TRUCKGRID
HEAVY DUTY POROUS PAVERS

INSTALLATION GUIDELINES

TRUCKGRID porous plastic pavers provide a solution to a wide range of traffic needs where a gravel/angular stone-free draining surface is required. These may include pedestrians, bicycles, cars, and vans. TRUCKGRID is especially suitable for occasional heavyweight vehicle traffic such as dustcarts, dray lorries, HGVs and forklifts.The application might be a car park, an emergency access route or wheel chair/disabled access. TRUCKGRID porous pavers for gravel retention have been designed, using carefully selected plastics, to meet the demands and loadings imposed across a wide range of end requirements and site conditions.

To ensure TRUCKGRID porous pavers for gravel surfaces and retention operates at its optimum working condition over a long period of time – which could be 20 years or more, the plastic pavers need to be installed correctly as per our guidelines described below. All TRUCKGRID plastic paver installations will have some basic requirements to the construction profile.
Some component parts to the profile will need to be designed – please see separate design sheet – to meet the needs of the client but the elementary building blocks are the same.

Installation steps

Prior to any work on site, it is highly advisable a site survey – even if only a rudimentary one – is done.
Questions like will the site drain naturally, what slopes – if any – need to be allowed for, what type of surface conditions and what type of soils are on site will need to be considered. Also it may be prudent to check if the type of soil on the surface is the same 200 to 400mm under the surface (will draining water be trapped on a non-porous layer?).

Also it will need to be considered that TRUCKGRID porous plastic pavers will require an edge retention system / kerb of some kind. This should be as substantial as 150mm x 150mm concrete road kerbs because of possible heavy-weight lateral loadings. Please refer to design guide or enquire for technical advice.

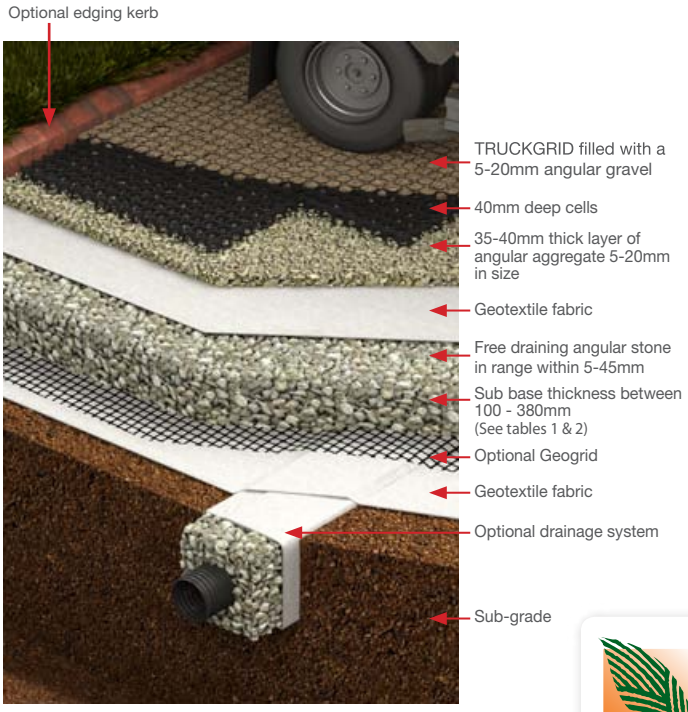
There are four basic layers to any construction profile.

1) The sub-grade

The sub-grade is at the bottom of the profile. This is the layer after removal of the existing soils to the required depth which has been calculated based on the type and frequency of traffic using the soil after installation and the ability of the existing soils to handle imposed loadings. The sub-grade could finish up to be as little as 100mm or as much as 500mm below the existing surface. It is advisable that the sub-grade is compacted – by roller or other method – and an even working surface created.

2) The sub-base layer

On top of the sub-grade a sub-base layer needs to be installed. The depth of this layer would have been pre-determined at an earlier date (please see separate design sheet). This sub-base layer needs to be stable and porous. The sub-base ideally / needs to be composed of a free draining sharp angular fill material (angular stone / aggregate), 95% of which the particle size is of a mixed nature between 5mm to 45mm with reduced fine content which would produce a stable and porous sub-base / hard-core after compaction. Crushed concrete would be generally unsuitable because of the high fine content and so having minimal porosity and permeability. The sub-base needs to be compacted to the required depth. At the bottom and the top of the subbase a geotextile separation layer needs to be installed. The geotextile will stabilise the sub-base by separating / filtering and so limiting fine material migration into the sub-base while being perme-



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able to allow water to infiltrate. The fines – if allowed in – would cause eventual deformation / dipping of the top surface and drainage issues. On top of the bottom layer of geotextile a 20KN geogrid can be applied to reduce the depth of sub-base used and also reduce the amount of spill caused by works.

Please see table in the design sheet for guidance. Not all sites will benefit from using a geogrid mainly due to economies of scale. Please contact our technical team for further direction.

3) The bedding layer
For a gravel finish, the bedding layer needs to be a free draining, sharp angular 5 to 15mm gravel laid to a depth of approximately up to 40mm on top of the top layer of geotextile (The geotextile that has been installed above the sub-base). This bedding layer may require compaction using a vibrator plate or roller. The bedding layer will be required to be smooth and level to allow an even surface for TRUCKGRID porous pavers to be laid onto.

4) Laying TRUCKGRID
TRUCKGRID should be laid from above onto the prepared gravel bedding layer, working from one corner laying adjacent paving grids into their connectors. TRUCKGRID plastic paving grids can be cut on-site using a handsaw, jig-saw or other mechanical saw to match site / client requirements, shapes and obstacles.

5) Filling the pavers
TRUCKGRID needs then to be filled with the same mixed 5 to 15mm sharp angular gravel. With the shearing action of the gravel TRUCKGRID becomes locked within the gravel and so is able to resist the dynamic loadings imposed by the surface traffic. A light whacker plate after filling may be applied to 'settle' the gravel and then a small top up to refill the cells if necessary. For cosmetic appearance some clients may wish to overdress slightly with gravel. There is generally no reason to overfill the cells – the extra gravel will simply be displaced to the edges by the traffic movements.

Notes on gravel
Experience has shown a mixed 5mm to 15mm sharp angular gravel gives the best results for providing a long term, very low maintenance wearing surface. The gravel pieces interlocks / shears with other and, more importantly with the specially designed TRUCKGRID pavers. The smaller particles fill the smaller voids and working with the TRUCKGRID, this gives a secure, locked sustainable finish. Single size gravel or even worse rounded gravel like pea shingle will in due course lead to issues and failure. The more rounded and single size the gravel, the quicker problems are likely to happen.