

## Tile and stone with underfloor heating



**Ceramic tile and natural stone floor finishes are a perfect partner for warm water underfloor heating – conducting heat efficiently and effectively in all areas.**

The main criteria for successful installation of ceramic tile or stone floor finishes is a stable, level sub-floor – regardless of whether or not underfloor heating is present.

This is relatively easy to achieve with a solid screed sub-floor and with Nu-Heat's LoPro™10 and LoPro™Max floor constructions, which form a rigid layer below the tile/stone.

However, if tiles are to be laid on a floating floor or over a suspended timber floor, care should be taken to ensure that movement in the sub-floor is removed. Where the underfloor heating is fitted between joists (Nu-Heat floor constructions, TPBA14, TSB14, TSG14 and DPJ14), the usual approach is to install a rigid tongue-and groove chipboard deck that is glued and screwed to the joists, followed by a de-coupling membrane (see below).

For floating floors (Nu-Heat floor constructions DPB14, DPBL14, DPF14 and DPL14), a structural tongue and groove deck should be fitted over the underfloor heating layer followed by a de-coupling membrane (see below). In the case of DPF14 the insulation fitted below the underfloor heating should have a minimum compressive strength of 180kPa.



*A de-coupling membrane should be used with stone and tiled finishes*

### Decoupling membranes

When installing ceramic tiles and natural stone products as the final floor finish Nu-Heat strongly recommends using a decoupling membrane. This is the recommended, professional approach to laying tiles or stone on a timber or solid sub-floor whether or not underfloor heating is present.

Over time it is possible for movement to develop in the sub-floor. This does not cause structural problems in the sub-floor or to the underfloor heating, but if transferred to a rigid, inflexible tiled surface, it can result in cracked tiles. A decoupling membrane is a separation barrier between the tiles and the substrate ensuring that any movement is isolated and does not propagate through to the tiles or stone floor finish.

Only a decoupling membrane suitable for underfloor heating should be used. Decoupling membranes are available from many national and local tiling suppliers, but in order to provide an easily available solution at a competitive price, Dural Durabase CI matting is available from Nu-Heat. Please contact Nu-Heat for more details and prices or visit [www.nu-heat.co.uk/durabase](http://www.nu-heat.co.uk/durabase).

Dural Durabase de-coupling membrane can be ordered from Nu-Heat through your Account Manager or online at:  
[www.nu-heat.co.uk/durabase](http://www.nu-heat.co.uk/durabase)

See also product information sheet:  
Decoupling Membrane

### Technical data:

Material:	Polypropylene (textured foil, backing fleece & mesh)
L x W x H of mat:	10m x 1m x 3mm
Compressive strength:	37 N/mm <sup>2</sup>
Temperature range:	-40°C to +80°C
Material properties:	Resistant to chemicals, decay, fungus & bacteria
Colour of rolls:	Textured foil: yellow; Backing fleece: white; Mesh: green

**Adhesives –**

To install the decoupling membrane a flexible tiling adhesive suitable for underfloor heating should be used.

The *Tile Association* recommends using a category C2 adhesive when installing tiles on underfloor heating or a category C2 FTE S1 or S2 (where applicable) for large-format tile adhesive.

Check before use that the colour of the adhesive does not cause staining or discolouration of light coloured or translucent tiles.

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**Movement joints**

To ensure that that a tile bed moves in unison with the individual substrate, flexible movement joints must be included. In all situations BS5385 and the recommendations of the *Tile Association* should be followed.

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**Notes:**

- In all cases manufacturer's instructions and recommendations should be followed. Please contact manufacturers for more information, especially if using soft or vulnerable natural stone products.
- The underfloor heating system should be turned off while tiling and remain off until adhesives and grouts have fully cured (see manufacturer's recommendations).

Although the technical information and recommendations contained in this information sheet are correct to the best of our knowledge at the time of publication, they should be taken as indicative only. In all cases it is the responsibility of the installer/tiler alone to select the correct products to ensure a suitable surface for tiling.

For further information on Dural products please visit [www.dural.de/en](http://www.dural.de/en).

For full installation and fixing instructions please refer to the **Underfloor Heating Installation Manual**.