

# Schlüter®-BEKOTEC-EN-F PS

Peel & Stick panel  
for thin covering assemblies

# 9.6

Product data sheet

## Application and function

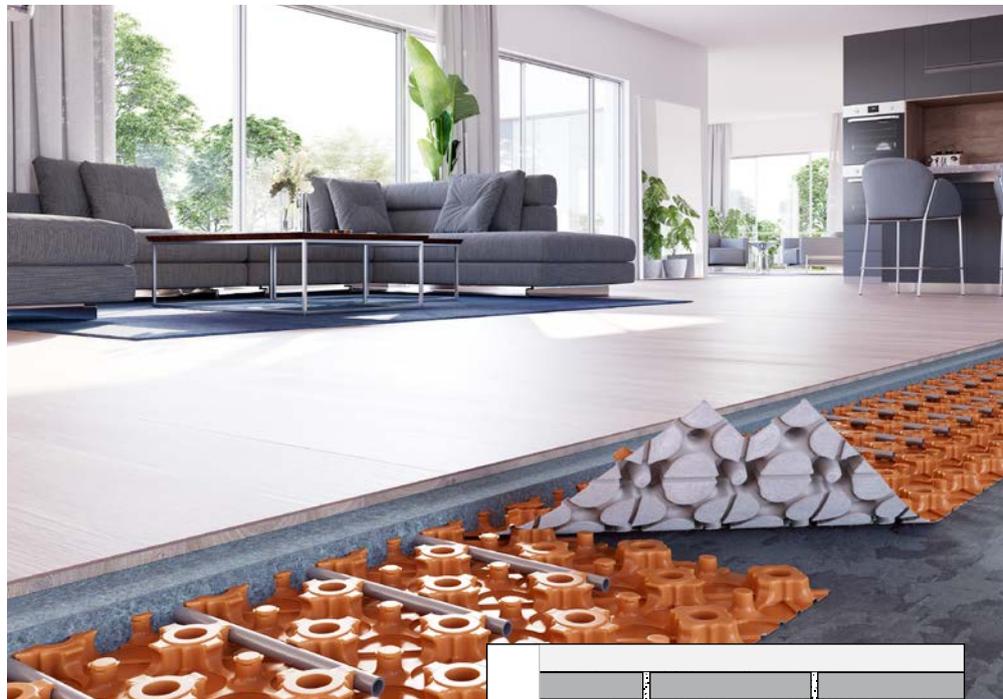
The reliable **Schlüter-BEKOTEC** covering assembly technology is a system for crack-free and functionally safe floating screeds and heated screeds, with coverings made of ceramics, natural stone, and other covering materials.

The system is based on the studded screed foil panel Schlüter-BEKOTEC-EN 23 F PS, which is directly adhered on top of a load bearing substrate and/or over conventional heat insulation and sound insulation panels. The special pressure sensitive adhesive on the underside of the studded panel achieves an excellent bond with the substrate.

The geometry of the BEKOTEC-EN 23 F PS studded panel dictates a minimum screed layer thickness of 31 mm between and 8 mm above the studs. The stud spacing allows for clamping the heating pipes of the system, which have a diameter of 14 and 16 mm\*, in a 75 mm grid to produce a heated screed.

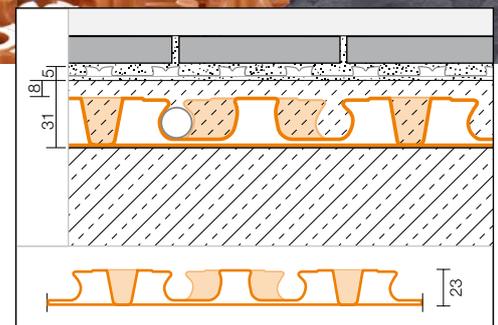
Since only a relatively small amount of screed has to be heated or cooled (with a coverage of 8 mm, approx. 57 kg/m<sup>2</sup> ± 28.5 l/m<sup>2</sup>), the floor heating system is easily adjustable and ideally suited for operation at low supply temperatures.

