

Cut to Length Tubing

All Cut-to-length Materials are Certified to Applicable Specifications



Ordering Your Tubing

Tubing is generally ordered to **outside diameter and wall thickness**, and is inventoried as Eagle Service Center Stock. Although tubing has three dimensions (O.D., I.D. and wall thickness) only two may be specified with tolerances; the third is theoretical. If inside diameter is the more important dimension for you, tubing can be specially produced by our mill to **I.D. and wall**, or to **O.D. and I.D. dimensions**. Tolerances in any tube are applicable only to two cross-sectional dimensions. Thus, if outside diameter and wall thickness are specified, the inside diameter may not necessarily conform to published tolerances.

Get tubing cut to exact lengths

Our facilities enable us to cut and deburr any diameter tubing in quantities from 1 piece to 100,000 pieces or more. . . from lengths of 0.040" and longer. . . with a tolerance of $\pm .005$ as standard on diameters of less than one inch. Closer tolerances are certainly possible. Talk to us!

Grades of Stainless Steel

Grades are important depending on your application. One grade may be better than others for certain environments and uses (see pages 24 - 26).

Finish of Tubing

Most stainless tubes are produced with a bright silvery finish, although in some cases a "pickled" or dull pewter finish is produced. Most of Eagle Stainless finishes are of the "Bright" variety, it is always suggested to specify the expected finish.

Cut Length Tolerance Chart

Eagle Stainless Standard Cutting Tolerances				
with Diameters of	.040"	1"	6"	12"
but less than	1"	6"	12"	24"
Tolerance is \pm	.005"	.015"	.030"	.060"

Standard Tubing Tolerances for ASTM-A 269 / A249 / A213 (Fractional or Metric)

Outside Diameter, Inches	O.D. Inches	Wall
Less than 3/32	$\pm .005$	$\pm 15\%$
3/32 \leq 3/16	$\pm .005$	$\pm 15\%$
2/32 \leq 1/2	$\pm .005$	$\pm 15\%$
1/2 \leq 1-1/2	$\pm .005$	$\pm 10\%$
1-1/2 \leq 3-1/2	$\pm .010$	$\pm 10\%$
3-1/2 \leq 5-1/2	$\pm .015$	$\pm 10\%$
5-1/2 \leq 8	$\pm .030$	$\pm 10\%$

Standard Tolerances for ASTM-A 312 Stainless Steel Pipe

Nominal Pipe Size	Outside Diameter Tolerance		Wall
	Over	Under	
1/8 to 1-1/2 incl.	1/64 (0.015)	1/32 (0.031)	+ 0.0%/-12.5%
Over 1-1/2 to 4 incl.	1/32 (0.031)	1/32 (0.031)	+ 0.0%/-12.5%
Over 4 to 8 incl.	1/16 (0.062)	1/32 (0.031)	+ 0.0%/-12.5%
Over 8 to 18 incl.	3/32 (0.093)	1/32 (0.031)	+ 0.0%/-12.5%
Over 18 to 24 incl.	1/8 (0.125)	1/32 (0.031)	+ 0.0%/-12.5%

TEMPER – 300 Series Stainless Steel

Condition	Ultimate Tensile psi	Yield Strength	Elongation % in 2" Min
Fully annealed	100,000 Max	35,000-55,000	40%
1/4 Hard	100,000-125,000	55,000-75,000	35%
1/2 Hard	125,000-150,000	75,000-125,000	15%
3/4 Hard	150,000-175,000	125,000-135,000	10%
Full Hard	175,000-200,000	135,000-160,000	6%