

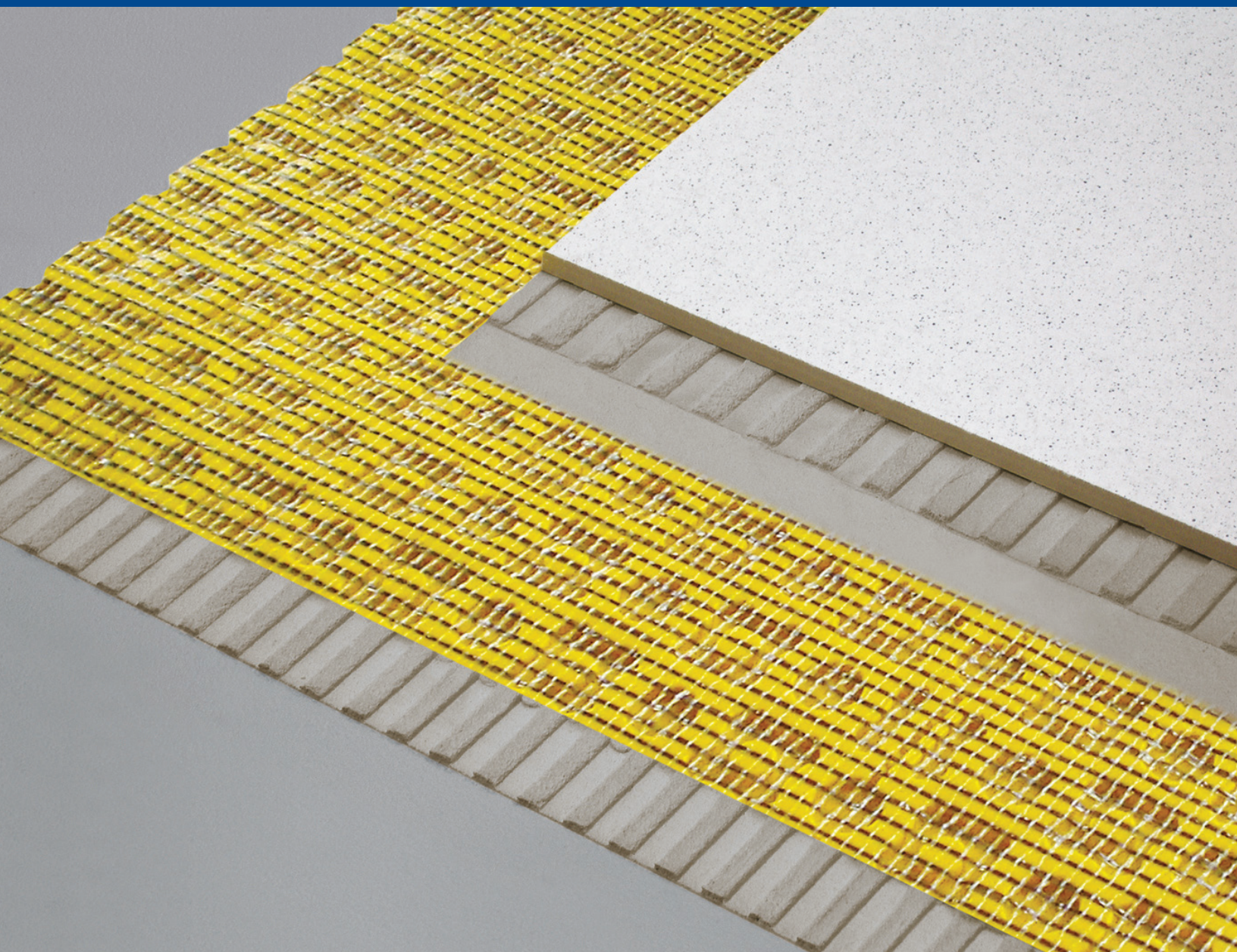
# D-LUX<sup>TM</sup> GOLD

CRACK & MOISTURE BARRIER

**HOMELUX<sup>®</sup>**  
TILE ACCESSORIES

## Technical Guide

*Waterproof your bathroom and stop tiles from cracking*



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# THE IMPORTANCE OF USING CRACK SUPPRESSION MEMBRANE

Most people have had issues in a wet area, where overtime, they have found tiles crack and leaks appear in the room below or damage is caused to the substrates below. This can be caused by substrate stresses or cracks in the substrate.

