

RETIFLEX

PLENTY OF ADVANTAGES

- Easy and low cost installation
- High mechanical resistance
- Flexible
- Noise-free
- Low friction rate
- No incrustation due to their smooth inner surface
- Thermal memory
- Thermal conductivity
- Avoidance of electrolysis
- Endurable to chemical substances
- Resistant to corrosion
- Low weight
- Non toxic
- Certified by international institutes
- Durability
- Guarantee for 10 years



SOLIN S.A.

SOLIN S.A. is a Greek production company that produces plastic and composite pipes as well as fittings for a wide range of applications. With its over 30 years knowledge in the manufacturing procedure, the advanced machinery, the specialized staff and the constant quality control before, during and after production, SOLIN S.A. produces pipes that are amongst the top quality of their kind in the international market. That proves their high demand and their constant exports increase to countries of Eastern and Western Europe, USA, Canada, Middle East, New Zealand, China, Sri Lanka, Scandinavia, Balkan countries etc. SOLIN S.A. is certified from TÜV HELLAS for quality management according to ISO 9001/2008. RETIFLEX pipes have the following certificates: SKZ, MPA-NRW, ITS, WRAS, NSF.

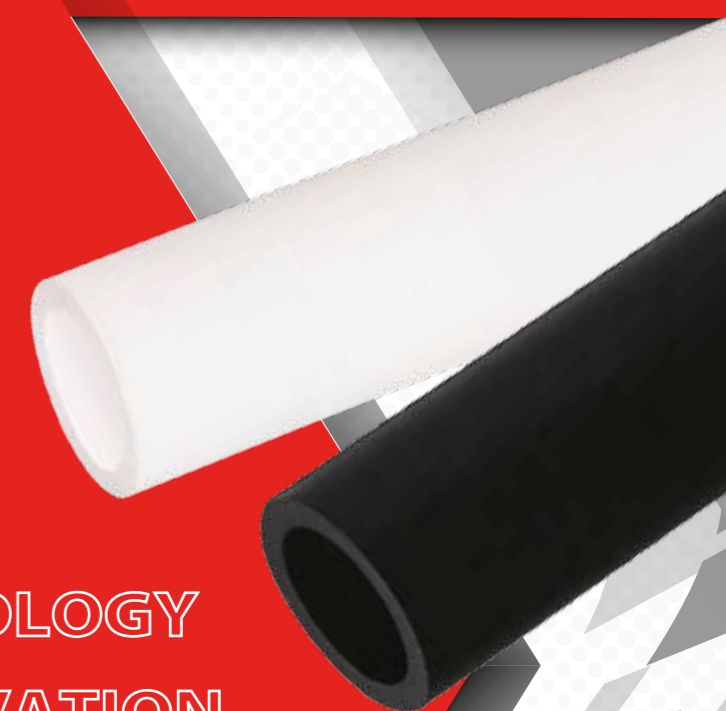


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RETIFLEX

PE-Xb CROSS-LINKED POLYETHYLENE PIPES

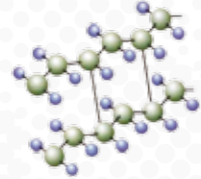


TECHNOLOGY
INNOVATION
QUALITY
SAFETY

RETIFLEX

RETIFLEX PE-Xb pipes are produced from high density polyethylene and are cross linked by SILANE method, also called the "moisture cure" method, in which the molecules of polyethylene are bonded to form more complex structure. RETIFLEX pipes are produced by using last generation's raw materials of German origin according to following requirements and relevant specifications:

- EN ISO15875
- DIN 16892/16893
- ASTM F876/877
- CSA B137.5



The cross linking degree, which is more than 65% and could be increased to 75% over time, gives the excellent thermal properties to RETIFLEX pipes and improves many of their features, such as resistance to high temperatures, mechanical resistance through time, resistance to corrosion and chemical substances.

Physical properties	Units	Value
Density at 23°C	gr/cm ³	0.942
Melt Flow Index (190°C/5kg)	gr/10min	2.1
VICAT softening point	°C	127
Coefficient of linear thermal expansion (20°C)	°C ⁻¹	1.4X10 ⁻⁴
Thermal Conductivity	W/(m*K)	0.40
Mechanical Properties		
Tensile strength	MPa	21
Elongation at break	%	550
Impact strength (20°C)	KJ/m ²	No breakage
Tensile modulus of elasticity (20°C)	MPa	>550

RETIFLEX pipes are certified not only for their mechanical resistance, but also for their suitability for use in drinkable water networks and for their compliance in oxygen permeability from international institutes SKZ, WRAS, MPA, CSA, NSF, ITS and are produced in wide range of dimensions:

10x1,4	10x2*	12x2*	15x2*	15x2,5	16x1,5*	16x1,8*
16x2	16x2,2*	17x2*	18x2	18x2,5	20x2	20x2,8*
22x3	25x2*	25x2,3*	25x3,5*	28x3	32x3	32x4,4
	3/8"	1/2"	3/4"	1"		

*Production upon request



• HEATING RADIATOR SYSTEM

• FLOOR/WALL/CEILING HEATING AND COOLING

• ICE MELTING SYSTEMS



• PLUMBING AND SANITATION

APPLICATIONS



• INDUSTRIAL APPLICATIONS



• DIESEL FUEL TRANSFER



• NATURAL GAS DISTRIBUTION



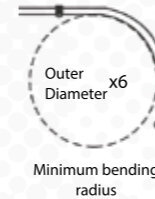
INSTALLATION INSTRUCTIONS

STORAGE AND HANDLING

Before using RETIFLEX pipes, they should be stored in their original packing under cover in order to prevent dust accumulation, long-term exposure to sunlight and avoid their damage.

