

# Cold Formed Square Hollow Sections

BS EN 10219

Designation		Weight	Cross Sectional Area	Second Moment of Area	Radius of Gyration	Elastic Modulus	Plastic Modulus	Torsional inertia constant	Torsional modulus constant	Superficial Area per metre length	Superficial Area per metre length	Nominal Length per tonne	Ratio for Local Buckling
Size	Thickness												
$B \times B$	$T$	$M$	$A$	$I$	$i$	$W_{el}$	$W_{pl}$	$L_t$	$C_t$	$A_s$	$A_s$	$L$	Flange
mm	mm	Kg/m	cm <sup>2</sup>	cm <sup>4</sup>	cm	cm <sup>3</sup>	cm <sup>3</sup>	cm <sup>4</sup>	cm <sup>3</sup>	m <sup>2</sup> /m	m <sup>2</sup> /m	m	$B/T$
19 × 19	1.6	0.822	1.05	0.51	0.70	0.54	0.67	0.88	0.82	0.07	0.07	1215.92	6.88
20 × 20	1.6	0.873	1.11	0.61	0.74	0.61	0.75	1.03	0.92	0.07	0.08	1145.92	7.50
	2.0	1.050	1.34	0.69	0.72	0.69	0.88	1.21	1.06	0.07	0.07	952.80	5.00
25 × 25	1.6	1.124	1.43	1.28	0.94	1.02	1.24	2.12	1.54	0.09	0.10	889.79	10.63
	2.0	1.364	1.74	1.48	0.92	1.19	1.47	2.53	1.80	0.09	0.09	733.39	7.50
	2.3	1.532	1.95	1.61	0.91	1.29	1.62	2.80	1.97	0.09	0.09	652.55	5.87
	2.5	1.640	2.09	1.69	0.90	1.35	1.71	2.97	2.07	0.09	0.09	609.79	5.00
	3.0	1.890	2.41	1.84	0.87	1.47	1.91	3.33	2.27	0.09	0.09	528.97	3.33
30 × 30	1.6	1.375	1.75	2.31	1.15	1.54	1.84	3.77	2.32	0.11	0.12	727.24	13.75
	2.0	1.678	2.14	2.72	1.13	1.81	2.21	4.54	2.75	0.11	0.11	596.11	10.00
	2.3	1.894	2.41	2.99	1.11	2.00	2.45	5.07	3.03	0.11	0.11	528.11	8.04
	2.5	2.032	2.59	3.16	1.10	2.10	2.61	5.40	3.20	0.11	0.11	492.03	7.00
	3.0	2.361	3.01	3.50	1.08	2.34	2.96	6.15	3.58	0.11	0.11	423.47	5.00
32 × 32	1.6	1.476	1.88	2.84	1.23	1.78	2.12	4.62	2.68	0.12	0.12	677.72	15.00
	1.8	1.641	2.09	3.11	1.22	1.95	2.33	5.11	2.94	0.12	0.12	609.23	12.78
	2.0	1.803	2.30	3.36	1.21	2.10	2.54	5.58	3.18	0.12	0.12	554.59	11.00
	2.3	2.038	2.60	3.71	1.20	2.32	2.84	6.24	3.52	0.12	0.12	490.68	8.91
	2.5	2.189	2.79	3.92	1.19	2.45	3.02	6.66	3.72	0.12	0.12	456.75	7.80
	3.0	2.550	3.25	4.38	1.16	2.74	3.44	7.62	4.18	0.12	0.12	392.18	5.67
	3.2	2.687	3.42	4.54	1.15	2.84	3.59	7.96	4.34	0.12	0.12	372.19	5.00
35 × 35	1.6	1.626	2.07	3.79	1.35	2.16	2.57	6.11	3.26	0.13	0.14	614.91	16.88
	2.0	1.992	2.54	4.51	1.33	2.58	3.09	7.41	3.89	0.13	0.13	502.12	12.50
	2.3	2.255	2.87	4.99	1.32	2.85	3.46	8.31	4.32	0.13	0.13	443.53	10.22
	2.5	2.425	3.09	5.29	1.31	3.02	3.69	8.89	4.58	0.13	0.13	412.39	9.00
	3.0	2.832	3.61	5.95	1.28	3.40	4.23	10.20	5.18	0.13	0.13	353.05	6.67
