ASTM A500

Cold-Formed Welded Carbon Steel Structural Tubing in Rounds and Shapes

MATERIAL OF GRADE	(%) CHEMICAL COMPOSITION (Max)					MECHANICAL PROPERTIES (Min)			COLOR CODE
	C Max	Si Max	Mn Max	P Max	S Max	Yield Strength N/mm2(min)	Tensile Strength N/mm2(min)	Elongation %	Material of Grade
Grade A	0.300	-	1.400	0.045	0.045	230	310	25	-
Grade B	0.300	-	1.400	0.045	0.045	290	400	23	-
Grade C	0.270	-	1.400	0.045	0.045	315	425	21	-
Grade D	0.300	-	1.400	0.045	0.045	250	400	23	-

NOMINAL SIZE		THICKNESS MM			OUTSIDE DIAMETER MM			WEIGHT (PLAIN END) KG/M	CROSS SECTIONAL AREA	GEOMETRICAL MOMENT OF INERTIA	MODULUS OF SECTION	RADIUS OF GYRATION
in	mm	Std.	Min	Max	Std.	Min	Max	STD	cm2	cm4	cm3	cm
1/2"	15	2.77	2.49	3.05	21.30	21.19	21.41	1.27	1.613	0.708	0.665	0.662
3/4"	20	2.87	2.58	3.16	26.70	26.57	26.83	1.69	2.149	1.548	1.159	0.849
1"	25	2.64	2.38	2.90	33.40	33.23	33.57	2.00	2.552	3.014	1.821	1.092
		3.38	3.04	3.71	33.40	33.23	33.57	2.50	3.189	3.638	2.178	1.068
		4.55	4.10	5.01	33.40	33.23	33.57	3.24	4.126	4.399	2.634	1.033
1-1/4"	32	2.79	2.51	3.07	42.20	41.99	42.41	2.17	3.456	6.743	3.196	1.397
		3.56	3.20	3.92	42.20	41.99	42.41	3.39	4.323	8.137	3.856	1.372
		4.85	4.36	5.33	42.20	41.99	42.41	4.47	5.693	10.095	4.784	1.332
1-1/2"	40	2.90	2.61	3.19	48.30	48.06	48.54	3.25	4.138	10.705	4.433	1.608
		3.68	3.31	4.05	48.30	48.06	48.54	4.05	5.161	12.930	5.354	1.583
2"	50	3.07	2.76	3.38	60.30	59.85	60.75	4.33	5.522	22.672	7.520	2.026
		3.91	3.52	4.30	60.30	59.85	60.75	5.44	6.930	27.676	9.179	1.998
		5.54	4.99	6.09	60.30	59.85	60.75	7.48	9.534	36.104	11.975	1.946
2-1/2"	65	3.96	3.56	4.36	73.00	72.45	73.55	6.74	8.593	51.364	14.072	2.445
		4.78	4.30	5.25	73.00	72.45	73.55	8.04	10.249	59.913	16.415	2.418
		5.16	4.64	5.68	73.00	72.45	73.55	8.63	11.002	63.657	17.440	2.405
		7.01	6.31	7.71	73.00	72.45	73.55	11.41	14.539	80.031	21.926	2.346
3"	80	3.96	3.56	4.36	88.90	88.23	89.57	8.29	10.571	95.545	21.495	3.006
		4.78	4.30	5.26	88.90	88.23	89.57	9.92	12.637	112.104	25.228	2.979
		5.49	4.94	6.04	88.90	88.23	89.57	11.29	14.392	125.701	28.279	2.955
3-1/2"	90	3.96	3.56	4.36	101.60	100.84	102.36	9.53	12.152	145.053	28.554	3.455
		4.78	4.30	5.26	101.60	100.84	102.36	11.41	14.545	170.850	33.632	3.427
		5.74	5.17	6.31	101.60	100.84	102.36	13.57	17.293	199.349	39.242	3.395
4"	100	3.96	3.56	4.36	114.30	113.44	115.16	10.78	13.733	209.261	36.616	3.904
		4.78	4.30	5.26	114.30	113.44	115.16	12.91	16.453	247.155	43.247	3.876
		5.56	5.00	6.12	114.30	113.44	115.16	14.91	19.002	281.586	49.271	3.850
		6.02	5.42	6.62	114.30	113.44	115.16	16.07	20.487	301.173	52.699	3.834
5"	125	6.55	5.90	7.21	141.30	140.24	142.36	21.77	27.739	631.084	89.325	4.770
6"	150	7.11	6.40	7.82	168.30	167.04	169.56	28.26	36.019	1172.095	139.286	5.704

