UNIPRO PNEUAIR

Aluminium Composite Piping System

for Compressed Air, Vacuum, Inert Gases,
Chilled Water and Industrial Water Systems

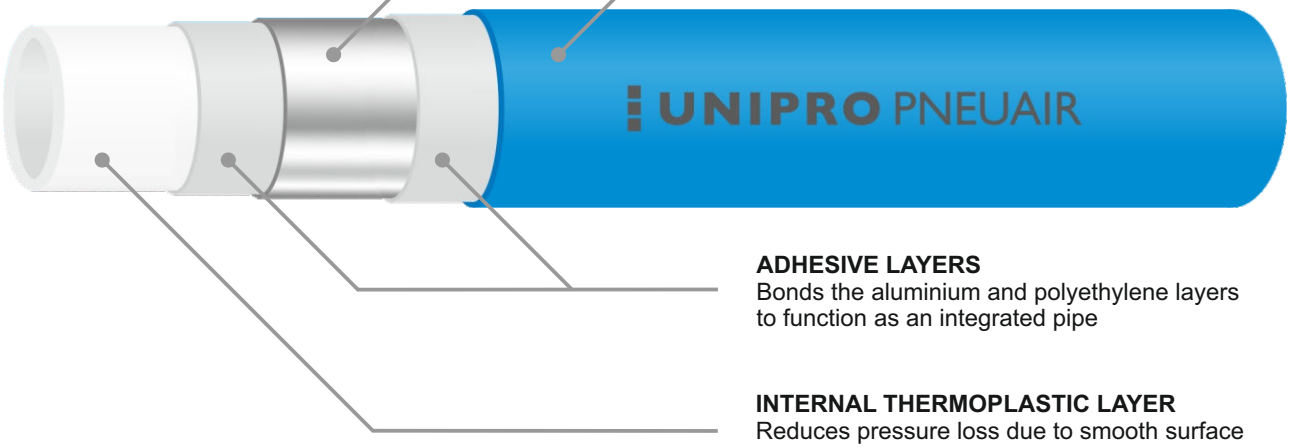
UNIPRO PNEUAIR

Unipro PneuAir is an innovative, next generation thermoplastic pneumatic piping system which combines the advantages of its metal and thermoplastic materials and at the same time eliminates the disadvantages associated with these materials.

Unipro PneuAir is the latest innovation in piping systems being the ideal choice for Compressed Air, Vacuum, Inert Gases, Chilled Water and Industrial Water systems. It is manufactured as per the latest International standards and adhere to stringent quality control procedures resulting in a world class product.

Unipro PneuAir Pipes have many benefits such as - light weight, bendability and no need to weld, glue or thread. It is also economical when compared to traditional piping systems such as Aluminium and Galvanized Iron. The installation time is significantly reduced compared to the traditional pipes leading to increased productivity and further reduction in the overall costs of the piping system.

PIPE COMPOSITION



METAL CORE
Provides mechanical strength, bendability without spring back and acts as a permeation barrier

EXTERNAL THERMOPLASTIC LAYER
Acts as a mechanical and chemical protection layer for the aluminium layer

ADHESIVE LAYERS
Bonds the aluminium and polyethylene layers to function as an integrated pipe

INTERNAL THERMOPLASTIC LAYER
Reduces pressure loss due to smooth surface and makes the pipe corrosion free

Unipro PneuAir Pipe is made up of multiple layers. The inner layer is made of thermoplastic, with a cental core of Metal, then covered by an outer Thermoplastic layer. Between the metal and thermoplastic layers are the bonding adhesive layers.

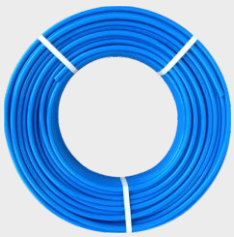
As a result of this unique combination of materials, the product is such that allows excellent properties to be reached that otherwise would not be possible in a pipe made from any single material - metal or thermoplastic.

