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Design considerations for cold formed lipped channel steel sections in composite slab systems

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APPENDIX A

DEFLECTIONS : KOMACEC

Data from Test			
Ig =	1.46E+08	**Icr =**	1.07E+08
Mcr =	5.343	**L =**	0.8

Test Sample T1/1				
Load (KN)	**Deflection Readings (mm)**	**Bending Moment (kN.m)**	**Effective Moment of Inertia (Ie)**	**Deflections Calculated (mm)**
0	0.00	0.00	0.00	0.000
10	0.11	1.00	1.46E+08	0.021
20	0.16	2.00	1.46E+08	0.041
30	0.23	3.00	1.46E+08	0.062
40	0.30	4.00	1.46E+08	0.083
50	0.37	5.00	1.46E+08	0.103
60	0.44	6.00	1.35E+08	0.135
70	0.51	7.00	1.24E+08	0.170
80	0.58	8.00	1.19E+08	0.203
90	0.65	9.00	1.15E+08	0.236
100	0.71	10.00	1.13E+08	0.267
110	0.80	11.00	1.12E+08	0.297
109	1.05	10.90	1.12E+08	0.294
120	1.87	12.00	1.11E+08	0.327
130	2.08	13.00	1.10E+08	0.357
140	2.27	14.00	1.09E+08	0.386
150	2.48	15.00	1.09E+08	0.415
160	2.70	16.00	1.09E+08	0.444
170	3.02	17.00	1.08E+08	0.473
180	3.30	18.00	1.08E+08	0.502
190	4.14	19.00	1.08E+08	0.530
200	4.48	20.00	1.08E+08	0.559
202	4.60	20.20	1.08E+08	0.565

Table 6.1 Computed vs Actual Deflection Values : Test T1/1

Data from Test				
Ig =	1.46E+08	**Icr =**	1.07E+08	
Mcr =	5.343	**L =**	0.8	
Test Sample T1/2				
Load (KN)	**Deflection Readings (mm)**	**Bending Moment (kN.m)**	**Effective Moment of Inertia (Ie)**	**Deflections Calculated (mm)**
0	0.00	0.00	0.00	0.000
10	0.11	1.00	1.46E+08	0.021
20	0.18	2.00	1.46E+08	0.041
30	0.23	3.00	1.46E+08	0.062
40	0.28	4.00	1.46E+08	0.083
50	0.33	5.00	1.46E+08	0.103
60	0.39	6.00	1.35E+08	0.135
70	0.45	7.00	1.24E+08	0.170
80	0.52	8.00	1.19E+08	0.203
90	0.60	9.00	1.15E+08	0.236
100	0.69	10.00	1.13E+08	0.267
110	0.79	11.00	1.12E+08	0.297
120	1.01	12.00	1.11E+08	0.327
125	1.16	12.50	1.10E+08	0.342
130	1.25	13.00	1.10E+08	0.357
140	1.44	14.00	1.09E+08	0.386
145	1.53	14.50	1.09E+08	0.401
150	1.60	15.00	1.09E+08	0.415
155	1.67	15.50	1.09E+08	0.430
160	1.74	16.00	1.09E+08	0.444
165	1.81	16.50	1.09E+08	0.459
170	1.88	17.00	1.08E+08	0.473
180	1.99	18.00	1.08E+08	0.502
185	2.08	18.50	1.08E+08	0.516
190	2.23	19.00	1.08E+08	0.530
190	2.55	19.00	1.08E+08	0.530

Table 6.2 Computed vs Deflection Values : Test T1/2

Data from Test				
Ig =	1.46E+08	**Icr =**	1.07E+08	
Mcr =	5.343	**L =**	0.8	
Test Sample T1/3				
Load (KN)	**Deflection Readings (mm)**	**Bending Moment (kN.m)**	**Effective Moment of Inertia (Ie)**	**Deflections Calculated (mm)**
0	0.00	0.00	0.00	0.000
10	0.12	1.00	1.46E+08	0.021
20	0.18	2.00	1.46E+08	0.041
30	0.23	3.00	1.46E+08	0.062
40	0.30	4.00	1.46E+08	0.083
50	0.37	5.00	1.46E+08	0.103
60	0.43	6.00	1.35E+08	0.135
70	0.50	7.00	1.24E+08	0.170
80	0.59	8.00	1.19E+08	0.203
80	0.86	8.00	1.19E+08	0.203
85	1.59	8.50	1.17E+08	0.220
90	1.75	9.00	1.15E+08	0.236
95	1.86	9.50	1.14E+08	0.251
100	1.96	10.00	1.13E+08	0.267
110	2.24	11.00	1.12E+08	0.297
115	2.35	11.50	1.11E+08	0.312
120	2.50	12.00	1.11E+08	0.327
125	2.61	12.50	1.10E+08	0.342
130	2.73	13.00	1.10E+08	0.357
140	3.07	14.00	1.09E+08	0.386
150	3.43	15.00	1.09E+08	0.415
160	3.80	16.00	1.09E+08	0.444
170	4.27	17.00	1.08E+08	0.473
180	5.10	18.00	1.08E+08	0.502
185	6.10	18.50	1.08E+08	0.516
185	6.60	18.50	1.08E+08	0.516