Dimension Tolerances

Outside Diameter ≤ 48.0 mm. : ± 0.5 %
≥ 50.0 mm. : ± 0.75 %

Thickness ± 10%

Weight N/A

ASTM A500

Cold-Formed Welded Carbon Steel Structural Tubing in Rounds and Shapes

MATERIAL OF GRADE	(%) CHEMICAL COMPOSITION (Max)					MECHANICAL PROPERTIES (Min)			COLOR CODE
	C Max	Si Max	Mn Max	P Max	S Max	Yield Strength N/mm²(min)	Tensile Strength N/mm²(min)	Elongation %	Material of Grade
Grade A	0.300	–	1.400	0.045	0.045	270	310	25	–
Grade B	0.300	–	1.400	0.045	0.045	315	400	23	–
Grade C	0.270	–	1.400	0.045	0.045	345	425	21	–
Grade D	0.300	–	1.400	0.045	0.045	250	400	23	–

NOMINAL SIZE		THICKNESS MM			OUTSIDE DIAMETER MM			OUTSIDE DIAMETER MM			WEIGHT (PLAIN END) KG/M	CROSS SECTIONAL AREA	GEOMETRICAL MOMENT OF INERTIA		MODULUS OF SECTION		RADIUS OF GYRATION	
in	mm	Std.	Min	Max	Std.	Min	Max	Std.	Min	Max	STD	cm²	cm⁴		cm³		cm	
												A	I_x	I_y	Z_x	Z_x	I_x	I_y
1″x 1/2″	25.4 x 12.7	1.00	0.90	1.10	25.4	24.90	25.90	12.70	12.20	13.20	0.555	0.700	0.55	0.19	0.43	0.29	0.89	0.52
		1.20	1.08	1.32	25.4	24.90	25.90	12.70	12.20	13.20	0.640	0.820	0.63	0.21	0.50	0.34	0.88	0.51
		1.40	1.26	1.54	25.4	24.90	25.90	12.70	12.20	13.20	0.740	0.940	0.70	0.24	0.55	0.38	0.87	0.51
		1.60	1.44	1.76	25.4	24.90	25.90	12.70	12.20	13.20	0.820	1.050	0.77	0.27	0.61	0.42	0.86	0.51
		1.80	1.62	1.98	25.4	24.90	25.90	12.70	12.20	13.20	0.910	1.160	0.83	0.30	0.65	0.47	0.85	0.51
1-1/2" x 1"	38.1 x 25.4	1.00	0.90	1.10	38.1	37.60	38.60	25.40	24.90	25.90	0.949	1.200	2.43	1.31	1.28	1.03	1.42	1.04
		1.20	1.08	1.32	38.1	37.60	38.60	25.40	24.90	25.90	1.120	1.430	2.84	1.52	1.49	1.20	1.41	1.03
		1.40	1.26	1.54	38.1	37.60	38.60	25.40	24.90	25.90	1.290	1.650	3.23	1.73	1.70	1.36	1.40	1.02
		1.60	1.44	1.76	38.1	37.60	38.60	25.40	24.90	25.90	1.460	1.860	3.60	1.92	1.89	1.51	1.39	1.02
		1.80	1.62	1.98	38.1	37.60	38.60	25.40	24.90	25.90	1.630	2.070	3.94	2.11	2.07	1.66	1.38	1.01
		2.00	1.80	2.20	38.1	37.60	38.60	25.40	24.90	25.90	1.790	2.280	4.27	2.28	2.24	1.80	1.37	1.00
		2.30	2.07	2.53	38.1	37.60	38.60	25.40	24.90	25.90	2.020	2.570	4.72	2.54	2.48	2.00	1.35	0.99
		2.80	2.52	3.08	38.1	37.60	38.60	25.40	24.90	25.90	2.390	3.040	5.41	2.95	2.84	2.33	1.33	0.99
		3.00	2.70	3.30	38.1	37.60	38.60	25.40	24.90	25.90	2.530	3.220	5.67	3.12	2.98	2.46	1.33	0.99
