

advantages of the system Klettjet

This is the FIV system for underfloor heating and cooling systems realization, which adopts the quick strap fastening system to make the installer's work easier and faster.

With the simple pressure of a foot, the special spiral wrapped tape around the PE-Xc cross-linked polyethylene pipes, catches firmly onto the Klettjet panels film, keeping the pipes firmly in place and setting a new standard for floor-drowned radiant systems with flat panels.

Traditional pipe fastening systems such as clips, plastic bars and the use of special tools are no longer required. The system allows the installer to operate autonomously, to easily modify the installation of the circuits, as the pipe can be detached and reattached several times from the panel, as for all the strap fastening systems we use daily within the clothing field.

Klettjet system is suitable for any type of building, especially where rooms have irregular shapes where it is possible to lay the circuits without restrictions, respecting the executive design, following the black traces of the grid printed on panels surface.

SYSTEM ELEMENTS

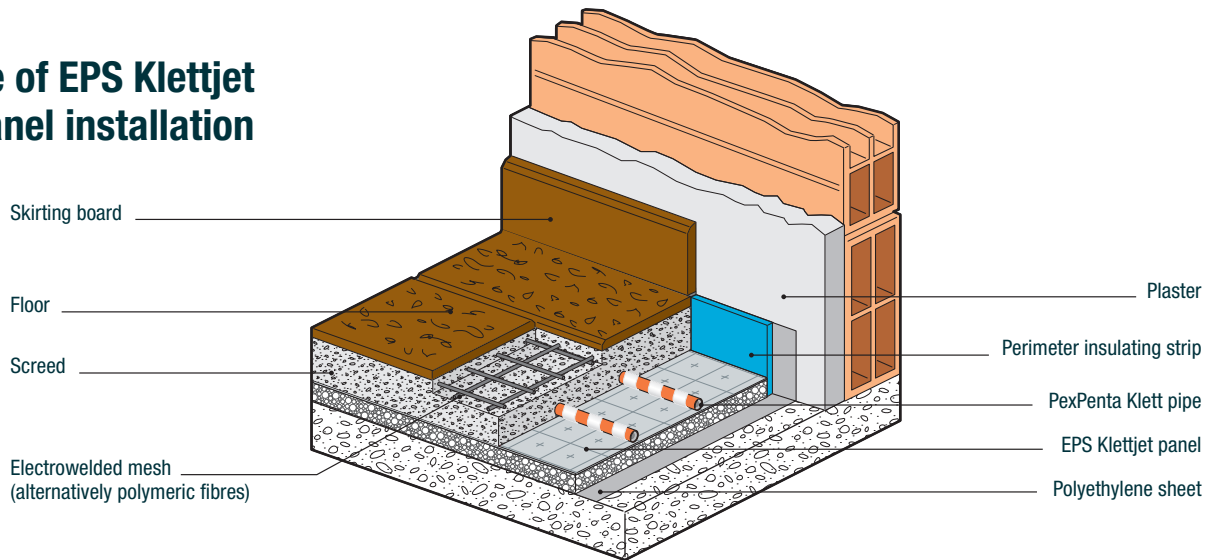
Klettjet panels are supplied on a roll and can be easily cut with a large blade cutter. They are available with 20 or 30 mm thick EPS thermic insulation or with only 6 mm thick thermic-acoustic insulation, with full self-adhesive base, ideal for building renovations, which can be laid directly on existing floors or other insulating layers.

PexPenta Klett PE-Xc 16x2 mm, 5-layers high density polyethylene pipe, cross-linked with an electronic system, highly flexible and equipped with an oxygen barrier positioned in the middle layer, is wrapped externally in a spiral shape by a special tape for rapid fastening of strap type on the Klettjet panels.

