



# Polyurethane Pneumatic Tubing



NITRA™ polyurethane (PUR) tubing is made from the highest quality, 100% virgin raw materials available and has a hardness specification of Shore A 98. It is ether based to provide excellent hydrolysis, oil and cold resistance. NITRA polyurethane tubing is strong, flexible, and offers superior kink resistance compared to other tubing. With its extremely tight outside diameter tolerance, NITRA polyurethane tubing is ideal for use with NITRA push-to-connect fittings.

## Features

- Inch and metric sizes available
- Seven colors - black, blue, clear, red, yellow, clear blue, and dark green (UV stabilized)
- 100 foot and 500 foot package sizes, 100 and 250 foot package sizes for the PU16M series
- Shore A 98 hardness
- Strong, flexible and kink resistant
- Made in USA

### Color Key

Standard Tubing	UV Stabilized Tubing
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• UV stabilized tubing is excellent for outdoor use

### Polyurethane 1/8 in. Tubing Specifications

<b>Outside Diameter (in.)</b>	0.125	<b>Working Pressure (psi) @ 70°F</b>	240	<b>Temp. Range</b>	-40°F to +160°F (-40°C to +71°C)		
<b>Inside Diameter (in.)</b>	0.062	<b>Burst Pressure (psi)</b>	720	<b>Hardness</b>	Shore A 98		
<b>Wall Thickness (in.)</b>	0.031	<b>Vacuum Rating</b>	To 28" Hg	<b>Bend Radius (in.)</b>	0.200		
<b>100 ft. Package Length</b>				<b>500 ft. Reel Length</b>			
<b>Part Number</b>	<b>Price</b>	<b>Color</b>	<b>Package Weight (lbs)</b>	<b>Part Number</b>	<b>Price</b>	<b>Color</b>	<b>Package Weight (lbs)</b>
PU18BLK100	\$14.50	Black	0.5	PU18BLK500	\$72.00	Black	2.5
PU18BLU100	\$14.50	Blue		PU18BLU500	\$72.00	Blue	
PU18CLR100	\$14.50	Clear		PU18CLR500	\$72.00	Clear	
PU18CBL100	\$14.50	Clear Blue		PU18CBL500	\$72.00	Clear Blue	
PU18RED100	\$14.50	Red		PU18RED500	\$72.00	Red	
PU18YEL100	\$14.50	Yellow		PU18YEL500	\$72.00	Yellow	
UV18GRN100	\$19.00	Dark Green		UV18GRN500	\$96.00	Dark Green	

### Polyurethane 5/32 in. (4 mm) Tubing Specifications

<b>Outside Diameter (in.)</b>	0.156	<b>Working Pressure (psi) @ 70°F</b>	200	<b>Temp. Range</b>	-40°F to +160°F (-40°C to +71°C)		
<b>Inside Diameter (in.)</b>	0.093	<b>Burst Pressure (psi)</b>	600	<b>Hardness</b>	Shore A 98		
<b>Wall Thickness (in.)</b>	0.031	<b>Vacuum Rating</b>	To 28" Hg	<b>Bend Radius (in.)</b>	0.250		
<b>100 ft. Package Length</b>				<b>500 ft. Reel Length</b>			
<b>Part Number</b>	<b>Price</b>	<b>Color</b>	<b>Package Weight (lbs)</b>	<b>Part Number</b>	<b>Price</b>	<b>Color</b>	<b>Package Weight (lbs)</b>
PU532BLK100	\$11.00	Black	1.0	PU532BLK500	\$55.00	Black	4.0
PU532BLU100	\$11.00	Blue		PU532BLU500	\$55.00	Blue	
PU532CLR100	\$11.00	Clear		PU532CLR500	\$55.00	Clear	
PU532CBL100	\$11.00	Clear Blue		PU532CBL500	\$55.00	Clear Blue	
PU532RED100	\$11.00	Red		PU532RED500	\$55.00	Red	
PU532YEL100	\$11.00	Yellow		PU532YEL500	\$55.00	Yellow	
UV532GRN100	\$13.00	Dark Green		UV532GRN500	\$64.00	Dark Green	



