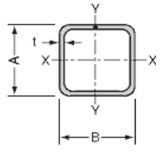
Section properties Square : 50 mm x 50 mm to 125 mm x 125 mm

Dimensions		Mass	Area	Second moment of area		Radius of gyration		Elastic section modulus		Plastic section modulus		Torsional inertia constant	Torsional modulus constant	Superficial area per meter length	Nominal length per tonne
Nominal size A x B mm	Thickness t mm	M kg/m	A cm^2	Ix cm^4	Iy cm^4	ix cm	iy cm	Zx cm^3	Zy cm^3	Zpx cm^3	Zpy cm^3	cm^4	cm^3	m^2/m	m
50 x 50	1.6	2.38	3.032	11.7	11.7	1.96	1.96	4.68	4.68	5.46	5.46	18.5	7.03	0.195	420
	2.0	2.93	3.737	14.1	14.1	1.95	1.95	5.66	5.66	6.66	6.66	22.6	8.51	0.193	341
	2.5	3.60	4.589	16.9	16.9	1.92	1.92	6.78	6.78	8.07	8.07	27.5	10.2	0.191	278
	3.0	4.25	5.408	19.5	19.5	1.90	1.90	7.79	7.79	9.39	9.39	32.1	11.8	0.190	236
	3.5	4.78	6.089	21.1	21.1	1.86	1.86	8.43	8.43	10.3	10.3	36.4	13.1	0.185	209
	4.0	5.35	6.811	22.9	22.9	1.83	1.83	9.15	9.15	11.4	11.4	40.3	14.3	0.183	187
	5.0	6.39	8.142	25.7	25.7	1.78	1.78	10.3	10.3	13.2	13.2	46.9	16.3	0.179	156
	6.0	7.32	9.324	27.5	27.5	1.72	1.72	11.0	11.0	14.5	14.5	51.8	17.7	0.174	137
60 x 60	1.6	2.88	3.672	20.7	20.7	2.37	2.37	6.89	6.89	7.99	7.99	32.4	10.4	0.235	347
	2.0	3.56	4.537	25.1	25.1	2.35	2.35	8.38	8.38	9.79	9.79	39.8	12.6	0.233	281
	2.5	4.39	5.589	30.3	30.3	2.33	2.33	10.1	10.1	11.9	11.9	48.7	15.2	0.231	228
	3.0	5.19	6.608	35.1	35.1	2.31	2.31	11.7	11.7	14.0	14.0	57.1	17.7	0.230	193
	3.5	5.88	7.489	38.6	38.6	2.27	2.27	12.9	12.9	15.5	15.5	65.2	19.8	0.225	170
	4.0	6.60	8.411	42.3	42.3	2.24	2.24	14.1	14.1	17.2	17.2	72.7	21.8	0.223	151
	5.0	7.96	10.14	48.6	48.6	2.19	2.19	16.2	16.2	20.2	20.2	86.0	25.3	0.219	126
	6.0	9.20	11.72	53.3	53.3	2.13	2.13	17.8	17.8	22.7	22.7	97.2	28.1	0.214	109
75 x 75	2.0	4.50	5.737	50.5	50.5	2.97	2.97	13.5	13.5	15.6	15.6	79.0	20.2	0.293	222
	2.5	5.56	7.089	61.4	61.4	2.94	2.94	16.4	16.4	19.1	19.1	97.1	24.6	0.291	180
	3.0	6.60	8.408	71.6	71.6	2.92	2.92	19.1	19.1	22.5	22.5	115	28.7	0.290	152
	3.5	7.53	9.589	79.7	79.7	2.88	2.88	21.3	21.3	25.3	25.3	132	32.5	0.285	133
	4.0	8.49	10.81	88.2	88.2	2.86	2.86	23.5	23.5	28.2	28.2	148	36.1	0.283	118
	5.0	10.3	13.14	103	103	2.80	2.80	27.5	27.5	33.6	33.6	177	42.6	0.279	96.9
	6.0	12.0	15.32	116	116	2.75	2.75	30.9	30.9	38.4	38.4	204	48.2	0.274	83.1
	8.0	15.1	19.24	134	134	2.64	2.64	35.7	35.7	46.1	46.1	247	56.7	0.266	66.2
80 x 80	2.0	4.82	6.137	61.7	61.7	3.17	3.17	15.4	15.4	17.8	17.8	96.3	23.2	0.313	208
	2.5	5.96	7.589	75.1	75.1	3.15	3.15	18.8	18.8	21.9	21.9	119	28.2	0.311	168
	3.0	7.07	9.008	87.8	87.8	3.12	3.12	22.0	22.0	25.8	25.8	140	33.0	0.310	141
	3.5	8.08	10.29	98.1	98.1	3.09	3.09	24.5	24.5	29.1	29.1	161	37.5	0.305	124
	4.0	9.11	11.61	109	109	3.06	3.06	27.2	27.2	32.5	32.5	181	41.7	0.303	110
	5.0	11.1	14.14	128	128	3.01	3.01	32.0	32.0	38.9	38.9	218	49.4	0.299	90.1
	6.0	13.0	16.52	144	144	2.95	2.95	36.0	36.0	44.5	44.5	252	56.1	0.294	77.1
89 x 89	3.5	9.07	11.55	138	138	3.46	3.46	31.0	31.0	36.5	36.5	225	47.2	0.341	110
	4.0	10.2	13.05	154	154	3.43	3.43	34.5	34.5	41.0	41.0	253	52.7	0.339	97.6
	5.0	12.5	15.94	182	182	3.38	3.38	40.8	40.8	49.2	49.2	306	62.8	0.335	79.9
	6.0	14.7	18.68	206	206	3.32	3.32	46.4	46.4	56.7	56.7	355	71.8	0.330	68.2
90 x 90	2.0	5.45	6.937	88.9	88.9	3.58	3.58	19.7	19.7	22.8	22.8	138	29.6	0.353	184
	2.5	6.74	8.589	109	109	3.56	3.56	24.1	24.1	28.0	28.0	170	36.2	0.351	148
	3.0	8.01	10.21	127	127	3.53	3.53	28.3	28.3	33.0	33.0	201	42.5	0.350	125
	3.5	9.18	11.69	143	143	3.50	3.50	31.8	31.8	37.4	37.4	233	48.4	0.345	109
	4.0	10.4	13.21	159	159	3.47	3.47	35.4	35.4	42.0	42.0	262	54.0	0.343	96.4
	5.0	12.7	16.14	189	189	3.42	3.42	41.9	41.9	50.4	50.4	317	64.4	0.339	78.9
