



Phthalate-free Flexible Tubing



Phthalate-free Flexible Tubing for Food and Beverage Dispensing

Tygon S3™ B-44-4X Tubing is now phthalate-free. We are 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.

Regulatory Compliance*

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

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

* Please contact us for a detailed recommendation

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Tygon S3™ B-44-4X Standard Sizes

Part Number	ID	OD	Wall	Min. Bend Radius	Max. Working Pressure* 22°C (73°F)	Vacuum Rating at 22°C (73°F)
TY0,79BX2,38	0,79 mm (1/32")	2,38 mm (3/32")	0,79 mm (1/32")	3,2 mm	6,9 bar (100 psi)	760 mmHg
TY1,59BX3,18	1,59 mm (1/16")	3,18 mm (1/8")	0,79 mm (1/32")	6,4 mm	4,1 bar (60 psi)	760 mmHg
TY1,59BX4,76	1,59 mm (1/16")	4,76 mm (3/16")	1,59 mm (1/16")	3,2 mm	6,9 bar (100 psi)	760 mmHg
TY2,38BX3,97	2,38 mm (3/32")	3,97 mm (5/32")	0,79 mm (1/32")	9,5 mm	2,9 bar (43 psi)	760 mmHg
TY3,18BX4,76	3,18 mm (1/8")	4,76 mm (3/16")	0,79 mm (1/32")	12,7 mm	2,3 bar (34 psi)	635 mmHg
TY3,18BX6,35	3,18 mm (1/8")	6,35 mm (1/4")	1,59 mm (1/16")	9,5 mm	4,1 bar (60 psi)	760 mmHg
TY3,97BX5,56	3,97 mm (5/32")	5,56 mm (7/32")	0,79 mm (1/32")	19,1 mm	1,9 bar (28 psi)	406 mmHg
TY3,97BX7,14	3,97 mm (5/32")	7,14 mm (9/32")	1,59 mm (1/16")	12,7 mm	3,4 bar (50 psi)	760 mmHg
TY4,76BX6,35	4,76 mm (3/16")	6,35 mm (1/4")	0,79 mm (1/32")	25,4 mm	1,7 bar (25 psi)	279 mmHg
TY4,76BX7,94	4,76 mm (3/16")	7,94 mm (5/16")	1,59 mm (1/16")	15,9 mm	2,9 bar (43 psi)	760 mmHg
TY4,76BX9,53	4,76 mm (3/16")	9,53 mm (3/8")	2,38 mm (3/32")	12,7 mm	4,1 bar (60 psi)	760 mmHg
TY6,35BX9,53	6,35 mm (1/4")	9,53 mm (3/8")	1,59 mm (1/16")	25,4 mm	2,3 bar (34 psi)	635 mmHg
TY6,35BX11,11	6,35 mm (1/4")	11,11 mm (7/16")	2,38 mm (3/32")	19,1 mm	3,2 bar (47 psi)	760 mmHg
TY6,35BX12,7	6,35 mm (1/4")	12,7 mm (1/2")	3,18 mm (1/8")	15,9 mm	4,1 bar (60 psi)	760 mmHg
TY7,94BX11,11	7,94 mm (5/16")	11,11 mm (7/16")	1,59 mm (1/16")	34,9 mm	1,9 bar (28 psi)	406 mmHg
TY7,94BX12,7	7,94 mm (5/16")	12,7 mm (1/2")	2,38 mm (3/32")	25,4 mm	2,8 bar (40 psi)	760 mmHg
TY7,94BX14,29	7,94 mm (5/16")	14,29 mm (9/16")	3,18 mm (1/8")	22,3 mm	3,4 bar (50 psi)	760 mmHg
TY7,94BX15,88	7,94 mm (5/16")	15,88 mm (5/8")	3,97 mm (5/32")	19,1 mm	4,1 bar (60 psi)	760 mmHg
TY9,53BX12,7	9,53 mm (3/8")	12,7 mm (1/2")	1,59 mm (1/16")	44,5 mm	1,7 bar (25 psi)	279 mmHg
TY9,53BX14,29	9,53 mm (3/8")	14,29 mm (9/16")	2,38 mm (3/32")	35,0 mm	2,3 bar (34 psi)	635 mmHg
TY9,53BX15,88	9,53 mm (3/8")	15,88 mm (5/8")	3,18 mm (1/8")	28,6 mm	3,0 bar (44 psi)	760 mmHg
TY11,11BX14,29	11,11 mm (7/16")	14,29 mm (9/16")	1,59 mm (1/16")	57,2 mm	1,5 bar (22 psi)	203 mmHg
TY11,11BX15,88	11,11 mm (7/16")	15,88 mm (5/8")	2,38 mm (3/32")	44,5 mm	2,1 bar (30 psi)	483 mmHg
TY12,7BX15,88	12,7 mm (1/2")	15,88 mm (5/8")	1,59 mm (1/16")	54,0 mm	1,3 bar (19 psi)	152 mmHg
TY12,7BX17,46	12,7 mm (1/2")	17,46 mm (11/16")	2,38 mm (3/32")	54,0 mm	1,8 bar (27 psi)	355 mmHg
TY12,7BX19,05	12,7 mm (1/2")	19,05 mm (3/4")	3,18 mm (1/8")	44,5 mm	2,3 bar (34 psi)	635 mmHg
TY12,7BX20,64	12,7 mm (1/2")	20,64 mm (13/16")	3,97 mm (5/32")	38,1 mm	2,8 bar (40 psi)	760 mmHg
TY14,29BX19,05	14,29 mm (9/16")	19,05 mm (3/4")	2,38 mm (3/32")	63,5 mm	1,7 bar (25 psi)	279 mmHg
TY15,88BX20,64	15,88 mm (5/8")	20,64 mm (13/16")	2,38 mm (3/32")	76,2 mm	1,6 bar (23 psi)	229 mmHg
TY15,88BX22,23	15,88 mm (5/8")	22,23 mm (7/8")	3,18 mm (1/8")	60,3 mm	2,0 bar (29 psi)	406 mmHg
TY15,88BX23,81	15,88 mm (5/8")	23,81 mm (15/16")	3,97 mm (5/32")	50,8 mm	2,4 bar (35 psi)	660 mmHg
TY19,05BX25,4	19,05 mm (3/4")	25,4 mm (1")	3,18 mm (1/8")	82,6 mm	1,7 bar (25 psi)	279 mmHg
TY19,05BX26,99	19,05 mm (3/4")	26,99 mm (1-1/16")	3,97 mm (5/32")	69,9 mm	2,1 bar (30 psi)	457 mmHg
TY19,05BX28,58	19,05 mm (3/4")	28,58 mm (1-1/8")	4,76 mm (3/16")	60,4 mm	2,3 bar (34 psi)	660 mmHg
TY19,05BX31,75	19,05 mm (3/4")	31,75 mm (1-1/4")	6,35 mm (1/4")	50,8 mm	2,9 bar (43 psi)	760 mmHg
TY22,23BX28,58	22,23 mm (7/8")	28,58 mm (1-1/8")	3,18 mm (1/8")	104,8 mm	1,5 bar (22 psi)	203 mmHg