		3.20	2.88	3.52	38.1	37.60	38.60	25.40	24.90	25.90	2.660	3.390	5.93	3.30	3.11	2.60	1.32	0.99
2" x 1"	50.8 x 25.4	1.20	1.08	1.32	50.8	50.30	51.30	25.40	24.80	26.00	1.37	1.730	5.77	1.97	2.27	1.55	1.82	1.07
		1.40	1.26	1.54	50.8	50.30	51.30	25.40	24.80	26.00	1.57	2.000	6.58	2.24	2.59	1.76	1.81	1.06
		1.60	1.44	1.76	50.8	50.30	51.30	25.40	24.80	26.00	1.78	2.270	7.35	2.50	2.89	1.97	1.80	1.05
		1.80	1.62	1.98	50.8	50.30	51.30	25.40	24.80	26.00	1.99	2.530	8.08	2.74	3.18	2.16	1.79	1.04
		2.00	1.80	2.20	50.8	50.30	51.30	25.40	24.80	26.00	2.19	2.780	8.78	2.98	3.46	2.35	1.78	1.03
		2.30	2.07	2.53	50.8	50.30	51.30	25.40	24.80	26.00	2.48	3.160	9.76	3.32	3.84	2.61	1.76	1.00
		2.80	2.52	3.08	50.8	50.30	51.30	25.40	24.80	26.00	2.95	3.750	11.24	3.87	4.42	3.04	1.73	1.02
		3.00	2.70	3.30	50.8	50.30	51.30	25.40	24.80	26.00	3.12	3.980	11.78	4.09	4.64	3.22	1.72	1.01
		3.20	2.88	3.52	50.8	50.30	51.30	25.40	24.80	26.00	3.30	4.200	12.30	4.32	4.84	3.39	1.71	1.01
2-1/2" x 1-1/2	63.5 x 38.1	2.30	2.07	2.53	63.5	63.00	64.00	38.10	37.60	38.60	3.40	4.330	22.82	10.34	7.19	5.43	2.30	1.55
		2.80	2.52	3.08	63.5	63.00	64.00	38.10	37.60	38.60	4.06	5.170	26.65	12.07	8.39	6.34	2.27	1.53
		3.00	2.70	3.30	63.5	63.00	64.00	38.10	37.60	38.60	4.32	5.500	28.08	12.73	8.84	6.68	2.26	1.52
		3.20	2.88	3.52	63.5	63.00	64.00	38.10	37.60	38.60	4.58	5.830	29.46	13.38	9.28	7.02	2.25	1.51
3" x 1"	76.2 x 25.4	1.00	0.90	1.10	76.2	75.60	76.80	25.40	24.90	25.90	1.54	1.97	13.60	2.44	3.57	1.92	2.63	1.11
		1.20	1.08	1.32	76.2	75.60	76.80	25.40	24.90	25.90	1.86	2.34	16.05	2.86	4.21	2.25	2.62	1.11
		1.40	1.26	1.54	76.2	75.60	76.80	25.40	24.90	25.90	2.13	2.72	18.41	3.27	4.83	2.57	2.60	1.10
		1.60	1.44	1.76	76.2	75.60	76.80	25.40	24.90	25.90	2.42	3.08	20.68	3.65	5.43	2.87	2.59	1.09
		1.80	1.62	1.98	76.2	75.60	76.80	25.40	24.90	25.90	2.70	3.44	22.86	4.02	6.00	3.17	2.58	1.08
		2.00	1.80	2.20	76.2	75.60	76.80	25.40	24.90	25.90	2.98	3.80	24.96	4.37	6.55	3.44	2.56	1.07
		2.30	2.07	2.53	76.2	75.60	76.80	25.40	24.90	25.90	3.40	4.33	27.95	4.88	7.34	3.84	2.54	1.06
		2.80	2.52	3.08	76.2	75.60	76.80	25.40	24.90	25.90	4.06	5.17	32.54	5.69	8.54	4.48	2.51	1.05
		3.00	2.70	3.30	76.2	75.60	76.80	25.40	24.90	25.90	4.32	5.50	34.24	6.01	8.99	4.73	2.49	1.04
		3.20	2.88	3.52	76.2	75.60	76.80	25.40	24.90	25.90	4.58	5.83	35.87	6.33	9.42	4.98	2.48	1.04

