

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

15 May 2007 Flexible Endplate Test Result

Nominal Temperature

550°C

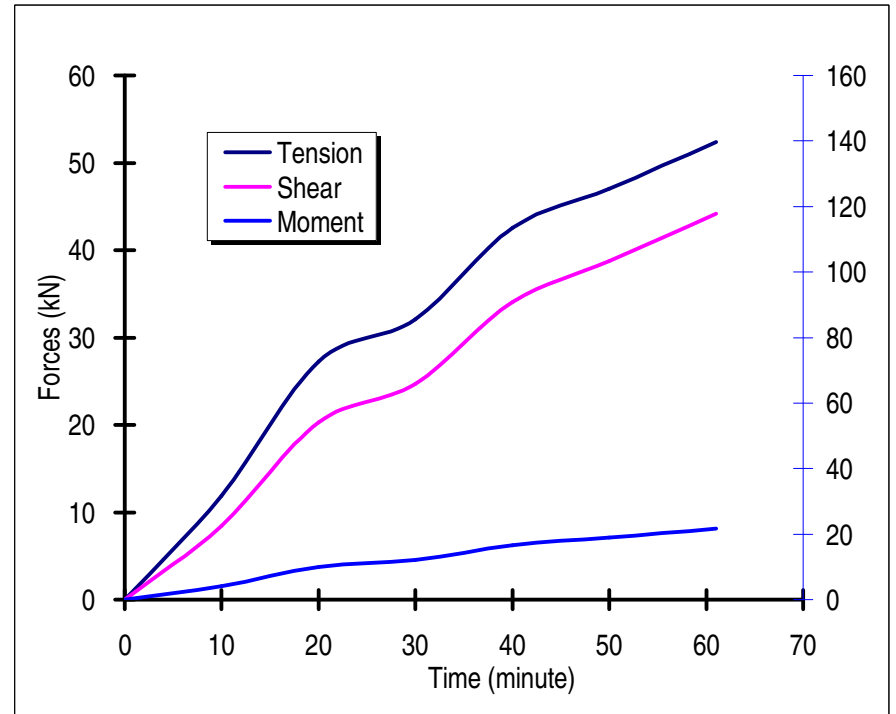
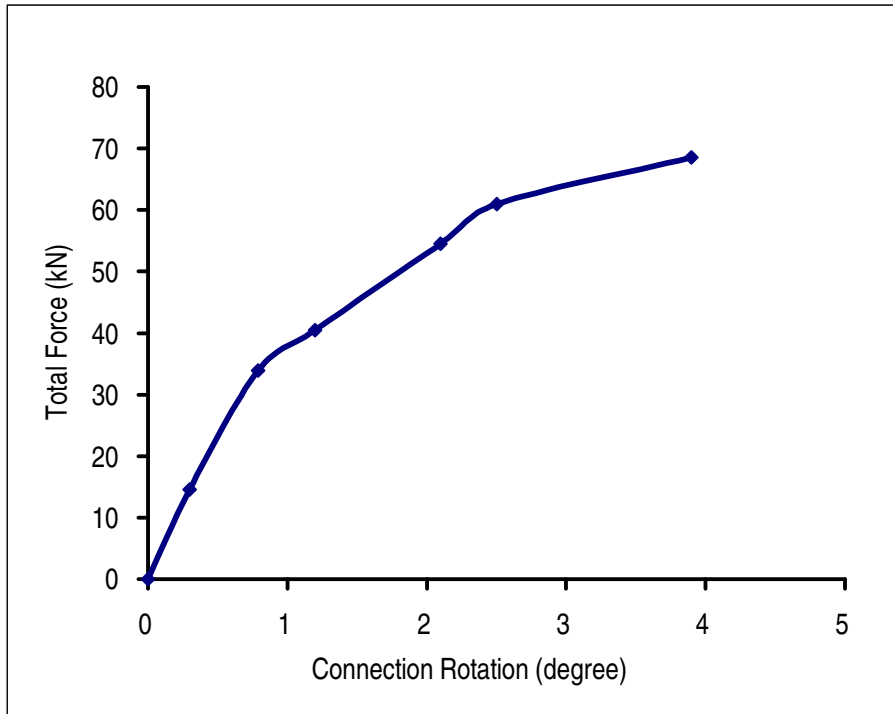
Time (minute)	Thermocouple Average(°C)	Jack Displacement (mm)	Load Angle α(°)	Beam Rotation (°)	Column Rotation (°)	Connection Rotation (°)	Force Rotation (°)	F3 from F1 (kN)	F3 from F2 (kN)	F3 Average (kN)	Tension (kN)	Shear (kN)	Moment (kN*m)
0	550.000	0.010	35	N/A	N/A	0	0	0	0	0	0	0	0
1	550.000	0.008	35.00	N/A	N/A		-0.005	1.43	3.38	4.80	3.94	2.76	1.35
2	550.000	0.012	34.96	N/A	N/A		-0.042	1.52	3.43	4.95	4.05	2.83	1.39
3	550.000	0.014	35.02	N/A	N/A		0.020	1.53	3.54	5.07	4.15	2.91	1.42
4	550.000	0.012	35.02	N/A	N/A		0.022	1.57	3.59	5.16	4.22	2.96	1.45
5	550.000	0.012	35.02	N/A	N/A		0.020	1.59	3.72	5.31	4.35	3.05	1.49
6	550.000	0.012	35.06	N/A	N/A		0.057	1.60	3.78	5.38	4.40	3.09	1.51
7	550.000	0.013	35.06	N/A	N/A		0.059	1.63	3.83	5.46	4.47	3.14	1.54
8	550.000	1.420	35.10	N/A	N/A		0.098	1.70	7.33	9.04	7.39	5.20	2.55
9	550.000	2.836	35.30	N/A	N/A		0.297	1.93	9.71	11.64	9.50	6.73	3.30
10	550.000	4.403	35.39	N/A	N/A	0.300	0.393	2.24	12.32	14.56	11.87	8.43	4.13
11	550.000	5.872	35.58	N/A	N/A		0.579	2.51	14.72	17.24	14.02	10.03	4.91
12	550.000	7.400	35.62	N/A	N/A		0.622	2.58	17.54	20.13	16.36	11.72	5.74
13	550.000	8.883	35.73	N/A	N/A		0.731	2.88	19.99	22.87	18.56	13.35	6.54
14	550.000	10.353	35.88	N/A	N/A		0.881	3.37	22.19	25.56	20.71	14.98	7.34
15	550.000	11.937	36.01	N/A	N/A		1.007	3.33	24.11	27.44	22.20	16.13	7.91
16	550.000	13.595	36.12	N/A	N/A		1.124	3.69	25.83	29.51	23.84	17.40	8.53
17	550.000	15.322	36.26	N/A	N/A		1.257	3.82	27.67	31.48	25.39	18.62	9.12
18	550.000	16.849	36.40	N/A	N/A		1.402	3.97	28.63	32.61	26.25	19.35	9.48
19	550.000	18.480	36.57	N/A	N/A		1.573	4.20	29.32	33.52	26.92	19.97	9.79
20	550.000	20.060	36.69	N/A	N/A	0.790	1.689	4.27	29.68	33.95	27.23	20.29	9.94
21	550.000	21.766	36.83	N/A	N/A		1.832	4.34	29.82	34.16	27.34	20.48	10.03
22	550.000	23.411	37.05	N/A	N/A		2.048	4.47	30.32	34.78	27.76	20.96	10.27