	6.0	14.9	18.92	214	214	3.36	3.36	47.6	47.6	58.1	58.1	368	73.7	0.334	67.3
100 x 100	2.0	6.07	7.737	123	123	3.99	3.99	24.6	24.6	28.3	28.3	191	36.9	0.393	165
	2.5	7.53	9.589	151	151	3.96	3.96	30.1	30.1	34.9	34.9	235	45.2	0.391	133
	3.0	8.96	11.41	177	177	3.94	3.94	35.4	35.4	41.2	41.2	279	53.2	0.390	112
	3.5	10.3	13.09	200	200	3.91	3.91	39.9	39.9	46.8	46.8	322	60.7	0.385	97.3
	4.0	11.6	14.81	223	223	3.88	3.88	44.6	44.6	52.6	52.6	363	68.0	0.383	86.0
	5.0	14.2	18.14	266	266	3.83	3.83	53.1	53.1	63.5	63.5	442	81.4	0.379	70.2
	6.0	16.7	21.32	304	304	3.77	3.77	60.7	60.7	73.5	73.5	515	93.6	0.374	59.7
	8.0	21.4	27.24	366	366	3.67	3.67	73.2	73.2	91.1	91.1	645	114	0.366	46.8
	9.0	23.5	29.98	391	391	3.61	3.61	78.1	78.1	98.6	98.6	700	123	0.361	42.5
	10.0	25.6	32.57	411	411	3.55	3.55	82.2	82.2	105	105	750	130	0.357	39.1
	12.0	29.3	37.30	440	440	3.44	3.44	88.1	88.1	116	116	830	141	0.348	34.2
120 x 120	6.0	20.5	26.12	551	551	4.59	4.59	91.8	91.8	110	110	916	141	0.454	48.8
	8.0	26.4	33.64	677	677	4.49	4.49	113	113	138	138	1,160	175	0.446	37.9
	9.0	29.2	37.18	730	730	4.43	4.43	122	122	150	150	1,270	189	0.441	34.3
	10.0	31.8	40.57	777	777	4.38	4.38	129	129	162	162	1,380	203	0.437	31.4
	12.0	36.8	46.90	852	852	4.26	4.26	142	142	182	182	1,550	225	0.428	27.2
125 x 125	3.0	11.3	14.41	355	355	4.96	4.96	56.7	56.7	65.6	65.6	553	85.1	0.490	88.4
	3.5	13.0	16.59	403	403	4.93	4.93	64.4	64.4	74.9	74.9	641	97.6	0.485	76.8
	4.0	14.8	18.81	452	452	4.90	4.90	72.3	72.3	84.5	84.5	725	110	0.483	67.7
	5.0	18.2	23.14	544	544	4.85	4.85	87.1	87.1	103	103	887	133	0.479	55.0
	6.0	21.4	27.32	629	629	4.80	4.80	101	101	120	120	1,040	154	0.474	46.6
	8.0	27.7	35.24	775	775	4.69	4.69	124	124	151	151	1,330	192	0.466	36.1
	9.0	30.6	38.98	838	838	4.64	4.64	134	134	165	165	1,450	208	0.461	32.7
	10.0	33.4	42.57	893	893	4.58	4.58	143	143	178	178	1,570	223	0.457	29.9
	12.0	38.7	49.30	985	985	4.47	4.47	158	158	201	201	1,780	249	0.448	25.8
	12.5	39.9	50.89	1,000	1,000	4.44	4.44	161	161	206	206	1,830	254	0.446	25.0

NOTE

The calculation of section properties are based on the following corner geometry, as standard.

Thickness(T)	Inside corner profile	Outside corner profile
3mm and less	1.0T	2.0T
greater than 3mm	1.5T	2.5T



Section properties Square : 150mm x 150mm to 550 mm x 550 mm

Dimensions		Mass	Area	Second moment of area		Radius of gyration		Elastic section modulus		Plastic section modulus		Torsional inertia constant	Torsional modulus constant	Superficial area per meter length	Nominal length per tonne
Nominal size A x B mm	Thickness t mm	M kg/m	A cm^2	Ix cm^4	Iy cm^4	ix cm	iy cm	Zx cm^3	Zy cm^3	Zpx cm^3	Zpy cm^3	cm^4	cm^3	m^2/m	m
150 x 150	4.0	17.9	22.81	800	800	5.92	5.92	107	107	124	124	1,270	162	0.583	55.8
	5.0	22.1	28.14	970	970	5.87	5.87	129	129	151	151	1,560	197	0.579	45.3
	6.0	26.2	33.32	1,130	1,130	5.82	5.82	150	150	178	178	1,840	229	0.574	38.2
	8.0	33.9	43.24	1,410	1,410	5.71	5.71	188	188	226	226	2,360	289	0.566	29.5
	9.0	37.7	47.98	1,540	1,540	5.66	5.66	205	205	248	248	2,610	316	0.561	26.6
	10.0	41.3	52.57	1,650	1,650	5.61	5.61	220	220	269	269	2,840	341	0.557	24.2
	12.0	48.1	61.30	1,850	1,850	5.50	5.50	247	247	307	307	3,260	386	0.548	20.8
	12.5	49.8	63.39	1,900	1,900	5.47	5.47	253	253	316	316	3,360	396	0.546	20.1
175 x 175	4.0	21.0	26.81	1,290	1,290	6.94	6.94	148	148	171	171	2,030	223	0.683	47.5
	5.0	26.0	33.14	1,570	1,570	6.89	6.89	180	180	209	209	2,510	273	0.679	38.4
	6.0	30.9	39.32	1,840	1,840	6.84	6.84	210	210	246	246	2,970	320	0.674	32.4
	8.0	40.2	51.24	2,330	2,330	6.74	6.74	266	266	316	316	3,840	406	0.666	24.9
