

## Ecopark 75 Heavy Duty

### Installation Guide & Ground Preparation

### How to install for grass surfaces:

1. Install the optional geogrid, geotextile and/or geomembrane onto the prepared subgrade formation.
2. Install the specified sub-base layer and optional drainage.
3. Install any edge restraints which may be specified. Timber, plastic or concrete kerbing are all suitable.
4. Install the filter/separator geotextile on top of the sub-base layer.
5. Install the specified sand bedding layer to a uniform thickness.
6. Ensure an accurate right-angled Ecopark 75 Heavy Duty laying pattern by setting-out the site using string-lines. Check the lines regularly for accuracy. Start installing the Ecopark 75 Heavy Duty grids. Wherever possible start laying from a right angled corner and progress across the site in rows. The grids can be installed in a width or lengthwise orientation and crossbonded if required or appropriate to fit the site. When installing the grids ensure that the male/female connectors are fully located together. Use protective gloves to avoid abrasions.

7. Ecopark 75 Heavy Duty can be cut to fit around obstructions & curves using a hand or power saw. Wherever possible avoid using small cut-pieces less than one-third original size.

8. When installed, fill the paver cells loosely to the finished level (top of cells) with the specified free-draining soil. Remove excess soil from the surface of the pavers and do not overfill the cells. A single pass with a light vibrating plate machine or roller may be used to firmly bed the pavers and settle the soil, but do not compact the soil. It is preferable that the soil is left just below the top of the cells to aid quality grass growth and reduce its abrasion by traffic. The surface may be trafficked by slow moving plant during the cell-filling process, but care must be taken not to displace the open-celled grids with heavy-treaded or tracked machinery, nor compact the soil during this operation.

9. Apply the grass seed and fertiliser at the recommended rates.

10. The surface may be trafficked immediately after the cells are filled but should be avoided if at all possible. It is strongly advised that the grass is allowed to establish fully then mown 2 or 3 times prior to regular use.

11. A routine management and maintenance programme to keep the surface in good condition and free of debris and weed growth, will help to sustain the porosity, quality and longevity of the system.



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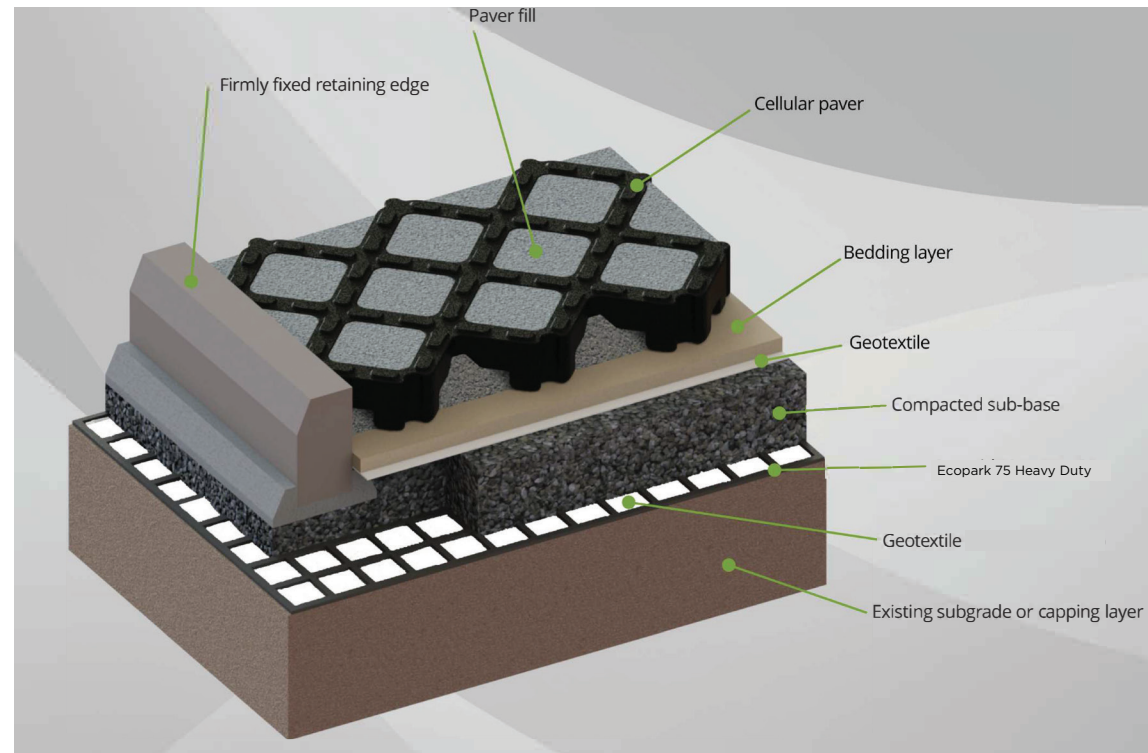
#### The Ideal Preparation For Installation

