

# Schlüter®-DITRA-DRAIN

Drainage for floor assemblies

Thin bed drainage, ventilation, uncoupling

# 6.2

Product data sheet

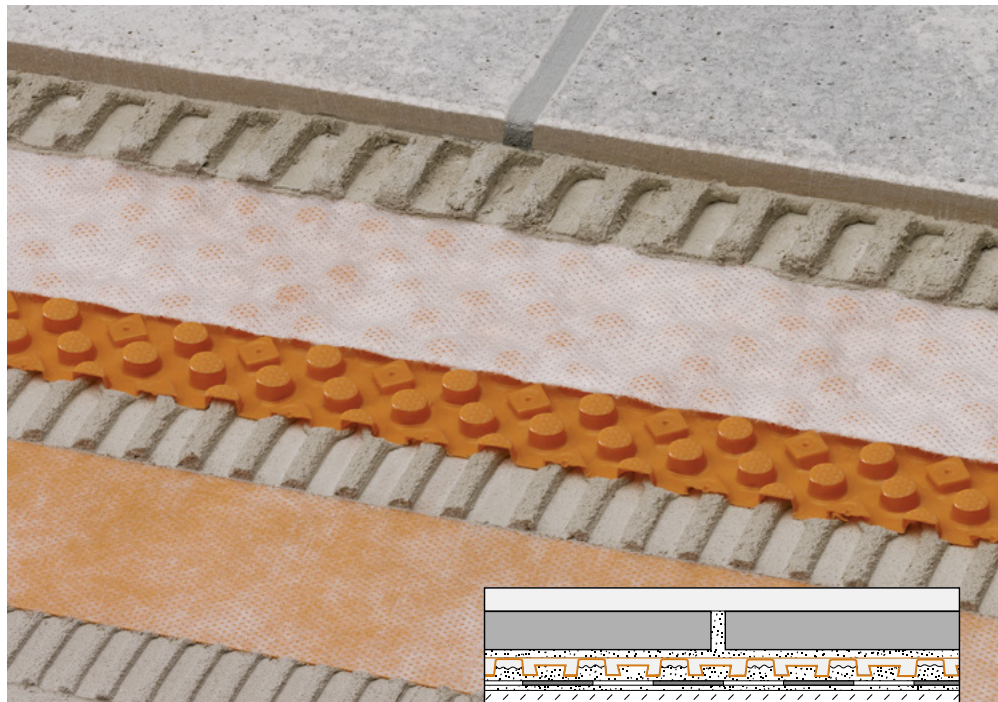
## Application and Function

**Schlüter®-DITRA-DRAIN** is a safe and permanently effective passive capillary drainage system for floor assemblies. The material is installed in exterior areas into thin bed adhesive over a sloped waterproofing assembly, such as Schlüter®-KERDI or other suitable proprietary waterproofing systems.

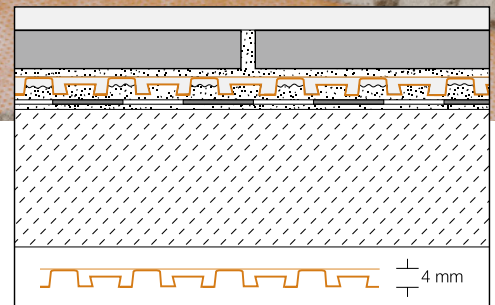
**Schlüter®-DITRA-DRAIN 4** consists of a closed polyethylene foil that on one side features approx. 4 mm high, truncated conical studs with a laminated filter webbing.

Some of these studs are shaped as approximately 2 mm high inverted truncated pyramids, which form square undercut chambers on the underside.

