

digbystone 
Part of the GLOBAL STONE group

MAINTENANCE & LAYING GUIDE



WELCOME TO THE DIGBY STONE MAINTENANCE AND LAYING GUIDE

Designed as an easy to use, working document for anyone using Digby Stone products. This guide is a useful companion to the Digby Stone brochure and has been designed to give instructions/tips on laying our products, and also help with the maintenance and upkeep of the stone once laid.

You can also find downloadable PDF's of our laying patterns, colour charts and other useful information on our website - www.digbystone.com

DIGBY'S TOP TIPS

3

STEP-BY-STEP LAYING GUIDELINES – NATURAL STONE

4-5

PORCELAIN – BENEFITS & FAQs

6-7

STEP-BY-STEP LAYING GUIDELINES – PORCELAIN

8-9

PATIO MAINTENANCE – CLEANING & SEALING

10

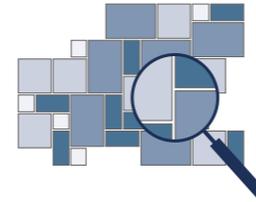
GENERAL INFORMATION

11

DIGBY'S TOP TIPS

ENSURE YOU FOLLOW OUR 9 GUIDELINES TO ACHIEVE PATIO SUCCESS

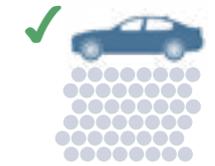
VIEW as large an area of your chosen paving as possible before purchasing to ensure you are happy with your choice – contact us to find out your nearest stockist.



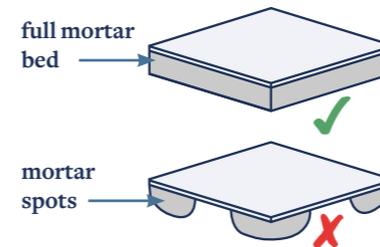
INSPECT your product to make sure you are completely happy before you lay. We advise that dry laying products before laying them permanently is the ideal way to do this.



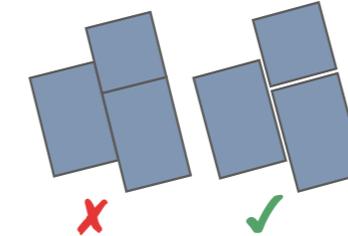
ONLY use appropriate products for driveways – look out for the car symbol throughout this brochure to see which products are suitable when laid in accordance with guidelines.



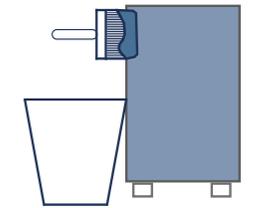
ALWAYS lay paving on a full bed of mortar and **NEVER** use the spot bed method – see our step by step laying guides for more advice on this.



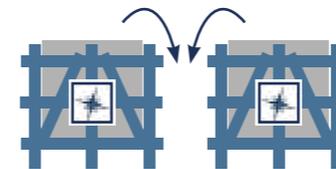
NEVER butt joint paving when laying – you should always use an appropriate joint for your chosen product. Digby Stone products should be laid with a minimum 10mm joint.



ALWAYS use an SBR bonding agent on the back of natural stone, and **ALWAYS** use a slurry primer on the back of porcelain tiles.



ALWAYS mix packs whilst laying to achieve an overall blended appearance.



NEVER use brick acid or acidic cleaning products on natural stone. Always check that cleaning products are suitable for use on porcelain.



ASK your Digby Stone stockist for advice on sealants and jointing compounds.



Please note: All products must be inspected prior to installation, checking the colour, veining, thickness, sizing and finish. NO claims will be accepted for any reason after the product has been installed or if the product has been altered in any way after delivery.

Please note: that all recommendations/instructions are given as guidance only and Digby Trading Ltd accepts no liability for any loss, damage or injury howsoever caused as a result of following them. Please refer to our website for our full terms and conditions. Always work in a safe manner in accordance with current health & safety legislation. For advice on this tel: 0300 003 1747 or visit www.hse.gov.uk.

