



### THE PROBLEMS

#### 1. Moisture from above

Tiling in itself is not waterproof: junctions to fittings and walls are particularly susceptible to water ingress which can damage the foundation.

#### 2. Moisture from below

In the case of anhydrite screed, residual moisture from the screed can collect under the installed tiles and damage the adhesive bond. Accordingly, tiles must only be installed following attainment of a residual moisture content of  $> 0.5\%$ , or  $0.3\%$  in the case of installations with under floor heating, as measured with the CM device.

#### 3. Foundation stress

Depending on the structural design and the materials used, the foundation can be subjected to stress which could then be transferred to the tiling and result in cracks (bridge over cracks up to  $0,4\text{ mm}$ ). In the case of concrete, for example, creeping and contraction can lead to deformations after periods lasting as long as 6 months to several years. Cement floors and heated screed can also experience movement after being covered by tiles or slabs. Similarly, chipboard and compressed board deform notably through moisture absorption.

#### 4. Foundation cracks

During restorations of old wooden or tiled floors, cracks in the foundations can occur so that secure installation of the new tiles is no longer guaranteed.

## 5. Heated screed

DURABASE CI decoupling mats can safely be laid on any kind of heated screed foundation without any impairment of the heating performance. The mats should be adhered with the heating switched off, using a suitable flexible adhesive conforming to DIN EN 12004 C2. It is also possible for electrical or hot water heating systems to be laid directly on top of CI matting. Heating pipes must be installed in accordance with the applicable specifications of the manufacturer. Such specifications vary but will commonly involve the pipes being embedded fully in the tile adhesive layer. For heated floors the thermal resistance over the entire area of the ceramic flooring must not exceed 0.15 m<sup>2</sup> K/W in accordance with DIN 1264 (Underfloor heating systems and components).

### THE SOLUTION

The DURABASE CI mat has an installation height of approximately 3.0 mm. The mat is made of yellow polyethylene. The indented structure and laminated grid achieve a strong bond to thin-bed mortars. The material is elastic, rot proof and resistant to aggressive substances and liquids such as alkalis, solvents and oils. It is also highly impervious to water-vapor diffusion. DURABASE CI bridges cracks, decouples floor coverings from their substrates, and is suitable for producing seals bonded with floor tiles.

### PRODUCT CHARACTERISTICS

DURABASE CI is especially suitable for installing tiles on difficult substrates.

#### Sealing in outdoor situations

DURABASE CI in conjunction with tiled flooring can, for example, prevent penetration of balconies or patios by seepage of water used in the construction process.

#### Sealing in extremely wet areas

Even in areas heavily exposed to moisture, such as changing rooms and swimming pool halls, DURABASE CI is suitable as a bonded sealing membrane for tiling.

#### Crack bridging

The crack bridging properties of the mat make it extremely suitable for installation as part of restoration measures. For example, this mat permits installation of tiles on top old and damaged coverings ("tiling on tiling"). However, major variations in the heights of the substrates cannot be handled. In this case it is recommended that the screed be properly plugged. DURABASE CI is particularly suitable for laying tiles on difficult foundations.

## INSTALLATION

1. The foundation must be stable, level and free of loose material. Before installation, the DURABASE CI mats are cut to the required dimensions. The thin-bed mortar or fluidised-bed mortar is applied to the foundation by means of a 4 x 4 mm serrated trowel. The tile adhesive must be matched with the substrate. Best results are usually achieved with thin-bed mortar, flex mortar or fluidised-bed mortar requiring hydraulic setting. Recommendations for ideally matched products can be obtained directly from Dural.

2. After that, the mats are pressed into place with their carrier fleece facing downwards and tapped down with a hammer. The thin-bed mortar must achieve a strong mechanical bond with the carrier fleece under the DURABASE CI mat. The mats should be laid into the thin-bed mortar before the adhesive dries. Some protection may need to be provided to prevent damage to the mats.

3. Joints, wall junctions and transitions can be joined with strips of DURABASE WP mat (min. 150 mm wide) or with DURABASE WP sealing strip. DURABASE CI mats should be split over existing expansion joints (coverings with a large area should be divided into segments in compliance with applicable specifications and bordered by expansion joints). The guideline leaflet "Expansion joints in tile or board linings and floor coverings" published by the ZDB (Zentralverband des Deutschen Baugewerbes) should be followed. Inner and outer corners as well as junctions with terminating conduits can also be finished with DURABASE WPF corner pieces or DURABASE WPF sealing collars.

4. Once the adhesive for the matting has thoroughly hardened, all recesses should be filled in so that they are flush over their entire area using tile adhesive. The laying of tiles can then begin. The general regulations as specified in DIN 18157, parts 1 and 3 are to be observed. When laying tiles out of doors adhesive must be applied over the full area (combined laying method) to avoid damage to the flooring. If the weather is bad when tiles are being laid outdoors (e.g. rain or low temperatures), it is recommended that suitable quick-bonding flexible mortar conforming to DIN EN 12004 C2 FT be used.

## Datasheet

Material / Installation height	Roll width / Available lengths	Colour
HDPE (high-density polyethylene) / 3 mm	1.000 mm / 5 / 10 / 25 m	yellow