

## Permegrid PG40 – Permeable Ground Protection

The following instructions are intended as a guide only and a full site survey should be carried out prior to installation, in general the same preparation procedures used for traditional paving solutions as used in the construction of footpaths, driveways and access routes should be adopted.

These guide lines assume that a sub-base is to be used beneath the Permegrid PG40

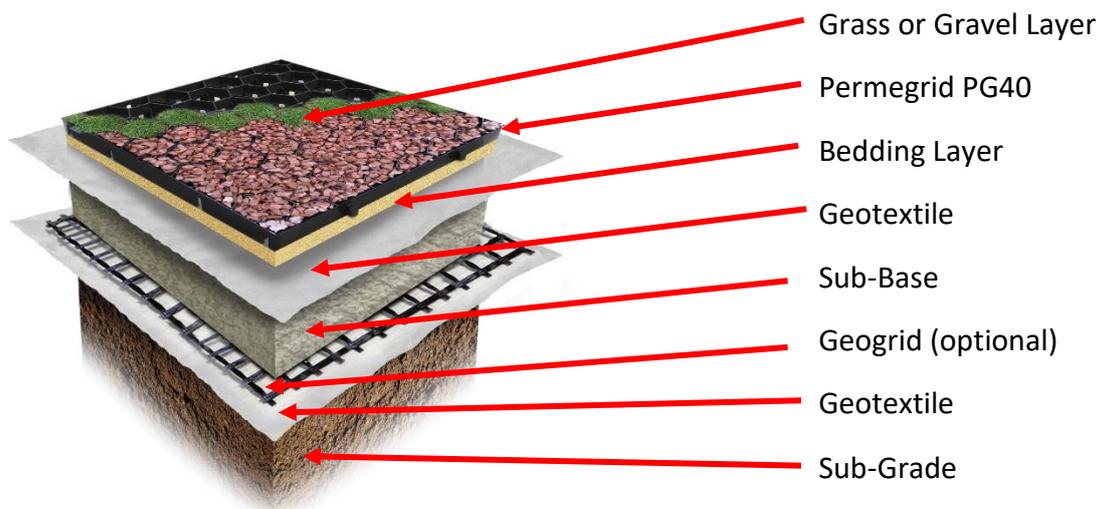
Project	Typical Depth
Shed Bases	0-50mm
Patios, Garden Paths	100mm
Driveways, Public Footpaths	150mm
Heavy Uses	250mm
Highways	450mm+

## Installation Guide

Prior to any work on site, it is highly advisable a site survey is done. Questions like will water drain off the site naturally, what slopes, if any, need to be allowed for, what type of surface conditions and the type of soil is on site also needs to be considered. Also is the soil the same 200mm – 400mm under the surface as on the surface or will water be trapped on a non-porous layer? A retaining edge should also be considered depending on the area of installation.

### 1 Sub-Grade

The sub-grade is the layer at the very bottom of the area where Permegrid PG40 is to be used. The required depth of this area should be calculated based on the type and frequency of traffic which will be using the installation after completion. The sub-grade could be as shallow as 100mm or as deep as 500mm below the existing surface. Ensure the sub-grade is compacted by roller or other mechanical method and that an even surface is created.



## 2 Geotextile

On top of the sub-base layer a geotextile separation layer needs to be laid, the geotextile will stabilise the sub-base by filtering out the fines and allowing water to filtrate through to the sub-grade.

## 3 Sub-Base

On top of the sub-grade and geotextile layer a sub-base is installed. The depth of the sub-base would have been determined when calculations were made regarding they type and frequency of traffic using the installation after completion. This layer needs to be stable and porous and ideally an angular stone with a reduced fine content DOT Type 3 or similar is the ideal product to use. This will create a stable and porous sub-base after compaction. Other hard core material would generally be unsuitable due to the amount of fines produced having a negative impact on permeability. Compact the sub-base to the required depth.

## 4 Geotextile

After compacting the sub-base to the required depth, install another layer of geotextile over the top, again this will stabilize the sub-base by separating/filtering and so limiting the fine material into the sub-base while being permeable and allowing water to filter through.

## 5 Bedding Layer

For a decorative aggregate finish, the bedding layer needs to be a free draining, angular 5mm -20mm aggregate laid to a depth of approximately 10-20mm on top of the layer of geotextile which covers the sub-base layer. This bedding layer requires compacting with a roller or other mechanical method to allow the Permegrid PG40 to be installed onto an even and level surface.

## 6 Permegrid PG40

Permegrid PG40 should be laid from above onto the prepared compacted level surface, starting from one corner and interlocking the Permegrid PG40 pavers with their inbuilt connectors. Permegrid PG40 can be cut with a saw to enable installation around obstacles such as manhole covers and fall pipes.

## 7 Parking Markers

At Permegrid we have a choice of either white, yellow or illuminous parking bay markers – as little or as many can be used to create parking bays within a car parking area. These are designed to slot into the grid and are firmly fixed in place. If parking markers are to be used, for ease, they should be fitted prior to the installation of the finishing layer.

## 8 Finishing Layer

The Permegrid PG40 pavers are now ready to be filled with your chosen decorative aggregate, ideally an angular chipping with a size range of 10mm – 14mm. Aggregate such as a 14mm Scottish Red Granite is an excellent choice due to its angular shape which knits together with very little voids. With the shearing action and angular shapes of the stones the Permegrid PG40 pavers become locked within the aggregate securing it in place resisting the movement of surface traffic. After the Permegrid PG40 has been filled the aggregate can be settled by using a light whacker plate – a refill can then be done to ensure an even distribution of stone within the Permegrid PG40. Permegrid PG40 can be left with its attractive grid pattern on show however some may wish to cover over the grid in its entirety, there is no reason why this shouldn't be done however the overfill will be pushed to the outside edges by regular vehicle movements thus requiring the excess to be raked over and levelled on a regular basis. Single size or rounded gravel should be avoided due its pushing and rolling nature.