NATURAL STONE - STEP BY STEP LAYING GUIDELINES

TOOLS NEEDED FOR BOTH NATURAL STONE AND PORCELAIN:

- Gloves & eye protection
- Face mask
- Knee pads & steel toe boots
- Ear defenders
- Slate marker
- Spade
- Pointing tool
- Trowel
- Rubber mallet
- Soft broom
- Compactor plate
- Tape measure
- Pegs & line
- Spirit level
- Hammer & Chisel/Disc cutter
- Tile cutter (Bench saw)

MATERIALS NEEDED:

- Paving slabs
- Sharp sand
- Mortar
- Watering can & rose
- Pointing material
- Universal Slurry Primer Pro
- SBR bonding agent

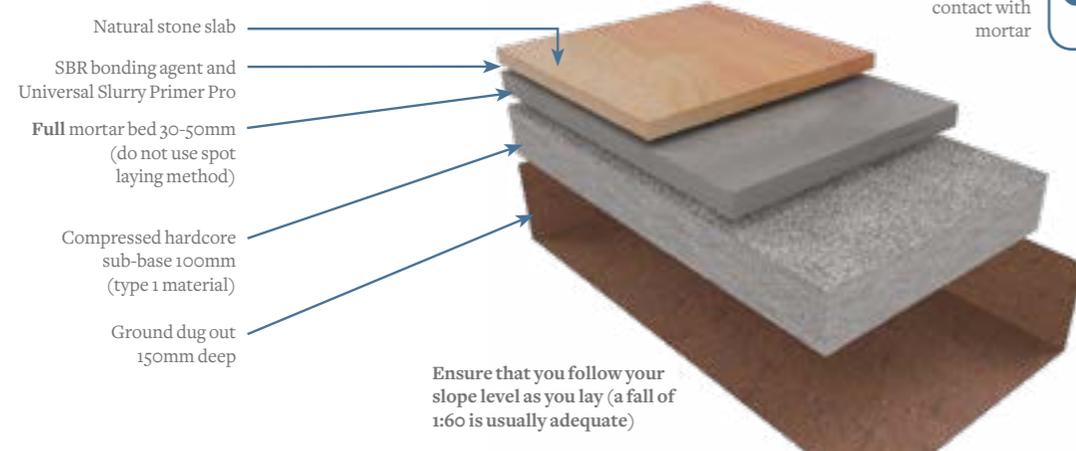
IMPORTANT:

All Digby Stone products are designed for domestic landscaping use only. Contact us for information on commercial projects. Products are not designed for use on driveways unless stated – suitable products are marked in this brochure with the car symbol (domestic use only). Ensure driveway laying guidelines are followed.

 We would strongly recommend that gloves, eye protection, face mask, knee pads, steel toe boots, suitable protective clothing & ear defenders are used accordingly. Training may be needed to operate certain equipment. Always work in a safe manner in accordance with current health and safety legislation. For advice, telephone 0300 003 1747 or visit www.hse.gov.uk

NATURAL STONE LAYING DIAGRAM

Tap slabs down to ensure maximum contact with mortar



Ensure that you follow your slope level as you lay (a fall of 1:60 is usually adequate)



For demos and helpful advice, check out the videos section of our website – we cover a range of topics including how to determine the right side of the slab and variations in natural stone.

www.digbystone.com/videos

IMPORTANT INFORMATION

SLATE, GRANITE ICE AND GRANITE FROST

These products sometimes absorb colour impurities from ordinary portland cement (OPC). We strongly recommend substituting white cement in the mortar to reduce colour leeching and staining, and Universal Slurry Primer Pro or other bonding agent. Lay granite with the textured slip resistant face upwards.

GRANITE – ALL COLOURS

Depending on site conditions, moisture coming through from the mortar bed below can create moisture transparency (dark/damp patchiness on the

installed product) which is a natural drying process that can affect all slabs (particularly granite). This is completely normal and should dry out over time.

VEINING IN GRANITE PRODUCTS

Our granite products (particularly Dusk) may display natural veins and patterns which may not be visible when the product is dry. It is advised that when the stone is dry laid before fixing you should wet the stone to ensure you are happy with the appearance, as veins/patterns become more apparent when wet. Veins are a natural feature of the product and are often mistaken as cracks – veins should not be considered a defect as they will not affect the durability of the product.

