

Minsters guide to laying your patio

As with most DIY and Construction tasks, the best results are achieved by preparing properly. When it comes to laying Minster Paving, thorough preparation will help you create a patio or pathway to be proud of.

Planning:

Start by measuring the area that is to be paved and calculating just how much paving will be required. Minster Paving can help you with this by suggesting a selection of sizes that can be combined to best cover the area.

It's important to plan how the new paving will be drained before starting work. Will it simply be a matter of allowing surface water to run off at the edges and drain onto the garden, or will it be directed towards a gully or a linear channel? Wherever the water is to be sent, the paving will need to slope or "fall" in that general direction, and there will need to be adequate slope or "fall" to prevent water hanging on the surface of the paving for any longer than is absolutely necessary. It is generally recommended that the fall should be at least 1:60, which is roughly 17mm per metre or three-quarters of an inch per yard.

Tools you will need:

- Shovel or spade
- Wheelbarrow
- Cement Mixer
- Large trowel for spreading mortar
- Small trowel for pointing
- Rubber mallet
- Ball of string
- Wooden pegs or steel bars/pins
- Spirit level
- Tape measure or rule
- Cut-off Saw

Preparation:

Remove any turf and excavate to a depth of at least 150mm (6") to remove all topsoil. Dig off an area slightly larger than necessary to ensure there is ample working room. Normally an extra 150-300mm (6" - 12") is adequate.

Set up taut string lines as guides to the intended levels. Knock in wooden pegs or steel bars exactly on the outside edges of the planned paving and tie on string lines at the height of the paving. Stretch the string tight and fasten to the next peg, creating a straight and true line that will act as a guide to both the alignment and the level of the paving as it is laid. Bear in mind that, except at doorways, paving should always be laid so it is at least 150mm (6") below the damp proof course (DPC) of any building.

All good paving has a support layer beneath. This is usually referred to as a sub-base and comprises a layer, roughly 75-100mm (3-4") thick, of crushed stone or recycled concrete.

This is spread out over the working area, levelled off and then thoroughly compacted using a vibrating plate compactor which can be hired at most Tool Suppliers. The sub-base should have the same profile as that planned for the actual paving, so if the paving is to drain towards the garden, the sub-base should fall in the same direction.

The aim is to create a stable sub-base layer which is reasonably accurate and lies roughly 50-75mm below the finished paving level, so that, when laid, the flagstones are sitting on a mortar bed that has a fairly uniform thickness. Check the level of the sub-base by measuring from the string lines once it is compacted.

Laying the paving:

Once the sub-base is complete, the next step is to lay the slabs. Plan in advance what pattern or arrangement will best suit your project. For pathways, it's often a single strip of slabs laid one after the other, but larger areas such as patios and driveways offer more laying options. Will it be simple courses running along or across the length of the area or will it be something more decorative such as a random layout? It's important that you know what layout will be used before you start to lay.

Minster slabs are manufactured to the highest possible standards, but they need to be properly laid to ensure you get the best from them. In all instances, we strongly recommend that you lay the slabs on a full mortar bed. This means having the whole of the underside of the slabs supported by cement mortar. The lazy way of using spots or dabs of mortar at each corner does not provide full support for the slabs and often results in cracked or rocking slabs.

Make the bedding mortar using a coarse sand (we can help you with this!). Mix 4 parts of the sand with 1 part cement, and when all the dry ingredients are thoroughly mixed, add clean, cold water, a little at a time, until the mixture starts to stick together. Ideally, the mortar will be damp without being overly wet and messy.

Spread the laying mortar onto the ground and level it out using a trowel to a thickness of around 30-40mm (1¼" - 1¾"). The bed needs to be just high enough so that, when the slab is positioned, it lies 6-10mm high (¼" - ½"). Use a rubber mallet to carefully tap down the slab until it is at the correct level. Check the fall using a spirit level, and check that there are no 'lips' between the new slab and any that have been laid previously.