ASTM A500

Cold-Formed Welded Carbon Steel Structural Tubing in Rounds and Shapes

NOMINAL SIZE		THICKNESS MM			OUTSIDE DIAMETER MM			OUTSIDE DIAMETER MM			WEIGHT (PLAIN END) KG/M	CROSS SECTIONAL AREA	GEOMETRICAL MOMENT OF INERTIA		MODULUS OF SECTION		RADIUS OF GYRATION	
in	mm	Std.	Min	Max	Std.	Min	Max	Std.	Min	Max	STD	cm^2	cm^4		cm^3		cm	
												A	I_x	I_y	Z_x	Z_x	I_x	I_y
3" x 1-1/2"	76.2 x 38.1	2.30	2.07	2.53	76.2	75.60	76.80	38.10	37.60	38.60	3.83	4.91	35.93	12.22	9.43	6.41	2.71	1.58
		2.38	2.14	2.62	76.2	75.60	76.80	38.10	37.60	38.60	4.62	5.89	42.12	14.29	11.06	7.50	2.68	1.56
		3.00	2.70	3.30	76.2	75.60	76.80	38.10	37.60	38.60	4.92	6.27	44.46	15.09	11.67	7.92	2.66	1.55
		3.20	2.88	3.52	76.2	75.60	76.80	38.10	37.60	38.60	5.21	6.64	46.71	15.86	12.26	8.32	2.65	1.55
		4.00	3.60	4.40	76.2	75.60	76.80	38.10	37.60	38.60	6.35	8.09	54.99	18.84	14.43	9.89	2.61	1.53
		4.50	4.05	4.95	76.2	75.60	76.80	38.10	37.60	38.60	7.03	8.96	59.65	20.68	15.66	10.86	2.58	1.52
		5.00	4.50	5.50	76.2	75.60	76.80	38.10	37.60	38.60	7.68	9.79	63.98	22.60	16.79	11.86	2.56	1.52
3" x 2"	76.2 x 50.8	3.58	3.22	3.94	76.2	75.60	76.80	50.8	50.30	51.30	6.43	8.25	63.01	33.42	16.54	13.16	2.76	2.01
		4.78	4.30	5.26	76.2	75.60	76.80	50.8	50.30	51.30	8.32	10.64	77.48	40.78	20.33	16.05	2.70	1.96
		6.35	5.72	6.99	76.2	75.60	76.80	50.8	50.30	51.30	10.56	13.13	86.86	45.72	22.80	18.00	2.57	1.87
4"x 2"	101.6 x 50.8	3.96	3.56	4.36	101.6	100.80	102.40	50.8	50.30	51.30	8.60	11.04	140.10	47.00	27.58	18.50	3.56	2.06
		4.78	4.30	5.26	101.6	100.80	102.40	50.8	50.30	51.30	10.21	13.07	161.40	53.68	31.77	21.13	3.51	2.03
		6.35	5.72	6.99	101.6	100.80	102.40	50.8	50.30	51.30	13.09	16.36	186.08	61.76	36.69	24.31	3.38	1.94
4"x 3"	101.6 x 76.2	3.96	3.56	4.36	101.6	100.80	102.40	76.2	75.60	76.80	10.24	13.05	188.08	120.47	37.02	31.62	3.80	3.04
		4.78	4.30	5.26	101.6	100.80	102.40	76.2	75.60	76.80	12.11	15.50	218.35	139.50	42.98	36.61	3.75	3.00
		6.35	5.72	6.99	101.6	100.80	102.40	76.2	75.60	76.80	16.62	19.59	259.68	165.77	51.12	43.51	3.64	2.91
5" x 2"	127.0 x 50.8	2.30	2.07	2.53	127.0	126.20	127.80	50.80	50.30	51.30	6.15	7.83	155.39	37.27	24.47	14.67	4.45	2.18
		2.80	2.52	3.08	127.0	126.20	127.80	50.80	50.30	51.30	7.41	9.44	184.67	44.05	59.08	17.34	4.42	2.16
