Schlüter Systems®

PROFILE OF INNOVATION

Schlüter®-DITRA-HEAT

Installation membrane

Uncoupling, waterproofing, wall and floor heating

6.4

Product data sheet

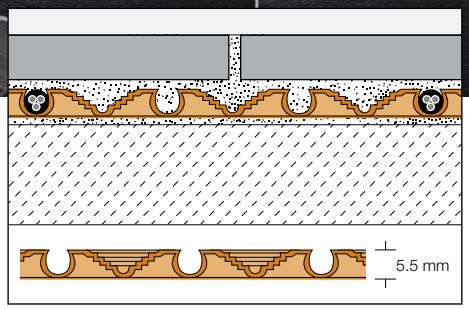
Application and Function

Schlüter®-DITRA-HEAT is a polyethylene membrane with a cut-back stud structure and an anchoring fleece laminated on the underside. It is a universal substrate for tile coverings, which serves as an uncoupling, crack bridging, waterproofing, vapour pressure equalization layer and is designed for the attachment of heating cables.

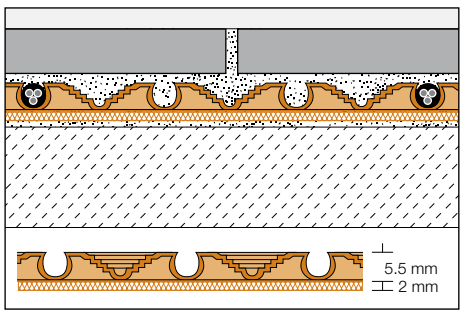
Schlüter®-DITRA-HEAT-TB features a 2 mm special anchoring fleece on the underside, which bonds with the adhesive, while also reducing impact sound and enabling a faster heat-up response. The substrate for the installation of Schlüter®-DITRA-HEAT must be level and ready to bear weight. Schlüter®-DITRA-HEAT is installed in thin-bed adhesive suitable for the substrate with a notched trowel (recommended size: 6 x 6 mm). The anchoring fleece on the underside of Schlüter®-DITRA-HEAT is then fully embedded in the adhesive to ensure a mechanical bond of the fabric in the adhesive. The curing window of the adhesive has to be taken into consideration. In floor areas, the heating cables can be installed immediately after adhering Schlüter®-DITRA-HEAT matting with a minimum spacing of 9 cm (every third stud ≙ 136 W m²).

In the case of wall installation, the heating cables are installed once an adequate adhesive bond has been reached. Installers can choose between installation spacing of 6 cm (every second stud ≙ 200 W m²) and 9 cm (every third stud ≙ 136 W m²). The tile covering is professionally installed directly over Schlüter®-DITRA-HEAT membrane in accordance with the applicable standards, using the thin-bed method. The bed adhesive bonds with the cut-back stud structure of the Schlüter®-DITRA-HEAT membrane.

Schlüter®-DITRA-HEAT features the national technical approval (abP) required in Germany and bears the Ü mark. Moisture exposure class according to abP: 0 - B0 und A. Schlüter®-DITRA-HEAT has the required European Technical Assessment (ETA) as specified in ETAG 022 (bonded waterproofing assemblies) and bears CE marking. Moisture exposure class according to ETAG 022: A.



Schlüter®-DITRA-HEAT



Schlüter®-DITRA-HEAT-TB

Material

Schlüter®-DITRA-HEAT is a polypropylene membrane with a cut-back stud structure. A fleece fabric is laminated on the underside. The thickness of the membrane, including the stud structure, is approx. 5.5 mm or approx. 7.5 mm in the case of Schlüter®-DITRA-HEAT-TB.
Polypropylene is not UV-stable in the long term; the product should not be stored in places with prolonged exposure to direct sunlight.

Material properties and areas of application:

Schlüter®-DITRA-HEAT is non-rotting, waterproof, elastic and crack-bridging. The material is highly resistant to solutions containing salts, acids and alkalis, as well as many organic solvents, alcohols and oils. The suitability of the material must be verified based on the specific chemical stresses, including the anticipated concentration, temperature and length of exposure. The water vapor diffusion seal of the material is relatively high. The material is physiologically safe. In special cases, the suitability of the material must be verified based on the anticipated chemical and mechanical stresses. The information provided below is intended as a general guideline.
Due to the special characteristics of the system, coverings installed over Schlüter®-DITRA-HEAT may have a certain hollow sound when they are walked upon with hard shoes or tapped with a hard object.
The use of Schlüter®-DITRA-HEAT in conjunction with heating cables for floor/wall heating is only approved for interior areas.

Note

The thin-bed adhesive and the covering materials used in conjunction with Schlüter®-DITRA-HEAT must be suitable for the corresponding application and meet the applicable requirements.
If installing covering materials that are sensitive to moisture (e.g. natural stone or synthetic resin panels) or in the case of moisture underneath the covering (e.g. from fresh screeds), it is recommended to trowel the sealing adhesive Schlüter®-KERDI-COLL over the seams of Schlüter®-DITRA-HEAT and to cover the seams with the 12.5 cm wide seaming tape Schlüter®-KERDI-KEBA.
The use of quick-setting thin-bed adhesive may be an advantage for specific projects. It is recommended to lay out timber boards over pathways, e.g. for material transport, to protect Schlüter®-DITRA-HEAT.

