



Exterior paving installation guide

Natural Stone and porcelain are premium products and we strongly recommend that installation is carried out by an experienced professional. The following is a guide only and you will need to take the advice of your contractor who will be able to assess the variable factors on site and, if necessary, tailor the installation process to your specific requirements.



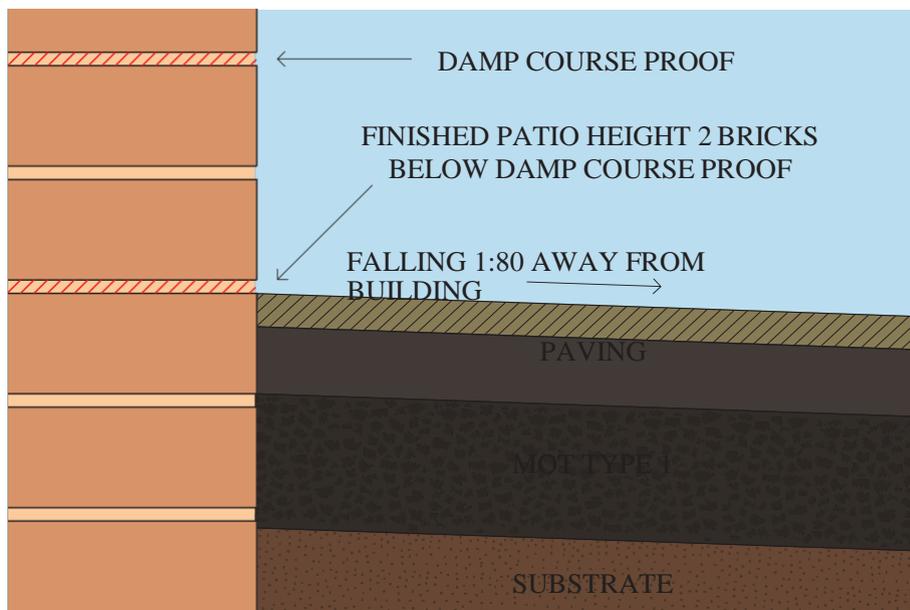
Certain Natural Stone products will require sealing prior to installation. This information is given in the Product Guide that will be sent along with your order confirmation.



London Stone recommend that installation work is undertaken by an experienced professional who will be able to provide advice based on specific site conditions.



Drainage



Prior to paving, drainage should always be considered. Wherever possible, drain away from the house and ensure that the finished height of the paving is two courses below the damp proof course, unless appropriate allowances are made. Paving should be laid with a fall of 1:80. The fall needs to be applied to the excavation and the sub-base to ensure that all layers in the construction are equal.



London Stone strongly advise seeking expert assistance.



Natural stone colour variation



All Natural Stone slabs will contain variation in colour, shading, veining and other characteristics. Care should be taken prior to installation to ensure that variation is evenly distributed across the area to be paved. If multiple crates/packs are ordered, all crates should be opened and sorted to ensure even distribution of variation. Paving slabs do have a top and bottom; the top face will be the better looking of the two sides. The bottom will sometimes be grooved due to calibration.



If you are unsure which is which, please ask a member of our sales team who will be pleased to assist.



Natural stone chipping & damage



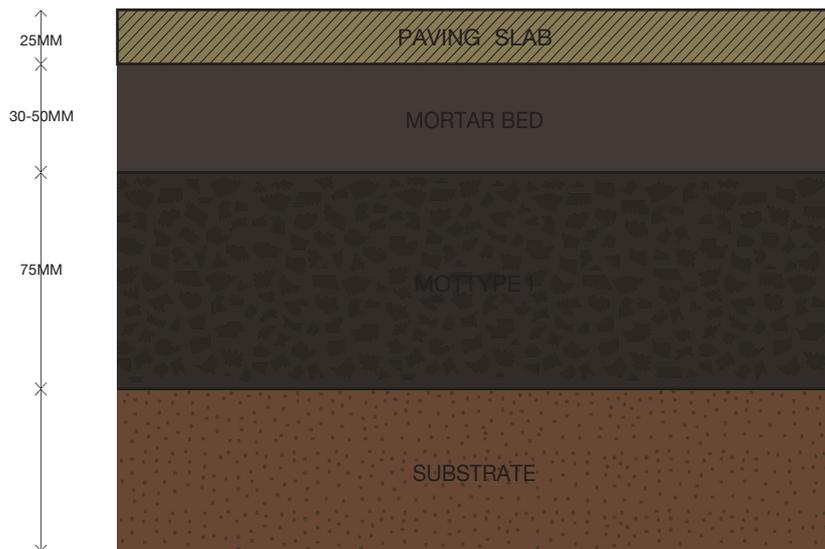
Natural Stone can contain small chips which is an unavoidable part of the production process and whilst as much care as possible is taken with handling, packaging and quality control some slabs will still contain small chips. Most chips will be virtually undetectable once the stone is installed & pointed and will not detract from the appearance of the finished project. Check all step treads for any cracks or damage prior to installation