		3.00	2.70	3.30	127.0	126.20	127.80	50.80	50.30	51.30	7.91	10.08	195.94	46.65	30.86	18.37	4.41	2.15
		3.20	2.88	3.52	127.0	126.20	127.80	50.80	50.30	51.30	8.40	10.71	206.97	49.19	32.59	19.37	4.40	2.14
		4.00	3.60	4.40	127.0	126.20	127.80	50.80	50.30	51.30	10.34	13.17	248.69	58.83	39.16	23.16	4.35	2.11
		4.50	4.05	4.95	127.0	126.20	127.80	50.80	50.30	51.30	11.52	14.67	272.90	64.51	42.98	25.40	4.31	2.10
		5.00	4.50	5.50	127.0	126.20	127.80	50.80	50.30	51.30	12.67	16.14	295.74	70.00	46.57	27.56	4.28	2.08
		6.00	5.40	6.60	127.0	126.20	127.80	50.80	50.30	51.30	14.89	18.97	337.61	80.75	53.17	31.79	4.22	2.06
		6.35	5.72	6.99	127.0	126.20	127.80	50.80	50.30	51.30	15.64	19.93	351.15	84.54	55.30	33.28	4.20	2.06
5"x 3"	127.0 x 76.2	4.78	4.30	5.26	127.0	126.20	127.80	76.2	75.60	76.80	13.85	17.92	378.20	170.51	59.56	44.75	4.59	3.08
		6.35	5.72	6.99	127.0	126.20	127.80	76.2	75.60	76.80	17.89	22.81	456.23	205.22	71.85	53.86	4.47	3.00
6" x 2"	152.4 x 50.8	2.30	2.07	2.53	152.4	150.88	153.93	50.80	50.30	51.30	7.06	9.00	247.14	44.14	32.43	17.38	5.24	2.21
		2.80	2.52	3.08	152.4	150.88	153.93	50.80	50.30	51.30	8.53	10.86	294.53	52.25	38.65	20.57	5.21	2.19
		3.00	2.70	3.30	152.4	150.88	153.93	50.80	50.30	51.30	9.11	11.60	312.87	55.37	41.06	21.80	5.19	2.18
		3.20	2.88	3.52	152.4	150.88	153.93	50.80	50.30	51.30	9.68	12.33	330.86	58.41	43.42	23.00	5.18	2.18
		4.00	3.60	4.40	152.4	150.88	153.93	50.80	50.30	51.30	11.94	15.20	339.37	69.98	52.41	27.55	5.13	2.15
		4.50	4.05	4.95	152.4	150.88	153.93	50.80	50.30	51.30	13.31	16.96	439.47	76.80	57.67	30.24	5.09	2.13
		5.00	4.50	5.50	152.4	150.88	153.93	50.80	50.30	51.30	14.66	18.68	477.54	83.37	62.67	32.82	5.06	2.11
		6.00	5.40	6.60	152.4	150.88	153.93	50.80	50.30	51.30	17.28	22.02	547.88	96.13	71.90	37.85	4.99	2.09
		6.35	5.72	6.99	152.4	150.88	153.93	50.80	50.30	51.30	18.18	23.16	570.77	100.58	74.90	39.60	4.96	2.08
6"x 3"	152.4 x 76.2	4.78	4.30	5.26	152.4	150.88	153.93	76.2	75.60	76.80	15.74	20.35	595.87	201.52	78.20	52.89	5.41	3.15
		6.35	5.72	6.99	152.4	150.88	153.93	76.2	75.60	76.80	20.42	26.04	726.36	244.68	95.32	64.22	5.28	3.07
6"x 4"	152.4 x 101.6	4.78	4.30	5.26	152.4	150.88	153.93	101.6	100.80	102.40	17.65	22.78	728.21	389.21	95.57	76.62	5.65	4.13
		6.35	5.72	6.99	152.4	150.88	153.93	101.6	100.80	102.40	22.94	29.26	898.49	479.51	117.91	94.39	5.54	4.05

