

Cold Formed Rectangular Hollow Sections

BS EN 10219

Size	Thickness	Weight	Cross	Second	Second	Radius of	Radius of	Elastic	Elastic	Plastic	Plastic	Torsional	Torsional	Superficial	Nominal	Ratio for	Ratio for
			Sectional Area	Moment of Area	Moment of Area	Gyration	Gyration	Modulus	Modulus	Modulus	Modulus	inertia contant	modulus contant	Area per metre length	Length per tonne	Local Buckling	Local Buckling
$B \times H$	T	M	A	I_{yy}	I_{zz}	i_{yy}	i_{zz}	W_{elzy}	W_{elz}	W_{plyy}	W_{plzz}	L_t	C_t	A_s	L	Flange	Web
mm	mm	Kg/m	cm ²	cm ⁴	cm ⁴	cm	cm	cm ³	cm ³	cm ³	cm ³	cm ⁴	cm ³	m ² /m	m	B/T	H/T
19 x 38	1.6	1.330	1.66	2.91	0.97	1.33	0.77	1.53	1.02	1.95	1.20	2.46	1.79	0.11	769.41	6.88	18.75
	2.0	1.678	2.14	4.05	1.34	1.38	0.79	2.02	1.34	2.61	1.60	3.45	2.36	0.11	596.11	5.00	15.00
	2.5	2.032	2.59	4.69	1.54	1.35	0.77	2.35	1.54	3.09	1.88	4.06	2.72	0.11	492.03	3.00	11.00
	3.0	2.361	3.01	5.21	1.68	1.32	0.75	2.60	1.68	3.50	2.12	4.57	3.00	0.11	423.55	1.67	8.33
25 x 38	1.6	1.490	1.85	3.55	1.85	1.39	1.00	1.87	1.48	2.30	1.72	3.99	2.45	0.12	689.45	10.63	18.75
25 x 50	1.6	1.790	2.23	7.02	2.37	1.77	1.03	2.81	1.90	3.53	2.17	5.85	3.29	0.14	570.82	10.83	26.25
	2.0	2.149	2.74	8.38	2.81	1.75	1.01	3.35	2.25	4.26	2.62	7.06	3.92	0.14	465.43	7.50	20.00
	2.3	2.510	3.10	9.31	3.10	1.73	1.00	3.72	2.48	4.78	2.92	7.90	4.34	0.14	410.64	5.87	16.74
	2.5	2.621	3.34	9.89	3.28	1.72	0.99	3.95	2.62	5.11	3.12	8.43	4.60	0.14	381.51	5.00	15.00
	3.0	3.190	3.91	11.17	3.67	1.69	0.97	4.47	2.93	5.86	3.56	9.64	5.18	0.14	313.48	3.33	11.67
25 x 75	1.6	2.380	3.03	19.74	3.47	2.55	1.07	5.26	2.78	6.81	3.11	9.93	5.05	0.19	420.19	10.63	41.88
	1.9	2.797	3.56	22.84	3.98	2.53	1.06	6.09	3.18	7.94	3.61	11.50	5.80	0.19	357.57	8.16	34.47
	2.0	2.934	3.74	23.84	4.14	2.53	1.05	6.36	3.31	8.31	3.77	12.01	6.04	0.19	340.89	7.50	32.50
	2.3	3.338	4.25	26.70	4.59	2.51	1.04	7.12	3.67	9.37	4.23	13.46	6.72	0.19	299.58	5.87	27.61
	2.5	3.602	4.59	28.52	4.87	2.49	1.03	7.60	3.89	10.06	4.53	14.38	7.14	0.19	277.59	5.00	25.00
	3.0	4.245	5.41	32.72	5.49	2.46	1.01	8.72	4.39	11.69	5.21	16.50	8.10	0.19	235.55	3.33	20.00
	4.0	5.454	6.95	39.72	6.46	2.39	0.96	10.59	5.17	14.56	6.39	20.01	9.61	0.19	183.35	1.25	13.75
30 x 50	2.0	2.306	2.94	9.54	4.29	1.80	1.21	3.81	2.86	4.74	3.33	9.77	4.84	0.15	433.74	10.00	20.00
	2.5	2.817	3.59	11.30	5.05	1.77	1.19	4.52	3.37	5.70	3.98	11.74	5.72	0.15	354.94	7.00	15.00
	3.0	3.303	4.21	12.83	5.70	1.75	1.16	5.13	3.80	6.57	4.58	13.53	6.49	0.15	302.71	5.00	11.67
	4.0	4.198	5.35	15.25	6.69	1.69	1.12	6.10	4.46	8.05	5.58	16.53	7.71	0.15	238.20	2.50	7.50
	5.0	4.990	6.36	16.87	7.33	1.63	1.07	6.75	4.88	9.20	6.34	18.77	8.55	0.14	200.42	1.00	5.00
30 x 60	1.6	2.129	2.71	12.49	4.25	2.15	1.25	4.16	2.83	5.19	3.20	10.35	4.90	0.17	469.78	13.75	32.50
	1.9	2.498	3.18	14.43	4.88	2.13	1.24	4.81	3.25	6.04	3.72	12.03	5.64	0.17	400.26	10.79	26.58
	2.3	2.977	3.79	16.82	5.65	2.11	1.22	5.61	3.76	7.11	4.37	14.14	6.56	0.17	335.93	8.04	21.09
	3.0	3.774	4.81	20.50	6.80	2.06	1.19	6.83	4.53	8.82	5.99	17.48	7.95	0.17	264.94	5.00	15.00
30 x 80	1.6	2.631	3.35	25.79	5.54	2.77	1.29	6.45	3.69	8.22	4.11	15.11	6.62	0.21	380.07	13.75	45.00
	1.9	3.095	3.94	29.94	6.38	2.76	1.27	7.48	4.25	9.60	4.79	17.58	7.65	0.21	323.11	10.79	37.11
