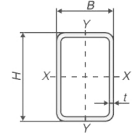


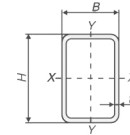
# Cold Formed Rectangular Hollow Sections



BS EN 10219

Designation		Weight			Area Of Section	Ratio for Local Buckling		Second Moment Of Area		Radius of Gyration		Elastic Modulus		Plastic Modulus		Torsional Constant		Superficial Area per metre length	Nominal Length per tonne
Size	Thickness	M				B/t	H/t	Axis	Axis	Axis	Axis	Axis	Axis	Axis	Axis	J	C		
H x B	t				A			x-x	y-y	x-x	y-y	x-x	y-y	x-x	y-y	cm <sup>4</sup>	cm <sup>3</sup>	As	L
mm	mm	Kg/m	Kg/ft	lb/ft	cm <sup>2</sup>		cm <sup>4</sup>	cm <sup>4</sup>	cm	cm	cm <sup>3</sup>	cm <sup>3</sup>	cm <sup>3</sup>	cm <sup>3</sup>	cm <sup>4</sup>	cm <sup>3</sup>	m <sup>2</sup> /m	m	
38 x 19	1.60	1.30	0.396	0.873	1.66	6.9	18.8	2.91	0.973	1.33	0.766	1.53	1.02	1.95	1.20	2.46	1.79	0.109	769.4
38 x 25	1.60	1.45	0.442	0.975	1.85	10.6	18.8	3.55	1.85	1.39	1.00	1.87	1.48	2.30	1.72	3.99	2.45	0.121	689.5
40 x 20	2.00	1.68	0.511	1.13	2.14	15.0	5.0	1.3	4.0	0.79	1.38	1.34	2.02	1.60	2.61	3.45	2.36	0.113	596.1
	2.50	2.03	0.619	1.37	2.59	11.0	3.0	1.5	4.7	0.77	1.35	1.54	2.35	1.88	3.09	4.06	2.72	0.111	492.0
	3.00	2.36	0.720	1.59	3.01	8.3	1.7	1.7	5.2	0.75	1.32	1.68	2.60	2.12	3.50	4.57	3.00	0.110	423.5
50 x 25	1.60	1.75	0.534	1.18	2.23	10.6	26.3	7.02	2.37	1.77	1.03	2.81	1.90	3.53	2.17	5.85	3.29	0.145	570.8
	2.00	2.15	0.655	1.44	2.74	7.5	20.0	8.38	2.81	1.75	1.01	3.35	2.25	4.26	2.62	7.06	3.92	0.143	465.4
	2.30	2.44	0.742	1.64	3.10	5.9	16.7	9.31	3.10	1.73	1.00	3.72	2.48	4.78	2.92	7.90	4.34	0.142	410.6
	2.50	2.62	0.799	1.76	3.34	5.0	15.0	9.89	3.28	1.72	0.99	3.95	2.62	5.11	3.12	8.43	4.60	0.141	381.5
	3.00	3.07	0.935	2.06	3.91	3.3	11.7	11.2	3.67	1.69	0.97	4.47	2.93	5.86	3.56	9.64	5.18	0.140	325.9
50 x 30	2.00	2.31	0.703	1.55	2.94	20.0	10.0	4.29	9.54	1.21	1.80	2.86	3.81	3.33	4.74	9.77	4.84	0.153	433.7
	2.50	2.82	0.859	1.89	3.59	15.0	7.0	5.05	11.3	1.19	1.77	3.37	4.52	3.98	5.70	11.7	5.72	0.151	354.9
	3.00	3.30	1.007	2.22	4.21	11.7	5.0	5.70	12.8	1.16	1.75	3.80	5.13	4.58	6.57	13.5	6.49	0.150	302.7
	4.00	4.20	1.280	2.82	5.35	7.5	2.5	6.69	15.3	1.12	1.69	4.46	6.10	5.58	8.05	16.5	7.71	0.146	238.2
60 x 40	2.00	2.93	0.894	1.97	3.74	25.0	15.0	9.8	18.4	1.62	2.22	4.92	6.14	5.65	7.47	20.7	8.12	0.193	340.9
	2.50	3.60	1.098	2.42	4.59	19.0	11.0	11.7	22.1	1.60	2.19	5.87	7.36	6.84	9.06	25.1	9.72	0.191	277.6
	3.00	4.25	1.294	2.85	5.41	15.0	8.3	13.4	25.4	1.58	2.17	6.72	8.46	7.94	10.5	29.3	11.2	0.190	235.5
	4.00	5.45	1.662	3.67	6.95	10.0	5.0	16.3	31.0	1.53	2.11	8.14	10.3	9.89	13.2	36.7	13.7	0.186	183.3
	5.00	6.56	1.999	4.41	8.36	7.0	3.0	18.4	35.3	1.48	2.06	9.21	11.8	11.5	15.4	42.8	15.6	0.183	152.4
65 x 35	1.60	2.38	0.725	1.60	3.03	16.9	35.6	16.9	6.47	2.36	1.46	5.19	3.70	6.39	4.17	15.1	6.32	0.195	420.2
	1.90	2.80	0.852	1.88	3.56	13.4	29.2	19.5	7.46	2.34	1.45	6.01	4.26	7.46	4.85	17.6	7.30	0.193	357.6
	2.00	2.93	0.89	1.97	3.74	12.5	27.5	20.4	7.8	2.34	1.44	6.28	4.44	7.80	5.07	18.4	7.62	0.193	340.9
	2.30	3.34	1.02	2.24	4.25	10.2	23.3	22.9	8.7	2.32	1.43	7.04	4.96	8.81	5.72	20.8	8.53	0.192	299.6
	2.50	3.60	1.10	2.42	4.59	9.0	21.0	24.4	9.3	2.31	1.42	7.52	5.29	9.45	6.13	22.3	9.10	0.191	277.6
	3.00	4.25	1.29	2.85	5.41	6.7	16.7	28.1	10.6	2.28	1.40	8.65	6.04	11.0	7.11	25.9	10.4	0.190	235.5
	4.00	5.45	1.66	3.67	6.95	3.8	11.3	34.3	12.7	2.22	1.35	10.55	7.27	13.7	8.83	32.2	12.7	0.186	183.3
