



MARCH 2022

K-FLEX[®] SOLID MULTILAYER PIPE





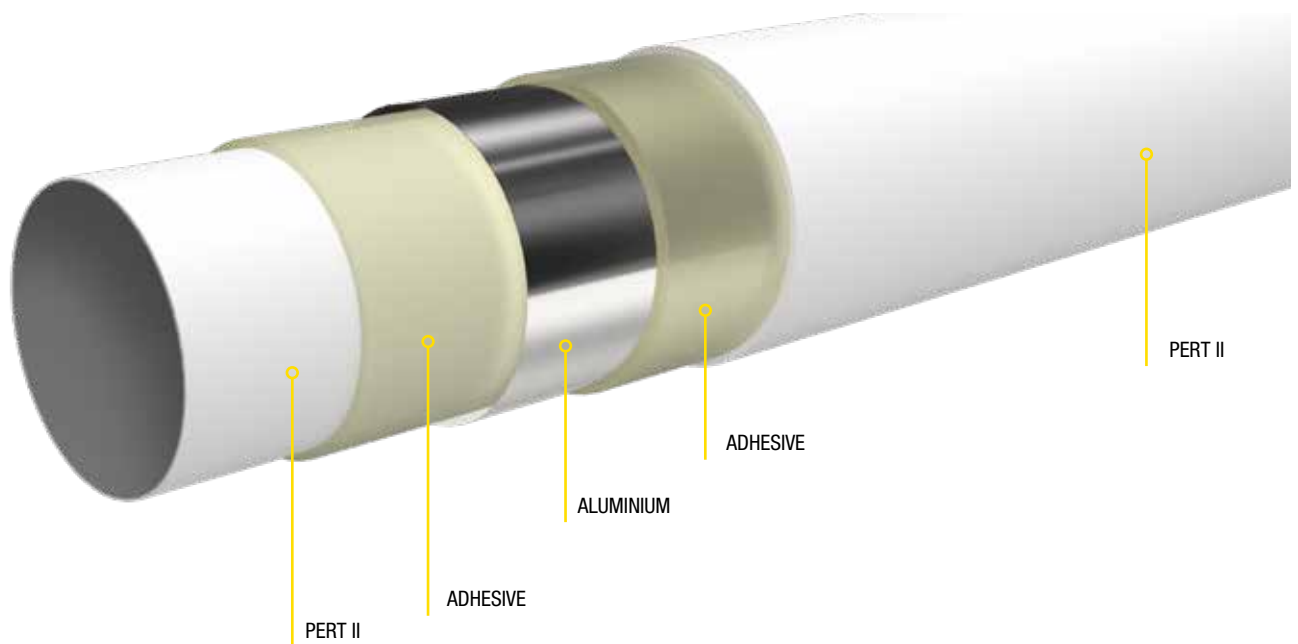
K-FLEX® SOLID

DESCRIPTION

K-FLEX® SOLID offers a comprehensive range of multilayer pipes with diameters from 16 to 26mm. They are made of PERT II and have a strong aluminium core, thus being more resistant to high temperatures and pressures. These tubes are in accordance with EN ISO 21003 and are available in rolls, also pre-insulated with a polyethylene insulation.

PRODUCT FEATURES

- ▶ 5 layers: PERT II / adhesive / aluminium / adhesive / PERT II.
- ▶ Inner aluminium core longitudinally butt-welded for a homogenous wall thickness and a perfectly oxygen-tight pipe.
- ▶ Aluminium thickness: 0.2 - 0.3 mm
- ▶ Available naked, corrugated, insulated (6, 9 or 13mm thickness).



BENEFITS

- ▶ Temperature and pressure resistant.
- ▶ Wear resistant.
- ▶ Impermeable to oxygen.
- ▶ Shape retaining.
- ▶ Light and easy to handle.
- ▶ Non-corrosive.
- ▶ Noise-reducing.
- ▶ Low heat expansion.

APPLICATIONS

K-FLEX® SOLID is suitable for all heating and plumbing applications. The pipes can be concealed or exposed and can be used in new installations as well as for renovations.

