

In this article, you will learn the different ways to lay paving, along with the maintenance, cleaning and sealing process that are vital in the longevity of your paving stones. We will discuss all of the above for different types of paving materials such as Natural Stone Paving and also Porcelain Paving.

Firstly, let's start with the preparation. The best way to achieve the results you are hoping for with any garden design is to PLAN, PLAN AND PLAN!

A design of how your garden is going to look on completion is a vital step. We would always advise to use a scale plan, using graph paper to ensure that you're planning and measurements are as accurate as they can be. This plan can either be made by you alone, or it can be created with your chosen landscaper. This way you can work on the design together and iron out any problems or issues that may arise. By doing this, the project will hopefully run much more smoothly than if a design wasn't in place.

Firstly, you will need to decide what areas you are going to pave and what areas you are going to have soft landscaping on, such as plants and grass. This is essential as the laying method is determined by what type of pavers you choose, and also the planned use e.g. if it's going to be a drive/roof terrace etc.

When you have decided on the area you would like your paving and the type of paving suitable, there are important decisions to make such as:

- What size pavers would you like to use? A mixed pattern? Single Sizes? We would advise that a mixed pattern is more traditional, with single sizes been more modern option.
- How would you like to edge your paving? Cobbles? What is practical? Cobbles are a great way to border your paving slabs.
- What way is your paving going to fall? It's essential to have drainage for your paving. This is a decision a professional can help you with however the general rule is the fall is away from any buildings you may have.

If you have chosen a landscaper to complete your project for you, they will then offer to help on many things that you need to decide. As they have much more knowledge and experience in the field, they can advise you against things that are not practical and also, ensure that you are aware of both the advantages and the disadvantages of the design that you have chosen.

By failing to prepare, you are preparing to fail' – Benjamin Franklin

Laying the Paving – Natural Stone and Porcelain

Firstly ensure that your paving product is inspected before use. This is to check for any defects you are not happy with or if any of the stone is broken/inadequate. RF Paving will not accept responsibility for any removing or re-laying costs if this has not been done. This is an essential process with any landscaping products to ensure that the problem can be rectified as soon as possible.

When you are happy with your chosen product, the area that is going to be paved first of all needs to be dug out at a depth of at least 6-8 inch. This should then be filled up with loose stone such as Mot/crusher run to around ¾ of what has been dug out. This should then be compacted to ensure that the base is strong enough when laying the pavers.

You have then prepared the ground for the pavers to be laid. You then need to begin thinking about the next step which is your concrete screed. You prepare the concrete bed for each slab individually. The concrete screed should be a semi-dry motor mix, using a 4 part sharp sand to 1 part cement. Therefore you need 4 times for sharp sand as you do concrete to prepare the concrete screed. The concrete screed should always be applied to the full paver. Please never use spot bedding as this does not allow the pavers to be supported therefore in time, it will move and crack depending on the weight that's applied. As you can see below, there is a correct and an incorrect way to lay natural stone. Even if the product is laid the incorrect way it will still be fit for purpose, however one side was made to have an attractive surface

When handling the stone please be careful. Natural stone and also porcelain can be very heavy so it's always advisable to take care when handling. Its recommend that any paver size over 600mm x 600mm is to be handled by more than one person.

If it's a porcelain paver that you are using, then we would always recommend to use the Nexus Porcelain Primer. It is applied in one coat and is a fast application product that promotes adhesion and control suction. The reason why a primer is needed on the porcelain pavers rather than the natural stone is because, as the porcelain pavers are a manmade product, they have a very smooth surface on the back on the paver. Due to this, they do not always adhere on a mortar bed as strong as natural paving does. Natural paving is generally calibrated. When a product is calibrated, line grooves are created on the back. This allows extra adhesion to occur. Therefore when laying the porcelain slabs, the primer ensures that the correct amount of adhesion occurs for the longevity of your paving slabs.

Once the paver is in place, they can then be tapped into place and levelled. When tapping the pavers down, please use a rubber hammer to ensure that no damage to the slab occurs e.g. chipping.

