

new

10 years
WARRANTY



proaqua.ru

PRO AQUA
PIPE SYSTEMS SINCE 1997

PE-RT
POLYETHYLENE PIPES

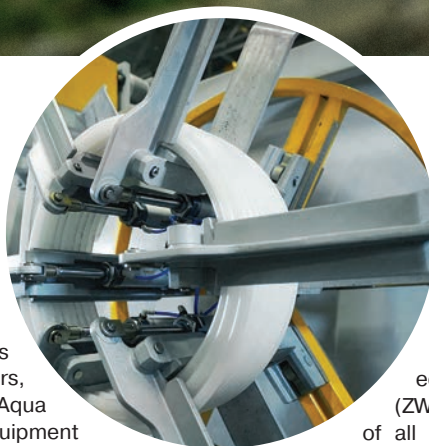
Contact details





ProAqua Factory

ProAqua factory is one of the biggest piping systems producers made of polypropylene and polyethylene for internal and external use. Piping systems produced by ProAqua and its major brands are well-known among engineers, construction companies and designers. ProAqua plant is equipped with modern German equipment for production of ProAqua PP-R pipes & fittings and sewage and drainage pipes & fittings made of PP and HDPE (Polytron



ISO 9001
BUREAU VERITAS
Certification



These products were manufactured under the control established in the quality management system certified by Bureau Veritas Certification and complying with the requirements of ISO 9001:2015, certificate no: RU229256Q-U

N° RU229256Q-U

Comfort, Polytron Terra, Polytron Stilte, Polytron Stilte+, Polytron ProKan and Polytron ProDren). Accredited laboratory of the plant is equipped with modern measuring devices and equipment from leading European manufacturers (ZWICK; BINDER; SCITEQ) for testing the quality of all products. Thanks to continuous monitoring, products manufactured at the factory, maintains the same quality level continuously.

Pro Aqua PE-RT pipes

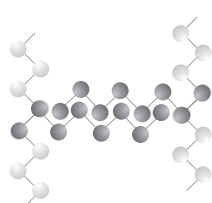
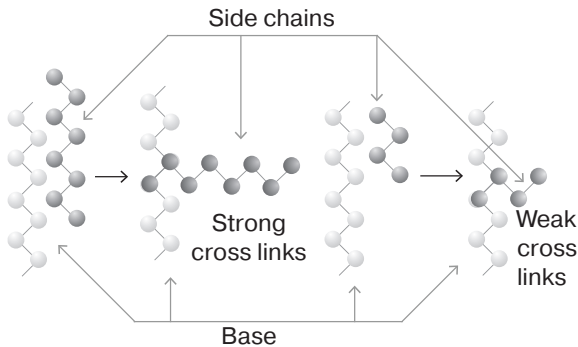
The Pro Aqua Factory is pleased to offer the widest range of PE-RT pipes for water supply and heating systems. Our range of products includes both single-layer pipes and multi-layer pipes with an oxygen barrier. All pipes are manufactured on new lines of high-quality raw materials, which allow to ensure high quality of the final product. Products are manufactured in accordance with EN ISO 22391-2-2010.

PE-RT – Polyethylene for Raised Temperature.

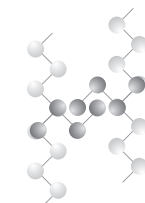
PE-RT is a copolymer of ethylene and octene-1. This material was developed by Dow chemicals about 30 years ago.

The essential difference between PE-RT and PE is the presence of a copolymer Octene-1, which binds chains during the polymerization process, and the polymer does not require additional crosslinking.

Presence of long side chains provides high impact resistance and high pressure resistance. No crosslinking is required.



No crosslinking is required



Crosslinking is required

Advantageous of our PE-RT pipes:

- Long-term high pressures resistance
- Excellent impact resistance
- Flexibility (especially compared to PE-Xb and PE-Xc)
- Low-temperature resistance (up to -40 °C)
- Welding capability
- Environmental friendliness
- No crosslinking is required

PEX type	Crosslinking percentage	Crosslinking type
PEX-a	75	Peroxide
PEX-b	65	Silane
PEX-c	60	Radiation

PE-RT vs PE-X

To compare PE-X with PE-RT in terms of its characteristics, it needs to be cross-linked. In this case, cross-linking of PE-X pipes should be at the level of 60-70%.

Please note that:

- Degree of crosslinking can only be checked in the lab.
- Degree of crosslinking cannot be monitored all time
- Silane and is very toxic materials
- After the crosslinking PE-X cannot be recycled
- If you use PE-X pipes for water supply, it must be specially treated; PE-RT does not require such treatment.