1. Before any work is carried out, each piece of natural stone should be inspected prior to laying as pieces will vary. No returns can be accepted once the product is installed, so it is important to confirm you are happy with your product before proceeding. When work begins, ensure the area is cleared of all vegetation and debris. Then, ideally using a scaled drawing of your planned area, you can start plot pointing by marking out the space using pegs and a string line.
2. Dig the ground to a depth of approximately 150mm below the finished patio level (or 200mm deep below the finished driveway level), making sure the soil is compact.
3. In the now excavated area spread a layer approximately 100mm deep of hardcore (or 150mm deep for driveways). Remember to leave room for the thickness of the flags and 30-50mm of mortar. Compact the layer of hardcore thoroughly, ideally using a plate compactor. Foundations must not be laid on water saturated ground as they may sink in time, creating uneven paving. Extra drainage may be required.
4. Once happy with the layout, using your line and pegs as a reference you can start laying your flags down on a full bed of slightly wet mortar mix 30-50mm deep. For the mortar mix we advise 1 part cement to 5 parts sharp sand (some contractors use a 50/50 mixture of building and sharp sand). **All products must be laid on a full bed of mortar**, especially when laying a driveway. A full bed of mortar is key to help reduce moisture transparency or discolouration, as well as to provide a solid base for the patio.

A bonding agent should be used to help the slabs adhere to the mortar bed. Our Universal Slurry Primer Pro (or a Slurry Primer mix using cement powder, water and an outdoor based SBR bonding agent to a creamy consistency) should be painted on to the back of each slab with a thickness of 1-2mm before laying when using natural stone. Use a rubber mallet to gently tap down the flags and a spirit level to check the patio is uniformly level, being careful to check you follow your slope level as you go along. To provide suitable run-off during wet weather a fall angle must be considered. Falls must be angled away from buildings or structures at an incline of 1:60 or steeper. An adequate drainage outlet source should be present at the end of the patio's run off edge. A planning officer may need to be consulted for further advice.

It is important to note that Digby Stone products are not designed to be butt jointed, and a suggested joint of approx 10mm should be used.

For products with an aged finish we suggest to increase the joint size accordingly in order to accommodate for any potential variations in edges (between 15 – 20mm approx).

5. Once the main area of the patio is laid down and there are slabs that need cutting, in the case of natural stone a disc cutter with a suitable attachment or a hammer and chisel is needed to shape your flags effectively (please see our porcelain laying advice overleaf for specific guidance on cutting porcelain tiles). Once happy with the shapes of the now cut flags you may lay them down (refer to step 4) on a full bed of slightly wet mortar mix. Using a rubber mallet, gently tap down the flags and use a spirit level to check for a uniform flatness (taking into account a fall).
6. Once the patio has been fully laid, ideally allow a few days for the mortar to set. There are several ways of sealing the joints between paving slabs - the installer must determine the most appropriate method to use. Some use a cement based mortar mix and so create a solid, inflexible joint. Others use a modern jointing compound that brushes in and hardens with contact with the air, commonly known as paving jointing compound. See the porcelain laying guide overleaf for specific porcelain laying instructions. When using any jointing products always follow manufacturer's instructions.

WHEN LAYING A DRIVEWAY

A minimum of 150mm compressed hardcore foundation must be used before laying products for a driveway (only suitable products to be used). It is **essential** that products are laid on a full bed of wet mortar for driveways.

CIRCLE FEATURES

These should be dry laid before final positioning on a full bed of mortar, starting from the centre of the circle outward.

Calibrated products are subject to a minimum of +/-3mm variation. Due to the composition of natural stone, colour variations may occur after installation.

Some delamination (when riven parts of the stone flake off) may occur after laying - this is perfectly normal and tends to happen near the riven part of the slab.

As with all Digby Stone products the spot-laying method is not suitable - always use a full bed of mortar.

PORCELAIN – BENEFITS & FAQs

WHAT ARE THE BENEFITS OF USING DIGBY STONE PORCELAIN?

Porcelain is the most innovative new product in the world of landscaping. Fired at up to 1400°C, this product offers an exceptional durability alongside high performance technology which allows you to have a low maintenance landscape combined with the beautiful aesthetic of natural paving.

