

Stainless Steel Sanitary Tubing



COPPERWELD

Product Description

Copperweld's A270 stainless steel sanitary tubing is produced for use in the dairy and food, pharmaceutical and semiconductor industries that have special surface requirements. It's produced in accordance with the requirements of ASTM A270 for the manufacturing process, testing, tolerances and surface finishes.

Product Benefits

Copperweld's Sanitary Tubing provides a number of benefits, including:

- **High quality.** Our Sanitary Tubing meets ASTM A270 specifications and ASME-BPE standards. In addition, our tubing and our Elizabethtown, KY plant meet the 3-A Sanitary Standards.
- **Efficient production.** Our Elizabethtown plant, built in 1999, uses state-of-the-art technology to make production more cost effective.
- **Quicker delivery.** We carry A270 inventory in all of our standard sizes. All orders typically ship within 48 hours.
- **Protective sanitary packaging.** Each tube is capped on both ends, sleeved for protection, line marked and boxed for shipping.

Product Applications

Our Sanitary Tubing is ideal for industries and applications with strict purity requirements. Among those applications are:

- Dairy processing plants
- Food and beverage plants
- Pharmaceutical manufacturing plants
- Semiconductor manufacturing plants
- Biotechnology industry
- Other high purity and sanitary processes

Product Availability

Our Sanitary Tubing is available in sizes with diameters that range from 1.000" to 4.000" and walls that range from 0.065" to 0.083". A list of items in stock are in the chart below.

Visit Us at
www.copperweld.com

Registered customers can also log in to our e-commerce site to check inventory levels and current availability.

If you're not registered yet, you can log onto our website, enter the tubular products section, click on e-commerce, click on not registered yet, then complete the form and submit your request.

304L Stock Sizes		
OD	Avg. Wall	Wt./Ft.
1.000"	0.065"	0.655
1.500"	0.065"	1.006
2.000"	0.065"	1.356
2.500"	0.065"	1.706
3.000"	0.065"	2.057
4.000"	0.083"	3.505

316L Stock Sizes		
OD	Avg. Wall	Wt./Ft.
1.000"	0.065"	0.655
1.500"	0.065"	1.006
2.000"	0.065"	1.356
2.500"	0.065"	1.706
3.000"	0.065"	2.057
4.000"	0.083"	3.505



Chemical Composition

Grade	304/304L	316L
(C) Carbon, max	0.035%	0.035%
(mn) Manganese, max	2.00%	2.00%
(P) Phosphorous, max	0.045%	0.045%
(S) Sulfur*	0.030%	.005 - .015%
(Si) Silicon, max	1.00%	1.00%
(Ni) Nickel	8.0-13.0%	10.0 - 15.0%
(Cr) Chromium	18.0-20.0%	16.0 - 18.0%
(Mo) Molybdenum	0.045%	2.00 - 3.00%
(Fe) Iron	Bal.	Bal.
(Cu) Copper	N/A	N/A
(N) Nitrogen	N/A	N/A
(Al) Aluminum, max	N/A	N/A



*Minimized Sulfur and Aluminum content reduces inclusions in both the weld (starburst) and parent materials (pits).

Mechanical Properties

Grade	UNS Designation	Tensile Strength min. ksi (Mpa)	Yield Strength min. ksi (Mpa)	Elongation in 2 inch or 50 mm. (min. 5%)	Rockwell Hardness (max.)
304/304L	S30400/S30403	75(515)	30(205)	35	B90
316/316L	S31600/S31603	75(515)	30(205)	35	B90



Physical Properties

Alloy	Melting Point		Density		Magnetic permeability at 200 Oersted	Thermal Conductivity	
	°F	°C	lb. per cu in.	Grams/cc		68-212°F	20-100°C
Type 304/304L	2,550	1400	0.285	7.90	<1.02 Typ	9.4 Btu/ft ² /hr/°F	16.3 W/m.-K
Type 316/316L	2,550	1400	0.290	8.03	<1.02 Typ	100 Btu/ft ² /hr/°F/in.	1.2 W/m-K

Tolerances

OD Tolerances (including ovality):

1-1/2" and under	+ .002/- .008"
Over 1-1/2" through 2-1/2"	+ .002/- .011"
Over 2-1/2" through 3"	+ .003/- .012"
Over 3" through 4"	+ .003/- .015"

Wall Tolerance:

304/L	+/-12.5%
316/L	+/-10%

Cut Tolerance:

Unless otherwise specified +1/8"/-0"

Straightness Tolerance:

Tube straightness shall be .030" in three feet.

Quality Testing

Mechanical testing is in accordance with ASTM A450. Testing includes reverse bend, reverse flattening and flange tests. Eddy current tests are performed on 100% of the tube produced.

Surface Finishes

Tubes are OD and ID mechanically polished with 180 grit OD and 20 Ra ID surface finish. Other surface finishes available upon request are bright annealed OD/ID, bright annealed OD with ID polish (20 Ra) or 180 grit OD polish with bright annealed ID.

Markings

Bright annealed tubing is line-stenciled with OD, wall, ASTM specification, manufacturer, grade, heat number and production date and time. OD polished tube is marked on one end of each tube with a removable label stating OD, wall, ASTM specification, manufacturer, grade and heat number.

Packaging

As the last step in ensuring purity standards, each tube is capped on both ends with plastic end caps. Tubes are then poly-sleeved prior to boxing. Cardboard tubes are also available, if needed. Inventory is tri-wall boxed in standard box quantities. When specified, wood boxes are also available.

Registered customers can log in to our e-commerce site to check inventory levels and current availability.

For more information on Copperweld's Sanitary Tubing, please call 1-888-855-8823.

Quality

Extensive testing and inspection programs are conducted at our Elizabethtown facility to assure superior product quality and strict compliance with specifications.



Mechanical Tubing Business

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