

## AD 340 Elastic Moduli of Angle Sections

It has been drawn to our attention that the values given in AD 261 for the elastic section moduli about the v-v axis for unequal angles were in error. The values stated were greater than the correct values. The

values are needed for the design of single angle sections subject to lateral torsional buckling, in accordance with clause 4.3.8.2 of BS 5950 1: 2000.

The values for equal leg angles

were correct but for ease of reference, the correct values of moduli about u-u and v-v axes for both equal and unequal angle sections are presented below.

Guidance on the design of

angles, in relation to lateral torsional buckling, is given in AD262.

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EQUAL ANGLES			
Section Designation		Elastic Modulus	
Size A x A, mm	Thickness t, mm	Axis u-u, cm <sup>3</sup>	Axis v-v cm <sup>3</sup>
200x200	24	373	167
	20	320	146
	18	293	133
	16	263	123
150x150	18	158	71.0
	15	135	61.6
	12	110	52.0
	10	93.3	45.3
120x120	15	83.7	37.4
	12	68.8	31.6
	10	58.6	27.6
	8	48.4	23.4
100x100	15	55.9	24.6
	12	46.4	20.9
	10	39.6	18.3
	8	32.5	15.5
90x90	12	36.9	16.5
	10	31.6	14.4
	8	26.1	12.2
	7	23.1	11.1
80x80	10	24.6	11.0
	8	20.3	9.36
75x75	8	17.7	8.10
	6	13.7	6.52
70x70	7	13.6	6.28
	6	11.8	5.61
65x65	7	11.5	4.76
	6	10.9	4.87
60x60	6	8.51	3.95
	5	7.24	3.46
	4	5.74	2.60
50x50	5	4.92	2.30
	4	4.02	1.94
	3	3.58	1.66
45x45	4	3.04	1.38
	3	2.51	1.17
35x35	4	1.89	0.870
	3	1.34	0.607
30x30	4	1.05	0.495
	3	0.911	0.399
25x25	3	0.718	0.327
	3	0.437	0.195
20x20	3		

UNEQUAL ANGLES			
Section Designation		Elastic Modulus	
Size A x B, mm	Thickness t, mm	Axis u-u, cm <sup>3</sup>	Axis v-v cm <sup>3</sup>
200x150	18	211	85.2
	15	179	71.8
	12	146	58.5
200x100	15	143	32.5
	12	117	26.5
	10	98.1	22.3
150x90	15	84.3	25.3
	12	69.0	20.8
	10	58.5	17.6
150x75	15	78.2	17.9
	12	64.1	14.6
	10	54.3	12.3
125x75	12	46.9	14.1
	10	39.9	12.0
	8	32.5	9.76
100x75	12	33.4	13.6
	10	28.5	11.6
	8	23.3	9.46
100x65	10	25.9	8.70
	8	21.1	7.13
	7	18.7	6.31
100x50	8	19.0	4.32
	6	14.6	3.31
80x60	7	13.0	5.27
	8	11.8	2.70
80x40	6	9.14	2.07
	8	11.7	4.12
75x50	6	9.10	3.18
	6	8.23	3.16
65x50	5	6.36	2.64
	6	5.67	1.98
60x40	5	4.81	1.68
	5	4.25	0.964
50x30	5	3.09	0.931
	4	2.17	0.752
45x30	4	1.62	0.516
	4	1.48	0.336
40x20	4	0.894	0.318
	3	0.699	0.245