# Однослойные гофрированные трубы, предизолированные трубы PERT-AL-PERT, пятислойные трубы PE-RT-OXY для монтажа над землей

Технические характеристики

#### По вопросам продаж и поддержки обращайтесь:

Алматы (7273)495-231 Ангарск (3955)60-70-56 Архангельск (8182)63-90-72 Астрахань (8512)99-46-04 Барнаул (3852)73-04-60 Белгород (4722)40-23-64 Благовещенск (4162)22-76-07 Брянск (4832)59-03-52 Владивосток (423)249-28-31 Владикавказ (8672)28-90-48 Владимир (4922)49-43-18 Волгоград (844)278-03-48 Вологда (8172)26-41-59 Воронеж (473)204-51-73 Екатеринбург (343)384-55-89 Иваново (4932)77-34-06 Ижевск (3412)26-03-58 Иркутск (395)279-98-46 Казань (843)206-01-48 Калининград (4012)72-03-81 Калуга (4842)92-23-67 Кемерово (3842)65-04-62 Киров (8332)68-02-04 Коломна (4966)23-41-49 Кострома (4942)77-07-48 Краснодар (861)203-40-90 Красноярск (391)204-63-61 Курск (4712)77-13-04 Курган (3522)50-90-47 Липецк (4742)52-20-81

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#### **Pert-Al-Pert**

#### Technical Datasheet



#### **Product description**

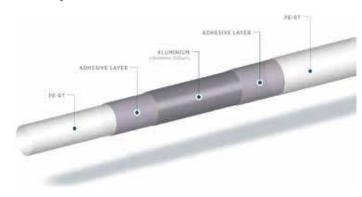
PEŠTAN multilayer composite pipes are made of overlapped welded aluminium surrounded by PE-RT layers connected by adhesives. The inner aluminium layer of multilayer composite pipes leads to a higher temperature and pressure resistance in comparison to standard plastic pipes.

#### Standards:

DIN 4726; EN 1264.

#### Pipe construction:

Inner PE-RT layer, Adhesive layer, Aluminium, Adhesive layer, Outer layer made of PE-RT.



#### Material:

PE RT, AI

#### Max. temperature:

Short-term up to 95 °C, Long-term up to 60 °C

#### Approvals:

SKZ A 685

#### **Applications:**

PERT-ALUMINIUM-PERT pipe is designed primarily for underfloor and radiator heating or being increasingly used on the installation of drinking water.

- underfloor heating;
- · wall heating;
- underfloor cooling;
- · ceiling cooling.

Depending on the customer's demands it can be with or without a protective pipe.

#### Standard colour outside:

White

#### Standard colour inside:

Transparent

#### **Characteristics and technical data**

- Max. operating pressure (ISO 10508) at 60 °C: 10 bar;
- Good resistance at elevated temperatures;
- Shape stability;
- Butt welding process;
- Aluminium thickness is 300 μm;
- Coefficient of thermal expansion is 0.024 mm/mK;
- Pipes have been tested at 95 °C at 3.9 MPa hydrostatic stress for 22h;
- This pipe can bend in a radius of 10 D or it can be packed in heating installation at 16 cm distance.

#### **Product Availability**

- Dimensions: Ø16 X 2 mm, Ø20 X 2 mm, Ø25 X 3 mm and Ø32 X 3 mm;
- Package: 50 m rolls.

#### **Chemical resistance**

High chemical resistance to a large number of compounds. Plastic pipes and fittings - Combined chemical-resistance classification table ISO/TR 10358.

#### **Technical Assistance**

Our technical and engineering team is supported and advised by European institutes. For more information about products please contact PEŠTAN technical support or regional salesman.