Dimension Tolerances

Outside Diameter	≤ 65.0 mm. : ± 0.50 mm. 65.0-90.0 mm. : ± 0.60 mm. 90.0-140.0 mm. : ± 0.80 mm. > 140.0 mm. : ± 1%
Thickness	± 10%
Weight	N/A

ASTM A500

Cold-Formed Welded Carbon Steel Structural Tubing in Rounds and Shapes

MATERIAL OF GRADE	(%) CHEMICAL COMPOSITION (Max)					MECHANICAL PROPERTIES (Min)			COLOR CODE
	C Max	Si Max	Mn Max	P Max	S Max	Yield Strength	Tensile Strength	Elongation	Material of Grade
						N/mm²(min)	N/mm²(min)	%	
Grade A	0.300	–	1.400	0.045	0.045	270	310	25	–
Grade B	0.300	–	1.400	0.045	0.045	315	400	23	–
Grade C	0.270	–	1.400	0.045	0.045	345	425	21	–
Grade D	0.300	–	1.400	0.045	0.045	250	400	23	–

NOMINAL SIZE		THICKNESS MM			OUTSIDE DIAMETER MM			WEIGHT (PLAIN END) KG/M	CROSS SECTIONAL AREA	GEOMETRICAL MOMENT OF INERTIA		MODULUS OF SECTION		RADIUS OF GYRATION	
in	mm	Std.	Min	Max	Std.	Min	Max	STD	A	I_x	I_y	Z_x	Z_y	iX	I_y
									cm^2	cm^4		cm^3		cm	
1/2″x 1/2″	12.7 x 12.7	1.00	0.90	1.10	12.70	12.20	13.20	0.357	0.44	0.10		0.16		0.47	
		1.20	1.08	1.32	12.70	12.20	13.20	0.421	0.51	0.11		0.18		0.47	
		1.40	1.26	1.54	12.70	12.20	13.20	0.490	0.58	0.13		0.20		0.47	
		1.60	1.44	1.76	12.70	12.20	13.20	0.540	0.64	0.14		0.23		0.47	
		1.80	1.62	1.98	12.70	12.20	13.20	0.550	0.70	0.16		0.26		0.48	
5/8″x 5/8″	15.9 x 15.9	1.00	0.90	1.10	15.90	15.40	16.40	0.450	0.57	0.21		0.26		0.60	
		1.20	1.08	1.32	15.90	15.40	16.40	0.520	0.67	0.24		0.30		0.59	
		1.40	1.26	1.54	15.90	15.40	16.40	0.600	0.76	0.26		0.33		0.59	
		1.60	1.44	1.76	15.90	15.40	16.40	0.670	0.85	0.29		0.37		0.59	
		1.80	1.62	1.98	15.90	15.40	16.40	0.730	0.93	0.32		0.40		0.59	
