

# Tygon<sup>®</sup> B-44-FF

## Food and Beverage Tubing

Tygon<sup>®</sup> B-44-FF tubing delivers clarity, high tear strength and excellent abrasion resistance, making it ideal for many food and beverage applications. It offers exceptional resistance to oils and fatty foods and complies with EU Regulation 10/2011\* and FDA food standards.

### Excellent Stability When Exposed to Fatty Foods

While many rubber and plastic materials exhibit resistance to certain solvents, oils and chemicals, Tygon<sup>®</sup> B-44-FF tubing resists a much wider range of substances.

Plasticizer extraction leading to embrittlement is one of the most frequent causes of failure when flexible tubing is exposed to harsh chemicals. Tygon<sup>®</sup> B-44-FF tubing is plasticizer-free and remains flexible even when cycled through temperature extremes; it can be safely used in temperatures ranging from -100°F (-73°C) to 200°F (93°C).

### Easy and Secure Tubing-Fitting Connection

The precision tolerances and high elasticity of Tygon<sup>®</sup> B-44-FF tubing allows the user to easily make a secure tubing-fitting connection.

### Regulatory Compliance

Tygon<sup>®</sup> B-44-FF tubing complies with FDA food standards and the EU Regulation 10/2011\* for plastics intended to come into contact with food.

\* For complete compliance information and appropriate use instructions, please refer to the detailed document of compliance.



### Features and Benefits

- Excellent resistance to oils and fatty foods
- Consistently tight dimensional tolerances
- Excellent abrasion and tear resistance
- Retains flexibility in sub-zero environments
- High tear resistance
- Temperature resistant from -100°F (-73°C) to 200°F (93°C)

### Typical Applications

Food and beverage dispensing and processing, including:

- Animal and vegetable fats and oils
- Margarine and butter
- Salad creams
- Chocolate
- Yogurt, smoothies, cream and cheese
- Mayonnaise

