

The specimen details

Diameter of bolt	d (mm)	20
Diameter of bolt hole	d ₀ (mm)	22
End distance	e ₁ (mm)	40
Edge distance	e ₂ (mm)	30
Pitch distance	p ₁ (mm)	60
	p ₂ (mm)	N/A
Gauge distance	g (mm)	90
Thickness of end plate	t _p (mm)	10
Horizontal distance of lever arm	B _L (mm)	490
Vertical distance of lever arm	D _L (mm)	51.7

Steel Grade		S275	S355
Dimension of Members		UB305x16 5x40	UC254x 254x89
Depth of Section	D (mm)	303.4	260.3
Width of Section	B (mm)	165	256.3
Thickness of Web	t (mm)	6	10.3
Thickness of Flange	T (mm)	10.2	17.3
Root Radius	r (mm)	8.9	12.7
Depth between Fillets	d (mm)	265.2	200.3

Nominal Temperature

20°C

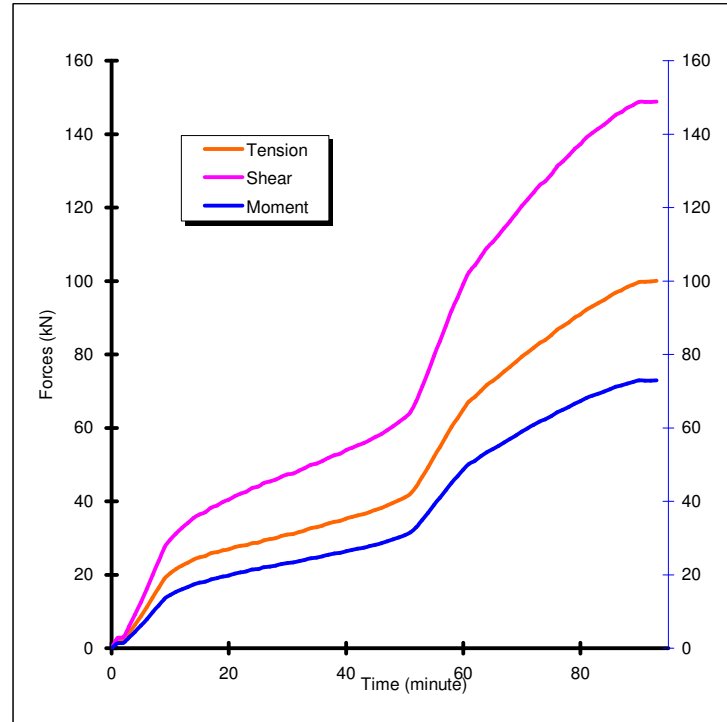
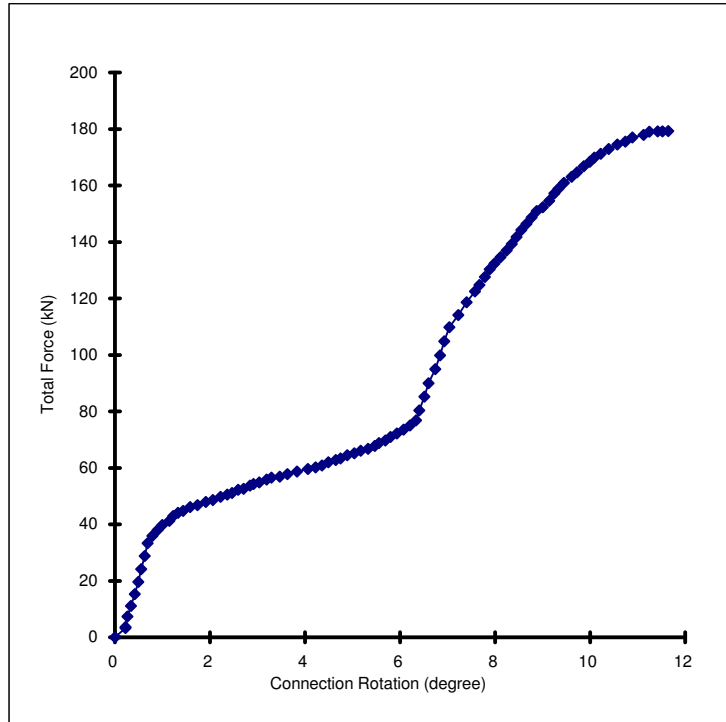
Time (minute)	Jack Displacement (mm)	Load Angle α (°)	Beam Rotation (°)	Column Rotation (°)	Connection Rotation (°)	Force Rotation (°)	F3 from F1 (kN)	F3 from F2 (kN)	F3 Average (kN)	Tension (kN)	Shear (kN)	Moment (kN*m)
0	0.001	55.00	N/A	N/A	0	0	N/A	N/A	0	0	0	0
1	0.001	55.00	N/A	N/A	0.220	0.002	N/A	N/A	3.34	1.91	2.73	1.34
2	0.018	55.01	N/A	N/A	0.221	0.008	N/A	N/A	3.68	2.11	3.01	1.48
3	1.018	55.03	N/A	N/A	0.263	0.030	N/A	N/A	7.31	4.19	5.99	2.94
4	2.003	55.10	N/A	N/A	0.337	0.096	N/A	N/A	11.10	6.35	9.11	4.46
5	2.962	55.14	N/A	N/A	0.415	0.145	N/A	N/A	15.32	8.76	12.57	6.16
6	3.908	55.17	N/A	N/A	0.494	0.174	N/A	N/A	19.59	11.19	16.08	7.88
7	5.003	55.23	N/A	N/A	0.552	0.226	N/A	N/A	24.15	13.77	19.84	9.72
8	6.059	55.28	N/A	N/A	0.623	0.281	N/A	N/A	28.82	16.41	23.69	11.61