	9.0	44.7	56.98	2,550	2,550	6.68	6.68	291	291	348	348	4,250	446	0.661	22.4
	10.0	49.1	62.57	2,750	2,750	6.63	6.63	314	314	379	379	4,640	484	0.657	20.4
	12.0	57.5	73.30	3,120	3,120	6.52	6.52	356	356	437	437	5,380	552	0.648	17.4
	12.5	59.6	75.89	3,200	3,200	6.50	6.50	366	366	450	450	5,550	568	0.646	16.8
200 x 200	4.0	24.2	30.81	1,950	1,950	7.96	7.96	195	195	225	225	3,060	295	0.783	41.3
	5.0	29.9	38.14	2,390	2,390	7.91	7.91	239	239	277	277	3,780	362	0.779	33.4
	6.0	35.6	45.32	2,800	2,800	7.86	7.86	280	280	327	327	4,480	425	0.774	28.1
	8.0	46.5	59.24	3,570	3,570	7.76	7.76	357	357	421	421	5,820	544	0.766	21.5
	9.0	51.8	65.98	3,920	3,920	7.71	7.71	392	392	465	465	6,450	599	0.761	19.3
	10.0	57.0	72.57	4,250	4,250	7.65	7.65	425	425	508	508	7,070	651	0.757	17.6
	12.0	67.0	85.30	4,860	4,860	7.55	7.55	486	486	588	588	8,240	749	0.748	14.9
	12.5	69.4	88.39	5,000	5,000	7.52	7.52	500	500	607	607	8,520	772	0.746	14.4
250 x 250	6.0	45.0	57.32	5,620	5,620	9.90	9.90	450	450	521	521	8,870	681	0.974	22.2
	8.0	59.1	75.24	7,230	7,230	9.80	9.80	578	578	676	676	11,600	878	0.966	16.9
	9.0	65.9	83.98	7,980	7,980	9.75	9.75	639	639	750	750	12,900	972	0.961	15.2
	10.0	72.7	92.57	8,710	8,710	9.70	9.70	697	697	822	822	14,200	1,060	0.957	13.8
	12.0	85.8	109.3	10,100	10,100	9.59	9.59	805	805	959	959	16,700	1,230	0.948	11.7
	12.5	89.0	113.4	10,400	10,400	9.57	9.57	830	830	992	992	17,300	1,270	0.946	11.2
	16.0	111	141.0	12,400	12,400	9.38	9.38	992	992	1,210	1,210	21,200	1,530	0.931	9.04
300 x 300	6.0	54.4	69.32	9,890	9,890	11.9	11.9	660	660	760	760	15,500	996	1.17	18.4
	8.0	71.6	91.24	12,800	12,800	11.8	11.8	853	853	991	991	20,300	1,290	1.17	14.0
	9.0	80.1	102.0	14,200	14,200	11.8	11.8	946	946	1,100	1,100	22,700	1,430	1.16	12.5
	10.0	88.4	112.6	15,500	15,500	11.7	11.7	1,030	1,030	1,210	1,210	25,000	1,570	1.16	11.3
	12.0	105	133.3	18,100	18,100	11.6	11.6	1,200	1,200	1,420	1,420	29,400	1,830	1.15	9.56
	12.5	109	138.4	18,700	18,700	11.6	11.6	1,240	1,240	1,470	1,470	30,500	1,900	1.15	9.21
	16.0	136	173.0	22,600	22,600	11.4	11.4	1,510	1,510	1,810	1,810	37,800	2,310	1.13	7.36
	19.0	158	201.2	25,500	25,500	11.3	11.3	1,700	1,700	2,070	2,070	43,600	2,630	1.12	6.33
350 x 350	9.0	94.2	120.0	23,000	23,000	13.8	13.8	1,310	1,310	1,520	1,520	36,400	1,990	1.36	10.6
	10.0	104	132.6	25,200	25,200	13.8	13.8	1,440	1,440	1,670	1,670	40,100	2,180	1.36	9.61
	12.0	123	157.3	29,400	29,400	13.7	13.7	1,680	1,680	1,970	1,970	47,500	2,560	1.35	8.10
	12.5	128	163.4	30,500	30,500	13.7	13.7	1,740	1,740	2,040	2,040	49,300	2,650	1.35	7.80
	16.0	161	205.0	37,200	37,200	13.5	13.5	2,130	2,130	2,530	2,530	61,400	3,250	1.33	6.21
	19.0	188	239.2	42,400	42,400	13.3	13.3	2,420	2,420	2,910	2,910	71,100	3,720	1.32	5.33
	22.0	214	272.0	47,100	47,100	13.2	13.2	2,690	2,690	3,270	3,270	80,300	4,150	1.31	4.68
400 x 400	9.0	108	138.0	34,800	34,800	15.9	15.9	1,740	1,740	2,010	2,010	54,700	2,630	1.56	9.23
	10.0	120	152.6	38,200	38,200	15.8	15.8	1,910	1,910	2,210	2,210	60,400	2,890	1.56	8.35
	12.0	142	181.3	44,800	44,800	15.7	15.7	2,240	2,240	2,610	2,610	71,600	3,400	1.55	7.03
	12.5	148	188.4	46,400	46,400	15.7	15.7	2,320	2,320	2,710	2,710	74,400	3,520	1.55	6.76
	16.0	186	237.0	57,100	57,100	15.5	15.5	2,850	2,850	3,370	3,370	93,000	4,350	1.53	5.38
	19.0	218	277.2	65,400	65,400	15.4	15.4	3,270	3,270	3,900	3,900	108,000	5,000	1.52	4.60
	22.0	248	316.0	73,000	73,000	15.2	15.2	3,650	3,650	4,390	4,390	123,000	5,610	1.51	4.03
450 x 450	12.0	161	205.3	64,800	64,800	17.8	17.8	2,880	2,880	3,340	3,340	103,000	4,360	1.75	6.21
	12.5	168	213.4	67,200	67,200	17.7	17.7	2,990	2,990	3,470	3,470	107,000	4,520	1.75	5.97
