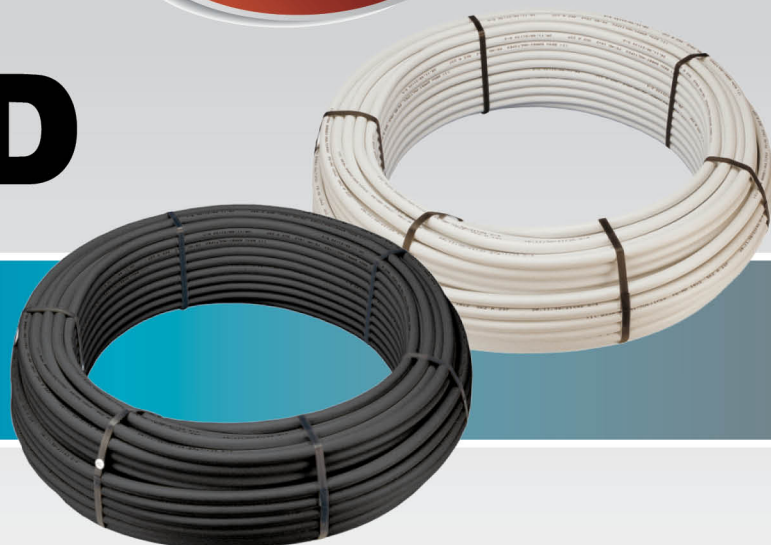


INNOVATION

UNAVELD

Polyethylene Pipes



UNAVELD

Made in Germany and bearing all the necessary certifications, **UNAVELD** pipes are suitable for plumbing and heating (underfloor heating) systems, solar and forced circulation systems as well as for drinking water networks. Continuous research and development combined with a highly specialised personnel and high-tech manufacturing machinery ensure a **lifespan of over 50 years**.



All UNAVELD pipes come with a written guarantee.



Applications

- Domestic hot water systems
- Underfloor heating
- Central heating
- In radiators (e.g. radiators, connection to panel type radiators)
- Air conditioning systems
- Transport of industrial gas and liquids as well as air under pressure

Certifications & Standards



ISO 10508
DIN 4726
DIN 16833



Certificate of proper product manufacturing and suitability for all heating and water supply systems.



Certification for hot water plastic pipes, underfloor heating and radiators.



Composite piping specifications for all heating and plumbing systems.



Certificate for drinking water quality assurance.

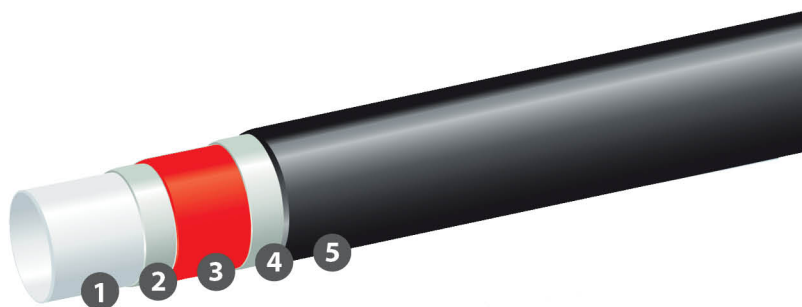
ΤΥΠΟΣ II

UNAVELD pipes are Type II and meet all requirements according to DIN 16833/ ISO 24033 for PE-RT. Manufactured from high-density polyethylene (HDPE), they offer long-term resistance to hydrostatic pressure and high temperatures.



UNAVELD PE 5-Layer Pipes for Sanitary & Heating Applications

1. Polyethylene (PE-RT) inner layer without Colouring Substances, health-friendly
2. Non-toxic Adhesive Layer
3. **Oxygen Barrier Layer (EVOH)**
4. Non-toxic Adhesive Layer
5. Black coloured, Polyethylene (PE-RT) outer layer, providing **100% Protection form UV radiation**

