1. Model geometry

This section provides model geometry information, including items such as joint coordinates, joint restraints, and element connectivity.

Figure 1: Finite element model

1.1. Joint coordinates

Table 1: Joint Coordinates

Table 1: Joint Coordinates

Joint	CoordSys	CoordType	GlobalX	GlobalY	GlobalZ
			m	m	m
1	GLOBAL	Cartesian	273.00958	48.20847	0.00000
2	GLOBAL	Cartesian	273.00958	48.20847	5.60000
3	GLOBAL	Cartesian	273.00958	43.72847	0.00000
4	GLOBAL	Cartesian	273.00958	43.72847	5.60000
5	GLOBAL	Cartesian	271.95958	48.20847	5.60000
6	GLOBAL	Cartesian	274.05958	48.20847	5.60000
8	GLOBAL	Cartesian	277.82335	43.72847	5.26000
9	GLOBAL	Cartesian	274.05958	43.72847	5.60000
10	GLOBAL	Cartesian	271.95958	41.52847	5.60000
11	GLOBAL	Cartesian	273.00958	41.52847	5.60000
12	GLOBAL	Cartesian	277.82335	41.52847	5.26000
13	GLOBAL	Cartesian	274.05958	41.52847	5.60000
14	GLOBAL	Cartesian	277.82335	43.72847	0.00000
15	GLOBAL	Cartesian	282.63712	43.72847	0.00000
16	GLOBAL	Cartesian	282.63712	43.72847	4.89800
17	GLOBAL	Cartesian	282.63712	41.52847	4.89800
18	GLOBAL	Cartesian	287.61212	43.72847	0.00000
19	GLOBAL	Cartesian	287.61212	43.72847	4.51000
20	GLOBAL	Cartesian	292.58712	43.72847	0.00000
21	GLOBAL	Cartesian	292.58712	43.72847	4.09000
22	GLOBAL	Cartesian	287.61212	41.52847	4.51000
23	GLOBAL	Cartesian	292.58712	41.52847	4.09000
24	GLOBAL	Cartesian	294.03458	43.72847	4.09000
25	GLOBAL	Cartesian	294.03458	41.52847	4.09000
26	GLOBAL	Cartesian	294.03458	45.92847	4.09000
27	GLOBAL	Cartesian	292.58712	45.92847	4.09000
28	GLOBAL	Cartesian	277.82335	43.72847	2.87000
29	GLOBAL	Cartesian	277.82335	45.92847	2.87000
30	GLOBAL	Cartesian	282.63712	43.72847	3.27800
31	GLOBAL	Cartesian	282.63712	45.92847	3.27800
32	GLOBAL	Cartesian	287.61212	43.72847	3.64000
33	GLOBAL	Cartesian	287.61212	45.92847	3.64000
36	GLOBAL	Cartesian	273.00958	43.72847	2.53000
37	GLOBAL	Cartesian	273.00958	45.92847	2.53000
40	GLOBAL	Cartesian	277.82335	44.82847	2.87000
42	GLOBAL	Cartesian	280.23023	44.82847	3.07400
43	GLOBAL	Cartesian	280.23023	43.72847	3.07400
44	GLOBAL	Cartesian	282.63712	44.82847	3.27800
45	GLOBAL	Cartesian	280.23023	45.92847	3.07400
46	GLOBAL	Cartesian	285.12462	44.82847	3.45900
47	GLOBAL	Cartesian	285.12462	43.72847	3.45900
48	GLOBAL	Cartesian	287.61212	44.82847	3.64000
49	GLOBAL	Cartesian	285.12462	45.92847	3.45900
50	GLOBAL	Cartesian	290.09962	44.82847	3.86500
51	GLOBAL	Cartesian	290.09962	43.72847	3.86500
52	GLOBAL	Cartesian	292.58712	44.82847	4.09000
53	GLOBAL	Cartesian	290.09962	45.92847	3.86500