CUTTING, BENDING AND CONNECTION

In order to cut RETIFLEX pipe, a special pipe cutter should be used and the cut must be done perpendicular to the axe of the pipe. That will provide optimal connection of RETIFLEX pipes with the fittings. In order to achieve hot bending of RETIFLEX pipe, it can be either heated by a hot air gun with diffuser nozzle of controlled temperature, or by hot water circulating inside the pipe. **Attention: use of the open flame is forbidden.** Care not to kink or damage the pipe.



The minimum bend radius at 20°C should be 6 times the nominal outer diameter of the pipe.

RETIFLEX pipes can be connected with screw, press, push and expansion fittings.

PRESSURE TESTING

After completing the installation, the circuits should be tested for fitting leakage. It is advisable to test with water with 1,5 times the working pressure for at least 24 hours.

THERMAL EXPANSION

The linear expansion rate of RETIFLEX pipes is approximately 14mm/10°C temperature change for each 10m of pipe. When installing long runs of pipes, allow 10-15mm in longitudinal clearance per meter of run to accommodate thermal expansion. Pipes must not be anchored rigidly or pulled tightly between fixed points (i.e. manifolds-valves etc).

HEATING RADIATOR SYSTEMS

In heating radiator system installations, RETIFLEX pipes should be always installed within protective corrugated sleeve. Thus, we protect the inner RETIFLEX pipe from possible damage, improve its performance and provide its easy replacement in case of damage. **The "closed curves" should be avoided.** In heating installations between two fixed points (manifold-valve) a **snake-shaped** route must be followed, i.e. an open curved "S" before each fixed point.

UNDERFLOOR HEATING

In underfloor heat installations the pipes **must** have oxygen barrier.

FROST

In case of frost, the evacuation of the outdoor installed tubes is recommended, in order to avoid frozen water in tubing, that could cause pressure within the system and thus become excessive and finally rupture the tubing. Antifreeze substances can be used for applications below 0°C.

RETIFLEX tubing have a long life duration and are accompanied by a guarantee for 10 years of continuous operation.

RETIFLEX LIFE DURATION

*OPERAT. TIME	50y	50y	50y	50y	25y	10y
**SAFETY FACTOR	SF1,25	SF1,25	SF1,25	SF1,25	SF1,25	SF1,25
DIMENSION						
TEMPERATURE	10°C	20°C	40°C	70°C	80°C	90°C
16x2	24.6	21.8	17.2	12.2	11.0	10.0
16x2,2	27.5	24.3	19.1	13.6	12.3	11.2
18x2	21.5	19.0	15.0	10.7	9.7	8.8
18x2,5	27.8	24.6	19.4	13.8	12.5	11.3
20x2	19.1	16.9	13.3	9.5	8.6	7.8
20x2,8	28.0	24.8	19.5	13.9	12.6	11.4
22x3	27.2	24.1	19.0	13.5	12.2	11.1
25x2,3	17.4	15.4	12.2	8.7	7.8	7.1
25x3,5	28.0	24.8	19.5	13.9	12.6	11.4
28x3	20.7	18.3	14.4	10.3	9.3	8.4
32x3	17.8	15.8	12.4	8.8	8.0	7.3

PRESSURE in bar

AVAILABLE TYPES OF RETIFLEX

*RETIFLEX pipes can be produced in any color, according to customer's requirements.

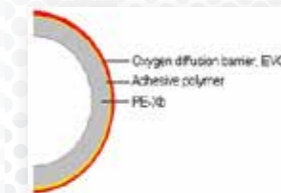


SINGLE RETIFLEX

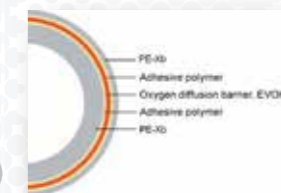
High density cross linked polyethylene PE-Xb pipes.

RETIFLEX - NOXY

High density cross linked polyethylene PE-Xb pipes with oxygen barrier of three or five layers for heating. The oxygen barrier prevents the entrance of oxygen in the water circulation, so the corrosion of the metal parts of the system is avoided. The oxygen barrier is achieved by using a special material (EVOH), that either is: externally bonded (3 layers) **1** or situated in the middle of the wall thickness (5 layers). **2**



1



2



RETIFLEX WITH PROTECTIVE SLEEVE

The RETIFLEX pipe is available inside corrugated HDPE pipe that offers mechanical protection, easy replacement of the inner pipe in case of damage, reduction of the thermal losses and absorption of expansion capacity.

RETIFLEX-ISO

RETIFLEX pipes are also available with insulation ISOLIN of 9 or 15mm. This insulation is made of expanded closed-cell polyethylene, which is coated by a special moisture resistant film of white color, that offers UV protection. It is recommended for outdoor use, due to its high resistance to solar radiation and adverse weather conditions and also in every application that requires protection of heat loss or concentrates.

