

ASTM A500 STRUCTURAL TUBING



**Cold-formed ERW structural tubing: Squares from 1" to 4" and equivalent Rectangles
Rounds from 1" to 5"
Wall thickness from .035 to .203"**

TNT Pipe and Tube's structural tubing is produced in accordance with the mechanical and chemical property requirements of ASTM A500 Grade B & C:

CHEMICAL COMPOSITION	GRADE B	GRADE C
Carbon, max %	0.26	0.23
Manganese, max %	1.35	1.35
Phosphorus, max %	0.035	0.035
Sulfur, max %	0.035	0.035
Copper, when copper is specified, min %	0.20	0.20
MECHANICAL PROPERTIES - SHAPES	GRADE B	GRADE C
Tensile Strength, min psi	58,000	62,000
Yield Strength, min psi	46,000	50,000
Elongation in 2" min	23% (a)	21% (b)
MECHANICAL PROPERTIES - ROUNDS	GRADE B	GRADE C
Tensile Strength, min psi	58,000	62,000
Yield Strength, min psi	46,000	46,000
Elongation in 2" min	23% (a)	21% (b)

OUTSIDE DIMENSIONAL TOLERANCES FOR SQUARE AND RECTANGLE STRUCTURAL TUBING	
LARGEST OUTSIDE DIMENSION	PLUS/MINUS (C)
2-1/2" and under	0.020
Over 2-1/2" to 3-1/2", Incl	0.025
Over 3-1/2" to 5-1/2", Incl	0.030
Over 5-1/2"	1%
PERMISSIBLE VARIATIONS IN TWIST FOR SQUARE AND RECTANGULAR STRUCTURAL TUBING	
SPECIFIED OUTSIDE LARGE FLAT DIMENSION	MAXIMUM TWIST IN 3-FEET
Over 1-1/2" to 2-1/2"	0.062"
Over 2-1/2" to 4"	0.075"
Over 4" to 6"	0.087"

(a): .180" wall and over

(b): .120" wall and over

(c): Tolerance include allowance for convexity and concavity. For rectangular tubing having a ratio of outside large to small flat dimension less than 1.5, and for square tubing, the tolerance on small flat dimension shall be identical to the large flat dimension tolerance. For rectangular tubing having a ratio of outside large to small flat dimension in the range of 1.5 to 3.0 inclusive, the tolerance on small flat dimension shall be 1.5 times the large flat dimension tolerance. For rectangular tubing having a ratio of outside large to small flat dimension greater than 3.0, the tolerance of the small flat dimension shall be 2.0 times the large flat dimension tolerance.

STRAIGHTNESS: .025" time per the number of feet of total length

SQUARENESS OF SIDE: For square and rectangular structural tubing, adjacent sides shall be square (90-degrees), with a permissible variation of +/- 2-degrees max.

RADIUS OF CORNERS: The radius of any outside corner shall not exceed 3.0 times the specified wall thickness.

WALL THICKNESS: +/-10% on nominal wall thickness, as measured at the center of the flat.

OTHER TUBE SPECIFICATIONS: Wall thicknesses from .035 to .203
Mill Lengths from 16.5-feet to 40-feet
Saw cut end finish
Length tolerance: 22-ft & under = minus 1/4", plus 1/2"
Over 22-ft = minus 1/4", plus 3/4"
Weld on Large Side
Flash In
Hot Rolled Black Finish
Custom Bundle Configurations

ASTM A500 STRUCTURAL TUBING

SQUARE, RECTANGULAR & ROUND



OUTSIDE DIAMETER	NOMINAL WALL THICKNESS & WEIGHT PER FOOT									
	14 GA 0.083	13 GA 0.095	12 GA 0.109	11 GA 0.120	1/8 0.125	10 GA 0.134	9 GA 0.148	8 GA 0.165	7GA 0.180	3/16 0.188
1.50" x 1.00"	1.258	1.414	1.589	1.719	1.777	1.878				
1.50"-SQ	1.540	1.738	1.960	2.128	2.202	2.334	2.532	2.760	2.950	3.048
2.00" x 1.00"	1.540	1.738	1.960	2.128	2.202	2.334	2.532	2.760	2.950	3.048
2.00" x 1.50"	1.823	2.061	2.330	2.536	2.628	2.79	3.035	3.321	3.563	3.687
2.00"-SQ	2.105	2.384	2.701	2.944	3.053	3.246	3.539	3.883	4.175	4.327
2.50" x 1.50"	2.105	2.384	2.701	2.944	3.053	3.246	3.539	3.883	4.175	4.327
3.00" x 1.00"	2.105	2.384	2.701	2.944	3.053	3.246	3.539	3.883	4.175	4.327
3.00" x 1.50"	2.388	2.707	3.072	3.353	3.479	3.702	4.042	4.444	4.788	4.967
2.50"-SQ	2.670	3.031	3.443	3.761	3.904	4.158	4.546	5.005	5.400	5.606
3.00" x 2.00"	2.670	3.031	3.443	3.761	3.904	4.158	4.546	5.005	5.400	5.606
3.00"-SQ	3.235	3.677	4.185	4.578	4.755	5.070	5.553	6.128	6.625	6.886
4.00" x 2.00"	3.235	3.677	4.185	4.578	4.755	5.070	5.553	6.128	6.625	6.886
3.50"-SQ	3.800	4.324	4.927	5.394	5.605	5.982	6.560	7.251	7.850	8.165
5.00" x 2.00"	3.800	4.324	4.927	5.394	5.605	5.982	6.560	7.251	7.850	8.165
4.00" x 3.00"	3.800	4.324	4.927	5.394	5.605	5.982	6.560	7.251	7.850	8.165
4.00"-SQ	4.365	4.970	5.669	6.211	6.456	6.894	7.568	8.374	9.075	9.445
6.00" x 2.00"	4.365	4.970	5.669	6.211	6.456	6.894	7.568	8.374	9.075	9.445
5.00" x 3.00"	4.365	4.970	5.669	6.211	6.456	6.894	7.568	8.374	9.075	9.445
1.050"-rd	0.857	0.969	1.095	1.192	1.235					
1.315"-rd	1.092	1.238	1.404	1.532	1.589	1.690	1.845	2.027		
1.660"-rd	1.398	1.588	1.806	1.974	2.049	2.184	2.390	2.634	2.845	2.956
1.900"-rd	1.611	1.831	2.085	2.281	2.370	2.527	2.769	3.057	3.307	3.437
2.000"-rd	1.699	1.933	2.201	2.409	2.503	2.670	2.927	3.234	3.499	3.638
2.375"-rd	2.032	2.313	2.638	2.890	3.004	3.207	3.520	3.894	4.220	4.391
2.875"-rd	2.475	2.821	3.220	3.531	3.671	3.923	4.310	4.776	5.181	5.395
3.500"-rd	3.029	3.455	3.948	4.332	4.506	4.817	5.298	5.877	6.382	6.650

NOMINAL PIPE SIZE	OD	A500 PIPE SIZES			
		SCHEDULE 10		SCHEDULE 40	
		WALL	WPF	WALL	WPF
3/4"	1.050"	0.083	0.857	0.113	1.131
1"	1.312"	0.109	1.404	0.133	1.679
1-1/4"	1.660"	0.109	1.806	0.140	2.273
1-1/2"	1.900"	0.109	2.085	0.145	2.718
2"	2.375"	0.109	2.638	0.154	3.653
2-1/2"	2.875"	0.120	3.531	0.203	5.793
3"	3.500"	0.120	4.330		

This table is based on current capabilities produced in accordance with ASTM A500.

We invite your inquiry for other sizes, gauges or specifications.