



Flame Retardant Polyethylene Tubing

Classified Under U.L. 1820.



Bulletin: PP 700

PLEXCO® 2600 Instube®5 Flame Retardant (FR) Polyethylene Tubing For Pneumatic Instrument Controls

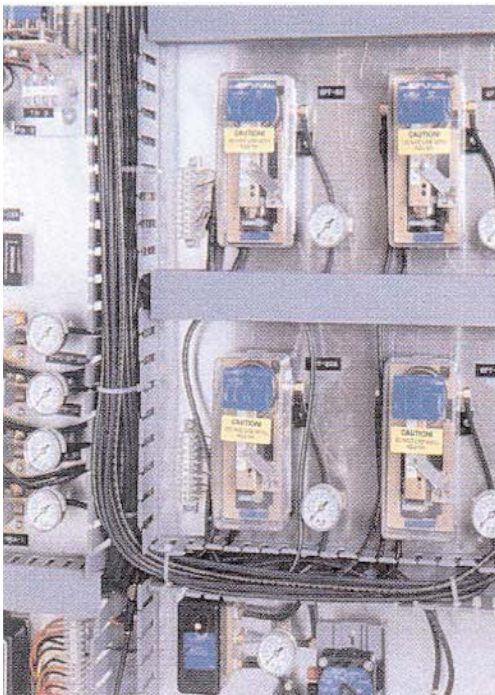
Performance Pipe

PERFORMANCE PIPE is the successor to Plexco and Driscopipe. On July 1, 2000, Chevron Chemical Company and Phillips Chemical Company joined to form Chevron Phillips Chemical Company LP. Performance Pipe, a division of Chevron Phillips Chemical Company LP, succeeds Plexco and Driscopipe as North America's largest producer of polyethylene piping products for gas, industrial, municipal, mining, oilfield, and utility applications.

Performance Pipe tenders more than fifty years of polyethylene pipe manufacturing experience with seven manufacturing facilities ISO certified in seven states.

The unmatched quality and performance of Performance Pipe polyethylene piping products is enhanced and strengthened with over five decades of quality polyolefin plastic resin production from Chevron Phillips Chemical Company LP.

A Commitment to Quality and Performance



Flame Retardant (FR) Polyethylene Tubing

Application

Performance Pipe PLEXCO® 2600 Instube®5 Flame Retardant Polyethylene Tubing is a high quality, flame retardant, exclusively compounded polyethylene tubing product for use in pneumatic instrument control applications. PLEXCO® 2600 Instube®5 has superior stress crack resistance for reliable, long-term performance. PLEXCO® 2600 Instube®5 tubing is lightweight and flexible for easy handling and installation.

Marking and Identification

PLEXCO® 2600 Instube®5 is marked with a white ink numbering system over the full length of the tubing. Cut the lead end at any given number (from 1 to 30) for easy identification of individual pneumatic circuit tubes. Color-coding is available in seven stripe colors. Up to 210 different pneumatic control circuits can be individually identified without repeating a stripe color-number combination.

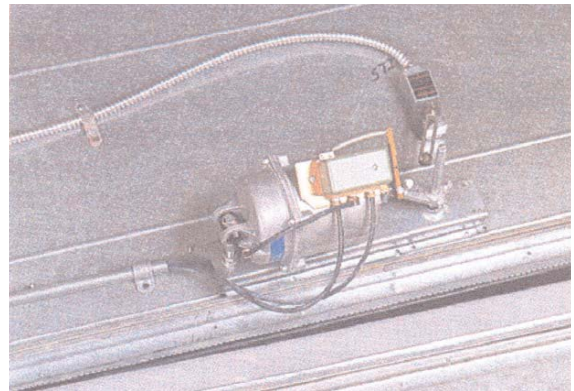
PLEXCO® 2600 Instube®5 Product Sizes

Nominal Size	Nominal Outside Diameter	Nominal Inside Diameter	Nominal Wall	Weight (lbs.) per foot	Coil Length	Master Pack
5/32" OD	0.156"	0.096"	0.030"	0.60	500'	2000'
1/4" OD	0.250"	0.170"	0.040"	1.32	250'/1000'	1000'/2000'
3/8" OD	0.375"	0.250"	0.062"	3.04	250'/500'	1000'
1/2" OD †	0.500"	0.375"	0.062"	4.25	250'	500'
5/32" Twintube‡	---	0.096"	0.030"	1.20	500'	1000'
1/4" Twintube‡	---	0.170"	0.040"	2.86	250'	500'

Available stripe colors: red, white, blue, green, yellow, orange and violet.
† Available stripe colors: red, white, blue and green only.
‡ Available in black only.

