

# MECHANICAL TUBE SPECIFICATIONS

ROUND (in inches) Nominal decimal for ordering gauge																
Outside Diameter	Equiv. Sizes	22	20	19	18	17	16	15	14	13	12	11	10	9	8	7
		.028	.035	.042	.049	.058	.065	.072	.083	.095	.109	.120	.134	.148	.165	.180
.500		.1413	.1740	.2056	.2362	.2740	.3023									
.625		.1787	.2207	.2618	.3017	.3516	.3891									
.706	½" EMT	.2029	.2511	.2981	.3441	.4018	.4454									
.750		.2161	.2675	.3179	.3672	.4291	.4760	.5218								
.815	½" IMC	.2356	.2918	.3471	.4012	.4694	.5211	.5719	.6495							
.870		.2520	.3124	.3718	.4300	.5035	.5594	.6142								
.875		.2535	.3143	.3740	.4327	.5066	.5628	.6181								
.922	¾" EMT	.2676	.3319	.3951	.4573	.5357	.5955	.6542	.7444							
.980		.2850	.3535	.4211	.4877	.5717	.6358	.6989	.7959							
.995		.2894	.3592	.4279	.4955	.5810	.6462	.7104	.8092							
1.000		.2909	.3611	.4301	.4981	.5841	.6497	.7143	.8136							
1.029		.2996	.3719	.4431	.5133	.6020	.6698	.7366	.8394							
1.125		.3284	.4078	.4862	.5636	.6616	.7365	.8105	.9245							
1.163	1" EMT		.4220	.5033	.5835	.6851	.7629	.8397	.9583							
1.187				.5141	.5961	.7000	.7796									
1.250			.4546	.5424	.6291	.7391	.8234	.9067	1.0354	1.1730	1.3295	1.4496	1.5986			
1.290	1" IMC			.5603	.6500	.7639	.8512	.9375	1.0709	1.2136	1.3761	1.5009	1.6559			
1.315	1" NPS		.4789	.5716	.6631	.7794	.8686	.9567	1.0931	1.2390	1.4052	1.5329	1.6917			
1.375			.5014	.5985	.6946	.8166	.9103	1.0029	1.1464							
1.500			.5481	.6546	.7600	.8941	.9971	1.0991	1.2573	1.4268	1.6208	1.7703	1.9567			
1.510	1½" EMT		.5519	.6591	.7653	.9003	1.0041	1.1068	1.2661	1.4370	1.6325	1.7831	1.9711			
1.625					.8255	.9716	1.0840	1.1953	1.3682	1.5538	1.7665	1.9306	2.1358			
1.638	1½" IMC			.7166	.8323	.9796	1.0930	1.2053	1.3797	1.5670	1.7816	1.9473	2.1544			
1.660	1½" NPS	.4885	.6080	.7264	.8439	.9933	1.1083	1.2223	1.3992	1.5893	1.8072	1.9755	2.1859			
1.690							1.1291	1.2453	1.4258	1.6198	1.8422	2.0140	2.2289			
1.740	1½" EMT		.6379	.7624	.8858	1.0429	1.1639	1.2838	1.4702							
1.750			.6417	.7669	.8910	1.0491	1.1708	1.2915	1.4791							
1.764			.6469	.7731	.8983	1.0578	1.1806	1.3023	1.4915							
1.875				.8230	.9565	1.1266	1.2577	1.3877	1.5900							
1.883	1½" IMC			.8266	.9607	1.1315	1.2632	1.3939	1.5971	1.8158	2.0671	2.2616	2.5054			
1.900	1½" NPS		.6978	.8342	.9696	1.1421	1.2750	1.4070	1.6122	1.8331	2.0869	2.2834	2.5297	2.7719		
1.948			.7157	.8558	.9947	1.1718	1.3084	1.4439	1.6548							
1.968	50 MM		.7232	.8647	1.0052	1.1842	1.3223	1.4593	1.6725							
2.000			.7352	.8791	1.0220	1.2041	1.3445	1.4839	1.7009	1.9346	2.2034	2.4117	2.6730	2.9301		
2.197	2" EMT						1.4814	1.6356	1.8757	2.1347	2.4330	2.6644	2.9552	3.2418		
2.360	2" IMC				1.2105	1.4273	1.5947	1.7610	2.0203	2.3002	2.6229	2.8735	3.1887	3.4996		
2.375	2" NPS			1.0475	1.2184	1.4366	1.6051	1.7726	2.0336	2.3155	2.6404	2.8927	3.2101	3.5234	3.8981	4.2236
2.500							1.6920	1.8688	2.1445	2.4424	2.7860	3.0531	3.3892	3.7211	4.1186	4.4610
2.857	2½" IMC							2.1436	2.4613	2.8049	3.2020	3.5110	3.9006	4.2860	4.7483	5.1511
2.875	2½" NPS							2.1574	2.4773	2.8232	3.2230	3.5341	3.9264	4.3144	4.7800	5.1857
3.000								2.2536	2.5882	2.9502	3.3686	3.6945	4.1054	4.5122	5.0005	5.4262
3.476	3" IMC							2.6200	3.0105	3.4336	3.9233	4.3051	4.7873	5.2653	5.8401	6.3422
3.500	3" NPS							2.6385	3.0318	3.4579	3.9512	4.3359	4.8217	5.3033	5.8824	6.3883
3.971	3½" IMC								3.4497	3.9363	4.5000	4.9401	5.4963	6.0484	6.7132	7.2946
4.000	3½" NPS								3.4754	3.9657	4.5338	4.9773	5.5379	6.0943	6.7644	7.3504
4.466	4" IMC							3.3820	3.8889	4.4390	5.0768	5.5750	6.2054	6.8316	7.5863	8.2471
4.500	4" NPS							3.4081	3.9191	4.4735	5.1164	5.6187	6.2541	6.8854	7.6463	8.3125
5.000	4½" NPS									4.9813	5.6990	6.2601	6.9704	7.6764	8.5282	9.2746

