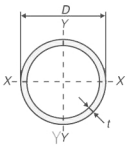
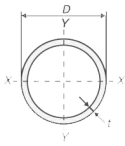
Cold Formed Circular Hollow Sections



BS EN 10219

Designation		Weight			Cross Sectional Area	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
Outside Diameter	Thickness													
OD	t	M			A	D/t	I	r	Z	S	J	C	As	L
mm	mm	Kg/m	Kg/ft	lb/ft	cm²		cm⁴	cm	cm³	cm³	cm⁴	cm³	m²/m	m
21.3	2.0	0.952	0.290	0.640	1.21	10.65	0.571	0.686	0.536	0.748	1.14	1.07	0.0669	1050.5
	2.5	1.16	0.353	0.779	1.48	8.52	0.664	0.671	0.623	0.889	1.33	1.25	0.0669	862.7
	3.0	1.35	0.413	0.910	1.72	7.10	0.741	0.656	0.696	1.01	1.48	1.39	0.0669	738.6
26.9	2.0	1.23	0.374	0.825	1.56	13.45	1.22	0.883	0.907	1.24	2.44	1.81	0.0845	814.2
	2.5	1.50	0.459	1.01	1.92	10.76	1.44	0.867	1.07	1.49	2.88	2.14	0.0845	664.7
	3.0	1.77	0.539	1.19	2.25	8.97	1.63	0.852	1.21	1.72	3.27	2.43	0.0845	565.5
33.7	2.0	1.56	0.477	1.05	1.99	16.85	2.51	1.12	1.49	2.01	5.02	2.98	0.106	639.6
	2.5	1.92	0.586	1.29	2.45	13.48	3.00	1.11	1.78	2.44	6.00	3.56	0.106	519.9
	3.0	2.27	0.692	1.53	2.89	11.23	3.44	1.09	2.04	2.84	6.88	4.08	0.106	440.3
42.4	2.0	1.99	0.607	1.34	2.54	21.20	5.19	1.43	2.45	3.27	10.38	4.90	0.133	501.8
	2.5	2.46	0.750	1.65	3.13	16.96	6.26	1.41	2.95	3.99	12.52	5.91	0.133	406.5
	3.0	2.91	0.888	1.96	3.71	14.13	7.25	1.40	3.42	4.67	14.49	6.84	0.133	343.1
	4.0	3.79	1.15	2.55	4.83	10.60	8.99	1.36	4.24	5.92	17.98	8.48	0.133	264.0
48.3	2.0	2.28	0.696	1.53	2.91	24.15	7.81	1.64	3.23	4.29	15.62	6.47	0.152	437.9
	2.5	2.82	0.861	1.90	3.60	19.32	9.46	1.62	3.92	5.25	18.92	7.83	0.152	354.1
	3.0	3.35	1.02	2.25	4.27	16.10	11.0	1.61	4.55	6.17	22.00	9.11	0.152	298.4
	4.0	4.37	1.33	2.94	5.57	12.08	13.8	1.57	5.70	7.87	27.54	11.40	0.152	228.8
	5.0	5.34	1.63	3.59	6.80	9.66	16.2	1.54	6.69	9.42	32.31	13.38	0.152	187.3
60.3	2.0	2.88	0.876	1.93	3.66	30.15	15.6	2.06	5.17	6.80	31.16	10.34	0.189	347.8
	2.5	3.56	1.09	2.39	4.54	24.12	19.0	2.05	6.30	8.36	37.99	12.60	0.189	280.6
	3.0	4.24	1.29	2.85	5.40	20.10	22.2	2.03	7.37	9.86	44.45	14.74	0.189	235.9
	4.0	5.55	1.69	3.73	7.07	15.08	28.2	2.00	9.34	12.70	56.35	18.69	0.189	180.1
	5.0	6.82	2.08	4.58	8.69	12.06	33.5	1.96	11.10	15.33	66.95	22.21	0.189	146.7
76.1	2.0	3.65	1.11	2.46	4.66	38.05	32.0	2.62	8.40	10.98	63.96	16.81	0.239	273.6
	2.5	4.54	1.38	3.05	5.78	30.44	39.2	2.60	10.30	13.55	78.37	20.60	0.239	220.4
	3.0	5.41	1.65	3.63	6.89	25.37	46.1	2.59	12.11	16.04	92.19	24.23	0.239	184.9
