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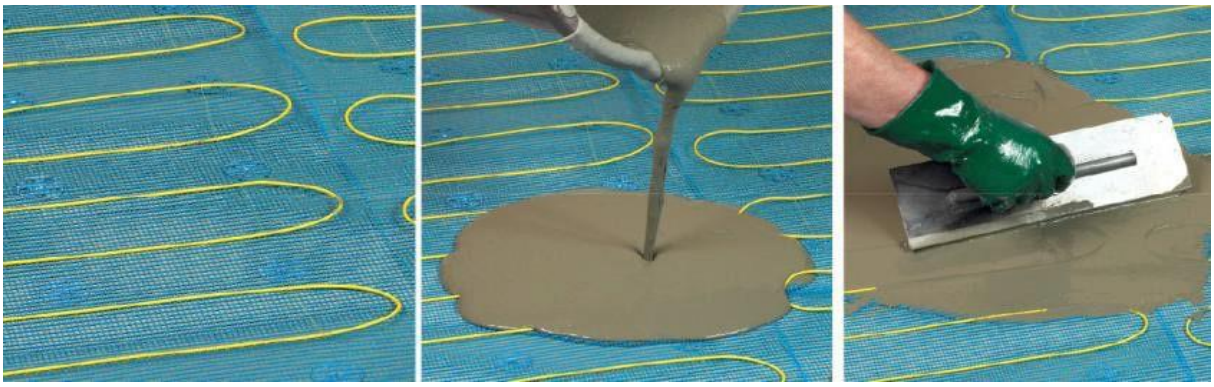
How to tile to floors with under tile heating mat



Preparation

If the original substrate is timber, this should be overlaid with a suitable tile backer board. The backer board should be fixed in accordance with the manufacturer's recommendations to provide a clean, dry and rigid substrate suitable for the conditions to which it will be subjected.

When the substrate has been prepared to be clean, dry and rigid, the undertile heating cables should be fixed as per the manufacturer's instructions and embedded within a layer of ARDEX K40 HB Levelling Compound or ARDITEX NA Levelling Compound and allowed to dry. Once the levelled compound has cured, Schlüter-DITRA matting should be applied using a contact layer of ARDEX X 7 R S1 Adhesive. Once this has been done, tiles can be fixed with a suitable adhesive to maximum bed of 10mm (DITRA).

Setting out

The general rule is to work from the center outwards. Measure the width and length of the room and draw a cross in the center. From this central cross lay out the dry tiles with a suitable width of grout gap (minimum 3mm) to allow for movement stresses between the tiles during use of the floor. If laying a mix of sizes such as an opus pattern, the grout gap will vary, and the degree of variation can be ascertained before fixing begins. If laying an uncalibrated material, the thickest tile should be found and be the first to be fixed as this will set the level of the floor, with all other tiles being bedded up. From the dry laying process, make sure there are no awkward cuts and then some adjustments may be required. Always be aware of how the floor will look when you enter the room and put aside any tiles which you do not want in the center of the floor for use in cuts around the edge of the room.

To counteract movement stresses, which can result in tiles cracking and/or de-bonding, a perimeter movement joint should be provided around the edge of the room. This should consist of a gap a minimum of 6mm wide, and the depth of the tile should be left at the junction of walls and floor. This should be filled with a suitable flexible seal, such as ARDEX ST Neutral Cure Silicone Sealant, in order to accommodate any movement or if being covered with skirting, kitchen units etc. may be left open. In larger floor areas, intermediate movement joints may be required at suitable intervals in both directions.

Fixing

Fix the tiles in a suitable highly polymer modified flexible adhesive, such as ARDEX X 7 Standard Set Flexible Tile Adhesive, or ARDEX X 7 R S1 Rapid-Set Flexible Tile Adhesive (N.B if fixing uncalibrated material, a thick bed adhesive option such as ARDEX X 325 PTB must be used). If using Schlüter-DITRA then the adhesive bed should not exceed 10mm. The colour of adhesive to be used is dependent on the stone colour and the grout to be used i.e. if fixing a pale-coloured stone with pale grout, then a white adhesive should be used to prevent any shadowing through the stone and grout from the adhesive below. Mix the adhesive as per the instructions by adding the powder to clean water and stir until a smooth, lump free consistency is obtained. Mix only enough adhesive which can be used within the pot life of the product (5 hours with X 7 or 30 minutes with X 7 R at 20°C.)

