

Schlüter®-DITRA-HEAT-PS

Peel & Stick membrane
Uncoupling and floor heating

6.5

Product data sheet

Application and function

Schlüter-DITRA-HEAT-PS is a polypropylene membrane with a cut back stud structure and a fleece covered in pressure sensitive adhesive laminated to the underside.

It is a universal substrate for tile coverings that forms an uncoupling and vapour pressure equalisation layer and can also be used to attach the electrical heating cables Schlüter-DITRA-HEAT-E-HK and DITRA-HEAT-E-CHC.

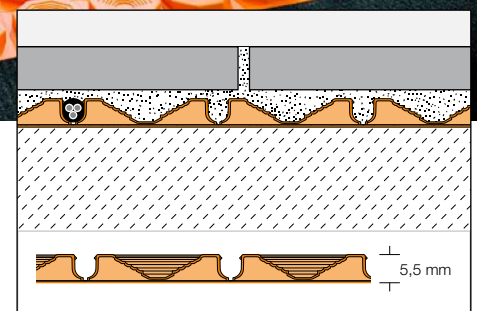
Schlüter-DITRA-HEAT-DUO-PS features a special 2 mm fleece covered in pressure sensitive adhesive laminated to the underside, which, in addition to bonding with the substrate, reduces impact sound and enables a faster heat-up response.

DITRA-HEAT-PS/-DUO-PS is exclusively intended for installation on floors in interior areas. Substrates for installing DITRA-HEAT-PS /-DUO-PS must be flat, clean, dust free, dry, smooth, rigid and load bearing, with no deflection. To install, peel the release film off DITRA-HEAT-PS/-DUO-PS and place the membrane on the substrate. It can be lifted and re-positioned providing no pressure has been applied to it. However, once pressure has been applied, the adhesive sticks the membrane firmly to the substrate. The heating cables can be installed immediately after adhering the membrane, using a spacing of 9 cm (every third stud).

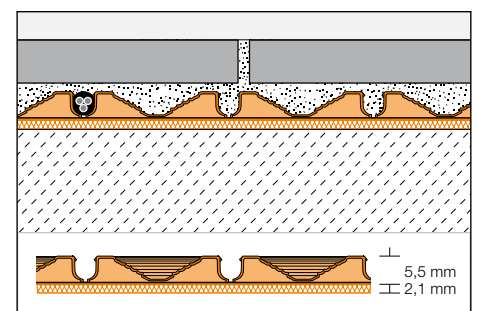


The tile covering is installed directly over DITRA-HEAT-PS/-DUO-PS in accordance with the applicable regulations, using the thin-bed method. The cementitious tile adhesive bonds with the cut back stud structure of the DITRA-HEAT-PS/-DUO-PS membrane.

DITRA-HEAT-PS and -DUO-PS are waterproof and are suitable for use in wet rooms, provided the abutting joints are sealed with Schlüter-KERDI-KEBA and Schlüter-KERDI-COLL-L. They do not have ETA or abP certification. If certification is required, we recommend using the original Schlüter-DITRA-HEAT/HEAT-DUO which is bonded to the substrate with cementitious tile adhesive.



Schlüter-DITRA-HEAT-PS



Schlüter-DITRA-HEAT-DUO-PS



Material

Schlüter-DITRA-HEAT-PS is a polypropylene membrane with a cut back stud structure and imprinted EasyCut gridlines. The anchoring fleece laminated on the underside features a special thermoplastic adhesive layer that is not water soluble and free of solvents. The product thickness, including the stud structure, is approx. 5.5 mm or approx. 7.6 mm (DITRA-HEAT-DUO-PS). Both polypropylene and the adhesive layer are not UV-stable in the long term; the product should not be stored or processed in places with prolonged exposure to direct sunlight. With dry storage at temperatures above freezing (5-30 °C), DITRA-HEAT-PS /-DUO-PS should be installed within 18 months of manufacture. It is best to install DITRA-HEAT-PS/-DUO-PS at ambient temperatures of 5-30 °C.

