



A R C H I T E C T U R A L S U R F A C E S

INFORMATION & GUIDELINES FOR THE INSTALLATION OF BASALT PAVERS

FOUNDATION

The foundation should be a firm strata that bears the load of the pavers. It is required to maintain its unaltered physical and mechanical characteristics and must be non-compressible. From a functional viewpoint, its structure is aimed at creating slope and, in the case of outdoor paving, for the draining of surface water.

The choice of foundation type is the function of the existing terrain and of the load to be borne by the pavement. Two main types of foundation exist: Gravel base and the concrete slab.

Gravel Base is compacted gravel at least 30 cm thick, consisting of chunks of larger gravel in contact with the ground and smaller grains above to obtain effective surface compactness.

Concrete slab consists of a 10 to 15 cm thick layer of concrete mixed at 250 kg of cement per m³ of suitably graded inert material, slightly reinforced against shrinkage.

SETTING BED

This is the actual paving bed, placed on top of the foundation. There are two methods for setting a paving bed:

Sand setting consists of crushed stone gravel (split type) 3–5 mm, polyhedral in shape, washed and sorted. This type of sand not only provides the pavement with great stability after compacting, but also drains water both during and after pavement setting.

As an alternative, another kind of bedding consists of 0–6 mm coarse sand, cleaned and soil-free. The sand used for the bedding layer can be mixed with dry cement added in the ratio of 150 kg per m³ of sand in order to prevent sinking. When setting binders and cubes, a bedding of sand and cement is recommended.

Dry Mortar Setting consists of dry-mixed sand and cement in the ratio of 400 kg of cement per cubic meter of sand. Considering that the thickness of the sand bed will decrease by about 2 cm because of installation operations, its initial thickness should range from 6 to 8 cm according to the height of the building element. During the design phase, it is important to remember that the finished pavement will consist of the thickness of the product plus 4–5 cm of pressed sand.

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COMPACTING

Once setting of the stones is completed, special large brushes are used to clean the surface. The spaces between elements are then filled with sand or a mixture of sand and cement. At this point, compacting is performed to press every single piece into final position in the bedding layer and therefore obtain a perfectly even surface. The pavement should receive at least two compacting treatments in two directions. When sand alone is used for setting, the surface is drenched with water following the first round of compacting and before starting the second one. When sand and cement are used, the quantity of water used is less prior to the second compacting phase. After compacting, the pavement is carefully rinsed in order to remove any surplus cement.

GROUTING

The last phase of SOLI Basalt installation is joint grouting between the stones. If possible, this is done with a binding material. Among the various sealing systems, the most commonly used are sand and cement slurry.

- 1) Grouting using sand is done by distributing over the paving, after compacting, a layer of fine sand (0–4 mm), and filling in all of the joints by using a large brush. The sand must be left on the paving for at least 15 days to ensure complete packing of the joints, after which the surplus sand can be removed. This technique allows for the complete recovery of the stone in the case of paving removal for excavation works, but requires greater maintenance because sand is easily removed by streaming surface water.
- 2) In the case of joint sealing using cement slurry, it is first necessary to verify that, during compacting, the depth of the joints between one element and the next has increased by 1.5–2 cm. Then the slurry, obtained by mixing equal parts of fine sand (0–4 mm), water and cement, is applied and pushed into every joint using rubber squeegees. As soon as the mortar starts to set, the surface is cleaned by removing excess mortar with large brushes aided by a flow of water.

To prevent cement from depositing on the surface of the granite, it is possible to apply a non-stick product using special rollers, so that the cement will only remain in the joints. Any remaining cement residue can be removed by covering the surface with wet sawdust that is then collected and removed. Any cement halos can be removed using sulphuric acid mixed with water or other acid products commonly found on the market.

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CUTTING

Cuts can be made to basalt tiles with a wet saw using a diamond blade.

SEALANTS

Depending on the nature of use, sealers may or may not become necessary. BEFORE applying sealant, wash the tiles and let dry for 24–48 hours. This will ensure that moisture is not present under the surface of the tile. Failure to allow tiles to dry completely before application will result in permanent discolorations. We recommend testing all sealants on a single tile before application. There are various products available on the market, however, we recommend contacting your nearest tile supplier for the most appropriate sealer for your application.

You can change the look and color of the stones depending on the sealer you select — ranging from color enhancement, to different levels of gloss finishes, or just leaving them natural. Whenever using sealants and acids, please ensure that you follow the manufacturer's recommended method of application.

CARE & CLEANING

SOLI Basalt tiles must be regularly cleaned and maintained to extend the life and beauty of the tile. The tiles can be cleaned with a neutral mild detergent, or a PH neutral cleaner. Staining may occur if the tile is left unsealed. Consequently, any spills should be cleaned quickly to lessen the degree of the stain. For tiles in high traffic areas keep surfaces clean from abrasive dirt. Do not use abrasive cleaners, powders, scouring pads, steel wool or sandpaper. Do not let soap, bleach or other cleaning solutions set on the surface.