Table 6.3 Computed vs Actual Deflection Values : Test T1/3

Data from Test				
Ig =	1.46E+08	**Icr =**	1.07E+08	
Mcr =	5.343	**L =**	0.8	
Test Sample T1/4				
Load (KN)	**Deflection Readings (mm)**	**Bending Moment (kN.m)**	**Effective Moment of Inertia (Ie)**	**Deflections Calculated (mm)**
0	0.00	0.00	0.00	0.000
10	0.11	1.00	1.46E+08	0.021
20	0.19	2.00	1.46E+08	0.041
30	0.24	3.00	1.46E+08	0.062
40	0.31	4.00	1.46E+08	0.083
50	0.38	5.00	1.46E+08	0.103
60	0.45	6.00	1.35E+08	0.135
70	0.52	7.00	1.24E+08	0.170
80	0.59	8.00	1.19E+08	0.203
90	0.66	9.00	1.15E+08	0.236
100	0.73	10.00	1.13E+08	0.267
110	0.82	11.00	1.12E+08	0.297
120	1.23	12.00	1.11E+08	0.327
130	2.10	13.00	1.10E+08	0.357
135	2.26	13.50	1.10E+08	0.372
140	2.45	14.00	1.09E+08	0.386
150	2.67	15.00	1.09E+08	0.415
160	3.00	16.00	1.09E+08	0.444
170	3.25	17.00	1.08E+08	0.473
180	3.78	18.00	1.08E+08	0.502
190	4.19	19.00	1.08E+08	0.530
200	4.75	20.00	1.08E+08	0.559
210	5.43	21.00	1.08E+08	0.587
220	6.20	22.00	1.08E+08	0.616
225	7.50	22.50	1.08E+08	0.630

Table 6.4 Computed vs Actual Deflection Values Test T1/4

Data from Tests				
Ig =	1.46E+08	**Icr =**	1.07E+08	
Mcr =	5.343	**L =**	1.8	
Test Sample T2/1				
Load (KN)	**Deflection Readings (mm)**	**Bending Moment (kN.m)**	**Effective Moment of Inertia (Ie)**	**Deflections Calculated (mm)**
0	0.00	0.00	0.00	0.000
5	0.15	1.13	1.46E+08	0.118
10	0.30	2.25	1.46E+08	0.236
15	0.45	3.38	1.46E+08	0.354
20	0.59	4.50	1.46E+08	0.471
25	0.73	5.63	1.40E+08	0.612
30	0.89	6.75	1.26E+08	0.816
35	1.06	7.88	1.19E+08	1.009
40	1.26	9.00	1.15E+08	1.192
45	1.44	10.13	1.13E+08	1.370
50	1.72	11.25	1.11E+08	1.543
55	2.05	12.38	1.10E+08	1.713
57	2.57	12.83	1.10E+08	1.781
60	2.95	13.50	1.10E+08	1.881
65	3.30	14.63	1.09E+08	2.047
70	3.90	15.75	1.09E+08	2.213
70	5.23	15.75	1.09E+08	2.213
75	5.60	16.88	1.09E+08	2.377
80	6.10	18.00	1.08E+08	2.540
85	6.80	19.13	1.08E+08	2.703
90	7.40	20.25	1.08E+08	2.866
95	8.25	21.38	1.08E+08	3.028
100	9.27	22.50	1.08E+08	3.190
105	10.35	23.63	1.08E+08	3.352
110	11.30	24.75	1.08E+08	3.513
110	12.66	24.75	1.08E+08	3.513