Table 1: Joint Coordinates

Joint	CoordSys	CoordType	GlobalX	GlobalY	GlobalZ
			m	m	m
54	GLOBAL	Cartesian	290.09962	41.52847	4.30000
55	GLOBAL	Cartesian	290.09962	42.62847	4.30000
56	GLOBAL	Cartesian	292.58712	42.62847	4.09000
57	GLOBAL	Cartesian	290.09962	43.72847	4.30000
58	GLOBAL	Cartesian	287.61212	42.62847	4.51000
59	GLOBAL	Cartesian	285.12462	41.52847	4.70400
60	GLOBAL	Cartesian	285.12462	42.62847	4.70400
61	GLOBAL	Cartesian	285.12462	43.72847	4.70400
62	GLOBAL	Cartesian	282.63712	42.62847	4.89800
63	GLOBAL	Cartesian	280.23023	41.52847	5.07900
64	GLOBAL	Cartesian	280.23023	42.62847	5.07900
65	GLOBAL	Cartesian	280.23023	43.72847	5.07900
66	GLOBAL	Cartesian	277.82335	42.62847	5.26000
67	GLOBAL	Cartesian	275.94146	41.52847	5.43000
68	GLOBAL	Cartesian	275.94146	42.62847	5.43000
69	GLOBAL	Cartesian	275.94146	43.72847	5.43000
70	GLOBAL	Cartesian	274.05958	42.62847	5.60000
119	GLOBAL	Cartesian	279.02679	44.82847	2.97200
120	GLOBAL	Cartesian	279.02679	43.72847	2.97200
121	GLOBAL	Cartesian	281.43367	44.82847	3.17600
122	GLOBAL	Cartesian	281.43367	43.72847	3.17600
123	GLOBAL	Cartesian	279.02679	45.92847	2.97200
124	GLOBAL	Cartesian	281.43367	45.92847	3.17600
125	GLOBAL	Cartesian	283.88087	44.82847	3.36850
126	GLOBAL	Cartesian	283.88087	43.72847	3.36850
127	GLOBAL	Cartesian	286.36837	44.82847	3.54950
128	GLOBAL	Cartesian	286.36837	43.72847	3.54950
129	GLOBAL	Cartesian	283.88087	45.92847	3.36850
130	GLOBAL	Cartesian	286.36837	45.92847	3.54950
131	GLOBAL	Cartesian	288.85587	44.82847	3.75250
132	GLOBAL	Cartesian	288.85587	43.72847	3.75250
133	GLOBAL	Cartesian	291.34337	44.82847	3.97750
134	GLOBAL	Cartesian	291.34337	43.72847	3.97750
135	GLOBAL	Cartesian	288.85587	45.92847	3.75250
136	GLOBAL	Cartesian	291.34337	45.92847	3.97750
137	GLOBAL	Cartesian	291.34337	41.52847	4.19500
138	GLOBAL	Cartesian	291.34337	42.62847	4.19500
139	GLOBAL	Cartesian	291.34337	43.72847	4.19500
140	GLOBAL	Cartesian	288.85587	41.52847	4.40500
141	GLOBAL	Cartesian	288.85587	42.62847	4.40500
142	GLOBAL	Cartesian	288.85587	43.72847	4.40500
143	GLOBAL	Cartesian	286.36837	41.52847	4.60700
144	GLOBAL	Cartesian	286.36837	42.62847	4.60700
145	GLOBAL	Cartesian	286.36837	43.72847	4.60700
146	GLOBAL	Cartesian	283.88087	41.52847	4.80100
147	GLOBAL	Cartesian	283.88087	42.62847	4.80100
148	GLOBAL	Cartesian	283.88087	43.72847	4.80100
149	GLOBAL	Cartesian	281.43367	41.52847	4.98850
150	GLOBAL	Cartesian	281.43367	42.62847	4.98850
151	GLOBAL	Cartesian	281.43367	43.72847	4.98850
152	GLOBAL	Cartesian	279.02679	41.52847	5.16950
153	GLOBAL	Cartesian	279.02679	42.62847	5.16950
154	GLOBAL	Cartesian	279.02679	43.72847	5.16950
155	GLOBAL	Cartesian	276.88241	41.52847	5.34500

