



# 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

• 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>
<b>PU18BLK100</b>	\$14.50	Black	0.5	<b>PU18BLK500</b>	\$72.00	Black	2.5
<b>PU18BLU100</b>	\$14.50	Blue		<b>PU18BLU500</b>	\$72.00	Blue	
<b>PU18CLR100</b>	\$14.50	Clear		<b>PU18CLR500</b>	\$72.00	Clear	
<b>PU18CBL100</b>	\$14.50	Clear Blue		<b>PU18CBL500</b>	\$72.00	Clear Blue	
<b>PU18RED100</b>	\$14.50	Red		<b>PU18RED500</b>	\$72.00	Red	
<b>PU18YEL100</b>	\$14.50	Yellow		<b>PU18YEL500</b>	\$72.00	Yellow	
<b>UV18GRN100</b>	\$19.00	Dark Green		<b>UV18GRN500</b>	\$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>
<b>PU532BLK100</b>	\$11.00	Black	1.0	<b>PU532BLK500</b>	\$55.00	Black	4.0
<b>PU532BLU100</b>	\$11.00	Blue		<b>PU532BLU500</b>	\$55.00	Blue	
<b>PU532CLR100</b>	\$11.00	Clear		<b>PU532CLR500</b>	\$55.00	Clear	
<b>PU532CBL100</b>	\$11.00	Clear Blue		<b>PU532CBL500</b>	\$55.00	Clear Blue	
<b>PU532RED100</b>	\$11.00	Red		<b>PU532RED500</b>	\$55.00	Red	
<b>PU532YEL100</b>	\$11.00	Yellow		<b>PU532YEL500</b>	\$55.00	Yellow	
<b>UV532GRN100</b>	\$13.00	Dark Green		<b>UV532GRN500</b>	\$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							
<b>Outside Diameter (mm)</b>	6.0	<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 (mm)</b>	4.0	<b>Burst Pressure (psi)</b>		540	<b>Hardness</b>		Shore A 98
<b>Wall Thickness (mm)</b>	1.0	<b>Vacuum Rating</b>		To 28" Hg	<b>Bend Radius (mm)</b>		12.0
100 ft. Package Length				500 ft. Reel Length			
<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>
<b>PU6MBLK100</b>	\$19.50	Black	2.0	<b>PU6MBLK500</b>	\$97.00	Black	7.0
<b>PU6MBLU100</b>	\$19.50	Blue		<b>PU6MBLU500</b>	\$97.00	Blue	
<b>PU6MCLR100</b>	\$19.50	Clear		<b>PU6MCLR500</b>	\$97.00	Clear	
<b>PU6MCBL100</b>	\$19.50	Clear Blue		<b>PU6MCBL500</b>	\$97.00	Clear Blue	
<b>PU6MRED100</b>	\$19.50	Red		<b>PU6MRED500</b>	\$97.00	Red	
<b>PU6MYEL100</b>	\$19.50	Yellow		<b>PU6MYEL500</b>	\$97.00	Yellow	
<b>UV6MGRN100</b>	\$22.50	Dark Green		<b>UV6MGRN500</b>	\$113.00	Dark Green	

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

Polyurethane 10 mm Tubing Specifications							
<b>Outside Diameter (mm)</b>	10.0	<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>	6.5	<b>Burst Pressure (psi)</b>		450	<b>Hardness</b>		Shore A 98
<b>Wall Thickness (mm)</b>	1.75	<b>Vacuum Rating</b>		To 28" Hg	<b>Bend Radius (mm)</b>		25.0
100 ft. Package Length				500 ft. Reel Length			
<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>
<b>PU10MBLK100</b>	\$41.00	Black	4.0	<b>PU10MBLK500</b>	\$206.00	Black	18.0
<b>PU10MBLU100</b>	\$41.00	Blue		<b>PU10MBLU500</b>	\$206.00	Blue	
<b>PU10MCLR100</b>	\$41.00	Clear		<b>PU10MCLR500</b>	\$206.00	Clear	
<b>PU10MCBL100</b>	\$41.00	Clear Blue		<b>PU10MCBL500</b>	\$206.00	Clear Blue	
<b>PU10MRED100</b>	\$41.00	Red		<b>PU10MRED500</b>	\$206.00	Red	
<b>PU10MYEL100</b>	\$41.00	Yellow		<b>PU10MYEL500</b>	\$206.00	Yellow	
<b>UV10MGRN100</b>	\$48.00	Dark Green		<b>UV10MGRN500</b>	\$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)</b>	180	70
<b>5/16" (0.3125)</b>	175	75
<b>3/8" (0.375)</b>	150	70
<b>1/2" (0.500)</b>	150	70
<b>9/16" (0.5625)</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



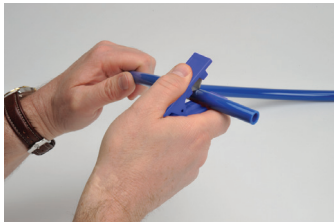
# Pneumatic Fitting Instructions and Caution Information

## Assembly Instructions

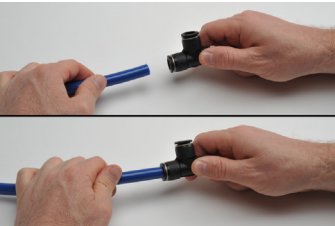


Prepare the **NITRA** tubing for cutting and make sure to have the proper tubing cutters like the **NITRA** TC-12 or TC-20.

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

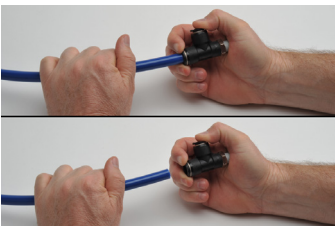


Cut the **NITRA** tubing at a right angle with the axis using a standard tube cutter. After cutting the tubing, make sure to check the cut end for an even cut with no debris.



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]				

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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