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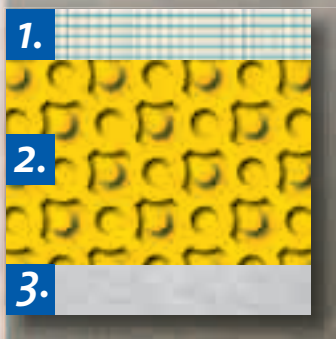
Construction  
optimised  
3-layer structure



# DURABASE CI++

THE *quick* MULTI-PURPOSE  
DECOUPLING MAT WITH SHEAR-STOP ACTION

IDEAL FOR  
FRESHLY-LAID  
MINERAL  
SUBFLOORS  
SYSTEM FLOORS  
SUBFLOORS  
SUBJECT  
TO PLASTIC  
DEFORMATION  
OUTDOOR FLOORING  
LARGE-FORMAT TILES  
PROBLEMATIC  
SUBFLOORS



Mesh fabric  
Dimpled texture  
Fleece fabric  
with active fibres

Construction  
optimised  
3-layer structure



# DURABASE CI++

THE *quick* MULTI-PURPOSE  
DECOUPLING MAT WITH SHEAR-STOP ACTION

## *quick and flexible* Shear stress protection

> Shear stresses develop whenever surfaces move. Movements can occur due to drying shrinkage or thermal fluctuations in the screed, which can be caused by under-floor heating or problematic subfloors, for example. This usually results in significant damage to at least one of the surfaces involved.

> The effects of shear stress are demonstrated most dramatically by the drift of a glacier. The glacier surface is covered with deep cracks. In the case of a tiled surface, this would mean

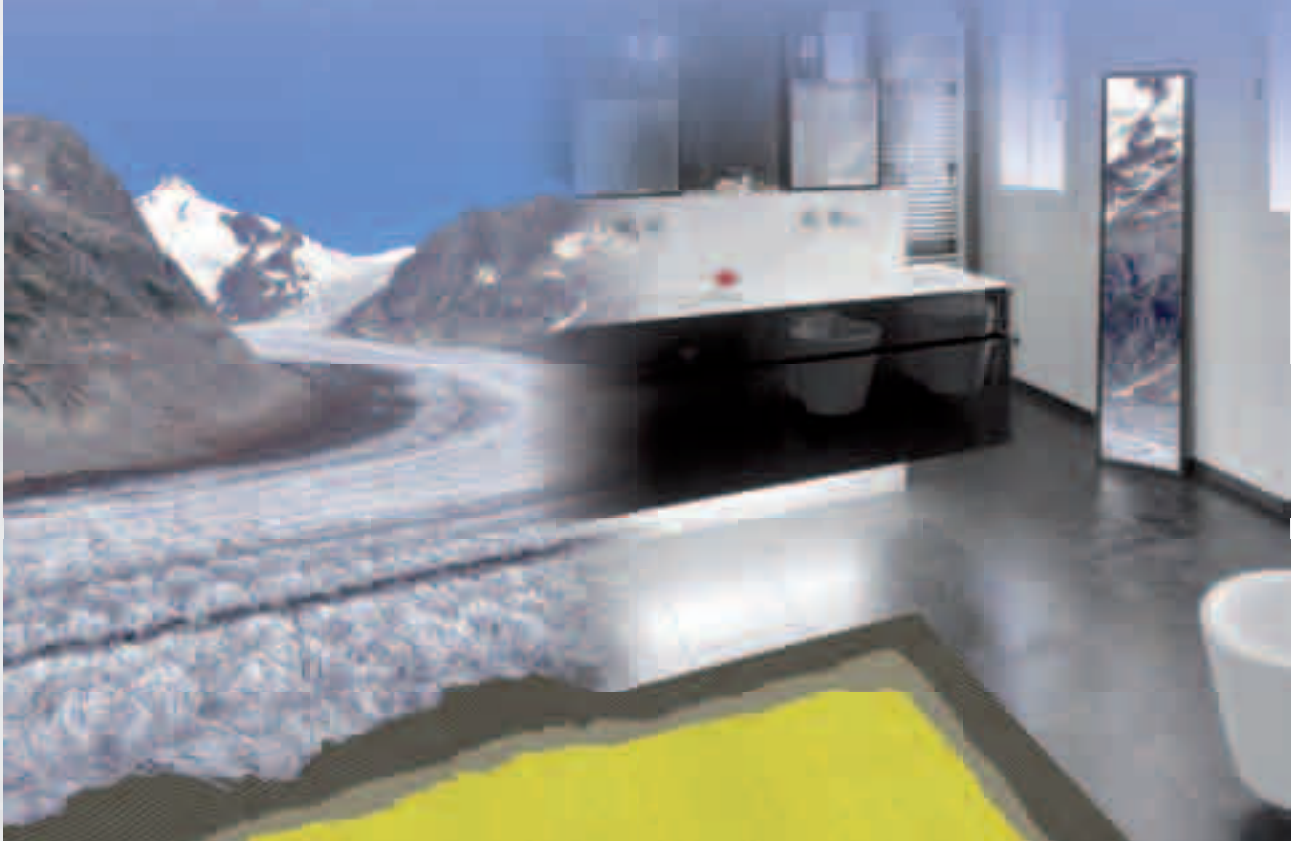
the cracking and chipping of individual tiles.