Notes regarding movement joints:

The installation membrane Schlüter®-DITRA-HEAT must be separated above existing movement joints. Heating cables may not be installed over movement joints. In accordance with the applicable construction standards, movement joints must be continued in the tile covering. Otherwise, coverings made of large-scale pavers over Schlüter®-DITRA-HEAT must be divided into fields with movement joints in accordance with the applicable regulations.
We recommend the use of our Schlüter®-DILEX profiles. Depending on the anticipated movements, profiles such as Schlüter®-DILEX-BT or Schlüter®-DILEX-KSBT should be installed over structural movement joints. The buildup of tensions must be ruled out at the edge of coverings, for example at upright construction elements or floor-wall-transitions. The edge joints and connection joints must meet the applicable professional regulations. Their dimensions must be sufficient to rule out the build-up of tensions. We recommend the use of our various profile types of the Schlüter®-DILEX series.

Summary of functions:

a) Uncoupling

Schlüter®-DITRA-HEAT uncouples the covering from the substrate and neutralizes stresses between the substrate and the tile covering that result from different deformation processes. The material effectively bridges tension cracks from the substrate and ensures that they are not transferred to the tile covering.

b) Waterproofing

Schlüter®-DITRA-HEAT is a waterproof polypropylene membrane with a relatively high water vapor diffusion seal. Provided the panel seams and the connection to built-in elements and upright structural fixtures are properly installed, Schlüter®-DITRA-HEAT can be used to create a certified bonded waterproofing assembly with the tile covering. Exclusively use system-approved thin-bed adhesives for areas that require CE conformity or compliance with the general certificate of national technical approval (abP). Please contact us at the address shown in this data sheet for further information about suitable thin-bed adhesives and the corresponding test certificates. Schlüter®-DITRA-HEAT protects the substrate from damage that results from permeating moisture and aggressive substances.

c) Load distribution (load induction)

The Schlüter®-DITRA-HEAT stud structure with its thin-bed adhesive filling transfers traffic loads on the tile covering directly to the substrate. As a result, tile coverings installed over Schlüter®-DITRA-HEAT are highly durable. In Germany, the guidelines and tile thicknesses specified in the information sheet “Ceramic floor coverings for high mechanical impact” must be observed. Tiles must be fully embedded in the tile adhesive in areas with high traffic loads. Please note that the contact surface of Schlüter®-DITRA-HEAT is approximately 50% of the entire area, which may cause a corresponding reduction in pressure resistance in the presence of high point loads. Schlüter®-DITRA-HEAT-TB features a special 2-mm anchoring fleece on the underside and can be used for traffic loads up to 3 kN/m². This includes residential and commercial premises with light foot traffic (residential buildings, office and administrative spaces, restaurants, hotels, conference rooms, nursing stations and patient rooms etc.)
As a rule, the impact of hard objects must be avoided on ceramic coverings for both Schlüter®-DITRA-HEAT and Schlüter®-DITRA-HEAT-TB. Tiles should have minimum dimensions of 5 x 5 cm.

d) Bonded assembly

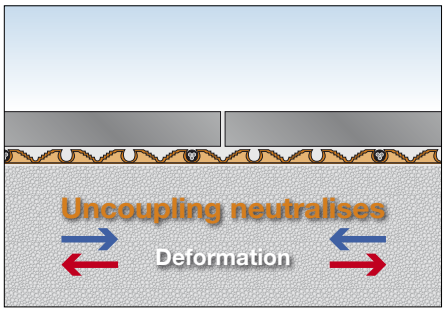
Thanks to the bond of the fleece fabric with the thin-bed adhesive over the substrate and the mechanical anchoring of the thin-set screed in the cut-back stud structure, Schlüter®-DITRA-HEAT creates a lasting bond of the tile covering with the substrate.

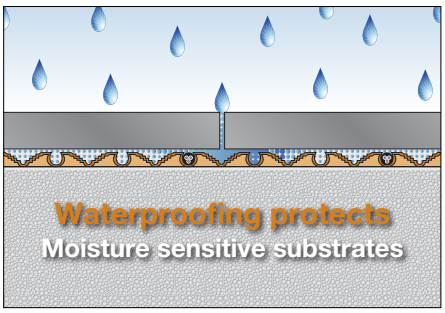
e) Thermal separation

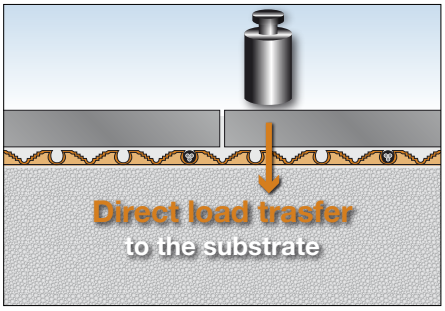
Schlüter®-DITRA-HEAT-TB features a 2 mm special anchoring fleece on the underside, which bonds with the tile adhesive, while also reducing impact sound and enabling a faster heat-up response.

