ASTM A513 TUBING

SPECIFICATIONS



TOLERANCES, OUTSIDE DIMENSION, O.D. RANGE, ROUND TUBING					
ROUND TUBING	BWG GAUGE	FLASH IN TUBING TOLERANCES IN.			
1/2 to 5/8" Incl.	22-16	± .003			
Over 5/8 to 1-1/8" Incl.	22-11	± .0035			
Over 1-1/8 to 2" Incl.	22-11	± .005			
Over 2 to 2-1/2" Incl.	20-11	± .006			
Over 2-1/2 to 3" Incl.	20-11	± .008			
Over 3 to 4" Incl.	18-11	± .010			

^{*} Measured at least 2" from cut end of tubing.

STRAIGHTNESS TOLERANCE FOR ROUND TUBING

1/32" per every 3ft of tubing

OVALITY (HOT AND COLD ROLLED STEEL)

The ovality maybe 50% greater than the outside tolerances but the mean outside diameter shall be within the specific tolerance.

LENGTH TOLERANCES			
Mill Cut Full Lengths	-0 +1"		
Cut-Length	± 1/32"		

TOLERANCES, SQUARE AND RECTANGULAR				
Wall Thickness Tolerance, Square & Rectangular Tubing	±10% of nominal wall thickness			
Straightness Tolerance Square & Rectangular Tubing	max. = 1/16" in 3'			
Squareness of Sides Tolerance	max. = wide side (inches) x .006"			

TWIST TOLERANCES				
LARGEST DIMENSION (INCHES)	TOLERANCE IN 3 FEET (INCHES)			
1/2 and Under	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 to 4, Incl.	0.075			

TOLERANCES, OUTSIDE DIMENSIONS, SQUARE & RECTANGULAR TUBING *			
WIDEST SIDE (INCHES) TOLERANCES (INCH			
1/2 to 5/8" Incl.	± .004		
Over 5/8 to 1-1/8"	± .005		
1-1/8 to 1-1/2"	± .006		
1-1/2 to 2"	± .008		
2 to 3"	± .010		
3 to 4"	± .020		

WALL THICKNESS TOLERANCES FOR COLD ROLLED ROUND TUBING

OUTSIDE DIAMETER (inches)

		3/8 TO 7/8 INCL. OVER 7/8 TO 1-7/8 INCL.		OVER 1-7/8 TO 3 INCL.			
WALL TH	IICKNESS	WALL THICKNESS TOLERANCES (inches)					
IN.	BWG	PLUS	MINUS	PLUS	MINUS	PLUS	MINUS
0.028	22	0.001	0.005	0.001	0.005	_	_
0.035	20	0.002	0.005	0.001	0.005	0.001	0.005
0.049	18	0.003	0.006	0.002	0.006	0.002	0.006
0.060	16	0.005	0.007	0.004	0.007	0.004	0.007
0.065	065	0.005	0.007	0.004	0.007	0.004	0.007
0.075	14	0.006	0.007	0.005	0.007	0.004	0.007
0.083	083	0.006	0.007	0.005	0.007	0.004	0.007
0.095	13	0.006	0.007	0.005	0.007	0.004	0.007
0.109	12	0.006	0.007	0.005	0.007	0.004	0.007