

Section properties Square : 150 mm x 150 mm 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	Thickness			I _x	I _y	i _x	i _y	Z _x	Z _y	Z _{px}	Z _{py}				
A x B mm	t mm	M kg/m	A cm ²	I _x cm ⁴	I _y cm ⁴	i _x cm	i _y cm	Z _x cm ³	Z _y cm ³	Z _{px} cm ³	Z _{py} cm ³	cm ⁴	cm ³	m ² /m	m
150 x 150	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
	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
	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
175 x 175	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
	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
	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
200 x 200	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
	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
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
	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
	14.0	98.5	125.4	11,300	11,300	9.49	9.49	903	903	1,090	1,090	19,000	1,390	0.940	10.2
	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
	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
	14.0	120	153.4	20,400	20,400	11.5	11.5	1,360	1,360	1,620	1,620	33,700	2,080	1.14	8.30
	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
	22.0	188	239.2	29,400	29,400	11.3	11.3	1,910	1,910	2,260	2,260	50,500	2,910	1.12	5.33
350 x 350	6.0	54.4	69.32	14,700	14,700	13.2	13.2	2,690	2,690	3,270	3,270	80,300	4,150	1.31	4.68
	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
	12.0	124	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
	14.0	142	181.4	33,400	33,400	13.6	13.6	1,910	1,910	2,260	2,260	54,500	2,910	1.34	7.02
	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
400 x 400	6.0	54.4	69.32	47,100	47,100	13.2	13.2	2,690	2,690	3,270	3,270	80,300	4,150	1.31	4.68
	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
	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
	14.0	164	209.4	51,100	51,100	15.6	15.6	2,560	2,560	3,000	3,000	82,500	3,890	1.54	6.08
	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
450 x 450	6.0	54.4	69.32	73,000	73,000	15.2	15.2	3,650	3,650	4,390	4,390	123,000	5,610	1.51	4.03
	9.0	122	156.0	50,100	50,100	17.9	17.9	2,230	2,230	2,560	2,560	78,400	3,360	1.76	8.17
	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
	14.0	186	237.4	74,100	74,100	17.7	17.7	3,290	3,290	3,840	3,840	119,000	5,000	1.74	5.37
	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
500 x 500	6.0	54.4	69.32	107,000	107,000	17.2	17.2	4,760	4,760	5,680	5,680	178,000	7,290	1.71	3.54
	9.0	137	174.0	69,300	69,300	20.0	20.0	2,770	2,770	3,190	3,190	108,000	4,190	1.96	7.32
	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
	14.0	208	265.4	103,000	103,000	19.7	19.7	4,120	4,120	4,790	4,790	164,000	6,250	1.94	4.80
	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
550 x 550	6.0	54.4	69.32	150,000	150,000	19.3	19.3	6,010	6,010	7,130	7,130	247,000	9,190	1.91	3.15
	12.0	199	253.3	121,000	121,000	21.9	21.9	4,400	4,400	5,080	5,080	190,000	6,650	2.15	5.03
	14.0	230	293.4	139,000	139,000	21.7	21.7	5,050	5,050	5,850	5,850	220,000	7,640	2.14	4.34
	16.0	261	333.0	156,000	156,000	21.6	21.6	5,670	5,670	6,610	6,610	249,000	8,600	2.13	3.83
	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 : 175 mm x 125 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			I _x	I _y	i _x	i _y	Z _x	Z _y	Z _{px}	Z _{py}				
A x B mm	t mm	M kg/m	A cm ²	I _x cm ⁴	I _y cm ⁴	i _x cm	i _y cm	Z _x cm ³	Z _y cm ³	Z _{px} cm ³	Z _{py} cm ³	cm ⁴	cm ³	m ² /m	m
175 x 125	6.0	26.2	33.32	1,410	841	6.51	5.02	161	135	196	156	1,730	222	0.574	38.2
	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
	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
200 x 100	6.0	26.2	33.32	1,670	569	7.08	4.13	167	114	210	130	1,420	200	0.574	38.2
	9.0	37.7	47.98	2,280	764	6.89	3.99	228	153	293	180	1,990	272	0.561	26.6
	12.0	48.1	61.30	2,740	908	6.68	3.85	274	182	363	222	2,450	327	0.548	20.8
200 x 150	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
	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
	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
250 x 100	6.0	30.9	39.32	2,940	702	8.65	4.22	236	140	301	158	1,910	253	0.674	32.4
	9.0	44.7	56.98	4,060	951	8.44	4.09	325	190	425	221	2,680	346	0.661	22.4
	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
250 x 150	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
	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
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
	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
	14.0	98.5	125.4	14,											