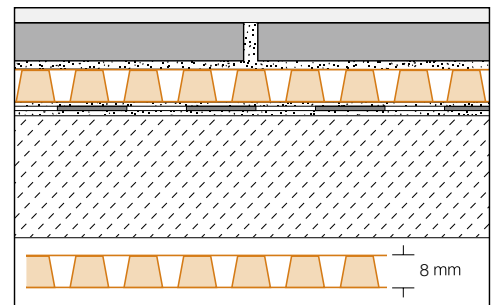
These facilitate the bonding of the thin bed mortar, which is applied with a notched 6 mm x 6 mm trowel on the bonded waterproofing assembly for fully embedding Schlüter®-DITRA-DRAIN. The closely adjoining studs in the form of truncated cones are able to absorb high compressive forces (up to approx. 50 t/m<sup>2</sup>). The undercut design of the truncated pyramid studs allows for excellent bonding with the substrate. Schlüter®-DITRA-DRAIN 4 is particularly suited for interior areas and small exterior areas. Schlüter®-DITRA-DRAIN 8 consists of an impact resistant polyethylene foil with a special truncated stud structure on one side and polypropylene filter webbing laminated on both sides. The laminated filter webbing on the underside facilitates the bonding of the thin bed mortar, which is applied with a notched trowel (recommended: 3 x 3 mm or 4 x 4 mm) on the bonded waterproofing assembly for fully embedding Schlüter®-DITRA-DRAIN 8.



The compressive yield strength is up to 15 t/m<sup>2</sup>. Schlüter®-DITRA-DRAIN 8 is suited for exterior areas and particularly for stairs and larger balcony and terrace areas with longer drainage paths. It is especially important to keep this drainage separate and to not run it along the stairs. Stair assemblies are subject to special requirements. Please contact us for further information if you are planning this type of project. The closed polyethylene membranes Schlüter®-DITRA-DRAIN 4 and 8 form an additional protective layer for the waterproofing assembly.



Schlüter®-DITRA-DRAIN 4



Schlüter®-DITRA-DRAIN 8



### Summary of applications and functions

The entire floor structure consists of a waterproofing assembly that serves as the substrate, a layer of Schlüter®-DITRA-DRAIN and the covering installed over it using the thin bed method. This results in a structure of high load bearing capacity, which meets the requirements for waterproofing as well as for passive drainage, ventilation and uncoupling.

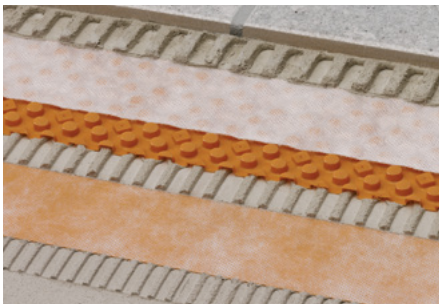
#### a) Drainage and ventilation

The ventilation allows for fast drying of the thin bed adhesive. The passive capillary drainage effectively drains the water off without pressure and prevents it from seeping back into the covering layer.

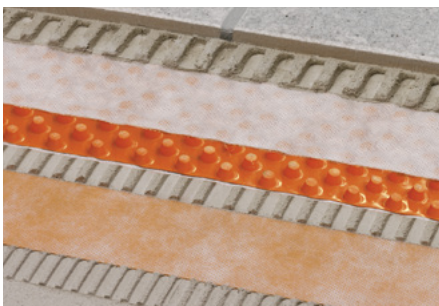
#### b) Uncoupling

Schlüter®-DITRA-DRAIN uncouples the covering from the substrate and neutralises the differential movement stresses between the substrate and the tile. The material effectively bridges tension cracks from the substrate and ensures that they are not transferred to the tile covering.

If the installation substrate does not require a waterproofing assembly, e.g. in the case of a drained screed or a slab on aggregate, Schlüter®-DITRA-DRAIN may also be adhered directly to the substrate for drainage, ventilation and uncoupling.



Schlüter®-DITRA-DRAIN 4



Schlüter®-DITRA-DRAIN 8

### Material

Schlüter®-DITRA-DRAIN 4 consists of an impact resistant polyethylene foil with a special stud structure on one side and polypropylene filter webbing laminated on the upper side. The compressive yield strength of Schlüter®-DITRA-DRAIN 4 is up to 50 t/m<sup>2</sup>. Schlüter®-DITRA-DRAIN 8 consists of an impact resistant polyethylene foil with a special truncated stud structure on one side and polypropylene filter webbing laminated on both sides. The compressive yield strength of Schlüter®-DITRA-DRAIN 8 is up to 15 t/m<sup>2</sup>. The material of Schlüter®-DITRA-DRAIN is dimensionally stable up to a temperature range of + 80° C.