Here, the shear stresses take effect as the screed or concrete subfloor slowly dries out and starts to move. With rigid, shear-resistant tiled surfaces, these shear stresses can lead to unsightly cracks in the tiling.

**With the DURABASE CI++ multi-purpose decoupling mat as a stress-alleviating intermediate layer, damaging shear stresses are absorbed by the special**

### **TRIPLE-LAYER MAT STRUCTURE**

**keeping tiled surfaces permanently free of cracks.**





## Construction optimised 3-layer structure



### 1. Mesh fabric

#### Advantages for laying:

- Higher bending strength of the flooring construction – stable flooring.
- Better adhesive bonding between the mat and the thin-bed mortar.
- No roll-off effect – the tile adhesive does not roll off when it is spread across the dimpled structure.
- Highly resistant to mechanical loading.



### 2. Geometry of the dimples

#### Advantages for laying:

- The optimised shape of the dimples results in a significant reduction in the amount of adhesive required.
- Improved equalisation of water vapour pressure.
- Optimised adhesion.



### 3. Fleece fabric with active fibres

#### Advantages for laying:

- The active-fibre fleece increases the adhesion surface area and guarantees optimal adhesive bonding between the mat and the subsurface.
- The reinforced material of the fleece fabric minimises shear stresses.

Tiles can be laid as soon as the subfloor can be walked on!



CI++ saves on construction time

## quick finish

### CI++ decoupling from freshly laid subfloors

> The DURABASE CI++ multi-purpose decoupling mat helps the property owner or developer to significantly reduce the construction time. Almost all of the drying phase normally required for the fresh screed before conventional tile laying can commence can be sidestepped. The tiles can be laid as soon as the screed can be walked on.

> This means that the building is ready for use much sooner. Consequently, the property owner saves money thanks to reduced bridging loans, early capital returns from rental income, and the early repayment of mortgages.



# quick and assured

## CI++ practicability

> The DURABASE CI++ multi-purpose decoupling mat is a special underlay sealing system that prevents shear-resistant bonding between the subfloor and the tiles. Plastic deformations within the mat absorb or attenuate the stresses transferred from the subfloor. The German Construction Federation's information sheet on the design, construction and decoupling of interior flooring (ZDB: "Planung und Ausführung von entkoppelten Belägen im Innenbereich") must be observed. A contractual agreement regarding the use of a decoupling system should be made between the client and the contractor.

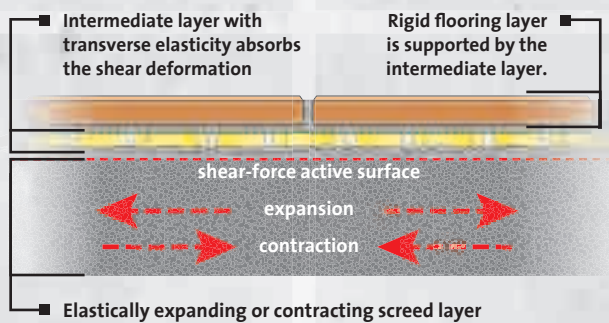


### > The problem: screed drying

During the drying phase, the screed begins to move. The rigid tiles cannot absorb the movement caused by the drying process and therefore starts to crack. The natural drying phase takes too long.