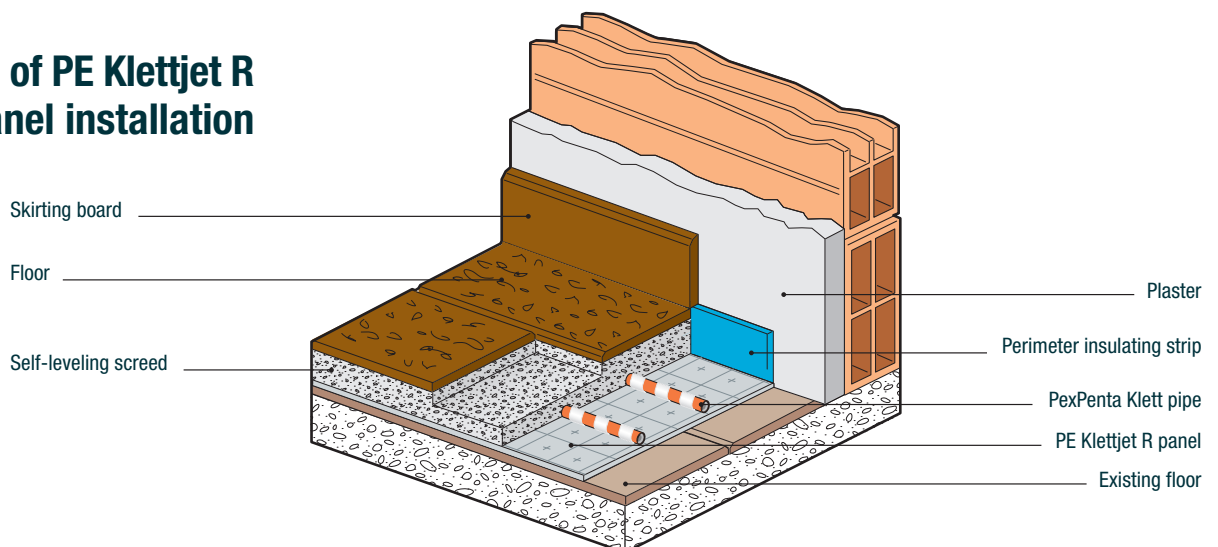
It complies with DIN 4726 and UNI EN ISO 21003-2, Certificate DIN CERTCO 3V365 MVR (P).

This system is integrated by Eurocono Monoblocco certified tightening fittings for the connection of the pipe to the distribution manifold, by a special roll tape to join the panels with relevant unrolling tool and by a tool to keep the pipes raised from the floor.

example of EPS Klettjet panel installation



example of PE Klettjet R panel installation



laying of insulating panels

LAYING THE SMOOTH COUPLED INSULATION KLETTJET PANEL

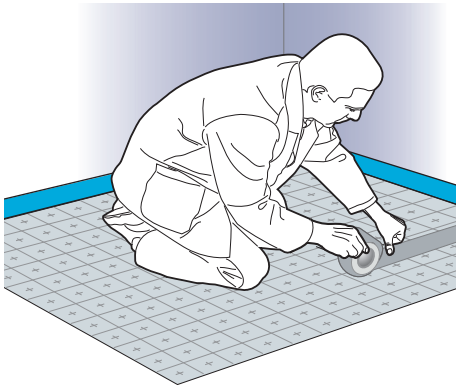
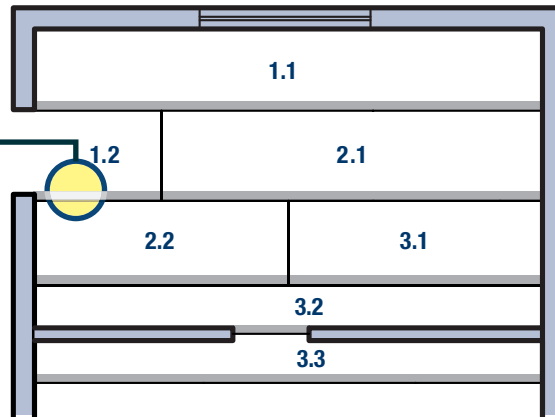
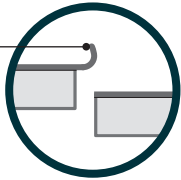
Before the system installation, make sure that the support on which the panel is to be laid is as flat, smooth and clean as possible. It is recommended to start laying the roll, both for the EPS Klettjet panel and the PE Klettjet R panel, starting from a room corner in the direction of the longest wall of it, so that the edge lays next to the perimeter strip.

Exceeding cut parts should be reused in the next row, respecting if possible the alignment of the printed grid on the superficial film, in order to minimize material waste.

Example of laying and recovering the cut part of the Klettjet panel

KLETTJET panel

Adhesive edge



Seal the rolls along the short side with its adhesive tape.

In the case of EPS panels (20 or 30 mm thick) join the panels using the appropriate 50 mm adhesive tape. In the case of PE panels (6 mm thick), remove the film on the back of the panel before laying it, in order to reveal the adhesive surface.

