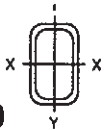


RECTANGULAR HOLLOW SECTIONS

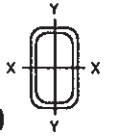
ASTM A-500



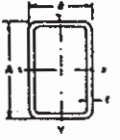
DIMENSIONS								AREA	MOMENT OF INERTIA		SECTION MODULUS		RADIUS OF GYRATION		PLASTIC MODULUS	
SIZE		WALL THICKNESS		CALCULATED WEIGHT					I _x	I _y	Z _x	Z _y	i _x	i _y	S _x	S _y
NOMINAL	ACTUAL	mm	in	kg/m	kg/6m	kg/ft	lb/ft									
19 x 9	3/4 x 3/8	1.0	0.039	0.411	2.465	0.125	0.276	0.0813	0.00567	0.00182	0.0151	0.0097	0.2840	0.1596	0.0131	0.0083
		1.2	0.047	0.421	2.526	0.128	0.283	0.0833	0.00657	0.00208	0.0175	0.0111	0.2808	0.1580	0.0177	0.0110
		1.6	0.063	0.540	3.240	0.165	0.363	0.1070	0.00814	0.00250	0.0217	0.0133	0.2758	0.1530	0.0260	0.0158
25 x 12	1 x 1/2	1.0	0.039	0.555	3.330	0.169	0.373	0.110	0.0138	0.00457	0.0276	0.0183	0.355	0.204	0.0347	0.0211
		1.2	0.047	0.659	3.954	0.201	0.443	0.130	0.0161	0.00526	0.0321	0.0210	0.351	0.201	0.0408	0.0247
		1.6	0.063	0.859	5.154	0.262	0.577	0.170	0.0201	0.00642	0.0401	0.0257	0.344	0.194	0.0519	0.0311
32 x 16	1 1/4 x 5/8	1.0	0.039	0.707	4.240	0.215	0.475	0.140	0.0283	0.0094	0.0453	0.0301	0.4496	0.2591	0.0401	0.0282
		1.2	0.047	0.838	5.028	0.255	0.563	0.166	0.0334	0.0110	0.0534	0.1709	0.4485	0.2574	0.0479	0.0332
		1.6	0.063	1.100	6.600	0.335	0.738	0.217	0.0428	0.0138	0.0685	0.2192	0.4441	0.2522	0.0618	0.0426
38 x 19	1 1/2 x 3/4	1.0	0.039	0.858	5.146	0.261	0.577	0.170	0.4990	0.0168	0.0665	0.0448	0.5418	0.3143	0.0464	0.0352
		1.2	0.047	1.014	6.084	0.309	0.682	0.201	0.0560	0.0197	0.0747	0.0525	0.5278	0.3131	0.0550	0.0417
		1.6	0.063	1.340	8.040	0.408	0.900	0.265	0.0761	0.0249	0.1015	0.0664	0.5201	0.3065	0.0716	0.0542
38 x 25	1 1/2 x 1	1.0	0.039	0.949	5.694	0.289	0.638	0.188	0.0596	0.0318	0.0795	0.0636	0.564	0.412	0.0954	0.0722
		1.2	0.047	1.13	6.780	0.346	0.762	0.224	0.0704	0.0374	0.0938	0.0748	0.560	0.408	0.113	0.0855
		1.6	0.063	1.50	9.000	0.456	1.01	0.296	0.0905	0.0478	0.121	0.0955	0.553	0.402	0.147	0.111
50 x 25	2 x 1	1.0	0.039	1.15	6.900	0.349	0.770	0.227	0.120	0.0408	0.120	0.0816	0.727	0.424	0.147	0.0909
		1.2	0.047	1.37	8.220	0.418	0.922	0.271	0.142	0.0481	0.142	0.0962	0.724	0.421	0.175	0.108
		1.6	0.063	1.81	10.860	0.553	1.22	0.359	0.184	0.0616	0.184	0.123	0.716	0.414	0.229	0.140
		2.3	0.091	2.48	14.880	0.756	1.67	0.505	0.257	0.0837	0.257	0.167	0.713	0.407	0.315	0.191
		2.4	0.095	2.66	15.960	0.811	1.79	0.526	0.259	0.0847	0.259	0.169	0.702	0.401	0.329	0.199
		3.0	0.120	3.29	19.740	1.00	2.21	0.650	0.310	0.0995	0.310	0.199	0.690	0.391	0.399	0.240
