



---

## Technical data sheet

PE-RT and PE-X pipes for underfloor heating system

---

# Contents

DESCRIPTION	3
ADVANTAGES	4
PEX-AL-PEX PIPE TECHNICAL FEATURES	5
Dimensions	5
Volume and weight	5
Conductivity and expansion	5
Temperature and pressure	5
Bending radius	6
PE-RT PIPE TECHNICAL FEATURES	7
Dimensions	7
Volume and weight	7
Conductivity and expansion	7
Temperature and pressure	8
PE-RT/AL/PE-RT TECHNICAL FEATURES	8
Dimensions	8
Volume and weight	8
Temperature and pressure	8
PE-Xa EVOH TECHNICAL FEATURES	9
Dimensions	9
Volume and weight	9
Conductivity and expansion	9
Temperature and pressure	9

**LINE TB00.50 e TB00.20****PE-RT and PE-X pipes for  
underfloor heating system****DESCRIPTION**

General Fittings proposes 3 types of pipes for radiant floor heat system: PE-RT, PE-X/Al/PE-X, PE-RT/Al/PE-RT.

**PE-RT PIPE**

The PE-RT plastic pipe is extremely solid and resistant and consists of a 5-layer structure with an oxygen barrier.

The EVOH layer provides a good barrier to oxygen and completely protects the structure from external influences.

The structure and composition ensures good thermal stability at high temperatures up to 90 °C.

**PE-X/Al/PE-X PIPE**

The multilayer pipe of the TB00.20 series is composed of a 5-layer structure: the butt-welded aluminum layer is enclosed between two layers of polyethylene.

The pipes are resistant to corrosion and have characteristics of lightness, hygiene and a very smooth contact surface with the transported fluid.

The presence of aluminum makes it possible to shape the pipe with extreme simplicity and prevent the passage of oxygen inside the duct.

**PE-RT/Al/PE-RT PIPE**

PE-RT / Al / PE-RT pipe is a five-layer pipe that combines the advantages of a metal and plastic pipe.

Both the inside and the outside layer are made of PERT material, the aluminum core in the middle layer is absolutely diffusion-tight, which can reliably prevent oxygen permeation into the tube.

## ADVANTAGES

- High flexibility: easy to install
- Lightness
- Evoh barrier
- Corrosion resistance

## PEX-AL-PEX PIPE TECHNICAL FEATURES

### Dimensions

NOMINAL DIAMETER OF THE PIPE	16x2.0	20x2.0
TYPE OF PLASTIC MATERIAL (5 layers)	PE-Xb / al / PE-Xb	
EXTERNAL DIAMETER mm	16	20
INTERNAL DIAMETER mm	12	16
THICKNESS mm	2	
ALUMINUM THICKNESS	0.2	0.25

### Volume and weight

NOMINAL DIAMETER OF THE PIPE	16X2.0	20X2.0
VOLUME CONTENT OF WATER l / m	0.113	0.201

### Conductivity and expansion

NOMINAL DIAMETER OF THE PIPE	16X2.0	20X2.0
COEFFICIENT OF THERMAL CONDUCTION w / mk	0.4	
COEFFICIENT OF LINEAR THERMAL EXPANSION m / m · k	0.026	
INNER PIPE SURFACE ROUGHNESS mm	0.007	

### Temperature and pressure

NOMINAL DIAMETER OF THE PIPE	16X2.0	20X2.0
maximum working pressure bar °C	90	
MINIMUM OPERATING TEMPERATURE °C	"-20(with a concentration of 40% of glycol in water)	
PEAK TEMPERATURE (of malfunction) °C	95	
MAXIMUM WORKING PRESSURE bar	10	

## Bending radius

NOMINAL DIAMETER OF THE PIPE	16X2.0	20X2.0
MANUAL mm	80	100
WITH INTERNAL SPRING mm	45	60
WITH BENDER mm	X	

## PE-RT PIPE TECHNICAL FEATURES

### Dimensions

NOMINAL DIAMETER OF THE PIPE	12x1.4	16x2.0	17x2.0	20x2.0
TYPE OF PLASTIC MATERIAL (5 layers)	PE-RT			
EXTERNAL DIAMETER mm	12	16	17	20
INTERNAL DIAMETER mm	9.2	12	13	16
THICKNESS mm	1.4	2.0		

### Volume and weight

NOMINAL DIAMETER OF THE PIPE	12x1.4	16x2.0	17x2.0	20x2.0
VOLUME CONTENT OF WATER l / m	0.066	0.113	0.133	0.201

s

### Conductivity and expansion

NOMINAL DIAMETER OF THE PIPE	12x1.4	16x2.0	17x2.0	20x2.0
COEFFICIENT OF THERMAL CONDUCTION w / mk	0.4			
COEFFICIENT OF LINEAR THERMAL EXPANSION m / m • k	0.195			
INNER PIPE SURFACE ROUGHNESS mm	0.007			

## Temperature and pressure

NOMINAL DIAMETER OF THE PIPE	12x1.4	16x2.0	17x2.0	20x2.0
maximum working pressure bar °C	70			
MINIMUM OPERATING TEMPERATURE °C	-20(with a concentration of 40% of glycol in water)			
PEAK TEMPERATURE (of malfunction) °C	95			
MAXIMUM WORKING PRESSURE bar	6	8		6

## PE-RT/AL/PE-RT TECHNICAL FEATURES

### Dimensions

NOMINAL DIAMETER OF THE PIPE	11.6x1.5
TYPE OF MATERIAL (5 layers)	PE-RTII / al / PE-RTII
EXTERNAL DIAMETER mm	11.6
INTERNAL DIAMETER mm	8.6
THICKNESS mm	1.5
ALUMINUM THICKNESS	0.2

### Volume and weight

NOMINAL DIAMETER OF THE PIPE	11.6x1.5
VOLUME CONTENT OF WATER l / m	0.058

## Temperature and pressure

NOMINAL DIAMETER OF THE PIPE	11.6x1.5
maximum working pressure bar °C	90
MINIMUM OPERATING TEMPERATURE °C	-20* (con concentrazione del 40% di glicole in acqua)
PEAK TEMPERATURE (of malfunction) °C	95
MAXIMUM WORKING PRESSURE bar	10



## PE-Xa EVOH TECHNICAL FEATURES

### Dimensions

DIMENSIONS	DATA
nominal diameter of the pipe	17x2.0
Type of material	Pe-Xa-EVOH
Outside diameter	17.00
Outside diameter of the pipe (mm)	13.00
Thickness	2.00-2.30

### Volume and weight

FEATURES	VALUE
Nominal pipe diameter	17x2.0
VOLUME CONTENT OF WATER l / m	0.133

### Conductivity and expansion

FEATURES	VALUE
Nominal pipe diameter	17x2.0
Thermal conductivity coefficient W/ m-K	035-0,38
Coefficient Of Linear Thermal Expansion Mm / M • K	0.026

### Temperature and pressure

FEATURES	VALUE
MAXIMUM WORKING PRESSURE	90°C
MINIMUM OPERATING TEMPERATURE	-20°C (with 40% glycol concentration in water)
Peak Temperature	95°C
Maximum pressure	6 bar



GENERAL FITTINGS SPA

Via Golgi 73/75, 25064 Gussago (BS) - ITALY

te. +39 030 3739017

[www.generalfittings.it](http://www.generalfittings.it)