# Polyurethane Pneumatic Tubing

Polyurethane 1/4 in. Tubing Specifications							
<b>Outside Diameter (in.)</b>	0.250	<b>Working Pressure (psi) @ 70°F</b>		180	<b>Temp. Range</b>		-40°F to +160°F (-40°C to +71°C)
<b>Inside Diameter (in.)</b>	0.156	<b>Burst Pressure (psi)</b>		540	<b>Hardness</b>		Shore A 98
<b>Wall Thickness (in.)</b>	0.047	<b>Vacuum Rating</b>		To 28" Hg	<b>Bend Radius (in.)</b>		0.476
100 ft. Package Length				500 ft. Reel Length			
Part Number	Price	Color	Package Weight (lbs)	Part Number	Price	Color	Package Weight (lbs)
PU14BLK100	\$19.50	Black	2.0	PU14BLK500	\$98.00	Black	8.0
PU14BLU100	\$19.50	Blue		PU14BLU500	\$98.00	Blue	
PU14CLR100	\$19.50	Clear		PU14CLR500	\$98.00	Clear	
PU14CBL100	\$19.50	Clear Blue		PU14CBL500	\$98.00	Clear Blue	
PU14RED100	\$19.50	Red		PU14RED500	\$98.00	Red	
PU14YEL100	\$19.50	Yellow		PU14YEL500	\$98.00	Yellow	
UV14GRN100	\$23.00	Dark Green		UV14GRN500	\$114.00	Dark Green	

Polyurethane 3/8 in. Tubing Specifications							
<b>Outside Diameter (in.)</b>	0.375	<b>Working Pressure (psi) @ 70°F</b>		150	<b>Temp. Range</b>		-40°F to +160°F (-40°C to +71°C)
<b>Inside Diameter (in.)</b>	0.250	<b>Burst Pressure (psi)</b>		450	<b>Hardness</b>		Shore A 98
<b>Wall Thickness (in.)</b>	0.063	<b>Vacuum Rating</b>		To 28" Hg	<b>Bend Radius (in.)</b>		1.00
100 ft. Package Length				500 ft. Reel Length			
Part Number	Price	Color	Package Weight (lbs)	Part Number	Price	Color	Package Weight (lbs)
PU38BLK100	\$40.00	Black	3.0	PU38BLK500	\$200.00	Black	16.0
PU38BLU100	\$40.00	Blue		PU38BLU500	\$200.00	Blue	
PU38CLR100	\$40.00	Clear		PU38CLR500	\$200.00	Clear	
PU38CBL100	\$40.00	Clear Blue		PU38CBL500	\$200.00	Clear Blue	
PU38RED100	\$40.00	Red		PU38RED500	\$200.00	Red	
PU38YEL100	\$40.00	Yellow		PU38YEL500	\$200.00	Yellow	
UV38GRN100	\$47.00	Dark Green		UV38GRN500	\$234.00	Dark Green	

Polyurethane 1/2 in. Tubing Specifications							
<b>Outside Diameter (in.)</b>	0.500	<b>Working Pressure (psi) @ 70°F</b>		150	<b>Temp. Range</b>		-40°F to +160°F (-40°C to +71°C)
<b>Inside Diameter (in.)</b>	0.328	<b>Burst Pressure (psi)</b>		450	<b>Hardness</b>		Shore A 98
<b>Wall Thickness (in.)</b>	0.086	<b>Vacuum Rating</b>		To 28" Hg	<b>Bend Radius (in.)</b>		1.102
100 ft. Package Length				500 ft. Reel Length			
Part Number	Price	Color	Package Weight (lbs)	Part Number	Price	Color	Package Weight (lbs)
PU12BLK100	\$73.00	Black	6.0	PU12BLK500	\$365.00	Black	29.0
PU12BLU100	\$73.00	Blue		PU12BLU500	\$365.00	Blue	
PU12CLR100	\$73.00	Clear		PU12CLR500	\$365.00	Clear	
PU12CBL100	\$73.00	Clear Blue		PU12CBL500	\$365.00	Clear Blue	
PU12RED100	\$73.00	Red		PU12RED500	\$365.00	Red	
PU12YEL100	\$73.00	Yellow		PU12YEL500	\$365.00	Yellow	
UV12GRN100	\$85.00	Dark Green		UV12GRN500	\$426.00	Dark Green	