	4.0	7.11	2.17	4.78	9.06	19.03	59.1	2.55	15.52	20.81	118.11	31.04	0.239	140.6
	5.0	8.77	2.67	5.89	11.17	15.22	70.9	2.52	18.64	25.32	141.84	37.28	0.239	114.1
	6.0	10.37	3.16	6.97	13.21	12.68	81.8	2.49	21.49	29.56	163.52	42.97	0.239	96.4
	6.3	10.84	3.31	7.29	13.81	12.08	84.8	2.48	22.29	30.78	169.64	44.58	0.239	92.2
88.9	2.0	4.29	1.31	2.88	5.46	44.45	51.6	3.07	11.60	15.11	103.14	23.20	0.279	233.3
	2.5	5.33	1.62	3.58	6.79	35.56	63.4	3.06	14.26	18.67	126.75	28.51	0.279	187.7
	3.0	6.36	1.94	4.27	8.10	29.63	74.8	3.04	16.82	22.15	149.53	33.64	0.279	157.3
	4.0	8.38	2.55	5.63	10.67	22.23	96.3	3.00	21.67	28.85	192.68	43.35	0.279	119.4
	5.0	10.35	3.15	6.95	13.18	17.78	116.4	2.97	26.18	35.24	232.75	52.36	0.279	96.7
	6.0	12.27	3.74	8.24	15.63	14.82	134.9	2.94	30.36	41.31	269.88	60.72	0.279	81.5
	6.3	12.83	3.91	8.62	16.35	14.11	140.2	2.93	31.55	43.07	280.47	63.10	0.279	77.9
101.6	2.0	4.91	1.50	3.30	6.26	50.80	77.6	3.52	15.28	19.84	155.26	30.56	0.319	203.6
	2.5	6.11	1.86	4.11	7.78	40.64	95.6	3.50	18.82	24.56	191.22	37.64	0.319	163.7
	3.0	7.29	2.22	4.90	9.29	33.87	113.0	3.49	22.25	29.17	226.07	44.50	0.319	137.1
	4.0	9.63	2.93	6.47	12.26	25.40	146.3	3.45	28.80	38.12	292.57	57.59	0.319	103.9
	5.0	11.91	3.63	8.00	15.17	20.32	177.5	3.42	34.93	46.70	354.94	69.87	0.319	84.0
	6.0	14.15	4.31	9.51	18.02	16.93	206.7	3.39	40.68	54.91	413.35	81.37	0.319	70.7
	6.3	14.81	4.51	9.95	18.86	16.13	215.1	3.38	42.34	57.30	430.13	84.67	0.319	67.5
114.3	2.5	6.89	2.10	4.63	8.78	45.72	137.3	3.95	24.02	31.25	274.52	48.03	0.359	145.1
	3.0	8.23	2.51	5.53	10.49	38.10	162.5	3.94	28.44	37.17	325.10	56.88	0.359	121.4
	4.0	10.88	3.32	7.31	13.86	28.58	211.1	3.90	36.93	48.69	422.13	73.86	0.359	91.9
	5.0	13.48	4.11	9.06	17.17	22.86	256.9	3.87	44.96	59.77	513.84	89.91	0.359	74.2
	6.0	16.03	4.88	10.77	20.41	19.05	300.2	3.83	52.53	70.45	600.42	105.06	0.359	62.4
	6.3	16.78	5.11	11.28	21.38	18.14	312.7	3.82	54.72	73.57	625.43	109.44	0.359	59.6
	8.0	20.97	6.39	14.09	26.72	14.29	379.5	3.77	66.40	90.57	758.98	132.81	0.359	47.7
139.7	3.0	10.11	3.08	6.80	12.88	46.57	301.1	4.83	43.11	56.07	602.18	86.21	0.439	98.9
	4.0	13.39	4.08	9.00	17.05	34.93	392.9	4.80	56.24	73.68	785.72	112.49	0.439	74.7
	5.0	16.61	5.06	11.16	21.16	27.94	480.5	4.77	68.80	90.76	961.08	137.59	0.439	60.2
	6.0	19.78	6.03	13.29	25.20	23.28	564.3	4.73	80.78	107.33	1128.52	161.56	0.439	50.5
	6.3	20.73	6.32	13.93	26.40	22.17	588.6	4.72	84.27	112.20	1177.24	168.54	0.439	48.2
