



Electropolished Stainless Steel Tubing

Materials

316L available from stock.

Mechanical Tests

To ensure the highest surface quality in all of our sanitary tubing, RathGibson goes beyond the requirements of ASTM A269 and A270 by performing the full battery of ASTM bend and deformation tests required by ASME SA249 as well as additional deformation tests developed by RathGibson. The tests, combined with specific raw material requirements, Eddy Current testing at the tube mill, 100% bore-scoping prior to mechanical polish, and tighter OD and wall tolerances allow RathGibson to provide a more consistent superior quality product.

Annealing

 Hydrogen bright annealed in line to 1900°F (1040°C) minimum and rapidly quenched.

Cleaning

All RathGibson True10 $^{\rm TM}$ Electropolished tubing utilizes a state of the art deoinized water system that guarantees less than 50 ppb TOC with an average of 10 ppb and a resistivity up to 18 M Ω . RathGibson also utilizes 99.9999% pure Nitrogen which is filtered to 0.003 μ m at the point of use. Cleaning and packaging are performed in a certified ISO Class 5 Cleanroom.

Surface Finish

Surface finish is 10 μ -in Ra (0.25 μ m) ID maximum, 30 μ -in Ra (0.8 μ m) OD maximum measured per ASME/ANSI B46.1 with the profilometer reading at 90 degrees to major polishing pattern.

Packaging

As a final step in maintaining clean standards, RathGibson electropolished tubing is packaged using protective 6 mil poly sleeving along with air tight plastic end caps over a polyamide patch. The tubing is then placed in wood boxes for maximum protection during shipment.

Specification

Tubing shall be RathGibson True10 $^{\rm T}$ Electropolished 316L ASME BPE SF4 tubing. Surface finish is 10 $\mu\text{-in}$ Ra (0.25 μm) ID maximum, 30 $\mu\text{-in}$ Ra (0.8 μm) OD maximum measured per ASME/ANSI B46.1 with the profilometer reading at 90 degrees to major polishing pattern.

Chemical Composition

Elements		316L (wt%)	
(C)	Carbon, Max.	0.035	
(Mn)	Manganese, Max.	2.00	
(P)	Phosphorus, Max.	0.040	
(S)	Sulfur	0.005-0.017	
(Si)	Silicon, Max.	0.75	
(Ni)	Nickel	10.0-15.0	
(Cr)	Chromium	16.0-18.0	
(Mo)	Molybdenum	2.0-3.0	
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Dimensional Tolerances

all dimensions in inches (mm)

	Nominal	Outside		
Size OD	Wall	Diameter	Length	Wall
1/2" (12.7)	0.065" (1.65)	+/-0.005 (0.13)	+1/8" (3.18) - 0	+/-10.0%
3/4" (19.1)	0.065" (1.65)	+/-0.005 (0.13)	+1/8" (3.18) - 0	+/-10.0%
1" (25.4)	0.065" (1.65)	+/-0.005 (0.13)	+1/8" (3.18) - 0	+/-10.0%
1-1/2" (38.1)	0.065" (1.65)	+/-0.008 (0.20)	+1/8" (3.18) - 0	+/-10.0%
2" (50.8)	0.065" (1.65)	+/-0.008 (0.20)	+1/8" (3.18) - 0	+/-10.0%
2-1/2" (63.5)	0.065" (1.65)	+/-0.010 (0.25)	+1/8" (3.18) - 0	+/-10.0%
3" (76.2)	0.065" (1.65)	+/-0.010 (0.25)	+1/8" (3.18) - 0	+/-10.0%
4" (101.6)	0.083" (2.11)	+/-0.015 (0.38)	+1/8" (3.18) - 0	+/-10.0%
6" (152.4)	0.109" (2.77)	+/-0.030 (0.76)	+1" (25.4) - 0	+/-10.0%

The information herein was correct at the time of publication and is subject to change without notice. © RathGibson, 2013

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Sales offices strategically located around the globe.