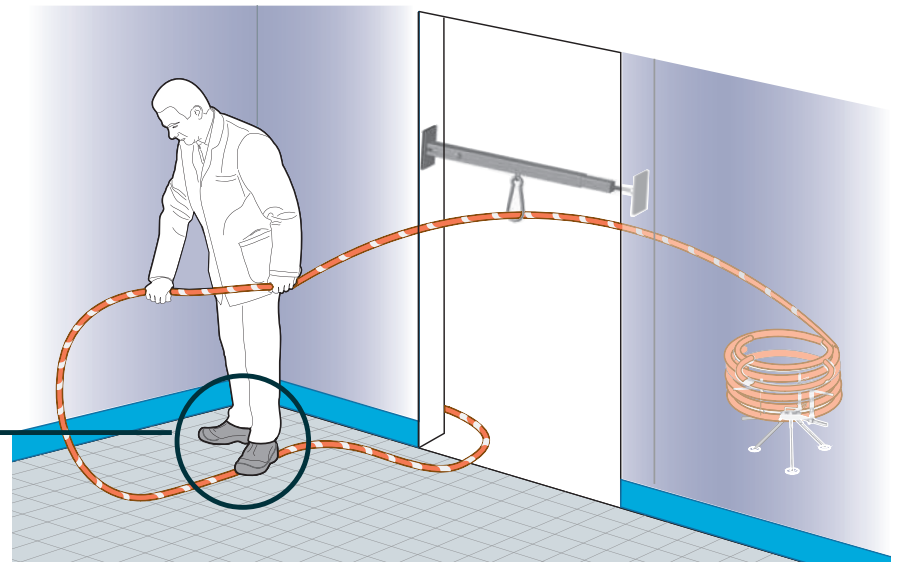
If the support is raw, it is advisable to check that the surface guarantees perfect fixing of the panels. If necessary, check the application of specific primers.

LAYING THE PIPE PEXPENTA KLETT

When installing the PexPenta Klett pipe, it is advisable to use the appropriate gloves and use the pipe support positioned between the door jambs to pass the PexPenta Klett pipe through the carabiner and lay it over the panels installed according to the design scheme and following the grid drawn on the panels with a simple foot pressure.

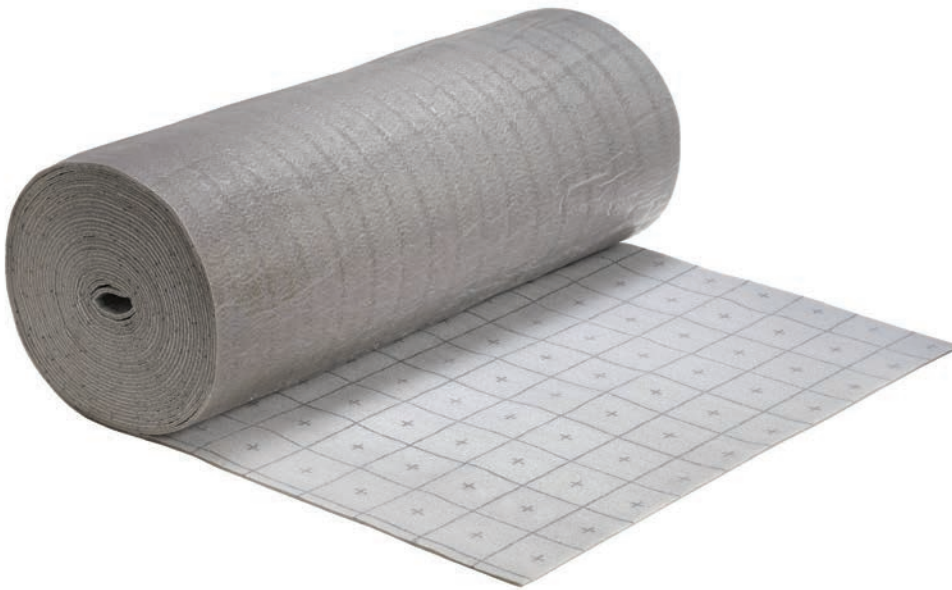
The tube will be fixed to the tissue film of the panel by means of the quick fastening tape.

In the event of installation changes, the pipe can be easily removed and fastened again.