9	7.229	55.33	N/A	N/A	0.687	0.331	N/A	N/A	33.27	18.93	27.37	13.41
10	8.397	55.39	N/A	N/A	0.786	0.391	N/A	N/A	35.87	20.37	29.52	14.47
11	9.825	55.45	N/A	N/A	0.895	0.450	N/A	N/A	37.93	21.51	31.24	15.31
12	11.118	55.53	N/A	N/A	1.000	0.529	N/A	N/A	39.80	22.52	32.81	16.08
13	12.534	55.64	N/A	N/A	1.148	0.635	N/A	N/A	41.23	23.27	34.03	16.68
14	13.766	55.71	N/A	N/A	1.229	0.714	N/A	N/A	42.93	24.18	35.47	17.38
15	14.816	55.77	N/A	N/A	1.325	0.770	N/A	N/A	44.04	24.77	36.41	17.84
16	15.982	55.86	N/A	N/A	1.437	0.863	N/A	N/A	44.75	25.11	37.04	18.15
17	17.406	55.89	N/A	N/A	1.585	0.895	N/A	N/A	46.16	25.88	38.22	18.73
18	18.783	56.05	N/A	N/A	1.738	1.051	N/A	N/A	46.85	26.16	38.86	19.04
19	20.216	56.17	N/A	N/A	1.913	1.171	N/A	N/A	47.94	26.69	39.82	19.51
20	21.539	56.27	N/A	N/A	2.062	1.274	N/A	N/A	48.57	26.97	40.40	19.79
21	22.831	56.33	N/A	N/A	2.223	1.327	N/A	N/A	49.71	27.56	41.37	20.27
22	24.368	56.49	N/A	N/A	2.365	1.485	N/A	N/A	50.54	27.90	42.13	20.65
23	25.760	56.64	N/A	N/A	2.466	1.639	N/A	N/A	51.06	28.08	42.65	20.90
24	27.224	56.76	N/A	N/A	2.595	1.762	N/A	N/A	52.20	28.61	43.66	21.40
25	28.690	56.80	N/A	N/A	2.704	1.805	N/A	N/A	52.60	28.80	44.01	21.57
26	29.985	56.81	N/A	N/A	2.841	1.810	N/A	N/A	53.69	29.39	44.93	22.02
27	31.299	56.81	N/A	N/A	2.917	1.806	N/A	N/A	54.29	29.72	45.44	22.26
28	32.698	56.81	N/A	N/A	3.034	1.811	N/A	N/A	54.83	30.01	45.89	22.48
29	34.070	56.81	N/A	N/A	3.195	1.808	N/A	N/A	55.81	30.55	46.71	22.89
30	35.307	56.81	N/A	N/A	3.294	1.811	N/A	N/A	56.57	30.97	47.35	23.20