## Tygon® B-44-FF

ID		OD		Wall Thickness		Length		Min. Bend Radius		Max. Working Pressure				Vacuum Rating			
(in.)	(mm)	(in.)	(mm)	(in.)	(mm)	(ft.)	(cm)	(in.)	(mm)	73°F (psi)	175°F (psi)	23°C (MPa)	79°C (MPa)	mHg at 73°F	mHg at 175°F	mmHg at 23°C	mmHg at 79°C
1/16	1.59	1/8	3.18	1/32	0.79	100	3 048	3/19	4.01	70	40	0.48	0.28	29.9	29.9	760	760
1/8	3.18	3/16	4.76	1/32	0.79	100	3 048	1/2	12.70	45	25	0.31	0.17	29.9	29.9	760	760
1/8	3.18	1/4	6.35	1/16	1.59	100	3 048	5/16	7.94	74	45	0.51	0.31	29.9	29.9	760	760
3/16	4.76	1/4	6.35	1/32	0.79	100	3 048	1	25.40	34	19	0.23	0.13	29.9	20.0	760	508
3/16	4.76	5/16	7.94	1/16	1.59	100	3 048	5/8	15.87	56	33	0.39	0.23	29.9	29.9	760	760
3/16	4.76	3/8	9.53	3/32	2.38	100	3 048	7/16	11.11	70	44	0.48	0.30	29.9	29.9	760	760
1/4	6.35	5/16	7.94	1/32	0.79	100	3 048	1-9/16	39.69	28	12	0.19	0.08	20.0	5.0	508	127
1/4	6.35	3/8	9.53	1/16	1.59	100	3 048	15/16	23.81	42	25	0.29	0.17	29.9	29.9	760	760
1/4	6.35	7/16	11.11	3/32	2.38	100	3 048	11/16	17.46	58	28	0.40	0.19	29.9	29.9	760	760
1/4	6.35	1/2	12.70	1/8	3.18	100	3 048	9/16	14.29	70	45	0.48	0.31	29.9	29.9	760	760
5/16	7.94	7/16	11.11	1/16	1.59	100	3 048	1-15/16	49.21	36	22	0.25	0.15	29.9	29.9	760	760
3/8	9.53	1/2	12.70	1/16	1.59	100	3 048	1-3/4	44.45	34	19	0.23	0.13	29.9	25.0	760	635
3/8	9.53	9/16	14.29	3/32	2.38	100	3 048	1-5/16	33.34	45	27	0.31	0.19	29.9	29.9	760	760
3/8	9.53	5/8	15.87	1/8	3.18	100	3 048	1-1/16	26.99	54	33	0.37	0.23	29.9	29.9	760	760
7/16	11.11	5/8	15.87	3/32	2.38	100	3 048	1-11/16	42.74	40	21	0.28	0.14	29.9	29.9	760	760
7/16	11.11	11/16	17.46	1/8	3.18	100	3 048	1-3/8	34.92	49	29	0.34	0.20	29.9	29.9	760	760
1/2	12.70	5/8	15.87	1/16	1.59	100	3 048	2-7/8	73.02	26	14	0.18	0.10	20.0	5.0	508	127
1/2	12.70	11/16	17.46	3/32	2.38	100	3 048	2-1/8	53.97	36	18	0.25	0.12	29.9	29.9	760	760
1/2	12.70	3/4	19.05	1/8	3.18	100	3 048	1-3/4	44.45	46	27	0.32	0.19	29.9	29.9	760	760
5/8	15.87	3/4	19.05	1/16	1.59	100	3 048	4-1/8	104.80	24	11	0.17	0.08	10.0	5.0	254	127
5/8	15.87	13/16	20.64	3/32	2.38	100	3 048	3	76.20	32	16	0.22	0.11	29.9	15.0	760	381
5/8	15.87	7/8	22.22	1/8	3.18	100	3 048	2-3/8	60.32	38	21	0.26	0.14	29.9	29.9	760	760
3/4	19.05	15/16	23.81	3/32	2.38	100	3 048	4	101.60	26	13	0.18	0.09	15.0	5.0	381	127
3/4	19.05	1	25.40	1/8	3.18	100	3 048	3-1/4	82.55	33	20	0.23	0.14	29.9	25.0	760	635
7/8	22.22	1-1/4	28.57	1/8	3.18	100	3 048	4-1/8	104.80	30	18	0.21	0.12	29.9	20.0	760	508
1	25.40	1-1/4	31.75	1/8	3.18	100	3 048	5-1/8	130.20	28	14	0.19	0.10	15.0	10.0	381	254

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

### Typical Physical Properties

Property	ASTM Method	Value or Rating
Durometer Hardness, Shore A, Is	D2240	82
Tensile Strength, psi (MPa)	D412	6,050 (41.7)
Ultimate Elongation, %	D412	500
Tear Resistance, lb-f/in (kN/m)	D1004	475 (83.1)
	D624 Die C	400 (70.0)
Specific Gravity	D792	1.20
Water Absorption, % at 73°F (23°C) for 24 hrs.	D570	1.12
Compression Set Constant Deflection, % at 158°F (70°C) for 22hrs.	D395	68
Brittleness by Impact Temp., °F (°C)	D746	-100 (-73)
Maximum Recommended Operating Temp., °F (°C)	—	200 (93)
		175 (79)
Tensile Stress, at 100% Elongation, psi (MPa)	D412	800 (5.5)
		at 300% Elongation, psi (MPa)
Tensile Set, at 75% Elongation	D412	98
Color	—	Transparent Natural

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.

### Regulatory Compliance

FDA 21 CFR sections 177.1680	Conforms
FDA 21 CFR sections 177.2600	Conforms
EU Regulation 10/2011 criteria for food and beverage use	Conforms*

\* For complete compliance information and appropriate use instructions, please refer to the detailed document of compliance.

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.

**TYGON® B-44-FF TUBING IS NOT INTENDED FOR USE AS AN IMPLANT MATERIAL.**

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