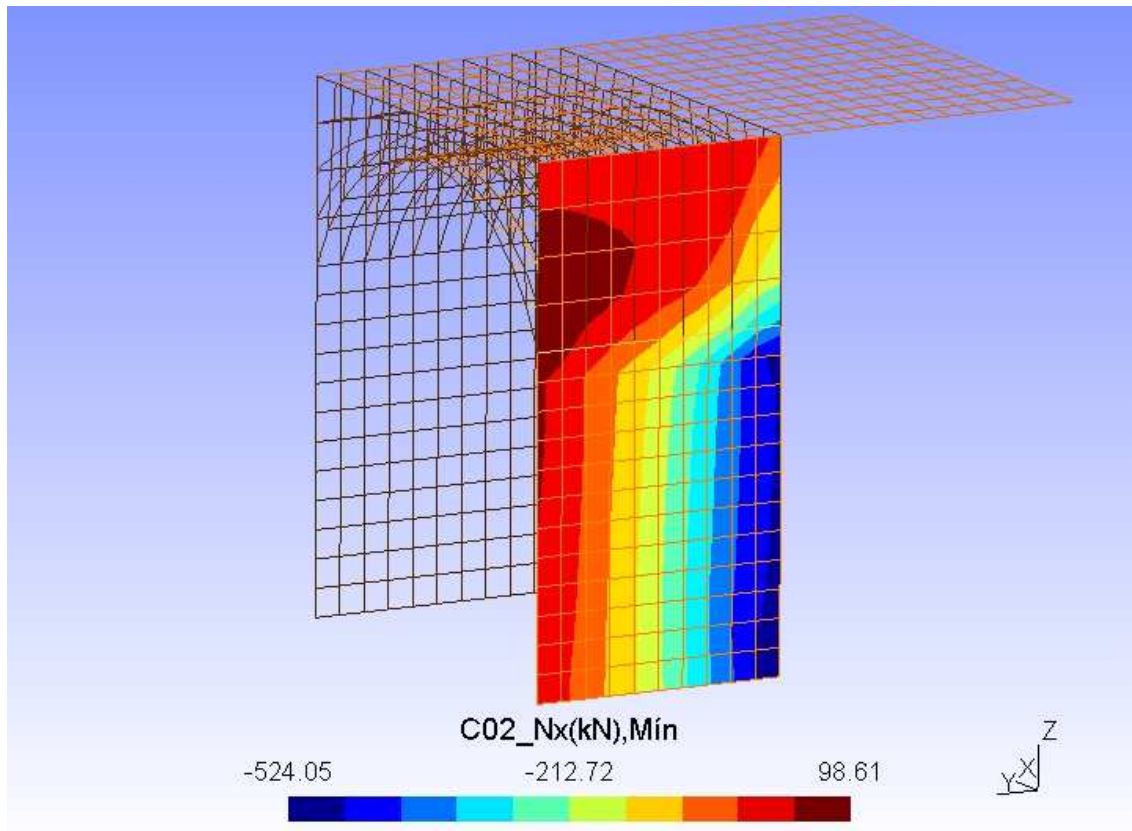
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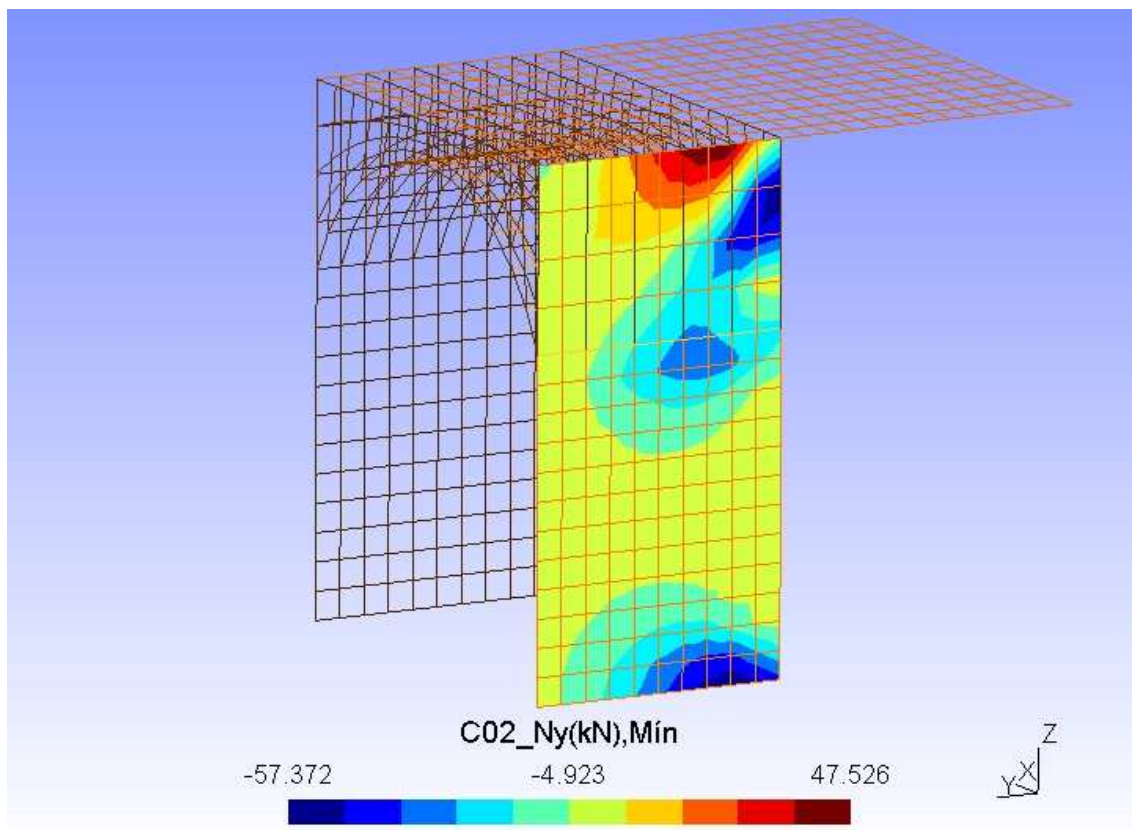
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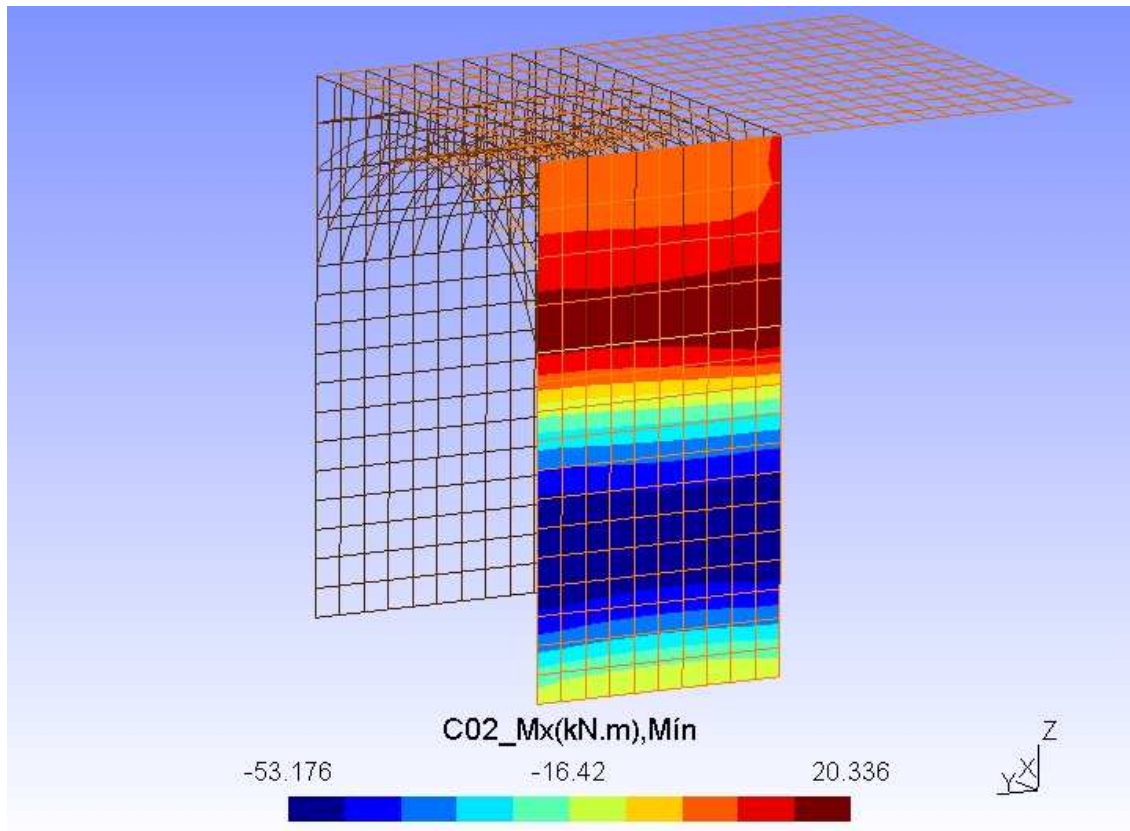
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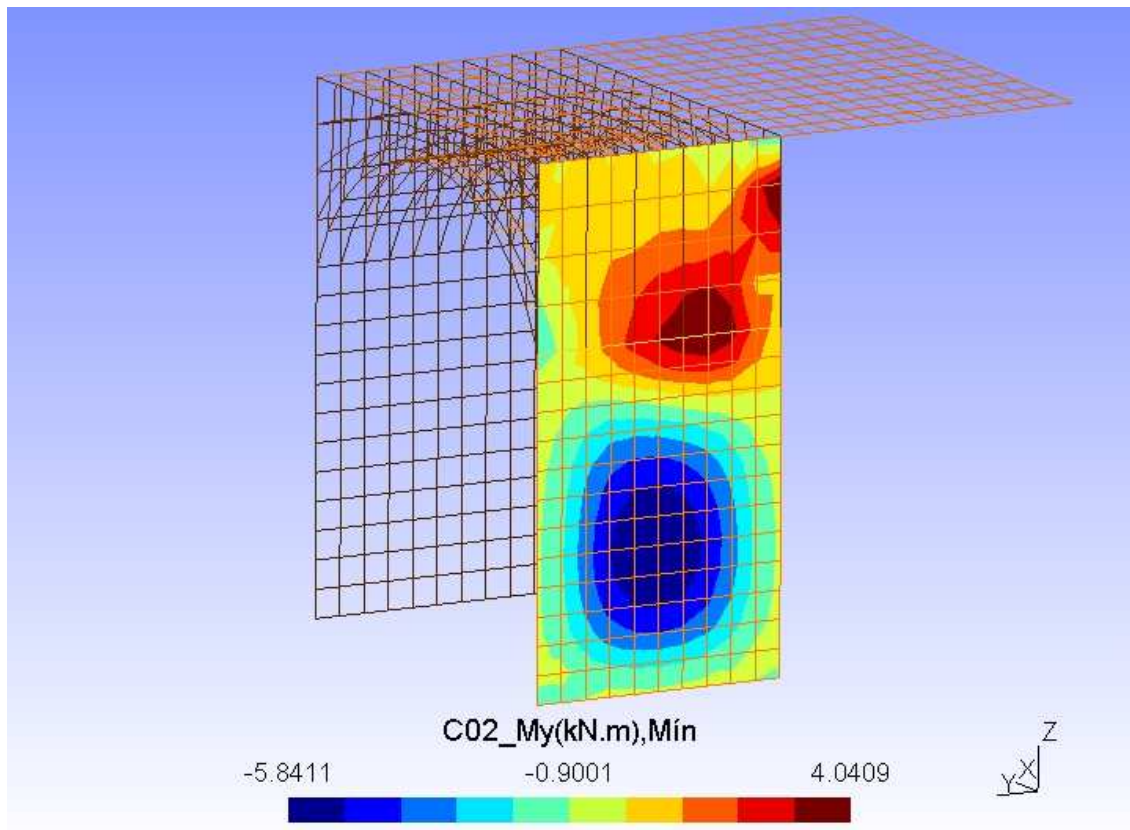
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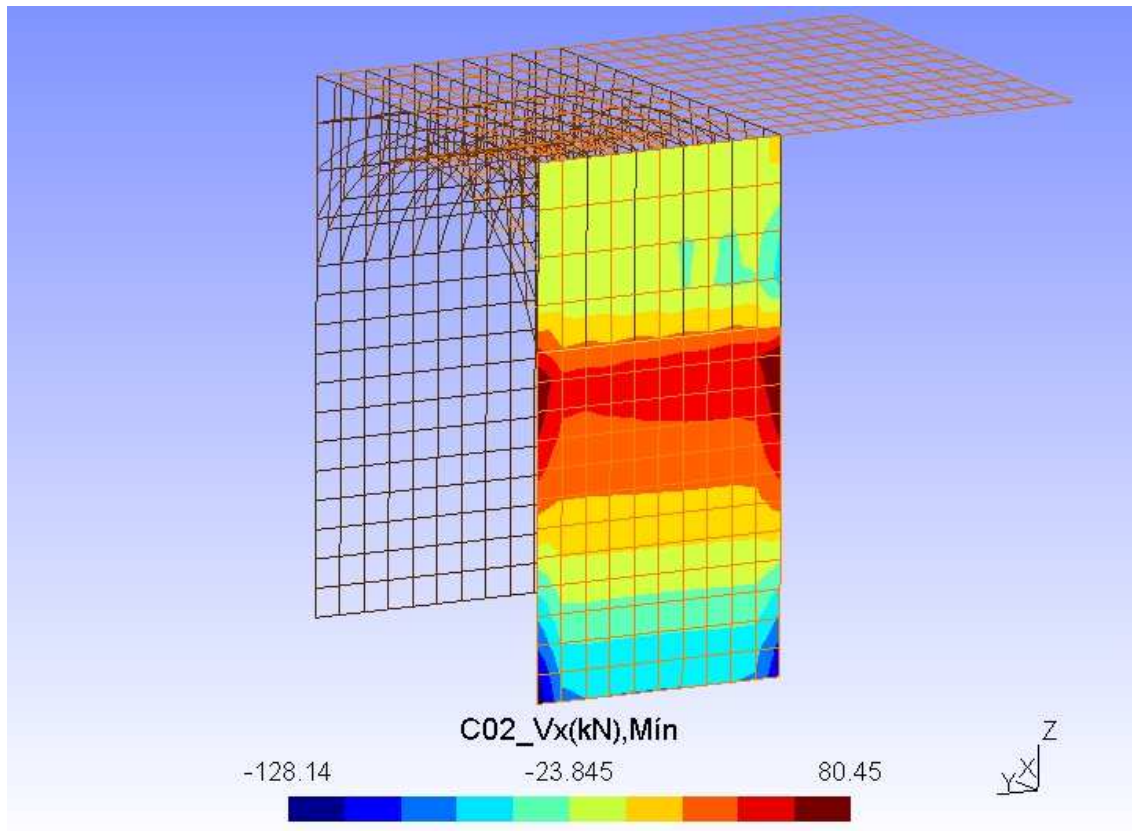
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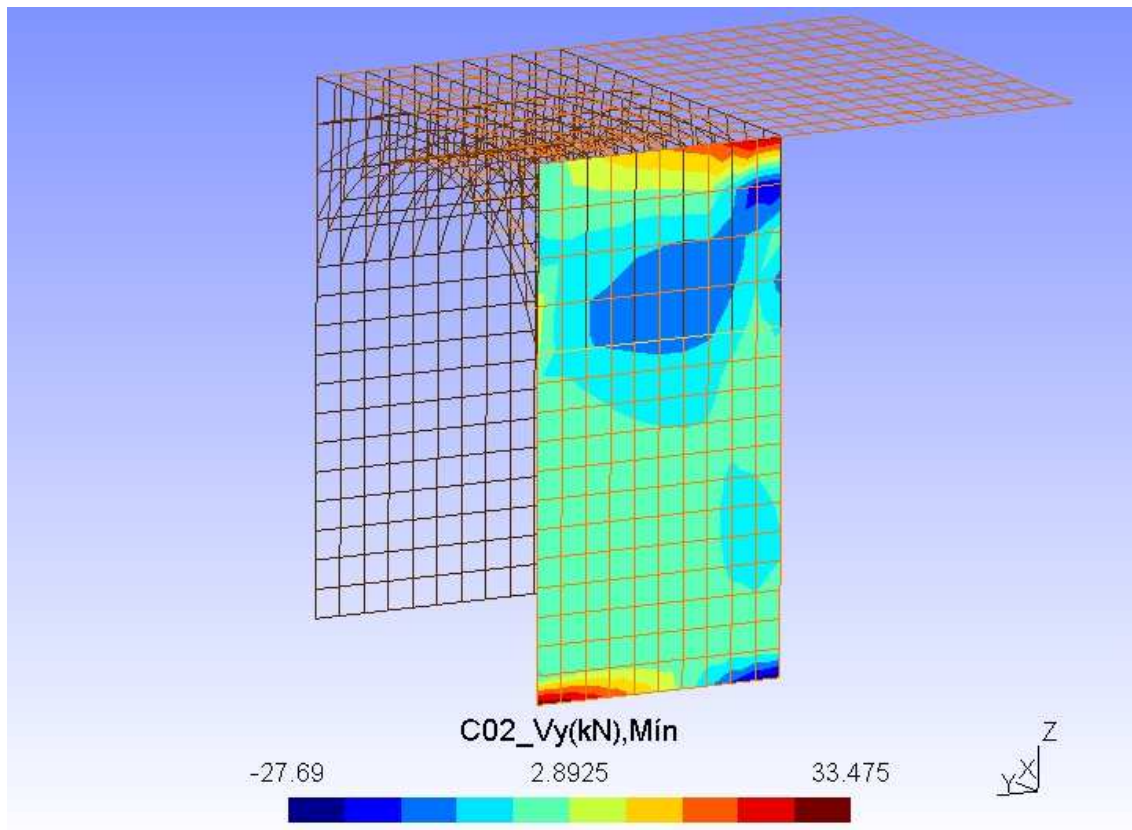
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033-Combinación 2 - Momentos Flectores M_y Mín.jpg

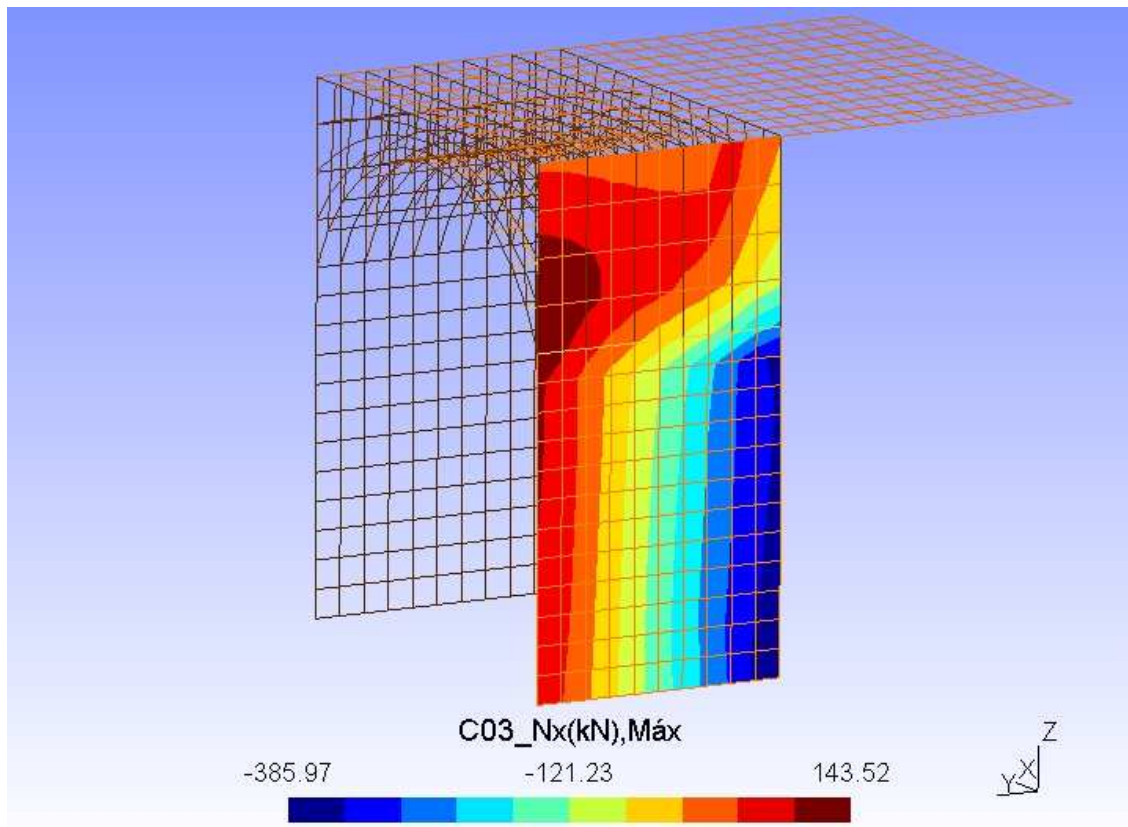


034-Combinación 2 - Esfuerzos Cortantes V_x Mín.jpg

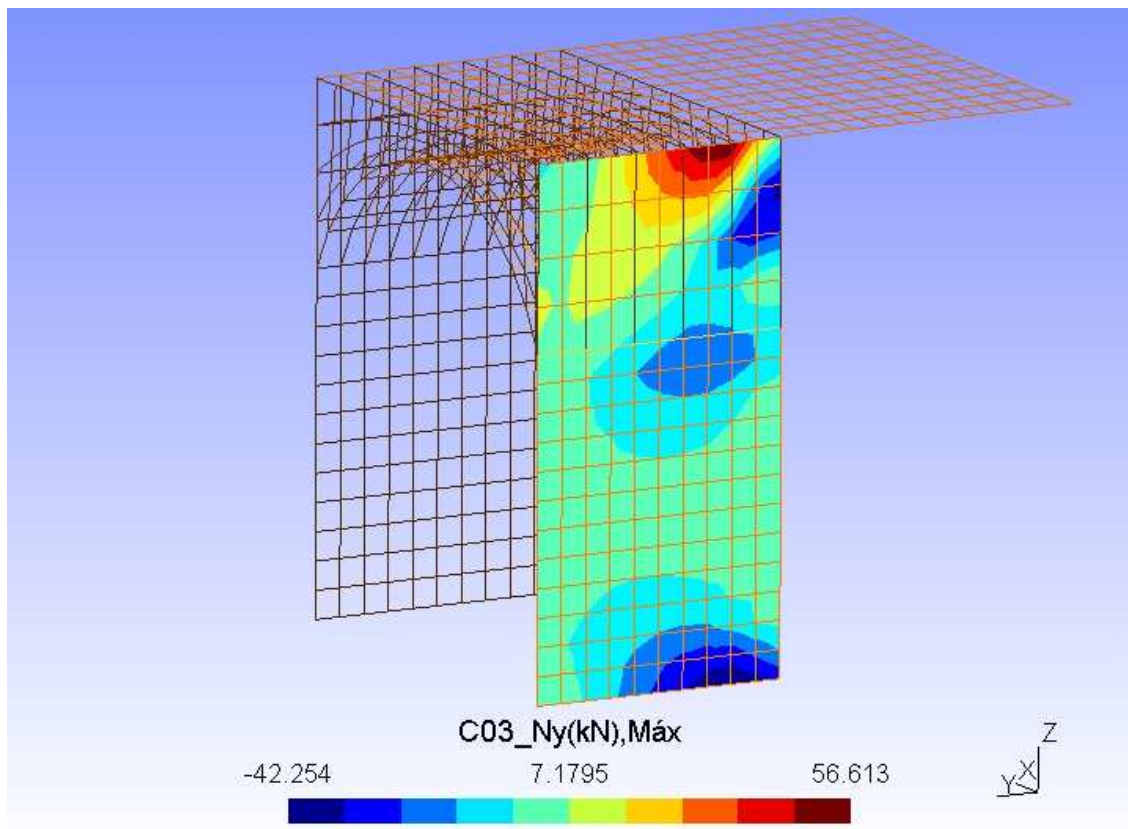


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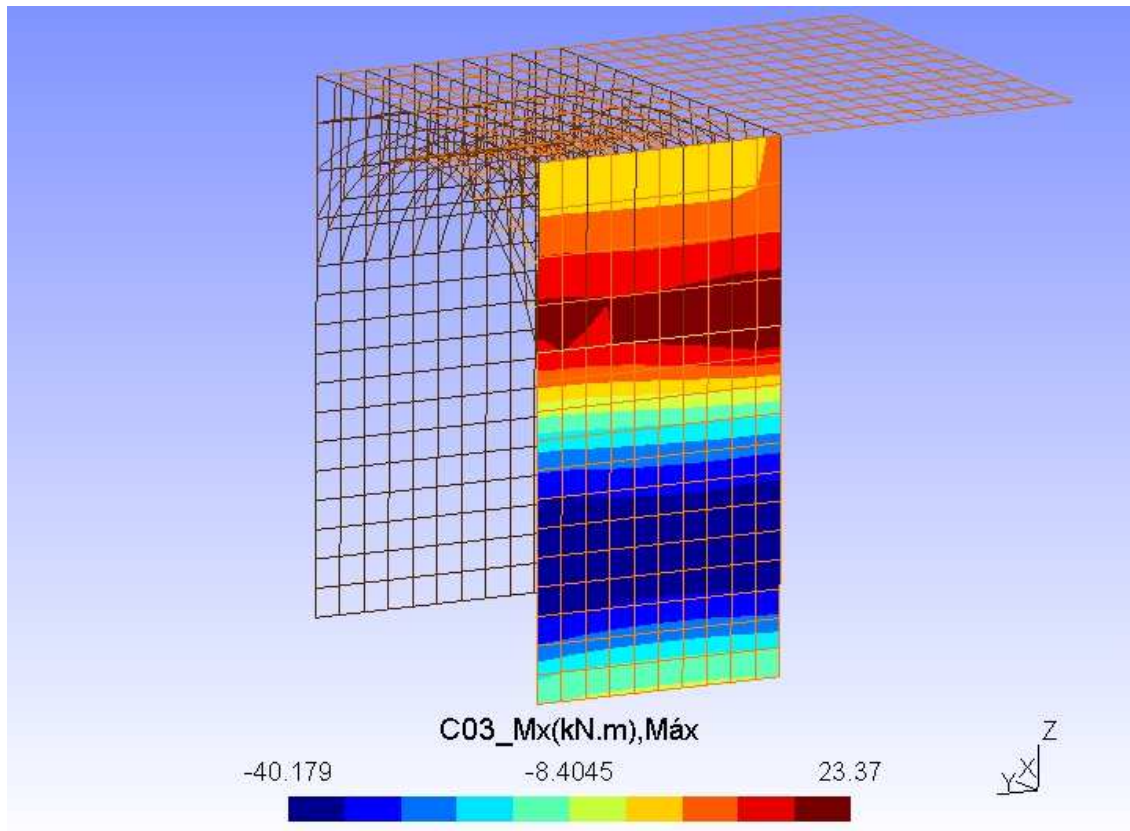
COMBINACIÓN 3 - ESFUERZOS EN ELS CUASIPERMANENTE



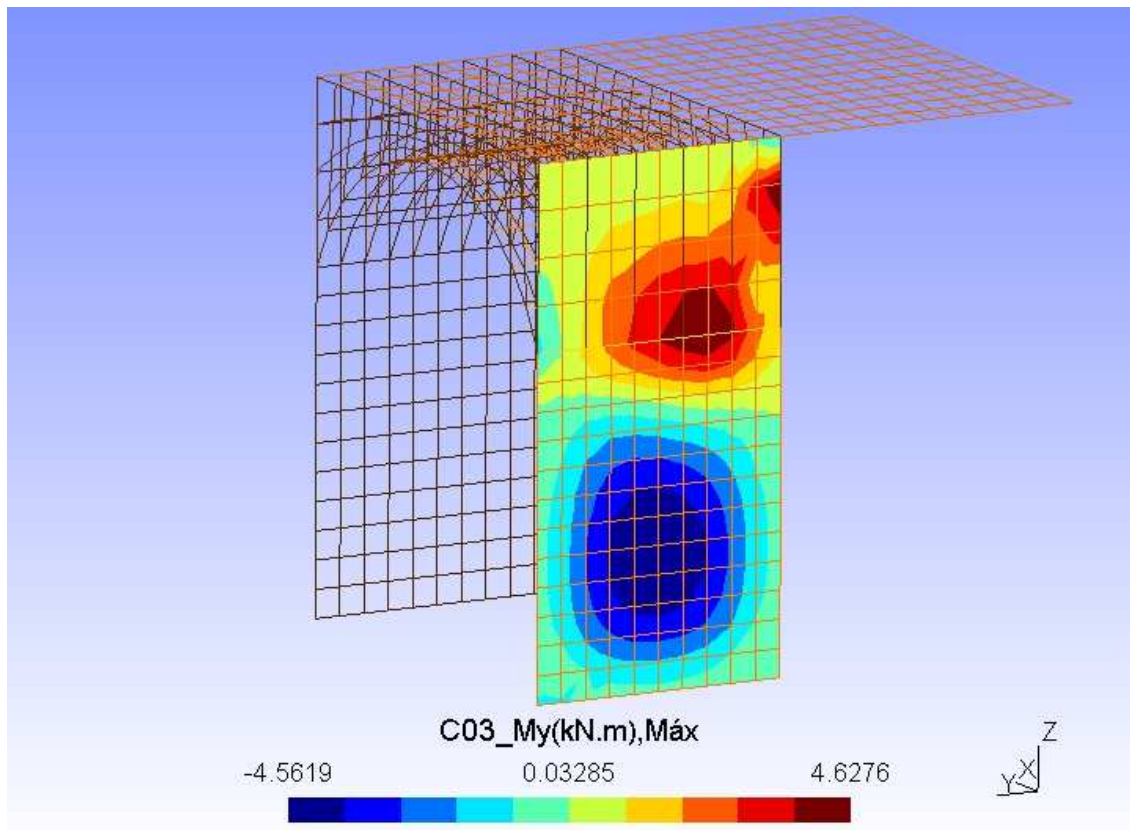
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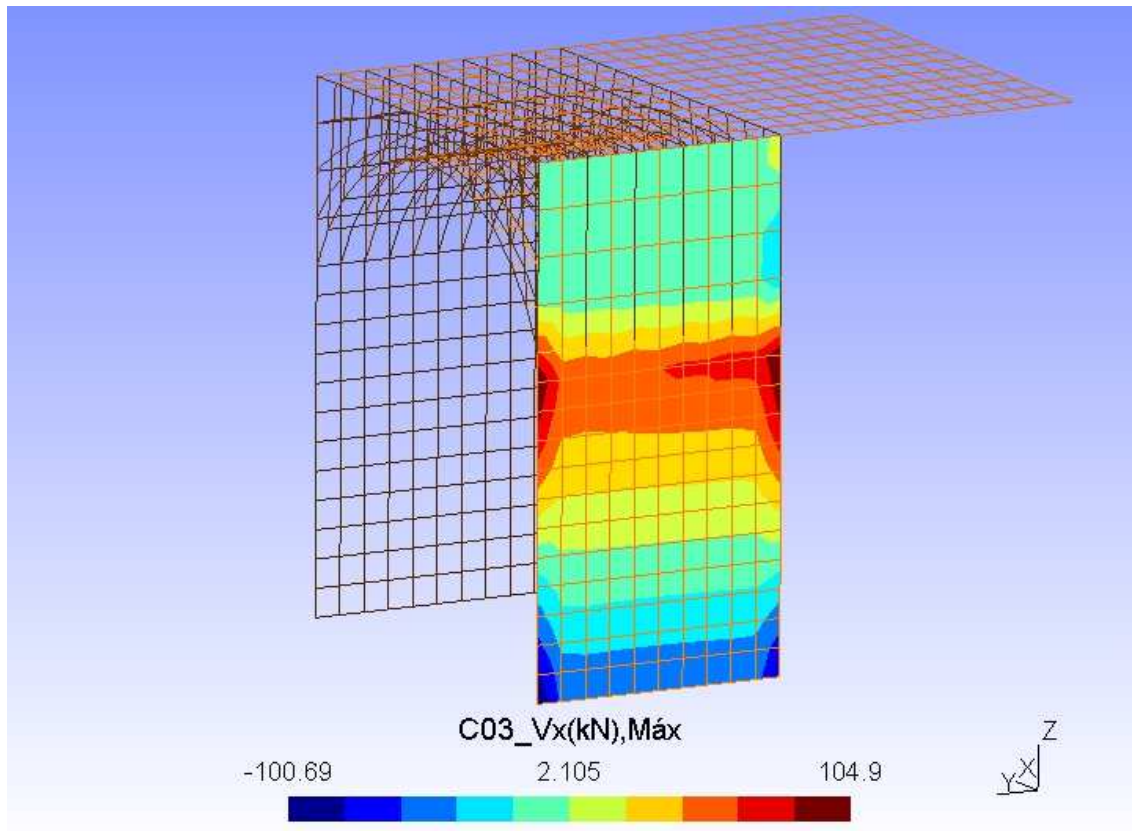
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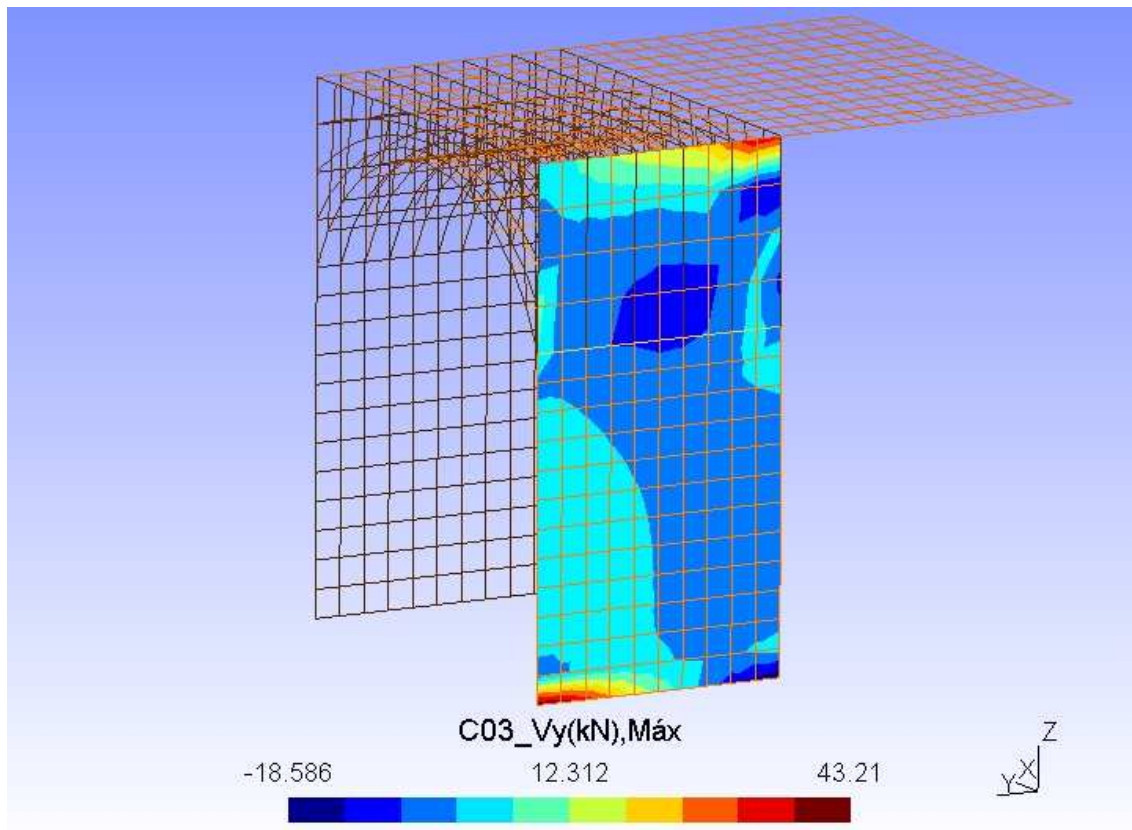
042-Combinación 3 - Momentos Flectores M_x Máx.jpg



