

Ultrahigh-Purity Stainless Steel Tubing

Metric Sizes

Features

- Seamless 316L stainless steel/EN 1.4404
- Available in sizes from 6 to 18 mm outside diameter; imperial sizes available upon request
- Electropolished internal surface finish of $0.25 \mu\text{m } R_a$ (10 $\mu\text{in.}$) max
- Ends prepared for orbital welding
- Rinsed with 18 M Ω -cm DI water
- Purged with filtered nitrogen
- Ends sealed in a Class 10 area
- Marked to indicate size, material type, and heat code
- W.-NR 1.4435 material available upon request



Material Standards

Grade	UNS	ASTM	ASME
316L	S31603	A269 ^①	SA213 ^①

^① Nominal wall thickness, not minimum wall thickness.

Pressure Ratings

See Swagelok® *Tubing Data*, MS-01-107, for complete pressure ratings.

Chemical Composition

Element	Composition wt. %
Chromium	16.0 to 18.0
Nickel	10.0 to 15.0
Molybdenum	2.00 to 3.00
Manganese	2.00 max
Silicon	0.75 max
Carbon	0.035 max ^①
Sulfur	0.005 to 0.012

^① Tubing sizes smaller than 1/2 in. outside diameter contain up to 0.040 wt. % carbon.

Ordering Information and Dimensions

Select an ordering number.

Tube OD m	Nominal Wall Thickness m	Ordering Number	Nominal Length m (ft)	Weight kg/m
6	1.0	6L-T6M-S-1.0M-6M-E2	6 (19.7)	0.125
8	1.0	6L-T8M-S-1.0M-6M-E2		0.175
10	1.0	6L-T10M-S-1.0M-6M-E2		0.225
12	1.0	6L-T12M-S-1.0M-6M-E2		0.275
18	1.5	6L-T18M-S-1.5M-6M-E2		0.619

High-Purity Tubing

Chemically Cleaned and Passivated Tubing

High-purity tubing with an inside diameter finish of 0.51 μm (20 $\mu\text{in.}$) R_a (-G20 process) or 0.76 μm (30 $\mu\text{in.}$) R_a (-G30 process) is available on request. This tubing complies with ASTM G93, Level A requirement for nonvolatile residue levels and also meets requirements of CGA G4.1.

Thermocouple-Cleaned Tubing

High-purity tubing thermocouple cleaned (-G process) is available on request to meet the cleanliness requirements of ASTM A632-S3.

Contact your authorized Swagelok sales and service representative for availability and ordering information.

Cleaning and Packaging

Packaging	Individual Certificates
Ends are faced and protected with polyamide nylon film and polyethylene caps; packed in double polyethylene bags.	Inspection Certificate in accordance with EN1024 3.1.B and PED 97/23/EC

Tube Fittings

See the Swagelok *Gaugeable Tube Fittings and Adapter Fittings* catalog, MS-01-140, for information.



Tubing Tools and Accessories

See the Swagelok *Tubing Tools and Accessories* catalog, MS-01-179, for more information.



Swagelok Orbital Welding System

See the Swagelok *Welding System M200 Power Supply* catalog, MS-02-342, for more information.



Safe Product Selection

When selecting a product, the total system design must be considered to ensure safe, trouble-free performance. Function, material compatibility, adequate ratings, proper installation, operation, and maintenance are the responsibilities of the system designer and user.

Warranty Information

Swagelok products are backed by The Swagelok Limited Lifetime Warranty. For a copy, visit swagelok.com or contact your authorized Swagelok representative.