### > The solution

With a DURABASE CI++ underlay mat, movements in the subfloor are absorbed. The tiled surface is decoupled from the subfloor and remains undamaged. The tiles can even be laid immediately after the walk-on time.



## DURABASE CI++ construction advantages for architects, design engineers and developers

- Time is money: CI++ allows tiles to be laid as soon as the subfloor can be walked on

In real time, this means:

- A time saving of around 3 to 4 weeks for cement screeds and calcium sulphate screeds – tiles can be laid after just 3 or 4 days
- A time saving of around 3 to 4 months for concrete, depending on the quality – tiles can be laid after just 2 months or so (as opposed to 6 months)

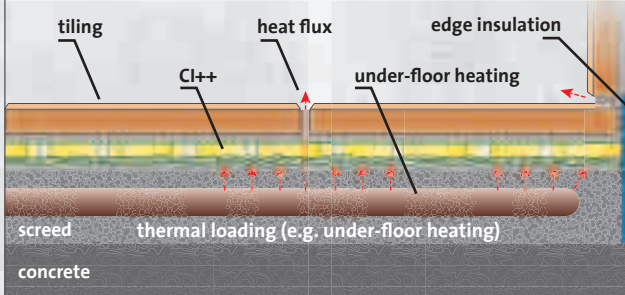
### > The problem:

#### under-floor heating

In day-to-day operation, under-floor heating, even when sufficiently insulated, transfers heat to the surrounding screed. This heat flux causes movements even in thoroughly dried screeds and can result in damage to the tiling.

### > The solution

Good thermal conductivity and uniform heat distribution are ensured, particularly in combination with under-floor heating. DURABASE CI++ ensures that movements in the screed caused by thermal fluctuations are balanced out reliably for years to come.



Decoupling from newly laid concrete floors and screeds!



CI++ helps save money

## *quick bond and save* CI++ optimised surface

- › Take advantage of the material properties of DURABASE CI++ in your role as tile fitter.
- › DURABASE CI++ allows the adhesive to be spread very easily and prevents it from rolling off.
- › The special geometry of the dimples on the deep-drawn CI++ mat reduces the amount of adhesive required from 1.4 kg/m<sup>2</sup> to 1 kg/m<sup>2</sup> when compared with other surfaces.
- › For an area of 1500 m<sup>2</sup>, the amount of material saved by using CI++ with the dimpled side fully coated in thin bed mortar equates to as much as € 900. And using less adhesive also means quicker laying, of course.

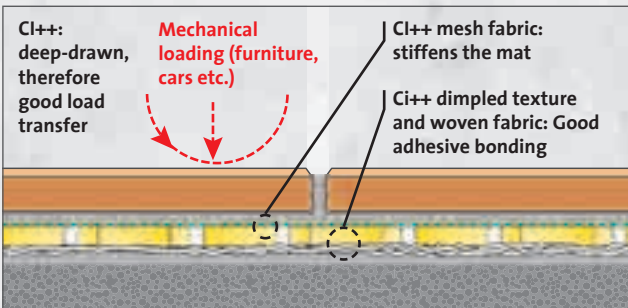


## quick fixing

### CI++ resistance to mechanical loading

> DURABASE CI++ mats also outperform other decoupling systems with regard to mechanical resistance. The green reinforcing mesh stiffens the CI++ mat and increases the breaking strength of the flooring layer.

> The active fibres of the fleece fabric on the underside increase the contact area between the CI++ mat, the adhesive and the subfloor. This significantly improves the tensile bond strength. CI++ is not suitable for use with slim tiles, however.