043-Combinación 3 - Momentos Flectores M_y Máx.jpg

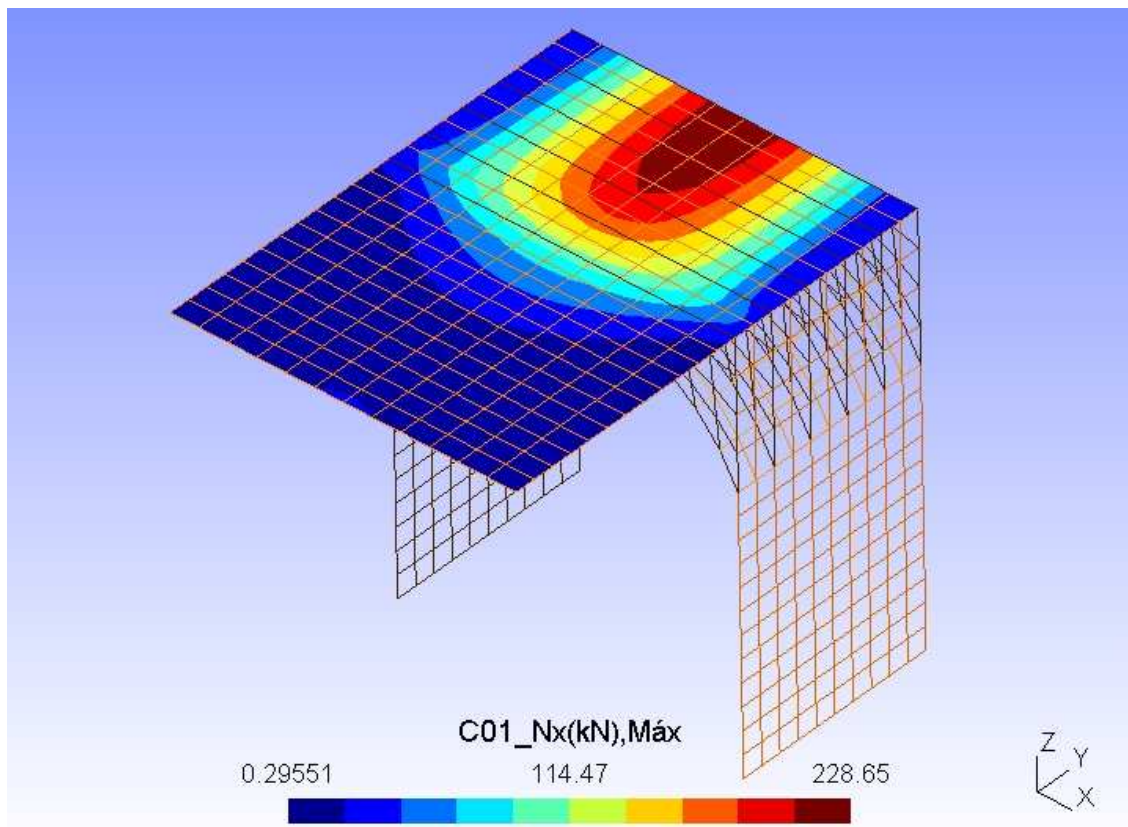


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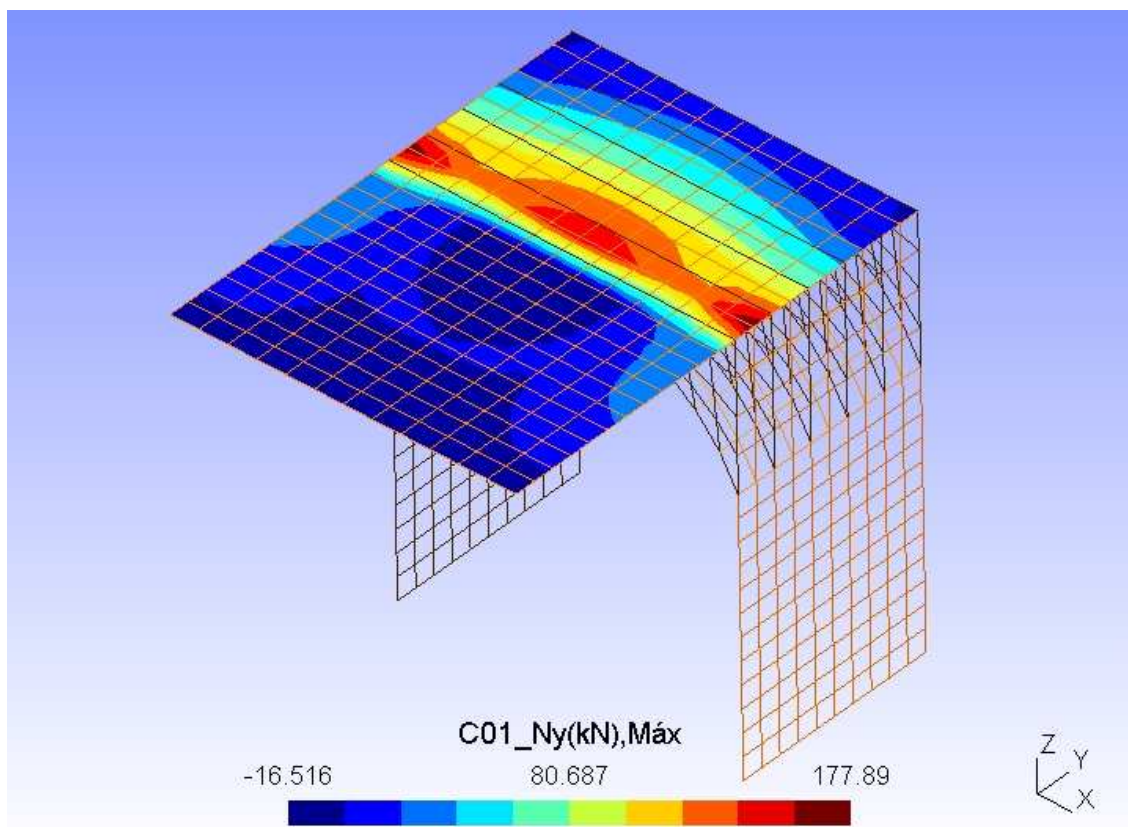


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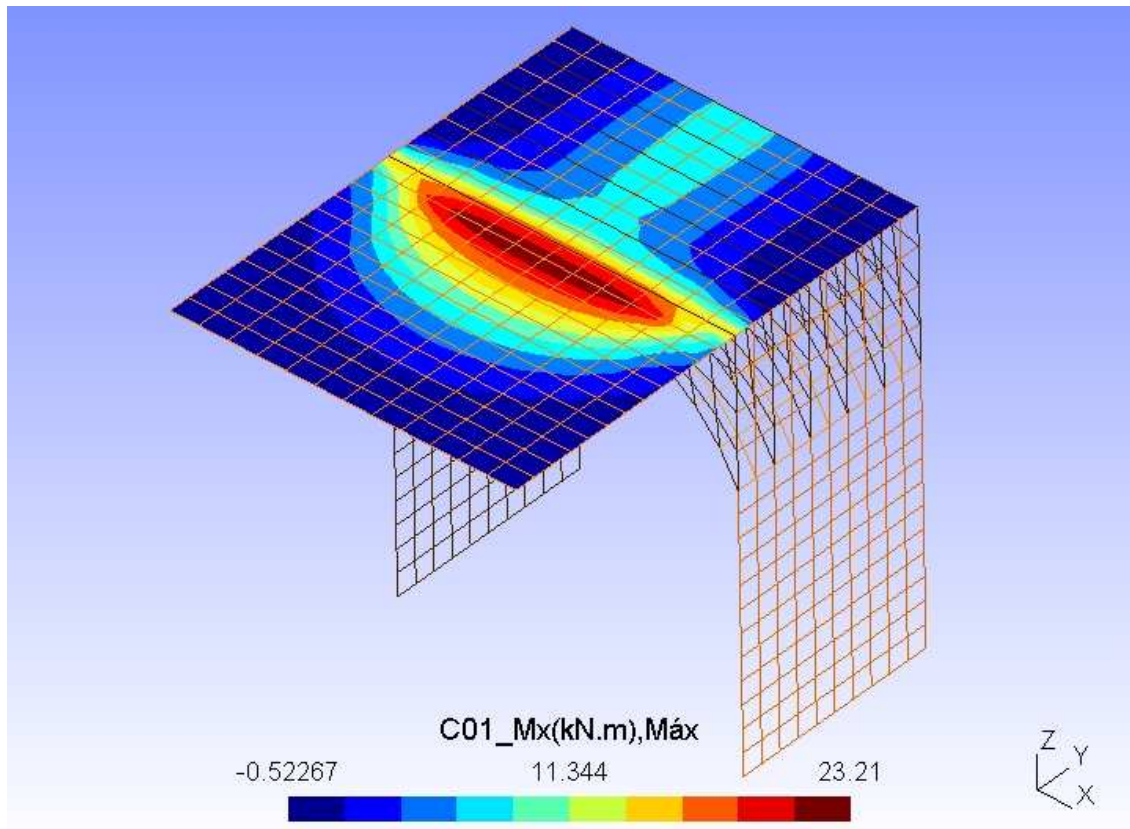
COMBINACIÓN 1 - ESFUERZOS EN ELU



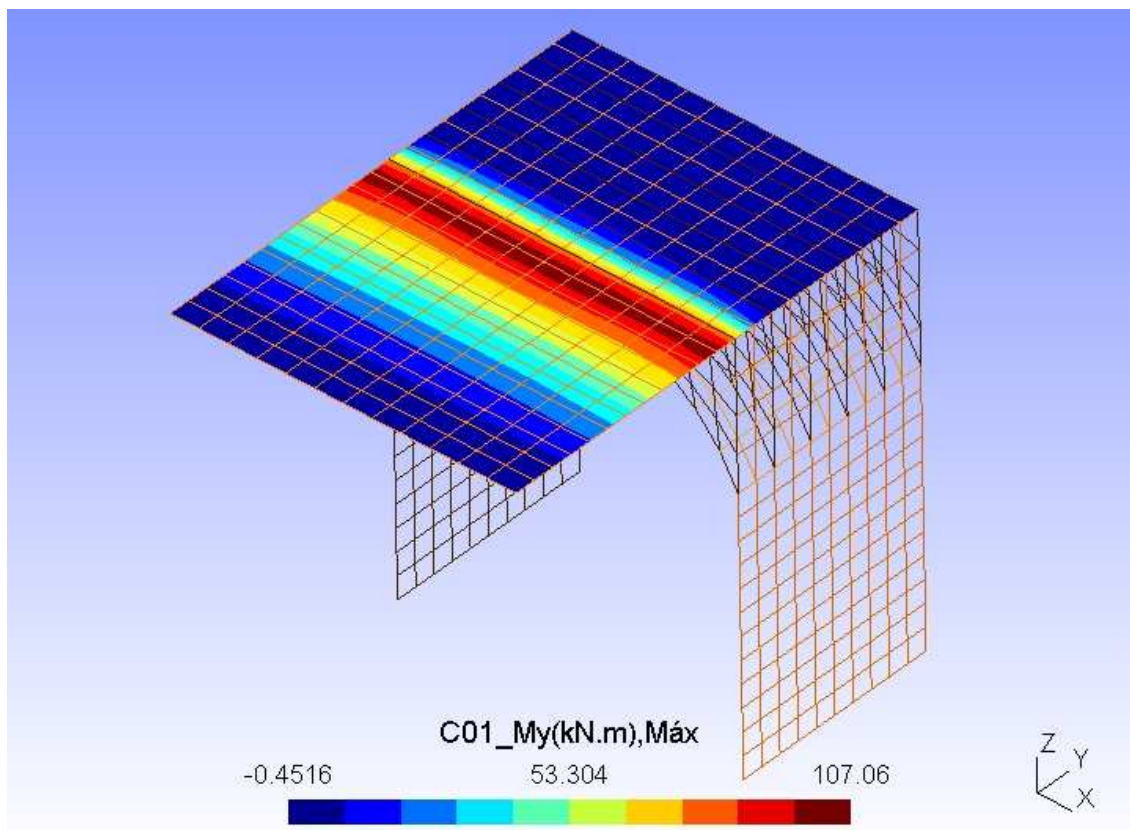
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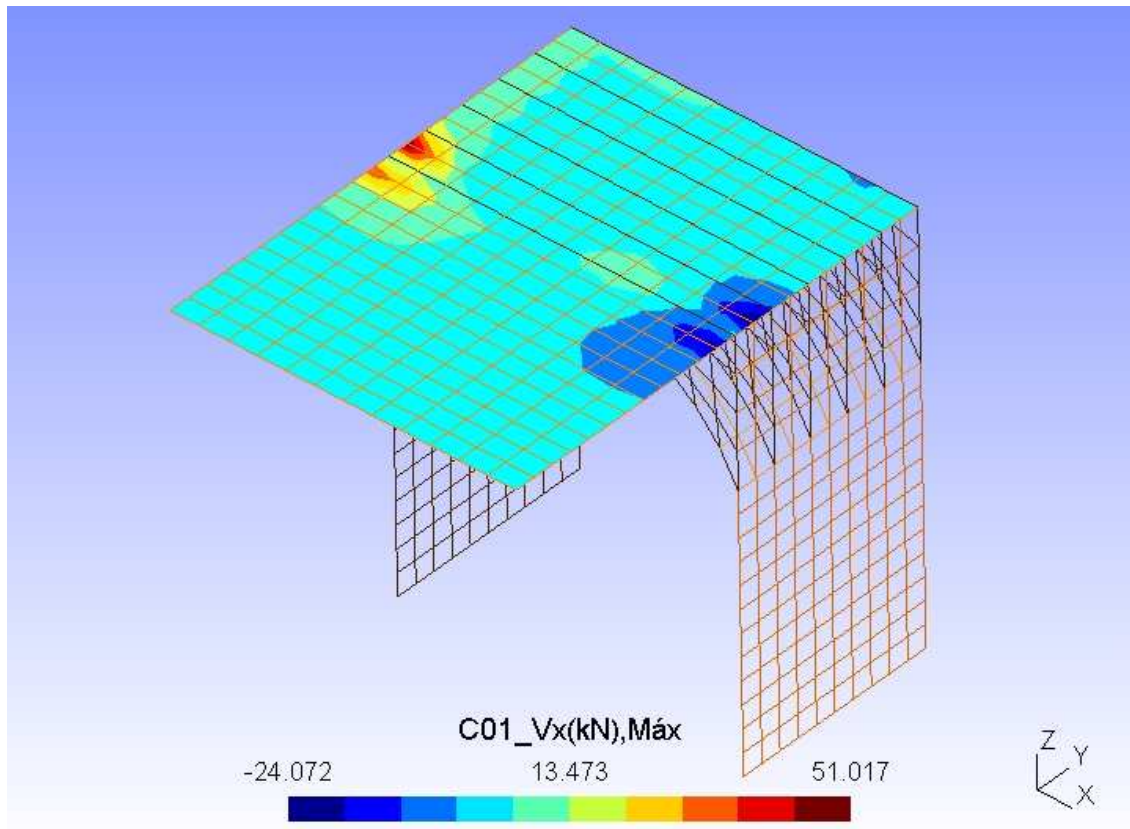
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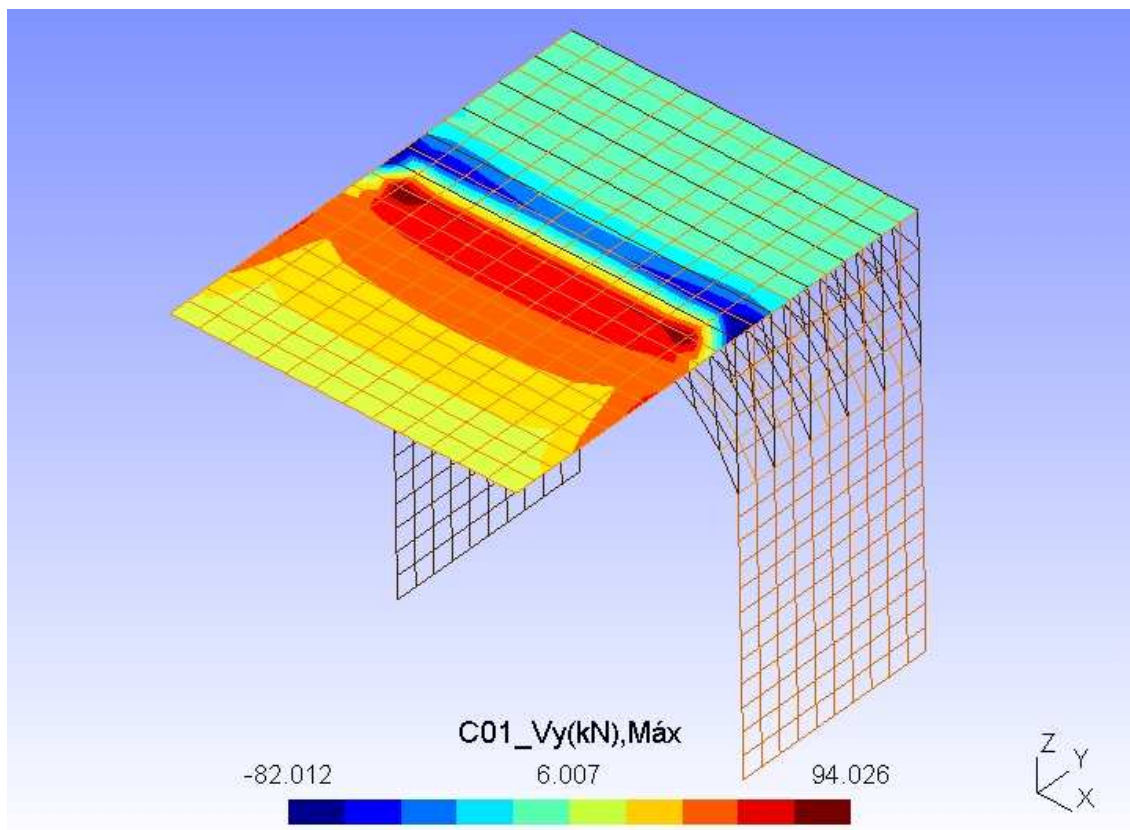
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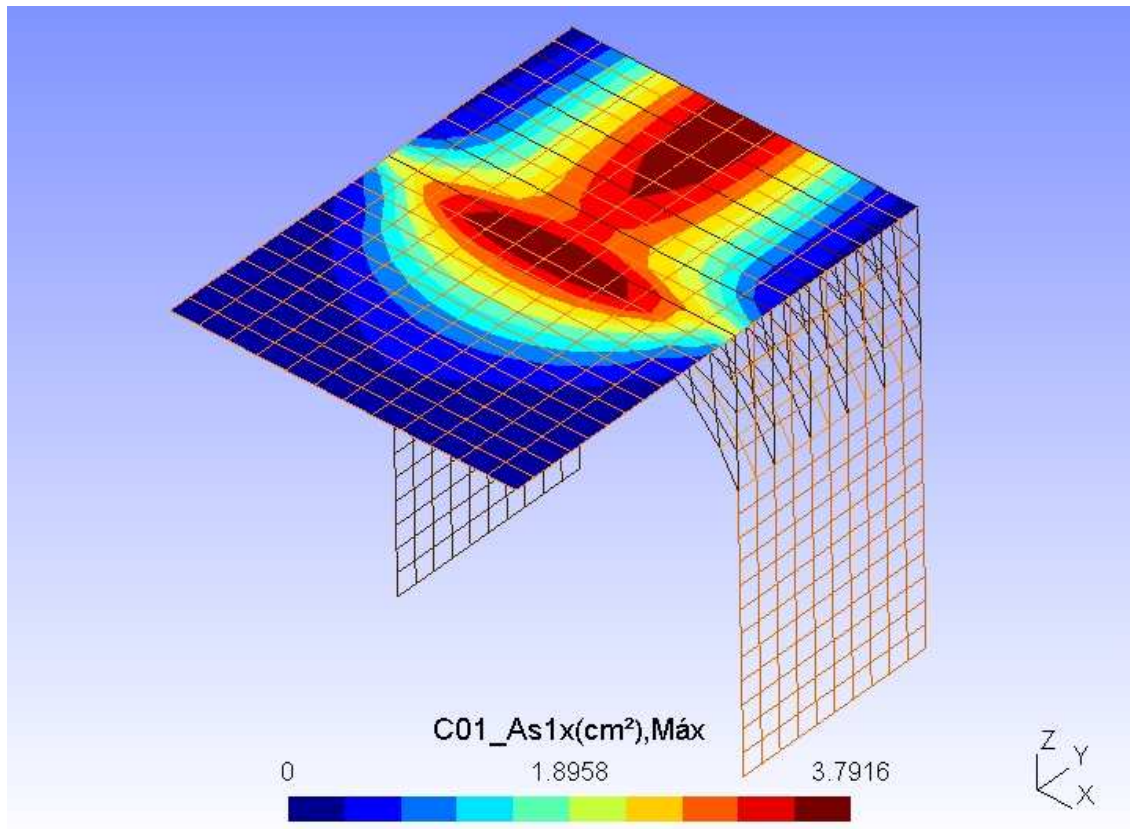
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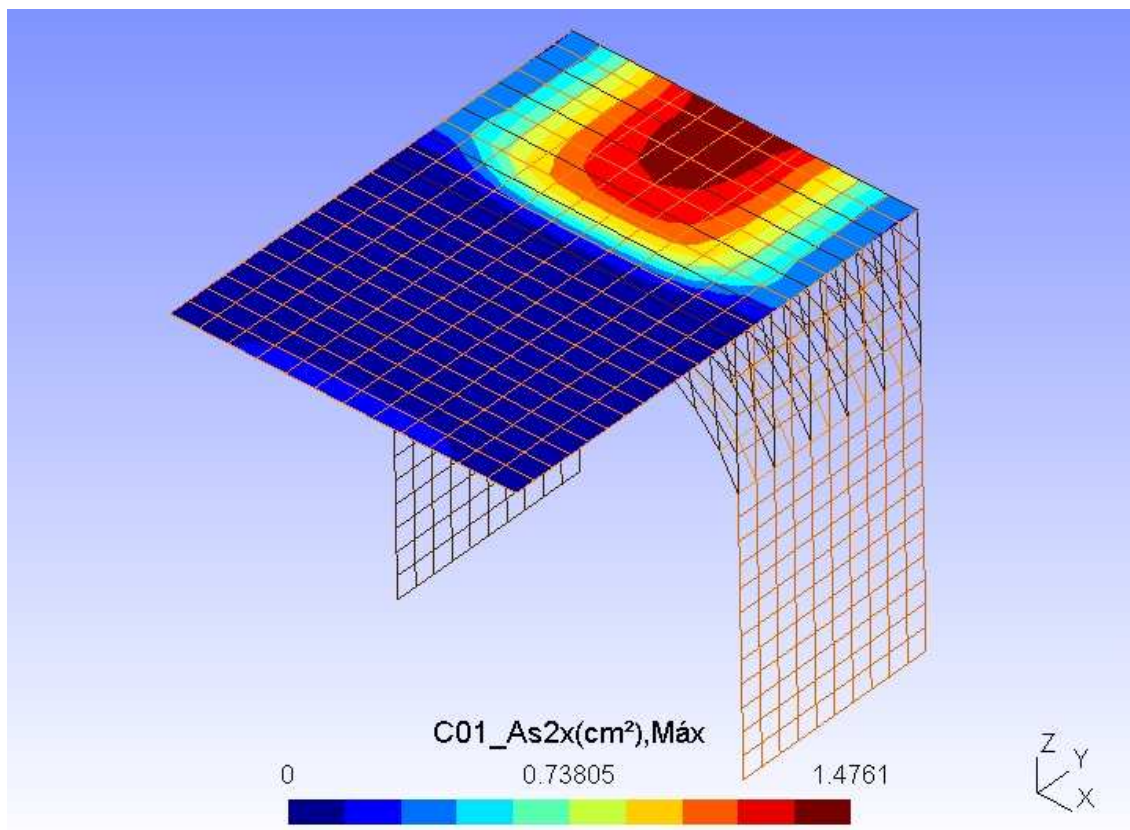
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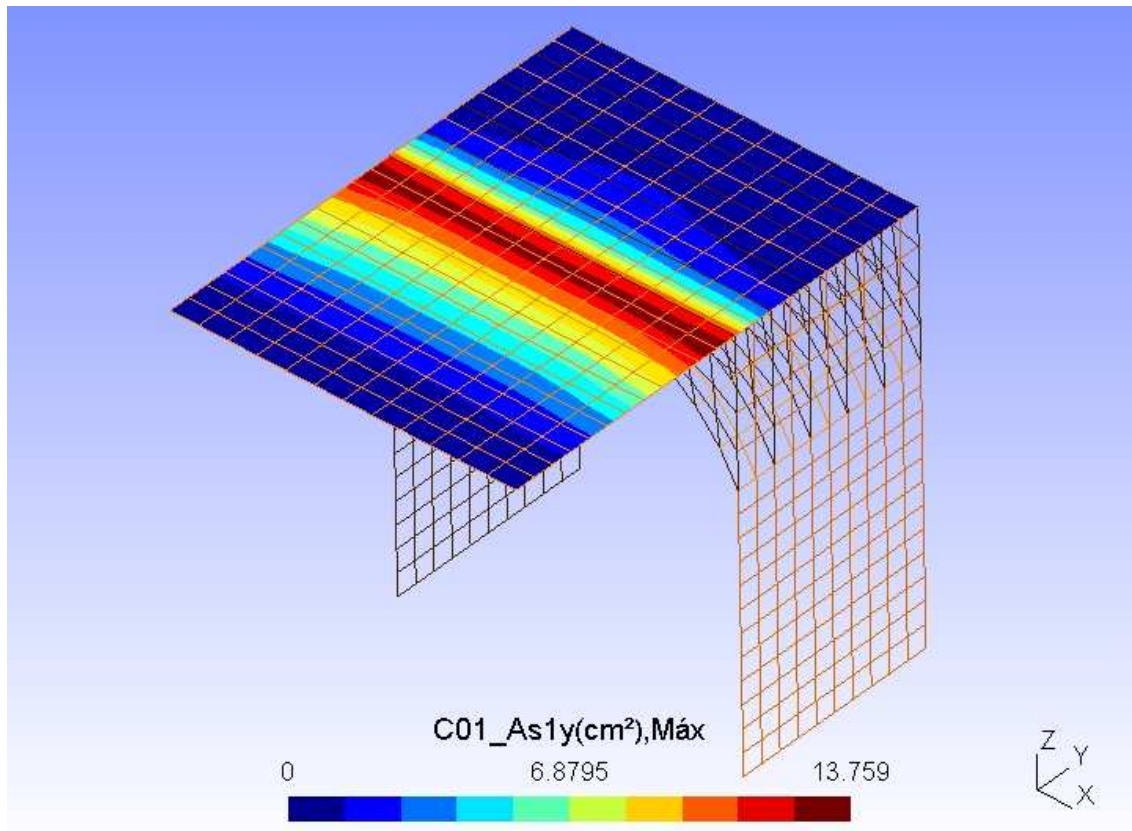
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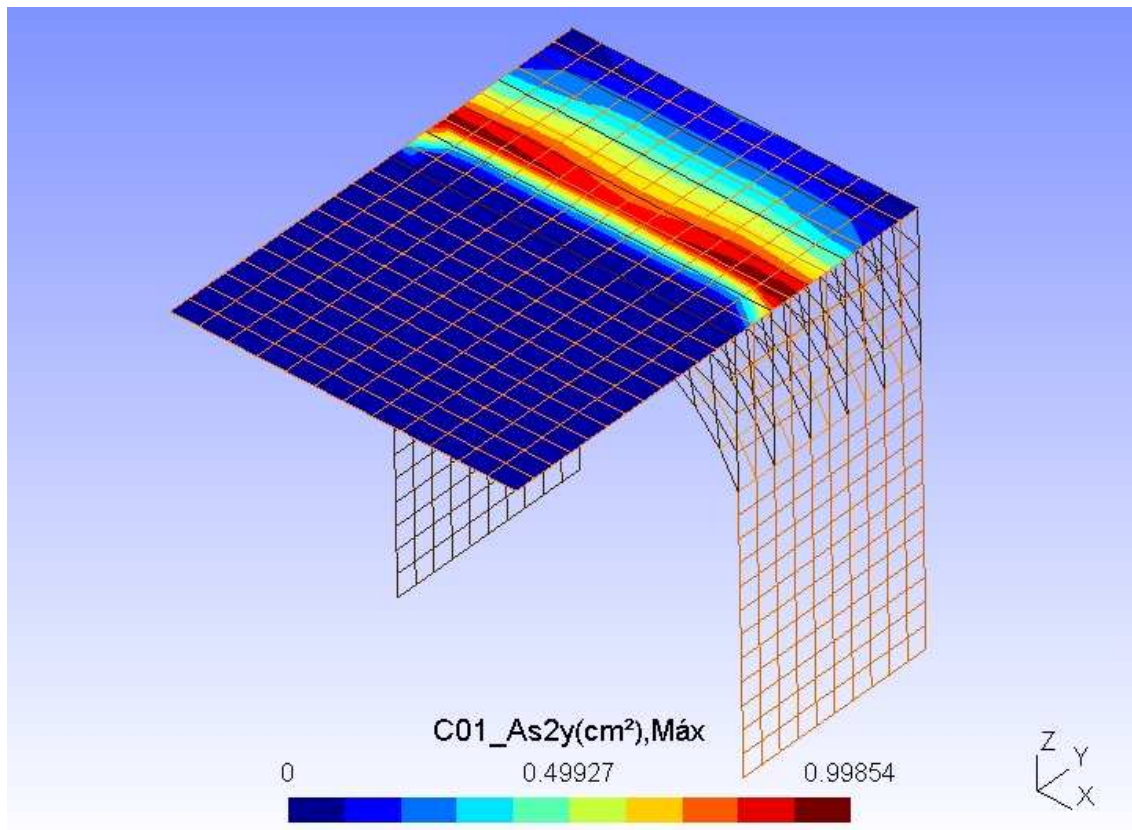
006-Combinación 1 - Armadura As1x Máx.jpg



