

Fre-Thane® Polyurethane

Specifications

Temperature Range
-40° F to +165° F

Vacuum Rating
85A-95A: To 28" Hg.
70: To 20" Hg.

Diameter Tolerances
1/8" - 9/16": ±.005"
3/4": ±.007"
Metric: ±.127 mm

Tube Markings
None

Working Pressure
3:1 Safety Factor

UV Stabilized
95A & 85A

Resin Compliance
95A: NSF61
Meets UL94HB
90A: NSF61, FDA,
USPVI
85A: NSF61
Meets UL94HB
USPVI
70A: Meets UL94HB

Suggested Fittings
95A: Barb, Push-In, FX
90A: Barb
85A: Barb
70A: Barb



Polyurethane was invented in 1937 by German chemist Friedrich Bayer. His first fibers, named Perlon U, gained popularity during World War II as a replacement for rubber. Its first commercial application was as a thread to make a lightweight, stretchable fabric, called spandex.* Polyurethane is comprised of two basic materials, isocyanate and polyol.

There are two general classes of polyurethane and both are commonly found in the market: Ether-base and Ester-base. Chemically, these are made from two different polyol alcohols that cause similar, but different reactions in the isocyanate. From the user's standpoint, the Ester-base polymer is less expensive. However, it degrades when exposed to moisture. Because of this, we manufacture our Fre-Thane® polyurethane tubing using the Ether-base material.

Freelin-Wade's Fre-Thane® has a high resistance to abrasion while being highly flexible and kink resistant. Its most notable quality though is its "memory." Fre-Thane® will stretch and flex but always return to its original shape.

Freelin-Wade began manufacturing polyurethane tubing in 1980. It remains our flagship product today. It is available in 23 standard colors and a virtually infinite number of color variations. Fre-Thane® is Freelin-Wade's most versatile product, with more options and variations available than with any other tubing.

* Source: www.madehow.com



Fre-Thane Polyurethane Colors

Any of our polyurethane tubing products listed on pages 9 and 10 are available in the colors shown below. If not shown as a standard item, please allow 3 weeks to fulfill your order.



Fre-Thane® 95A Polyurethane

Part Number & Color Code	Packaging Unit Size	OD	ID	Wall	Standard Colors	Working Pressure		lbs./100'	Bend Radius	Fitting
						75°F/25°C	150°F/65°C			
1J-157- ___ 50' Bag										
1L-157- ___ 250' Box										
1C-157- ___ 500' Reel		1/8"	.066"	.030"	01 04 05 06 07 08 10 11 12 14 25 26 27 28 29	255 PSI	100 PSI	.44	1/4"	B, PI
1B-157- ___ 1000' Reel										
1A-157- ___ 2500' Reel										
1J-156- ___ 100' Bag										
1C-156- ___ 500' Reel		5/32"	3/32"	.031"	01 02 04 05 06 07 08 09 10 11 12 25 26 27 28 29 37	210 PSI	85 PSI	.62	3/8"	B, PI
1B-156- ___ 1000' Reel										
1A-156- ___ 2500' Reel										
1J-107- ___ 100' Bag										
1B-107- ___ 1000' Reel		3/16"	.107"	.040"	07 08 10	220 PSI	90 PSI	.92	3/8"	B, PI
1A-107- ___ 2000' Reel										
1J-169- ___ 100' Bag										
1B-169- ___ 500' Reel		1/4"	1/8"	.062"	01 04 05 06 07 08 09 10 11 25 26 27 28 29	265 PSI	105 PSI	1.83	1/2"	B, PI
1A-169- ___ 1000' Reel										
1J-151- ___ 100' Bag										
1B-151- ___ 500' Reel		1/4"	.160"	.045"	01 04 05 06 07 08 09 10 11 12 25 26 27 28 46	175 PSI	70 PSI	1.44	1/2"	B, PI, FX
1A-151- ___ 1000' Reel										
1J-152- ___ 100' Bag										
1B-152- ___ 250' Reel		3/8"	.245"	.065"	01 04 05 06 07 08 10 11 25 26 27 28 37 46	170 PSI	70 PSI	3.15	7/8"	B, PI, FX
1A-152- ___ 500' Reel										
1J-161- ___ 50' Bag		15/32"	5/16"	.079"	01 05 07 08 10 27	155 PSI	60 PSI	4.83	1-1/8"	B, PI
1A-161- ___ 250' Reel										
1J-166- ___ 50' Bag		1/2"	.320"	.090"	01 05 06 07 08 10 11 27	175 PSI	70 PSI	5.77	1-1/8"	B, PI
1A-166- ___ 250' Reel										
1J-163- ___ 50' Bag		9/16"	3/8"	.094"	01 07 08 10 27	155 PSI	60 PSI	6.85	1-3/8"	B, FX
1A-163- ___ 200' Reel										
1A-176- ___ 150' Reel		3/4"	.467"	.142"	01 10	175 PSI	70 PSI	13.47	1-1/2"	B, FX
1E-176- ___ Cut Length										