Material properties and areas of application:

DITRA-HEAT-PS is non-rotting, waterproof, stretchable and crack-bridging. In addition, the polypropylene membrane is largely resistant to the effects of aqueous solutions, salts, acids and alkalis, many organic solvents, alcohols and oils. The adhesive layer is not water-soluble and permanently attaches to coverings that are free of solvents, plasticisers and oils.

Product resistance to special local conditions must be verified separately based on the anticipated concentration, temperature and length of exposure. The product has an excellent water vapour diffusion seal. DITRA-HEAT-PS /-DUO-PS with its adhesive underside layer is physiologically harmless. The polyethylene release film and the packaging material can be fully recycled.

Their suitability must be verified in applications exposed to chemical or mechanical stresses. The information provided below is intended as a general guideline.

Depending on the system, stepping on coverings installed over DITRA-HEAT-PS/-DUO-PS with hard shoes or tapping them with a hard object may produce a hollow sound.

DITRA-HEAT-PS/-DUO-PS is exclusively intended for installation on floors in interior areas.

Note

The cementitious tile adhesive installed over DITRA-HEAT-PS/-DUO-PS and the covering material must be suitable for the respective application area and has to meet the corresponding requirements.

The use of quick-curing cementitious tile adhesives may be an advantage for certain projects. It is recommended to set out running boards to protect DITRA-HEAT-PS/-DUO-PS from mechanical stresses caused by material transport.

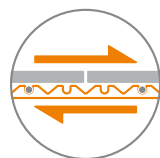
Notes on movement joints:

Separate the DITRA-HEAT-PS/-DUO-PS membrane over existing movement joints. Never run heating cables over movement joints. Continue the movement joints in the tile covering as specified by the applicable standards. Otherwise, divide large coverings installed over the DITRA-HEAT-PS /-DUO-PS membrane into sections, using movement joints according to the applicable regulations.

We recommend using the profiles of the DILEX family. Arrange profiles such as Schlüter-DILEX-BT or Schlüter-DILEX-KSBT over existing expansion joints depending on the anticipated structural movements.

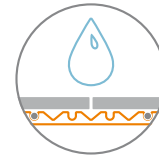
It is important to prevent stress build-up at the edges of the covering, for instance at upright structural components or at floor-wall transitions. Perimeter movement joints and connection joints must be constructed according to the applicable technical regulations and have sufficient dimensions. We recommend using the profiles of the DILEX family.

Summary of functions:



a) Uncoupling

DITRA-HEAT-PS/-DUO-PS uncouples the covering from the substrate and neutralises stresses between the substrate and the tile covering that result from various deformations. The products also bridge tension cracks from the substrate and prevent them from affecting the tile covering.

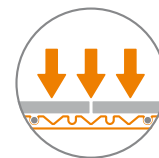


b) Waterproofing

DITRA-HEAT-PS/-HEAT-DUO-PS is a waterproof polypropylene membrane with a high water vapour diffusion seal. Unless a certified bonded waterproofing assembly is required, DITRA-HEAT-PS/-DUO-PS can serve as a waterproofing layer, provided the abutting membrane joints and the connections to installed components and upright building structures are carefully sealed. DITRA-HEAT-PS/-DUO-PS protects the sub-structure from damage caused by permeating moisture or aggressive substances.

Note:

If a bonded waterproofing assembly with national technical approval (abP) or European approval (ETA = European Technical Assessment) is needed, choose the variants of DITRA-HEAT/-DUO for installation with cementitious tile adhesive that have the corresponding certification.

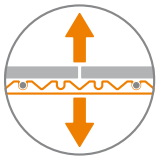


c) Load distribution (load induction)

Tiles installed over DITRA-HEAT-PS/-DUO-PS in floor areas should have a minimum size of 5 x 5 cm and a thickness of at least 5.5 mm. The adhesive-filled indentations of DITRA-HEAT-PS/-DUO-PS transfer mechanical stresses impacting the tile covering directly to the substrate. That makes tile coverings installed on DITRA-HEAT-PS/-DUO-PS especially durable.