Any contraction occurring while the screed cures is absorbed by the studded pattern. As a result, stresses from contraction buckling cannot affect the entire area, and it is not necessary to install movement joints in the screed. Once the cement screed is ready to support the weight the uncoupling mat, Schlüter-DITRA, (alternatively, Schlüter-DITRA-DRAIN 4 or Schlüter-DITRA-HEAT) can be installed (gypsum based screed ≤ 2 CM-%). The ceramic tiles or natural stone are then installed directly over this layer, using the thin bed method. Movement



joints in the covering layer have to be created with Schlüter-DILEX in the customary spacing.

Cover materials that are not susceptible to cracking, such as parquet or carpeting, are directly installed over the screed as soon as it reaches the corresponding residual moisture level.



plus pressure sensitive adhesive (approx. 0.1 mm)

\* see table on page 5 for further information



## Material

BEKOTEC-EN 23 F PS is made of impact resistant structured polystyrene with a pressure sensitive adhesive laminated on the underside. It is suited for use with conventionally applied cement or gypsum screeds as well as flowing screed. The material must be stored in a location above freezing where it is not exposed to UV radiation.

## Installation

1. Install BEKOTEC-EN 23 F PS on a sufficiently weight-bearing and level substrate that has no point-like protrusions (e.g. mortar residue). Carefully inspect the substrate to make sure it is clean and compatible with the materials to be used. Remove all surface components that may weaken the bond. Thoroughly vacuum the substrate prior to installation to remove all dust.

### Note:

Although it is not mandatory to apply a primer, a standard primer without coarse components such as quartz sand may be used if the condition of the substrate necessitates it.

Correct uneven sections in the floor with screeds or suitable levelling compounds in advance. If required, install suitable insulation materials over the substrate in accordance with the applicable sound insulation and/or heat insulation requirements where necessary\*.

If cables and pipes are installed on the weight bearing substrate, the sound insulation must cover the full levelling layer as specified in DIN 18560-2. The max. compressive strength CP3 ( $\leq 3$  mm) must be taken into consideration to select a suitable insulation material.

2. Cover the edges of the covering at rising walls or structural elements with the 8 mm edging strip Schlüter-BEKOTEC-BRS 808 KSF.

The adhesive leg integrated into the edging strip features a self-adhesive strip on both sides for attachment. The edging strip is pressed toward the wall by the adhesion on the substrate or the top insulation layer and the pre tensioning of the integrated foil leg. When the studded BEKOTEC panel is placed on top of the adhesive leg, the panel bonds with the substrate and flowing screed can no longer flow underneath the panel.

3. The BEKOTEC-EN 23 F PS studded panels must be precisely cut to size in the edge areas. The BEKOTEC panels are connected by overlapping a row of studs. To install the studded panel, peel the release film off BEKOTEC-EN 23 F PS and place the panel on the substrate. It can be lifted and re-positioned providing no pressure has been applied to it. However, the pressure sensitive adhesive on the underside will firmly stick the studded

panel to the substrate once pressure has been applied.

In door threshold areas and near distributor boxes, the smooth levelling panel Schlüter-BEKOTEC-ENFG PS may be used to simplify the pipe installation. The pressure sensitive adhesive on its underside attaches the panel. The self-adhesive pipe clamping strip Schlüter-BEKOTEC-ZRKL enables precise pipe layout in these areas.

4. Clamp the system pipes with a diameter of 14 or 16 mm\* between the cutback studs to create a Schlüter-BEKOTEC-THERM floor heating system. The spacing of the pipes must be determined on the basis of the required heating output, as shown in the Schlüter-BEKOTEC heating diagrams.

5. As part of the screed installation, fresh cement-based or gypsum-based screed is installed with a minimum screed cover of 8 mm over the studded panels. A compressive strength of C20 to C35, as well as a flexural tensile strength of F4, max. F5, must be maintained for both cement- and gypsum-based screeds. If the cement screed has a shrinkage class of SW1, using products with a higher flexural tensile strength is also possible. The layer thickness can be partially increased to max. 25 mm for levelling. When installing a flowing screed, carefully place the studded panels and seal the abutting edges/end points. Make sure the screed does not flow underneath the BEKOTEC panels. Observe the system approval for this application.

