

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	UC254x25 4x89
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

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Nominal Temperature

450°C

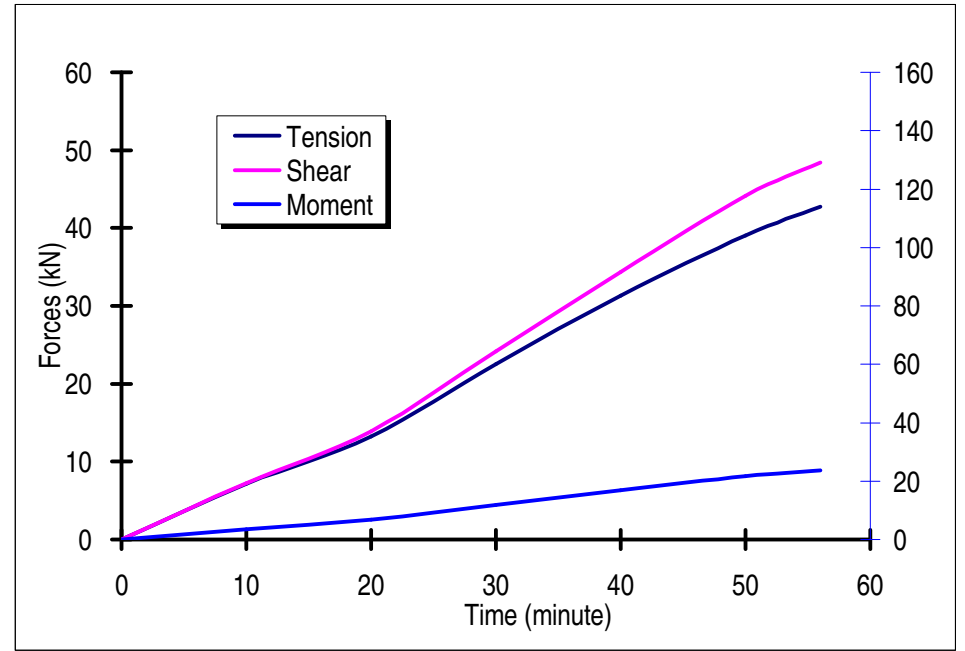
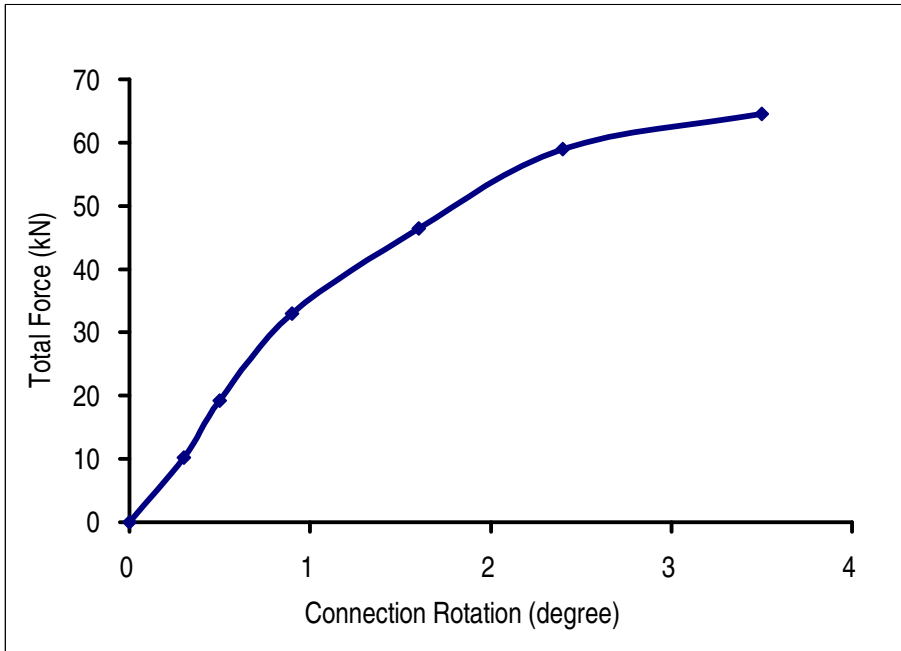
Time (minute)	Thermocouple Average(°C)	Jack Displacement (mm)	Load Angle α(°)	Beam Rotation (°)	Column Rotation (°)	Connection Rotation (°)	Force Rotation (°)	F3 from F1 (kN)	F3 from F2 (kN)	F3 Average (kN)	Tension (kN)	Shear (kN)	Moment (kN*m)
0	450.000	3.084	45	N/A	N/A	0	0	0	0	0	0	0	0
1	450.000	3.081	45.00	N/A	N/A		0.003	2.38	3.24	5.62	3.97	3.97	1.95
2	450.000	3.082	45.00	N/A	N/A		-0.004	2.14	3.32	5.46	3.86	3.86	1.89
3	450.000	3.082	44.98	N/A	N/A		-0.020	2.01	3.14	5.15	3.64	3.64	1.78
4	450.000	3.083	44.99	N/A	N/A		-0.013	1.99	3.06	5.05	3.57	3.57	1.75
5	450.000	3.082	45.00	N/A	N/A		-0.004	2.21	3.19	5.40	3.82	3.82	1.87
6	450.000	4.283	45.07	N/A	N/A		0.073	2.32	4.58	6.91	4.88	4.89	2.40
7	450.000	5.820	45.08	N/A	N/A		0.082	2.71	5.69	8.41	5.94	5.96	2.92
8	450.000	7.333	45.14	N/A	N/A		0.135	2.94	6.40	9.34	6.59	6.62	3.24
9	450.000	8.887	45.21	N/A	N/A		0.214	3.20	6.63	9.83	6.93	6.98	3.42
10	450.000	10.364	45.12	N/A	N/A	0.300	0.117	3.18	7.01	10.19	7.19	7.22	3.54
11	450.000	11.822	45.21	N/A	N/A		0.215	3.29	6.71	10.00	7.05	7.10	3.48
12	450.000	13.196	45.74	N/A	N/A		0.741	3.05	7.02	10.07	7.03	7.21	3.53
13	450.000	14.636	45.95	N/A	N/A		0.945	3.54	7.28	10.82	7.52	7.78	3.81
14	450.000	16.000	45.96	N/A	N/A		0.962	3.80	7.85	11.65	8.10	8.38	4.11
15	450.000	17.236	46.06	N/A	N/A		1.064	3.85	8.78	12.63	8.76	9.09	4.46
16	450.000	18.660	46.18	N/A	N/A		1.180	4.13	9.47	13.61	9.42	9.82	4.81
17	450.000	20.007	46.28	N/A	N/A		1.277	4.84	10.33	15.17	10.48	10.96	5.37
18	450.000	21.337	46.32	N/A	N/A		1.322	5.07	11.31	16.37	11.31	11.84	5.80
19	450.000	22.734	46.42	N/A	N/A		1.424	5.55	12.32	17.87	12.32	12.94	6.34
20	450.000	24.086	46.51	N/A	N/A	0.500	1.508	5.94	13.26	19.19	13.21	13.93	6.82
21	450.000	25.447	46.64	N/A	N/A		1.640	6.33	14.21	20.54	14.10	14.93	7.32
22	450.000	26.888	46.63	N/A	N/A		1.628	7.11	15.06	22.16	15.22	16.11	7.89