65 x 38	1.60	2.46	0.748	1.65	3.13	18.8	35.6	17.8	7.79	2.39	1.58	5.49	4.10	6.70	4.63	17.4	6.91	0.201	407.3
	1.90	2.89	0.880	1.94	3.68	15.0	29.2	20.7	9.00	2.37	1.56	6.36	4.74	7.82	5.40	20.3	8.00	0.199	346.5
	2.00	3.03	0.923	2.03	3.86	14.0	27.5	21.6	9.39	2.37	1.56	6.64	4.94	8.18	5.64	21.2	8.35	0.199	330.3
	2.30	3.45	1.05	2.32	4.39	11.5	23.3	24.2	10.5	2.35	1.55	7.46	5.53	9.24	6.37	24.0	9.36	0.198	290.2
	2.50	3.72	1.13	2.50	4.74	10.2	21.0	25.9	11.2	2.34	1.54	7.97	5.90	9.92	6.83	25.8	10.0	0.197	268.8
	3.00	4.39	1.34	2.95	5.59	7.7	16.7	29.8	12.8	2.31	1.51	9.18	6.75	11.5	7.93	30.0	11.5	0.196	228.0
	4.00	5.64	1.72	3.79	7.19	4.5	11.3	36.5	15.5	2.25	1.47	11.24	8.17	14.5	9.89	37.5	14.0	0.192	177.2
70 x 50	* 2.00	3.56	1.09	2.39	4.54	30.0	20.0	18.8	31.5	2.03	2.63	7.50	8.99	8.58	10.8	37.5	12.2	0.233	280.8
	* 2.50	4.39	1.34	2.95	5.59	23.0	15.0	22.6	38.0	2.01	2.61	9.04	10.9	10.4	13.2	45.8	14.7	0.231	227.9
	* 3.00	5.19	1.58	3.49	6.61	18.3	11.7	26.1	44.1	1.99	2.58	10.4	12.6	12.2	15.4	53.6	17.1	0.230	192.8
	* 4.00	6.71	2.05	4.51	8.55	12.5	7.5	32.2	54.7	1.94	2.53	12.9	15.6	15.4	19.5	68.1	21.2	0.226	149.0
	* 5.00	8.13	2.48	5.46	10.36	9.0	5.0	37.2	63.5	1.90	2.48	14.9	18.1	18.2	23.1	80.8	24.6	0.223	123.0
75 x 25	1.60	2.38	0.725	1.60	3.03	10.6	41.9	19.7	3.5	2.55	1.07	5.26	2.78	6.81	3.11	9.93	5.05	0.195	420.2
	1.90	2.80	0.852	1.88	3.56	8.2	34.5	22.8	4.0	2.53	1.06	6.09	3.18	7.94	3.61	11.5	5.80	0.193	357.6
	2.00	2.93	0.894	1.97	3.74	7.5	32.5	23.8	4.1	2.53	1.05	6.36	3.31	8.31	3.77	12.0	6.04	0.193	340.9
	2.30	3.34	1.02	2.24	4.25	5.9	27.6	26.7	4.6	2.51	1.04	7.12	3.67	9.37	4.23	13.5	6.72	0.192	299.6
	2.50	3.60	1.10	2.42	4.59	5.0	25.0	28.5	4.9	2.49	1.03	7.60	3.89	10.06	4.53	14.4	7.14	0.191	277.6
	3.00	4.25	1.29	2.85	5.41	3.3	20.0	32.7	5.5	2.46	1.01	8.72	4.39	11.7	5.21	16.5	8.10	0.190	235.5
	4.00	5.45	1.66	3.67	6.95	1.3	13.8	39.7	6.5	2.39	0.96	10.59	5.17	14.6	6.39	20.0	9.61	0.186	183.3
	4.50	6.02	1.83	4.05	7.67	0.6	11.7	42.6	6.8	2.36	0.94	11.3	5.45	15.8	6.89	21.4	10.2	0.185	166.1
75 x 38	1.60	2.71	0.825	1.82	3.45	18.8	41.9	25.3	8.8	2.71	1.60	6.76	4.66	8.34	5.21	21.2	8.03	0.221	369.5
	1.90	3.18	0.971	2.14	4.06	15.0	34.5	29.4	10.2	2.69	1.59	7.85	5.39	9.75	6.08	24.7	9.30	0.219	314.0
	2.00	3.34	1.019	2.25	4.26	14.0	32.5	30.8	10.7	2.69	1.58	8.20	5.62	10.21	6.36	25.9	9.71	0.219	299.2
	2.30	3.81	1.16	2.56	4.85	11.5	27.6	34.6	12.0	2.67	1.57	9.23	6.30	11.5	7.19	29.2	10.9	0.218	262.6
	2.50	4.11	1.25	2.76	5.24	10.2	25.0	37.1	12.8	2.66	1.56	9.88	6.73	12.4	7.72	31.4	11.7	0.217	243.2
	3.00	4.86	1.48	3.26	6.19	7.7	20.0	42.8	14.7	2.63	1.54	11.4	7.72	14.5	8.98	36.6	13.4	0.216	205.9
	4.00	6.27	1.91	4.21	7.99	4.5	13.8	52.8	17.9	2.57	1.50	14.1	9.40	18.3	11.2	45.9	16.5	0.212	159.5
	4.50	6.94	2.11	4.66	8.84	3.4	11.7	57.1	19.2	2.54	1.47	15.2	10.1	19.9	12.3	50.0	17.8	0.211	144.1
75 x 50	1.90	3.54	1.08	2.38	4.51	21.3	34.5	35.5	19.1	2.81	2.05	9.48	7.62	11.4	8.7	39.5	12.5	0.243	282.3
	2.00	3.72	1.13	2.50	4.74	20.0	32.5	37.2	19.9	2.80	2.05	9.91	7.96	12.0	9.1	41.4	13.1	0.243	268.9
	2.30	4.24	1.29	2.85	5.40	16.7	27.6												

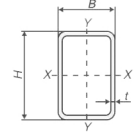
# Cold Formed Rectangular Hollow Sections



BS EN 10219

