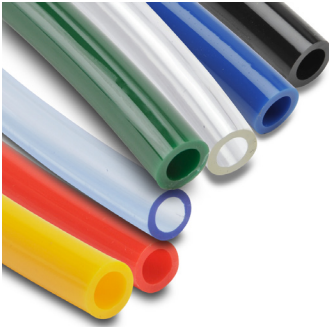




Polyurethane Pneumatic Tubing



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		Black	0.5	PU18BLK500		Black	2.5
PU18BLU100		Blue		PU18BLU500		Blue	
PU18CLR100		Clear		PU18CLR500		Clear	
PU18CBL100		Clear Blue		PU18CBL500		Clear Blue	
PU18RED100		Red		PU18RED500		Red	
PU18YEL100		Yellow		PU18YEL500		Yellow	
UV18GRN100		Dark Green		UV18GRN500		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	



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		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							
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		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							
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		Black	6.0	PU12BLK500		Black	29.0
PU12BLU100		Blue		PU12BLU500		Blue	
PU12CLR100		Clear		PU12CLR500		Clear	
PU12CBL100		Clear Blue		PU12CBL500		Clear Blue	
PU12RED100		Red		PU12RED500		Red	
PU12YEL100		Yellow		PU12YEL500		Yellow	
UV12GRN100		Dark Green		UV12GRN500		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		Black	2.0	PU6MBLK500		Black	7.0
PU6MBLU100		Blue		PU6MBLU500		Blue	
PU6MCLR100		Clear		PU6MCLR500		Clear	
PU6MCBL100		Clear Blue		PU6MCBL500		Clear Blue	
PU6MRED100		Red		PU6MRED500		Red	
PU6MYEL100		Yellow		PU6MYEL500		Yellow	
UV6MGRN100		Dark Green		UV6MGRN500		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		Black	3.0	PU8MBLK500		Black	12.0
PU8MBLU100		Blue		PU8MBLU500		Blue	
PU8MCLR100		Clear		PU8MCLR500		Clear	
PU8MCBL100		Clear Blue		PU8MCBL500		Clear Blue	
PU8MRED100		Red		PU8MRED500		Red	
PU8MYEL100		Yellow		PU8MYEL500		Yellow	
UV8MGRN100		Dark Green		UV8MGRN500		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		Black	4.0	PU10MBLK500		Black	18.0
PU10MBLU100		Blue		PU10MBLU500		Blue	
PU10MCLR100		Clear		PU10MCLR500		Clear	
PU10MCBL100		Clear Blue		PU10MCBL500		Clear Blue	
PU10MRED100		Red		PU10MRED500		Red	
PU10MYEL100		Yellow		PU10MYEL500		Yellow	
UV10MGRN100		Dark Green		UV10MGRN500		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				500 ft. Reel Length			
Part Number	Price	Color	Package Weight (lbs)	Part Number	Price	Color	Package Weight (lbs)
PU12MBLK100		Black	5.0	PU12MBLK500		Black	24.0
PU12MBLU100		Blue		PU12MBLU500		Blue	
PU12MCLR100		Clear		PU12MCLR500		Clear	
PU12MCBL100		Clear Blue		PU12MCBL500		Clear Blue	
PU12MRED100		Red		PU12MRED500		Red	
PU12MYEL100		Yellow		PU12MYEL500		Yellow	
UV12MGRN100		Dark Green		UV12MGRN500		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				250 ft. Reel Length			
Part Number	Price	Color	Package Weight (lbs)	Part Number	Price	Color	Package Weight (lbs)
PU16MBLK100		Black	8.35	PU16MBLK250		Black	23.20
PU16MBLU100		Blue		PU16MBLU250		Blue	
PU16MCLR100		Clear		PU16MCLR250		Clear	
PU16MCBL100		Clear Blue		PU16MCBL250		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



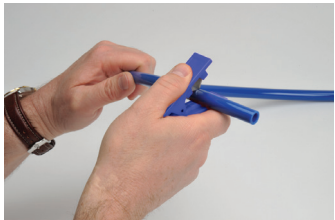
Pneumatic Fitting Instructions and Caution Information

Assembly Instructions

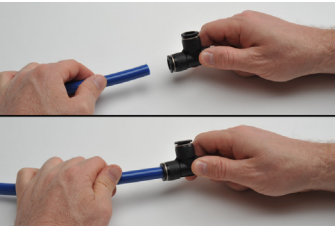


Prepare the **NITRA** tubing for cutting and make sure to have the proper tubing cutters like the **NITRA** TC-12 or TC-20.

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

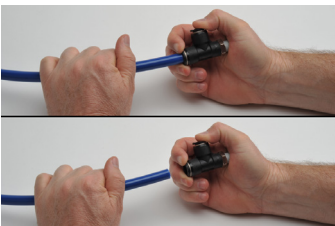


Cut the **NITRA** tubing at a right angle with the axis using a standard tube cutter. After cutting the tubing, make sure to check the cut end for an even cut with no debris.



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]				

Pneumatic Tubing Cutter

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TC-12



TC-20