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23	450.000	28.321	46.76	N/A	N/A		1.756	7.54	15.96	23.50	16.10	17.12	8.39
24	450.000	29.781	46.77	N/A	N/A		1.766	7.70	17.08	24.78	16.98	18.06	8.85
25	450.000	31.253	46.82	N/A	N/A		1.819	8.63	17.91	26.54	18.16	19.35	9.48
26	450.000	32.696	46.92	N/A	N/A		1.923	9.14	19.30	28.44	19.42	20.77	10.18
27	450.000	34.087	47.01	N/A	N/A		2.010	9.71	20.56	30.27	20.64	22.14	10.85
28	450.000	35.400	47.09	N/A	N/A		2.087	10.49	21.55	32.04	21.82	23.47	11.50
29	450.000	36.633	47.10	N/A	N/A		2.101	10.67	22.33	33.00	22.46	24.17	11.84
30	450.000	37.746	47.10	N/A	N/A	0.900	2.098	10.62	22.40	33.02	22.48	24.19	11.85
31	450.000	38.852	47.17	N/A	N/A		2.170	10.90	22.91	33.81	22.98	24.79	12.15
32	450.000	40.061	47.13	N/A	N/A		2.130	11.46	23.25	34.70	23.61	25.43	12.46
33	450.000	41.094	47.21	N/A	N/A		2.213	11.24	23.62	34.86	23.68	25.58	12.54
34	450.000	42.216	47.23	N/A	N/A		2.231	11.45	24.26	35.71	24.25	26.21	12.84
35	450.000	43.360	47.34	N/A	N/A		2.336	11.83	24.84	36.67	24.85	26.96	13.21
36	450.000	44.761	47.40	N/A	N/A		2.405	12.90	26.19	39.09	26.46	28.78	14.10
37	450.000	46.155	47.54	N/A	N/A		2.540	13.71	27.36	41.07	27.73	30.30	14.85
38	450.000	47.580	47.55	N/A	N/A		2.546	14.25	28.37	42.62	28.77	31.45	15.41
39	450.000	49.029	47.46	N/A	N/A		2.456	15.14	29.32	44.46	30.06	32.76	16.05
40	450.000	50.414	47.60	N/A	N/A	1.600	2.598	15.96	30.52	46.48	31.34	34.32	16.82
41	450.000	51.944	47.79	N/A	N/A		2.794	16.70	31.22	47.92	32.19	35.49	17.39
42	450.000	53.386	47.84	N/A	N/A		2.842	17.38	32.00	49.39	33.15	36.61	17.94
43	450.000	54.867	47.99	N/A	N/A		2.988	17.93	32.70	50.63	33.89	37.62	18.43
44	450.000	56.379	47.85	N/A	N/A		2.854	18.27	33.70	51.97	34.88	38.53	18.88
45	450.000	57.853	48.07	N/A	N/A		3.070	19.15	34.35	53.50	35.75	39.80	19.50
46	450.000	59.318	47.99	N/A	N/A		2.991	19.73	35.02	54.75	36.64	40.68	19.93
47	450.000	60.767	48.15	N/A	N/A		3.154	20.04	35.44	55.48	37.01	41.33	20.25
48	450.000	62.168	48.23	N/A	N/A		3.226	20.78	35.82	56.61	37.71	42.22	20.69
49	450.000	63.602	48.27	N/A	N/A		3.270	21.30	36.61	57.92	38.55	43.22	21.18
50	450.000	65.019	48.49	N/A	N/A	2.400	3.485	22.12	36.82	58.94	39.07	44.13	21.63
51	450.000	66.436	48.56	N/A	N/A		3.565	22.43	37.56	59.98	39.69	44.97	22.03
52	450.000	67.942	48.54	N/A	N/A		3.536	23.16	38.04	61.19	40.52	45.86	22.47