Designation		Weight			Area Of Section	Ratio for Local Buckling		Second Moment Of Area		Radius of Gyration		Elastic Modulus		Plastic Modulus		Torsional Constant		Superficial Area per metre length	Nominal Length per tonne
Size	Thickness	M				B/t	H/t	x-x	y-y	x-x	y-y	x-x	y-y	x-x	y-y	J	C		
H x B	t	Kg/m	Kg/ft	lb/ft	A			cm <sup>4</sup>	cm <sup>4</sup>	cm	cm	cm <sup>3</sup>	cm <sup>3</sup>	cm <sup>3</sup>	cm <sup>3</sup>	cm <sup>4</sup>	cm <sup>3</sup>	A <sub>s</sub>	L
mm	mm				cm <sup>2</sup>													m <sup>2</sup> /m	m
100 x 40	* 2.50	5.17	1.58	3.48	6.59	35.0	11.0	18.8	79.3	1.69	3.47	9.39	15.9	10.6	20.2	50.5	16.8	0.271	1.93.3
	* 3.00	6.13	1.87	4.12	7.81	28.3	8.3	21.7	92.3	1.67	3.44	10.84	18.5	12.4	23.7	59.0	19.4	0.270	163.1
	* 4.00	7.97	2.43	5.35	10.15	20.0	5.0	26.7	115.7	1.62	3.38	13.35	23.1	15.7	30.3	74.5	24.0	0.266	125.5
	* 5.00	9.70	2.96	6.52	12.36	15.0	3.0	30.8	135.6	1.58	3.31	15.38	27.1	18.5	36.1	87.9	27.9	0.263	103.1
100 x 50	1.90	4.29	1.31	2.88	5.45	21.3	47.6	71.6	24.5	3.62	2.12	14.3	9.8	17.6	10.9	58.7	16.9	0.293	233.2
	2.00	4.50	1.37	3.03	5.74	20.0	45.0	75.0	25.7	3.62	2.12	15.0	10.3	18.5	11.5	61.6	17.7	0.293	222.0
	2.30	5.14	1.57	3.46	6.55	16.7	38.5	84.8	29.0	3.60	2.10	17.0	11.6	21.0	13.0	69.9	20.0	0.292	194.4
	2.50	5.56	1.70	3.74	7.09	15.0	35.0	91.2	31.1	3.59	2.09	18.2	12.4	22.7	14.0	75.4	21.5	0.291	179.7
	3.00	6.60	2.01	4.44	8.41	11.7	28.3	106.5	36.1	3.56	2.07	21.3	14.4	26.7	16.4	88.6	25.0	0.290	151.5
	4.00	8.59	2.62	5.77	10.95	7.5	20.0	134.1	44.9	3.50	2.03	26.8	18.0	34.1	20.9	113.0	31.3	0.286	116.4
	4.50	9.55	2.91	6.42	12.17	6.1	17.2	146.6	48.9	3.47	2.00	29.3	19.5	37.6	23.0	124.3	34.2	0.285	104.7
	5.00	10.48	3.20	7.05	13.36	5.0	15.0	158.2	52.5	3.44	1.98	31.6	21.0	40.8	25.0	134.9	36.8	0.283	95.4
	6.00	12.27	3.74	8.25	15.63	3.3	11.7	178.8	58.7	3.38	1.94	35.8	23.5	46.9	28.5	154.2	41.4	0.279	81.5
	6.30	12.52	3.82	8.41	15.95	2.9	10.9	175.7	58.2	3.32	1.91	35.1	23.3	46.9	28.6	158.1	42.1	0.273	79.9
100 x 60	* 2.50	5.96	1.82	4.00	7.59	35.0	19.0	46.9	103.1	2.49	3.69	15.6	20.6	17.7	25.1	103.3	26.2	0.311	167.9
	* 3.00	7.07	2.16	4.75	9.01	28.3	15.0	54.6	120.6	2.46	3.66	18.2	24.1	20.8	29.6	121.7	30.6	0.310	141.4
	* 4.00	9.22	2.81	6.20	11.75	20.0	10.0	68.7	152.6	2.42	3.60	22.9	30.5	26.6	37.9	156.3	38.7	0.306	108.4
	* 5.00	11.27	3.43	7.57	14.36	15.0	7.0	80.8	180.8	2.37	3.55	26.9	36.2	31.9	45.6	187.9	45.8	0.303	88.7
	* 6.00	13.21	4.03	8.88	16.83	11.7	5.0	91.2	205.3	2.33	3.49	30.4	41.1	36.6	52.5	216.4	51.9	0.299	75.7
	* 6.30	13.51	4.12	9.08	17.21	10.9	4.5	90.9	203.4	2.30	3.44	30.3	40.7	36.9	52.8	223.4	53.0	0.293	74.0
100 x 75	3.00	7.78	2.37	5.23	9.91	20.0	28.3	141.8	91.1	3.78	3.03	28.4	24.3	33.9	27.9	176.6	39.1	0.340	128.6
	3.20	8.26	2.52	5.55	10.53	18.4	26.3	149.8	96.2	3.77	3.02	30.0	25.6	35.9	29.5	187.3	41.3	0.339	121.0
	4.00	10.16	3.10	6.83	12.95	13.8	20.0	180.2	115.4	3.73	2.99	36.0	30.8	43.7	35.9	228.2	49.7	0.336	98.4
	4.50	11.32	3.45	7.61	14.42	11.7	17.2	197.9	126.5	3.71	2.96	39.6	33.7	48.3	39.6	252.7	54.6	0.335	88.4
	5.00	12.45	3.79	8.36	15.86	10.0	15.0	214.6	137.0	3.68	2.94	42.9	36.5	52.7	43.2	276.2	59.2	0.333	80.3
	6.00	14.63	4.46	9.83	18.63	7.5	11.7	245.1	156.0	3.63	2.89	49.0	41.6	61.0	49.9	320.4	67.7	0.329	68.4
	6.30	14.99	4.57	10.07	19.10	6.9	10.9	244.9	156.3	3.58	2.86	49.0	41.7	61.6	50.5	332.5	69.5	0.323	66.7
100 x 80	* 2.50	6.74	2.06	4.53	8.59	35.0	27.0	90.2	126.9	3.24	3.84	22.5	25.4	25.8	30.0	165.8	35.7	0.351	148.3