	16.0	211	269.0	82,900	82,900	17.6	17.6	3,690	3,690	4,330	4,330	134,000	5,610	1.73	4.74
	19.0	247	315.2	95,500	95,500	17.4	17.4	4,240	4,240	5,020	5,020	156,000	6,480	1.72	4.04
	22.0	283	360.0	107,000	107,000	17.2	17.2	4,760	4,760	5,680	5,680	178,000	7,290	1.71	3.54
500 x 500	12.0	180	229.3	90,000	90,000	19.8	19.8	3,600	3,600	4,160	4,160	142,000	5,450	1.95	5.56
	12.5	187	238.4	93,300	93,300	19.8	19.8	3,730	3,730	4,320	4,320	148,000	5,650	1.95	5.34
	16.0	236	301.0	116,000	116,000	19.6	19.6	4,630	4,630	5,410	5,410	186,000	7,030	1.93	4.23
	19.0	277	353.2	134,000	134,000	19.4	19.4	5,340	5,340	6,290	6,290	217,000	8,140	1.92	3.61
	22.0	317	404.0	150,000	150,000	19.3	19.3	6,010	6,010	7,130	7,130	247,000	9,190	1.91	3.15
550 x 550	19.0	307	391.2	181,000	181,000	21.5	21.5	6,570	6,570	7,700	7,700	291,000	9,990	2.12	3.26
	22.0	352	448.0	204,000	204,000	21.3	21.3	7,420	7,420	8,750	8,750	333,000	11,300	2.11	2.84

Section properties Rectangular : 60 mm x 30 mm to 125 mm x 50 mm

Dimensions		Mass	Area	Second moment of area		Radius of gyration		Elastic section modulus		Plastic section modulus		Torsional inertia constant	Torsional modulus constant	Superficial area per meter length	Nominal length per tonne
Nominal size A x B mm	Thickness t mm	M kg/m	A cm^2	Ix cm^4	Iy cm^4	ix cm	iy cm	Zx cm^3	Zy cm^3	Zpx cm^3	Zpy cm^3	cm^4	cm^3	m^2/m	m
60 x 30	1.6	2.13	2.712	12.5	4.25	2.15	1.25	4.16	2.83	5.19	3.20	10.3	4.90	0.175	470
	2.0	2.62	3.337	15.1	5.08	2.12	1.23	5.02	3.39	6.31	3.89	12.6	5.88	0.173	382
	2.5	3.21	4.089	17.9	6.00	2.09	1.21	5.98	4.00	7.62	4.67	15.1	6.98	0.171	312
	3.0	3.77	4.808	20.5	6.80	2.07	1.19	6.84	4.53	8.82	5.39	17.5	7.95	0.170	265
	3.5	4.23	5.389	21.8	7.24	2.01	1.16	7.27	4.83	9.60	5.88	19.5	8.69	0.165	236
	4.0	4.72	6.011	23.5	7.75	1.98	1.14	7.83	5.17	10.5	6.41	21.2	9.37	0.163	212
60 x 40	1.6	2.38	3.032	15.2	8.16	2.24	1.64	5.07	4.08	6.12	4.64	16.9	6.72	0.195	420
	2.0	2.93	3.737	18.4	9.83	2.22	1.62	6.14	4.92	7.47	5.65	20.7	8.12	0.193	341
	2.5	3.60	4.589	22.1	11.7	2.19	1.60	7.36	5.87	9.06	6.84	25.1	9.72	0.191	278
	3.0	4.25	5.408	25.4	13.4	2.17	1.58	8.46	6.72	10.5	7.94	29.3	11.2	0.190	236
	3.5	4.78	6.089	27.4	14.5	2.12	1.54	9.14	7.26	11.6	8.75	33.1	12.4	0.185	209
	4.0	5.35	6.811	29.8	15.7	2.09	1.52	9.92	7.86	12.7	9.62	36.5	13.5	0.183	187
70 x 40	1.6	2.63	3.352	22.1	9.34	2.57	1.67	6.32	4.67	7.72	5.25	21.0	7.90	0.215	380
	2.0	3.25	4.137	26.9	11.3	2.55	1.65	7.67	5.64	9.44	6.41	25.7	9.56	0.213	308
	2.5	3.99	5.089	32.3	13.5	2.52	1.63	9.24	6.75	11.5	7.78	31.3	11.5	0.211	250
	3.0	4.72	6.008	37.3	15.5	2.49	1.61	10.7	7.75	13.4	9.05	36.5	13.2	0.210	212
	3.5	5.33	6.789	40.6	16.9	2.44	1.58	11.6	8.43	14.8	10.0	41.3	14.7	0.205	188
	4.0	5.97	7.611	44.3	18.3	2.41	1.55	12.7	9.17	16.4	11.1	45.7	16.1	0.203	167
75 x 45	1.6	2.88	3.672	28.4	12.9	2.78	1.88	7.56	5.75	9.16	6.46	28.2	9.63	0.235	347
	2.0	3.56	4.537	34.5	15.7	2.76	1.86	9.20	6.96	11.2	7.90	34.6	11.7	0.233	281
	2.5	4.39	5.589	41.7	18.8	2.73	1.84	11.1	8.37	13.7	9.61	42.3	14.1	0.231	228
	3.0	5.19	6.608	48.3	21.7	2.70	1.81	12.9	9.66	16.0	11.2	49.4	16.3	0.230	193
	3.5	5.88	7.489	52.9	23.8	2.66	1.78	14.1	10.6	17.8	12.5	56.3	18.3	0.225	170
	4.0	6.60	8.411	58.0	26.0	2.63	1.76	15.5	11.6	19.7	13.8	62.5	20.1	0.223	151
	5.0	7.96	10.14	66.5	29.7	2.56	1.71	17.7	13.2	23.1	16.2	73.5	23.1	0.219	126
	6.0	9.20	11.72	72.9	32.3	2.49	1.66	19.5	14.4	26.0	18.1	82.4	25.5	0.214	109
75 x 50	2.0	3.72	4.737	37.2	19.9	2.80	2.05	9.91	7.96	12.0	9.06	41.4	13.1	0.243	269
	2.5	4.58	5.839	45.0	24.0	2.77	2.03	12.0	9.60	14.6	11.0	50.5	15.9	0.241	218
	3.0	5.42	6.908	52.2	27.8	2.75	2.00	13.9	11.1	17.1	12.9	59.3	18.4	0.240	184
