STEEL CITIES
ESTD STEELS 1952

ROUND MECHANICAL TUBING

- SEAMLESS & WELDED AVAILABILITY CHARTS
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- PRODUCT INFORMATION
  - SEAMLESS
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  - ELECTRIC RESISTANCE WELDED
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ROUND MECHANICAL TUBING

COLD DRAWN SEAMLESS	
Carbon: **ASTM A519**	1026 up to 9-1/2" O.D., over 9-1/2" O.D. .25 maximum. Produced to O.D. and I.D. dimensions except where noted.
HOT FINISHED SEAMLESS	
Carbon: **ASTM A519**	1026 Produced to O.D. and wall dimension.
D.O.M. (Welded)	
Carbon 1020 **Carbon 1026** **ASTM A513** **Type 5**	10 ga. wall and lighter. All other sizes. Normally produced to O.D. and I.D. dimensions.
BUTTWELD	
Carbon **ASTM A512**	1012/1020 Normally produced to O.D. and ID. dimensions.
ELECTRIC WELDED	
Carbon **ASTM A513**	1010/1020 Type 1 (HR) or Type 2 (CR) produced to O.D. and wall dimension. Sizes over 8" O.D. are not covered by A513 specification. Consult manufacturer for tolerances.

E.W. tubes up to 1" O.D. are flash-in

E.W. tubes 1" O.D. and larger are flash controlled to .010 with the following exceptions which are:

- F.C. .010/.020" maximum
- 1" O.D. x 13 ga.
- 1" O.D. x 12 ga.
- 1" O.D. x 11 ga.

MECHANICAL TUBING SEAMLESS AND WELDED

Low Carbon C1010, 1015, 1020, 1026

IN RANDOM LENGTHS - ALSO FABRICATED TO SPECIFICATION - ASTM A512 - 513 - 519

CDS - Cold Drawn Seamless
DOM - Drawn Over Mandrel
ERW - Electric Resistance Weld
BW - Cold Drawn Buttweld
HY - High Yield
X - Size Normally Carried in Stock

Outside Diameter (OD) and Gage, In.	Wall Dec - In.	Inside Diameter (ID)	Weight Lbs/Ft	CDS	DOM	ERW	BW	HY
1/4 OD								
24 GA	0.022	0.206	0.0536	-	X	-	-	-
22 GA	0.028	0.194	0.0664	-	X	-	-	-
21 GA	0.032	0.187	0.0745	-	X	-	-	-
20 GA	0.035	0.180	0.0804	-	X	-	-	-
19 GA	0.042	0.166	0.0933	-	X	-	-	-
18 GA	0.049	0.152	0.1052	-	X	-	-	-
16 GA	0.065	0.120	0.1284	-	X	-	-	-
5/16 OD								
23 GA	0.025	0.263	0.0770	-	X	-	-	-
21 GA	0.032	0.249	0.0960	-	X	-	-	-
20 GA	0.035	0.242	0.1039	-	X	-	-	-
18 GA	0.049	0.214	0.1382	-	X	-	-	-
16 GA	0.065	0.182	0.1722	-	X	-	-	-
3/8 OD								
20 GA	0.035	0.305	0.1271	-	X	X	-	-
18 GA	0.049	0.277	0.1706	-	X	X	-	-
17 GA	0.058	0.259	0.1964	-	X	-	-	-
16 GA	0.065	0.245	0.2152	-	X	X	-	-
7/16 OD								
17 GA	0.058	0.322	0.2354	-	X	-	-	-
16 GA	0.065	0.307	0.2589	-	X	X	-	-
12 GA	0.109	0.220	0.3830	-	-	-	-	-

If you do not see a size listed, please ask. GA = GAGE

MECHANICAL TUBING - Continued

Outside Diameter (OD) and Gage, In.	Wall Dec - In.	Inside Diameter (ID)	Weight Lbs/Ft	CDS	DOM	ERW	BW	HY
1/2 OD								
20 GA	0.035	0.430	0.1738	-	X	X	-	-
18 GA	0.049	0.402	0.2360	-	X	X	-	-
17 GA	0.058	0.384	0.2738	-	X	-	-	-
16 GA	0.065	0.370	0.3020	-	X	X	-	-
15 GA	0.072	0.356	0.3291	-	-	-	-	-
14 GA	0.083	0.334	0.3696	-	X	-	X	-
13 GA	0.095	0.310	0.4109	-	X	-	X	-
12 GA	0.109	0.282	0.4552	-	X	-	-	-
11 GA	0.120	0.260	0.4870	-	X	-	X	-
1/8	0.125	0.250	0.5010	-	X	-	-	-
10 GA	0.134	0.232	0.5238	-	X	-	-	-
9/16 OD								
14 GA	0.083	0.396	0.4255	-	X	-	-	-
13 GA	0.095	0.372	0.4748	-	X	-	-	-
12 GA	0.109	0.344	0.5285	-	X	-	-	-
11 GA	0.120	0.322	0.5677	-	X	X	X	-
5/8 OD								
20 GA	0.035	0.555	0.2210	-	-	X	-	-
18 GA	0.049	0.527	0.3014	-	X	X	-	-
17 GA	0.058	0.509	0.3512	-	X	X	X	-
16 GA	0.065	0.495	0.3888	-	X	X	-	-
14 GA	0.083	0.459	0.4805	-	X	X	X	-
13 GA	0.095	0.435	0.5377	-	X	-	X	-
12 GA	0.109	0.407	0.6007	-	X	X	X	-
11 GA	0.120	0.385	0.6472	-	X	-	X	-
10 GA	0.134	0.357	0.7027	-	X	-	-	-
5/32	0.156	0.312	0.7814	-	X	-	X	-
3/16	0.188	0.250	0.8774	-	X	-	-	-
11/16 OD								
14 GA	0.083	0.521	0.5363	-	X	-	X	-
13 GA	0.095	0.497	0.6017	-	X	-	-	-
12 GA	0.109	0.469	0.6740	-	X	-	-	-
11 GA	0.120	0.447	0.7279	-	X	-	X	-
10 GA	0.134	0.419	0.7928	-	X	-	-	-
5/32	0.156	0.375	0.8864	-	X	-	-	-
3/16	0.188	0.312	1.0040	-	X	-	-	-

If you do not see a size listed, please ask. GA = GAGE

MECHANICAL TUBING - Continued

Outside Diameter (OD) and Gage, In.	Wall Dec - In.	Inside Diameter (ID)	Weight Lbs/Ft	CDS	DOM	ERW	BW	HY
3/4 OD								
20 GA	0.035	0.680	0.2673	-	X	X	-	-
18 GA	0.049	0.652	0.3668	-	X	X	-	-
17 GA	0.058	0.634	0.4287	-	X	-	-	-
16 GA	0.065	0.620	0.4755	-	X	X	X	-
15 GA	0.072	0.606	0.5214	-	X	-	-	X
14 GA	0.083	0.584	0.5913	-	X	X	X	-
13 GA	0.095	0.560	0.6646	-	X	-	X	X
12 GA	0.109	0.532	0.7462	-	X	X	X	-
11 GA	0.120	0.510	0.8074	-	X	X	X	-
10 GA	0.134	0.482	0.8816	-	X	-	X	-
5/32	0.156	0.437	0.9897	-	X	-	X	-
11/64	0.172	0.406	1.0620	-	X	-	X	-
3/16	0.188	0.375	1.1280	-	X	-	X	-
7/32	0.219	0.312	1.2420	-	X	-	-	-
13/16 OD								
22 GA	0.028	0.757	0.2347	-	X	-	-	-
20 GA	0.035	0.742	0.2908	-	X	-	-	-
18 GA	0.049	0.714	0.3998	-	X	-	-	-
16 GA	0.065	0.682	0.5193	-	X	-	-	-
11 GA	0.120	0.572	0.8881	-	X	-	X	-
10 GA	0.134	0.544	0.9717	-	X	-	-	-
5/32	0.156	0.500	1.0950	-	X	-	-	-
3/16	0.188	0.437	1.2550	-	X	-	X	-
0.840 OD*								
15 GA	0.076	0.696	0.5906	-	-	X	-	X
7/8 OD								
20 GA	0.035	0.805	0.3140	-	-	X	-	-
18 GA	0.049	0.777	0.4323	-	X	X	-	-
17 GA	0.058	0.759	0.5061	-	X	X	X	-
16 GA	0.065	0.745	0.5623	-	X	X	X	-
14 GA	0.083	0.709	0.7021	-	X	X	-	-
13 GA	0.095	0.685	0.7914	-	X	X	-	X
12 GA	0.109	0.657	0.8917	-	X	-	X	-
11 GA	0.120	0.635	0.9676	-	X	X	X	-
10 GA	0.134	0.607	1.0600	-	X	-	X	-
5/32	0.156	0.562	1.1980	-	X	-	X	-
3/16	0.188	0.500	1.3790	-	X	-	X	-
7/32	0.219	0.437	1.5340	-	X	-	-	-
1/4	0.250	0.375	1.6690	-	X	-	-	-

*Also refer to Pipe Section. If you do not see a size listed, please ask. GA = GAGE

MECHANICAL TUBING - Continued

Outside Diameter (OD) and Gage, In.	Wall Dec - In.	Inside Diameter (ID)	Weight Lbs/Ft	CDS	DOM	ERW	BW	HY
15/16 OD								
16 GA	0.065	0.808	0.6060	-	X	-	-	-
14 GA	0.083	0.771	0.7579	-	X	-	X	-
13 GA	0.095	0.747	0.8553	-	X	-	-	-
11 GA	0.120	0.697	1.0480	-	X	-	X	-
10 GA	0.134	0.669	1.1510	-	X	-	X	-
5/32	0.156	0.625	1.3030	-	X	-	X	-
3/16	0.188	0.562	1.5060	-	X	-	-	-
7/32	0.219	0.500	1.6820	-	X	-	-	-
1/4	0.250	0.437	1.8370	-	X	-	-	-
1 OD								
22 GA	0.028	0.944	0.2907	-	X	-	-	-
20 GA	0.035	0.930	0.3607	-	X	X	-	-
18 GA	0.049	0.902	0.4977	-	X	X	-	-
17 GA	0.058	0.884	0.5835	-	X	-	-	-
16 GA	0.065	0.870	0.6491	-	X	X	X	-
15 GA	0.072	0.856	0.7136	-	X	-	-	X
14 GA	0.083	0.834	0.8129	-	X	X	X	X
13 GA	0.095	0.810	0.9182	-	X	X	-	X
12 GA	0.109	0.782	1.0370	-	X	X	X	-
11 GA	0.120	0.760	1.1280	-	X	X	X	-
10 GA	0.134	0.732	1.2390	-	X	-	X	-
5/32	0.156	0.687	1.4060	-	X	-	X	-
11/64	0.172	0.656	1.5210	-	-	-	X	-
3/16	0.188	0.625	1.8810	-	X	-	X	-
7/32	0.219	0.562	1.8270	-	X	-	X	-
1/4	0.250	0.500	2.0030	-	X	-	X	-
9/32	0.281	0.437	2.1580	-	X	-	-	-
5/16	0.313	0.375	2.2970	-	X	-	-	-
1.050 OD*								
15 GA	0.072	0.906	0.7520	-	-	X	-	X
14 GA	0.086	0.884	0.8572	-	-	X	-	X
13 GA	0.095	0.860	0.9689	-	-	X	-	X
12 GA	0.112	0.834	1.0870	-	-	X	-	X
1-1/16 OD								
16 GA	0.065	0.933	0.692	-	X	-	-	-
14 GA	0.083	0.897	0.869	-	X	-	-	-
13 GA	0.095	0.872	0.982	-	X	-	-	-
12 GA	0.109	0.844	1.1110	-	X	-	X	-
11 GA	0.120	0.822	1.2090	-	X	-	-	-

*Also refer to Pipe Section. If you do not see a size listed, please ask. GA = GAGE

MECHANICAL TUBING - Continued

Outside Diameter (OD) and Gage, In.	Wall Dec - In.	Inside Diameter (ID)	Weight Lbs/Ft	CDS	DOM	ERW	BW	HY
1-1/16 OD (cont.)								
10 GA	0.134	0.794	1.3300	-	X	-	-	-
5/32	0.156	0.750	1.5110	-	X	-	X	-
3/16	0.188	0.687	1.7570	-	X	-	-	-
7/32	0.219	0.625	1.9740	-	X	-	X	-
1/4	0.250	0.562	2.1710	-	X	-	-	-
9/32	0.281	0.500	2.3470	-	-	-	-	-
5/16	0.313	0.437	2.5070	-	X	-	-	-
3/8	0.375	0.312	2.7550	-	-	-	-	-
1-1/8 OD								
20 GA	0.035	1.055	0.4074	-	X	-	-	-
18 GA	0.049	1.027	0.5631	-	X	X	-	-
17 GA	0.058	1.009	0.6609	-	X	-	-	-
16 GA	0.065	0.995	0.7359	-	X	X	X	-
14 GA	0.083	0.959	0.9237	-	X	X	-	-
12 GA	0.109	0.907	1.1830	-	X	-	X	-
11 GA	0.120	0.885	1.2880	-	X	X	X	-
10 GA	0.134	0.857	1.4180	-	X	-	X	-
5/32	0.156	0.812	1.6140	-	X	-	X	-
11/64	0.172	0.781	1.7510	-	-	-	X	-
3/16	0.188	0.750	1.8810	-	X	-	X	-
7/32	0.219	0.687	2.1190	-	X	-	X	-
1/4	0.250	0.625	2.3360	-	X	-	X	-
9/32	0.281	0.563	2.5330	-	X	-	-	-
5/16	0.313	0.500	2.7140	-	-	-	-	-
3/8	0.375	0.375	3.0040	-	X	-	-	-
1-3/16 OD								
16 GA	0.065	1.057	0.7796	-	X	X	-	-
14 GA	0.083	1.021	0.9795	-	X	-	-	-
11 GA	0.120	0.948	1.3690	-	X	-	X	-
1/8	0.125	0.938	1.4190	-	X	-	-	-
5/32	0.156	0.875	1.7190	-	X	-	X	-
3/16	0.188	0.812	2.0080	-	X	-	X	-
7/32	0.219	0.750	2.2660	-	X	-	X	-
1/4	0.250	0.687	2.5040	-	X	-	X	-