KIWA - Netherland



**VUPS - Czech Republic** 



**BELNIIS - Belarus** 



IMS - Serbia



**GOST R - Russia** 



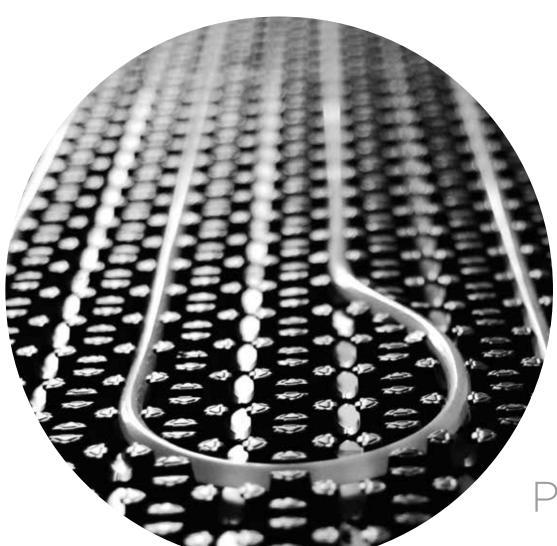
MPA - Germany



IGH - Croatia



Water & heating



PERT-AL-PERT

### WE ARE

a private company Peštan, leader in the Balkans in the production and distribution of products and solutions from the polymers.

Company was founded in 1989 and has been producing water pipes made of polyethylene. Over time, we introduced new materials (polypropylene and PVC) and expanded product range. Today, in our offer you may find more than 6500 products, divided into four categories:



