

Tiling onto floors with underfloor heating - Electric cable mats

There are numerous manufacturers of 'radiant mat' electric underfloor heating so always contact them directly for specific advice. The systems consist of electric cables or mats which need to be fixed to the substrate in a prescribed pattern to ensure even heat throughout the floor.

Care should be taken to avoid snagging (therefore damaging the cables when applying adhesive) and thermal shocks when the heating is utilised. There are two options which can be used when installing tiles onto these systems:

1. Applying a smoothing compound to embed the cables
2. Applying a smoothing compound to bring to cable height and avoid snagging when applying the tile adhesive

In both cases, the following criteria apply:

1. The subfloor must be sound, strong, stable and suitable to receive a cementitious smoothing compound.
2. Any expansion joints in the floor design must be followed through into the finished tile installation and must not be covered over. This is most often between different heated areas and/or substrates.
3. We recommend that timber substrates should have a suitable backer board mechanically and/or physically bonded prior to installing the electric underfloor heating systems to minimise thermal substrate movement as heating is switched on and off.
4. Before any preparation or tiling work is carried out the system must be tested to confirm it is fitted correctly

and functioning. This should also be done during and after installation to ensure no damage has occurred.

5. Substrates must be primed with the UltraTileFix ProPrimer. The priming will usually improve the adhesion of the tape utilised in fixing the cables but if they were already present it is important not to flood the floor with primer. Apply only a thin film.
6. Select the most appropriate smoothing compound for the substrate. Generally UltraTileFix ProLevel One or ProLevel Fibre is preferred for solid, strong substrates such as concrete or sand/cement. UltraTileFix ProLevel Two for difficult to bond to, dense surfaces such as ceramic tiles or where the substrate is mechanically fixed only e.g. backer boards.

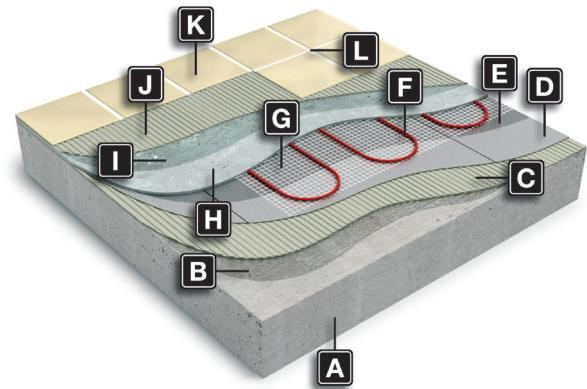
Check with the UltraTileFix Technical Department for the most suitable product.

7. Apply the selected compound by pouring onto the floor and gently smooth with a straight edge metal trowel. Either cover the highest point of the cables by a minimum 3mm or fill in between the cables without applying compound over the surface (this will enable the tile adhesive to be applied without snagging the cables). Allow the smoothing compound to cure. Time for this will depend on thickness, substrate and conditions.

8. Apply either (as per instructions for an absorbent cement based floor) and allow to dry. Fix the tiles using a flexible cementitious adhesive. Allow to cure as per datasheet instructions, before grouting with a flexible cementitious grout. Both products should be left to cure for a minimum of 14 days, before gradually bringing up the temperature of the floor in accordance with the manufacturer's instructions.

Various underfloor heating manufacturers exist including Warmup who offer a range of systems across the different types, including Sticky Mat and Total-16. We recommend that you always refer to the manufacturers instructions when installing underfloor heating.

Visit warmup.co.uk to download Warmup technical guides.



- A – Concrete substrate
- B – Prime
- C – Adhesive
- D – Thermal tile backer board
- E – Prime
- F – Under tile heating mat
- G – Prime
- H – Level to embed or cable height
- I – Prime
- J – Apply adhesive (selected upon tile type)
- K – Install tiles
- L – Grout all joints