Table 6.5 Computed vs Actual Deflection Values : Test T2/1

Data from Tests				
Ig =	1.46E+08	**Icr =**	1.07E+08	
Mcr =	5.343	**L =**	1.8	
Test Sample T2/2				
Load (KN)	**Deflection Readings (mm)**	**Bending Moment (kN.m)**	**Effective Moment of Inertia (Ie)**	**Deflections Calculated (mm)**
0	0.00	0.00	0.00	0.000
5	0.17	1.13	1.46E+08	0.118
10	0.32	2.25	1.46E+08	0.236
15	0.48	3.38	1.46E+08	0.354
20	0.61	4.50	1.46E+08	0.471
25	0.75	5.63	1.40E+08	0.612
30	0.91	6.75	1.26E+08	0.816
35	1.12	7.88	1.19E+08	1.009
40	1.27	9.00	1.15E+08	1.192
45	1.45	10.13	1.13E+08	1.370
50	1.65	11.25	1.11E+08	1.543
55	1.89	12.38	1.10E+08	1.713
60	2.81	13.50	1.10E+08	1.881
60	4.22	13.50	1.10E+08	1.881
65	4.99	14.63	1.09E+08	2.047
65	6.08	14.63	1.09E+08	2.047
70	6.55	15.75	1.09E+08	2.213
75	7.15	16.88	1.09E+08	2.377
80	7.15	18.00	1.08E+08	2.540
85	7.70	19.13	1.08E+08	2.703
90	8.40	20.25	1.08E+08	2.866
95	9.20	21.38	1.08E+08	3.028
100	10.25	22.50	1.08E+08	3.190
104	11.40	23.40	1.08E+08	3.319
104	13.12	23.40	1.08E+08	3.319
110	20.00	24.75	1.08E+08	3.513

Table 6.6 Computed vs Actual Deflection Values : Test T2/2

Data from Test				
Ig =	1.46E+08	**Icr =**	1.07E+08	
Mcr =	5.343	**L =**	1.8	
Test Sample T2/3				
Load (KN)	**Deflection Readings (mm)**	**Bending Moment (kN.m)**	**Effective Moment of Inertia (Ie)**	**Deflections Calculated (mm)**
0	0.00	0.00	0.00	0.000
5	0.13	1.13	1.46E+08	0.118
10	0.27	2.25	1.46E+08	0.236
15	0.39	3.38	1.46E+08	0.354
20	0.52	4.50	1.46E+08	0.471
25	0.67	5.63	1.40E+08	0.612
30	0.81	6.75	1.26E+08	0.816
35	0.98	7.88	1.19E+08	1.009
40	1.15	9.00	1.15E+08	1.192
45	1.34	10.13	1.13E+08	1.370
50	1.53	11.25	1.11E+08	1.543
55	1.75	12.38	1.10E+08	1.713
60	2.00	13.50	1.10E+08	1.881
60	2.47	13.50	1.10E+08	1.881
60	3.30	13.50	1.10E+08	1.881
60	6.57	13.50	1.10E+08	1.881
65	7.13	14.63	1.09E+08	2.047
70	8.21	15.75	1.09E+08	2.213
75	8.99	16.88	1.09E+08	2.377
80	9.85	18.00	1.08E+08	2.540
80	10.92	18.00	1.08E+08	2.540
85	11.40	19.13	1.08E+08	2.703
90	12.15	20.25	1.08E+08	2.866
95	13.15	21.38	1.08E+08	3.028
100	14.75	22.50	1.08E+08	3.190
104	19.22	23.40	1.08E+08	3.319