ADVANTAGES

- Long Service life - of at least 50 years.
- Bendability - pipes can be bent manually by hand, without springing back to its original shape
- Minimum Fittings - use of elbows and couplers is reduced by upto 95% due to bendability and long length of pipe coil
- Simple installation - quick and clean installation with only basic tools, no welding, solvent cement or thread cutting required
- Leak free - our compression fittings feature unique double O-ring seals to ensure long term joint integrity and a leak free piping system
- Permeation barrier layer - the metal core acts as a permanent barrier to the passage of alien substances
- Thermal linear expansion - upto 9 times less compared to plastic pipes and similar to that of metal pipes
- Light weight - 1/3rd weight compared to copper pipes and 1/10th of steel pipes
- UV Stabilized - for an increased durability of pipes against direct sunlight exposure.
- Corrosion resistance - Pipes have total resistance to corrosion and construction materials
- Minimum pressure loss - minimum friction due to a smooth inner surface

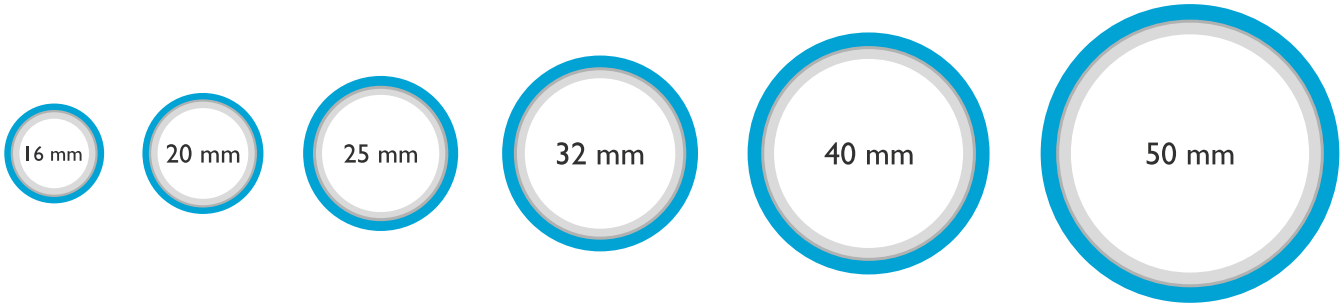
PRODUCT RANGE - PIPES

PNEUAIR



Material	Thermoplastic with Metal core
Color	Outer Layer - Blue Inner Layer - Natural
Application	Compressed Air Vacuum Inert Gases Chilled Water Industrial Water
Operating Pressure	232 psi (16.0 bar) @ 23°C 175 psi (12.0 bar) @ 60°C
Operating Temperature	-20°C to 60°C
Manufacturing Standard	as per ISO 21003 & ASTM F 1282

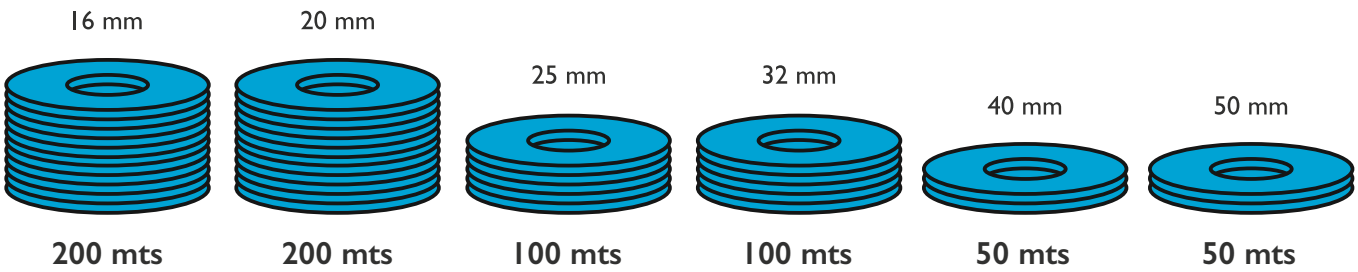
Unipro PneuAir Pipes are available in a wide range of sizes from 16 mm O.D. to 50 mm O.D.