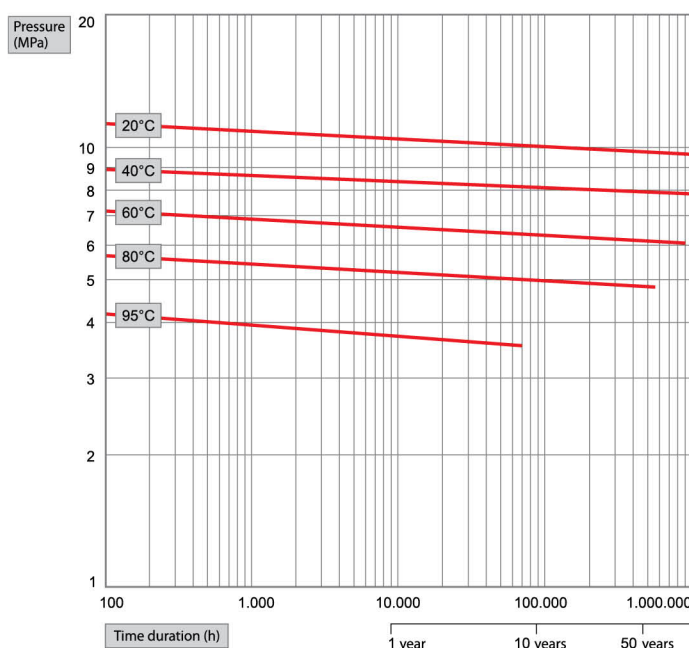


Benefits

- **Permanent protection from oxygen penetration in the installation** & full network protection against corrosion
- **Increased resistance to high temperature (up to 95°C) and pressure (up to 6 bar)**
- Improved ageing properties
- Minimal thermal contraction, with values from 0.3% to 0.7%
- Protection from oxygen diffusion up to +80°C
- Thanks to PE-RT outer layer, **oxygen barrier is protected from wear during transport and / or installation**
- **Easy to install**
- Particularly suitable for industrial applications, heating installation (underfloor or radiators), as well as for drinking water networks
- Fully certified product range

Pressure & Temperature Resistance

UNAVELD PE 5-Layer Pipe



EXTERNAL DIAMETER	INTERNAL DIAMETER	THICKNESS	METRES/COIL
POLYETHYLENE 5-LAYER PIPE - 41317			
16 mm	12 mm	2 mm	100 m
18 mm	14 mm	2 mm	100 m
18 mm	13 mm	2,5 mm	100 m

Technical Features	
Max. Operating Temperature	95°C 110°C (1 year)
Operating Conditions for Heating Systems (Class 4, Class 5)	95°C - 6 bar with a 50 years min. Lifespan
Operating Conditions for Domestic Hot Water Systems (Class 1, Class 2)	60°C - 10bar with a 50 years min. Lifespan
Thermal Conductivity Coefficient	0,04 w/mk
Linear Thermal Expansion Percentage	0,3% at 50°C 0,7% at 90°C
Oxygen Permeability	0,01 g/m³d (According to DIN 4726)
Radius of Curvature	Ø 6-18 pipe diameter x 5, Ø 18-32 pipe diameter x 8

Applications



Plumbing



Drinking Water Systems



Heating



Underfloor Heating



Cooling



Solar Energy

UNAVELD PERT-AL-PERT Multi-Layer Pipes Suitable for Plumbing & Heating Systems

1. PERT inner layer without colouring substances
2. Adhesive layer
3. Aluminum layered barrier
4. Adhesive layer
5. PERT outer layer

Benefits

- Excellent flexibility thanks to the new generation polyethylene PERT (Dowlex 2388)
- **Waterproof aluminum barrier**
- Prevents corrosion o individual parts/fittings
- Absolute waterproof to oxygen diffusion
- **Shape Persistence: It keeps its formed shape without recoiling**
- Reduces thermal expansion to temperature changes
- No sediment accumulation
- Thermal expansion similar to metal pipes
- Material appropriate for drinking water
- Easy, safe and fast installation. Needs fewer connection accessories
- **Lightweight and easy to use: 3 times lighter than copper**
- Excellent durability in time



UNAVELD SOLAR
PERT-AL-PERT

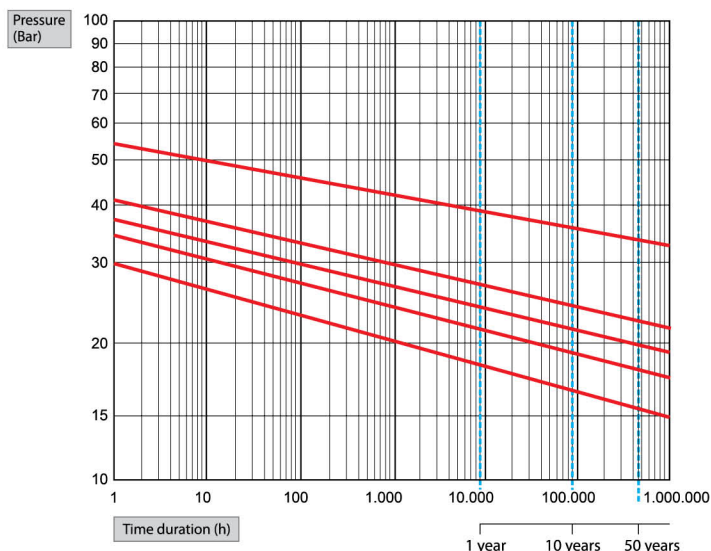
UNAVELD PERT-AL-PERT Multi-layer pipes are available with black coating, highly resistant to UV radiation.