IT HAS NUMEROUS BENEFICIAL ATTRIBUTES, INCLUDING:



Resistant to fading, meaning that the patio will retain its colour



Easy to clean - porcelain tiles are non porous, meaning that they are stain resistant



Little to no moisture absorption



Slightly textured which provides a slip resistant finish



Scratch and abrasion resistant, giving an incredibly hard wearing surface



Frost/salt* resistant due to its minimal moisture absorption rate



Designed for exterior use (tiles are 18/20mm thick depending on range)

**When using salt, please use sparingly. Do not leave the salt on the patio for a prolonged period of time - ensure salt is swept away once frost has lifted. Once weather has improved, wash over the patio in the normal way.*

FREQUENTLY ASKED QUESTIONS

Q IS DIGBY STONE PORCELAIN SUITABLE FOR USE ON DRIVEWAYS?

A In our current porcelain range, our range of Porcelain Cobbles is the only product that is suitable for driveways provided that correct driveway laying guidelines are followed (these can be found within our natural stone laying guide). All other porcelain products are not suitable for use on driveways.

Q WHAT SIZE JOINTS DO YOU RECOMMEND USING WHEN LAYING PORCELAIN?

A We advise an approx joint of 10mm. Check out our guide to laying on the next page for more information on jointing porcelain.

Q CAN PORCELAIN TILES BE BUTT JOINTED?

A No - the tiles have a very slight chamfer which means it is not suitable for butt jointing. Read our troubleshooting guide for further advice on why we do not recommend butt jointing.

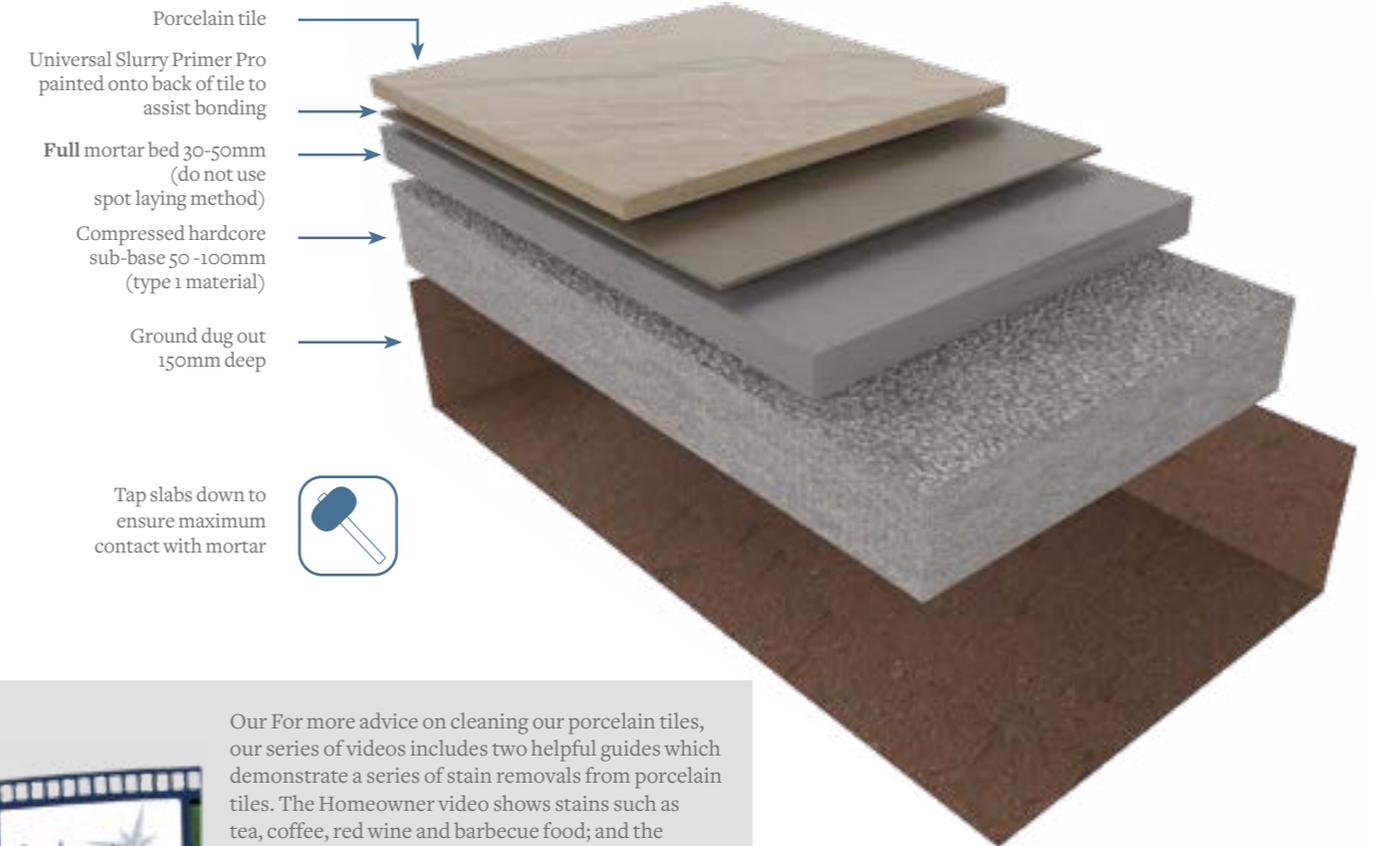
Q HOW DO YOU CUT PORCELAIN? ARE THEY DIFFICULT TO CUT?

