

Tygon S3™ B-44-4X

Phthalate-free Flexible Tubing for Food and Beverage Dispensing

Tygon S3™ B-44-4X tubing from Saint-Gobain Performance Plastics is now phthalate-free. Saint-Gobain is proud to be among the first companies to offer sustainable flexible tubing products. The bio-based Tygon S3™ line combines the high performance standards customers demand with an eco-friendly tubing design.

Preferred Tubing of the Food Industry

Producers of food, milk and dairy products insist upon Tygon S3™ B-44-4X tubing for dependable performance in countless filling, draining, transfer and processing applications. Its smooth, non-porous bore inhibits particle entrapment, promoting a sanitary fluid path by minimizing potential for bacterial growth. It has outstanding resistance to harsh alkaline cleaners and is equally unaffected by commonly used sanitizers.

Lightweight, Flexible and Clear

Light in weight and easy to handle, Tygon S3™ B-44-4X tubing can be put into service quickly. It readily bends to accommodate abrupt corners and obstructions, requiring a minimum of couplings and fittings. Its flexibility can save up to one-third the footage and much of the labor required to install rigid stainless steel or plastic piping. Its glass-like clarity allows the user to see product flow through it, so visual monitoring of flow is easy. This is particularly helpful in controlling or adjusting flow during process.



Features and Benefits

- Smooth, non-porous bore will not trap particulates or promote bacterial growth
- Resistant to harsh alkaline cleaners* and sanitizers
- Excellent alternative to rigid piping systems
- Contains no BPA or phthalates

Typical Applications*

- Aseptic filling
- Condiment dispensing
- Dairy processing
- Vitamin and flavor concentrate systems
- Soft-serve dispensing

Regulatory Compliance*

- Complies with FDA, NSF, 3-A, Japan Food Sanitation Law # 370/1959, REACH, 1935/2004/EC and 10/2011/EU for many foods and beverages
- Does not contain chemicals listed in California's Proposition 65

* 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.TygonS3.com.