If you do not see a size listed, please ask. GA = GAGE

MECHANICAL TUBING - Continued

Outside Diameter (OD) and Gage, In.	Wall Dec - In.	Inside Diameter (ID)	Weight Lbs/Ft	CDS	DOM	ERW	BW	HY
1-1/4 OD								
20 GA	0.035	1.180	0.4542	-	X	X	-	-
18 GA	0.049	1.152	0.6285	-	X	X	-	-
16 GA	0.065	1.120	0.8226	-	X	X	-	-
14 GA	0.083	1.084	1.0340	-	X	X	-	X
13 GA	0.095	1.060	1.1720	-	X	X	X	X
12 GA	0.109	1.032	1.3280	-	X	X	X	X
11 GA	0.120	1.010	1.4480	-	X	X	X	-
1/8	0.125	1.000	1.5020	-	X	-	-	-
10 GA	0.134	0.982	1.5970	-	X	X	X	-
5/32	0.156	0.937	1.8230	-	X	-	X	-
3/16	0.188	0.875	2.1320	-	X	-	X	-
7/32	0.219	0.812	2.4110	-	X	-	X	-
1/4	0.250	0.750	2.6700	-	X	-	X	-
9/32	0.281	0.687	2.9080	-	X	-	X	-
5/16	0.313	0.625	3.1320	-	X	-	X	-
3/8	0.375	0.500	3.5040	-	X	-	-	-
1-5/16 OD								
20 GA	0.035	1.242	0.4777	-	X	-	-	-
16 GA	0.065	1.182	0.8664	-	X	-	-	-
14 GA	0.083	1.146	1.0900	-	X	X	-	-
13 GA	0.095	1.122	1.2360	-	X	-	-	X
12 GA	0.109	1.094	1.4020	-	X	-	X	X
11 GA	0.120	1.072	1.5290	-	X	-	X	X
10 GA	0.134	1.044	1.6870	-	X	-	X	-
5/32	0.156	1.000	1.9280	-	X	-	X	-
3/16	0.188	0.937	2.1590	-	X	-	X	-
7/32	0.219	0.875	2.5590	-	X	-	X	-
1/4	0.250	0.812	2.8380	-	X	-	X	-
9/32	0.281	0.750	3.0970	-	X	-	X	-
5/16	0.313	0.687	3.3430	-	X	-	X	-
1.315 OD*								
15 GA	0.072	1.171	0.9560	-	-	X	-	X
14 GA	0.083	1.149	1.0930	-	-	X	-	X
13 GA	0.095	1.125	1.2380	-	-	X	-	X
12 GA	0.108	1.099	1.3930	-	-	X	-	X
11 GA	0.120	1.075	1.6600	-	-	X	-	X

*Also refer to Pipe Section. If you do not see a size listed, please ask. GA = GAGE

MECHANICAL TUBING - Continued

Outside Diameter (OD) and Gage, In.	Wall Dec - In.	Inside Diameter (ID)	Weight Lbs/Ft	CDS	DOM	ERW	BW	HY
1-3/8 OD								
20 GA	0.035	1.305	0.5009	-	X	X	-	-
18 GA	0.049	1.277	0.6939	-	X	X	-	-
16 GA	0.065	1.245	0.9094	-	X	X	-	-
14 GA	0.083	1.209	1.1450	-	X	X	-	-
13 GA	0.095	1.185	1.2990	-	X	-	-	-
12 GA	0.109	1.157	1.4740	-	X	X	-	-
11 GA	0.120	1.135	1.6080	-	X	X	X	-
1/8	0.125	1.125	1.6690	-	X	-	X	-
10 GA	0.134	1.107	1.7760	-	X	-	-	-
5/32	0.156	1.062	2.0310	-	X	-	X	-
3/16	0.188	1.000	2.3830	-	X	-	X	-
7/32	0.219	0.937	2.7040	-	X	-	X	-
1/4	0.250	0.875	3.0040	-	X	-	X	-
9/32	0.281	0.813	3.2830	-	X	-	X	-
5/16	0.313	0.750	3.5500	-	X	-	-	-
3/8	0.375	0.625	4.0050	-	X	-	-	-
1-7/16 OD								
18 GA	0.049	1.339	0.7269	-	-	X	-	-
16 GA	0.065	1.308	0.9531	-	X	X	-	-
14 GA	0.083	1.271	1.2010	-	X	-	-	-
13 GA	0.095	1.247	1.3630	-	X	-	-	-
11 GA	0.120	1.197	1.6890	-	X	-	-	-
10 GA	0.134	1.170	1.8660	-	X	-	-	-
5/32	0.156	1.125	2.1360	-	X	-	X	-
3/16	0.188	1.062	2.5100	-	X	-	-	
7/32	0.219	1.000	2.8510	-	X	-	X	-
1/4	0.250	0.937	3.1720	-	X	-	-	-
1-1/2 OD								
20 GA	0.035	1.430	0.5476	-	X	X	-	-
18 GA	0.049	1.402	0.7593	-	X	X	-	-
17 GA	0.058	1.384	0.8932	-	X	-	-	-
16 GA	0.065	1.370	0.9962	-	X	X	-	-
15 GA	0.072	1.356	1.0980	-	-	-	-	X
14 GA	0.083	1.334	1.2560	-	X	X	-	X
13 GA	0.095	1.310	1.4260	-	X	X	-	X
12 GA	0.109	1.282	1.6190	-	X	X	X	X
11 GA	0.120	1.260	1.7690	-	X	X	X	-
1/8	0.125	1.250	1.8360	-	X	-	X	-
10 GA	0.134	1.232	1.9550	-	X	X	-	-
5/32	0.156	1.187	2.2390	-	X	X	X	-
11/64	0.172	1.156	2.4390	-	-	-	X	-

If you do not see a size listed, please ask. GA = GAGE

MECHANICAL TUBING - Continued

Outside Diameter (OD) and Gage, In.	Wall Dec - In.	Inside Diameter (ID)	Weight Lbs/Ft	CDS	DOM	ERW	BW	HY
1-1/2 OD (cont.)								
3/16	0.188	1.125	2.6340	-	X	-	X	-
7/32	0.219	1.062	2.9960	-	X	-	X	-
1/4	0.250	1.000	3.3380	-	X	-	X	-
9/32	0.281	0.938	3.6580	-	X	-	X	-
5/16	0.313	0.875	3.9680	-	X	-	X	-
11/32	0.344	0.812	4.2470	-	X	-	X	-
3/8	0.375	0.750	4.5060	-	X	-	X	-
7/16	0.438	0.625	4.9680	X	-	-	-	-
1/2	0.500	0.500	5.3400	X	-	-	-	-
1-9/16 OD								
13 GA	0.095	1.372	1.4890	-	X	-	-	-
11 GA	0.120	1.322	1.8490	-	X	-	-	-
1/8	0.125	1.313	1.9200	-	X	-	X	-
10 GA	0.134	1.295	2.0450	-	X	-	-	-
5/32	0.156	1.250	2.3440	-	X	-	-	-
3/16	0.188	1.187	2.7610	-	X	-	-	-
7/32	0.219	1.125	3.1440	-	X	-	-	-
1/4	0.250	1.062	3.5060	-	-	-	-	-
1-5/8 OD								
20 GA	0.035	1.555	0.5943	-	X	X	-	-
18 GA	0.049	1.527	0.8248	-	X	X	-	-
17 GA	0.058	1.509	0.9707	-	X	-	-	-
16 GA	0.065	1.495	1.0830	-	X	X	-	-
14 GA	0.083	1.459	1.3670	-	X	X	-	-
13 GA	0.095	1.435	1.5520	-	X	-	-	-
12 GA	0.109	1.407	1.7650	-	X	-	X	X
11 GA	0.120	1.385	1.9290	-	X	X	X	-
10 GA	0.134	1.357	2.1340	-	X	X	X	-
5/32	0.156	1.312	2.4470	-	X	-	X	-
11/64	0.172	1.281	2.6690	-	X	-	X	-
3/16	0.188	1.250	2.8850	-	X	-	X	-
7/32	0.219	1.187	3.2890	-	X	-	X	-
1/4	0.250	1.125	3.6710	-	X	-	X	-
9/32	0.281	1.063	4.0330	-	X	-	X	-
5/16	0.313	1.000	4.3860	-	-	-	X	-
3/8	0.375	0.875	5.0060	-	X	-	-	-

If you do not see a size listed, please ask. GA = GAGE

MECHANICAL TUBING - Continued

Outside Diameter (OD) and Gage, In.	Wall Dec - In.	Inside Diameter (ID)	Weight Lbs/Ft	CDS	DOM	ERW	BW	HY
1.660 OD*								
15 GA	0.072	1.516	1.2210	-	-	X	-	X
14 GA	0.083	1.494	1.3980	-	-	X	-	X
13 GA	0.095	1.470	1.5880	-	-	X	-	X
12 GA	0.108	1.444	1.7900	-	-	X	-	X
3/16	0.194	1.272	3.0373	-	-	X	-	X
1-11/16 OD								
16 GA	0.065	1.557	1.1270	-	-	-	-	-
11 GA	0.120	1.447	2.0100	-	X	-	X	-
3/16	0.188	1.313	3.0120	-	X	-	-	-
7/32	0.219	1.250	3.4360	-	X	-	-	-
1/4	0.250	1.187	3.8390	-	X	-	-	-
1-3/4 OD								
20 GA	0.035	1.680	0.6411	-	X	X	-	-
18 GA	0.049	1.652	0.8902	-	X	X	-	-
16 GA	0.065	1.620	1.1700	-	X	X	-	-
14 GA	0.083	1.584	1.4780	-	X	X	-	-
13 GA	0.095	1.560	1.6790	-	X	X	-	-
12 GA	0.109	1.532	1.9100	-	X	-	X	-
11 GA	0.120	1.510	2.0890	-	X	X	X	-
1/8	0.125	1.500	2.1690	-	X	-	X	-
10 GA	0.134	1.482	2.3130	-	X	-	-	-
5/32	0.156	1.437	2.6560	-	X	-	X	-
3/16	0.188	1.375	3.1360	-	X	-	X	-
7/32	0.219	1.312	3.5810	-	X	-	X	-
1/4	0.250	1.250	4.0050	-	X	-	X	-
9/32	0.281	1.188	4.4090	-	X	-	X	-
5/16	0.313	1.125	4.8040	-	X	-	X	-
3/8	0.375	1.000	5.5070	-	X	-	X	-
7/16	0.438	0.875	6.1370	X	-	-	-	-
1/2	0.500	0.750	6.6750	X	-	-	-	-
1-13/16 OD								
7/32	0.219	1.375	3.7280	-	X	-	-	-
1/4	0.250	1.313	4.1730	-	X	-	-	-

*Also refer to Pipe Section. If you do not see a size listed, please ask. GA = GAGE

MECHANICAL TUBING - Continued

Outside Diameter (OD) and Gage, In.	Wall Dec - In.	Inside Diameter (ID)	Weight Lbs/Ft	CDS	DOM	ERW	BW	HY
1-7/8 OD								
20 GA	0.035	1.805	0.6880	-	-	X	-	-
18 GA	0.049	1.777	0.9556	-	-	X	-	-
16 GA	0.065	1.745	1.2570	-	X	X	-	-
14 GA	0.083	1.709	1.5890	-	-	X	-	-
13 GA	0.095	1.685	1.8060	-	X	X	-	-
12 GA	0.109	1.657	2.0560	-	X	-	-	-
11 GA	0.120	1.635	2.2490	-	X	X	X	-
10 GA	0.134	1.607	2.4920	-	X	-	-	-
5/32	0.156	1.562	2.8640	-	X	-	X	-
3/16	0.188	1.500	3.3870	-	X	-	X	-
7/32	0.219	1.437	3.8730	-	X	-	X	-
1/4	0.250	1.375	4.3390	-	X	-	X	-
9/32	0.281	1.313	4.7840	-	X	-	X	-
19/64	0.297	1.281	5.0050	-	X	-	-	-
5/16	0.313	1.250	5.2220	-	X	-	X	-
3/8	0.375	1.125	6.0080	-	X	-	X	-
1.900 OD*								
15 GA	0.072	1.756	1.4060	-	-	X	-	X
14 GA	0.083	1.734	1.6110	-	-	X	-	X
13 GA	0.095	1.710	1.8320	-	-	X	-	X
12 GA	0.109	1.682	2.0850	-	-	X	-	X
3/16	0.190	1.520	3.4700	-	-	X	-	X
1-15/16 OD								
5/32	0.156	1.625	2.9690	-	X	-	-	-
2 OD								
20 GA	0.035	1.930	0.7345	-	X	X	-	-
18 GA	0.049	1.902	1.0210	-	X	X	-	-
16 GA	0.065	1.870	1.3430	-	X	X	-	-
14 GA	0.083	1.834	1.6990	-	X	X	-	-
13 GA	0.095	1.810	1.9330	-	X	X	-	-
12 GA	0.109	1.782	2.2010	-	X	X	X	-
11 GA	0.120	1.760	2.4090	-	X	X	X	-
1/8	0.125	1.750	2.5030	-	X	-	X	-
10 GA	0.134	1.732	2.6700	-	X	X	-	-
5/32	0.156	1.688	3.0720	-	X	-	X	-
3/16	0.188	1.625	3.6380	-	X	-	X	-

*Also refer to Pipe Section. If you do not see a size listed, please ask. GA = GAGE