This is unavoidable and is accepted as standard within the Natural Stone industry



Preparation for installing a patio



Excavate area to required depth.

Install recommended thickness of TYPE1 MOT and compact using a petrol compactor plate.

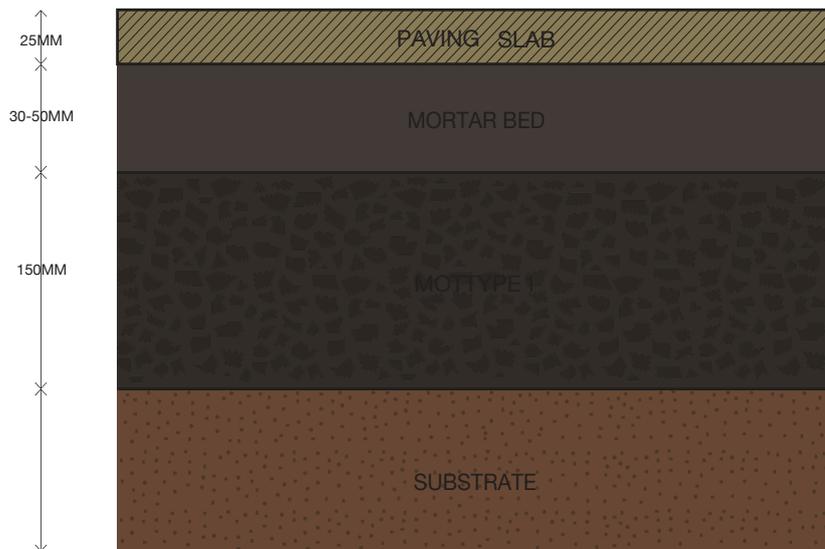
Use string lines along two opposite edges of the area to be paved. These strings will need to incorporate the fall of 1:80. There should be a level string joining

the two strings and paving should begin from a corner

with one of the fall lines and the level line. This could be along the back of a house or building. If the area of paving is wider than 5m, it is worth breaking up the area into segments as long strings will dip in the middle. The string lines will be set at the finished height and the plane which they create will be the exact surface plane of the completed patio. The paver should be level along one plane and sloping on the other plane. Confirm this using a spirit level.



Preparation for installing a driveway



Excavate area to required depth.

Install recommended thickness of TYPE1 MOT and compact using a petrol compactor plate.

Use string lines along two opposite edges of the area to be paved. These strings will need to incorporate the fall of 1:80. There should be a level string joining

the two strings and paving should begin from a corner

with one of the fall lines and the level line. This could be along the back of a house or building. If the area of paving is wider than 5m, it is worth breaking up the area into segments as long strings will dip in the middle. The string lines will be set at the finished height and the plane which they create will be the exact surface plane of the completed patio. The paver should be level along one plane and sloping on the other plane. Confirm this using a spirit level.



Measurements

Depth of excavation from finished height	Driveway = 225mm
	Patio = 150mm
Depth of sub base (MOT Type 1)	Driveway = 150mm
	Patio = 75mm
Mortar mix (Full bed 35-50mm)	Driveway = 4:1 Patio = 5:1 Please note: Only sharp sand should be used for the bedding mix. We would not recommend using any building sand in the mix at all, as this could lead to a weaker mix and possible discolouration of some stone. Portland Limestone should be laid using river washed sand and white cement to prevent discolouration .
Bond Bridge Mix	Mix SBR Bonding agent with cement until a thick liquid is achieved
Pointing (Larsen GPM or GftK)	5-15mm joints as recommended in the relevant product guide
Fall (Drainage)	1:80



Please seek advice if you intend to pave a driveway. Our sales advisors will be happy to advise which materials are suitable for this purpose.