DITRA-HEAT-PS and DITRA-HEAT-DUO-PS are suitable for traffic loads of up to 3 kN/m². This includes residential and light commercial use (private homes, office and administrative spaces, restaurants, hotels, conference rooms, nursing stations and patient rooms etc.).

Dynamic impacts on ceramic coverings caused by hard objects should be avoided for assemblies built with DITRA-HEAT-PS or DITRA-HEAT-DUO-PS.



d) Bonded assembly

The special adhesive layer on the underside anchoring fleece of DITRA-HEAT-PS/-DUO-PS adheres well to the

substrate, while the mechanical anchoring of the thin-bed tile adhesive in the undercut stud structure results in an excellent bond with the tile covering. DITRA-HEAT-PS/-DUO-PS is exclusively intended for floor installation in interior areas.



e) Thermal separation

DITRA-HEAT-DUO-PS features a special 2 mm anchoring fleece on its underside, which enables a faster heat-up response.



Schlüter-DITRA-HEAT-PS



Schlüter-DITRA-HEAT-DUO-PS



f) Impact sound insulation

An impact sound improvement value (ΔLW) of 14 dB was measured (according to DIN EN ISO 10140) in fully installed DITRA-HEAT-DUO-PS assemblies.

The actual improvement offered by the respective assembly depends on the local conditions (structural design) and can deviate from this value. The measured test values therefore may not apply equally to every building situation.

Substrates for Schlüter-DITRA-HEAT-PS

Always check that the substrates on which DITRA-HEAT-PS/-DUO-PS is to be installed are level, load bearing, clean and compatible with the materials to be used. Remove all surface components that may weaken the bond. Any levelling, height adjustment or slope compensation must be carried out before installing DITRA-HEAT-PS/-DUO-PS. To guarantee effective floor heating, heat insulation is required, especially for installations adjoining soil or unheated spaces.

We recommend using DITRA-HEAT-DUO-PS for a faster heat-up response on unheated screed assemblies.

However if the unheated screed assembly is ground bearing DITRA-HEAT-DUO-PS should not be used. In this situation we recommend DITRA-HEAT-PS is used and a thermal insulation layer (eg. Schlüter-KERDI-BOARD) is installed between the substrate and the membrane.

Cement screeds

Cement screeds must have cured for at least 28 days prior to tile installation in accordance with the applicable regulations and have a moisture content below 2 CM %.

Floating and heated screeds have a particular tendency to buckle and crack even later, e.g. due to mechanical stresses and temperature fluctuations. With DITRA-HEAT-PS/-DUO-PS, tiles can be installed on fresh cement screeds as soon as their surface is sufficiently dry (typically this takes approx. 3-5 days for well ventilated standard cement screeds).

DITRA-HEAT-PS /-DUO-PS will neutralise cracks and screed deformations developing later and will prevent them from affecting the tile covering.

Gypsum based screed

According to the applicable rules, gypsum based (anhydrite) screed may not have a residual moisture level of more than 0.5 CM % at the time of tile installation. In contrast, tile installation is permissible from a residual moisture level of 2 CM % with DITRA-HEAT-PS/-DUO-PS.

If necessary, the screed surface must be treated (grinding, priming) as specified by the applicable technical regulations and manufacturer instructions. DITRA-HEAT-PS/-DUO-PS can then be adhered to the pre-treated screed surface. DITRA-HEAT-PS/-DUO-PS protects the screed surface against permeating moisture. Because gypsum based screeds are susceptible to moisture, the screed must be protected against humidity, e.g. moisture seepage on the underside.

Heated screeds

DITRA-HEAT-PS can be used on heated screeds, provided the above notes (cement, gypsum based screeds) are followed. Covering assemblies created with DITRA-HEAT-PS are ready for heating only 7 days after completion. Starting from a temperature of 25 ° C, the supply temperature can be increased by no more than 5 ° C a day to a maximum of 40 ° C.