#### > Quantities of adhesive

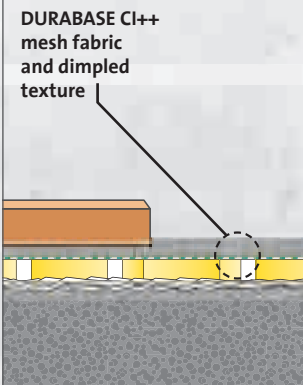
Many decoupling mats have a heavily textured surface that absorbs large quantities of adhesive and makes it difficult to spread the adhesive. In practice, this results in higher laying costs and a more labour-intensive process.

#### > Bonding

If the underside of the decoupling mat is too smooth, the mat does not bond as strongly with the subfloor.

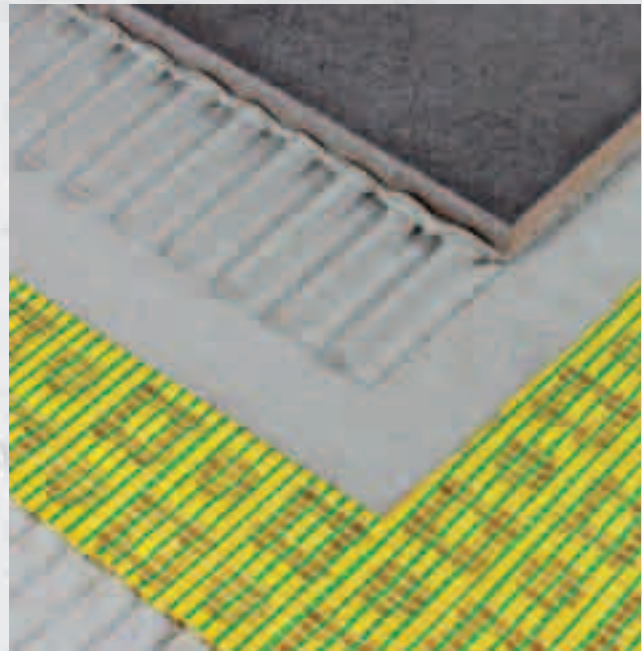
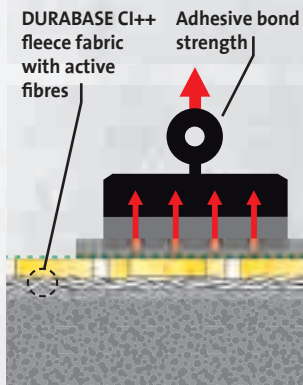
#### > The solution

The optimised shape of the dimples on the DURABASE CI++ mat results in a significant reduction in the amount of adhesive required.



#### > The solution

The material reinforced active-fibre fleece increases the adhesion surface area and guarantees optimal adhesive bonding between the DURABASE CI++ mat and the subsurface.



## DURABASE CI++ material advantages for tile fitters and floor layers

- Bridges cracks and alleviates stress
- Functions as waterproofing in indoor applications
- Highly resistant to mechanical loading
- Faster laying, thanks to easier spreading of the adhesive – **saves time and money**
- Less adhesive is required, thanks to the optimised shape of the dimples – **saves time and money**
- Easy to handle and unroll – CI++ moulds itself to the floor (is not stiff) – **saves time and money**
- Improved transfer of loads, in line with DIN 1055-3
- Improves footfall sound insulation



Decoupling from  
and sealing  
of problematic  
subsurfaces  
and old flooring!



## *quick and perfect* CI++ for difficult situations

- › The crack-bridging properties of the DURABASE CI++ mat make it suitable as an underlay mat for renovation work. It allows tiles to be laid on old flooring that is damaged but still load-bearing.
- › The CI++ mat is ideally suited for stabilising, decoupling and sealing old timber flooring and dry screeds before laying new tiles.
- › **Many renovation measures that would otherwise not be possible can now be realised.**