Always leave a gap of approximately 8-15mm (¼" - ½") between adjacent slabs and between the slabs and any wall, edging or other hard fixture. This will be filled with a mortar once the paving has set hard.

If any mortar has splashed or dripped onto the surface of the slab, wipe it off immediately with a damp cloth and clean water.

Never, ever stand on the newly laid paving. It needs to be left undisturbed for at least 24 hours to give the mortar a chance to

harden. Only ever work from the unpaved area. Lay one slab at a time and get it right before moving on to the next one. Once several slabs have been laid, use a straightedge timber or a long spirit level to check the evenness over the surface,

Any slabs that need to be cut to suit the layout or fit around obstructions such as drains or manhole covers should be cut using a cut-off saw which can be hired-in when needed. Follow the safety instructions very carefully. All concrete and stone dust is harmful so make sure you wear the right type of mask and eye protection at all times. The saw should have dust suppression which is usually a hose attached to an outdoor tap to spray the dust as it emerges from the blade and prevent it clouding the atmosphere. Your hire supplier will be able to advise.

Jointing:

The next task is to carry out the jointing. The mortar beneath the slabs must be given adequate time to start to harden. We usually recommend at least 24 hours, but more time may be required in cold or damp weather. Once the bed is sufficiently hard, they can be walked upon with care. Avoid standing on the corners; try to place your weight in the centre of each slab.

The joints between each slab need to be filled with a mortar. This can be a cement mortar made using 3 parts sand with 1 part cement and just enough water to make it damp, or it can be one of the modern resin mortars which are brushed into the joints and left to set without staining the slabs.

Cement mortars need the paving to be dry. The mortar is carefully pushed into the empty joints using a trowel, and then packed down and polished smooth using a pointing bar. Any spills or splashes must be wiped with a damp cloth immediately because they will stain.

Resin mortars are more expensive but they require less skill and, used properly, will not stain the paving. Resin mortars work best when the surface of the paving is wet. They are brushed into the empty joints where they self-compact and start to harden over the next 12-24 hours. Any excess resin mortar must be swept off the surface before it starts to set.

Whether you have used resin or cement jointing, the paving needs to be left for at least 24 hours so the mortar will set. After that, the paving can be used with care more or less immediately. We'd recommend giving it at least three days if possible before using it or loading it with patio furniture.

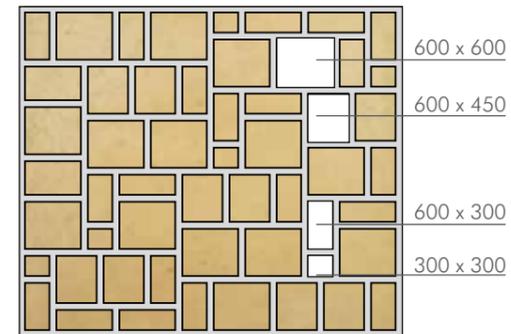
And then, if you've followed this advice, you can look forward to many years of trouble-free enjoyment from your beautiful new Minster Paving patio. Enjoy!

Laying Patterns

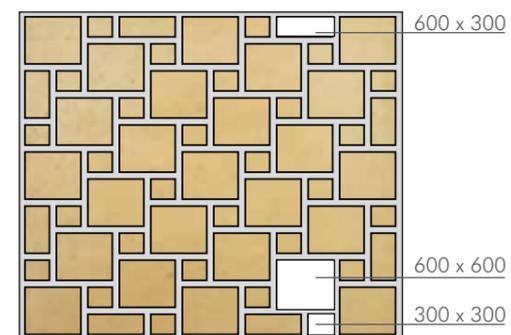
Using a laying pattern can transform an area from ordinary to unique, it can also make life a lot simpler if you are laying the patio yourself.

We have created a few ideas to help, based on standard sizes in our ranges. These diagrams are laid out opposite.