23 February 2007 Fin-plate Test Result

31	36.804	56.82	N/A	N/A	3.465	1.818	N/A	N/A	56.89	31.14	47.62	23.33
32	38.235	56.81	N/A	N/A	3.627	1.810	N/A	N/A	57.83	31.66	48.39	23.71
33	39.604	56.81	N/A	N/A	3.833	1.810	N/A	N/A	58.64	32.10	49.08	24.05
34	40.950	56.82	N/A	N/A	4.060	1.816	N/A	N/A	59.65	32.65	49.92	24.46
35	42.469	56.81	N/A	N/A	4.223	1.813	N/A	N/A	60.13	32.91	50.32	24.66
36	43.798	56.81	N/A	N/A	4.357	1.811	N/A	N/A	60.90	33.34	50.96	24.97
37	45.198	56.81	N/A	N/A	4.491	1.810	N/A	N/A	62.01	33.95	51.89	25.43
38	46.491	56.81	N/A	N/A	4.649	1.810	N/A	N/A	62.81	34.38	52.56	25.75
39	47.672	56.81	N/A	N/A	4.744	1.807	N/A	N/A	63.36	34.69	53.02	25.98
40	49.048	56.80	N/A	N/A	4.887	1.803	N/A	N/A	64.45	35.29	53.93	26.43
41	50.224	56.81	N/A	N/A	5.039	1.810	N/A	N/A	65.19	35.69	54.56	26.73
42	51.504	56.80	N/A	N/A	5.171	1.803	N/A	N/A	66.04	36.16	55.26	27.08
43	52.919	56.81	N/A	N/A	5.328	1.807	N/A	N/A	66.73	36.53	55.84	27.36
44	54.233	56.81	N/A	N/A	5.468	1.808	N/A	N/A	67.71	37.07	56.67	27.77
45	55.719	56.80	N/A	N/A	5.555	1.805	N/A	N/A	68.75	37.64	57.53	28.19
46	57.056	56.80	N/A	N/A	5.688	1.802	N/A	N/A	69.70	38.16	58.32	28.58
47	58.389	56.79	N/A	N/A	5.798	1.793	N/A	N/A	70.90	38.83	59.32	29.07
48	59.857	56.81	N/A	N/A	5.933	1.808	N/A	N/A	72.19	39.52	60.41	29.60
49	61.113	56.80	N/A	N/A	6.071	1.802	N/A	N/A	73.52	40.25	61.52	30.14
50	62.426	56.80	N/A	N/A	6.210	1.802	N/A	N/A	74.98	41.05	62.74	30.74
51	63.721	56.80	N/A	N/A	6.337	1.803	N/A	N/A	76.86	42.08	64.31	31.51
52	64.995	56.79	N/A	N/A	6.402	1.793	N/A	N/A	80.38	44.02	67.26	32.96
53	66.258	56.79	N/A	N/A	6.512	1.792	N/A	N/A	85.21	46.67	71.30	34.94
54	67.364	56.80	N/A	N/A	6.596	1.797	N/A	N/A	89.93	49.25	75.25	36.87
55	68.578	56.79	N/A	N/A	6.744	1.787	N/A	N/A	94.97	52.02	79.45	38.93
56	69.885	56.78	N/A	N/A	6.841	1.778	N/A	N/A	99.87	54.72	83.55	40.94
57	71.068	56.76	N/A	N/A	6.930	1.762	N/A	N/A	104.86	57.48	87.70	42.97
58	72.157	56.76	N/A	N/A	7.038	1.762	N/A	N/A	109.82	60.19	91.85	45.01
59	73.292	56.75	N/A	N/A	7.227	1.747	N/A	N/A	114.11	62.57	95.43	46.76