CI++ seals  
floors securely

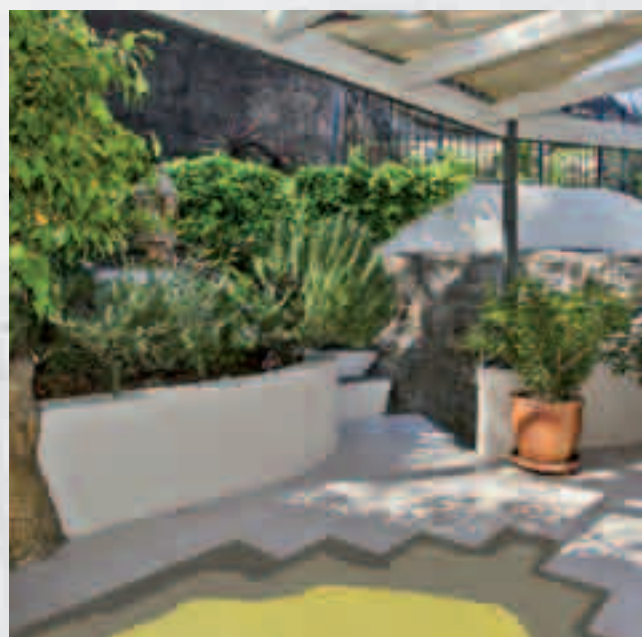
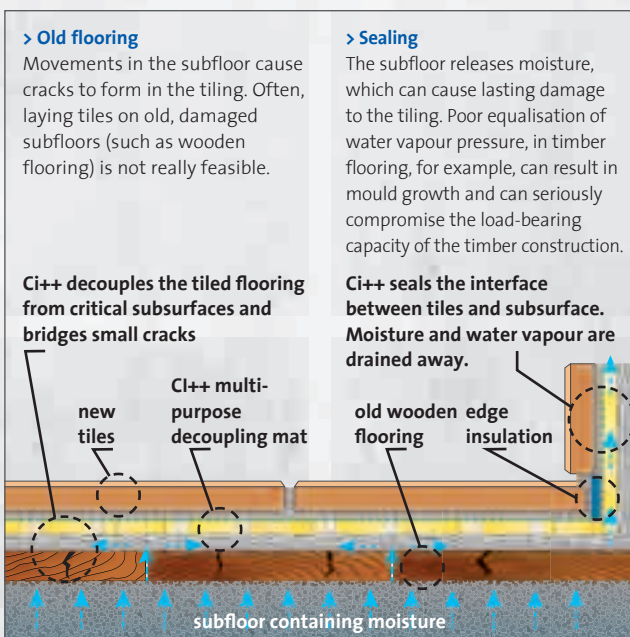
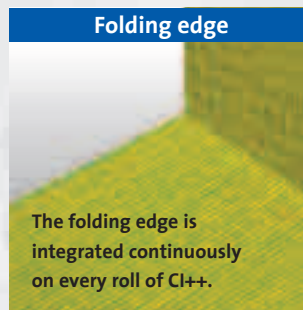
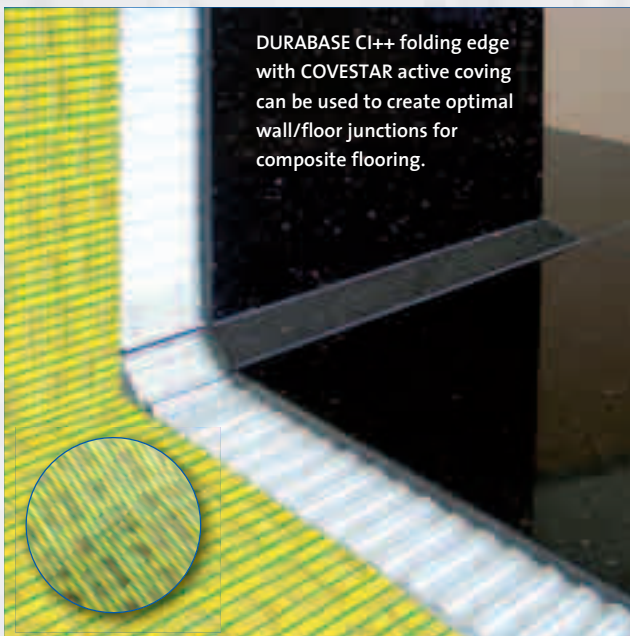
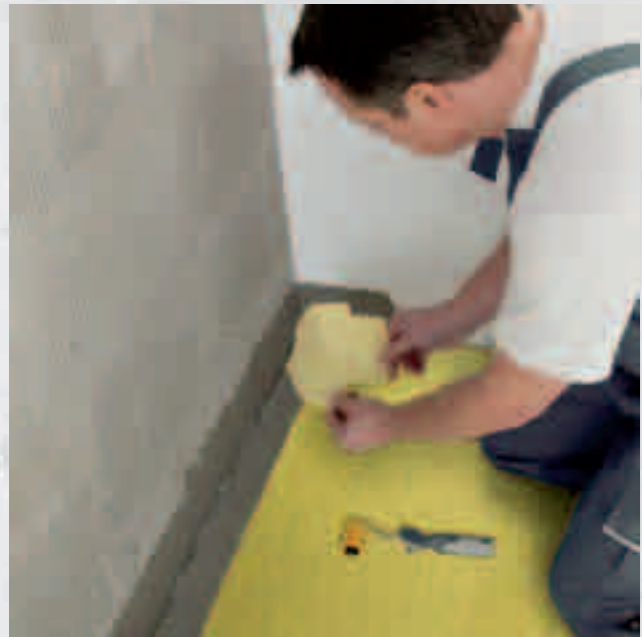