Tygon S3™ B-44-4X

| Part Number | ID | | OD | | Min. Bend Radius | | Max. Working Pressure | | Vacuum Rating | |
|-------------|-------|--------|--------|--------|------------------|---------|-----------------------|------------|---------------|--------------|
| | (in.) | (mm) | (in.) | (mm) | (in.) | (mm) | 73°F (psi) | 23°C (bar) | inHg at 73°F | mmHg at 23°C |
| AAA00001 | 1/32 | 0,80 | 3/32 | 2,38 | 1/8 | 3,18 | 100 | 6,9 | 29,9 | 760 |
| AAA00002 | 1/16 | 1,59 | 1/8 | 3,18 | 1/4 | 6,35 | 60 | 4,1 | 29,9 | 760 |
| AAA00003 | 1/16 | 1,59 | 3/16 | 4,76 | 1/8 | 3,18 | 100 | 6,9 | 29,9 | 760 |
| AAA00004 | 3/32 | 2,38 | 5/32 | 3,97 | 3/8 | 9,53 | 43 | 2,9 | 29,9 | 760 |
| AAA00006 | 1/8 | 3,18 | 3/16 | 4,76 | 1/2 | 12,70 | 34 | 2,3 | 25,0 | 635 |
| AAA00007 | 1/8 | 3,18 | 1/4 | 6,35 | 3/8 | 9,53 | 60 | 4,1 | 29,9 | 760 |
| AAA00009 | 5/32 | 3,97 | 7/32 | 5,56 | 3/4 | 19,05 | 28 | 1,9 | 16,0 | 406 |
| AAA00010 | 5/32 | 3,97 | 9/32 | 7,14 | 1/2 | 12,70 | 50 | 3,4 | 29,9 | 760 |
| AAA00011 | 3/16 | 4,76 | 1/4 | 6,35 | 1 | 25,40 | 25 | 1,7 | 11,0 | 279 |
| AAA00012 | 3/16 | 4,76 | 5/16 | 7,94 | 5/8 | 15,88 | 43 | 2,9 | 29,9 | 760 |
| AAA00013 | 3/16 | 4,76 | 3/8 | 9,53 | 1/2 | 12,70 | 60 | 4,1 | 29,9 | 760 |
| AAA00017 | 1/4 | 6,35 | 3/8 | 9,53 | 1 | 25,40 | 34 | 2,3 | 25,0 | 635 |
| AAA00018 | 1/4 | 6,35 | 7/16 | 11,11 | 3/4 | 19,05 | 47 | 3,2 | 29,9 | 760 |
| AAA00019 | 1/4 | 6,35 | 1/2 | 12,70 | 5/8 | 15,88 | 60 | 4,1 | 29,9 | 760 |
| AAA00022 | 5/16 | 7,94 | 7/16 | 11,11 | 1-3/8 | 34,93 | 28 | 1,9 | 16,0 | 406 |
| AAA00023 | 5/16 | 7,94 | 1/2 | 12,70 | 1 | 25,40 | 40 | 2,8 | 29,9 | 760 |
| AAA00024 | 5/16 | 7,94 | 9/16 | 14,29 | 7/8 | 22,23 | 50 | 3,4 | 29,9 | 760 |
| AAA00025 | 5/16 | 7,94 | 5/8 | 15,88 | 3/4 | 19,05 | 60 | 4,1 | 29,9 | 760 |
| AAA00027 | 3/8 | 9,53 | 1/2 | 12,70 | 1-3/4 | 44,45 | 25 | 1,7 | 11,0 | 279 |
| AAA00028 | 3/8 | 9,53 | 9/16 | 14,29 | 1-3/8 | 34,93 | 34 | 2,3 | 25,0 | 635 |
| AAA00029 | 3/8 | 9,53 | 5/8 | 15,88 | 1-1/8 | 28,58 | 44 | 3,0 | 29,9 | 760 |
| AAA00032 | 7/16 | 11,11 | 9/16 | 14,29 | 2-1/4 | 57,15 | 22 | 1,5 | 8,0 | 203 |
| AAA00033 | 7/16 | 11,11 | 5/8 | 15,88 | 1-3/4 | 44,45 | 30 | 2,1 | 19,0 | 483 |
| AAA00036 | 1/2 | 12,70 | 5/8 | 15,88 | 2-1/8 | 53,98 | 19 | 1,3 | 6,0 | 152 |
| AAA00037 | 1/2 | 12,70 | 11/16 | 17,46 | 2-1/8 | 53,98 | 27 | 1,8 | 14,0 | 355 |
| AAA00038 | 1/2 | 12,70 | 3/4 | 19,05 | 1-3/4 | 44,45 | 34 | 2,3 | 25,0 | 635 |
| AAA00039 | 1/2 | 12,70 | 13/16 | 20,64 | 1-1/2 | 38,10 | 40 | 2,8 | 29,9 | 760 |
| AAA00041 | 9/16 | 14,29 | 3/4 | 19,05 | 2-1/2 | 63,50 | 25 | 1,7 | 11,0 | 279 |
| AAA00045 | 5/8 | 15,88 | 13/16 | 20,64 | 3 | 76,20 | 23 | 1,6 | 9,0 | 229 |
| AAA00046 | 5/8 | 15,88 | 7/8 | 22,23 | 2-3/8 | 60,33 | 29 | 2,0 | 16,0 | 406 |
| AAA00047 | 5/8 | 15,88 | 15/16 | 23,81 | 2 | 50,80 | 35 | 2,4 | 26,0 | 660 |
| AAA00053 | 3/4 | 19,05 | 1 | 25,40 | 3-1/4 | 82,55 | 25 | 1,7 | 11,0 | 279 |
| AAA00054 | 3/4 | 19,05 | 1-1/16 | 26,99 | 2-3/4 | 69,85 | 30 | 2,1 | 18,0 | 457 |
| AAA00055 | 3/4 | 19,05 | 1-1/8 | 28,58 | 2-3/8 | 60,33 | 34 | 2,3 | 26,0 | 660 |
| AAA00057 | 3/4 | 19,05 | 1-1/4 | 31,75 | 2 | 50,80 | 43 | 2,9 | 29,9 | 760 |
| AAA00059 | 7/8 | 22,23 | 1-1/8 | 28,58 | 4-1/8 | 104,78 | 22 | 1,5 | 8,0 | 203 |
| AAA00062 | 1 | 25,40 | 1-1/4 | 31,75 | 5-1/8 | 130,18 | 20 | 1,4 | 6,0 | 152 |
| AAA00063 | 1 | 25,40 | 1-5/16 | 33,34 | 4-3/8 | 111,13 | 24 | 1,7 | 10,0 | 254 |
| AAA00064 | 1 | 25,40 | 1-3/8 | 34,93 | 3-3/4 | 95,25 | 27 | 1,8 | 14,0 | 355 |
| AAA00065 | 1 | 25,40 | 1-1/2 | 38,10 | 3 | 76,20 | 34 | 2,3 | 25,0 | 635 |
| AAA00067 | 1-1/8 | 28,58 | 1-3/8 | 34,93 | 6-1/4 | 158,75 | 18 | 1,2 | 5,0 | 127 |
| AAA00070 | 1-1/4 | 31,75 | 1-5/8 | 41,28 | 5-1/2 | 139,70 | 23 | 1,6 | 9,0 | 229 |
| AAA00073 | 1-1/2 | 38,10 | 1-7/8 | 47,63 | 7-1/4 | 184,15 | 19 | 1,3 | 6,0 | 152 |
| AAA00074 | 1-1/2 | 38,10 | 2 | 50,80 | 5-7/8 | 149,23 | 25 | 1,7 | 11,0 | 279 |
| AAA00078 | 2 | 50,80 | 2-1/2 | 63,50 | 9-3/8 | 238,13 | 19 | 1,3 | 6,0 | 152 |
| AAA00079 | 2 | 50,80 | 2-3/4 | 69,85 | 6-7/8 | 174,63 | 27 | 1,8 | 14,0 | 355 |
| AAA00080 | 2 | 50,80 | 3 | 76,20 | 5-1/2 | 139,70 | 34 | 2,3 | 25,0 | 635 |
| AAA05082 | 2-1/2 | 63,50 | 3 | 76,20 | 13-3/8 | 339,73 | 16 | 1,1 | 4,0 | 101 |
| AAA05083 | 2-1/2 | 63,50 | 3-1/4 | 82,55 | 10 | 254,00 | 23 | 1,6 | 9,0 | 229 |
| AAA05085 | 3 | 76,20 | 3-1/2 | 88,90 | 18 | 457,20 | 14 | 1,0 | 2,0 | 50 |
| AAA05086 | 3 | 76,20 | 3-3/4 | 95,25 | 13-1/4 | 336,55 | 19 | 1,3 | 6,0 | 152 |
| AAA05088 | 4 | 101,60 | 5 | 127,00 | 17 | 431,80 | 19 | 1,3 | 6,0 | 152 |
| AAA05318 | 6 | 152,40 | 6-1/2 | 165,00 | 55-3/8 | 1406,53 | 8 | 0,5 | 0,5 | 13 |