MECHANICAL TUBING - Continued

Outside Diameter (OD) and Gage, In.	Wall Dec - In.	Inside Diameter (ID)	Weight Lbs/Ft	CDS	DOM	ERW	BW	HY
2 OD (cont.)								
7/32	0.219	1.562	4.1660	-	X	-	X	-
1/4	0.250	1.500	4.6730	-	X	-	X	-
9/32	0.281	1.438	5.1590	-	X	-	X	-
5/16	0.313	1.375	5.6390	-	X	-	X	-
11/32	0.344	1.312	6.0840	-	X	-	-	-
3/8	0.375	1.250	6.5080	-	X	-	X	-
7/16	0.438	1.125	7.3070	X	-	-	-	-
1/2	0.500	1.000	8.0100	X	-	-	-	-
9/16	0.563	0.874	8.6400	X	-	-	-	-
5/8	0.625	0.750	9.1780	X	-	-	-	-
2-1/16 OD								
3/16	0.188	1.689	3.7650	-	X	-	-	-
1/4	0.250	1.562	4.8410	-	X	-	-	-
2-1/8 OD								
18 GA	0.049	2.027	1.0860	-	X	-	-	-
16 GA	0.065	1.995	1.4300	-	X	X	-	-
14 GA	0.083	1.959	1.8100	-	X	-	-	-
13 GA	0.095	1.935	2.0600	-	X	-	-	-
11 GA	0.120	1.885	2.5700	-	X	-	-	-
1/8	0.125	1.875	2.6700	-	X	-	-	-
5/32	0.156	1.812	3.2810	-	X	-	X	-
3/16	0.188	1.750	3.8890	-	X	-	X	-
7/32	0.219	1.687	4.4580	-	X	-	-	-
1/4	0.250	1.625	5.0060	-	X	-	X	-
9/32	0.281	1.563	5.5340	-	X	-	X	-
5/16	0.313	1.500	6.0570	-	X	-	X	-
3/8	0.375	1.375	7.0090	-	X	-	X	-
7/16	0.438	1.250	7.8920	X	-	-	-	-
2-1/4 OD								
18 GA	0.049	2.152	1.1520	-	X	X	-	-
16 GA	0.065	2.120	1.5170	-	X	X	-	-
14 GA	0.083	2.084	1.9210	-	X	X	-	-
13 GA	0.095	2.060	2.1860	-	X	X	-	-
12 GA	0.109	2.032	2.4920	-	X	X	-	-

*Also refer to Pipe Section. If you do not see a size listed, please ask. GA = GAGE

MECHANICAL TUBING - Continued

Outside Diameter (OD) and Gage, In.	Wall Dec - In.	Inside Diameter (ID)	Weight Lbs/Ft	CDS	DOM	ERW	BW	HY
2-1/4 OD (cont.)								
11 GA	0.120	2.010	2.7300	-	X	X	-	-
1/8	0.125	2.000	2.8370	-	X	-	-	-
10 GA	0.134	1.982	3.0280	-	X	-	-	-
5/32	0.156	1.937	3.4890	-	X	-	X	-
3/16	0.188	1.875	4.1400	-	X	-	X	-
7/32	0.219	1.812	4.7500	-	X	-	X	-
1/4	0.250	1.750	5.3400	-	X	-	X	-
9/32	0.281	1.688	5.9090	-	X	-	X	-
5/16	0.313	1.625	6.4750	-	X	-	X	-
11/32	0.344	1.562	7.0020	-	X	-	X	-
3/8	0.375	1.500	7.5090	-	X	-	X	-
7/16	0.437	1.375	8.4760	X	X	-	-	-
1/2	0.500	1.250	9.3450	X	-	-	-	-
9/16	0.563	1.124	10.1400	X	-	-	-	-
5/8	0.625	1.000	10.8500	X	-	-	-	-
3/4	0.750	0.750	12.0200	X	-	-	-	-
2-5/16 OD								
3/16	0.188	1.936	4.2670	-	X	-	X	-
1/4	0.250	1.813	5.5080	-	-	-	-	-
2-3/8 OD*								
16 GA	0.065	2.245	1.6040	-	X	X	-	-
14 GA	0.083	2.209	2.0320	-	-	X	-	-
13 GA	0.095	2.185	2.3130	-	X	-	-	-
12 GA	0.109	2.157	2.6380	-	-	X	-	X
11 GA	0.120	2.135	2.8900	-	X	X	-	-
1/8	0.125	2.125	3.0040	-	X	X	-	-
5/32	0.156	2.063	3.6970	-	-	-	X	-
7 GA	0.180	2.015	4.2200	-	X	-	-	-
3/16	0.188	2.000	4.3910	-	X	X	X	-
0.195	0.195	1.985	4.6950	-	-	.-	-	X
13/64	0.203	1.969	4.7090	-	-	-	X	-
7/32	0.219	1.937	5.0430	-	X	-	X	-
1/4	0.250	1.875	5.6740	-	X	-	X	-
9/32	0.281	1.813	6.2840	-	X	-	-	-
5/16	0.313	1.750	6.8930	-	X	-	X	-
3/8	0.375	1.625	8.0100	-	X	-	X	-
7/16	0.437	1.500	9.0610	-	X	-	-	-
1/2	0.500	1.375	10.0100	X	-	-	-	-
9/16	0.563	1.249	10.9000	X	-	-	-	-

*Also refer to Pipe Section. If you do not see a size listed, please ask. GA = GAGE

MECHANICAL TUBING - Continued

Outside Diameter (OD) and Gage, In.	Wall Dec - In.	Inside Diameter (ID)	Weight Lbs/Ft	CDS	DOM	ERW	BW	HY
2-1/2 OD								
18 GA	0.049	2.402	1.2830	-	-	X	-	-
16 GA	0.065	2.370	1.6900	-	X	X	-	-
14 GA	0.083	2.334	2.1430	-	X	X	-	-
13 GA	0.095	2.310	2.4400	-	X	X	-	-
12 GA	0.109	2.282	2.7830	-	X	-	-	-
11 GA	0.120	2.260	3.0500	-	X	X	-	-
1/8	0.125	2.250	3.1710	-	X	-	-	-
10 GA	0.134	2.232	3.3860	-	X	-	-	-
5/32	0.156	2.187	3.9050	-	X	-	-	-
3/16	0.188	2.125	4.6420	-	X	X	X	-
7/32	0.219	2.062	5.3350	-	X	-	X	-
1/4	0.250	2.000	6.0080	-	X	-	X	-
9/32	0.281	1.938	6.6590	-	X	-	X	-
5/16	0.313	1.875	7.3110	-	X	-	X	-
11/32	0.344	1.812	7.9210	-	X	-	-	-
3/8	0.375	1.750	8.5110	-	X	-	X	-
7/16	0.437	1.625	9.6460	X	X	-	-	-
1/2	0.500	1.500	10.6800	X	X	-	-	-
9/16	0.563	1.375	11.6500	X	-	-	-	-
5/8	0.625	1.250	12.5200	X	-	-	-	-
3/4	0.750	1.000	14.0200	X	-	-	-	-
2-9/16 OD								
1/4	0.250	2.063	6.1760	-	X	-	-	-
2-5/8 OD								
16 GA	0.065	2.495	1.7770	-	X	X	-	-
14 GA	0.083	2.459	2.2530	-	X	X	-	-
12 GA	0.109	2.407	2.9290	-	X	-	-	-
11 GA	0.120	2.385	3.2100	-	X	X	-	-
9 GA	0.148	2.329	3.9150	-	-	X	-	-
5/32	0.156	2.312	4.1140	-	X	-	-	-
3/16	0.188	2.250	4.8930	-	X	-	-	-
7/32	0.219	2.187	5.6270	-	X	-	-	-
1/4	0.250	2.125	6.3410	-	X	-	X	-
9/32	0.281	2.063	7.0350	-	X	-	X	-
5/16	0.313	2.000	7.7290	-	X	-	X	-
3/8	0.375	1.875	9.0110	-	X	-	-	-
7/16	0.438	1.750	10.2300	X	X	-	-	-
1/2	0.500	1.625	11.3500	X	X	-	-	-
9/16	0.563	1.500	12.4000	X	-	-	-	-
5/8	0.625	1.375	13.3500	X	-	-	-	-

*Also refer to Pipe Section. If you do not see a size listed, please ask. GA = GAGE

MECHANICAL TUBING - Continued

Outside Diameter (OD) and Gage, In.	Wall Dec - In.	Inside Diameter (ID)	Weight Lbs/Ft	CDS	DOM	ERW	BW	HY
2-3/4 OD								
16 GA	0.065	2.620	1.8640	-	X	X	-	-
14 GA	0.083	2.584	2.3640	-	X	X	-	-
13 GA	0.095	2.560	2.6940	-	X	X	-	-
11 GA	0.120	2.510	3.3710	-	X	X	-	-
1/8	0.125	2.500	3.5040	-	X	-	-	-
10 GA	0.134	2.482	3.7440	-	X	-	-	-
5/32	0.156	2.438	4.3220	-	X	-	-	-
3/16	0.188	2.375	5.1440	-	X	X	-	-
7/32	0.219	2.312	5.9200	-	X	-	X	-
1/4	0.250	2.250	6.6750	-	X	-	X	-
9/32	0.281	2.188	7.4100	-	X	-	X	-
5/16	0.313	2.125	8.1470	-	X	-	X	-
11/32	0.344	2.062	8.8390	-	X	-	X	-
3/8	0.375	2.000	9.5120	-	X	-	X	-
7/16	0.437	1.875	10.8200	X	X	-	-	-
1/2	0.500	1.750	12.0200	X	X	-	-	-
9/16	0.563	1.625	13.1500	X	X	-	-	-
5/8	0.625	1.500	14.1800	X	X	-	-	-
11/16	0.688	1.375	15.1500	X	-	-	-	
3/4	0.750	1.250	16.0200	X	-	-	-	-
7/8	0.875	1.000	17.5200	X	-	-	-	-
2-7/8 OD*								
16 GA	0.065	2.745	1.9510	-	X	X	-	-
14 GA	0.083	2.709	2.4750	-	-	X	-	-
13 GA	0.095	2.685	2.8210	-	X	-	-	-
11 GA	0.120	2.635	3.5310	-	X	X	-	-
1/8	0.125	2.625	3.6710	-	X	-	-	-
5/32	0.156	2.563	4.5300	-	X	-	-	
3/16	0.188	2.500	5.3950	-	X	X	X	-
7/32	0.219	2.437	6.2120	-	X	-	-	-
1/4	0.250	2.375	7.0090	-	X	-	X	-
9/32	0.281	2.313	7.7850	-	X	-	X	-
5/16	0.313	2.250	8.5640	-	X	-	X	-
3/8	0.375	2.125	10.0100	-	X	-	X	-
7/16	0.437	2.000	11.4000	X	X	-	-	-
1/2	0.500	1.875	12.6800	X	X	-	-	-
9/16	0.563	1.749	13.9000	X	X	-	-	-
5/8	0.625	1.625	15.0200	X	X	-	-	-
3/4	0.750	1.375	17.0200	X	-	-	-	-

*Also refer to Pipe Section. If you do not see a size listed, please ask. GA = GAGE

MECHANICAL TUBING - Continued

Outside Diameter (OD) and Gage, In.	Wall Dec - In.	Inside Diameter (ID)	Weight Lbs/Ft	CDS	DOM	ERW	BW	HY
3 OD								
18 GA	0049	2.902	1.5440	-	-	X	-	-
16 GA	0.065	2.870	2.0370	-	X	X	-	-
14 GA	0.083	2.834	2.5860	-	X	X	-	-
13 GA	0.095	2.810	2.9470	-	X	X	-	-
12 GA	0.109	2.782	3.3650	-	X	X	-	-
11 GA	0.120	2.760	3.6910	-	X	X	-	-
1/8	0.125	2.750	3.8380	-	X	-	-	-
10 GA	0.134	2.732	4.1020	-	X	-	-	-
5/32	0.156	2.687	4.7380	-	X	-	X	-
3/16	0.188	2.625	5.6460	-	X	X	-	-
7/32	0.219	2.562	6.5050	-	X	-	X	-
1/4	0.250	2.500	7.3430	-	X	X	X	-
9/32	0.281	2.438	8.1600	-	X	-	-	-
5/16	0.313	2.375	8.9820	-	X	-	X	-
11/32	0.344	2.312	9.7580	-	X	-	X	-
3/8	0.375	2.250	10.5100	-	X	-	-	-
7/16	0.437	2.125	11.9800	X	X	-	-	-
1/2	0.500	2.000	13.3500	X	X	-	-	-
9/16	0.563	1.875	14.6500	X	X	-	-	-
5/8	0.625	1.750	15.8500	X	X	-	-	-
11/16	0.688	1.624	16.9900	X	-	-	-	-
3/4	0.750	1.500	18.0200	X	-	-	-	-
7/8	0.875	1.250	19.8600	X	-	-	-	-
1	1.000	1.000	21.3600	X	-	-	-	-
3-1/8 OD								
16 GA	0.065	2.995	2.1240	-	X	X	-	-
11 GA	0.120	2.885	3.8510	-	X	X	-	-
1/8	0.125	2.875	3.8550	-	X	-	X	-
3/16	0.188	2.750	5.8970	-	X	X	-	-
7/32	0.219	2.687	6.7979	-	X	-	-	-
1/4	0.250	2.625	7.6760	-	X	-	-	-
5/16	0.313	2.500	9.4000	-	X	-	-	-
3/8	0.375	2.375	11.0100	-	X	-	-	-
7/16	0.437	2.250	12.5700	X	X	-	-	-
1/2	0.500	2.125	14.0200	X	X	-	-	-
9/16	0.563	2.000	15.4000	X	X	-	-	-
5/8	0.625	1.875	16.6900	X	X	-	-	-
3/4	0.750	1.625	19.0200	X	-	-	-	-
7/8	0.875	1.375	21.0300	X	-	-	-	-

*Also refer to Pipe Section. If you do not see a size listed, please ask. GA = GAGE