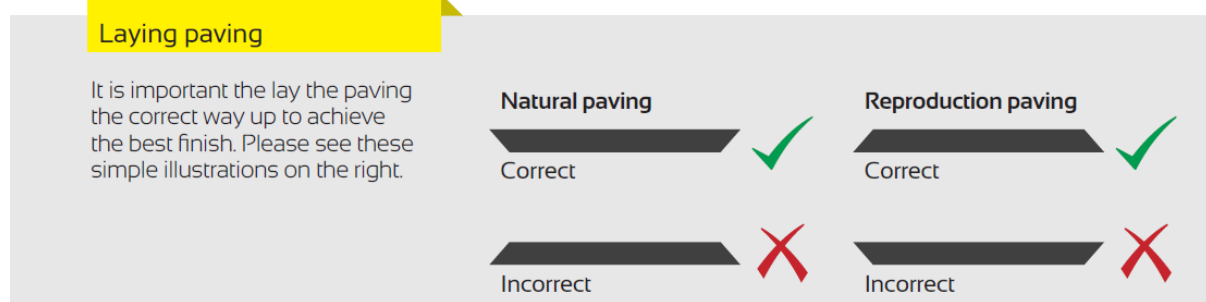
Another option to lay the Porcelain pavers is to lay a solid concrete bed. This is a very solid way to lay porcelain paving. The porcelain pavers need to be applied to the solid concrete using a flexible tile adhesive that is suitable for external pavers. The adhesive must be waterproof.

Cutting the material

In regards to making the cuts, each type of paver needs a different method. With natural stone, they are best cut using an angle grinder or a power saw (still saw). These must be fitted with a diamond blade that is specifically for natural stone or concrete. There are many places that these are available. Please ensure when cutting the product that you take the required safety methods such as goggles to protect your eyes and a suitable dusk mask. A dusk mask is essential as natural stone can create a lot of dust that is harmful. Water suppression kits can be bought with your equipment to help dampen the dust and also to keep your equipment cool.

In regards to cutting the porcelain, more care needs to be taken than with stone. Again, they are best cut using an angle grinder or power saw. However a porcelain tile blade is needed rather than a

diamond blade. This is to avoid chips and breakages when cutting the porcelain. Again the relevant safety procedures must be followed to ensure that this is a safe process.



Pointing up

Traditional

When the paving is fit to walk on and the mortar has cured / set, then you can 'point up' the spaces. Mix together a 2:1 mix this time and add slightly less water so the mix is quite thick. This makes it easier to maintain control with your trowel. Smooth off with a rounded piece of wood or specialist pointing tool. A full mortar joint is required so water doesn't seep under the flags and cause frost damage. A joint width of between 8-15mm is recommended however our paving system allows for a 10mm joint. However some people like butt jointing (especially with porcelain paving), which tends to be between 2-5mm. This can then be filled with kiln dried sand or the jointing compound that we will talk about below.

Jointing Compound

Here at RF, we sell THREE types of jointing compound and our preferred supplier is Nexus. There are two options that can be used as a jointing compound for natural stone, and one option for Porcelain pavers. Please see the different types below:

Nexus Pro joint Fusion

- The fusion is a quick and easy solution to filling the joints between the paving slabs or setts. It is suited to both natural stone paving and also concrete paving. It is so simple to use, pro joint fusion allows an untrained hand to consistently deliver perfect joints every time! It is available in a 15kg tub in Neutral / Mid Grey / Basalt and Black. The product is easy to use. When the surface temperature is above 0 degrees, you need to start off by soaking the paving area, you then empty the 15kg tub evenly onto the surface and work quickly into the joints using a brush or a squeegee. After this, mist the surface and compound with a soft spray of water to flush the material down into the joints. Top up any low joints and repeat as necessary. Once the water has drained away, then sweep the paving with a fresh soft brush at a 45d to the joints, and remove any excess. A trowel or iron can be used to achieve a traditional finish if required.

Nexus Pro joint V75-WT

- The V75 is an epoxy resin mortar system that is suitable for vehicles up to 7.5 tonnes with increased water tolerance. This two part epoxy resin system is easily mixed and quickly applied as a slurry to dampened paving. It has an INCREASED WATER TOLERANCE to give the great advantage enabling use in damp weather and light rain. It is available in a 27kg tub in Neutral Buff / Mid Grey and Black. To apply this product firstly, ensure that the paving is wet and the surface temperature is between 0 – 25 degrees. Do not allow the paving to dry out during application and care should be taken when using the product on a dark paving due to higher surface temperatures. Empty the mix directly onto the paving and move the mix using a squeegee over the total area allowing the empty joints to fill in completely. After 10-15mins use a medium soft brush to 45d to joints and sweep of the excess sand leaving the paving clean. It is particularly important with this product to sweep the paving clean before the product cures to ensure any remaining residue does not set on the paving surface. The fluid nature of the product means that no further compaction of the joint is required.

