

# NORPRENE® Food Process Tubing

## FORMULATION A-60-F

For critical processing applications in the food, dairy and cosmetic industries

### Features/Benefits

- Long flex life in peristaltic pumps
- Temperature resistant from -75°F to 275°F
- Compatible with virtually all common sanitizers and cleaners
- Ozone and UV light resistant
- Repeatedly autoclavable
- Chemically compatible with a wide range of fluids
- Meets FDA, 3-A and NSF criteria

### Typical Applications

- Cosmetic production
- Food and dairy processing
- Hot beverage dispensing
- Water purification lines
- Sanitizer delivery
- Soap dispensing
- Pesticide/fertilizer delivery
- Ink and toner feed lines
- Chemical transfer



Formulated for flexural resistance and high temperatures, Norprene® Food Process Tubing does not easily crack or deteriorate, even in physically demanding applications.

### Versatile Norprene® Food Process Tubing Provides Long Life for Everyday Use

Norprene® Food Process Tubing consistently outperforms general purpose rubber tubing in a wide variety of applications. It will not weaken or crack following years of exposure to heat and ozone. Norprene® Food Process Tubing is extremely abrasion resistant and bends easily to simplify custom component assembly.

### Simplifies Cleaning and Sterilization

Norprene® Food Process Tubing is ideal for use in clean-in-place and steam-in-place cleaning and sterilization systems. It is compatible with virtually all commercial cleaners and sanitizers and can be repeatedly autoclaved for up to five cycle times without affecting its overall service life. Norprene® Food Process Tubing fully complies with FDA 21 CFR, 177.2600 criteria, 3-A Sanitary Standards and NSF Standard 51, which are applicable in many food contact applications.

### Now Available to Withstand Elevated Pressure

Certain applications require using pressures that only reinforced tubing can withstand. For those applications, Norprene® Pressure Tubing is now available. It has the same desirable properties as Norprene® Food Process Tubing with an additional reinforcement embedded within its walls to withstand elevated pressure. (Refer to the Saint-Gobain Performance Plastics data page on Norprene® Pressure Tubing for complete details.)

### Excellent Chemical Resistance

Norprene® Food Process Tubing provides superior resistance to many corrosive fluids when compared to general purpose rubber tubings. It has excellent acid and alkali resistance and is compatible with numerous oxidizing agents such as peroxide, hypochlorite and ozone. Norprene® Food Process Tubing also shows good resistance to the animal and vegetable oils frequently found in food contact applications. Refer to the comprehensive Tygon® Tubing catalog for a complete listing of common chemicals and their relative affect on Norprene® Food Process Tubing.

## Norprene® A-60-F 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 at		Vacuum Rating In. of Mercury at	
						73°F (psi)*	180°F (psi)*	73°F	180°F
AAL00003	1/16	3/16	1/16	50	1/4	34	21	29.9	29.9
AAL00007	1/8	1/4	1/16	50	1/2	19	12	29.9	29.9
AAL00012	3/16	5/16	1/16	50	3/4	13	8	29.9	23.0
AAL00017	1/4	3/8	1/16	50	1-1/4	10	6	26.0	13.0
AAL00019	1/4	1/2	1/8	50	3/4	19**	12**	29.9	29.9
AAL00022	5/16	7/16	1/16	50	1-1/2	8	5	17.0	8.0
AAL00027	3/8	1/2	1/16	50	2-1/4	7	4	11.0	5.0
AAL00029	3/8	5/8	1/8	50	1-1/4	13**	8**	29.9	23.0
AAL00038	1/2	3/4	1/8	50	2	10**	6**	26.0	13.0
AAL00046	5/8	7/8	1/8	50	3-1/4	8**	5**	17.0	8.0
AAL00053	3/4	1	1/8	50	4	7**	4**	11.0	5.0

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

\*\*Available in a reinforced construction for higher pressures.

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.

## Norprene® A-60-F Typical Physical Properties

Property	ASTM Method	Value or Rating
Durometer Hardness Shore A, 15 Sec	D2240-03	61
Color	—	Cream
Tensile Strength psi (MPa)	D412-98	1,000 (6.9)
Ultimate Elongation, %	D412-98	375
Tear Resistance lb-f/inch (kN/m)	D1004-03	120 (21)
Specific Gravity	D792-00	0.98
Water Absorption, % 24 hrs. @ 23°C	D570-98	0.30
Compression Set Constant Deflection, % @ 158°F (70°C) for 22 hrs.	D395-03 Method B	27
Brittleness By Impact Temp., °F (°C)	D746-98	-75 (-60)
Maximum Recommended Operating Temp., °F (°C)	—	275 (135)
Dielectric Strength, v/mil (kV/mm)	D149-97	535 (21.1)
Tensile Modulus, @ 100% Elongation, psi (MPa) @ 300% Elongation, psi (MPa)	D412-98	410 (2.8) 800 (5.5)
Tensile Set, %	D412-98	47

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.

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

Norprene® is a registered trademark.

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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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