



PIPE AND TUBE

A513 MECHANICAL TUBING

THEORETICAL WEIGHT PER FOOT FACTORS

Outside Dimension		Nominal Wall Thickness								
Square	Rectangel	0.028	0.035	0.049	0.065	0.072	0.083	0.095	0.109	0.120
		22 Ga	20 Ga	18 Ga	16 Ga	15 Ga	14 Ga	13 Ga	12 Ga	11 Ga
1/2 x 1/2	3/8 x 5/8	0.180	0.221	0.301	0.385					
5/8 x 5/8		0.227	0.281	0.384	0.495					
3/4 x 3/4	1/2 x 1	0.275	0.340	0.467	0.606	0.664	0.753	0.846	0.950	1.028
13/16 x 13/16	5/8 x 1	0.299	0.370	0.509	0.661	0.725	0.823			
7/8 x 7/8	3/4 x 1	0.323	0.400	0.550	0.716	0.786	0.894			
	7/8 x 1	0.346	0.430	0.592	0.771	0.847	0.965			
1 x 1	1/2 x 1-1/2	0.370	0.459	0.634	0.827	0.909	1.035	1.169	1.321	1.436
1-1/8 x 1-1/8	3/4 x 1-1/2			0.717	0.937	1.031	1.176	1.331	1.506	1.640
1-1/4 x 1-1/4	1 x 1-1/2			0.800	1.048	1.153	1.317	1.492	1.691	1.844
1-1/2 x 1-1/2	1 x 2			0.967	1.269	1.398	1.600	1.815	2.062	2.252
	1-1/4 x 2			1.050	1.379	1.521	1.741	1.977	2.247	2.456
1-3/4 x 1-3/4	1-1/2 x 2				1.490	1.643	1.882	2.138	2.433	2.660
1-7/8 1-7/8	1-1/4 x 2-1/2				1.600	1.765	2.023	2.300	2.618	2.864
2 x 2	1 x 3				1.711	1.888				Structural

This table is based on commonly used sizes. Other sizes are within Maruichi Leavitt production capabilities. We invite your inquiry.

CORNER RADIUS TOLERANCE

Squares and Equivalent Restagles	Wall Thickness	Radius Tolerance Inches
1/2" to 2"	18 (0.049)	3/16 to 5/64
1/2" to 2"	16 (0.065)	1/16 to 7/64
3/4" to 2"	14 (0.083)	5/64 to 1/8
3/4" to 2"	13 (0.095)	3/32 to 5/32
3/4" to 2"	12 (0.109)	1/8 to 13/64
3/4" to 2"	11 (0.120)	1/8 to 7/32

Wall Thickness Tolerance

± 10% of spec. Nominal Wall Thickness

Note: Reference: ASTM A-513 Latest.

OUTSIDE DIMENSION TOLERANCE*

Largest Outside	Tol. Inches
1/2" to 5/8" Incl.	±0.004
Over 5/8" to 1-1/8"	±0.005
Over 1-1/8" to 1-1/2"	±0.006
Over 1-1/2" to 2"	±0.008
Over 2" to 3"	±0.010

*Measured at Least 2" From the end of the tube

Straightness Tolerance

Max. 1/16" in 3'

Squareness of Sides

Max. = Widest side (in) x 0.006"

TWIST TOLERANCE

Specified Dimension longest side, Inches	Maximum Twist in 3 Feet
1/2	0.032"
Over 1/2 to 1-1/2 Incl.	0.050"
Over 1-1/2 to 2-1/2 Incl.	0.062"
Over 2-1/2"	0.075"

LENGTH TOLERANCE

Length	Tol. Inches
1' to 3' Incl.	± 1/16
Over 3' to 12'	± 3/32
Over 12' to 20'	± 1/8
Over 20' to 30'	± 3/16

Maruichi Leavitt mechanical tubing is produced in accordance with the mechanical and chemical property requirements of ASTM A513