Typical Mechanical Properties Achieved For Galvanized Tube Products:

     40,000 psi yield/45,000 psi tensile    
      45,000 psi yield/48,000 psi tensile    
      50,000 psi yield/55,000 psi tensile    
 Higher mechanical properties available on request



**SHAPES** Square tubing is available as round-to-square (RTS), weld-in-corner (WIC) or both. Please inquire for details.

	Size	RTS	WIC	20	19	18	17	16	15	14	13	12	11	10	9	8	7
				.035	.042	.049	.058	.065	.072	.083	.095	.109	.120	.134	.148	.165	.180
SQUARE	.625	X		.2810	.3333	.3841	.4476	.4954									
	.709	X		.3211	.3813	.4401											
	.750	X		.3406	.4047	.4675	.5463	.6060	.6644	.7535							
	.813	X		.3706	.4407	.5095	.5960	.6617	.7261	.8246							
	.875	X		.4001	.4762	.5509	.6449	.7166	.7869	.8947							
	.975	X				.6175	.7239	.8050	.8849	1.0076							
	1.000	X		.4597	.5476	.6342	.7436	.8271	.9094	1.0359	1.1701	1.3218					
	1.250*	X	X	.5788	.6905	.8009	.9409	1.0483	1.1543	1.3183	1.4934	1.6927	1.8455				
	1.500*	X	X	.6979	.8334	.9677	1.1383	1.2695	1.3993	1.6007	1.8166	2.0635	2.2538				
	1.625		X					1.3801	1.5218	1.7419	1.9782	2.2490	2.4580				
	1.750*		X					1.4906	1.6443	1.8831	2.1398	2.4344	2.6621				
	1.875		X									2.6198					
	2.000*	X	X					1.7118	1.8893	2.1655	2.4631	2.8053	3.0704	3.4031	3.7304	4.1208	4.4586
	2.188		X											3.7460			
	2.250*	X	X						2.1343	2.4479	2.7863	3.1762	3.4787	3.8590			
	2.500*	X	X						2.3792	2.7303	3.1095	3.5470	3.8870	4.3150	4.7376	5.2436	
3.000	X						2.5964	2.8692	3.2951	3.7560	4.2888	4.7036	5.2268	5.7447	6.3664	6.9084	
4.000	X								4.4248	5.0490	5.7723	6.3368	7.0506	7.7590	8.6121	9.3582	
FLAT SIDED OVAL	.750x1.000			.3319	.3951	.4573	.5357	.5955									
	1.500x1.000			.4789	.5716	.6631	.7794	.8686									
	1.75x1.125			.5519	.6591	.7653	.9003	1.0041	1.1068	1.2661							
	2.000x1.094			.6080	.7264	.8439	.9933	1.1083									
	2.250x1.313			.6978	.8342	.9696	1.1421	1.2750									
2.375x1.625					1.1251	1.3262	1.4814										
RECTANGLE	.625x1.125			.4001	.4762	.5509	.6449	.7166									
	.750x1.500			.5192	.6191	.7176	.8423	.9377	1.0319	1.1771							
	.750x2.250			.6979													