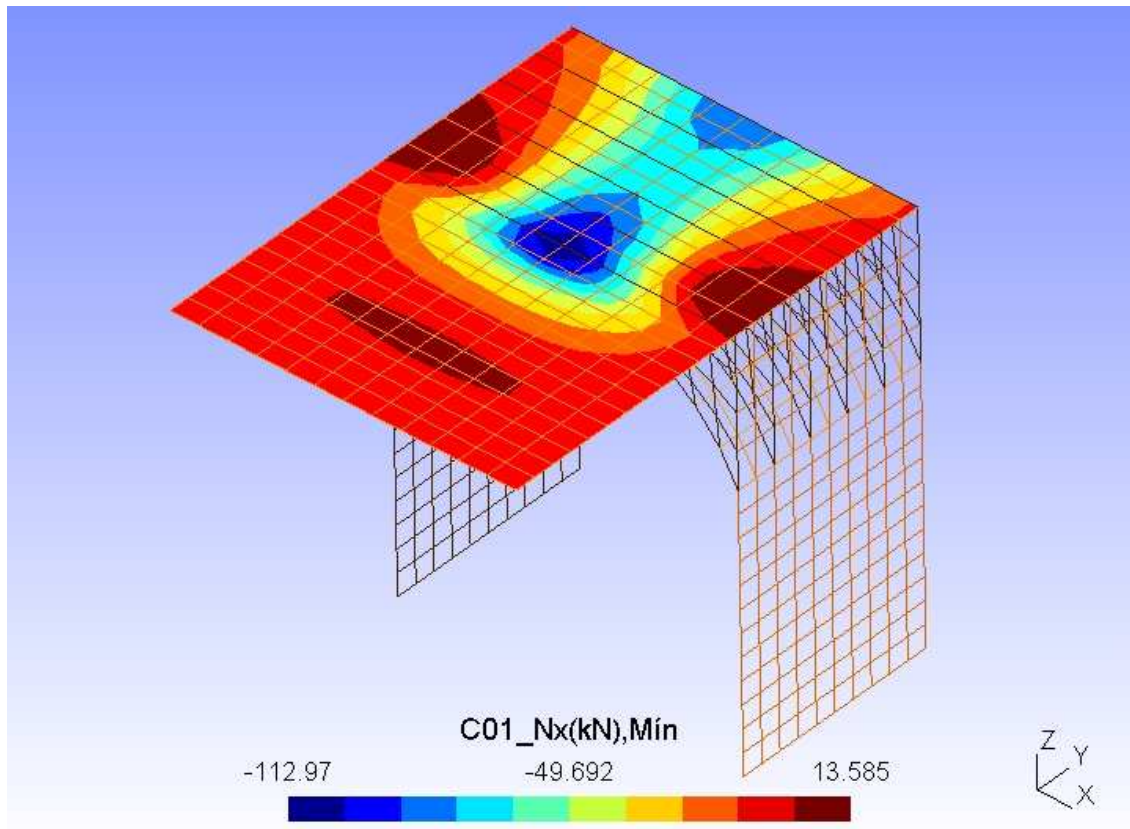
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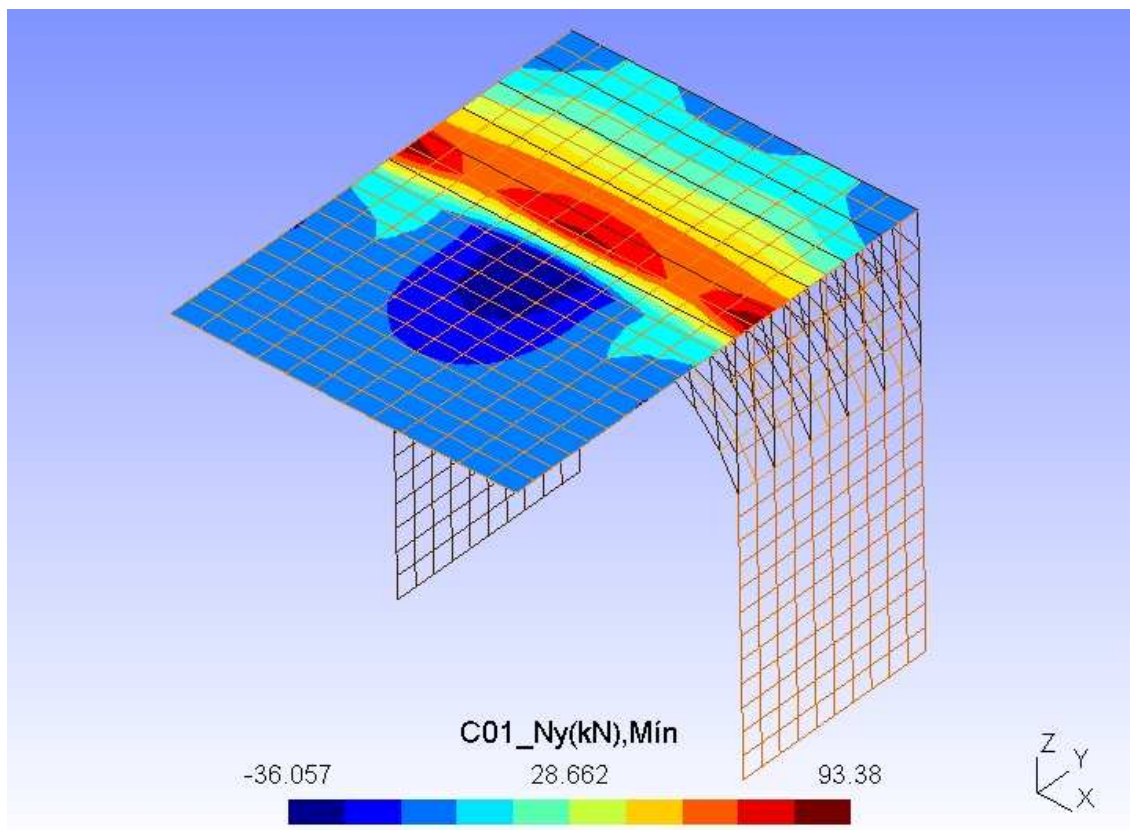
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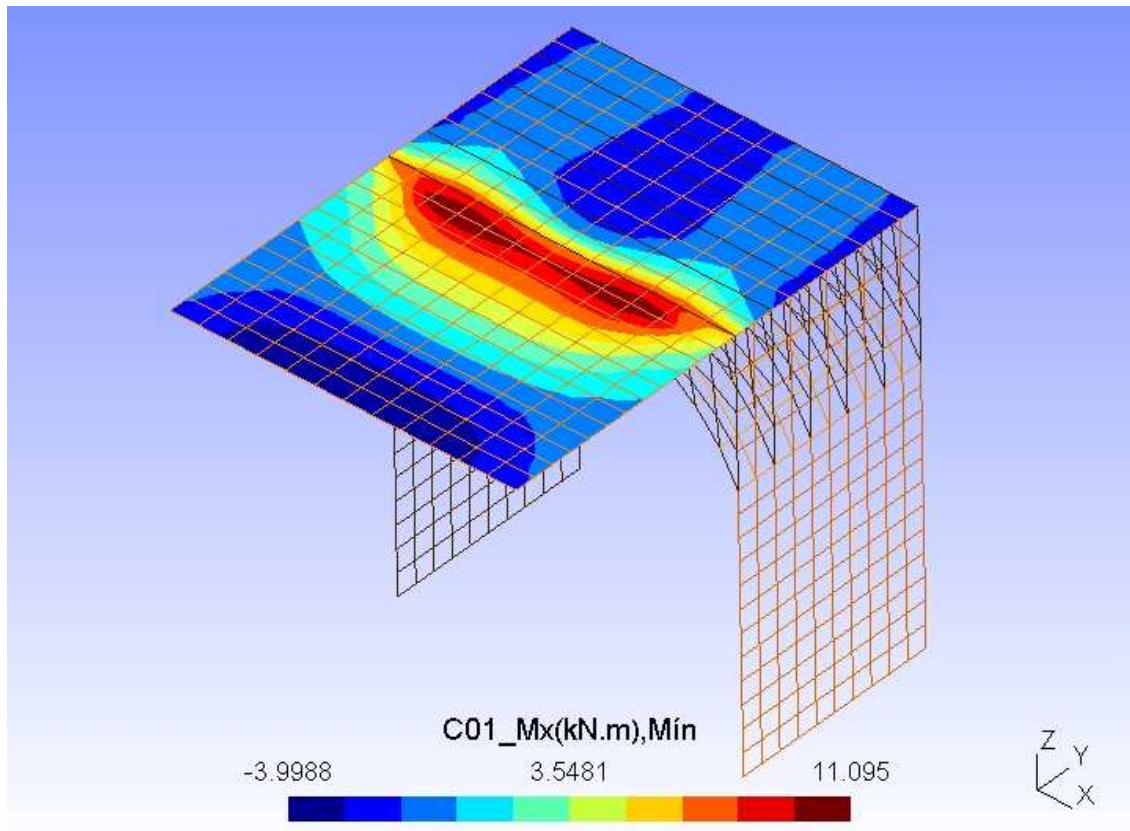
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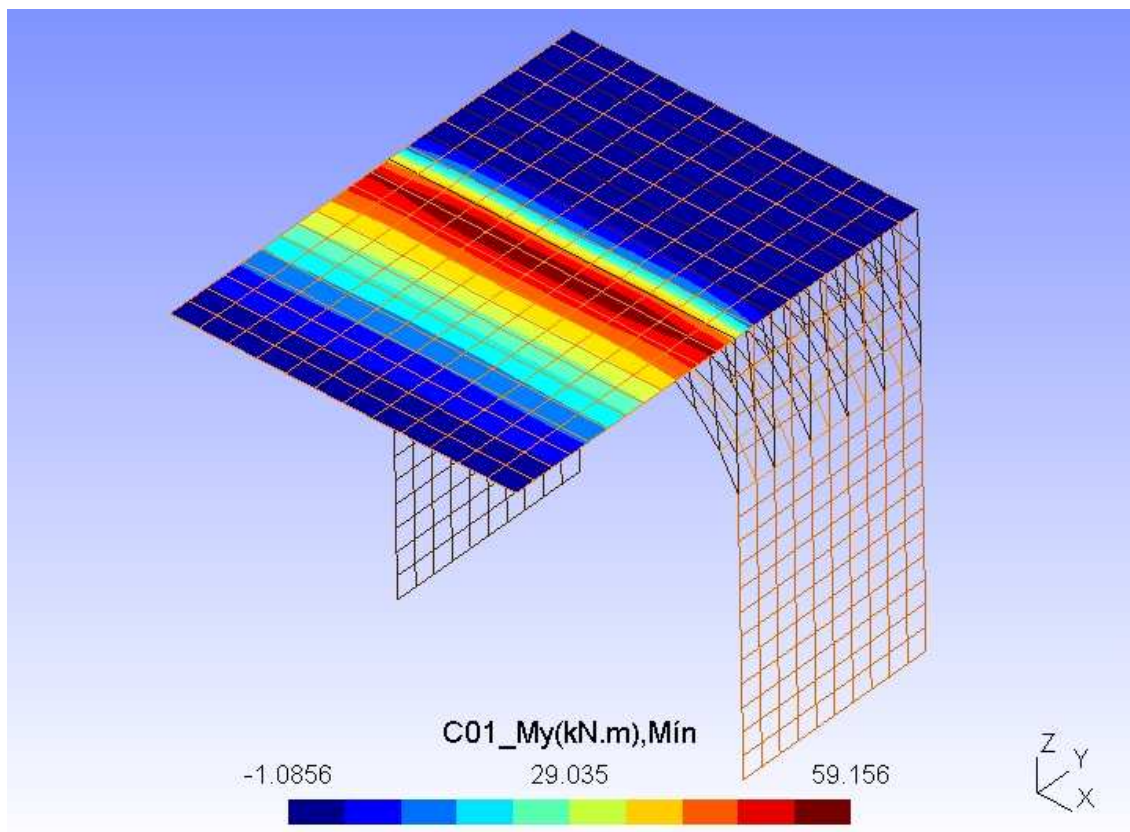
010-Combinación 1 - Esfuerzos Axiles N_x Mín.jpg



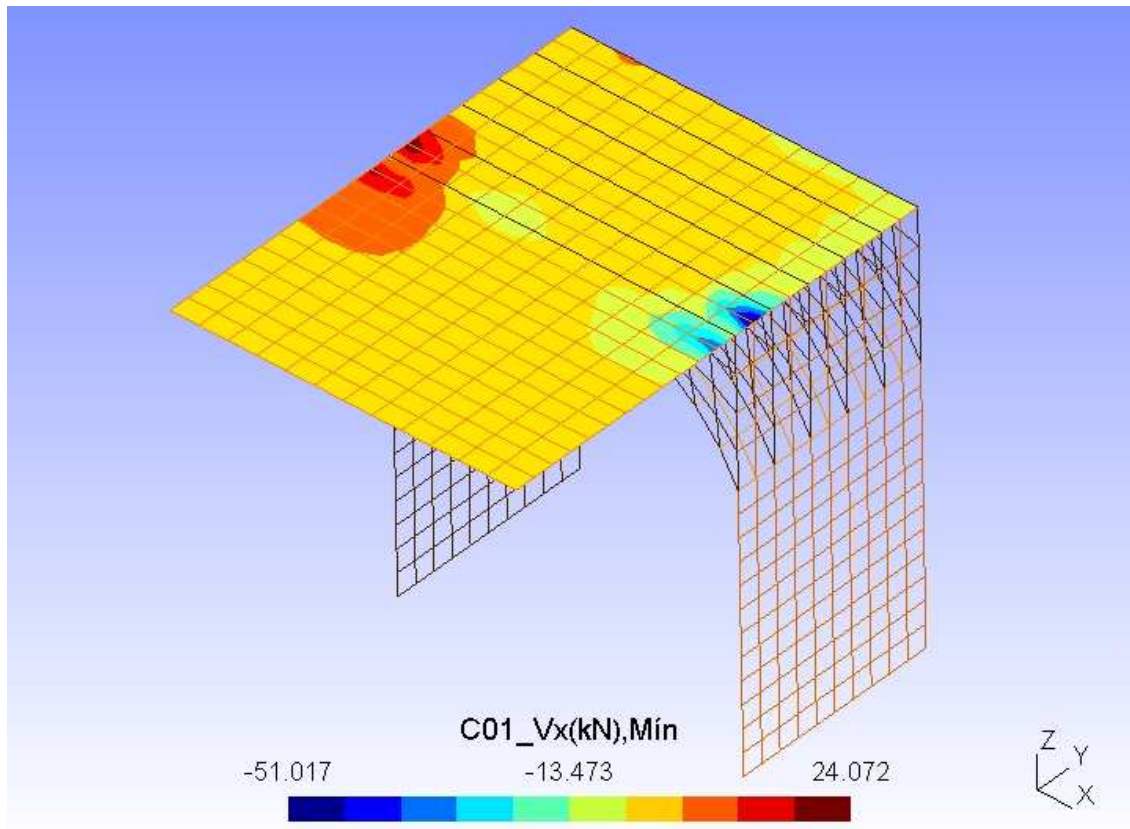
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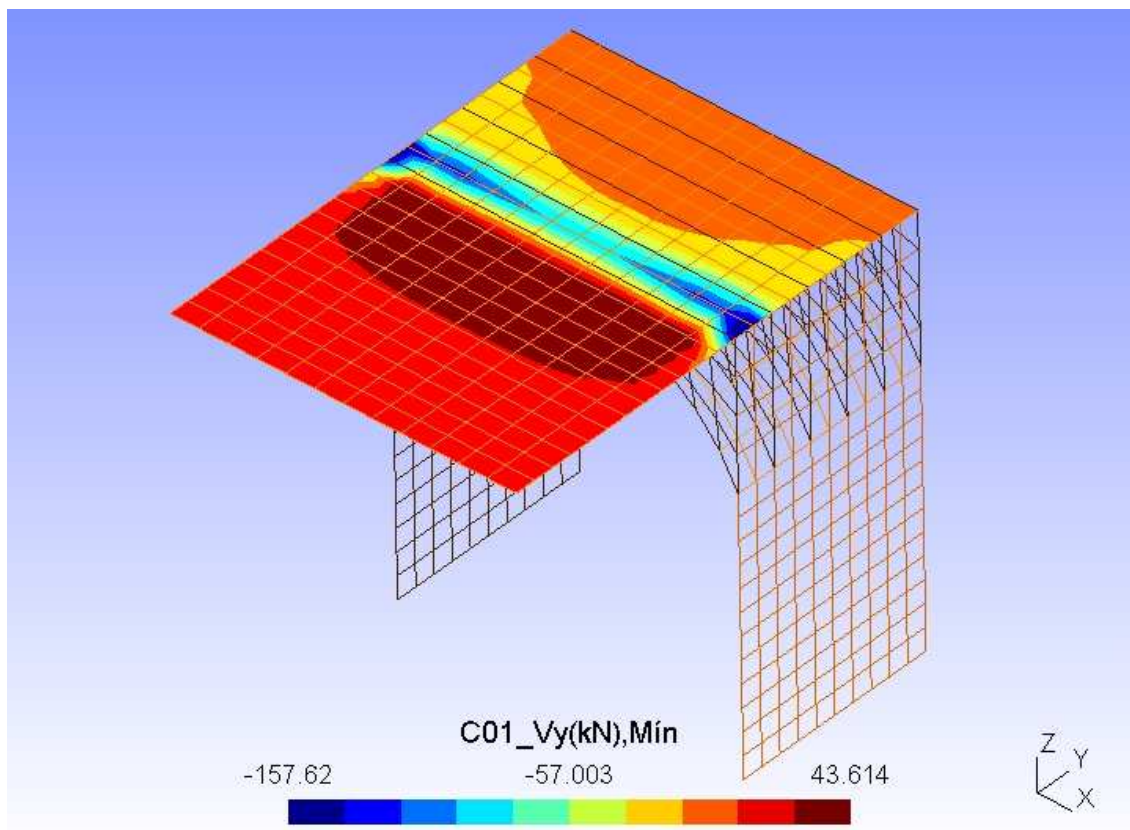
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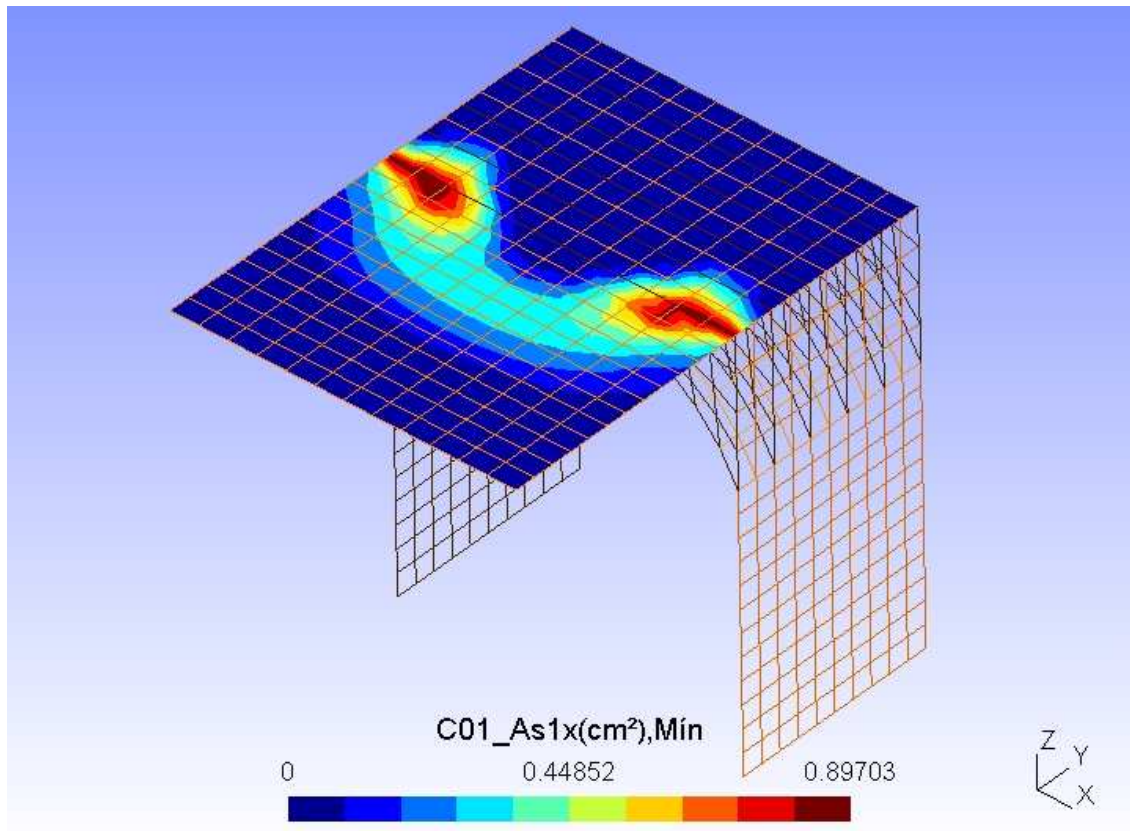
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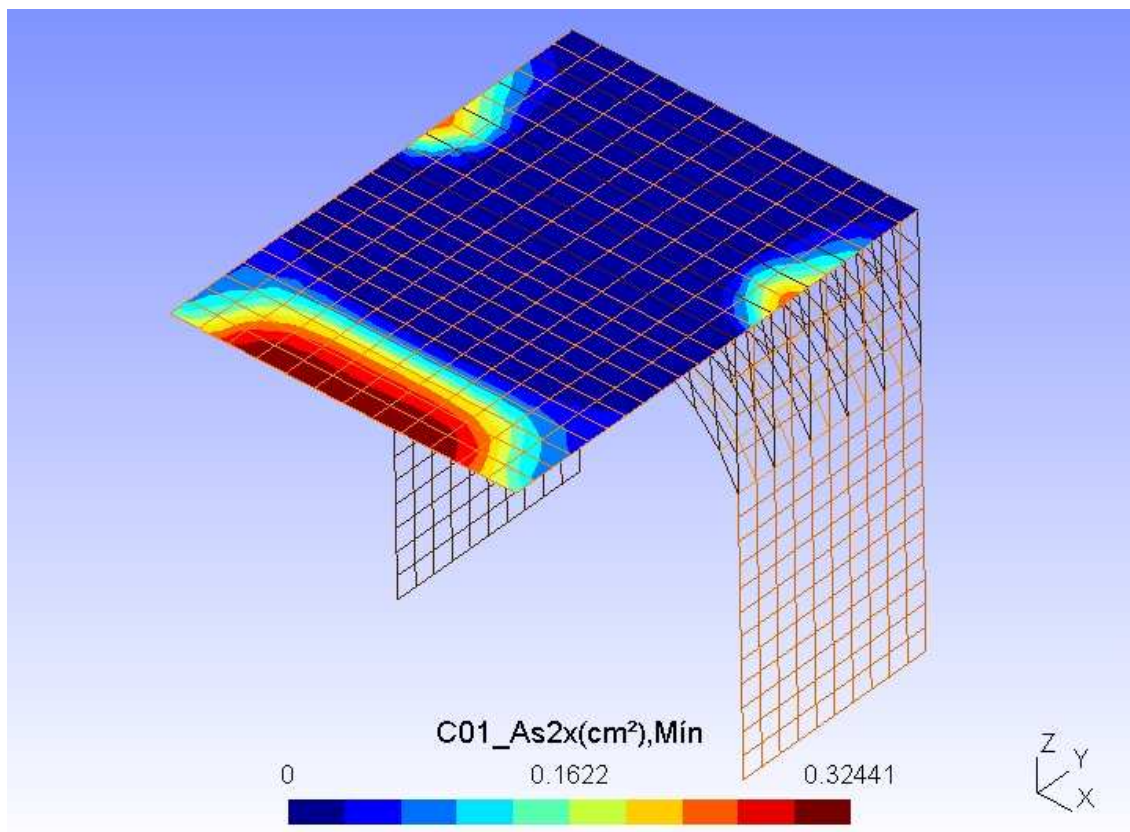
014-Combinación 1 - Esfuerzos Cortantes V_x Mín.jpg



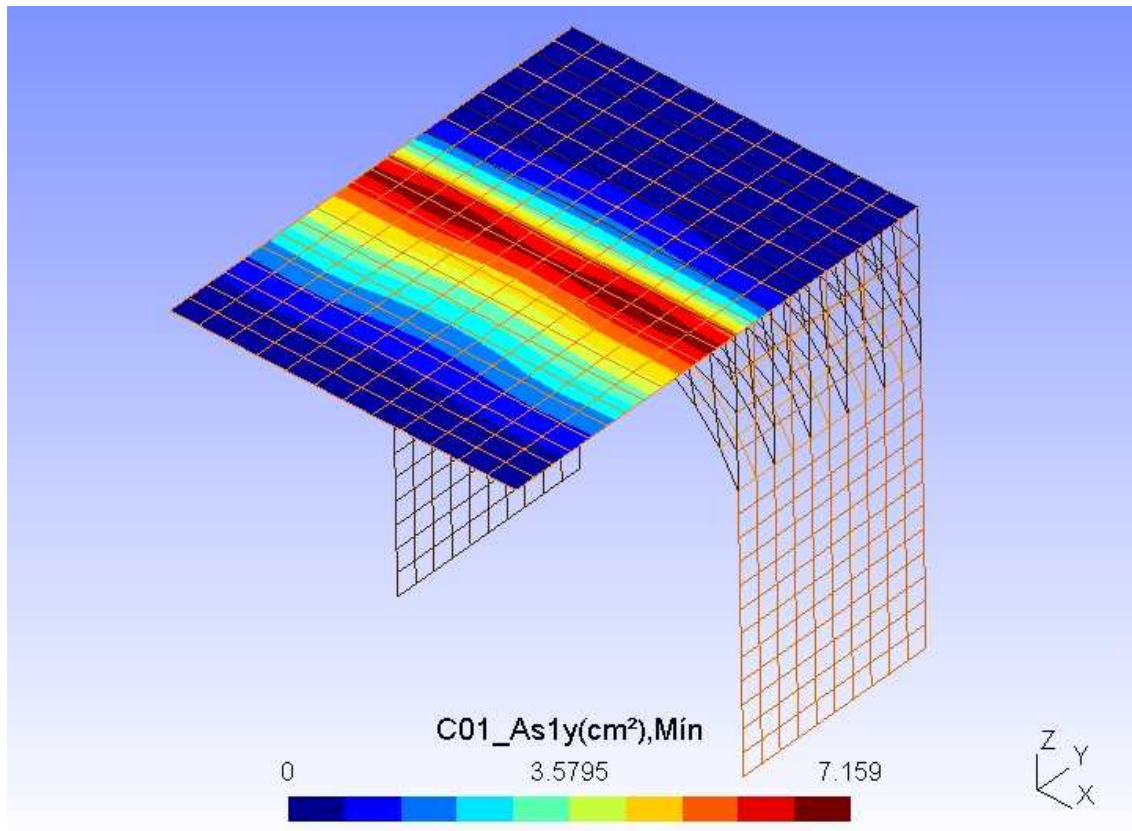
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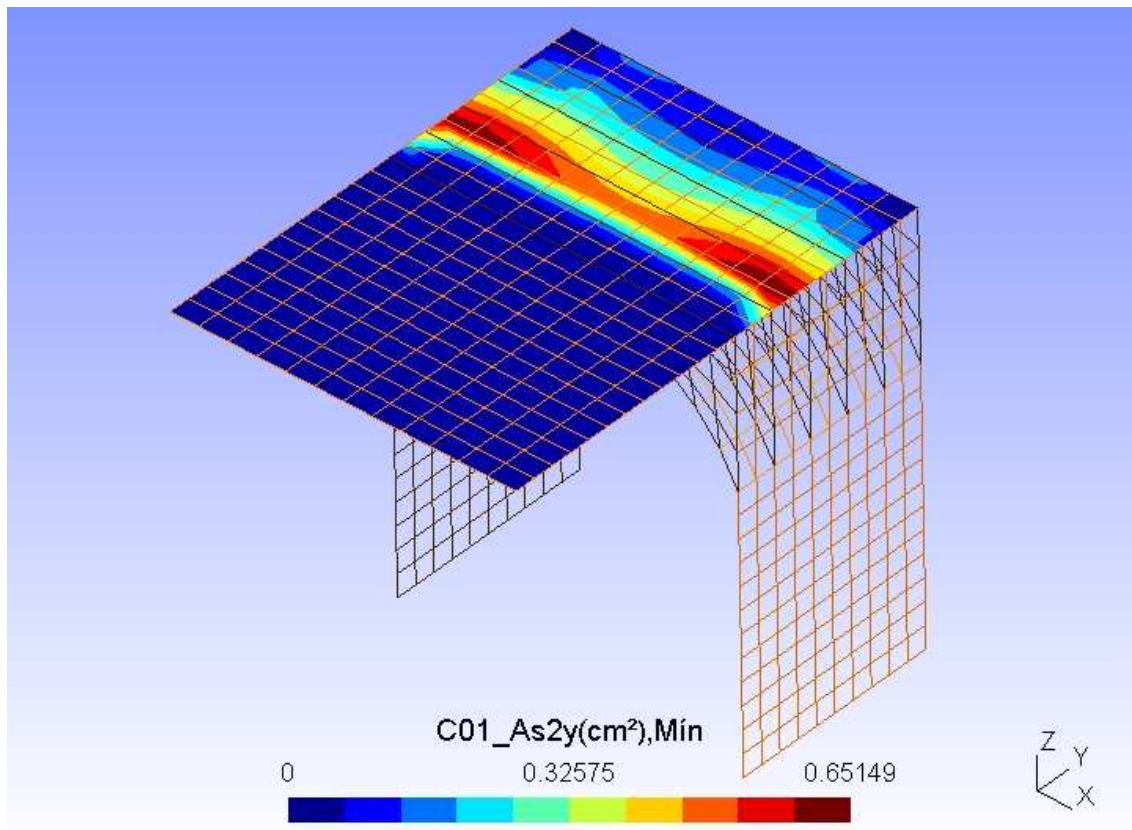
016-Combinación 1 - Armadura As1x Mín.jpg



017-Combinación 1 - Armadura As2x Mín.jpg

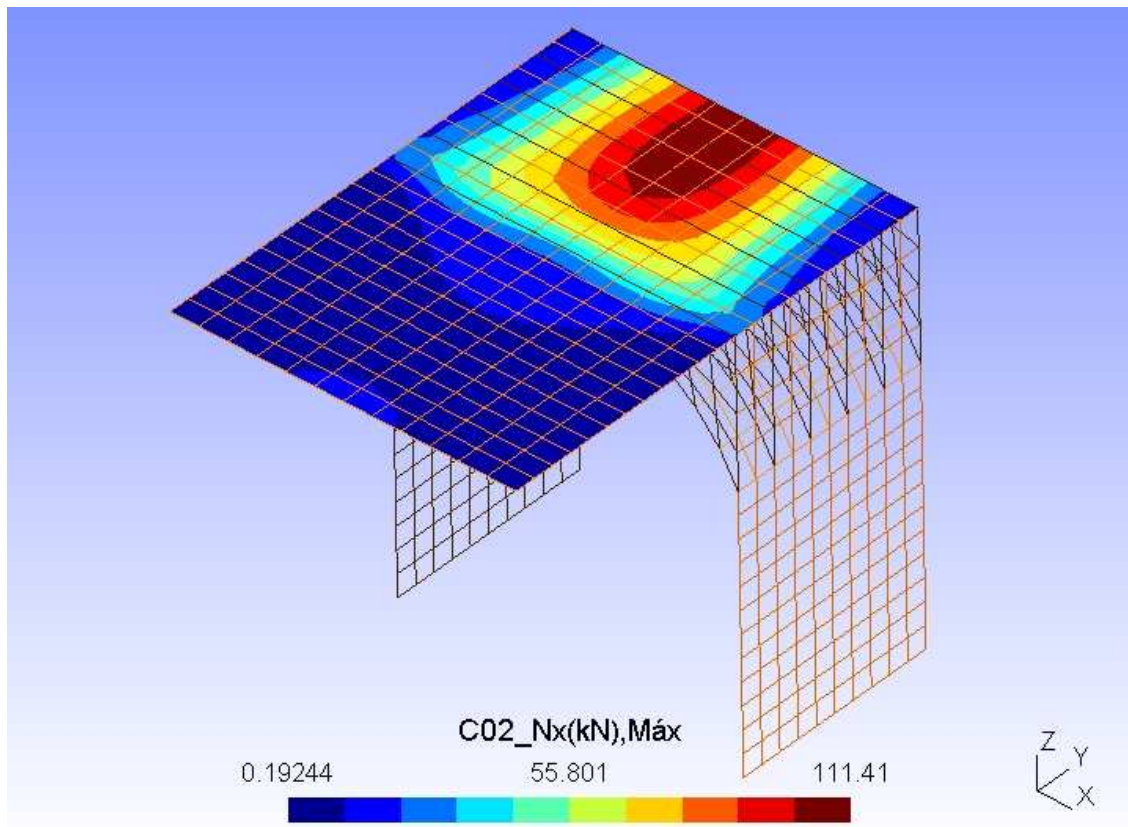


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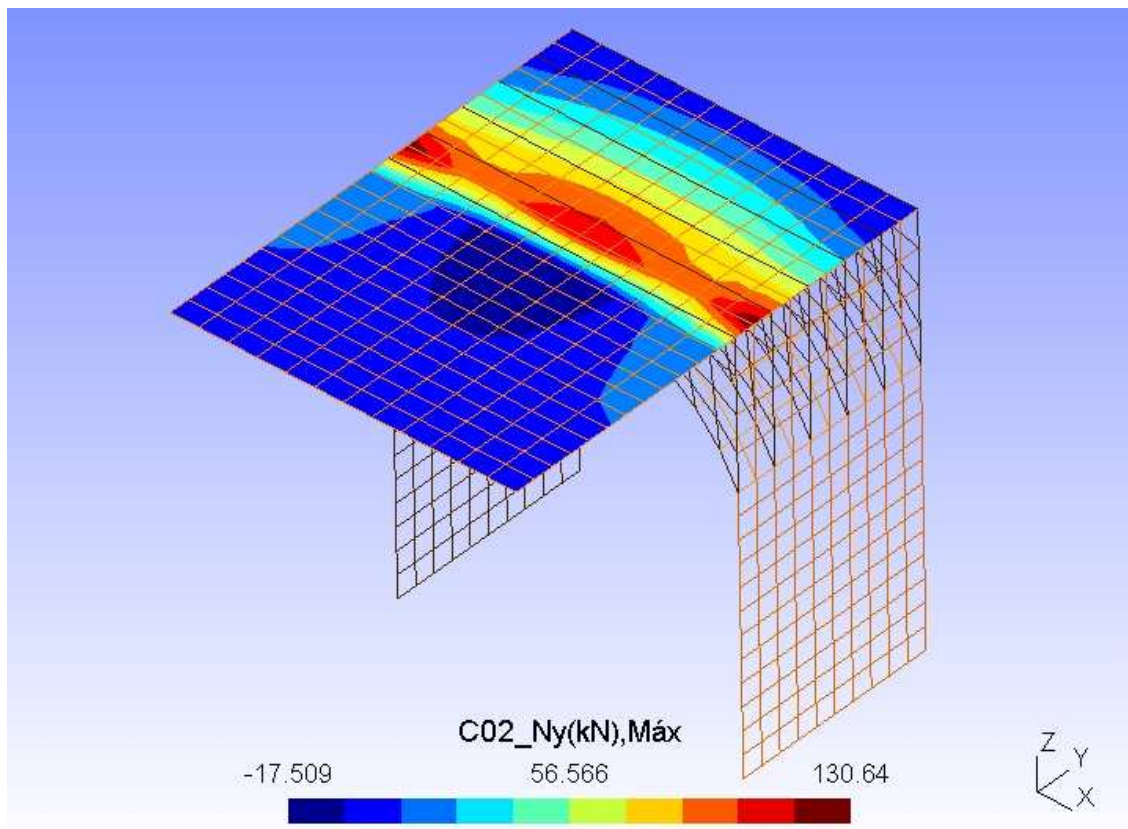


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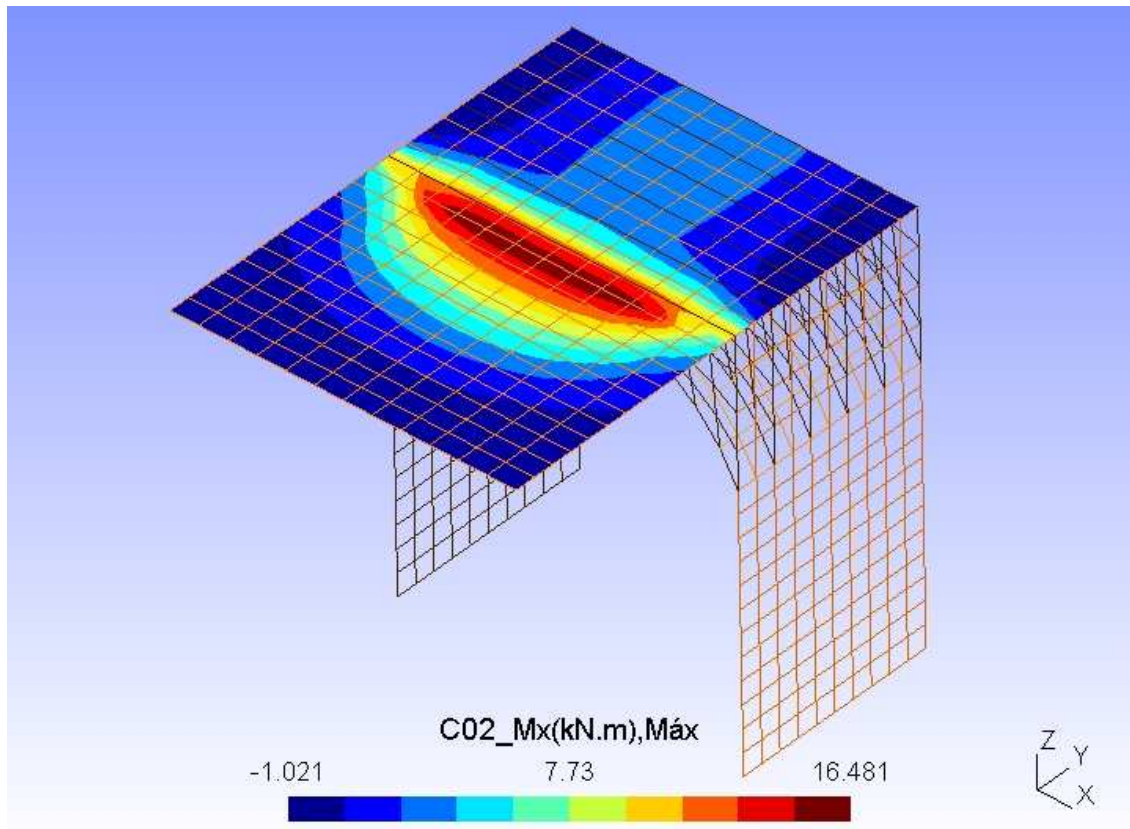
COMBINACIÓN 2 - ESFUERZOS EN ELS CARACTERÍSTICA