PE KLETTJET R

REDUCED PE INSULATING PANEL
INTERVAL 50 MM



Physical characteristics	Standard	Model H6
Type	UNI EN 14313	Extruded PE
Dynamic rigidity	EN 29052-1	< 210 MN/m ³
Compressibility	EN 12431	≤ 2 mm
ΔLw** (evaluation index of the attenuation of the impact sound pressure level)	UNI EN 12354-2	13dB
Thermal conductivity λ _D (λ _{ins})	EN 12939 (UNI EN 1264)	0,045 W/mK
Thermal resistance R _{λ-ins} (S _{ins} / λ _{ins})	UNI EN 1264-3:2021	0,10 m ² K/W
Class of reaction to fire	EN 13501-1	Euroclass E
Maximum load	/	5,0 kPa
Sheet thickness S _{ins}	UNI EN 1264-3	6 mm
Total length		20.000 mm
Total width		1.000 mm
Total thickness		6 mm
Pipe spacing		50 mm

See the technical data table:

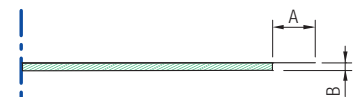
** calculation method for systems 'screed + resilient layer" (floating floors), valid with floors made of concrete or concrete and masonry, according to the simplified model provided for by EN 12354-2, table C1.
Conditions: mass per unit of area of the screed: 100 kg/m², dynamic rigidity of the resilient status: 210 MN/m³

GP 2015
PE KLETTJET R



H = 6 mm

Smooth panel in 6 mm thick roll, made of extruded closed cell polyethylene with self-adhesive base, for thermal and acoustic insulation (from impact noise), coupled with a film suitable for fastening PexPenta Klett pipes with tear-off system. The film features a 5 cm pitch black markings and a self-adhesive edge along the 20 metre side.



CODE	Size	Useful thickness	A mm	B mm	Pack m ²	Pallet m ²
28134286	20000 x 1000 x 6	(H) 6 mm	40	6	20	120

For dimensions, panel sections and minimum overall dimensions of the system for civil buildings, see Technical Annexes Section.



EPS KLETTJET

EPS INSULATING PANEL
INTERVAL 50 MM



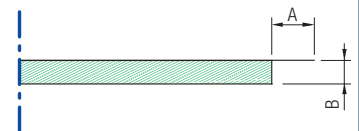
Technical data	Standard	Model H 20 mm	Model H 30 mm
Type	UNI EN 13163	EPS 150	EPS 150
Density	UNI EN 1602	25 kg/m ³	25 kg/m ³
Compressive strength at 10% deformation	UNI EN 826	≥ 150 kPa	≥ 150 kPa
Thermal conductivity λ_D (λ_{ins})	UNI EN 12667	0,033 W/mK	0,033 W/mK
Thermal resistance $R\lambda_{ins}$ (S_{ins} / λ_{ins})	UNI EN 1264-3:2021	0,60 m ² K/W	0,90 m ² K/W
Class of reaction to fire	UNI EN ISO 11925	Euroclass E	Euroclass E
Water absorption	EN 12087	< 5%	< 5%
Water vapour diffusion resistance factor μ	UNI EN 12086	40 ÷ 100	40 ÷ 100
Sheet thickness S_{ins}	UNI EN 1264-3	20 mm	30 mm
Total length		10.000 mm	10.000 mm
Total width		1.000 mm	1.000 mm
Total thickness		20 mm	30 mm
Pipe spacing		50 mm	50 mm
Pack		10 m ²	10 m ²

GP 2015
EPS KLETTJET



Smooth panel in roll, consisting of slats (dimensions: 100 x 1000 mm) made of expanded Polystyrene (EPS) moulded for thermal insulation, coupled with a film suitable for fastening PexPenta Klett pipes with tear-off system.

The film features a 5 cm pitch black markings and a self-adhesive edge along the 10 metre side.



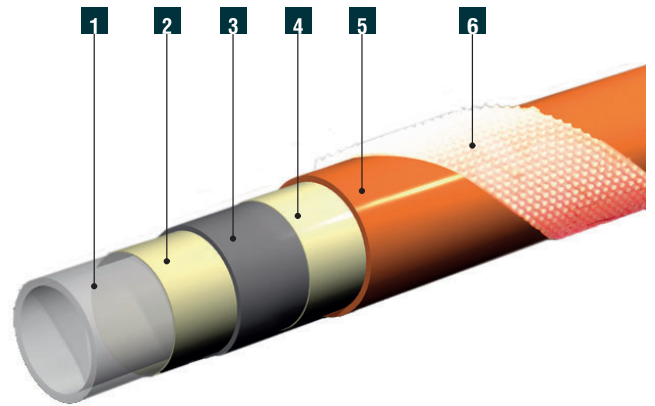
CODE	Size	Useful thickness	Density	A mm	B mm	Pack m ²	Pallet m ²
9915P001	10000 x 1000 x 20	(H) 20 mm	25	40	20	10	90
9915P002	10000 x 1000 x 30	(H) 30 mm	25	40	30	10	70

For dimensions, panel sections and minimum overall dimensions of the system for civil buildings, see Technical Annexes Section.