Table 6.7 Computed vs Actual Deflection Valued : Test T2/3

Data from Test					
Ig =	1.46E+08	**Icr =**	1.07E+08		
Mcr =	5.343	**L =**	1.8		
Test Sample B2/1					
Load (kN)	**Deflection Readings**	**Deflection (mm)**	**Bending Moment (kN.m)**	**Effective Moment of Inertia (Ie)**	**Deflections Calculated (mm)**
0	0	0.00	0.00	0.00	0.000
5	22	0.22	1.13	1.46E+08	0.118
10	35	0.35	2.25	1.46E+08	0.236
15	48	0.48	3.38	1.46E+08	0.354
20	58	0.58	4.50	1.46E+08	0.471
25	69	0.69	5.63	1.40E+08	0.612
30	83	0.83	6.75	1.26E+08	0.816
35	96	0.96	7.88	1.19E+08	1.009
40	114	1.14	9.00	1.15E+08	1.192
45	133	1.33	10.13	1.13E+08	1.370
50	155	1.55	11.25	1.11E+08	1.543
55	175	1.75	12.38	1.10E+08	1.713
60	196	1.96	13.50	1.10E+08	1.881
65	220	2.20	14.63	1.09E+08	2.047
70	252	2.52	15.75	1.09E+08	2.213
75	270	2.70	16.88	1.09E+08	2.377
80	293	2.93	18.00	1.08E+08	2.540
85	312	3.12	19.13	1.08E+08	2.703
90	339	3.39	20.25	1.08E+08	2.866
95	365	3.65	21.38	1.08E+08	3.028
100	395	3.95	22.50	1.08E+08	3.190
105	422	4.22	23.63	1.08E+08	3.352
110	454	4.54	24.75	1.08E+08	3.513
115	482	4.82	25.88	1.08E+08	3.674
120	520	5.20	27.00	1.08E+08	3.836
125	565	5.65	28.13	1.08E+08	3.997
130	590	5.90	29.25	1.08E+08	4.158
135	620	6.20	30.38	1.08E+08	4.319
135	732	7.32	30.38	1.08E+08	4.319
140	784	7.84	31.50	1.07E+08	4.479
145	840	8.40	32.63	1.07E+08	4.640
145	855	8.55	32.63	1.07E+08	4.640
145	868	8.68	32.63	1.07E+08	4.640
150	960	9.60	33.75	1.07E+08	4.801
155	1075	10.75	34.88	1.07E+08	4.962
155	1100	11.00	34.88	1.07E+08	4.962
157	1400	14.00	35.33	1.07E+08	5.026

Table 6.8 Computed vs Actual Deflection Valued : Test B2/1

Data from Test					
Ig =	1.46E+08	**Icr =**	1.07E+08		
Mcr =	5.343	**L =**	1.8		
Test Sample B2/2					
Load (kN)	**Deflection Readings**	**Deflection (mm)**	**Bending Moment (kN.m)**	**Effective Moment of Inertia (Ie)**	**Deflections Calculated (mm)**
0	100	0.00	0.00	0.00	0.000
5	115	0.15	1.13	1.46E+08	0.118
10	135	0.35	2.25	1.46E+08	0.236
15	158	0.58	3.38	1.46E+08	0.354
20	169	0.69	4.50	1.46E+08	0.471
25	182	0.82	5.63	1.40E+08	0.612
30	208	1.08	6.75	1.26E+08	0.816
35	225	1.25	7.88	1.19E+08	1.009
40	240	1.40	9.00	1.15E+08	1.192
45	258	1.58	10.13	1.13E+08	1.370
50	277	1.77	11.25	1.11E+08	1.543
55	322	2.22	12.38	1.10E+08	1.713
60	345	2.45	13.50	1.10E+08	1.881
65	369	2.69	14.63	1.09E+08	2.047
70	391	2.91	15.75	1.09E+08	2.213
75	417	3.17	16.88	1.09E+08	2.377
80	444	3.44	18.00	1.08E+08	2.540
85	475	3.75	19.13	1.08E+08	2.703
90	499	3.99	20.25	1.08E+08	2.866
95	535	4.35	21.38	1.08E+08	3.028
100	563	4.63	22.50	1.08E+08	3.190
105	601	5.01	23.63	1.08E+08	3.352
110	640	5.40	24.75	1.08E+08	3.513
115	672	5.72	25.88	1.08E+08	3.674
120	706	6.06	27.00	1.08E+08	3.836
125	745	6.45	28.13	1.08E+08	3.997
130	784	6.84	29.25	1.08E+08	4.158
135	835	7.35	30.38	1.08E+08	4.319
140	876	7.76	31.50	1.07E+08	4.479
140	885	7.85	31.50	1.07E+08	4.479
145	938	8.38	32.63	1.07E+08	4.640
145	960	8.60	32.63	1.07E+08	4.640
145	966	8.66	32.63	1.07E+08	4.640
150	1050	9.50	33.75	1.07E+08	4.801
150	1101	10.01	33.75	1.07E+08	4.801
155	1200	11.00	34.88	1.07E+08	4.962
155	1500	14.00	34.88	1.07E+08	4.962

