



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
- Dark green tubing is UV stabilized and is excellent for outdoor use
- 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

Polyurethane 1/8 in. Tubing Specifications

<i>Outside Diameter (in.)</i>	0.125	<i>Working Pressure (psi) @ 70°F</i>		240	<i>Temp. Range</i>	-40°F to +160°F (-40°C to +71°C)	
<i>Inside Diameter (in.)</i>	0.062	<i>Burst Pressure (psi)</i>		720	<i>Hardness</i>	Shore A 98	
<i>Wall Thickness (in.)</i>	0.031	<i>Vacuum Rating</i>		To 28" Hg	<i>Bend Radius (in.)</i>	0.200	
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>PU18BLK100</i>	\$23.50	Black	0.5	<i>PU18BLK500</i>	\$118.00	Black	2.5
<i>PU18BLU100</i>	\$23.50	Blue		<i>PU18BLU500</i>	\$118.00	Blue	
<i>PU18CLR100</i>	\$23.50	Clear		<i>PU18CLR500</i>	\$118.00	Clear	
<i>PU18CBL100</i>	\$23.50	Clear Blue					
<i>PU18RED100</i>	\$23.50	Red					
<i>PU18YEL100</i>	\$23.50	Yellow					
<i>UV18GRN100</i>	\$30.50	Dark Green					

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

<i>Outside Diameter (in.)</i>	0.156	<i>Working Pressure (psi) @ 70°F</i>		200	<i>Temp. Range</i>	-40°F to +160°F (-40°C to +71°C)	
<i>Inside Diameter (in.)</i>	0.093	<i>Burst Pressure (psi)</i>		600	<i>Hardness</i>	Shore A 98	
<i>Wall Thickness (in.)</i>	0.031	<i>Vacuum Rating</i>		To 28" Hg	<i>Bend Radius (in.)</i>	0.250	
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>PU532BLK100</i>	\$21.50	Black	1.0	<i>PU532BLK500</i>	\$100.00	Black	4.0
<i>PU532BLU100</i>	\$21.50	Blue		<i>PU532BLU500</i>	\$100.00	Blue	
<i>PU532CLR100</i>	\$21.50	Clear		<i>PU532CLR500</i>	\$100.00	Clear	
<i>PU532CBL100</i>	\$21.50	Clear Blue		<i>PU532CBL500</i>	\$100.00	Clear Blue	
<i>PU532RED100</i>	\$21.50	Red		<i>PU532RED500</i>	\$100.00	Red	
<i>PU532YEL100</i>	\$21.50	Yellow		<i>PU532YEL500</i>	\$100.00	Yellow	
<i>UV532GRN100</i>	\$22.50	Dark Green		<i>UV532GRN500</i>	\$105.00	Dark Green	



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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	\$32.00	Black	2.0	PU14BLK500	\$161.00	Black	8.0	
PU14BLU100	\$32.00	Blue		PU14BLU500	\$161.00	Blue		
PU14CLR100	\$32.00	Clear		PU14CLR500	\$161.00	Clear		
PU14CBL100	\$32.00	Clear Blue		PU14CBL500	\$161.00	Clear Blue		
PU14RED100	\$32.00	Red		PU14RED500	\$161.00	Red		
PU14YEL100	\$32.00	Yellow		PU14YEL500	\$161.00	Yellow		
UV14GRN100	\$38.50	Dark Green		UV14GRN500	\$182.00	Dark Green		

Polyurethane 3/8 in. Tubing Specifications

<i>Outside Diameter (in.)</i>	0.375	<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 (in.)</i>	0.250	<i>Burst Pressure (psi)</i>		450	<i>Hardness</i>	Shore A 98	
<i>Wall Thickness (in.)</i>	0.063	<i>Vacuum Rating</i>		To 28" Hg	<i>Bend Radius (in.)</i>	1.00	
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>
<u>PU38BLK100</u>	\$69.00	Black	3.0	<u>PU38BLK500</u>	\$348.00	Black	16.0
<u>PU38BLU100</u>	\$69.00	Blue		<u>PU38BLU500</u>	\$348.00	Blue	
<u>PU38CLR100</u>	\$69.00	Clear		<u>PU38CLR500</u>	\$348.00	Clear	
<u>PU38CBL100</u>	\$69.00	Clear Blue		<u>PU38CBL500</u>	\$348.00	Clear Blue	
<u>PU38RED100</u>	\$69.00	Red		<u>PU38RED500</u>	\$348.00	Red	
<u>PU38YEL100</u>	\$69.00	Yellow		<u>PU38YEL500</u>	\$348.00	Yellow	
<u>UV38GRN100</u>	\$79.00	Dark Green		<u>UV38GRN500</u>	\$374.00	Dark Green	