Our Ether-based Fre-Thane® is our most versatile tubing. Highly flexible with excellent memory, it has the most variation possibilities of any of our tubing and is available in a rainbow of colors.

Metric Sizes

Part Number & Color Code	Packaging Unit Size	OD mm	ID mm	Wall mm	Standard Colors	Working Pressure		lbs./100'	Bend Radius	Fitting
						75°F/25°C	150°F/65°C			
1J-171- ___ 100' Bag										
1C-171- ___ 500' Reel		3	1.8	.6	01 10	230 PSI	90 PSI	.35	6.4 mm	B, PI
1B-171- ___ 1000' Reel										
1A-171- ___ 2500' Reel										
1J-156- ___ 100' Bag										
1C-156- ___ 500' Reel		4	2.4	.8	01 02 04 05 06 07 08 09 10 11 12 25 26 27 28 29 37	210 PSI	85 PSI	.62	9.5 mm	B, PI
1B-156- ___ 1000' Reel										
1A-156- ___ 2500' Reel										
1J-158- ___ 100' Bag										
1B-158- ___ 500' Reel		6	4	1	01 04 05 06 07 08 09 10 11 25 26 27 28 37	160 PSI	65 PSI	1.21	12.7 mm	B, PI
1A-158- ___ 1000' Reel										
1J-159- ___ 100' Bag										
1A-159- ___ 500' Reel		8	5	1.5	01 05 07 06 08 10 11 25 27 37	190 PSI	75 PSI	2.36	19 mm	B, PI
1J-160- ___ 50' Bag										
1A-160- ___ 500' Reel		10	6.5	1.75	01 05 06 07 08 10 27	170 PSI	70 PSI	3.51	22.2 mm	B, PI
1J-161- ___ 50' Bag										
1A-161- ___ 250' Reel		12	8	2	01 05 07 08 10 27	155 PSI	60 PSI	4.83	28.6 mm	B, PI
1J-162- ___ 50' Bag										
1A-162- ___ 200' Reel		16	11	2.5	01	150 PSI	60 PSI	4.85	76.2 mm	B, PI

Variations Available:

Coiling • Colors • Cutting • Bonding • Printing • Packaging • Sizes

USA & International: 503-434-5561

US Toll Free: 888-373-9233

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Fre-Thane® 90A Polyurethane

Part Number & Color Code	Packaging Unit Size	OD	ID	Wall	Standard Colors	Working Pressure		lbs./100'	Bend Radius	Fitting
						75°F/25°C	150°F/65°C			
1J-132- ___ 100' Bag	100' Bag									
1B-132- ___ 500' Reel	500' Reel	1/4"	.159"	.046"	01 07 08 10 14 25 27	135 PSI	55 PSI	1.43	5/8"	B
1A-132- ___ 1000' Reel	1000' Reel									
1J-045- ___ 100' Bag	100' Bag									
1B-045- ___ 500' Reel	500' Reel	1/4"	.170"	.040"	01 05 10	115 PSI	45 PSI	1.29	3/4"	B Low Pressure Only
1A-045- ___ 1000' Reel	1000' Reel									
1J-153- ___ 100' Bag	100' Bag	1/4"	3/16"	.031"	10	90 PSI	35 PSI	1.06	1-1/8"	B Low Pressure Only
1A-153- ___ 1000' Reel	1000' Reel									
1J-005- ___ 100' Bag	100' Bag									
1B-005- ___ 250' Reel	250' Reel	3/8"	.245"	.065"	01 05 07 10 11 25 27	125 PSI	50 PSI	3.1	3/4"	B
1A-005- ___ 500' Reel	500' Reel									
1J-111- ___ 50' Bag	50' Bag	1/2"	3/8"	.062"	01 05 10	90 PSI	35 PSI	4.2	2"	B Low Pressure Only
1A-111- ___ 250' Reel	250' Reel									