Note:

Installing DITRA-HEAT-PS over heated screeds makes it feasible to operate an individual, partial heating system that is independent of the central heating system. This allows for completely turning off the central heating system during seasonal transition times.

DITRA-HEAT-PS/-DUO-PS can only be installed on building components adjoining soil that have proper waterproofing to protect against rising moisture or water pressure. A functional horizontal barrier must be in place.

Concrete

Concrete undergoes long-term structural deformation due to shrinkage. In addition, tension can build up in concrete and prestressed concrete due to deflection.

Since DITRA-HEAT-PS/-DUO-PS absorbs the resulting tensions between the concrete and the tile covering, tiles can be installed about 28 days after pouring the concrete.



DITRA-HEAT-PS assemblies can also cover peak loads. Due to the thermal separation properties of the product, DITRA-HEAT-DUO-PS is not recommended for installation over heated screeds.

Vinyl coverings and coatings

All surfaces must be load bearing and pre-treated or suitable for bonding with the adhesive anchoring fleece on the underside of DITRA-HEAT-PS. The compatibility of the adhesive with the substrate must be verified in advance. DITRA-HEAT-PS/-DUO-PS may only be installed on substrates that are free of solvents, plasticisers and oils.

Chipboard and compressed wood panels

These materials are especially prone to form changes when exposed to moisture (or heavily fluctuating humidity levels). It is therefore recommended to use chipboard and compressed wood panels with special water-repellent treatment to protect against moisture.

Such panels can generally be used as a floor substrate in interior spaces. However, they have to be thick enough to be sufficiently stable in conjunction with a suitable support assembly.

The structure should be fastened with closely spaced screws. Abutments must have a tongue and groove connection and be fully sealed. Perimeter movement joints of about 10 mm have to be maintained at the transition to upright building structures. DITRA-HEAT-PS/-DUO-PS neutralises any tensions with the tile covering and also prevents permeating moisture.

Hardwood floors

In principle, ceramic coverings can be installed on sufficiently weight bearing hardwood floors with tongue and groove connections. It has been proven beneficial to install an additional layer of chipboard or compressed wood panels. The wooden substrate should have balanced moisture levels before DITRA-HEAT-PS/-DUO-PS can be installed. Uneven floor surfaces should be levelled with suitable measures beforehand.

Installation

1. Always check the substrates on which DITRA-HEAT-PS/-DUO-PS is to be installed to make sure they are flat, load bearing, clean and compatible with the materials to be used. Remove all surface components that may weaken the bond. Any levelling, height adjustment or slope compensation must be carried out before the installation.
2. Thoroughly vacuum the substrate prior to installation to remove all dust.

Note:

Although it is not mandatory to apply a primer, if the condition of the substrate necessitates it, a primer suitable for the substrate should be used.

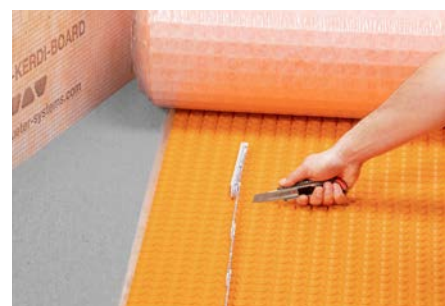
3. Cut the uncoupling mat DITRA-HEAT-PS/-DUO-PS to size and lay it out on the floor. Now remove the release film from the fleece on the underside and press the mat evenly on the substrate, using a floater or roller.

Note:

For efficient installation of product rolls, precisely align DITRA-HEAT-PS/-DUO-PS and keep the material tightly stretched with light tension when placing it on the substrate. Minor repositioning is possible before pressure is applied to the uncoupling membrane.

The EasyCut gridlines of the membrane minimise the restoring force.

