Introduction

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/up keep 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.

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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.
Maintenance Guide
For general patio care

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.

When using a pressure washer keep the nozzle approximately 15-30cm away from the patio and at a shallow angle approximately 30° (so that jointing material isn’t dislodged). Pressure washers are a good method to remove algae and moss but will not remove all stains (such as oil stains). Whilst 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.

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 swill the residue away (care must be taken so as not to disturb the jointing materials in both the scrubbing and rinsing of the patio).

For more acutely stained areas a toothbrush can be used with warm soapy water to help aid in removing more awkward dirt deposits. (It is advised that if cleaning on your knees, a kneeling mat or kneepads should be used so as not to cause injury).

WARNING:
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.
Cleaning and Sealing Solutions

To keep your patio or paved area in top condition Digby Stone have a brand new range of cleaning solutions and sealers that are safe* to use on our natural stone and porcelain ranges.

**All-in-one Cleaner**
Available in 5 Litres. The All-in-one cleaner is a fast acting moss, algae and lichen stain remover. It can be used on all external paving material including natural stone and concrete. It is an industrial strength cleaner that can be diluted down for extended coverage rates.

**Power Stripper**
Available in 1 Litre. Power Stripper is a heavy duty stripper for removal of old coatings and non-pregnating sealers. It is an effective fast acting formula which can clean stone of more stubborn stains after one application. Several applications may be required.

**Rust Off**
Available in 1 Litre. Rust Off rust remover is PH neutral and is suitable for cleaning all types of natural stone, ceramic and porcelain tiles. Rust Off removes rust and rust discolouration from acid sensitive stone. Suitable for internal and external use. Several applications may be required.

* When following the manufacturers directions for use.
Remember: Before using any cleaning or sealing solutions, manufacturer labels and direction for use must be read prior to any usage. As is the case with any cleaning or sealing products, it is always advised to trial them on test pieces first following manufacturer’s directions, leaving enough time to check there are no adverse reactions. Remember once applied (especially in the case of the colour intensifier and premium stone sealer) it is very difficult or sometimes impossible to remove.

When using chemicals and liquid substances suitable PPE (protective equipment) must be worn, including a suitable RPE (respirator / breathing apparatus). 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.

These cleaning and sealing solutions are to be used in conjunction with the directions stated on the containers and Digby Trading Ltd accepts no liability for any loss, damage or injury howsoever caused as a result of product misuse. If in doubt, seek the advice of a professional cleaning company.

**Colour Intensifier**

Our Colour Intensifier is a solvent based impregnating colour enhancer and sealer for porous stone. It is aimed to be a one step process solution to enhance natural colours after one application.

Suitable for internal and external use.

**COVERAGE RATE**

15 to 25 sqm per litre depending on porosity of the stone. More porous stone may need more than one coat.

**Supreme Stone Sealer**

Available in 1 & 5 Litres. The Supreme Stone Sealer is a premium sealer that is designed to penetrate into natural stone. It can be used on interior and exterior surfaces, is solvent free and it retains existing colour and finish of treated stone or brick.

**COVERAGE RATE**

10 to 15 sqm per litre depending on porosity of the stone. May need more than one coat.
10 DO’S & DON’TS to consider

1. **DO - Check, check and re-check all products prior to laying.**
   Each piece of natural stone and porcelain should be inspected prior to laying as pieces will vary. It is also advised to see the product both wet and dry before installation, as certain features in stone may show up more boldly when wet. No returns can be accepted once the product is installed.

2. **DO - Adequate foundations.**
   To get the best foundations for patio laying a minimum of 100mm of hardcore must be used and compacted thoroughly. When laying a driveway a minimum of 150mm of hardcore must be used and compacted thoroughly. Foundations must not be laid on water saturated ground as they may sink in time creating uneven paving. Extra drainage may be required.

3. **DO - Consider the run off and fall.**
   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 patios run-off edge. A planning officer may need to be consulted.

4. **DO - Check which way the product is designed to be laid.**
   Our natural stone paving is designed to be laid with the largest surface area facing upwards. Calibration marks (straight grooves) and all perfectly sawn flat surfaces (present in all Granite, Stylis, Opulence and Grande ranges) are designed to be laid this way down. Our porcelain is designed to be laid cross-hatched texture face down.

5. **DO - Always mix slabs when using multiple packs.**
   Mixing slabs from different packs is the only way to achieve a blended colour appearance and not create a patch-work look when using more than one pack.

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.
before installing your patio:

6. **DO** - Use a full bed of mortar.
Using a full bed of mortar is key to help reduce moisture transparency or discolouration. A one part cement to a five parts building sand mix is a standard mix. To help stone further adhere a bonding agent can be used, bonding agents **MUST** be used on the back of all our porcelain.

