

Stainless Steel Tubing

Imperial Sizes

- Standard instrumentation tubing
- Chemically cleaned and passivated tubing
- Thermocouple-cleaned tubing

Features

- Available in sizes from 1/16 to 1 in. outside diameter; metric sizes available upon request



Standard Instrumentation Tubing

Material Standards

Grade	UNS	SS	AFNOR	W.-NR.	ASTM
316/316L	S31603/S31603	2353	Z2CND17-13	1.4435	A213 ^① /A269

^① Nominal wall thickness, not minimum wall thickness.

Chemical Composition

Element	Composition wt. %
Chromium	17.0 to 18.0
Nickel	12.5 to 14.0
Molybdenum	2.50 to 3.00
Carbon	0.030 max

Pressure Ratings

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

Ordering Information and Dimensions

Select an ordering number.

Tube OD in.	Nominal Wall Thickness in.	Ordering Number	Nominal Length m (ft)	Weight kg/m
316 / 316L Seamless				
1/16	0.014	SS-T1-S-014-6ME	6 (19.7)	0.01
	0.020	SS-T1-S-020-6ME		0.01
1/8	0.028	SS-T2-S-028-6ME		0.04
	0.035	SS-T2-S-035-6ME		0.05
1/4	0.035	SS-T4-S-035-6ME		0.12
	0.049	SS-T4-S-049-6ME		0.16
	0.065	SS-T4-S-065-6ME		0.19
3/8	0.035	SS-T6-S-035-6ME		0.19
	0.049	SS-T6-S-049-6ME		0.25
	0.065	SS-T6-S-065-6ME		0.32
1/2	0.035	SS-T8-S-035-6ME		0.26
	0.049	SS-T8-S-049-6ME		0.35
	0.065	SS-T8-S-065-6ME		0.45
	0.083	SS-T8-S-083-6ME		0.55
5/8	0.049	SS-T10-S-049-6ME		0.45
	0.065	SS-T10-S-065-6ME		0.58
3/4	0.049	SS-T12-S-049-6ME	0.56	
	0.065	SS-T12-S-065-6ME	0.71	
1	0.083	SS-T16-S-083-6ME	1.2	

Chemically Cleaned and Passivated and Thermocouple-Cleaned Tubing

Material Standards

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

^① Nominal wall thickness, not minimum wall thickness.

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 (chemically cleaned and passivated)	0.005 to 0.012 (seamless) 0.005 to 0.017 (welded)
Sulfur (thermocouple-cleaned)	0.030 max

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

Tubing Tools and Accessories

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



Tube Fittings

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

Cleaning and Packaging

Chemically Cleaned and Passivated Tubing

This tubing complies with ASTM G93, Level A requirement for nonvolatile residue levels and also meets requirements of CGA G4.1. Tubing ends are protected with polyamide nylon film and polyethylene caps. Tubing is packed in single polyethylene, heat-sealed bags.

Thermocouple-Cleaned Tubing

This tubing meets the cleanliness requirements of ASTM A632-S3. Tubing ends are protected with polyethylene caps. Tubing is bulk packaged in polyethylene, heat-sealed bags.

Product	Inside Diameter Surface Finish	Process Designator	External Finish
Chemically cleaned and passivated	20 μ in. R_a max	G20	Satin
	32 μ in. R_a max	G30	
Thermocouple-cleaned	Standard finish (see ASTM A269)	G	

Ordering Information and Dimensions

To order, add a process designator from the table above to a basic ordering number.

Tube OD in.	Nominal Wall Thickness in.	Basic Ordering Number	Nominal Length m (ft)	Weight kg/m
316L Seamless				
1/8	0.020	6L-T2-S-020-6M-	6 (19.7)	0.03
	0.028	6L-T2-S-028-6M-G ^①		0.04
1/4	0.035	6L-T4-S-035-6M-		0.12
	0.049	6L-T4-S-049-6M-		0.16
3/8	0.035	6L-T6-S-035-6M-		0.19
	0.049	6L-T6-S-049-6M-		0.25
1/2	0.035	6L-T8-S-035-6M-		0.26
	0.049	6L-T8-S-049-6M-		0.35
	0.065	6L-T8-S-065-6M-		0.45
5/8	0.065	6L-T10-S-065-6M-		0.58
3/4	0.065	6L-T12-S-065-6M-		0.71
1	0.065	6L-T16-S-065-6M-G20 ^②		0.97
	0.083	6L-T16-S-083-6M-G ^①	1.2	

^① Available thermocouple-cleaned only. Use ordering number shown.

^② Available with G20 process only. Use ordering number shown.

Warranty Information

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