	* 3.00	8.01	2.44	5.38	10.21	28.3	21.7	105.6	148.8	3.22	3.82	26.4	29.8	30.4	35.4	196.1	41.9	0.350	124.8
	* 4.00	10.48	3.19	7.04	13.35	20.0	15.0	134.2	189.5	3.17	3.77	33.5	37.9	39.2	45.6	253.8	53.4	0.346	95.4
	* 5.00	12.84	3.91	8.63	16.36	15.0	11.0	159.6	225.9	3.12	3.72	39.9	45.2	47.2	55.1	307.5	63.7	0.343	77.9
	* 6.00	15.10	4.60	10.15	19.23	11.7	8.3	182.1	258.4	3.08	3.67	45.5	51.7	54.7	63.8	357.4	73.0	0.339	66.2
	* 6.30	15.49	4.72	10.41	19.73	10.9	7.7	182.8	268.8	3.04	3.62	45.7	51.8	55.4	64.6	371.4	75.0	0.333	64.6
120 x 60	2.50	6.74	2.06	4.53	8.59	19.0	43.0	161.2	55.2	4.33	2.53	26.9	18.4	33.2	20.6	132.6	31.7	0.351	148.3
	3.00	8.01	2.44	5.38	10.21	15.0	35.0	189.1	64.4	4.30	2.51	31.5	21.5	39.2	24.2	156.3	37.1	0.350	124.8
	4.00	10.48	3.19	7.04	13.35	10.0	25.0	240.7	81.2	4.25	2.47	40.1	27.1	50.5	31.1	201.1	47.0	0.346	95.4
	4.50	11.67	3.56	7.84	14.87	8.3	21.7	264.5	88.9	4.22	2.44	44.1	29.6	55.8	34.3	222.1	51.6	0.345	85.7
	5.00	12.84	3.91	8.63	16.36	7.0	19.0	287.0	96.0	4.19	2.42	47.8	32.0	60.9	37.4	242.2	55.8	0.343	77.9
	6.00	15.10	4.60	10.15	19.23	5.0	15.0	328.0	108.8	4.13	2.38	54.7	36.3	70.6	43.1	279.7	63.6	0.339	66.2
	6.30	15.49	4.72	10.41	19.73	4.5	14.0	327.0	109.2	4.07	2.35	54.5	36.4	71.2	43.7	289.3	65.1	0.333	64.6
120 x 80	2.50	7.53	2.29	5.06	9.59	27.0	43.0	195.8	105.2	4.52	3.31	32.6	26.3	39.1	29.6	215.8	43.2	0.391	132.8
	3.00	8.96	2.73	6.02	11.41	21.7	35.0	230.2	123.4	4.49	3.29	38.4	30.9	46.2	35.0	255.5	50.8	0.390	111.7
	4.00	11.73	3.58	7.88	14.95	15.0	25.0	294.6	157.3	4.44	3.24	49.1	39.3	59.8	45.2	331.2	64.9	0.386	85.2
	4.50	13.08	3.99	8.79	16.67	12.8	21.7	324.6	172.9	4.41	3.22	54.1	43.2	66.2	50.1	367.3	71.5	0.385	76.4
	5.00	14.41	4.39	9.68	18.36	11.0	19.0	353.1	187.8	4.39	3.20	58.9	46.9	72.4	54.7	402.3	77.8	0.383	69.4
	6.00	16.98	5.18	11.41	21.63	8.3	15.0	406.1	215.0	4.33	3.15	67.7	53.8	84.3	63.5	468.5	89.4	0.379	58.9
6.30	17.47	5.32	11.74	22.25	7.7	14.0	408.5	217.1	4.28	3.12	68.1	54.3	85.6	64.7	487.8	92.1	0.373	57.3	
125 x 50	2.50	6.55	2.00	4.40	8.34	15.0	45.0	159.6	38.1	4.37	2.14	25.5	15.2	32.3	17.0	101.3	27.1	0.341	152.8
	3.00	7.78	2.37	5.23	9.91	11.7	36.7	187.0	44.4	4.34	2.12	29.9	17.7	38.1	20.0	119.0	31.6	0.340	128.6
	4.00	10.16	3.10	6.83	12.95	7.5	26.3	237.5	55.6	4.28	2.07	38.0	22.2	49.0	25.5	152.1	39.8	0.336	98.4
	4.50	11.32	3.45	7.61	14.42	6.1	22.8	260.7	60.6	4.25	2.05	41.7	24.2	54.2	28.1	167.4	43.5	0.335	88.4
	5.00	12.45	3.79	8.36	15.86	5.0	20.0	282.5	65.2	4.22	2.03	45.2	26.1	59.1	30.6	182.0	47.0	0.333	80.3
	6.00	14.63	4.46	9.83	18.63	3.3	15.8	322.0	73.3	4.16	1.98	51.5	29.3	68.3	35.1	208.5	53.1	0.329	68.4
6.30	14.99	4.57	10.07	19.10	2.9	14.8	319.4	73.3	4.09	1.96	51.1	29.3	68.8	35.5	214.6	54.2	0.323	66.7	
125 x 75	3.00	8.96	2.73	6.02	11.41	20.0	36.7	242.8	110.5	4.61	3.11	38.9	29.5	47.3	33.3	242.9	49.5	0.390	111.7
	4.00	11.73	3.58	7.88	14.95	13.8	26.3	310.8	140.7	4.56	3.07	49.7	37.5	61.1	43.0	314.5	63.1	0.386	85.2
	4.50	13.08	3																

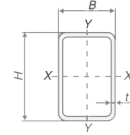
# Cold Formed Rectangular Hollow Sections



BS EN 10219

Designation		Weight			Area Of Section	Ratio for Local Buckling		Second Moment Of Area		Radius of Gyration		Elastic Modulus		Plastic Modulus		Torsional Constant		Superficial Area per metre length	Nominal Length per tonne
