

# INSTALLATION TIPS

## LIMESTONE FLOORING



## **DISCLAIMER**

Please note, all the information provided in this document should only be used as a guide at the time of installation for trade practices only.

All information offered is in conjunction with site-specific factors. Kindly note, the guide and the provided instructions are not intended to replace any expert contractors' or consultants' advice or the applicable manufacturer's technical data sheet or suggested application method.

Any information in this document may be changed, deleted or otherwise modified by Stone Centre without prior notice basis business requirements.

## **PRODUCT CONSIDERATIONS**

Stone Centre's range of Limestone is a versatile sedimentary stone with a calcite-based composition found on ocean floors, along beaches and in mountain ranges. As a result of their age-long development under a variety of weather conditions, these pavers and tiles vary from batch to batch. A significant part of what everyone loves about natural stones is the natural variation that makes them so distinctively lovely.

It is normal to anticipate some degree of dimension and thickness tolerance. Samples should only be used as a guide for shade and colour. Stone Centre advises you to evaluate the product at the time of delivery to make sure the stone's colour and other qualities are as per your expectations. During installation, always ensure to combine pavers and tiles equally from all crates.

Minor scuffing and marks are not regarded as structural defects. Kindly notify Stone Centre Team before the installation, if there is any noticeable severe chipping or thickness variance in the provided product, if any. The product is accepted before installation only.

## **THICKNESS/SIZE CONSIDERATIONS**

The Buyer should keep in mind, some 1st-grade limestone may be slightly chipped and/or broken. These imperfections can be used as cuts/infill. All stone pavers and tiles may vary in dimensions by +/-2mm when sawn cut and the thickness may vary by +/-3mm. respectively.

## **STORAGE**

The product should ideally be kept indoors, away from rain and direct sunlight. Kindly avoid stacking crates on top of one another.

## **INSTALLATION CONSIDERATIONS FOR LIMESTONE**

### **FOUNDATIONS/SUBSTRATES**

The substrate or foundation preparation is crucial for a successful tile installation and the primary factor to affect the final flooring quality. This is because the sub-base, also known as the laying support, serves a variety of purposes to protect the Stone's top layer. We highly recommend the following:

**Pedestrian Traffic Only:** Reinforced concrete 75mm thick.

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

25MPA

\*\*\*All concrete should be designed as per the advice of the engineer. To reduce the possibility of increased humidity, which might bring salts contained in the soil or in the bedding layers to the surface, contractors should also take drainage and/or waterproofing concerns into consideration.

## **SLOPE**

To properly respond to rainwater runoff while dealing with outdoor stone flooring, particular consideration must be given during planning. This is accomplished by, if necessary, dividing the floor field into various drainage surfaces and giving them an effective slope and perfect levelness.

To prevent rings, saltpetre efflorescence, and filth build-up, water and moisture will no longer be allowed to accumulate on the floor surface.

**Small flooring surfaces:** gradient > 1%

**Large flooring surfaces:** gradient > 2%

## **CONTROL JOINTS**

It is advised to use control joints on the substrate (concrete subbase). The mortar bed and grout joint should match the joints in the concrete base. Temperature changes and other movements in the subgrade, concrete base, mortar, or actual tile itself can produce variances in the flooring, which are helped by control joints. Every 20m<sup>2</sup>, tiled surfaces should also have adequate control joints that extend through the tile and the bedding mix but not through the concrete substrate, in addition to structural concrete joints. Technical expansion joints are typically laid out in transverse and/or longitudinal directions in compartments within the overall floor field (minimum 5mm joints every five meters). Control joints will significantly lower the likelihood of unattractive surface cracks developing.

## **DRAINAGE**

Drainage is essential for maintaining the installation's durability and reducing efflorescence, and subgrade softening. Australian Standards specify that there must be a minimum surface cross-fall to adequate drainage sites.

To discuss suitable drainage systems for your project, please get in touch with your installer.

## **SCREED AND BONDING SLURRY**

Where a screed bed will be installed, permit the concreted base to cure for the time recommended by the manufacturer. An approved cement-based slurry finish must be used to bond the screed to the concrete substrate.

The relevant Australian Standards and manufacturer requirements must be followed while creating sand mixtures and applying them.

## **WATERPROOFING**

Prior to installation, drainage design and waterproofing should be considered as part of a larger "moisture management strategy." Prior to installing the tiles, we advise covering the substrate (preferably the bedding screed) with a waterproofing product or membrane to help prevent efflorescence and other moisture-related problems.

## **SEALING**

It is evident to seal limestone products. Sealing increases the stone's durability and maintains the aesthetics of the stone for a longer time. Stone Centre recommends dip-sealing our limestone before installation. Make sure that the pre-sealing product you use is compatible with the tile adhesive you've chosen.

There is continuous research and development of sealers and there are many sealing products available in the market. We recommend connecting with your installer to select the best sealer for limestone.

## **WEATHER CONSIDERATION**

If you are expecting rain or expecting bad weather, avoid installing Limestone.

When laying stones, on hot days (over 30°C), might lead to delamination problems between the stone and the adhesive bedding layer.

