

Installation Instructions

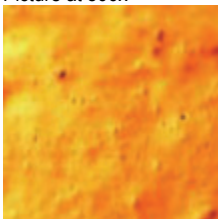
Thank you for your purchase of TrueTube® tubing!



Picture at 500x

TrueTube® CP

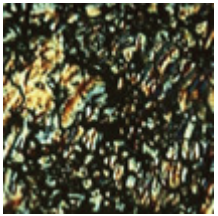
TrueTube CP is chemically polished and passivated 316L seamless tubing with improved characteristics. During the process free iron molecules are removed from the inner surface of the tubing and all hydrocarbon drawing compounds are removed. This enhances the normal Cr/Fe and CrO/FeO surface layer improving corrosion resistance and reducing chemical reactivity.



Picture at 500x

TrueTube® EP

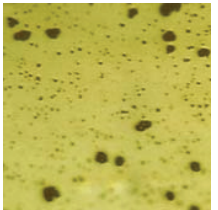
The photo illustrates the superior surface finish achieved by electropolished TrueTube. Electropolishing not only improves surface roughness but also provides enhanced corrosion resistance by leaving a chromium enriched surface layer. TrueTube EP is the smoothest surface finish tube we manufacture and provides improved corrosion resistance and reduced dry-down time for moisture analysis.



Picture at 500X

TrueTube® FS

A secondary process adds SilcoNert™ 2000 fused silica coating, on the ID of TrueTube CP base tubing. TrueTube FS demonstrates improved corrosion resistance and reduces the affinity of stainless steel to many compounds such as H₂S. It has found acceptance for transporting low sulfur samples.



Picture at 500X

TrueTube® EPS

The ultimate product for corrosion resistance and aversion to sulfur compounds. TrueTube EPS combines the advantages of electropolished tubing and SilcoTek's SilcoNert 2000 coating. The electropolished tube provides the ideal substrate for the CVD applied coating improving the adhesion and producing a superior sample transport medium. In tests TrueTube EPS has demonstrated the lowest adsorption and desorption of moisture and organo-sulfur compounds.

TrueTube® Installation

Identify the TrueTube product you have.

The print text on the tubing bundle identifies the process tube. One of the following designations will appear in the model number string.

Designation	Material	Construction	OD	Wall	Max. Pressure*	Max. Continuous Length**	Specifications (Identification COLOR in Bundle)	
TrueTube CP		Chemically Polished,				A269, A213-EAW, A1016, MR0175, EN 10204-3.1 (BLACK)		
TA1	316/316L SS	Seamless	1/8"	0.020"	10,900 psig	900 ft		
TT2	316/316L SS	Seamless	1/4"	0.035"	5,100	2,200		
TT3	316/316L SS	Seamless	3/8"	0.035"	3,300	1,300		
TK4	316/316L SS	Seamless	1/2"	0.049"	2,600	750		
TrueTube EP		Electropolished				A269, A213-EAW, A1016, MR0175, EN 10204-3.1 (GREEN)		
TC1	316/316L SS	Seamless	1/8"	0.020"	10,900 psig	100 ft		
TE2	316/316L SS	Seamless	1/4"	0.035"	5,100	300		
TE3	316/316L SS	Seamless	3/8"	0.035"	3,300	300		
TG4	316/316L SS	Seamless	1/2"	0.049"	2,600	300		
TrueTube FS		Chemically Polished with SilcoNert 2000 ID Coating				A269, A213-EAW, A1016, MR0175, EN 10204-3.1 (LT BLUE)		
TB1	316/316L SS	Seamless	1/8"	0.020"	10,900	900		
TF2	316/316L SS	Seamless	1/4"	0.035"	5,100	2,200		
TF3	316/316L SS	Seamless	3/8"	0.035"	3,300	1,300		
TH4	316/316L SS	Seamless	1/2"	0.049"	2,600	750		
TrueTube EPS		Electropolished with SilcoNert 2000 ID Coating				A269, A213-EAW, A1016, MR0175, EN 10204-3.1 (RED)		
TD1	316/316L SS	Seamless	1/8"	0.020"	10,900	100		
TS2	316/316L SS	Seamless	1/4"	0.035"	5,100	300		
TS3	316/316L SS	Seamless	3/8"	0.035"	3,300	300		
TJ4	316/316L SS	Seamless	1/2"	0.049"	2,600	300		
TrueTube CP		Chemically Polished,				A269, A213-EAW, A1016, MR0175, DIN 17458 1.4401/1.4404, EN 10204-3.1 (BLACK)		
MTT6	316/316L SS	Seamless	6mm	1mm	460 Bar	300M		
MTT8	316/316L SS	Seamless	8mm	1mm	330	210		
MTT10	316/316L SS	Seamless	10mm	1mm	260	165		
MTK10	316/316L SS	Seamless	10mm	1.5mm	410	150		
MTT12	316/316L SS	Seamless	12mm	1mm	210	150		
MTK12	316/316L SS	Seamless	12mm	1.5mm	330	120		
TrueTube EP		Electropolished,				A269, A213-EAW, A1016, MR0175, DIN 17458 1.4401/1.4404, EN 10204-3.1 (GREEN)		
MTE6	316/316L SS	Seamless	6mm	1mm	460 Bar	100M		
MTE8	316/316L SS	Seamless	8mm	1mm	330	100		
MTE10	316/316L SS	Seamless	10mm	1mm	260	100		
MTG10	316/316L SS	Seamless	10mm	1.5mm	410	100		
MTE12	316/316L SS	Seamless	12mm	1mm	210	100		
MTG12	316/316L SS	Seamless	12mm	1.5mm	330	100		
TrueTube FS		Chemically Polished with SilcoNert 2000 ID Coating,				A269, A213-EAW, A1016, MR0175, DIN 17458 1.4401/1.4404, EN 10204-3.1 (LT BLUE)		
MTF6	316/316L SS	Seamless	6mm	1mm	460	300		
MTF8	316/316L SS	Seamless	8mm	1mm	330	210		
MTF10	316/316L SS	Seamless	10mm	1mm	260	165		
MTH10	316/316L SS	Seamless	10mm	1.5mm	410	150		
MTF12	316/316L SS	Seamless	12mm	1mm	210	150		
MTH12	316/316L SS	Seamless	12mm	1.5mm	330	120		
TrueTube EPS		Electropolished with SilcoNert 2000 ID Coating,				A269, A213-EAW, A1016, MR0175, DIN 17458 1.4401/1.4404, EN 10204-3.1 (RED)		
MTS6	316/316L SS	Seamless	6mm	1mm	460 Bar	100M		
MTS8	316/316L SS	Seamless	8mm	1mm	330	100		
MTS10	316/316L SS	Seamless	10mm	1mm	260	100		
MTJ10	316/316L SS	Seamless	10mm	1.5mm	410	100		
MTS12	316/316L SS	Seamless	12mm	1mm	210	100		
MTJ12	316/316L SS	Seamless	12mm	1.5mm	330	100		