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TY25,4BX31,75	25,4 mm (1")	31,75 mm (1-1/4")	3,18 mm (1/8")	130,2 mm	1,4 bar (20 psi)	152 mmHg
TY25,4BX33,34	25,4 mm (1")	33,34 mm (1-5/16")	3,97 mm (5/32")	111,2 mm	1,7 bar (24 psi)	254 mmHg
TY25,4BX34,93	25,4 mm (1")	34,93 mm (1-3/8")	4,76 mm (3/16")	95,3 mm	1,8 bar (27 psi)	355 mmHg
TY25,4BX38,1	25,4 mm (1")	38,1 mm (1-1/2")	6,35 mm (1/4")	76,2 mm	2,3 bar (34 psi)	635 mmHg
TY28,58BX34,93	28,58 mm (1-1/8")	34,93 mm (1-3/8")	3,18 mm (1/8")	158,8 mm	1,2 bar (18 psi)	127 mmHg
TY31,75BX41,28	31,75 mm (1-1/4")	41,28 mm (1-5/8")	4,76 mm (3/16")	139,7 mm	1,6 bar (23 psi)	229 mmHg
TY38,1BX47,63	38,1 mm (1-1/2")	47,63 mm (1-7/8")	4,76 mm (3/16")	184,2 mm	1,3 bar (19 psi)	152 mmHg
TY38,1BX50,8	38,1 mm (1-1/2")	50,8 mm (2")	6,35 mm (1/4")	149,3 mm	1,7 bar (25 psi)	279 mmHg
TY50,8BX63,5	50,8 mm (2")	63,5 mm (2-1/2")	6,35 mm (1/4")	238,2 mm	1,3 bar (19 psi)	152 mmHg
TY50,8BX69,85	50,8 mm (2")	69,85 mm (2-3/4")	9,53 mm (3/8")	174,63 mm	1,8 bar (27 psi)	355 mmHg
TY50,8BX76,2	50,8 mm (2")	76,2 mm (3")	12,7 mm (1/2")	139,7 mm	2,3 bar (34 psi)	635 mmHg
TY63,5BX76,2	63,5 mm (2-1/2")	76,2 mm (3")	6,35 mm (1/4")	339,8 mm	1,1 bar (16 psi)	101 mmHg
TY63,5BX82,55	63,5 mm (2-1/2")	82,55 mm (3-1/4")	9,53 mm (3/8")	254,0 mm	1,6 bar (23 psi)	229 mmHg
TY76,2BX88,9	76,2 mm (3")	88,9 mm (3-1/2")	6,35 mm (1/4")	457,2 mm	1,0 bar (14 psi)	50 mmHg
TY76,2BX95,25	76,2 mm (3")	95,25 mm (3-3/4")	9,53 mm (3/8")	336,6 mm	1,3 bar (19 psi)	152 mmHg
TY101,6BX127,0	101,6 mm (4")	127,0 mm (5")	12,7 mm (1/2")	431,8 mm	1,3 bar (19 psi)	152 mmHg
TY152,4BX165,1	152,4 mm (6")	165,1 mm (6-1/2")	6,35 mm (1/4")	1.406,6 mm	0,5 bar (8 psi)	13 mmHg

*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.

Typical Physical Properties of Tygon S3™ B-44-4X Tubing

Property	ASTM Method	Value of Rating
Durometer Hardness	D2240	66° Shore A, 15s
Color	-	Clear
Ultimate Elongation	D412	390,00%
Tear Resistance	D1004	43,8 kN/m (250 lb-f/in)
Specific Gravity	D792	1,21
Compression Set Constant Deflection, at 70°C for 22 hrs.	D395 Method B	59,00%
Brittleness by Impact Temp.	D746	-36°C (-32°F)
Cold Temp. Flexibility @ 5°C increments	D380	-45°C (-49°F)
Maximum Recommended Operating Temp.	-	74°C (165°F)
Tensile Stress @200% Elongation	D412	9,5 MPa (1.379 psi)
Tensile Set @75% Elongation	D412	57,00%
Water Absorption, 24 hrs. @ 23°C	D570	0,22%

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

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