

## HOW TO TILE TO SAND:CEMENT SCREEDS INCORPORATING UNDERFLOOR HEATING PIPES

### PREPARATION

The screed must be at least three weeks old to enable movement caused by drying shrinkage to have taken place. After three weeks the heating should be switched on to heat gradually to manufacturer's recommended operating temperature at maximum increments of 5°C every 24 hours. Ideally, leave the heating at this temperature for three days before allowing to cool gradually to room temperature. This allows the heating system to be tested as well as reducing the risk of the screed cracking due to thermal movement when the floor is heated. If small cracks do appear then Schlüter-DITRA matting to overlay the screed, both to prevent transference of any movement from these cracks. Schlüter-DITRA matting can be fixed onto a suitably prepared concrete floor with a thin contact layer of Rapid Flex Grey Adhesive. NB. If using Schlüter-DITRA matting the maximum thickness of tile adhesive which can be used on top is 10mm.

The concrete must be clean, dry and free from dust, laitance or any contaminants which may act as a release agent and prevent the adhesive from bonding to the concrete. If the surface of the concrete is dusty then it should be dry-brushed with a wire brush to remove the loose dust. The surface should then be sealed with Prime Bond diluted 1:4 with clean water and allowed to dry. If required, the concrete may be levelled with Pro 10 Universal Levelling Compound.

If the concrete has a power floated finish then the surface must be prepared in order to fix tiles. This can be done either by mechanically abrading the surface in order to expose the coarse aggregate. Alternatively a slurry bonding coat consisting of 2 parts any cement based adhesive to 1 part Prime Bond should be applied to the surface with a suitable brush and allowed to dry (1 hour approx) before fixing commences.

### SETTING OUT

The general rule is to work from the centre outwards. Measure the width and length of the room and draw a cross in the centre. 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 if 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. Make sure there are no awkward cuts, some adjustment 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 centre 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 silicone, 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

Due to the presence of underfloor heating, fix the tiles in a suitable highly polymer modified flexible adhesive, such as Standard Set Flex Adhesive, Rapid Flex Wall & Floor Adhesive or Thick Bed Flex Floor Adhesive (NB. If fixing an uncalibrated material, Thick Bed Flex Floor Adhesive must be used). The colour of Adhesive to be used is dependant on the stone colour and the grout to be used i.e. if fixing a pale coloured Limestone with Limestone 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 (approx. 30 minutes 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.

## SEALING & CLEANING

Once the adhesive has dried, but before grouting, the tiles/showertray 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 may be Hydrorep/HP98, Fila Fob/W68, Fila MP/90 or Fila MP/90 Eco Plus, dependant on the type and finish of stone being fixed. This initial coat helps to prevent any pigment from the grout bleeding into the tiles, although a small inconspicuous area should always be trialled 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.

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

Allow the adhesive to dry: The tiles should be grouted with the appropriate colour of either Flexible Wide Joint Floor & Wall Grout or 4-in-1 Wall & Floor Grout. 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. Some tiles such as Polished Marble or a majority of Porcelains and Ceramics, should be pointed, concentrating the grout into the joints rather than across the entire surface of the tile, so as to keep any grout residue to a minimum. 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 damp sponge wiped diagonally across the tiles. Allow the tiles to dry and buff the surface with a dry cloth. Any stubborn residues should be cleaned off with a dilution of Fila Cleaner mixed with warm water within 24 hours of grouting.