Size	Thickness	M				B/t	H/t	Axis	Axis	Axis	Axis	Axis	Axis	Axis	Axis	J	C		
H x B	t	Kg/m	Kg/ft	lb/ft															
mm	mm	mm	mm	mm	mm <sup>2</sup>	cm <sup>4</sup>	cm <sup>4</sup>	cm	cm	cm <sup>3</sup>	cm <sup>3</sup>	cm <sup>3</sup>	cm <sup>3</sup>	cm <sup>4</sup>	cm <sup>3</sup>	m <sup>2</sup> /m	m		
150 x 75	3.00	10.13	3.09	6.81	12.91	20.0	45.0	379.6	130.0	5.42	3.17	50.6	34.7	62.5	38.7	311.8	59.8	0.440	98.7
	4.00	13.30	4.06	8.94	16.95	13.8	32.5	488.0	165.9	5.37	3.13	65.1	44.2	81.1	50.1	404.3	76.6	0.436	75.2
	4.50	14.85	4.53	9.98	18.92	11.7	28.3	538.9	182.5	5.34	3.11	71.9	48.7	90.0	55.5	448.4	84.4	0.435	67.3
	5.00	16.37	4.99	11.00	20.86	10.0	25.0	587.7	198.4	5.31	3.08	78.4	52.9	98.6	60.7	491.0	91.9	0.433	61.1
	6.00	19.34	5.89	12.99	24.63	7.5	20.0	679.1	227.6	5.25	3.04	90.5	60.7	115.1	70.6	572.0	105.8	0.429	51.7
	6.30	19.94	6.08	13.40	25.40	6.9	18.8	685.6	230.9	5.20	3.01	91.4	61.6	117.2	72.2	595.8	109.1	0.423	50.2
	8.00	24.53	7.48	16.48	31.24	4.4	13.8	806.3	269.0	5.08	2.93	107.5	71.7	140.8	86.3	714.5	128.5	0.416	40.8
9.00	27.07	8.25	18.19	34.48	3.3	11.7	865.5	287.3	5.01	2.89	115.4	76.6	153.0	93.6	775.2	138.1	0.411	36.9	
150 x 100	4.00	14.87	4.53	9.99	18.95	20.0	32.5	594.6	318.6	5.60	4.10	79.3	63.7	95.7	72.5	661.6	104.9	0.486	67.2
	4.50	16.62	5.06	11.17	21.17	17.2	28.3	658.1	352.0	5.58	4.08	87.7	70.4	106.3	80.5	736.1	116.1	0.485	60.2
	5.00	18.33	5.59	12.32	23.36	15.0	25.0	719.2	384.0	5.55	4.05	95.9	76.8	116.7	88.3	808.7	126.8	0.483	54.5
	6.00	21.69	6.61	14.58	27.63	11.7	20.0	834.7	444.2	5.50	4.01	111.3	88.8	136.7	103.3	948.3	147.1	0.479	46.1
	6.30	22.41	6.83	15.06	28.55	10.9	18.8	848.3	452.7	5.45	3.98	113.1	90.5	139.9	105.9	991.6	152.3	0.473	44.6
	8.00	27.67	8.43	18.59	35.24	7.5	13.8	1008.1	535.7	5.35	3.90	134.4	107.1	169.2	127.9	1205.9	181.8	0.466	36.1
9.00	30.60	9.33	20.56	38.98	6.1	11.7	1089.5	577.5	5.29	3.85	145.3	115.5	184.8	139.5	1320.3	197.2	0.461	32.7	
160 x 80	3.00	10.84	3.30	7.28	13.81	21.7	48.3	463.8	159.0	5.80	3.39	58.0	39.8	71.4	44.3	380.3	68.6	0.470	92.3
	4.00	14.25	4.34	9.57	18.15	15.0	35.0	597.7	203.5	5.74	3.35	74.7	50.9	92.9	57.4	494.1	88.0	0.466	70.2
	4.50	15.91	4.85	10.69	20.27	12.8	30.6	660.9	224.3	5.71	3.33	82.6	56.1	103.2	63.7	548.5	97.2	0.465	62.9
	5.00	17.55	5.35	11.79	22.36	11.0	27.0	721.7	244.1	5.68	3.30	90.2	61.0	113.2	69.7	601.3	105.9	0.463	57.0
	6.00	20.75	6.32	13.94	26.43	8.3	21.7	836.0	280.9	5.62	3.26	104.5	70.2	132.3	81.3	702.1	122.3	0.459	48.2
	6.30	21.42	6.53	14.40	27.29	7.7	20.4	846.5	285.7	5.57	3.24	105.8	71.4	135.1	83.3	732.3	126.3	0.453	46.7
	8.00	26.41	8.05	17.75	33.64	5.0	15.0	1001.2	334.9	5.46	3.16	125.2	83.7	162.9	100.0	882.3	149.5	0.446	37.9
	9.00	29.19	8.90	19.61	37.18	3.9	12.8	1078.7	359.1	5.39	3.11	134.8	89.8	177.5	108.7	960.4	161.3	0.441	34.3
180 x 100	* 4.00	16.76	5.11	11.26	21.35	20.0	40.0	926.0	373.9	6.59	4.18	102.9	74.8	125.9	84.0	853.8	127.1	0.546	59.7
	* 5.00	20.69	6.31	13.90	26.36	15.0	31.0	1124.2	451.8	6.53	4.14	124.9	90.4	154.0	102.6	1044.8	153.9	0.543	48.3
	* 6.00	24.52	7.47	16.48	31.23	11.7	25.0	1309.6	523.8	6.48	4.10	145.5	104.8	180.8	120.2	1226.7	178.9	0.539	40.8
	* 6.30	25.38	7.74	17.05	32.33	10.9	23.6	1335.0	535.8	6.43	4.07	148.3	107.2	185.5	123.6	1283.4	185.5	0.533	39.4
	* 8.00	31.43	9.58	21.12	40.04	7.5	17.5	1598.5	637.5	6.32	3.99	177.6	127.5	225.6	149.9	1565.2	222.5	0.526	31.8