Table 6.9 Computed vs Actual Deflection Valued : Test B2/2

Data from Test					
Ig =	1.46E+08	**Icr =**	1.07E+08		
Mcr =	5.343	**L =**	1.8		
Test Sample B2/3					
Load (kN)	**Deflection Readings**	**Deflection (mm)**	**Bending Moment (kN.m)**	**Effective Moment of Inertia (Ie)**	**Deflections Calculated (mm)**
0	0	0.00	0.00	0.00	0.000
5	19	0.19	1.13	1.46E+08	0.118
10	39	0.39	2.25	1.46E+08	0.236
15	52	0.52	3.38	1.46E+08	0.354
20	69	0.69	4.50	1.46E+08	0.471
25	92	0.92	5.63	1.40E+08	0.612
30	113	1.13	6.75	1.26E+08	0.816
35	132	1.32	7.88	1.19E+08	1.009
40	153	1.53	9.00	1.15E+08	1.192
45	173	1.73	10.13	1.13E+08	1.370
50	197	1.97	11.25	1.11E+08	1.543
55	218	2.18	12.38	1.10E+08	1.713
60	239	2.39	13.50	1.10E+08	1.881
65	263	2.63	14.63	1.09E+08	2.047
70	290	2.90	15.75	1.09E+08	2.213
75	318	3.18	16.88	1.09E+08	2.377
80	348	3.48	18.00	1.08E+08	2.540
85	372	3.72	19.13	1.08E+08	2.703
90	408	4.08	20.25	1.08E+08	2.866
95	440	4.40	21.38	1.08E+08	3.028
100	473	4.73	22.50	1.08E+08	3.190
105	495	4.95	23.63	1.08E+08	3.352
110	530	5.30	24.75	1.08E+08	3.513
115	558	5.58	25.88	1.08E+08	3.674
120	597	5.97	27.00	1.08E+08	3.836
125	631	6.31	28.13	1.08E+08	3.997
130	665	6.65	29.25	1.08E+08	4.158
135	708	7.08	30.38	1.08E+08	4.319
140	772	7.72	31.50	1.07E+08	4.479
145	820	8.20	32.63	1.07E+08	4.640
145	823	8.23	32.63	1.07E+08	4.640
150	875	8.75	33.75	1.07E+08	4.801
150	890	8.90	33.75	1.07E+08	4.801
155	960	9.60	34.88	1.07E+08	4.962
155	1050	10.50	34.88	1.07E+08	4.962
160	2000	20.00	36.00	1.07E+08	5.122

Table 6.10 Computed vs Actual Deflection Valued : Test B2/3

Data from Test					
Ig =	1.46E+08	Icr =	1.07E+08		
Mcr =	5.343	L =	1.8		
Test Sample B2/4					
Load (kN)	Deflection Readings	Deflection (mm)	Bending Moment (kN.m)	Effective Moment of Inertia (Ie)	Deflections Calculated (mm)
0	0	0.00	0.00	0.00	0.000
10	15	0.15	2.25	1.46E+08	0.236
20	35	0.35	4.50	1.46E+08	0.471
30	62	0.62	6.75	1.26E+08	0.816
40	110	1.10	9.00	1.15E+08	1.192
50	160	1.60	11.25	1.11E+08	1.543
50	188	1.88	11.25	1.11E+08	1.543
60	214	2.14	13.50	1.10E+08	1.881
70	268	2.68	15.75	1.09E+08	2.213
80	321	3.21	18.00	1.08E+08	2.540
90	380	3.80	20.25	1.08E+08	2.866
90	386	3.86	20.25	1.08E+08	2.866
100	438	4.38	22.50	1.08E+08	3.190
100	444	4.44	22.50	1.08E+08	3.190
110	505	5.05	24.75	1.08E+08	3.513
110	512	5.12	24.75	1.08E+08	3.513
120	580	5.80	27.00	1.08E+08	3.836
120	586	5.86	27.00	1.08E+08	3.836
130	650	6.50	29.25	1.08E+08	4.158
130	662	6.62	29.25	1.08E+08	4.158
140	750	7.50	31.50	1.07E+08	4.479
140	755	7.55	31.50	1.07E+08	4.479
140	765	7.65	31.50	1.07E+08	4.479
150	838	8.38	33.75	1.07E+08	4.801
150	850	8.50	33.75	1.07E+08	4.801
150	855	8.55	33.75	1.07E+08	4.801
160	940	9.40	36.00	1.07E+08	5.122
160	960	9.60	36.00	1.07E+08	5.122
160	975	9.75	36.00	1.07E+08	5.122
170	1065	10.65	38.25	1.07E+08	5.444
170	1110	11.10	38.25	1.07E+08	5.444
170	1198	11.98	38.25	1.07E+08	5.444
180	1310	13.10	40.50	1.07E+08	5.765
180	1318	13.18	40.50	1.07E+08	5.765
190	1570	15.70	42.75	1.07E+08	6.086
190	1600	16.00	42.75	1.07E+08	6.086
200	1790	17.90	45.00	1.07E+08	6.407
200	1880	18.80	45.00	1.07E+08	6.407
216	2620	26.20	48.60	1.07E+08	6.920

