

## Basic Laying Information

Below you will find guidelines on laying some of our products. The methods outlined are suggestions only. There are many ways of preparing and laying stone products. The suggestions given are what we consider as a good and standard practice. For more in-depth information, we suggest looking at [www.pavingexpert.com](http://www.pavingexpert.com)

Please be aware that there are many factors to consider when planning to lay natural products, such as, ground stability, subsidence, cables and pipes. etc. The guides below are very generalised as every job is different. They are by no means everything you need to know. If in any doubt consult a professional.

### Page Content

- 1) Laying Paving Slabs
- 2) Laying Setts or Cobblestones

## Laying Paving Slabs

### Digging Out

Firstly, you should plan out your area and include a fall to ensure water will drain away. We would suggest something like 1:40 cross fall and 1:80 end fall drainage. Also take into account the thickness of the paving, subbase and bedding layer to ascertain how deep you need to dig out. Remember that if you are laying paving up to a building then your finished top level needs to be at least 150mm below the DPC. (damp proof course)

### Subbase

The subbase is the layer that takes the load and gives your paving strength and durability. It isn't essential to include a subbase in every application, but it's recommended in most cases to prolong the life of your paving application. A subbase would usually be about 150mm of a DTp1 aggregate (This is usually a crushed rock mix) well compacted, leaving little or no gaps for the bedding layer to run into. The subbase should be even in thickness and the finished subbase should reflect the final profile of the finished paving.

For applications such as drives (or other surfaces which will be supporting heavy objects) you should use thick slabs and a subbase of concrete – consult an expert for more details if you're in doubt.

### Bedding Layer

The bedding layer is the material that holds and supports the paving slabs. The Bedding material is a coarse grit sand mixed with dry cement to the right level which will leave the stones flat and level. Do not use building sand – it's too soft. A 10:1 mix of sand/cement is around appropriate as this will stiffen the mix suitably. The thickness of the bedding layer will be determined by the variation of thickness of your paving slabs. The bedding layer needs to "make up" the thickness of the thinner stones to ensure a level result. You need to know how thick your thickest stones are to calculate how much bedding layer to allow.

### Laying

Before laying the slabs spread out an area of bedding mix and compact it down. Take care to check the thickness of the slab to be laid and level the bedding mix accordingly. Use a trowel to slightly ripple the bedding mix this will allow the stone to "bed down". Now it's time to lay the stones. Remember that production tolerances can affect joint gaps. For example, sawn paving products carry a +2mm tolerance so selection or grading may be required to minimise differences between adjacent slabs. The joint width needs to be considered so check tolerances and choose a joint gap accordingly. Smaller ones can be lifted into place, but larger stones should be carefully tipped from an already paved or solid place. Mechanical aids may be required to prevent injury. Once down, use a "maul" (a big, rubber-headed hammer) to help you align the stone. Take care as certain rubber hammers can leave marks on the stone. Some form of protection such as laying out a cloth over the stone may be required. Then tap lightly towards the edge of the stone to make it flush with the others paying attention to the joint gap between each stone. When you're satisfied, stand on the flag and check that it doesn't rock around, that the bed is good and the stone is flush with the surrounding stones. If the stone is too high or low, you'll need to lift it, add or remove some bedding, and replace it.

### Jointing or Pointing

**Dry Jointing** – Our recommendation here is to brush in a dry mix of sand and cement if the paving is completely dry and there is no chance of rain. A 4:1 mortar mixture is mixed dry then spread over the finished paving. Using a soft brush, you sweep the mix into the joints. Each joint is then packed down with the edge of a trowel or similar implement to pack the dry mix into the joints. This process may need repeating several times to ensure a good solid joint. Obviously, any residue on the surface needs to be swept clean to avoid any cement staining the stones.

**Pointing** – possibly more time consuming but can achieve longer lasting results. Mortar is mixed wet and trowelled into the joints. Using two trowels can speed the process, holding mortar on a large trowel at the edge of the joint and feeding it into the joint with a smaller trowel. This will also help minimise any staining on the edges of the paving slabs. The mortar will need to be pressed down into the joint and then finished with a jointing trowel.

## Laying Setts

This is a general indication of ways to lay setts. Different types of setts vary dramatically in size. Some setts are even in depth e.g. tumbled Yorkstone setts, whereas reclaimed stone setts may vary in depth. For this and other reasons each job will need to be dealt with according to its own circumstances. If in any doubt consult a professional.

### Digging Out

Firstly, you should determine whether you are laying a flexible or rigid system. This will determine the depth of your digging out. Plan out your area and include a fall to ensure water can drain away. We would suggest something like 1:40 cross fall and 1:80 end fall drainage.

**Rigid or flexible?** Many factors need to be considered such as vehicular traffic, type of setts to be used, the size of area and the frequency of use. simply put, a flexible system consists of a compacted subbase over which the setts are laid and jointed with sand. The rigid system consists of a compacted subbase over which an optional concrete base is laid, then the setts are laid and jointed in a sand cement mix.

When digging out you will need to calculate the depth of the setts, subbase, optional concrete base layer, and bedding layer to ascertain the depth required. Remember that if you are laying setts up to a building then your finished top level needs to be at least 150mm below the DPC. (damp proof course)

### Subbase

The subbase is the layer that takes the load and gives your setts strength and durability. It isn't essential to include a subbase in every application, but it's recommended in most cases. A subbase would usually be about 150mm of a DTP1 aggregate (This is usually a crushed rock mix) well compacted leaving little or no gaps for the bedding layer to run into. The subbase should be even in thickness and the finished sub base should reflect the final profile of the finished setts.

### Base Layer

If laying a rigid system then a concrete base layer can be added over the subbase if required. This would normally be in the region of 50 to 150mm dependent on the application and requirements.

### Bedding Layer

The bedding layer is the material that holds and supports the setts. The bedding material could be a coarse grit sand laid dry in a flexible system, or the same coarse grit sand mixed with cement in a rigid construction. Do not use building sand – it's too soft. A 10:1 mix of sand/cement is around appropriate as this will stiffen the mix suitably. The thickness of the bedding layer will be determined by the variation of thickness of your setts. The bedding layer may need to "make up" the thickness of the shallower setts to ensure a level result. You need to know how thick your thickest stones are to calculate how much bedding layer to allow. The minimum bedding ought to be at least 35mm.

### Laying Setts

The setts need to be set into the bedding layer by hand. Whether using a dry sand or a wet mortar mix the setts need positioning and individually setting to the required final level. Care should be taken to maintain the correct falls and/or cambers.

The most common layout would be a coursed layout. This can be aided by a taught string line or a piece of wood. care should be taken with a coursed layout to select uniform width setts for each course, and to follow the lines accurately being sure to offset the perpendicular joints.

### Jointing

For a flexible system you might use a jointing sand brushed into the joints or with a rigid system brush in a dry mix of sand and cement. A 4:1 dry mixture is spread over the finished setts. Using a soft brush, you sweep the mix into the joints. Each joint is then packed down with the edge of a trowel or similar implement to pack the dry mix into the joints. this process may need repeating several times to ensure a good solid joint. Obviously, any residue on the surface needs to be swept clean to avoid any cement staining the stone. Alternative jointing methods include poured bitumen, wet mortar pointing, slurry poured grout to name a few.