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23	550.000	24.937	37.03	N/A	N/A		2.033	4.73	30.88	35.61	28.43	21.45	10.51
24	550.000	26.364	36.92	N/A	N/A		1.923	4.66	31.46	36.12	28.87	21.70	10.63
25	550.000	27.898	37.04	N/A	N/A		2.043	5.09	32.11	37.20	29.69	22.41	10.98
26	550.000	29.388	37.18	N/A	N/A		2.185	4.97	32.60	37.57	29.93	22.70	11.13
27	550.000	30.935	37.16	N/A	N/A		2.164	5.24	33.39	38.64	30.79	23.34	11.44
28	550.000	32.474	37.38	N/A	N/A		2.385	5.53	33.36	38.89	30.90	23.61	11.57
29	550.000	34.044	37.46	N/A	N/A		2.464	5.76	34.04	39.80	31.59	24.21	11.86
30	550.000	35.575	37.62	N/A	N/A	1.200	2.623	5.77	34.70	40.47	32.06	24.71	12.11
31	550.000	37.219	37.82	N/A	N/A		2.820	6.23	35.93	42.16	33.30	25.85	12.67
32	550.000	38.693	37.81	N/A	N/A		2.808	6.28	36.52	42.81	33.82	26.24	12.86
33	550.000	40.135	38.03	N/A	N/A		3.027	6.95	37.53	44.47	35.03	27.40	13.42
34	550.000	41.738	38.18	N/A	N/A		3.183	7.12	38.71	45.83	36.02	28.33	13.88
35	550.000	43.269	38.29	N/A	N/A		3.290	7.39	39.25	46.64	36.61	28.90	14.16
36	550.000	44.807	38.38	N/A	N/A		3.376	7.94	40.27	48.20	37.79	29.93	14.66
37	550.000	46.370	38.44	N/A	N/A		3.438	8.34	41.31	49.65	38.89	30.86	15.12
38	550.000	47.870	38.53	N/A	N/A		3.526	8.64	42.22	50.86	39.79	31.68	15.52
39	550.000	49.377	38.50	N/A	N/A		3.500	8.96	43.94	52.90	41.40	32.93	16.14
40	550.000	50.962	38.65	N/A	N/A	2.100	3.650	9.41	45.13	54.53	42.59	34.06	16.69
41	550.000	52.367	38.80	N/A	N/A		3.803	9.85	45.52	55.37	43.15	34.70	17.00
42	550.000	53.873	38.90	N/A	N/A		3.895	9.90	46.40	56.30	43.82	35.35	17.32
43	550.000	55.178	38.80	N/A	N/A		3.803	10.48	47.43	57.90	45.12	36.28	17.78
44	550.000	56.701	38.99	N/A	N/A		3.988	10.80	48.47	59.27	46.07	37.29	18.27
45	550.000	57.887	39.19	N/A	N/A		4.191	10.75	48.60	59.35	46.00	37.50	18.38
46	550.000	59.187	39.27	N/A	N/A		4.269	11.19	49.03	60.21	46.61	38.11	18.67
47	550.000	60.476	39.22	N/A	N/A		4.218	10.89	49.11	60.01	46.49	37.94	18.59
48	550.000	61.838	39.36	N/A	N/A		4.356	11.58	50.10	61.68	47.69	39.12	19.17
49	550.000	63.064	39.35	N/A	N/A		4.354	11.05	49.31	60.35	46.67	38.27	18.75
50	550.000	64.308	39.50	N/A	N/A	2.500	4.495	11.52	49.45	60.97	47.05	38.78	19.00
51	550.000	65.815	39.53	N/A	N/A		4.534	11.50	50.47	61.97	47.80	39.45	19.33
52	550.000	67.241	39.60	N/A	N/A		4.598	12.08	51.10	63.18	48.68	40.27	19.73