Polyurethane 1/2 in. Tubing Specifications

<i>Outside Diameter (in.)</i>	0.500	<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 (in.)</i>	0.328	<i>Burst Pressure (psi)</i>		450	<i>Hardness</i>	Shore A 98	
<i>Wall Thickness (in.)</i>	0.086	<i>Vacuum Rating</i>		To 28" Hg	<i>Bend Radius (in.)</i>	1.102	
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>
<u>PU12BLK100</u>	\$139.00	Black	6.0	<u>PU12BLK500</u>	\$672.00	Black	29.0
<u>PU12BLU100</u>	\$139.00	Blue		<u>PU12BLU500</u>	\$672.00	Blue	
<u>PU12CLR100</u>	\$139.00	Clear		<u>PU12CLR500</u>	\$672.00		
<u>PU12CBL100</u>	\$139.00	Clear Blue					
<u>PU12RED100</u>	\$139.00	Red					
<u>PU12YEL100</u>	\$139.00	Yellow					
<u>UV12GRN100</u>	\$142.00	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>
<u>PU6MBLK100</u>	\$34.00	Black	2.0	<u>PU6MBLK500</u>	\$164.00	Black	7.0
<u>PU6MBLU100</u>	\$34.00	Blue		<u>PU6MBLU500</u>	\$164.00	Blue	
<u>PU6MCLR100</u>	\$34.00	Clear		<u>PU6MCLR500</u>	\$164.00	Clear	
<u>PU6MCBL100</u>	\$32.50	Clear Blue		<u>PU6MCBL500</u>	\$158.00	Clear Blue	
<u>PU6MRED100</u>	\$32.50	Red		<u>PU6MRED500</u>	\$158.00	Red	
<u>PU6MYEL100</u>	\$32.50	Yellow		<u>PU6MYEL500</u>	\$158.00	Yellow	
<u>UV6MGRN100</u>	\$37.50	Dark Green		<u>UV6MGRN500</u>	\$180.00	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>
<u>PU8MBLK100</u>	\$57.00	Black	3.0	<u>PU8MBLK500</u>	\$283.00	Black	12.0
<u>PU8MBLU100</u>	\$57.00	Blue		<u>PU8MBLU500</u>	\$283.00	Blue	
<u>PU8MCLR100</u>	\$57.00	Clear		<u>PU8MCLR500</u>	\$283.00	Clear	
<u>PU8MCBL100</u>	\$55.00	Clear Blue					
<u>PU8MRED100</u>	\$55.00	Red					
<u>PU8MYEL100</u>	\$55.00	Yellow					
<u>UV8MGRN100</u>	\$58.00	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>	
<u>PU10MBLK100</u>	\$77.00	Black	4.0	<u>PU10MBLK500</u>	\$374.00	Black	18.0	
<u>PU10MBLU100</u>	\$77.00	Blue		<u>PU10MBLU500</u>	\$374.00	Blue		
<u>PU10MCLR100</u>	\$77.00	Clear		<u>PU10MCLR500</u>	\$374.00	Clear		
<u>PU10MCBL100</u>	\$77.00	Clear Blue						
<u>PU10MRED100</u>	\$77.00	Red						
<u>PU10MYEL100</u>	\$77.00	Yellow						
<u>UV10MGRN100</u>	\$79.00	Dark Green						



Polyurethane Pneumatic Tubing

Polyurethane 12 mm Tubing Specifications					
Outside Diameter (mm)	12.0	Working Pressure (psi) @ 70°F	150	Temp. Range	-40°F to +160°F (-40°C to +71°C)
Inside Diameter (mm)	8.0	Burst Pressure (psi)	450	Hardness	Shore A 98
Wall Thickness (mm)	2.0	Vacuum Rating	To 28" Hg	Bend Radius (mm)	28.0
100 ft. Package Length					
Part Number	Price	Color	Package Weight (lbs)		
PU12MBLK100	\$118.00	Black	5.0		
PU12MBLU100	\$118.00	Blue			
PU12MCLR100	\$118.00	Clear			
PU12MCBL100	\$118.00	Clear Blue			
PU12MRED100	\$108.00	Red			
PU12MYEL100	\$118.00	Yellow			
UV12MGRN100	\$138.00	Dark Green			

Polyurethane 16 mm Tubing Specifications						
Outside Diameter (mm)	16.0	Working Pressure (psi) @ 70°F	150	Temp. Range	-40°F to +160°F (-40°C to +71°C)	
Inside Diameter (mm)	11.0	Burst Pressure (psi)	450	Hardness	Shore A 98	
Wall Thickness (mm)	2.5	Vacuum Rating	To 28" Hg	Bend Radius (mm)	30.0	
100 ft. Package Length						
Part Number	Price	Color				Package Weight (lbs)
PU16MBLK100	\$204.00	Black				8.35
PU16MBLU100	\$204.00	Blue				
PU16MCLR100	\$204.00	Clear				
PU16MCBL100	\$204.00	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	\$5.75
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	\$12.00



[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

Part Number	Description	Pcs/Pkg	Wt (lb)	Price
<u>TC-12</u>	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	\$5.75
<u>TC-20</u>	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	\$12.00



[TC-12](#)



[TC-20](#)