Flame Retardant

"Flame Retardant" or "self-extinguishing" means that the tubing material has the ability to retard burning and extinguish the flame once the flame source is removed. Industry tests are used to evaluate the burning characteristics of pneumatic tubing materials. ASTM D635 "Standard Test Method for Rate of Burning and/or Extent/Time of Burning of Plastics in a Horizontal Position" tests materials for horizontal burn rate. PLEXCO® 2600 Instube®5 meets or exceeds the requirements of ASTM D635.



PLEXCO® 2600 Instube®5 is classified by Underwriters Laboratories. Under UL94 tests conducted by UL to analyze vertical burn characteristics of polymeric materials, PLEXCO® 2600 Instube®5 has a vertical burn rating of 94V-2.

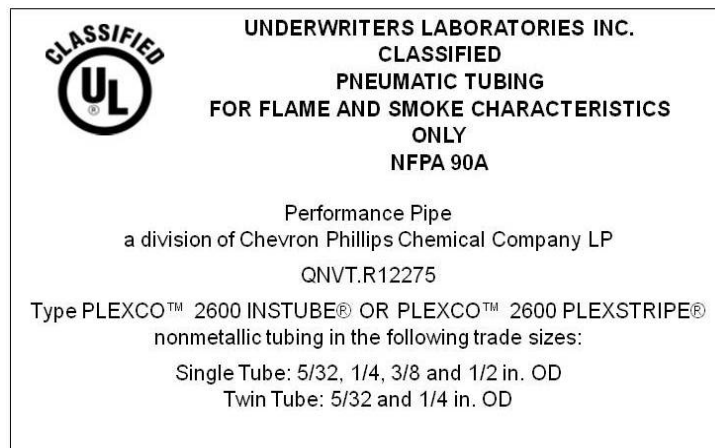
Plenum Rated Pneumatic Tubing

NFPA 90A "Standard for the Installation of Air-Conditioning and Ventilating Systems" permits pneumatic tubing for control systems in ceiling cavity plenums and raised floor plenums when it is listed as having a maximum peak optical density of 0.5 or less, an average optical density of 0.15 or less, and a maximum flame spread distance of 5 ft. (1.5 m) or less when tested in accordance with UL1820 "Standard for Safety Fire Test of Pneumatic Tubing for Flame and Smoke Characteristics." When pneumatic tubing is listed in accordance with NFPA 90A requirements, it is a "plenum rated" material.

PLEXCO® 2600 Instube®5 UL 1820 Properties

Property	Test Method	Typical Value
Maximum peak optical density	UL 1820	< 0.5
Average optical density	UL 1820	< 0.15
Maximum flame spread distance	UL 1820	< 5 ft. (< 1.5 m)

PLEXCO® 2600 Instube®5 is listed as "UL Classified" by Underwriters Laboratories, UL, under UL 1820. PLEXCO® 2600 Instube®5 meet the requirements of the Uniform Building Code, Uniform Mechanical Code, Southern Building Code and B.O.C.A.



Specifications for PLEXCO® 2600 Instube®5 Pneumatic Control Tubing

Property	Test Method	Typical Value
Flame Retardant Compound		
Melt Index (190°C/2.16 kg)	ASTM D 1238	0.6 g/10 min
Density	ASTM D 792	0.920 g/cm ³
Tensile Strength – Break	ASTM D 638	2250 psi (15.5 MPa)
Tensile Elongation – Break	ASTM D 638	> 800%
Flexural Modulus	ASTM D 790	45,000 psi (310 MPa)
Shore D Hardness	ASTM D 2240	44
Polyethylene Cell Classification	ASTM D 3350	PE123110A
Stress-Crack Resistance	ASTM D 1693A	> 500 hours non-failure
Brittleness Temperature	ASTM D 746A	< -148°F (< -100°C)
Pneumatic Instrument Control Tubing		
Flammability	UL 94 UL 910	V-2 UL Classified (NFPA 90A)
Flame Propagation	UL 1820	< 5 ft (< 1.5 m)
Smoke Density – Peak Optical Density	UL 1820	< 0.5
Smoke Density – Average Optical Density	UL 1820	< 0.15
<p><i>NOTICE – This table provides typical physical property information for the polyethylene natural resin used to manufacture PLEXCO® 2600 Instube®5 Pneumatic Tubing products. It is intended for comparing compounds and tubing. It is not a product specification, and it does not establish minimum or maximum values or manufacturing tolerances for compounds or tubing. Values obtained from tests of specimens taken from tubing can vary from these typical values. Performance Pipe has made every reasonable effort to ensure the accuracy of this information, but this table may not provide all necessary information, particularly with respect to special or unusual applications. This information may be changed from time to time without notice. Contact Performance Pipe to determine if you have the most recent edition.</i></p>		

When Performance Matters Rely on Performance Pipe

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