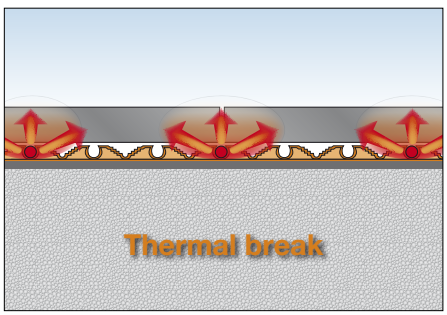
Substrates for Schlüter®-DITRA-HEAT:

Always check the substrates on which Schlüter®-DITRA-HEAT is to be installed to make sure they are level, load-bearing, clean and compatible with the materials to be used. Remove all surface components that may weaken the bond. Uneven or sloping areas must be leveled prior to the installation of Schlüter®-DITRA-HEAT. To guarantee the effective heating of the floor, thermal insulation must be included in all installations directly above the ground or over unheated rooms. For a faster heat-up response, we recommend the installation of Schlüter®-DITRA-HEAT-TB with its thermal separation property over unheated screed assemblies or the use of Schlüter®-KERDI-BOARD as an insulation layer (see data sheet 12.1).









Concrete

Concrete is subject to long-term form changes due to curing processes. Additional tensions may result from the deflection of concrete and pre-stressed concrete. Schlüter®-DITRA-HEAT uncouples the tensions between the concrete and the tile covering, which means that tiles can be installed as soon as the concrete reaches a sufficient level of stability.

Cementitious screeds

In accordance with the applicable regulations, cementitious screeds must be at least 28 days old and have a residual moisture level below 2 CM% before tiles can be installed. However, floating screeds and heated screeds are particularly prone to curling and cracking, for example because of weight loads and temperature fluctuations. With Schlüter®-DITRA-HEAT, tiles can be installed on green cementitious screeds as soon as they are ready to bear weight. Cracks and buckles forming in the screed at a later time will be neutralized by DITRA-HEAT and will not be transferred to the tile covering.

Gypsum screeds

According to the applicable rules, gypsum screeds may only have a residual moisture level of max. 0.5 CM% when the tiles are installed. When Schlüter®-DITRA-HEAT is used, the tile covering is ready to be installed as soon as the residual moisture level drops below 2 CM%. If necessary, treat the screed surface as recommended by professional standards and manufacturer instructions (sanding, priming). Schlüter®-DITRA-HEAT can be installed with suitable thin-bed adhesive. Schlüter®-DITRA-HEAT protects the screed against permeating moisture at the surface. Gypsum screeds are sensitive to moisture, making it necessary to protect the screed from further moisture, e.g., high humidity on the backside.

Heated screeds

Schlüter®-DITRA-HEAT may also be installed over heated screeds, with the above material notes to be observed (cement, gypsum). When Schlüter®-DITRA-HEAT is used, the covering assembly may be heated up as early as 7 days after completion. Starting from 25 °C, increase the supply temperature by a maximum of 5 °C a day to reach an operating temperature of max. 40 °C.

Note:

The use of Schlüter®-DITRA-HEAT over heated screeds allows for individual, partial warming that is separate from the central heating system. That allows for completely switching off the central heating system during seasonal transition periods. Schlüter®-DITRA-HEAT can also help cover peak loads.

Due to the thermal separation property of Schlüter®-DITRA-HEAT-TB, it is not recommended for use on heated screeds.

Synthetic coverings and coatings

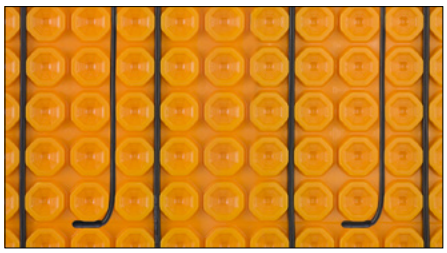
All surfaces must be weight-bearing and be suitable or pre-treated to enable the bonding of a suitable adhesive with the anchoring fleece of Schlüter®-DITRA-HEAT. The suitability of the adhesive for the substrate and for Schlüter®-DITRA-HEAT must be verified in advance.

Plywood panels

These materials are heavily affected by moisture (or major fluctuations in humidity). It is therefore recommended to use plywood materials with special impregnation to prevent the absorption of moisture. In principle, panels can be used as a substrate on walls and floors in interior areas. The thickness of the panels should be selected to ensure sufficient impact resistance in conjunction with a suitable support structure. The panels must be sufficiently secured with closely spaced screw connections. All seams must either feature tongue-and-groove connections or be covered with adhesive. Edge joints of approx. 10 mm must be kept open at the connections with adjoining construction parts. Schlüter®-DITRA-HEAT neutralizes the stresses in the tile covering and also prevents the permeation of moisture.