	3.5	6.15	7.839	57.4	30.5	2.70	1.97	15.3	12.2	19.0	14.4	67.7	20.6	0.235	162
	4.0	6.92	8.811	63.0	33.5	2.67	1.95	16.8	13.4	21.1	16.0	75.4	22.7	0.233	145
	5.0	8.35	10.64	72.7	38.4	2.61	1.90	19.4	15.4	24.9	18.8	89.1	26.4	0.229	120
	6.0	9.67	12.32	80.1	42.1	2.55	1.85	21.4	16.9	28.1	21.1	101	29.3	0.224	103
100 x 40	1.6	3.38	4.312	53.6	12.9	3.52	1.73	10.7	6.44	13.5	7.10	33.9	11.4	0.275	295
	2.0	4.19	5.337	65.4	15.6	3.50	1.71	13.1	7.81	16.5	8.69	41.5	13.9	0.273	239
	2.5	5.17	6.589	79.3	18.8	3.47	1.69	15.9	9.39	20.2	10.6	50.5	16.8	0.271	193
	3.0	6.13	7.808	92.4	21.7	3.44	1.67	18.5	10.8	23.7	12.4	59.0	19.4	0.270	163
	3.5	6.98	8.889	102	23.9	3.38	1.64	20.4	11.9	26.6	13.9	67.1	21.7	0.265	143
100 x 50	2.0	4.50	5.737	75.0	25.7	3.62	2.12	15.0	10.3	18.5	11.5	61.6	17.7	0.293	222
	2.5	5.56	7.089	91.2	31.1	3.59	2.09	18.2	12.4	22.7	14.0	75.4	21.5	0.291	180
	3.0	6.60	8.408	106	36.1	3.56	2.07	21.3	14.4	26.7	16.4	88.6	25.0	0.290	152
	3.5	7.53	9.589	118	40.0	3.51	2.04	23.6	16.0	29.9	18.5	101	28.2	0.285	133
	4.0	8.49	10.81	131	44.1	3.48	2.02	26.1	17.6	33.4	20.6	113	31.2	0.283	118
	5.0	10.3	13.14	153	51.1	3.41	1.97	30.6	20.4	39.8	24.4	135	36.5	0.279	96.9
	6.0	12.0	15.32	171	56.7	3.34	1.92	34.2	22.7	45.3	27.7	153	40.9	0.274	83.1
125 x 40	1.6	4.01	5.112	94.4	15.8	4.30	1.76	15.1	7.91	19.4	8.63	44.9	14.4	0.325	249
	2.0	4.97	6.337	116	19.2	4.27	1.74	18.5	9.61	23.8	10.6	55.1	17.5	0.323	201
	2.5	6.15	7.839	141	23.2	4.24	1.72	22.5	11.6	29.3	12.9	67.1	21.2	0.321	163
	3.0	7.31	9.308	165	26.8	4.21	1.70	26.4	13.4	34.4	15.2	78.5	24.5	0.320	137
	3.5	8.35	10.64	183	29.7	4.15	1.67	29.3	14.9	38.8	17.1	89.3	27.6	0.315	120
125 x 50	2.0	5.29	6.737	131	31.4	4.41	2.16	20.9	12.6	26.3	13.9	82.7	22.3	0.343	189
	2.5	6.55	8.339	160	38.1	4.38	2.14	25.5	15.2	32.3	17.0	101	27.1	0.341	153
	3.0	7.78	9.908	187	44.4	4.34	2.12	29.9	17.7	38.1	20.0	119	31.6	0.340	129
	3.5	8.90	11.34	209	49.5	4.29	2.09	33.4	19.8	43.0	22.5	136	35.8	0.335	112
	4.0	10.1	12.81	232	54.7	4.26	2.07	37.2	21.9	48.2	25.2	152	39.7	0.333	99.4
	5.0	12.3	15.64	274	63.8	4.19	2.02	43.9	25.5	57.7	30.0	182	46.7	0.329	81.4
	6.0	14.4	18.32	310	71.4	4.11	1.97	49.6	28.5	66.4	34.3	208	52.6	0.324	69.5

Section properties Rectangular : 102 mm x 76 mm to 175 mm x 125 mm

Dimensions		Mass	Area	Second moment of area		Radius of gyration		Elastic section modulus		Plastic section modulus		Torsional inertia constant	Torsional modulus constant	Superficial area per meter length	Nominal length per tonne
Nominal size A x B mm	Thickness t mm	M kg/m	A cm^2	Ix cm^4	Iy cm^4	ix cm	iy cm	Zx cm^3	Zy cm^3	Zpx cm^3	Zpy cm^3	cm^4	cm^3	m^2/m	m
102 x 76	3.5	9.07	11.55	168	107	3.82	3.05	33.0	28.2	39.9	32.6	214	46.1	0.341	110
	4.0	10.2	13.05	187	119	3.79	3.02	36.8	31.3	44.7	36.6	241	51.4	0.339	97.6
	5.0	12.5	15.94	222	141	3.73	2.97	43.6	37.0	53.7	43.9	291	61.2	0.335	79.9
	6.0	14.7	18.68	252	159	3.67	2.92	49.5	42.0	61.9	50.5	338	69.8	0.330	68.2
127 x 51	3.5	9.07	11.55	220	52.6	4.37	2.13	34.7	20.6	44.6	23.4	144	37.2	0.341	110
	4.0	10.2	13.05	245	58.1	4.33	2.11	38.6	22.8	50.0	26.2	161	41.3	0.339	97.6
	5.0	12.5	15.94	290	67.9	4.26	2.06	45.6	26.6	59.9	31.3	193	48.6	0.335	79.9
	6.0	14.7	18.68	328	76.1	4.19	2.02	51.6	29.8	68.9	35.8	220	54.9	0.330	68.2
125 x 75	2.0	6.07	7.737	169	77.1	4.67	3.16	27.0	20.6	32.5	22.9	167	34.4	0.393	165
	2.5	7.53	9.589	207	94.2	4.64	3.14	33.0	25.1	40.0	28.2	205	42.1	0.391	133
	3.0	8.96	11.41	243	111	4.61	3.11	38.9	29.5	47.3	33.3	243	49.5	0.390	112
	3.5	10.3	13.09	273	124	4.57	3.08	43.8	33.2	53.6	37.8	280	56.4	0.385	97.3
	4.0	11.6	14.81	305	139	4.54	3.06	48.9	37.0	60.3	42.4	316	63.0	0.383	86.0