Table 1: Joint Coordinates

Joint	CoordSys	CoordType	GlobalX	GlobalY	GlobalZ
			m	m	m
156	GLOBAL	Cartesian	276.88241	42.62847	5.34500
157	GLOBAL	Cartesian	276.88241	43.72847	5.34500
158	GLOBAL	Cartesian	275.00052	41.52847	5.51500
159	GLOBAL	Cartesian	275.00052	42.62847	5.51500
160	GLOBAL	Cartesian	275.00052	43.72847	5.51500
176	GLOBAL	Cartesian	273.00958	42.64180	5.60000
177	GLOBAL	Cartesian	274.05958	42.64180	5.60000
178	GLOBAL	Cartesian	273.00958	43.75513	5.60000
179	GLOBAL	Cartesian	274.05958	43.75513	5.60000
180	GLOBAL	Cartesian	273.00958	44.86847	5.60000
181	GLOBAL	Cartesian	274.05958	44.86847	5.60000
182	GLOBAL	Cartesian	273.00958	45.98180	5.60000
183	GLOBAL	Cartesian	274.05958	45.98180	5.60000
184	GLOBAL	Cartesian	273.00958	47.09513	5.60000
185	GLOBAL	Cartesian	274.05958	47.09513	5.60000
186	GLOBAL	Cartesian	271.95958	42.64180	5.60000
187	GLOBAL	Cartesian	271.95958	43.75513	5.60000
188	GLOBAL	Cartesian	271.95958	44.86847	5.60000
189	GLOBAL	Cartesian	271.95958	45.98180	5.60000
190	GLOBAL	Cartesian	271.95958	47.09513	5.60000
191	GLOBAL	Cartesian	294.03458	44.82847	4.09000
194	GLOBAL	Cartesian	294.03458	42.62847	4.09000
198	GLOBAL	Cartesian	273.00958	44.82847	2.53000
199	GLOBAL	Cartesian	276.61991	44.82847	2.78500
200	GLOBAL	Cartesian	276.61991	45.92847	2.78500
201	GLOBAL	Cartesian	275.41646	44.82847	2.70000
202	GLOBAL	Cartesian	275.41646	45.92847	2.70000
203	GLOBAL	Cartesian	274.21302	44.82847	2.61500
204	GLOBAL	Cartesian	274.21302	45.92847	2.61500
205	GLOBAL	Cartesian	276.61991	43.72847	2.78500
206	GLOBAL	Cartesian	275.41646	43.72847	2.70000
207	GLOBAL	Cartesian	274.21302	43.72847	2.61500

1.2. Joint restraints

Table 2: Joint Restraint Assignments

Table 2: Joint Restraint Assignments

Joint	U1	U2	U3	R1	R2	R3
1	Yes	Yes	Yes	Yes	Yes	Yes
3	Yes	Yes	Yes	Yes	Yes	Yes
5	Yes	Yes	Yes	No	No	No
6	Yes	Yes	Yes	No	No	No
14	Yes	Yes	Yes	Yes	Yes	Yes
15	Yes	Yes	Yes	Yes	Yes	Yes
18	Yes	Yes	Yes	Yes	Yes	Yes
20	Yes	Yes	Yes	Yes	Yes	Yes
37	Yes	Yes	Yes	No	No	No

1.3. Element connectivity

Table 3: Connectivity - Frame

Table 3: Connectivity - Frame

Frame	JointI	JointJ	Length m
1	1	2	5.60000
2	3	4	5.60000
5	28	36	4.82576
6	8	9	3.77909
7	5	10	6.68000
8	6	9	4.48000
9	2	4	4.48000
10	4	11	2.20000
11	11	10	1.05000
12	12	13	3.77909
13	14	8	5.26000
14	8	12	2.20000
15	15	16	4.89800
16	16	8	4.82736
17	16	17	2.20000
18	17	12	4.82736
19	18	19	4.51000
20	19	16	4.99011
21	20	21	4.09000
22	19	21	4.99270
23	19	22	2.20000
24	21	23	2.20000
25	22	17	4.99011
26	22	23	4.99270
27	24	21	1.44747
28	25	24	2.20000
29	24	26	2.20000
30	26	27	1.44747
31	21	27	2.20000
32	25	23	1.44747
33	14	28	2.87000
34	28	29	2.20000
35	15	30	3.27800
36	30	31	2.20000
37	18	32	3.64000
38	32	33	2.20000
39	21	32	4.99531
40	32	30	4.98815
41	30	28	4.83103
42	27	33	4.99531
43	33	31	4.98815
44	31	29	4.83103
45	37	29	4.82576
46	36	37	2.20000
51	9	4	1.05000
52	13	11	1.05000