Unipro PneuAir Pipes are manufactured as per European standards and as a result follow stringent quality and performance requirements. The Aluminium Layer - which provides mechanincal strength to the pipe - in our pipes is **upto 33% thicker** compared to other brands. As a result, our pipes have higher burst pressures and have more stable & durable performance in the long run.

Pipe Size	Equivalent NB Pipe Size (Inches)	Outside Diameter (mm)	Aluminium Layer Thickness (mm)	Total Pipe Wall Thickness (mm)
16 mm	1/2"	16.00	0.21	2.00 +/- 0.10
20 mm	3/4"	20.00	0.26	2.00 +/- 0.10
25 mm	1"	25.00	0.30	2.50 +/- 0.10
32 mm	1-1/4"	32.00	0.36	3.00 +/- 0.10
40 mm	1-1/2"	40.00	0.40	4.00 +/- 0.20
50 mm	2"	50.00	0.50	4.50 +/- 0.20

All pipe sizes are available in coil form and the coil length varies depending on the pipe size:

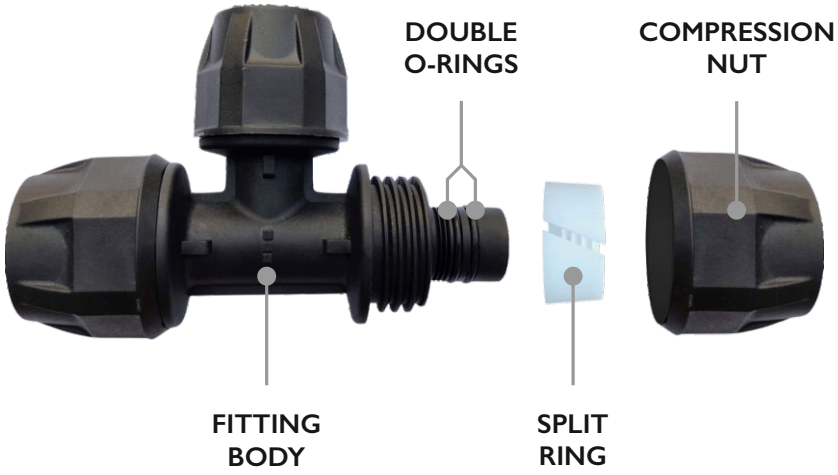


PRODUCT RANGE - GRIPTITE FITTINGS

Griptite is Unipro's state-of-the-art range of compression fittings made from Nylon with Glass filled (PA6-GF30). It is an engineered plastic ideal for heavy duty applications and thus have high Mechanical & Thermal properties. Griptite fillings are available from 16 mm to 40 mm sizes.

GRIPTITE
Engineered Plastic Compression Fittings

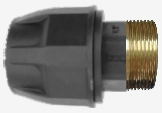
Components of Griptite fittings:



Equal / Unequal Union

Female Union

Male Union


Male Union w/ Brass Th.

Equal Elbow

Female Elbow

Equal Tee

Unequal Tee

Female Tee

Pipe End

SAFE SEAL TECHNOLOGY

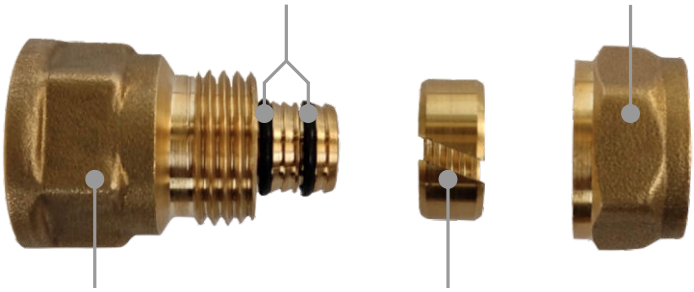
Unipro's fittings are designed using the Safe Seal Technology according to which the fittings are made in such a manner that both the O-rings ensure an optimal seal on the Pipe. As a result Unipro's piping system performs effectively at high pressures.