	8.0	25.98	7.92	17.46	33.10	17.46	720.3	4.66	103.12	138.93	1440.58	206.24	0.439	38.5
168.3	3.0	12.23	3.73	8.22	15.58	56.10	532.3	5.85	63.25	81.98	1064.57	126.51	0.529	81.8
	4.0	16.21	4.94	10.89	20.65	42.08	697.1	5.81	82.84	108.00	1394.18	165.68	0.529	61.7
	5.0	20.14	6.14	13.53	25.65	33.66	855.8	5.78	101.70	133.38	1711.69	203.41	0.529	49.7
	6.0	24.02	7.32	16.14	30.59	28.05	1008.7	5.74	119.87	158.12	2017.39	239.74	0.529	41.6
	6.3	25.17	7.67	16.91	32.06	26.71	1053.4	5.73	125.18	165.42	2106.84	250.37	0.529	39.7
	8.0	31.63	9.64	21.25	40.29	21.04	1297.3	5.67	154.16	205.74	2594.54	308.32	0.529	31.6
	10.0	39.04	11.90	26.23	49.73	16.83	1564.0	5.61	185.86	250.92	3127.97	371.71	0.529	25.6

Cold Formed Circular Hollow Sections



BS EN 10219

Designation		Weight			Cross Sectional Area	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
Outside Diameter	Thickness													
OD	t	M			A	D/t	I	r	Z	S	J	C	As	L
mm	mm	Kg/m	Kg/ft	lb/ft	cm²		cm⁴	cm	cm³	cm³	cm⁴	cm³	m²/m	m
177.8	4.0	17.14	5.23	11.52	21.84	44.45	825.1	6.15	92.81	120.85	1650.17	185.62	0.559	58.3
	5.0	21.31	6.49	14.32	27.14	35.56	1014.0	6.11	114.06	149.34	2027.94	228.11	0.559	46.9
	6.0	25.42	7.75	17.08	32.38	29.63	1196.2	6.08	134.56	177.16	2392.43	269.12	0.559	39.3
	6.3	26.65	8.12	17.90	33.94	28.22	1249.6	6.07	140.56	185.38	2499.24	281.13	0.559	37.5
	8.0	33.50	10.21	22.51	42.68	22.23	1541.4	6.01	173.39	230.83	3082.87	346.78	0.559	29.9
	10.0	41.38	12.61	27.81	52.72	17.78	1862.0	5.94	209.45	281.90	3723.96	418.89	0.559	24.2
	12.0	49.07	14.96	32.97	62.51	14.82	2159.1	5.88	242.86	330.45	4318.11	485.73	0.559	20.4
	12.5	50.96	15.53	34.24	64.91	14.22	2229.8	5.86	250.82	342.20	4459.59	501.64	0.559	19.6
193.7	4.0	18.71	5.70	12.57	23.84	48.43	1072.8	6.71	110.77	143.97	2145.58	221.54	0.609	53.4
	5.0	23.27	7.09	15.64	29.64	38.74	1320.2	6.67	136.32	178.08	2640.46	272.63	0.609	43.0
	6.0	27.77	8.47	18.66	35.38	32.28	1559.7	6.64	161.05	211.46	3119.45	322.09	0.609	36.0
	6.3	29.12	8.87	19.56	37.09	30.75	1630.0	6.63	168.31	221.33	3260.09	336.61	0.609	34.3
	8.0	36.64	11.17	24.62	46.67	24.21	2015.5	6.57	208.11	276.05	4031.07	416.22	0.609	27.3
	* 10.0	45.30	13.81	30.44	57.71	19.37	2441.6	6.50	252.10	337.79	4883.18	504.20	0.609	22.1
	* 12.0	53.77	16.39	36.13	68.50	16.14	2839.2	6.44	293.15	396.75	5678.40	586.31	0.609	18.6
	* 12.5	55.86	17.03	37.54	71.16	15.50	2934.3	6.42	302.97	411.07	5868.62	605.95	0.609	17.9
