



PE-RT pipe with 5-layer EVOH barrier

► IVAR PE-RT 5

Polyethylene pipe with increased thermal resistance with barrier against oxygen diffusion

■ PRESENTATION



The polyethylene pipe IVAR PE-RT 5 is suitable for the construction of heating and cooling systems. It is used in residential complexes, hospitals, schools, hotels, offices, shopping centers and industries, both new and under renovation. This is a resistant, highly flexible piping that meets the installation needs of experienced installers.

IVAR PE-RT 5 is equipped with a barrier against the diffusion of the oxygen as prescribed by UNI EN 1264 examined according to the criteria established by the DIN 4726 standard.

■ RANGE

IVAR PE-RT 5 is available in rolls of variable length from 120 meters up to a maximum of 600 meters. The available diameters are as follows:

- Ø 16 x 2 mm;
- Ø 17 x 2 mm;
- Ø 20 x 2 mm.

■ TECHNICAL DATA

PHYSICAL CHARACTERISTICS

Density	951 kg/m ³
Roughness	0,007 mm

IVAR PE-RT 5 it is characterized by optimal mechanical characteristics combined with high thermal performances. The summary tables of the product characteristics are shown below.

THERMAL CHARACTERISTICS

Maximum service temperature	95 °C
Maximum high temperature	110 °C
Thermal expansion coefficient	1.8 * 10 ⁻⁴ K
VICAT softening point	125 °C
Thermal conductivity at 60 °C	0.4 W/mK
Permeability O ₂ at 40 °C	< 0.1 g/m ³ d
Oxidation induction time (OIT)	> 40 minutes

MECHANICAL CHARACTERISTICS

Tensile resistance	> 22 N/mm ²
Elongation at break	400 %
Internal pressure resistance s=9.9 Mpa, 20°C	> 1 hour
Internal pressure resistance s=3.9 Mpa, 95°C	> 22 hours
Internal pressure resistance s=3.7 Mpa, 95°C	> 165 hours
Internal pressure resistance s=3.5 Mpa, 95°C	> 1000 hours
Internal pressure resistance s=1.9 Mpa, 110°C	> 1 year

■ INSTALLATION

IVAR PE-RT 5 pipes have a marking that specifies the field of use. The marking indicates the application classes and the relative pressures for which it is suitable.

The application classes identify the conditions of use in terms of temperature and relative maintenance period at that value. The field of use is completely defined by the project pressure value associated with the single class.

Example of marking

IVAR-PERT Ø16x2,0 - C - PE-RT II /EVOH Oxygen barrier – 5 layers - UNI EN ISO 22391 Class 1-4/8 bar Class 2-5/6bar - 001/897 AENOR Logo- PiiP 373 [Date] [Hour] [Line][Meter] Made in EU

Item name	IVAR PE-RT 5
Nominal dimensions of the piping	Ø 16x2
Dimensional class	C
Oxygen barrier waterproofing (EVOH)	PE-RT II/EVOH Oxygen barrier
Max temperature	95 °C
Product standard	UNI EN ISO 22391
Application classes combined with the working pressure	Class 1-4/8 bar Class 2-5/6 bar
Certifications	001/897 AENOR - PiiP 373
Date and production references	[Date] [Hour] [Line] [Meter]
Manufacturing	Made in EU

For more details see the normative text: UNI EN ISO 22391:1.

■ STORAGE

IVAR PE-RT 5 is supplied in packages that protect it during the storage period. In any case, prolonged exposure to sunlight damages the pipe irreparably, altering its chemical and physical characteristics. It is recommended not to leave the product exposed to direct sunlight, to keep the rolls in a covered and dry place and to avoid the formation of ice inside the packaging, since the dilatations due to the passage of state could damage it. Finally, avoid that the pipes come into contact with open flames or other sources of heat that can cause partial melting.

■ SPECIFICATION SUMMARY

IVAR IVAR PE-RT 5 **cod. I-PERT5L16R12**: Polyethylene pipe with high thermal resistance (PE-RT) suitable for the construction of air conditioning systems. It can be used in renovations, as well as in new buildings such as shopping centers, hospitals, hotels, offices, schools, multi-storey residential buildings and industries. The IVAR PE-RT 5 tubing is made of polyethylene with a density value of 941 kg / m^3 and an internal roughness of 0.007 mm. Max working temperature: 95°C . Max temperature: 110°C . Thermal expansion coefficient: $1.8 \cdot 10^{-4}$. Thermal conductivity at 60°C : 0.4 W / mK . VICAT temperature: 125°C . Tensile resistance 22 N / mm^2 . O_2 permeability: $0.1 \text{ g / m}^3\text{d}$. Diameter: 16 mm. Thickness: 2 mm. Packaging: 120 m.

IVAR IVAR PE-RT 5 **cod. I-PERT5L16R25**: Polyethylene pipe with high thermal resistance (PE-RT) suitable for the construction of air conditioning systems. It can be used in renovations, as well as in new buildings such as shopping centers, hospitals, hotels, offices, schools, multi-storey residential buildings and industries. The IVAR PE-RT 5 tubing is made of polyethylene with a density value of 941 kg / m^3 and an internal roughness of 0.007 mm. Max working temperature: 95°C . Max temperature: 110°C . Thermal expansion coefficient: $1.8 \cdot 10^{-4}$. Thermal conductivity at 60°C : 0.4 W / mK . VICAT temperature: 125°C . Tensile resistance 22 N / mm^2 . O_2 permeability: $0.1 \text{ g / m}^3\text{d}$. Diameter: 16 mm. Thickness: 2 mm. Packaging: 250 m.

