

From the Makers of Tygon®

# TYGOTHANE®

Precision Polyurethane Tubing Formulation C-210-A

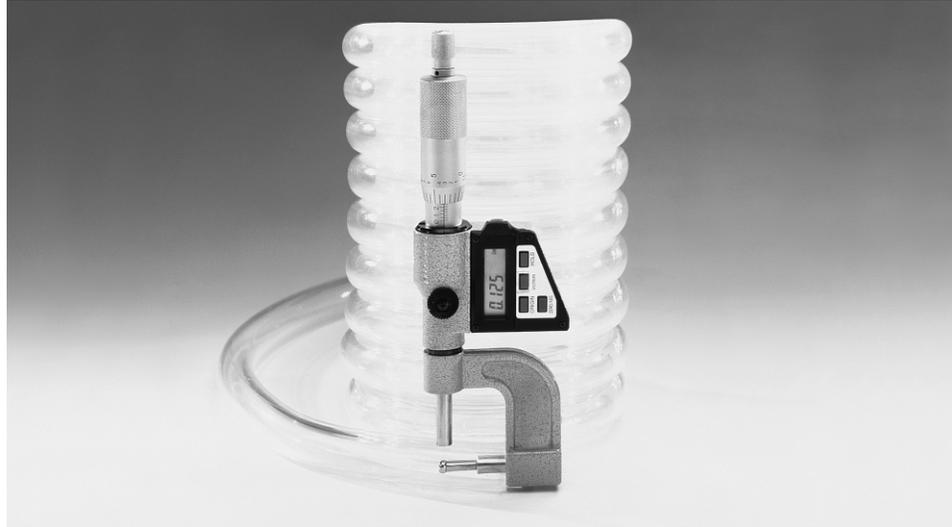
For Polyurethane Applications Requiring Tight Dimensional Tolerances

## FEATURES/BENEFITS:

- Consistently Tight Dimensional Tolerances
- Excellent Abrasion and Tear Resistance
- Excellent Resistance to Oils, Greases and Fuels
- High Tear Resistance
- Retains Flexibility in Sub-Zero Environments
- Meets FDA Criteria

## 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



WITH CLOSE DIMENSIONAL TOLERANCES AND OUTSTANDING ELASTICITY, TYGOTHANE® PRECISION POLYURETHANE TUBING PROVIDES WORRY-FREE ATTACHMENT TO FITTINGS.

## EXCEPTIONAL PROPERTIES

Saint-Gobain Performance Plastics' rigidly controlled manufacturing process makes Tygothane® Precision Polyurethane Tubing the flexible polyurethane tubing that has consistently tight tolerances from lot to lot. Made of tough, ester-based polyurethane, Tygothane's clarity, high tear strength and excellent abrasion resistance make it ideal for many applications, including fuel and lubricant lines, pneumatic lines, abrasive product transfer and cable jacketing. It also offers exceptional resistance to oils, greases, fuels and many chemicals.

## RESISTS WEATHERING

Able to withstand rugged daily use, Tygothane resists weathering and can be used in temperatures ranging from -100°F (-73°C) to 200°F (93°C). It meets FDA criteria for food and beverage use and is also available in ether-based and medical grade formulations.

## 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 is plasticizer-free and remains flexible even when cycled through temperature extremes.

## EASY ATTACHMENT TO FITTINGS

Tygothane's precision tolerances and high elasticity provide the user with an easy, worry-free attachment to fittings.

