



# Better Exteriors.

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## PORCELAIN TILE INSTALLATION GUIDE

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### **MATERIAL CONSIDERATIONS**

Our goal is to minimise surprises and help set realistic expectations with specifiers, contractors, and end users. Prior to ordering, ensure that consideration has been made to understand what variation you might expect when this material is delivered and installed.

It is the responsibility of the user to inspect tiles before laying. Minor marks and small chipping are not structural and therefore not considered defects. Any tile with excessive chipping or variation in thickness and dimension before laying, may be subject to a warranty claim.

All porcelain tiles will have tonal variation. The tiles will have the same principal tone as the sample, but batch and shade variations are to be expected and is considered normal for any porcelain tile. In addition to this, each single product range has an intentional array of digital prints, allowing them to look as close to natural stone as possible.

If you require the entire product order to come from a single batch, this must be discussed before the order confirmation. We can ensure your order is produced from the same batch if agreed upon at the time of order confirmation only. Note: different sizes of the same product range cannot be manufactured in the same batch.

Given the very low water absorption rate of these products, localized pooling of water can occur even if the tiles are laid properly.

#### **Storage**

Ensure material is stored appropriately. This means storing crates indoors away from direct sunlight and any rain, groundwater, or water source. When laying, the material will need to be dry and free from dust and other contaminants.

Store crates on a level surface and do not stack crates on top of one another.

#### **Blending**

To obtain the best possible visual result, it is essential to blend from all pallets delivered whilst laying.

## **Weather Consideration**

Avoid laying tiles in extreme weather conditions, or if rain is expected. Laying tiles on very hot days (above 30°C) can cause delamination issues between the tile and adhesive bedding layer.

## **Waterproofing / Moisture Management**

It is essential to have an effective 'moisture management' plan as part of your 'installation system'. This should include (not exclusively) membranes, adhesives, falls, drainage, and where appropriate, pre-sealing, consolidating, and sealing as well as ongoing maintenance

## **Selection of adhesive for bedding tiles**

In general terms, we recommend using *cement based adhesives*.

For project-specific direction on the appropriate adhesive, you should contact the adhesive manufacturers directly. There are many reputable companies with a wide range of products available. Examples are:

1. Mapei <https://www.mapei.com/>
2. Laticrete <https://au.laticrete.com/>
3. Kerakoll <https://www.kerakoll.com.au/>

## **Grouting Compound**

It is recommended to use a high-grade proprietary grouting compound that is suitable for the application.

## **Cutting**

We recommend using a wet bench saw with a diamond blade. The tile should be washed immediately after it is cut to avoid cutting paste drying and staining the surface of the product.

## **Crystalline Silica**

*For the avoidance of doubt, our range of porcelain tiles are not engineered stone.*

Crystalline silica (or silica dust) is a common mineral found in many natural and man-made substances. A crystalline silica-containing substance is defined as any substance that:

- a. contains more than 1% crystalline silica; and
- b. is reasonably likely to be mechanically processed at a workplace; and
- c. is not in a respirable form.

There is risk involved in working with crystalline silica substances when these substances are mechanically processed (for example through cutting or grinding), in which crystalline silica dust is generated. Exposure to crystalline silica dust over a long period at low to moderate levels, or short periods at high levels, can lead to serious health conditions such as silicosis, which is an irreversible, incurable, and progressive lung disease that can lead to disability and death

## **INSTALLATION**

Installation will vary from site to site with varying conditions experienced on that site (i.e.: soil conditions, pool surrounds, driveways, wet areas etc.). A site sample of the proposed method of installation should be completed to ensure that this method is appropriate for the site conditions

### **Falls/Slope**

To respond adequately to rainwater run-off and avoid trapping water and moisture on the floor surface, a minimum flooring gradient of > 1% is the recommended slope for both the substrate and finished tiled surface.

### **Foundations/Substrates**

The substrate/foundation is the first element to influence the end quality of the flooring. The subbase or 'laying support' carries out several functions in protecting the surface layer of the tile. For these tiles, we recommend the following:

Pedestrian traffic only: reinforced concrete 75mm thick

Vehicle Traffic: Reinforced (F72 mesh) concrete base 100mm thick min. 25MPA

\*\* Engineer's advice should be sought in the design of all concrete.

Depending on the age or construction of the slab, it may be necessary to prime it before the membrane.

Contractors should also consider drainage and/or waterproofing/moisture barriers to minimise the risk of rising humidity, which can bring salts contained in the soil or the bedding layers to the surface of the substrate.

### **Membranes & Crack Suppression**

Drainage design and membranes are critical in dealing with moisture-related issues (as well as helping to reduce minor cracking by neutralising in plane movement in the substrate).

For site-specific advice, we recommend contacting the manufacturer directly.

Examples are:

1. Mapelastick Smart & Mapeguard II (Mapei helpline 1800 652 666)
2. Hydro Ban (Laticrete helpline 1800 331 012)

### **Control / Movement Joints**

Control joints help absorb variations in the flooring caused by temperature swings and other movement in the subgrade, concrete base, mortar, or the actual tile itself.

Control joints are recommended in the following areas:

1. the substrate (concrete sub-base). The joints in the concrete base should be continued through the mortar bed and grout joint.

