

Tubing Tolerances

ASTM A-513

Wall Thickness Tolerance for Type 1 Rounds

Wall Thickness		Outside Diameter, inch									
Inch	BWG	$\frac{3}{4}$ to 1, inc		Over 1 to 1 $\frac{15}{16}$, incl		Over 1 $\frac{15}{16}$ to 3 $\frac{3}{4}$ ", incl		Over 3 $\frac{3}{4}$ " to 4 $\frac{1}{2}$ ", incl		Over 4 $\frac{1}{2}$ " to 5", incl	
Wall Thickness Tolerances, in., plus and minus											
		Plus	Minus	Plus	Minus	Plus	Minus	Plus	Minus	Plus	Minus
0.065	16	0.005	0.009	0.004	0.010	0.003	0.011	0.002	0.012	0.002	0.012
0.072	15	0.005	0.009	0.004	0.010	0.003	0.011	0.002	0.012	0.002	0.012
0.083	14	0.006	0.010	0.005	0.011	0.004	0.012	0.003	0.013	0.003	0.013
0.095	13	0.006	0.010	0.005	0.011	0.004	0.012	0.003	0.013	0.003	0.013
0.109	12	0.006	0.010	0.005	0.011	0.004	0.012	0.003	0.013	0.003	0.013
0.120	11	0.006	0.010	0.005	0.011	0.004	0.012	0.003	0.013	0.003	0.013

Length Tolerances – Square and Rectangular Tubing

Lengths, ft	Tolerances, in.
1 to 3, incl	$\pm 1/16$ "
Over 3 to 12, incl	$\pm 3/32$ "
Over 12 to 20, incl	$\pm 1/8$ "
Over 20 to 30, incl	$\pm 3/16$ "
Over 30 to 40, incl	$\pm 1/8$ "

Wall Thickness – Square and Rectangular Tubing $\pm 10\%$

ASTM A-500

Corner Radius – Shapes

Max. 3 x Nominal Wall Thickness

Wall Thickness – Shapes & Rounds

$\pm 10\%$ of Nominal Wall Thickness

Physical Requirements – Shapes & Rounds

	SHAPES		ROUNDS	
	Grade B	Grade C	Grade B	Grade C
Tensile Strength, min. psi	58,000	62,000	58,000	62,000
Yield Strength, min. psi	46,000	50,000	42,000	46,000
Elongation in 2 in., min. %	23	21	23	21