	2.3	3.699	4.71	35.13	7.42	2.73	1.25	8.78	4.94	11.36	5.64	20.69	8.91	0.21	270.34	8.04	29.78
	3.0	4.716	6.01	43.35	8.99	2.69	1.22	10.84	6.00	14.23	7.01	25.65	10.87	0.21	212.02	5.00	21.67
30 x 110	2.0	4.190	5.34	71.62	9.00	3.66	1.30	13.02	6.00	17.15	6.69	27.35	11.11	0.27	238.69	10.00	50.00
	2.5	5.172	6.59	86.79	10.74	3.63	1.28	15.78	7.16	20.97	8.11	33.03	13.29	0.27	193.33	7.00	39.00
	3.0	6.129	7.81	100.91	12.29	3.59	1.25	18.35	8.19	24.59	9.44	38.25	15.26	0.27	163.15	5.00	31.67
	4.0	7.966	10.15	126.08	14.87	3.52	1.21	22.92	9.91	31.29	11.82	47.38	18.59	0.27	125.53	2.50	22.50
35 x 65	1.6	2.380	3.03	16.87	6.47	2.36	1.46	5.19	3.70	6.39	4.17	15.10	6.32	0.19	420.19	16.88	35.63
	1.9	2.797	3.56	19.54	7.46	2.34	1.45	6.01	4.26	7.46	4.85	17.61	7.30	0.19	357.57	13.42	29.21
	2.0	2.934	3.74	20.40	7.78	2.34	1.44	6.28	4.44	7.80	5.07	18.42	7.62	0.19	340.89	12.50	27.50
	2.3	3.338	4.25	22.88	8.69	2.32	1.43	7.04	4.96	8.81	5.72	20.79	8.53	0.19	299.58	10.22	23.26
	2.5	3.602	4.59	24.45	9.26	2.31	1.42	7.52	5.29	9.45	6.13	22.31	9.10	0.19	277.59	9.00	21.00
	3.0	4.245	5.41	28.10	10.57	2.28	1.40	8.65	6.04	10.99	7.11	25.91	10.44	0.19	235.55	6.67	16.67
	4.0	5.454	6.95	34.28	12.72	2.22	1.35	10.55	7.27	13.73	8.83	32.24	12.68	0.19	183.35	3.75	11.25
38 x 65	1.6	2.455	3.13	17.83	7.79	2.39	1.58	5.49	4.10	6.70	4.63	17.39	6.91	0.20	407.29	18.75	35.63
	1.9	2.886	3.68	20.68	9.00	2.37	1.56	6.36	4.74	7.82	5.40	20.30	8.00	0.20	346.48	15.00	29.21
	2.0	3.028	3.86	21.59	9.39	2.37	1.56	6.64	4.94	8.18	5.64	21.24	8.35	0.20	330.28	14.00	27.50
	2.3	3.446	4.39	24.23	10.50	2.35	1.55	7.46	5.53	9.24	6.37	24.01	9.36	0.20	290.17	11.52	23.26
	2.5	3.720	4.74	25.91	11.20	2.34	1.54	7.97	5.90	9.92	6.83	25.79	10.00	0.20	268.81	10.20	21.00
	3.0	4.387	5.59	29.83	12.83	2.31	1.51	9.18	6.75	11.55	7.93	30.02	11.50	0.20	227.96	7.67	16.67
	3.2	4.646	5.92	31.29	13.42	2.30	1.51	9.63	7.06	12.17	8.35	31.62	12.05	0.20	215.23	6.88	15.31
4.0	5.643	7.19	36.52	15.53	2.25	1.47	11.24	8.17	14.46	9.89	37.55	14.04	0.19	177.22	4.50	11.25	
38 x 75	1.6	2.706	3.45	25.34	8.85	2.71	1.60	6.76	4.66	8.34	5.21	21.15	8.03	0.22	369.49	18.75	41.88
	1.9	3.184	4.06	29.44	10.24	2.69	1.59	7.85	5.39	9.75	6.08	24.71	9.30	0.22	314.03	15.00	34.47
	2.0	3.342	4.26	30.77	10.68	2.69	1.58	8.20	5.62	10.21	6.36	25.86	9.71	0.22	299.25	14.00	32.50
	2.3	3.807	4.85	34.61	11.97	2.67	1.57	9.23	6.30	11.55	7.19	29.24	10.90	0.22	262.65	11.52	27.61
	2.5	4.113	5.24	37.06	12.78	2.66	1.56	9.88	6.73	12.42	7.72	31.42	11.66	0.22	243.15	10.20	25.00
	3.0	4.858	6.19	42.83	14.67	2.63	1.54	11.42	7.72	14.49	8.98	36.62	13.43	0.22	205.86	7.67	20.00
	3.2	5.149	6.56	44.99	15.37	2.62	1.53	12.00	8.09	15.29	9.46	38.60	14.09	0.22	194.23	6.88	18.44
	4.0	6.271	7.99	52.84	17.85	2.57	1.50	14.09	9.40	18.26	11.25	45.93	16.48	0.21	159.48	4.50	13.75
	4.5	6.938	8.84	57.12	19.17	2.54	1.47	15.23	10.09	19.95	12.25	50.04	17.77	0.21	144.13	3.44	11.67
40 x 60	2.0	2.934	3.74	18.41	9.83	2.22	1.62	6.14	4.92	7.47	5.65	20.70	8.12	0.19	340.89	15.00	25.00
	2.5	3.602	4.59	22.07	11.74	2.19	1.60	7.36	5.87	9.06	6.84	25.14	9.72	0.19	277.59	11.00	19.00
	3.0	4.245	5.41	25.38	13.44	2.17	1.58	8.46	6.72	10.53	7.94	29.28	11.17	0.19	235.55	8.33	15.00