Table 4: Frame Section Assignments

Table 4: Frame Section Assignments

Frame	AnalSect	DesignSect	MatProp
1	COL 50X50	COL 50X50	Default
2	COL 50X50	COL 50X50	Default
5	VIG 40X50	VIG 40X50	Default
6	VIG 40X50	VIG 40X50	Default
7	VIG 5x5	VIG 5x5	Default
8	VIG 5x5	VIG 5x5	Default
9	VIG 40X50	VIG 40X50	Default
10	VIG 40X50	VIG 40X50	Default
11	VIG 5x5	VIG 5x5	Default
12	VIG 5x5	VIG 5x5	Default
13	COL 50X50	COL 50X50	Default
14	VIG 40X50	VIG 40X50	Default
15	COL 50X50	COL 50X50	Default
16	VIG 40X50	VIG 40X50	Default
17	VIG 40X50	VIG 40X50	Default
18	VIG 5x5	VIG 5x5	Default
19	COL 50X50	COL 50X50	Default
20	VIG 40X50	VIG 40X50	Default
21	COL 50X50	COL 50X50	Default
22	VIG 40X50	VIG 40X50	Default
23	VIG 40X50	VIG 40X50	Default
24	VIG 40X50	VIG 40X50	Default
25	VIG 5x5	VIG 5x5	Default
26	VIG 5x5	VIG 5x5	Default
27	VIG 40X50	VIG 40X50	Default
28	VIG 5x5	VIG 5x5	Default
29	VIG 5x5	VIG 5x5	Default
30	VIG 5x5	VIG 5x5	Default
31	VIG 40X50	VIG 40X50	Default
32	VIG 5x5	VIG 5x5	Default
33	COL 50X50	COL 50X50	Default
34	VIG 40X50	VIG 40X50	Default
35	COL 50X50	COL 50X50	Default
36	VIG 40X50	VIG 40X50	Default
37	COL 50X50	COL 50X50	Default
38	VIG 40X50	VIG 40X50	Default
39	VIG 40X50	VIG 40X50	Default
40	VIG 40X50	VIG 40X50	Default
41	VIG 40X50	VIG 40X50	Default
42	VIG 5x5	VIG 5x5	Default
43	VIG 5x5	VIG 5x5	Default
44	VIG 5x5	VIG 5x5	Default
45	VIG 5x5	VIG 5x5	Default
46	VIG 40X50	VIG 40X50	Default
51	VIG 40X50	VIG 40X50	Default
52	VIG 5x5	VIG 5x5	Default

Table 5: Connectivity - Area

Table 5: Connectivity - Area

Area	Joint1	Joint2	Joint3	Joint4
119	28	40	119	120
120	120	119	42	43
121	43	42	121	122
122	122	121	44	30
123	40	29	123	119
124	119	123	45	42
125	42	45	124	121
126	121	124	31	44
127	30	44	125	126
128	126	125	46	47
129	47	46	127	128
130	128	127	48	32
131	44	31	129	125
132	125	129	49	46
133	46	49	130	127
134	127	130	33	48
135	32	48	131	132
136	132	131	50	51
137	51	50	133	134
138	134	133	52	21
139	48	33	135	131
140	131	135	53	50
141	50	53	136	133
142	133	136	27	52
143	23	137	138	56
144	137	54	55	138
145	56	138	139	21
146	138	55	57	139
147	54	140	141	55
148	140	22	58	141
149	55	141	142	57
150	141	58	19	142
151	22	143	144	58
152	143	59	60	144
153	58	144	145	19
154	144	60	61	145
155	59	146	147	60
156	146	17	62	147
157	60	147	148	61
158	147	62	16	148
159	17	149	150	62
160	149	63	64	150
161	62	150	151	16
162	150	64	65	151
163	63	152	153	64
164	152	12	66	153
165	64	153	154	65
166	153	66	8	154
167	12	155	156	66
168	155	67	68	156
169	66	156	157	8
170	156	68	69	157
171	67	158	159	68

Table 5: Connectivity - Area

Area	Joint1	Joint2	Joint3	Joint4
172	158	13	70	159
173	68	159	160	69
174	159	70	9	160
187	13	11	176	177
188	177	176	178	179
189	179	178	180	181
190	181	180	182	183
191	183	182	184	185
192	185	184	2	6
193	11	10	186	176
194	176	186	187	178
195	178	187	188	180
196	180	188	189	182
197	182	189	190	184
198	184	190	5	2
199	27	26	191	52
200	52	191	24	21
203	24	194	56	21
204	194	25	23	56
214	29	40	199	200
215	200	199	201	202
216	202	201	203	204
217	204	203	198	37
218	40	28	205	199
219	199	205	206	201
220	201	206	207	203
221	203	207	36	198

Table 6: Area Section Assignments

Table 6: Area Section Assignments

Area	Section	MatProp
119	PLACA RAMPA	Default
120	PLACA RAMPA	Default
121	PLACA RAMPA	Default
122	PLACA RAMPA	Default
123	PLACA RAMPA	Default
124	PLACA RAMPA	Default
125	PLACA RAMPA	Default
126	PLACA RAMPA	Default
127	PLACA RAMPA	Default
128	PLACA RAMPA	Default
129	PLACA RAMPA	Default
130	PLACA RAMPA	Default
131	PLACA RAMPA	Default
132	PLACA RAMPA	Default
133	PLACA RAMPA	Default
134	PLACA RAMPA	Default
135	PLACA RAMPA	Default
136	PLACA RAMPA	Default
137	PLACA RAMPA	Default