	5.0	14.2	18.14	364	165	4.48	3.01	58.3	43.9	72.7	51.1	383	75.3	0.379	70.2
	6.0	16.7	21.32	416	187	4.42	2.96	66.6	50.0	84.2	59.1	444	86.2	0.374	59.7
	8.0	21.4	27.24	502	224	4.29	2.87	80.2	59.7	104	72.9	551	105	0.366	46.8
	9.0	23.5	29.98	535	238	4.22	2.82	85.6	63.5	113	78.7	596	112	0.361	42.5
150 x 50	2.0	6.07	7.737	208	37.2	5.18	2.19	27.7	14.9	35.3	16.3	104	26.9	0.393	165
	2.5	7.53	9.589	254	45.2	5.15	2.17	33.9	18.1	43.5	19.9	128	32.8	0.391	133
	3.0	8.96	11.41	299	52.6	5.12	2.15	39.8	21.1	51.4	23.5	150	38.3	0.390	112
	3.5	10.3	13.09	335	59.0	5.06	2.12	44.7	23.6	58.3	26.6	172	43.3	0.385	97.3
	4.0	11.6	14.81	374	65.3	5.02	2.10	49.8	26.1	65.4	29.8	193	48.2	0.383	86.0
	5.0	14.2	18.14	444	76.5	4.95	2.05	59.2	30.6	78.9	35.7	230	56.8	0.379	70.2
	6.0	16.7	21.32	506	86.0	4.87	2.01	67.5	34.4	91.2	40.9	263	64.3	0.374	59.7
150 x 75	3.0	10.1	12.91	380	130	5.42	3.17	50.6	34.7	62.5	38.7	312	59.8	0.440	98.7
	3.5	11.6	14.84	429	147	5.38	3.15	57.2	39.2	71.1	44.1	360	68.3	0.435	85.8
	4.0	13.2	16.81	480	164	5.35	3.12	64.0	43.7	80.0	49.5	406	76.4	0.433	75.8
	5.0	16.2	20.64	576	195	5.28	3.08	76.8	52.1	97.0	59.9	492	91.6	0.429	61.7
	6.0	19.1	24.32	662	223	5.22	3.03	88.2	59.5	113	69.5	573	105	0.424	52.4
	8.0	24.5	31.24	807	269	5.08	2.93	108	71.7	141	86.3	714	129	0.416	40.8
	9.0	27.1	34.48	866	287	5.01	2.89	116	76.6	153	93.6	775	138	0.411	36.9
152 x 76	5.0	16.4	20.94	601	204	5.36	3.12	79.0	53.7	99.8	61.6	513	94.3	0.435	60.8
	6.0	19.4	24.68	691	233	5.29	3.07	90.9	61.4	116	71.5	598	108	0.430	51.6
150 x 80	3.0	10.4	13.21	396	150	5.47	3.37	52.8	37.5	64.7	41.9	349	64.1	0.450	96.4
	3.5	11.9	15.19	448	170	5.43	3.34	59.7	42.5	73.7	47.8	403	73.3	0.445	83.9
	4.0	13.5	17.21	502	190	5.40	3.32	66.9	47.4	83.0	53.8	454	82.1	0.443	74.0
	5.0	16.6	21.14	602	227	5.34	3.27	80.3	56.6	101	65.1	552	98.6	0.439	60.3
	6.0	19.6	24.92	693	259	5.27	3.23	92.4	64.9	117	75.6	644	114	0.434	51.1
150 x 100	3.0	11.3	14.41	461	248	5.65	4.15	61.4	49.5	73.5	55.8	507	81.4	0.490	88.4
	3.5	13.0	16.59	523	281	5.61	4.12	69.7	56.2	83.9	63.7	588	93.3	0.485	76.8
	4.0	14.8	18.81	587	315	5.59	4.09	78.3	63.0	94.6	71.8	664	105	0.483	67.7
	5.0	18.2	23.14	707	379	5.53	4.04	94.3	75.7	115	87.3	812	127	0.479	55.0
	6.0	21.4	27.32	817	436	5.47	4.00	109	87.3	134	102	951	147	0.474	46.6
	8.0	27.7	35.24	1,010	536	5.35	3.90	134	107	169	128	1,210	182	0.466	36.1
	9.0	30.6	38.98	1,090	577	5.29	3.85	145	115	185	140	1,320	197	0.461	32.7
	10.0	33.4	42.57	1,160	614	5.23	3.80	155	123	199	150	1,430	211	0.457	29.9
	12.0	38.7	49.30	1,280	674	5.10	3.70	171	135	224	169	1,610	234	0.448	25.8
	12.5	39.9	50.89	1,310	686	5.07	3.67	174	137	230	173	1,650	239	0.446	25.0
175 x 125	4.0	17.9	22.81	1,000	598	6.62	5.12	114	95.7	136	109	1,200	157	0.583	55.8
	5.0	22.1	28.14	1,210	724	6.57	5.07	139	116	167	133	1,470	190	0.579	45.3
	6.0	26.2	33.32	1,410	841	6.51	5.02	161	135	196	156	1,730	222	0.574	38.2
	8.0	33.9	43.24	1,770	1,050	6.39	4.93	202	168	249	198	2,220	279	0.566	29.5
	9.0	37.7	47.98	1,930	1,140	6.34	4.88	220	183	274	217	2,450	305	0.561	26.6
	10.0	41.3	52.57	2,070	1,220	6.28	4.83	237	196	297	235	2,660	329	0.557	24.2
	12.0	48.1	61.30	2,320	1,370	6.15	4.73	265	219	339	268	3,050	371	0.548	20.8

Section properties Rectangular : 200 mm x 100 mm to 350 mm x 150 mm

Dimensions		Mass	Area	Second moment of area		Radius of gyration		Elastic section modulus		Plastic section modulus		Torsional inertia constant	Torsional modulus constant	Superficial area per meter length	Nominal length per tonne
Nominal size	Thickness														
A x B mm	t mm	M kg/m	A cm^2	Ix cm^4	Iy cm^4	ix cm	iy cm	Zx cm^3	Zy cm^3	Zpx cm^3	Zpy cm^3	cm^4	cm^3	m^2/m	m