MECHANICAL TUBING - Continued

Outside Diameter (OD) and Gage, In.	Wall Dec - In.	Inside Diameter (ID)	Weight Lbs/Ft	CDS	DOM	ERW	BW	HY
3-1/4 OD								
16 GA	0.065	3.120	2.2100	-	-	X	-	-
14 GA	0.083	3.084	2.8070	-	-	X	-	-
13 GA	0.095	3.060	3.2010	-	X	X	-	-
11 GA	0.120	3.010	4.0110	-	-	X	-	-
1/8	0.125	3.000	4.1720	-	X	-	-	-
10 GA	0.134	2.982	4.4590	-	X	-	-	-
5/32	0.156	2.938	5.1550	-	X	-	X	-
3/16	0.188	2.875	6.1480	-	X	X	X	-
7/32	0.219	2.812	7.0890	-	X	-	-	-
1/4	0.250	2.750	8.0100	-	X	-	-	-
9/32	0.281	2.688	8.9100	-	X	-	-	-
5/16	0.313	2.625	9.8180	-	X	-	X	-
11/32	0.344	2.562	10.6800	-	X	-	X	-
3/8	0.375	2.500	11.5100	-	X	-	-	-
13/32	0.406	2.438	12.3300	-	-	-	-	-
7/16	0.437	2.376	13.1500	X	X	-	-	-
1/2	0.500	2.250	14.6900	X	X	-	-	X
9/16	0.563	2.126	16.1600	X	X	-	-	-
19/32	0.594	2.062	16.8500	X	-	-	-	-
5/8	0.625	2.000	17.5200	X	-	-	-	-
3/4	0.750	1.750	20.0300	X	-	-	-	-
7/8	0.875	1.500	22.1900	X	-	-	-	-
1	1.000	1.250	24.0300	X	-	-	-	-
3-3/8 OD								
1/8	0.125	3.125	4.1750	-	X	-	-	-
3/16	0.188	3.000	6.3990	-	X	X	-	-
1/4	0.250	2.875	8.3440	-	X	-	-	-
5/16	0.313	2.750	10.2400	-	X	-	-	-
3/8	0.375	2.625	12.0200	-	X	-	-	-
7/16	0.437	2.501	13.7400	-	X	-	-	-
1/2	0.500	2.375	15.3500	X	X	-.	-	-
9/16	0.563	2.249	16.9100	X	X	-	-	-
5/8	0.625	2.125	18.3600	X	X	-	-	-
3/4	0.750	1.875	21.0300	X	-	-	-	-
3-1/2 OD								
16 GA	0.065	3.370	2.3850	-	X	X	-	-
14 GA	0.083	3.334	3.0290	-	X	X	-	-
13 GA	0.095	3.310	3.4550	-	X	X	-	-
11 GA	0.120	3.260	4.3320	-	X	X	-	-

If you do not see a size listed, please ask. GA = GAGE

MECHANICAL TUBING - Continued

Outside Diameter (OD) and Gage, In.	Wall Dec - In.	Inside Diameter (ID)	Weight Lbs/Ft	CDS	DOM	ERW	BW	HY
3-1/2 OD (cont.)								
1/8	0.125	3.250	4.5060	-	X	-	X	-
10 GA	0.134	3.232	4.8170	-	X	-	-	-
5/32	0.156	3.187	5.5710	-	X	X	-	-
3/16	0.188	3.125	6.6500	-	X	X	X	-
7/32	0.219	3.062	7.6740	-	X	X	-	-
1/4	0.250	3.000	8.6780	-	X	X	X	-
9/32	0.281	2.938	9.6600	-	X	-	-	-
5/16	0.313	2.875	10.6500	-	X	-	-	-
3/8	0.375	2.750	12.5200	-	X	-	X	-
7/16	0.437	2.626	14.3200	X	X	-	-	-
1/2	0.500	2.500	16.0200	X	X	-	-	-
9/16	0.563	2.374	17.6600	X	X	-	-	-
5/8	0.625	2.250	19.1900	X	X	-	-	-
3/4	0.750	2.000	22.0300	X	-	-	-	-
7/8	0.875	1.750	24.5300	X	-	-	-	-
1	1.000	1.500	26.7000	X	-	-	-	-
3-5/8 OD								
16GA	0.065	3.495	2.4710	-	-	X	-	-
3/16	0.188	3.250	6.9010	-	X	-	-	-
1/4	0.250	3.125	9.0110	-	X	-	-	-
9/32	0.281	3.063	10.0400	-	X	-	-	-
5/16	0.313	3.000	11.0700	-	X	-	-	-
3/8	0.375	2.875	13.0200	-	X	-	-	-
7/16	0.437	2.750	14.9100	-	X	-	-	X
1/2	0.500	2.625	16.6900	X	X	-	-	-
9/16	0.563	2.500	18.4100	X	X	-	-	-
5/8	0.625	2.375	20.0300	X	X	-	-	-
3/4	0.750	2.125	23.0300	X	-	-	-	-
3-3/4 OD								
16 GA	0.065	3.620	2.5580	-	X	X	-	-
14 GA	0.083	3.584	2.8070	-	-	X	-	-
11 GA	0.120	3.510	4.6520	-	X	X	-	-
1/8	0.125	3.500	4.8390	-	X	-	-	-
3/16	0.188	3.375	7.1520	-	X	X	-	-
1/4	0.250	3.250	9.3450	-	X	-	-	-
9/32	0.281	3.188	10.4100	-	-	-	-	-
5/16	0.313	3.125	11.4900	-	X	-	-	-
11/32	0.344	3.062	12.5100	-	X	-	-	-
3/8	0.375	3.000	13.5200	-	X	-	-	-
7/16	0.437	2.875	15.4900	X	-	-	-	-

*Also refer to Pipe Section. If you do not see a size listed, please ask. GA = GAGE

MECHANICAL TUBING - Continued

Outside Diameter (OD) and Gage, In.	Wall Dec - In.	Inside Diameter (ID)	Weight Lbs/Ft	CDS	DOM	ERW	BW	HY
3-3/4 OD (cont.)								
1/2	0.500	2.750	17.3600	X	X	-	-	-
9/16	0.563	2.624	19.1600	X	-	-	-	-
5/8	0.625	2.500	20.8600	X	X	-	-	-
11/16	0.688	2.374	22.5000	X	-	-	-	-
3/4	0.750	2.250	24.0300	X	-	-	-	X
7/8	0.875	2.000	26.8700	X	-	-	-	-
1	1.000	1.750	29.3700	X	-	-	-	X
3-7/8 OD								
3/16	0.188	3.500	7.4030	-	X	-	-	-
1/4	0.250	3.375	9.6790	-	X	-	-	-
3/8	0.375	3.125	14.0200	-	X	-	-	-
7/16	0.437	3.000	16.0800	-	-	-	-	-
1/2	0.500	2.875	18.0200	-	X	-	-	-
5/8	0.625	2.625	21.6900	X	X	-	-	X
3/4	0.750	2.375	25.0300	X	-	-	-	
4 OD								
16 GA	0.065	3.870	2.7320	-	-	X	-	-
14 GA	0.083	3.834	3.4720	-	X	X	-	-
13 GA	0.095	3.810	3.9620	-	X	X	-	-
12 GA	0.109	3.782	4.5300	-	-	X	-	-
11 GA	0.120	3.760	4.7930	-	-	X	-	-
1/8	0.125	3.750	4.7950	-	X	-	-	-
10 GA	0.134	3.732	5.5330	-	X	X	-	-
5/32	0.156	3.687	6.4040	-	X	-	-	-
3/16	0.188	3.625	7.6540	-	X	X	-	-
7/32	0.219	3.562	8.8430	-	X	-	-	-
1/4	0.250	3.500	10.0100	-	X	X	-	-
9/32	0.281	3.438	11.1600	-	X	-	-	-
5/16	0.313	3.375	12.3300	-	X	-	-	-
3/8	0.375	3.250	14.5200	-	X	-	-	-
7/16	0.437	3.126	16.6600	-	X	-	-	-
1/2	0.500	3.000	18.6900	X	X	-	-	X
9/16	0.563	2.874	20.6700	X	X	-	-	-
5/8	0.625	2.750	22.5300	X	X	-	-	X
11/16	0.688	2.624	24.3400	X	-	-	-	-
3/4	0.750	2.500	26.0300	X	-	-	-	X
7/8	0.875	2.250	29.200	X	-	-	-	X
1	1.000	2.000	32.0400	X	-	-	-	X
1-1/8	1.125	1.750	34.5400	X	-	-	-	X
1-1/4	1.250	1.500	36.7100	X	-	-	-	X

If you do not see a size listed, please ask. GA = GAGE

MECHANICAL TUBING - Continued

Outside Diameter (OD) and Gage, In.	Wall Dec - In.	Inside Diameter (ID)	Weight Lbs/Ft	CDS	DOM	ERW	BW	HY
4-1/8 OD								
3/16	0.188	3.750	7.9050	-	X	-	-	-
1/4	0.250	3.625	10.3500	-	X	-	-	-
5/16	0.313	3.500	12.7400	-	X	-	-	-
3/8	0.375	3.375	15.0200	-	X	-	-	-
7/16	0.438	3.250	17.2500	-	X	-	-	-
1/2	0.500	3.125	19.3600	-	X	-	-	-
9/16	0.563	3.000	21.4200	-	X	-	-	-
5/8	0.625	2.875	23.3600	-	X	-	-	-
3/4	0.750	2.625	27.0300	X	-	-	-	-
4-1/4 OD								
16 GA	0.065	4.120	2.9050	-	-	X	-	-
13 GA	0.095	4.060	4.2160	-	X	X	-	-
11 GA	0.120	4.010	5.2930	-	-	X	-	-
1/8	0.125	4.000	5.5070	-	X	-	-	-
5/32	0.156	3.937	6.8210	-	X	-	-	-
3/16	0.188	3.875	8.1560	-	X	X	-	-
1/4	0.250	3.750	10.6800	-	X	-	-	-
5/16	0.313	3.625	13.1600	-	X	-	-	-
11/32	0.344	3.562	14.3500	-	X	-	-	-
3/8	0.375	3.500	15.5200	-	X	-	-	-
7/16	0.437	3.375	17.8300	-	X	-	-	-
1/2	0.500	3.250	20.0300	-	X	-	-	X
9/16	0.563	3.125	22.1700	-	X	-	-	X
5/8	0.625	3.000	24.2000	-	X	-	-	X
11/16	0.688	2.875	26.1700	-	-	-	-	-
3/4	0.750	2.750	28.0400	X	-	-	-	X
7/8	0.875	2.500	31.5400	X	-	-	-	-
1	1.000	2.250	34.7100	X	-	-	-	X
1-1/8	1.125	2.000	37.5500	X	-	-	-	X
1-1/4	1.250	1.750	40.0500	-	-	-	-	X
4-3/8 OD								
3/16	0.188	4.000	8.4070	-	X	-	-	-
1/4	0.250	3.875	11.0100	-	X	-	-	-
5/16	0.313	3.750	13.5800	-	-	-	-	-
3/8	0.375	3.625	16.0300	-	X	-	-	-
7/16	0.438	3.500	18.4200	-	X	-	-	-
1/2	0.500	3.375	20.6900	-	X	-	-	-
5/8	0.625	3.125	25.0300	X	-	-	-	X
3/4	0.750	2.875	29.0400	X	-	-	-	-

If you do not see a size listed, please ask. GA = GAGE

MECHANICAL TUBING - Continued

Outside Diameter (OD) and Gage, In.	Wall Dec - In.	Inside Diameter (ID)	Weight Lbs/Ft	CDS	DOM	ERW	BW	HY
4-1/2 OD								
16 GA	0.065	4.370	3.0790	-	-	X	-	-
14 GA	0.083	4.334	3.9150	-	-	X	-	-
13 GA	0.095	4.310	4.4690	-	X	X	-	-
11 GA	0.120	4.260	5.6130	-	X	X	-	-
10 GA	0.134	4.232	6.2480	-	-	X	-	-
5/32	0.156	4.188	7.2370	-	X	-	-	-
3/16	0.188	4.125	8.6580	-	X	X	-	-
7/32	0.219	4.052	10.0100	-	X	-	-	-
1/4	0.250	4.000	11.3500	-	X	X	-	-
5/16	0.313	3.875	14.0000	-	X	-	-	-
3/8	0.375	3.750	16.5200	-	X	-	-	-
7/16	0.437	3.625	19.0000	-	X	-	-	-
1/2	0.500	3.500	21.3600	X	X	-	-	-
9/16	0.563	3.375	23.6700	X	X	-	-	-
5/8	0.625	3.250	25.8700	X	X	-	-	-
11/16	0.688	3.124	28.0100	X	-	-	-	-
3/4	0.750	3.000	30.0400	X	-	-	-	X
7/8	0.875	2.750	33.8800	X	-	-	-	-
1	1.000	2.500	37.3800	X	-	-	-	X
1-1/4	1.250	2.000	43.3900	X	-	-	-	X
1-1/2	1.500	1.500	48.0600	-	-	-	-	X
4-5/8 OD								
1/4	0.250	4.125	11.6800	-	X	-	-	-
5/16	0.313	4.000	14.4100	-	X	-	-	-
3/8	0.375	3.875	17.0200	-	X	-	-	-
7/16	0.437	3.749	19.5900	-	-	-	-	-
1/2	0.500	3.625	22.0300	-	X	-	-	-
5/8	0.625	3.375	26.7000	-	X	-	-	-
3/4	0.750	3.125	31.0400	X	-	-	-	-
4-3/4 OD								
11 GA	0.120	4.510	5.9340	-	X	X	-	-
3/16	0.188	4.375	9.1600	-	X	X	-	-
1/4	0.250	4.250	12.0200	-	X	-	-	-
5/16	0.313	4.125	14.8300	-	X	-	-	-
3/8	0.375	4.000	17.5200	-	X	-	-	-
7/16	0.437	3.875	20.1700	-	X	-	-	-
1/2	0.500	3.750	22.7000	X	X	-	-	X
9/16	0.563	3.624	25.1800	-	X	-	-	-

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MECHANICAL TUBING - Continued

Outside Diameter (OD) and Gage, In.	Wall Dec - In.	Inside Diameter (ID)	Weight Lbs/Ft	CDS	DOM	ERW	BW	HY
4-3/4 OD (cont.)								
5/8	0.625	3.500	37.5300	-	X	-	-	-
3/4	0.750	3.250	32.0400	X	X	-	-	X
7/8	0.875	3.000	36.2100	X	-	-	-	X
1	1.000	2.750	40.0500	X	-	-	-	X
1-1/4	1.250	2.250	46.7300	X	-	-	-	X
4-7/8 OD								
3/16	0.188	4.500	9.4110	-	X	-	-	-
1/4	0.250	4.375	12.3500	-	X	-	-	-
3/8	0.375	4.125	18.0200	-	X	-	-	-
7/16	0.437	4.000	20.7600	X	-	-	-	-
1/2	0.500	3.875	23.3600	X	X	-	-	-
3/4	0.750	3.375	33.0400	X	-	-	-	-
5 OD								
16 GA	0.065	4.870	3.4260	-	-	X	-	-
14 GA	0.083	4.834	4.3590	-	-	X	-	-
13 GA	0.095	4.810	4.9770	-	-	X	-	-
1/8	0.125	4.750	6.5080	-	X	X	-	-
5/32	0.156	4.688	8.0700	-	X	-	-	-
7 GA	0.180	4.640	9.2660	-	-	X	-	-
3/16	0.188	4.625	9.6620	-	X	X	-	-
1/4	0.250	4.500	12.6800	-	X	X	-	-
5/16	0.313	4.375	15.6700	-	X	-	-	-
3/8	0.375	4.250	18.5200	-	X	X	-	-
7/16	0.438	4.125	21.3400	-	X	-	-	
1/2	0.500	4.000	24.0300	X	X	-	-	X
9/16	0.563	3.875	26.6800	-	X	-	-	-
5/8	0.625	3.750	29.2000	-	X	-	-	-
3/4	0.750	3.500	34.0400	X	-	-	-	X
7/8	0.875	3.250	38.5500	X	-	-	-	-
1	1.000	3.000	42.7200	X	-	-	-	X
1-1/4	1.250	2.500	50.0600	X	-	-	-	X
1-1/2	1.500	2.000	56.0700	-	-	-	-	X
1-5/8	1.625	1.750	58.5700	-	-	-	-	X
5-1/8 OD								
3/8	0.375	4.375	19.0200	-	X	-	-	-
1/2	0.500	4.125	24.7000	-	X	-	-	-
5/8	0.625	3.875	30.0400	-	X	-	-	-
1	1.000	3.125	44.0600	X	-	-	-	-