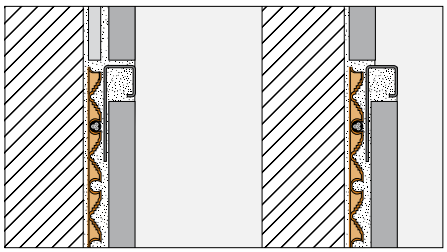
Wooden floors

The direct installation of ceramic coverings over wooden floors is generally feasible, provided the floorboards have tongue-and-groove connections, are sufficiently load-bearing, and are tightly screwed down. The wooden substrate should have reached a balanced moisture level prior to the installation of Schlüter®-DITRA-HEAT. Experts recommend the installation of an

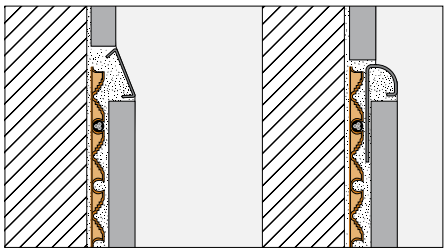


Variant A

Variant B



Installation variant: Wall finishing profile Schlüter®-QUADEC



Installation variants: Wall finishing profiles Schlüter®-DESIGNLINE Schlüter®-RONDEC

Note regarding the installation of DITRA-HEAT in wall areas:
For better identification of the heated wall area (to avoid inadvertent drilling through heating cables) we recommend visual marking of the corresponding area with the help of Schlüter profiles (such as RONDEC, QUADEC or DESIGNLINE; see details above). In the case of heated wall areas ≥ 3 m, wall and connection joints must feature a permanently flexible design due to thermal longitudinal expansion.

additional layer of plywood. Uneven floors must be leveled before the installation of other materials.

Installation

The system may only be installed by a certified electrician (EN 60335-1). This heating cable must feature a multi-pole circuit breaker with a contact clearance of at least 3 mm per pole. To protect against inadvertent contact, an RCD (FI circuit breaker) with a tripping current of IΔN ≤ 30 mA must be installed. Further information about installing the heating cables and installing and setting the thermostat is included in the instructions supplied with the heating cables or the thermostat.

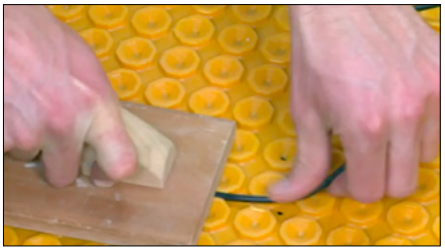
Positioning the floor sensor

Variant A: The floor sensors are positioned directly in the newly installed uncoupling membrane Schlüter®-DITRA-HEAT. Since the floor sensors are directly embedded in the thin-bed adhesive and cannot be replaced, the installation should include a spare sensor (included in the scope of supply for thermostat Art. No. DH E RT2 / BW). The sensors must be installed centrally between two heating cable loops.
Variant B: The thermostat floor sensor is positioned in the conduit with the sensor sleeve directly in the floor underneath the uncoupling membrane Schlüter®-DITRA-HEAT. Make a cutout in the uncoupling membrane Schlüter®-DITRA-HEAT in the area of the sensor sleeve. Insert the sensor into the conduit and then slide the sleeve over it (conduit and sensor sleeve are included in the installation set Art. No. DH EZ S1). To guarantee optimum temperature transfer from the area to be heated to the sensor, no insulation material (e.g. Schlüter®-DITRA-HEAT-TB) should be located between the sensor sleeve and DITRA-HEAT. In this case, a cutout for the sensor sleeve should be made in the insulation.
Note: Prior to embedding the sensors in the thin-bed adhesive, measure the resistance values and compare them to the values listed in the thermostat instructions.

1. The substrate must be level, weight-bearing, and free of any substances that may weaken the bond. All leveling work must be completed prior to installing Schlüter®-DITRA-HEAT.
2. The adhesive used for installing Schlüter®-DITRA-HEAT must be selected to suit the substrate type. The adhesive must bond well with the substrate and mechanically set in the anchoring fleece of Schlüter®-DITRA-HEAT. Check for any incompatibilities of materials.
3. Apply a suitable thin-set mortar on the substrate with a notched trowel (6 x 6 mm). To achieve a better initial bond for adhesion in wall areas, we recommend applying a contact layer on the backside of DITRA-HEAT.
4. Cut pieces of Schlüter®-DITRA-HEAT to size and fully embed the anchoring fleece in the applied adhesive. Immediately press the material into the adhesive with a float or a roller, working in

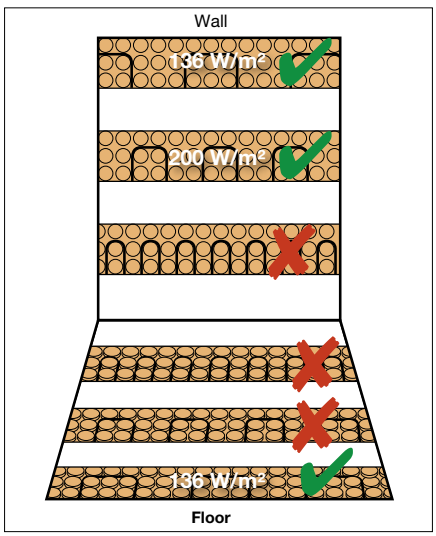
Step 3.