Table 6: Area Section Assignments

Area	Section	MatProp
138	PLACA RAMPA	Default
139	PLACA RAMPA	Default
140	PLACA RAMPA	Default
141	PLACA RAMPA	Default
142	PLACA RAMPA	Default
143	PLACA RAMPA	Default
144	PLACA RAMPA	Default
145	PLACA RAMPA	Default
146	PLACA RAMPA	Default
147	PLACA RAMPA	Default
148	PLACA RAMPA	Default
149	PLACA RAMPA	Default
150	PLACA RAMPA	Default
151	PLACA RAMPA	Default
152	PLACA RAMPA	Default
153	PLACA RAMPA	Default
154	PLACA RAMPA	Default
155	PLACA RAMPA	Default
156	PLACA RAMPA	Default
157	PLACA RAMPA	Default
158	PLACA RAMPA	Default
159	PLACA RAMPA	Default
160	PLACA RAMPA	Default
161	PLACA RAMPA	Default
162	PLACA RAMPA	Default
163	PLACA RAMPA	Default
164	PLACA RAMPA	Default
165	PLACA RAMPA	Default
166	PLACA RAMPA	Default
167	PLACA RAMPA	Default
168	PLACA RAMPA	Default
169	PLACA RAMPA	Default
170	PLACA RAMPA	Default
171	PLACA RAMPA	Default
172	PLACA RAMPA	Default
173	PLACA RAMPA	Default
174	PLACA RAMPA	Default
187	PLACA RAMPA	Default
188	PLACA RAMPA	Default
189	PLACA RAMPA	Default
190	PLACA RAMPA	Default
191	PLACA RAMPA	Default
192	PLACA RAMPA	Default
193	PLACA RAMPA	Default
194	PLACA RAMPA	Default
195	PLACA RAMPA	Default
196	PLACA RAMPA	Default
197	PLACA RAMPA	Default
198	PLACA RAMPA	Default
199	PLACA RAMPA	Default
200	PLACA RAMPA	Default
203	PLACA RAMPA	Default
204	PLACA RAMPA	Default
214	PLACA RAMPA	Default

Table 6: Area Section Assignments

Area	Section	MatProp
215	PLACA RAMPA	Default
216	PLACA RAMPA	Default
217	PLACA RAMPA	Default
218	PLACA RAMPA	Default
219	PLACA RAMPA	Default
220	PLACA RAMPA	Default
221	PLACA RAMPA	Default

2. Material properties

This section provides material property information for materials used in the model.

Table 7: Material Properties 02 - Basic Mechanical Properties

Table 7: Material Properties 02 - Basic Mechanical Properties

Material	UnitWeight	UnitMass	E1	G12	U12	A1
	Tonf/m3	Tonf-s2/m4	Tonf/m2	Tonf/m2		1/C
4000Psi	2.4028E+00	2.4501E-01	2487006.23	1036252.60	0.200000	9.9000E-06
A572Gr50	7.8490E+00	8.0038E-01	20389019.16	7841930.45	0.300000	1.1700E-05
A615Gr60	7.8490E+00	8.0038E-01	20389019.16			1.1700E-05

Table 8: Material Properties 03a - Steel Data

Table 8: Material Properties 03a - Steel Data

Material	Fy	Fu	FinalSlope
	Tonf/m2	Tonf/m2	
A572Gr50	35153.48	45699.53	-0.100000

Table 9: Material Properties 03b - Concrete Data

Table 9: Material Properties 03b - Concrete Data

Material	Fc	FinalSlope
	Tonf/m2	
4000Psi	2812.28	-0.100000

Table 10: Material Properties 03e - Rebar Data

Table 10: Material Properties 03e - Rebar Data

Material	Fy	Fu	FinalSlope
	Tonf/m2	Tonf/m2	
A615Gr60	42184.18	63276.27	-0.100000

3. Section properties

This section provides section property information for objects used in the model.