	.875x1.917			.6483	.7740	.8983	1.0562	1.1775									
	1.000x1.750			.6383	.7620	.8843	1.0396	1.1589									
	1.000x2.000			.6979	.8334	.9677	1.1383	1.2695	1.3993	1.6007							
	1.500x2.000			.8169	.9763	1.1344	1.3356	1.4906	1.6443	1.8831	2.1398	2.4344	2.6621				
	1.500x2.500				1.1192	1.3011	1.5330	1.7118	1.8893	2.1655	2.4631	2.8053	3.0704	3.4031			
	1.500x3.000										2.7863	3.1762	3.4787				
	1.500x3.500					1.6345	1.9277	2.1541	2.3792	2.7303	3.1095	3.5470	3.8870	4.3150			
	1.540x3.110											3.2874					
	1.625x3.000									2.5185	2.8671	3.2689	3.5808				
	2.000x3.000							2.1541	2.3792	2.7303	3.1095	3.5470	3.8870	4.3150	4.7376	5.2436	5.6835
	2.000x4.000									3.2951	3.7560	4.2888	4.7036	5.2268	5.7447	6.3664	
	2.000x5.000									3.8599	4.4025	5.0305	5.5202	6.1387	6.7519	7.4892	
2.360x4.720										4.4542	5.0899	5.5855	6.2117	6.8324			
3.000x4.000										4.4025	5.0305	5.5202	6.1387	6.7519	7.4892	8.1333	
OCTAGON	4.783											5.7505	6.3159	7.0316	7.7429	8.6006	

\* Also available as Square-Fit\*

**TOLERANCES:**

Round	Tolerance	Length	Tolerance
.500 thru 1.510	±.005	Under 5'	± 1/16"
1.625 thru 2.000	±.010	5' - 15'	± 1/8"
2.197 thru 4.500	±.015	16' - 19'	± 1/4"
5.000	±.020	20' - 40'	± 1/2"
Square & Rectangle	±.010	*Must be cut off-line. Closer length tolerances available upon request	
<i>Except:</i>			
1x1 & Smaller	±.005		
1.500 x 3.000	±.020		
2.000 x 3.000	±.015		
2.000 x 4.000	±.015	**sizes 2.875 - 5.000 can be run up to 40' long	
2.000 x 5.000	±.030		
2.360 x 4.720	±.030		
3.000 x 3.000	±.015		
3.000 x 4.000	±.030		
4.000 x 4.000	±.020		
Oval Sizes	±.015		

**CARBON STEEL TYPICAL CHEMISTRY:**

	1008 Steel (16 gauge and lighter)	1010 Steel (15 gauge and heavier)	1015 Steel (15 gauge and heavier)	1022 Steel (15 gauge and heavier)
Carbon max. %	.10	.13	.18	.23
Manganese max. %	.50	.60	.60	1.00
Phosphorus max. %	.030	.030	.030	.030
Sulphur max. %	.035	.035	.035	.035

All steel tube products... are manufactured per ASTM-A500 dimensions. Inquire as to compliance to specific grades. Please inquire about our ability to meet ASTM-A513 and other tube specifications.