A Porcelain can be cut with a disc cutter fitted with a suitable-for-porcelain diamond blade (this must be a petrol disc cutter as you must feed the disc with water to cut). However, for neater and more accurate cutting, we recommend a suitable water-fed tile bridge saw is to be used.

Q ARE PORCELAIN TILES EASY TO MAINTAIN?

A Yes! They can simply be cleaned using soapy water and a brush.

PORCELAIN LAYING DIAGRAM



Our For more advice on cleaning our porcelain tiles, our series of videos includes two helpful guides which demonstrate a series of stain removals from porcelain tiles. The Homeowner video shows stains such as tea, coffee, red wine and barbecue food; and the Landscaper video shows stains which may occur on side including mortar and slurry primer.

Check out the videos section of our website to find out more - visit www.digbystone.com/videos to see our full range of helpful guide videos.



REMEMBER: to provide suitable run-off during wet weather a fall angle must be considered. Falls must be angled away from buildings or structures at an incline of 1:60 or steeper. An adequate drainage outlet source should be present at the end of the patio's run off edge. A planning officer may need to be consulted for further advice.

PORCELAIN

- STEP BY STEP LAYING GUIDELINES

We have created a step-by-step laying guide specifically for porcelain products in order to help you get the best results when laying. Please ensure that you follow guidelines when laying Digby Stone porcelain products.

Please refer to our natural stone laying guidelines on pages 4 -5 for a list of tools and materials required for laying porcelain.

1. CHECK YOUR PRODUCT

Ensure that you check your product before laying – we recommend dry laying a random selection of your tiles (from more than one pallet where applicable) to ensure that you are satisfied with the colour variation in the tiles. Claims or returns based on colour variation will not be accepted once the product has been laid. Ensure that whilst working with porcelain tiles that they are rested on wooden battens to prevent any edge chipping.

2. PREPARE YOUR BASE

Prior to installation, all necessary ground work should be completed. This includes ensuring there is a sub-base of at least 50 –100mm thick of type 1 material (hard-core) which has been sufficiently compacted down, with a suitable water drainage fall (a fall of 1:60 is usually adequate).

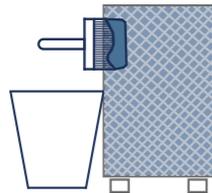
3. PRIME YOUR SLABS

Apply Digby Stone Universal Slurry Primer Pro (or a Slurry Primer mixed using cement powder, water and an outdoor based SBR bonding agent to a creamy consistency) to the back of each tile before it is laid to help the paving adhere to the bed.

Paving slabs may need to be handled by 2 people (in particular the larger sized slabs). When applying slurry primer, ensure that you rest the tile on wooden battens to prevent any chipping.

Digby Stone's Universal Slurry Primer Pro only requires 7L of water per 20kg bag to produce a creamy consistency.

Once mixed apply 1-2 mm to the back of the slab.