If you do not see a size listed, please ask. GA = GAGE

MECHANICAL TUBING - Continued

Outside Diameter (OD) and Gage, In.	Wall Dec - In.	Inside Diameter (ID)	Weight Lbs/Ft	CDS	DOM	ERW	BW	HY
5-1/4 OD								
11 GA	0.120	5.010	6.5750	-	-	X	-	-
1/8	0.125	5.000	6.9030	-	X	-	-	-
3/16	0.188	4.875	10.1600	-	X	-	-	-
1/4	0.250	4.750	13.3500	-	X	-	-	-
5/16	0.313	4.625	16.5000	-	X	-	-	-
3/8	0.375	4.500	19.5200	-	X	-	-	-
1/2	0.500	4.250	25.3700	-	X	-	-	-
5/8	0.625	4.000	30.8700	-	X	-	-	-
3/4	0.750	3.750	30.0500	X	-	-	-	X
7/8	0.875	3.500	40.8800	X	-	-	-	X
1	1.000	3.250	45.3900	X	-	-	-	X
1-1/8	1.125	3.000	49.5600	-	-	-	-	X
1-1/4	1.250	2.750	53.4000	-	-	-	-	X
5-1/2 OD								
16 GA	0.065	5.370	3.7730	-	-	X	-	-
14 GA	0.083	5.334	4.8020	-	-	X	-	-
11 GA	0.120	5.260	6.8950	-	X	X	-	-
3/16	0.188	5.125	10.6700	-	X	X	-	-
1/4	0.250	5.000	14.0200	-	X	X	-	-
5/16	0.313	4.875	17.3400	-	X	-	-	-
3/8	0.375	4.750	20.5300	-	X	-	-	-
7/16	0.438	4.625	23.6800	-	X	-	-	-
1/2	0.500	4.500	26.7000	-	X	-	-	-
5/8	0.625	4.250	32.5400	-	X	-	-	-
3/4	0.750	4.000	38.0500	X	-	-	-	X
7/8	0.875	3.750	43.2200	X	-	-	-	-
1	1.000	3.500	48.0600	X	-	-	-	X
1-1/4	1.250	3.000	56.7400	X	-	-	-	X
1-1/2	1.500	2.500	64.0800	-	-	-	-	X
5-5/8 OD								
5/16	0.313	5.000	17.7600	-	X	-	-	-
3/8	0.375	4.875	21.0300	-	X	-	-	-
1/2	0.500	4.625	27.3700	-	X	-	-	-
5/8	0.625	4.375	33.3800	-	X	-	-	X
3/4	0.750	4.125	39.0500	-	-	-	-	X
5-3/4 OD								
11 GA	0.120	5.510	7.2150	-	X	-	-	-
3/16	0.188	5.375	11.1700	-	X	X	-	-
1/4	0.250	5.250	14.6900	-	X	-	-	-

If you do not see a size listed, please ask. GA = GAGE

MECHANICAL TUBING - Continued

Outside Diameter (OD) and Gage, In.	Wall Dec - In.	Inside Diameter (ID)	Weight Lbs/Ft	CDS	DOM	ERW	BW	HY
5-3/4 OD (cont.)								
5/16	0.313	5.125	18.1800	-	X	-	-	-
3/8	0.375	5.000	21.5300	-	X	-	-	-
1/2	0.500	4.750	28.0400	-	X	-	-	-
5/8	0.625	4.500	34.2100	-	X	-	-	-
3/4	0.750	4.250	40.0500	X	-	-	-	X
7/8	0.875	4.000	45.5600	X	-	-	-	-
1	1.000	3.750	50.7300	X	-	-	-	X
1-1/4	1.250	3.250	60.0800	-	-	-	-	X
6 OD								
16 GA	0.065	5.870	4.1200	-	-	X	-	-
14 GA	0.083	5.834	5.2450	-	-	X	-	-
12 GA	0.109	5.782	6.8580	-	-	X	-	-
11 GA	0.120	5.760	7.5360	-	-	X	-	-
1/8	0.125	5.750	7.8430	-	X	-	-	-
10 GA	0.134	5.732	8.3950	-	-	X	-	-
7 GA	0.180	5.640	11.1900	-	-	X	-	-
3/16	0.188	5.625	11.6700	-	X	-	-	-
1/4	0.250	5.500	15.3500	-	X	X	-	-
5/16	0.313	5.375	19.0100	-	X	-	-	-
3/8	0.375	5.250	22.5300	-	X	-	-	X
1/2	0.500	5.000	29.3700	-	X	-	-	X
5/8	0.625	4.750	35.8800	-	X	-	-	-
3/4	0.750	4.500	42.0500	X	-	-	-	X
7/8	0.875	4.250	47.8900	X	-	-	-	X
1	1.000	4.000	53.4000	X	-	-	-	X
1-1/4	1.250	3.500	63.4100	X	-	-	-	X
1-1/2	1.500	3.000	72.0900	-	-	-	-	X
6-1/8 OD								
1-1/4	1.250	3.625	65.0800	-	-	-	-	X
6-1/4 OD								
3/16	0.188	5.875	12.1700	-	X	-	-	-
1/4	0.250	5.750	16.0200	-	X	-	-	-
3/8	0.375	5.500	23.5300	-	X	-	-	-
1/2	0.500	5.250	30.7100	-	X	-	-	-
5/8	0.625	5.000	37.5500	-	X	-	-	-
3/4	0.750	4.750	44.0600	X	-	-	-	X
7/8	0.875	4.500	50.2300	X	-	-	-	-
1	1.000	4.250	56.0700	X	-	-	-	X
1-1/8	1.125	4.000	61.5800	X	-	-	-	-

If you do not see a size listed, please ask. GA = GAGE

MECHANICAL TUBING - Continued

Outside Diameter (OD) and Gage, In.	Wall Dec - In.	Inside Diameter (ID)	Weight Lbs/Ft	CDS	DOM	ERW	BW	HY
6-1/2 OD								
10 GA	0.134	6.232	9.1110	-	-	X	-	-
3/16	0.188	6.124	12.6700	-	X	-	-	-
1/4	0.250	6.000	16.6900	-	X	-	-	-
3/8	0.375	5.750	24.5300	-	X	-	-	-
1/2	0.500	5.500	32.0400	-	X	-	-	-
5/8	0.625	5.250	39.2200	-	X	-	-	-
3/4	0.750	5.000	46.0600	X	-	-	-	X
7/8	0.875	4.750	52.2700	X	-	-	-	X
1	1.000	4.500	58.7400	X	-	-	-	X
1-1/8	1.125	4.250	64.5800	X	-	-	-	X
1-1/4	1.250	4.000	70.0900	X	-	-	-	X
1-1/2	1.500	3.500	80.1000	-	-	-	-	X
2	2.000	2.500	96.1200	-	-	-	-	X
6-5/8 OD								
16 GA	0.059	6.507	4.3800	-	-	X	-	-
12 GA	0.105	6.415	7.2900	-	-	X	-	-
1/8	0.125	6.375	8.6700	-	-	X	-	-
10 GA	0.135	6.355	9.3200	-	-	X	-	-
3/16	0.188	6.250	12.9200	-	X	-	-	-
1/4	0.250	6.125	17.0200	-	X	-	-	-
0.280	0.280	6.065	18.9700	-	-	X	-	-
5/16	0.313	6.000	21.1000	-	X	-	-	-
6-3/4 OD								
1/4	0.250	6.250	17.3600	-	X	-	-	-
3/8	0.375	6.000	25.5300	-	X	-	-	-
1/2	0.500	5.750	33.3800	-	X	-	-	-
5/8	0.625	5.500	40.8800	-	X	-	-	-
3/4	0.750	5.250	48.0600	X	-	-	-	X
7/8	0.875	5.000	54.9000	X	-	-	-	X
1	1.000	4.750	61.4100	X	-	-	-	X
1-1/8	1.125	4.500	67.5800	-	-	-	-	X
1-1/4	1.250	4.250	73.4300	-	-	-	-	X
1-1/2	1.500	3.750	84.1100	-	-	-	-	X
7 OD								
16 GA	0.059	6.882	4.5900	-	-	X	-	-
14 GA	0.075	6.850	5.6600	-	-	X	-	-
1/8	0.125	6.750	9.3800	-	-	X	-	-
3/16	0.188	6.625	13.6800	-	X	-	-	-
1/4	0.250	6.500	18.0200	-	X	-	-	-

If you do not see a size listed, please ask. GA = GAGE

MECHANICAL TUBING - Continued

Outside Diameter (OD) and Gage, In.	Wall Dec - In.	Inside Diameter (ID)	Weight Lbs/Ft	CDS	DOM	ERW	BW	HY
7 OD (cont.)								
3/8	0.375	6.250	26.5300	-	X	-	-	-
1/2	0.500	6.000	34.7100	-	X	-	-	X
5/8	0.625	5.750	42.5500	-	X	-	-	-
3/4	0.750	5.500	50.0600	X	-	-	-	X
7/8	0.875	5.250	57.2300	-	-	-	-	X
1	1.000	5.000	64.0800	X	-	-	-	X
1-1/4	1.250	4.500	76.9000	-	-	-	-	X
1-1/2	1.500	4.000	88.1100	-	-	-	-	X
2	2.000	3.000	106.8000	-	-	-	-	X
7-1/4 OD								
1/4	0.250	6.750	18.6900	-	X	-	-	-
3/8	0.375	6.500	27.5300	-	X	-	-	-
1/2	0.500	6.250	36.0500	-	X	-	-	-
5/8	0.625	6.000	44.2200	-	X	-	-	-
3/4	0.750	5.750	52.0700	X	-	-	-	X
7/8	0.875	5.500	59.5700	-	-	-	-	X
1	1.000	5.250	66.7500	-	-	-	-	X
7-1/2 OD								
1/4	0.250	7.000	19.3600	-	X	-	-	-
3/8	0.375	6.750	28.5400	-	X	-	-	-
1/2	0.500	6.500	37.3800	-	X	-	-	-
5/8	0.625	6.250	45.8900	-	X	-	-	-
3/4	0.750	6.000	54.0700	-	-	-	-	X
1	1.000	5.500	69.4200	X	-	-	-	X
1-1/8	1.125	5.250	57.2300	-	-	-	-	X
1-1/4	1.250	5.000	83.4400	-	-	-	-	X
1-1/2	1.500	4.500	96.1200	-	-	-	-	X
2	2.000	3.500	117.5000	-	-	-	-	X
7-5/8 OD								
1/2	0.500	6.625	38.0500	-	X	-	-	X
7/8	0.875	5.875	63.0800	-	-	-	-	X
1	1.000	5.625	70.7600	-	-	-	-	X
7-3/4 OD								
1/4	0.250	7.250	20.0300	-	X	-	-	-
3/8	0.375	7.000	29.5400	X	X	-	-	
1/2	0.500	6.750	38.7200	X	X	-	-	-
5/8	0.625	6.500	47.5600	-	X	-	-	X
3/4	0.750	6.250	56.0600	-	-	-	-	X
7/8	0.875	6.000	64.2500	-	-	-	-	X
1	1.000	5.750	72.0900	-	-	-	-	X

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MECHANICAL TUBING - Continued

Outside Diameter (OD) and Gage, In.	Wall Dec - In.	Inside Diameter (ID)	Weight Lbs/Ft	CDS	DOM	ERW	BW	HY
8 OD								
16 GA	0.065	7.870	5.290	-	-	X	-	-
14 GA	0.075	7.850	6.4800	-	-	X	-	-
12 GA	0.105	7.790	9.0500	-	-	X	-	-
1/8	0.125	7.750	10.7700	-	-	X	-	-
10 GA	0.135	7.730	11.5800	-	-	X	-	-
3/16	0.188	7.624	15.6400	-	-	X	-	-
1/4	0.250	7.500	20.6900	-	X	X	-	-
3/8	0.375	7.250	30.5400	-	X	-	-	-
1/2	0.500	7.000	40.0500	-	X	-	-	-
5/8	0.625	6.750	49.2300	-	X	-	-	-
3/4	0.750	6.500	58.0700	-	-	-	-	X
1	1.000	6.000	74.7600	X	-	-	-	X
1-1/4	1.250	5.500	90.1100	-	-	-	-	X
1-1/2	1.500	5.000	104.1000	-	-	-	-	X
1-3/4	1.750	4.500	116.8200	-	-	-	-	X
2	2.000	4.000	128.1600	-	-	-	-	X
2-1/4	2.250	3.500	138.2000	-	-	-	-	X
8-1/8 OD								
3/4	0.750	6.625	59.0700	-	-	-	-	X
8-1/4 OD								
1/4	0.250	7.750	21.3600	-	X	-	-	-
3/8	0.375	7.500	31.5400	-	X	-	-	-
1/2	0.500	7.250	41.3900	-	X	-	-	-
3/4	0.750	6.750	60.0800	X	-	-	-	X
7/8	0.875	6.500	68.9200	-	-	-	-	X
1	1.000	6.250	77.4300	-	-	-	-	X
1-1/8	1.125	6.000	85.6100	-	-	-	-	X
1-3/16	1.188	5.875	89.6100	-	-	-	-	X
1-1/4	1.250	5.750	93.4500	-	-	-	-	X
8-1/2 OD								
1/4	0.250	8.000	22.0300	-	X	-	-	-
3/8	0.375	7.750	32.5400	-	X	-	-	-
1/2	0.500	7.500	42.7200	-	X	-	-	-
3/4	0.750	7.000	62.0800	-	-	-	-	X
1	1.000	6.500	80.1000	-	-	-	-	X
1-1/4	1.250	6.000	96.7900	-	-	-	-	X
1-1/2	1.500	5.500	112.1000	-	-	-	-	X
1-3/4	1.750	5.000	126.1600	-	-	-	-	X
2	2.000	4.500	138.8400	-	-	-	-	X

