



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

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		Black	0.5	PU18BLK500		Black	2.5
PU18BLU100		Blue		PU18BLU500		Blue	
PU18CLR100		Clear		PU18CLR500		Clear	
PU18CBL100		Clear Blue					
PU18RED100		Red					
PU18YEL100		Yellow					
UV18GRN100		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		Black	1.0	PU532BLK500		Black	4.0
PU532BLU100		Blue		PU532BLU500		Blue	
PU532CLR100		Clear		PU532CLR500		Clear	
PU532CBL100		Clear Blue		PU532CBL500		Clear Blue	
PU532RED100		Red		PU532RED500		Red	
PU532YEL100		Yellow		PU532YEL500		Yellow	
UV532GRN100		Dark Green		UV532GRN500		Dark Green	



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Polyurethane 1/4 in. Tubing Specifications							
<i>Outside Diameter (in.)</i>	0.250	<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 (in.)</i>	0.156	<i>Burst Pressure (psi)</i>		540	<i>Hardness</i>		Shore A 98
<i>Wall Thickness (in.)</i>	0.047	<i>Vacuum Rating</i>		To 28" Hg	<i>Bend Radius (in.)</i>		0.476
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>
PU14BLK100		Black	2.0	PU14BLK500		Black	8.0
PU14BLU100		Blue		PU14BLU500		Blue	
PU14CLR100		Clear		PU14CLR500		Clear	
PU14CBL100		Clear Blue		PU14CBL500		Clear Blue	
PU14RED100		Red		PU14RED500		Red	
PU14YEL100		Yellow		PU14YEL500		Yellow	
UV14GRN100		Dark Green		UV14GRN500		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>
PU38BLK100		Black	3.0	PU38BLK500		Black	16.0
PU38BLU100		Blue		PU38BLU500		Blue	
PU38CLR100		Clear		PU38CLR500		Clear	
PU38CBL100		Clear Blue		PU38CBL500		Clear Blue	
PU38RED100		Red		PU38RED500		Red	
PU38YEL100		Yellow		PU38YEL500		Yellow	
UV38GRN100		Dark Green		UV38GRN500		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>
PU12BLK100		Black	6.0	PU12BLK500		Black	29.0
PU12BLU100		Blue		PU12BLU500		Blue	
PU12CLR100		Clear		PU12CLR500		Clear	
PU12CBL100		Clear Blue					
PU12RED100		Red					
PU12YEL100		Yellow					
UV12GRN100		Dark Green					



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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>		Black	2.0	<i>PU6MBLK500</i>		Black	7.0
<i>PU6MBLU100</i>		Blue		<i>PU6MBLU500</i>		Blue	
<i>PU6MCLR100</i>		Clear		<i>PU6MCLR500</i>		Clear	
<i>PU6MCBL100</i>		Clear Blue		<i>PU6MCBL500</i>		Clear Blue	
<i>PU6MRRED100</i>		Red		<i>PU6MRRED500</i>		Red	
<i>PU6MYEL100</i>		Yellow		<i>PU6MYEL500</i>		Yellow	
<i>UV6MGRN100</i>		Dark Green		<i>UV6MGRN500</i>		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>		Black	3.0	<i>PU8MBLK500</i>		Black	12.0
<i>PU8MBLU100</i>		Blue		<i>PU8MBLU500</i>		Blue	
<i>PU8MCLR100</i>		Clear		<i>PU8MCLR500</i>		Clear	
<i>PU8MCBL100</i>		Clear Blue					
<i>PU8MRRED100</i>		Red					
<i>PU8MYEL100</i>		Yellow					
<i>UV8MGRN100</i>		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>		Black	4.0	<i>PU10MBLK500</i>		Black	18.0
<i>PU10MBLU100</i>		Blue		<i>PU10MBLU500</i>		Blue	
<i>PU10MCLR100</i>		Clear		<i>PU10MCLR500</i>		Clear	
<i>PU10MCBL100</i>		Clear Blue					
<i>PU10MRRED100</i>		Red					
<i>PU10MYEL100</i>		Yellow					
<i>UV10MGRN100</i>		Dark Green					

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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		Black	5.0		
PU12MBLU100		Blue			
PU12MCLR100		Clear			
PU12MCBL100		Clear Blue			
PU12MRED100		Red			
PU12MYEL100		Yellow			
UV12MGRN100		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		Black	8.35		
PU16MBLU100		Blue			
PU16MCLR100		Clear			
PU16MCBL100		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	
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	



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

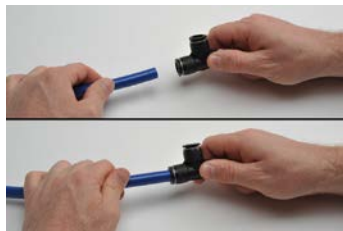


Prepare the **NITRA** tubing for cutting and make sure to have the proper tubing cutters like the **NITRA** TC-12 or TC-20.

(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]				

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TC-12



TC-20