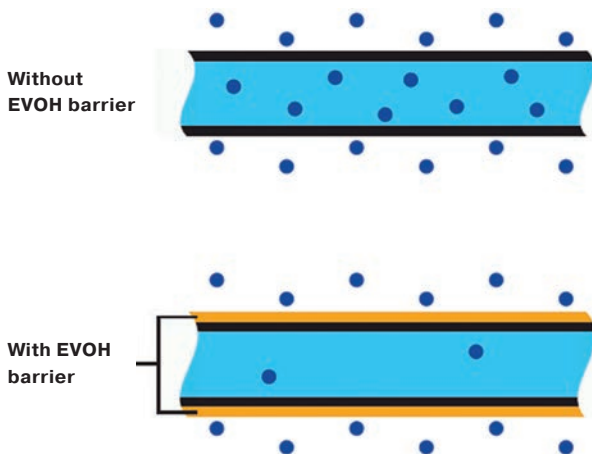


EVOH oxygen barrier

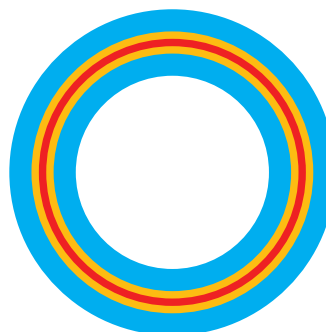
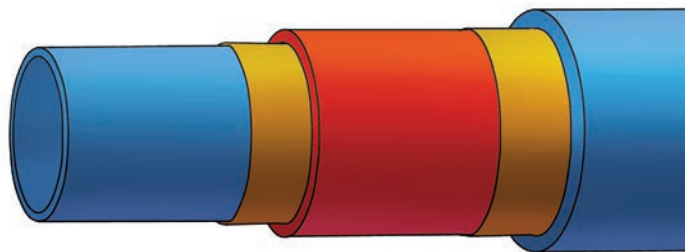
EVOH – Ethylene Vinyl Alcohol Copolymer. The material has been known since 1984. It ensures observance with the standard of not exceeding the value of 0.1 grams of oxygen per 1 m³ of heat carrier per day. According to the test results, operating efficiency of EVOH is 0.005 grams of oxygen per 1 m³ per day.

Important! PE-RT with no barrier allows oxygen to pass through. Moreover, with rising temperature of the heat carrier from 40 °C to 80 °C, ingress increases 10 times!

Pipes with an oxygen barrier enable to reliably protect metal surfaces from possible corrosion occurs due to oxygen dissolved in water.



An important advantage of our five-layer pipe design - oxygen barrier is in the central part of the pipe. This allows to visually check its presence and protect the oxygen barrier from damage, especially in comparison with three-layer pipes.



- PE-RT layers
- Adhesion layers
- EVOH oxygen barrier

Field of application

All Pro Aqua PE-RT pipes can be used both in heating systems of class 5 and in drinking water supply systems of class 2 (which is confirmed by the corresponding certificate).

Parameter	Value	Unit of measure
Density	0,94	g/cm ³
Tensile strength	24-26	N/mm ²
Elongation at break	400-600	%
Elasticity modulus	600-800	N/mm ²
Linear expansion	0,19	mm/m °C
Thermal conductivity	0,41	W/m °C
Minimum bend radius	5D	mm

PRODUCT RANGE



**Single-layer
PE-RT pipe, white**



**Five-layer
PE-RT pipe, orange**

Body size	Pressure			Code
	class 2	class 4	class 5	
16x2 100 m	6 bar	8 bar	6 bar	PERT1WD16100
16x2 200 m	6 bar	8 bar	6 bar	PERT1WD16200
16x2 300 m	6 bar	8 bar	6 bar	PERT1WD16300
16x2 600 m	6 bar	8 bar	6 bar	PERT1WD16600
20x2 100 m	6 bar	6 bar	4 bar	PERT1WD20100
20x2 200 m	6 bar	6 bar	4 bar	PERT1WD20200
16x2 100 m	8 bar	8 bar	8 bar	PERT1W16100
16x2 200 m	8 bar	8 bar	8 bar	PERT1W16200
16x2 300 m	8 bar	8 bar	8 bar	PERT1W16300
20x2 100 m	6 bar	6 bar	6 bar	PERT1W20100
20x2 200 m	6 bar	6 bar	6 bar	PERT1W20200

Body size	Pressure			Code
	class 2	class 4	class 5	
16x2 100 m	8 bar	8 bar	8 bar	PERT5O16100
16x2 200 m	8 bar	8 bar	8 bar	PERT5O16200
16x2 300 m	8 bar	8 bar	8 bar	PERT5O16300
16x2 600 m	8 bar	8 bar	8 bar	PERT5O16600
20x2 100 m	6 bar	6 bar	6 bar	PERT5O20100
20x2 200 m	6 bar	6 bar	6 bar	PERT5O20200



**Single-layer
PE-RT pipe, red**



**Five-layer PE-RT pipe
SDR 7,4, purple**

Body size	Pressure			Code
	class 2	class 4	class 5	
16x2 100 m	6 bar	8 bar	6 bar	PERT1RD16100
16x2 200 m	6 bar	8 bar	6 bar	PERT1RD16200
16x2 300 m	6 bar	8 bar	6 bar	PERT1RD16300
16x2 600 m	6 bar	8 bar	6 bar	PERT1RD16600
20x2 100 m	6 bar	6 bar	4 bar	PERT1RD20100
20x2 200 m	6 bar	6 bar	4 bar	PERT1RD20200
16x2 100 m	8 bar	8 bar	8 bar	PERT1R16100
16x2 200 m	8 bar	8 bar	8 bar	PERT1R16200
16x2 300 m	8 bar	8 bar	8 bar	PERT1R16300
20x2 100 m	6 bar	6 bar	6 bar	PERT1R20100
20x2 200 m	6 bar	6 bar	6 bar	PERT1R20200

Body size	Pressure			Code
	class 2	class 4	class 5	
16x2,2 100 m	10 bar	10 bar	8 bar	PERT5S7416100
16x2,2 200 m	10 bar	10 bar	8 bar	PERT5S7416200
16x2,2 300 m	10 bar	10 bar	8 bar	PERT5S7416300
16x2,2 600 m	10 bar	10 bar	8 bar	PERT5S7416600
20x2,8 100 m	10 bar	10 bar	8 bar	PERT5S7420100
20x2,8 200 m	10 bar	10 bar	8 bar	PERT5S7420200
25x3,5 100 m	10 bar	10 bar	8 bar	PERT5S7425100
25x3,5 50 m	10 bar	10 bar	8 bar	PERT5S7425050
32x4,4 50 m	10 bar	10 bar	8 bar	PERT5S7432050
40x5,5 50 m	10 bar	10 bar	8 bar	PERT5S7440050

PE-RT

pipes

