

# P O R C E L A I N T I L E S

Installation Guide - 20 mm Tiles

Please ensure you have read all the information provided  
in this document prior to arranging delivery.

## 20 mm tiles

With their practical, non-slip surface and incredible strength, 20 mm porcelain slabs have become the ideal laying solution for heavy traffic commercial areas and external applications. 100% frost-resistant and suitable for sub-zero temperatures means that these tiles can be used for driveways and walkways, as well as for swimming pools surrounds and hard landscaping. They are also entirely resistant to stains, mould and moss, meaning their finish will remain as beautiful as the day it was laid.

20 mm porcelain slabs also provide tremendous versatility, as they can be laid on virtually any outdoor surface and be fixed with a variety of different methods to suit the application. Adhesive free installation techniques allow for dismantling, maintenance and repositioning of porcelain slabs. The following pages document the various laying options for grass, sand, gravel and screed as well as for using a raised pedestal system.



Grass



Gravel / Sand



Screed



Raised Flooring



**Porcelain tiles are 100% frost, stain, mould and moss resistant.**

## Laying on grass

The following the method ensures that your tiles are reusable if you decide to move the pathway at a later date.

Position the slabs on top of the grass area according to your desired installation layout. Mark around the perimeter edge of each slab using a flat spade or lawn edging cutter. Carefully lay the slab to one side. Across the entire area you have marked, remove the top surface of the lawn and soil down to a depth of 70 - 100 mm.

To ensure perfect stability, fill the excavated hole with fine gravel (3 - 6 mm grain sized) to a depth of 50 - 80 mm and compact down to ensure a level surface. Carefully lower the slab into position and gently tap the slab with a rubber mallet to level. Ensure the surface of the slab is approximately 5 - 8 mm beneath the surface of the surrounding soil in order not to damage the lawnmower when cutting the grass. You may be left with a slight gap around the tile which you can fill with some of the previously excavated soil. Slabs installed in this way can be walked on immediately.



**Take care to ensure that the porcelain slabs do not protrude above the level of the soil in order not to damage the lawnmower when cutting the grass.**

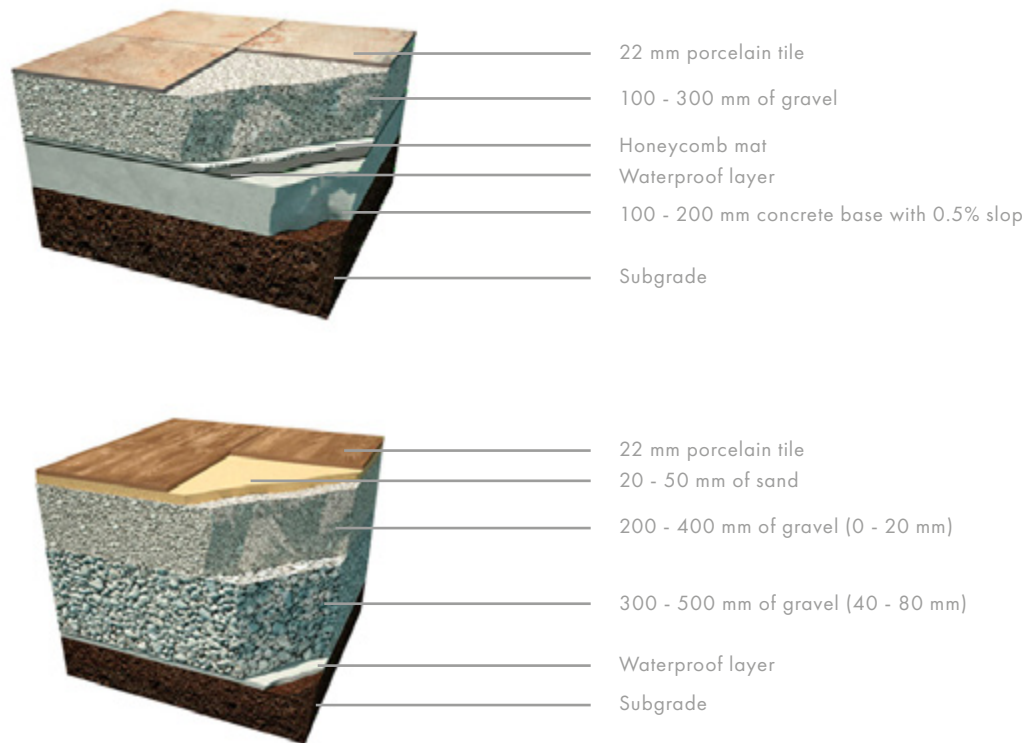


Stepping stone layout on grass

## Laying on gravel or sand

Laying on gravel ensures correct soil drainage, through the gaps between the slabs, allowing the water to drain off into the ground. This laying solution is ideal for projects where permanent floor laying is not possible.