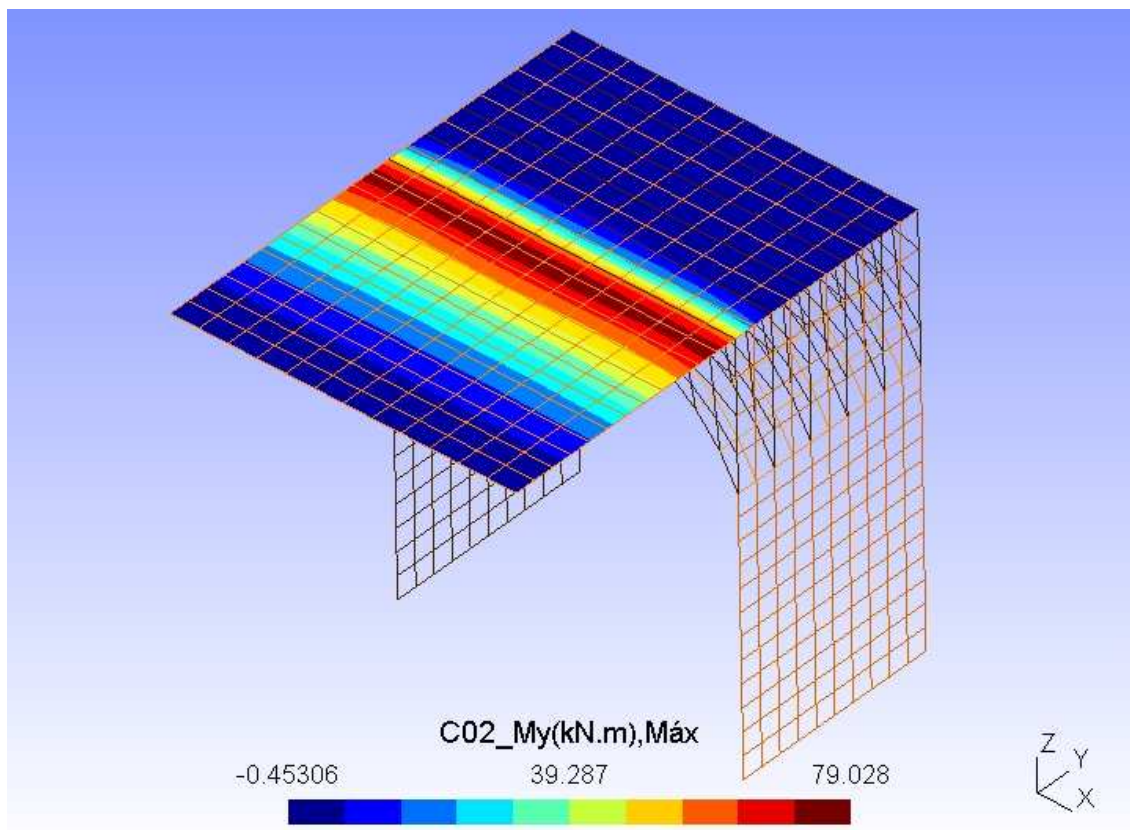
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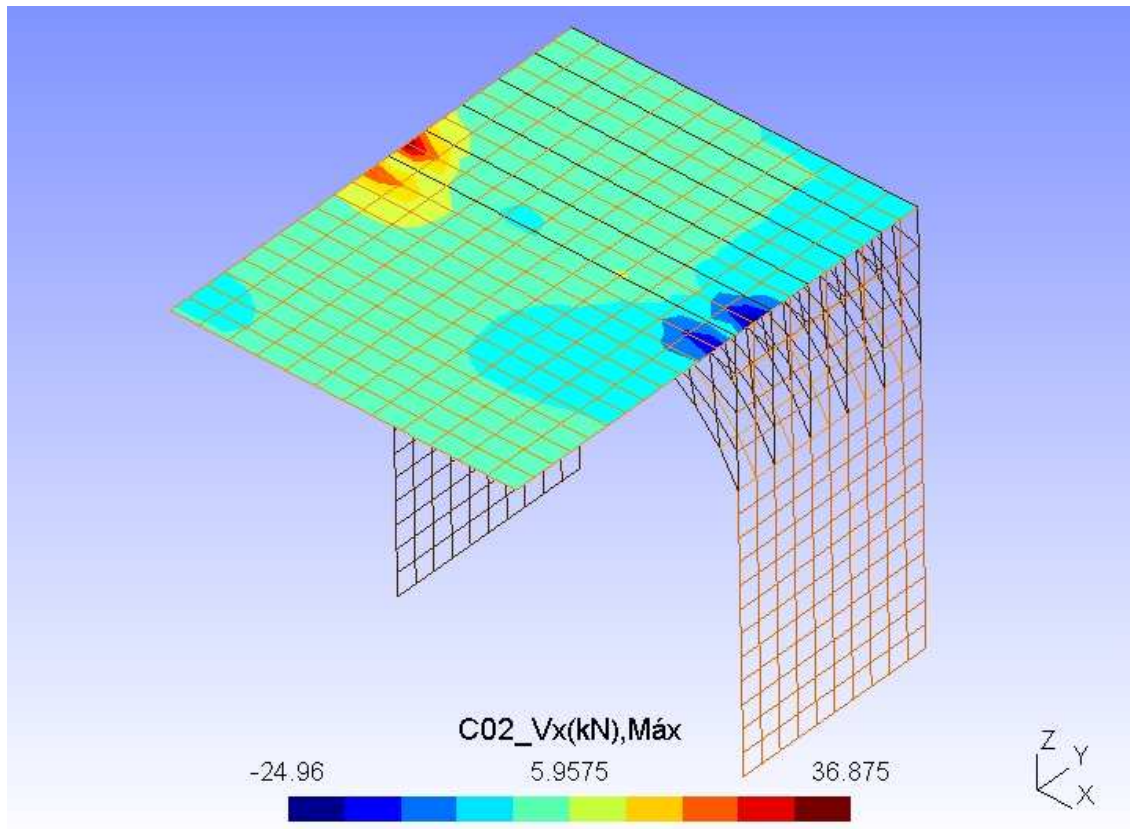
021-Combinación 2 - Esfuerzos Axiles Ny Máx.jpg



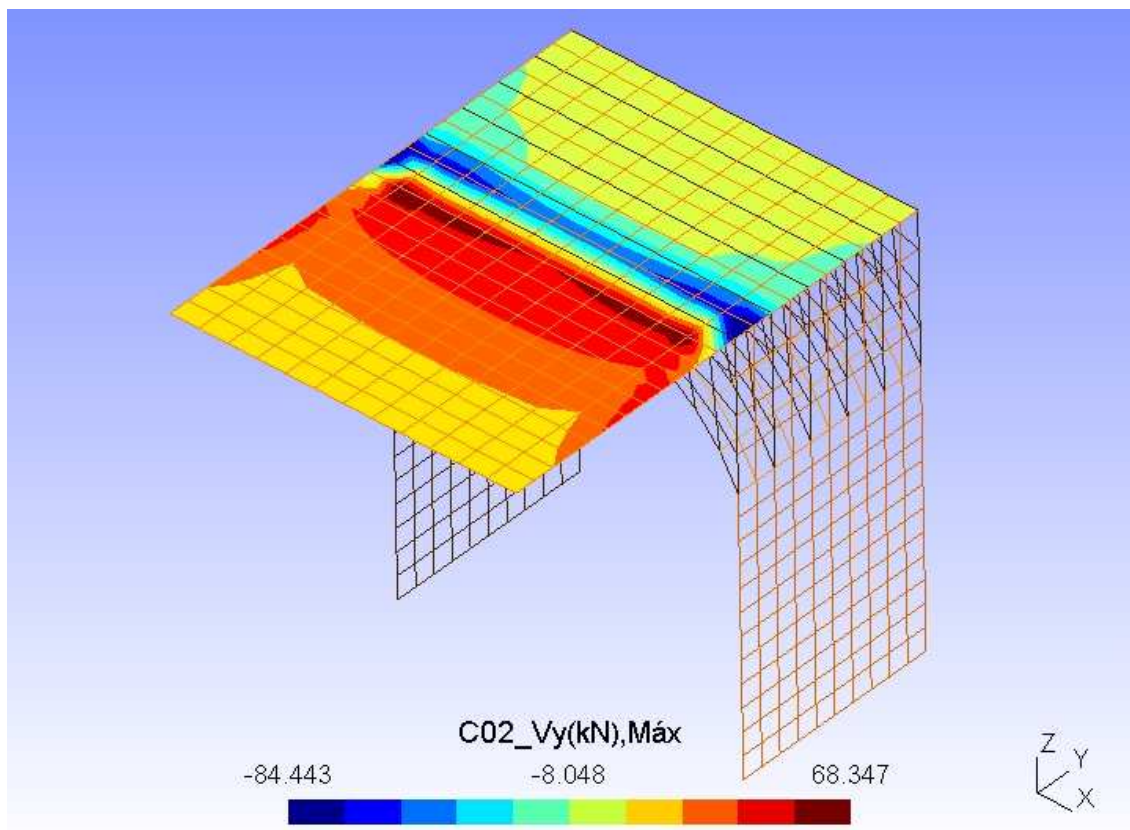
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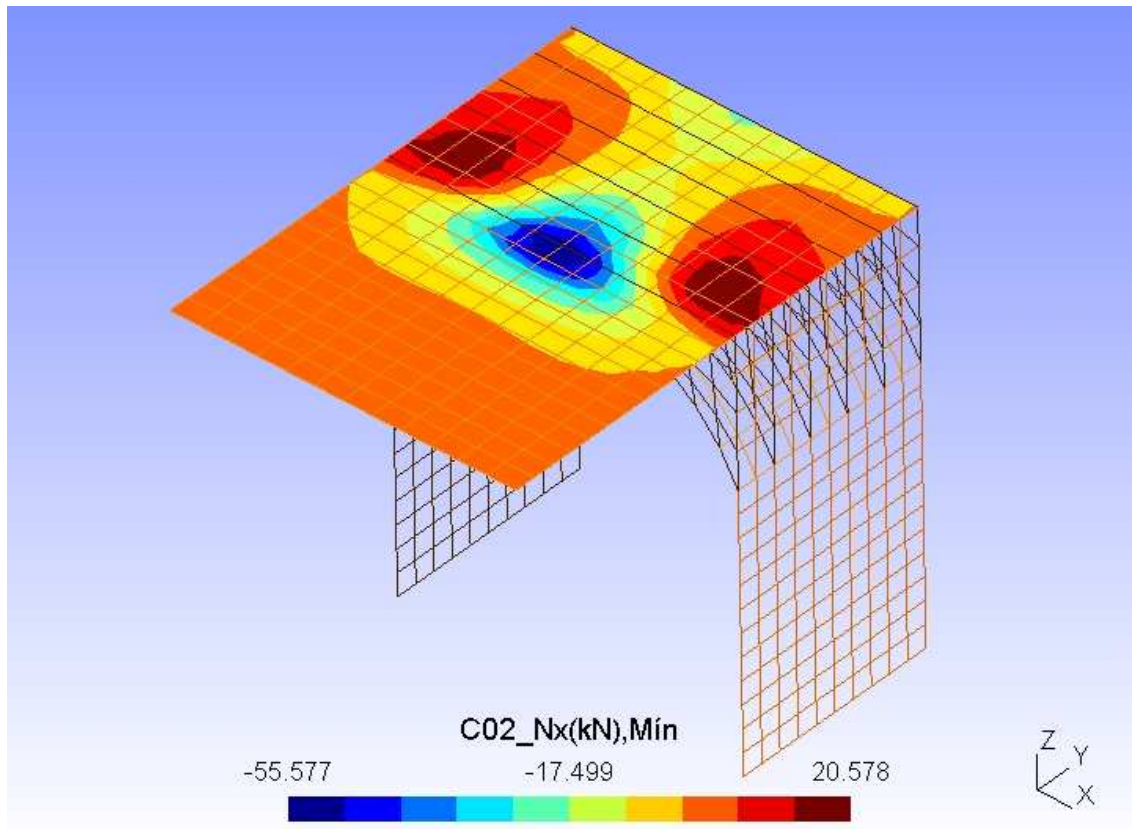
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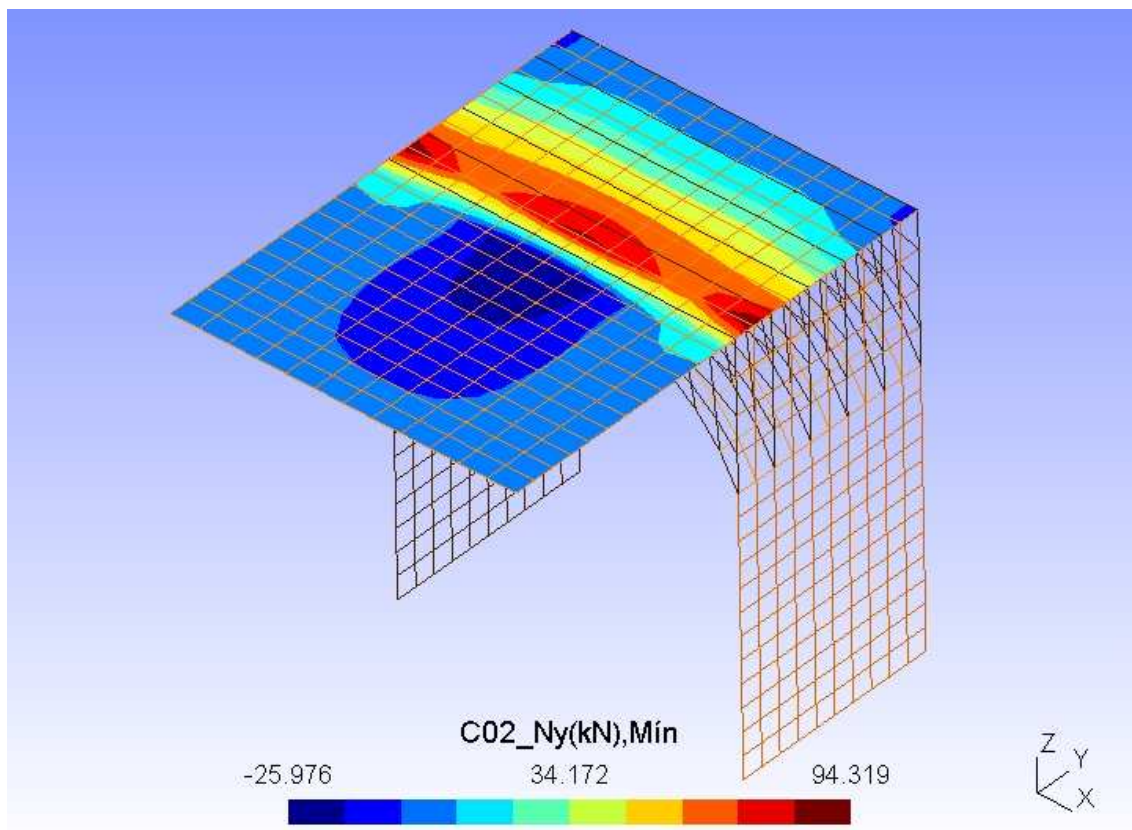
024-Combinación 2 - Esfuerzos Cortantes V_x Máx.jpg



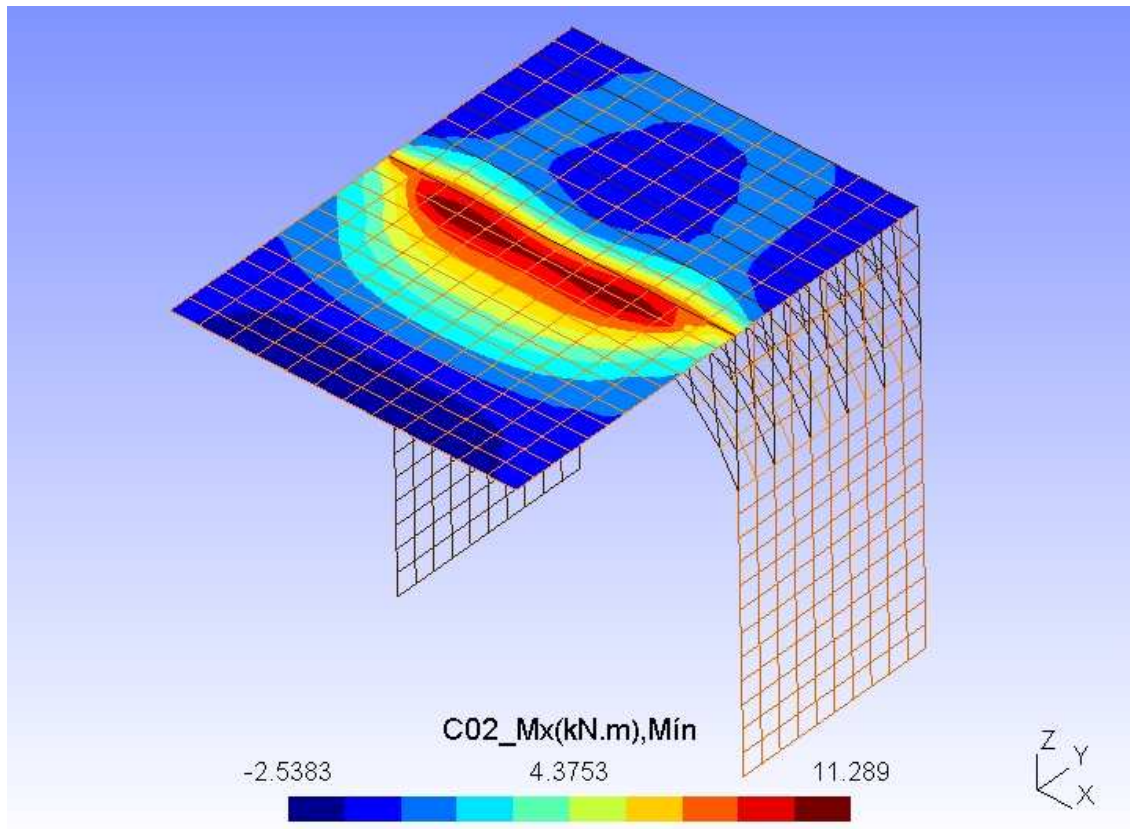
025-Combinación 2 - Esfuerzos cortantes V_y Máx.jpg



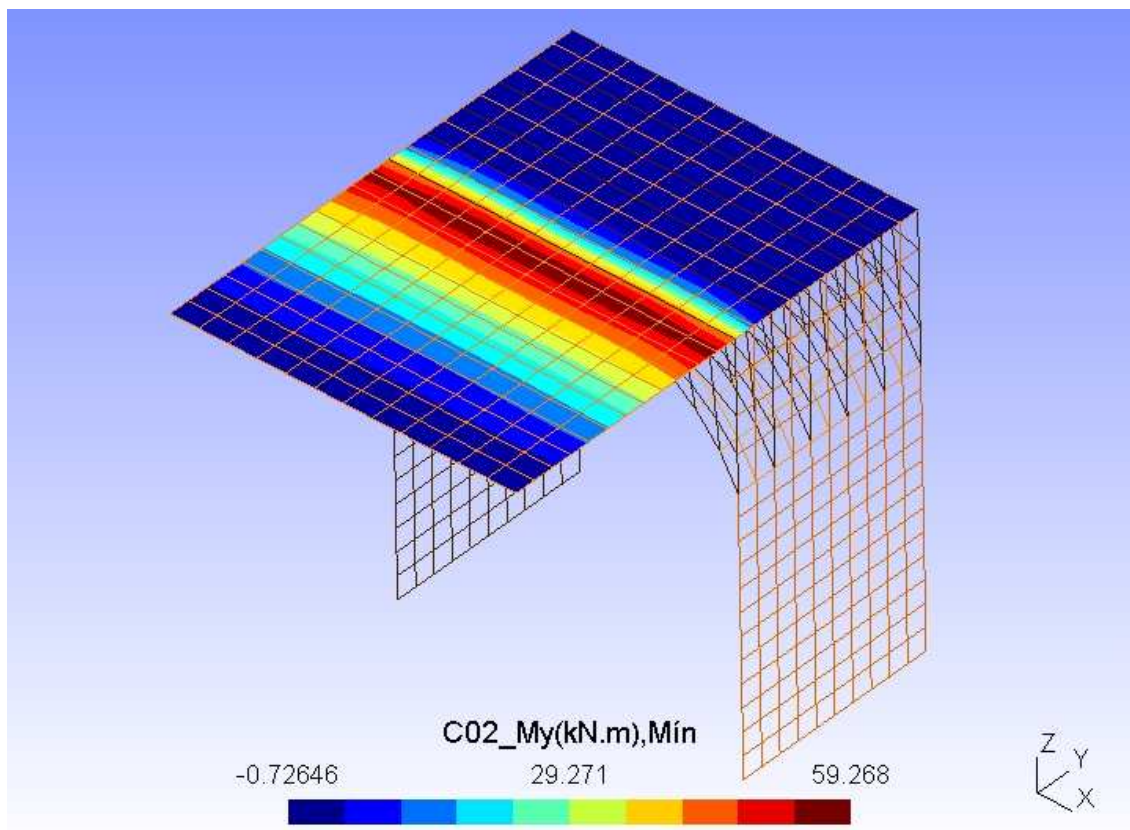
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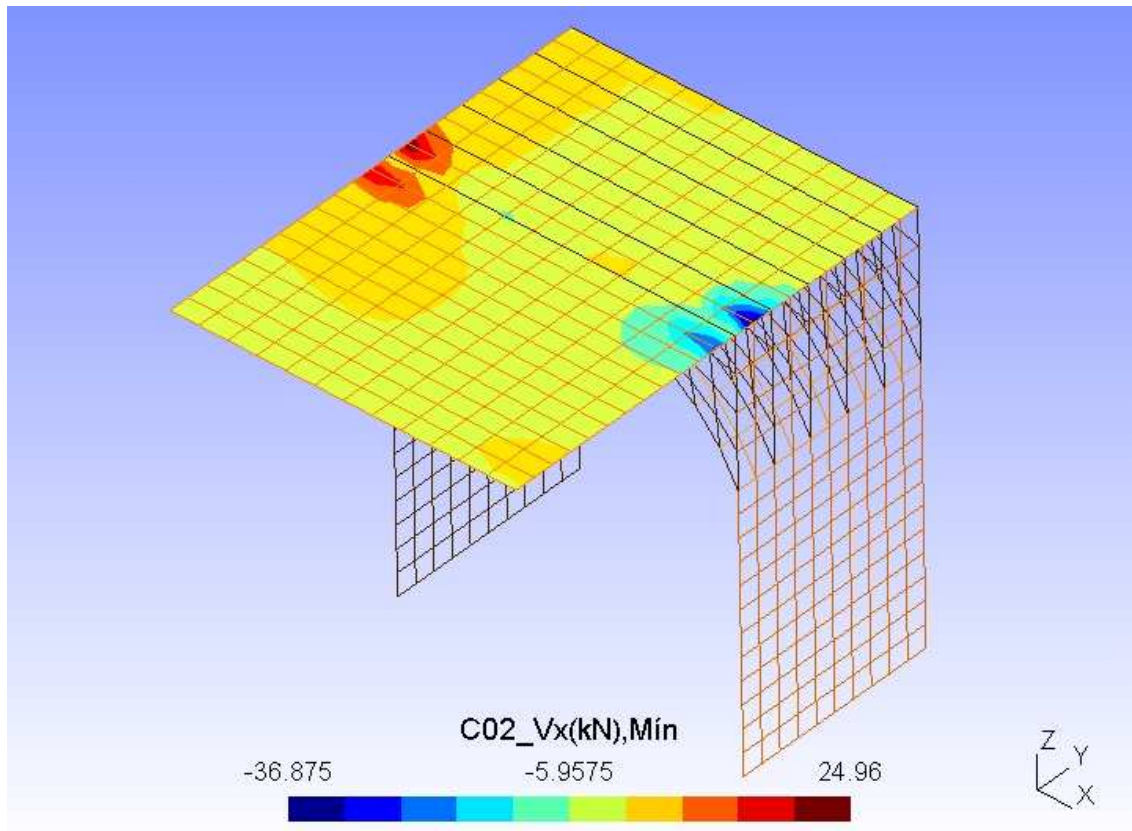
031-Combinación 2 - Esfuerzos Axiles N_y Mín.jpg



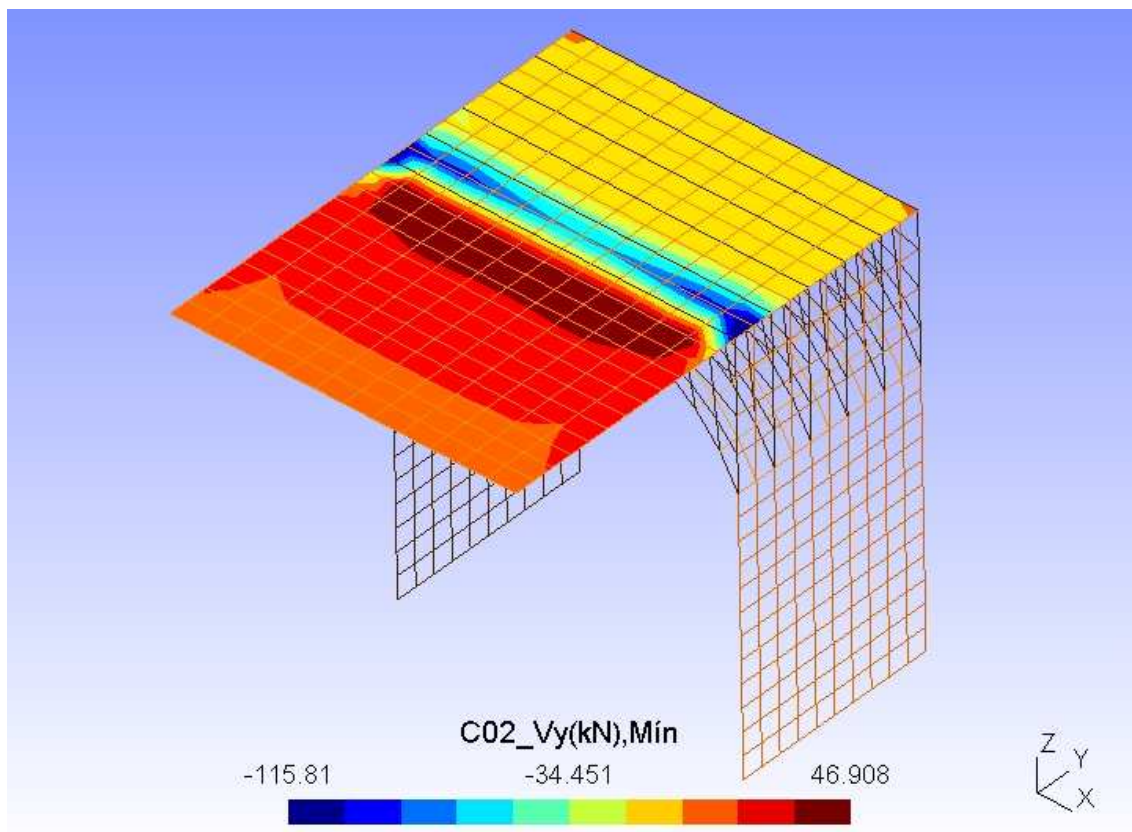
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033-Combinación 2 - Momentos Flectores M_y Mín.jpg

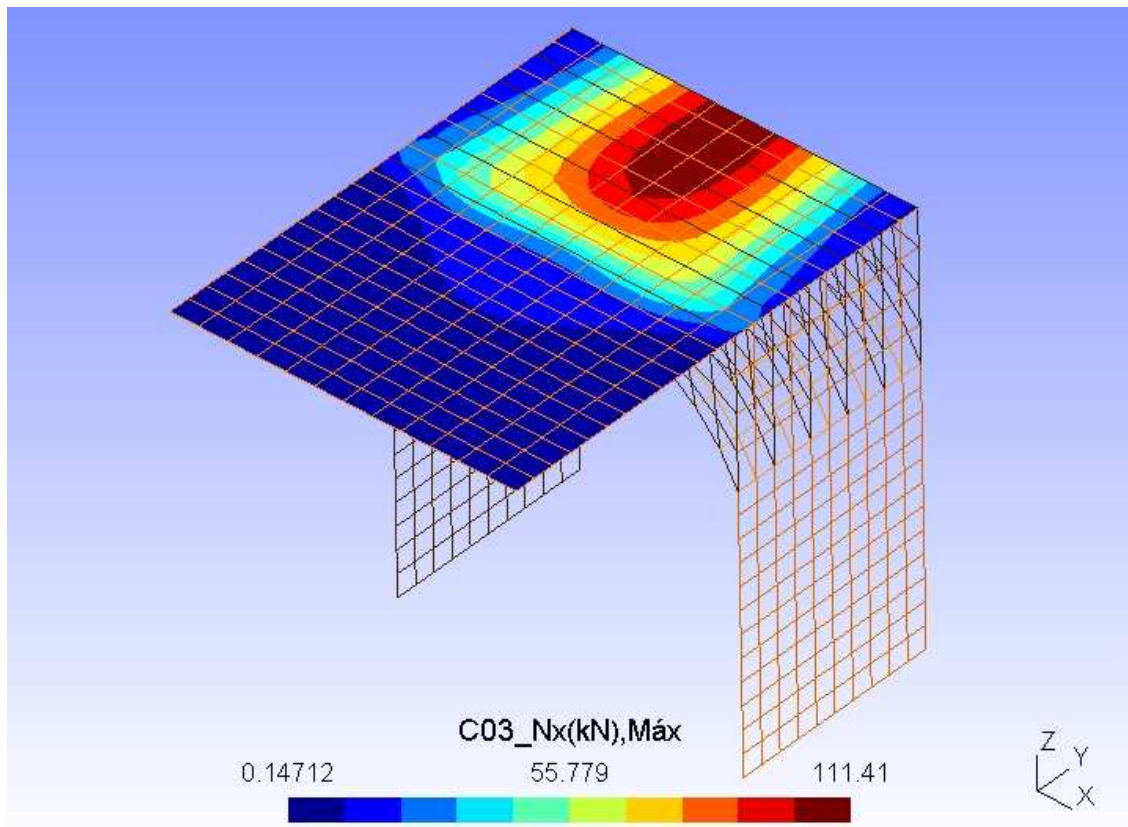


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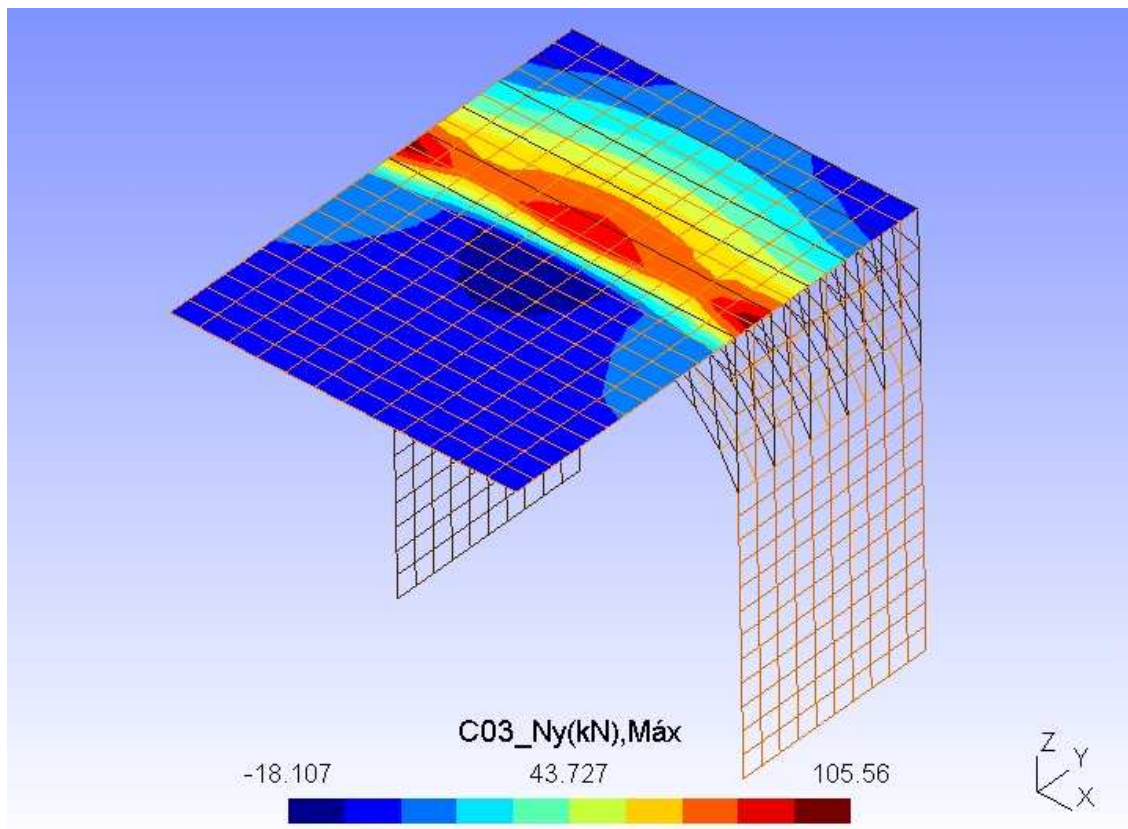