**TYGOTHANE® C-210-A  
INVENTORIED SIZES**

Part Number	I.D. (inches)	O.D. (inches)	Wall Thickness (inches)	Length (feet)	Minimum Bend Radius (inches)	Maximum Working Pressure*		Vacuum Rating, In. of Mercury	
						at 73°F	at 175°F	at 73°F	at 175°F
AEM02002	1/16	1/8	1/32	100	3/16	70	40	29.9	29.9
AEM02006	1/8	3/16	1/32	100	1/2	45	25	29.9	29.9
AEM02007	1/8	1/4	1/16	100	5/16	74	45	29.9	29.9
AEM02011	3/16	1/4	1/32	100	1	34	19	29.9	20.0
AEM02012	3/16	5/16	1/16	100	5/8	56	33	29.9	29.9
AEM02013	3/16	3/8	3/32	100	7/16	70	44	29.9	29.9
AEM02016	1/4	5/16	1/32	100	1-9/16	28	12	20.0	5.0
AEM02017	1/4	3/8	1/16	100	15/16	42	25	29.9	29.9
AEM02018	1/4	7/16	3/32	100	11/16	58	28	29.9	29.9
AEM02019	1/4	1/2	1/8	100	9/16	70	45	29.9	29.9
AEM02022	5/16	7/16	1/16	100	1-15/16	36	22	29.9	29.9
AEM02027	3/8	1/2	1/16	100	1-3/4	34	19	29.9	25.0
AEM02028	3/8	9/16	3/32	100	1-5/16	45	27	29.9	29.9
AEM02029	3/8	5/8	1/8	100	1-1/16	54	33	29.9	29.9
AEM02033	7/16	5/8	3/32	100	1-11/16	40	21	29.9	29.9
AEM02034	7/16	11/16	1/8	100	1-3/8	49	29	29.9	29.9
AEM02036	1/2	5/8	1/16	100	2-7/8	26	14	20.0	5.0
AEM02037	1/2	11/16	3/32	100	2-1/8	36	18	29.9	29.9
AEM02038	1/2	3/4	1/8	100	1-3/4	46	27	29.9	29.9
AEM02044	5/8	3/4	1/16	100	4-1/8	24	11	10.0	5.0
AEM02045	5/8	13/16	3/32	100	3	32	16	29.9	15.0
AEM02046	5/8	7/8	1/8	100	2-3/8	38	21	29.9	29.9
AEM02052	3/4	15/16	3/32	100	4	26	13	15.0	5.0
AEM02053	3/4	1	1/8	100	3-1/4	33	20	29.9	25.0
AEM02059	7/8	1-1/8	1/8	100	4-1/8	30	18	29.9	20.0
AEM02062	1	1-1/4	1/8	100	5-1/8	28	14	15.0	10.0

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

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.

**Distributed By:**

Tygothane® is a registered trademark.

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**Important:** It is the user's responsibility to ensure the suitability and safety of Norton 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.

**Limited Warranty:** 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.

**TYGOTHANE® C-210-A  
TYPICAL PHYSICAL PROPERTIES**

Property	ASTM Method	Value or Rating
Durometer Hardness Shore A, 1 Sec	D2240-97	82
Color	—	Transparent Natural
Tensile Strength psi (MPa)	D412-98	6,050 (41.7)
Ultimate Elongation, %	D412-98	500
Tear Resistance lb-f/inch (kN/m)	D1004-94 D624-98 Die C	475 (83.1) 400 (70)
Specific Gravity	D792-98	1.20
Water Absorption, % 24 hrs. @ 23°C	D570-98	1.12
Compression Set Constant Deflection, % @158°F (70°C) for 22 hrs.	D395-98 Method B	68
Brittleness By Impact Temp., °F (°C)	D746-98	-100 (-73)
Maximum Recommended Operating Temp., °F (°C) Intermittent Prolonged	—	200 (93) 175 (79)
Dielectric Strength, v/mil (kV/mm)	D149-97	330 (12.9)
Tensile Modulus, @ 100% Elongation, psi (MPa) @ 300% Elongation, psi (MPa)	D412-98	800 (5.5) 1,500 (10.4)
Tensile Set, %	D412-98	98
Abrasion Resistance, mg lost/1,000 cycles, 1,000 gLoad	D3489-96 H-18 Wheel CS-17 Wheel	27.0 3.0

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 TUBING IS NOT INTENDED  
FOR USE AS AN IMPLANT MATERIAL**