3.1. Frames

Table 11: Frame Section Properties 01 - General, Part 1 of 4

Table 11: Frame Section Properties 01 - General, Part 1 of 4

SectionName	Material	Shape	t3	t2	Area	TorsConst	I33	I22
			m	m	m2	m4	m4	m4
COL 40X40	4000Psi	Rectangular	0.400000	0.400000	0.160000	0.003605	0.002133	0.002133
COL 45X50	4000Psi	Rectangular	0.450000	0.500000	0.225000	0.007047	0.003797	0.004688
COL 50X50	4000Psi	Rectangular	0.500000	0.500000	0.250000	0.008802	0.005208	0.005208
VIG 40X50	4000Psi	Rectangular	0.500000	0.400000	0.200000	0.005474	0.004167	0.002667
VIG 5x5	4000Psi	Rectangular	0.050000	0.050000	0.002500	8.802E-07	5.208E-07	5.208E-07

Table 11: Frame Section Properties 01 - General, Part 2 of 4

Table 11: Frame Section Properties 01 - General, Part 2 of 4

SectionName	AS2	AS3
	m2	m2
COL 40X40	0.133333	0.133333
COL 45X50	0.187500	0.187500
COL 50X50	0.208333	0.208333
VIG 40X50	0.166667	0.166667
VIG 5x5	0.002083	0.002083

Table 11: Frame Section Properties 01 - General, Part 3 of 4

Table 11: Frame Section Properties 01 - General, Part 3 of 4

SectionName	S33	S22	Z33	Z22	R33	R22
	m3	m3	m3	m3	m	m
COL 40X40	0.010667	0.010667	0.016000	0.016000	0.115470	0.115470
COL 45X50	0.016875	0.018750	0.025313	0.028125	0.129904	0.144338
COL 50X50	0.020833	0.020833	0.031250	0.031250	0.144338	0.144338
VIG 40X50	0.016667	0.013333	0.025000	0.020000	0.144338	0.115470
VIG 5x5	0.000021	0.000021	0.000031	0.000031	0.014434	0.014434

Table 11: Frame Section Properties 01 - General, Part 4 of 4

Table 11: Frame Section Properties 01 - General, Part 4 of 4

SectionName	AMod	A2Mod	A3Mod	JMod	I2Mod	I3Mod	MMod	WMod
COL 40X40	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000
COL 45X50	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000
COL 50X50	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000
VIG 40X50	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000
VIG 5x5	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000

Table 12: Frame Section Properties 02 - Concrete Column, Part 1 of 2

Table 12: Frame Section Properties 02 - Concrete Column, Part 1 of 2

SectionName	RebarMatL	RebarMatC	ReinfConfig	LatReinf	Cover	NumBars3Dir	NumBars2Dir
					m		
COL 40X40	A615Gr60	A615Gr60	Rectangular	Ties	0.040000	4	4
COL 45X50	A615Gr60	A615Gr60	Rectangular	Ties	0.040000	4	4
COL 50X50	A615Gr60	A615Gr60	Rectangular	Ties	0.040000	4	4

Table 12: Frame Section Properties 02 - Concrete Column, Part 2 of 2

Table 12: Frame Section Properties 02 - Concrete Column, Part 2 of 2

SectionName	BarSizeL	BarSizeC	SpacingC	NumCBars2	NumCBars3
			m		
COL 40X40	#8	#4	0.150000	3	3
COL 45X50	#8	#3	0.150000	3	3
COL 50X50	#7	#3	0.150000	3	3

Table 13: Frame Section Properties 03 - Concrete Beam, Part 1 of 2

Table 13: Frame Section Properties 03 - Concrete Beam, Part 1 of 2

SectionName	RebarMatL	RebarMatC	TopCover	BotCover
			m	m
VIG 40X50	A615Gr60	A615Gr60	0.050000	0.050000
VIG 5x5	A615Gr60	A615Gr60	0.050000	0.050000

Table 13: Frame Section Properties 03 - Concrete Beam, Part 2 of 2

Table 13: Frame Section Properties 03 - Concrete Beam, Part 2 of 2

SectionName	TopLeftArea	TopRghtArea	BotLeftArea	BotRghtArea
	m2	m2	m2	m2
VIG 40X50	0.000000	0.000000	0.000000	0.000000
VIG 5x5	0.000000	0.000000	0.000000	0.000000

3.2. Areas

Table 14: Area Section Properties, Part 1 of 3

Table 14: Area Section Properties, Part 1 of 3

Section	Material	AreaType	Type	DrillDOF	Thickness	BendThick	F11Mod
					m	m	
PLACA RAMPA	4000Psi	Shell	Shell-Thin	No	0.200000	0.200000	1.000000

Table 14: Area Section Properties, Part 2 of 3

Table 14: Area Section Properties, Part 2 of 3

Section	F22Mod	F12Mod	M11Mod	M22Mod	M12Mod	V13Mod	V23Mod	MMod
PLACA RAMPA	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000	1.000000

Table 14: Area Section Properties, Part 3 of 3

Table 14: Area Section Properties, Part 3 of 3

Section	WMod
PLACA RAMPA	1.000000

3.3. Solids

Table 15: Solid Property Definitions

Table 15: Solid Property Definitions

SolidProp	Material	MatAngleA Degrees	MatAngleB Degrees	MatAngleC Degrees
SOLID1	4000Psi	0.000	0.000	0.000

4. Load patterns

This section provides loading information as applied to the model.

