



# 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

Outside Diameter (in.)		0.125	Working Pressure (psi) @ 70°F		240	Temp. Range		-40°F to +160°F (-40°C to +71°C)
Inside Diameter (in.)		0.062	Burst Pressure (psi)		720	Hardness		Shore A 98
Wall Thickness (in.)		0.031	Vacuum Rating		To 28" Hg	Bend Radius (in.)		0.200
100 ft. Package Length				500 ft. Reel Length				
Part Number	Price	Color	Package Weight (lbs)	Part Number	Price	Color	Package Weight (lbs)	
PU18BLK100	\$15.50	Black	0.5	PU18BLK500	\$77.00	Black	2.5	
PU18BLU100	\$15.50	Blue		PU18BLU500	\$77.00	Blue		
PU18CLR100	\$15.50	Clear		PU18CLR500	\$77.00	Clear		
PU18CBL100	\$15.50	Clear Blue		PU18CBL500	\$77.00	Clear Blue		
PU18RED100	\$15.50	Red		PU18RED500	retired	Red		
PU18YEL100	\$15.50	Yellow		PU18YEL500	retired	Yellow		
UV18GRN100	\$20.00	Dark Green		UV18GRN500	retired	Dark Green		

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

Outside Diameter (in.)		0.156	Working Pressure (psi) @ 70°F		200	Temp. Range		-40°F to +160°F (-40°C to +71°C)
Inside Diameter (in.)		0.093	Burst Pressure (psi)		600	Hardness		Shore A 98
Wall Thickness (in.)		0.031	Vacuum Rating		To 28" Hg	Bend Radius (in.)		0.250
100 ft. Package Length				500 ft. Reel Length				
Part Number	Price	Color	Package Weight (lbs)	Part Number	Price	Color	Package Weight (lbs)	
PU532BLK100	\$11.50	Black	1.0	PU532BLK500	\$58.00	Black	4.0	
PU532BLU100	\$11.50	Blue		PU532BLU500	\$58.00	Blue		
PU532CLR100	\$11.50	Clear		PU532CLR500	\$58.00	Clear		
PU532CBL100	\$11.50	Clear Blue		PU532CBL500	\$58.00	Clear Blue		
PU532RED100	\$11.50	Red		PU532RED500	\$58.00	Red		
PU532YEL100	\$11.50	Yellow		PU532YEL500	\$58.00	Yellow		
UV532GRN100	\$14.00	Dark Green		UV532GRN500	\$68.00	Dark Green		



# Polyurethane Pneumatic Tubing

Polyurethane 1/4 in. Tubing Specifications							
Outside Diameter (in.)		0.250	Working Pressure (psi) @ 70°F		180	Temp. Range	-40°F to +160°F (-40°C to +71°C)
Inside Diameter (in.)		0.156	Burst Pressure (psi)		540	Hardness	Shore A 98
Wall Thickness (in.)		0.047	Vacuum Rating		To 28" Hg	Bend Radius (in.)	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	\$20.50	Black	2.0	PU14BLK500	\$103.00	Black	8.0
PU14BLU100	\$20.50	Blue		PU14BLU500	\$103.00	Blue	
PU14CLR100	\$20.50	Clear		PU14CLR500	\$103.00	Clear	
PU14CBL100	\$20.50	Clear Blue		PU14CBL500	\$103.00	Clear Blue	
PU14RED100	\$20.50	Red		PU14RED500	\$103.00	Red	
PU14YEL100	\$20.50	Yellow		PU14YEL500	\$103.00	Yellow	
UV14GRN100	\$24.00	Dark Green		UV14GRN500	\$120.00	Dark Green	

Polyurethane 3/8 in. Tubing Specifications							
Outside Diameter (in.)		0.375	Working Pressure (psi) @ 70°F		150	Temp. Range	-40°F to +160°F (-40°C to +71°C)
Inside Diameter (in.)		0.250	Burst Pressure (psi)		450	Hardness	Shore A 98
Wall Thickness (in.)		0.063	Vacuum Rating		To 28" Hg	Bend Radius (in.)	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	\$42.50	Black	3.0	PU38BLK500	\$211.00	Black	16.0
PU38BLU100	\$42.50	Blue		PU38BLU500	\$211.00	Blue	
PU38CLR100	\$42.50	Clear		PU38CLR500	\$211.00	Clear	
PU38CBL100	\$42.50	Clear Blue		PU38CBL500	\$211.00	Clear Blue	
PU38RED100	\$42.50	Red		PU38RED500	\$211.00	Red	
PU38YEL100	\$42.50	Yellow		PU38YEL500	\$211.00	Yellow	
UV38GRN100	\$49.50	Dark Green		UV38GRN500	\$247.00	Dark Green	

