

TYGOTHANE®

FORMULATION C-544-A I.B.

Precision Polyurethane Pressure Tubing

Features/Benefits

- Exceptional abrasion and tear resistance
- Tough braid reinforcement for elevated working pressures
- Excellent resistance to oils, greases and fuels
- Retains flexibility in sub-zero environments
- Meets FDA criteria for food contact
- Meets NSF 61 criteria for potable water contact*

Typical Applications

- Food and cosmetic processing
- Abrasive and viscous slurry transfer
- Lubrication and degreaser dispensing
- Pellet and powder transfer
- Pneumatic sensory devices
- Instrumentation control lines
- Coolant recovery systems

**NSF has length restrictions, determined by tubing size, for NSF 61 applications.*



The excellent wear properties of Tygothane® Pressure Tubing make it ideal for use in physically demanding environments.

Designed and Constructed to Optimize Performance

Specially formulated from tough ether-based polyurethane resins, Tygothane® Pressure Tubing is ideal for use in some of the most physically demanding applications. When exposed to abrasive conditions, the excellent wear properties of Tygothane® tubing frequently outperform traditional rubber, plastic and metal materials.

More flexible than many other reinforced urethane tubings, Tygothane® tubing can often be used in applications requiring a tight bend radius where other tubings have collapsed and failed. Tygothane® Pressure Tubing also retains much of its unique flexibility even at temperatures as low as -100°F (-73°C).

Tygothane® Pressure tubing meets FDA 21 CFR, 177.1680 and 177.2600 criteria for food contact applications.

Excellent Stability

While many rubber and plastic materials exhibit resistance to certain solvents, oils and chemicals, Tygothane® tubing will resist a much wider range of substances.

Plasticizer extraction leading to embrittlement is one of the most frequent causes of failure when flexible tubings are exposed to harsh chemicals.

Tygothane® Pressure Tubing is plasticizer-free and remains flexible even when cycled through temperature extremes.

Large Bore Stock Sizes Ideal for Bulk Transfer

Reinforced for elevated pressure, Tygothane® Pressure Tubing can easily handle applications requiring large volume transfer of high viscosity fluids, pastes and slurries. It is conveniently available from inventory in a wide variety of common sizes up to 2" inner diameter.

Tygothane® C-544-A I.B. Manufactured Sizes and Pressures

Saint-Gobain Part Number	I.D. (inches)	O.D. (inches)	Wall Thickness (inches)	Length (feet)	Minimum Bend Radius (inches)	Max. Working Pressure		Vacuum Rating, In. of Mercury	
						at 73°F (psi)*	at 180°F (psi)*	at 73°F	at 180°F
AZY02008	1/8	3/8	1/8	100	1/4	420	220	29.9	29.9
AZY02014**	3/16	7/16	1/8	100	1/2	240	125	29.9	29.9
AZY02019	1/4	1/2	1/8	100	3/4	275	150	29.9	29.9
AZY02029	3/8	5/8	1/8	100	1-1/2	205	115	29.9	29.9
AZY02038	1/2	3/4	1/8	100	2	195	110	29.9	29.9
AZY02046	5/8	7/8	1/8	100	3	175	105	29.9	25.0
AZY02054	3/4	1-1/16	5/32	100	3-1/2	150	100	29.9	25.0
AZY02064	1	1-3/8	3/16	100	4-3/4	120	80	29.9	15.0
AZY00071	1-1/4	1-3/4	1/4	50	6	95	65	29.9	20.0
AZY00074	1-1/2	2	1/4	50	7-1/2	80	50	29.9	15.0
AZY00078	2	2-1/2	1/4	50	13	70	40	15.0	10.0

* Working pressures are calculated at a 1:4 ratio relative to burst pressure using ASTM D1599.

** Made to order, minimums will apply.

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.

Tygothane® C-544-A I.B. Typical Physical Properties

Property	ASTM Method	Value or Rating
Durometer Hardness Shore A, 1 Sec	D2240	85
Color	—	Clear
Tensile Strength psi (MPa)	D412	5,000 (34.5)
Ultimate Elongation, %	D412	400
Tear Resistance lb-f/inch (kN/m)	D1004	350 (61.3)
Specific Gravity	D792	1.12
Water Absorption, % 24 hrs. @ 23°C	D570	1.80
Compression Set Constant Deflection, % @ 158°F (70°C) for 22 hrs.	D395 Method B	19
Brittleness By Impact Temp., °F (°C)	D746	-100 (-73)
Maximum Recommended Operating Temp., °F (°C)	—	180 (82)
Dielectric Strength, v/mil (kV/mm)	D149	550 (21.6)
Tensile Modulus, psi (MPa) @ 100% Elongation @ 300% Elongation	D412	800 (5.5) 1,200 (8.3)
Tensile Set, %	D412	45

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.

Tygothane® is a registered trademark.

TYGOTHANE® TUBING IS NOT INTENDED FOR USE AS AN IMPLANT MATERIAL

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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.

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