There are two areas of concern regarding movement in substrates:

- The first is the movement between defined areas and their relationship to each other, e.g. wood adjoining concrete. There are two different elements (shrinkage and expansion) which have varying rates that cause vertical movement to occur.
- The second is where dimensional changes occur causing movement on a horizontal plane, e.g. cracking of concrete where water underfloor heating is used.
- One is completely separate from the other. Using movement joints controls the first whereas the second requires an isolation system to remove the stress caused by shrinkage or expansion. It is important to understand why movement joints won't help if the floor is shrinking.

The basic theory of decoupling a floor from the substrate is isolating or separating what is happening under the tiles themselves. Modern decoupling membranes work by creating a lattice of air spaces between the tiles and subfloor. The air space provides movement accommodation in all horizontal directions allowing the subfloor to move without affecting the tiles. The tiles are supported by a solid bed of adhesive, which in turn is supported by small pillars of adhesive. This is a very effective way of spreading the pressure that the floor comes under. In practice the same rules for solid bedding of floor tiles must apply.

The decoupling matting has no significant part to play in load bearing.

It is very important that the subfloor is firm and is not subject to undue flexibility. If there is a lot of movement in the floor, it is not suitable to be tiled. A quick way to test whether your floor is suitable or not would be to fill a glass of water to the brim, place it on the floor and stand over it with your feet slightly wider than shoulder width. Now rock from side to side, changing your weight from foot to foot. If the water spills, your floor is unsuitable to be tiled. If the subfloor is rigid enough, D-LUX Gold can be used.

Typical uses are fresh/green concrete and wooden substrates – this includes floating floors, as long as they are correctly fitted. It will also work with raised access floors (normally wood or metal panels set in a metal frame, supported by metal adjustable screw jacks, used where extensive cabling is required), as long as it is fixed, firm and level.

D-LUX Gold matting can be used on asphalt. The surface will have to be keyed, built-up with multi layer or self-leveling compound then fixed with a single part flexible adhesive, subject to the manufacturer's instructions.

Newly laid screeds have very high moisture content. On sand and cement screeds, tiling can take place as soon as the screed can be walked on. The moisture content at this point is still very high. The moisture escapes through the screed surface and into the air channels under the D-LUX Gold and this slow release of the moisture actually results in a stronger, more stable surface.

Wood substrates are also susceptible to moisture and humidity. High levels of moisture cause the wood to expand and low levels cause the timber to contract. A decoupling membrane is ideal for absorbing this type of cyclical movement in the horizontal plane.



## WHY IS D-LUX GOLD THE SOLUTION?

By installing D-LUX Gold matting, any cracks in the foundation are prevented from affecting the tiles. The tiled flooring is isolated from the foundation and thus remains undamaged. Tiles can therefore be installed even on old or problematic foundations with no difficulty.

- Prevents surface cracks caused by substrate movement
- 100% waterproof (when used in conjunction with D-LUX Gold joint tape)
- Bridges gaps in substrate
- Better resistance on heated surfaces with rapid expansion and contraction
- Wide indents mean more adhesive in contact with the tile base
- Polypropylene mesh top layer gives perfect adhesion to the tile
- Fleece below the matting prevents excess adhesive entering air cavities
- Greater resistance to horizontal movement between the matting and the substrate
- Suitable for use on newly laid concrete
- Ideal for old or problematic floors

**Note:** When laying onto wooden floors, please ensure it is structurally sound and level, and check with the adhesive manufacturer's instructions regarding any priming that may be necessary.

### D-LUX Gold Main Benefits:

- Cost effective in materials
- Very cost effective in labour time
- Less floor height issues – *D-LUX Gold is only 1/8" thick (plus adhesive) compared to plywood which is 3/4"*
- It is simple and easy to use

# INSTALLATION ADVICE

## Adhesives

An essential requirement for a decoupling membrane is a good bond to the substrate. This can be achieved with any adhesive that can bond to the surface and grip to the fleece on the underside of the mat. In practical terms this means that any powder form cement based tile adhesive can be used with a minimum bed using a 3/16" notched trowel.