65 x 38	2 1/2 x 1 1/2	1.6	0.063	2.45	14.700	0.747	1.65	0.485	0.416	0.189	0.333	0.252	0.920	0.620	0.582	0.411
		2.3	0.091	3.40	20.377	1.035	2.282	0.692	0.550	0.248	0.439	0.331	0.912	0.611	0.598	0.426
		2.4	0.095	3.62	21.720	1.10	2.43	0.718	0.572	0.257	0.457	0.343	0.903	0.606	0.620	0.434
		3.0	0.120	4.38	26.280	1.33	2.94	0.865	0.685	0.307	0.548	0.409	0.890	0.595	0.689	0.482
		3.2	0.125	4.54	27.240	1.38	3.05	0.897	0.706	0.316	0.565	0.421	0.887	0.593	0.712	0.498
75 x 38	3 x 1 1/2	1.6	0.063	2.70	16.221	0.82	1.86	0.527	0.60	0.209	0.400	0.279	1.07	0.630	0.612	0.467
		1.9	0.075	3.22	19.341	0.98	2.17	0.629	0.72	0.246	0.480	0.328	1.06	0.623	0.638	0.487
		2.3	0.091	3.86	23.127	1.18	2.60	0.762	0.86	0.293	0.573	0.391	1.06	0.620	0.683	0.522
		2.4	0.095	4.02	24.110	1.23	2.70	0.795	0.90	0.304	0.601	0.406	1.06	0.619	0.818	0.554
		3.0	0.120	4.99	29.940	1.52	3.35	0.985	1.09	0.364	0.724	0.485	1.05	0.608	0.921	0.565
		3.2	0.125	5.17	31.020	1.58	3.48	1.02	1.12	0.375	0.747	0.500	1.05	0.606	0.952	0.584
75 x 50	3 x 2	1.9	0.075	3.60	21.618	1.10	2.42	0.714	0.88	0.486	0.587	0.486	1.12	0.825	0.85	0.650
		2.3	0.091	4.31	25.878	1.32	2.90	0.863	1.06	0.578	0.707	0.578	1.11	0.818	0.91	0.696
		2.4	0.095	4.51	27.060	1.37	3.03	0.900	1.10	0.589	0.734	0.589	1.11	0.813	0.97	0.739
		3.0	0.120	5.59	33.540	1.70	3.76	1.11	1.34	0.711	0.890	0.711	1.10	0.802	1.09	0.826
		3.2	0.125	5.80	34.800	1.77	3.90	1.15	1.38	0.733	0.920	0.733	1.10	0.800	1.13	0.855
		4.0	0.156	7.08	42.480	2.16	4.76	1.40	1.63	0.864	1.09	0.864	1.08	0.785	1.36	1.02
		4.5	0.177	7.88	47.271	2.40	5.30	1.58	1.82	0.958	1.21	0.958	1.07	0.778	1.50	1.12
100 x 50	4 x 2	1.9	0.075	4.36	26.163	1.33	2.93	0.85	1.77	0.612	0.885	0.612	1.44	0.848	1.26	0.78
		2.3	0.091	5.23	31.387	1.60	3.52	1.03	2.14	0.732	1.070	0.732	1.44	0.843	1.47	0.90
		2.4	0.095	5.48	32.880	1.67	3.67	1.08	2.23	0.761	1.12	0.761	1.44	0.840	1.53	0.93
		3.0	0.120	6.81	40.860	2.07	4.57	1.35	2.73	0.923	1.36	0.923	1.42	0.828	1.71	1.05
		3.2	0.125	7.07	42.420	2.15	4.75	1.40	2.82	0.954	1.41	0.954	1.42	0.826	1.77	1.09
		4.0	0.156	8.66	51.960	2.64	5.82	1.71	3.37	1.13	1.68	1.13	1.40	0.812	2.14	1.31
		4.5	0.177	9.70	58.191	2.95	6.52	1.92	3.64	1.23	1.84	1.23	1.39	0.803	2.36	1.44
		4.6	0.180	9.85	59.100	3.00	6.62	1.95	3.75	1.25	1.88	1.25	1.39	0.802	2.40	1.47
		5.0	0.197	10.76	64.555	3.26	7.21	2.13	4.06	1.34	2.03	1.34	1.38	0.793	2.63	1.61
		6.0	0.236	12.78	76.678	3.87	8.56	2.52	4.75	1.54	2.38	1.54	1.37	0.781	3.15	1.93