219.1	4.0	21.22	6.47	14.26	27.03	54.78	1563.8	7.61	142.75	185.09	3127.67	285.50	0.688	47.1
	5.0	26.40	8.05	17.74	33.63	43.82	1928.0	7.57	176.00	229.24	3856.09	351.99	0.688	37.9
	6.0	31.53	9.61	21.19	40.17	36.52	2281.9	7.54	208.30	272.54	4563.89	416.60	0.688	31.7
	6.3	33.06	10.08	22.22	42.12	34.78	2386.1	7.53	217.81	285.37	4772.28	435.63	0.688	30.2
	8.0	41.65	12.69	27.99	53.06	27.39	2959.6	7.47	270.16	356.68	5919.27	540.33	0.688	24.0
	10.0	51.57	15.72	34.65	65.69	21.91	3598.4	7.40	328.47	437.56	7196.88	656.95	0.688	19.4
	12.0	61.29	18.68	41.18	78.07	18.26	4199.9	7.33	383.38	515.26	8399.76	766.75	0.688	16.3
	12.5	63.69	19.41	42.80	81.13	17.53	4344.6	7.32	396.58	534.20	8689.16	793.17	0.688	15.7
244.5	* 5.0	29.53	9.00	19.84	37.62	48.90	2698.6	8.47	220.74	286.84	5397.16	441.49	0.768	33.9
	* 6.0	35.29	10.76	23.71	44.96	40.75	3198.5	8.43	261.64	341.37	6397.07	523.28	0.768	28.3
	* 6.3	37.01	11.28	24.87	47.14	38.81	3346.0	8.42	273.70	357.54	6692.05	547.41	0.768	27.0
	* 8.0	46.66	14.22	31.35	59.44	30.56	4160.4	8.37	340.32	447.63	8320.89	680.65	0.768	21.4
	* 10.0	57.83	17.63	38.86	73.67	24.45	5073.1	8.30	414.98	550.24	10146.29	829.96	0.768	17.3
	* 12.0	68.81	20.97	46.24	87.65	20.38	5938.3	8.23	485.75	649.25	11876.69	971.51	0.768	14.5
	* 12.5	71.52	21.80	48.06	91.11	19.56	6147.4	8.21	502.86	673.45	12294.84	1005.71	0.768	14.0
273	* 5.0	33.05	10.07	22.21	42.10	54.60	3780.8	9.48	276.98	359.16	7561.63	553.97	0.858	30.3
	* 6.0	39.51	12.04	26.55	50.33	45.50	4487.1	9.44	328.72	427.81	8974.17	657.45	0.858	25.3
	* 6.3	41.44	12.63	27.84	52.79	43.33	4695.8	9.43	344.02	448.20	9391.65	688.03	0.858	24.1
	* 8.0	52.28	15.94	35.13	66.60	34.13	5851.7	9.37	428.70	561.97	11703.43	857.39	0.858	19.1
	* 10.0	64.86	19.77	43.58	82.62	27.30	7154.1	9.31	524.11	692.02	14308.19	1048.22	0.858	15.4
	* 12.0	77.24	23.54	51.90	98.39	22.75	8396.1	9.24	615.10	818.03	16792.28	1230.20	0.858	12.9
	* 12.5	80.30	24.48	53.96	102.30	21.84	8697.4	9.22	637.18	848.90	17394.90	1274.35	0.858	12.5
323.9	5.0	39.32	11.99	26.42	50.09	64.78	6369.4	11.28	393.30	508.53	12738.85	786.59	1.018	25.4
	6.0	47.04	14.34	31.61	59.92	53.98	7572.5	11.24	467.58	606.43	15144.93	935.16	1.018	21.3
	6.3	49.34	15.04	33.16	62.86	51.41	7928.9	11.23	489.59	635.56	15857.79	979.18	1.018	20.3
	8.0	62.32	19.00	41.88	79.39	40.49	9910.1	11.17	611.92	798.51	19820.16	1223.84	1.018	16.0
