



Equal Angles

Table 24 Equal Angles - x-axis and y-axis - Properties for Assessing Section Capacity

Designation	Yield Stress	Form Factor	About x-axis			About y-axis			Yield Stress	Form Factor	About x-axis			About y-axis			Designation
			Load A or C			Load B					Load A or C			Load B			
			f_y	k_f	Z_{ox}	Z_{ey}	Z_{ey}	f_y			k_f	Z_{ox}	Z_{ey}	Z_{ey}	f_y	k_f	
mm mm mm	MPa		10^3mm^3	10^3mm^3	10^3mm^3	MPa		10^3mm^3	10^3mm^3	10^3mm^3	MPa		10^3mm^3	10^3mm^3	10^3mm^3		
300PLUS® *						AS/NZS 3679.1-350											
200 x 200 x 26 EA	280	1.00	602	267	267	340	1.00	602	267	267	200 x 200 x 26 EA						
20 EA	280	1.00	479	218	220	340	1.00	469	214	220	20 EA						
18 EA	280	1.00	427	196	204	340	1.00	417	192	204	18 EA						
16 EA	300	1.00	369	172	186	340	1.00	362	169	186	16 EA						
13 EA	300	1.00	285	136	158	340	0.956	278	132	158	13 EA						
150 x 150 x 19 EA	280	1.00	248	110	110	340	1.00	248	110	110	150 x 150 x 19 EA						
16 EA	300	1.00	212	95.7	96.3	340	1.00	209	94.5	96.3	16 EA						
12 EA	300	1.00	155	72.3	78.1	340	1.00	152	70.9	78.1	12 EA						
10 EA	320	0.958	114	54.5	64.9	360	0.906	111	53.1	64.9	10 EA						
125 x 125 x 16 EA	300	1.00	143	63.4	63.4	340	1.00	143	63.4	63.4	125 x 125 x 16 EA						
12 EA	300	1.00	110	50.3	51.7	340	1.00	109	49.6	51.7	12 EA						
10 EA	320	1.00	83.2	38.9	43.1	360	1.00	81.6	38.1	43.1	10 EA						
8 EA	320	0.943	64.3	30.7	36.8	360	0.892	62.7	29.9	36.8	8 EA						
100 x 100 x 12 EA	300	1.00	69.9	31.1	31.1	340	1.00	69.9	31.1	31.1	100 x 100 x 12 EA						
10 EA	320	1.00	55.1	25.2	26.1	360	1.00	54.4	24.8	26.1	10 EA						
8 EA	320	1.00	43.7	20.4	22.4	360	1.00	42.9	20.0	22.4	8 EA						
6 EA	320	0.906	30.9	14.8	18.1	360	0.856	30.0	14.4	18.1	6 EA						
90 x 90 x 10 EA	320	1.00	45.0	20.4	20.6	360	1.00	44.5	20.1	20.6	90 x 90 x 10 EA						
8 EA	320	1.00	36.0	16.7	17.8	360	1.00	35.4	16.4	17.8	8 EA						
6 EA	320	1.00	25.9	12.4	14.4	360	0.954	25.3	12.1	14.4	6 EA						