Using a suitable, solid-bed notched floor trowel held at a 45° angle, spread the adhesive onto the floor to form parallel ribs into which the tiles should be pushed with a firm twisting action. This will collapse the ribs of adhesive and produce a 3-4mm solid bed of adhesive beneath the tiles. Work in small areas and discard any adhesive that begins to dry or 'skin over'. Tiles with deeply keyed back profiles, such as some Travertine (due to voids present), porcelain and also some large format tiles, may require the back of the tile to be 'buttered' with adhesive. Every so often, lift a tile to ensure that it is in full contact with the adhesive and that no voids are left in the adhesive bed. Any adhesive residue on the surface of the tiles should be wiped off with a damp sponge before the adhesive sets. If this is not done it can prove tricky to remove dried on residue.

Remove deposits of adhesive which may build up in the gaps between the tiles.
DO NOT WALK ON THE TILES UNTIL THE ADHESIVE HAS SET, this is generally 3 hours approx. for rapid setting adhesives or 24 hours approx. for standard set adhesives.

Cutting tiles

Cutting should be carried out using water cooled, diamond bladed bench power saw. It must however be noted that the final aesthetic finish achieved will depend greatly upon the choice of cutting mechanism and level of skill used by the operator. Equipment and blades specifically for the cutting of the chosen material should be used.

The cutting blade should be water suppressed whenever cutting the material to control dust and cool the blade.

Please note that high quality diamond blades should be utilised at all times. If a blunt or worn diamond blade is used, shelling or chipping of the tile edge could occur.

Sealing and cleaning

Once the adhesive has dried, but before grouting, the tiles should be cleaned thoroughly with a dilution of Fila Cleaner and allowed to dry completely before, in the case of stone, having one coat of the initial sealant applied. This would tend to be Fila MP90 Eco Xtreme. This initial coat helps to prevent any pigment from the grout bleeding into the tiles, although a small inconspicuous area should always be trialed first to ensure that no staining occurs. Additional coats of sealant can then be applied as directed after the grout has dried. Porcelain and Ceramic tiles do not generally require sealing, but intermediate cleaning should still be carried out: after fixing, the grout should be sealed with Fila Fugaproof.

Tiles should be cleaned thoroughly with dilute Fila Cleaner prior to every stage of the installation process (fixing, initial seal, grouting etc.) to ensure that no stage of installation adversely affects any other (i.e. polymers from grout preventing penetration of base sealant. grout residue being sealed onto surface).

Grouting and finishing

Allow the adhesive to dry: The tiles should be grouted with the appropriate colour of either Ardex Flex FL Wall & Floor Grout 10kg or Ardex Flex FS Wall & Floor Grout 5kg. Clean out any dirt, dust and adhesive from the joints and ensure that they are dry.

Grout should be mixed as per instructions by adding the powder to the water. The grout should be manually mixed to reduce the amount of air incorporated.

The method of grouting will vary slightly depending on the tile type e.g. Unfilled Travertine and some Antique Limestones will need to be slurry grouted by holding a soft rubber grout float at 45° to the tile surface and sweeping the mixed grout diagonally across the tiles, ensuring that the grout is pushed fully into the joints and any surface voids present.

As grouting progresses, clean off as much grout as possible from the surface of the tile and allow the grout to become touch dry. Clean off the grout residues with a lightly damp sponge wiped diagonally across the tiles. Allow the tiles to dry and buff the surface with a dry cloth. Fila Instant Remover 750ml can be used at this stage for porcelain tiles.

Further information

For technical advice please contact Mandarin Stone on 01600 715444
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