The functionality and material properties are guaranteed to last. The material is non-ageing and rot-proof. Cutting waste is not classified as hazardous waste. Polyethylene is not UV stable in the long term; the product should not be stored in places with prolonged exposure to direct sunlight.

### Note:

The thin bed adhesive and the covering materials used in conjunction with Schlüter®-DITRA-DRAIN must be suitable for the corresponding application and meet the applicable requirements. In outdoor areas, such materials must be waterproof, frost-proof and weather resistant.

The ZDB information sheet "Tiled assemblies in outside areas" states: "Natural stone and concrete pavers may vary in colour due to differences in the drying process." This covering specific occurrence cannot be completely ruled out for the covering assembly described in this product data sheet. We recommend pointing this out to the homeowner or developer when selecting the covering materials. The product creates a layer of air between the covering and the substrate, which separates the layers. The covering material must be selected in the appropriate thickness to withstand the expected compressive forces. As a rule, the impact of hard objects must be avoided on ceramic coverings. For application areas in private homes or with moderate commercial use, the selected tiles should be at least 5 x 5 cm in size and 8 mm thick.

Due to the special characteristics of the system, coverings installed over Schlüter®-DITRA-DRAIN may have a hollow sound when they are walked upon with hard shoes or tapped with a hard object.

Due to the differing expansion coefficients of the covering and the grout material, microfine cracks in the joints cannot be completely ruled out.

### Movement joints

Schlüter®-DITRA-DRAIN must be separated above existing movement joints. Movement joints must be incorporated into the tile covering in accordance with the applicable regulations and standards. In outdoor areas (balconies and terraces), the length of the individual fields should not exceed 3 m. Smaller fields may be necessary, depending on the substructure and the expected temperature fluctuations.

Suitable edge joints must be formed at connections to upright building elements or walls to reduce the build up of stresses. The edge joints and connection joints must meet the applicable professional regulations. The frequency must be sufficient to reduce the build up of tensions. The use of the various profile types of the Schlüter®-DILEX series is recommended for constructing movement joints and edge joints.



### Roof terraces

The construction of roof terraces over commercial or private living areas requires a full roof assembly that meets professional standards, including a vapour barrier, heat insulation and waterproofing. A drainage system (Schlüter®-TROBA-PLUS) must be installed over the waterproofing layer. Next, screed is installed as a load distribution layer. Schlüter®-DITRA-DRAIN is then adhered to the screed surface for drainage and uncoupling of the tile covering.

### Installation

1. Always check the substrates on which Schlüter®-DITRA-DRAIN is to be installed for evenness, load bearing capacity, bond strength and compatibility of materials. Remove all surface components that may weaken the bond. Repairs of uneven spots or adjustments in height and slope must be carried out before installing the waterproofing mat and Schlüter®-DITRA-DRAIN.

The waterproofing layer must be sufficiently sloped to allow for proper drainage.

2. To install Schlüter®-DITRA-DRAIN 4, apply a standard dry set mortar to the substrate described above with a 6 mm x 6 mm notched trowel, using the thin set method. A 3 x 3 mm or 4 x 4 mm trowel is recommended for Schlüter®-DITRA-DRAIN 8. The selected thin bed adhesive for adhering Schlüter®-DITRA-DRAIN must be suitable for the substrate.

3. Schlüter®-DITRA-DRAIN is cut to size, embedded in the applied adhesive and immediately pressed into the thin bed adhesive with a float or a roller. When working with Schlüter®-DITRA-DRAIN 4, ensure that the inverted truncated pyramid shaped chambers are completely filled with adhesive after installation.

Observe the curing times of all materials. It is best to align Schlüter®-DITRA-DRAIN with light tension at the time of embedding the material.

The individual sheets are installed with tightly abutting joints. The lateral fleece edge overlaps the joints.

The self adhesive joint sealing tape Schlüter®-DITRA-DRAIN-STU is available for cut edges without fleece overlap.

4. It is recommended to use walking boards (especially in the centre of the assembly for material transport) to protect the installed Schlüter®-DITRA-DRAIN mat from damage or to prevent it from peeling off the substrate.

Protective measures may also be required if the material is exposed to direct sunlight or precipitation in outdoor areas.