**Note:** When laying D-LUX Gold, bed down using a mallet with a flat piece of wood, so as not to damage the matting but achieving 100% contact – this type of adhesive sets by chemical reaction so the moisture content of green screeds makes no difference to the ability to fix the D-LUX Gold matting. This makes the product ideal for fast track projects where the extra week of drying time for screeds is not acceptable.

**Note:** When fitting D-LUX Gold to any substrate other than wood, plywood or cured concrete, it is recommended that you consult with your adhesive manufacturer before installing the matting (other types of adhesive can be used, e.g. vinyl acrylic emulsions as used by many flooring contractors).

It is recommended that flexible powder based adhesives and grouts are used when installing D-LUX Gold matting.

Currently the most challenging surfaces to tile onto are Calcium Sulphide or Anhydrite Screeds. The liquid nature of the screeds means that they start life very 'wet' and are susceptible to moisture through their life span. They are increasingly popular on projects of all sizes because of the speed of installation and the very flat surface that they provide. Isolation membranes can be used on these surfaces if special care is taken to achieve a bond onto the surface. Please contact your adhesive manufacturer for their recommendations for your specific application.

The main advantages of using an isolation membrane are that it allows tiling to take place faster and the membrane acts as extra protection from water ingress.

## Movement Joints

D-LUX Gold does not remove the requirement for movement joints within tiled installations. On the contrary, the use of an isolation membrane emphasizes the expected movement within the floor. It is also recommended that the maximum distance between movement joints must be no more than 11' 5". This means that larger domestic projects will have to consider the need for movement joints somewhere within the floor.

Typically an isolation membrane would be used where a floor extension has been required, such as a new sunroom with a different substrate to the original house room. In these cases a movement joint is an absolute requirement at the point where the two surfaces meet. The membrane would absorb any horizontal movement in both floors, e.g. a wood based original floor in the original dining room and a new concrete screed in the sunroom. The need for a movement joint arises because of the likely movement between these two separate areas in both a vertical and horizontal plane.

# INSTALLATION ADVICE

## Heated Screeds

D-LUX Gold is an ideal way of achieving a good result when tiling onto heated surfaces. The rapid thermal movement that occurs in these installations can place significant stress on the tiles. This is especially so when the floor surface is of a natural material. Naturally occurring fault lines in the stones make them vulnerable to cracking.

With electrical under floor heating the decision must be taken as to where the elements are best placed. There are two options available as to where underfloor heating can be installed.

- The first option is to install the D-LUX Gold directly under the tiled surface. Therefore the elements should be fixed to the subfloor before the D-LUX Gold is installed. Usually the heating elements are embedded into a leveling compound leaving a smooth surface onto which to place the membrane. Any cracking or movement that takes place will not be transmitted to the tiled surface.
- Option two is to install the D-LUX Gold first then the undertile heating on top. In this case the membrane is fixed as appropriate for the substrate. The heating elements are then fixed onto the surface of the D-LUX Gold\*, or, where an insulation board is used, that is then fixed to the matting surface with the heating elements fixed to the insulation board.

With regard to adhesive, some installers will use a leveling compound then tile using the tile adhesive, whereas some will simply use adhesive in one fixing operation.

\*It is important to ensure the leveling compound or adhesive being used to embed the cables fully penetrates through any fixing mesh into the cavities on the surface of the matting.

## D-LUX Gold and Homelux Waterproof Matting

Homelux Waterproof Floor Matting has a decoupling layer to allow for a little movement. However, for problematic floors or where large amounts of movement are expected, D-LUX Gold is recommended. Where waterproofing is required, D-LUX Gold can be used with Homelux wall matting to fully seal the area.

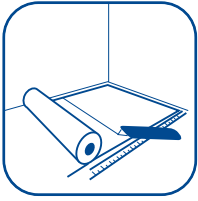
Use the D-LUX Gold joint tape to join D-LUX Gold to D-LUX Gold (flat butt joints) and the Homelux Waterproof Matting, preformed corners and joint tape to seal/join between D-LUX Gold (floor) and Homelux waterproof (wall) matting, ensuring that there is a good bond of adhesive between D-LUX Gold and joint tape.

