



INSTALLATION DETAILS FOR DRIVESYS PATENTED DRIVEWAY SYSTEMS

MARSHALLS STRONGLY RECOMMENDS THAT DRIVESYS DRIVEWAY SYSTEMS ARE INSTALLED BY A TRAINED MARSHALLS REGISTER MEMBER

General Information

On delivery, the product should be inspected. If there are any issues, please report them immediately and do not commence installation.

Before installation commences a certain amount of sorting of the product may be required to ensure consistency of colour, texture and dimensional tolerance.

For driveways on an incline of 15° or more or that has specific installation and design requirements, please contact Marshalls Technical Advisory Services on 0370 411 2233.

Health and Safety Information

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

Pavement Design

For most domestic applications a sub-base of 150mm should prove to be sufficient. For the Drivesys Driveway System a Geotextile membrane needs to be placed below the granular sub-base and above the natural ground, this is to prevent particle migration of the sub-base. However, the paving design must be based upon the prevalent ground conditions and type and frequency of anticipated loads.

The Drivesys Driveway System is only suitable to be installed in areas where infiltration applies and the test criteria have been met according to the standard permeability test. The soil test is key, if the sub-grade soil is not permeable then Drivesys Driveway System cannot be installed.

Excavation

To allow the Drivesys units to be installed correctly, a certain amount of excavation is usually required. The depth of this excavation should equal the thickness of the required sub-base plus the laying course sand and the blocks. An extremely important factor to consider when working out the depth of excavation is that the

finished surface level of the blocks must be a minimum of 150mm below the DPC (damp proof course) to prevent rising damp.

Edge Restraints – in all cases an edge restraint must be installed

Edge restraints should be sufficiently robust to resist the lateral displacement from imposed loadings placed upon the pavement and are installed prior to the installation of the sub-base. In all cases the edge restraint must provide a consistent vertical face to a level below the laying course material. Under no circumstances must a Drivesys block be used as an edge restraint. Bedding a Drivesys block on a mortar bed and then haunched does not constitute an edge restraint.

Due to the contemporary joint on Drivesys Classic Paver, it is important that a joint is manually created by way of a spacer between the block and edge restraint to allow compound to fill the joint completely

Sub-Base Material Selection

Granular sub-base material should be well graded, 40mm to dust, Type 1 quality material. Inferior quality material may be liable to failure under loading and be susceptible to frost or moisture movement. Recycled materials such as crushed masonry or concrete can be considered, provided it is well graded and compacts to give a close textured finish. Materials containing organic matter should not be used.

Sub-base Construction

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 suitably close textured to prevent migration of finer material through the construction. A minimum longitudinal fall of 1.25% (1 in 80) and crossfall of 2.5% (1 in 40) should be incorporated in the sub-layer construction to provide adequate surface water runoff from the wearing course.

Laying Course Material Selection

Laying course material should consist of well-graded 'grit' sand (never building sand) compacted twice. The material should have uniform moisture content, being moist without being saturated. Under no account must any cementitious material be present in the laying course material.

Laying Course Construction

Final compacted target thickness for the laying course should be 30mm but never more than 40mm. A consistent thickness of bedding material should be maintained with gradients and falls being formed in the sub-base construction, not the laying course material. Under no circumstances should the bedding sand be used as a levelling course. Tolerances for laying course material are +10 -5mm.

Introduce the first layer of sharp sand and compact using a vibrating plate then introduce the final layer and screed to finished level. The laying course material is completely compacted prior to installing the Drivesys units and the surface levelled by screeding. A small trial area of laying course material can be compacted prior to

the commencement of installation, to establish its compaction properties. As a guide, the material when squeezed in the hand should show no free water, and bind together when the pressure is released.

Only sufficient laying course material should be placed within the current working period. Any disturbance of the screeded laying course material should result in rescreeding, with screeding rails being removed on completion, taking care to fully compact and make good any voids.

On completion of the day's work, no more than 1m of laying course material should be exposed, without cover by the blocks. All areas of exposed laying course material should be covered overnight, and during inclement weather to prevent saturation or frost action.

Block Laying

Drivesys units should be laid on the laying course material so that the final level is within the permitted surface tolerances. In all cases the blocks should be installed from a minimum of three packs to avoid any batch and colour variation. String lines should be utilised as often as required, this is necessary to ensure the bond pattern is maintained and straight lines are achieved in the finished paving. Units should be laid with a hand tight connection to the adjoining block.