# quick seal

## CI++ sealing with accessories

- > In combination with the tiling, DURABASE CI++ mats act as an additional seal that prevents water from seeping through balconies and patios.
- > In areas that are heavily exposed to moisture, DURABASE CI++ can also be used to provide additional sealing in combination with the tiling.
- > Associated accessories – internal and external corners, sealing collars and CI Tape for connecting and sealing butt joints.



**Decoupling and footfall sound insulation for problematic flooring!**



## *quick and quiet*

### **CI++ more than just decoupling**

**DURABASE CI++ is a multi-purpose decoupling mat made from deep-drawn plastic sheeting, which means:**

- Good decoupling effect
- Water vapour pressure equalisation
- Good load transfer when securely bonded
- For interior and exterior use

**The following tests (not standard tests for EKM) have been carried out for CI++:**

- Test of decoupling effect (as worst case scenario in accordance with leaflet: FDF Merkblatt 08/2004)
- Test of tensile bond strength in line with DIN EN 1348 (cementitious tile adhesive)
- General test certificate (abP) from the „Deutsches Institut für Bautechnik“

**In addition, with DURABASE CI++ as a tiling underlay, the level of footfall sound is reduced by several decibels.**

**CI++ makes floors quieter**



DURABASE CI++ multi-purpose decoupling mat	
Material:	Dimpled sheeting = PP Backing fleece = PP Mesh fabric = PP
Mat height:	3 mm
Roll width:	100 cm
Roll length:	5 / 10 / 30 m
Temperature resistance:	-40° C to +80° C
Mat colour:	Mesh fabric = green Dimpled sheeting = yellow Backing fleece = white
Material properties:	Resistant to chemicals, rotting, fungi and bacteria; equalises water vapour pressure and is suitable for under-floor heating applications



## quick to adapt

## Different applications for CI++

### Freshly-laid mineral sub-floors

- Cement screed
- Calcium sulphate screed
- Concrete

### Subfloors subject to plastic deformation

- Old synthetic flooring
- Mastic asphalt screed

### System floors

- Double floors
- Raised floors

### Outdoor flooring

- Balconies
- Patios
- Verandas

### Problematic subfloors

- Cracked subfloors
- Mixed-material subfloors
- Wooden subfloors
- Heating screed
- Dry screed
- Metal subfloors

### Large-format tiles

- e.g. > 50 x 50 cm if sufficiently thick and fracture resistant (No thin tiles – as these could break)

#### > Laying the CI++ mat

Fix the DURABASE CI++ mat (fleece layer at the bottom) to the subfloor using flexible tile adhesive (applied with a 4 mm notched spreader). Tape over the mat joints with sealing tape. Then press flexible tile adhesive through the mesh into the depressions and spread across the entire area. Finally, scrape off the excess adhesive with a notched

spreader and lay the tiles on the CI++ mat.

Please observe the information in the DURABASE CI++ product data sheet, which can be found at [www.dural.com](http://www.dural.com)



DURAL is a full-service provider of profiles, shower systems and doormat systems, for walls and floors



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04.13 Art.-Nr.: 46000012

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