3/4"x 3/4"	19.1 x 19.1	1.00	0.90	1.10	19.10	18.60	19.60	0.555	0.70	0.37		0.39		0.73	
		1.20	1.08	1.32	19.10	18.60	19.60	0.650	0.82	0.43		0.45		0.72	
		1.40	1.26	1.54	19.10	18.60	19.60	0.740	0.94	0.48		0.50		0.72	
		1.60	1.44	1.76	19.10	18.60	19.60	0.830	1.05	0.53		0.56		0.71	
		1.80	1.62	1.98	19.10	18.60	19.60	0.910	1.16	0.58		0.61		0.71	
7/8"x 7/8"	22.2 x 22.2	1.00	0.90	1.10	22.20	21.70	22.70	0.653	0.82	0.60		0.54		0.86	
		1.20	1.08	1.32	22.20	21.70	22.70	0.778	0.97	0.70		0.63		0.85	
		1.40	1.26	1.54	22.20	21.70	22.70	0.870	1.11	0.79		0.71		0.84	
		1.60	1.44	1.76	22.20	21.70	22.70	0.980	1.25	0.87		0.78		0.83	
		1.80	1.62	1.98	22.20	21.70	22.70	1.090	1.39	0.95		0.85		0.83	
1″x 1″	25.4 x 25.4	2.41	2.17	2.65	25.40	24.90	25.90	1.62	2.07	1.75		1.38		0.92	
		3.38	3.04	3.72	25.40	24.90	25.90	2.10	2.68	2.04		1.60		0.87	
1/1/4″x 1/1/4″	31.8 x 31.8	1.00	0.90	1.10	31.80	31.30	32.30	0.949	1.21	1.88		1.18		1.25	
		1.20	1.08	1.32	31.80	31.30	32.30	1.120	1.43	2.20		1.38		1.24	
		1.40	1.26	1.54	31.80	31.30	32.30	1.340	1.65	2.50		1.57		1.23	
		1.60	1.44	1.76	31.80	31.30	32.30	1.470	1.87	2.78		1.75		1.22	
		1.80	1.62	1.98	31.80	31.30	32.30	1.630	2.08	3.05		1.92		1.21	
		2.00	1.80	2.20	31.80	31.30	32.30	1.790	2.25	3.30		2.08		1.20	
		2.30	2.07	2.53	31.80	31.30	32.30	2.020	2.58	3.66		2.30		1.19	
		2.80	2.52	3.08	31.80	31.30	32.30	2.390	3.05	4.23		2.66		1.18	
		3.00	2.70	3.30	31.80	31.30	32.30	2.530	3.22	4.45		2.80		1.17	
		3.20	2.88	3.52	31.80	31.30	32.30	2.670	3.40	4.67		2.93		1.17	

Dimension Tolerances

Outside Diameter
≤ 65.0 mm. : ± 0.50 mm.
65.0-90.0 mm. : ± 0.60 mm.
90.0-140.0 mm. : ± 0.80 mm.
> 140.0 mm. : ± 1%