PIPING SOLUTIONS



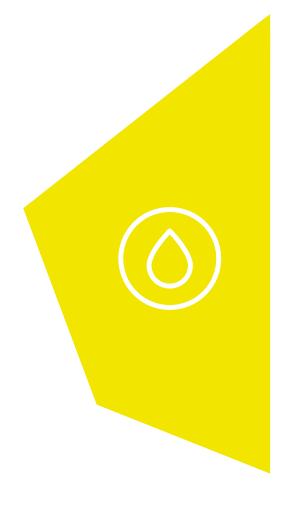
DRAIN SOLUTIONS



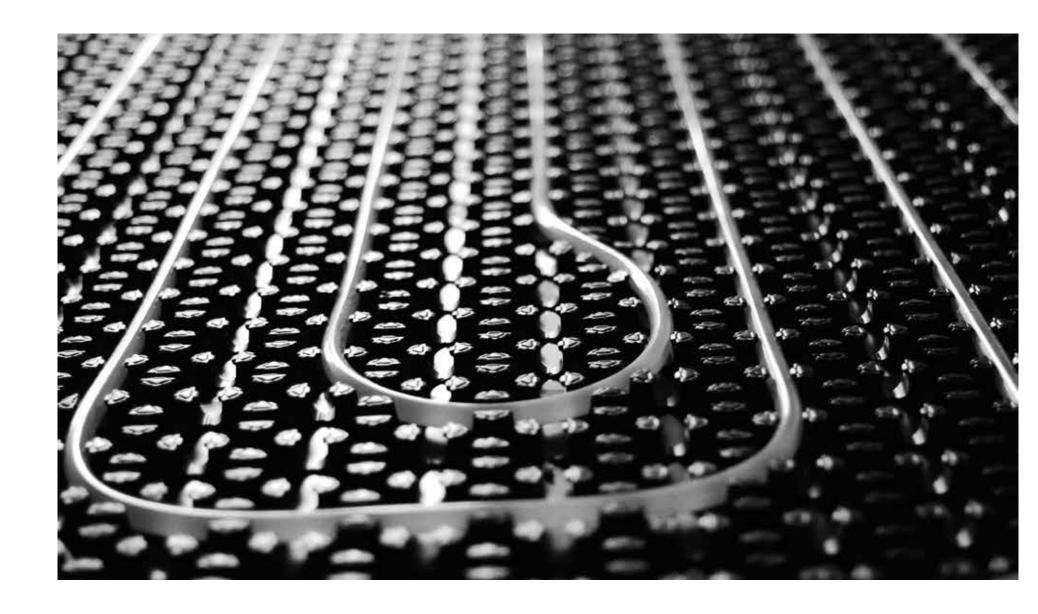
AGRICULTURE SOLUTIONS



HOUSEHOLD SOLUTIONS



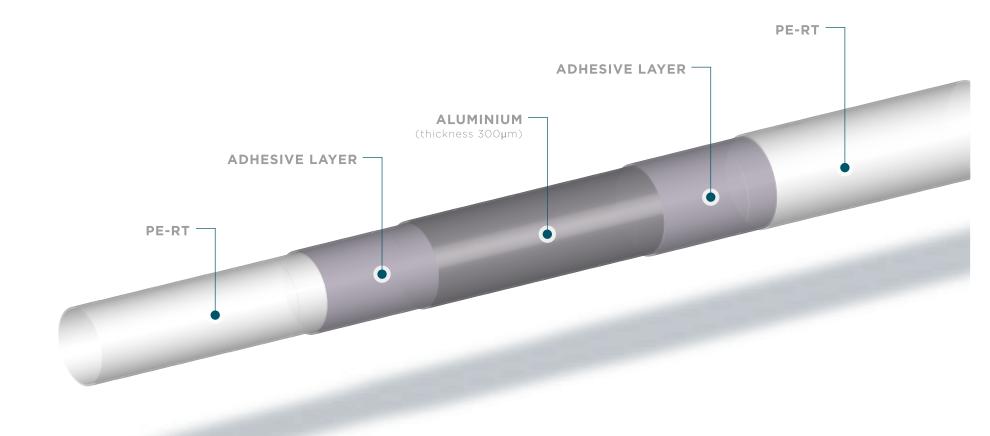
Edition 5



## PERT-AL-PERT



Distribution of hot and cold water / Radiator connections / Underfloor heating



#### STRUCTURE OF PERT-AL PIPES PROPERTIES OF PERT-AL PIPES

- Inner PE-RT layer
- Adhesive layer
- Aluminium
- Adhesive layer
- Outer layer made of PE-RT

The pipe posses high resistance to temperature and pressue as well as dimensional stability impearbility to oxygen and low thermal expansion.

- The same system for all applications
- Lasting and tight connections
- 100 % oxygen barrier

- Low linear thermal expansion
- Time scale or oxidation will not occure
- Suitable for drinking water supply

#### CARACTERISTICS OF PERT-AL PIPES

#### CROSS SECTION OF PERT-AL PIPES

- Good resistance at elevated temperatures
- Shape stability
- Butt welding process
- Aluminium thickness is 300µm
- Coefficient of thermal expansion is 0.024mm/mK
- Pipes have been tested at 95°C at 3.9 MPa hydrostatic stress for 22h



#### FIELD OF APPLICATION PERT-AL PIPES

- Hot and cold water distribution
- Radiator connections
- Underfloor heating

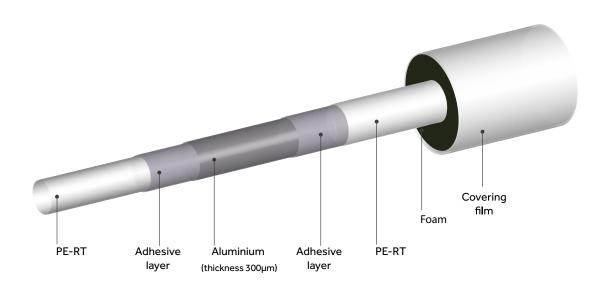
Available products PERT-AL pipes Ø16, Ø20, Ø25, Ø32





APPLICATION CLASS	T <sub>D</sub> (°C)	TIME ON <sup>T</sup> D (YEAR)	T <sub>max</sub> (°C)	TIME ON <sup>T</sup> max (GODINA)	T <sub>mal</sub> °C	TIME ON <sup>T</sup> mal (SATI)	FIELD OF APPLICATION	PERMISSIBLE OPERATING PRESSURE
1	60	49	80	19	51	00	Hot water (60 °C)	10 bar
2	70	49	80	19	51	00	Hot water (70 °C)	8 bar
4	20	2,5						
	+							
	40	20	70	2,51		100	Underfloor heating and low temperature radiators	8 bar
		+						
	60	2,5						
5	20	14						
	+							
	60	25	90	11		100	High temperature radiators	8 bar
	+							
	80	10						





Pestan PERT - AL - PERT pipes are being used for radiating heating installations and potable water transportation. Depending on the client's wish they can be produced with or without protective isolation.

Isolation tube is made of expanded polyethylene foam of closed cells structure. It is meant for thermal insulation of pipe systems and complies with all the most important criteria for thermo-isolation of pipe systems by temperatures up to 85  $^{\circ}$ C.