2. tiled surfaces should include appropriate control joints every 20m<sup>2</sup> (or where movement is expected) that penetrate through the tile and the bedding mix, but not through the concrete substrate.

In general, the overall floor field is divided into compartments where technical expansion joints are set out in a crosswise and/or longitudinal direction (minimum 5mm joints every 4 ½ meters).

Ensure movement joints are detailed as per the manufacturer's recommendations.

## **TYPICAL INSTALLATION METHODS**

### **1. Adhesives**

This is the recommended installation method for our porcelian.

This is especially true for areas frequented by a large number of pedestrians or high vehicle traffic (driveways, car parks, garage ramps), as the glued surface is extremely resistant to both dynamic and concentrated loads.

### **Laying**

General tips for working with adhesives are as follows:

1. Ensure the subfloor (screed) is prepared to correct heights and fall. All supporting surfaces must adhere to current Australian Standards, being structurally sound, solid, stable, dry, completely cured, level, plumb, and true within tolerance.
2. Ensure both tile and substrate are clean, removing all dust, oil, grease, paint, tar, wax, curing agents, primers, sealers, release agents, or any other substances and debris that could hinder or diminish adhesion.
3. Back-butter the tile using the flat or straight edge of the trowel
4. Use a 10-12mm notch trowel to comb the adhesive, ensuring an even setting bed by employing the notched side of the trowel. In hot or dry conditions, take precautions to prevent the adhesive from flash setting.
5. Lay the tiles before skinning occurs.
6. Place the tile firmly in position, employing a slight twisting motion to ensure optimal contact with the adhesive.
7. Utilize a rubber mallet to gently tap the tile, flattening any ridges that may form.
8. Make all necessary alignments and adjustments immediately following the tapping process.
9. Avoid walking over tiles for at least 48 hours after installation to allow for proper setting.  
Vehicle Traffic 2-3 weeks.

For site-specific requirements, we suggest you contact Mapei, Laticrete or Kerakoll.

### **Grouting Methods**

1. Dampen grout joints and tile with a sponge.

2. Place grout into joints, ensuring no voids, to the full depth of the tile.
3. Remove any excess grout with a trowel.
4. Sponge clean the surface with water, ensuring all excess grout has been removed.

**Warning:** *It is essential to effectively remove all grout residue from the surface of the tiles. Late or improper removal of grout residue will result in a grout film that is difficult to remove once set, thus causing staining and giving the impression that the tiles are dirty*

## **2. Raised Pedestal Systems / Suspended Floors**

A pedestal system is a network of pedestal supports, at a fixed or adjustable height, creating an elevated floor that allows access to underflooring. It may be the choice installation method for a multitude of reasons including adequate drainage, creating a level surface out of uneven ground or sloped areas, air permeability, or creating easy access to cabling or ducting installed beneath the finished tile surface.

We do not have a recommended installation method for suspended floors. Currently, there are no standards that define the requirements of pedestal systems, and with various pedestal models available on the market today, it is always advised that the client works with their engineer, builder, and chosen pedestal supplier on their specific project for the correct installation layout, methods, and tools.

Examples of reputable pedestal manufacturers:

1. Eterno Ivica [www.eternoivica.com/en](http://www.eternoivica.com/en)
2. KEKSIÄ [www.keksia.com.au](http://www.keksia.com.au)

## **MAINTENANCE**

Our porcelian is incredibly low maintenance. However, not properly maintaining your porcelain can lead to a build-up of dirt, debris, soap, or limescale on the surface.

### **Regular Cleaning**

Stains are best removed immediately when they are still fresh.

Be sure to sweep the floor of any debris before application of cleaning solutions. Neutral cleaners that will not leave a residue are recommended.

Bleach or ammonia diluted in water can be used for routine sanitisation.

### **Extraordinary Cleaning**

Extraordinary maintenance may be necessary in case of stubborn dirt that cannot be removed by ordinary cleaning methods. If the surface appears greasy or uneven, there may be a build-up of organic residues coming from daily use of the surfaces, but also from the use of products not suitable for ordinary maintenance. To remove this patina or film, professional-grade products may be required.

Using the wrong cleaning products or techniques can damage the integrity of the tile's surface.

**Warning:** *Hydrofluoric acid and derivatives cause irreparable damage to porcelain stoneware. We also do not recommend the use of waxes, oil soap, stains, or other water-repellent treatments.*

We always recommend you consult with a professional to determine the appropriate products for your specific needs.

Professional cleaning involves using specialized equipment and products to deep clean and restore your tile's surface. They can help remove stubborn stains, dirt buildup, and discolouration that may not be effectively removed with regular cleaning. They can also recommend how often your flooring should be professionally cleaned based on usage and environment. Additionally, they can provide advice on the best pH-neutral cleaner to use for your regular cleaning.

Examples of reputable cleaning product manufacturers are:

1. Actichem <https://actichem.com.au/>

2. Mapei <https://www.mapei.com/>

### **Cleaning with Raised Pedestal Systems**

Be mindful of cleaning solutions leaking through the edges of tiles to the underfloor. In general, it is not recommended to completely soak the floor/tiles. Use little water and ensure the cloth is well rung out before application. Only use solutions directly on stains.