## **CUTTING**

Cutting should ideally be done with a bench saw equipped with a wet diamond blade. To prevent the cutting paste from drying and damaging the stone's surface, it should be cleansed as soon as it is cut.

Crystalline Silica (Silica dust) is a typical mineral present in soil, sand and stone. Additionally, it is used in the production of materials including bricks, tiles, concrete, and faux stone. When using power tools to cut, grind, and drill such materials, safety gear should be worn because exposure to silica can result in several health problems. On the job site, the correct safety precautions for silica exposure should be followed.

## **SELECTION OF ADHESIVES FOR BEDDING TILES**

To bed stone tiles, we advise using synthetic tile adhesives. Adhesive development and research are always progressing. There are numerous trustworthy businesses and a vast selection of products. Fast-setting tile adhesives should be used in certain conditions.

## **GROUTING COMPOUND**

It is advised to use a premium pre-bagged grouting product that is appropriate for the task.

## **CONSIDERATIONS FOR GROUTING**

Use a sponge to wet the grout joints and the stone.

Place grout into joints to the full depth of the paving stones, making sure there are no voids.

Use a trowel to remove any extra grout.

You can use a water-sponge to clean the paving surface, to remove all the extra grout.

## **LAYING**

General tips for working with adhesives are as follows:

Since only a thin (5–10mm) layer of glue is used, there are very few laying tolerances, therefore it will be simple to keep the stone parts level with one another if you prepare a subfloor (screed) that is completely flat.

Once the screed is fully dry, clean the laying surface (remove debris, dust, grease, etc.).

Back butter the tile's base and apply an even layer of adhesive with a notched trowel that is 8 to 10 mm thick.

Place stone components so that the timing matches the amount of time the adhesive needs to dry, but without allowing too much time for the adhesive to sit out in the air and form a film. To achieve consistent contact with the glue, the stone pieces are then evenly compressed on the adhesive using a rubber mallet. At 4-6mm spacing, consistent open joints should be permitted.

For all laying methods, we advise not loading an area for a while after it has been laid to give the bedding layer time to strengthen. Traffic on foot: two days transportation: 2 to 3 weeks.

## **POOL COPINGS**

Due to the manufacturing process used to create the product and movement issues specific to a fibreglass shell, Stone Centre does not advise utilising laminated epoxy rebated copings on fibreglass pools; nevertheless, one/full piece rebates of 30mm thickness or above are ideal for this application.

## **PREPARING BOND BEAM**

### **FIBREGLASS POOL SHELL**

Sand the top of the fibreglass pool shell with wet and dry sandpaper to scratch the surface layer and wipe it clean of any dust or residue to improve the sealant's adhesion.

### **CONCRETE POOL SHELL**

To level the horizontal surface over the concrete bond beam, a screed can be needed. Prior to starting installation when the screed procedure has been used, the concrete and screed must cure for the time specified by the manufacturer.

## **MOVEMENT JOINTS**

Every corner (internal and exterior), the full rear perimeter of the coping, and movement joints (min 3mm) should all be completed at a maximum of 2.4Lm.

### **INTERNAL MOVEMENT JOINTS**

Between the internal underside of the coping and the internal surface finish, a movement joint (minimum 3mm) should be used. Filling the movement joint should be done with the proper silicone or sealant. In turn, this seals the coping's interior underside and acts as a barrier to stop pool water from entering the space beneath the coping.

## **ANTI-SLIP TREATMENT**

Depending on where your tiles are being installed and other site factors, you should think about anti-slip solutions. If you need advice on the anti-slip treatment, please contact your installer.

## **CLEANING**

Once the grouting substance has dried, clean the stone. Any grouting residue can be removed through cleaning. Sweep any extra dirt off the surface.

Apply a pH-neutral cleanser liberally and in manageable areas to the surface.

Gently scrub the surface with a nylon pad (such as Doodlebug from 3M) or a stiff broom.

Use a wet-vac or squeegee to remove any residue from the surface.

To get the finest results, hiring a professional cleaner and sealer may be appropriate. It is important not to use any acidic cleaners.

## **POST INSTALLATION SEALING**

For preserving the durability and aesthetic appeal of Limestone, Stone Centre suggests post-installation sealing. Always carefully adhere to manufacturer directions to get the best results for the stone's appearance and protection. Please contact your installer for further details on the best sealing recommendations.

## **POST INSTALLATION MAINTENANCE**

Over time, Limestone will need some sort of upkeep, which will vary from surface to surface and be greatly influenced by use, location, and product type. Cleaning alone or a combination of cleaning and sealing may be required depending on the product type and maintenance requirements.

## **ACCEPTABLE CHARACTERISTICS**

Limestone is a naturally occurring material, therefore there may be variations in colour and/or surface finish. You might also notice a fossilised texture on some of the limestones we supply. It is important to note this fossilised texture is not a defect, but it is considered to increase the beauty of your project post installation. The user oversees inspecting the tiles before laying them. Small scratches and chips are not flaws because they are not structurally sound. A warranty claim may be made for any tile that exhibits significant chipping or variation in thickness and dimension before installation.

**Please Note:** Limestone tiles may fade a little over time when fully exposed to UV in outdoor conditions.

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