Step 4.



Step 6a.

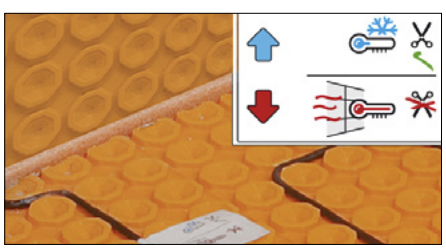
Step 6b.



Step 7. and 8.

a single direction. The curing times of all materials must be observed. When installing materials from a roll, it is best to align Schlüter®-DITRA-HEAT with light tension at the time of positioning the material. This is best done with an additional helper. Due to the retractive force associated with material on rolls, we recommend using

5. To prevent damage or detachment from the substrate, it is recommended to use timber boards (especially in the center of the assembly for material transport) to protect the installed Schlüter®-DITRA-HEAT membrane from mechanical impact.



Step 9.

Installation of heating cables

6a. The heating cables can be installed immediately after adhering the uncoupling membrane Schlüter®-DITRA-HEAT, using a floater. In the case of wall installation, the heating cables are installed once an adequate adhesive bond has been achieved.
Heating cables may not touch or cross one another.

6b. Prepare a groove in the area of the soldered cable end.

Floor areas:

7. The stud spacing of the uncoupling membrane is 3 cm. Spacing in floor areas must be at least
   - 99 cm (installation around every 3rd stud–equivalent of 136 W/m²); spacing may not be closer
     Closer spacing, especially in floor areas, may result in overheating and damage to building structures. Make sure not to step on heating cables during the installation work.

Wall areas:

8. Depending on the available space, the desired surface temperature and the required heating output, the installation spacing in wall areas can either be
   - 6 cm (around every second stud–equivalent of 200 W/m²) or
   - 9 cm (around every third stud–equivalent of 136 W/m²).
9. The transition from the heating cable to the connection cable (sleeve) is labeled with an imprint as shown. The sleeve also features a “Connection” label. The imprint “COLD” is shown in the further course of the connection cable. This thermistor (4 m) must be connected directly to the junction box or thermostat. The thermistor can be shortened to max. 1.00 meter in front of the sleeve, but heating cables may not be cut to size.
10. Once the heating cables have been installed and tested in accordance with the Schlüter®-DITRA-HEAT-E installation instructions, tiles can be installed with the thin-bed method, using an adhesive that meets the requirements of the covering. It is helpful to fill the grooves of the uncoupling membrane in a single step, using the smooth side of the notched trowel (heating cables and sleeves must be fully embedded in tile adhesive) and to then use the notched

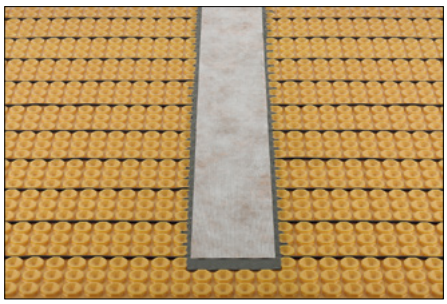
side to prepare the thin-bed adhesive for the tiles. To ensure full embedding in the thin-bed adhesive, choose a notched trowel to match the tile format. The curing times of the adhesive must be observed.

11. Please observe the instructions regarding movement joints as perimeter, edge and connection joints in this product data sheet.

Note: The adhesive and the covering materials used in conjunction with Schlüter®-DITRA-HEAT must be suitable for the corresponding application and meet the applicable requirements. The first heating of Schlüter®-DITRA-HEAT may not occur any earlier than 7 days after completion of the covering assembly.