#### Pestan pre-isolated PERT-AL-PERT consists of isolation tube and pipe.

Isolation tube is made of expanded polyethylene foam of grey color and doesn't contain CFC nor HCFC. Product must be stored in covered and dry area in it's original package.

Pestan PERT-AL-PERT pipes are made of high temperature resistant polyethylene and it has the rest of the high quality components all in accordance with standard and SKZ certificate to support it.

#### Technical data:

Material: Neumreženi polietilen

Cell structure: Closed cells structure

Thermal conductivity of insulation: <0,040W/MK at 0C

according to EN12667

Aerated water pass trough > according to EN13469

Insulation thickness:  $24 \pm 10\% \text{ kg/m}^3 \text{ (ISO 845)}$ 

nsulation color: Grey

Insulation width: 6 ± 1 mm according to

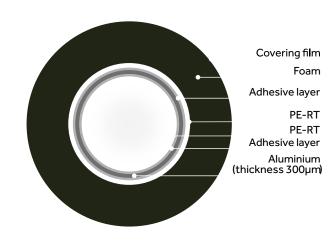
EN14313:2009+A1: 2013

Insulation work temperature up to: +85 °C.

Markings: Peštan, EPE Pipe 16/6, datum.

Available diameters: Ø16, Ø20, Ø25, Ø32

Package: 50 m rolls



### BRAND MANIFESTO

We do not only sell pipes, we combine reliability with quality for the ultimate benefit of our clients.

We do not build short-term client relationships, but long-term and genuine partnerships.

Everything we do, we do with one thing in mind - to create ideas to perfectly match all our client needs and the best way for us to achieve this goal is to constantly educate our clients provide solutions that meet their specific needs and support them throughout the entire process.

Because our success is as big as your trust in us.

#### **PE-RT-OXY**

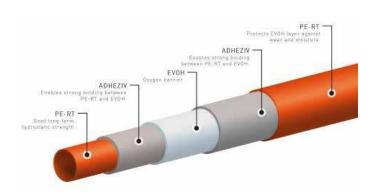
#### Technical Datasheet



#### **Product description**

PE-RT Oxy five layer pipe is made of polyethylene with raised temperature resistance (PE-RT Type II), which possess good long term hydrostatic strength. PE-RT Type II protect damage of EVOH layer from wear and moisture during transport and construction which ensure the full efficiency of EVOH oxygen barrier during the long period e.g. proposed service life of pipe. EVOH layer doesn't allow diffusion of oxygen into the heating system therefore prevent corrosion of metal parts and devices.

Pipe construction: Inner PE-RT layer, Adhesive layer, EVOH layer, Adhesive layer, Outer layer made of PE-RT



#### **Application**

Peštan PERT OXY-pipe system is used for floor heating or radiator heating.

For hot and cold water distribution.



**BELNIIS - Belarus** 

#### **Characteristics and technical data**

- Good long term hydrostatic strength without crosslinking.
- · Fusible with all know welding methods.
- Very high stress crack resistance.
- · High flexibility.
- · Good creep behavior.
- It melts on temperatures above 140°C.
- It burns on the open flame and turn into CO<sub>2</sub> and water.
- Material: PE RT, EVOH
- Max. operating pressure (ISO 22391) at 60 °C: 10 bar
- Max. temperature: 95 °C

#### **Product Availability**

PERT-OXY pipes are made in diamteres Ø16 X 2 mm, Ø17 X 2 mm, Ø18 X 2 mm, Ø20 X 2 mm, Ø22 X 3 mm, Ø28 X 3 mm and Ø28 X 4 mm.

The products come in rolls of various lengths depending on the customer's demand, the diameter and the presence of a protective tube.

#### **Chemical resistance**

High chemical resistance to a large number of compounds. Plastic pipes and fittings - Combined chemical-resistance classification table ISO/TR 10358.

#### **Technical Assistance**

Our technical and engineering team is supported and advised by European institutes. For more information about products please contact PEŠTAN technical support or regional salesman.



