

NOVATHERM

OXYGEN BARRIER

PE-RT PIPES

Heating System

Advantages

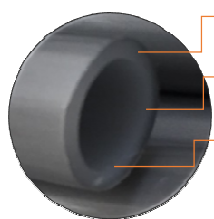
- Cost effective
- Easy installation
- Hygienic and clean
- Very smooth surface
- Excellent process ability
- Excellent impact properties
- Lightweight, easy to transport
- Flexibility to speed installations
- Higher Long-Term Hydrostatic Strength (LTHS)

Application Areas

- Radiator connections
- Outdoor snow melting
- District heating / cooling
- Under-Floor & Wall heating
- Radiant heating and cooling systems (doors, walls, ceilings)
- Hot and cold water plumbing applications; residential and commercial



All hydraulic heating and cooling systems are susceptible to oxygen diffusion through various parts; such as boilers, pumps threaded fittings and other gas permeable materials. Excess amounts of oxygen in a system can lead to early failure of metal components due to corrosion. NOVATHERM OXYPERT Pipe fulfills the German DIN 4726 Standard, NOVATHERM OXYPERT Pipe considerably reduces the oxygen penetration into the system.

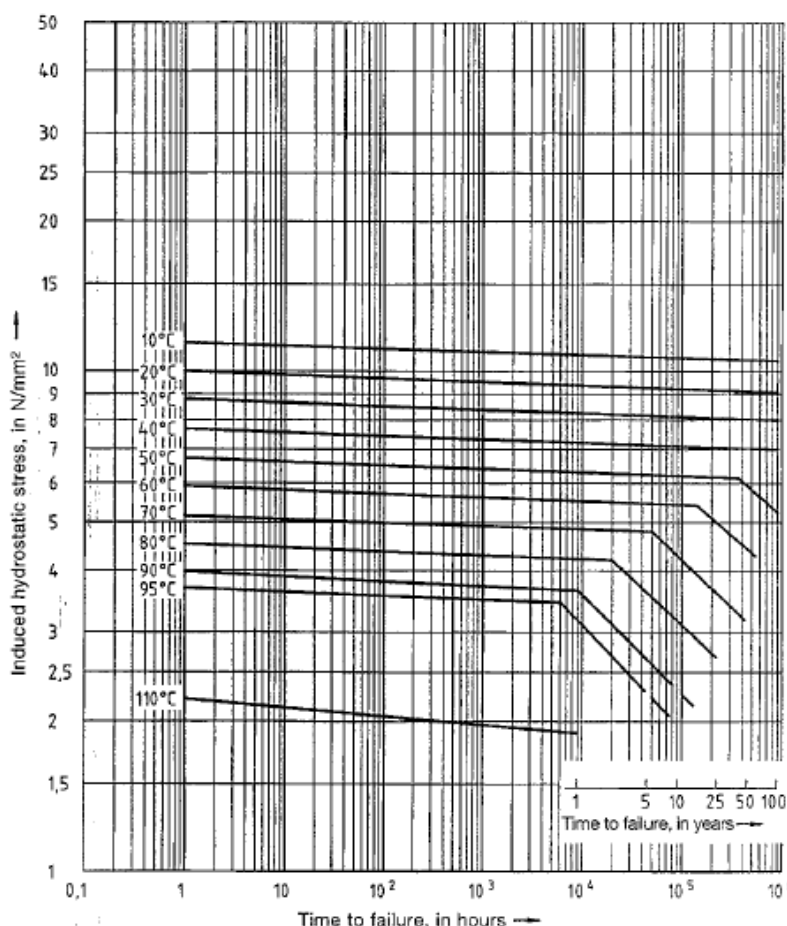


- Ethylene Vinyl Alcohol ("EVOH") Oxygen Barrier with excellent gas barrier properties that limits oxygen diffusion through the walls of the tubing.
 - Designed to be compatible with PERT and EVOH layers and creates a superb adhesion between layers
 - A high-temperature flexible plastic pressure pipe with a 35-year history of successful use in the European market with extensive testing for durability and material performance, made of Polyethylene Raised Temperature Resistance (PE-RT).
- Class 1 (70 °C / 8 bar)
 - Class 2 (70 °C / 8 bar)
 - Class 4 (60 °C / 10 bar)
 - Class 5 (60 °C / 8 bar)

Pipe Wall Thicknesses and Other Physical Properties

OD (Outer Diameter)	S (Wall Thickness)	Standard Dimension Ratio	Nominal Pressure	Compressive Strength (According to the Installation Type)	Coil/Length	Oxygen Permeability Ratio (mg.O ₂ /m ² .day<0.1 µg O ₂ /liter)
16	1.8	SDR 9	PN 16	1/8; 2/8; 4/10; 5/8	160.0, 200.0, 400.0, 500.0, 600.0	0.03
	2.0	SDR 7.4	PN 20	1/10; 2/10; 4/10; 5/10		
	2.2					
17	2.0	SDR 8.5	PN 16	1/8; 2/8; 4/10; 5/8	160.0, 200.0, 400.0, 500.0, 600.0	0.03
20	2.0	SDR 11	PN 12.5	1/6; 2/6; 4/8; 5/6	160.0, 200.0, 400.0, 500.0,	0.03
	2.8	SDR 7.4	PN 20	1/10; 2/10; 4/10; 5/10		
25	2.3	SDR 11	PN 12.5	1/6; 2/6; 4/8; 5/6	160.0, 200.0	0.03
32	2.9	SDR 11	PN 12.5	1/6; 2/6; 4/8; 5/6	160.0, 200.0	0.03

Service Life



Mechanical and Thermal Properties of the PERT Raw Material

Features	Test Method	Unit	Value
Density	ASTM D1505	g/cm ³	0.937
Melt Index, 190 °C/2.16 kg	ASTM D1238	g/10 min	0.6
Melt Index, 190 °C/5 kg	ASTM D1238	g/10 min	2
Vicat Softening Point	ASTM D1525	°C	123
O.I.T	ASTM D3895	min	162
Tensile Yield Strength	ASTM D638	kg/cm ²	199
Ultimate Tensile Strength	ASTM D638	kg/cm ²	350
Ultimate Elongation	ASTM D638	%	760
Flexural Strength	ASTM D790	kg/cm	5600
Hardness, Shore D	ASTM D2240	-	56

Anti Corrosion Performance



NOVATHERM OXYPERT PIPE is recommended especially for use in closed hydraulic systems to protect metallic parts. Thanks to the 100% oxygen-tight EVOH layer, which meets the requirement of DIN 4726, NOVATHERM OXYPERT PIPE considerably reduces the oxygen penetration into the system

Simple Installation



NOVATHERM OXYPERT PIPING SYSTEM is designed for efficient and operative installation. Complicated accessories and fittings are not necessary. Bending of pipe is so easy that no special tools are required.

Superior Flow



NOVATHERM OXYPERT PIPE's smooth interior Layer prevents scale formations and reduction in the flow area. This characteristic provides minimal and constant pressure drop throughout its service life.

Long-Term Rupture Strength



Under normal conditions, with a maximum operating pressure of 6 bars and transporting water at a temperature of maximum 95 °C, the average service life of NOVATHERM OXYPERT PIPE is projected to be 50 years or more without any maintenance.

Hygiene



NOVATHERM OXYPERT PIPE's non-corroding interior layer is highly resistant to deterioration even in destructive water conditions. It is completely non toxic and organoleptically neutral.



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PP-R PIPES & FITTINGS