Note: Please contact our Technical Department in advance to discuss different screed properties for specific projects. To prevent impact sound transmission between two rooms, separate the screed in the relevant places with the expansion joint profile Schlüter-DILEX-DFP.

6. The DITRA uncoupling mat (or alternatively, DITRA-DRAIN 4 or DITRA-HEAT) can be installed in accordance with the installation instructions of the relevant product data sheets as soon as the screed is ready to bear weight. The uncoupling mat can be installed over gypsum based screeds as soon as they have reached a residual moisture level of 2 CM % or less.

7. Coverings of ceramic tile or natural stone can then be directly installed on top of the uncoupling mat, using the thin bed method. Divide the covering above the



uncoupling mat into fields, using movement joints in accordance with the applicable regulations. We recommend the movement joint profiles Schlüter-DILEX-BWB, -BWS, -KS, -F or -AKWS for creating movement joints (see product data sheets 4.6 - 4.8 - 4.18 and 4.23).

8. Install the corner movement profile Schlüter-DILEX-EK or -RF as a flexible edge joint in the area of the floor-wall transition (see product data sheet 4.14). Cut off the protruding part of the edging strip Schlüter-BEKOTEC-BRS in advance.
9. If the Schlüter-BEKOTEC-THERM ceramic thermal comfort floor is to function as a floor heating system, the full covering assembly is ready for heating only 7 days after completion. Start from a water temperature of 25 degrees C and increase the supply temperature by no more than 5 degrees C a day until the desired usage temperature has been reached.
10. Covering materials that are not susceptible to cracking (e.g. parquet, carpet or vinyl coverings) can be installed without the uncoupling mat, directly on top of the BEKOTEC screed. The screed thickness must be adjusted to the relevant material thicknesses.

Note: In addition to the applicable installation guidelines, the permissible residual moisture level of the screed must be observed for the selected covering material. For detailed installation instructions in conjunction with non-ceramic surface coverings, please refer to our technical manual for Schlüter-BEKOTEC-THERM or contact our Technical Department.

\* see table on page 5 for further information

### Notes

Schlüter-BEKOTEC-EN 23 F PS, -ENFG PS, -BRS and -BTS do not rot and require no special maintenance or care. Before and during the installation of the screed, the studded panel may need to be protected from mechanical damage with suitable measures, such as laying out wooden boards.

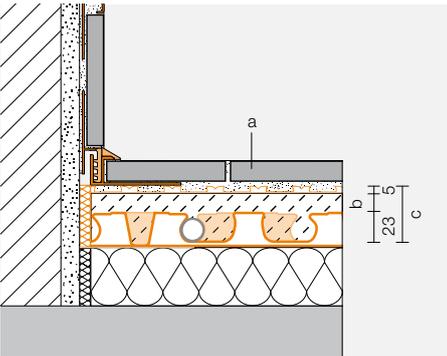


**Screed coverage over Schlüter-BEKOTEC-EN-F PS for various covering types**

**Schlüter®-BEKOTEC-THERM-EN 23 F PS**

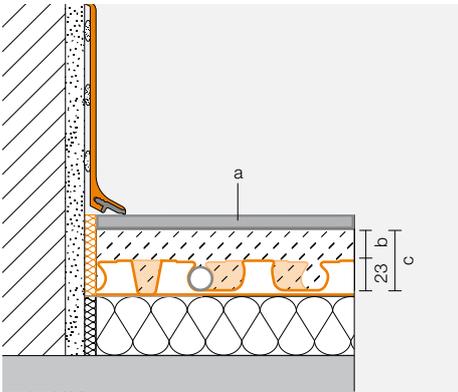
Screed coverage and maximum traffic loads for various surface coverings