5. The tile or natural stone covering can immediately be installed after adhering Schlüter®-DITRA-DRAIN. The covering materials must be fully embedded in the adhesive.

Select the notch size of the trowel to match the tile format. The curing times of the thin-bed adhesive are to be observed. The dry set adhesive and the covering materials installed in outdoor areas must be waterproof and weather resistant.

6. Once the covering is ready to bear weight, a suitable grout may be used.

7. The edges of the drainage assembly are to be covered with a profile such as Schlüter®-BARA-RT or an angled plate without closing off the drainage channel.

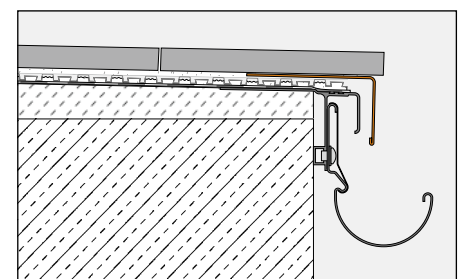
8. Please observe the instructions regarding intermediate, perimeter and connection movement joints within this data sheet and other professional standards.

#### Note:

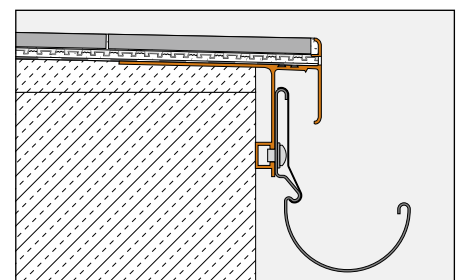
We recommend the use of our Schlüter®-BARA and Schlüter®-DILEX profiles for edges, movement joints and wall connections.



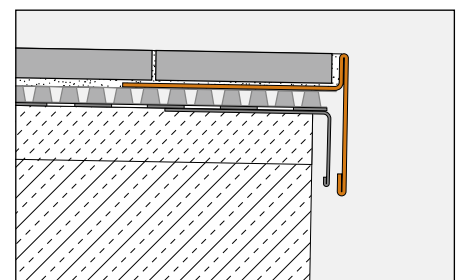
Schlüter®-DITRA-DRAIN-STU



Schlüter®-BARA-RW



Schlüter®-BARA-RTKE



Schlüter®-BARA-RT



## Product Overview

### Schlüter®-DITRA-DRAIN 4

<b>Length = m</b>	<b>10</b>	<b>25</b>
Width = 1 m	•	•

### Schlüter®-DITRA-DRAIN-STU

<b>Length = m</b>	<b>5</b>	<b>30</b>
Width = 90 mm	•	•

### Schlüter®-DITRA-DRAIN 8

<b>Length = m</b>	<b>12.5</b>
Width = 1 m	•

#### Text template for tenders:

Supply

\_\_\_\_\_ square metres of Schlüter®-DITRA-DRAIN 4 as a drainage system and uncoupling mat, consisting of a polyethylene mat with a stud structure of 4 mm high, pressure resistant and closely adjoining truncated cones, as well as 2 mm high inverted truncated pyramids with a laminated, waterproof fleece fabric, for installation over an existing substrate, consisting of

- \_\_\_\_\_
- a sloped waterproofing assembly to be supplied and professionally installed while observing the manufacturer's instructions.

Material: \_\_\_\_\_/m<sup>2</sup>

Labour: \_\_\_\_\_/m<sup>2</sup>

Total: \_\_\_\_\_/m<sup>2</sup>

#### Text template for tenders:

Supply

\_\_\_\_\_square metres of Schlüter®-DITRA-DRAIN 8 as an area drainage and uncoupling membrane consisting of polyethylene, in the form of an 8 mm thick studded foil with impact-resistant truncated cones in a close pattern and a laminated water permeable fleece webbing laminated on both sides, to be supplied and professionally installed over an existing substrate, consisting of

- \_\_\_\_\_
- a sloped waterproofing assembly to be supplied and professionally installed while observing the manufacturer's instructions.

Material: \_\_\_\_\_/m<sup>2</sup>

Labour: \_\_\_\_\_/m<sup>2</sup>

Total: \_\_\_\_\_/m<sup>2</sup>