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MECHANICAL TUBING - Continued

Outside Diameter (OD) and Gage, In.	Wall Dec - In.	Inside Diameter (ID)	Weight Lbs/Ft	CDS	DOM	ERW	BW	HY
8-5/8 OD								
14 GA	0.075	8.475	7.1000	-	-	X	-	-
12 GA	0.105	8.415	9.5200	-	-	X	-	-
1/8	0.125	8.375	11.3500	-	-	X	-	-
10 GA	0.135	8.355	12.2000	-	-	X	-	-
0.322	0.322	7.981	28.5500	-	-	X	-	-
1	1.000	6.625	81.4400	-	-	-	-	X
8-3/4 OD								
3/8	0.375	8.000	33.5400	-	X	-	-	-
1/2	0.500	7.750	44.0600	-	X	-	-	-
3/4	0.750	7.250	64.0800	-	-	-	-	X
7/8	0.875	7.000	73.6000	-	-	-	-	X
1	1.000	6.750	82.7700	-	-	-	-	X
1-1/4	1.250	6.250	100.1300	-	-	-	-	X
1-1/2	1.500	5.750	116.1100	-	-	-	-	X
9 OD								
1/4	0.250	8.500	23.3600	-	X	-	-	-
3/8	0.375	8.250	34.5400	-	X	-	-	-
1/2	0.500	8.000	45.3900	-	X	-	-	-
3/4	0.750	7.500	66.0800	X	-	-	-	X
7/8	0.875	7.250	75.9200	-	-	-	-	X
1	1.000	7.000	85.4400	-	-	-	-	X
1-1/4	1.250	6.500	103.5000	-	-	-	-	X
1-1/2	1.500	6.000	120.5000	-	-	-	-	X
2	2.000	5.000	149.7000	-	-	-	-	X
2-1/2	2.500	4.000	173.5500	-	-	-	-	X
3	3.000	3.000	192.2400	-	-	-	-	X
9-1/4 OD								
1/2	0.500	8.250	46.7300	-	X	-	-	-
3/4	0.750	7.750	68.0900	-	-	-	-	X
1	1.000	7.250	88.1100	-	-	-	-	X
1-1/2	1.500	6.250	124.2000	-	-	-	-	X
9-1/2 OD								
1/4	0.250	9.000	24.7000	-	X	-	-	-
3/8	0.375	8.750	36.5500	-	X	-	-	-
1/2	0.500	8.500	48.0600	-	X	-	-	-
1	1.000	7.500	90.7800	-	-	-	-	X
1-1/8	1.125	7.250	100.8000	-	-	-	-	X

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MECHANICAL TUBING - Continued

Outside Diameter (OD) and Gage, In.	Wall Dec - In.	Inside Diameter (ID)	Weight Lbs/Ft	CDS	DOM	ERW	BW	HY
9-1/2 OD (cont.)								
1-1/4	1.250	7.000	110.1000	-	-	-	-	X
1-1/2	1.500	6.500	128.2000	-	-	-	-	X
2	2.000	5.500	160.2000	-	-	-	-	X
2-1/2	2.500	4.500	186.9000	-	-	-	-	X
9-5/8 OD								
1/2	0.500	8.625	48.7300	-	-	-	-	X
1-5/16	1.313	7.000	116.5600	-	-	-	-	X
9-3/4 OD								
1/4	0.250	9.250	25.3700	-	X	-	-	-
3/8	0.375	9.000	37.5500	-	X	-	-	-
3/4	0.750	8.250	72.0900	-	-	-	-	X
1	1.000	7.750	93.4500	-	-	-	-	X
1-1/2	1.500	6.750	132.2000	-	-	-	-	X
10 OD								
14 GA	0.075	9.850	8.1700	-	-	X	-	-
12 GA	0.105	9.790	11.1000	-	-	X	-	-
1/8	0.125	9.750	13.4900	-	-	X	-	-
10 GA	0.134	9.732	14.5200	-	-	X	-	-
3/16	0.188	9.625	19.7000	-	-	X	-	-
1/4	0.250	9.500	26.0300	-	X	-	-	-
3/8	0.375	9.250	38.5500	-	X	-	-	-
1/2	0.500	9.000	50.7300	-	X	-	-	-
5/8	0.625	8.750	62.5800	-	X	-	-	-
3/4	0.750	8.500	74.0900	-	-	-	-	X
7/8	0.875	8.250	85.2600	-	-	-	-	X
1	1.000	8.000	96.1200	-	-	-	-	X
1-1/8	1.125	7.750	106.6000	-	-	-	-	X
1-1/4	1.250	7.500	116.8000	-	-	-	-	X
1-5/16	1.313	7.375	121.8200	-	-	-	-	X
1-1/2	1.500	7.000	136.2000	-	-	-	-	X
1-3/4	1.750	6.500	154.2000	-	-	-	-	X
2	2.000	6.000	170.9000	-	-	-	-	X
3	3.000	4.000	224.2800	-	-	-	-	X
10-1/4 OD								
3/4	0.750	8.750	76.1000	-	-	-	-	X
1	1.000	8.250	98.7900	-	-	-	-	X
10-1/2 OD								
1/4	0.250	10.000	27.3700	-	X	-	-	-
3/8	0.375	9.750	40.5500	-	X	-	-	-
1/2	0.500	9.500	53.4000	-	X	-	-	-
3/4	0.750	9.000	78.1000	-	-	-	-	X
1	1.000	8.500	101.5000	-	-	-	-	X

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MECHANICAL TUBING - Continued

Outside Diameter (OD) and Gage, In.	Wall Dec - In.	Inside Diameter (ID)	Weight Lbs/Ft	CDS	DOM	ERW	BW	HY
10-1/2 OD (cont.)								
1-1/4	1.250	8.000	123.5000	-	-	-	-	X
1-1/2	1.500	7.500	144.2000	-	-	-	-	X
10-3/4 OD								
1/2	0.500	9.750	54.7400	-	X	-	-	-
3/4	0.750	9.250	80.1000	-	-	-	-	X
7/8	0.875	9.000	92.3000	-	-	-	-	X
1	1.000	8.750	104.1000	-	-	-	-	X
1-1/4	1.250	8.250	126.8300	-	-	-	-	X
1-1/2	1.500	7.750	148.2000	-	-	-	-	X
11 OD								
3/4	0.750	9.500	82.1000	-	-	-	-	X
1	1.000	9.000	106.8000	-	-	-	-	X
1-1/2	1.500	8.000	152.1900	-	-	-	-	X
2	2.000	7.000	192.2000	-	-	-	-	X
3	3.000	5.000	256.3200	-	-	-	-	X
11-1/4 OD								
1/2	0.500	10.250	57.4100	-	-	-	-	-
3/4	0.750	9.750	84.1100	-	-	-	-	X
1-1/2	1.500	8.250	156.2000	-	-	-	-	X
11-1/2 OD								
1/4	0.250	11.000	30.0400	-	X	-	-	-
3/4	0.750	10.000	86.1100	-	-	-	-	X
1	1.000	9.500	112.1000	-	-	-	-	X
1-1/2	1.500	8.500	106.2000	-	-	-	-	X
11-3/4 OD								
1/2	0.500	10.750	60.0800	-	-	-	-	X
3/4	0.750	10.250	88.1100	-	-	-	-	X
1	1.000	9.750	114.8000	-	-	-	-	X
1-1/4	1.250	9.250	140.2000	-	-	-	-	X
1-1/2	1.500	8.500	160.2000	-	-	-	-	X
12 OD								
12 GA	0.105	11.790	13.6500	-	-	X	-	-
10 GA	0.135	11.730	17.5500	-	-	X	-	-
3/16	0.188	11.625	24.3000	-	-	X	-	-
1/4	0.250	11.500	31.3700	-	X	-	-	-
3/8	0.375	11.250	45.5600	-	X	-	-	-
1/2	0.500	11.000	61.4100	-	X	-	-	-
3/4	0.750	10.500	90.1100	-	-	-	-	X
1	1.000	10.000	117.5000	-	-	-	-	X
1-1/4	1.250	9.500	143.5000	-	-	-	-	X
1-1/2	1.500	9.000	168.2000	-	-	-	-	X
2	2.000	8.000	213.6000	-	-	-	-	X
2-1/4	2.250	7.500	234.3000	-	-	-	-	X

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MECHANICAL TUBING - Continued

Outside Diameter (OD) and Gage, In.	Wall Dec - In.	Inside Diameter (ID)	Weight Lbs/Ft	CDS	DOM	ERW	BW	HY
12-1/4 OD								
3/4	0.750	10.750	94.1200	-	-	-	-	X
12-1/2 OD								
1-3/4	1.750	9.000	200.9000	-	-	-	-	X
12-3/4 OD								
1-1/2	1.500	9.750	180.2000	-	-	-	-	X
2	2.000	8.750	229.6000	-	-	-	-	X
13 OD								
1	1.000	11.000	128.7000	-	-	-	-	X
1-1/2	1.500	10.000	184.2000	-	-	-	-	X
2	2.000	9.000	235.0000	-	-	-	-	X
14 OD								
10 GA	0.135	13.730	19.9200	-	-	X	-	-
3/16	0.188	13.624	27.7320	-	-	X	-	-
1-1/2	1.500	11.000	200.3000	-	-	-	-	X
1-3/4	1.750	10.500	228.9000	-	-	-	-	X
2	2.000	10.000	256.3000	-	-	-	-	X
15 OD								
1	1.000	13.000	149.5000	-	-	-	-	X
1-1/2	1.500	12.000	216.3000	-	-	-	-	X
2	2.000	11.000	277.7000	-	-	-	-	X
16 OD								
3/16	0.188	15.625	31.6700	-	-	-	-	-
1-1/4	1.250	13.500	196.9000	-	-	-	-	X
1.594	1.594	12.812	245.2500	-	-	-	-	X
2	2.000	12.000	299.0000	-	-	-	-	X
3	3.000	10.000	416.6000	-	-	-	-	X
17 OD								
1	1.000	15.000	170.8800	-	-	-	-	X
18 OD								
1-1/2	1.500	15.000	264.3300	-	-	-	-	X
2	2.000	14.000	341.7600	-	-	-	-	X
3	3.000	12.000	480.6000	-	-	-	-	X
20 OD								
1-1/2	1.500	17.000	296.3700	-	-	-	-	X
2	2.000	16.000	384.4800	-	-	-	-	X

If you do not see a size listed, please ask. GA = GAGE

ROUND PIPE SIZE TUBING

(50,000 psi average minimum yield)

OD, Inches	Wall	Weight/Foot
0.840	15 ga (.073)	0.598
0.840	12 ga (.109)	0.851
1.050	14 ga (.083)	0.857
1.050	12 ga (.109)	1.096
1.315	12 ga (.109)	1.404
1.315	11 ga (.120)	1.532
1.660	12ga (.109)	1.806
1.660	10 ga (.134)	2.184
1.900	12 ga (.109)	2.085
1.900	10 ga (.134)	2.527
2.375	12 ga (.109)	2.638
2.375	9 ga (.148)	3.520
2.875	11ga (.120)	3.531
3.500	(0.220)	7.707
4.000	(0.220)	8.881
4.500	(0.237)	10.790
6.625	(0.280)	18.974
8.625	(0.322)	28.550

For structural applications that demand greater strength, closer tolerances, and easier fabrication. Material is lacquer free with a light coat of rust preventative for easy cleaning. It can be bent, punched, flattened, flared, flanged, and welded.

This material meets or exceeds these ASTM specifications:

A53 Type E, Grade B (untested)
A53 Type F, (untested)
A120 (untested)
A168 Grade I
A500 Grade B
A501
A503

If you do not see a size listed, please ask. GA = GAGE

SEAMLESS MECHANICAL STEEL TUBING

ASTM A519

Seamless mechanical tubing is manufactured from carbon and alloy steels for structural or other mechanical purposes involving machining or heat treating, where close tolerances, smooth finish, or definite physical properties are important factors.

Micro alloys available upon request. Reduce the weight of your product while increasing your physical requirements.

Cold Drawn Seamless stocks are generally carried to OD and ID tolerances, except when the ID is less than 50 percent of the OD. The latter sizes and hot finished seamless stocks are carried in warehouse to OD and wall tolerances.

SPECIAL NOTE: Tolerances are applicable only to two dimensions (length excepted). Thus, if OD and wall are specified, the theoretical ID may not conform to published tolerances except that the mean or average wall (taking into account the permissible OD and ID tolerances) will not vary more than indicated under "DIAMETER AND WALL TOLERANCES."

EXAMPLE: If a cold drawn tube is specified 1-1/2 inch OD x 1-1/4 inch ID, one might expect the theoretical wall of 1/8 inch to be held to a variation of plus or minus 7-1/2 percent or within the limits of 0.116 / 0.134 inch.

However, for a nominal OD of 1.500 inch, the OD may vary between 1.500 inch and 1.505 inch, and the ID may vary between 1.245 inch and 1.250 inch, which may result in an average or mean wall of 0.130 inch instead of 1/8 inch. Consequently, the wall may vary plus or minus 7-1/2 percent from the mean of 0.130 inch, or within limits of 0.120/0.140 inch. If, however, the average wall were 1/8 inch (0.125) reflecting 1.500 inch OD and 1.250 inch ID, the wall limits would be plus or minus 7-1/2 percent of 1/8 or 0.116/0.134 inch. Hence, any order of tubes might vary in the entire lot as low as 0.116 inch on some and as high as 0.134 inch on others.

NOTE: STOCK CAN BE INSPECTED FOR CONFORMANCE TO SPECIFIC TOLERANCES.