	4.0	5.454	6.95	30.99	16.28	2.11	1.53	10.33	8.14	13.16	9.89	36.67	13.65	0.19	183.35	5.00	10.00
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Size	Thickness	Weight	Cross Sectional Area	Second Moment of Area	Second Moment of Area	Radius of Gyration	Radius of Gyration	Elastic Modulus	Elastic Modulus	Plastic Modulus	Plastic Modulus	Torsional inertia contant	Torsional modulus contant	Superficial Area per metre length	Nominal Length per tonne	Ratio for	
																Local Buckling	Local Buckling
$B \times H$	T	M	A	I_{yy}	I_{zz}	i_{yy}	i_{zz}	$W_{el,y}$	$W_{el,z}$	$W_{pl,y}$	$W_{pl,z}$	L_t	C_t	A_s	L	Flange	Web
mm	mm	Kg/m	cm ²	cm ⁴	cm ⁴	cm	cm	cm ³	cm ³	cm ³	cm ³	cm ⁴	cm ³	m ² /m	m	B/T	H/T
50 x 90	2.0	4.190	5.34	57.88	23.37	3.29	2.09	12.86	9.35	15.74	10.50	53.37	15.88	0.27	238.69	20.00	40.00
	2.5	5.172	6.59	70.26	28.24	3.27	2.07	15.61	11.29	19.25	12.82	65.30	19.24	0.27	193.33	15.00	31.00
	3.0	6.129	7.81	81.85	32.74	3.24	2.05	18.19	13.10	22.60	15.03	76.67	22.36	0.27	163.15	11.67	25.00
	4.0	7.966	10.15	102.71	40.71	3.18	2.00	22.82	16.28	28.82	19.09	97.70	27.96	0.27	125.53	7.50	17.50
	5.0	9.700	12.36	120.60	47.37	3.12	1.96	26.80	18.95	34.41	22.70	116.47	32.75	0.26	103.10	5.00	13.00
50 x 100	1.6	3.636	4.63	61.29	21.08	3.64	2.13	12.26	8.43	15.04	9.33	50.08	14.53	0.29	275.04	26.25	57.50
	1.9	4.288	5.46	71.62	24.55	3.62	2.12	14.32	9.82	17.65	10.94	58.75	16.94	0.29	233.20	21.32	47.63
	2.0	4.504	5.74	74.98	25.67	3.62	2.12	15.00	10.27	18.50	11.46	61.59	17.73	0.29	222.05	20.00	45.00
	2.3	5.143	6.55	84.83	28.95	3.60	2.10	16.97	11.58	21.03	13.01	69.95	20.02	0.29	194.42	16.74	38.48
	2.5	5.565	7.09	91.20	31.06	3.59	2.09	18.24	12.42	22.67	14.01	75.39	21.49	0.29	179.70	15.00	35.00
	3.0	6.600	8.41	106.46	36.06	3.56	2.07	21.29	14.42	26.66	16.44	88.56	25.01	0.29	151.50	11.67	28.33
	4.0	8.594	10.95	134.14	44.95	3.50	2.03	26.83	17.98	34.10	20.93	112.99	31.85	0.29	116.86	7.50	20.00
	4.5	9.552	12.17	146.61	48.87	3.47	2.00	29.32	19.55	37.56	23.00	124.25	34.18	0.28	104.69	6.11	17.22
	5.0	10.485	13.36	158.19	52.45	3.44	1.98	31.64	20.98	40.84	24.95	134.87	36.80	0.28	95.38	5.00	15.00
	6.0	12.272	15.63	178.75	58.67	3.38	1.94	35.75	23.47	46.90	28.52	154.20	41.43	0.28	81.49	3.33	11.67
6.3	12.520	15.95	175.68	58.19	3.32	1.91	35.14	23.27	46.87	28.63	158.08	42.07	0.27	79.87	2.94	10.87	
50 x 125	2.3	6.046	7.70	148.24	35.50	4.39	2.15	23.72	14.20	29.94	15.75	93.92	25.25	0.34	165.39	16.74	49.35
	2.5	6.546	8.34	159.61	38.12	4.37	2.14	25.54	15.25	32.31	16.98	101.26	27.13	0.34	152.76	15.00	45.00
	3.0	7.778	9.91	187.02	44.35	4.34	2.12	29.92	17.74	38.11	19.96	119.03	31.64	0.34	128.57	11.67	36.67
	4.0	10.164	12.95	237.53	55.56	4.28	2.07	38.01	22.22	49.03	25.53	152.13	39.82	0.34	98.38	7.50	26.25
	4.5	11.319	14.42	260.68	60.55	4.25	2.05	41.71	24.22	54.17	28.12	167.45	43.52	0.33	88.35	6.11	22.78
	5.0	12.447	15.86	282.46	65.16	4.22	2.03	45.19	26.07	59.10	30.58	181.95	46.95	0.33	80.34	5.00	20.00
	6.0	14.627	18.63	322.00	73.28	4.16	1.98	51.52	29.31	68.32	35.12	208.52	53.10	0.33	68.37	3.33	15.83
	6.3	14.993	19.10	319.41	73.33	4.09	1.96	51.11	29.33	68.77	35.52	214.59	54.16	0.32	66.70	2.94	14.84
50 x 150	2.3	6.949	8.85	235.71	42.04	5.16	2.18	31.43	16.82	40.28	18.48	118.46	30.49	0.39	143.91	16.74	60.22