	10.0	77.41	23.60	52.02	98.61	32.39	12158.3	11.10	750.75	985.67	24316.68	1501.49	1.018	12.9
	12.0	92.30	28.13	62.02	117.58	26.99	14319.6	11.04	884.20	1167.96	28639.12	1768.39	1.018	10.8
	12.5	95.99	29.26	64.51	122.29	25.91	14846.5	11.02	916.74	1212.78	29693.06	1833.47	1.018	10.4
355.6	5.0	43.23	13.18	29.05	55.07	71.12	8463.6	12.40	476.02	614.64	16927.15	952.03	1.117	23.1
	6.0	51.73	15.77	34.76	65.90	59.27	10070.6	12.36	566.40	733.39	20141.11	1132.80	1.117	19.3
	6.3	54.27	16.54	36.47	69.13	56.44	10547.2	12.35	593.21	768.75	21094.41	1186.41	1.117	18.4
	8.0	68.58	20.90	46.08	87.36	44.45	13201.4	12.29	742.48	966.78	26402.75	1484.97	1.117	14.6
	10.0	85.23	25.98	57.27	108.57	35.56	16223.5	12.22	912.46	1194.73	32447.00	1824.92	1.117	11.7
	12.0	101.68	30.99	68.33	129.53	29.63	19139.5	12.16	1076.46	1417.31	38278.95	2152.92	1.117	9.8
	12.5	105.77	32.24	71.07	134.74	28.45	19852.2	12.14	1116.55	1472.12	39704.35	2233.09	1.117	9.5
	16.0	134.00	40.84	90.04	170.70	22.23	24663.0	12.02	1387.12	1846.62	49326.00	2774.24	1.117	7.5
406.4	6.0	59.25	18.06	39.81	75.47	67.73	15128.3	14.16	744.50	961.99	30256.65	1489.01	1.277	16.9
	6.3	62.16	18.95	41.77	79.19	64.51	15849.4	14.15	779.99	1008.59	31698.87	1559.98	1.277	16.1
	8.0	78.60	23.96	52.82	100.13	50.80	19873.9	14.09	978.05	1269.95	39747.79	1956.09	1.277	12.7
	10.0	97.76	29.80	65.69	124.53	40.64	24475.8	14.02	1204.52	1571.66	48951.63	2409.04	1.277	10.2
	12.0	116.72	35.58	78.43	148.69	33.87	28937.0	13.95	1424.07	1867.19	57874.03	2848.13	1.277	8.6
	12.5	121.43	37.01	81.60	154.68	32.51	30030.7	13.93	1477.89	1940.12	60061.33	2955.77	1.277	8.2
	16.0	154.05	46.95	103.51	196.24	25.40	37448.8	13.81	1842.95	2439.96	74897.64	3685.91	1.277	6.5
457	6.0	66.73	20.34	44.84	85.01	76.17	21618.1	15.95	946.09	1220.48	43236.21	1892.18	1.436	15.0
	6.3	70.02	21.34	47.05	89.20	72.54	22654.2	15.94	991.43	1279.81	45308.32	1982.86	1.436	14.3
	8.0	88.58	27.00	59.53	112.85	57.13	28446.4	15.88	1244.92	1612.98	56892.73	2489.83	1.436	11.3
	10.0	110.24	33.60	74.08	140.43	45.70	35091.3	15.81	1535.73	1998.42	70182.65	3071.45	1.436	9.1
	12.0	131.69	40.14	88.49	167.76	38.08	41556.3	15.74	1818.66	2376.88	83112.60	3637.31	1.436	7.6
	12.5	137.03	41.77	92.08	174.55	36.56	43144.8	15.72	1888.18	2470.40	86289.61	3776.35	1.436	7.3
	16.0	174.01	53.04	116.93	221.67	28.56	53959.4	15.60	2361.46	3113.06	107918.8	4722.92	1.436	5.7

* Please check with manufacturer the availability of the highlighted sizes.