200 x 100	4.0	17.9	22.81	1,190	407	7.21	4.23	119	81.5	147	91	989	142	0.583	55.8
	5.0	22.1	28.14	1,440	492	7.15	4.18	144	98.3	179	111	1,210	172	0.579	45.3
	6.0	26.2	33.32	1,670	569	7.08	4.13	167	114	210	130	1,420	200	0.574	38.2
	8.0	33.9	43.24	2,090	705	6.95	4.04	209	141	267	165	1,810	250	0.566	29.5
	9.0	37.7	47.98	2,280	764	6.89	3.99	228	153	293	180	1,990	272	0.561	26.6
200 x 150	4.0	21.0	26.81	1,570	1,010	7.65	6.15	157	135	186	153	1,950	218	0.683	47.5
	5.0	26.0	33.14	1,910	1,230	7.60	6.10	191	164	228	188	2,400	267	0.679	38.4
	6.0	30.9	39.32	2,240	1,440	7.54	6.05	224	192	268	221	2,840	312	0.674	32.4
	8.0	40.2	51.24	2,830	1,820	7.43	5.95	283	242	344	283	3,660	396	0.666	24.9
	9.0	44.7	56.98	3,100	1,990	7.37	5.90	310	265	379	312	4,050	435	0.661	22.4
	10.0	49.1	62.57	3,350	2,140	7.32	5.85	335	286	413	339	4,430	471	0.657	20.4
	12.0	57.5	73.30	3,800	2,430	7.20	5.75	380	323	476	390	5,130	538	0.648	17.4
	12.5	59.6	75.89	3,900	2,490	7.17	5.73	390	332	490	402	5,290	553	0.646	16.8
250 x 100	5.0	26.0	33.14	2,520	604	8.72	4.27	202	121	256	135	1,630	217	0.679	38.4
	6.0	30.9	39.32	2,940	702	8.65	4.22	236	140	301	158	1,910	253	0.674	32.4
	8.0	40.2	51.24	3,720	875	8.52	4.13	297	175	385	201	2,440	317	0.666	24.9
	9.0	44.7	56.98	4,060	951	8.44	4.09	325	190	425	221	2,680	346	0.661	22.4
	10.0	49.1	62.57	4,390	1,020	8.37	4.04	351	204	462	240	2,910	373	0.657	20.4
	12.0	57.5	73.30	4,960	1,140	8.23	3.95	397	228	531	275	3,320	421	0.648	17.4
225 x 175	4.0	24.2	30.81	2,320	1,590	8.68	7.17	206	181	243	205	2,960	290	0.783	41.3
	5.0	29.9	38.14	2,840	1,940	8.63	7.12	252	221	298	252	3,650	355	0.779	33.4
	6.0	35.6	45.32	3,330	2,270	8.57	7.08	296	259	352	297	4,330	418	0.774	28.1
250 x 150	4.0	24.2	30.81	2,680	1,230	9.32	6.31	214	164	258	182	2,670	275	0.783	41.3
	5.0	29.9	38.14	3,270	1,500	9.26	6.26	262	199	317	224	3,300	337	0.779	33.4
	6.0	35.6	45.32	3,840	1,750	9.20	6.22	307	233	374	264	3,900	395	0.774	28.1
	8.0	46.5	59.24	4,890	2,220	9.08	6.12	391	296	482	340	5,050	504	0.766	21.5
	9.0	51.8	65.98	5,370	2,430	9.02	6.07	430	324	533	375	5,600	554	0.761	19.3
	10.0	57.0	72.57	5,830	2,630	8.96	6.02	466	351	582	409	6,120	602	0.757	17.6
	12.0	67.0	85.30	6,660	3,000	8.84	5.93	533	400	674	473	7,110	690	0.748	14.9
	12.5	69.4	88.39	6,850	3,080	8.81	5.90	548	411	695	488	7,340	710	0.746	14.4
300 x 100	4.0	24.2	30.81	3,290	592	10.3	4.38	219	118	281	129	1,670	215	0.783	41.3
	5.0	29.9	38.14	4,020	717	10.3	4.34	268	143	345	159	2,050	262	0.779	33.4
	6.0	35.6	45.32	4,710	835	10.2	4.29	314	167	407	186	2,410	306	0.774	28.1
	8.0	46.5	59.24	5,980	1,040	10.0	4.20	399	209	523	238	3,080	385	0.766	21.5
	9.0	51.8	65.98	6,560	1,140	9.97	4.15	437	228	578	262	3,390	421	0.761	19.3
250 x 200	6.0	40.3	51.32	4,730	3,370	9.60	8.10	378	337	447	385	6,260	538	0.874	24.8
	8.0	52.8	67.24	6,060	4,300	9.49	8.00	485	430	579	498	8,160	691	0.866	18.9
	9.0	58.9	74.98	6,680	4,740	9.44	7.95	534	474	642	551	9,070	763	0.861	17.0
	10.0	64.8	82.57	7,270	5,150	9.38	7.90	581	515	702	603	9,950	832	0.857	15.4
	12.0	76.4	97.30	8,360	5,920	9.27	7.80	669	592	817	701	11,600	961	0.848	13.1
	12.5	79.2	100.9	8,620	6,100	9.24	7.78	689	610	844	725	12,000	991	0.846	12.6
300 x 150	6.0	40.3	51.32	6,000	2,060	10.8	6.34	400	275	495	307	5,010	478	0.874	24.8
	8.0	52.8	67.24	7,680	2,620	10.7	6.25	512	350	640	396	6,490	612	0.866	18.9
	9.0	58.9	74.98	8,470	2,880	10.6	6.20	564	384	709	439	7,200	674	0.861	17.0
	10.0	64.8	82.57	9,210	3,130	10.6	6.15	614	417	776	479	7,880	733	0.857	15.4
	12.0	76.4	97.30	10,600	3,570	10.4	6.06	706	476	902	556	9,170	842	0.848	13.1
	12.5	79.2	100.9	10,900	3,670	10.4	6.03	727	490	932	574	9,470	868	0.846	12.6