	3.0	8.955	11.41	298.55	52.65	5.12	2.15	39.81	21.06	51.43	23.49	150.22	38.28	0.39	111.66	11.67	45.00
	4.0	11.734	14.95	381.39	66.16	5.05	2.10	50.85	26.47	66.47	30.13	192.14	48.30	0.39	85.22	7.50	32.50
	4.5	13.085	16.67	419.82	72.23	5.02	2.08	55.98	28.89	73.60	33.24	211.60	52.85	0.38	76.42	6.11	28.33
	5.0	14.410	18.36	456.29	77.87	4.99	2.06	60.84	31.15	80.48	36.20	230.05	57.11	0.38	69.40	5.00	25.00
	6.0	16.982	21.63	523.47	87.89	4.92	2.02	69.80	35.16	93.48	41.72	263.99	64.77	0.38	58.89	3.33	20.00
	6.3	17.466	22.25	522.83	88.47	4.85	1.99	69.71	35.39	94.62	42.40	272.24	66.26	0.37	57.25	2.94	18.81
60 x 80	2.0	4.190	5.34	49.53	31.87	3.05	2.44	12.38	10.62	14.73	12.11	61.22	17.08	0.27	238.69	25.00	35.00
	2.5	5.172	6.59	60.13	38.61	3.02	2.42	15.03	12.87	18.02	14.81	75.07	20.73	0.27	193.33	19.00	27.00
	3.0	6.129	7.81	70.05	44.89	3.00	2.40	17.51	14.96	21.16	17.37	88.35	24.14	0.27	163.15	15.00	21.67
	4.0	7.966	10.15	87.92	56.12	2.94	2.35	21.98	18.71	26.99	22.12	113.12	30.32	0.27	125.53	10.00	15.00
	5.0	9.700	12.36	103.28	65.66	2.89	2.31	25.82	21.89	32.24	26.38	135.53	35.67	0.26	103.10	7.00	11.00
60 x 100	2.5	5.957	7.59	103.09	46.88	3.69	2.49	20.62	15.63	25.11	17.68	103.25	26.23	0.31	167.86	19.00	35.00
	3.0	7.071	9.01	120.57	54.65	3.66	2.46	24.11	18.22	29.57	20.79	121.67	30.64	0.31	141.41	15.00	28.33
	4.0	9.222	11.75	152.58	68.68	3.60	2.42	30.52	22.89	37.94	26.60	156.27	38.68	0.31	108.43	10.00	20.00
	5.0	11.270	14.36	180.77	80.83	3.55	2.37	36.15	26.94	45.59	31.88	187.86	45.75	0.30	88.73	7.00	15.00
	6.0	13.214	16.83	205.30	91.20	3.49	2.33	41.06	30.40	52.54	36.64	216.44	51.92	0.30	75.68	5.00	11.67
	6.3	13.510	17.21	203.38	90.91	3.44	2.30	40.68	30.30	52.77	36.92	223.36	53.00	0.29	74.02	4.52	10.87
60 x 120	2.5	6.742	8.59	161.23	55.15	4.33	2.53	26.87	18.38	33.20	20.56	132.57	31.75	0.35	148.32	19.00	43.00
	3.0	8.013	10.21	189.12	64.40	4.30	2.51	31.52	21.47	39.18	24.21	156.34	37.14	0.35	124.79	15.00	35.00
	4.0	10.478	13.35	240.74	81.25	4.25	2.47	40.12	27.08	50.49	31.08	201.12	47.05	0.35	95.44	10.00	25.00
	4.5	11.672	14.87	264.52	88.88	4.22	2.44	44.09	29.63	55.82	34.30	222.14	51.58	0.34	85.68	8.33	21.67
	5.0	12.840	16.36	286.97	95.99	4.19	2.42	47.83	32.00	60.95	37.38	242.23	55.85	0.34	77.88	7.00	19.00
	6.0	15.098	19.23	328.01	108.77	4.13	2.38	54.67	36.26	70.57	43.12	279.67	63.60	0.34	66.23	5.00	15.00
	6.3	15.488	19.73	326.97	109.16	4.07	2.35	54.49	36.39	71.24	43.69	289.35	65.14	0.33	64.57	4.52	14.05
75 x 100	2.3	6.046	7.70	112.28	72.30	3.82	3.06	22.46	19.28	26.24	21.92	138.34	30.98	0.34	165.39	27.61	38.48
	3.0	7.778	9.91	141.75	91.07	3.78	3.03	28.35	24.29	33.93	27.89	176.64	39.09	0.34	128.57	20.00	28.33
	3.2	8.263	10.53	149.79	96.47	3.77	3.02	29.96	25.64	35.95	29.53	187.25	41.30	0.34	121.01	18.44	26.25
	4.0	10.164	12.95	180.25	115.42	3.73	2.99	36.05	30.78	43.70	35.86	228.25	49.70	0.34	98.38	13.75	20.00
	4.5	11.319	14.42	197.95	126.55	3.71	2.96	39.59	33.75	48.30	39.61	252.68	54.60	0.33	88.35	11.67	17.22
	5.0	12.447	15.86	214.64	137.00	3.68	2.94	42.93	36.53	52.72	43.21	276.18	59.22	0.33	80.34	10.00	15.00
	6.0	14.627	18.63	245.11	155.96	3.63	2.89	49.02	41.59	61.00	49.93	320.42	67.71	0.33	68.37	7.50	11.67