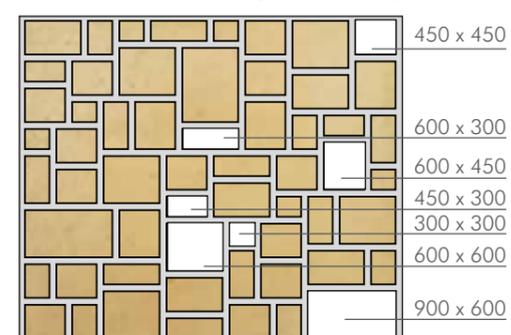
If you see a pattern that you would like to re-create you can order the correct number of paving slabs, saving you from having too many or little. To make it even easier, show us the pattern you like, along with your measurements and we can work out how many of each size that you need.



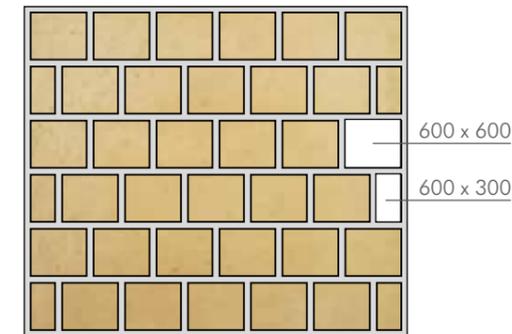
4 Size Random (area = 3.6m x 3.6m = 12.96m sq)
Suitable for Minster Flagstone, Yorkstone River, Worn Limestone Cotswold River
Consists of: 15 **600 x 600**, 12 **600 x 450**, 21 **600 x 300**, 6 **300 x 300**



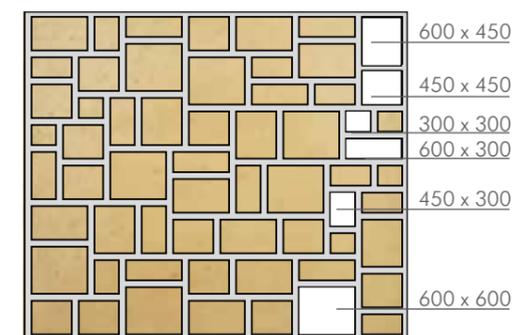
Dutch (area = 3.6m x 3.6m = 12.96m sq)
Suitable for Minster Flagstone, Yorkstone River, Worn Limestone Cotswold River
Consists of: 25 **600 x 600**, 8 **600 x 300**, 28 **300 x 300**



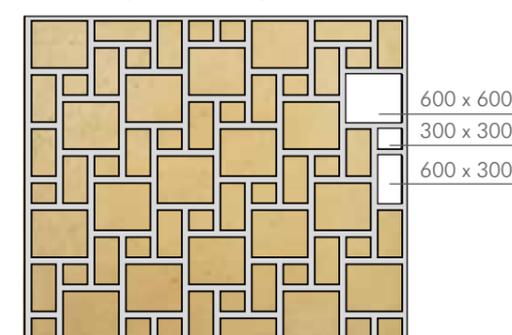
7 Size Random (area = 3.6m x 3.6m = 12.96m sq)
Suitable for Minster Flagstone
Consists of: 3 **900 x 600**, 8 **600 x 600**, 13 **600 x 450**, 11 **600 x 300**, 14 **450 x 450**, 9 **450 x 300**, 6 **300 x 300**



Half bond (area = 3.6m x 3.6m = 12.96m sq)
Suitable for Minster Flagstone, Yorkstone River, Worn Limestone and Cotswold River
Consists of 33 **600 x 600**, 6 **600 x 300**



6 Size Random (area = 3.6m x 3.6m = 12.96m sq)
Suitable for Minster Flagstone, Yorkstone River
Consists of 8 **600 x 600**, 13 **600 x 450**, 11 **600 x 300**, 14 **450 x 450**, 9 **450 x 300**, 6 **300 x 300**



Tudor (area = 3.6m x 3.6m = 12.96m sq)
Suitable for Minster Flagstone, Yorkstone River Worn Limestone and Cotswold River
Consists of 18 **600 x 600**, 24 **600 x 300**, 24 **300 x 300**