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**VUPS - Czech Republic** 



**BELNIIS - Belarus** 



IMS - Serbia



**GOST R - Russia** 



MPA - Germany



IGH - Croatia



Water & heating



PE-RT OXY



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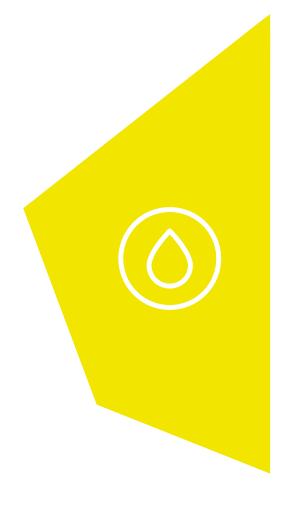
DRAIN SOLUTIONS



AGRICULTURE SOLUTIONS



HOUSEHOLD SOLUTIONS



Edition 5

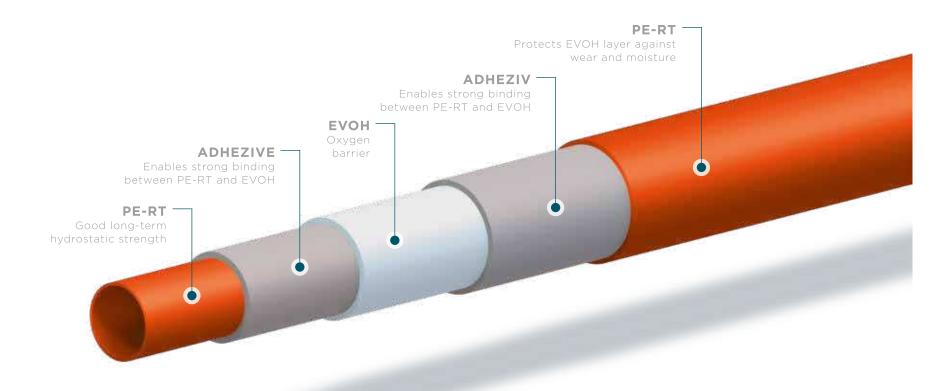


### PE-RT OXY



Five layer pipe with evoh oxygen barrier

PE-RT Oxy five layer pipe is made of polyethylene with raised temperature resistance (PE-RT Type II), which possess good long term hydrostatic strength. PE-RT Type II protect damage of EVOH layer from wear and moisture during transport and construction which ensure the full efficiency of EVOH oxygen barrier during the long period e.g. proposed service life of pipe. EVOH layer doesn't allow diffusion of oxygen into the heating system therefore prevent corrosion of metal parts and devices.



#### **Characteristics**

PE-RT Oxy

Good long term hydrostatic strength without crosslinking. Fusible with all know welding methods. Very high stress crack resistance. High flexibility. Good creep behavior. It melts on temperatures above 140°C. It burns on the open flame and turn into CO\( \)and water.

#### Application

PE-RT Oxy

Underfloor heating.For hot and cold water distribution Radiator connection

### Product range

- 16x2mm
- 17x2mm
- 18x2mm
- 20x2mm
- 22x3mm
- 28x3mm
- 28x4mm





EVOH layer is in the middle of the pipe so it is fully protected from wear and moisture during transport and construction which ensure the full efficiency of EVOH oxygen barrier during the long period e.g. proposed service life of pipe.





Outer layer of pipe is made of EVOH. Therefore, EVOH is directlly exposed to wear and humidity. Oxygen impermeability will decrease with humidity increas.

#### APPLICATION CLASSES OF PESTAN PE-RT OXY PIPES (IN ACCORDANCE WITH ISO 22391)

APPLICATION CLASSES	TD (°C)	TIME ON TD (YEARS)	TMAX (°C)	TIME ON TMAX (YEARS)	TMAL (°C)	TIME ON TMAL (SATI)	FIELD OF APPLICATION	ALLOWED OPERATING PRESSURE
1	60	49	80	1	95	100	Hot water (60°C)	10 bar
2		49					Hot water (70°C)	8 bar
4	20 40 60	2,5 + 20 +	70	2,5	100	100	Underfloor heating and low temperature radiators	8 bar
	20 60 80	14 + 25 +	90				High temperature radiators	8 bar

TD - projected temperature Tmax - maximum temperature Tmal -malfunction temperatur

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