London Stone recommend that installation work is undertaken by an experienced professional who will be able to provide advice based on specific site conditions.



Beginning installation



With certain lower porosity stones, such as Granite, Limestone, Slate or Porcelain Slabs, a bond bridge should be used to increase adhesion between the slab and the bedding course. The bond bridge should be a mixture of SBR bonding agent and ordinary cement. Mix in a bucket until a thick liquid is achieved and paint on to the underside of the paver immediately prior to laying. This mixture is extremely difficult, if not impossible, to remove once it has set so extra care should be taken not to get any of the mixture on the surface of the pavers. Remove any splashes with a wet sponge straight away.



Build a mortar bed



Take some semi-wet mortar and spread out a full bed, slightly larger than the first paver to be laid. Using a trowel, create peaks and troughs in the mortar. Place the paver on top of the mortar. At this point, the paver should be sitting higher than the string lines. Using a rubber mallet, tap the paver down until it aligns with the strings. The paver should be level along one plane and sloping on the other plane. Confirm this using a spirit level.



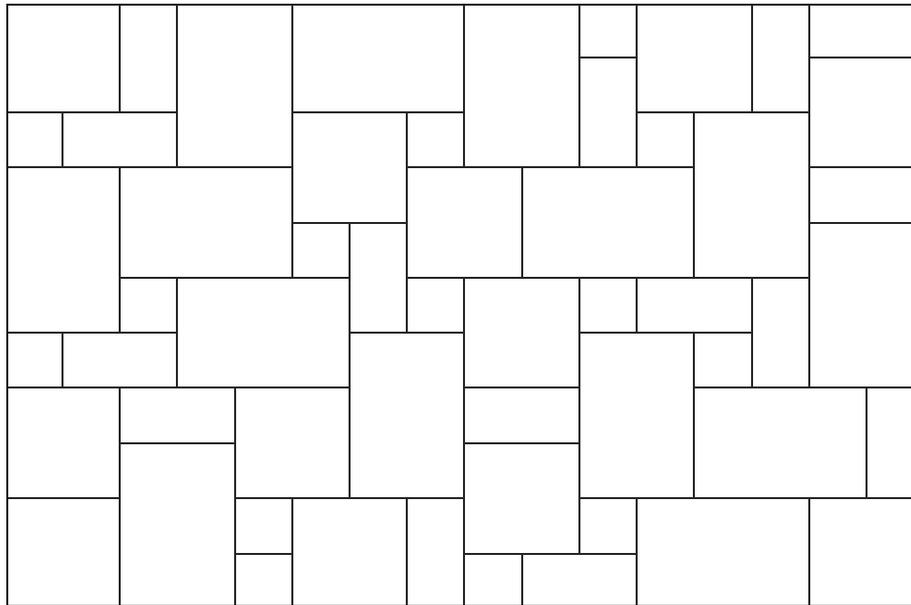
Always use a full bed of mortar. Never lay paving on 'dots and dabs' of cement.



If you are installing Portland Limestone, always use river-washed sand and white cement to prevent discolouration to the stone.



Random size paving



When laying random paving, the rules to ensure the best result are as follows;

Never lay more than four slabs in a row so that their edges create a continuous straight line.

Never lay four slabs with their corners meeting at one point creating a 'cross'.

Lay roughly equal numbers of each size of paver. i.e. you want to avoid one half of the patio being made up of small pavers, whilst the other half uses only large slabs.



Regular size and single size paving



When laying single size paving, more string should be used. One more string should be laid parallel to the level line; this should be set as the gauge of paving +5mm away from the level line. i.e. when 600x600 pavers, the parallel line should be 605mm away from the level line. The height of the line will be governed by the fall lines already set. After this, the paving should

be laid as previously described. Periodically check that the strings are in the correct position. When the row is complete, simply move the string the required distance along the fall lines for the next row of paving.

Repeat the process as required until the whole area is paved. Continue checking levels as you go with a spirit level or straight edge. Leave pointing gaps as recommended in the appropriate Product Guide (pointing gaps will vary depending on the paving material used). Remove any mortar spills on the surface of the pavers as you go with a clean, damp sponge.