general chromatography

Stainless Steel Tubing

Hi-EFF™ Tubing

Hi-EFF™ grade stainless steel tubing is especially tempered for easy bending and is washed with acetone to remove any residual materials. Type 316 is recommended for plumbing LC systems.

Stainless Steel Tubing

This Stainless Steel Tubing is the same high quality as the Hi-EFF $^{\rm TM}$ grade, but has not been washed with acetone. Type 316 is recommended for LC use.



related product Looking for tubing cutters? Refer to page 391.

Hi-EFF™ and Standard Stainless Steel Tubing Specifications

Material: 300 Series Stainless Steel

Maximum Temperature: 500°C

Maximum Pressure:Varies according to i.d.Typical Use:High-Pressure Plumbing

Stainless Steel Tubing

	o.d.	i.d.	10ft (3m)* Part No.	25ft (7.5m)* Part No.	50ft (15m)* Coil Part No.	200ft Coil Part No.
Hi-EFF™ Type 316 Stainless Steel Type 304 Stainless Steel	1/8" (3.18mm)	0.085" (2.16mm)	5141338	5141342	30109	_
	1/4" (6.35mm)	0.210" (5.33mm)	5141337	5141343	30309	_
	1/8" (3.18mm)	0.085" (2.16mm)	5141336	5141344	30106	_
	1/4" (6.35mm)	0.210" (5.33mm)	5141335	5141345	30306	_
Standard Type 316 Stainless Steel	1/32" (0.79mm)	0.007" (0.18mm)	5141387	5141320	81951	_
	1/16" (1.59mm)	0.004" (0.10mm)	5141386	5141321	30212	_
		0.007" (0.18mm)	5141385	5141322	30142	_
		0.010" (0.25mm)	5141384	5141323	3005	30052
		0.020" (0.51mm)	5141383	5141324	3002	300220
		0.030" (0.76mm)	5141382	5141325	3000	300020
		0.040" (1.02mm)	5141381	5141326	3003	_
		0.050" (1.27mm)	5141380	5141327	3004	_
Type 304 Stainless Steel	1/8" (3.18mm)	0.085 (2.16mm)	5141346	5141410	3010	30108
	3/16" (4.76mm)	0.147" (3.73mm)	5141332	5141413	3020	_
	1/4" (6.35mm)	0.210" (5.33mm)	5141333	5141412	3030	_
	3/8" (9.53mm)	0.305" (7.75mm)	5141334	5141411	3032 [†]	_
	Type 316 Stainless Steel Type 304 Stainless Steel Type 316 Stainless Steel	0.d. Type 316 Stainless Steel 1/8" (3.18mm) Type 304 Stainless Steel 1/8" (3.18mm) Type 316 Stainless Steel 1/8" (3.18mm) Type 316 Stainless Steel 1/32" (0.79mm) Type 304 Stainless Steel 1/8" (3.18mm) 3/16" (4.76mm) 1/4" (6.35mm)	O.d. i.d.	Type 316 Stainless Steel 1/8" (3.18mm) 0.085" (2.16mm) 5141338 Type 304 Stainless Steel 1/8" (3.18mm) 0.210" (5.33mm) 5141337 Type 304 Stainless Steel 1/8" (3.18mm) 0.085" (2.16mm) 5141336 1/4" (6.35mm) 0.210" (5.33mm) 5141335 Type 316 Stainless Steel 1/32" (0.79mm) 0.007" (0.18mm) 5141387 1/16" (1.59mm) 0.004" (0.10mm) 5141386 0.007" (0.18mm) 5141384 0.020" (0.51mm) 5141384 0.020" (0.51mm) 5141382 0.040" (1.02mm) 5141381 0.050" (1.27mm) 5141380 Type 304 Stainless Steel 1/8" (3.18mm) 0.085 (2.16mm) 5141346 3/16" (4.76mm) 0.147" (3.73mm) 5141332 1/4" (6.35mm) 0.210" (5.33mm) 5141333	Type 316 Stainless Steel 1/8" (3.18mm) 0.085" (2.16mm) 5141338 5141342 1/4" (6.35mm) 0.210" (5.33mm) 5141337 5141343 Type 304 Stainless Steel 1/8" (3.18mm) 0.085" (2.16mm) 5141337 5141343 Type 304 Stainless Steel 1/8" (3.18mm) 0.085" (2.16mm) 5141336 5141344 1/4" (6.35mm) 0.210" (5.33mm) 5141335 5141344 1/32" (0.79mm) 0.007" (0.18mm) 5141387 5141325 0.004" (0.10mm) 5141386 5141321 0.007" (0.18mm) 5141385 5141321 0.07" (0.18mm) 5141385 5141322 0.010" (0.25mm) 5141384 5141323 0.020" (0.51mm) 5141384 5141324 0.030" (0.76mm) 5141382 5141325 0.040" (1.02mm) 5141381 5141326 0.050" (1.27mm) 5141380 5141327 Type 304 Stainless Steel 1/8" (3.18mm) 0.085 (2.16mm) 5141346 5141410 3/16" (4.76mm) 0.147" (3.73mm) 5141332 5141413 1/4" (6.35mm) 0.210" (5.33mm)	Type 316 Stainless Steel 1/8" (3.18mm) 0.085" (2.16mm) 5141338 5141342 30109 Type 304 Stainless Steel 1/8" (3.18mm) 0.085" (2.16mm) 5141338 5141342 30109 Type 304 Stainless Steel 1/8" (3.18mm) 0.210" (5.33mm) 5141337 5141344 30309 Type 316 Stainless Steel 1/8" (3.18mm) 0.085" (2.16mm) 5141335 5141344 30106 Type 316 Stainless Steel 1/32" (0.79mm) 0.210" (5.33mm) 5141335 5141345 30306 Type 316 Stainless Steel 1/32" (0.79mm) 0.007" (0.18mm) 5141387 5141320 81951 0.007" (0.18mm) 5141386 5141321 30212 0.007" (0.18mm) 5141385 5141322 30142 0.010" (0.25mm) 5141384 5141322 3005 0.020" (0.51mm) 5141384 5141324 3002 0.030" (0.76mm) 5141382 5141325 3000 0.040" (1.02mm) 5141381 5141326 3003 0.050" (1.27mm) 5141380 5141327 3004 Type 304 Stainless S