	* 10.00	38.12	11.62	25.62	48.57	5.0	13.0	1859.5	736.4	6.19	3.89	206.6	147.3	267.5	177.2	1858.6	259.6	0.517	26.2
	* 12.00	43.38	13.22	29.15	55.26	3.3	10.0	1965.1	782.1	5.96	3.76	218.3	156.4	292.4	194.2	2072.9	284.5	0.498	23.1
	* 12.50	44.78	13.65	30.09	57.04	3.0	9.4	2001.0	795.8	5.92	3.74	222.3	159.2	299.6	198.9	2121.7	290.4	0.496	22.3
200 x 100	4.00	18.01	5.49	12.10	22.95	20.0	45.0	1199.7	410.8	7.23	4.23	120.0	83.2	148.0	91.7	985.4	141.8	0.586	55.5
	4.50	20.15	6.14	13.54	25.67	17.2	39.4	1331.4	454.6	7.20	4.21	133.1	90.9	164.9	102.0	1097.1	157.1	0.585	49.6
	5.00	22.26	6.78	14.96	28.36	15.0	35.0	1459.3	496.9	7.17	4.19	145.9	99.4	181.4	112.1	1206.3	171.9	0.583	44.9
	6.00	26.40	8.05	17.74	33.63	11.7	28.3	1703.3	576.9	7.12	4.14	170.3	115.4	213.3	131.5	1417.0	200.1	0.579	37.0
	6.30	27.36	8.34	18.38	34.85	10.9	26.7	1739.2	591.1	7.06	4.12	173.9	118.2	219.1	135.4	1482.8	207.6	0.573	36.6
	8.00	33.95	10.35	22.81	43.24	7.5	20.0	2090.8	705.4	6.95	4.04	209.1	141.1	267.3	164.7	1810.7	249.6	0.566	29.5
	9.00	37.66	11.48	25.31	47.98	6.1	17.2	2275.6	764.4	6.89	3.99	227.6	152.9	293.4	180.5	1988.3	271.8	0.561	26.6
	10.00	41.26	12.58	27.73	52.57	5.0	15.0	2444.4	817.7	6.82	3.94	244.4	163.5	318.1	195.2	2154.1	292.1	0.557	24.2
	12.00	47.15	14.37	31.68	60.06	3.3	11.7	2606.7	875.6	6.59	3.82	260.7	175.1	350.0	215.3	2414.4	321.8	0.538	21.2
	12.50	48.70	14.85	32.73	62.04	3.0	11.0	2658.9	892.2	6.55	3.79	265.9	178.4	359.1	220.8	2473.8	328.8	0.536	20.5
200 x 120	* 4.00	19.27	5.87	12.95	24.55	25.0	45.0	1353.4	617.7	7.43	5.02	135.3	102.9	163.7	115.4	1345.3	172.5	0.626	51.9
	* 5.00	23.83	7.26	16.01	30.36	19.0	35.0	1649.4	750.1	7.37	4.97	164.9	125.0	200.9	141.4	1652.0	209.9	0.623	42.0
	* 6.00	28.39	8.62	19.01	36.03	15.0	28.3	1929.2	874.3	7.32	4.93	192.9	145.7	236.5	166.3	1946.7	245.1	0.619	35.4
	* 6.30	29.34	8.94	19.71	37.37	14.0	26.7	1975.7	897.7	7.27	4.90	197.6	149.6	243.5	171.5	2040.2	254.7	0.613	34.1
	* 8.00	36.46	11.11	24.50	46.44	10.0	20.0	2385.9	1079.0	7.17	4.82	238.6	179.8	298.0	209.5	2507.0	308.3	0.606	27.4
	* 10.00	44.40	13.53	29.84	56.57	7.0	15.0	2805.7	1262.1	7.04	4.72	280.6	210.4	356.1	249.8	3007.0	363.7	0.597	22.5
	* 12.00	50.91	15.52	34.21	64.86	5.0	11.7	3031.4	1367.9	6.84	4.59	303.1	228.0	395.1	277.8	3418.9	405.7	0.578	19.6
	* 12.50	52.63	16.04	35.37	67.04	4.6	11.0	3099.0	1397.4	6.80	4.57	309.9	232.9	406.0	285.3	3513.8	415.7	0.576	19.0
200 x 150	4.00	21.15	6.45	14.21	26.95	32.5	45.0	1583.9	1021.0	7.67	6.16	158.4	136.1	187.2	154.1	1942.0	218.5	0.686	47.3
	4.50	23.68	7.22	15.91	30.17	28.3	39.4	176.5	1134.5	7.64	6.13	176.1	151.3	208.9	171.8	2168.5	243.0	0.685	42.2
	5.00	26.18	7.98	17.60	33.36	25.0	35.0	1934.7	1245.0	7.62	6.11	193.5	166.0	230.1	189.2	2391.4	266.8	0.683	38.2
	6.00	31.11	9.48	20.91	39.63	20.0	28.3	2268.0	1457.1	7.56	6.06	226.8	194.3	271.5	223.1	2826.2	312.7	0.679	32.1
	6.30	32.30	9.85	21.71	41.15	18.8	26.7	2330.4	1499.2	7.53	6.04	233.0	199.9	280.1	230.4	2965.4	325.5	0.673	31.0
	8.00	40.23	12.26	27.03	51.24	13.8	20.0	2828.5	1815.5	7.43	5.95								

# Cold Formed Rectangular Hollow Sections



BS EN 10219

Designation		Weight			Area Of Section	Ratio for Local Buckling		Second Moment Of Area		Radius of Gyration		Elastic Modulus		Plastic Modulus		Torsional Constant		Superficial Area per metre length	Nominal Length per tonne