# Polyurethane Pneumatic Tubing

Polyurethane 6 mm Tubing Specifications							
<i>Outside Diameter (mm)</i>	6.0	<i>Working Pressure (psi) @ 70°F</i>		180	<i>Temp. Range</i>		-40°F to +160°F (-40°C to +71°C)
<i>Inside Diameter (mm)</i>	4.0	<i>Burst Pressure (psi)</i>		540	<i>Hardness</i>		Shore A 98
<i>Wall Thickness (mm)</i>	1.0	<i>Vacuum Rating</i>		To 28" Hg	<i>Bend Radius (mm)</i>		12.0
100 ft. Package Length				500 ft. Reel Length			
<i>Part Number</i>	<i>Price</i>	<i>Color</i>	<i>Package Weight (lbs)</i>	<i>Part Number</i>	<i>Price</i>	<i>Color</i>	<i>Package Weight (lbs)</i>
<i>PU6MBLK100</i>	\$19.50	Black	2.0	<i>PU6MBLK500</i>	\$97.00	Black	7.0
<i>PU6MBLU100</i>	\$19.50	Blue		<i>PU6MBLU500</i>	\$97.00	Blue	
<i>PU6MCLR100</i>	\$19.50	Clear		<i>PU6MCLR500</i>	\$97.00	Clear	
<i>PU6MCBL100</i>	\$19.50	Clear Blue		<i>PU6MCBL500</i>	\$97.00	Clear Blue	
<i>PU6MRED100</i>	\$19.50	Red		<i>PU6MRED500</i>	\$97.00	Red	
<i>PU6MYEL100</i>	\$19.50	Yellow		<i>PU6MYEL500</i>	\$97.00	Yellow	
<i>UV6MGRN100</i>	\$22.50	Dark Green		<i>UV6MGRN500</i>	\$113.00	Dark Green	

Polyurethane 8 mm (5/16 in.) Tubing Specifications							
<i>Outside Diameter (mm)</i>	8.0	<i>Working Pressure (psi) @ 70°F</i>		175	<i>Temp. Range</i>		-40°F to +160°F (-40°C to +71°C)
<i>Inside Diameter (mm)</i>	5.0	<i>Burst Pressure (psi)</i>		525	<i>Hardness</i>		Shore A 98
<i>Wall Thickness (mm)</i>	1.5	<i>Vacuum Rating</i>		To 28" Hg	<i>Bend Radius (mm)</i>		15.0
100 ft. Package Length				500 ft. Reel Length			
<i>Part Number</i>	<i>Price</i>	<i>Color</i>	<i>Package Weight (lbs)</i>	<i>Part Number</i>	<i>Price</i>	<i>Color</i>	<i>Package Weight (lbs)</i>
<i>PU8MBLK100</i>	\$30.00	Black	3.0	<i>PU8MBLK500</i>	\$149.00	Black	12.0
<i>PU8MBLU100</i>	\$30.00	Blue		<i>PU8MBLU500</i>	\$149.00	Blue	
<i>PU8MCLR100</i>	\$30.00	Clear		<i>PU8MCLR500</i>	\$149.00	Clear	
<i>PU8MCBL100</i>	\$30.00	Clear Blue		<i>PU8MCBL500</i>	\$149.00	Clear Blue	
<i>PU8MRED100</i>	\$30.00	Red		<i>PU8MRED500</i>	\$149.00	Red	
<i>PU8MYEL100</i>	\$30.00	Yellow		<i>PU8MYEL500</i>	\$149.00	Yellow	
<i>UV8MGRN100</i>	\$35.00	Dark Green		<i>UV8MGRN500</i>	\$174.00	Dark Green	

Polyurethane 10 mm Tubing Specifications							
<i>Outside Diameter (mm)</i>	10.0	<i>Working Pressure (psi) @ 70°F</i>		150	<i>Temp. Range</i>		-40°F to +160°F (-40°C to +71°C)
<i>Inside Diameter (mm)</i>	6.5	<i>Burst Pressure (psi)</i>		450	<i>Hardness</i>		Shore A 98
<i>Wall Thickness (mm)</i>	1.75	<i>Vacuum Rating</i>		To 28" Hg	<i>Bend Radius (mm)</i>		25.0
100 ft. Package Length				500 ft. Reel Length			
<i>Part Number</i>	<i>Price</i>	<i>Color</i>	<i>Package Weight (lbs)</i>	<i>Part Number</i>	<i>Price</i>	<i>Color</i>	<i>Package Weight (lbs)</i>
<i>PU10MBLK100</i>	\$41.00	Black	4.0	<i>PU10MBLK500</i>	\$206.00	Black	18.0
<i>PU10MBLU100</i>	\$41.00	Blue		<i>PU10MBLU500</i>	\$206.00	Blue	
<i>PU10MCLR100</i>	\$41.00	Clear		<i>PU10MCLR500</i>	\$206.00	Clear	
<i>PU10MCBL100</i>	\$41.00	Clear Blue		<i>PU10MCBL500</i>	\$206.00	Clear Blue	
<i>PU10MRED100</i>	\$41.00	Red		<i>PU10MRED500</i>	\$206.00	Red	
<i>PU10MYEL100</i>	\$41.00	Yellow		<i>PU10MYEL500</i>	\$206.00	Yellow	
<i>UV10MGRN100</i>	\$48.00	Dark Green		<i>UV10MGRN500</i>	\$240.00	Dark Green	