Waterproofing with Schlüter®-DITRA-HEAT

Provided the panel seams and the connections to built-in elements and upright structural fixtures are carefully sealed, Schlüter®-DITRA-HEAT can be used to create a certified bonded waterproofing assembly with the tile covering.
Schlüter®-DITRA-HEAT features the national technical approval (abP) required in Germany and bears the Ü mark. Moisture exposure class according to abP: 0 - B0 und A. Schlüter®-DITRA-HEAT has the required European Technical Assessment (ETA) as specified in ETAG 022 (bonded waterproofing assemblies) and bears CE marking. Moisture exposure class according to ETAG 022: A.
Exclusively use system-approved adhesives for areas that require CE conformity or compliance with the German general certificate of national technical approval (abP). Please contact us at the address shown in this data sheet for further information about suitable adhesives and the corresponding test certificates.
Accordingly, Schlüter®-DITRA-HEAT protects the substrate from damage resulting from permeating moisture and aggressive substances. Cover abutting seams with the sealing adhesive Schlüter®-KERDI-COLL and full embed the seaming tape Schlüter®-KERDI-KEBA (minimum width: 12.5 cm). To waterproof floor/wall transitions, adhere Schlüter®-KERDI-KEBA to Schlüter® DITRA-HEAT in floor areas and directly to the substrate in wall areas, using the corresponding widths. The seaming tapes should have at least 5 cm of coverage. Schlüter®-KERDI-KEBA is also suitable for creating functional connections to fixed structural elements such as door or window elements made of metal, wood, or plastic. As a first step, apply Schlüter®-KERDI-FIX to the corresponding areas of the structural elements. Then fully embed the remaining width fully over Schlüter®-DITRA-HEAT, using the adhesive Schlüter®-KERDI-COLL. The suitability of Schlüter®-KERDI-FIX for the material of the structural elements must be verified in each case. Separate Schlüter®-DITRA-HEAT above existing movement joints or structural joints and cover the abutting seams with Schlüter®-KERDI-FLEX. Heating cables may not cross expansion joints or dummy joints. Schlüter®-KERDI-FLEX is also recommended for flexible finishing edges. As an alternative, you can also use Schlüter®-KERDI-KEBA with a corresponding loop.



Seam sealing with Schlüter®-KERDI-KEBA

Note regarding floor drains:
Schlüter®-KERDI-DRAIN and Schlüter®-KERDI-LINE are components that were specifically developed for connection to bonded waterproofing assemblies. Schlüter®-DITRA-HEAT can be quickly and reliably connected in these cases with the use of Schlüter®-KERDI collars.

Thermostat:
The system heating cables of Schlüter®-DITRA-HEAT-E may only be operated with Schlüter®-DITRA-HEAT-E thermostats.

Information

Schlüter®-DITRA-HEAT-E-R:
Properties such as
- Self-explanatory colour touchscreen display
- Selectable room or heating zone
- Manual on/off switch
- 2nd remote sensor, included in the package as a spare sensor
- Back-lit display
- Pre-set and adjustable timer programs
- Energy consumption display
- Adjustable user language
- Suitable for integration in commercially available switch programs 5.5 x 5.5 cm
- 16 A switching capacity ≙ with 230 V: 3680 W

Floor thermostat with touchscreen display.
Art.-Nr.: DH E RT2 / BW

Further information about installing and setting the thermostat is included in the instructions supplied with the thermostat.

Product overview:

Schlüter®-DITRA-HEAT-MA
Mat

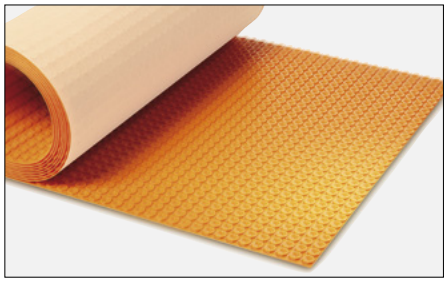
DITRA-HEAT-MA
0.8 x 1.0 m = 0.8 m²

Schlüter®-DITRA-HEAT-TB-MA
Mat

DITRA-HEAT-TB-MA
0.8 x 1.0 m = 0.8 m²

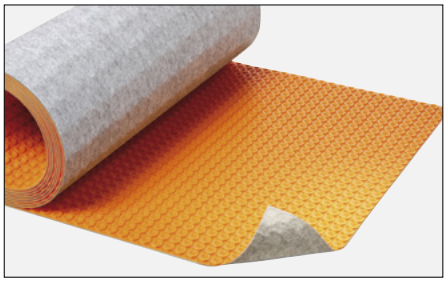
Schlüter®-DITRA-HEAT
Roll

DITRA-HEAT
12.5 x 1.0 m = 12.5 m²



Schlüter®-DITRA-HEAT-TB
Roll

DITRA-HEAT-TB
10.0 x 1.0 m = 10.0 m²



Schlüter®-DITRA-HEAT-E-HK
Heating cable

Art. No.	m	Heated floor area in m² 136 W/m²	Heated floor area in m² 200 W/m² **	Watt	Total resistance (Ohm) *
DH E HK 12	12.07	1.1	0.7	150	352.67
DH E HK 17	17.66	1.6	1.0	225	235.11
DH E HK 23	23.77	2.2	1.5	300	176.33
DH E HK 29	29.87	2.7	1.8	375	141.07
DH E HK 35	35.97	3.3	2.2	450	117.56
DH E HK 41	41.56	3.8	2.6	525	100.76
DH E HK 47	47.67	4.4	2.9	600	88.17
DH E HK 53	53.77	5.0	3.3	675	78.37
DH E HK 59	59.87	5.5	3.7	750	70.53
DH E HK 71	71.57	6.6	4.4	900	58.78
DH E HK 83	83.77	7.7	5.1	1050	50.38
DH E HK 95	95.47	8.8	5.9	1200	44.08
DH E HK 107	107.67	10.0	6.6	1350	39.19

*Resistance tolerance -5% / +10% ** Permissible in wall areas only!