Table 6.11 Computed vs Actual Deflection Valued : Test B2/4

Data from Test					
Ig =	1.46E+08	**Icr =**	1.07E+08		
Mcr =	5.343	**L =**	1.8		
Test Sample B2/5					
Load (kN)	**Deflection Readings**	**Deflection (mm)**	**Bending Moment (kN.m)**	**Effective Moment of Inertia (Ie)**	**Deflections Calculated (mm)**
0	0	0.00	0.00	0.00	0.000
10	9	0.09	2.25	1.46E+08	0.236
20	33	0.33	4.50	1.46E+08	0.471
30	65	0.65	6.75	1.26E+08	0.816
40	115	1.15	9.00	1.15E+08	1.192
50	157	1.57	11.25	1.11E+08	1.543
60	202	2.02	13.50	1.10E+08	1.881
60	207	2.07	13.50	1.10E+08	1.881
70	252	2.52	15.75	1.09E+08	2.213
70	257	2.57	15.75	1.09E+08	2.213
80	304	3.04	18.00	1.08E+08	2.540
90	366	3.66	20.25	1.08E+08	2.866
90	360	3.60	20.25	1.08E+08	2.866
100	422	4.22	22.50	1.08E+08	3.190
100	430	4.30	22.50	1.08E+08	3.190
110	490	4.90	24.75	1.08E+08	3.513
120	540	5.40	27.00	1.08E+08	3.836
120	550	5.50	27.00	1.08E+08	3.836
130	615	6.15	29.25	1.08E+08	4.158
140	665	6.65	31.50	1.07E+08	4.479
140	675	6.75	31.50	1.07E+08	4.479
140	680	6.80	31.50	1.07E+08	4.479
150	740	7.40	33.75	1.07E+08	4.801
150	758	7.58	33.75	1.07E+08	4.801
160	830	8.30	36.00	1.07E+08	5.122
160	850	8.50	36.00	1.07E+08	5.122
160	860	8.60	36.00	1.07E+08	5.122
170	935	9.35	38.25	1.07E+08	5.444
170	950	9.50	38.25	1.07E+08	5.444
170	957	9.57	38.25	1.07E+08	5.444
180	1053	10.53	40.50	1.07E+08	5.765
180	1074	10.74	40.50	1.07E+08	5.765
180	1086	10.86	40.50	1.07E+08	5.765
190	1220	12.20	42.75	1.07E+08	6.086
190	1230	12.30	42.75	1.07E+08	6.086
190	1265	12.65	42.75	1.07E+08	6.086
190	1280	12.80	42.75	1.07E+08	6.086
200	1420	14.20	45.00	1.07E+08	6.407
200	1455	14.55	45.00	1.07E+08	6.407
200	1480	14.80	45.00	1.07E+08	6.407
210	1800	18.00	47.25	1.07E+08	6.727
210	1855	18.55	47.25	1.07E+08	6.727
210	1940	19.40	47.25	1.07E+08	6.727