▼ Application ▼	▼ Description ▼	▼ Operating temperature ▼	▼ System operating pressure ▼
Heating and cooling	For heating systems, up to the pressure values indicated.	-10°C to +95°C	10 bar



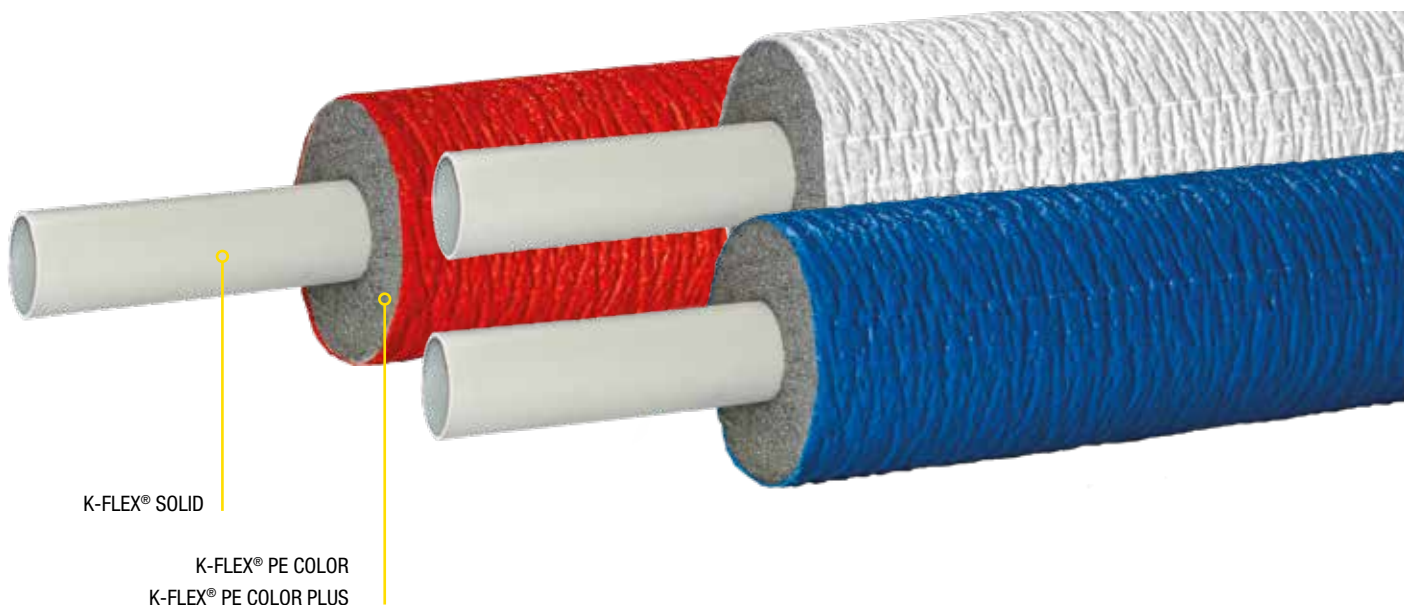
COMPLIANCE WITH LAWS AND STANDARDS

K-FLEX® SOLID complies with Law Decree no. 174 of 6 April 2004 of the Ministry of Health (G.U., general series no. 166). Our products are manufactured in compliance with the specifications in EN ISO 21003: "Multi-layer pipe systems for hot and cold water".