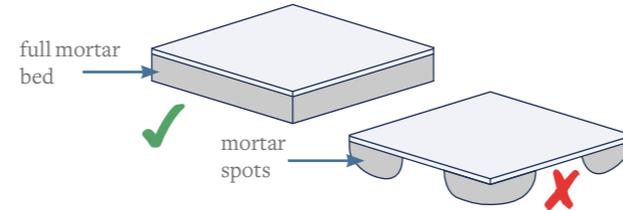


Before applying the slurry primer, using a stiff brush, brush the back of the tile to clean off the magnesium oxide releasing agents, this will create the bond of the slurry primer to the porcelain paving. Paint each tile with slurry primer **as you lay them**, not all at once before you begin laying. The slurry primer on the back of the tile must still be wet when it is laid down, therefore you should not prime all slabs first before you start laying. This

will ensure that the tile adheres to the mortar bed correctly. If any slurry primer is on the face-up side of the slab, immediately wash away the residue with water as you work.

4. USE A FULL BED OF MORTAR

Just like our natural stone products, Digby Stone porcelain **must** be laid on a full wet bed of mortar. We recommend a mixture of a moist consistency (rather than runny) with approx. 4:1 sharp sand to cement.



Please remember that – as with all Digby Stone products – the spot laying method is **not suitable!**

5. LAY YOUR SLABS

It is essential that each tile is tapped down to ensure as much of the tile as possible comes into contact with the mortar. When laying your project, ensure that you mix tiles to achieve an overall blended appearance. While the finishes of porcelain have less surface variation than natural stone, they are still designed with a level of variation to add a range of texture to their surface. If within the selection of tiles you encounter any repeat patterns, we suggest that you rotate slabs 90/180 degrees in order to minimise the appearance of repetition (this may be more prevalent in tiles which have a more extensive surface pattern e.g. Quartz Grigioni or Universal Oak).

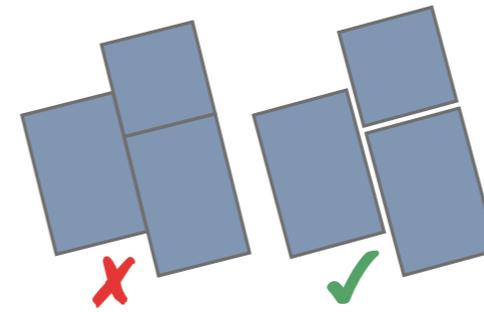


6. CUTTING PORCELAIN

Porcelain can be cut with a disc cutter fitted with a suitable-for-porcelain diamond blade (this must be a petrol disc cutter as you must feed the disc with water to cut). However, for neater and more accurate cutting, we recommend using a suitable water-fed tile bridge saw. Ensure that appropriate protective clothing is worn while operating machinery.

7. CHECK YOUR JOINTS

Allow for 10-12mm +/- approx joints when laying the tiles. We suggest an outdoor jointing compound (suitable for porcelain) should be used with our porcelain products – please speak to your merchant or landscaper for the most appropriate jointing compound for your project. As previously stated, Digby Stone porcelain products are **not designed to be butt jointed**.



8. IMPORTANT – CLEAN THE JOB

It is particularly important to work cleanly when laying porcelain, both during and after installation. Once the job is completed, additional cleaning may be required if any residue remains, particularly from jointing compounds. Ensure that the jointing compound has set sufficiently and then clean the tiles with a suitable residue remover (depending upon which jointing compound has been used). **Any residue left over from the laying process must be removed as soon as possible – failure to do so may result in staining on the surface of the tiles.** If your porcelain has been laid in conjunction with any natural stone, ensure that the porcelain cleaner/residue remover you are using **does not** contain any acid and check they are suitable for porcelain. Any cleaners containing acid will cause damage to natural stone.