38 × 38	1.6	1.777	2.26	4.92	1.47	2.59	3.06	7.90	3.90	0.15	0.15	562.75	18.75
	2.0	2.180	2.78	5.88	1.46	3.10	3.70	9.60	4.67	0.15	0.15	458.73	14.00
	2.3	2.471	3.15	6.54	1.44	3.44	4.15	10.80	5.20	0.14	0.14	404.64	11.52
	2.5	2.660	3.39	6.94	1.43	3.65	4.44	11.60	5.53	0.14	0.14	375.88	10.20
	3.0	3.115	3.97	7.85	1.41	4.13	5.10	13.30	6.28	0.14	0.14	321.02	7.67
	4.0	3.947	5.03	9.26	1.36	4.87	6.22	16.40	7.48	0.14	0.14	253.36	4.50
40 × 40	1.6	1.877	2.39	5.79	1.56	2.90	3.41	9.27	4.36	0.15	0.16	532.63	20.00
	1.9	2.200	2.80	6.66	1.54	3.33	3.96	10.80	5.02	0.15	0.15	454.53	16.05
	2.0	2.306	2.94	6.94	1.54	3.47	4.13	11.30	5.23	0.15	0.15	433.74	15.00
	2.3	2.616	3.33	7.73	1.52	3.86	4.64	12.70	5.83	0.15	0.15	382.30	12.39
	2.5	2.817	3.59	8.22	1.51	4.11	4.97	13.60	6.21	0.15	0.15	354.94	11.00
	3.0	3.303	4.21	9.32	1.49	4.66	5.72	15.80	7.07	0.15	0.15	302.71	8.33
	4.0	4.198	5.35	11.10	1.44	5.54	7.01	19.40	8.48	0.15	0.15	238.20	5.00
50 × 50	1.6	2.380	3.03	11.70	1.96	4.68	5.46	18.50	7.03	0.19	0.20	420.19	26.25
	1.9	2.797	3.56	13.60	1.95	5.42	6.37	21.60	8.15	0.19	0.19	357.57	21.32
	2.0	2.934	3.74	14.10	1.95	5.66	6.66	22.60	8.51	0.19	0.19	340.89	20.00
	2.3	3.338	4.25	15.90	1.93	6.34	7.52	25.60	9.55	0.19	0.19	299.58	16.74
	2.5	3.602	4.59	16.90	1.92	6.78	8.07	27.50	10.20	0.19	0.19	277.59	15.00
	3.0	4.245	5.41	19.50	1.90	7.79	9.39	32.10	11.80	0.19	0.19	235.55	11.67
	4.0	5.454	6.95	23.70	1.85	9.49	11.73	40.40	14.40	0.19	0.19	183.35	7.50
	4.5	6.020	7.67	25.50	1.82	10.20	12.76	44.10	15.60	0.18	0.19	166.12	6.11
	5.0	6.560	8.36	27.00	1.80	10.80	13.70	47.50	16.60	0.18	0.18	152.45	5.00
	6.0	7.562	9.63	29.50	1.75	11.80	15.32	53.20	18.20	0.18	0.18	132.24	3.33
60 × 60	1.6	2.882	3.67	20.70	2.37	6.89	7.99	32.40	10.40	0.23	0.24	346.95	32.50
	2.3	4.060	5.17	28.30	2.34	9.44	11.09	45.20	14.20	0.23	0.23	246.30	21.09
	2.5	4.387	5.59	30.30	2.33	10.10	11.93	48.70	15.20	0.23	0.23	227.93	19.00
	3.0	5.187	6.61	35.10	2.31	11.70	13.95	57.10	17.70	0.23	0.23	192.77	15.00
	4.0	6.710	8.55	43.60	2.26	14.50	17.64	72.60	22.00	0.23	0.23	149.03	10.00
	4.5	7.433	9.47	47.20	2.23	15.70	19.32	79.80	23.90	0.22	0.23	134.54	8.33
64 × 64	2.3	4.349	5.54	34.70	2.50	10.80	12.71	55.20	16.30	0.25	0.25	229.94	22.83
	3.0	5.564	7.09	43.20	2.47	13.50	16.03	69.90	20.30	0.25	0.25	179.72	16.33
	4.0	7.213	9.19	53.80	2.42	16.80	20.34	89.20	25.40	0.24	0.24	138.65	11.00