Lay whole Drivesys units first, followed by cut units around obstacles or at the edges. No units should be cut down to less than one quarter of its original size to prevent looseness or dislodgement at a later date. Where it appears that only a small section of block will fit, the "inboard cutting" technique should be adopted. The use of a larger or full unit against the edge restraint, allows a smaller unit to be placed in the resulting place.

Where slopes, gradients or ramps are being constructed, placement of the units should commence at the lowest point ie: the bottom of the slope, working upwards. Drivesys The Original Cobble has a consistent gauge of 130mm and Drivesys Split Stone and Riven Stone has a 160mm gauge, it is imperative when laying that there are no vertical connecting lines.

Cutting

Cutting must be carried out using a power saw with a suitable diamond tipped cutting blade. It must however be noted that the aesthetic finish achieved will depend greatly upon the level of skill. Cut blocks should be inserted prior to completion of the working period or before the onset of inclement weather.

Compaction

Compaction should be undertaken with a plate vibrator with a protective neoprene/rubber mat. Failure to do so will result in damage to the face of the blocks. **Ensure vibration takes place before any jointing compound is introduced.**

IMPORTANT: DO NOT VIBRATE BLOCKS AFTER JOINTING COMPOUND IS INSTALLED AS THIS WILL RESULT IN THE MARKING OF THE BLOCKS

Drivesys Jointing Compound – FOR USE WITH ORIGINAL COBBLE, SPLIT STONE, RIVEN STONE & FLAMED STONE ONLY

Working temperatures should be between 5-25°C with no direct sunlight. Do not use in temperatures below 5°C and decreasing.

Lightly spray the surface of the blocks with water and brush the Drivesys Jointing compound in with a stiff brush, ensuring that all surplus Jointing compound is brushed off using a softer brush and a light spray of water from a hosepipe. Under no circumstances should any other compound be used with Drivesys Original Cobble, Split Stone, Riven Stone or Flamed Stone patented systems. Each delivery includes the correct amount of jointing compound to complete the installation. It is important that all jointing compound is removed from the face of the block as failure to do so will result in surface scratching and permanent marking. Once cured, the jointing compound will adhere to the block is not removed fully. Removal after curing will prove difficult.

Drivesys Narrow Jointing Compound – FOR USE WITH CLASSIC PAVER ONLY

Working temperatures should be between 5-25°C with no direct sunlight. Do not use in temperatures below 5°C and decreasing.

Lightly spray the surface of the blocks with water and brush the Drivesys Narrow Jointing compound in with a stiff brush. Once the compound has been brushed in, wash in additional jointing to ensure all the joints are completely filled. Due to the narrow size of the joint, more work is required to fill to full capacity. When complete, brush off any surplus jointing material using a softer brush and a light spray of water from a hosepipe.

Under no circumstances should any other compound be used with Drivesys Classic Paver patented system. Each delivery includes the correct amount of jointing compound to complete the installation. It is important that all jointing compound is removed from the face of the block as failure to do so will result in surface scratching and permanent marking. Once cured, the jointing compound will adhere to the block if not removed fully. Removal after curing will prove difficult.

Under no circumstances should dry or semi-dry sand/cement mixes be brushed into the joints. This practice leads to staining of the paving and does not constitute a true rigid joint.

Inclement Weather

Installation should be discontinued (and any open work face covered) if weather conditions are such that the performance of the Drivesys Driveway Systems may be jeopardised. In adverse weather conditions, units should not be laid on saturated laying course material. All unfinished areas and stockpiles of materials should be covered in the advent of inclement weather to prevent saturation. Jointing material should not be installed if temperature falls below 3°C on a falling thermometer or below 1°C on a rising thermometer. Please make sure you take into account the night temperature when installing.

If temperatures increase to 25°C and above, this will dramatically reduce the working time and curing time of the jointing material.

The surface has a protective seal which can remain slippery for a period of time the length of which will be dependent on weather conditions and use. Extra care must be taken during this period especially on steep incline.

Curing

It is highly recommended vehicles remain off the blocks for 3 consecutive days after brushing in of the jointing compound; this is to allow curing process to start and form a hard surface crust. The Compound will be fully cured after 28 days of being installed if the humidity is equal to or less than 65% and temperature is above 5°C.

It is NOT recommended to install Drivesys Paving on a radius. This is due to the patented contoured base being required to come into full contact with adjoining blocks forming complete uniform joints. Failure to comply will result in separation of jointing material from the joint.

Further Information

For technical advice on commercial installations, or when confronted by unusual problems or circumstances, please contact Marshalls Technical Advisory Services on 0370 411 2233, or by email on advisory.services@marshalls.co.uk