PIPE AND TUBE

A513 MECHANICAL TUBING

THEORETICAL WEIGHT PER FOOT FACTORS

Outside Diameter		Nominal Wall Thickness									
Decimal	Fraction	0.028	0.035	0.042	0.049	0.065	0.072	0.083	0.095	0.109	0.120
		22 Ga	20 Ga	19 Ga	18 Ga	16 Ga	15 Ga	14 Ga	13 Ga	12 Ga	11Ga
0.375	3/8	0.104	0.127	0.150	0.171	0.215					
0.406		0.113	0.139	0.163	0.187	0.237					
0.438	7/16	0.123	0.151	0.178	0.204	0.259					
0.500	1/2	0.141	0.174	0.206	0.236	0.302					
0.540		0.153	0.189	0.224	0.257	0.330					
0.562		0.160	0.197	0.233	0.269	0.345					
0.625	5/8	0.179	0.221	0.262	0.302	0.389	0.426	0.481			
0.675		0.194	0.239	0.284	0.328	0.424	0.464	0.525			
0.750	3/4	0.216	0.268	0.318	0.367	0.476	0.522	0.592	0.665	0.747	0.808
0.812	13/16	0.235	0.291	0.346	0.400	0.519	0.570	0.647	0.728	0.819	0.888
0.875	7/8	0.254	0.314	0.374	0.433	0.563	0.618	0.703	0.792	0.893	0.969
1.000	1	0.291	0.361	0.430	0.498	0.650	0.714	0.814	0.919	1.038	1.129
1.062	1-1/16				0.531	0.693	0.762	0.869	0.982	1.110	1.208
1.125	1-1/8				0.564	0.737	0.810	0.925	1.046	1.184	1.289
1.250	1-1/4				0.629	0.823	0.907	1.035	1.173	1.330	1.450
1.375	1-3/8				0.695	0.910	1.003	1.146	1.300	1.475	1.610
1.437	1-7/16				0.727	0.953	1.051	1.201	1.363	1.547	1.689
1.500	1-1/2				0.760	0.997	1.099	1.257	1.427	1.621	1.770
1.600					0.812	1.067	1.176	1.346	1.528	1.737	1.899
1.625	1-5/8				0.826	1.084	1.195	1.368	1.554	1.766	1.931
1.660					0.844	1.108	1.222	1.399	1.589	1.807	1.976
1.750	1-3/4				0.891	1.171	1.292	1.479	1.681	1.912	2.091
1.875	1-7/8				0.956	1.258	1.388	1.590	1.808	2.058	2.251
2.000	2				1.022	1.345	1.484	1.701	1.935	2.203	2.412
2.125	2-1/8				1.087	1.431	1.580	1.812	2.062	2.349	2.572
2.250	2-1/4				1.153	1.518	1.676	1.923	2.189	2.495	2.732
2.375	2-3/8				1.218	1.605	1.773	2.034	2.315	2.640	2.893
2.500	2-1/2				1.284	1.692	1.869	2.145	2.442	2.786	3.053
2.625	2-5/8				1.349	1.779	1.965	2.255	2.569	2.932	3.213
2.750	2-3/4				1.415	1.866	2.061	2.366	2.696	3.077	3.374

Maruichi Leavitt mechanical tubing is produced in accordance with the mechanical and chemical property requirements of ASTM A513

Hot Rolled	
OUTSIDE DIMENSION TOLERANCE*	
Largest Outside	Tol. Inches
1/2" to 1-1/8" Incl.	±0.0035
Over 1-1/8" to 2"	±0.005
Over 2" to 2-1/2"	±0.006
Over 2-1/2"	±0.008
Wall Thickness Tolerance	
Refer to ASTM A-513 Table 6	

Cold Rolled	
OUTSIDE DIMENSION TOLERANCE*	
Largest Outside	Tol. Inches
3/8" to 5/8" Incl.	±0.003
Over 5/8" to 1-1/8"	±0.0035
Over 1-1/8" to 2"	±0.005
Over 2" to 2-1/2"	±0.006
Over 2-1/2"	±0.008
Wall Thickness Tolerance	
Refer to ASTM A-513 Table 11	
*Measured at Least 2" From the end of the tube	

Straightness Tolerance	
Max. = 0.010" Per Foot	

LENGTH TOLERANCE	
Length	Tol. Inches
6" to under 12"	± 1/16
12" to under 48"	± 1/16
48" to under 10'	± 1/8
10' to 24'	± 1/4

Note: Reference: ASTM A-513 Latest.

This table is based on commonly used sizes. Other sizes are within Maruichi Leavitt production capabilities. We invite your inquiry.