Table 6.12 Computed vs Actual Deflection Valued : Test B2/5

Data from Test					
Ig =	1.46E+08	**Icr =**	1.07E+08		
Mcr =	5.343	**L =**	1.8		
Test Sample B2/6					
Load (kN)	**Deflection Readings**	**Deflection (mm)**	**Bending Moment (kN.m)**	**Effective Moment of Inertia (Ie)**	**Deflections Calculated (mm)**
0	0	0.00	0.00	0.00	0.000
10	38	0.38	2.25	1.46E+08	0.236
20	67	0.67	4.50	1.46E+08	0.471
30	115	1.15	6.75	1.26E+08	0.816
40	164	1.64	9.00	1.15E+08	1.192
50	208	2.08	11.25	1.11E+08	1.543
60	255	2.55	13.50	1.10E+08	1.881
70	300	3.00	15.75	1.09E+08	2.213
80	352	3.52	18.00	1.08E+08	2.540
90	404	4.04	20.25	1.08E+08	2.866
90	408	4.08	20.25	1.08E+08	2.866
100	458	4.58	22.50	1.08E+08	3.190
100	461	4.61	22.50	1.08E+08	3.190
110	512	5.12	24.75	1.08E+08	3.513
110	518	5.18	24.75	1.08E+08	3.513
120	570	5.70	27.00	1.08E+08	3.836
120	580	5.80	27.00	1.08E+08	3.836
130	640	6.40	29.25	1.08E+08	4.158
130	650	6.50	29.25	1.08E+08	4.158
140	715	7.15	31.50	1.07E+08	4.479
140	730	7.30	31.50	1.07E+08	4.479
150	795	7.95	33.75	1.07E+08	4.801
150	805	8.05	33.75	1.07E+08	4.801
150	816	8.16	33.75	1.07E+08	4.801
160	915	9.15	36.00	1.07E+08	5.122
160	925	9.25	36.00	1.07E+08	5.122
170	1070	10.70	38.25	1.07E+08	5.444
170	1096	10.96	38.25	1.07E+08	5.444
180	1220	12.20	40.50	1.07E+08	5.765
180	1250	12.50	40.50	1.07E+08	5.765
180	1266	12.66	40.50	1.07E+08	5.765
190	1400	14.00	42.75	1.07E+08	6.086
190	1435	14.35	42.75	1.07E+08	6.086
190	1475	14.75	42.75	1.07E+08	6.086
190	1490	14.90	42.75	1.07E+08	6.086
190	1510	15.10	42.75	1.07E+08	6.086
200	1670	16.70	45.00	1.07E+08	6.407
200	1700	17.00	45.00	1.07E+08	6.407
200	1770	17.70	45.00	1.07E+08	6.407
200	1820	18.20	45.00	1.07E+08	6.407
210	2100	21.00	47.25	1.07E+08	6.727
210	2200	22.00	47.25	1.07E+08	6.727
210	2300	23.00	47.25	1.07E+08	6.727
210	2400	24.00	47.25	1.07E+08	6.727

Table 6.13 Computed vs Actual Deflection Valued : Test B2/6

Data from Test					
Ig =	1.46E+08	**Icr =**	1.07E+08		
Mcr =	5.343	**L =**	3.7		
Test Sample B4/1					
Load (kN)	**Deflection Readings**	**Deflection (mm)**	**Bending Moment (kN.m)**	**Effective Moment of Inertia (Ie)**	**Deflections Calculated (mm)**
0	0	0.00	0.00	0.00	0.000
5	100	1.00	2.31	1.46E+08	1.024
10	225	2.25	4.63	1.46E+08	2.047
15	345	3.45	6.94	1.25E+08	3.586
20	482	4.82	9.25	1.15E+08	5.207
20	510	5.10	9.25	1.15E+08	5.207
22	535	5.35	10.18	1.13E+08	5.821
24	568	5.68	11.10	1.12E+08	6.424
26	606	6.06	12.03	1.11E+08	7.017
28	660	6.60	12.95	1.10E+08	7.603
30	715	7.15	13.88	1.10E+08	8.183
32	770	7.70	14.80	1.09E+08	8.760
34	830	8.30	15.73	1.09E+08	9.333
36	891	8.91	16.65	1.09E+08	9.904
38	960	9.60	17.58	1.08E+08	10.473
40	1032	10.32	18.50	1.08E+08	11.040
40	1040	10.40	18.50	1.08E+08	11.040
42	1160	11.60	19.43	1.08E+08	11.605
44	1250	12.50	20.35	1.08E+08	12.170
46	1513	15.13	21.28	1.08E+08	12.733
48	1585	15.85	22.20	1.08E+08	13.296
50	1712	17.12	23.13	1.08E+08	13.858
52	1790	17.90	24.05	1.08E+08	14.419
54	1928	19.28	24.98	1.08E+08	14.980
56	2018	20.18	25.90	1.08E+08	15.540
58	2158	21.58	26.83	1.08E+08	16.101
60	105	22.41	27.75	1.08E+08	16.660
62	245	23.81	28.68	1.08E+08	17.220
62	265	24.01	28.68	1.08E+08	17.220
64	450	25.86	29.60	1.08E+08	17.779
66	790	29.26	30.53	1.08E+08	18.338