Polyurethane 1/2 in. Tubing Specifications							
Outside Diameter (in.)		0.500	Working Pressure (psi) @ 70°F		150	Temp. Range	-40°F to +160°F (-40°C to +71°C)
Inside Diameter (in.)		0.328	Burst Pressure (psi)		450	Hardness	Shore A 98
Wall Thickness (in.)		0.086	Vacuum Rating		To 28" Hg	Bend Radius (in.)	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	\$78.00	Black	6.0	PU12BLK500	\$386.00	Black	29.0
PU12BLU100	\$78.00	Blue		PU12BLU500	\$386.00	Blue	
PU12CLR100	\$78.00	Clear		PU12CLR500	\$386.00	Clear	
PU12CBL100	\$78.00	Clear Blue					
PU12RED100	\$78.00	Red					
PU12YEL100	\$78.00	Yellow					
UV12GRN100	\$90.00	Dark Green		UV12GRN500	retired	Dark Green	



# Polyurethane Pneumatic Tubing

Polyurethane 6 mm Tubing Specifications							
Outside Diameter (mm)	6.0	Working Pressure (psi) @ 70°F		180	Temp. Range		-40°F to +160°F (-40°C to +71°C)
Inside Diameter (mm)	4.0	Burst Pressure (psi)		540	Hardness		Shore A 98
Wall Thickness (mm)	1.0	Vacuum Rating		To 28" Hg	Bend Radius (mm)		12.0
100 ft. Package Length				500 ft. Reel Length			
Part Number	Price	Color	Package Weight (lbs)	Part Number	Price	Color	Package Weight (lbs)
PU6MBLK100	\$20.50	Black	2.0	PU6MBLK500	\$102.00	Black	7.0
PU6MBLU100	\$20.50	Blue		PU6MBLU500	\$102.00	Blue	
PU6MCLR100	\$20.50	Clear		PU6MCLR500	\$102.00	Clear	
PU6MCBL100	\$20.50	Clear Blue		PU6MCBL500	\$102.00	Clear Blue	
PU6MRED100	\$20.50	Red		PU6MRED500	\$102.00	Red	
PU6MYEL100	\$20.50	Yellow		PU6MYEL500	\$102.00	Yellow	
UV6MGRN100	\$23.50	Dark Green		UV6MGRN500	\$119.00	Dark Green	

Polyurethane 8 mm (5/16 in.) Tubing Specifications							
Outside Diameter (mm)	8.0	Working Pressure (psi) @ 70°F		175	Temp. Range		-40°F to +160°F (-40°C to +71°C)
Inside Diameter (mm)	5.0	Burst Pressure (psi)		525	Hardness		Shore A 98
Wall Thickness (mm)	1.5	Vacuum Rating		To 28" Hg	Bend Radius (mm)		15.0
100 ft. Package Length				500 ft. Reel Length			
Part Number	Price	Color	Package Weight (lbs)	Part Number	Price	Color	Package Weight (lbs)
PU8MBLK100	\$31.50	Black	3.0	PU8MBLK500	\$158.00	Black	12.0
PU8MBLU100	\$31.50	Blue		PU8MBLU500	\$158.00	Blue	
PU8MCLR100	\$31.50	Clear		PU8MCLR500	\$158.00	Clear	
PU8MCBL100	\$31.50	Clear Blue		PU8MCBL500	retired	Clear Blue	
PU8MRED100	\$31.50	Red		PU8MYEL500	retired	Yellow	
PU8MYEL100	\$31.50	Yellow					
UV8MGRN100	\$37.00	Dark Green		UV8MGRN500	retired	Dark Green	

Polyurethane 10 mm Tubing Specifications							
Outside Diameter (mm)		10.0	Working Pressure (psi) @ 70°F		150	Temp. Range	-40°F to +160°F (-40°C to +71°C)
Inside Diameter (mm)		6.5	Burst Pressure (psi)		450	Hardness	Shore A 98
Wall Thickness (mm)		1.75	Vacuum Rating		To 28" Hg	Bend Radius (mm)	25.0
100 ft. Package Length				500 ft. Reel Length			
Part Number	Price	Color	Package Weight (lbs)	Part Number	Price	Color	Package Weight (lbs)
PU10MBLK100	\$43.50	Black	4.0	PU10MBLK500	\$217.00	Black	18.0
PU10MBLU100	\$43.50	Blue		PU10MBLU500	\$217.00	Blue	
PU10MCLR100	\$43.50	Clear		PU10MCLR500	\$217.00	Clear	
PU10MCBL100	\$43.50	Clear Blue					
PU10MRED100	\$43.50	Red		PU10MRED500	retired	Red	
PU10MYEL100	\$43.50	Yellow		PU10MYEL500	\$217.00	Yellow	
UV10MGRN100	\$50.00	Dark Green		UV10MGRN500	\$253.00	Dark Green	