300 x 200	6.0	45.0	57.32	7,300	3,930	11.3	8.28	487	393	583	443	8,140	651	0.974	22.2
	8.0	59.1	75.24	9,390	5,040	11.2	8.19	626	504	757	574	10,600	838	0.966	16.9
	9.0	65.9	83.98	10,400	5,560	11.1	8.14	692	556	840	637	11,800	927	0.961	15.2
	10.0	72.7	92.57	11,300	6,060	11.1	8.09	754	606	921	698	13,000	1,010	0.957	13.8
	12.0	85.8	109.3	13,100	6,980	10.9	7.99	872	698	1,070	814	15,200	1,170	0.948	11.7
	12.5	89.0	113.4	13,500	7,200	10.9	7.97	900	720	1,110	842	15,800	1,210	0.946	11.2
350 x 150	6.0	45.0	57.32	8,810	2,370	12.4	6.43	504	316	631	350	6,140	561	0.974	22.2
	8.0	59.1	75.24	11,300	3,030	12.3	6.34	647	404	818	453	7,970	719	0.966	16.9
	9.0	65.9	83.98	12,500	3,330	12.2	6.30	714	444	908	502	8,840	793	0.961	15.2
	10.0	72.7	92.57	13,600	3,620	12.1	6.25	779	482	995	549	9,680	864	0.957	13.8
	12.0	85.8	109.3	15,700	4,140	12.0	6.16	899	552	1,160	638	11,300	995	0.948	11.7
	12.5	89.0	113.4	16,200	4,270	12.0	6.13	927	569	1,200	660	11,700	1,030	0.946	11.2

Section properties Rectangular : 350 mm x 250 mm to 600 mm x 300 mm

Dimensions		Mass	Area	Second moment of area		Radius of gyration		Elastic section modulus		Plastic section modulus		Torsional inertia constant	Torsional modulus constant	Superficial area per meter length	Nominal length per tonne
Nominal size	Thickness														
A x B mm	t mm	M kg/m	A cm^2	Ix cm^4	Iy cm^4	ix cm	iy cm	Zx cm^3	Zy cm^3	Zpx cm^3	Zpy cm^3	cm^4	cm^3	m^2/m	m
350 x 250	6.0	54.4	69.32	12,400	7,410	13.4	10.3	706	593	837	667	14,600	966	1.17	18.4
	8.0	71.6	91.24	16,000	9,570	13.2	10.2	914	766	1,090	869	19,100	1,250	1.17	14.0
	9.0	80.1	102.0	17,700	10,600	13.2	10.2	1,010	848	1,210	967	21,300	1,390	1.16	12.5
	10.0	88.4	112.6	19,400	11,600	13.1	10.1	1,110	927	1,330	1,060	23,500	1,520	1.16	11.3
	12.0	105	133.3	22,600	13,500	13.0	10.0	1,290	1,080	1,570	1,240	27,700	1,780	1.15	9.56
	12.5	109	138.4	23,300	13,900	13.0	10.0	1,330	1,110	1,620	1,290	28,700	1,840	1.15	9.21
	16.0	136	173.0	28,300	16,800	12.8	9.85	1,620	1,340	1,990	1,580	35,500	2,230	1.13	7.36
400 x 200	6.0	54.4	69.32	14,700	5,060	14.5	8.54	733	506	900	559	12,100	877	1.17	18.4
	8.0	71.6	91.24	19,000	6,520	14.4	8.45	949	652	1,170	728	15,800	1,130	1.17	14.0
	9.0	80.1	102.0	21,000	7,200	14.4	8.40	1,050	720	1,310	809	17,600	1,260	1.16	12.5
	10.0	88.4	112.6	23,000	7,860	14.3	8.36	1,150	786	1,430	888	19,400	1,370	1.16	11.3
	12.0	105	133.3	26,800	9,110	14.2	8.27	1,340	911	1,680	1,040	22,700	1,600	1.15	9.56
	12.5	109	138.4	27,700	9,400	14.1	8.24	1,380	940	1,740	1,080	23,600	1,650	1.15	9.21
400 x 300	9.0	94.2	120.0	27,900	18,000	15.3	12.2	1,400	1,200	1,660	1,360	34,800	1,940	1.36	10.6
	10.0	104	132.6	30,600	19,700	15.2	12.2	1,530	1,320	1,820	1,500	38,400	2,130	1.36	9.61
	12.0	123	157.3	35,800	23,000	15.1	12.1	1,790	1,540	2,150	1,770	45,400	2,500	1.35	8.10
	12.5	128	163.4	37,000	23,800	15.1	12.1	1,850	1,590	2,230	1,830	47,100	2,590	1.35	7.80
	16.0	161	205.0	45,300	29,000	14.9	11.9	2,260	1,940	2,750	2,260	58,600	3,170	1.33	6.21
500 x 300	12.0	142	181.3	61,400	28,000	18.4	12.4	2,460	1,870	2,990	2,110	62,400	3,160	1.55	7.03
	12.5	148	188.4	63,600	29,000	18.4	12.4	2,540	1,930	3,100	2,190	64,800	3,270	1.55	6.76
	16.0	186	237.0	78,200	35,500	18.2	12.2	3,130	2,370	3,860	2,720	80,800	4,030	1.53	5.38
600 x 300	12.0	161	205.3	96,100	33,000	21.6	12.7	3,200	2,200	3,960	2,460	80,100	3,820	1.75	6.21
	12.5	168	213.4	99,600	34,200	21.6	12.7	3,320	2,280	4,110	2,550	83,100	3,960	1.75	5.97
	16.0	211	269.0	123,000	42,000	21.4	12.5	4,100	2,800	5,120	3,170	104,000	4,890	1.73	4.74
	19.0	247	315.2	142,000	48,100	21.2	12.4	4,720	3,210	5,940	3,670	121,000	5,630	1.72	4.04