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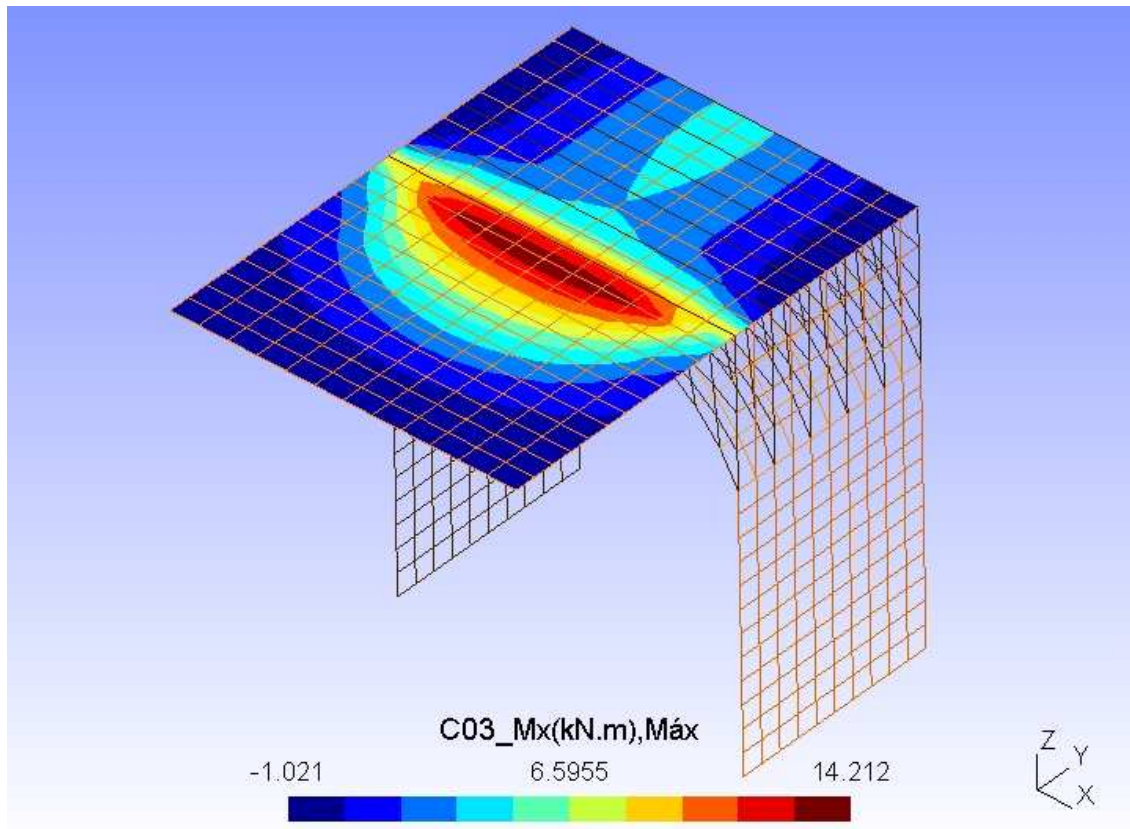
COMBINACIÓN 3 - ESFUERZOS EN ELS CUASIPERMANENTE



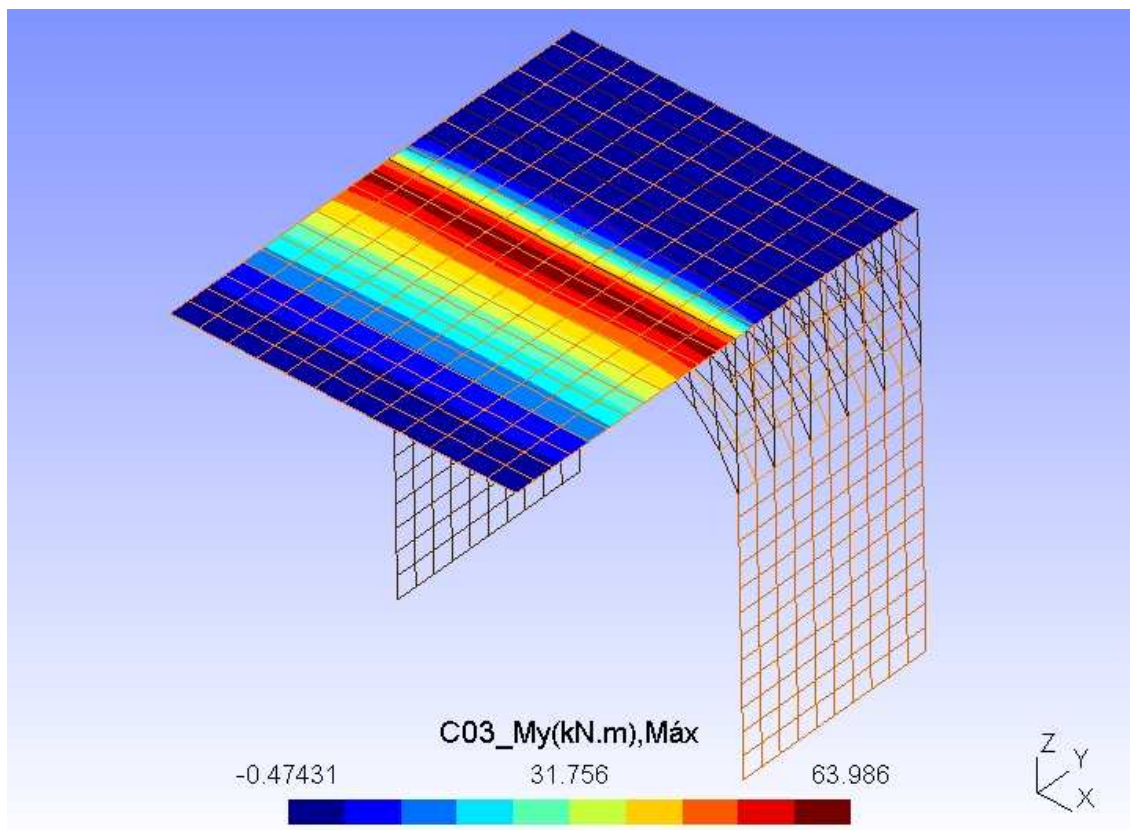
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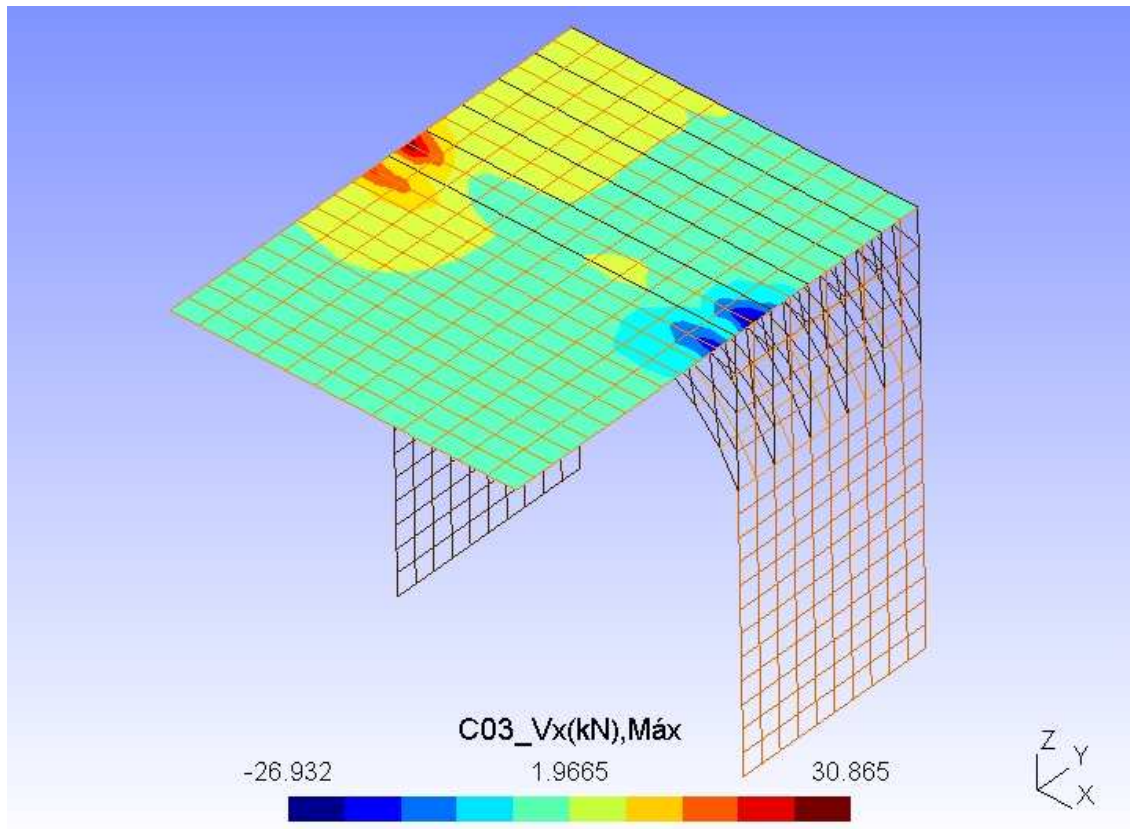
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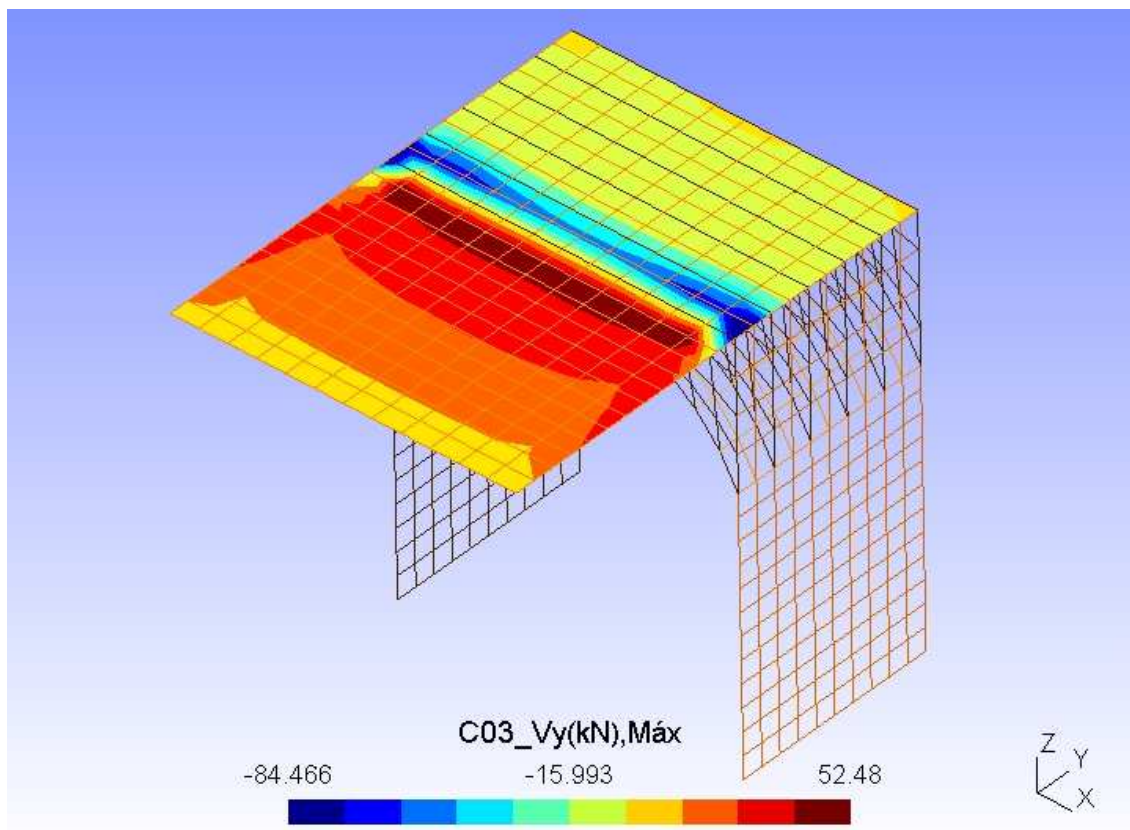
042-Combinación 3 - Momentos Flectores M_x Máx.jpg



043-Combinación 3 - Momentos Flectores M_y Máx.jpg

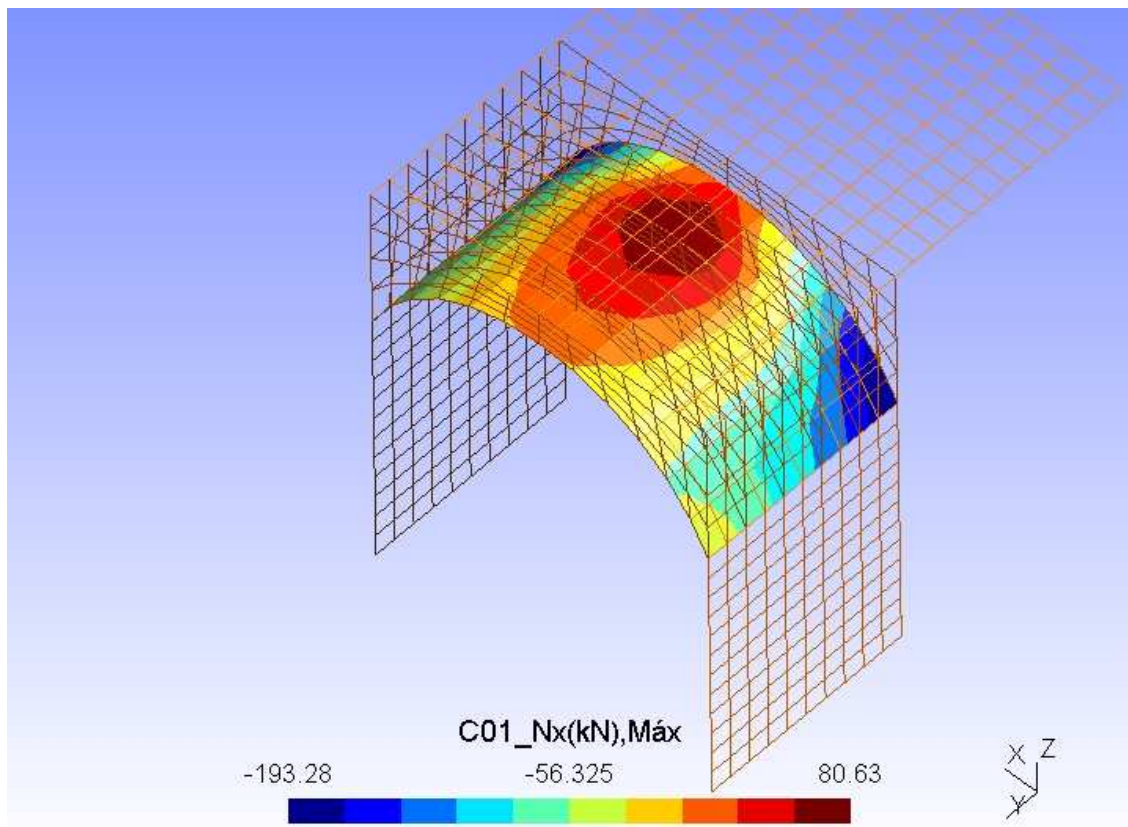


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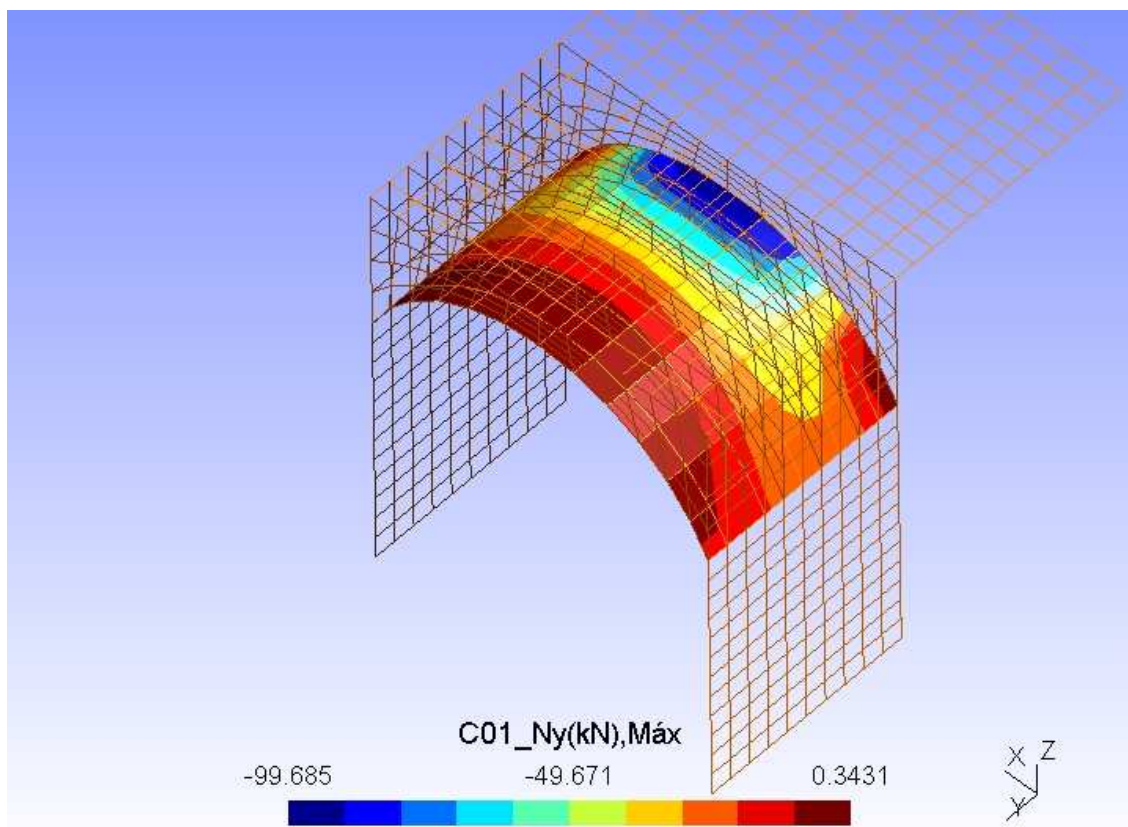


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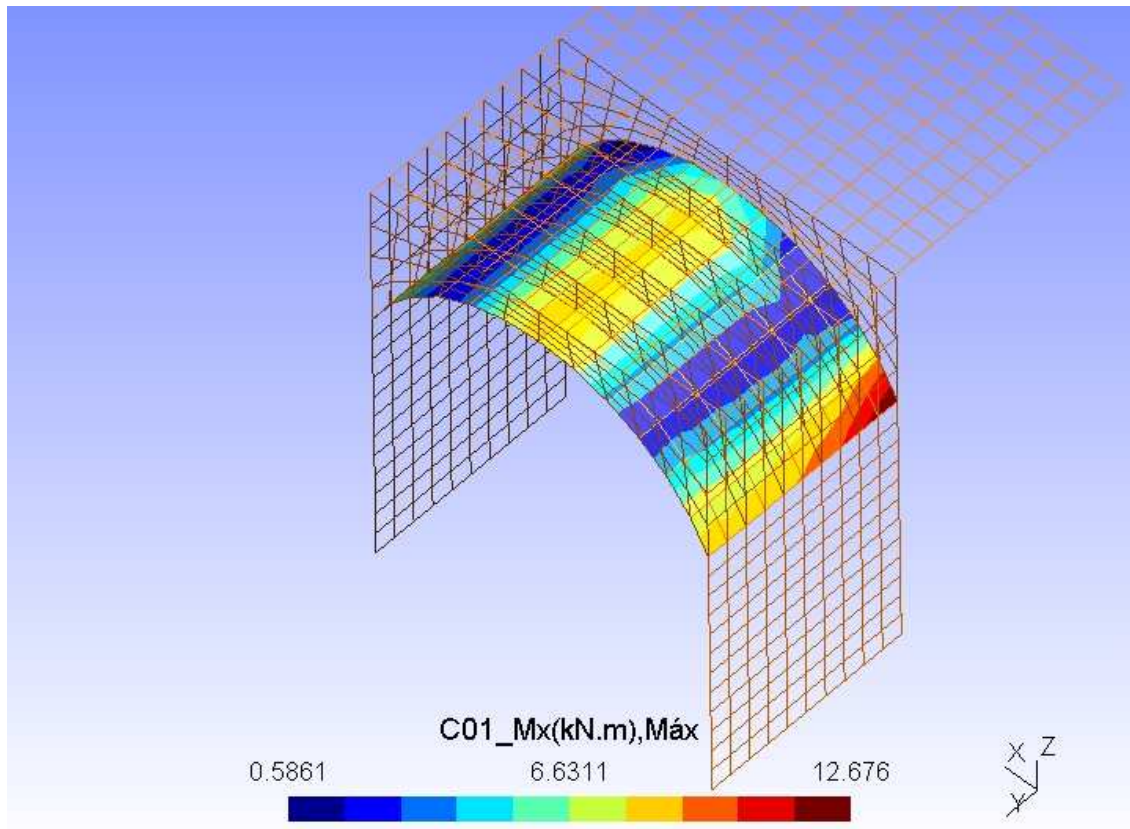
COMBINACIÓN 1 - ESFUERZOS EN ELU



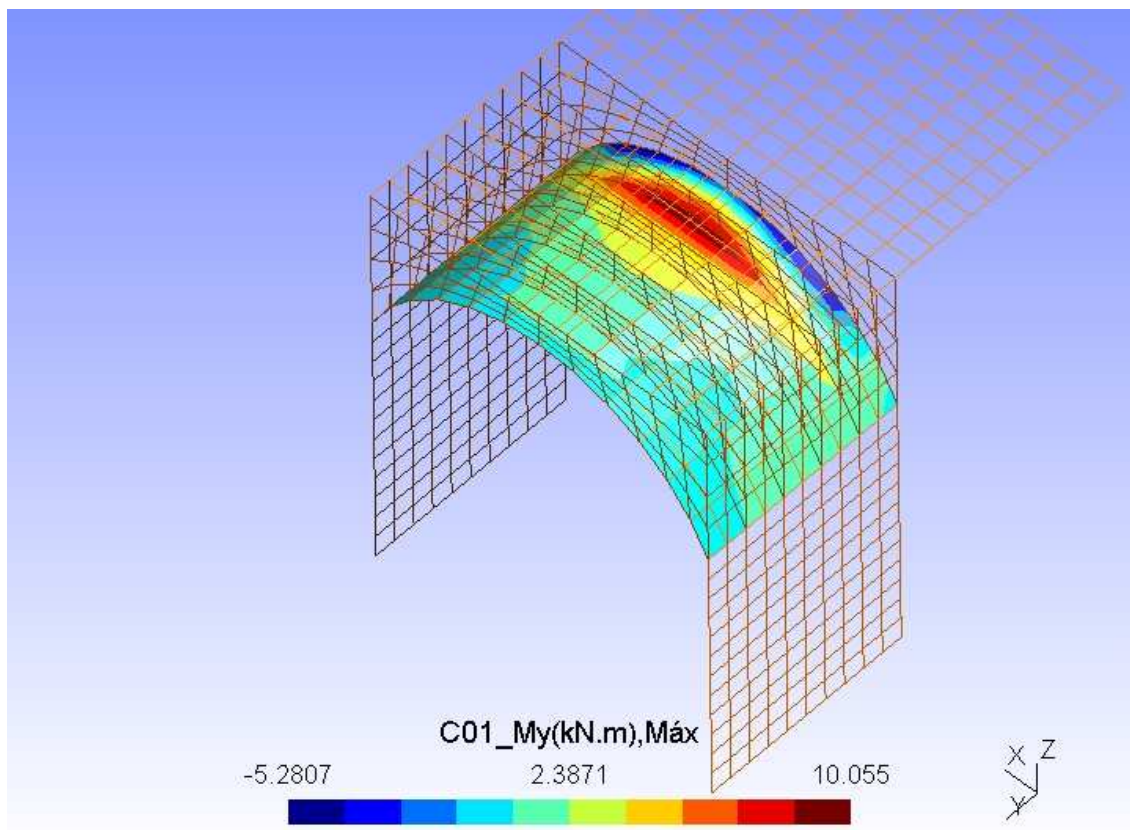
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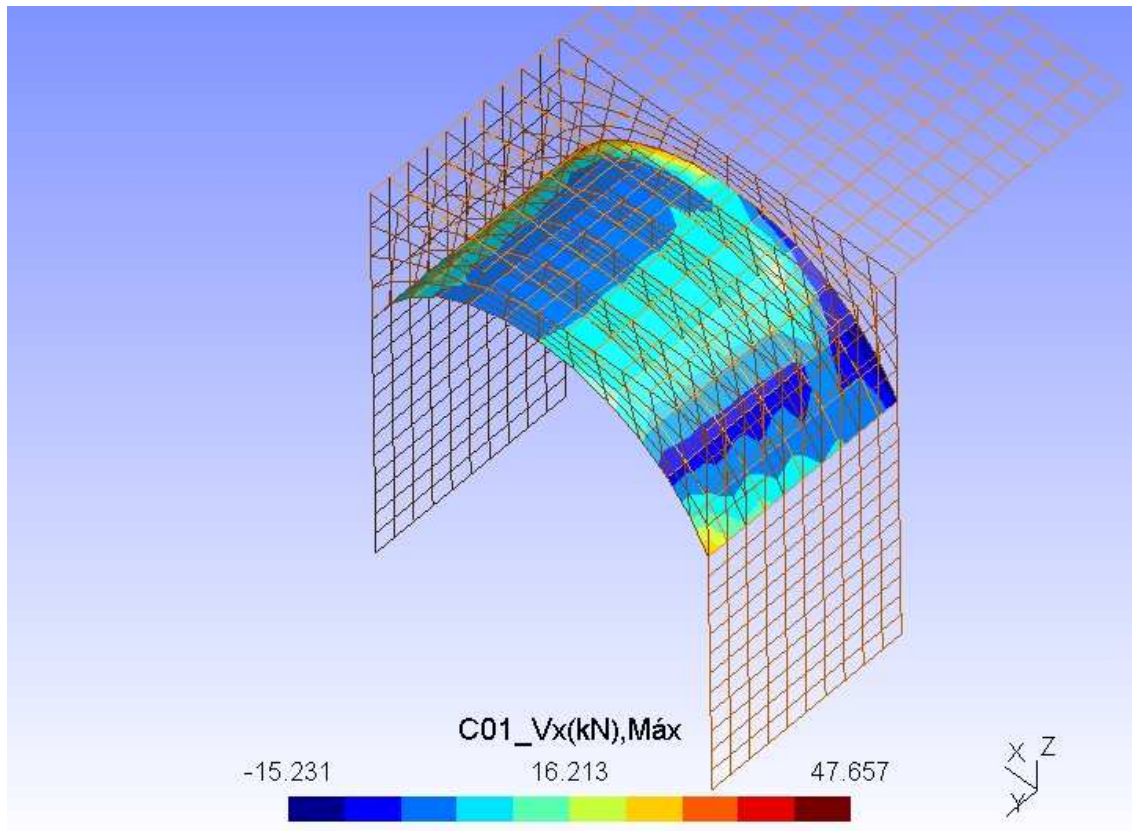
001-Combinación 1 - Esfuerzos Axiles N_y Máx.jpg



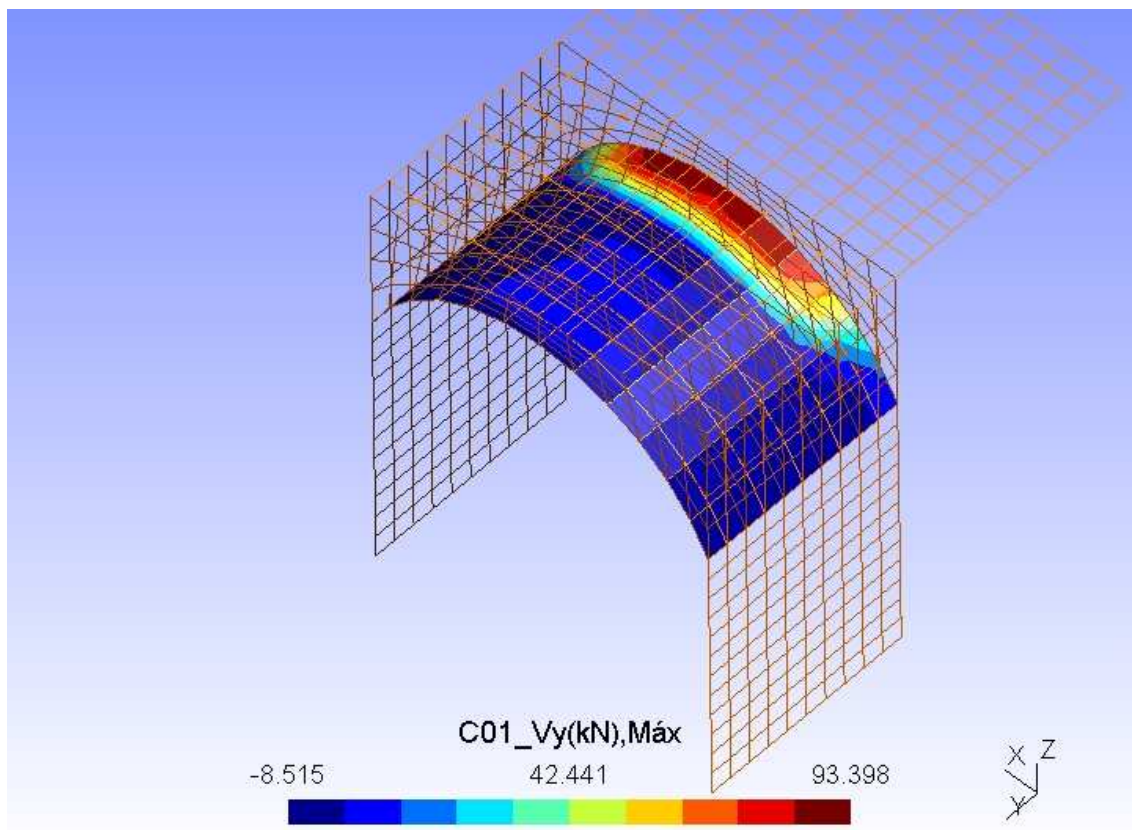
002-Combinación 1 - Momentos Flectores M_x Máx.jpg



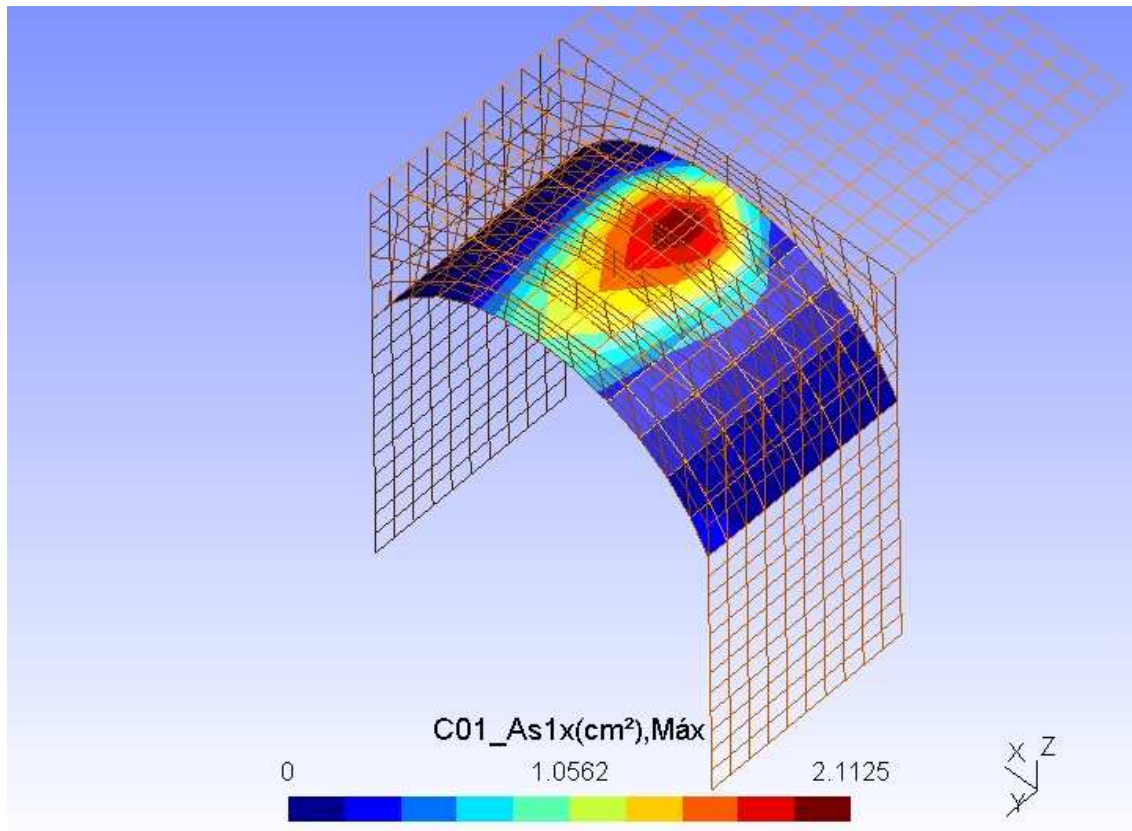
003-Combinación 1 - Momentos Flectores M_y Máx.jpg



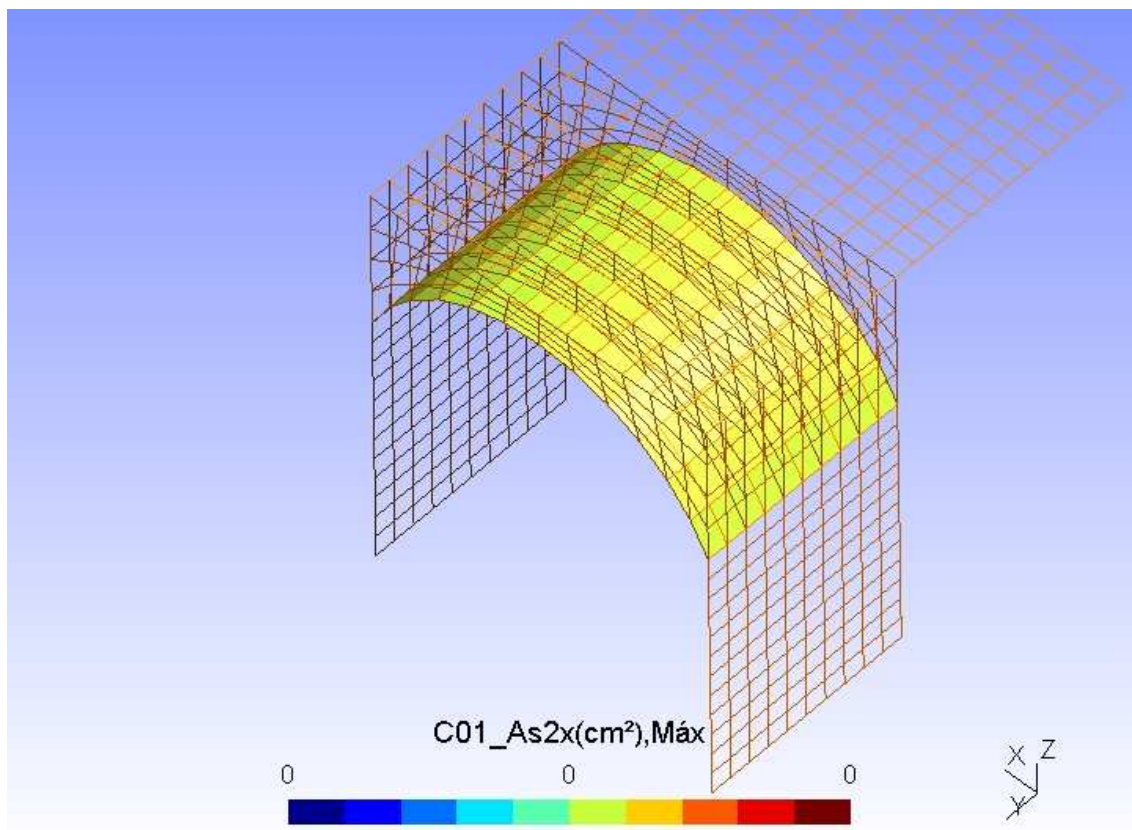
004-Combinación 1 - Esfuerzos Cortantes V_x Máx.jpg