	4.5	7.998	10.19	58.50	2.40	18.30	22.32	98.10	27.70	0.24	0.24	125.03	9.22
	5.0	8.758	11.16	62.80	2.37	19.60	24.17	107.00	29.80	0.24	0.24	114.19	7.80
	6.0	10.199	12.99	70.10	2.32	21.90	27.52	122.00	33.40	0.24	0.24	98.04	5.67
65 × 65	1.6	3.133	3.99	26.50	2.58	8.16	9.44	41.40	12.20	0.25	0.26	319.14	35.63
	2.0	3.876	4.94	32.30	2.56	9.94	11.58	50.90	14.90	0.25	0.25	258.03	27.50
	2.3	4.421	5.63	36.40	2.54	11.20	13.13	57.90	16.90	0.25	0.25	226.18	23.26
	2.5	4.780	6.09	39.10	2.53	12.00	14.14	62.40	18.10	0.25	0.25	209.21	21.00
	3.0	5.658	7.21	45.40	2.51	14.00	16.57	73.30	21.00	0.25	0.25	176.73	16.67
	4.0	7.338	9.35	56.60	2.46	17.40	21.05	93.70	26.30	0.25	0.25	136.27	11.25
	4.5	8.139	10.37	61.60	2.44	18.90	23.10	103.00	28.70	0.24	0.25	122.86	9.44
	5.0	8.915	11.36	66.10	2.41	20.30	25.03	112.00	30.90	0.24	0.24	112.18	8.00
	6.0	10.388	13.23	73.90	2.36	22.70	28.53	128.00	34.70	0.24	0.24	96.27	5.83

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Size	Thickness												
$B \times B$	$T$	$M$	$A$	$I$	$i$	$W_{el}$	$W_{pl}$	$L_t$	$C_t$	$A_s$	$A_s$	$L$	Flange
mm	mm	Kg/m	cm <sup>2</sup>	cm <sup>4</sup>	cm	cm <sup>3</sup>	cm <sup>3</sup>	cm <sup>4</sup>	cm <sup>3</sup>	m <sup>2</sup> /m	m <sup>2</sup> /m	m	$B/T$
70 × 70	2.5	5.172	6.59	49.40	2.74	14.10	16.54	78.50	21.20	0.27	0.27	193.33	23.00
	3.0	6.129	7.81	57.50	2.71	16.40	19.42	92.40	24.70	0.27	0.27	163.15	18.33
	4.0	7.966	10.15	72.10	2.67	20.60	24.76	119.00	31.10	0.27	0.27	125.53	12.50
	5.0	9.700	12.36	84.60	2.62	24.20	29.56	142.00	36.70	0.26	0.26	103.10	9.00
	6.0	11.330	14.43	95.20	2.57	27.20	33.83	163.00	41.40	0.26	0.26	88.26	6.67
	6.3	11.531	14.69	93.80	2.53	26.80	33.80	168.00	42.10	0.25	0.25	86.72	6.11
75 × 75	1.6	3.636	4.63	41.30	2.99	11.00	12.69	64.10	16.50	0.29	0.30	275.04	41.88
	2.3	5.143	6.55	57.10	2.95	15.20	17.74	90.00	22.90	0.29	0.29	194.42	27.61
	2.5	5.565	7.09	61.40	2.94	16.40	19.12	97.10	24.60	0.29	0.29	179.70	25.00
	3.0	6.600	8.41	71.60	2.92	19.10	22.49	115.00	28.70	0.29	0.29	151.50	20.00
	4.0	8.594	10.95	90.20	2.87	24.10	28.76	147.00	36.30	0.29	0.29	116.36	13.75
	4.5	9.552	12.17	98.60	2.85	26.30	31.68	163.00	39.70	0.28	0.29	104.69	11.67
	5.0	10.485	13.36	106.00	2.82	28.40	34.46	177.00	42.90	0.28	0.28	95.38	10.00
	6.0	12.272	15.63	120.00	2.77	32.00	39.58	205.00	48.70	0.28	0.28	81.49	7.50
80 × 80	2.3	5.505	7.01	69.90	3.16	17.50	20.30	110.00	26.20	0.31	0.31	181.67	29.78