 We would strongly recommend that gloves, eye protection, face mask, knee pads, steel toe boots, suitable protective clothing & ear defenders are used accordingly. Always work in a safe manner in accordance with current health and safety legislation. For advice, telephone 0300 003 1747 or visit www.hse.gov.uk

 Always check the suitability of ANY cleaning solution with the manufacturer prior to use. Failure to do so may result in permanent damage to the product. You may wish to use a porcelain suitable mild acid based cleaner, however if your porcelain is laid in combination with natural stone e.g. borders or setts, acid based cleaner **should not be used** as this will damage the natural stone. **Brick acid should not be used to clean porcelain.**

IMPORTANT INFORMATION

Due to the nature of the production of porcelain, there is a limit to the number of repeated surface textures which are produced for each colour (with the number of repeats varying depending upon range). Whilst we endeavour to maximise the variety of textures within each order, there may be a number of repeats within your order, particularly if you are laying a large area of porcelain. Refer to step 5 opposite for advice on reducing the appearance of repeated slabs.

In porcelain tiles, there may be slight subtle differences in surface texture and finish between tiles. These differences may appear exaggerated in direct sunlight. This is due to minor variations in conditions which may occur during the manufacturing process. Any difference between tiles will not affect the slip rating or durability of the product and is purely aesthetic.

There will be subtle variation in our porcelain products, intended to mirror the variations found in natural stone products. Porcelain products, much like any other manufactured product, are made in batches. There can be slight shade variations between batches – please consider this when purchasing for the same project on separate occasions. In order to ensure that your patio will have an overall blended appearance, always mix from multiple pallets when laying rather than laying one pallet at a time.



Our porcelain videos provide helpful advice on mixing and applying Universal Slurry Primer Pro, as well as demonstrating how to clean a variety of stains from the surface of the tiles. Check out the videos section of our website to find out more.

www.digbystone.com/videos

PATIO MAINTENANCE - CLEANING AND SEALING

In order to help you keep your Digby Stone patio in great condition, we have put together a list of helpful guidelines to follow. Please ensure that suitable safety clothing and equipment is used when cleaning or sealing.

CLEANING EQUIPMENT AND CHEMICALS

The safest and simplest way to clean a patio is to scrub it with a stiff brush and warm soapy water solution (do not use soap solutions with any sign of acid content). Once dirt and foreign objects are loosened from the flags, a watering can or a watering hose can be used to wash the residue away (care must be taken so as not to disturb the jointing materials in both the scrubbing and rinsing of the patio).

Pressure washers are a good tool to remove more stubborn algae/moss and dirt from natural stone and porcelain but will not remove all stains (such as oil stains). While using a pressure washer can rejuvenate dirty and tired paving, using one on a regular basis can cause damage. The pressurised force of the water can exploit minor cracks/weaknesses and dislodge loose stone or weak jointing.

When using a pressure washer, keep the nozzle approximately 15-30cm away from the patio and at a shallow angle (approx. 30 degrees) so that jointing material is not dislodged.

For more acutely stained areas, a toothbrush can be used with warm soapy water to aid in removing more awkward dirt deposits (it is advised that if cleaning on your knees, a kneeling mat or kneepads should be used to prevent injury).

Before using any chemicals, the manufacturer of the chemical should be consulted about its suitability on natural stone. **Under no circumstances should brick acid or acid based cleaner be used on natural stone products as it will damage the stone.** Before any chemical is applied to a patio, it is advised to see if it reacts on a test piece or on a section in a discreet area. It is also advisable to leave the test piece/area for a few days to observe if a reaction occurs before proceeding to the rest of the patio.

When cleaning porcelain paving, most stains can be removed by using warm soapy water or a pressure washer. Agitating heavier stains using a stiff brush can help to lift any debris which has become stuck to the surface. Thicker deposits on porcelain such as mortar or slurry primer can be lifted by carefully scraping the deposit followed by washing with a pressure washer, however care must be taken to avoid damaging the surface of the tile. You must also take care around the joints of your porcelain paving when using a pressure washer to avoid dislodging any jointing compound.

If you are struggling to remove more stubborn stains, you may wish to use a suitable outdoor based porcelain cleaner. If your porcelain has been laid in conjunction with any natural stone, ensure that the porcelain cleaner you are using does not contain any acid. Any cleaners containing acid will cause damage to natural stone.

SEALANTS AND COATINGS

It is not necessary to use a sealant on natural stone. However, if sealing is desired it is important to consider which type of sealant to use, as different manufacturers specify different enhancements depending upon the product. Some sealers will provide either a permanently "wet"/gloss or a permanently dry appearance to the stone. The choice of sealer to use is entirely a personal preference depending upon the desired finish.

