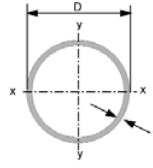
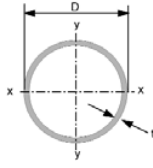


# Hot Finished Hollow Sections Dimensions — Circular



Outside diameter	Thickness t	Unit weight M	Section area A	Moment of inertia I	Radius of gyration r	Elastic modulus Z	Plastic modulus S	Torsional J	Constants C	Superficial area per m	Approx. length per tonne
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
21.3	3.2	1.43	1.82	0.77	0.65	0.72	1.06	1.54	1.44	0.067	700
26.9	3.2	1.87	2.38	1.70	0.846	1.27	1.81	3.41	2.53	0.085	535
33.7	2.6	1.99	2.54	3.09	1.10	1.84	2.52	6.19	3.67	0.106	503
	3.2	2.41	3.07	3.60	1.08	2.14	2.99	7.21	4.28	0.106	415
	4.0	2.93	3.73	4.19	1.06	2.49	3.55	8.38	4.97	0.106	342
42.4	2.6	2.55	3.25	6.46	1.41	3.05	4.12	12.9	6.10	0.133	393
	3.2	3.09	3.94	7.62	1.39	3.59	4.93	15.2	7.19	0.133	324
	4.0	3.79	4.83	8.99	1.36	4.24	5.92	18.0	8.48	0.133	264
48.3	3.2	3.56	4.53	11.6	1.60	4.80	6.52	23.2	9.59	0.152	281
	4.0	4.37	5.57	13.8	1.57	5.70	7.87	27.5	11.4	0.152	229
	5.0	5.34	6.80	16.2	1.54	6.69	9.42	32.3	13.4	0.152	188
60.3	3.2	4.51	5.74	23.5	2.02	7.78	10.4	46.9	15.6	0.189	222
	4.0	5.55	7.07	28.2	2.00	9.34	12.7	56.3	18.7	0.189	181
	5.0	6.82	8.69	33.5	1.96	11.1	15.3	67.0	22.2	0.189	147
76.1	3.2	5.75	7.33	48.8	2.58	12.8	17.0	97.6	25.6	0.239	174
	4.0	7.11	9.06	59.1	2.55	15.5	20.8	118	31.0	0.239	141
	5.0	8.77	11.2	70.9	2.52	18.6	25.3	142	37.3	0.239	115
88.9	3.2	6.76	8.62	79.2	3.03	17.8	23.5	158	35.6	0.279	148
	4.0	8.38	10.7	96.3	3.00	21.7	28.9	193	43.3	0.279	120
	5.0	10.3	13.2	116	2.97	26.2	35.2	233	52.4	0.279	97.1
114.3	3.6	9.83	12.5	192	3.92	33.6	44.1	384	67.2	0.359	102
	5.0	13.5	17.2	257	3.87	45.0	59.8	514	89.9	0.359	74.1
	6.3	16.8	21.4	313	3.82	54.7	73.6	625	109	0.359	59.6
139.7	5.0	16.6	21.2	481	4.77	68.8	90.8	961	138	0.439	60.3
	6.3	20.7	26.4	589	4.72	84.3	112	1,177	169	0.439	48.4
	8.0	26.0	33.1	720	4.66	103	139	1,441	206	0.439	38.5
	10.0	32.0	40.7	862	4.60	123	169	1,724	247	0.439	31.3
168.3	5.0	20.1	25.7	856	5.78	102	133	1,712	203	0.529	49.8
	6.3	25.2	32.1	1,053	5.73	125	165	2,107	250	0.529	39.7
	8.0	31.6	40.3	1,297	5.67	154	206	2,595	308	0.529	31.7
	10.0	39.0	49.7	1,564	5.61	186	251	3,128	372	0.529	25.7
193.7	5.0 *	23.3	29.6	1,320	6.67	136	178	2,640	273	0.609	43.0
	6.3	29.1	37.1	1,630	6.63	168	221	3,260	337	0.609	34.4
	8.0	36.6	46.7	2,016	6.57	208	276	4,031	416	0.609	27.4
	10.0	45.3	57.7	2,442	6.50	252	338	4,883	504	0.609	22.1
	12.5	55.9	71.2	2,934	6.42	303	411	5,869	606	0.609	17.9
	16.0 †	70.1	89.3	3,554	6.31	367	507	7,109	734	0.609	14.3
219.1	5.0 *	26.4	33.6	1,928	7.57	176	229	3,856	352	0.688	37.9
	6.3	33.1	42.1	2,386	7.53	218	285	4,772	436	0.688	30.3
	8.0	41.6	53.1	2,960	7.47	270	357	5,919	540	0.688	24.1
	10.0	51.6	65.7	3,598	7.40	328	438	7,197	657	0.688	19.4
	12.5	63.7	81.1	4,345	7.32	397	534	8,689	793	0.688	15.7
	16.0 †	80.1	102	5,297	7.20	483	661	10,590	967	0.688	12.5
	20.0 †	98.2	125	6,261	7.07	572	795	12,520	1,143	0.688	10.2