	6.3	14.993	19.10	244.92	156.33	3.58	2.86	48.98	41.69	61.63	50.54	332.53	69.47	0.32	66.70	6.90	10.87
	75 x 125	2.3	6.949	8.85	191.52	87.51	4.65	3.14	30.64	23.33	36.99	26.10	189.93	39.08	0.39	143.91	27.61
3.0		8.955	11.41	242.85	110.52	4.61	3.11	38.86	29.47	47.26	33.29	242.86	49.46	0.39	111.66	20.00	36.67
4.0		11.734	14.95	310.76	140.65	4.56	3.07	49.72	37.51	61.13	42.96	314.53	63.14	0.39	85.22	13.75	26.25

Cold Formed Rectangular Hollow Sections

BS EN 10219

Size	Thickness	Weight	Cross	Second	Second	Radius of	Radius of	Elastic	Elastic	Plastic	Plastic	Torsional	Torsional	Superficial	Nominal	Ratio for	Ratio for
			Sectional Area	Moment of Area	Moment of Area	Gyration	Gyration	Modulus	Modulus	Modulus	Modulus	inertia contant	modulus contant	Area per metre length	Length per tonne	Local Buckling	Local Buckling
$B \times H$	T	M	A	I_{yy}	I_{zz}	i_{yy}	i_{zz}	$W_{el,y}$	$W_{el,z}$	$W_{pl,y}$	$W_{pl,z}$	L_t	C_t	A_s	L	Flange	Web
mm	mm	Kg/m	cm ²	cm ⁴	cm ⁴	cm	cm	cm ³	cm ³	cm ³	cm ³	cm ⁴	cm ³	m ² /m	m	B/T	H/T
80 x 140	4.0	12.990	16.55	429.60	180.42	5.10	3.30	61.37	45.10	75.51	51.31	411.60	76.48	0.42	76.98	15.00	30.00
	5.0	15.980	20.36	517.06	215.94	5.04	3.26	73.87	53.99	91.80	62.24	500.51	91.83	0.43	62.58	11.00	23.00
	6.0	18.866	24.03	597.00	247.96	4.98	3.21	85.29	61.99	107.09	72.43	583.80	105.83	0.42	53.01	8.33	18.33
	6.3	19.444	24.77	602.72	251.42	4.93	3.19	86.10	62.85	109.08	73.97	608.51	109.19	0.41	51.43	7.70	17.22
	8.0	23.897	30.44	708.09	293.31	4.82	3.10	101.16	73.33	130.82	88.45	731.35	128.77	0.41	41.85	5.00	12.50
80 x 160	3.0	10.839	13.81	463.81	159.03	5.80	3.39	57.98	39.76	71.41	44.26	380.34	68.59	0.47	92.26	21.67	48.33
	3.2	11.529	14.69	491.40	168.25	5.78	3.38	61.42	42.06	75.80	46.95	403.61	72.60	0.47	86.74	20.00	45.00
	4.0	14.246	18.15	597.71	203.54	5.74	3.35	74.71	50.89	92.86	57.39	494.10	88.03	0.47	70.19	15.00	35.00
	4.5	15.911	20.27	660.92	224.31	5.71	3.33	82.62	56.08	103.15	63.66	548.53	97.16	0.46	62.85	12.78	30.56
	5.0	17.550	22.36	721.69	244.11	5.68	3.30	90.21	61.03	113.16	69.74	601.34	105.90	0.46	56.98	11.00	27.00
	6.0	20.750	26.43	836.01	280.89	5.62	3.26	104.50	70.22	132.32	81.31	702.06	122.27	0.46	48.19	8.33	21.67
	6.3	21.422	27.29	846.48	285.72	5.57	3.24	105.81	71.43	135.11	83.25	732.25	126.31	0.45	46.68	7.70	20.40
	8.0	26.409	33.64	1001.22	334.95	5.46	3.16	125.15	83.74	162.86	99.97	882.33	149.54	0.45	37.87	5.00	15.00
	9.0	29.185	37.18	1078.66	359.07	5.39	3.11	134.83	89.77	177.51	108.72	960.40	161.25	0.44	34.26	3.89	12.78
100 x 150	3.0	11.310	14.41	460.64	247.64	5.65	4.15	61.42	49.53	73.48	55.76	507.20	81.40	0.49	88.41	28.33	45.00
	4.0	14.874	18.95	594.60	318.57	5.60	4.10	79.28	63.71	95.67	72.50	661.63	104.94	0.48	67.23	20.00	32.50
	4.5	16.617	21.17	658.06	351.96	5.58	4.08	87.74	70.39	106.34	80.53	736.08	116.08	0.48	60.18	17.22	28.33
	5.0	18.335	23.36	719.20	384.02	5.55	4.05	95.89	76.80	116.73	88.34	808.68	126.81	0.48	54.54	15.00	25.00
	6.0	21.692	27.63	834.69	444.19	5.50	4.01	111.29	88.84	136.68	103.30	948.34	147.07	0.48	46.10	11.67	20.00
	6.3	22.411	28.55	848.27	452.66	5.45	3.98	113.10	90.53	139.88	105.90	991.64	152.27	0.47	44.62	10.87	18.81
	8.0	27.665	35.24	1008.13	535.65	5.35	3.90	134.42	107.13	169.16	127.85	1205.89	181.85	0.47	36.15	7.50	13.75