RECTANGULAR HOLLOW SECTIONS

ASTM A-500



DIMENSIONS								AREA a	MOMENT INERTIA		SECTION MODULUS		RADIUS OF GYRATION		PLASTIC MODULUS	
SIZE		WALL THICKNESS		CALCULATED WEIGHT					Ix	Iy	Zx	Zy	ix	iy	Sx	Sy
NOMINAL	ACTUAL															
mm	in	mm	in	kg/m	kg/6m	kg/ft	lb/ft	in ²	in ⁴	in ⁴	in ³	in ³	in	in	in ³	in ³
100 x 75	4 x 3	3.0	0.120	8.02	48.120	2.44	5.39	1.59	3.63	2.33	1.81	1.55	1.51	1.21	2.17	1.78
		3.2	0.125	8.33	49.980	2.54	5.60	1.65	3.76	2.41	1.88	1.61	1.51	1.21	2.25	1.85
		4.0	0.156	10.2	61.200	3.12	6.88	2.02	4.52	2.90	2.26	1.93	1.49	1.20	2.74	2.25
		4.5	0.177	11.5	69.105	3.51	7.74	2.27	4.99	3.19	2.50	2.13	1.48	1.19	3.03	2.50
		4.6	0.180	11.7	70.200	3.56	7.84	2.31	5.07	3.24	2.53	2.16	1.48	1.19	3.09	2.54
		5.0	0.197	12.8	76.582	3.88	8.55	2.52	5.50	3.50	2.75	2.33	1.477	1.18	3.38	2.78
		6.0	0.236	15.1	90.865	4.60	10.14	2.99	6.43	4.07	3.21	2.71	1.466	1.16	4.04	3.33
125 x 50	5 x 2	3.0	0.120	8.02	48.120	2.44	5.39	1.59	4.79	1.14	1.92	1.14	1.74	0.846	2.44	1.28
		3.2	0.125	8.33	49.980	2.54	5.60	1.65	4.96	1.17	1.98	1.17	1.73	0.844	2.53	1.32
		4.0	0.156	10.2	61.200	3.12	6.88	2.02	5.96	1.40	2.38	1.40	1.72	0.830	3.07	1.60
		4.5	0.177	11.5	69.105	3.51	7.74	2.27	6.57	1.52	2.63	1.52	1.70	0.820	3.41	1.77
		4.6	0.180	11.7	70.200	3.56	7.84	2.31	6.67	1.55	2.67	1.55	1.70	0.820	3.47	1.80
		5.0	0.197	12.8	76.582	3.88	8.55	2.52	7.24	1.67	2.90	1.67	1.69	0.814	3.79	1.97
		6.0	0.236	15.1	90.865	4.60	10.14	2.99	8.50	1.91	3.40	1.91	1.68	0.799	4.54	2.36
125 x 75	5 x 3	3.0	0.120	9.23	55.380	2.81	6.21	1.83	6.22	2.83	2.49	1.89	1.85	1.25	3.02	2.13
		3.2	0.125	9.60	57.600	2.93	6.45	1.90	6.44	2.93	2.58	1.95	1.84	1.24	3.14	2.21
		4.0	0.156	11.8	70.800	3.60	7.94	2.34	7.79	3.53	3.12	2.35	1.83	1.23	3.83	2.69
		4.5	0.177	13.3	79.874	4.06	8.95	2.63	8.63	3.90	3.45	2.60	1.81	1.22	4.26	2.99
		4.6	0.180	13.5	81.000	4.11	9.07	2.67	8.77	3.96	3.51	2.64	1.81	1.22	4.33	3.04
		5.0	0.197	14.7	88.245	4.48	9.89	2.92	9.53	4.28	3.81	2.85	1.80	1.21	4.73	3.33
		6.0	0.236	17.2	103.116	5.22	11.5	3.47	11.2	4.98	4.48	3.32	1.79	1.19	5.37	3.98
150 x 50	6 x 2	3.0	0.120	9.23	55.380	2.81	6.21	1.83	7.64	1.35	2.55	1.35	2.05	0.859	3.29	1.50
		3.2	0.125	9.60	57.600	2.93	6.45	1.90	7.92	1.39	2.64	1.39	2.04	0.857	3.42	1.56
		4.0	0.156	11.8	70.800	3.60	7.94	2.34	9.56	1.66	3.19	1.66	2.02	0.843	4.16	1.89
		4.5	0.177	13.3	79.874	4.06	8.95	2.63	10.5	1.82	3.50	1.82	2.01	0.838	4.63	2.09
		4.6	0.180	13.5	81.000	4.11	9.07	2.67	10.7	1.85	3.58	1.85	2.01	0.833	4.71	2.13
		5.0	0.197	14.7	88.245	4.48	9.89	2.92	11.6	1.99	3.88	1.99	1.99	0.826	5.15	2.33
		6.0	0.236	17.3	103.71	5.23	11.6	3.47	13.1	2.21	4.36	2.21	1.96	0.818	5.83	2.60
6.4	0.250	18.2	109.20	5.53	12.2	3.59	13.8	2.31	4.60	2.31	1.96	0.802	6.18	2.75		
150 x 75	6 x 3	3.2	0.125	10.9	65.357	3.32	7.32	2.13	10.1	3.44	3.35	2.30	2.17	1.27	3.99	2.47
		4.0	0.156	13.4	80.544	4.09	9.02	2.65	12.2	4.15	4.07	2.76	2.15	1.25	4.98	3.08
		4.5	0.177	15.1	90.634	4.60	10.2	2.98	13.6	4.60	4.53	3.07	2.13	1.24	5.66	3.49
		4.6	0.180	15.3	91.800	4.67	10.3	3.03	13.8	4.67	4.60	3.12	2.13	1.24	5.76	3.55
		5.0	0.197	16.7	100.28	5.10	11.3	3.31	15.0	5.05	5.00	3.37	2.13	1.24	6.30	3.89
		6.0	0.236	19.7	118.07	6.00	13.2	3.87	17.0	5.72	5.67	3.81	2.10	1.22	7.19	4.40
		6.4	0.250	20.7	124.20	6.31	13.9	4.09	17.9	6.00	5.98	4.00	2.09	1.21	7.62	4.67
150 x 100	6 x 4	4.0	0.156	15.0	90.00	4.57	10.1	2.96	14.9	7.96	4.96	3.98	2.24	1.64	5.91	4.45
		4.5	0.177	16.9	101.40	5.15	11.4	3.33	16.5	8.87	5.50	4.44	2.23	1.63	6.70	5.06
		4.6	0.180	17.1	102.60	5.22	11.5	3.39	16.8	9.01	5.62	4.51	2.23	1.63	6.81	5.15
		5.0	0.197	18.7	112.26	5.71	12.6	3.70	18.3	9.77	6.10	4.89	2.22	1.62	7.45	5.64
		6.0	0.236	22.1	132.42	6.73	14.8	4.34	21.0	11.1	7.00	5.55	2.20	1.60	8.55	6.45
		6.4	0.250	23.2	139.20	7.08	15.6	4.59	22.1	11.7	7.36	5.87	2.19	1.60	9.06	6.84
		6.4	0.250	23.2	139.20	7.08	15.6	4.59	22.1	11.7	7.36	5.87	2.19	1.60	9.06	6.84
200 x 100	8 x 4	4.5	0.177	20.5	122.94	6.25	13.8	3.98	32.0	10.9	8.12	5.55	2.89	1.69	10.4	6.42
		4.6	0.180	20.8	124.80	6.33	14.0	4.11	34.1	11.6	8.52	5.82	2.88	1.68	10.6	6.53
		4.8	0.1875	21.6	129.60	6.58	14.5	4.27	35.3	12.0	8.83	6.02	2.88	1.68	11.0	6.57
		5.0	0.197	22.7	135.97	6.90	15.2	4.48	37.0	12.6	9.25	6.28	2.87	1.67	11.6	6.90
		6.0	0.236	26.9	161.13	8.19	18.0	5.21	40.8	13.9	10.4	7.02	2.82	1.66	13.3	8.23
		6.4	0.250	28.3	169.80	8.62	19.0	5.59	45.1	15.3	11.3	7.63	2.84	1.65	14.1	8.72
		6.4	0.250	28.3	169.80	8.62	19.0	5.59	45.1	15.3	11.3	7.63	2.84	1.65	14.1	8.72



