

LBS Indian Sandstone Paving – Installation Guide

Prior to installation

The product should be inspected upon delivery. If you notice any issues, please report them to LBS immediately and do not proceed with installation.

Before commencing installation, you may need to sort the product to ensure a consistent colour, texture and dimensional tolerance throughout. As this is a unique natural stone product, there will be slight colour variances between the units.

Health and Safety Information

All necessary Personal Protective Equipment (PPE) should be worn during the construction process and safe working practices should be employed at all times.

Pavement Design

A minimum sub-base of 100mm should be sufficient for most domestic applications. However, the ground conditions as well as the type and frequency of anticipated loads must be considered for the paving design. If the area is subject to prolonged periods of direct sunlight, is based in a highly exposed location or the selected paving colour is dark, you must also allow for the inclusion of movement joints, at 6m centres.

Excavation

A certain amount of excavation may be required for the new paving to be installed correctly. The depth of this excavation will depend upon the thickness of the required sub-base, together with the sand and/or mortar and the thickness of the paving flag. When working out the depth of excavation required, considerations must be made to ensure that the finished surface level of the paving, when laid up to an existing structure, is a minimum of 150mm below the damp-proof course to avoid problems with rising damp in the structure.

Edge Restraints

Edge restraints should be strong enough to resist the lateral displacement from loadings placed upon the pavement and should be fitted prior to the installation of the sub-base. The restraint must provide a consistent vertical face to a level below the laying course material.

Sub-base - Material Selection

The granular sub-base should be well graded (40mm to dust) Type 1 quality material. Material of an inferior quality may result in failure under loading and will be susceptible to movement caused by frost or moisture. If recycled materials such as crushed masonry or concrete are well graded and compact to give a close textured finish, these can also be considered. You should not use materials containing organic matter.

Sub-base – Construction

The sub-base material should be installed in layers and each layer should not exceed 75mm in thickness or twice the nominal maximum aggregate size. Fully compact each layer before placing the next. The sub-base tolerance should be +5 -10mm from specified levels.

Sub-base material should be placed in layers not exceeding 75mm in thickness or twice the nominal maximum aggregate size. Each layer should be fully compacted before the next layer is placed. Sub-base tolerance to be +5 -10mm from specified levels. The surface should be clean and have a suitably close texture to prevent migration of finer material through the construction.

You must incorporate a minimum longitudinal fall of 1.25% (1 in 80) and cross-fall of 2.5% (1 in 40) in the sub-layer construction to allow for adequate surface water run-off from the wearing course.

Tolerances

As these are natural stone products, you will encounter small variations in size. Bedding the product in mortar during installation will accommodate for any variations in thickness.

Rigidly Laid Paving - Material Selection

Units should be cleaned using a sponge and water to remove any dust, loose material, or packaging. Stack the units on timber battens with spacers between them to avoid damaging them. Apply paving primer to the back of each unit before placing them in the bedding mortar. Priming the product assists bonding and helps to prevent any potential marks and moisture appearing on the surface of the paving units. It is also useful practice for ensuring other associated elements such as wall copings and pier caps stay in place.

Paving flags should be supported on a full 'wet' workable mix mortar bed, consisting of 1 part cement to 3/4 parts sharp sand. The mortar bed should be laid at a thickness of 30-40mm (which will be reduced to approximately 25mm after the paving is tamped down). However, to ensure that units are completely supported and do not move, some adjustment may be necessary. The addition of a bonding agent to the mortar can aid the bonding.

Consistently check levels and the gradient across the units. String lines can be useful to define levels and lines within the laying pattern to ensure the correct joint width. Spacing packers are helpful for use as temporary spacers.

A damp mortar mix of 1 part cement to 4 parts building sand can be used for most paving units where a minimum joint of 10mm is required and the paving unit is a minimum of 22mm thick. If any mortar gets onto the surface of the units, clean off immediately using a damp sponge which has been frequently rinsed in clean water.

You must not brush dry or semi dry sand/cement mixes into the joints as this practice will cause staining in the paving and does not create a true rigid joint.

We do not recommend butt-jointing for any of these products.

Cutting

If any units require cutting, this should be carried out using a water and dust suppressed diamond tipped power saw. Please note that the finish achieved will depend greatly on the cutting mechanism used and the operator's skill level. If more than a quarter of the flag requires cutting then the remaining piece should be cut at an angle of 45°, from the internal corner of the cut to the external corner of the flag.

Sealing

Due to the geological properties of natural stone paving, we advise that the product is sealed. LBS supply Stontex Sealer which is specifically formulated for use with Indian Sandstone and Limestone and provides an invisible layer of protection. It is available in 5 litre drums and each drum covers 30-40m². The sealer should be tested on a small sample of stone before applying to the full area. It is an acrylic based sealer and should be applied with a paint roller. One coat should suffice, but if you wish to apply a second coat, you must wait 24 hours between applications. Once applied, the sealer will last 3-5 years before the paving needs to be re-sealed.

Inclement Weather

Paving should not be laid when the temperature is below 3°C or where weather conditions are such that the performance of the paving may be compromised. All unfinished areas and remaining materials should be covered in the event of extreme weather to prevent saturation.