PRODUCT RANGE - BRASSTITE FITTINGS

Brasstite is Unipro's compression fittings range made from Brass. All our fittings are manufactured using the best manufacturing processes and high quality extruded & forged IS 319 grade Brass. Brasstite fittings are available from 16 mm to 40 mm sizes.

BRASSTITE
Brass Compression Fittings

Components of Brasstite fittings:



Equal / Unequal Union

Female Union

Male Union

Equal Elbow

Female Elbow

Wall Plated Female Elbow

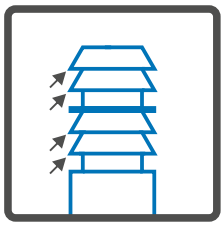
Equal Tee

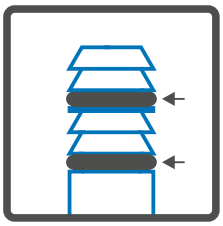
Unequal Tee

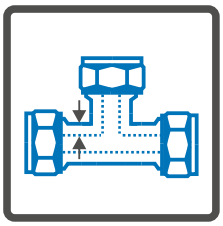
Female Tee

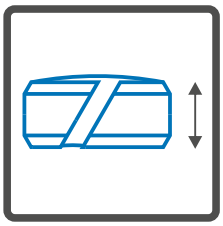
Pipe End

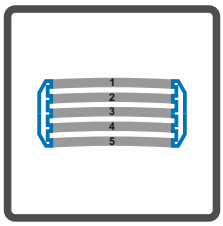
Unipro's fittings are designed with first-in-segment features providing superior performance.


Pointed edges of Insert


Double O-rings


Increased Wall thickness

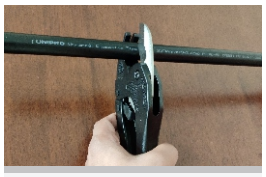

Extra wide Split-rings



4 to 5 grip lines in Split-ring

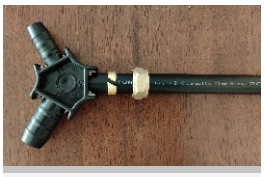
INSTALLATION PROCEDURE

Unipro PneuAir Pipes should always be installed using Unipro's Brasstite or Griptite fittings and Unipro Installation tools for best performance and applicability of Warranty. It is also important to follow each of the below steps for successful installations.



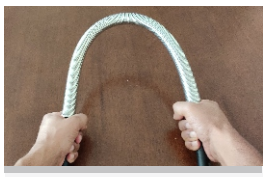
Step 1: Cut Unipro Metco Pipe at 90° angle

Step 2: Insert nut and split ring onto pipe.



Step 3: Round & Chamfer the pipe (3-5 rotations).

Step 4: Insert fitting and tighten nut with spanner to complete jointing.



Pipe Bending: Bend pipe using Internal / External bending springs.

PRODUCT WARRANTY

Unipro's products are manufactured using the best raw materials, latest processes and as per international product standards.

We provide a 10 years warranty on pipes & fittings against any manufacturing defect subject to the following Terms and Conditions:

- Warranty is applicable only when Unipro PneuAir pipes and Unipro fittings (Brasstite or Griptite) are used together in combination. Warranty will be void in case of use with pipes or fittings of other brands.
- Unipro's Installation procedure is followed and Unipro Tools are used for installation.
- Unipro PneuAir system is used within the defined Operating pressures and temperatures.
- Unipro provides free replacement of faulty products under this warranty and is not liable for any other costs incurred directly or indirectly.
- The warranty does not cover faulty workmanship.