**Always use a single part flexible powder based adhesive suitable for the substrate for both the D-LUX Gold and Homelux Waterproof Matting.**

Use any suitable flexible adhesive recommended for fixing tiles to the matting.

Homelux Waterproof Matting conforms to ANSI 118.10 and ANSI 118.12.

# INSTALLATION GUIDE



## Step 1:

Make sure that the floor substrate is clean, dust free and sound with no vertical movement.

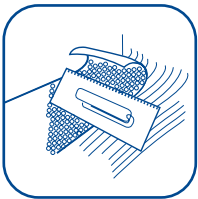
## Step 2:

Measure the areas to be covered and cut the D-LUX Gold matting to size using a utility knife, allowing for a 3 to 5 mm expansion gap around the perimeter of the flooring.



## Step 3:

Apply the powder based flexible adhesive to the substrate using a 3/16" notched trowel.

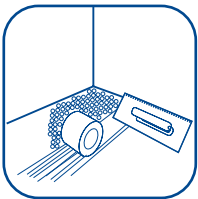


## Step 4:

Place the pre-cut matting onto the adhesive with the fleece face down and press in place. Tap down using a grout float and pressure or a rubber mallet and protective piece of wood (to distribute the load), ensuring a good bond with 100% coverage/contact between the substrate and matting.

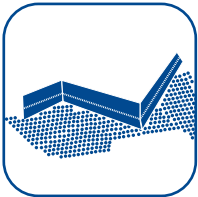
### Note:

- D-LUX Gold will not protect against vertical movement and should not be used to bridge between substrates that expand and contract at different rates (e.g. wood and concrete) - movement joints must be used.
- On large area concrete substrates, movement joints will be set in to the concrete at the required intervals. Do not put D-LUX Gold over these joints - cut and use a movement joint in the tiles.
- When fitting over minor contours (e.g. bowed but secured floorboards), first use a latex-leveling compound.



## Step 5:

Using the same adhesive, cover the matting ensuring all indents or the matting are fully filled with adhesive, leaving no air pockets or voids. When walking on the matting at this stage, a board should be used to distribute your weight.



## Step 6:

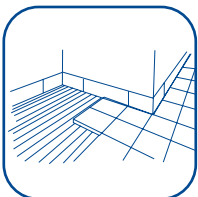
Seal all joints, wall junctions and transitions using D-LUX Gold sealing strip with the same adhesive.

### Note:

- Never seal the edges of the D-LUX Gold matting with silicone or mastic - leave space for expansion and air circulation as this enables moisture trapped under the mat to evaporate.

## Step 7:

If the D-LUX Gold is being used in conjunction with Homelux Waterproof matting as a tanking system, butt join the wall matting to the D-LUX Gold. Then, using the Homelux waterproof matting pre-formed corners, seal the angle with the waterproof tape and adhesive ensuring all indents are fully filled with adhesive, leaving no air pockets or voids.



## Step 8:

Tile or stone can be installed immediately or after the recessed adhesive has dried. Follow the supplier's instructions as to the type of adhesive suitable for your particular type of tile.

### Note:

- The tile supplier should recommend the trowel notch size suitable for the adhesive and type of tile or stone used.
- Tiles below 7/8" x 7/8" should not be used with D-LUX Gold matting.

# INSTALLING ELECTRIC HEATING

## Step 1:

We recommend installaing the heating elements on top of the D-LUX Gold underlayment.

## Step 2:

Follow the instructions for installing the D-LUX Gold then spread the mortar evenly onto the underlayment, ensuring that all of the indents are fully filled leaving no air pockets or voids.

## Step 3:

Build up the mortar of Self Leveling Compound on the underlayment by a further 1/32" - 5/64" to give a good surface to apply the heater elements and allow to dry.

## Step 4:

Follow the manufacturer's instructions for the installation of the electric heating system.

## Step 5:

Movement joints will need to be used at a maximum of 9/64".

