

AS 1163

Circular Hollow Section for Structural Purposes

ท่อเหล็กกลม สำหรับงานโครงสร้าง

Grade	% Chemical Composition (Max)							Mechanical Properties (Min)				
	C	Si	Mn	P	S	Al	CE	Yield Strength	Tensile Strength	Elongation Circular Hollow Sections (d _s /t)		
								MPa	MPa	≤ 15	> 15 ≤ 30	> 30
C250, C250L0	0.12	0.05	0.50	0.03	0.03	0.10	0.25	250	320	18	20	22
C350, C350L0	0.20	0.45	1.60	0.03	0.03	0.10	0.43	350	430	16	18	20
C450, C450L0	0.20	0.45	1.70	0.03	0.03	0.10	0.43	450	500	12	14	16

C 250									C 350								
Nominal Size		Outside Diameter (d _s)	Thickness (t)	Mass Per Unit Length	Cross Sectional Area	Geometrical Moment of Inertia	Modulus of Section	Radius of Gyration	Nominal Size	Outside Diameter (d _s)	Thickness (t)	Mass Per Unit Length	Cross Sectional Area	Geometrical Moment of Inertia	Modulus of Section	Radius of Gyration	
mm	inch	mm	mm	kg/m	mm ²	10 ⁶ mm ⁴	10 ³ mm ³	mm	mm	inch	mm	mm	kg/m	mm ²	10 ⁶ mm ⁴	10 ³ mm ³	mm
15	1/2"	21.3	2.60	1.20	153	0.00681	0.639	6.68	15	1/2"	21.3	2.00	0.952	121	0.00571	0.536	6.86
			3.20	1.43	182	0.00768	0.722	6.50			26.9	2.00	1.23	156	0.0122	0.907	8.83
20	3/4"	26.9	2.60	1.56	198	0.0148	1.10	8.64	20	1"	33.7	2.00	1.56	199	0.0251	1.49	11.2
			3.20	1.87	238	0.0170	1.27	8.46			2.60	1.99	254	0.0309	1.84	11.0	
25	1"	33.7	3.20	2.41	307	0.0360	2.14	10.8	32	1 1/4"	42.4	2.00	1.99	254	0.0519	2.45	14.3
			4.00	2.93	373	0.0419	2.49	10.6			2.60	2.55	325	0.0646	3.05	14.1	
32	1 1/4"	42.4	3.20	3.09	394	0.0762	3.59	13.9	40	1 1/2"	48.3	2.30	2.61	332	0.0881	3.65	16.3
			4.00	3.79	483	0.0899	4.24	13.6			2.90	3.25	414	0.107	4.43	16.1	
40	1 1/2"	48.3	3.20	3.56	453	0.116	4.80	16.0	50	2"	60.3	2.30	3.29	419	0.177	5.85	20.5
			4.00	4.37	557	0.138	5.70	15.7			2.90	4.11	523	0.216	7.16	20.3	
			5.40	5.71	728	0.170	7.04	15.3			2.30	4.19	533	0.363	9.55	26.1	
50	2"	60.3	3.60	5.03	641	0.259	8.58	20.1	65	2 1/2"	76.1	3.20	5.75	733	0.488	12.8	25.8
			4.50	6.19	789	0.309	10.2	19.8			3.20	5.75	733	0.488	12.8	25.8	
			5.40	7.31	931	0.354	11.8	19.5			2.60	5.53	705	0.657	14.8	30.5	
65	2 1/2"	76.1	3.60	6.44	820	0.540	14.21	25.7	80	3"	88.9	3.20	6.76	862	0.792	17.8	30.3
			4.50	7.95	1010	0.651	17.1	25.4			4.80	9.96	1270	1.12	25.3	29.8	
			5.90	10.20	1300	0.807	21.2	24.9			5.50	11.30	1440	1.26	28.3	29.6	
80	3"	88.9	4.00	8.38	1070	0.963	21.7	30.0	90	3 1/2"	101.6	2.60	6.35	809	0.991	19.5	35.0
			5.00	10.30	1320	1.16	26.2	29.7			3.20	7.77	989	1.20	23.6	34.8	
			5.90	12.10	1540	1.33	30.0	29.4			3.20	7.77	989	1.20	23.6	34.8	
90	3 1/2"	101.6	4.00	9.63	1230	1.46	28.8	34.2	100	4"	114.3	3.20	8.77	1120	1.72	30.2	39.3
			5.00	11.90	1520	1.77	34.9	34.5			3.60	9.83	1250	1.92	33.6	39.2	
			5.40	14.50	1850	2.75	48.0	38.5			4.80	13.00	1650	2.48	43.4	38.8	
100	4"	114.3	4.50	12.20	1550	2.34	41.0	38.9	125	5"	139.7	3.00	10.10	1290	3.01	43.1	48.3
			5.40	14.50	1850	2.75	48.0	38.5			3.50	11.80	1500	3.47	49.7	48.2	
			5.90	16.60	2120	4.81	68.8	47.7			6.00	16.00	2040	3.00	52.5	38.3	
125	5"	139.7	5.00	16.60	2120	4.81	68.8	47.7	150	6"	165.1	3.00	12.00	1530	5.02	60.8	57.3
			5.40	17.90	2280	5.14	73.7	47.5			3.50	13.90	1780	5.80	70.3	57.1	
			5.90	19.70	2510	8.07	97.7	56.6			4.80	19.40	2470	8.25	98.0	57.8	
150	6"	165.1	5.00	19.70	2510	8.07	97.7	56.6	200	8"	219.1	4.80	25.40	3230	18.6	169	75.8
			5.40	21.30	2710	8.65	105	56.5			6.40	33.60	4280	24.2	221	75.2	
			5.90	23.00	2910	9.23	113	56.0			8.20	42.60	5430	30.3	276	74.6	
200	8"	219.1	6.40	25.40	3230	18.6	169	75.8	250	10"	273.1	6.40	42.10	5360	47.7	349	94.3
			6.40	25.40	3230	18.6	169	75.8			9.30	60.50	7710	67.1	492	93.3	
			6.40	25.40	3230	18.6	169	75.8			6.40	42.10	5360	47.7	349	94.3	
250	10"	273.1	6.40	25.40	3230	18.6	169	75.8	300	12"	323.9	6.40	50.10	6380	80.5	497	112
			6.40	25.40	3230	18.6	169	75.8			9.50	73.70	9380	116	717	111	
			6.40	25.40	3230	18.6	169	75.8			6.40	50.10	6380	80.5	497	112	
300	12"	323.9	6.40	50.10	6380	80.5	497	112	350	14"	355.6	6.40	55.10	7020	107	602	123
			6.40	50.10	6380	80.5	497	112			9.50	81.10	10300	155	871	122	
			6.40	50.10	6380	80.5	497	112			6.40	55.10	7020	107	602	123	
350	14"	355.6	6.40	55.10	7020	107	602	123	400	16"	406.4	6.40	63.10	8040	161	792	141
			6.40	55.10	7020	107	602	123			9.50	93.00	11800	233	1150	140	
			6.40	55.10	7020	107	602	123			6.40	63.10	8040	161	792	141	

Dimension Tolerances

Outside Diameter	±1% with a minimum of ±0.5 mm and maximum of ±10 mm
Thickness	±10%
Weight	-4% , +Not Limit