PEXPENTA KLETT

5-LAYER PE-XC / EVOH / PE-XC PIPE



Components

- | | |
|---|-----------------------------|
| 1 | PE-Xc |
| 2 | Adhesive |
| 3 | EVOH-oxygen barrier |
| 4 | Adhesive |
| 5 | PE-Xc |
| 6 | Tape for tear-off fastening |

CONDITIONS OF USE ACCORDING TO THE APPLICATION CLASSES IN COMPLIANCE WITH UNI EN ISO 21003 STANDARD (SEE TECHNICAL ATTACHMENTS).

EN TECHNICAL CHARACTERISTICS

Application classes / Operating pressure (bar):
Cl. 4 / 6 bar - 5 / 6 bar
Oxygen permeability: (DIN 4726):
< 0.32 mg/(m²d) at 40 °C; < 3.60 mg/(m²d) at 80 °C
Density: 940 kg/m³
Thermal conductivity: 0.41 W/(mK)

Degree of cross-linking: ≥ 60%
Average coefficient of linear expansion: $1.5 \times 10^{-4} \text{ K}^{-1}$
Minimum bending radius: 5 x Ø outer diameter
Internal roughness: 6 µm - Water content: 0.11 l/m

APPLICATION: HEATING SYSTEMS.

GP 2034
PEXPENTA KLETT PE-Xc PIPE

5-layer pipe made of high density polyethylene, cross-linked with electronic system, in accordance with UNI EN ISO 21003-2, equipped with oxygen barrier in accordance with standard DIN 4726 in the intermediate layer, externally wrapped with special tape for fast tear-off fastening on KLETTJET panels. DIN CERTCO 3V365 MVR (P) certified.

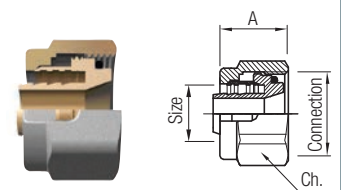


CODE	Size	m Pallet	N° Rolls	Pack m
28141830	16 x 2 mm	1920	8	240
28141832	16 x 2 mm	2400	4	600

GP 2615
MONOBLOCCO SEAL



MONOBLOCCO nickel-plated seal, for PexPenta Klett pipe.



CODE	Size	Connection	Maximum torque (Nm)	A mm	Ch mm	gr	Pack pcs/box	Master pcs/box
6239R917	16x2	24x19	30+35	20,5	27	62	40	640

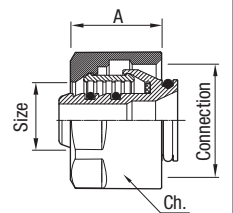
GP 2615
MONOBLOCCO 2.0 SEAL



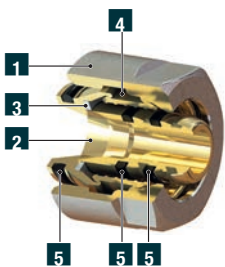
MONOBLOCCO 2.0, nickel-plated 3/4" Eurocone seal, for PexPenta Klett pipe.

Construction

- 1 Nut in nickel-plated brass UNI EN 12165 CW617N
- 2 Adapter in brass UNI EN 12164 CW617N
- 3 Washer in PTFE, dielectric
- 4 Serrated hose-clamp in brass UNI EN 12164 CW614N
- 5 O-ring seals EPDM



Available only on request.



CODE	Size	Connection	Maximum torque (Nm)	A mm	Ch mm	gr	Pack pcs/box	Master pcs/box
9510R100	16x2	EUROCONO	30+35	20	27	69	10	320

Supplied with O-rings.

GP 2630
ACCESSORIES



50 mm adhesive tape for joining Klettjet panels.

CODE	Height	Roll per Pack	Pack m
28134290	50 mm	1	100

GP 2630
ACCESSORIES



Reel for 50 mm tape for Klettjet panels.

CODE

**Pack
pcs/box**

28134294

1

GP 2630
ACCESSORIES



Support for PexPenta Klett pipe.

CODE

**Pack
pcs/box**

28134296

1

GP 2630
ACCESSORIES



Gloves for PexPenta Klett pipe.

CODE

**Pack
pcs/box**

28134299

1 PAIR