	3.0	7.071	9.01	87.80	3.12	22.00	25.78	140.00	33.00	0.31	0.31	141.41	21.67
	4.0	9.222	11.75	111.00	3.07	27.80	33.07	180.00	41.80	0.31	0.31	108.43	15.00
	4.5	10.259	13.07	122.00	3.05	30.40	36.48	200.00	45.90	0.30	0.31	97.48	12.78
	5.0	11.270	14.36	131.00	3.03	32.90	39.74	218.00	49.70	0.30	0.30	88.73	11.00
	6.0	13.214	16.83	149.00	2.98	37.30	45.79	252.00	56.60	0.30	0.30	75.68	8.33
89 × 89	3.0	7.919	10.09	123.00	3.49	27.60	32.28	195.00	41.50	0.35	0.35	126.27	24.67
	4.0	10.353	13.19	156.00	3.44	35.10	41.58	252.00	52.90	0.34	0.34	96.59	17.25
	4.5	11.530	14.69	172.00	3.42	38.60	45.97	279.00	58.10	0.34	0.34	86.73	14.78
	5.0	12.683	16.16	186.00	3.39	41.80	50.18	305.00	63.10	0.34	0.34	78.85	12.80
	6.0	14.909	18.99	213.00	3.34	47.80	58.09	355.00	72.30	0.34	0.34	67.07	9.83
90 × 90	2.3	6.227	7.93	101.00	3.56	22.40	25.93	158.00	33.60	0.35	0.35	160.60	34.13
	3.0	8.013	10.21	127.00	3.53	28.30	33.04	201.00	42.50	0.35	0.35	124.79	25.00
	4.0	10.478	13.35	162.00	3.48	36.00	42.58	261.00	54.20	0.35	0.35	95.44	17.50
	4.5	11.672	14.87	178.00	3.46	39.50	47.09	289.00	59.60	0.34	0.35	85.68	15.00
	5.0	12.840	16.36	193.00	3.43	42.90	51.41	316.00	64.70	0.34	0.34	77.88	13.00
	6.0	15.098	19.23	220.00	3.39	49.00	59.54	368.00	74.20	0.34	0.34	66.23	10.00
	6.3	15.488	19.73	221.00	3.35	49.10	60.30	382.00	76.20	0.33	0.33	64.57	9.29
	8.0	18.873	24.04	255.00	3.25	56.60	71.27	456.00	88.80	0.33	0.33	52.98	6.25
100 × 100	2.3	6.949	8.85	140.00	3.97	27.90	32.26	217.00	41.90	0.39	0.39	143.91	38.48
	3.0	8.955	11.41	177.00	3.94	35.40	41.21	279.00	53.20	0.39	0.39	111.66	28.33
	4.0	11.734	14.95	226.00	3.89	45.30	53.30	362.00	68.10	0.39	0.39	85.22	20.00
	4.5	13.085	16.67	249.00	3.87	49.90	59.04	402.00	75.10	0.38	0.39	76.42	17.22
	5.0	14.410	18.36	271.00	3.84	54.20	64.59	441.00	81.70	0.38	0.38	69.40	15.00
	6.0	16.982	21.63	311.00	3.79	62.30	75.10	514.00	94.10	0.38	0.38	58.89	11.67
	6.3	17.466	22.25	314.00	3.76	62.80	76.38	536.00	97.00	0.37	0.37	57.25	10.87
	8.0	21.385	27.24	366.00	3.67	73.20	91.05	645.00	114.00	0.37	0.37	46.76	7.50
	9.0	23.533	29.98	391.00	3.61	78.10	98.56	700.00	123.00	0.36	0.36	42.49	6.11
120 × 120	2.3	8.393	10.69	245.00	4.79	40.90	46.99	379.00	61.30	0.47	0.47	119.14	47.17
	3.0	10.839	13.81	312.00	4.76	52.10	60.24	488.00	78.20	0.47	0.47	92.26	35.00
	4.0	14.246	18.15	402.00	4.71	67.00	78.33	637.00	101.00	0.47	0.47	70.19	25.00