Variations Available:

Coiling • Colors • Cutting • Bonding • Printing • Packaging • Sizes

Fre-Thane® 85A Polyurethane

Part Number & Color Code	Packaging Unit Size	OD	ID	Wall	Standard Colors	Working Pressure		lbs./100'	Bend Radius	Fitting
						75°F/25°C	150°F/65°C			
1J-013- ___ 50' Bag	50' Bag									
1L-013- ___ 250' Box	250' Box									
1C-013- ___ 500' Reel	500' Reel	1/8"	.066"	.030"	01 02 04 05 06 07 08 09 10 11 12 14 25 26 27 28 29 32 45 46	135 PSI	55 PSI	.43	3/16"	B
1B-013- ___ 1000' Reel	1000' Reel									
1A-013- ___ 2500' Reel	2500' Reel									
1J-134- ___ 100' Bag	100' Bag									
1C-134- ___ 500' Reel	500' Reel	5/32"	3/32"	.031"	01 10	115 PSI	45 PSI	.60	3/8"	B
1A-134- ___ 2500' Reel	2500' Reel									
1J-030- ___ 100' Bag	100' Bag									
1C-030- ___ 500' Reel	500' Reel	5/32"	5/64"	.039"	01 05 06 07 08 09 10 11 12 27	155 PSI	60 PSI	.70	3/8"	B
1B-030- ___ 1000' Reel	1000' Reel									
1A-030- ___ 2500' Reel	2500' Reel									
1J-194- ___ 100' Bag	100' Bag									
1B-194- ___ 500' Reel	500' Reel	3/16"	1/8"	.031"	01 10	85 PSI	35 PSI	.74	1/2"	B Low Pressure Only
1A-194- ___ 2000' Reel	2000' Reel									
1J-025- ___ 50' Bag	50' Bag									
1D-025- ___ 100' Box	100' Box	1/4"	1/8"	.062"	01 02 04 05 06 07 08 09 10 11 12 25 26 27 28 29 32 46	145 PSI	60 PSI	1.8	1/2"	B
1B-025- ___ 500' Reel	500' Reel									
1A-025- ___ 1000' Reel	1000' Reel									
1J-149- ___ 100' Bag	100' Bag	5/16"	3/16"	.062"	01 07 10 27	110 PSI	45 PSI	2.4	5/8"	B Low Pressure Only
1A-149- ___ 500' Reel	500' Reel									
1J-015- ___ 100' Bag	100' Bag	3/8"	1/4"	.062"	01 10 25 26 27	90 PSI	35 PSI	3.0	3/4"	B
1A-015- ___ 500' Reel	500' Reel									

Variations Available:

Coiling • Colors • Cutting • Bonding • Printing • Packaging • Sizes

Fre-Thane® 70A Polyurethane

Part Number & Color Code	Packaging Unit Size	OD	ID	Wall	Standard Colors	Working Pressure		lbs./100'	Bend Radius	Fitting
						75°F/25°C	150°F/65°C			
1J-133- ___ 100' Bag	100' Bag									
1B-133- ___ 500' Reel	500' Reel	1/4"	1/8"	.062"	01 10 14 25 26 27 29	60 PSI	30 PSI	1.69	1/2"	B
1A-133- ___ 1000' Reel	1000' Reel									
1J-170- ___ 100' Bag	100' Bag	3/8"	1/4"	.062"	07 10	50 PSI	25 PSI	2.82	3/4"	B
1A-170- ___ 500' Reel	500' Reel									

Variations Available:

Coiling • Colors • Cutting • Bonding • Printing • Packaging • Sizes