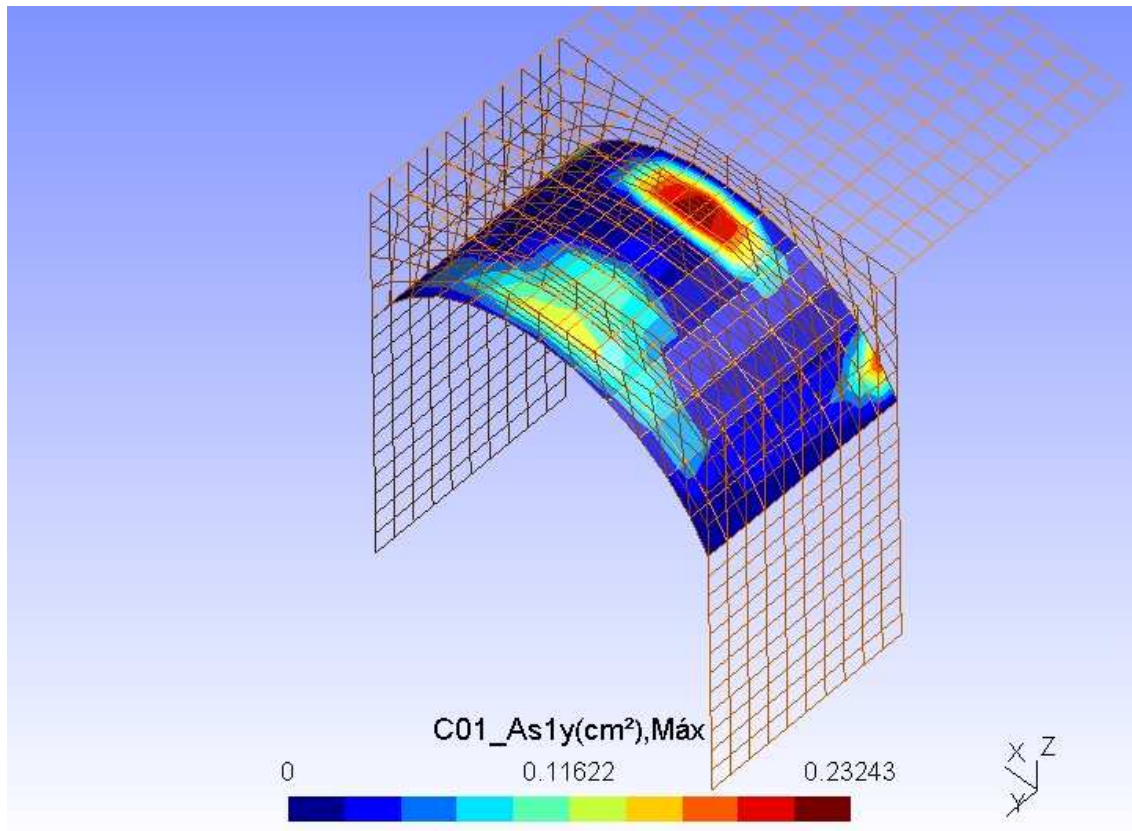
005-Combinación 1 - Esfuerzos cortantes V_y Máx.jpg



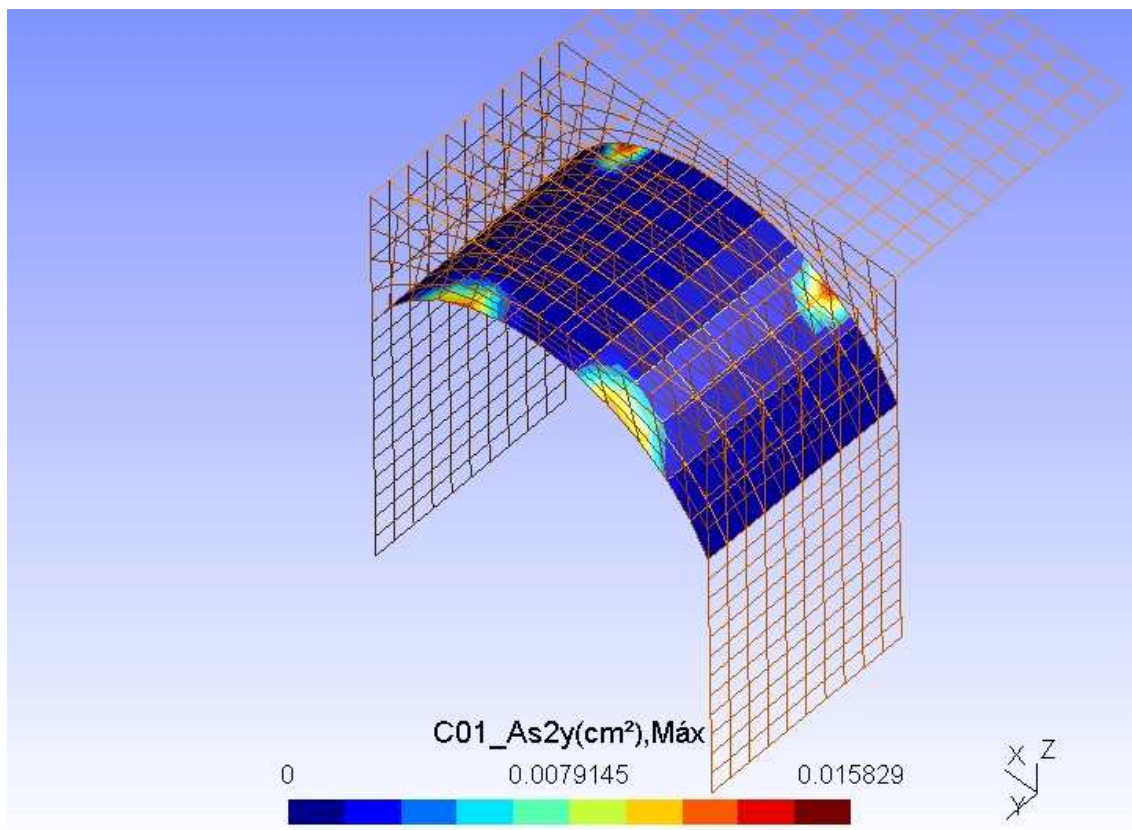
006-Combinación 1 - Armadura As1x Máx.jpg



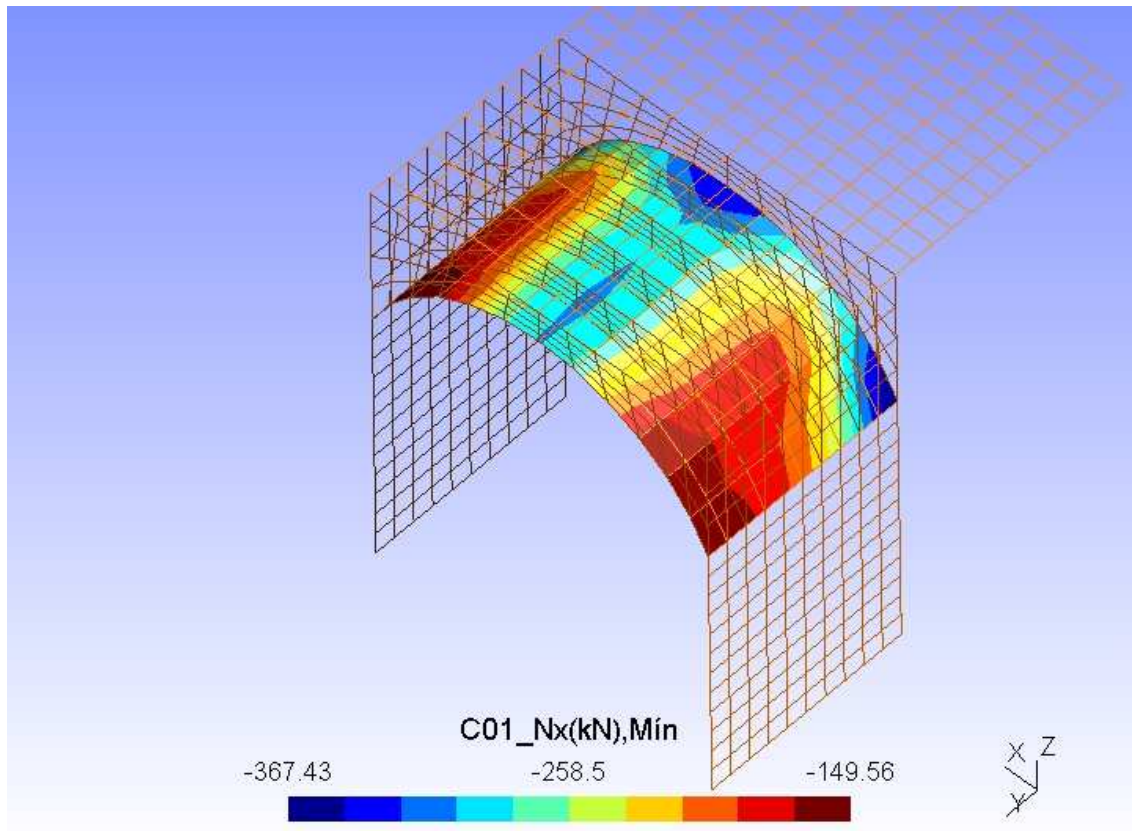
007-Combinación 1 - Armadura As2x Máx.jpg



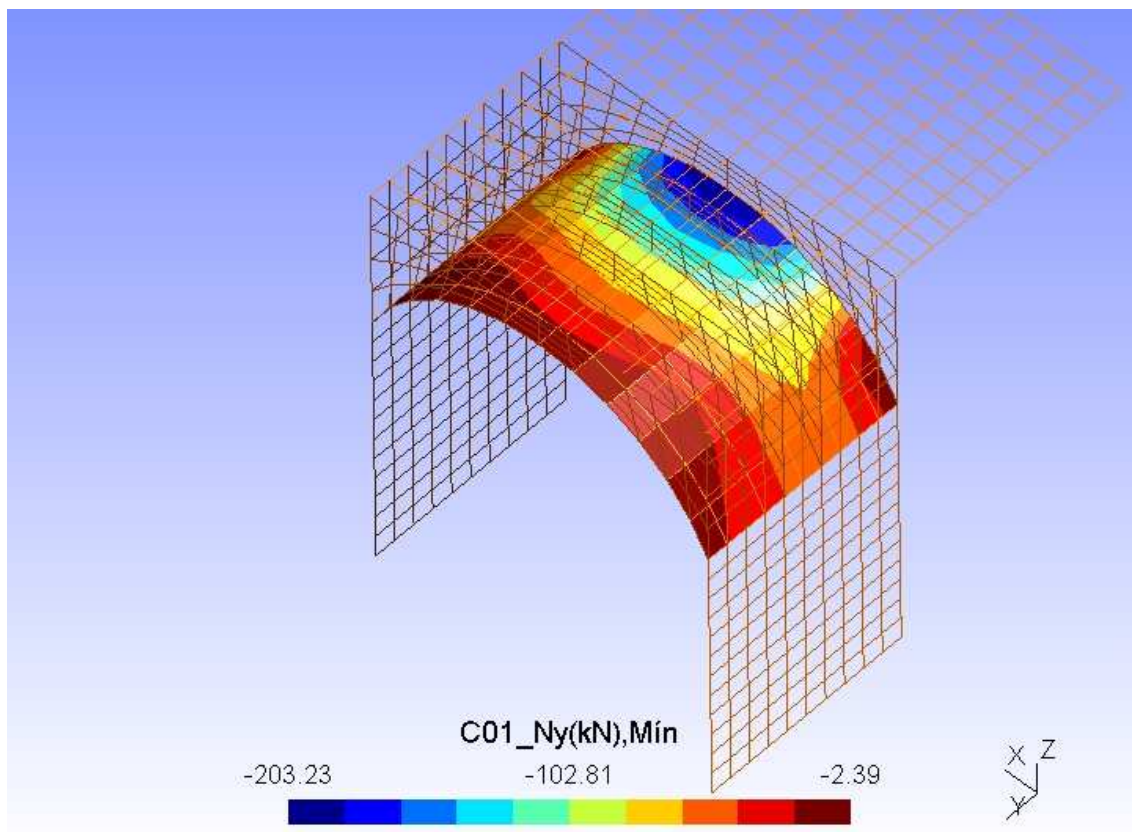
008-Combinación 1 - Armadura As1y Máx.jpg



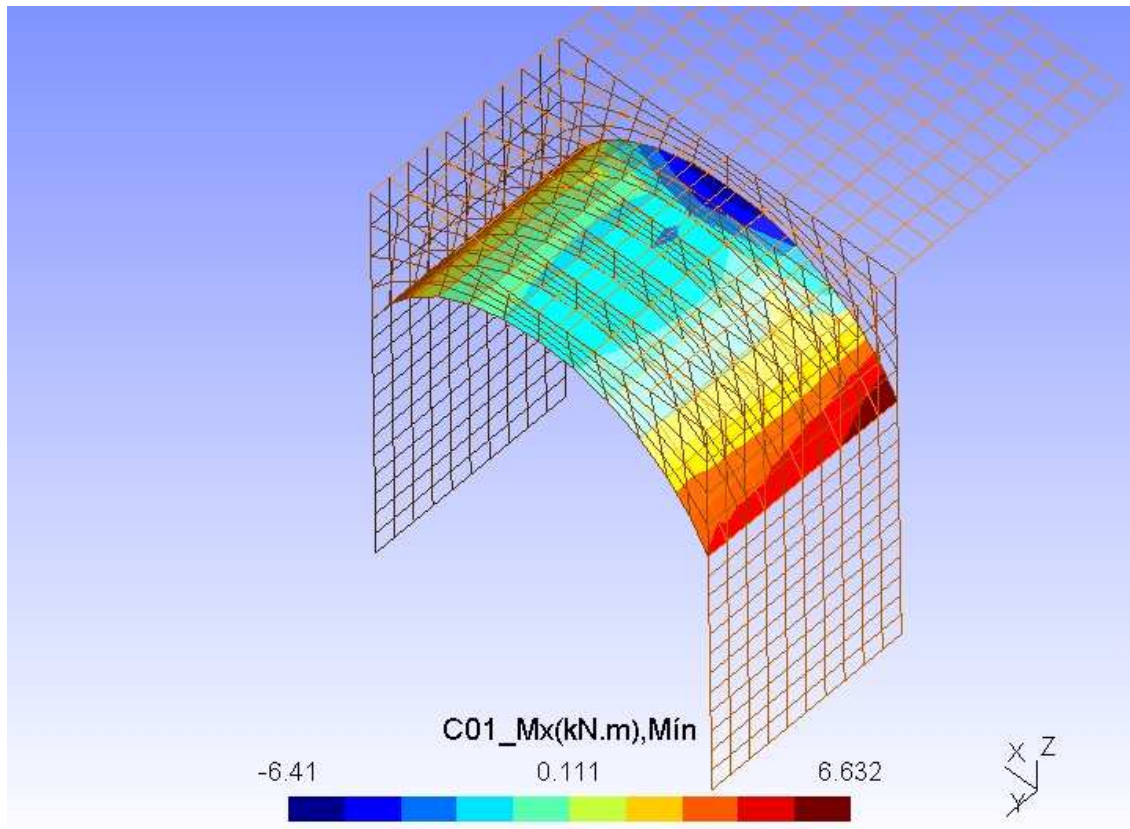
009-Combinación 1 - Armadura As2y Máx.jpg



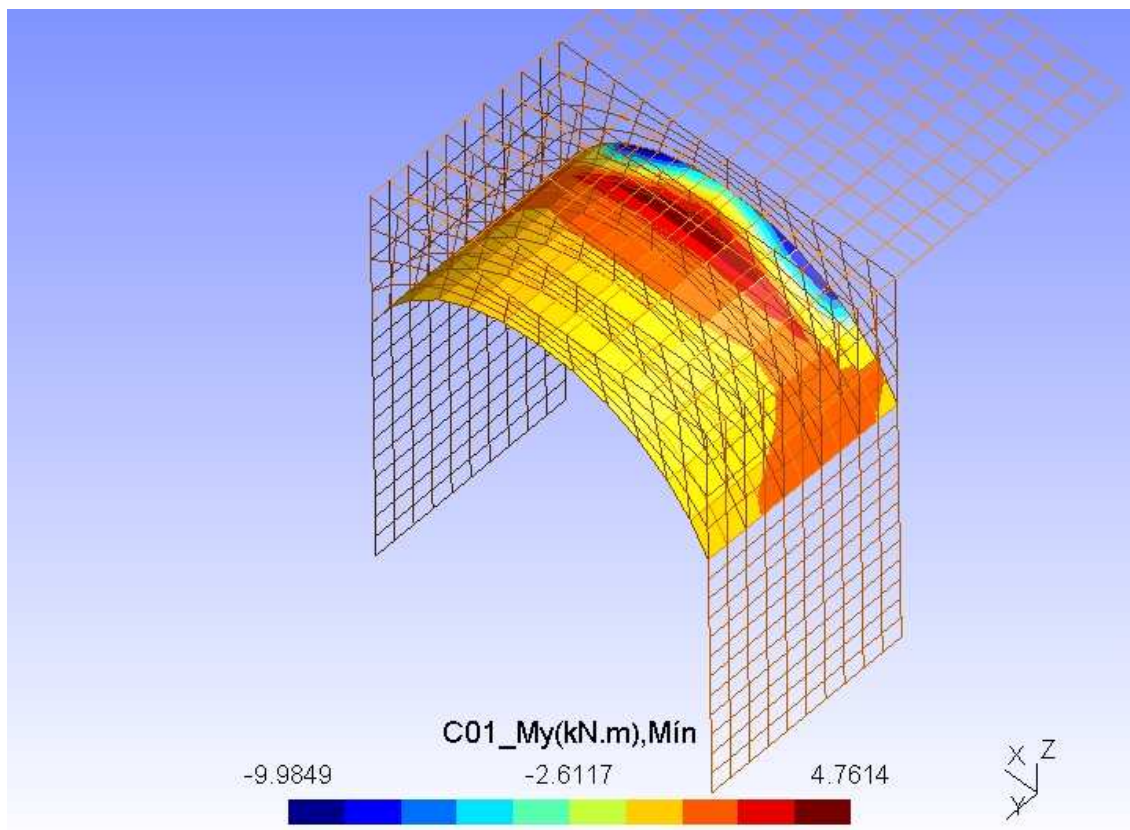
010-Combinación 1 - Esfuerzos Axiles N_x Mín.jpg



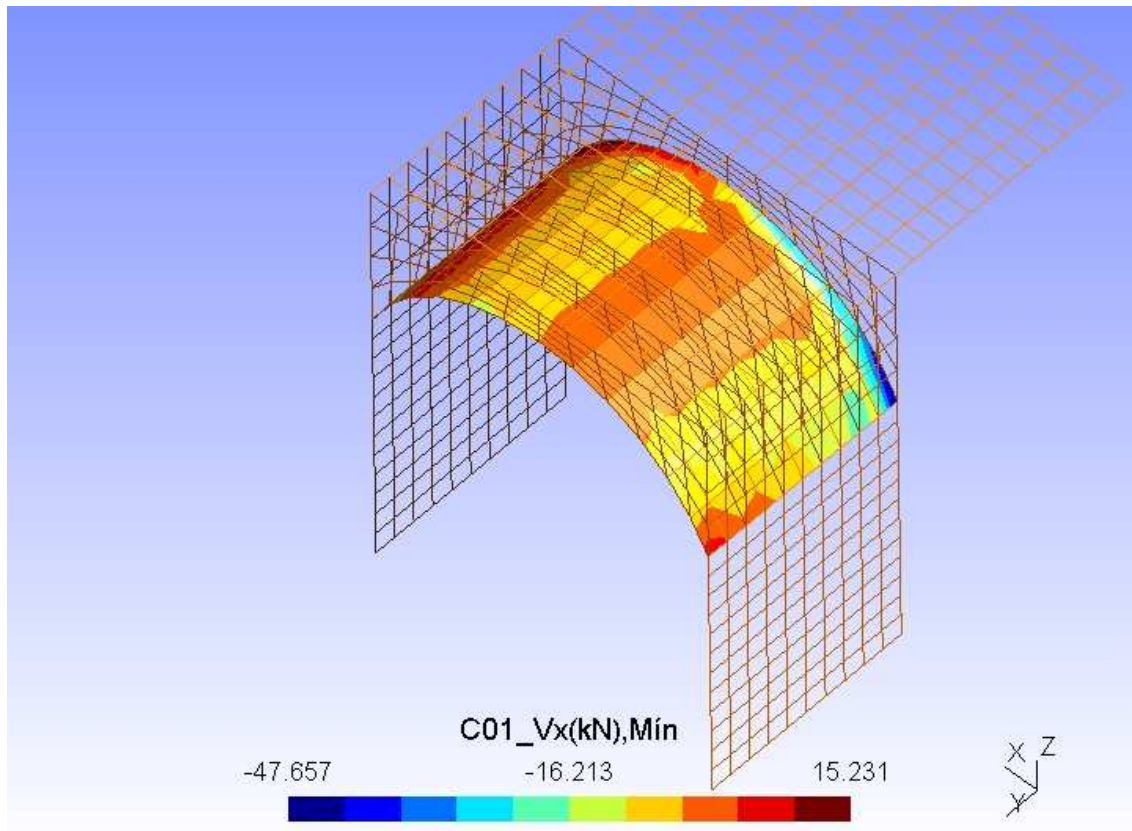
011-Combinación 1 - Esfuerzos Axiles N_y Mín.jpg



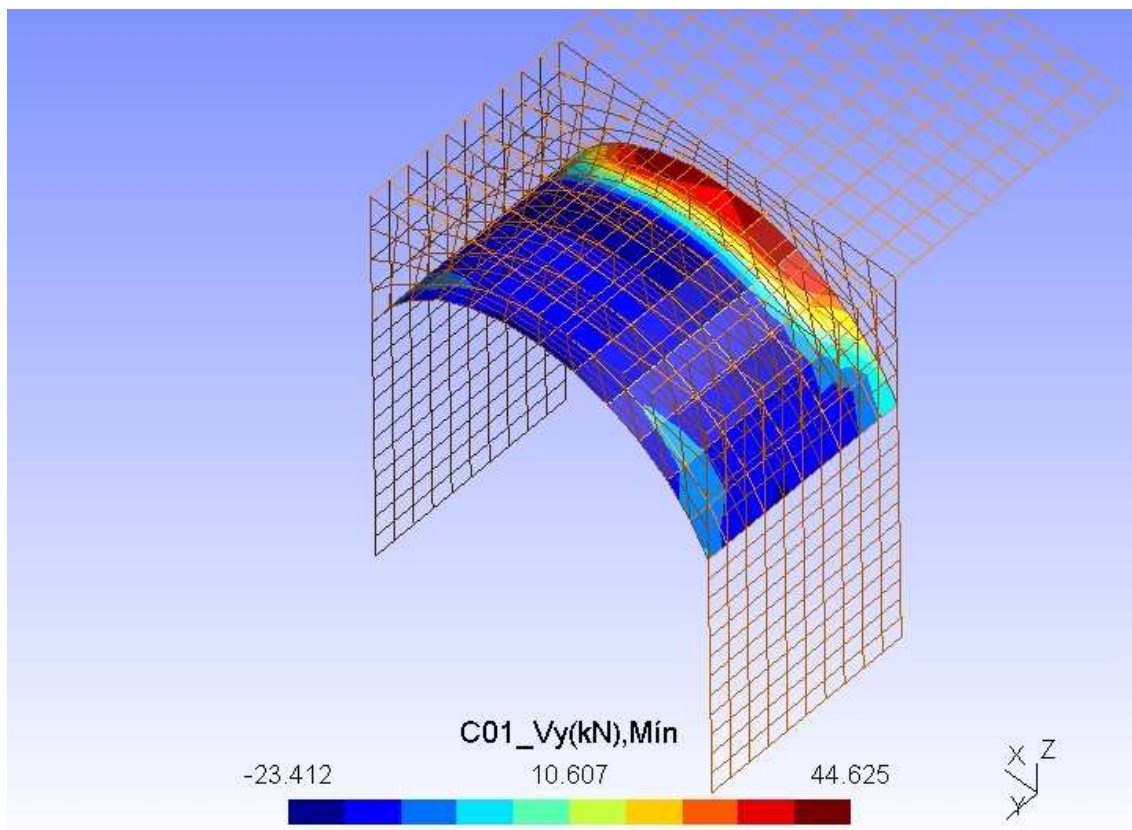
012-Combinación 1 - Momentos Flectores M_x Mín.jpg



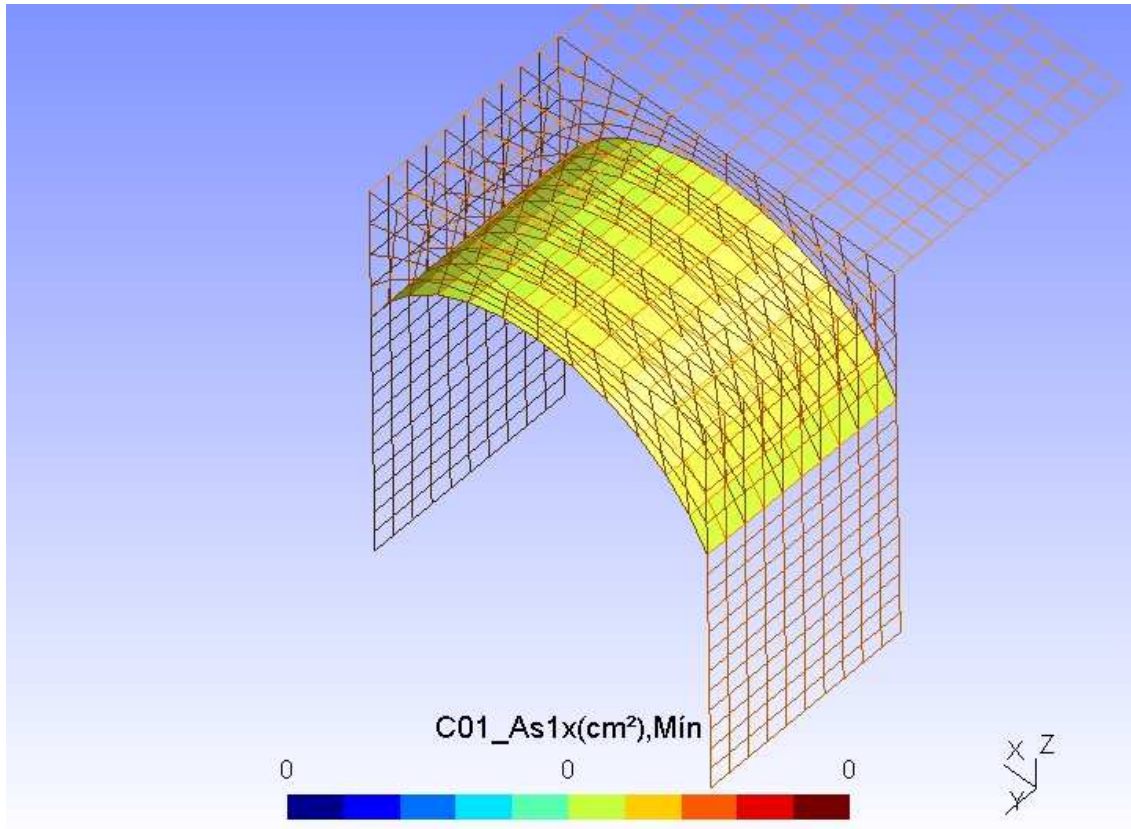
013-Combinación 1 - Momentos Flectores M_y Mín.jpg



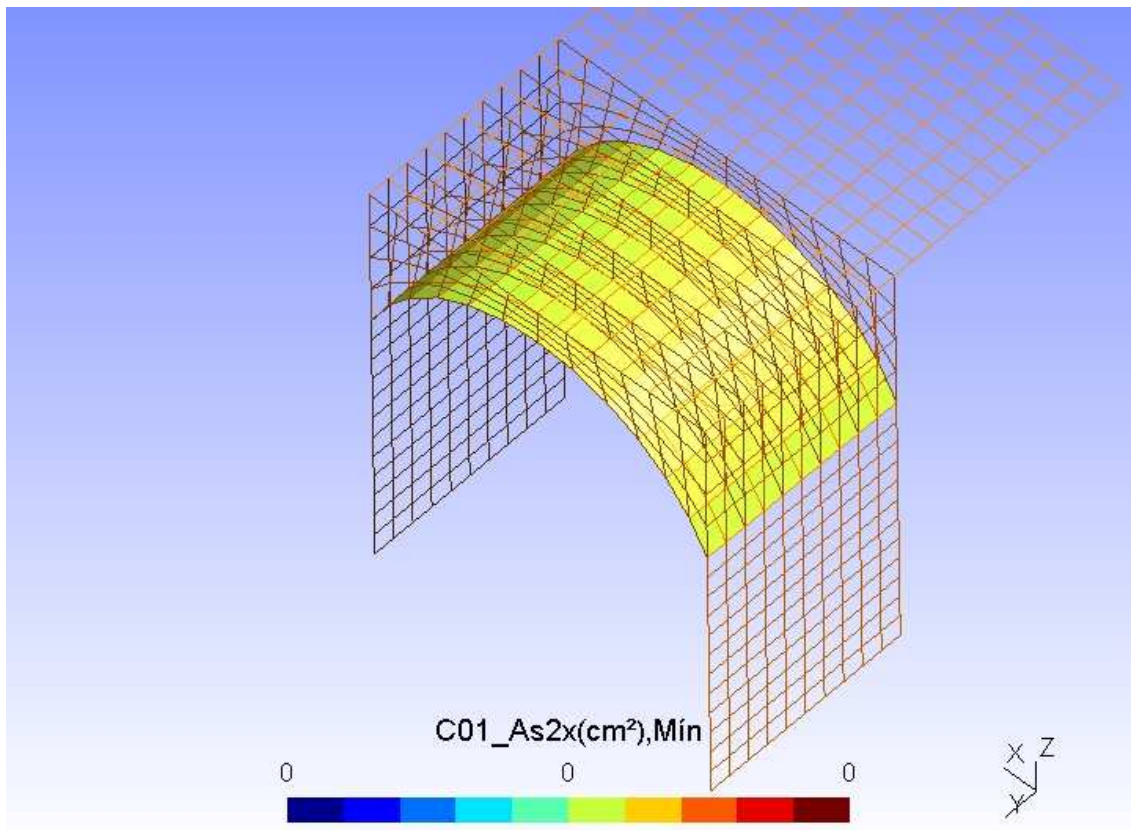
014-Combinación 1 - Esfuerzos Cortantes V_x Mín.jpg



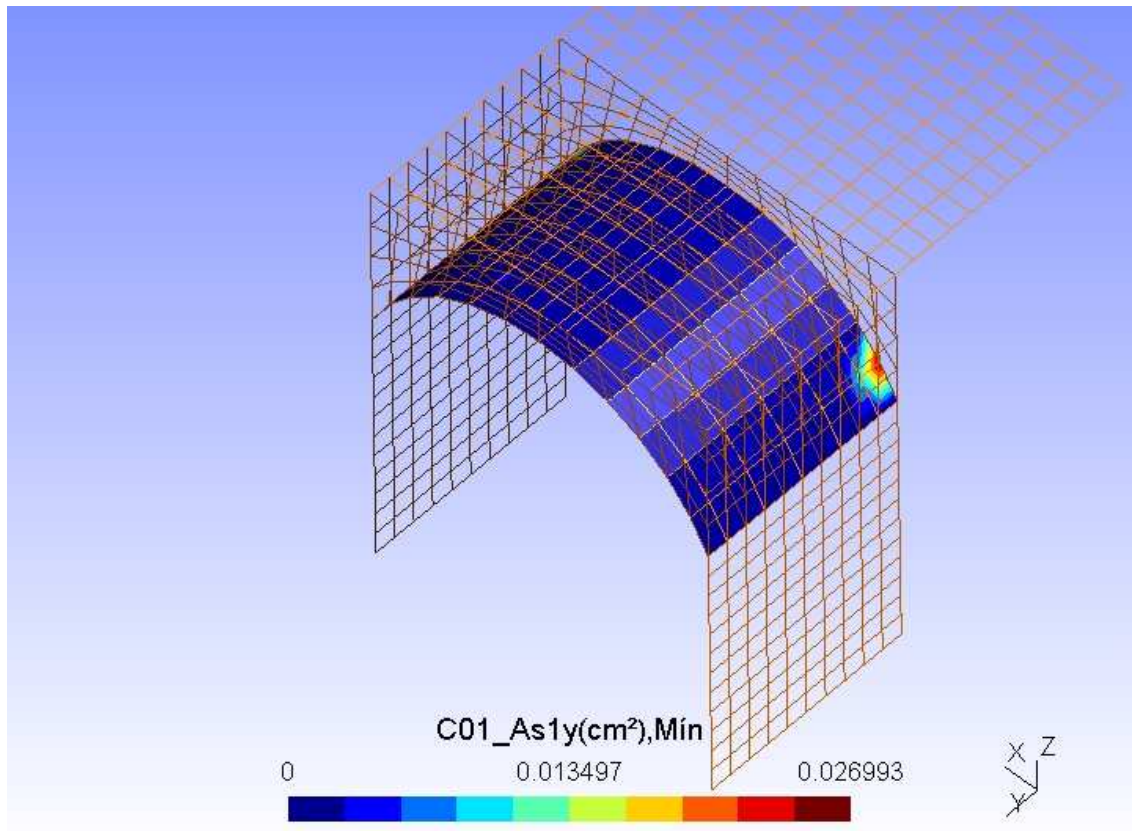
015-Combinación 1 - Esfuerzos cortantes V_y Mín.jpg