## Step 6:

Do not switch on the electric heating until the mortar has fully dried (up to 28 days).

# D-LUX GOLD MATTING PERFORMANCE AND GUARANTEES

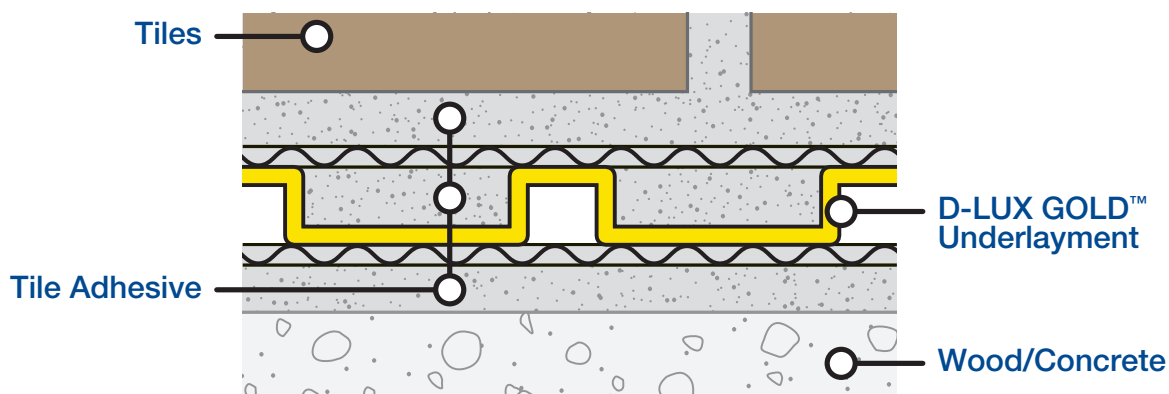
D-LUX Gold is a product designed to alleviate stress caused by lateral movement within substrates normally viewed as unstable. These would include:

- Green screeds where shrinkage is still occurring
- Fresh powder floated concrete floors
- Wood based substrate such as chipboard, floorboards, plywood and MDF
- Metal surfaces
- Asphalt
- It is also suitable for use with Heatwave Undertile Heating

D-LUX Gold matting comes with a 10 year guarantee provided the product has been installed following the product instructions (page 6).

Applying a rigid floor covering to such surfaces would normally be difficult. D-LUX Gold allows a simple method of achieving satisfactory results with minimum costs and labor. The lateral movement of such surfaces would normally cause tiles to de-bond or crack.

## D-LUX GOLD PRODUCT SPECIFICATION



PRODUCT CODE	HDURA CI 30US	HDURA CI 5US
DESCRIPTION	323 sq. ft. D-LUX Gold Roll	54 sq. ft. D-LUX Gold Roll
WIDTH OF ROLL	39.5 ft	39.5 ft
LENGTH OF ROLL	98 ft	16.25 ft
COLOR OF MATS	Textured foil (yellow), backing fleece (white), mesh (green)	
MATERIAL PROPERTIES	Resistant to chemicals, decay, fungus, and bacteria	
APPLICATIONS	Underlay matting, for decoupling and compound sealing of tiled floors	
WATERPROOFING	100% Waterproof (when used in conjunction with the D-LUX Gold Sealing Strip)	
PRODUCT USE	Decoupling and sealing mat for use under ceramic flooring	
UPPER MATERIAL	Polypropylene (PP)	
LOWER MATERIAL	Polypropylene (PP)	
HEIGHT OF PRODUCT	1/8 in.	
THICKNESS OF TEXTURED FOIL	1/64 in.	
PERMITTED TEMPERATURE RANGE	-40° F to 176° F	
CHEMICAL STABILITY	Resistant to dilute acids, alkalis and salt solutions	
ELECTRICAL PROPERTIES	High electrical resistivity	
BEHAVIOR IN INSTANCE OF FIRE	Normal flammability	
TRANSPORT RESTRICTIONS	Non-hazardous	
DISPOSAL	Non-hazardous, e.g. disposable along with normal domestic waste	

PRODUCT CODE	HDURA STR 10US
DESCRIPTION	33 ft. D-LUX Gold Joint Tape