For installation on gravel we recommend the use of spacers as they provide the slabs with support and allow for planar surfaces. The transparency of the material makes them scarcely visible and they can be cut in order to create T-shaped spacers for straightforward installation patterns.



**Porcelain slabs do not require sealing or seasonal treatment and can be washed using a pressure washer.**

## Using a raised pedestal system

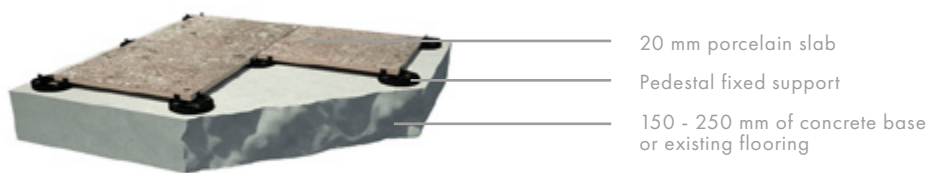
Fixing tiles in outdoor environments can be extremely tricky. Surfaces are often uneven and require significant preparation work. In the right situation a raised pedestal system can make this process relatively simple. Pedestals are small plastic bases that are placed below the tiles to hold them in place. The height can be adjusted on each pedestal allowing the creation of a flat even surface. No adhesives or grouts are needed, and the pedestals are so easy to use they can be fitted without previous paving or tiling experience.

Our 20 mm porcelain tiles are suitable for fixing on a raised pedestal system. Installation on a raised pedestal system is typically used on large, regular surfaces or above previously installed floors. The open gaps between the slabs allow the rain water to drain off into the cavity created under the panels. Therefore a flat, even floor can be obtained, while the underlying waterproof layer will have the gradient required to drain off the rain water.

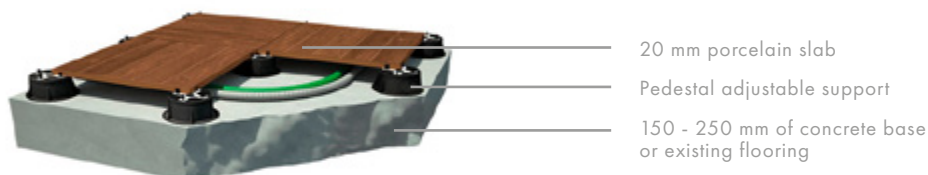


Laying on a raised pedestal system

Using a Fixed or Adjustable pedestal is possible.