EXTERNAL DIAMETER	INTERNAL DIAMETER	THICKNESS	METRES/COIL
PERT-AL-PERT PIPE, COIL, IN WHITE*			
Φ16	2 mm	0,20 mm	100 m
Φ18	2 mm	0,25 mm	100 m
Φ20	2 mm	0,25 mm	100 m
Φ20	2,5 mm	0,25 mm	100 m
Φ26	3 mm	0,30 mm	50 m
Φ32	3 mm	0,50 mm	50 m
PERT-AL-PERT PIPE, COIL, IN BLACK*			
Φ16	2 mm	0,25 mm	100 m

*Οι πολυστρωματικοί σωλήνες 16x2, 18x2 και 20x2 παραδίδονται και σε μεγάλο καρούλι των 500 μέτρων.

UNAVELD PERT-AL-PERT Multi-Layer Pipe



Technical Features	
Max. Operating Temperature Maximum / Momentary	95° C / 100° C
Operating Pressure	10 bar at 95° C 20 bar at 5° C
Lifespan	50 years
Thermal Conductivity Coefficient	0,43 W/mK
Linear Thermal Expansion	0,026 mm/mK
Internal Roughness	0,007mm
Oxygen Permeability	10,00%/ mg (According to DIN 4726)
Welding Properties between Layers	Welding Endurance >80 N/cm ²
Radius of Curvature (R)	Rated Pipe Diameter DN x 6

UNAVELD Polyethylene Pipes

UNAVELD polyethylene pipes are manufactured in Germany from the high-quality primary material Dowlex, a polymerised ethyl octane compound with additional bonds, ensuring higher strength compared to any other PE mesh.

Thus, greater strength and flexibility are achieved, as **UNAVELD** polyethylene pipes can withstand a 6 bar pressure at +95°C.

The **UNAVELD** piping production process is certified to DIN EN ISO 9002.

- Pipes bear a complete range of certificates from SKZ, MPA, DVGW & TUV institutions
- **10 years guarantee**
- Available in PEOC PE RT Black colour



**UNAVELD's
modern solution for
underfloor heating**

**10-year
Warranty**

EXTERNAL DIAMETER	THICKNESS	INTERNAL DIAMETER	METERS/COIL
PEOC PE-RT BLACK - 41302			
15 mm	2,5 mm	10 mm	100 m
16 mm	2 mm	12 mm	100 m
18 mm	2 mm	14 mm	100 m
18 mm	2,5 mm	13 mm	100 m
22 mm	3 mm	16 mm	100 m
28 mm	3 mm	22 mm	50 m
32 mm	3 mm	26 mm	50 m
PEOC PE-RT BLACK with Protection Pipe - 41307 - 41308			
15 mm	2,5 mm	10 mm	50 m
16 mm	2 mm	12 mm	50 m
18 mm	2 mm	14 mm	50 m
18 mm	2,5 mm	13 mm	50 m



Applications



Plumbing



Heating



Underfloor
Heating



Cooling



Solar
Energy

ISOSOL
PRE-INSULATED PIPES

Pre-insulated UNAVELD pipes are available as well featuring ISOPIPE insulation for outdoor installations.

ISOPIPE insulations protects the pipes from mechanical stress.
Suitable for outdoor installations and protection against UV radiation.

Available in:

- UNAVELD Pre-insulated Polyethylene pipes with ISOPIPE TC SOLAR in White
- UNAVELD Pre-insulated PERT-AL-PERT pipes with ISOPIPE TC SOLAR in White
- UNAVELD Pre-insulated PERT-AL-PERT pipes with expanded polyethylene (Celluflex)

Applications

ISOSOL TC UNAVELD:



Plumbing



Heating



Cooling



Solar Energy





420 - Pressed Brass Fittings PRESS-PEX
Suitable for all pressing types H-TH-U-B-F



135 - Compression Fittings for Multi-Layer PEX-AL-PEX
& PEX Pipes



For more information please
check our **H-IT Fittings, Ball
Valves & Clamps** Brochure.

The company

K. TZANOS SA was established in 1982 and it is a well-established trading company specialised in the field of plumbing, heating, natural gas, and green energy, maintaining long-term partnerships with well-known European and International houses. K. TZANOS SA is operating under the umbrella of TZANOS Group of companies, while owns since 1997 ISOPIPE SA, a factory specialising in the production of insulation material ISOPIPE and TORRENT cast iron condensing boilers. In 2008, TZANOS SA created the H-IT brand aiming at manufacturing high quality-products at affordable prices, for water supply and heating systems.

All products represented by TZANOS Group of Companies are CE certified.