

## Description

Alpert: multilayer PE-RT/AL/PE-RT pipe for underfloor heating, heating systems and sanitary systems. The Alpert pipe belongs to the new generation of multilayer pipes for thermosanitary systems. It is made of composite material, made homogeneous and integral by means of a technologically advanced process with which a PE-RT pipe is made (polyethylene not cross-linked with high resistance to high temperatures), reinforced by an aluminium core, welded and externally coated by another PE-RT layer.

The Alpert pipe combines the excellent characteristics of the PE-RT with the properties of the thin metal layer, which determines new benefits:

- shape stability combined with excellent flexibility
- contained linear expansion, similar to a metal pipe
- oxygen barrier 100% safe
- good thermal conductivity
- possibility to use fittings to be stapled

Alpert is the ideal pipe to easily lay the underfloor heating circuits. Its ability to maintain its shape allows for a considerable reduction of the anchors on the panels, particularly appreciable with the Plan Floor panel.



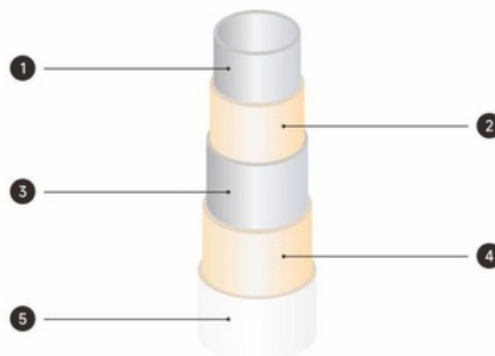
## Construction

1. Inner pipe in PE-RT. 2. Connection layer that joins the inner pipe with the aluminium pipe.

3. Aluminium pipe seam welded (thickness 0.21 mm for the size Ø 12x1.6, thickness 0.25 mm for the size Ø 15x2.0, thickness 0.25 mm for the size Ø 16x2.0).

4. Connection layer that joins the external pipe with the aluminium pipe.

5. External pipe in PE-RT.



### Dimension Data

Alpert pipe external Ø	mm	12 8.8 1.6	15	16 12 2.0 0.25 0.100 0.11
Alpert pipe internal Ø	mm	0.21 0.065	11	50/80/100/150/200/300/500
Overall thickness	mm	0.05	2.0	
Aluminum sheet thickness	mm	80/160/240	0.25	
Weight	Kg/m		0.096	
Water content	ℓ/m		0.1	
Packs nude pipe (roll)	m		50/100	

## Technical data


Classes of application (UNI EN ISO 21003 - see table previous page "Classification of the conditions of use"): 2/10 bar, 5/10 bar

Maximum operating conditions for 50 years:


- Design temperature TD = 70 °C
- Design pressure PD = 10 bar

Max temperature for short periods: 95 °C  
Coefficient of linear expansion: 0,026 mm/m °C  
Thermal conductivity: 0,45 W/m K  
Minimum radius of bending: 5 x D pipe  
Surface roughness of the internal tube: 1-1.4 µm  
Fire reaction class: EL (EN 13501-1)

## Marking example of Alpert pipe 16\*2.0

001M MULTILAYER PIPE Butt-welded TYPE I 16X2.0mm  T=95°C P=10bar ISO 21003  
CLASS 2/10bar, 5/10bar hh:mm:ss dd/mm/yy

### Key

001M	Progressive roll length	Trade name	pipe	Welding
MULTILAYER PIPE	manner	Layer	material	indication
Butt-welded	Size			
TYPE I	The pipes have been certified by WRAS Maximum			
16X2.0mm	temperature for short periods			
	Maximum pressure			
T=95°C	Technical regulation			
P=10bar	Application classes combined with operating pressure			
ISO 21003	Time, date			
CLASS 2/10bar, 5/10bar				
hh:mm:ss dd/mm/yy				

## Packaging

12\*1.6

15\*2.0

16\*2.0

Length of  
rolls

Size of  
packaging

80	160	240	50	100	50	80	100	150	200	300	500
48.5x12 x48.5	61x12 x61	56x20 x56	39x20 x39	52x20 x52	39x20 x39	51x19 x45	60x19.5 x51	66x19 x60	85x20 x66	100x100x180 x85 (9Rolls)	

## Regression curves of Alpert pipe

### Example of reading

The maximum allowable pressure (Pmax) for a duration of 50 years at a certain temperature is identified by intersecting the line (vertical) relating to 50 years with the line (coloured) relating to the temperature.

Note the operating pressure provided for (Pes), the safety coefficient will be equal to  $ks = P_{max} / P_{es}$ .