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

Tygon S3™ B-44-4X tubing is available in large bore sizes up to 6" (152,40 mm) inside diameter.

Typical Physical Properties

| Property | ASTM Method | Value or Rating |
|--|---------------|-----------------|
| Durometer Hardness, Shore A, 15s | D2240 | 66 |
| Tensile Strength, psi (MPa) | D412 | 2,200 (15,2) |
| Ultimate Elongation, % | D412 | 390 |
| Tear Resistance, lb-f/in (kN/m) | D1004 | 250 (43,8) |
| Specific Gravity | D792 | 1,21 |
| Water Absorption, % at 73°F (23°C) for 24 hrs. | D570 | 0,22 |
| Compression Set Constant Deflection, % at 158°F (70°C) for 22 hrs. | D395 Method B | 59 |
| Brittleness by Impact Temp., °F (°C) | D746 | -32 (-36) |
| Cold Temp. Flexibility @ 5°C increments, °F (°C) | D380 | -49 (-45) |
| Maximum Recommended Operating Temp., °F (°C) | — | 165 (74) |
| Tensile Stress @ 200% Elongation, psi (MPa) | D412 | 1,379 (9,5) |
| Tensile Set, at 75% Elongation | D412 | 57 |
| Color | — | Clear |

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.

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 S3™ B-44-4X TUBING IS NOT INTENDED FOR USE AS AN IMPLANT MATERIAL.



Saint-Gobain Performance Plastics

Av. Independência, 7031 - CEP: 13284-400
 Santa Claudina, Vinhedo - SP
 Tel: (19) 2127-8540

www.processsystems.saint-gobain.com

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 S3™ is a trademark of Saint-Gobain Performance Plastics.