

## Multilayer pipes PERT II-EVOH-PERT II

### Material

- PERT II - raised temperature polyethylene
- bonding layer - adhesive
- EVOH - ethylene-vinyl alcohol copolymer - anti-diffusion layer
- bonding layer - adhesive
- PERT II - raised temperature polyethylene

### Area of application

- central heating (radiator connections)
- surface heating (underfloor and wall heating installations)
- ice water
- drinking water

### Construction

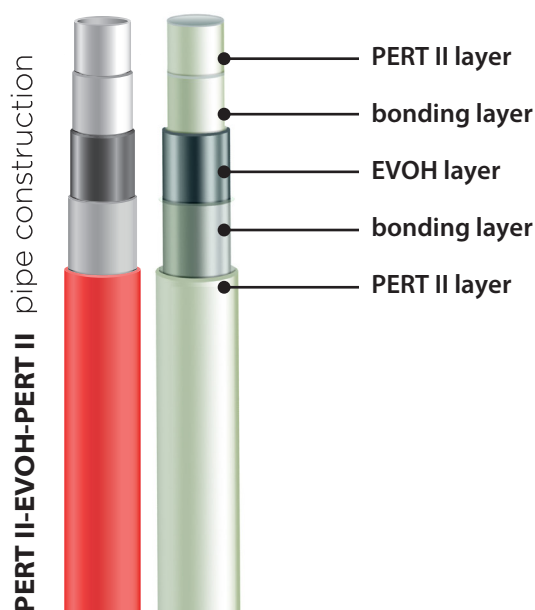
The pipe is made of flexible and durable raised temperature polyethylene material (PERT). The pipe is additionally protected by the EVOH anti-diffusion barrier, which prevents oxygen from entering the interior of the installation, protecting the other components, such as radiators and valves, against corrosion.

### Dimension range

10x1.3, 12x2, 14x2, 16x2, 17x2, 18x2, 20x2, 25x2.5

### Technical properties

- **durability** - estimated lifespan of min. 50 years
- **energy - saving** due to low pressure losses and low thermal conductivity
- **flexibility** - the bending radius of the pipe is 5–6 times its outer diameter ( $5-6 \times D_n$ )
- **low absolute roughness coefficient** (0.0005mm) - low hydraulic losses, no possibility of pipe incrustation
- **oxygen impenetrability** - thanks to EVOH layer
- **oxygen permeability(acc.to DIN 4726)**-  $\leq 0.32 \text{ mg}/(\text{m}^2 \cdot \text{d})$  at  $40^\circ\text{C}$  (application class 4),  $\leq 3,60 \text{ mg}/(\text{m}^2 \cdot \text{d})$  at  $80^\circ\text{C}$  (application class 5)
- **hygienic** - PERT plastics are non toxic, neutral in relation to water and can be recycled
- **resistant** to most chemical compounds, completely resistant to corrosion, highly resistant to abrasion
- **vibration suppression ability** - resistant to hydraulic impact
- **low weight**



Tweetop sp. z o.o.  
ul. Ludowa 24c I 71-700 Szczecin

**Scope of delivery**  
pipe in a coil

## Technical data

Dimension of the cross section »	10x1.3	12x2	14x2	16x2	17x2	18x2	20x2	25x2.5
Inner diameter Dw [mm]	7.4	8	10	12	13	14	16	20
Pipe length in coil [m]	240	200	200	600	600	600	500	100
Unit weight of pipe in coil [g/m]	37	67	80	94	100	107	121	186
Unit weight in coil filled with water at 10°C [g/m]	81	117	159	207	233	261	322	500
Weight of pipe in coil [kg]	8.9	13.4	16.1	56.2	60.3	64.3	60.3	18.6
Unit capacity of pipe [dm <sup>3</sup> /m]	0.043	0.050	0.079	0.113	0.133	0.154	0.201	0.314
Minimum manual bending radius [mm]	50(5xDn)	60(5xDn)	70(5xDn)	80(5xDn)	85(5xDn)	90(5xDn)	100(5xDn)	125(5xDn)
Minimum bending radius with spring [mm]	40(4xDn)	48(4xDn)	56(4xDn)	64(4xDn)	68(4xDn)	72(4xDn)	80(4xDn)	100(4xDn)
Maximum distance between supports [m]	1.00	1.00	1.00	1.20	1.20	1.30	1.30	1.50

## Physical properties

Technical parameters	Value
Absolute roughness [m]	0.007
Thermal conductivity [W/mk]	0.4
Coefficient of linear expansion [mm/mK]	0.18
Young's modulus [MPa]	645
Density [g/cm <sup>3</sup> ]	0.941
Maximum tensile strength [MPa]	37
Elongation at break [%]	780
Tensile yield strength [MPa]	20.3
Environmental stress crack resistance (ESCR)	N/A
Vicat softening temperature [°C]	124
Oxygen permeability [mg/(m <sup>2</sup> d)]	40°C < 0.1 / 80°C < 0.34
Ambient operating temperature [°C]	-10 do 40

## Operating conditions

Pipe	Class 2		Class 4		Class 5	
	TD [°C]	Pressure [bar]	TD [°C]	Pressure [bar]	TD [°C]	Pressure [bar]
10x1.3	70	8	20/40/60	8	20/40/60	6
12x2.0	70	8	20/40/60	8	20/40/60	6
14x2.0	70	6	20/40/60	8	20/40/60	6
16x2.0	70	6	20/40/60	8	20/40/60	6
17x2.0	70	6	20/40/60	6	20/40/60	6
18x2.0	70	4	20/40/60	6	20/40/60	4
20x2.0	70	4	20/40/60	6	20/40/60	4
25x2.5	70	6	20/40/60	6	20/40/60	4

Detailed operating conditions for PERT II -EVOH- PERT II pipes comply with the EN 10508 standard.



Tweetop sp. z o.o.  
ul. Ludowa 24c I 71-700 Szczecin

**Scope of delivery**  
pipe in a coil