	9.0	30.598	38.98	1089.46	577.49	5.29	3.85	145.26	115.50	184.75	139.51	1320.32	197.16	0.46	32.68	6.11	11.67
100 x 180	4.0	16.758	21.35	926.04	373.89	6.59	4.18	102.89	74.78	125.89	84.02	853.85	127.06	0.55	59.67	20.00	40.00
	5.0	20.690	26.36	1124.20	451.77	6.53	4.14	124.91	90.35	154.02	102.59	1044.79	153.88	0.54	48.33	15.00	31.00
	6.0	24.518	31.23	1309.61	523.83	6.48	4.10	145.51	104.77	180.83	120.22	1226.68	178.88	0.54	40.79	11.67	25.00
	6.3	25.379	32.33	1334.99	535.75	6.43	4.07	148.33	107.15	185.54	123.61	1283.41	185.46	0.53	39.40	10.87	23.57
	8.0	31.433	40.04	1598.49	637.47	6.32	3.99	177.61	127.49	225.62	149.93	1565.24	222.49	0.53	31.81	7.50	17.50
	10.0	38.125	48.57	1859.47	736.41	6.19	3.89	206.61	147.28	267.51	177.25	1858.62	259.61	0.52	26.23	5.00	13.00
	12.0	43.379	55.26	1965.14	782.08	5.96	3.76	218.35	156.42	292.35	194.20	2072.88	284.53	0.50	23.05	3.33	10.00
12.5	44.779	57.04	2001.02	795.80	5.92	3.74	222.34	159.16	299.98	198.91	2121.70	290.41	0.50	22.33	3.00	9.40	
100 x 200	4.0	18.014	22.95	1199.71	410.78	7.23	4.23	119.97	82.16	148.04	91.70	985.38	141.81	0.59	55.51	20.00	45.00
	4.5	20.150	25.67	1331.44	454.64	7.20	4.21	133.14	90.93	164.89	102.02	1097.11	157.12	0.58	49.63	17.22	39.44
	5.0	22.260	28.36	1459.25	496.94	7.17	4.19	145.93	99.39	184.37	112.09	1206.29	171.94	0.58	44.92	15.00	35.00
	6.0	26.402	33.63	1703.31	576.91	7.12	4.14	170.33	115.38	213.27	131.50	1417.03	200.10	0.58	37.88	11.67	28.33
	6.3	27.357	34.85	1739.24	591.15	7.06	4.12	172.92	118.23	219.13	135.41	1482.82	207.60	0.57	36.55	10.87	26.75
	8.0	33.945	43.24	2090.84	705.36	6.95	4.04	209.08	141.07	267.26	164.65	1810.72	249.60	0.57	29.40	7.50	20.00
	9.0	37.663	47.98	2275.59	764.42	6.89	3.99	227.56	152.88	293.45	180.46	1988.26	271.75	0.56	26.55	6.11	17.22
	10.0	41.265	52.57	2444.40	817.74	6.82	3.94	244.44	163.55	318.08	195.25	2154.13	292.07	0.56	24.23	5.00	15.00
	12.0	47.147	60.06	2606.70	875.58	6.59	3.82	260.67	175.12	350.01	215.32	2414.35	321.81	0.54	21.21	3.33	11.67
	12.5	48.704	62.04	2658.89	892.15	6.55	3.79	265.89	178.43	359.13	220.78	2473.75	328.83	0.54	20.53	3.00	11.00
100 x 300	6.0	35.822	45.63	4776.79	842.35	10.23	4.30	318.45	168.47	411.43	187.90	2403.46	306.21	0.78	27.92	11.67	45.00
	6.3	37.248	47.45	4906.80	868.12	10.17	4.28	327.12	173.62	424.88	194.45	2515.18	318.32	0.77	26.85	10.87	42.62
	8.0	46.505	59.24	5977.86	1044.77	10.05	4.20	398.82	208.95	523.47	238.25	3080.34	385.24	0.77	21.50	7.50	32.50
	10.0	56.965	72.57	7106.03	1224.41	9.90	4.11	475.74	244.88	630.91	285.25	3681.00	454.51	0.76	17.55	5.00	25.00
	12.0	65.987	84.06	7808.31	1343.10	9.64	4.00	520.55	268.62	710.31	320.92	4177.46	508.49	0.74	15.15	3.33	20.00
	12.5	68.329	87.04	8009.59	1373.92	9.59	3.97	533.97	274.78	731.85	330.16	4291.50	521.17	0.74	14.64	3.00	19.00
	16.0	83.816	106.77	9157.36	1543.16	9.26	3.80	610.49	308.63	865.04	386.11	4938.77	592.31	0.72	11.93	1.25	13.75
120 x 200	4.0	19.270	24.55	1353.39	617.66	7.43	5.02	135.34	102.94	163.72	115.45	1345.35	172.49	0.63	51.89	25.00	45.00
	5.0	23.830	30.36	1649.42	750.14	7.37	4.97	164.94	125.02	200.87	141.45	1652.00	209.87	0.62	41.96	19.00	35.00