**Ceramic coverings**



(a) Floor covering	Max. traffic load $q_k$ according to DIN EN 1991	Max. individual load $Q_k$ according to DIN EN 1991	System (b) coverage with conventional screeds	(c) Total thickness of BEKOTEC assembly
Ceramic tile/ natural stone	5.0 kN/m <sup>2</sup>	3.5 – 7.0 kN	8 – 25 mm	36 – 53 mm

**Non-ceramic coverings**



(a) Floor covering	Max. traffic load $q_k$ according to DIN EN 1991	Max. individual load $Q_k$ according to DIN EN 1991	System (b) coverage with conventional screeds	(c) Total thickness of BEKOTEC assembly
Loose or bonded soft coverings: PVC, vinyl, linoleum, carpet, cork	2.0 kN/m <sup>2</sup>	2.0 – 3.0 kN	15 – 25 mm	38 – 48 mm
Adhered parquet without tongue and groove connection	2.0 kN/m <sup>2</sup>	3.5 – 7.0 kN	15 – 25 mm	38 – 48 mm
Adhered parquet with tongue and groove connection	5.0 kN/m <sup>2</sup>	3.5 – 7.0 kN	8 – 25 mm	31 – 48 mm
Floating parquet, laminate and coverings with click system	2.0 kN/m <sup>2</sup>	2.0 – 3.0 kN	8 – 25 mm	31 – 48 mm



### Recommended substrates that are suitable for adhesives

Schlüter-BEKOTEC-EN 23F PS in conjunction with the heating pipes  
BT HR 14 and BT HR 16 over different assemblies

Suitable substrates / insulation material	EN 23 F PS
Polystyrene material (CP 3 or better)*	+
Polyurethane material *	+
Solid / level substrate such as	
Hardwood floors	+
Oriented strand boards	+
Chipboards	+
Existing screed (cement or gypsum screeds)	+
Tile / natural stone	+
Coating	+

\*Insulation materials with a nominal thickness under 20 mm may lead to higher restoring forces within the assembly (insulation layer and studded panel in conjunction with heating pipe).

### Schlüter®-BEKOTEC-EN 23F PS at a glance

general product properties	
Material	Polystyrene (PS) with 70% recycled material content
Adhesive layer	PSA hotmelt
Protective foil	PE, transparent
Material thickness	1 mm
Panel height	23 mm
Width	1275 mm
Length	975 mm
Weight	1490 g
Working area	1.08 m <sup>2</sup> (1.2 x 0.9 m)
Storage conditions	store above freezing and protected against UV radiation, no temperatures > 70°C for an extended period
System data	
Weight per unit area with 8 mm coverage	57 kg/m <sup>2</sup>
Screed volume with 8 mm coverage	28.5 l/m <sup>2</sup>
Traffic load	up to 5 kN/m <sup>2</sup>
System heating pipes	diameter 14 mm silver grey diameter 16 mm orange
Heating pipe installation spacing	75/150/225/300 mm
Technical properties	
Processing temperatures	from 5 +°C
Temperature resistance	-30 °C to +70 °C
Density	1.05 g/cm <sup>3</sup>
Thermal conductivity	0.17 W/mK
Fire resistance class acc. to EN 13501-1	E
Certifications/approvals	
VOC (French regulation / EMICODE)	approved (A+ / EC 1 PLUS)



## Supplementary system products

### Levelling panel

The levelling panel Schlüter-BEKOTEC-ENFG PS is installed in the area of door thresholds and heating circuit distributors to simplify connections and to minimise cutting waste. It consists of smooth polystyrene foil material with a pressure sensitive adhesive layer covered by a release film on the underside.

Dimensions: 1275 x 975 mm

Thickness: 1.0 mm



### Pipe clamping strip

Schlüter-BEKOTEC-ZRKL is a pipe clamping strip for dependable pipe installation, e.g. in the connection area. The clamping strips are self-adhesive to allow for permanent attachment.