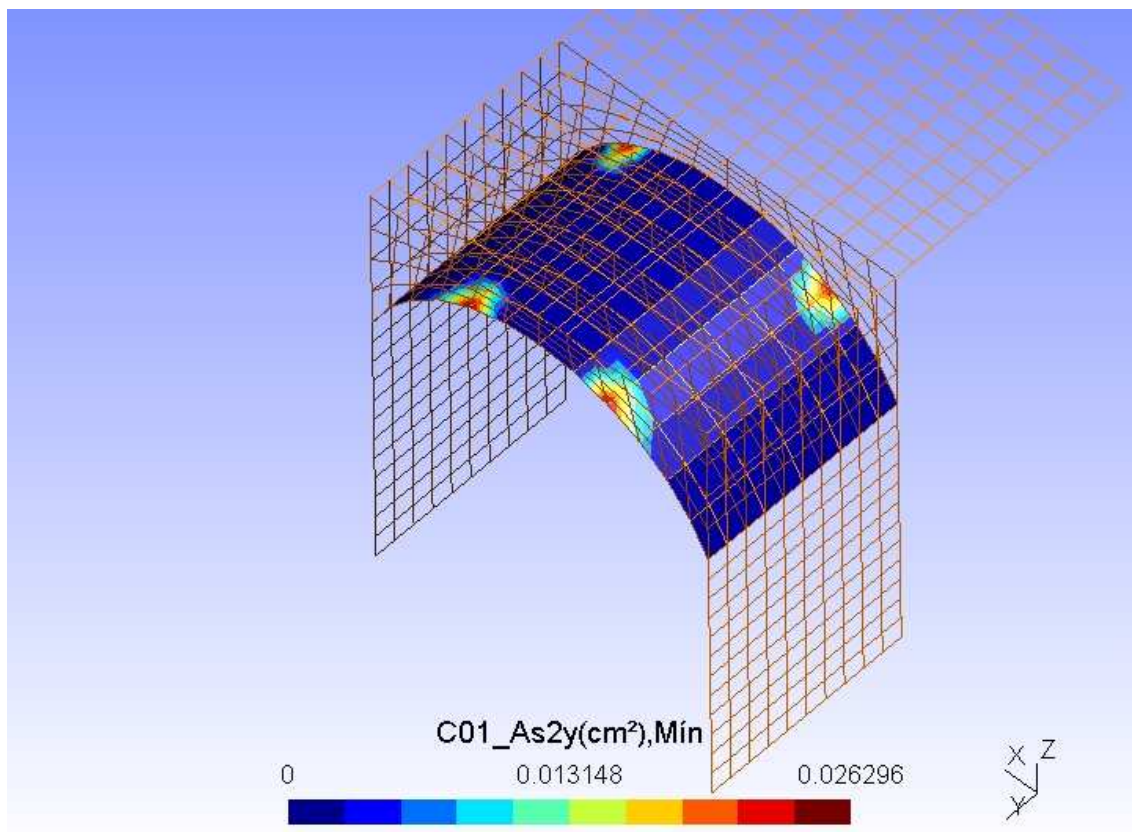
016-Combinación 1 - Armadura As1x Mín.jpg



017-Combinación 1 - Armadura As2x Mín.jpg

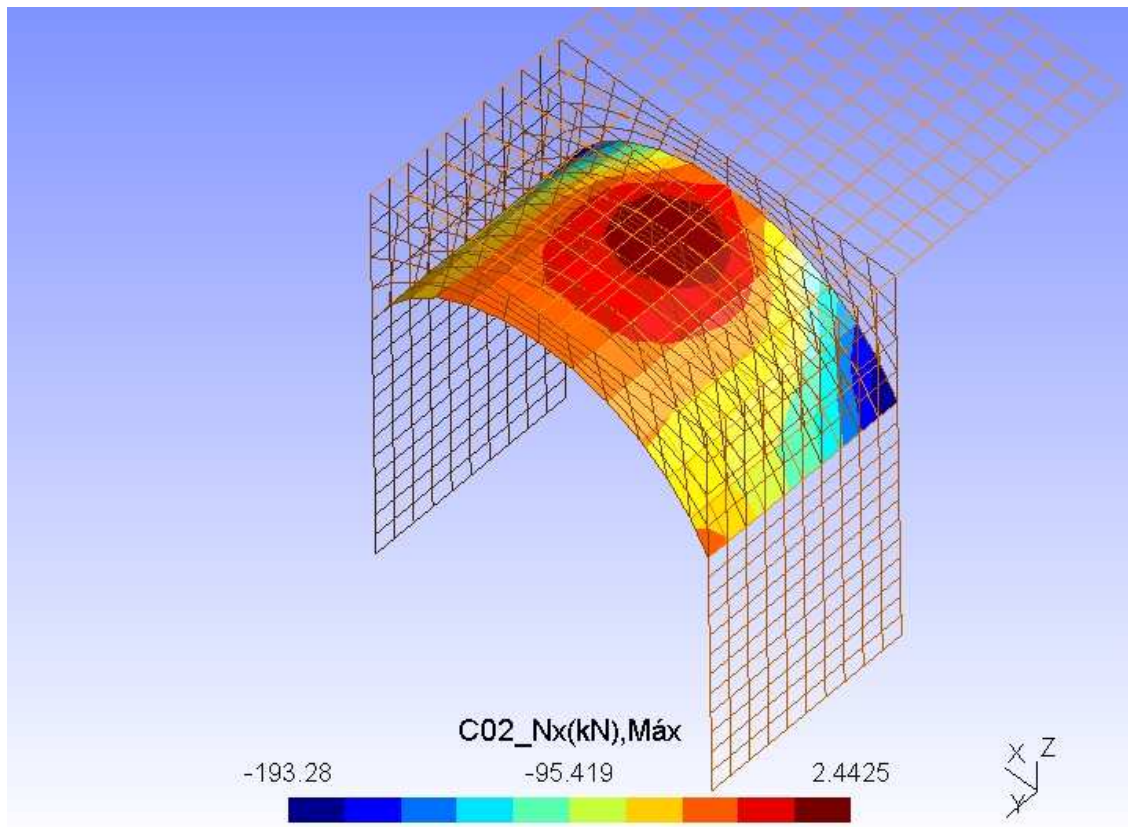


018-Combinación 1 - Armadura $As1y$ Mín.jpg

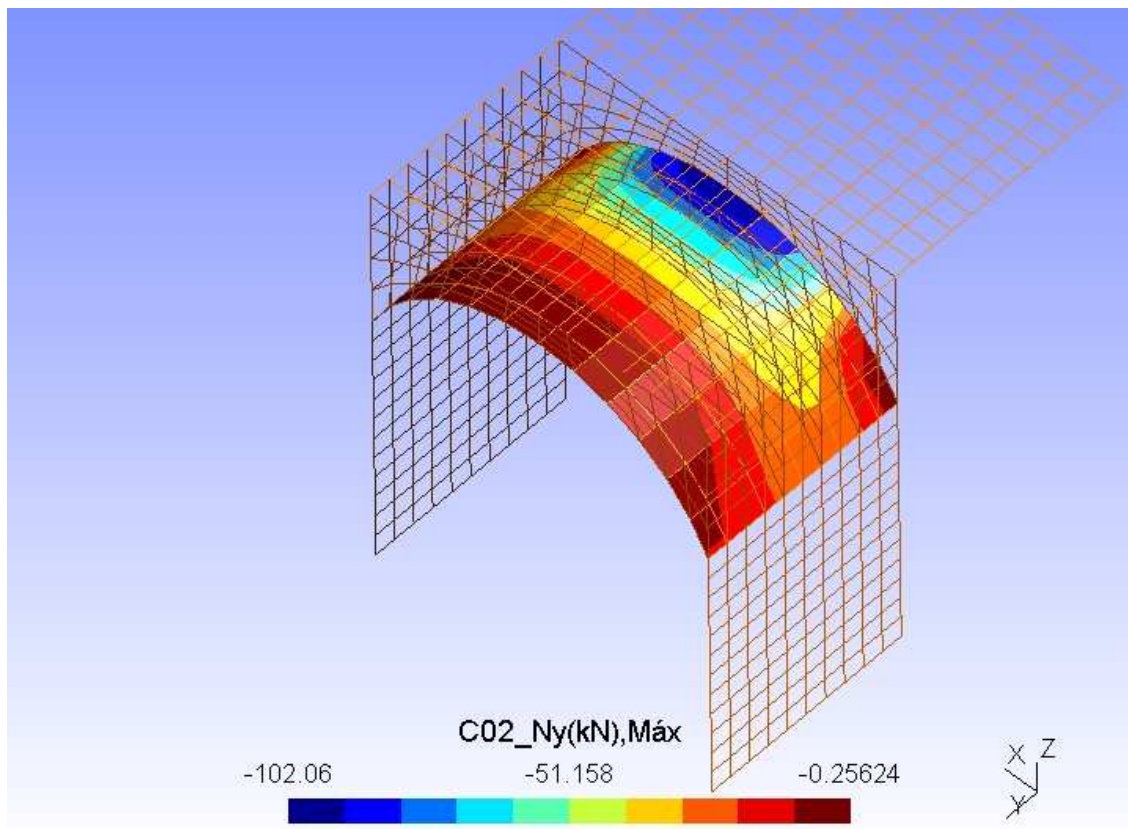


019-Combinación 1 - Armadura $As2y$ Mín.jpg

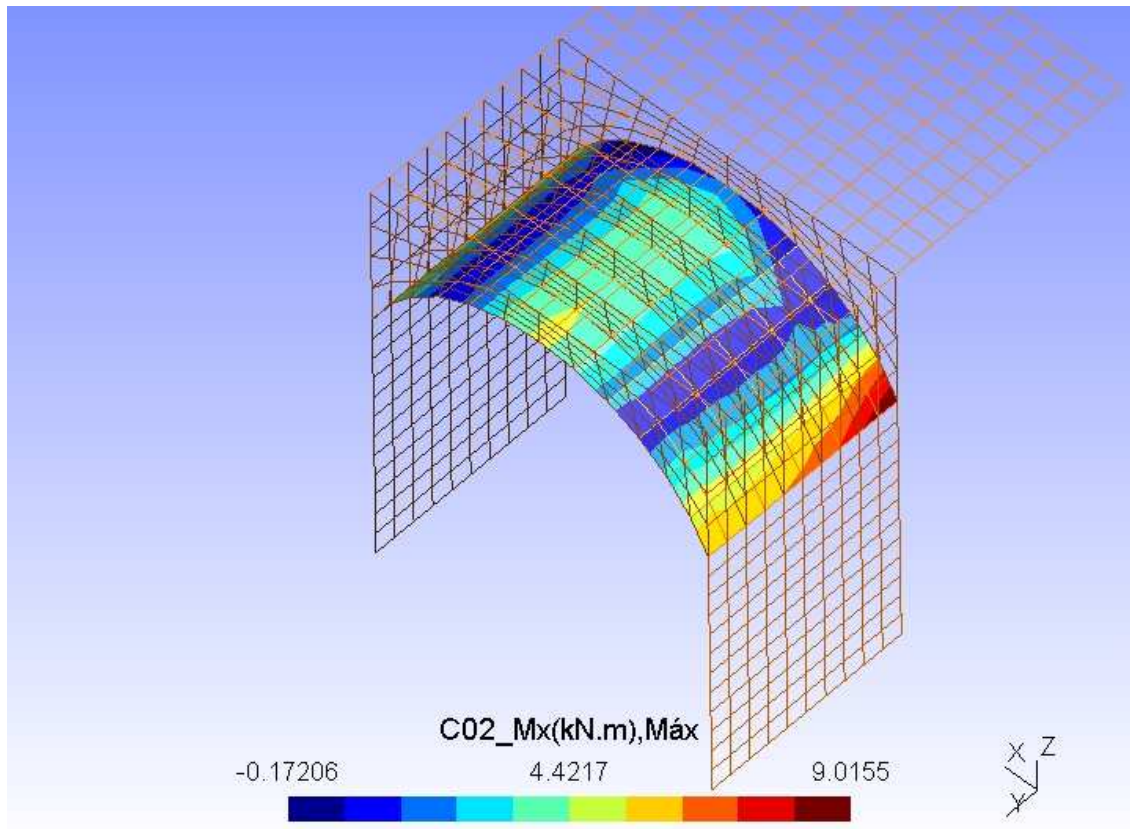
COMBINACIÓN 2 - ESFUERZOS EN ELS CARACTERÍSTICA



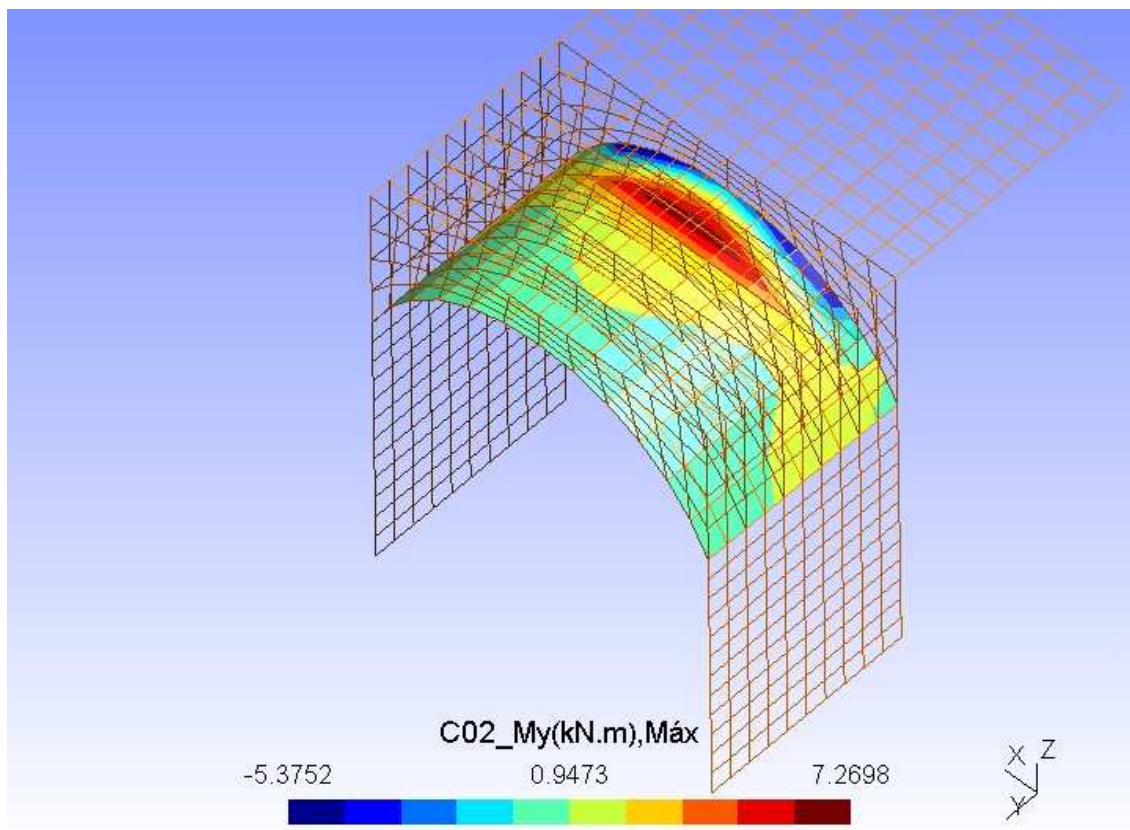
020-Combinación 2 - Esfuerzos Axiles Nx Máx.jpg



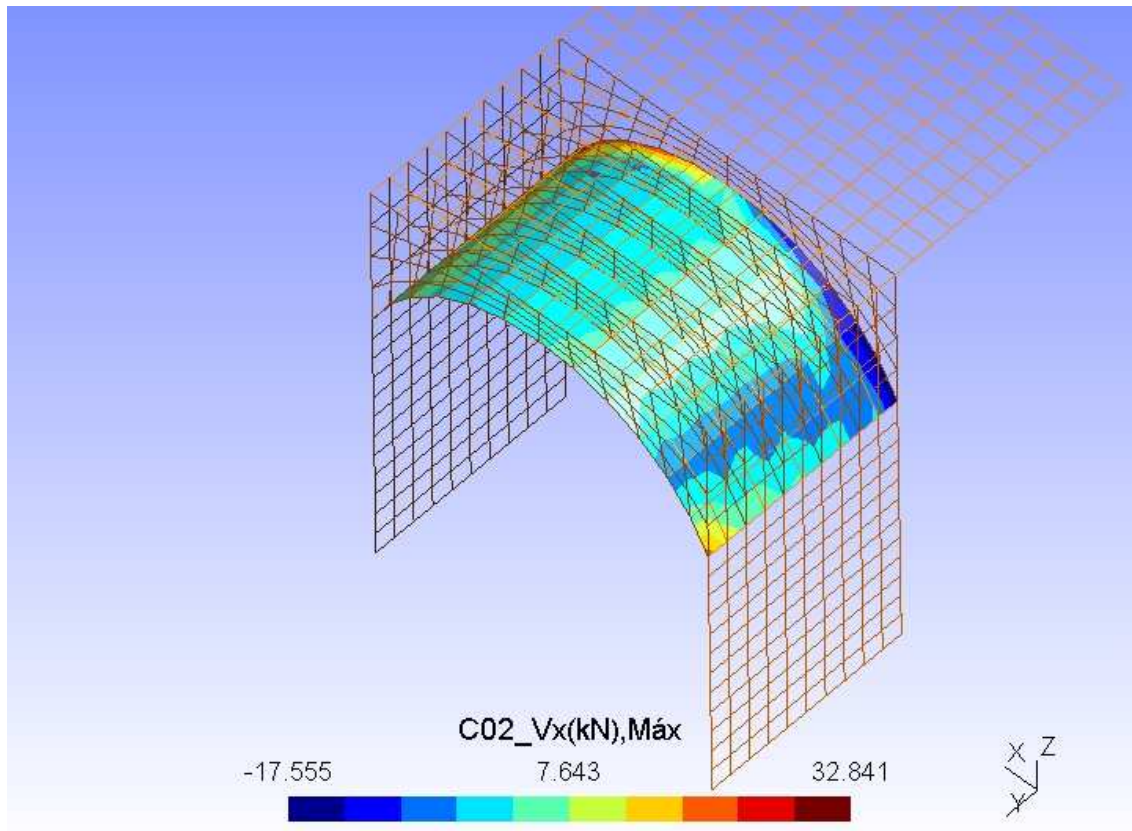
021-Combinación 2 - Esfuerzos Axiles Ny Máx.jpg



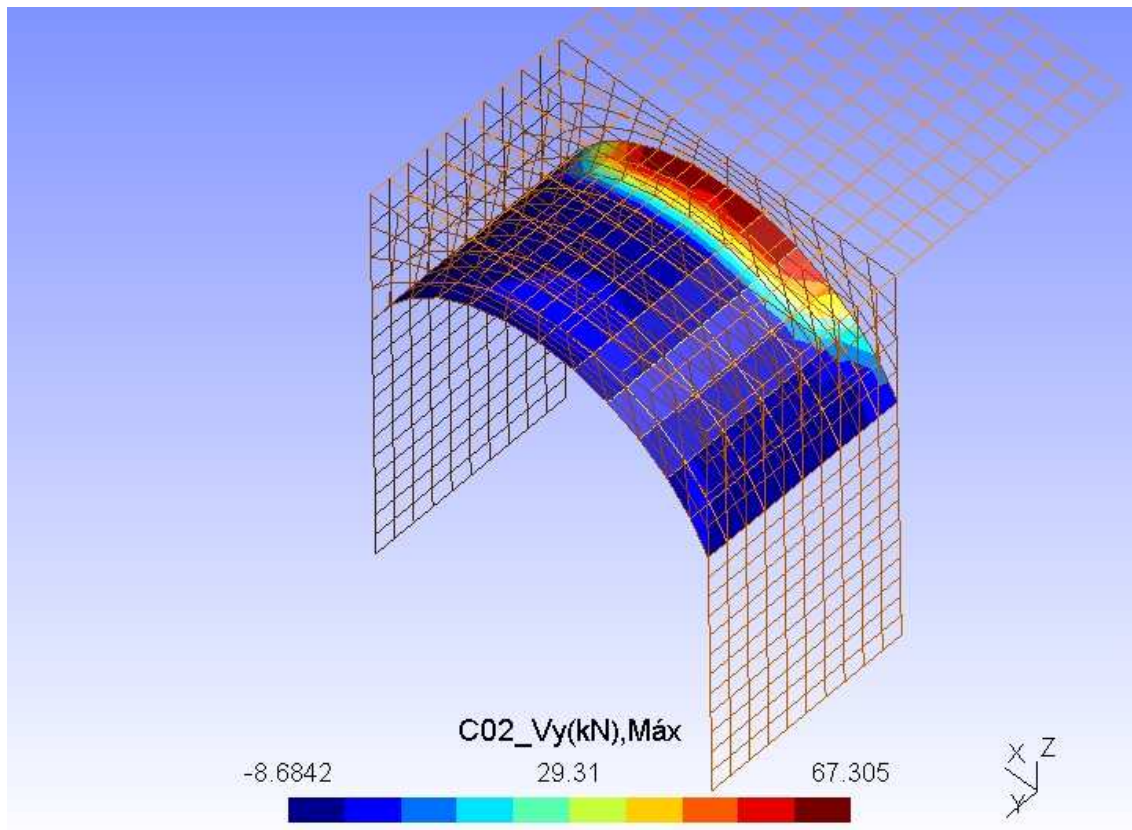
022-Combinación 2 - Momentos Flectores M_x Máx.jpg



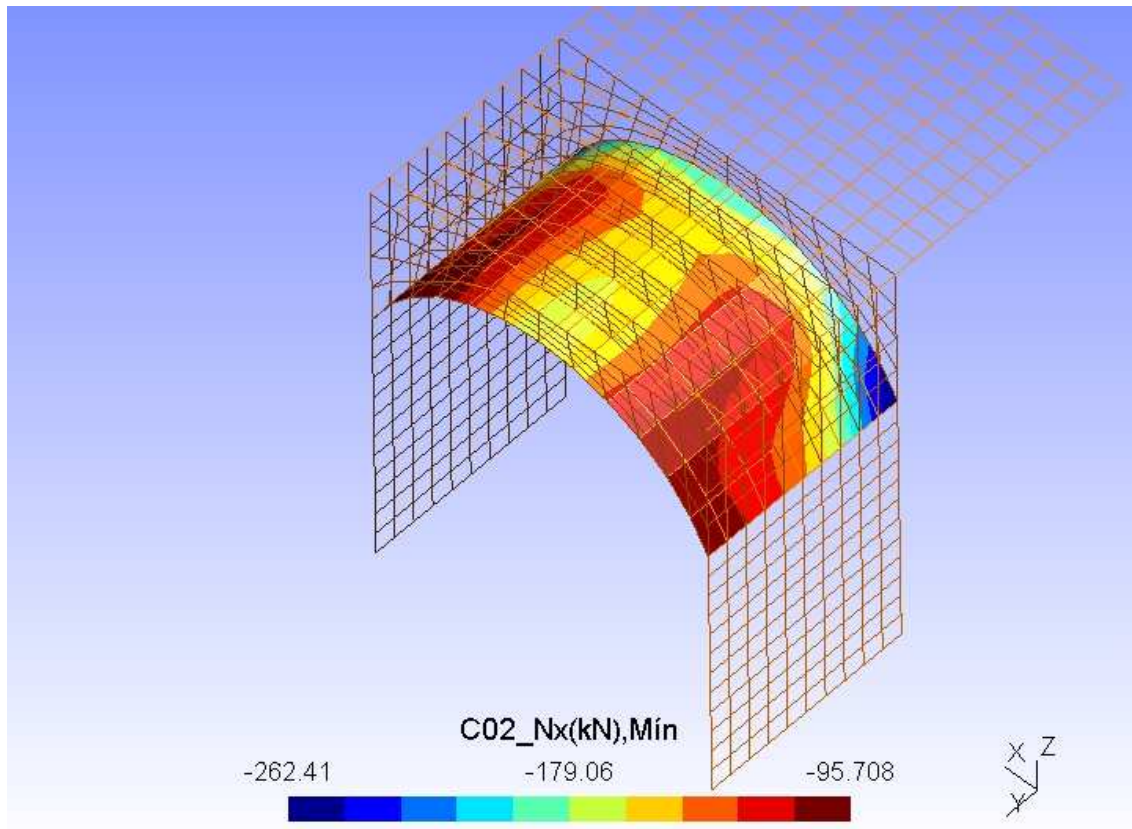
023-Combinación 2 - Momentos Flectores M_y Máx.jpg



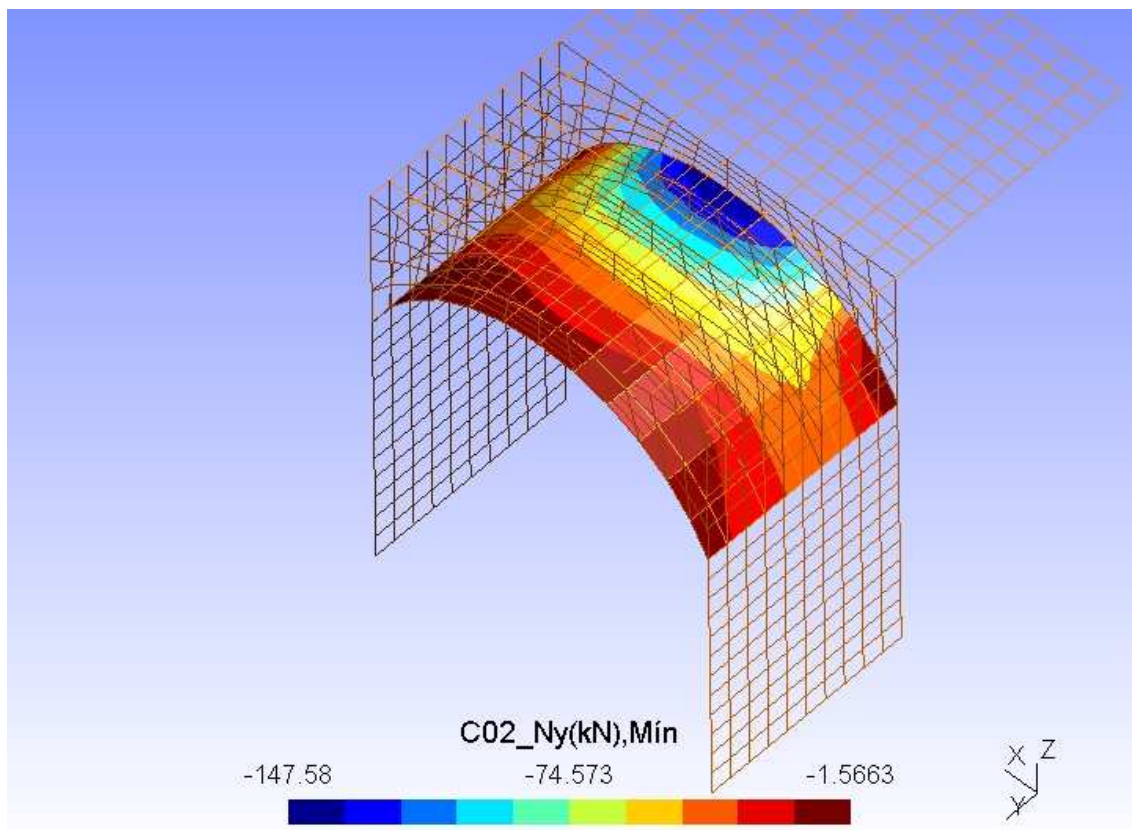
024-Combinación 2 - Esfuerzos Cortantes Vx Máx.jpg



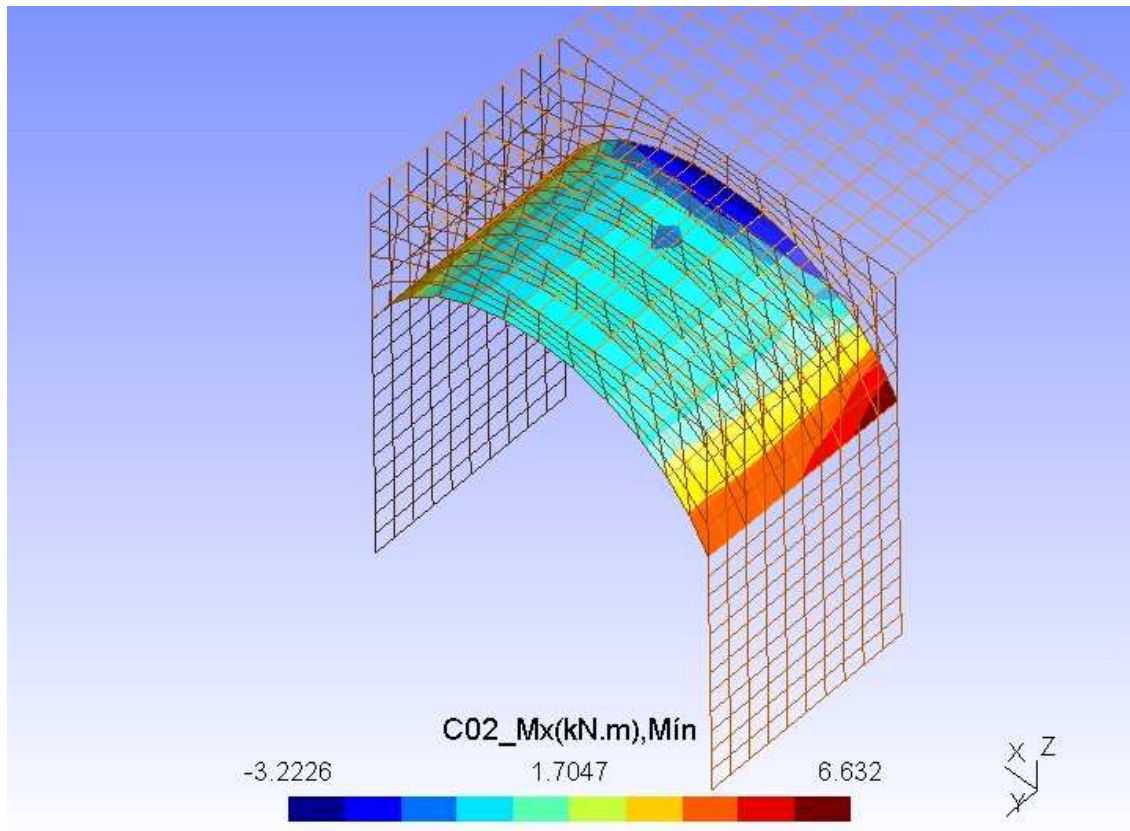
025-Combinación 2 - Esfuerzos cortantes Vy Máx.jpg



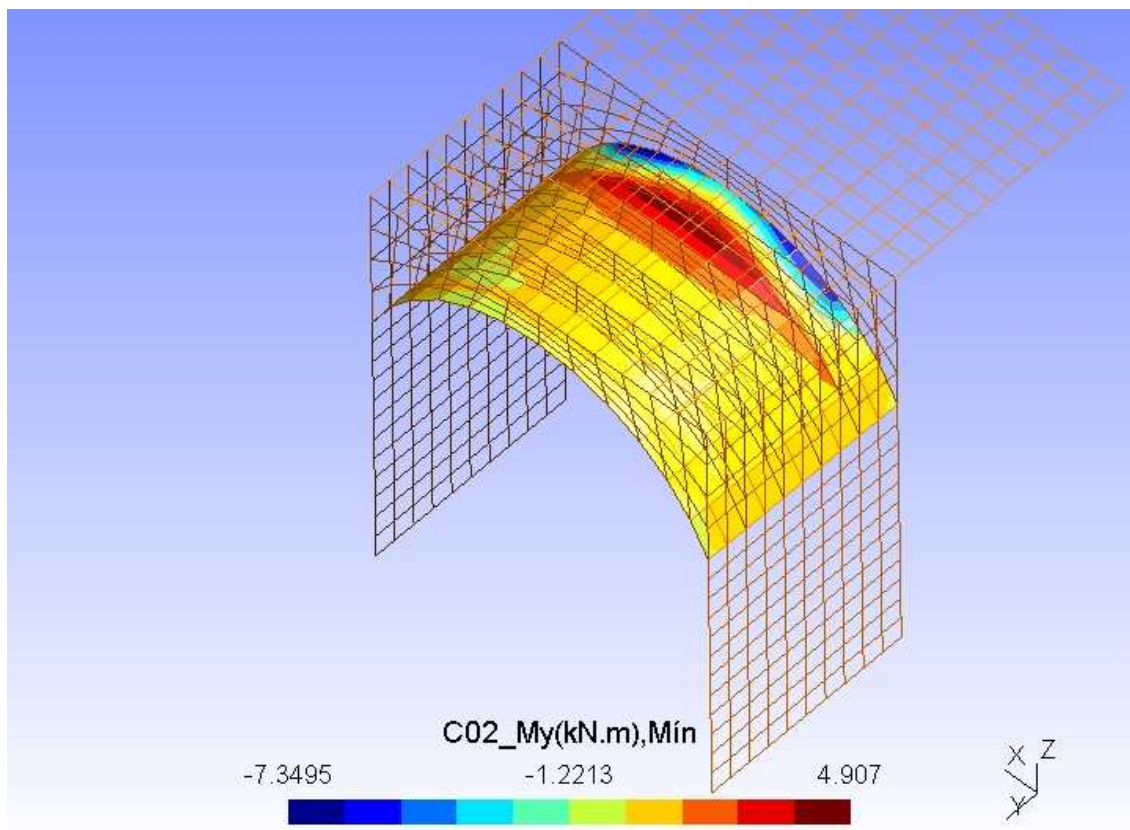
030-Combinación 2 - Esfuerzos Axiles N_x Mín.jpg



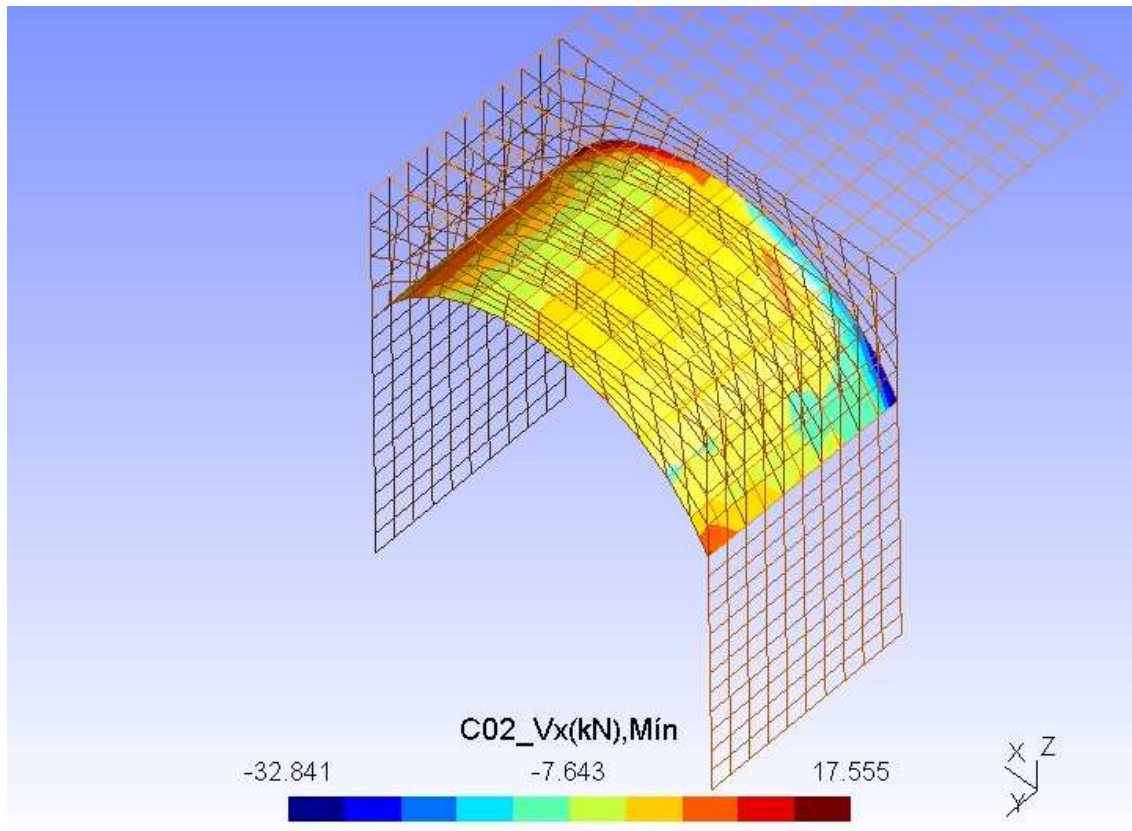
031-Combinación 2 - Esfuerzos Axiles N_y Mín.jpg