10 YEARS

WARRANTY AGAINST MANUFACTURING DEFECT*

***subject to Terms & Conditions**

Dual-Grip Technology is another innovation from Unipro. The fittings are designed in such a manner that it grips the pipe from both the inner layer and outer layer providing increased strength to the joint. As a result, each joint is more secure and can operate at high pressures without any worries.

DUAL-GRIP TECHNOLOGY

ITEM LIST

PIPES

PNEUAIR

Pipe Color: Blue

Size (mm)	Size (inches)	Pipe ID	Pipe OD	Part No
16	½"	12 mm	16 mm	UPA-PE16
20	¾"	16 mm	20 mm	UPA-PE20
25	1"	20 mm	25 mm	UPA-PE25
32	1¼"	26 mm	32 mm	UPA-PE32
40	1½"	32 mm	40 mm	UPA-PE40
50	2"	41 mm	50 mm	UPA-PE50

BRASSTITE BRASS COMPRESSION FITTING

EQUAL UNION

Size	Part No
14 x 14	UBC-EU1414
16 x 16	UBC-EU1616
20 x 20	UBC-EU2020
25 x 25	UBC-EU2525
32 x 32	UBC-EU3232
40 x 40	UBC-EU4040

FEMALE UNION

Size	Part No
25 x 1"	UBC-FU2508
32 x 1"	UBC-FU3208
32 x 1¼"	UBC-FU3210
40 x 1½"	UBC-FU4012

FEMALE ELBOW

Size	Part No
14 x ½"	UBC-FL1404
16 x ½"	UBC-FL1604
20 x ½"	UBC-FL2004
25 x ½"	UBC-FL2504

UNEQUAL TEE

Size	Part No
16 x 14 x 16	UBC-UT161416
20 x 16 x 20	UBC-UT201620
25 x 16 x 25	UBC-UT251625
25 x 20 x 25	UBC-UT252025
32 x 16 x 32	UBC-UT321632
32 x 20 x 32	UBC-UT322032
32 x 25 x 32	UBC-UT322532
40 x 20 x 40	UBC-UT402040
40 x 25 x 40	UBC-UT402540
40 x 32 x 40	UBC-UT403240

UNEQUAL UNION

Size	Part No
16 x 14	UBC-UU1614
20 x 16	UBC-UU2016
25 x 16	UBC-UU2516
25 x 20	UBC-UU2520
32 x 16	UBC-UU3216
32 x 20	UBC-UU3220
32 x 25	UBC-UU3225
40 x 20	UBC-UU4020
40 x 25	UBC-UU4025
40 x 32	UBC-UU4032

MALE UNION

Size	Part No
14 x ½"	UBC-MU1404
16 x ½"	UBC-MU1604
20 x ½"	UBC-MU2004
20 x ¾"	UBC-MU2006
25 x ½"	UBC-MU2504
25 x ¾"	UBC-MU2506
25 x 1"	UBC-MU2508
32 x 1"	UBC-MU3208
32 x 1¼"	UBC-MU3210
40 x 1¼"	UBC-MU4010
40 x 1½"	UBC-MU4012

WALL PLATED FEMALE ELBOW

Size	Part No
14 x ½"	UBC-WL1404
16 x ½"	UBC-WL1604
20 x ½"	UBC-WL2004

FEMALE TEE

Size	Part No
14 x ½" x 14	UBC-FT140414
16 x ½" x 16	UBC-FT160416
20 x ½" x 20	UBC-FT200420
25 x ½" x 25	UBC-FT250425

FEMALE UNION

Size	Part No
14 x ½"	UBC-FU1404
16 x ½"	UBC-FU1604
20 x ½"	UBC-FU2004
20 x ¾"	UBC-FU2006
25 x ½"	UBC-FU2504
25 x ¾"	UBC-FU2506

EQUAL ELBOW

Size	Part No
14 x 14	UBC-EL1414
16 x 16	UBC-EL1616
20 x 20	UBC-EL2020
25 x 25	UBC-EL2525
32 x 32	UBC-EL3232
40 x 40	UBC-EL4040

