



Marshalls

Creating Better Spaces

INSTALLATION DETAILS FOR DRIVESYS DRIVEWAY CONCRETE SYSTEM

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

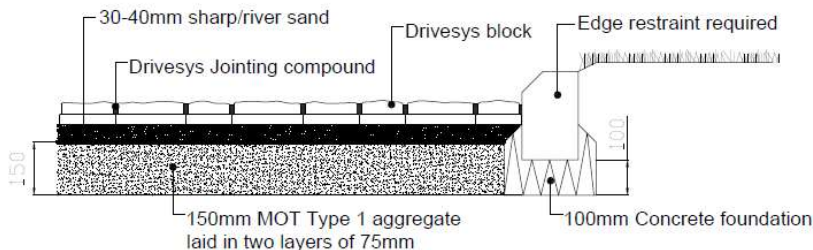
Safe working practices should be employed at all times during the construction process and all necessary Personal Protective Equipment (PPE) should be worn.

Pavement Design

For most domestic applications a sub-base of minimum 150mm should prove to be sufficient. However, the paving design must be based upon the prevalent ground conditions and type and frequency of anticipated loads.

If required, a geotextile membrane should to be placed below the granular sub-base and above the natural ground, this is to prevent particle migration of the sub-base.

The Drivesys Driveway System is only suitable for areas where the sub-base soil is permeable. If there is any doubt, then a standard permeability test should be undertaken, with the Drivesys units only being installed if the test criteria is met.



****Make sure rubber mat is used whilst vibrating the blocks, and also always vibrate prior to introduction of jointing compound****

8 Typical section through a driveway constructed in accordance with Marshalls Register Installation Procedures
D02 Scale 1:20 @ A3

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

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. The restraint must provide a consistent vertical face to a level below the laying course material.

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 cross-fall 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 (not building sand). 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.

Wearing Course - Laying

Drivesys units should be laid on the laying course material so that the final level is within the permitted surface tolerances. IF required, tap blocks into place with a rubber mallet/maul. 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.

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

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. 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 water suppression and 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.

Wearing Course - 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.**

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

Drivesys Jointing Compound

Drivesys Jointing compound should not be installed if temperature falls below 5°C on a falling 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.

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.

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.

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.

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 inclines.

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 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 further technical advice, 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