RECTANGULAR HOLLOW SECTIONS

Dimensions		Area	Weight	Moment of Inertia		Radius of Gyration		Sectional Modulus	
A x B mm	t mm	Ar cm ²	W kg/m	Ix cm ⁴	Iy cm ⁴	Rx cm	Ry cm	Zx cm ³	Zy cm ³
200 x 100	4.5	25.67	20.1	1330	455	7.20	4.21	133	90.9
	6.0	33.63	26.4	1700	577	7.12	4.14	170	115
200 x 150*	6.0	39.63	31.1	2270	1460	7.56	6.06	227	194
250 x 150*	6.0	45.63	35.8	3890	1770	9.23	6.23	311	236
	9.0	66.67	53.2	5480	2470	9.06	6.09	438	330
	12.0	86.53	67.9	6850	3070	8.90	5.95	548	409
350 x 150*	6.0	57.63	45.2	8910	2390	12.4	6.44	509	319
	9.0	84.67	66.5	12700	3370	12.3	6.31	726	449
	12.0	110.5	86.8	16100	4210	12.1	6.17	921	562
300 x 200*	6.0	57.63	45.2	7370	3960	11.3	8.29	491	396
	9.0	84.67	66.5	10500	5630	11.2	8.16	702	563
	12.0	110.5	86.8	13400	7110	11.0	8.02	890	711
400 x 200*	6.0	69.63	54.7	14800	5090	14.6	8.55	739	509
	9.0	102.7	80.6	21300	7270	14.4	8.42	1070	727
	12.0	134.5	106	27300	9230	14.2	8.28	1360	923