# Polyurethane Pneumatic Tubing

Polyurethane 12 mm Tubing Specifications							
<b>Outside Diameter (mm)</b>	12.0	<b>Working Pressure (psi) @ 70°F</b>		150	<b>Temp. Range</b>		-40°F to +160°F (-40°C to +71°C)
<b>Inside Diameter (mm)</b>	8.0	<b>Burst Pressure (psi)</b>		450	<b>Hardness</b>		Shore A 98
<b>Wall Thickness (mm)</b>	2.0	<b>Vacuum Rating</b>		To 28" Hg	<b>Bend Radius (mm)</b>		28.0
100 ft. Package Length				500 ft. Reel Length			
Part Number	Price	Color	Package Weight (lbs)	Part Number	Price	Color	Package Weight (lbs)
PU12MBLK100	\$71.00	Black	5.0	PU12MBLK500	\$356.00	Black	24.0
PU12MBLU100	\$71.00	Blue		PU12MBLU500	\$356.00	Blue	
PU12MCLR100	\$71.00	Clear		PU12MCLR500	\$356.00	Clear	
PU12MCBL100	\$71.00	Clear Blue		PU12MCBL500	\$356.00	Clear Blue	
PU12MRED100	\$71.00	Red		PU12MRED500	\$356.00	Red	
PU12MYEL100	\$71.00	Yellow		PU12MYEL500	\$356.00	Yellow	
UV12MGRN100	\$83.00	Dark Green		UV12MGRN500	\$415.00	Dark Green	

Polyurethane 16 mm Tubing Specifications							
<b>Outside Diameter (mm)</b>	16.0	<b>Working Pressure (psi) @ 70°F</b>		150	<b>Temp. Range</b>		-40°F to +160°F (-40°C to +71°C)
<b>Inside Diameter (mm)</b>	11.0	<b>Burst Pressure (psi)</b>		450	<b>Hardness</b>		Shore A 98
<b>Wall Thickness (mm)</b>	2.5	<b>Vacuum Rating</b>		To 28" Hg	<b>Bend Radius (mm)</b>		30.0
100 ft. Package Length				250 ft. Reel Length			
Part Number	Price	Color	Package Weight (lbs)	Part Number	Price	Color	Package Weight (lbs)
PU16MBLK100	\$122.00	Black	8.35	PU16MBLK250	\$317.00	Black	23.20
PU16MBLU100	\$122.00	Blue		PU16MBLU250	\$317.00	Blue	
PU16MCLR100	\$122.00	Clear		PU16MCLR250	\$317.00	Clear	
PU16MCBL100	\$122.00	Clear Blue		PU16MCBL250	\$317.00	Clear Blue	

## NITRA Pneumatic Tubing Accessories

Pneumatic Tubing Cutter					
Part Number	Description	Pcs/Pkg	Package Weight (lbs)	Price	
TC-12	NITRA pneumatic tubing cutter for use with 1/8 to 1/2 inch and 4 to 12 mm outside diameter flexible plastic tubing.	1	0.1	\$4.25	
TC-20	NITRA pneumatic heavy duty tubing cutter for use with polyurethane, nylon and other flexible tubing up to 2 inch [50mm] outside diameter.	1	0.2	\$7.75	



TC-12



TC-20



# Tubing Working Pressure Ratings

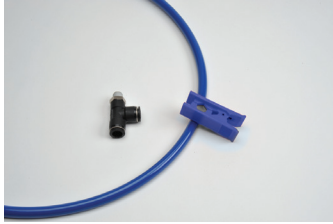
<b>Nylon Tubing Working Pressure Ratings (psi)</b>				
<b>Size O.D.</b>	<b>70°F (21°C)</b>	<b>100°F (37.8°C)</b>	<b>125°F (51.7°C)</b>	<b>150°F (65.6°C)</b>
<b>1/8"</b>	420	168	133	125
<b>5/32" (4 mm)</b>	350	200	169	160
<b>1/4"</b>	290	183	160	140
<b>5/16" (8 mm)</b>	250	183	156	135
<b>3/8"</b>	250	165	148	128
<b>1/2"</b>	240	145	133	125
<b>6 mm</b>	340	190	160	140
<b>10 mm</b>	225	150	130	115
<b>12 mm</b>	200	140	130	120
<b>14 mm</b>	175	100	85	70