23 February 2007 Fin-plate Test Result

60	74.412	56.74	N/A	N/A	7.400	1.744	N/A	N/A	118.59	65.03	99.17	48.59
61	75.549	56.73	N/A	N/A	7.579	1.727	N/A	N/A	122.46	67.19	102.39	50.17
62	76.821	56.72	N/A	N/A	7.667	1.717	N/A	N/A	124.77	68.47	104.30	51.11
63	78.069	56.69	N/A	N/A	7.782	1.694	N/A	N/A	127.64	70.09	106.67	52.27
64	79.398	56.68	N/A	N/A	7.887	1.679	N/A	N/A	130.34	71.60	108.91	53.37
65	80.626	56.66	N/A	N/A	7.989	1.660	N/A	N/A	132.36	72.75	110.58	54.18
66	81.870	56.64	N/A	N/A	8.112	1.644	N/A	N/A	134.63	74.03	112.45	55.10
67	83.109	56.62	N/A	N/A	8.242	1.619	N/A	N/A	137.00	75.38	114.40	56.05
68	84.390	56.61	N/A	N/A	8.349	1.607	N/A	N/A	139.25	76.64	116.26	56.97
69	85.575	56.60	N/A	N/A	8.453	1.604	N/A	N/A	141.77	78.03	118.36	58.00
70	86.871	56.60	N/A	N/A	8.552	1.599	N/A	N/A	144.23	79.40	120.41	59.00
71	88.230	56.61	N/A	N/A	8.657	1.609	N/A	N/A	146.38	80.56	122.22	59.89
72	89.351	56.61	N/A	N/A	8.769	1.609	N/A	N/A	148.66	81.82	124.12	60.82
73	90.734	56.60	N/A	N/A	8.878	1.602	N/A	N/A	150.89	83.06	125.97	61.73
74	91.906	56.58	N/A	N/A	9.005	1.579	N/A	N/A	152.32	83.90	127.13	62.29
75	93.263	56.55	N/A	N/A	9.137	1.546	N/A	N/A	154.60	85.23	128.99	63.20
76	94.272	56.54	N/A	N/A	9.248	1.539	N/A	N/A	157.20	86.67	131.14	64.26
77	95.624	56.52	N/A	N/A	9.333	1.519	N/A	N/A	158.87	87.64	132.51	64.93
78	96.792	56.52	N/A	N/A	9.446	1.522	N/A	N/A	160.86	88.73	134.17	65.74
79	97.937	56.49	N/A	N/A	9.611	1.489	N/A	N/A	163.03	90.01	135.93	66.61
80	99.105	56.48	N/A	N/A	9.722	1.484	N/A	N/A	164.65	90.91	137.27	67.26
81	100.177	56.46	N/A	N/A	9.865	1.459	N/A	N/A	166.85	92.19	139.07	68.14
82	101.239	56.45	N/A	N/A	9.992	1.448	N/A	N/A	168.36	93.05	140.31	68.75
83	102.435	56.41	N/A	N/A	10.087	1.411	N/A	N/A	169.82	93.95	141.46	69.32
84	103.578	56.38	N/A	N/A	10.220	1.384	N/A	N/A	171.22	94.79	142.59	69.87
85	104.793	56.33	N/A	N/A	10.390	1.335	N/A	N/A	172.89	95.84	143.90	70.51
86	106.049	56.31	N/A	N/A	10.574	1.311	N/A	N/A	174.54	96.81	145.23	71.16
87	107.266	56.27	N/A	N/A	10.738	1.275	N/A	N/A	175.49	97.43	145.96	71.52
88	108.498	56.25	N/A	N/A	10.888	1.246	N/A	N/A	177.00	98.35	147.17	72.11
89	109.706	56.21	N/A	N/A	11.126	1.210	N/A	N/A	177.96	98.97	147.90	72.47
90	110.938	56.18	N/A	N/A	11.249	1.183	N/A	N/A	179.07	99.66	148.78	72.90
91	111.858	56.16	N/A	N/A	11.420	1.155	N/A	N/A	179.10	99.75	148.75	72.89
92	113.217	56.13	N/A	N/A	11.519	1.127	N/A	N/A	179.16	99.86	148.76	72.89
93	114.251	56.10	N/A	N/A	11.645	1.103	N/A	N/A	179.31	100.00	148.83	72.93



Photographs after Test

