

TYGON®
Excellence By Design





Tygon® Chemical

Long Pump Life Chemical Dispensing Tubing

Unique Combination of Properties

Tygon® Chemical Peristaltic Pump 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 Tygon outer jacket provides long flex life in peristaltic pumps. Tygon® Chemical Peristaltic Pump tubing is an excellent choice for soap and detergent dispensing.

Outstanding Chemical Resistance

The inner liner of Tygon® Chemical Peristaltic Pump 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 Tygon® Chemical Peristaltic Pump 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

Tygon® Chemical Peristaltic Pump tubing complies with applicable FDA food additive regulations for its intended use. 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.

Features and 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

- Soap and detergent dispensing
- Commercial laundry chemical dispensing
- Warewash chemical dispensing
- Facility cleaning chemical dispensing

*For complete compliance information and appropriate use instructions, please refer to the detailed document of compliance.

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Part Number	ID	OD	Wall Thickness	Length	Min. Bend Radius	Max. Working Pressure		Vacuum Rating	
	(in.)	(in.)	(in.)	(ft.)	(in.)	73°F (psi)*	160°F (psi)*	inHg at 73°F	inHg at 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

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

Typical Physical Properties

Property	ASTM Method	Value or Rating
Durometer Hardness, Shore A, 15s	D2240	61
Tensile Strength, psi (MPa)	D412	1,000 (6.9)
Ultimate Elongation, %	D412	375
Tear Resistance, lb-f/in (kN/m)	D1004	120 (21.0)
Specific Gravity	D792	0.98
Water Absorption, % at 73°F (23°C) for 24 hrs.	D570	<0.01
Compression Set Constant Deflection, % at 158°F (70°C) for 22 hrs.	D395 Method B	30
Maximum Recommended Operating Temp., °F (°C)	—	165 (74)
Color	—	Cream
Brittleness by Impact Temp., °F (°C)	D746	-75 (-60)

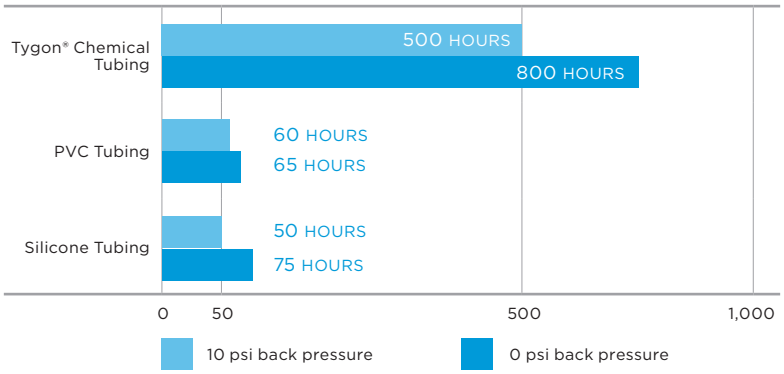
Unless otherwise noted, all tests were conducted at room temperature 73°F. Values shown were determined on 0.075" thick extruded strip, 0.075"thick molded ASTM plaques or molded ASTM durometer buttons.

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.

TYGON® CHEMICAL TUBING IS NOT INTENDED FOR USE AS AN IMPLANT MATERIAL.

Comparative Peristaltic Pump Tubing Life

The table below illustrates hours until failure of 1/4" ID x 3/8" OD (6,35 mm ID x 9,525 mm OD) tubing.In each case, a 3-roller pump head operating at 600 rpm under room temperature 73°F (23°C). 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.

Relative Chemical Resistance Properties*

Tubing	Acids			Bases			Salts	Alcohols	Ketones
	Conc.	Med.	Weak	Conc.	Med.	Weak			
Tygon® Chemical Tubing	F	E	E	E	E	E	E	F	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.

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NOTE: The data and details given in this document are correct and up to date. This document is intended to provide information about the product and possible applications. This document is not the product specification and does not provide specific features, nor does it guarantee product performance in specific applications. Saint-Gobain cannot anticipate or control the conditions of the field and for this reason strongly recommends that practical tests are conducted to ensure that the product meets the requirements of a specific application.

Tygon® is a registered trademark.

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