<b>Polyurethane Tubing Working Pressure Ratings (psi)</b>		
<b>Size O.D.</b>	<b>75°F (23.9°C)</b>	<b>150°F (65.6°C)</b>
<b>1/8" (0.125)</b>	240	100
<b>5/32" (0.156)</b>	200	85
<b>3/16" (0.187)</b>	150	90
<b>1/4" (0.250 x 1/8")</b>	265	105
<b>1/4" (0.3125)</b>	180	70
<b>5/16" (0.375)</b>	175	75
<b>3/8" (0.500)</b>	150	70
<b>1/2" (0.5625)</b>	150	70
<b>9/16" (0.5626)</b>	140	60
<b>5/8" (0.625)</b>	150	70
<b>3/4" (0.750)</b>	140	70
<b>4 mm</b>	200	85
<b>6 mm</b>	180	65
<b>8 mm</b>	175	75
<b>10 mm</b>	150	70
<b>12 mm</b>	150	60
<b>16 mm</b>	150	70



# Pneumatic Fitting Instructions and Caution Information

## Assembly Instructions

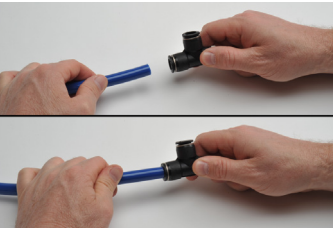


Prepare the **NITRA** tubing for cutting and make sure to have the proper tubing cutters like the **NITRA** TC-12 or TC-20.

(If cutting bonded tubing, carefully split the tubes with a knife and then pull apart as needed.)

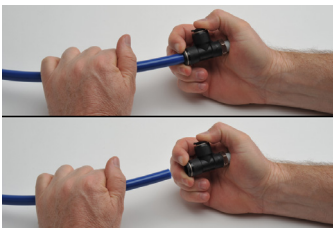


Cut the **NITRA** tubing at a right angle with the axis using a standard tube cutter. After cutting the tubing, make sure to check the cut end for an even cut with no debris.



Insertion of the **NITRA** tubing into fittings

- Make sure the tube is inserted fully into the fitting.
- Pull the tube gently to make sure it does not release.
- If the tube end is damaged or deformed, leakage or unexpected tube release may occur. Make sure to check tubing end thoroughly.



Removing the **NITRA** tubing from fittings

- Make sure the pressure in the tube is zero before releasing the tube from the fittings.
- To release the tubing, press the release ring at the end of the fitting and pull the tube with one hand.
- Inspect the released tube end and make a clean cut if it is damaged or deformed.

## Common Precautions for Tubing and Fitting Products

### Warnings:

- Do not use fittings with media other than air.
- Avoid installing with tubing under tension or with excessive bends.
- Do not use the product where weld spatters occur as fire may occur.
- Product damage or air leakage may occur at places where there is excessive rotation or vibration of the fittings.
- Use caution in water as the product may be damaged by surge pressure.
- Do not use the product where it is directly exposed to fluids such as cutting oil, lubricating oil, and coolant oil.

### Cautions:

- Assemble the tubing only after cleaning away impurities such as dust and excess debris.
- Fitting products are recommended for air systems only. Avoid using for other purposes.
- When using tubing other than NITRA brand with NITRA fittings, be sure the tubing OD conforms to the tolerances in Table 1 below.

**Table 1 - Tolerance of the Outer Diameter of the Tube**

Tube Specifications	ø5/32 [ø4]	ø1/4 [ø6]	ø5/16 [ø8]	ø3/8 [ø10]	ø1/2 [ø12]
Permissible tolerance	+ 0.005 [+/- 0.13]				

### Pneumatic Tubing Cutter

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TC-20	NITRA pneumatic heavy duty tubing cutter for use with polyurethane, nylon and other flexible tubing up to 2 inch [50mm] outside diameter.	1	0.2	\$7.75



TC-12



TC-20