7. **DO** - Using a bonding agent in your mortar mix.
PVA, SBR’s and other bonding agents are available off the shelf to be added to a mortar mix. Adding a bonding agent can help the mortar mix adhere to the back of slabs with a stronger grip. There are several manufacturers of bonding agents, we advise contacting them to check their product suitability on natural stone and porcelain. An SBR/bonding agent has to be used and applied to the back of each flag when using porcelain.

8. **DON’T** - Lighter coloured products may leech jointing material colour.
Some lighter stone colours may absorb the colour impurities in ordinary portland cement, so a white cement mix may be more suitable to reduce colour leeching/staining. Ice and Frost which appear in our granite ranges are particularly susceptible to colour leeching. Always check with the jointing material manufacturers’ suitability on your stone choice.

9. **DON’T** - Use of chemicals have to be carefully considered!
Before using any chemicals the manufacturer of the chemical should be consulted about its products suitability on natural stone. NO BRICK ACID SHOULD BE USED ON NATURAL STONE. Before a 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 tested piece/area for a few days to observe if a reaction occurs.

10. **DO/DON’T** - Use of Sealants or coatings.
Sealing is a personal choice as some sealers provide either a permanently wet or a permanently dry appearance to the stone. Always check with the sealants manufacturers’ suitability on your stone choice and test on a small area. Remember once applied it is difficult or impossible to remove and may need reapplying every few years. See our own sealers available on page 4.
Step-by-step laying guide

1. Use a scaled plan of the patio to mark out the layout using pegs and a line, clearing the area of all vegetation.

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.

Tools needed:
- Gloves & Eye protection
- Face mask
- Knee pads & steel toe boots
- Ear defenders
- Slate marker
- Tape measure
- Pegs & Line
- Spirit Level
- Hammer & Chisel /Disc Cutter
- /Tile Cutter
- Spade
- Pointing Tool
- Trowel
- Rubber mallet
- Soft broom

Materials needed:
- Paving slabs
- Building/concrete sand
- Mortar
- Watering can & rose

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
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 (1 part cement/5 parts building or sharp sand. A bonding agent can be used in the mix when using natural stone. An SBR/bonding agent HAS TO BE used and applied to the back of each flag when using porcelain) 30-50mm deep. 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 (a fall of 1:60 is usually adequate).

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; For porcelain a tile cutter and suitable attachment is needed to create the desired shapes. 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. Again using a rubber mallet to gently tap down and a spirit level to check for a uniform flatness (taking into account a fall).

6. Once the patio or driveway has been fully laid allow a few days for the mortar to set. In a discrete area test a semi dry mortar mix and check for staining, sticking or colour left behind. Once happy get rid of any debris in or between flags. Using a trowel, deposit the mortar mix in the joints and compress/smooth off with a pointing tool. After a few hours (weather dependant) once the mortar has dried gently sweep the patio clean at a 45° angle with a soft broom.

Always mix slabs (whilst laying) when using multiple packs.

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.

We recommend all our products to be laid on a full bed of mortar.
Laying Guide

Extra Notes:

Natural Stones, Particularly Slates, Limestones & Granites
Coating the back of each flag with neat wet cement and PVA additive, just before laying, will assist bonding.

Slate, Granite Ice & Frost
These products sometimes absorb colour from ordinary portland cement (OPC). We strongly recommend substituting white cement in the mortar and adding a PVA, SBR or other bonding agent. Lay Granite with the textured slip-resistant face upwards.

Granite - All Colours
Depending on site conditions, moisture transparency from the bed below is a natural characteristic of granite that can result in darkening and patchiness on the installed product.

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

When Laying A Driveway
There must be a minimum of 150mm compressed hardcore foundations, when laying suitable products for a driveway.

Calibrated products are subject to a minimum of +\-3mm variation.

Due to the composition of natural stone, colour variations may occur after installation.

Some delaminating may occur after laying, this is perfectly normal and tends to happen near the riven part of the slab.

Please be advised that this laying guide is for guidance purposes only, should you require more specific advice relating to your project we would recommend that you speak with your stockist or specialist installer.
General Information

See our website for downloadable laying patterns at: www.digbystone.com/products/laying-patterns.html
Please note you will need a pdf viewer to view the files.
All our products are designed to be laid with 10-15mm joints.

Driveways
Please check with your stockist or call us for advice on what can and can't be used on a driveway prior to installation.

Indoor Use
For indoor use, a coating is advised to reduce dusting and make cleaning easier. Always seal the products to avoid staining. Seek advice from the chemical manufacturers. DIGBY STONE SUPREME STONE SEALER: Why not try out our premium stone sealer which can be found in this booklet on page 4.

Use Around Swimming Pools
Advice from Digby Trading Ltd should be sought about suitability for use of products around swimming pools. Some products react from the chemicals in the water.

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.

GENERAL INFORMATION
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.

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