Table 6.14 Computed vs Actual Deflection Valued : Test B4/1

Data from Test					
Ig =	1.46E+08	**Icr =**	1.07E+08		
Mcr =	5.343	**L =**	3.7		
Test Sample B4/2					
Load (kN)	**Deflection Readings**	**Deflection (mm)**	**Bending Moment (kN.m)**	**Effective Moment of Inertia (Ie)**	**Deflections Calculated (mm)**
0	300	0.00	0.00	0.00	0.000
5	400	1.00	2.31	1.46E+08	1.024
10	509	2.09	4.63	1.46E+08	2.047
15	627	3.27	6.94	1.25E+08	3.586
20	808	5.08	9.25	1.15E+08	5.207
25	982	6.82	11.56	1.11E+08	6.721
30	1165	8.65	13.88	1.10E+08	8.183
35	1342	10.42	16.19	1.09E+08	9.619
40	1518	12.18	18.50	1.08E+08	11.040
45	1703	14.03	20.81	1.08E+08	12.452
50	1910	16.10	23.13	1.08E+08	13.858
55	2115	18.15	25.44	1.08E+08	15.260
60	2580	22.80	27.75	1.08E+08	16.660
62	2655	23.55	28.68	1.08E+08	17.220
65	2910	26.10	30.06	1.08E+08	18.059
67	3000	27.00	30.99	1.07E+08	18.617
67	3032	27.32	30.99	1.07E+08	18.617
70	3750	34.50	32.38	1.07E+08	19.455
72	4000	37.00	33.30	1.07E+08	20.014
74	4260	39.60	34.23	1.07E+08	20.572
76	4675	43.75	35.15	1.07E+08	21.131
78	998	48.73	36.08	1.07E+08	21.689

Table 6.15 Computed vs Actual Deflection Valued : Test B4/2

Data from Test					
Ig =	1.46E+08	**Icr =**	1.07E+08		
Mcr =	5.343	**L =**	3.7		
Test Sample B4/3					
Load (kN)	**Deflection Readings**	**Deflection (mm)**	**Bending Moment (kN.m)**	**Effective Moment of Inertia (Ie)**	**Deflections Calculated (mm)**
0	46	0.00	0.00	0.00	0.000
5	131	0.85	2.31	1.46E+08	1.024
10	241	1.95	4.63	1.46E+08	2.047
15	370	3.24	6.94	1.25E+08	3.586
20	510	4.64	9.25	1.15E+08	5.207
25	655	6.09	11.56	1.11E+08	6.721
30	842	7.96	13.88	1.10E+08	8.183
35	1010	9.64	16.19	1.09E+08	9.619
40	1180	11.34	18.50	1.08E+08	11.040
45	1363	13.17	20.81	1.08E+08	12.452
50	1595	15.49	23.13	1.08E+08	13.858
55	1905	18.59	25.44	1.08E+08	15.260
60	2215	21.69	27.75	1.08E+08	16.660
65	2670	26.24	30.06	1.08E+08	18.059
70	3300	32.54	32.38	1.07E+08	19.455
75	3789	37.43	34.69	1.07E+08	20.851
80	500	41.02	37.00	1.07E+08	22.247
80	620	42.22	37.00	1.07E+08	22.247
80	675	42.77	37.00	1.07E+08	22.247
84	3970	75.72	38.85	1.07E+08	23.362

Table 6.16 Computed vs Actual Deflection Valued : Test B4/3

Data from Test					
Ig =	1.46E+08	**Icr =**	1.07E+08		
Mcr =	5.343	**L =**	3.7		
Test Sample B4/4					
Load (kN)	**Deflection Readings**	**Deflection (mm)**	**Bending Moment (kN.m)**	**Effective Moment of Inertia (Ie)**	**Deflections Calculated (mm)**
0	103	0.00	0.00	0.00	0.000
5	191	0.88	2.31	1.46E+08	1.024
10	318	2.15	4.63	1.46E+08	2.047
15	435	3.32	6.94	1.25E+08	3.586
20	629	5.26	9.25	1.15E+08	5.207
25	810	7.07	11.56	1.11E+08	6.721
30	1000	8.97	13.88	1.10E+08	8.183
35	1192	10.89	16.19	1.09E+08	9.619
40	1400	12.97	18.50	1.08E+08	11.040
45	1645	15.42	20.81	1.08E+08	12.452
50	1895	17.92	23.13	1.08E+08	13.858
55	2178	20.75	25.44	1.08E+08	15.260
60	2580	24.77	27.75	1.08E+08	16.660
65	2920	28.17	30.06	1.08E+08	18.059
70	3810	37.07	32.38	1.07E+08	19.455
72	445	41.15	33.30	1.07E+08	20.014
75	1435	51.05	34.69	1.07E+08	20.851

Table 6.17 Computed vs Actual Deflection Valued : Test B4/4