OVALITY OF NORMAL SIZE WILL BE WITHIN OD TOLERANCES

For seamless tubes with inside diameter less than 1/2 inch (or less than 5/8 inch when the wall thickness is more than 20 percent of the outside diameter), which cannot be successfully drawn over a mandrel, the wall thickness may vary 15 percent over or under that specified, and the inside diameter will be governed by the outside diameter and wall thickness variations.

NOTE -Tubing having a wall thickness less than 3 percent of the outside diameter cannot be straightened properly without a certain amount of distortion. Consequently, such tubes, while having an average outside diameter and inside diameter within the tolerances shown in the preceding table, require an ovality tolerance of 1/2 percent over and under nominal outside diameter, this being in addition to the tolerances indicated in the preceding table.

VARIATIONS FROM STRAIGHTNESS

Size Limits	Maximum Curvature In Any 3 Feet	Maximum Curvature In Total Lengths	Maximum Curvature For Lengths Under 3 Feet
OD 5" and smaller, wall thickness, over 3% of OD but not over 0.5	0.030	$0.030 \times \frac{\text{Number of feet of length}}{3}$	Ratio of 0.010 per foot
OD over 5" to 8" incl. Wall thickness, over 4% of OD but not over 0.75"	0.045"	$0.045" \times \frac{\text{Number of feet of length}}{3}$	Ratio of 0.015" per foot
OD over 8" to 12" incl. Wall thickness, over 4% of OD but not over 1"	0.060"	$0.060" \times \frac{\text{Number of feet of length}}{3}$	Ratio of 0.010"per foot

Camber, or out-of-straightness, tolerances generally do not exceed the amounts shown for lengths of 22 feet and under. The camber is measured for any three feet of length with a three foot straightedge and the use of a feeler gauge. The total camber-maximum curvature in the total length of the tube is determined by rolling the tube on a surface plate and measuring the concavity with a feeler gauge.

When the machined length of a tube extends more than three inches from the chuck or other holding mechanism, the possibility that the tube may be cambered must be taken into consideration. Allowance for camber must be made for any machined length proportional to the tolerances shown.

Tubes with lighter or heavier walls than shown, and soft annealed or hardened tubes, present more than normal straightening difficulties, and the camber tolerance requirements of such tubes usually are mutually agreed upon by the purchaser and the producer.

HOT FINISHED

Hot finished mechanical tubing is produced by rotary piercing, plug, or Assel mill rolling, and final processing through multiplepass sizing-reducing mills. Tolerances and finish are similar to other hot worked steel products. Range of sizes and grades is more restricted than cold finished by the nature of the process involved. This tubing is used where dimensional accuracy and surface finish are unimportant or secondary, or where desired tolerances, finish, and final mechanical properties are to be attained by machining and heat treatment.

OUTSIDE DIAMETER TOLERANCES for Round Hot-Finished Tubing [A, B, C] per ASTM A519

Outside Diameter Size Range Inch (mm)	Outside Diameter Tolerance inch (mm)	
	Over	Under
Up to 2.999 (76.17)	0.020 (0.51)	0.020 (0.51)
3.000-4.499 (76.20-114.27)	0.025 (0.64)	0.025 (0.64)
4.500-5.999 (114.30-152.37)	0.031 (0.79)	0.031 (0.79)
6.000-7.499 (152.40-190.47)	0.037 (0.94)	0.037 (0.94)
7.500-8.999 (190.50-228.57)	0.045 (1.14)	0.045 (1.14)
9.000-10.750 (228.60-273.05)	0.050 (1.27)	0.050 (1.27)
10.75 and larger	1%	1%

A. Diameter tolerances are not applicable to normalized and tempered or quenched and tempered conditions.

B. The common range sizes of hot finished tubes is 1-1/2 inch (38.1 mm) to 10-1/4 inch (273.0 mm) outside diameter with wall thickness at least 3 percent or more of outside diameter, but not less than 0.095 inch (2.41 mm).

C. Larger sizes are available: consult manufacturer for sizes and tolerances.

WALL THICKNESS TOLERANCES for Round Hot-Finished Tubing[A] per ASTM 1519

Wall Thickness Tolerance, A % Over and Under Nominal	Wall Thickness Range, As Percent of Outside Diameter	
Outside Diameter Size Range In. (mm)	Under 15	15 and Over
Up to 2.999 (76.19)	12.5	10.0
3.000-5.999 (76.20-152.37)	10.0	7.5
6.000-10.750 (152.40-273.05)	10.0	10.0
10.750 and larger	±12-1/2%	±12-1/2%

A. Wall thickness tolerances may not be applicable to walls 0.199 inch (5.05 mm) and less: consult manufacturer for wall tolerances on such tube sizes.

WALL THICKNESS TOLERANCES FOR ROUND [A,B,C] COLD-WORKED SEAMLESS TUBING PER ASTM A519 - Continued

Cold Drawn Maximum % Over and Under Nominal		Wall Thickness % of OD
ID Up To 1.499 Inches	ID 1.500 Inches and Over	
10	7.5	25 and Under
12.5	10	Over 2

*ID Tolerances apply to dimensions 0.625 inch and over when ID is at least half the OD

A. Many tubes with inside diameter less than 50% of outside diameter or with wall thickness more than 25% of outside diameter, or with wall thickness over 1 1/4 in., or weighing more than 90 lb/ft, are difficult to draw over a mandrel. Therefore, the inside diameter can vary over or under by an amount equal to 10% of the wall thickness. See also Footnote B.

B. For those tubes with inside diameter less than 1/2 in.(or less than 5/8 in. when the wall thickness is more than 20% of the outside diameter), which are not commonly drawn over a mandrel. Foot note A is not applicable. Therefore, for those tubes, the inside diameter is goverened by the outside diameter tolerance shown in this table and the wall thickness tolerances shown in Table 9.

C. Tubing having a wall thickness less than 3% of the outside diameter cannot be straightened properly without a certain amount of distortion. Consequently such tubes, while having an average outside diameter and inside diameter within the tolerances shown in this table, require an ovality tolerance of 1/2% over and under nominal outside diameter, this being in addition to the tolerances indicated in this table.

D. 1 in. = 25.4 mm.

OUTSIDE AND INSIDE DIAMETER TOLERANCES FOR ROUND COLD-WORKED SEAMLESS TUBING [A,B,C] PER ASTM A519

Thermal Treatment after Final Cold Work Producing Size									
Outside Diameter Size Range in [D]	Wall Thickness as Percent of OD	None, or not exceeding 1100°F Nominal Temperature				Heated Above 1100°F Nominal Temperature Without Accelerated Cooling			
		OD, in [D]		ID, in [D]		OD, in [D]		ID, in [D]	
		Over	Under	Over	Under	Over	Under	Over	Under
Up to 0.499	All	0.004	0.000	-	-	0.005	0.002	-	-
0.500-1.699	All	0.005	0.000	0.000	0.005	0.007	0.002	0.002	0.007
1.700-2.099	All	0.006	0.000	0.000	0.006	0.006	0.005	0.005	0.006
2.100-2.499	All	0.007	0.000	0.000	0.007	0.008	0.005	0.005	0.008
2.500-2.899	All	0.008	0.000	0.000	0.008	0.009	0.005	0.005	0.009
2.900-3.299	All	0.009	0.000	0.000	0.009	0.011	0.005	0.005	0.011
3.300-3.699	All	0.010	0.000	0.000	0.010	0.013	0.005	0.005	0.013
3.700-4.099	All	0.011	0.000	0.000	0.011	0.013	0.007	0.010	0.010
4.100-4.499	All	0.012	0.000	0.000	0.012	0.014	0.007	0.011	0.011
4.500-4.899	All	0.013	0.000	0.000	0.013	0.016	0.007	0.012	0.012
4.900-5.299	All	0.014	0.000	0.000	0.014	0.018	0.007	0.013	0.013
5.300-5.549	All	0.015	0.000	0.000	0.015	0.020	0.007	0.014	0.014
	Under 6	0.010	0.010	0.010	0.010	0.018	0.018	0.018	0.018
5.500-5.999	6 to 7 1/2	0.009	0.009	0.009	0.009	0.016	0.016	0.016	0.016
	over 7 1/2	0.018	0.000	0.009	0.009	0.017	0.015	0.016	0.016
	Under 6	0.013	0.013	0.013	0.013	0.023	0.023	0.023	0.023
6.000-6.499	6 to 7 1/2	0.010	0.010	0.010	0.010	0.018	0.018	0.018	0.018
	over 7 1/2	0.020	0.000	0.010	0.010	0.020	0.015	0.018	0.018
	Under 6	0.015	0.015	0.015	0.015	0.027	0.027	0.027	0.027
6.500-6.999	6 to 7 1/2	0.012	0.012	0.012	0.012	0.021	0.021	0.021	0.021
	over 7 1/2	0.023	0.000	0.012	0.012	0.026	0.015	0.021	0.021
	Under 6	0.018	0.018	0.018	0.018	0.032	0.032	0.032	0.032
7.000-7.499	6 to 7 1/2	0.013	0.013	0.013	0.013	0.023	0.023	0.023	0.023
	over 7 1/2	0.026	0.000	0.013	0.013	0.031	0.015	0.023	0.023
	Under 6	0.020	0.020	0.020	0.020	0.035	0.035	0.035	0.035
7.500-7.999	6 to 7 1/2	0.015	0.015	0.015	0.015	0.026	0.026	0.026	0.026
	over 7 1/2	0.029	0.000	0.015	0.015	0.036	0.015	0.026	0.026
	Under 6	0.023	0.023	0.023	0.023	0.041	0.041	0.041	0.041
8.000-8.499	6 to 7 1/2	0.016	0.016	0.016	0.016	0.028	0.028	0.028	0.028
	over 7 1/2	0.031	0.000	0.015	0.016	0.033	0.022	0.028	0.028
	Under 6	0.025	0.025	0.025	0.025	0.044	0.044	0.044	0.044
8.500-8.999	6 to 7 1/2	0.017	0.017	0.017	0.017	0.030	0.030	0.030	0.030
	over 7 1/2	0.034	0.0000	0.015	0.019	0.038	0.022	0.030	0.030
	Under 6	0.028	0.028	0.028	0.028	0.045	0.045	0.045	0.045
9.000-9.499	6 to 7 1/2	0.019	0.019	0.019	0.019	0.033	0.033	0.033	0.033
	over 7 1/2	0.037	0.000	0.015	0.022	0.043	0.022	0.033	0.033
	Under 6	0.030	0.030	0.030	0.030	0.045	0.045	0.053	0.053
9.500-9.999	6 to 7 1/2	0.020	0.020	0.020	0.020	0.035	0.035	0.035	0.035
	over 7 1/2	0.040	0.000	0.015	0.025	0.048	0.022	0.035	0.035
	Under 6	0.034	0.034	0.034	0.034	0.045	0.045	0.060	0.060
10.000-	6 to 7 1/2	0.022	0.022	0.022	0.022	0.039	0.039	0.039	0.039
10.999	over 7 1/2	0.044	0.000	0.015	0.029	0.055	0.022	0.039	0.039
	Under 6	0.035	0.035	0.035	0.035	0.050	0.050	0.065	0.065
11.000-	6 to 7 1/2	0.025	0.025	0.025	0.025	0.045	0.045	0.045	0.045
12.000	over 7 1/2	0.045	0.0000	0.015	0.035	0.060	0.022	0.045	0.045

PRODUCT DATA
DRAWN OVER MANDREL TUBING
ASTM A513 TYPES 5 AND 6

DRAWN OVER MANDREL vs. COLD DRAWN SEAMLESS TUBING
Advantages of DOM

1. **More uniform wall thickness**
2. **Better surface finish**
3. **Less stock removal**
4. **No spiral on ID**
5. **Denser ID surface**
6. **Closer tolerance**
7. **Comparable or lower cost**

1. WALL VARIATION

DRAWN OVER MANDREL has very little wall variation and no spiraling eccentricity. The tube is formed and electric resistance welded from flat steel which has very little gage variation. Any wall variation that may exist in the flat steel runs in the same plane throughout the length of the tube, leaving the bore straight and true.

COLD DRAWN SEAMLESS has an inherent characteristic of eccentricity. In the piercing process a solid billet is heated and forced in a rotary motion over a piercing point to form the seamless tube hollow for subsequent cold drawing. It is impossible to keep the piercing point always in the exact center of the tube round during the piercing operation. As a result, wall variation is induced into the tube. Moreover, since the shell is turning as it is being formed, spiraling eccentricity is created. Additional hot and cold finishing operations greatly refine the dimensional accuracy of the seamless tube, but the eccentricity is never fully eliminated.

DRAWN OVER MANDREL - Continued

2. SURFACE FINISH

Better surface finish can generally be expected on DOM tubing because the surface of the welded tube, prior to cold drawing, is usually better than seamless at the same stage. For many applications, the surface of DOM, coupled with closer concentricity, may altogether eliminate any additional finishing operations.

3. STOCK REMOVAL

Less stock removal is required on DOM due to the improved surface finish and elimination of spiraling eccentricity and wall variation. As result, there is less machine time and tool wear in manufacturing the finished product.

4. ID SURFACE DENSITY

The ID surface of DOM tubing has been worked from the ingot stage down to a thin flat strip and then welded to a round tube. Seamless, produced from a solid bar, contains an ID surface that was once the core of a solid bar. Consequently, DOM has a more dense ID surface than seamless tubing.

5. CLOSER TOLERANCE

The OD and ID tolerance on DOM and seamless are generally the same. However, the wall tolerance differs greatly. On light wall DOM, the wall could vary only plus or minus 0.003 inch, compared to seamless at plus or minus 6 to 7-1/2 percent. Heavier wall DOM could vary up to plus or minus 0.009 inch compared to seamless at plus or minus 7-1/2 percent.

DIAMETER TOLERANCES FOR ROUND DOM TUBING

Note - Measurements for diameter are to be taken at least 2 in. from the ends of the tubes.