4. To prevent any damage to the installed DITRA-HEAT-PS/-DUO-PS material or detachment from the substrate, protect the area from mechanical stresses, e.g. by setting out running boards (particularly in the centre areas used for material transport).





Installation of electrical Schlüter-DITRA-HEAT-E components

The electrical installation must be performed by a qualified electrician (EN 60335-1).

- The heating cables may be installed immediately after adhering the uncoupling mat DITRA-HEAT-PS/-DUO-PS, using a floater or roller. Create a corresponding indentation in the area of the sealed cable end.
- Install the floor sensors directly in the adhered uncoupling mat DITRA-HEAT-PS/-DUO-PS. Since the floor sensor is embedded directly in the cementitious tile adhesive and cannot be replaced, the installation must include a spare sensor (a 2nd sensor is included in thermostat scope of supply as a spare sensor). Place the sensors in the centre between two heating cable loops.

Note: Before embedding the sensors with cementitious tile adhesive, measure the resistance values, e.g. with the cable tester DITRA-HEAT-E-CT, and compare them with the values listed in the thermostat installation instructions.

Further information on the installation and settings of electrical components from the Schlüter-DITRA-HEAT-E family can be found in the supplied installation instructions or in product data sheet 6.6 Schlüter-DITRA-HEAT-E.



Waterproofing with Schlüter-DITRA-HEAT-PS

Unless a certified bonded waterproofing assembly is required, DITRA-HEAT-PS can serve as a waterproofing layer, provided the abutting membrane joints and the connections to installed components and upright building structures are carefully sealed.

If national technical approval (abP) or European approval (ETA = European Technical Assessment) is needed, choose the variants of DITRA-HEAT/-DUO for installation with cementitious tile adhesive that have the corresponding certification.

DITRA-HEAT-PS/-DUO-PS protects the substrate from damage caused by permeating moisture and aggressive substances. For sealing joints, trowel the sealing adhesive Schlüter-KERDI-COLL-L over the abutting joints and embed the sealing band Schlüter-KERDI-KEBA in a minimum width of 12.5 cm over the joints.

To waterproof floor-wall transitions, adhere KERDI-KEBA over DITRA-HEAT-PS/DUO-PS on the floor and directly on the substrate in wall areas in the corresponding width. The sealing band must have a coverage of at least 5 cm. KERDI-KEBA can also be used to create functional connections to fixed structural components such as door and window frames made of metal, wood or plastic. The first step is to apply Schlüter-KERDI-FIX to the adhesive surfaces of the structural elements. The remaining width is then adhered to DITRA-HEAT-PS/-DUO-PS with KERDI-COLL-L.

The suitability of KERDI-FIX for the respective materials of the structural elements must be verified in advance. Separate DITRA-HEAT-PS/-DUO-PS at existing movement joints or expansion joints and seal the abutting joints with Schlüter-KERDI-FLEX. Never run heating cables over expansion joints or dummy joints.

KERDI-FLEX should also be used for flexible finishing edges. As an alternative, this can also be done with a sufficient loop of KERDI-KEBA.

Permissible installation spacing for Schlüter-DITRA-HEAT heating cables (-E-HK and -E-CHC)

	9 cm = 3. Stud	6 cm = 2. Stud	3 cm = every Stud
Floor			
DITRA-HEAT-E-HK	△ 136 W m ²	not allowed	not allowed
DITRA-HEAT-E-CHC	△ 80 W/m ²	not allowed	not allowed



Product overview:



Schlüter®-DITRA-HEAT-PS

Rolls

DH PS 512M

12,76 x 0,98 m = 12,5 m²



Schlüter®-DITRA-HEAT-MA-PS

Mats

DH PS 5MA

0,80 x 0,98 m = 0,78 m²



Schlüter®-DITRA-HEAT-DUO-PS

Rolls

DHD PS 810M

10,2 x 0,98 m = 10,0 m²



Schlüter®-DITRA-HEAT-DUO-MA-PS


Mats




DHD PS 8MA

0,80 x 0,98 m = 0,78 m²

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