Thickness ± 10%

Weight N/A

ASTM A500

Cold-Formed Welded Carbon Steel Structural Tubing in Rounds and Shapes

NOMINAL SIZE		THICKNESS MM			OUTSIDE DIAMETER MM			WEIGHT (PLAIN END) KG/M	CROSS SECTIONAL AREA	GEOMETRICAL MOMENT OF INERTIA		MODULUS OF SECTION		RADIUS OF GYRATION	
in	mm	Std.	Min	Max	Std.	Min	Max	STD	A	I_x	I_y	Z_x	Z_y	iX	i_y
									cm^2	cm^4		cm^3		cm	
1/1/2″x 1/1/2″	38.1 x 38.1	1.00	0.90	1.10	38.10	37.60	38.60	1.150	1.46	3.31		1.74		1.51	
		1.20	1.08	1.32	38.10	37.60	38.60	1.370	1.73	3.88		2.04		1.50	
		1.40	1.26	1.54	38.10	37.60	38.60	1.570	2.00	4.43		2.33		1.49	
		1.60	1.44	1.76	38.10	37.60	38.60	1.780	2.27	4.95		2.60		1.48	
		1.80	1.62	1.98	38.10	37.60	38.60	1.990	2.53	5.45		2.86		1.47	
		2.00	1.80	2.20	38.10	37.60	38.60	2.190	2.78	5.92		3.11		1.46	
		2.30	2.07	2.53	38.10	37.60	38.60	2.480	3.16	6.60		3.46		1.45	
		2.80	2.52	3.08	38.10	37.60	38.60	2.950	3.75	7.63		4.01		1.43	
		3.00	2.70	3.30	38.10	37.60	38.60	3.120	3.98	8.03		4.21		1.42	
		3.20	2.88	3.52	38.10	37.60	38.60	3.300	4.20	8.41		4.42		1.41	
2″x 2″	50.8 x 50.8	2.79	2.51	3.07	50.80	50.30	51.30	4.00	5.16	19.41		7.64		1.94	
		3.18	2.86	3.50	50.80	50.30	51.30	4.52	5.80	21.40		8.42		1.92	
		3.91	3.52	4.30	50.80	50.30	51.30	5.44	6.94	24.67		9.71		1.89	
		4.78	4.30	5.26	50.80	50.30	51.30	6.41	8.21	27.88		10.97		1.84	
2-1/2″x 2-1/2″	63.5 x 63.5	3.58	3.22	3.94	63.50	63.00	64.00	6.43	8.25	48.35		15.23		2.42	
		4.78	4.30	5.26	63.50	63.00	64.00	8.32	10.64	59.36		18.70		2.36	
		6.35	5.72	6.99	63.50	63.00	64.00	10.56	13.13	66.84		21.05		2.26	
3″x 3″	76.2 x 76.2	3.96	3.56	4.36	76.20	75.60	76.80	8.60	11.04	94.20		24.72		2.92	
		4.78	4.30	5.26	76.20	75.60	76.80	10.21	13.07	108.49		28.47		2.88	
		6.35	5.72	6.99	76.20	75.60	76.80	13.09	16.36	126.31		33.15		2.78	
3-1/2″x 3-1/2″	89.9 x 89.9	3.96	3.56	4.36	89.90	89.30	90.50	10.24	13.05	154.44		34.74		3.44	
		4.78	4.30	5.26	89.90	89.30	90.50	12.11	15.50	179.16		40.31		3.40	
		6.35	5.72	6.99	89.90	89.30	90.50	15.62	19.59	213.28		47.98		3.30	
4″x 4″	101.6 x 101.6	4.78	4.30	5.26	101.60	100.80	102.40	13.85	17.92	275.30		54.19		3.92	
		6.35	5.72	6.99	101.60	100.80	102.40	17.89	22.81	332.96		65.54		3.82	
5″x 5″	127.0 x 127.0	4.78	4.30	5.26	127.00	126.20	127.80	17.65	22.78	559.65		88.13		4.96	
		6.35	5.72	6.99	127.00	126.20	127.80	22.94	29.26	691.23		108.86		4.86	

Dimension Tolerances

Outside Diameter
65.0 mm. : ± 0.50 mm.
65.0-90.0 mm. : ± 0.60 mm.
90.0-140.0 mm. : ± 0.80 mm.
> 140.0 mm. : ± 1%

Thickness ± 10%

Weight N/A