OD Size Range	Wall Percent of OD	OD, Inches		ID, Inches	
		Over	Under	Over	Under
Up to 0.499	All	0.004	0.000	-	-
0.500-1.699	All	0.005	0.000	0.000	0.005
1.700-2.099	All	0.006	0.000	0.000	0.006
2.100-2.499	All	0.007	0.000	0.000	0.007
2.500-2.899	All	0.008	0.000	0.000	0.008
2.900-3.299	All	0.009	0.000	0.000	0.009
3.300-3.699	All	0.010	0.000	0.000	0.010
3.700-4.099	All	0.011	0.000	0.000	0.011
4.100-4.499	All	0.012	0.000	0.000	0.012
4.500-4.899	All	0.013	0.000	0.000	0.013
4.900-5.299	All	0.014	0.000	0.000	0.014
5.300-5.549	All	0.015	0.000	0.000	0.015
5.500-5.999	Under 6	0.010	0.010	0.010	0.010
	6 and Over	0.009	0.009	0.009	0.009
6.000-6.499	Under 6	0.013	0.013	0.013	0.013
	6 and Over	0.010	0.010	0.010	0.010
6.500-6.999	Under 6	0.015	0.015	0.015	0.015
	6 and Over	0.012	0.012	0.012	0.012
7.000-7.499	Under 6	0.018	0.018	0.018	0.018
	6 and Over	0.013	0.013	0.013	0.013
7.500-7.999	Under 6	0.020	0.020	0.020	0.020
	6 and Over	0.015	0.015	0.015	0.015
8.000-8.499	Under 6	0.023	0.023	0.023	0.023
	6 and Over	0.016	0.016	0.016	0.016
8.500-8.999	Under 6	0.025	0.025	0.025	0.025
	6 and Over	0.017	0.017	0.017	0.017
9.000-9.499	Under 6	0.028	0.028	0.028	0.028
	6 and Over	0.019	0.019	0.019	0.019
9.500-9.999	Under 6	0.030	0.030	0.030	0.030
	6 and Over	0.020	0.020	0.020	0.020
10.000-10.999	All	0.034	0.034	0.034	0.034
11.000-11.999	All	0.035	0.035	0.035	0.035
12.000-12.999	All	0.036	0.036	0.036	0.036
13.000-13.999	All	0.037	0.037	0.037	0.037
14.000-14.999	All	0.038	0.038	0.038	0.038

WALL THICKNESS TOLERANCES FOR ROUND DOM TUBING

Wall Thickness		Outside Diameter, In.[A]							
		3/8 to 7/8 incl.		Over 7/8 to 1-7/8 incl.		Over 1-7/8 to 3-3/4 incl.		Over 3-3/4 to 15 incl.	
In.[A]	Bwg[A]	Wall Thickness Tolerances, in.,[A] ±							
		+	–	+	–	+	–	+	–
0.035	20	0.002	0.002	0.002	0.002	0.002	0.002	-	-
0.049	18	0.002	0.002	0.002	0.003	0.002	0.003	-	-
0.065	16	0.002	0.002	0.002	0.003	0.002	0.003	0.004	0.004
0.083	14	0.002	0.002	0.002	0.003	0.003	0.003	0.004	0.005
0.095	13	0.002	0.002	0.002	0.003	0.003	0.003	0.004	0.005
0.109	12	0.002	0.003	0.002	0004	0.003	0.003	0.005	0.005
0.120	11	0.003	0.003	0.002	0.004	0.003	0.003	0.005	0.005
0.134	10	-	-	0.002	0.004	0.003	0.003	0.005	0.005
0.148	9	-	-	0.002	0.004	0.003	0.003	0.005	0.005
0.165	8	-	-	0.003	0.004	0.003	0.004	0.005	0.006
0.180	7	-	-	0.004	0.004	0.003	0.005	0.006	0.006
0.203	6	-	-	0.004	0.005	0.004	0.005	0.006	0.007
0.220	5	-	-	0.004	0.006	0.004	0.006	0.007	0.007
0.238	4	-	-	0.005	0.006	0.005	0.006	0.007	0.007
0.259	3	-	-	0.005	0.006	0.005	0.006	0.007	0.007
0.284	2	-	-	0.005	0.006	0.005	0.006	0.007	0.007
0.300	1	-	-	0.006	0.006	0.006	0.006	0.008	0.008
0.320	-	-	-	0.007	0.007	0.007	0.008	0.008	0.008
0.344	-	-	-	0.008	0.008	0008	0.009	0.009	0.009
0.375	-	-	-	-	-	0.009	0.009	0.009	0.009
0.400	-	-	-	-	-	0.010	0.010	0.010	0.010
0.438	-	-	-	-	-	0.011	0.011	0.011	0.011
0.460	-	-	-	-	-	0.012	0.012	0.012	0.012
0.480	-	-	-	-	-	0.012	0.012	0.012	0.012
0.531	-	-	-	-	-	0.013	0.013	0.013	0.013
0.563	-	-	-	-	-	0.013	0.013	0.013	0.013
0.580	-	-	-	-	-	0.014	0.014	0.014	0.014
0.600	-	-	-	-	-	0.015	0.015	0.015	0.015
0.625	-	-	-	-	-	0.016	0.016	0.016	0.016
0.650	-	-	-	-	-	0.017	0.017	0.017	0.017

[A] 1 in. = 25.4 mm. • [B] Birmingham Wire Gauge.

ELECTRIC RESISTANCE WELDED TUBING

ASTM A513

Electric resistance welded tubes are produced from a cold rolled or hot rolled strip which is formed by rolls at room temperature into a tubular shape. Welding takes place as an electric current heats the two edges of the strip as they are pressed together. Only a narrow band of metal is heated while the rest of the tube remains at room temperature. The weld flash is always trimmed off the outside of the tube. The flash can also be trimmed or rolled down on the inside by special tooling.

DIAMETER TOLERANCES (INCHES) COLD ROLLED ROUND

NOTE - Measurements for diameter are to be taken at least 2 inch[a] from the ends of the tubes.

Outside Diameter Range, In.[a]	Wall Thickness		Flash-in Tubing [b]	Flash Controlled to 0.010 In. max Tubing [c]	Flash Controlled [d] to 0.005 Inch Max Tubing	
	Bwg [e]	In.[a]	Outside Diameter Plus and Minus	Outside Diameter Plus and Minus	Outside Diameter Plus and Minus	Inside Diameter Plus and Minus
			Tolerances, In.[f]			
3/8 to 5/8, incl.	22 to 16	0.028 to 0.065	0.0030	-	-	-
Over 5/8 to 1-1/8, incl.	22 to 20	0.028 to 0.035	00035	0.0035	0.0035	0.013
Over 5/8 to 1-1/8, incl.	18	0.049	0.0035	0.0035	0.0035	0.015
Over 5/8 to 1-1/8, incl.	16 to 14	0.065 to 0.083	0.0035	0.0035	0.0035	0.019
Over 3/4 to 1-1/8, incl.	13	0.095	0.0035	0.0035	0.0035	0.019
Over 7/8 to 1-1/8, incl.	12 to 11	0.109 to 0.120	0.0035	0.0035	0.0035	0.021
Over 1-1/8 to 2, incl.	22 to 18	0.028 to 0.049	0.005	0.005	0.005	0.015
Over 1-1/8 to 2, incl.	16 to 13	0.065 to 0.095	0.005	0.005	0.005	0.019
Over 1-1/8 to 2, incl.	12 to 10	0.109 to 0.134	0.005	0.005	0.005	0.022

a. 1 inch = 25.4 mm.

b. Flash-In tubing is produced to outside diameter tolerances and wall thickness tolerances only, and the height of the inside welding flash does not exceed the wall thickness or 3/32 inch, whichever is less.

c. Flash controlled to 0.010 inch max tubing consists of tubing over 5/8 inch outside diameter which is commonly produced to outside diameter tolerances and wall thickness tolerances only, in which the height of the remaining inside welding flash is controlled not to exceed 0.010 inch.

d. Flash controlled to 0.005 inch max tubing is produced to outside diameter tolerances and wall thickness tolerances, inside diameter tolerances and wall thickness tolerances, or outside diameter tolerances and inside diameter tolerances, in which the height of the remaining inside welding flash is controlled not to exceed 0.005 inch. Any remaining flash is considered to be part of the applicable inside diameter tolerances.

e. Birmingham Wire Gauge.

f. The ovality shall be within the above tolerances except when the wall thickness is less than 3 percent of the outside diameter.

ELECTRIC RESISTANCE WELDED TUBING

ASTM A513

Electric resistance welded tubes are produced from a cold rolled or hot rolled strip which is formed by rolls at room temperature into a tubular shape. Welding takes place as an electric current heats the two edges of the strip as they are pressed together. Only a narrow band of metal is heated while the rest of the tube remains at room temperature. The weld flash is always trimmed off the outside of the tube. The flash can also be trimmed or rolled down on the inside by special tooling.

DIAMETER TOLERANCES (INCHES) COLD ROLLED ROUND

NOTE - Measurements for diameter are to be taken at least 2 inches[a] from the ends of the tubes.

Outside Diameter Range, In.[a]	Wall Thickness		Flash-in Tubing [b]	Flash Controlled to 0.010 In. Max Tubing [c]	Flash Controlled d to 0.005 Inch Max Tubing	
	Bwg [e]	In.[a]	Outside Diameter Plus and Minus	Outside Diameter Plus and Minus	Outside Diameter Plus and Minus	Inside Diameter Plus and Minus
			Tolerances, In.[f]			
Over 2 to 2-1/2, incl	20 to 18	0.035 to 0.049	0.006	0.006	0.006	0.016
Over 2 to 2-1/2, incl	16 to 13	0.065 to 0.095	0.006	0.006	0.006	0.020
Over 2 to 2-1/2, incl	12 to 10	0.109 to 0.134	0.006	0.006	0.006	0.023
Over 2-1/2 to 3, incl	20 to 18	0.035 to 0.049	0.008	0.008	0.008	0.018
Over 2-1/2 to 3, incl	16 to 13	0.065 to 0.095	0.008	0.008	0.008	0.022
Over 2-1/2 to 3, incl	12 to 10	0.109 to 0.134	0.008	0.008	0.008	0.025
Over 3 to 3-1/2, incl	20 to 18	0.035 to 0.049	0.009	0.009	0.009	0.019
Over 3 to 3-1/2, incl	16 to 13	0.065 to 0.095	0.009	0.009	0.009	0.023
Over 3 to 3-1/2, incl	12 to 10	0.109 to 0.134	0.009	0.009	0.009	0.026
Over 3-1/2 to 4, incl	20 to 18	0.035 to 0.049	0.010	0.010	0.010	0020
Over 3-1/2 to 4, incl	16 to 13	0.065 to 0.095	0.010	0.010	0.010	0.024
Over 3-1/2 to 4, incl	12 to 10	0.109 to 0.134	0.010	0.010	0.010	0.027
Over 4 to 6, incl	16 to 13	0.065 to 0.095	0.020	0.020	0.020	0.034
Over 4 to 6, incl	12 to 10	0.109 to 0.134	0.020	0.020	0.020	0.037
Over 6 to 8, incl	14 to 13	0.083 to 0.095	0.025	0.025	0.025	0.039
Over 6 to 8, incl	12 to 10	0.109 to 0.134	0.025	0.025	0.025	0.042

a. 1 inch = 25.4 mm.

b. Flash-In tubing is produced to outside diameter tolerances and wall thickness tolerances only, and the height of the inside welding flash does not exceed the wall thickness or 3/32 inch, whichever is less.

c. Flash controlled to 0.010 inch max tubing consists of tubing over 5/8 inch outside diameter which is commonly produced to outside diameter tolerances and wall thickness tolerances only, in which the height of the remaining inside welding flash is controlled not to exceed 0.010 inch.

d. Flash controlled to 0.005 inch max tubing is produced to outside diameter tolerances and wall thickness tolerances, inside diameter tolerances and wall thickness tolerances, or outside diameter tolerances and inside diameter tolerances, in which the height of the remaining inside welding flash is controlled not to exceed 0.005 inch. Any remaining flash is considered to be part of the applicable inside diameter tolerances.

e. Birmingham Wire Gauge.

f. The ovality shall be within the above tolerances except when the wall thickness is less than 3 percent of the outside diameter.

COLD DRAWN BUTTWELDED MECHANICAL TUBING

ASTM A-512

Buttweld mechanical tubing is made from buttwelded or continuous welded tube hollows, drawn to size with a mandrel. It is produced in OD sizes ranging from 1/4 inch to 3-1/2 inch OD. The tubing is cold drawn for the purpose of obtaining dimensional accuracy and improved mechanical properties. Applications include axles, truck and railroad parts, and many more where weight-to-strength ratio and tolerances are important.

Diameter (Including Ovality) Mandrel Drawn

OD Size Range Inches	OD Tolerance Inches	ID Tolerance Inches
0.500 to 1.499	+0.005 / -0.000	+0.000 / -0.005*
1.500 & Over	+0.010 / 0.000	+0.000 / -0.010

*Under 0.500 inch ID: a greater tolerance may be required.

STANDARD DIMENSIONAL TOLERANCES - Round Tubing

Wall

Mandrel drawn plus or minus 7 percent, except when walls are lighter than 0.156 inch, the tolerance is plus or minus 10 percent.

Length

Mandrel Drawn

Length Range Feet	OD Size Range Inches	Tolerance Inches
4 and less	to 2.000	+1/16 -0
4 and less	2.001 & Over	+ 3/32 -0
4 to 10	to 2.000	+ 3/32 -0
4 to 10	2.001 & Over	+1/8 -0
Over 10	All	+1/8 -0

TOLERANCES - Continued

Straightness-Mandrel Drawn
0.030 inch maximum deviation from a straight line in a three foot length. Under three feet, 0.010 inch per foot. Soft annealed tubing or small diameter long lengths may exceed these figures.

Concentricity - Mandrel Drawn
5 percent of the wall. The wall is calculated from the mean OD and mean ID after applying standard tolerances. 5 percent eccentricity equals 10 percent total indicator reading when chucked on the OD and gauged on the ID or vice versa.

MECHANICAL PROPERTIES				
Round Tubing - Mandrel Drawn * Stress Relieved*				
Minimum Grade	Minimum Yield, PSI	Minimum Tensile, PSI	Elongation Percent in 2 In.	Hardness Rockwell B
C-1010	58,000	63,000	15	70
C-1012	58,000	63,000	15	70
C-1015	60,000	66,000	14	72
C-1016	61,500	67,000	13	73
C-1018	62,500	68,000	13	73
C-1020	65,000	71,000	11	73
C-1030	70,000	80,000	10	80
C-1110	58,000	63,000	15	70
C-1115	62,500	68,000	13	73

*Soft and intermediate annealed tubing is also available.