Always check with the manufacturer's suitability on your stone choice and test on a small area first. When applying sealants always follow the manufacturer's instructions. Please remember that once applied it is difficult or in some cases impossible to remove, and may need to be reapplied every few years.

If natural stone is used for indoor projects (e.g. in a kitchen) it is advisable to seal the stone in order to protect it from household stains which may occur, however we would advise that you consult with your installer for specific advice on your project.

It is **not necessary** to use sealants on porcelain paving. However, if you do wish to seal porcelain paving, please note that you will need to use a sealing product which is specifically designed for use on porcelain – sealants which are specific for use on natural stone cannot be used.

THESE INSTRUCTIONS ARE ONLY A GUIDE AND DIGBY TRADING LTD ACCEPTS NO LIABILITY FOR ANY LOSS, DAMAGE OR INJURY HOWSOEVER CAUSED AS A RESULT OF FOLLOWING THEM. IF IN DOUBT, SEEK THE ADVICE OF A PROFESSIONAL CLEANING COMPANY.

GENERAL INFORMATION

SEE OUR WEBSITE FOR DOWNLOADABLE LAYING PATTERNS AT:

www.digbystone.com/laying-patterns

All Digby Stone products are designed to be laid with 10-15mm joints.



DRIVEWAYS

Products which are suitable for use on driveways are marked in our product brochure with the car symbol. For further advice please check with your stockist or call us for advice on installation of driveways. It is essential that driveways are laid on a full bed of mortar - please see our natural stone laying guidelines for advice (when laying porcelain cobbles for a driveway please ensure the advice in our natural stone laying guidelines for laying a driveway is followed).



INDOOR USE

For indoor use, a coating is advised to reduce dusting and make cleaning easier. Always seal the products to avoid staining.

Always seek advice from the chemical manufacturers and ensure you follow manufacturer's instructions when using sealants.

USE AROUND SWIMMING POOLS

Advice from Digby Trading Ltd should be sought about suitability for use of products around swimming pools. Some products react to the chemicals used to treat pool water, and bonding agents can react to heat from fireplaces.

COATINGS/SEALANTS

Sealing is a personal choice as some sealers make the paving look permanently wet or permanently dry. Please always check directly with the manufacturers or your stockist. Responsibility for the performance of any coating rests with the user and the manufacturer of the coating.

Always read the instructions carefully and first test a small area for colour and slip resistance, wet and dry. REMEMBER once applied it is very difficult or impossible to remove.

DUSTING

Some dusting and scuff marks may be visible on some of our products, due to transportation, which is unavoidable.

DIMENSIONS

All dimensions given are nominal and subject to manufacturing tolerances. The quoted sizes and coverage of our paving ranges, except where using minimal joints, are for the overall areas including appropriate joints, making it easier for you to plan a project and order the right quantities. For a more general guide in tolerances of our products, measure several product samples at a stockist.

MANUAL HANDLING

Please note: Care should be taken whilst manually handling Digby Stone products to prevent injury and/or damage. Extra assistance may be required.

TERMS & CONDITIONS

Digby Stone cannot accept any liability if products are used for purposes other than those for which they were intended, or they are laid other than in accordance with recommendations.

The recommendations we provide are for guidance purposes only and any applicable building regulations or planning requirements should be followed at all times.

HEALTH & SAFETY

Always work in a safe manner in accordance with current health and safety legislation.

For advice, telephone 0300 003 1747 or visit www.hse.gov.uk

For full Digby Stone terms and conditions visit our website at www.digbystone.com/terms-and-conditions/

digbystone 
Part of the GLOBAL STONE group

 sales@digbytrading.com

 0121 585 7477



@digby_stone



@digbystone



Please note that all recommendations/instructions are given as guidance only and Digby Trading Ltd accepts no liability for any loss, damage or injury howsoever caused as a result of following them. Please refer to our website for full terms & conditions: www.digbystone.com
No part of this publication may be reproduced or transmitted in any form without permission in writing from Digby Trading Ltd.

Copyright © 2021 Digby Trading Ltd.