

# Paving installation

These are brief guidelines for working with natural stones and man-made paving. This general guidance does not imply any guarantee by Artisans of Devizes. We always recommend that a qualified and professional installer should take responsibility for the specification and installation of all stone and tile products.

Current and appropriate industry standards and codes of practice should be observed in all instances.

However, if you do decide to install the stone or tiles yourself, we strongly recommend that you do plenty of research into materials and methods, and seek the best advice on how to carry out the installation.

## 1. WHEN YOU TAKE DELIVERY OF YOUR ORDER

Check that you have all your slabs and that they're in good condition. Remember, with natural or handcrafted products there will always be some variations in colour tone, veining, surface texture and natural characteristics.

**Tip:** Keep the tiles on a level, stable surface, stored vertically to avoid any risk of cracking.

## 2. BEFORE YOU INSTALL

### Tips:

- Wipe both sides of the tile clean with a sponge and clean water before installation to remove dust. This will ensure good adhesion.
- Don't install slabs in freezing or cold conditions.
- Give yourself a dry run by laying your slabs or tiles as they will eventually be laid. This enables you to check you have the correct number and size of slabs and colour blending.
- When installing a flagstone, it is important to ensure it is laid the right

way up (one way to identify the top, is to look at the sides of the slab – which usually taper inwards, so that the top is slightly wider than the underside). If in doubt it's always best to ask a stone expert.

- With natural stones, randomly select and mix tiles from the different boxes or crates you receive to ensure a tonal blend across the entirety of the new surface and avoid any colour banding.

## 3 GENERAL PREPARATION

The golden rule is: tiles must always be 'solid bedded' – in other words, avoid any cavities underneath the material.

The bed should support the full slab, not just the corners or in dots/dabs. Do not 'spot' bed as this can cause 'through bed staining' and will weaken the integrity of the paving. (Please note that precise standards, falls, bed thicknesses and other specifications may vary dependent on the actual application. You should always refer to appropriate and current standards and codes of practice.)

### Cutting tiles

Tiles can be cut using a diamond tipped blade – ideally a water-cooled machine for the cleanest cutting. There are different blades for natural stone and for porcelain so it's important to have the correct one.

### Levelling your tiles

Thin tiles (up to 1cm) should be levelled using hand pressure only. A rubber mallet hammer can be used for thicker, more robust slabs.

## 4 SUBSTRATE PREPARATION AND INSTALLING THE TILES

There are several different methods of installation for external paving. The two most common methods are:

### Option 1

If the external works are a continuation of the internal tiling – lay a structural concrete screed, to the appropriate current standards, with the required sub-base.

Ensure that adequate falls, cross falls and intersections are accurately created in the screed to fine tolerances, for good levels of drainage. The tiles can then be installed using a flexible thick-bed floor tile adhesive (suitable for external use) following the same tiling standards as internal flooring.

A 10mm notched trowel will provide a 5mm finished adhesive-bed thickness. Leave 6mm wide expansion joints in accordance with current BSEN requirements and at changes of plane. You should fill these joints with exterior grade mastic, matched to the grout/joint colouration.

### Option 2

If you are laying external works as 'slab paving' rather than tiling – the appropriate sub-base should be laid and well compacted. For good stability this is usually an even 10cm-thick, compacted layer of type 1 granular aggregate (40mm to dust). For most domestic applications a sub-base of 10cm should be sufficient. However, the paving design must be based on ground conditions as well as type and frequency of anticipated loads.

As previously described, falls, cross-falls and intersections must be carefully formed. You should incorporate a minimum fall of 1.25% (1 in 80) and crossfall of 2.5% (1 in 40) in the sub-layer construction to provide adequate surface-water run-off.

Use a ratio between 4:1 and 6:1 of sharp sand, cement and plasticiser (to BSEN requirements). Prepare a base of mortar beneath the slabs – normally around 30–50mm thick.

To improve adhesion, apply/back-butter a slurry coat of tile adhesive or a slurry primer/paste of SBR with cement to the underside of the flagstones/tiles prior to bedding.

Carefully lower each slab onto the mortar bed and beware of any drips or splashes from the primer. Use spacers to guide your joint widths and use a rubber mallet to carefully tap it down into the mortar bed until it is at the correct level.

Check there are no high spots or hollows so that there is complete contact between the primercoated base and the mortar. You should also check against the string-lines to make sure each flag is level and aligned. Make any adjustments now before the mortar becomes too stiff. Wipe down the paving once again in case any primer or mortar has touched the face of the flags. Required falls must be carefully formed, and expansion joints should be created using an outdoor grade jointing material. This should be suitable for your chosen slabs and may differ between natural stone and porcelain.

Finally, cordon off the freshly-paved area, avoiding any foot traffic for at least 24-36 hours.

## 5 GROUTING

We recommend using lighter coloured grouts for most products, rather than black or bright coloured as these can cause staining in the natural pores of the tiles. Whichever grout or pointing material you choose must be appropriate for internal or external use, and suitable for the selected joint width.

Always follow the manufacturer's instructions carefully and remove excess grout from the tiles before the grout dries.

Butt jointing of tiles is not recommended.

## 6 SEALING

Natural stone used externally does not have to be sealed and so sealing is a personal choice but usually recommended.

If you decide to seal your stone, an important factor to consider is whether the sealer is breathable because it may trap mobile salts in solution beneath the surface.

Efflorescence can develop, and the unbreathable sealer prevents salts from exiting through the sealed surface. The build-up of the salts can result in a hard-to-remove stain and often causes disruption and breakdown of the surface itself.

If you use a breathable sealant, the paved area can usually be sealed immediately after installation, but always check with the product manufacturer. If you decide to use a sealer on your natural stone, test the product on a small, discreet area first, to make sure you are happy with the result.

### Clean the tiles first

A properly cleaned and prepared surface improves the efficiency of the sealer. Therefore, clean and condition the surface using a diluted solution of alkaline cleaner such as STONE ESSENTIALS Deep Clean (diluted 1:10 with water). This helps to ensure that dust, dirt and grime are removed.

**Tip:** You should never use acids or undiluted alkaline solutions to clean tiles.

## 7 AFTER COMPLETION

We recommend regular maintenance and cleaning of your new paved area to keep it looking its best.

There are various cleaners available – some specialise in dealing with specific types of stains (such as oil or tannins) and others are more general.

We recommend you brush your paved area regularly as well as cleaning it from time to time. Use a soft bristled brush when sweeping your paved area, as tougher wire brushes could scratch the stone. Brushing the stone is the safest option for keeping the stone clean. Using water with a neutral pH soap or detergent should be sufficient for routine maintenance.

Pressure washers should be used with great care to avoid damaging the surface of the stone and the mortar joints.

Always check the instructions on the product before using it to clean your natural stone and test a small, discreet area of paving first to make sure you are happy with the result.

### Tips:

- Never use acids or undiluted alkaline solutions to clean tiles.
- Don't cover newly-installed surfaces with nonbreathable membranes such as self-adhesive plastic sheeting, Correx or plywood sheets.
- Be aware of surrounding materials that could leach tannins onto the newly installed surface.