75 x 75 x 10 EA	320	1.00	30.5	13.6	13.6	360	1.00	30.5	13.6	13.6	75 x 75 x 10 EA						
8 EA	320	1.00	25.4	11.6	11.8	360	1.00	25.1	11.5	11.8	8 EA						
6 EA	320	1.00	18.7	8.85	9.66	360	1.00	18.4	8.70	9.66	6 EA						
5 EA	320	0.927	13.2	6.47	7.82	360	0.876	12.8	6.30	7.82	5 EA						
65 x 65 x 10 EA	320	1.00	22.5	9.90	9.90	360	1.00	22.5	9.90	9.90	65 x 65 x 10 EA						
8 EA	320	1.00	19.2	8.59	8.59	360	1.00	19.2	8.59	8.59	8 EA						
6 EA	320	1.00	14.7	6.76	7.07	360	1.00	14.5	6.66	7.07	6 EA						
5 EA	320	1.00	10.6	5.05	5.75	360	1.00	10.4	4.94	5.75	5 EA						
55 x 55 x 6 EA	320	1.00	10.7	4.84	4.86	360	1.00	10.5	4.78	4.86	55 x 55 x 6 EA						
5 EA	320	1.00	7.88	3.70	3.98	360	1.00	7.75	3.64	3.98	5 EA						
50 x 50 x 8 EA	320	1.00	10.7	4.71	4.71	360	1.00	10.7	4.71	4.71	50 x 50 x 8 EA						
6 EA	320	1.00	8.69	3.92	3.92	360	1.00	8.69	3.92	3.92	6 EA						
5 EA	320	1.00	6.60	3.08	3.22	360	1.00	6.50	3.03	3.22	5 EA						
3 EA	320	0.907	3.82	1.90	2.32	360	0.858	3.71	1.85	2.32	3 EA						
45 x 45 x 6 EA	320	1.00	6.88	3.06	3.06	360	1.00	6.88	3.06	3.06	45 x 45 x 6 EA						
5 EA	320	1.00	5.39	2.47	2.52	360	1.00	5.32	2.44	2.52	5 EA						
3 EA	320	1.00	3.19	1.55	1.81	360	0.954	3.12	1.52	1.81	3 EA						
40 x 40 x 6 EA	320	1.00	5.29	2.33	2.33	360	1.00	5.29	2.33	2.33	40 x 40 x 6 EA						
5 EA	320	1.00	4.25	1.93	1.93	360	1.00	4.22	1.92	1.93	5 EA						
3 EA	320	1.00	2.59	1.25	1.40	360	1.00	2.54	1.23	1.40	3 EA						
30 x 30 x 6 EA	320	1.00	2.74	1.19	1.19	360	1.00	2.74	1.19	1.19	30 x 30 x 6 EA						
5 EA	320	1.00	2.23	0.990	0.990	360	1.00	2.23	0.990	0.990	5 EA						
3 EA	320	1.00	1.50	0.714	0.732	360	1.00	1.48	0.705	0.732	3 EA						
25 x 25 x 6 EA	320	1.00	1.78	0.769	0.769	360	1.00	1.78	0.769	0.769	25 x 25 x 6 EA						
5 EA	320	1.00	1.47	0.642	0.642	360	1.00	1.47	0.642	0.642	5 EA						
3 EA	320	1.00	1.03	0.479	0.479	360	1.00	1.03	0.479	0.479	3 EA						