4.1. Definitions

Table 16: Load Pattern Definitions

Table 16: Load Pattern Definitions

LoadPat	DesignType	SelfWtMult	AutoLoad
DEAD	DEAD	1.000000	
PERMANENTE	DEAD	0.000000	
VIVA	LIVE	0.000000	

5. Load cases

This section provides load case information.

5.1. Definitions

Table 17: Load Case Definitions

Table 17: Load Case Definitions

Case	Type	InitialCond	ModalCase	BaseCase	DesActOpt	DesignAct
DEAD	LinStatic	Zero			Prog Det	Non-Composite
MODAL	LinModal	Zero			Prog Det	Other
PERMANENTE	LinStatic	Zero			Prog Det	Non-Composite
VIVA	LinStatic	Zero			Prog Det	Short-Term Composite
SPECX	LinRespSpec		MODAL		Prog Det	Short-Term Composite
SPECY	LinRespSpec		MODAL		Prog Det	Short-Term Composite
SPECX-UDD	LinRespSpec		MODAL		Prog Det	Short-Term Composite
SPECY-UDD	LinRespSpec		MODAL		Prog Det	Short-Term Composite

5.2. Static case load assignments

Table 18: Case - Static 1 - Load Assignments

Table 18: Case - Static 1 - Load Assignments

Case	LoadType	LoadName	LoadSF
DEAD	Load pattern	DEAD	1.000000
PERMANENTE	Load pattern	PERMANENTE	1.000000
VIVA	Load pattern	VIVA	1.000000

5.3. Response spectrum case load assignments

Table 19: Case - Response Spectrum 1 - General

Table 19: Case - Response Spectrum 1 - General

Case	ModalCombo	GMCf1	GMCf2	PerRigid	DirCombo	DampingType	ConstDamp
		Cyc/sec	Cyc/sec				
SPECX	CQC	1.0000E+00	0.0000E+00	SRSS	SRSS	Constant	0.0500
SPECY	CQC	1.0000E+00	0.0000E+00	SRSS	SRSS	Constant	0.0500
SPECX-UDD	CQC	1.0000E+00	0.0000E+00	SRSS	SRSS	Constant	0.0200
SPECY-UDD	CQC	1.0000E+00	0.0000E+00	SRSS	SRSS	Constant	0.0200

Table 20: Case - Response Spectrum 2 - Load Assignments

Table 20: Case - Response Spectrum 2 - Load Assignments

Case	LoadType	LoadName	CoordSys	Function	Angle	TransAccSF
					Degrees	m/sec2
SPECX	Acceleration	U1	GLOBAL	NSR10	0.000	9.81000
SPECX	Acceleration	U2	GLOBAL	NSR10	0.000	3.82590
SPECY	Acceleration	U2	GLOBAL	NSR10	0.000	16.18650
SPECY	Acceleration	U1	GLOBAL	NSR10	0.000	4.85595
SPECX-UDD	Acceleration	U1	GLOBAL	UDD	0.000	12.75300
SPECX-UDD	Acceleration	U2	GLOBAL	UDD	0.000	3.82590
SPECY-UDD	Acceleration	U2	GLOBAL	UDD	0.000	16.18650
SPECY-UDD	Acceleration	U1	GLOBAL	UDD	0.000	4.85595

Table 21: Function - Response Spectrum - User

Table 21: Function - Response Spectrum - User

Name	Period	Accel	FuncDamp
	Sec		
UNIFRS	0.000000	1.000000	0.050000
UNIFRS	1.000000	1.000000	
NSR10	0.000000	1.133000	0.050000
NSR10	0.993100	1.133000	
NSR10	1.200000	0.937500	
NSR10	1.600000	0.703100	
NSR10	2.000000	0.562500	
NSR10	2.400000	0.468800	
NSR10	2.800000	0.401800	
NSR10	3.200000	0.351600	
NSR10	3.600000	0.312500	
NSR10	4.000000	0.281300	
NSR10	4.400000	0.255700	
NSR10	4.800000	0.234400	
NSR10	5.200000	0.216300	
NSR10	5.600000	0.200900	
UDD	0.000000	0.080000	0.020000
UDD	0.250000	0.240000	
UDD	1.875000	0.240000	
UDD	2.200000	0.205000	
UDD	2.800000	0.161000	
UDD	3.600000	0.125000	
UDD	4.400000	0.102000	
UDD	5.200000	0.087000	
UDD	6.000000	0.075000	
UDD	8.000000	0.056000	
UDD	9.000000	0.050000	

6. Load combinations

This section provides load combination information.