Porcelain Grout

- Specially formulated for porcelain paving, the grout has been developed for joint widths of 2-20mm. It is ideal for internal and external use. Using anti-mould growth technology with added silicone, the grout repels water from the surface of the grout, while allowing the vapour to pass through. Firstly, you need to ensure that the joints are clean. Do not use in wet weather and do not use if frost is forecasted within the next 24hours. It is suitable for use in temperatures between 3d and 25d. Do not apply to areas in direct sunlight or to substrates that are hot. A trial grouting area is recommended to check suitability. The grout should then be mixed with 3 litres of cold clean water (this is per 10kg bag). Remove the bag from the bucket and add the water into the mixing container. Add the powders slowly and mix using a plasterer's whisk until a **creamy smooth consistency** is reached. Mix for two minutes, allow standing for two minutes then re-mix. This process allows the polymer additives to dissolve and activate. Then, using a rubber float to work the grout deeply into the joints until flush with the paving. Excess grout should be removed as work proceeds and any final residues left on the tile face can be removed by wiping off with a damp sponge up to 30minutes after the application. Ensure you have plenty of clean water for removing the grout whilst wet/damp. Freshly grouted joints should be kept damp when working outdoors using a fine mist spray. The pot life of the mixed grout is approx. 60 minutes at 20d.

Please see our product pages and request an informational booklet about the above NEXUS Products before you use them. There is additional important information that you need to know before using the products. This way you know all of the facts before you begin!

There are a few points on each of the products to ensure that you get the best possible look from the jointing compound. There are many advantages of the V75 product which is as below:

- Two part resin based mortar system, no cement.
- Fast application

- Easy: no more bending or kneeling and much less effort.
- Weed, pressure washer and frost resistant.
- Self-compacting and suitable for joint widths from 5mm upwards
- High water tolerance!

Sealing your Natural Stone

Sealing Natural Stone paving is essential in the longevity of your stone. The porosity and makeup of most stone does, however, leave it prone to certain types of damage if unsealed. Therefore sealing the stone is an essential step in ensuring your product looks fantastic over a long period of time and also protecting it against many things such as harmful chemicals.

Here at RF, we supply two types of sealants both supplied by Nexus. The two types are as follows:

PRO-410 – Paving sealer

- This sealer is a high quality, solvent based surface sealer based on acrylic resins. It is an impregnating and non-degrading sealer that has a matt finish and enhances the colour of natural stone. It seals and protects surfaces from water penetration, staining and the effects of natural weathering whilst remaining breathable. This product is a COLOUR ENHANCER therefore it will enhance the colour of any natural stone it is put on.
- This product is available in a 5litre and a 25litre and covers between 4.5 – 7sqm per litre.

PRO-810 Paving Sealer

- This sealer is a high performance, solvent based surface sealer which has an invisible finish and can be applied to all types of natural stone immediately after installation. It deeply impregnates the stone and protects surfaces from water penetration, staining and the effects of natural weathering whilst remaining breathable. This sealer does not change the colour or texture of the surface and can be used on virtually all porous surfaces, particularly high quality natural stone.
- This product is available in a 5litre and a 25litre and covers between 7 – 12sqm per litre.

Porcelain

We do not recommend that this product needs to be sealed due to having a water absorbency of less than 0.5%. However, please always speak to your chosen supplier for the recommended installation guide.

All of the above sealers and jointing compounds are available via our website. Please seek advice from ourselves before undergoing the sealing process to ensure that it goes smoothly.

Maintenance and after care

Of course, this is a section that is very self-explanatory. When deciding to pave your garden, care needs to be taken to ensure that the paving looks great all year round. Here at RF, we have come up with a list of things we would advise to do to ensure that your paving stays in the best condition possible. Of course, this is optional and it all depends on the effort that you would like to give. Just following one of the below will help with the longevity of your paving however we would recommend that all the steps are taken.

- Brushing down your paving each week or bi weekly. This will ensure that anything that has fallen on your paving e.g. from the trees ect, is brushed away and doesn't get chance to grip to your paving. Things such as weeds and algae take a grip and grow therefore weekly brushing will ensure that this is kept to a minimal. Also leaves and other types of shrubby leaves can stain the paving the longer they are left on there so a weekly brush will make your paving look great each week.
- Ensure that the correct cleaning solutions are used dependant on what type of paver you have put down. Always check the label of anything that you buy as products with hydrochloric acid can damage the surface of the paving. It is always best to test any cleaning product on a small area which is out of sight to ensure you know what the reaction of the cleaning product is to the paver. A lot of stains can be removed without the use of cleaning products and just with soap and hot water, again it's always best to test. If you are unsure, please call us for further advice. Power washing is a great tool to clean down your paving and you can do this a couple of times a year, however PLEASE BE CAREFUL. Power washing can damage the paving and joints when used too close to the paving. The force of the water can force out any loose stones and also break down the pointing work on the pavers. To be on the safe side, you can use the hose with much less pressure and clean the paving this way.
- Always ensure that any damages or defects in the paving are rectified. This will ensure that the defects cannot let water and frost into the paving which may cause problems later down the line. Also, as you will be brushing down and checking you're paving regularly. This will make any defects easy to identify and be dealt with before the problem becomes any bigger.