

# CLASSICAL FLAGSTONES

## HOW TO.....

### TILE TO INTERNAL FLOORS INCORPORATING UNDERFLOOR HEATING PIPES

#### DESCRIPTION

A reinforced cement: sand screed, generally 65mm to 75mm thick, incorporating hot water pipes

#### PREPARATION

The screed must be at least 3 weeks old to enable movement caused by drying shrinkage to have taken place. After 3 weeks, the heating should be switched on to heat gradually to its intended temperature, a rate of 5°C every 24 hours is recommended. After 3 days allow the heating to cool to room temperature. This will allow 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 the screed is dusty or has a shiny finish, dry brush with a wire brush and remove the loose dust. Brush apply Norcros Prime Bond, diluted 1: 4 with water, to seal the surface. Allow to dry.

#### SETTING OUT

The general rule is to work from the centre outwards. Measure the width and length of the floor and draw a cross in the centre. From the central cross lay out the dry tiles allowing a 3mm wide gap between the tiles to allow for movement stresses within the floor during service. These gaps will be filled with grout once the tiles have been fixed and the adhesive dried. Make sure there are no awkward cuts, some adjustment may be necessary. Always be aware of how the floor will look when you enter the room.

To counteract movement stresses, which can result in tiles cracking and/or debonding. A movement joint should be provided around the perimeter of the room. A gap no less than 6mm wide and 6mm deep or the depth of the tile should be left at the junction between the walls and the floor. This should be filled with a suitable sealant at the end of the job, or if being covered with skirting boards or kitchen units etc. may be left open. In large floor areas, intermediate movement joints should be provided at 5 metre intervals in both directions.

#### FIXING

Thoroughly dry brush flagstones with a wire brush. Prime the underside of the flagstones with Norcros Prime Bond diluted 1: 4 with water and allow to dry. Ceramic, Porcelain or Natural Stone tiles do not require priming.

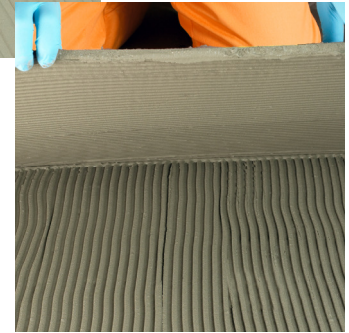
Fix tiles in a solid bed (i.e. ensuring no voids remain in the adhesive bed) of Norcros Thick Bed Stone & Porcelain Adhesive. Tiles 300mm x 300mm or less may be fixed in a solid bed of either Norcros Rapid Porcelain Grey or Norcros Rapid Porcelain & Stone White Adhesive. Gradually add 3.5 parts of adhesive powder to 1 part of clean cold water and stir until a smooth lump free consistency is achieved. Mix only enough material that can be used within the pot life of the product (around 30 minutes at 20°C). **N.B.** It is essential that a white adhesive is used to fix light col-



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ADHESIVES

## **APPLICATION**

Using a suitable 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 may need to be back buttered. Every so often lift a tile to check that it is in full contact with the adhesive and that no voids are left in the adhesive bed. Wipe off any adhesive residues from the surface of the tiles using a damp sponge before the adhesive sets. Remove deposits of adhesive which may build up in the gaps between the **DO NOT WALK ON THE TILES FOR AT LEAST 2-3 HOURS**, or until the adhesive has set.



## **CUTTING TILES**

Porcelain, Natural stone tiles and Flagstones can be difficult to cut and good quality tools are required. These can be bought or in some instances hired. A slide cutter and nippers are essential, however an electric wet cutter will make the job easier. For intricate cuts a cardboard template will help to achieve more accurate results.

## **GROUTING**

Allow the adhesive to dry.

Use either Norcros Flexible Floor & Wall Tile Grout **OR** Norcros 4 into 1 Wall & Floor Grout. Clean out any dust, dirt and adhesive from between the tiles and make sure that the joints are dry.

Approximately 4-5 parts grout powder should be added to 1 part water, ensuring that the powder is added to the liquid to prevent the product from flash setting. Manually mix the grout to reduce the amount of air incorporated into the mix.

Holding a soft rubber grout float at 45°, sweep the mixed grout diagonally across the tiles, ensuring that the grout is pushed fully into the joints. Clean off as much grout from the surface of the tiles as possible 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 may be cleaned off with washing up detergent mixed with warm water within 24 hours of grouting.

N.B. Before grouting commences trial a small inconspicuous area to check that the grout does not stain the tiles. If there is any risk of staining, the tiles should be fully sealed using a proprietary sealer before grouting begins.



The heating may be switched on 14 days after completion of tiling, raising the temperature gradually at a rate of 5°C per day.