Fixed Support

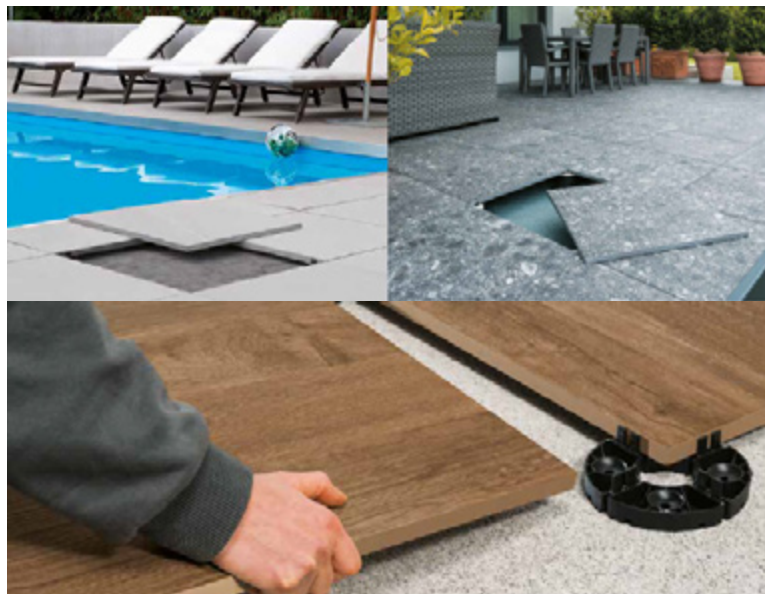


Adjustable Support

### Installing a raised pedestal system

The load-bearing structure of the pedestal system is made of polypropylene feet with a large base and rounded edges, to prevent damage to the insulating layer. This solution allows for any underlying elements to be inspected and offers a practical passage for pipes and wiring, meaning that all pipes and wiring systems laid beneath the tiled surface can be inspected at any time, simply by lifting and removing the slabs.

- Step 1: Ensure that the underlying base is fully waterproofed.
- Step 2: Clean the underlying base carefully.
- Step 3: It is advisable to start laying from a corner if there is one.
- Step 4: It is advisable to use a fifth foot in the centre of the slab to distribute the load evenly.
- Step 5: The maximum recommended laying height of the pedestals is 200 mm.
- Step 6: When laying regularly check that the laid slabs are level.
- Step 7: To ensure a level surface, adjust the feet with the special spanner provided.
- Step 8: When laying, check that the gaps between the tiles run flush and even.



Laying on a raised pedestal system



**It is important to ensure that the underlying base is fully waterproofed and has sufficient gradient and drainage to deal with rain water.**

## Laying on screed

20 mm porcelain slabs are extremely resistant to both dynamic and concentrated loads, which makes them the ideal laying solution for vehicular driveways, car parks and garage ramps. High precision, rectified slabs, mean that grout lines can be kept to a minimum, while large formats make them ideal for sizeable areas such as street furnishing projects.



Laying screed

## Prepare the subfloor

Porcelain slabs are suitable for fixing on screed both for internal and external projects. If you are laying screed on top of an existing smooth or shiny floor, you may need to key the surface to ensure stability. Once keyed, apply a cement slurry across the pitted surface to ensure a good bond between the keyed surface and the screed. Use an uncoupling membrane across expansion joints.



**Use a uncoupling membrane across expansion joints.**

### Preparing the screed layer

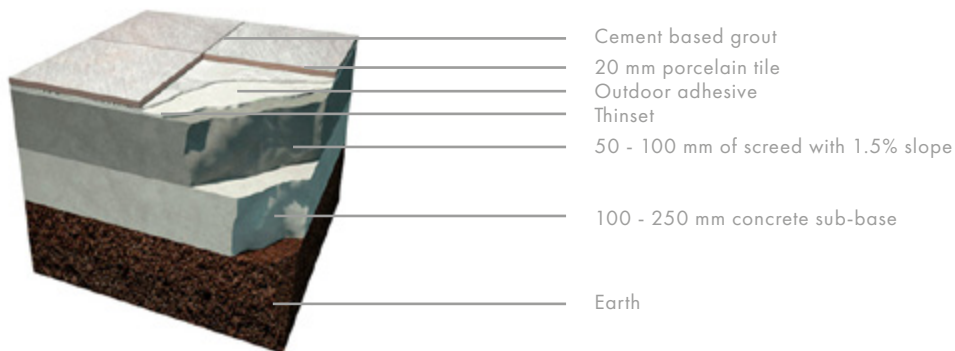
Prepare your screed with 1 part cement with 4 parts sand. Shovel in the mix to a depth of 50 - 80 mm. Compact it down evenly with a steel float. Using a straight edge remove the excess mix from the surface of the screed, and check for level until you reach the desired height and level. For driveways and external projects, ensure a 1.5% slope for adequate drainage. Finish by using a wooden or plastic float to achieve a perfectly smooth surface.

Systematically continue the compacting, levelling and floating process across the surface to be tiled, checking regularly with a spirit level to ensure the correct levels. Clean off any excess.

Cement-based materials need to retain moisture until the hydration process is complete. Screed should therefore be left for at least 3 weeks to dry prior to tiling. The recommendation is for 1 day of drying per mm, for thicknesses up to 50 mm. Thicker substrates will require 2 days per mm.

A cement based waterproof coating is recommended that cures to form a durable, waterproof coating which acts as a sealer and protects the screed from water penetration.