Size	Thickness	M				B/t	H/t	x-x	y-y	x-x	y-y	x-x	y-y	x-x	y-y	J	C		
		Kg/m	Kg/ft	lb/ft															
H x B	t				cm <sup>2</sup>													As	L
mm	mm	Kg/m	Kg/ft	lb/ft	cm <sup>2</sup>			cm <sup>4</sup>	cm <sup>4</sup>	cm	cm	cm <sup>3</sup>	cm <sup>3</sup>	cm <sup>3</sup>	cm <sup>3</sup>	cm <sup>4</sup>	cm <sup>3</sup>	m <sup>2</sup> /m	m
260 x 180	* 5.00	33.25	10.13	22.34	42.36	31.0	47.0	4121.4	2349.5	9.86	7.45	317.0	261.1	377.4	294.0	4694.9	425.9	0.863	30.1
	* 6.30	41.20	12.56	27.69	52.49	23.6	36.3	5012.7	2856.3	9.77	7.38	385.6	317.4	462.9	360.6	5844.3	523.0	0.853	24.3
	* 8.00	51.53	15.71	34.63	65.64	17.5	27.5	6145.2	3493.2	9.68	7.29	472.7	388.1	572.7	445.8	7266.7	642.4	0.846	19.4
	* 10.00	63.24	19.28	42.50	80.57	13.0	21.0	7363.3	4174.1	9.56	7.20	566.4	463.8	693.8	539.5	8850.3	771.9	0.837	15.8
	* 12.00	73.52	22.41	49.40	93.66	10.0	16.7	8245.0	4679.2	9.38	7.07	634.2	519.9	789.9	614.9	10328.3	884.4	0.818	13.6
	* 12.50	76.18	23.22	51.19	97.04	9.4	15.8	8482.5	4811.9	9.35	7.04	652.5	534.7	815.3	634.6	10676.0	911.4	0.816	13.1
	* 16.00	93.86	28.61	63.07	119.57	6.3	11.3	9923.0	5613.5	9.11	6.85	763.3	623.7	976.6	759.4	12890.0	1079.4	0.798	10.7
300 x 100	* 6.00	35.82	10.92	24.07	45.63	11.7	45.0	4776.8	842.4	10.23	4.30	318.5	168.5	411.4	187.9	2403.5	306.2	0.779	27.9
	* 6.30	37.25	11.35	25.03	47.45	10.9	42.6	4906.8	868.1	10.17	4.28	327.1	173.6	424.9	194.4	2515.2	318.3	0.773	26.8
	* 8.00	46.51	14.17	31.25	59.24	7.5	32.5	5977.9	1044.8	10.05	4.20	398.5	209.0	523.5	238.3	3080.3	385.2	0.766	21.5
	* 10.00	56.96	17.36	38.28	72.57	5.0	25.0	7106.0	1224.4	9.90	4.11	473.7	244.9	630.9	285.2	3681.0	454.5	0.757	17.6
	* 12.00	65.99	20.11	44.34	84.06	3.3	20.0	7808.3	1343.1	9.64	4.00	520.6	268.6	710.3	320.9	4177.5	508.5	0.738	15.2
	* 12.50	68.33	20.83	45.92	87.04	3.0	19.0	8009.6	1373.9	9.59	3.97	534.0	274.8	731.8	330.2	4291.5	521.2	0.736	14.6
	* 16.00	83.82	25.55	56.32	106.77	1.3	13.8	9157.4	1543.2	9.26	3.80	610.5	308.6	865.0	386.1	4938.8	592.3	0.718	11.9
300 x 150	6.00	40.53	12.35	27.24	51.63	20.0	45.0	6073.5	2079.6	10.85	6.35	404.9	277.3	499.6	309.5	4988.5	478.6	0.879	24.7
	6.30	42.19	12.86	28.35	53.75	18.8	42.6	6265.6	2150.0	10.80	6.32	417.7	286.7	517.4	320.9	5234.4	498.9	0.873	23.7
	8.00	52.79	16.09	35.47	67.24	13.8	32.5	7683.6	2623.0	10.69	6.25	512.2	349.7	640.3	396.4	6490.6	611.5	0.866	18.9
	10.00	64.81	19.76	43.55	82.57	10.0	25.0	9209.4	3125.0	10.56	6.15	614.0	416.7	775.9	479.2	7878.6	732.8	0.857	15.4
	12.00	75.41	22.98	50.67	96.06	7.5	20.0	10298.1	3498.1	10.35	6.03	686.5	466.4	883.1	546.1	9153.1	836.9	0.838	13.3
	12.50	78.14	23.82	52.51	99.54	7.0	19.0	10594.2	3594.8	10.32	6.01	706.3	479.3	911.5	563.4	9451.9	861.8	0.836	12.8
	16.00	96.38	29.38	64.76	122.77	4.4	13.8	12387.0	4174.4	10.04	5.83	825.8	556.6	1092.2	673.0	11328.0	1015.0	0.818	10.4
300 x 200	4.50	34.28	10.45	23.03	43.67	39.4	61.7	5661.9	3051.7	11.39	8.36	377.5	305.2	448.7	340.8	6185.1	500.9	0.985	29.2
	5.00	37.96	11.57	25.51	48.36	35.0	55.0	6241.1	3369.9	11.36	8.34	416.1	336.1	495.7	376.4	6835.8	551.9	0.983	26.3
	6.00	45.24	13.79	30.40	57.63	28.3	45.0	7370.2	3962.2	11.31	8.29	491.3	396.2	587.8	446.1	8115.2	651.2	0.979	22.1
	6.30	47.14	14.37	31.68	60.05	26.7	42.6	7624.4	4103.8	11.27	8.27	508.3	410.4	609.9	463.2	8523.5	679.8	0.973	21.2