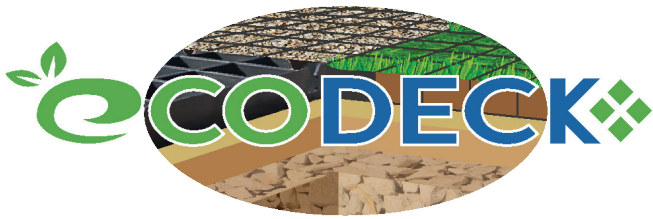
The sub-base layer is the main load bearing element in the system and is designed to spread the load of the cellular paving grids and any traffic thereon to the sub-grade below. A well-constructed sub-base will aid drainage and prevent settlement.

A sub-base works by distributing a point load over a larger area. The interlock between adjacent particles of the sub-base material greatly improves the ability of the ground to carry heavier loads.

A Type 1 sub-base material would normally be unsuitable due to the high fines content leading to minimal porosity and permeability. If this material is to be used, adequate sub surface drainage must be provided. Use of a Type 1 x, Type 4/40 or Type 3 sub base is suggested where a SUDS (Sustainable Drainage System) is to be installed. Type 3 is the most commonly used product (see note 2).

If a grassed finish is required to any of the grid systems, please contact us for advice regarding bedding and infill materials.





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### Build-Up Details

1. After removal of the existing top soil layer and levelling of the surface, a Geotextile should be rolled out over the existing sub-grade layer. This will provide additional strength to the construction and prevent intermingling of the different layers.
2. An Ecopark 75 Heavy Duty layer should now be installed. The Ecopark 75 Heavy Duty can help reduce costs by mechanically stabilising granular materials very efficiently. This product will extend the service life of the system and also helps to control differential settlement. When compacted over the Ecopark 75 Heavy Duty, the granular particles project through the grids apertures and are mechanically confined. This interlock, combined with the grid's near-uniform 360 degrees stiffness creates an efficient stiff composite layer.  
If a Ecopark 75 Heavy Duty is not used, the total granular sub-base layer thickness must be increased by minimum 50%. The use of the Ecopark 75 Heavy Duty will therefore greatly reduce the aggregate costs. If construction axle loads are to be greater than 6 tonne (approx. 60kn) the minimum sub-base thickness will be 150mm when used in

conjunction with the Ecopark 75 Heavy Duty. The stone size should ideally not exceed 60mm as it will not effectively interlock with the Ecopark 75 Heavy Duty.

3. Sub-base layer - depth according to the following guidelines
4. A second Geotextile layer should now be installed. This layer adds additional strength to the system and prevents the sub base and bedding layers mixing.
5. Bedding layer. Varies depending on product - cellular pavers with a built in ground spike will require a 5 to 20mm free draining angular gravel to a depth of around 40mm. This layer should be smooth and level to allow an even surface for laying the pavers onto. A light compaction with a whacker plate is usually sufficient. Do not over compact as these grids both have ground spikes that need to be installed into the bedding layer itself. Pavers with a flat underside should be bedded onto a level, well compacted layer of clean sharp sand to a maximum depth of 20mm.
6. The pavers can now be laid onto the prepared bedding layer working outwards laying adjacent grids into their connectors. A solid timber or concrete retaining edge is required for Ecopark 75 Heavy Duty and is also recommended for all other grid products.



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7. Fill layer of 5mm to 20mm sharp angular gravel. The angular gravels will fill the voids providing a secure, stable finish. A light compaction with a vibratory plate is also recommended to ensure even fill within the cells. It may be necessary to top up to ensure complete fill of the cells. Rounded or single sized gravels should not be used as they will not interlock or carry loadings as well and will also be prone to washing out during heavy rain.

#### Notes

1. The CBR (California Bearing Ratio,) is a measurement of subgrade soil strength. Please contact us for specific advice on soil CBR% strength, ground conditions, capping-layers & construction over weak ground with a CBR less than 1 %. For larger schemes, we are able to offer a design service. We will need to know the existing CBR and the proposed vehicle usage on the area. Our engineers will then specify the appropriate geotextile, grid and sub base depths to be installed.

2. Type 3 Sub-base. Pure crushed granite, limestone or clean crushed concrete. A 40mm product that has been

screened to create a reduced fines aggregate. This product is fully certified according to the Specification for Highway Works.

This is the most widely used sub-base where less fines are required. MOT Type 3 also known as DOT Type 3 after the Department of Transport (O01) specification for granular sub-base material and is also the most widely used approved sub-base where SUDS (Sustainable Urban Drainage Systems) when constructing permeable surfaces. In order for a product to be classed as 'Type 3' quality it must comply with the Department of Transport Specification for Highway Works, clause 805 (SHW 805).