Technical data
Heating cable

REG.-Nr. 8670

Nominal voltage	230 Volt
Rating	136 W/m² (spacing: every third stud ≙ 9 cm) 200 W/m² (spacing: every second stud ≙ 6 cm)
Cold connection line	1 x 4,00 m
Minimum installation temperature	5 °C
Smallest bending radius	6 x dA
Resistance tolerance	-5 % / +10 %
VDE tested	IEC 60800 Class M1
Cold-warm transition	Seamless, without shrink technology
Insulation	Fluoroplastic
Fuse model	IPX7

Schlüter®-DITRA-HEAT-E-R

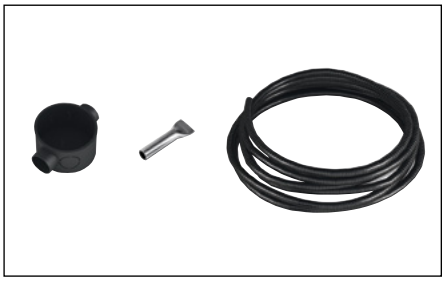
Touchscreen thermostat with 2 remote sensors

- Floor thermostat with selectable room or heating zone.
- 2nd remote sensor (3 m) as a spare sensor
- Operating and installation instructions for thermostat
- 16 A switching capacity ≙ with 230 V: 3680 W

Schlüter®-DITRA-HEAT-E-ZS

Thermostat installation set

- Conduit for sensor wire (2.5 m)
- Aluminum sensor sleeve
- Plastic junction box



Floor installation sets

Schlüter®-DITRA-HEAT-E-S1

comprises:

- Touchscreen thermostat Schlüter®-DITRA-HEAT-E-R
- Heating cable Schlüter®-DITRA-HEAT-HK for heating an area of 3.8 m² (installation around every third stud ≙ 136 W/m²)
- 7 x uncoupling mat Schlüter®-DITRA-HEAT-MA for an area of 5.6 m²
- 2 junction boxes

Schlüter®-DITRA-HEAT-E-S2

comprises:

- Touchscreen thermostat Schlüter®-DITRA-HEAT-E-R
- Heating cable Schlüter®-DITRA-HEAT-HK for heating an area of 5.5 m² (installation around every third stud ≙ 136 W/m²)
- 10 x uncoupling mat Schlüter®-DITRA-HEAT-MA for an area of 8.0 m²
- 2 junction boxes

Schlüter®-DITRA-HEAT-E-S3

comprises:

- Touchscreen thermostat Schlüter®-DITRA-HEAT-E-R
- Heating cable Schlüter®-DITRA-HEAT-HK for heating an area of 2.2 m² (installation around every third stud ≙ 136 W/m²)
- 4 x uncoupling mat Schlüter®-DITRA-HEAT-MA for an area of 3.2 m²
- 2 junction boxes

Wall installation sets:

Schlüter®-DITRA-HEAT-E-WS1

comprises:

- Touchscreen thermostat Schlüter®-DITRA-HEAT-E-R
- Heating cable Schlüter®-DITRA-HEAT-HK for heating an area of 2.6 m² (installation around every second stud ≙ 200 W/m²)
- 4 x uncoupling mat Schlüter®-DITRA-HEAT-MA for an area of 3.2 m²
- 2 junction boxes

Schlüter®-DITRA-HEAT-E-WS2

comprises:

- Touchscreen thermostat Schlüter®-DITRA-HEAT-E-R
- Heating cable Schlüter®-DITRA-HEAT-HK for heating an area of 1.8 m² (installation around every second stud ≙ 200 W/m²)
- 3 x uncoupling mat Schlüter®-DITRA-HEAT-MA for an area of 2.4 m²
- 2 junction boxes

Text template for tenders:

_____m² Schlüter®-DITRA-HEAT
as a layer for uncoupling, vapour pressure equalization, waterproofing and attachment of heating cables for tile coverings, made of a crack-bridging polypropylene foil with a cut-back stud structure and an anchoring fleece laminated on the underside, for installation on an existing, level and load-bearing floor and/or wall substrate, using a suitable
- ☐ Tile adhesive as selected by installer
- ☐ Tile adhesive, type _____

to be supplied and professionally installed while observing the manufacturers instructions.
Art. No.: _____
Material: _____ ..../m²
Labour: _____ ..../m²
Total price: _____ ..../m²

_____m² Schlüter®-DITRA-HEAT-TB
as a layer for uncoupling, vapour pressure equalization, waterproofing and attachment of heating cables for tile coverings, made of a crack-bridging polypropylene foil with a cut-back stud structure and a special 2 mm anchoring fleece laminated on the underside for reduced impact sound and accelerated heat-up response, for installation on an existing, level and load-bearing floor and/or wall substrate, using a suitable
- ☐ Tile adhesive as selected by installer
- ☐ Tile adhesive, type _____

to be supplied and professionally installed while observing the manufacturers instructions.
Art. No.: _____
Material: _____ ..../m²
Labour: _____ ..../m²
Total price: _____ ..../m²