EQUAL TEE

Size	Part No
14 x 14 x 14	UBC-ET141414
16 x 16 x 16	UBC-ET161616
20 x 20 x 20	UBC-ET202020
25 x 25 x 25	UBC-ET252525
32 x 32 x 32	UBC-ET323232
40 x 40 x 40	UBC-ET404040

PIPE END

Size	Part No
16	UBC-PE16
20	UBC-PE20
25	UBC-PE25
32	UBC-PE32

UNIPRO PNEUAIR

ITEM LIST

GRIPTITE ENGINEERING PLASTIC COMPRESSION FITTING

EQUAL UNION

Size	Part No
16 x 16	UPC-EU1616
20 x 20	UPC-EU2020
25 x 25	UPC-EU2525
32 x 32	UPC-EU3232
40 x 40	UPC-EU4040

UNEQUAL UNION

Size	Part No
20 x 16	UPC-UU2016
25 x 16	UPC-UU2516
25 x 20	UPC-UU2520
32 x 16	UPC-UU3216
32 x 20	UPC-UU3220
32 x 25	UPC-UU3225
40 x 16	UPC-UU4016
40 x 20	UPC-UU4020
40 x 25	UPC-UU4025
40 x 32	UPC-UU4032

FEMALE UNION

WITH BRASS THREAD

Size	Part No
16 x ½"	UPC-FU1604B
20 x ½"	UPC-FU2004B

MALE UNION

WITH PLASTIC THREAD

Size	Part No
16 x ½"	UPC-MU1604P
20 x ½"	UPC-MU2004P
20 x ¾"	UPC-MU2006P
25 x ½"	UPC-MU2504P
25 x ¾"	UPC-MU2506P
25 x 1"	UPC-MU2508P
32 x 1¼"	UPC-MU3210P
40 x 1¼"	UPC-MU4010P
40 x 1½"	UPC-MU4012P

MALE UNION

WITH BRASS THREAD

Size	Part No
40 x 1¼"	UPC-MU4010B
40 x 1½"	UPC-MU4012B

EQUAL ELBOW

Size	Part No
16 x 16	UPC-EL1616
20 x 20	UPC-EL2020
25 x 25	UPC-EL2525
32 x 32	UPC-EL3232
40 x 40	UPC-EL4040

FEMALE ELBOW

WITH BRASS THREAD

Size	Part No
16 x ½"	UPC-FL1604B
20 x ½"	UPC-FL2004B

EQUAL TEE

Size	Part No
16 x 16 x 16	UPC-ET161616
20 x 20 x 20	UPC-ET202020
25 x 25 x 25	UPC-ET252525
32 x 32 x 32	UPC-ET323232
40 x 40 x 40	UPC-ET404040

UNEQUAL TEE

Size	Part No
20 x 16 x 16	UPC-UT201616
20 x 16 x 20	UPC-UT201620
25 x 16 x 20	UPC-UT251620
25 x 16 x 25	UPC-UT251625
25 x 20 x 25	UPC-UT252025
32 x 16 x 25	UPC-UT321625
32 x 16 x 32	UPC-UT321632
32 x 20 x 32	UPC-UT322032
32 x 25 x 32	UPC-UT322532
40 x 16 x 40	UPC-UT401640
40 x 20 x 40	UPC-UT402040
40 x 25 x 40	UPC-UT402540
40 x 32 x 40	UPC-UT403240

FEMALE TEE

WITH BRASS THREAD

Size	Part No
16 x ½" x 16	UPC-FT160416B
20 x ½" x 20	UPC-FT200420B

PIPE END

Size	Part No
40 x 40	UPC-PE40

NOTES

Disclaimer: All Information given in this Brochure are reliable, accurate and in good faith, however due to continuos Product Research & Development undertaken by Unipro, actual product may differ from that shown in the Brochure. Product images shown here are for representation purpose.

UNIPRO®

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