

## 6. Laying Information

### 6.1 Top Tips For Porcelain Paving

- All porcelain paving tiles can have variations in size and colour between batches, we advise the customer purchases all tiles at the same time to avoid mixing and shade variation.
- Installing porcelain products is equally important as choosing the product. We provide general information on laying/fixing which should be used in conjunction with competent installers and recommended products.
- We recommend installing porcelain paving on a wet mortar bed of “6:1” grit sand to Portland cement. Adhesive must be used to form a bond bridge between the wet bed and the paving.
- Follow all guidelines regarding cutting to help minimize cracking and chipping.
- Do not “butt joint” porcelain paving. We recommend using a 4mm minimum gap to avoid chipping edges and the use of “tile spacers” to create uniform spacing.
- Use a weather repellent grout as it is generally non-permeable and unlikely to discolour or suffer algae/weed growth. Polymetric jointing materials/permeable jointing media are not suitable for use with porcelain.
- You do not need to seal porcelain, due to its extremely low porosity.
- No special cleaners are required, a mild detergent should be sufficient for this very hard wearing paving.

## 6. Laying Information (Continued)

### Falls

All porcelain paving tiles must be laid to allow for drainage. This is usually achieved by sloping the porcelain paving tiles in one direction or another to direct the surface water towards a suitable disposal point, which might be a gully, a linear drain, or the edge of the garden. Whenever possible, surface water is directed away from any buildings. When determining levels away from a building, a taut string line set between driven ranging stakes is a good guide to both level and alignment. The simplest way to create an accurate perpendicular (90° or right angle) line from a building is to use a 3-4-5 triangle.

### Base

All porcelain paved tiled areas, whether they be used as driveways, paths or terraces, require a stable base. The depth/strength requirement of this base varies according to the planned use of the paved surface. For example, a private driveway will require a base layer of concrete at least 100mm thick, and this may need to be spread over a strengthening layer of compacted stone or hardcore. However, a mortar bed approximately 50mm thick, laid directly onto firm ground could be sufficient for a lightly trafficked walkway. Every project site is different and a judgement will have to be made at the start of the project as to the long term stability of the existing ground. Please bear in mind that it is always best to err on the side of caution and lay a stronger base at the outset, than have to lift and reinstate a sunken area in the future.

### 6.4 Types of Porcelain Installation

Due to its nature Global Stone supplies porcelain paving tiles in a standard uniform calibrated thickness of 20mm, which means it is suitable to be laid on several bed types;

#### 6.4.1 Installation on a “wet bed” (recommended)

The most common technique known as ‘screeding’ is generally used to prepare the bed for porcelain paving tiles. Use a shovel to spread the freshly-mixed bedding material (a mortar bed of 6:1 or stronger mix of grit sand with ordinary Portland cement is recommended) over the base, large enough for several porcelain paving tiles in a layer that is roughly 40-60mm thick, and pat it with the back of the shovel to lightly compact it.

## 6. Laying Information (Continued)

### 6.4.4 Installing Porcelain Walling/ Cladding (cont...)

As part of the process it is important that all substrate preparation products, mortar and grouts are compatible and we therefore recommend using a single source for all installation materials. You should also check your substrates suitability for tiling before selecting your adhesive. Grout joints are to personal taste and will vary depending on the product used however we recommend between 2-3mm for our Porcelain Walling/Cladding range.

Global Stone recommend the use of Ardex Products as featured on page 42..

Sand and Cement render is a good vertical base for fixing most porcelain tiles with a thickness up to 15mm with a load bearing of up to approximately 38kg/m<sup>2</sup>. New renders will require a minimum of two weeks to dry out. We recommend the following products:

Please visit [www.globalstonepaving.co.uk/](http://www.globalstonepaving.co.uk/)For more information on other substrates including;

- Plasterboard without plaster skim coat
- Backerboard/Tile backerboards
- Gypsum Plaster Skim
- Problematic Substrates (such as some Plaster Skim and painted walls)
- Movement Joints in Walls

### 6.5 Handling the porcelain

Porcelain can be heavy and cumbersome, particularly with the larger pieces, so take care when handling. As a rough guide any paving stone 600mm x 600mm or above is best handled by two people, stood on the edge and carefully lowered into position.

It is important to note that porcelain paving has a face and base, meaning there is a right way up.

## 6. Laying Information (Continued)

### 6.8.1 Mortar Jointing

This traditional method uses a strong mortar (four parts sand to one part cement) to fill the joint. The mortar should be mixed in small quantities, say one 25kg bag of sand at a time, because pointing is a slow process and the mortar has a fairly short working life (20-60 minutes depending on ambient temperature).

The same coarse sand can be used for the bedding, though softer 'building sand' gives a smoother and more adhesive mortar and is generally considered to be easier to work.

The mortar should have a workable but flowing consistency, something akin to the mix for a rich fruit cake, and able to stand in 'peaks' without slumping too much. Adding a plasticiser to the mix water makes the mortar far more workable. It is worth noting that some bags of cement contain a built-in plasticiser, so there is no need to add one to the mix water – check the packaging of your cement.

### 6.8.2 Flexible Tile Grout Jointing Materials

These cement based products are mixed with water to provide an easy working grout which is applied using a rubber backed trowel, simply wiping off any excess from the surface of the porcelain paving tile, and after just 90 minutes, the material will have hardened to form a perfect joint. We recommend Ardex Flex, a rapid setting cement based grouting compound which is water repellent, unaffected by weather and enables foot traffic after just 90 minutes.

## 6.9 Cleaning and Maintenance

Thanks to its great hardness and weather-resistance, porcelain paving tiles can be cleaned with almost any detergent. However, we recommend simply using a mild detergent and a water jet. For greater convenience and to avoid potential limescale deposits forming, we recommend facilitating removing excess water with a rubber brush.