	4.5	15.911	20.27	445.00	4.68	74.10	87.01	708.00	111.00	0.46	0.47	62.85	21.67
	5.0	17.550	22.36	485.00	4.66	80.90	95.45	778.00	122.00	0.46	0.46	56.98	19.00
	6.0	20.750	26.43	562.00	4.61	93.70	111.61	913.00	141.00	0.46	0.46	48.19	15.00
	6.3	21.422	27.29	572.00	4.58	95.30	114.22	955.00	146.00	0.45	0.45	46.68	14.05
	8.0	26.409	33.64	672.00	4.49	113.00	137.81	1163.00	175.00	0.45	0.45	37.87	10.00
	9.0	29.185	37.18	730.00	4.43	122.00	150.31	1274.00	189.00	0.44	0.44	34.26	8.33
125 × 125	3.0	11.310	14.41	355.00	4.96	56.70	65.56	553.00	85.10	0.49	0.49	88.41	36.67
	4.0	14.874	18.95	457.00	4.91	73.20	85.33	722.00	110.00	0.49	0.49	67.23	26.25
	4.5	16.617	21.17	506.00	4.89	80.90	94.84	804.00	122.00	0.48	0.49	60.18	22.78
	5.0	18.335	23.36	553.00	4.86	88.40	104.10	884.00	133.00	0.48	0.48	54.54	20.00
	6.0	21.692	27.63	641.00	4.82	103.00	121.87	1038.00	154.00	0.48	0.48	46.10	15.83
	6.3	22.411	28.55	653.00	4.78	104.00	124.86	1086.00	160.00	0.47	0.47	44.62	14.84
	8.0	27.665	35.24	775.00	4.69	124.00	151.00	1325.00	192.00	0.47	0.47	36.15	10.63
	9.0	30.598	38.98	838.00	4.64	134.00	164.94	1454.00	208.00	0.46	0.46	32.68	8.89
140 × 140	4.0	16.758	21.35	652.00	5.52	93.10	108.15	1023.00	140.00	0.55	0.55	59.67	30.00
	5.0	20.690	26.36	791.00	5.48	113.00	132.30	1256.00	170.00	0.54	0.54	48.33	23.00
	6.0	24.518	31.23	920.00	5.43	131.00	155.33	1479.00	198.00	0.54	0.54	40.79	18.33
	6.3	25.379	32.33	941.00	5.39	134.00	159.62	1550.00	205.00	0.53	0.53	39.40	17.22
	8.0	31.433	40.04	1127.00	5.30	161.00	194.18	1901.00	248.00	0.53	0.53	31.81	12.50
	10.0	38.125	48.57	1312.00	5.20	187.00	230.38	2274.00	291.00	0.52	0.52	26.23	9.00
	12.0	43.379	55.26	1398.00	5.03	200.00	252.87	2567.00	322.00	0.50	0.50	23.05	6.67
	12.5	44.779	57.04	1425.00	5.00	204.00	259.25	2634.00	329.00	0.50	0.50	22.33	6.20

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Size	Thickness												
$B \times B$	$T$	$M$	$A$	$I$	$i$	$W_{el}$	$W_{pl}$	$L_t$	$C_t$	$A_s$	$A_s$	$L$	Flange
mm	mm	Kg/m	cm <sup>2</sup>	cm <sup>4</sup>	cm	cm <sup>3</sup>	cm <sup>3</sup>	cm <sup>4</sup>	cm <sup>3</sup>	m <sup>2</sup> /m	m <sup>2</sup> /m	m	$B/T$
150 × 150	3.0	13.665	17.41	623.00	5.98	83.00	95.53	965.00	125.00	0.59	0.59	73.18	45.00
	4.0	18.014	22.95	808.00	5.93	108.00	124.87	1265.00	162.00	0.59	0.59	55.51	32.50
	4.5	20.150	25.67	896.00	5.91	120.00	139.08	1411.00	180.00	0.58	0.59	49.63	28.33