	6.0	28.286	36.03	1929.20	874.35	7.32	4.93	192.92	145.72	236.55	166.33	1946.73	245.12	0.62	35.35	15.00	28.33
	6.3	29.335	37.37	1975.70	897.66	7.27	4.90	197.57	149.61	243.54	171.52	2040.16	254.71	0.61	34.09	14.05	26.75
	8.0	36.457	46.44	2385.92	1078.97	7.17	4.82	238.59	179.83	297.98	209.49	2507.04	308.27	0.61	27.43	10.00	20.00
	10.0	44.405	56.57	2805.73	1262.14	7.04	4.72	280.57	210.36	356.08	249.82	3007.03	363.69	0.60	22.52	7.00	15.00
	12.0	50.915	64.86	3031.41	1367.87	6.84	4.59	303.14	227.98	395.13	277.77	3418.93	405.70	0.58	19.64	5.00	11.67
	12.5	52.629	67.04	3099.00	1397.43	6.80	4.57	309.90	232.91	406.00	285.33	3513.84	415.67	0.58	19.00	4.60	11.00
150 x 200	4.0	21.154	26.95	1583.92	1021.03	7.67	6.16	158.39	136.14	187.24	154.07	1942.03	218.55	0.69	47.27	32.50	45.00
	4.5	23.682	30.17	1761.49	1134.54	7.64	6.13	176.15	151.27	208.87	171.82	2168.52	242.99	0.68	42.23	28.33	39.44
	5.0	26.185	33.36	1934.67	1245.04	7.62	6.11	193.47	166.00	230.12	189.23						

Cold Formed Rectangular Hollow Sections

BS EN 10219

Size		Weight	Cross Sectional Area	Second Moment of Area	Second Moment of Area	Radius of Gyration	Radius of Gyration	Elastic Modulus	Elastic Modulus	Plastic Modulus	Plastic Modulus	Torsional inertia contant	Torsional modulus contant	Superficial Area per metre length	Nominal Length per tonne	Ratio for Local Buckling	Ratio for Local Buckling
B × H	T	M	A	I _{yy}	I _{zz}	i _{yy}	i _{zz}	W _{el_{yy}}	W _{el_{zz}}	W _{pl_{yy}}	W _{pl_{zz}}	L _t	C _t	A _s	L	Flange	Web
mm	mm	Kg/m	cm ²	cm ⁴	cm ⁴	cm	cm	cm ³	cm ³	cm ³	cm ³	cm ⁴	cm ³	m ² /m	m	B/T	H/T
180 × 260	5.0	33.250	42.36	4121.36	2349.53	9.86	7.45	317.03	261.06	377.44	294.02	4694.89	425.87	0.86	30.08	31.00	47.00
	6.3	41.204	52.49	5012.66	2856.31	9.77	7.38	385.59	317.37	462.88	360.63	5844.33	522.95	0.85	24.27	23.57	36.27
	8.0	51.529	65.64	6145.21	3493.23	9.68	7.29	472.71	388.14	572.67	445.78	7266.68	642.43	0.85	19.41	17.50	27.50
	10.0	63.245	80.57	7363.31	4174.13	9.56	7.20	566.41	463.79	693.78	539.51	8850.30	771.94	0.84	15.81	13.00	21.00
	12.0	73.523	93.66	8245.01	4679.25	9.38	7.07	634.23	519.92	789.87	614.91	10328.33	884.40	0.82	13.60	10.00	16.67
	12.5	76.179	97.04	8482.47	4811.85	9.35	7.04	652.50	534.65	815.26	634.58	10676.03	911.40	0.82	13.13	9.40	15.80
	16.0	93.864	119.57	9923.00	5613.55	9.11	6.85	763.31	623.73	976.61	759.44	12889.97	1079.42	0.80	10.65	6.25	11.25
200 × 300	4.5	34.280	43.67	5661.87	3051.65	11.39	8.36	377.46	305.17	448.70	340.84	6185.06	506.88	0.98	29.17	39.44	61.67
	5.0	37.960	48.36	6241.05	3360.92	11.36	8.34	416.07	336.09	495.65	376.37	6835.78	561.89	0.98	26.34	35.00	55.00
	6.0	45.242	57.63	7370.23	3962.19	11.31	8.29	491.35	396.22	587.83	446.07	8115.23	651.74	0.98	22.10	28.33	45.00
	6.3	47.139	60.05	7624.39	4103.82	11.27	8.27	508.29	410.38	609.91	463.19	8523.54	679.80	0.97	21.21	26.75	42.62
	8.0	59.065	75.24	9389.27	5041.67	11.17	8.19	625.95	504.17	757.07	574.46	10626.50	838.38	0.97	16.93	20.00	32.50
	9.0	65.923	83.98	10371.42	5561.31	11.11	8.14	691.43	556.13	840.24	637.25	11822.37	926.98	0.96	15.17	17.22	28.33
	10.0	72.665	92.57	11312.70	6057.73	11.05	8.09	754.18	605.77	920.91	698.08	12987.13	1012.19	0.96	13.76	15.00	25.00
