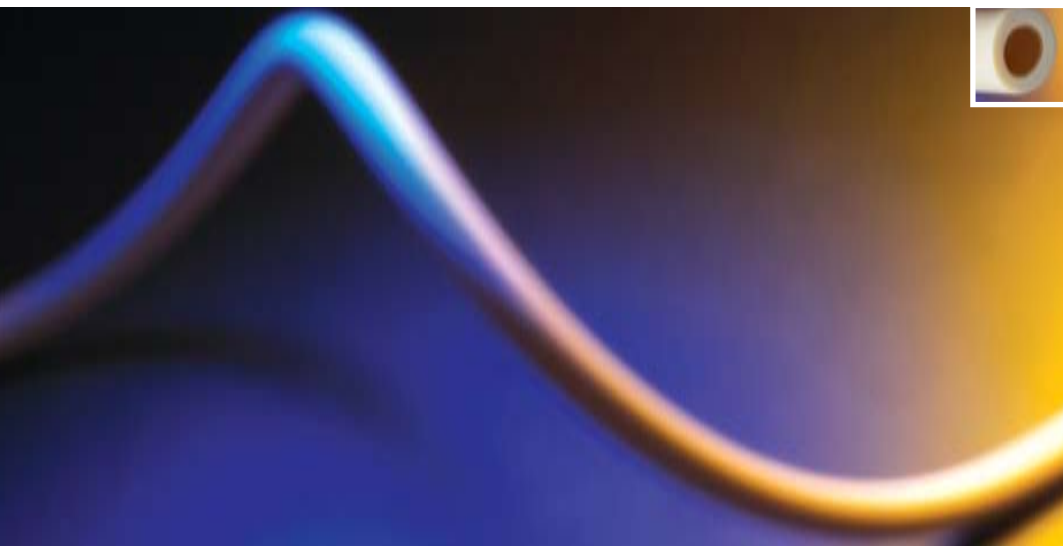


NEW

NORPRENE[®] Chemical Tubing



Norprene[®] Chemical Tubing is designed for use in applications where extractables are a concern.

Unique Combination of Properties

Norprene[®] Chemical Tubing is a high performance co-extruded product specifically formulated to provide an ideal combination of chemical resistance and pump life. Its inert ultra-smooth plasticizer-free bore resists the absorption/adsorption of aqueous fluids while the Norprene[®] outer jacket provides long flex life in peristaltic pumps. Norprene[®] Chemical Tubing is an excellent choice for sensitive fluid transfer applications.

Outstanding Chemical Resistance

The inner liner of Norprene[®] Chemical Tubing significantly increases the chemical resistance and allows for a broader range of usability. The tubing is virtually unaffected by acids, bases, salts, ketones and alcohols (see "Relative Chemical Resistance Properties" chart on back of sheet) allowing its use in a wide range of chemical applications without the use of multiple tubings.

Superior Pump Life

The outer jacket of Norprene[®] Chemical Tubing is extremely flexible, expanding the pump life of the tubing and reducing downtime due to pump tubing failure (see "Comparative Peristaltic Pump Tubing Life" chart on back of sheet).

Additional Benefits

Norprene[®] Chemical Tubing complies with FDA 21 CFR, 177.1520 criteria and is applicable for food contact applications. It is virtually unaffected by most commercial sanitizers and cleaners and can be autoclaved for up to five cycle times without affecting its overall service life.

*From the makers
of Tygon[®] tubing*

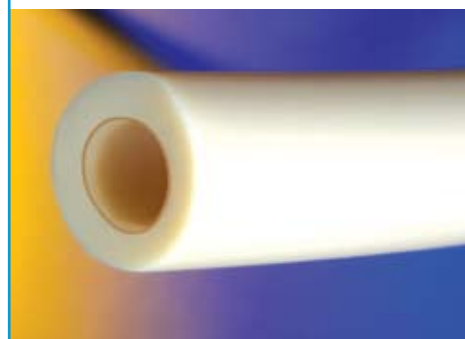
*Leading today.
Shaping tomorrow.*

Features/Benefits

- Long flex life in peristaltic pumps
- Temperature range of -75°F to 165°F
- Superior chemical resistance
- Plasticizer-free bore
- Meets FDA criteria for food contact
- Resists absorption/adsorption of aqueous fluids
- Virtually unaffected by chemical sanitizers and cleaners

Typical Applications

- Ink and solvent production
- Battery acid filling
- Specialty chemical production/processing
- Diagnostic testing
- Sensitive fluid transfer