	5.0	22.260	28.36	982.00	5.89	131.00	152.98	1554.00	197.00	0.58	0.58	44.92	25.00
	6.0	26.402	33.63	1146.00	5.84	153.00	179.88	1833.00	230.00	0.58	0.58	37.88	20.00
	6.3	27.357	34.85	1174.00	5.80	156.00	185.15	1922.00	239.00	0.57	0.57	36.55	18.81
	8.0	33.945	43.24	1412.00	5.71	188.00	225.96	2364.00	289.00	0.57	0.57	29.46	13.75
	9.0	37.663	47.98	1537.00	5.66	205.00	248.20	2608.00	316.00	0.56	0.56	26.55	11.67
	12.5	48.704	62.04	1817.00	5.41	242.00	305.58	3321.00	389.00	0.54	0.54	20.53	7.00
160 × 160	4.0	19.270	24.55	987.00	6.34	123.00	142.78	1541.00	185.00	0.63	0.63	51.89	35.00
	5.0	23.830	30.36	1202.00	6.29	150.00	175.16	1896.00	226.00	0.62	0.62	41.96	27.00
	6.0	28.286	36.03	1405.00	6.25	176.00	206.24	2239.00	264.00	0.62	0.62	35.35	21.67
	6.3	29.335	37.37	1442.00	6.21	180.00	212.57	2349.00	275.00	0.61	0.61	34.09	20.40
	8.0	36.457	46.44	1741.00	6.12	218.00	260.14	2897.00	334.00	0.61	0.61	27.43	15.00
	10.0	44.405	56.57	2048.00	6.02	256.00	310.95	3490.00	395.00	0.60	0.60	22.52	11.00
	12.0	50.915	64.86	2224.00	5.86	278.00	346.05	3997.00	443.00	0.58	0.58	19.64	8.33
	12.5	52.629	67.04	2275.00	5.83	284.00	355.66	4114.00	455.00	0.58	0.58	19.00	7.80
	16.0	63.720	81.17	2546.00	5.60	318.00	412.67	4799.00	520.00	0.56	0.56	15.69	5.00
178 × 178	4.0	21.531	27.43	1373.00	7.08	154.00	178.05	2136.00	232.00	0.70	0.70	46.44	39.50
	4.5	24.106	30.71	1527.00	7.05	172.00	198.64	2386.00	258.00	0.70	0.70	41.48	34.56
	5.0	26.656	33.96	1677.00	7.03	188.00	218.86	2632.00	283.00	0.69	0.70	37.52	30.60
	6.0	31.677	40.35	1966.00	6.98	221.00	258.22	3113.00	332.00	0.69	0.69	31.57	24.67
	9.0	45.576	58.06	2690.00	6.81	302.00	361.49	4480.00	463.00	0.67	0.67	21.94	14.78
180 × 180	4.0	21.782	27.75	1422.00	7.16	158.00	182.21	2210.00	237.00	0.71	0.71	45.91	40.00
	4.5	24.389	31.07	1581.00	7.13	176.00	203.30	2469.00	264.00	0.70	0.71	41.00	35.00
	5.0	26.970	34.36	1737.00	7.11	193.00	224.02	2724.00	290.00	0.70	0.70	37.08	31.00
	6.0	32.054	40.83	2037.00	7.06	226.00	264.35	3223.00	340.00	0.70	0.70	31.20	25.00
	6.3	33.292	42.41	2096.00	7.03	233.00	273.09	3383.00	354.00	0.69	0.69	30.04	23.57
	8.0	41.481	52.84	2546.00	6.94	283.00	335.70	4189.00	432.00	0.69	0.69	24.11	17.50
	9.0	46.141	58.78	2789.00	6.89	310.00	370.39	4640.00	475.00	0.68	0.68	21.67	15.00
200 × 200	4.0	24.294	30.95	1968.00	7.97	197.00	226.44	3049.00	295.00	0.79	0.79	41.16	45.00