TECHNICAL DATA

K-FLEX® SOLID ▶ TECHNICAL DATA							
Conveyable fluids***	The pipe is atoxic and complies with Ministerial Decree 174/2004. It may therefore be used for conveying water destined to human use**. Furthermore, all fluids compatible with the material of which the pipe is made can also be conveyed (see ISO/TR 10358 technical report: "Plastic pipes and fittings – Combined chemical/resistance classification table).						
Dimensions [mm]	16 x 2	20 x 2	26 x 3	32 x 3	40 x 3,5	50 x 4	63 x 4,5
Thickness of the aluminium layer [mm]	0,20	0,30	0,40	0,40	0,50	0,60	0,80
Pipe weight per metre [Kg/m]	0,108	0,151	0,279	0,346	0,510	0,870	1,300

K-FLEX® SOLID ▶ TECHNICAL DATA		
▼ Property ▼	▼ Value ▼	▼ Measurement Unit ▼
Pipe roughness (Ra according to DIN EN ISO 4287, ASME B46.1)	1,7	µm
Thermal conductivity λ W/(m•K)	0,43	W/(m•K)
Thermal expansion coefficient	0.026	mm/m x °C
Gas permeability	Completely impermeable to O ₂ , to vapour and to gases in general	
Minimum permitted bending radius****	5d	mm
Resistance to internal pressure (test according to the EN 921 standard):		
- at 95 °C with a test pressure of P=20.2 bar	≥ 165	hours
- at 95 °C with a test pressure of P=19.7 bar	≥ 1000	hours
Minimum guaranteed resistance against detachment	≥ 40	N/mm ²
Composition: K-FLEX® SOLID PE-RT	PE-RT II/Al/PE-RT II	
Control of the pipe appearance and dimensions	The check was carried out using a laser system, a spark-tester and a manual procedure.	
Check for internal obstructions	The product was checked in accordance with the company's internal control system.	
Check for defects in the pipe wall	During the audit (carried out by means of an internal control system), no losses were detected.	
Bending and flaring test	The control was carried out in accordance with EN ISO 21003.	
Product storage recommendations	The pipe is supplied in a package which protects it during storage. The external layer of the pipe is made of polyethylene. This material must not be exposed to direct sunlight because it has very low resistance to ultraviolet rays.	
* The indications given should make it possible to quickly read product characteristics. The marking can be different from the one shown in the example. Please read the EN ISO 21003 Standard for further details.		
** "Water destined for human use" refers to treated and non-treated water such as drinking water, water used to prepare drinks and food and water for domestic use in general regardless of its origin and of whether it is made available through a distribution network, in tanks, bottles or containers. The above mentioned term also refers to water used in food factories producing, processing, storing or marketing products or substances destined for human use***.		
*** Please refer to the laws in force and to the above mentioned standards and decrees for further details.		
**** This is the minimum radius measured on the axis plane of the pipe on the bending point. "d" refers to the external diameter of the pipes.		
K-FLEX® reserves the right to change data and technical requirements without notice.		



DESCRIPTION

K-FLEX® SOLID is available coupled with a polyethylene insulation with colored finishing: K-FLEX PE COLOR or K-FLEX PE COLOR PLUS.

They are coextruded polyethylene closed cell insulation tubes specifically designed for all that applications where an additional mechanical protection is required. These products fulfils all the highest building standards in term of fire reaction.

Individually, they are ideal for heat insulation of pipelines of heating systems, cold and hot water supply, ventilation and air conditioning, equipment and underfloor applications.

TECHNICAL DATA

K-FLEX® PE COLOR ► TECHNICAL DATA		
▼ Property ▼	▼ Value ▼	▼ Test method ▼
Temperature range	+100°C	EN 14707
Thermal conductivity λ W/(m•K)	+10 °C = 0,036 +40 °C = 0,040	EN ISO 8497
Corrosion prevention	pH neutral (7)	
Fire rating	Euroclass D _L -s1, d0	EN 13501-1
Ecological data	Without CFCs and HCFCs	

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K-FLEX® PE PLUS COLOR ► TECHNICAL DATA		
▼ Property ▼	▼ Value ▼	▼ Test method ▼
Temperature range	+100°C	EN 14707
Thermal conductivity λ W/(m•K)	+10 °C = 0,036 +40 °C = 0,040	EN ISO 8497
Corrosion prevention	pH neutral (7)	
Fire rating	Euroclass B _L -s1, d0	EN 13501-1
Ecological data	Without CFCs and HCFCs	

K-FLEX® reserves the right to change data and technical requirements without notice.



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