NORPRENE® Chemical Tubing Manufactured Sizes and Pressures

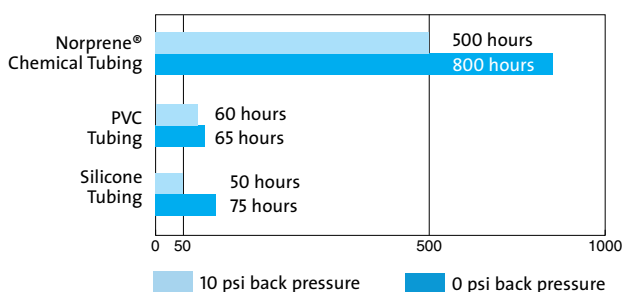
Saint-Gobain Part Number	I.D. (inches)	O.D. (inches)	Wall Thickness (inches)	Length (feet)	Minimum Bend Radius (inches)	Max. Suggested Working Pressure at		Vacuum Rating, In. of Mercury	
						73°F(psi)*	160°F(psi)*	73°F	160°F
AD300007	1/8	1/4	1/16	50	1/2	33	14	29.9	29.9
AD300012	3/16	5/16	1/16	50	1	29	10	29.9	29.9
AD300017	1/4	3/8	1/16	50	1-1/4	20	8	29.9	15.0
AD300027	3/8	1/2	1/16	50	2	14	5	25.0	5.0
AD300038	1/2	3/4	1/8	50	2-1/4	16	8	29.9	25.0

The values listed for working and burst pressures are derived from tests conducted under controlled laboratory conditions. Many factors will reduce the tubing's ability to withstand pressures including temperature, chemical attack, stress, pulsation and the attachment to fittings. It is imperative that the user conduct tests simulating the conditions of the application prior to specifying the tubing for use.

*Working pressures are calculated at a 1:5 ratio relative to burst pressure using ASTM D1599.

Comparative Peristaltic Pump Tubing Life

The table below depicts hours until failure of 1/4" ID x 3/8" OD tubing. In each case, a 3-roller pump head operating at 600 rpm under room temperature (73°F) conditions was utilized. Tubing failure is measured in hours of use prior to rupture.



The performance of tubing in peristaltic pumping applications is affected by the conditions of use and equipment utilized, along with size and wall thickness of the tubing tested. The data above is presented for information only and should not be utilized for specification purposes.

NORPRENE® Chemical Tubing Typical Physical Properties

Property	ASTM Method	Value or Rating
Durometer Hardness Shore A, 15 Sec	D2240	61
Color	—	Cream
Tensile Strength psi (MPa)	D412	1,000 (6.9)
Ultimate Elongation, %	D412	375
Tear Resistance lb-f/inch (kN/m)	D1004	120 (21)
Specific Gravity	D792	0.98
Water Absorption, % 24 hrs. @ 23°C	D570	<0.01
Compression Set Constant Deflection, % @ 158°F (70°C) for 22 hrs.	D395 Method B	30
Brittleness By Impact Temp., °F (°C)	D746	-75 (-60)
Maximum Recommended Temperature, °F (°C)	—	165 (74)

Unless otherwise noted, all tests were conducted at room temperature (73°F). Values shown were determined on 0.075" thick extruded strip or 0.075" thick molded ASTM plaques or molded ASTM durometer buttons.

Relative Chemical Resistance Properties

Tubing	Acids			Bases			Salts	Alcohols	Ketones
	Conc.	Med.	Weak	Conc.	Med.	Weak			
Norprene® Chemical Tubing	F	E	E	E	E	E	E	E	F
Fluoroelastomers	E	E	E	U	F	F	E	F	U
Urethane	U	U	U	U	F	F	F	U	U
PVC	F	E	E	E	E	E	E	F	U
Thermoplastic Rubber	U	F	F	F	E	E	E	F	U
Neoprene	U	F	E	E	E	E	E	E	U
Nitrile Rubber	F	F	E	U	E	E	E	E	U
Silicone	U	U	U	U	F	F	F	F	U
EVA	U	F	E	F	E	E	E	E	U

E = Excellent F = Fair U = Unsatisfactory

*All tests conducted at room temperature

NORPRENE® is a Saint-Gobain Performance Plastics registered trademark.

Saint-Gobain Performance Plastics

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IMPORTANT: It is the user's responsibility to ensure the suitability and safety of Saint-Gobain Performance Plastics tubing for all intended uses. Laboratory and clinical tests must be conducted in accordance with applicable regulatory requirements in order to determine the safety and effectiveness for use of tubing in any particular application.

For a period of 6 months from the date of first sale, Saint-Gobain Performance Plastics Corporation warrants this product to be free from defects in materials and workmanship. Our only obligation will be to replace any portion proving defective or at our option to refund the purchase price thereof. User assumes all other risk, if any, including the risk of injury, loss or damage, direct or consequential, arising out of the use, misuse or inability to use this product. THIS WARRANTY IS IN LIEU OF THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR PARTICULAR PURPOSE, AND ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED. No deviation is authorized.

Saint-Gobain Performance Plastics Corporation assumes no obligations or liability for any advice furnished by it, or for results obtained with respect to those products. All such advice is given and accepted at the buyer's risk.