	4.5	27.215	34.67	2192.00	7.95	219.00	252.86	3408.00	329.00	0.78	0.79	36.74	39.44
	5.0	30.110	38.36	2410.00	7.93	241.00	278.87	3763.00	362.00	0.78	0.78	33.21	35.00
	6.0	35.822	45.63	2833.00	7.88	283.00	329.67	4459.00	426.00	0.78	0.78	27.92	28.33
	6.3	37.248	47.45	2922.00	7.85	292.00	341.16	4682.00	444.00	0.77	0.77	26.85	26.75
	8.0	46.505	59.24	3566.00	7.76	357.00	420.86	5815.00	544.00	0.77	0.77	21.50	20.00
	9.0	51.793	65.98	3918.00	7.71	392.00	465.35	6454.00	599.00	0.76	0.76	19.31	17.22
	10.0	56.965	72.57	4251.00	7.65	425.00	508.08	7072.00	651.00	0.76	0.76	17.55	15.00
	12.0	65.987	84.06	4730.00	7.50	473.00	575.61	8230.00	743.00	0.74	0.74	15.15	11.67
	12.5	68.329	87.04	4859.00	7.47	486.00	593.50	8502.00	765.00	0.74	0.74	14.64	11.00
16.0	83.816	106.77	5625.00	7.26	562.00	705.57	10210.00	901.00	0.72	0.72	11.93	7.50	
220 × 220	5.0	33.250	42.36	3238.00	8.74	294.00	339.73	5038.00	442.00	0.86	0.86	30.08	39.00
	6.0	39.590	50.43	3813.00	8.70	347.00	402.18	5976.00	521.00	0.86	0.86	25.26	31.67
	6.3	41.204	52.49	3940.00	8.66	358.00	416.80	6277.00	543.00	0.85	0.85	24.27	29.92
	8.0	51.529	65.64	4828.00	8.58	439.00	515.62	7815.00	668.00	0.85	0.85	19.41	22.50
	10.0	63.245	80.57	5782.00	8.47	526.00	624.65	9533.00	804.00	0.84	0.84	15.81	17.00
	12.0	73.523	93.66	6487.00	8.32	590.00	711.99	11149.00	922.00	0.82	0.82	13.60	13.33
	12.5	76.179	97.04	6674.00	8.29	607.00	734.92	11530.00	951.00	0.82	0.82	13.13	12.60
	16.0	93.864	119.57	7812.00	8.08	710.00	880.83	13971.00	1129.00	0.80	0.80	10.65	8.75
250 × 250	5.0	37.960	48.36	4805.00	9.97	384.00	442.26	7443.00	577.00	0.98	0.98	26.34	45.00
	6.0	45.242	57.63	5672.00	9.92	454.00	524.45	8843.00	681.00	0.98	0.98	22.10	36.67
	6.3	47.139	60.05	5873.00	9.89	470.00	544.43	9290.00	711.00	0.97	0.97	21.21	34.68
	8.0	59.065	75.24	7229.00	9.80	578.00	675.77	11598.00	878.00	0.97	0.97	16.93	26.25
	9.0	65.923	83.98	7984.00	9.75	639.00	750.00	12913.00	972.00	0.96	0.96	15.17	22.78
	10.0	72.665	92.57	8707.00	9.70	697.00	822.00	14197.00	1062.00	0.96	0.96	13.76	20.00
	12.0	84.827	108.06	9859.00	9.55	789.00	943.56	16691.00	1226.00	0.94	0.94	11.79	15.83
	12.5	87.954	112.04	10161.00	9.52	813.00	975.17	17283.00	1266.00	0.94	0.94	11.37	15.00
	16.0	108.935	138.77	12047.00	9.32	964.00	1179.70	21146.00	1520.00	0.92	0.92	9.18	10.63
260 × 260	6.0	47.126	60.03	6405.00	10.33	493.00	568.80	9970.00	739.00	1.02	1.02	21.22	38.33