^{*}Meters based on closest estimate; feet being exact. †40' coil.

Stainless Steel Tubing

AT™ Steel—Activity Tested Steel Tubing

Delivers the Strength of Stainless Steel and the Inertness of Deactivated Fused Silica

- · Flexible, and strong
- Maximum temperature limit of 340°C-350°C

A combination of chemical vapor deposition techniques and silicone chemistries transform durable stainless steel tubing into a chromatographically inert material. AT™ Steel activity tested steel tubing is suitable for sample loops, transfer lines, capillary, and packed GC columns.

AT™ Steel may be cut with standard tubing cutters or high speed wheel cutters and can be rinsed with common solvents to remove particulates and contamination that have built up during use. To ensure a truly inert pathway, use AT™ Steel treated fittings. Sold separately below.



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AT™ Steel Tubing	I			
i.d.	6ft Length Part No.	25ft Length Part No.	50ft Length Part No.	100ft Length Part No.
1/16" o.d. Tubing				
0.010"	11060	11061	11062	11063
0.020"	11064	11065	11066	11067
0.030"	11068	11069	11070	11071
0.040"	11072	11073	11074	_
1/8" o.d. Tubing				

Straight Stainless Steel Tubing

11076

- Type 304 Stainless Steel
- · 6ft or 10ft lengths

0.085"



11077

PTFE-Coated Stainless Steel Tubing

• Sturdy SS tube with 0.001" thick PTFE coating

11078

 Must be preconditioned at 250°C for three hours



PTFE-Coated Stainless Steel Tubing

o.d.	i.d.	Length	Part No.
1/8" (3.18mm)	0.085" (2.16mm)	50ft	3142
1/4" (6.35mm)	0.210" (5.33mm)	50ft	3144

^{*}Minimum tubing order is 3ft.

Straight Stainless Steel Tubing

o.d.	i.d.	Length*	Qty.	Part No.
1/8" (3.18mm)	0.085" (2.16mm)	6ft	10	30106ST
1/8" (3.18mm)	0.085" (2.16mm)	10ft	10	301010ST
1/4" (6.35mm)	0.210" (5.33mm)	6ft	10	30306ST
1/4" (6.35mm)	0.210" (5.33mm)	10ft	10	303010ST

^{*10}ft lengths must ship via motor freight.

tech tip

Choosing a tubing material for GC analysis.

A number of options are available for packed column tubing. The most inert material is glass, which should be used for active compounds. Glass-lined tubing and AT™ Steel provide the inert surface of glass combined with the mechanical strength of a metal column.

Metal tubing provides an economical and rugged column for suitable application. Passivated nickel tubing can frequently be used with active compounds such as phenols and amines. Stainless steel tubing is recommended for hydrocarbon, fixed gas, and solvent analyses where column inertness is less of a concern.

PTFE tubing is extremely inert, but due to temperature limitations and poor column efficiency, PTFE is generally only recommended for the analysis of corrosive gases which are too reactive for glass.