	8.00	59.07	18.00	39.69	75.24	20.0	32.5	9389.3	5041.7	11.17	8.19	626.0	504.2	757.1	574.5	10626.5	838.4	0.966	16.9
	9.00	65.92	20.09	44.30	83.98	17.2	28.3	10371.4	5561.3	11.11	8.14	691.4	556.1	840.2	637.2	11822.4	927.0	0.961	15.2
	10.00	72.66	22.15	48.83	92.57	15.0	25.0	11312.7	6057.7	11.05	8.09	754.2	605.8	920.9	698.1	12987.1	1012.2	0.957	13.8
	12.00	84.83	25.86	57.00	108.06	11.7	20.0	12787.8	6853.7	10.88	7.96	852.5	685.4	1055.9	801.2	15235.6	1167.1	0.938	11.8
	12.50	87.95	26.81	59.10	112.04	11.0	19.0	13178.9	7059.9	10.85	7.94	878.6	706.0	1091.2	827.9	15767.7	1204.5	0.936	11.4
	16.00	108.94	33.20	73.20	138.77	7.5	13.8	15616.7	8340.3	10.61	7.75	1041.1	834.0	1319.4	1000.0	19222.9	1441.7	0.918	9.2
350 x 250	6.00	54.66	16.66	36.73	69.63	36.7	53.3	12457.3	7458.4	13.38	10.35	711.8	596.7	842.6	670.8	14553.7	966.8	1.179	18.3
	6.30	57.03	17.38	38.32	72.65	34.7	50.6	12923.1	7743.8	13.34	10.32	738.5	619.5	876.2	698.0	15291.0	1010.4	1.173	17.5
	8.00	71.63	21.83	48.13	91.24	26.3	38.8	16001.3	9572.6	13.24	10.24	914.4	765.8	1092.0	869.4	19136.3	1252.8	1.166	14.0
	10.00	88.36	26.93	59.38	112.57	20.0	30.0	19407.5	11588.3	13.13	10.15	1109.0	927.1	1334.8	1062.0	23499.7	1522.3	1.157	11.3
	12.00	103.67	31.60	69.66	132.06	15.8	24.2	22196.5	13260.9	12.96	10.02	1268.4	1060.9	1543.9	1229.2	27749.3	1769.8	1.138	9.6
	12.50	107.58	32.79	72.29	137.04	15.0	23.0	22922.5	13690.0	12.93	9.99	1309.9	1095.2	1597.9	1272.0	28763.6	1829.8	1.136	9.3
	16.00	134.06	40.86	90.08	170.77	10.6	16.9	27580.2	16434.4	12.71	9.81	1576.0	1314.8	1953.6	1554.1	35497.2	2220.3	1.118	7.5
400 x 200	4.50	41.34	12.60	27.78	52.67	39.4	83.9	11315.6	3911.8	14.66	8.62	565.8	391.2	689.5	428.8	9188.6	672.9	1.185	24.2
	5.00	45.81	13.96	30.78	58.36	35.0	75.0	12489.8	4311.8	14.63	8.60	624.5	431.2	762.4	473.9	10158.7	742.0	1.183	21.8
	6.00	54.66	16.66	36.73	69.63	28.3	61.7	14789.4	5091.6	14.57	8.55	739.5	509.2	906.0	562.5	12068.5	877.0	1.179	18.3
	6.30	57.03	17.38	38.32	72.65	26.7	58.5	15329.7	5286.1	14.53	8.53	766.5	528.6	941.7	585.2	12672.8	916.2	1.173	17.5
	8.00	71.63	21.83	48.13	91.24	20.0	45.0	18974.4	6517.1	14.42	8.45	948.7	651.7	1173.3	728.1	15820.2	1133.3	1.166	14.0
	9.00	80.05	24.40	53.79	101.88	17.2	39.4	21023.3	7204.2	14.36	8.40	1051.2	720.4	1305.1	809.1	17615.5	1255.3	1.161	12.5
	10.00	88.36	26.93	59.38	112.57	15.0	35.0	23002.7	7864.4	14.30	8.36	1150.1	786.4	1433.7	888.1	19368.5	1373.2	1.157	11.3
	12.00	103.67	31.60	69.66	132.06	11.7	28.3	26248.4	8977.3	14.10	8.24	1312.4	897.7	1656.2	1026.8	22782.1	1591.4	1.138	9.6
	12.50	107.58	32.79	72.29	137.04	11.0	27.0	27100.5	9260.5	14.06	8.22	1355.0	926.0	1713.9	1062.3	23594.1	1644.0	1.136	9.3
	16.00	134.06	40.86	90.08	170.77	7.5	20.0	32547.0	11055.6	13.81	8.05	1627.3	1105.6	2093.3	1294.4	28928.3	1983.8	1.118	7.5
400 x 300	6.30	66.92	20.40	44.97	85.25	42.6	58.5	20212.6	13059.6	15.40	12.38	1010.6	870.6	1189.7	980.0	24851.9	1404.1	1.373	14.9
	8.00	84.19	25.66	56.57	107.24	32.5	45.0	25121.8	16212.1	15.31	12.30	1256.1	1080.8	1486.9	1224.3	31178.9	1747.2	1.366	11.9
	9.00	94.18	28.71	63.29	119.98	28.3	39.4	27904.2	17995.1	15.25	12.25	1395.2	1199.7	1657.0	1364.0	34822.4	1942.3	1.361	10.6
	10.00	104.06	31.72	69.93	132.57	25.0	35.0	30609.3	19726.0	15.20	12.20	1530.5	1315.1	1823.7	1500.9	38407.0	2132.4	1.357	9.6
	12.00	122.51	37.34	82.32															