Length: 20 cm, Number of pipe spaces: 4



### Edging strip

Schlüter-BEKOTEC-BRS 808 KSF is an edging strip of closed cell polyethylene foam with an integrated adhesive leg that features an adhesive strip on both sides for attachment. The edging strip is pressed toward the wall by the adhesion on the substrate and the pre-tensioning of the integrated foil leg. When the studded BEKOTEC panel is placed on top of the adhesive leg, the panel bonds with the substrate and flowing screed can no longer flow underneath the panel.

Roll: 25 m, height: 8 cm, thickness: 8 mm

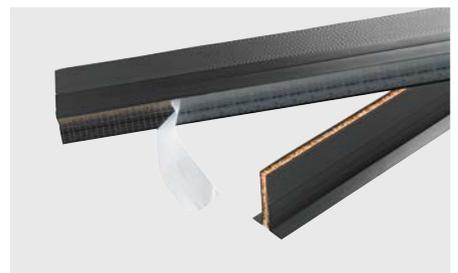


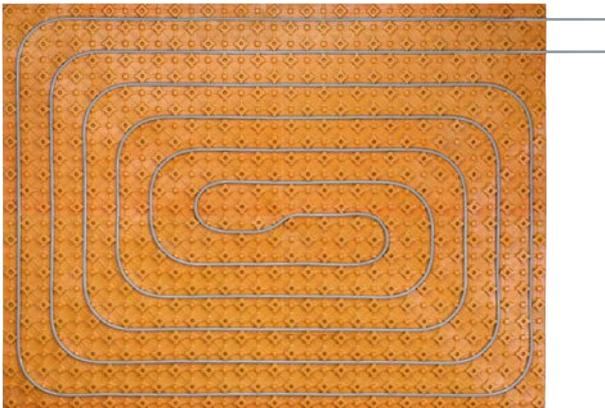
### Expansion joint profile

Schlüter-DILEX-DFP is an expansion joint profile for installation in door threshold areas to prevent sound bridges. Due to the bilateral coating and the self-adhesive strip, straight line installation is very easy.

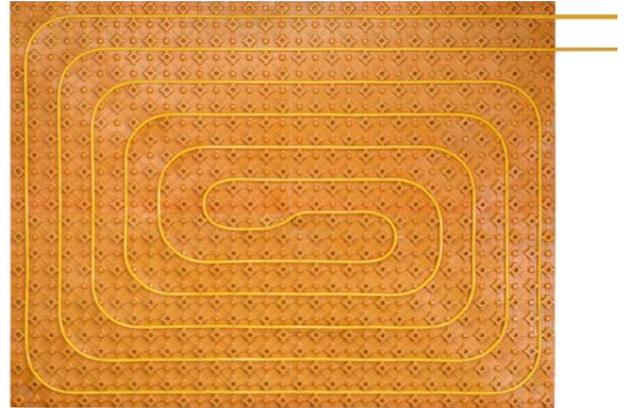
Length: 1.00 m, height: 60 / 80 / 100 mm, thickness: 10 mm

Length: 2.50 m, height: 100 mm, thickness: 10 mm





Schlüter-BEKOTEC-EN 23F PS with BT HR 14



Schlüter-BEKOTEC-EN 23F PS with BT HR 16

### Product overview:

#### Schlüter®-BEKOTEC-EN 23 F PS

Studded screed panel	Dimension	Packaging
EN 23F PS	1275 x 975 mm	20 units (24.8 m <sup>2</sup> ) / box

#### Schlüter®-BEKOTEC-BRS

Edging strip	Dimension	Roll
BRS 808 KSF	8 mm x 80 mm	25 m

#### Schlüter®-BEKOTEC-ENFG-PS

Levelling panel	Dimension
EN 23 FG PS	8 mm x 80 mm

#### Schlüter®-BEKOTEC-BTZRKL

Pipe clamping strip	Dimension
BTZRKL	200 mm x 40 mm

#### Schlüter®-DILEX-DFP

DFP = expansion joint profile Supplied length 1.00 m

H = mm	Packaging
60	20 units
80	20 units
100	20 units

#### Schlüter®-DILEX-DFP

DFP = expansion joint profile Supplied length 2.50 m

H = mm	Packaging
100	40 units



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