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53	550.000	68.836	39.80	N/A	N/A		4.801	12.40	52.21	64.61	49.64	41.36	20.26
54	550.000	70.311	39.76	N/A	N/A		4.759	12.49	52.10	64.59	49.65	41.31	20.24
55	550.000	71.889	39.86	N/A	N/A		4.857	13.02	52.90	65.92	50.60	42.24	20.70
56	550.000	73.372	40.01	N/A	N/A		5.011	12.92	52.92	65.85	50.43	42.33	20.74
57	550.000	74.967	39.98	N/A	N/A		4.982	13.26	53.21	66.47	50.94	42.71	20.93
58	550.000	76.426	40.00	N/A	N/A		5.000	13.32	53.84	67.17	51.45	43.17	21.16
59	550.000	77.981	40.19	N/A	N/A		5.193	13.78	54.45	68.23	52.12	44.03	21.58
60	550.000	79.408	40.07	N/A	N/A		5.068	13.68	54.29	67.98	52.02	43.76	21.44
61	550.000	81.075	40.17	N/A	N/A	3.900	5.172	14.04	54.47	68.51	52.35	44.20	21.66
62	550.000	82.654	40.25	N/A	N/A		5.247	13.32	52.05	65.37	49.89	42.23	20.69
63	550.000	84.121	40.29	N/A	N/A		5.294	12.96	50.32	63.28	48.27	40.92	20.05
64	550.000	85.884	40.18	N/A	N/A		5.176	12.93	50.02	62.96	48.10	40.61	19.90
65	550.000	87.631	40.49	N/A	N/A		5.492	12.80	48.54	61.34	46.65	39.83	19.52
66	550.000	89.258	40.53	N/A	N/A		5.532	12.79	48.36	61.15	46.48	39.74	19.47
67	550.000	90.844	40.50	N/A	N/A		5.500	12.61	47.23	59.84	45.50	38.86	19.04
68	550.000	92.454	40.53	N/A	N/A		5.525	12.26	46.19	58.45	44.43	37.98	18.61
69	550.000	94.026	40.70	N/A	N/A		5.700	12.20	45.42	57.62	43.69	37.58	18.41
70	550.000	95.765	40.66	N/A	N/A		5.663	12.07	45.25	57.31	43.48	37.35	18.30
71	550.000	97.311	40.74	N/A	N/A		5.744	12.18	45.34	57.51	43.57	37.54	18.39
72	550.000	98.826	40.74	N/A	N/A		5.739	12.48	45.61	58.09	44.01	37.91	18.58



Photographs after Test