# Polyurethane Pneumatic Tubing

Polyurethane 12 mm Tubing Specifications							
<i>Outside Diameter (mm)</i>	12.0	<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>	8.0	<i>Burst Pressure (psi)</i>		450	<i>Hardness</i>	Shore A 98	
<i>Wall Thickness (mm)</i>	2.0	<i>Vacuum Rating</i>		To 28" Hg	<i>Bend Radius (mm)</i>	28.0	
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>PU12MBLK100</i>	\$75.00	Black	5.0	<i>PU12MCLR500</i>	retired	Clear	24.0
<i>PU12MBLU100</i>	\$75.00	Blue					
<i>PU12MCLR100</i>	\$75.00	Clear					
<i>PU12MCBL100</i>	\$75.00	Clear Blue					
<i>PU12MRED100</i>	\$75.00	Red		<i>PU12MRED500</i>	\$376.00	Red	
<i>PU12MYEL100</i>	\$75.00	Yellow		<i>PU12MYEL500</i>	\$376.00	Yellow	
<i>UV12MGRN100</i>	\$88.00	Dark Green		<i>UV12MGRN500</i>	\$438.00	Dark Green	

Polyurethane 16 mm Tubing Specifications							
<i>Outside Diameter (mm)</i>	16.0	<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>	11.0	<i>Burst Pressure (psi)</i>		450	<i>Hardness</i>	Shore A 98	
<i>Wall Thickness (mm)</i>	2.5	<i>Vacuum Rating</i>		To 28" Hg	<i>Bend Radius (mm)</i>	30.0	
100 ft. Package Length				250 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>PU16MBLK100</i>	\$129.00	Black	8.35	<i>PU16MBLK250</i>	retired	Black	23.20
<i>PU16MBLU100</i>	\$129.00	Blue					
<i>PU16MCLR100</i>	\$129.00	Clear					
<i>PU16MCBL100</i>	\$129.00	Clear Blue					

## NITRA Pneumatic Tubing Accessories

Pneumatic Tubing Cutter				
Part Number	Description	Pcs/Pkg	Package Weight (lbs)	Price
<b>TC-12</b>	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	\$4.00
<b>TC-20</b>	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	\$8.25



TC-12



TC-20



# Tubing Working Pressure Ratings

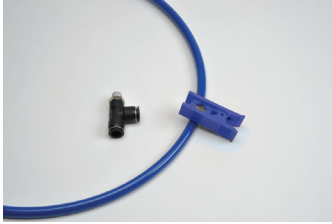
Nylon Tubing Working Pressure Ratings (psi)				
Size O.D.	70°F (21°C)	100°F (37.8°C)	125°F (51.7°C)	150°F (65.6°C)
1/8"	420	168	133	125
5/32" (4 mm)	350	200	169	160
1/4"	290	183	160	140
5/16" (8 mm)	250	183	156	135
3/8"	250	165	148	128
1/2"	240	145	133	125
6 mm	340	190	160	140
10 mm	225	150	130	115
12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

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



# Pneumatic Fitting Instructions and Caution Information

## Assembly Instructions

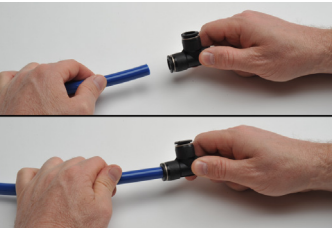


Prepare the **NITRA** tubing for cutting and make sure to have the proper tubing cutters like the **NITRA** TC-12 or TC-20.

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

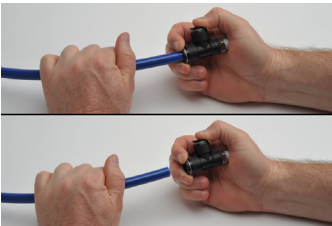


Cut the **NITRA** tubing at a right angle with the axis using a standard tube cutter. After cutting the tubing, make sure to check the cut end for an even cut with no debris.



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-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	\$4.00
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	\$8.25



**TC-12**



**TC-20**