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53	450.000	69.446	48.57	N/A	N/A		3.568	23.45	38.28	61.73	40.85	46.28	22.68
54	450.000	70.959	48.55	N/A	N/A		3.546	24.14	38.99	63.14	41.80	47.32	23.19
55	450.000	72.489	48.67	N/A	N/A		3.671	24.42	39.21	63.63	42.02	47.78	23.41
56	450.000	73.947	48.56	N/A	N/A	3.500	3.565	25.05	39.49	64.55	42.71	48.39	23.71
57	450.000	75.436	48.56	N/A	N/A		3.563	23.77	37.77	61.54	40.72	46.13	22.60
58	450.000	77.046	48.70	N/A	N/A		3.703	21.00	33.95	54.95	36.27	41.29	20.23
59	450.000	78.590	48.79	N/A	N/A		3.793	20.93	33.18	54.12	35.65	40.72	19.95
60	450.000	80.104	48.80	N/A	N/A		3.802	20.56	32.47	53.03	34.93	39.90	19.55
61	450.000	81.616	48.92	N/A	N/A		3.918	20.60	32.32	52.92	34.78	39.89	19.55
62	450.000	83.154	48.97	N/A	N/A		3.975	19.81	30.92	50.73	33.30	38.27	18.75
63	450.000	84.692	49.07	N/A	N/A		4.072	18.41	28.72	47.13	30.87	35.61	17.45
64	450.000	86.230	49.24	N/A	N/A		4.239	17.84	27.27	45.12	29.46	34.17	16.74
65	450.000	86.717	49.25	N/A	N/A		4.247	16.90	26.02	42.92	28.02	32.51	15.93



Photographs after Test