IVAR IVAR PE-RT 5 **cod. I-PERT5L16R60**: Polyethylene pipe with high thermal resistance (PE-RT) suitable for the construction of air conditioning systems. It can be used in renovations, as well as in new buildings such as shopping centers, hospitals, hotels, offices, schools, multi-storey residential buildings and industries. The IVAR PE-RT 5 tubing is made of polyethylene with a density value of 941 kg / m^3 and an internal roughness of 0.007 mm. Max working temperature: 95°C . Max temperature: 110°C . Thermal expansion coefficient: $1.8 \cdot 10^{-4}$. Thermal conductivity at 60°C : 0.4 W / mK . VICAT temperature: 125°C . Tensile resistance 22 N / mm^2 . O_2 permeability: $0.1 \text{ g / m}^3\text{d}$. Diameter: 16 mm. Thickness: 2 mm. Packaging: 600 m.

IVAR IVAR PE-RT 5 **cod. I-PERT5L17R25**: Polyethylene pipe with high thermal resistance (PE-RT) suitable for the construction of air conditioning systems. It can be used in renovations, as well as in new buildings such as shopping centers, hospitals, hotels, offices, schools, multi-storey residential buildings and industries. The IVAR PE-RT 5 tubing is made of polyethylene with a density value of 941 kg / m^3 and an internal roughness of 0.007 mm. Max working temperature: 95°C . Max temperature: 110°C . Thermal expansion coefficient: $1.8 \cdot 10^{-4}$. Thermal conductivity at 60°C : 0.4 W / mK . VICAT temperature: 125°C . Tensile resistance 22 N / mm^2 . O_2 permeability: $0.1 \text{ g / m}^3\text{d}$. Diameter: 17 mm. Thickness: 2 mm. Packaging: 250 m.

IVAR IVAR PE-RT 5 **cod. I-PERT5L17R60**: Polyethylene pipe with high thermal resistance (PE-RT) suitable for the construction of air conditioning systems. It can be used in renovations, as well as in new buildings such as shopping centers, hospitals, hotels, offices, schools, multi-storey residential buildings and industries. The IVAR PE-RT 5 tubing is made of polyethylene with a density value of 941 kg / m^3 and an internal roughness of 0.007 mm. Max working temperature: 95°C . Max temperature: 110°C . Thermal expansion coefficient: $1.8 \cdot 10^{-4}$. Thermal conductivity at 60°C : 0.4 W / mK . VICAT temperature: 125°C . Tensile resistance 22 N / mm^2 . O_2 permeability: $0.1 \text{ g / m}^3\text{d}$. Diameter: 17 mm. Thickness: 2 mm. Packaging: 600 m.

IVAR IVAR PE-RT 5 **cod. I-PERT5L20R25**: Polyethylene pipe with high thermal resistance (PE-RT) suitable for the construction of air conditioning systems. It can be used in renovations, as well as in new buildings such as shopping centers, hospitals, hotels, offices, schools, multi-storey residential buildings and industries. The IVAR PE-RT 5 tubing is made of polyethylene with a density value of 941 kg / m^3 and an internal roughness of 0.007 mm. Max working temperature: 95°C . Max temperature: 110°C . Thermal expansion coefficient: $1.8 \cdot 10^{-4}$. Thermal conductivity at 60°C : 0.4 W / mK . VICAT temperature: 125°C . Tensile resistance 22 N / mm^2 . O_2 permeability: $0.1 \text{ g / m}^3\text{d}$. Diameter: 20 mm. Thickness: 2 mm. Packaging: 250 m.

IVAR IVAR PE-RT 5 **cod. I-PERT5L20R50**: Polyethylene pipe with high thermal resistance (PE-RT) suitable for the construction of air conditioning systems. It can be used in renovations, as well as in new buildings such as shopping centers, hospitals, hotels, offices, schools, multi-storey residential buildings and industries. The IVAR PE-RT 5 tubing is made of polyethylene with a density value of 941 kg / m^3 and an internal roughness of 0.007 mm. Max working temperature: 95°C . Max temperature: 110°C . Thermal expansion coefficient: $1.8 \cdot 10^{-4}$. Thermal conductivity at 60°C : 0.4 W / mK . VICAT temperature: 125°C . Tensile resistance 22 N / mm^2 . O_2 permeability: $0.1 \text{ g / m}^3\text{d}$. Diameter: 20 mm. Thickness: 2 mm. Packaging: 500 m.

■ ITEM CODES

I-PERT5L16R12	PE-RT pipe with 5-layer EVOH barrier. Diameter: 16 mm. Packaging: 120 meters.
I-PERT5L16R25	PE-RT pipe with 5-layer EVOH barrier. Diameter: 16 mm. Packaging: 250 meters.
I-PERT5L16R60	PE-RT pipe with 5-layer EVOH barrier. Diameter: 16 mm. Packaging: 600 meters.
I-PERT5L17R25	PE-RT pipe with 5-layer EVOH barrier. Diameter: 17 mm. Packaging: 250 meters.
I-PERT5L17R60	PE-RT pipe with 5-layer EVOH barrier. Diameter: 17 mm. Packaging: 600 meters.
I-PERT5L20R25	PE-RT pipe with 5-layer EVOH barrier. Diameter: 20 mm. Packaging: 250 meters.
I-PERT5L20R50	PE-RT pipe with 5-layer EVOH barrier. Diameter: 20 mm. Packaging: 500 meters.

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