* 300PLUS® replaced Grade 250 as the base grade for 125 x 125 x 8 equal angles and larger in 1994.
 300PLUS® replaced Grade 250 as the base grade for 100 x 100 x 12 equal angles and smaller in 1997.
 300PLUS® hot rolled sections are produced to exceed the minimum requirements of AS/NZS 3679.1-300.

Notes

1. For 300PLUS® sections the tensile strength (f_u) is 440 MPa.
2. For Grade 350 sections the tensile strength (f_u) is 480 MPa.

Equal Angles

Table 25 Equal Angles - n-axis and p-axis - Properties

Designation			About n-axis and p-axis						Product of 2nd Moment of Area		Designation
mm	mm	mm	$I_n = I_p$	$n_L = p_B$	$Z_{nb} = Z_{pL}$	$n_R = p_T$	$Z_{nL} = Z_{pR}$	$S_n = S_p$	$r_n = r_p$	I_{np}	
			10^6mm^4	mm	10^3mm^3	mm	10^3mm^3	10^3mm^3	mm	10^6mm^4	
200	200	x 26 EA	35.8	59.3	605	141	255	460	60.5	-20.9	200 x 200 x 26 EA
		20 EA	28.8	57.0	505	143	201	363	61.3	-16.9	20 EA
		18 EA	26.3	56.2	467	144	183	330	61.5	-15.5	18 EA
		16 EA	23.7	55.4	427	145	164	296	61.8	-14.0	16 EA
		13 EA	19.7	54.2	363	146	135	243	62.2	-11.6	13 EA
150	150	x 19 EA	11.1	44.2	250	106	105	189	45.4	-6.48	150 x 150 x 19 EA
		16 EA	9.48	43.0	220	107	88.7	160	45.8	-5.58	16 EA
		12 EA	7.46	41.5	180	108	68.8	124	46.3	-4.40	12 EA
		10 EA	6.04	40.5	149	109	55.2	99.9	46.6	-3.56	10 EA
125	125	x 16 EA	5.32	36.8	144	88.2	60.3	109	37.9	-3.11	125 x 125 x 16 EA
		12 EA	4.21	35.4	119	89.6	47.0	85.0	38.3	-2.48	12 EA
		10 EA	3.42	34.4	99.4	90.6	37.8	68.4	38.6	-2.02	10 EA
		8 EA	2.86	33.7	84.9	91.3	31.3	56.8	38.8	-1.69	8 EA
100	100	x 12 EA	2.08	29.2	71.1	70.8	29.3	53.2	30.3	-1.22	100 x 100 x 12 EA
		10 EA	1.70	28.2	60.1	71.8	23.6	42.9	30.6	-1.00	10 EA
		8 EA	1.42	27.5	51.7	72.5	19.6	35.7	30.8	-0.842	8 EA
		6 EA	1.12	26.8	41.8	73.2	15.3	27.8	31.0	-0.661	6 EA
90	90	x 10 EA	1.22	25.7	47.3	64.3	18.9	34.4	27.4	-0.716	90 x 90 x 10 EA
		8 EA	1.02	25.0	40.9	65.0	15.7	28.7	27.6	-0.604	8 EA
		6 EA	0.805	24.3	33.2	65.7	12.3	22.4	27.7	-0.475	6 EA
75	75	x 10 EA	0.681	22.0	31.0	53.0	12.8	23.4	22.6	-0.399	75 x 75 x 10 EA
		8 EA	0.575	21.3	27.0	53.7	10.7	19.6	22.7	-0.338	8 EA
		6 EA	0.455	20.5	22.1	54.5	8.35	15.3	22.9	-0.268	6 EA
		5 EA	0.355	19.9	17.9	55.1	6.44	11.8	23.0	-0.208	5 EA
65	65	x 10 EA	0.437	19.6	22.3	45.4	9.62	17.4	19.5	-0.254	65 x 65 x 10 EA
		8 EA	0.371	19.0	19.6	46.0	8.07	14.6	19.7	-0.218	8 EA
		6 EA	0.296	18.3	16.2	46.7	6.34	11.5	19.9	-0.175	6 EA
		5 EA	0.234	17.7	13.2	47.3	4.94	8.97	20.1	-0.138	5 EA
55	55	x 6 EA	0.175	15.8	11.1	39.2	4.46	8.11	16.7	-0.103	55 x 55 x 6 EA
		5 EA	0.139	15.2	9.12	39.8	3.48	6.34	16.8	-0.0814	5 EA
50	50	x 8 EA	0.160	15.2	10.5	34.8	4.61	8.38	14.9	-0.0928	50 x 50 x 8 EA
		6 EA	0.129	14.5	8.90	35.5	3.64	6.63	15.1	-0.0756	6 EA
		5 EA	0.103	13.9	7.36	36.1	2.85	5.19	15.2	-0.0602	5 EA
		3 EA	0.0694	13.2	5.25	36.8	1.89	3.46	15.3	-0.0405	3 EA
45	45	x 6 EA	0.0922	13.3	6.93	31.7	2.91	5.30	13.5	-0.0538	45 x 45 x 6 EA
		5 EA	0.0734	12.7	5.76	32.3	2.28	4.16	13.6	-0.0432	5 EA
		3 EA	0.0498	12.0	4.14	33.0	1.51	2.77	13.8	-0.0292	3 EA
40	40	x 6 EA	0.0631	12.0	5.24	28.0	2.26	4.12	11.9	-0.0366	40 x 40 x 6 EA
		5 EA	0.0505	11.5	4.39	28.5	1.77	3.24	12.0	-0.0296	5 EA
		3 EA	0.0344	10.8	3.19	29.2	1.18	2.17	12.2	-0.0201	3 EA
30	30	x 6 EA	0.0247	9.53	2.59	20.5	1.21	2.22	8.71	-0.0140	30 x 30 x 6 EA
		5 EA	0.0200	8.99	2.22	21.0	0.951	1.76	8.83	-0.0116	5 EA
		3 EA	0.0138	8.30	1.66	21.7	0.635	1.18	8.93	-0.00804	3 EA
25	25	x 6 EA	0.0135	8.28	1.63	16.7	0.807	1.49	7.13	-0.00750	25 x 25 x 6 EA
		5 EA	0.0110	7.75	1.42	17.3	0.638	1.19	7.23	-0.00632	5 EA
		3 EA	0.00765	7.07	1.08	17.9	0.426	0.802	7.33	-0.00446	3 EA