Once dry, fix your slabs as outlined previously using an appropriate outdoor adhesive. Ensure to back-butter all porcelain slabs to fill any voids and ensure full coverage between the surface of the tile and the adhesive. Use an appropriate levelling system. Leave at least 24 hours for adhesive to dry then grout as required. After grouting do not walk on the floor for at least 24 hours.



**Apply the adhesive in stripes running parallel with the short edge of the slab.**



## Sealing

Porcelain tiles are UV, scratch, stain and thermal-shock resistant and 100% non-porous and therefore do not require sealing products. But while porcelain tiles are non-absorbent and stain resistant, the grout that surrounds the tile may not be. Cement based grout is a porous product that can absorb water and stain. We therefore advise that all cement based grout joints are protected using a dedicated grout sealer.

Spray the sealer directly onto the clean and dry surface at a distance of roughly 10-15 cm away from the application point. Rub into the grouting with a sponge to improve penetration. Fully remove any residues within 5 minutes, either manually using a clean cloth or absorbent paper towel. Treat a small area at a time (1m<sup>2</sup>). The floor can be walked on after 8 hours. Any remaining residues on the surface can be removed with a mild cleaning solution.

For most grouts, sealers will not affect its appearance, but we recommend testing the sealer on an inconspicuous area 24 hours before you do the rest of the grout to check for colour fastness. Carefully apply the sealer onto the grout following the manufacturers instructions.

Take care to only saturate the grout with the sealer, not the porcelain tiles. If some sealer does get on the porcelain, wipe it away immediately with a soft cloth. If this is the first time you have sealed the grout, apply a second coat of sealer at this time. Once the second coat has penetrated, wipe away the excess grout with a lint-free cloth. Continue buffing the grout and the tiles until they feel dry and not tacky to the touch. The sealer will be fully effective after 48 hours, protect the surface against water, oil, etc. during this time.

We recommend grout sealing products from Fila Solutions and Lithofin.  
For more information go to [www.porcelain-tiles.co.uk/support/grout/](http://www.porcelain-tiles.co.uk/support/grout/)



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## Cleaning

Porcelain tiles are manufactured from extremely pure clays and minerals that are fired at very high temperatures. They are harder, stronger and more durable than any natural stone and have superior chip resistance and an extremely low level of water absorption. A comprehensive cleaning routine will help to keep your tiles in tip-top condition and ensure their continued beauty for years to come.

Post-laying cleaning is critical after on-site works. Inadequate or delayed removal of the grouting used on the joints can leave marks that are difficult to remove and creates a cement film that can absorb all types of dirt, giving the impression that the tile surface has become dirty.

To remove cement based grouts, wash the floor with specialist cleaning detergent which is aimed at removing excess grout residue, post-application deposits and building grime. Always follow the manufacturers instructions. For stubborn stains or advice on specific detergents contact our After Sales department.

General cleaning of porcelain tiles is a relatively simple process. Regular cleaning (once or twice weekly) is the best way of preventing a build-up of dirt and unsightly stains. This can be accomplished with a simple sweep and vacuum to remove debris, followed by mopping sparingly with warm water. Dry with a microfibre cloth and if your surface is polished, buff to restore the brilliant finish.

Before using any new cleaning product or method, make sure to test it on a small, inconspicuous area of tiling first. Avoid using excessively acidic or basic products, and do not use abrasive sponges. We do not recommend the use of polishing machines or waxes.

Although porcelain tiles are stain resistant, care must be taken to immediately clean any stain, especially on polished bench tops. The best way to ensure stubborn marks do not occur is to wash away stains such as red wine, food and drinks, using warm water and a soft cloth. For stubborn stains use a non-abrasive cleaning product, sugar soap or normal house cleaning products. Do not use cleaners that have strong alkaline pH levels and thoroughly rinse the surface with clean water to remove residue. It is also important to note that hydrofluoric acid (HF) and its derivatives can irreparably damage porcelain stoneware.

We strongly advise against the use of waxes, oily soaps and impregnating products as their application is unnecessary. Please note that some off-the-shelf detergents contain waxes and additives which can deposit a shiny coating on the surface, affecting the slip resistance properties of the tile.

We recommend cleaning products from Fila Solutions and Lithofin.  
For more information go to [www.porcelain-tiles.co.uk/support/cleaning/](http://www.porcelain-tiles.co.uk/support/cleaning/)

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