	12.0	84.827	108.06	12787.83	6853.74	10.88	7.96	852.52	685.37	1056.91	801.21	15235.56	1167.14	0.94	11.79	11.67	20.00
	12.5	87.954	112.04	13178.86	7059.94	10.85	7.94	878.59	705.99	1091.22	827.88	15767.68	1204.48	0.94	11.37	11.00	19.00
	16.0	108.936	138.77	15616.67	8340.26	10.61	7.75	1041.11	834.03	1319.44	999.97	19222.87	1441.73	0.92	9.18	7.50	13.75
200 × 400	4.5	41.345	52.67	11315.63	3911.76	14.66	8.62	565.78	391.18	689.55	428.81	9188.59	672.87	1.18	24.19	39.44	83.89
	5.0	45.810	58.36	12489.82	4311.75	14.63	8.60	624.49	431.18	762.43	473.87	10158.74	742.01	1.18	21.83	35.00	75.00
	6.0	54.662	69.63	14789.35	5091.63	14.57	8.55	739.47	509.16	905.99	562.47	12068.52	877.05	1.18	18.29	28.33	61.67
	6.3	57.030	72.65	15329.74	5286.10	14.53	8.53	766.49	528.61	941.66	585.22	12672.84	916.17	1.17	17.53	26.75	58.49
	8.0	71.625	91.24	18974.42	6517.08	14.42	8.45	948.72	651.71	1173.29	728.06	15820.22	1133.29	1.17	13.96	20.00	45.00
	9.0	80.053	101.98	21023.33	7204.17	14.36	8.40	1051.17	720.42	1305.14	809.15	17615.46	1255.32	1.16	12.49	17.22	39.44
	10.0	88.365	112.57	23002.65	7864.40	14.30	8.36	1150.13	786.44	1433.74	888.08	19368.49	1373.21	1.16	11.32	15.00	35.00
	12.0	103.667	132.06	26248.42	8977.26	14.10	8.24	1312.42	897.73	1656.21	1026.81	22782.10	1591.35	1.14	9.65	11.67	28.33
	12.5	107.579	137.04	27100.50	9260.46	14.06	8.22	1355.02	926.05	1713.94	1062.25	23594.07	1644.04	1.14	9.30	11.00	27.00
	16.0	134.056	170.77	32547.00	11059.57	13.81	8.05	1627.35	1105.56	2093.30	1294.37	28928.33	1983.78	1.12	7.46	7.50	20.00
250 × 350	6.0	54.662	69.63	12457.31	7458.44	13.38	10.35	711.85	596.68	842.61	670.85	14553.72	966.84	1.18	18.29	36.67	53.33
	6.3	57.030	72.65	12923.13	7743.81	13.34	10.32	738.46	619.51	876.17	697.96	15291.03	1010.43	1.17	17.53	34.68	50.56
	8.0	71.625	91.24	16001.29	9572.62	13.24	10.24	914.36	765.81	1091.98	869.37	19136.32	1252.81	1.17	13.96	26.25	38.75
	10.0	88.365	112.57	19407.97	11588.34	13.13	10.15	1109.00	927.07	1334.83	1062.00	23499.74	1522.29	1.16	11.32	20.00	30.00
	12.0	103.667	132.06	22196.52	13260.94	12.96	10.02	1268.37	1060.87	1543.86	1229.16	27749.26	1769.81	1.14	9.65	15.83	24.17
	12.5	107.579	137.04	22922.48	13689.96	12.93	9.99	1309.86	1095.20	1597.89	1272.05	28763.59	1829.81	1.14	9.30	15.00	23.00
	16.0	134.056	170.77	27580.16	16434.44	12.71	9.81	1576.01	1314.76	1953.57	1554.10	35497.19	2220.26	1.12	7.46	10.63	16.88
300 × 400	6.3	66.921	85.25	20212.64	13059.59	15.40	12.38	1010.63	870.64	1189.69	979.97	24851.94	1404.06	1.37	14.94	42.62	58.49
	8.0	84.185	107.24	25121.83	16212.10	15.31	12.30	1256.09	1080.81	1486.89	1224.27	31178.89	1747.24	1.37	11.88	32.50	45.00
	9.0	94.183	119.98	27904.19	17995.14	15.25	12.25	1395.21	1199.68	1657.04	1364.04	34822.39	1942.30	1.36	10.62	28.33	39.44
	10.0	104.065	132.57	30609.32	19726.03	15.20	12.20	1530.47	1315.07	1823.74	1500.91	38407.04	2132.38	1.36	9.61	25.00	35.00
	12.0	122.507	156.06	35283.94	22746.87	15.04	12.07	1764.20	1516.46	2121.81	1747.11	45527.09	2492.45	1.34	8.16	20.00	28.33
	12.5	127.204	162.04	36488.52	23517.41	15.01	12.05	1824.43	1567.83	2198.31	1809.97	47237.09	2580.08	1.34	7.86	19.00	27.00
	16.0	159.176	202.77	44350.31	28535.28	14.79	11.86	2217.52	1902.35	2707.70	2228.24	58730.43	3158.63	1.32	6.28	13.75	20.00