Table 22: Combination Definitions

Table 22: Combination Definitions

ComboName	ComboType	CaseName	ScaleFactor
COMB1(ELU)	Linear Add	DEAD	1.000000
COMB1(ELU)		PERMANENTE	1.000000
COMB1(ELU)		VIVA	1.000000
COMB2(ELU)	Linear Add	DEAD	1.200000
COMB2(ELU)		PERMANENTE	1.200000
COMB2(ELU)		VIVA	1.600000
COMB3(ELU)	Linear Add	DEAD	1.200000
COMB3(ELU)		PERMANENTE	1.200000
COMB3(ELU)		SPECX	0.142857
COMB4(ELU)	Linear Add	DEAD	1.200000
COMB4(ELU)		PERMANENTE	1.200000
COMB4(ELU)		SPECY	0.211416
COMB1(ELS)	Linear Add	DEAD	1.000000
COMB1(ELS)		PERMANENTE	1.000000
COMB1(ELS)		VIVA	1.000000
DERIVA X	Linear Add	DEAD	1.200000
DERIVA X		PERMANENTE	1.200000
DERIVA X		VIVA	1.000000
DERIVA X		SPECX	0.800000
DERIVA Y	Linear Add	DEAD	1.200000
DERIVA Y		PERMANENTE	1.200000
DERIVA Y		VIVA	1.000000
DERIVA Y		SPECY	0.800000
CIM	Linear Add	DEAD	1.000000
CIM		PERMANENTE	1.000000
CIM		VIVA	1.000000
CIMX	Linear Add	DEAD	1.000000
CIMX		PERMANENTE	1.000000
CIMX		SPECX	0.148000
CIM Y	Linear Add	DEAD	1.000000
CIM Y		PERMANENTE	1.000000
CIM Y		SPECY	0.148000
ENVOLVENTE	Envelope	COMB1(ELU)	1.000000
ENVOLVENTE		COMB2(ELU)	1.000000
ENVOLVENTE		COMB3(ELU)	1.000000
ENVOLVENTE		COMB4(ELU)	1.000000
ENVOLVENTE		COMB5(ELU)	1.000000
ENVOLVENTE		COMB6(ELU)	1.000000
ENVOLVENTE		COMB7(ELU)	1.000000
ENVOLVENTE		COMB8(ELU)	1.000000
ENVOLVENTE		COMB9(ELU)	1.000000
ENVOLVENTE		COMB10(ELU)	1.000000
DERIVA X (UDD)	Linear Add	DEAD	1.200000
DERIVA X (UDD)		PERMANENTE	1.200000
DERIVA X (UDD)		VIVA	1.000000
DERIVA X (UDD)		SPECX-UDD	0.800000
DERIVA Y (UDD)	Linear Add	DEAD	1.200000
DERIVA Y (UDD)		PERMANENTE	1.200000

Table 22: Combination Definitions

ComboName	ComboType	CaseName	ScaleFactor
DERIVA Y (UDD)		VIVA	1.000000
DERIVA Y (UDD)		SPECY-UDD	0.800000
COMBVIG1	Linear Add	DEAD	1.200000
COMBVIG1		PERMANENTE	1.200000
COMBVIG1		SPECX	0.510000
COMBVIG2	Linear Add	DEAD	1.200000
COMBVIG2		PERMANENTE	1.200000
COMBVIG2		SPECY	1.310000
COMBVIG3	Linear Add	DEAD	0.900000
COMBVIG3		PERMANENTE	0.900000
COMBVIG3		SPECX	0.510000
COMBVIG4	Linear Add	DEAD	0.900000
COMBVIG4		PERMANENTE	0.900000
COMBVIG4		SPECY	1.310000
COMBCOL1	Linear Add	DEAD	1.200000
COMBCOL1		PERMANENTE	1.200000
COMBCOL1		SPECX	0.660000
COMBCOL2	Linear Add	DEAD	1.200000
COMBCOL2		PERMANENTE	1.200000
COMBCOL2		SPECY	1.880000
COMBCOL3	Linear Add	DEAD	0.900000
COMBCOL3		PERMANENTE	0.900000
COMBCOL3		SPECX	0.660000
COMBCOL4	Linear Add	DEAD	0.900000
COMBCOL4		PERMANENTE	0.900000
COMBCOL4		SPECX	1.880000