*Maximum Pressure @ 72F (23C) Values calculated using S values as specified for metallic tube in ANSI B31.3 code.

General Instructions for All TrueTube Products

If TrueTube is supplied in a TRACEPAK® or STACKPAK™ tubing bundle follow the instructions supplied with the tubing bundle for bend radius.

Handling: Handle TrueTube tubing as you would any stainless steel tubing. Avoid any sharp bends below the minimum suggested bending radius.

- Avoid bends smaller than the suggested minimum as this may cause the tubing to stretch, exposing undeactivated stainless steel.

Cutting: Cut the tubing ends with a standard metal tubing cutter. Point the tubing end down when cutting or reaming to prevent metal filings from depositing inside the bore. To ensure peak performance, blow out the tubing with a burst of clean dry air or nitrogen to ensure all metal particles are removed after cutting and deburring.

Additional Instructions for TrueTube CP and EP

Minimum suggested bending radius (bare tubing only) is 10X the tube diameter:

3mm = 30mm radius

6mm = 60mm radius

8mm = 80mm radius

10mm = 100mm radius

1/8-inch OD = 1-1/4-inch radius

1/4-inch OD = 2-1/2-inch radius

3/8-inch OD = 3-3/4-inch radius

1/2-inch OD = 5-inch radius

Additional Instructions for TrueTube FS and EPS

Maximum temperature: 450°C (840°F)

Minimum suggested bending radius (bare tubing only) is 16X the tube diameter:

3mm = 48mm radius

6mm = 96mm radius

8mm = 128mm radius

10mm = 160mm radius

1/8-inch OD = 2-inch radius

1/4-inch OD = 4-inch radius

3/8-inch OD = 6-inch radius

1/2-inch OD = 8-inch radius

Solvent Compatibility and Cleaning: TrueTube is compatible with a wide variety of organic solvents including methylene chloride, pentane, acetone, methanol, and water.

When cleaning a treated part, rinse with a solvent compatible with the contaminants you intend to remove (i.e., use nonpolar solvents with hydrocarbon surface contaminants, more polar solvents with more active contaminants).

- Do not use basic solutions with pH>8.
- Avoid hydrofluoric acid and bases or strong hydrochloric solutions. These acids and bases will damage the deactivation layer.
- Avoid using cleaners containing abrasives as they can scratch the layer.
- Avoid steam cleaning of components and lines as this can damage the layer.

