

# Tygon® A-60-F, A-60-F IB

## Long-Life, Temperature-Resistant Tubing for Food and Beverage Applications

Formulated to withstand extreme temperatures from -75°F to 275°F, Tygon A-60-F tubing will not crack or deteriorate when used in demanding food and beverage applications. Extremely flexible, it resists kinks and retains its shape while installing quickly and easily. Its excellent flexural fatigue resistance makes it the absolute best choice for use in peristaltic pumps often found in dispensing equipment. Repeatedly autoclavable, it can be steam cleaned in place, eliminating the need for frequent tubing replacement. When harsh sanitizing solutions are used, it exhibits exceptional chemical resistance and is entirely unaffected by a wide variety of cleaning solutions.

### Simplifies Cleaning and Sterilization

Tygon A-60-F 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. Tygon A-60-F tubing 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, Tygon A-60-F IB tubing is now available. It has the same desirable properties as Tygon A-60-F tubing with an additional reinforcement embedded within its walls to withstand elevated pressure.

### Excellent Chemical Resistance

Tygon A-60-F tubing has excellent acid and alkali resistance, and is compatible with numerous oxidizing agents such as peroxide, hypochlorite and ozone. For the complete listing of common chemicals and their relative effect on Tygon A-60-F tubing, please refer to [www.processsystems.saint-gobain.com](http://www.processsystems.saint-gobain.com).



### Features and 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 cleaners

### Regulatory Compliance

- FDA 21 CFR, 177.2600 criteria\*
- NSF 51
- 3-A

\*For complete compliance information and appropriate use instructions, please refer to the detailed document of compliance. The complete compliance information and use instructions can be found at [www.processsystems.saint-gobain.com](http://www.processsystems.saint-gobain.com).

## Tygon® A-60-F

| Part Number | ID   | OD   | Wall Thickness | Length | Min. Bend Radius | Max. Working Pressure |              | Vacuum Rating |               |
|-------------|------|------|----------------|--------|------------------|-----------------------|--------------|---------------|---------------|
|             | (in) | (in) | (in)           | (ft)   | (in)             | 73°F (psi)*           | 180°F (psi)* | inHg at 73°F  | inHg at 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

## Tygon® A-60-F IB

| Part Number | ID   | OD     | Wall Thickness | Length | Min. Bend Radius | Max. Working Pressure |              | Vacuum Rating |               |
|-------------|------|--------|----------------|--------|------------------|-----------------------|--------------|---------------|---------------|
|             | (in) | (in)   | (in)           | (ft)   | (in)             | 73°F (psi)*           | 180°F (psi)* | inHg at 73°F  | inHg at 180°F |
| APW00019    | 1/4  | 1/2    | 1/8            | 50     | 3/4              | 125                   | 70           | 29.9          | 29.9          |
| APW00029    | 3/8  | 5/8    | 1/8            | 50     | 1-1/4            | 105                   | 65           | 29.9          | 20.0          |
| APW00038    | 1/2  | 3/4    | 1/8            | 50     | 2-1/4            | 100                   | 60           | 25.0          | 15.0          |
| APW00046    | 5/8  | 7/8    | 1/8            | 50     | 2-1/2            | 95                    | 55           | 20.0          | 10.0          |
| APW00054    | 3/4  | 1-1/16 | 5/32           | 50     | 3-1/4            | 85                    | 45           | 10.0          | 5.0           |
| APW00064    | 1    | 1-3/8  | 3/16           | 50     | 5                | 75                    | 40           | 12.0          | 7.0           |

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

## Typical Physical Properties

| Property  | ASTM Method      | A-60-F Value or Rating | A-60-F IB Value or Rating |
|---|------------------|------------------------|---------------------------|
| Durometer Hardness, Shore A, 15s                                  | D2240-03         | 61                     | 61                        |
| Tensile Strength, psi (MPa)                                       | D412-98          | 1,000 (6.9)            | 1,000 (6.9)               |
| Ultimate Elongation, %  | D412-98          | 375                    | 375                       |
| Tear Resistance, lb-f/in (kN/m)                                   | D1004-03         | 120 (21.0)             | 120 (21.0)                |
| Specific Gravity  | D792-00          | 0.98                   | 0.98                      |
| Water Absorption, % at 73°F (23°C) for 24 hrs                     | D570-98          | 0.30                   | 0.30                      |
| Compression Set Constant Deflection, % at 158°F (70°C) for 22 hrs | D395-03 Method B | 27                     | 30                        |
| Maximum Recommended Operating Temp., °F (°C)                      | —                | 275 (135)              | 275 (135)                 |
| Tensile Modulus, at 100% Elongation, psi (MPa)                    | D412-98          | 410 (2.8)              | 410 (2.8)                 |
| at 300% Elongation, psi (MPa)                                     |                  | 800 (5.5)              | 800 (5.5)                 |
| Tensile Set, at 75% Elongation                                    | D412-98          | 47                     | 47                        |
| Color   | —                | Cream                  | Cream                     |
| Brittleness by Impact Temp., °F (°C)                              | D746-98          | -75 (-60)              | -75 (-60)                 |
| Dielectric Strength, v/mil (kV/mm)                                | D149-97          | 535 (21.1)             | 535 (21.1)                |

Unless otherwise noted, all tests were conducted at room temperature 73°F (23°C). Values shown were determined on 0.075" (1.905 mm) thick extruded strip or 0.075" (1.905 mm) thick molded ASTM plaques or molded ASTM durometer buttons. Size of tubing tested is 1/8" ID x 1/4" OD.

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 pressure, 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® A-60-F and A-60-F IB TUBING ARE NOT INTENDED FOR USE AS AN IMPLANT MATERIAL.**

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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.

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