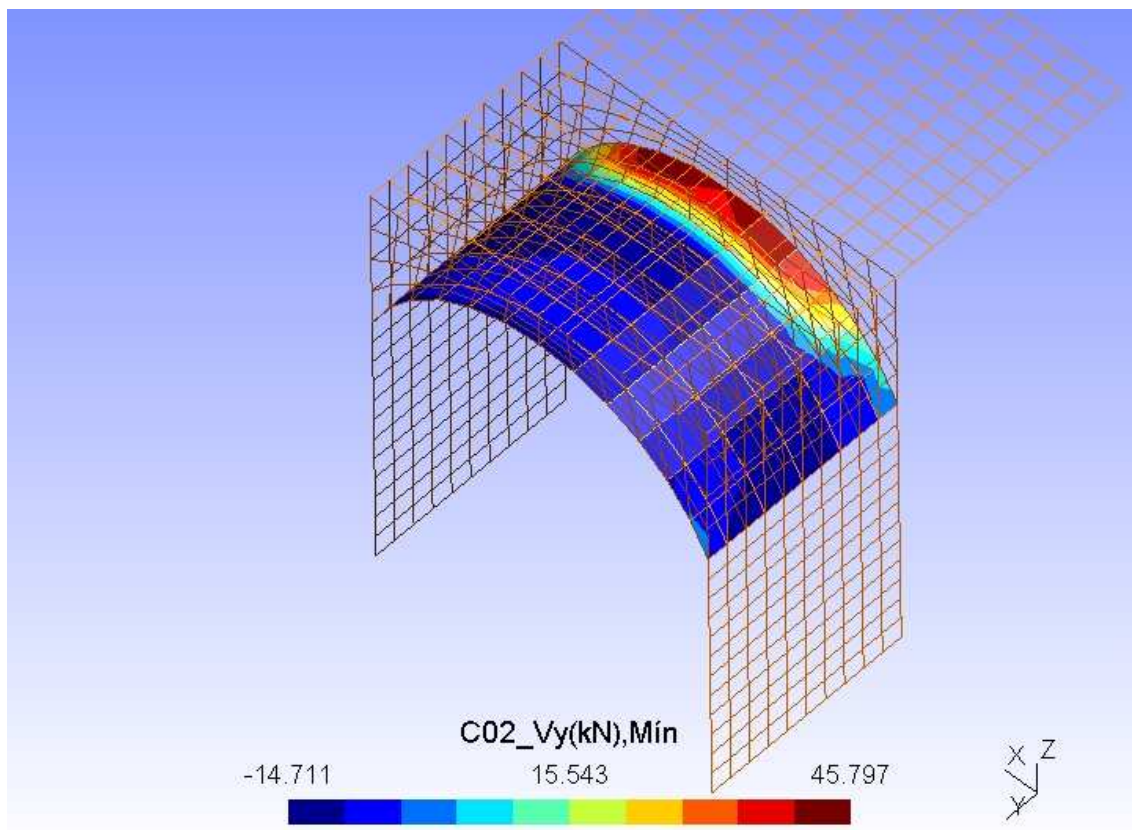
032-Combinación 2 - Momentos Flectores M_x Mín.jpg



033-Combinación 2 - Momentos Flectores M_y Mín.jpg

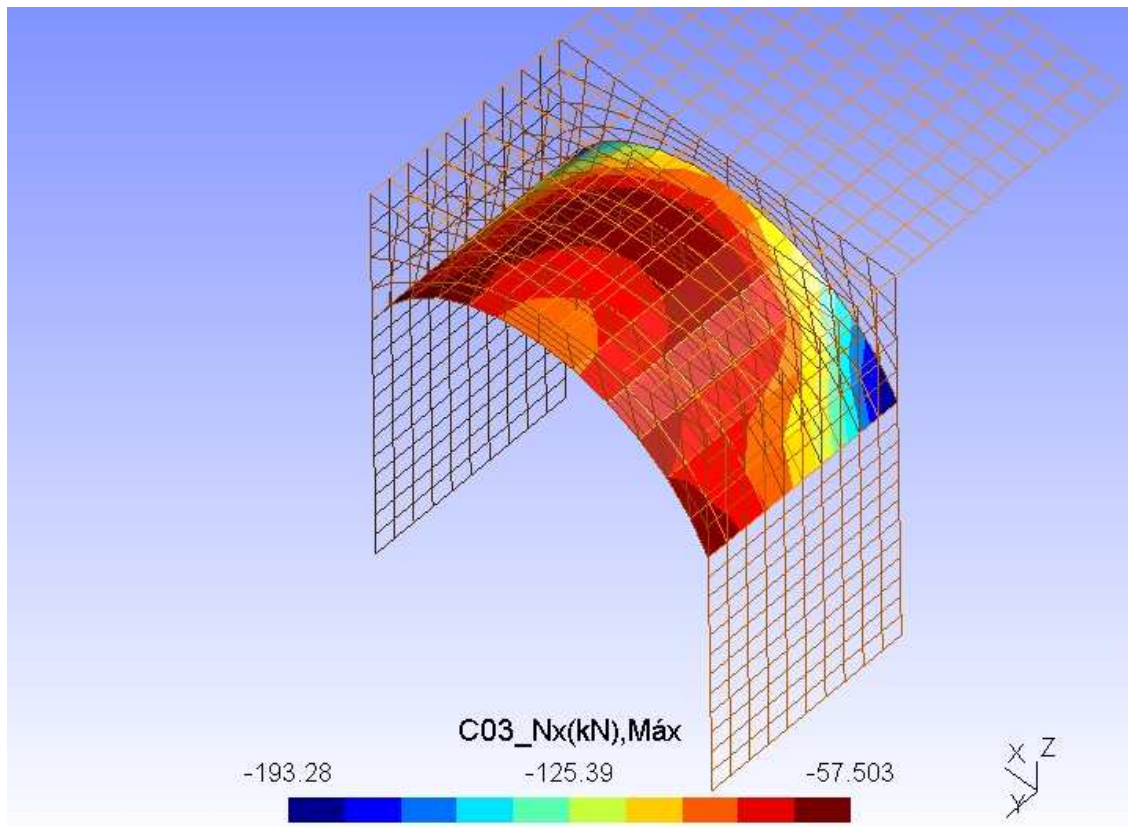


034-Combinación 2 - Esfuerzos Cortantes V_x Mín.jpg

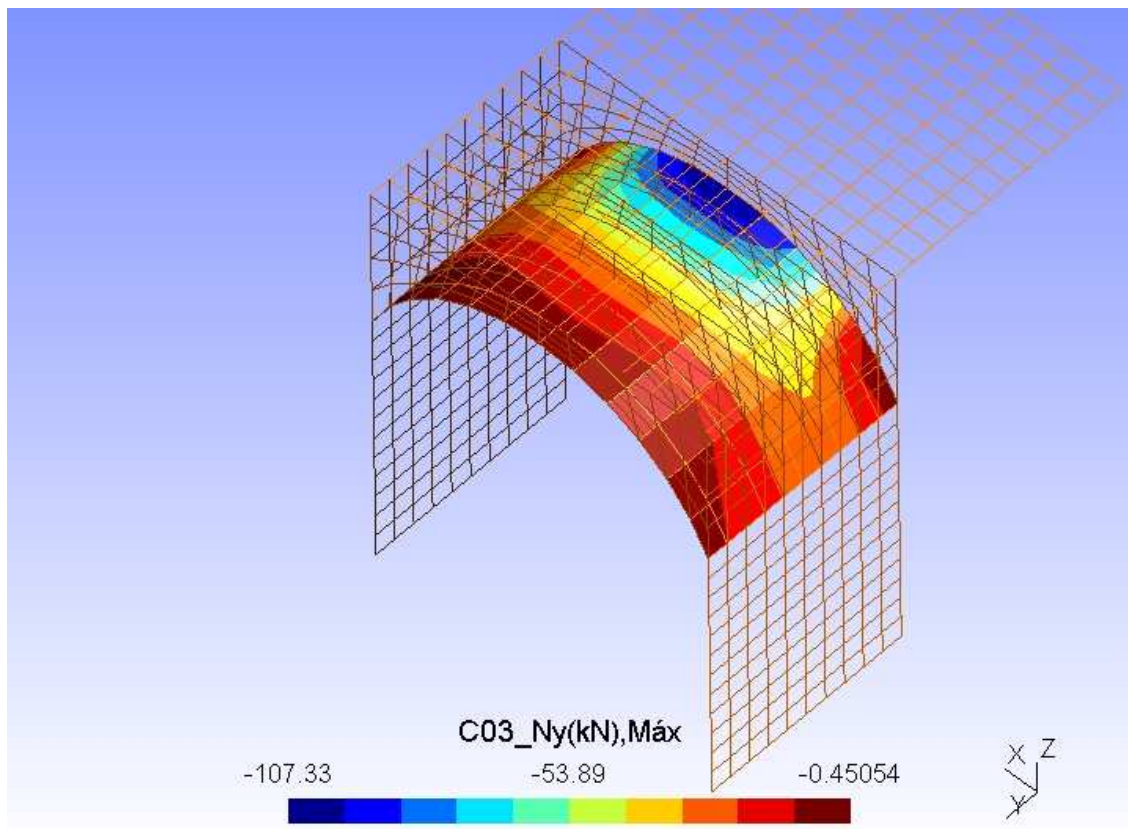


035-Combinación 2 - Esfuerzos cortantes V_y Mín.jpg

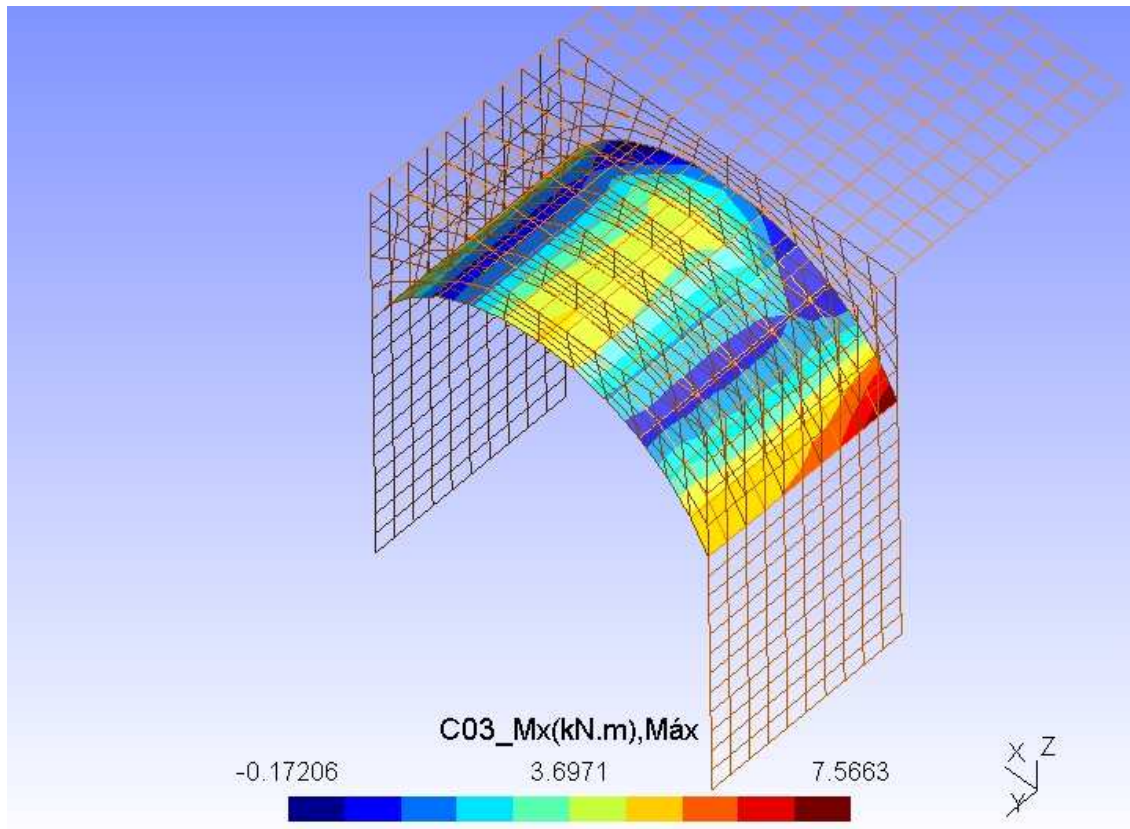
COMBINACIÓN 3 - ESFUERZOS EN ELS CUASIPERMANENTE



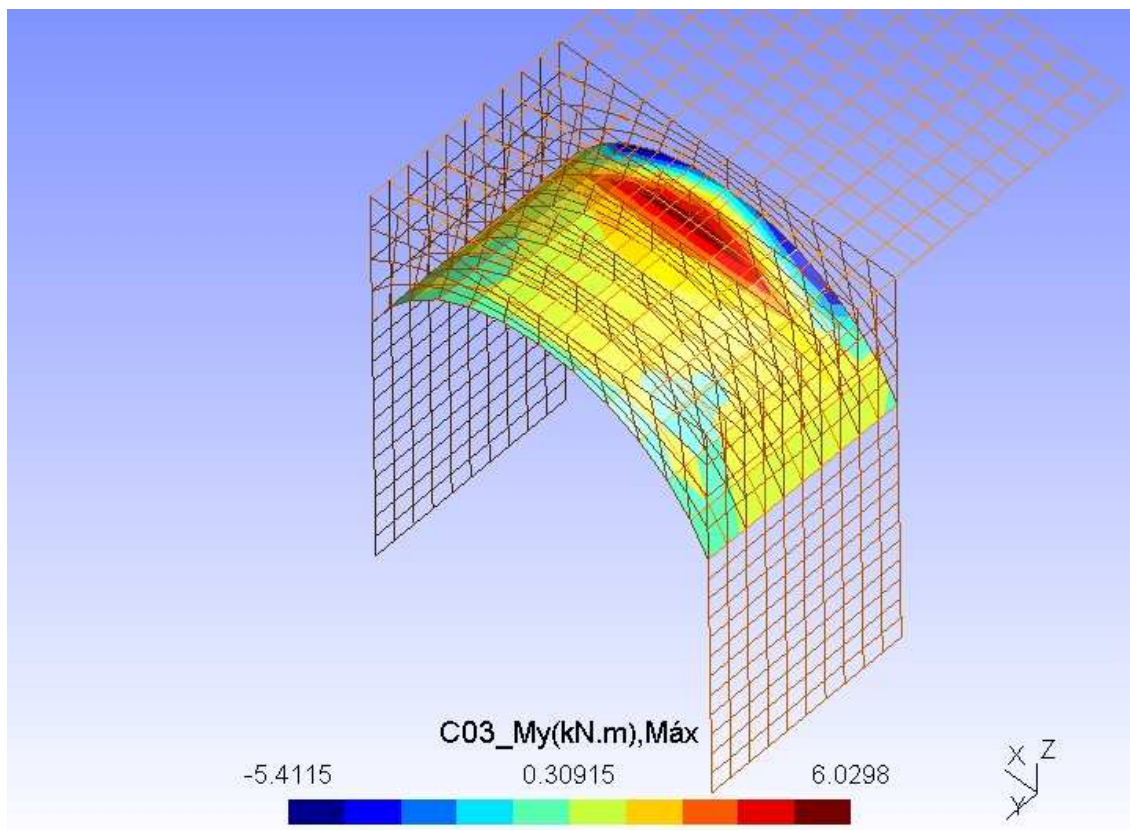
040-Combinación 3 - Esfuerzos Axiles Nx Máx.jpg



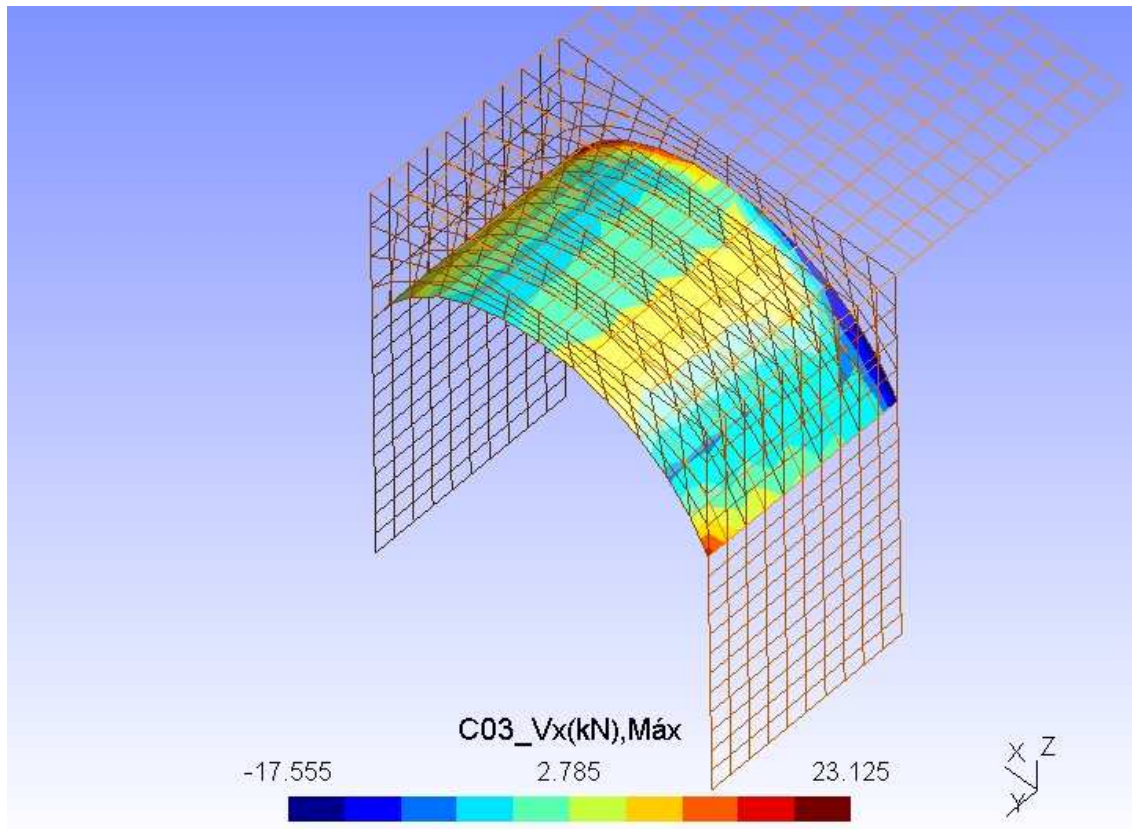
041-Combinación 3 - Esfuerzos Axiles Ny Máx.jpg



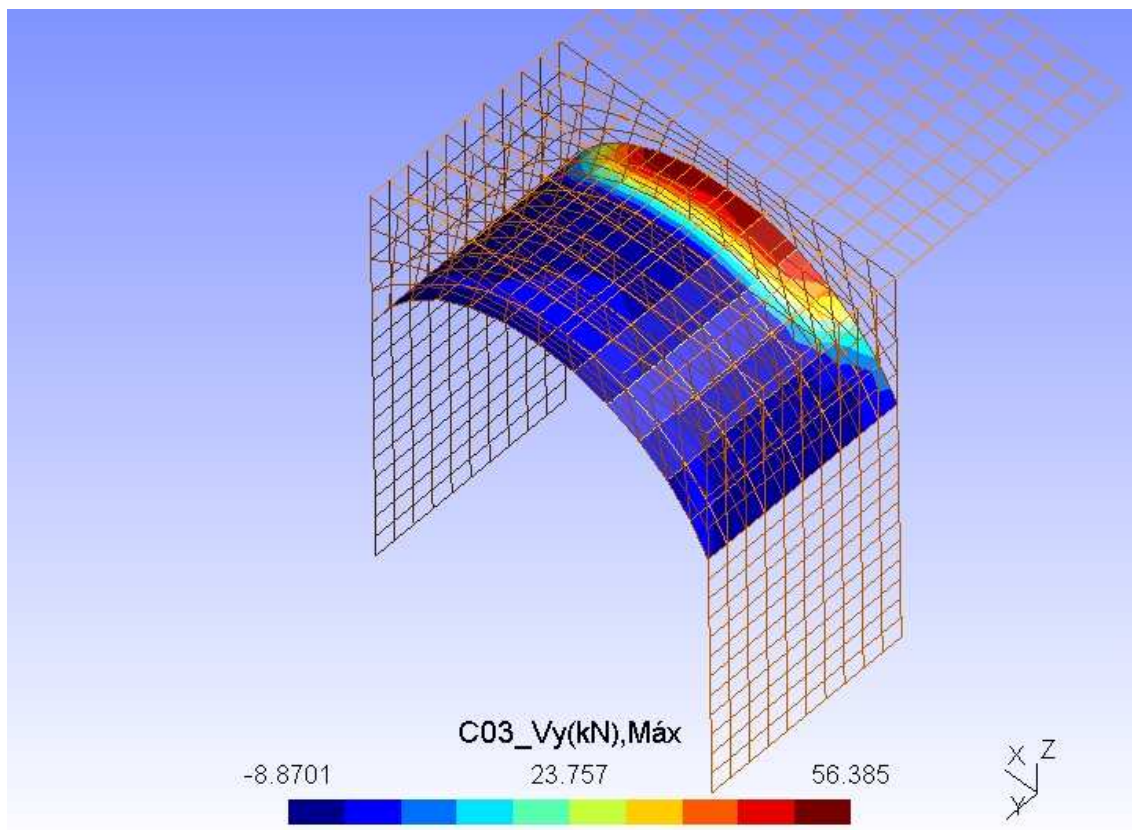
042-Combinación 3 - Momentos Flectores M_x Máx.jpg



043-Combinación 3 - Momentos Flectores M_y Máx.jpg



044-Combinación 3 - Esfuerzos Cortantes Vx Máx.jpg



045-Combinación 3 - Esfuerzos cortantes Vy Máx.jpg

REACCIONES MODELO BÓVEDA**1. - peso propio**

Nodo	Dy (m)	Rfx (kN)	Rfy (kN)	Rfz (kN)	Mz (kN.m)	Mx (kN.m)
1	-1,25	1,67	4,69	32,49	-2,09	-40,61
2	-1,00	1,28	5,70	54,92	-1,28	-54,92
3	-0,75	0,76	2,48	46,10	-0,57	-34,57
4	-0,50	0,66	0,83	41,95	-0,33	-20,97
5	-0,25	0,64	-0,34	36,48	-0,16	-9,12
6	0,00	0,63	-1,24	32,01	0,00	0,00
7	0,25	0,62	-1,96	26,89	0,16	6,72
8	0,50	0,62	-2,44	22,44	0,31	11,22
9	0,75	0,61	-2,92	17,43	0,46	13,07
10	1,00	0,63	-3,07	14,69	0,63	14,69
11	1,25	0,29	-1,74	7,63	0,37	9,53
Total...		8,41	0,00	333,01	-2,51	-104,96

2. - Cargas permanente

Nodo	Dy (m)	Rfx (kN)	Rfy (kN)	Rfz (kN)	Mz (kN.m)	Mx (kN.m)
1	-1,25	1,19	2,43	19,42	-1,48	-24,27
2	-1,00	0,71	2,41	31,79	-0,71	-31,79
3	-0,75	0,31	0,17	23,62	-0,23	-17,72
4	-0,50	0,23	-0,83	17,71	-0,11	-8,86
5	-0,25	0,20	-1,37	11,01	-0,05	-2,75
6	0,00	0,19	-1,65	4,82	0,00	0,00
7	0,25	0,18	-1,65	-1,65	0,05	-0,41
8	0,50	0,17	-1,32	-8,03	0,08	-4,01
9	0,75	0,12	-0,72	-14,22	0,09	-10,66
10	1,00	-0,11	1,04	-21,29	-0,11	-21,29
11	1,25	-0,55	1,48	-13,39	-0,69	-16,74
Total...		2,63	0,00	49,80	-3,17	-138,51

3. - Inc. peso pavimento

Nodo	Dy (m)	Rfx (kN)	Rfy (kN)	Rfz (kN)	Mz (kN.m)	Mx (kN.m)
1	-1,25	0,02	0,03	0,19	-0,02	-0,24
2	-1,00	0,02	0,04	0,33	-0,02	-0,33
3	-0,75	0,01	0,03	0,30	-0,01	-0,22
4	-0,50	0,01	0,02	0,30	-0,01	-0,15
5	-0,25	0,01	0,01	0,30	0,00	-0,07
6	0,00	0,01	0,00	0,30	0,00	0,00
7	0,25	0,01	-0,01	0,30	0,00	0,07
8	0,50	0,01	-0,02	0,30	0,01	0,15
9	0,75	0,01	-0,03	0,30	0,01	0,22
10	1,00	0,02	-0,04	0,33	0,02	0,33
11	1,25	0,02	-0,03	0,19	0,02	0,24
Total...		0,13	0,00	3,11	0,00	0,00

Reacciones

4. - Empuje de tierras en reposo

Nodo	Dy (m)	Rfx (kN)	Rfy (kN)	Rfz (kN)	Mz (kN.m)	Mx (kN.m)
1	-1,25	-14,61	0,03	0,00	18,26	0,00
2	-1,00	-17,97	-0,05	-0,01	17,97	0,01
3	-0,75	-15,35	0,02	0,01	11,51	-0,01
4	-0,50	-15,14	-0,02	-0,01	7,57	0,01
5	-0,25	-15,24	0,01	0,01	3,81	0,00
6	0,00	-15,29	-0,01	-0,01	0,00	0,00
7	0,25	-15,24	0,00	0,01	-3,81	0,00
8	0,50	-15,13	0,01	-0,01	-7,57	0,00
9	0,75	-15,33	-0,01	0,01	-11,50	0,01
10	1,00	-17,90	0,03	-0,01	-17,90	-0,01
11	1,25	-14,46	-0,02	0,00	-18,07	0,00
Total...		-171,66	0,00	0,00	0,27	0,00

5. - S.C, Uso en voladizo

Nodo	Dy (m)	Rfx (kN)	Rfy (kN)	Rfz (kN)	Mz (kN.m)	Mx (kN.m)
1	-1,25	0,73	1,51	12,02	-0,91	-15,03
2	-1,00	0,44	1,50	19,68	-0,44	-19,68
3	-0,75	0,19	0,10	14,63	-0,14	-10,98
4	-0,50	0,14	-0,50	10,98	-0,07	-5,49
5	-0,25	0,12	-0,85	6,84	-0,03	-1,71
6	0,00	0,12	-1,01	3,01	0,00	0,00
7	0,25	0,11	-1,02	-0,98	0,03	-0,25
8	0,50	0,10	-0,81	-4,93	0,05	-2,47
9	0,75	0,07	-0,45	-8,75	0,05	-6,56
10	1,00	-0,07	0,65	-13,12	-0,07	-13,12
11	1,25	-0,35	0,91	-8,25	-0,43	-10,32
Total...		1,59	0,00	31,13	-1,96	-85,59

6. - S.C, Uso en losa

Nodo	Dy (m)	Rfx (kN)	Rfy (kN)	Rfz (kN)	Mz (kN.m)	Mx (kN.m)
1	-1,25	0,54	1,03	6,31	-0,67	-7,89
2	-1,00	0,51	1,38	10,89	-0,51	-10,89
3	-0,75	0,37	0,86	9,90	-0,28	-7,43
4	-0,50	0,34	0,53	9,98	-0,17	-4,99
5	-0,25	0,34	0,26	9,84	-0,08	-2,46
6	0,00	0,34	0,00	9,90	0,00	0,00
7	0,25	0,34	-0,26	9,84	0,08	2,46
8	0,50	0,34	-0,52	9,98	0,17	4,99
9	0,75	0,36	-0,86	9,90	0,27	7,43
10	1,00	0,49	-1,38	10,89	0,49	10,89
11	1,25	0,50	-1,03	6,31	0,62	7,89
Total...		4,46	0,00	103,75	-0,08	0,00

Reacciones

7. - Empuje debido a la sobrecarga

Nodo	Dy (m)	Rfx (kN)	Rfy (kN)	Rfz (kN)	Mz (kN.m)	Mx (kN.m)
1	-1,25	-3,52	0,01	0,00	4,40	0,00
2	-1,00	-4,18	-0,01	0,00	4,18	0,00
3	-0,75	-3,51	0,01	0,00	2,63	0,00
4	-0,50	-3,44	-0,01	0,00	1,72	0,00
5	-0,25	-3,46	0,00	0,00	0,86	0,00
6	0,00	-3,47	0,00	0,00	0,00	0,00
7	0,25	-3,46	0,00	0,00	-0,86	0,00
8	0,50	-3,44	0,00	0,00	-1,72	0,00
9	0,75	-3,50	0,00	0,00	-2,63	0,00
10	1,00	-4,16	0,01	0,00	-4,16	0,00
11	1,25	-3,47	0,00	0,00	-4,34	0,00
Total...		-39,61	0,00	0,00	0,08	0,00

Combinaciones

COMBINACIONES DE REACCIONES EN ZAPATA BÓVEDA

	<i>Hipótesis</i>	<i>Rfx</i> (kN)	<i>Rfy</i> (kN)	<i>Rfz</i> (kN)	<i>Mz</i> (kN.m)	<i>Mx</i> (kN.m)
1	Peso Propio	8,41	0,00	333,01	-2,51	-104,96
2	Carga permanente	2,63	0,00	49,80	-3,17	-138,51
3	Inc. Peso pavimento	0,13	0,00	3,11	0,00	0,00
4	Empuje tierras	-171,66	0,00	0,00	0,27	0,00
5	S.C. Uso en voladizo	1,59	0,00	31,13	-1,96	-85,59
6	S.C. Uso en losa	4,46	0,00	103,75	-0,08	0,00
7	Empuje S.C.	-39,61	0,00	0,00	0,08	0,00
<u>Combinaciones</u>						
		<i>Rfx</i> (kN)	<i>Rfy</i> (kN)	<i>Rfz</i> (kN)	<i>Mz</i> (kN.m)	<i>Mx</i> (kN.m)
Sin mayorar	Mín. Rx	-200,22	0,00	382,80	-5,34	-243,46
	Máx. Rz	-194,04	0,00	520,79	-7,38	-329,06
	Mín. Mx	-159,02	0,00	413,93	-7,39	-329,06
	Mín. Mz	-154,57	0,00	517,68	-7,46	-329,06
Mayoradas	Mín. Rx	-299,91	0,00	382,80	-5,18	-243,46
	Máx. Rz	-287,70	0,00	703,07	-9,93	-444,23
	Mín. Mx	-240,43	0,00	558,81	-9,93	-444,23
	Mín. Mz	-234,41	0,00	698,87	-10,03	-444,23

Cálculo de zapatas aisladas

Fecha: 18.12.13

Zapata bóveda paso inferior Alcalde Caballero

Dimensiones de la zapata:

Lx (m) : 2.400
Ly (m) : 3.000
Hz (m) : 0.600
Rec.mecánico (m): 0.050
Densidad (t/m³) : 2.500

Dimensiones de la pila

Dx (m) : 0.400
Dy (m) : 2.500
Esviaje (g) : 0.0000

Excentricidades de la pila

Ex. X (m): 0.000
Ex. Y (m): -0.250

Sección de referencia

Sx (m) : 0.050
Sy (m) : 0.050

Carga de tierras sobre la zapata

H (m) : 0.000
Densidad (t/m³) : 0.000

Datos de materiales

fck (MPa) : 25.000
fyk (MPa) : 500.000

Acciones en la base de la pila

Hipótesis	N(kN)	Mx(kN.m)	My(kN.m)	Hx(kN)	Hy(kN)	Tipo
1	382.804	-243.464	0.000	-200.220	0.000	1
2	520.791	-329.060	0.000	-194.042	0.000	1
3	413.930	-329.059	0.000	-159.024	0.000	1
4	517.680	-329.060	0.000	-154.566	0.000	1
5	382.803	-243.463	0.000	-299.911	0.000	2
6	703.068	-444.230	0.000	-287.705	0.000	2
7	558.805	-444.230	0.000	-240.431	0.000	2
8	698.868	-444.232	0.000	-234.412	0.000	2

Coeficientes de seguridad y tensiones admisibles

Tipo	Gd,zap.	Gd,acc.	Gc	Gs	Smax,adm (kN/m ²)	Pv,adm (kN/m ²)
1	1.000	1.000	1.500	1.150	187.500	150.000
2	1.350	1.000	1.500	1.150	250.000	200.000

Esfuerzos en la base de la zapata y tensiones máximas

Hipótesis	N(kN)	Mx(kN.m)	My(kN.m)	ex(m)	ey(m)	Pv(kN/m ²)	Smax(kN/m ²)	K	Caso
1	488.752	-147.763	-120.132	-0.246	0.302	106.917	151.034	2.225	II
2	626.739	-198.862	-116.425	-0.186	0.317	130.621	182.770	2.100	II
3	519.878	-225.577	-95.414	-0.184	0.434	119.936	169.331	2.345	II
4	623.628	-199.641	-92.740	-0.149	0.320	125.692	174.272	2.012	II
5	525.833	-147.763	-179.946	-0.342	0.281	125.721	178.995	2.451	II
6	846.097	-268.463	-172.623	-0.204	0.317	179.570	252.247	2.147	II
7	701.835	-304.528	-144.258	-0.206	0.434	165.498	234.790	2.409	II
8	841.898	-269.515	-140.647	-0.167	0.320	172.699	240.649	2.058	II

Tensión máxima (kN/m²) : 182.770 en hipótesis 2

Esfuerzos en la zapata

Hipótesis	My(kN.m)	Vxz(kN)	Mx(kN.m)	Vyz(kN)
1	161.935	152.179	273.167	216.766
2	198.088	184.797	370.081	293.680
3	159.195	148.688	335.349	265.913
4	186.105	172.892	369.015	292.830
5	190.754	181.093	273.993	217.405
6	274.715	256.778	499.690	396.532
7	222.406	208.262	453.148	359.313
8	258.491	240.653	498.181	395.328

Armadura paralela al lado X

Zapata rígida

Tracción máxima 375.972 kN en hipótesis 6
 Rld (kN) : 351.5338
 x1 (m) : 0.6000
 As (cm²) : 9.3993
 As,mín (cm²) : 32.4000

Armadura paralela al lado Y

Zapata rígida

Tracción máxima 272.160 kN en hipótesis 6
 Rld (kN) : 573.6490
 x1 (m) : 0.8468
 As (cm²) : 6.8040
 As,mín (cm²) : 25.9200