

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	UC254x25
	5x40	4x89
Depth of Section	D (mm)	303.4
Width of Section	B (mm)	165
Thickness of Web	t (mm)	6
Thickness of Flange	T (mm)	10.2
Root Radius	r (mm)	8.9
Depth between Fillets	d (mm)	265.2

Nominal Temperature

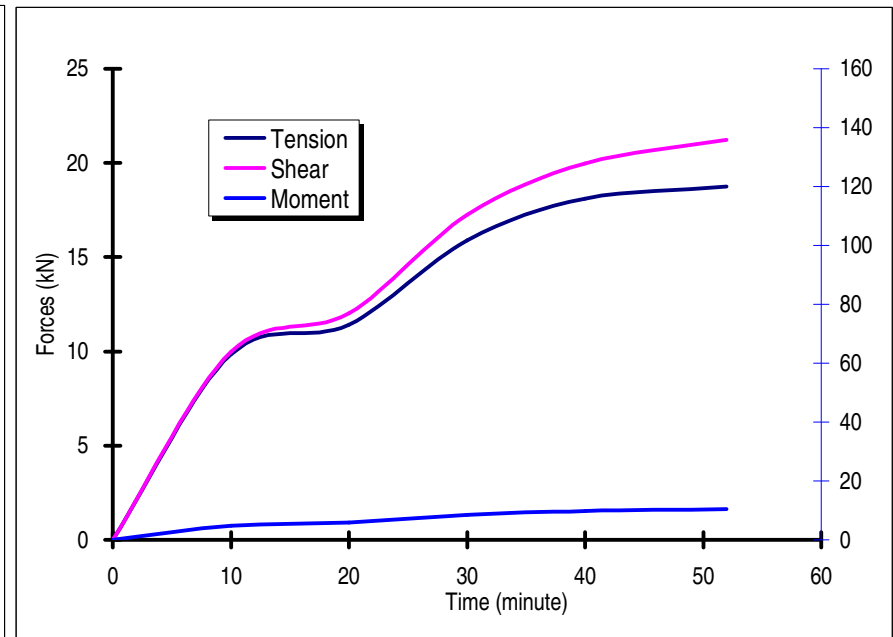
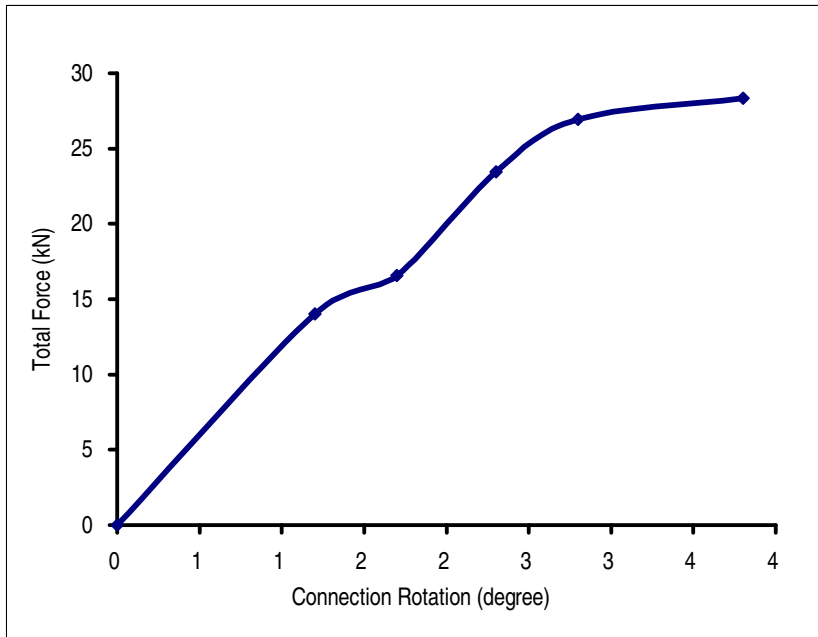
650°C