	6.3	49.117	62.57	6635.00	10.30	510.00	590.75	10475.00	772.00	1.01	1.01	20.36	36.27
	8.0	61.577	78.44	8178.00	10.21	629.00	733.95	13087.00	955.00	1.01	1.01	16.24	27.50
	10.0	75.805	96.57	9865.00	10.11	759.00	893.78	16035.00	1156.00	1.00	1.00	13.19	21.00
	12.0	88.595	112.86	11200.00	9.96	862.00	1027.95	18878.00	1337.00	0.98	0.98	11.29	16.67
	12.5	91.879	117.04	11548.00	9.93	888.00	1062.76	19553.00	1381.00	0.98	0.98	10.88	15.80
	16.0	113.960	145.17	13739.00	9.73	1057.00	1288.93	23986.00	1663.00	0.96	0.96	8.77	11.25

# Cold Formed Square Hollow Sections

BS EN 10219

Designation		Weight	Cross Sectional Area	Second Moment of Area	Radius of Gyration	Elastic Modulus	Plastic Modulus	Torsional inertia constant	Torsional modulus constant	Superficial Area per metre length	Superficial Area per metre length	Nominal Length per tonne	Ratio for Local Buckling
Size	Thickness												
$B \times B$	$T$	$M$	$A$	$I$	$i$	$W_{el}$	$W_{pl}$	$L_t$	$C_t$	$A_s$	$A_s$	$L$	Flange
mm	mm	Kg/m	cm <sup>2</sup>	cm <sup>4</sup>	cm	cm <sup>3</sup>	cm <sup>3</sup>	cm <sup>4</sup>	cm <sup>3</sup>	m <sup>2</sup> /m	m <sup>2</sup> /m	m	$B/T$
300 × 300	6.0	54.662	69.63	9964.00	11.96	664.00	764.23	15434.00	997.00	1.18	1.18	18.29	45.00
	6.3	57.030	72.65	10342.00	11.93	689.00	794.94	16218.00	1042.00	1.17	1.17	17.53	42.62
	9.0	80.053	101.98	14183.00	11.79	946.00	1102.14	22661.00	1434.00	1.16	1.16	12.49	28.33
	12.0	103.667	132.06	17767.00	11.60	1184.00	1401.51	29514.00	1829.00	1.14	1.14	9.65	20.00
	12.5	107.579	137.04	18348.00	11.57	1223.00	1450.60	30601.00	1892.00	1.14	1.14	9.30	19.00
	16.0	134.056	170.77	22076.00	11.37	1472.00	1773.84	37837.00	2299.00	1.12	1.12	7.46	13.75
350 × 350	6.0	64.082	81.63	16008.00	14.00	915.00	1049.01	24683.00	1372.00	1.38	1.38	15.61	53.33
	6.3	66.921	85.25	16645.00	13.97	951.00	1092.71	25939.00	1436.00	1.37	1.37	14.94	50.56
	8.0	84.185	107.24	20681.00	13.89	1182.00	1365.58	32557.00	1787.00	1.37	1.37	11.88	38.75
	9.0	94.183	119.98	22967.00	13.84	1312.00	1521.79	36372.00	1987.00	1.36	1.36	10.62	33.89
	10.0	104.065	132.57	25189.00	13.78	1439.00	1674.83	40127.00	2182.00	1.36	1.36	9.61	30.00
	12.0	122.507	156.06	29054.00	13.64	1660.00	1949.46	47598.00	2552.00	1.34	1.34	8.16	24.17
	12.5	127.204	162.04	30045.00	13.62	1717.00	2019.77	49393.00	2642.00	1.34	1.34	7.86	23.00
	16.0	159.176	202.77	36511.00	13.42	2086.00	2487.97	61481.00	3238.00	1.32	1.32	6.28	16.88