_____m² Schlüter®-DITRA-HEAT-E-HK as an electrical heating cable with single-side connection for installation of the uncoupling mat Schlüter®-DITRA-HEAT, to be supplied and professionally installed while observing the manufacturers instructions.
Art. No.: _____
Material: _____ ..../m²
Labour: _____ ..../m²
Total price: _____ ..../m²

_____units Schlüter®-DITRA-HEAT-E-R
as a touchscreen floor thermostat with selectable room influence for Schlüter®-DITRA-HEAT-E wall/floor warming in the 230 V version, incl. 2 remote sensors, to be supplied and professionally installed while observing the manufacturers instructions. Electrical wiring of the thermostat to be
- ☐ included in the unit prices.
- ☐ invoiced separately.

Art. No.: _____
Material: _____ ..../m²
Labour: _____ ..../m²
Total price: _____ ..../m²

_____ units Schlüter®-DITRA-HEAT-E-ZS as an installation set for temperature sensors, comprising a conduit (2.5 m), junction box, and sensor sleeve, to be supplied and professionally installed while observing the manufacturers instructions.
Art. No.: _____
Material: _____ ..../m²
Labour: _____ ..../m²
Total price: _____ ..../m²

_____Stck. Schlüter®-DITRA-HEAT-E-S1 as a complete set for floor warming, consisting of:
- Touchscreen thermostat Schlüter®-DITRA-HEAT-E-R
- Heating cable Schlüter®-DITRA-HEAT-HK for heating an area of 3.8 m3 (installation around every third stud ≙ 136 W/m²)
- 7x uncoupling mat Schlüter®-DITRA-HEAT-MA for an area of 5.6 m²

to be supplied and professionally installed while observing the manufacturers instructions. Electrical wiring of the thermostat to be
- ☐ included in the unit prices.
- ☐ invoiced separately.

Art. No.: _____
Material: _____ ..../m²
Labour: _____ ..../m²
Total price: _____ ..../m²

_____ units Schlüter®-DITRA-HEAT-E-S2 as a complete set for floor warming, consisting of:
- Touchscreen thermostat Schlüter®-DITRA-HEAT-E-R
- Heating cable Schlüter®-DITRA-HEAT-HK for heating an area of 5.5 m² (installation around every third stud ≙ 136 W/m²)
- 10x uncoupling mat Schlüter®-DITRA-HEAT-MA for an area of 8.0 m²

to be supplied and professionally installed while observing the manufacturers instructions. Electrical wiring of the thermostat to be
- ☐ included in the unit prices.
- ☐ invoiced separately.

Art. No.: _____
Material: _____ ..../m²
Labour: _____ ..../m²
Total price: _____ ..../m²

_____units Schlüter®-DITRA-HEAT-E-S3 as acomplete set for floor warming, consisting of:
- Touchscreen thermostat
- Schlüter®-DITRA-HEAT-E-R
- Heating cable Schlüter®-DITRA-HEAT-HK for heating an area of 2.2 m² (installation around every third stud ≙ 136 W/m²)
- 4x uncoupling mat Schlüter®-DITRA-HEAT-MA for an area of 3.2 m²

to be supplied and professionally installed while observing the manufacturers instructions. Electrical wiring of the thermostat to be
- ☐ included in the unit prices.
- ☐ invoiced separately.

Art. No.: _____
Material: _____ ..../m²
Labour: _____ ..../m²
Total price: _____ ..../m²

_____units Schlüter®-DITRA-HEAT-E-WS1 as a complete set for floor warming, consisting of:
- Touchscreen thermostat Schlüter®-DITRA-HEAT-E-R
- Heating cable Schlüter®-DITRA-HEAT-HK for heating an area of 2.6 m² (installation around every second stud ≙ 200 W/m²)
- 4x uncoupling mat Schlüter®-DITRA-HEAT-MA for an area of 3.2 m²

to be supplied and professionally installed while observing the manufacturers instructions. Electrical wiring of the thermostat to be
- ☐ included in the unit prices.
- ☐ invoiced separately.

Art. No.: _____
Material: _____ ..../m²
Labour: _____ ..../m²
Total price: _____ ..../m²

_____units Schlüter®-DITRA-HEAT-E-WS2 as a complete set for floor warming, consisting of:

- Touchscreen thermostat Schlüter®-DITRA-HEAT-E-R
- Heating cable Schlüter®-DITRA-HEAT-HK for heating an area of 1.8 m² (installation around every second stud ≙ 200 W/m²)
- 3x uncoupling mat Schlüter®-DITRA-HEAT-MA for an area of 2.4 m²

to be supplied and professionally installed while observing the manufacturers instructions.
Electrical wiring of the thermostat to be

- ☐ included in the unit prices.
- ☐ invoiced separately.

Art. No.: _____
Material: _____ ..../m²
Labour: _____ ..../m²
Total price: _____ ..../m²

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