Time	Thermocouple	Jack Displacement	Load Angle	Beam Rotation	Column Rotation	Connection Rotation	Force Rotation	F3 from F1	F3 from F2	F3 Average	Tension	Shear	Moment
(minute)	Average(°C)	(mm)	α(°)	(°)	(°)	(°)	(°)	(kN)	(kN)	(kN)	(kN)	(kN)	(kN*m)
0	650.000	2.631	45	N/A	N/A	0	0	0	0	0	0	0	0
1	650.000	2.629	45.00	N/A	N/A		-0.002	2.40	2.88	5.28	3.73	3.73	1.83
2	650.000	2.629	45.02	N/A	N/A		0.018	2.31	2.96	5.26	3.72	3.72	1.82
3	650.000	2.629	44.98	N/A	N/A		-0.018	2.25	3.24	5.49	3.89	3.88	1.90
4	650.000	3.341	45.02	N/A	N/A		0.017	2.51	4.28	6.78	4.80	4.80	2.35
5	650.000	4.794	45.13	N/A	N/A		0.129	2.99	5.51	8.50	6.00	6.03	2.95
6	650.000	6.309	45.18	N/A	N/A		0.178	3.20	6.87	10.07	7.10	7.14	3.50
7	650.000	7.826	45.22	N/A	N/A		0.215	3.59	8.20	11.79	8.31	8.37	4.10
8	650.000	9.287	45.32	N/A	N/A		0.319	3.71	8.93	12.64	8.89	8.99	4.40
9	650.000	10.730	45.41	N/A	N/A		0.408	4.07	9.58	13.65	9.59	9.72	4.76
10	650.000	12.161	45.41	N/A	N/A	1.200	0.410	4.16	9.85	14.02	9.84	9.98	4.89
11	650.000	13.602	45.44	N/A	N/A		0.441	4.09	10.20	14.29	10.03	10.18	4.99
12	650.000	15.116	45.62	N/A	N/A		0.623	4.23	10.16	14.39	10.06	10.28	5.04
13	650.000	16.565	45.66	N/A	N/A		0.656	4.11	10.39	14.50	10.14	10.37	5.08
14	650.000	17.947	45.63	N/A	N/A		0.634	4.27	10.43	14.70	10.28	10.51	5.15
15	650.000	19.280	45.75	N/A	N/A		0.754	4.22	10.46	14.68	10.24	10.52	5.15
16	650.000	20.662	46.22	N/A	N/A		1.221	4.26	10.23	14.49	10.02	10.46	5.13
17	650.000	22.038	46.34	N/A	N/A		1.338	4.38	10.49	14.87	10.27	10.76	5.27
18	650.000	23.328	46.38	N/A	N/A		1.383	4.63	10.75	15.38	10.61	11.13	5.45
19	650.000	24.570	46.44	N/A	N/A		1.437	4.58	11.18	15.76	10.86	11.42	5.59
20	650.000	25.916	46.49	N/A	N/A	1.700	1.490	5.02	11.56	16.58	11.42	12.03	5.89
21	650.000	27.389	46.63	N/A	N/A		1.634	5.28	12.02	17.30	11.88	12.58	6.16
22	650.000	28.862	46.66	N/A	N/A		1.657	5.53	12.73	18.26	12.53	13.28	6.51
23	650.000	30.375	46.73	N/A	N/A		1.726	5.69	13.40	19.08	13.08	13.89	6.81
24	650.000	31.817	46.81	N/A	N/A		1.814	5.85	13.80	19.66	13.45	14.33	7.02
25	650.000	33.346	46.74	N/A	N/A		1.741	6.31	13.96	20.27	13.89	14.76	7.23
26	650.000	34.811	46.82	N/A	N/A		1.817	6.46	14.68	21.14	14.47	15.41	7.55

