

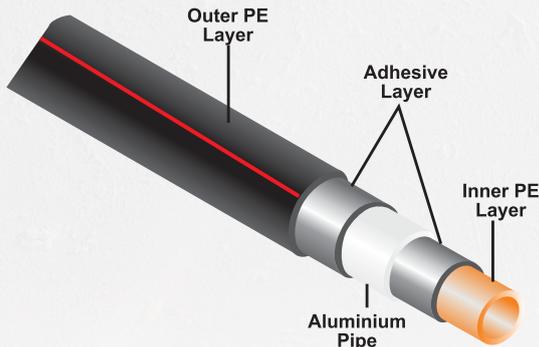


# KiTEC

## PE-AL-PEX PIPES



KiTEC is a well known brand in the construction industry for its quality and integrity. KiTEC PE-AL-PEX pipe is in continuation of its philosophy of giving technologically superior products to the customer. KiTEC PE-AL-PEX multilayer barrier pipe and compression DZR Brass fittings are specially designed for the hot water / heating applications. KiTEC PE-AL-PEX multilayer barrier pipe is manufactured from high density cross-linked polyethylene as inner wall with an aluminium strip layer as the middle wall of the pipe which in turn is covered with a thin layer of UV Stabilised black polyethylene.



### What is PEX?

PEX is the short form for Cross-linked Polyethylene. Cross-linked Polyethylene is a polyethylene material which has undergone a change in molecular structure using a chemical or a physical process whereby the polymer chains are chemically linked and is commonly abbreviated as PEX or XLPE. Cross-linked bonds in the polymer structure, changes the thermoplastic to a thermoset.

The required degree of cross-linking, according to ASTM Standard F 876-93, is between 65 and 89%. A higher degree of cross-linking could result in brittleness and stress cracking of the material.

### Improved Properties:

Cross-linking of polyethylene into PEX for pipes results in improved properties such as elevated temperature strength and performance, chemical resistance, and resistance to slow crack growth.

The high-temperature properties of the polymer are improved. Adequate strength to 120-150°C is maintained by reducing the tendency to flow.

- ✍ Chemical resistance is enhanced by resisting dissolution.
- ✍ Low temperature properties are improved.
- ✍ Impact and tensile strength are enhanced.
- ✍ Scratch resistance property is enhanced.
- ✍ Resistance to brittle fracture is enhanced.

PEX tubing cannot be used in applications exposed to sunlight, as it degrades fairly rapidly. KiTEC has, therefore, preferred to use PEX to take advantages of its above mentioned superior properties for internal layer and use PE with carbon black for external layer. To ensure safe use exposed to sunlight.

### Long Life:

KiTEC PE-AL-PEX pipes are designed for 50 years projected life subject to the following pressure and temperature ratings

Temp. ° C	Pressure Kg/Cm <sup>2</sup>
23.0	12.0
80.0	8.0
95.0	5.0

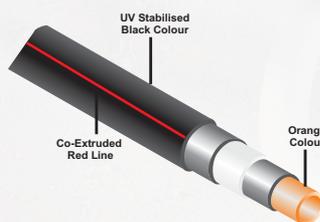
## Advantages:

Various added properties of PE-AL-PEX Pipes offer the following advantages:

Property	Change from HDPE to PEX	Benefit
Tensile Yield Strength @ 73.4°F (23°C) @ 180°F (82°C)	Typically Unchanged Typically Increases	PEX is suitable for both low- and elevated-temperature applications
Elongation at Break	Unchanged or Increases	Improved flexibility to withstand installation stresses while resisting tensile deformation
Environmental Stress Crack Resistance	Increases	Greater resistance to environmental hazards. Improved toughness and abrasion resistance.
Resistance to Slow Crack Growth	Increases	Greater resistance to environmental hazards such as scratches. Improved toughness and abrasion resistance.
Creep Resistance	Increases	Improved stability over long-term pressurization and loads. The traditional HDPE stress curve "knee-point" is typically eliminated.

## Manufacturing Range:

Description	Pipe Size									
	1216	1620	2025	2532	3240	4050	5063	6375	7590	90110
Minimum Outside Diameter mm	16	20	25	32	40	50	63	75	90	110
Minimum Wall Thickness mm	1.70	1.90	2.30	2.90	3.40	3.90	4.80	5.80	6.80	7.00
Maximum Coil/Straight Length meters	300	250	200	150	150	100	100	50	12	12
Minimum Aluminium Thickness mm	0.17	0.17	0.19	0.23	0.23	0.23	0.50	0.60	0.70	0.80
Minimum Outside Layer Thickness mm	0.40	0.40	0.40	0.40	0.40	0.40	0.80	0.80	1.00	1.00
Maximum Weight Kg/Meter	0.107	0.145	0.218	0.348	0.491	0.688	1.113	1.572	2.185	2.876
Equivalent NB size inch	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	3 1/2"	4"



## Identification:

Inner layer in Orange color and outer layer in UV stabilised black color with continuous co-extruded Red line.

## Fittings:



KiTEC recommends use of DZR Brass fitting with PE-AL-PEX pipes for recommended applications. Full plastic fittings can be used in case the pipes are being used for chemical transportation. Please contact the company for with full details like chemical name, concentration, temperature as well as pressure for suitable recommendations in case the pipes are being used in chemical or gaseous fluids.

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To the best of our belief, the technical data set out in this publication is accurate. However it is purely for guidance purpose.