# Hot Finished Hollow Sections Dimensions — Circular



Outside diameter	Thickness t	Unit weight M	Section area A	Moment of inertia I	Radius of gyration r	Elastic modulus Z	Plastic modulus S	Torsional J	Constants C	Superficial area per m	Approx. length per tonne
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
244.5	6.3	37.0	47.1	3,346	8.42	274	358	6,692	547	0.768	27.1
	8.0	46.7	59.4	4,160	8.37	340	448	8,321	681	0.768	21.5
	10.0	57.8	73.7	5,073	8.30	415	550	10,150	830	0.768	17.4
	12.5	71.5	91.1	6,147	8.21	503	673	12,290	1,006	0.768	14.0
	16.0	90.2	115	7,533	8.10	616	837	15,070	1,232	0.768	11.1
	20.0 †	111	141	8,957	7.97	733	1,011	17,910	1,465	0.768	9.01
273	6.3	41.4	52.8	4,696	9.43	344	448	9,392	688	0.858	24.2
	8.0	52.3	66.6	5,852	9.37	429	562	11,700	857	0.858	19.2
	10.0	64.9	82.6	7,154	9.31	524	692	14,310	1,048	0.858	15.5
	12.5	80.3	102	8,697	9.22	637	849	17,390	1,274	0.858	12.5
	16.0	101	129	10,710	9.10	784	1,058	21,410	1,569	0.858	9.91
	20.0 †	125	159	12,800	8.97	938	1,283	25,600	1,875	0.858	8.00
323.9	25.0 †	153	195	15,130	8.81	1,108	1,543	30,250	2,216	0.858	6.54
	6.3 *	49.3	62.9	7,929	11.2	490	636	15,850	980	1.02	20.3
	8.0	62.3	79.4	9,910	11.2	612	799	19,820	1,224	1.02	16.1
	10.0	77.4	98.6	12,160	11.1	751	986	24,320	1,501	1.02	13.0
	12.5	96.0	122	14,850	11.0	917	1,213	29,690	1,833	1.02	10.5
	16.0	121	155	18,390	10.9	1,136	1,518	36,780	2,271	1.02	8.27
355.6	20.0 †	150	191	22,140	10.8	1,367	1,850	44,280	2,734	1.02	6.67
	25.0 †	184	235	26,400	10.6	1,630	2,239	52,800	3,260	1.02	5.44
	8.0	68.6	87.4	13,200	12.3	742	967	26,400	1,485	1.12	14.6
	10.0	85.2	109	16,220	12.2	912	1,195	32,450	1,825	1.12	11.8
	12.5	106	135	19,850	12.1	1,117	1,472	39,700	2,233	1.12	9.44
	16.0	134	171	24,660	12.0	1,387	1,847	49,330	2,774	1.12	7.47
406.4	20.0 †	166	211	29,790	11.9	1,676	2,255	59,580	3,351	1.12	6.03
	25.0 †	204	260	35,680	11.7	2,007	2,738	71,350	4,013	1.12	4.91
	10.0	97.8	125	24,480	14.0	1,205	1,572	48,950	2,409	1.28	10.3
	12.5	121	155	30,030	13.9	1,478	1,940	60,060	2,956	1.28	8.27
	16.0	154	196	37,450	13.8	1,843	2,440	74,900	3,686	1.28	6.50
	20.0 †	191	243	45,430	13.7	2,236	2,989	90,860	4,472	1.28	5.24
457	25.0 †	235	300	54,700	13.5	2,692	3,642	109,400	5,384	1.28	4.26
	32.0 †	295	376	66,430	13.3	3,269	4,497	132,900	6,539	1.28	3.39
	10.0	110	140	35,090	15.8	1,536	1,998	70,180	3,071	1.44	9.10
	12.5	137	175	43,140	15.7	1,888	2,470	86,290	3,776	1.44	7.30
	16.0	174	222	53,960	15.6	2,361	3,113	107,900	4,723	1.44	5.75
	20.0 †	216	275	65,680	15.5	2,874	3,822	131,400	5,749	1.44	4.63
508	25.0 †	266	339	79,420	15.3	3,476	4,671	158,800	6,951	1.44	3.76
	32.0 †	335	427	97,010	15.1	4,246	5,791	194,000	8,491	1.44	2.99
	40.0 †	411	524	114,900	14.8	5,031	6,977	229,900	10,060	1.44	2.44
	10.0 *	123	156	48,520	17.6	1,910	2,480	97,040	3,821	1.60	8.14
	12.5 *	153	195	59,760	17.5	2,353	3,070	119,500	4,705	1.60	6.54
	16.0 *	194	247	74,910	17.4	2,949	3,874	149,800	5,898	1.60	5.16
508	20.0 †	241	307	91,430	17.3	3,600	4,766	182,900	7,200	1.60	4.15
	25.0 †	298	379	110,900	17.1	4,367	5,837	221,800	8,734	1.60	3.36
	32.0 †	376	479	136,100	16.9	5,360	7,261	272,300	10,720	1.60	2.66
	40.0 †	462	588	162,200	16.6	6,385	8,782	324,400	12,770	1.60	2.17
	50.0 †	565	719	190,900	16.3	7,515	10,530	381,800	15,030	1.60	1.77