

# FIXING STONE TILES AS FLOORING OR WALL CLADDING

Limestone, Sandstone and all natural stones are products of nature and no two pieces are exactly alike. There will also be small variations in all dimensions. The tiles will arrive in much the same order as they came off the saw, which means that shades of colour and particular markings in the stone are liable to be next to each other. The material should be looked at to establish colour and marking characteristics, and should be “shuffled” before fixing to create a random pattern. Mixing the tiles up will spread these variations naturally over the floor. Any other design details should be agreed before installation.

Stone can be fixed to a sprung floor (with marine plywood or a combination of marine ply and tile backer board) or to a solid concrete sub-floor. Flexible additives to the adhesive and grout are necessary to take up any movement if the stone is being fixed to a sprung wooden floor or over under-floor heating. 20mm stone will weigh about 50-55kg/m<sup>2</sup>.

The stone is vulnerable until it is fixed, and still vulnerable until it is treated against staining. It will usually arrive on site wet or damp in the centre of the crates. This does not prevent it being fixed but it cannot be treated until it is DRY.

**Dry one tile on a radiator as a “control” to see the true colour of the stone before attempting to apply sealer.**

## **TILING.**

### ◆ Fixing into a screed:

The sub-floor should be firm, clean and dry. The recommended depth of screed is at least 35mm for 20mm stone. The mix should be 3 parts washed, sharp sand to 1 part white cement, used semi-dry.

Make sure the stone is clean. Butter the back of the stone with an adhesive slurry before fixing the stone in the screed. In order to stop the stone drying out too quickly, which may result in some tiles not sticking properly, we recommend that the stone is wetted before fixing; alternatively paint the back of the stone with a bonding agent.

With any light coloured stone, white cement-based adhesive should be used.

### Using an adhesive:

The stone can be fixed to concrete screed or suspended wooden floors. Flexible additive should be used in the adhesive and grout with suspended floors, underfloor heating and externally.

Before fixing the tiles ensure that the sub-floor is true and level, free from contamination and loose areas and properly prepared to give a good bond. Ensure that the background to be adhered to is thoroughly dry, solidly bedded, and free from dust and friable matter before starting to tile. Some fixers will paint the sub-floor with a bonding agent.

Make sure the back of the stone is free of dust or similar. Fix tiles with adhesive in accordance with the recommendations of the adhesive manufacturer. This will probably mean combing the adhesive to the back of the stone as well as the sub-floor. Stone tiles, especially in larger sizes, can vary in thickness, so it may be necessary to build up the adhesive to ensure a floor with a minimum of "lippage". Always start with one of the thicker tiles. Press tiles onto the adhesive and tap firmly into position. It is essential that each tile be laid on a solid bed of adhesive with no voids. If adhesive gets on the face of the tiles clean it off immediately.

Silicon can be used to fix stone to metal supports.

**White cement adhesive should be used as coloured cement may seep through to the face of the stone. Painting the back of the stone with a bonding agent will inhibit any leaching.**

We recommend a gap between tiles of between 2 to 3mm depending on personal preference. We do not recommend that the tiles be butted up, as the size of the tiles will inevitably vary slightly.

The edges of the tiles will not have been calibrated and are only sawn – a good fixer will "kill" the edges by rubbing each tile with a diamond pad as it is fixed. This pass on all four front edges of the tile cleans the very small chipping from the saw.

## **GROUTING**

Apply one coat of impregnator or sealer to the stone before grouting to act as a grout release. **(Make sure the stone is completely clean and dry and dust-free before application and allow 24hrs for curing before grouting.)**

Grout the joints to the manufacturers' recommendations and so that they are completely filled. Flexible additive should be used in the adhesive and grout with suspended floors, underfloor heating and externally. The grout should be very liquid and pushed in firmly so it goes right into the gaps. We recommend that the face of the stone be completely wiped with grout to avoid any possibility of "picture-framing". Open-faced stones should also be grouted across the face of the tiles in order to fill up any larger holes. Thoroughly clean the grout off using a damp cloth. Tool the joints smooth.

Offer a small sample area of the floor to make sure the grout colour and texture is suitable. Grouts come in many colours but we would advise pale neutral colours matching the palest colour in the stone.

## **PROTECTING THE STONE.**

Stone is a material that looks better and better as it ages. It weathers down with wear - unavoidable marks and scratches contribute to the character of the floor.

### ◆ Protecting the stone:

The stone should be treated as soon as possible. It is absolutely imperative that the stone is completely **dry**\* and spotlessly clean and dust-free before applying sealers or protectors. If the floor is dirtied before treatment, it should be cleaned with a suitable stone cleaner such as Wexa by Lithofin.

We recommend use of a quality impregnator that barely changes the colour and look of the stone. Two or three thoroughly applied coats (the first applied VERY liberally – 1litre to every 5m<sup>2</sup>) should be sufficient in most cases.

If building work is continuing cover the floor (once protected) with boards until finished. The stone should not be covered when it is still wet and beware - some coverings will actively stain the stone they are meant to be protecting.

Waxing the stone, a traditional treatment, makes the floor look a well-established feature in a very short time, BUT will promote the build up of false layers which will be unattractive in the long term and need regular stripping and re-application.

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*For stone in use in regularly wet areas (showers or baths) we recommend that the stone should be “flood-treated” or many coated with a suitable impregnator. This should protect the stone from excessive ingress of water but will allow it to breath. The stone should be fixed to “falls” so that there is no possibility for standing water to eventually soak into the stone – any standing water should be wiped dry.*

*Vanity tops, Bath-surrounds and Kitchen tops should be either flood-treated with a suitable impregnator .*

## **MAINTAINING THE STONE.**

See suitable advice sheet