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27	650.000	36.349	46.93	N/A	N/A		1.932	6.66	15.11	21.77	14.86	15.90	7.79
28	650.000	37.878	47.00	N/A	N/A		2.003	7.09	15.39	22.48	15.33	16.45	8.06
29	650.000	39.376	47.19	N/A	N/A		2.191	7.23	15.63	22.86	15.53	16.77	8.22
30	650.000	40.905	47.36	N/A	N/A	2.300	2.359	7.46	16.00	23.46	15.89	17.26	8.46
31	650.000	42.420	47.28	N/A	N/A		2.278	7.60	16.55	24.15	16.39	17.75	8.70
32	650.000	43.909	47.38	N/A	N/A		2.381	8.04	16.54	24.58	16.64	18.09	8.86
33	650.000	45.359	47.41	N/A	N/A		2.414	8.18	16.99	25.17	17.03	18.53	9.08
34	650.000	46.849	47.39	N/A	N/A		2.389	8.33	16.99	25.32	17.14	18.63	9.13
35	650.000	48.257	47.45	N/A	N/A		2.447	8.53	17.13	25.66	17.36	18.91	9.26
36	650.000	49.777	47.53	N/A	N/A		2.526	8.71	17.37	26.08	17.61	19.24	9.43
37	650.000	51.261	47.63	N/A	N/A		2.633	8.73	17.75	26.48	17.84	19.56	9.59
38	650.000	52.724	47.65	N/A	N/A		2.650	8.88	17.58	26.46	17.82	19.55	9.58
39	650.000	54.262	47.63	N/A	N/A		2.631	8.92	17.97	26.88	18.12	19.86	9.73
40	650.000	55.784	47.81	N/A	N/A	2.800	2.814	9.05	17.90	26.94	18.09	19.96	9.78
41	650.000	57.282	47.81	N/A	N/A		2.807	9.37	17.84	27.21	18.28	20.16	9.88
42	650.000	58.787	47.89	N/A	N/A		2.890	9.46	17.87	27.33	18.33	20.28	9.94
43	650.000	60.205	47.89	N/A	N/A		2.889	9.42	18.26	27.69	18.57	20.54	10.06
44	650.000	61.631	47.97	N/A	N/A		2.966	9.67	18.12	27.78	18.60	20.64	10.11
45	650.000	63.057	48.08	N/A	N/A		3.081	9.55	18.37	27.92	18.65	20.78	10.18
46	650.000	64.458	48.15	N/A	N/A		3.146	9.87	18.04	27.92	18.63	20.79	10.19
47	650.000	65.948	48.19	N/A	N/A		3.190	10.04	18.18	28.21	18.81	21.03	10.30
48	650.000	67.445	48.23	N/A	N/A		3.226	10.02	18.43	28.45	18.95	21.22	10.40
49	650.000	68.966	48.48	N/A	N/A		3.479	9.87	18.08	27.95	18.53	20.93	10.25
50	650.000	70.503	48.51	N/A	N/A		3.509	10.04	18.24	28.28	18.74	21.19	10.38
51	650.000	72.018	48.41	N/A	N/A		3.415	10.06	17.98	28.04	18.61	20.97	10.28
52	650.000	73.484	48.59	N/A	N/A	3.800	3.592	10.30	18.02	28.32	18.73	21.24	10.41
53	650.000	75.042	48.81	N/A	N/A		3.812	10.13	17.41	27.54	18.14	20.73	10.16
54	650.000	76.580	48.82	N/A	N/A		3.817	10.21	17.44	27.65	18.21	20.81	10.20
55	650.000	78.064	48.78	N/A	N/A		3.780	10.16	17.42	27.58	18.18	20.75	10.17
56	650.000	79.560	48.82	N/A	N/A		3.822	10.08	17.69	27.78	18.29	20.91	10.24
57	650.000	81.017	48.97	N/A	N/A		3.968	9.88	17.29	27.17	17.84	20.50	10.04
58	650.000	82.508	49.04	N/A	N/A		4.041	10.07	17.41	27.48	18.01	20.75	10.17
59	650.000	84.020	49.01	N/A	N/A		4.005	10.14	17.08	27.22	17.86	20.55	10.07
60	650.000	85.461	49.04	N/A	N/A		4.044	10.19	16.97	27.16	17.80	20.51	10.05

61	650.000	86.935	49.15	N/A	N/A		4.146	10.25	16.86	27.11	17.73	20.50	10.05
62	650.000	88.448	49.17	N/A	N/A		4.173	10.15	17.13	27.28	17.84	20.64	10.12
63	650.000	89.938	49.14	N/A	N/A		4.140	10.23	16.64	26.87	17.58	20.33	9.96
64	650.000	91.458	49.25	N/A	N/A		4.249	10.15	16.90	27.05	17.66	20.49	10.04
65	650.000	92.861	49.39	N/A	N/A		4.387	10.19	16.29	26.48	17.24	20.10	9.85



Photographs after Test

