

Permeable Paving



Is it permeable, porous or even pervious paving? When talking SUDS (Sustainable Urban Drainage Systems) it could be either of the three. (For the purposes of this Guide we will use the words "permeable paving" unless it is obviously porous or pervious).

Permeable paving is a relatively new range of products introduced into the construction industry, but one that is going to have a far reaching impact on the merchant sector for the foreseeable future.

Permeable paving is one of the key elements of SUDS and the European Water Framework Directive. From 1 October 2008, all front driveways being paved require planning permission.

Permeable paving must be used if the area to be "paved" is larger than 5 sq metres and the water run-off goes into the road or drainage system.

Not only is flooding a major concern for the country, the increased use of vehicles and machinery is causing large amounts of pollutants being fed into our sewers and watercourses. Permeable paving allows for these pollutants to be removed from the water run-off either through a sub-base or a geotextile.

Benefits of Permeable Paving (Infiltration)

- Allows water to pass through the surface into the permeable sub-base below.
- Enables the quality of the run-off water to be improved as it passes through the sub-base as it will remove much of the pollutants
- Reduces the risk of ice forming on the surface

With permeable block paving, the blocks, jointing, laying course and sub-base are all substantially different to conventional block paving.

Concrete/Clay Block Paving



To create a permeable concrete/clay block paving area the following are required:-

- Blocks which have large "nibs" on the sides to allow a suitable size void
- Jointing material – aggregates used should generally be a 1 – 4mm clean crushed stone
- Laying course – aggregates used should generally be a 4 – 20mm particle size
- Permeable sub-base containing NO fines
- In place of a permeable sub-base a raft structure can be used (plastic lattice, cellular units)
- Geotextile (optional) upper and lower

Permeable Concrete Slabs

Permeable Slabs have recently been introduced into the market. These slabs are an easy solution for a hard standing area for a car or caravan. The slabs contain a number of voids which are then filled with decorative gravel, offering a permeable solution.

Grass Pavers, Asphalt, Macadams and Gravel (Porous)

- Allows water to drain directly through the surface
- Enables the quality of the run-off water to be improved as it passes through the sub-base which will remove much of the pollutants

Where to use

Driveways - concrete/clay block pavers/gravel/porous asphalt or macadam

Paths – concrete/clay block pavers/gravel/porous asphalt or macadam

Car Parks – concrete/clay block pavers/porous asphalt or macadam

Non traffic areas – grass paving

Urban roads – porous asphalt or macadam/concrete/clay block pavers

Sub Base

The base should be well compacted coarse graded aggregate (CGA) laid on geotextile membrane, (not essential). The following depths for guidance only.

- residential driveway 250 – 350mm of CGA
- patios and light driveways 250mm of CGA
- driveways supporting heavy vans etc 350mm of CGA

Laying Course

This needs to comply with the "Grading Guide" of BS7533:3 (2005). Basically, this requires a 4 - 20mm clean hard grit. Fines should not be used as this tends to clog up the free running of water through to the sub-base.

The recommended thickness of a permeable laying course is 50mm.

Jointing

Aggregate 1 – 4mm clean crushed stone

Add-on Sales

- Products to enhance colour and stop oil staining (should be painted on rather than poured)
- Sub-base storm crates or attenuation cells
- Sub-base commonly known as CGA (Coarse Graded Aggregate)
- Bedding layer
- Geotextiles (construction grade)
- Block paving man-hole covers
Plate vibrator and block splitter hire

| | Permeable | Non Permeable |
|-------------------|---|------------------------|
| Sub Base | Coarse Graded Aggregate or storm crate or attenuation cells | MOT type 1 |
| Laying Course | Aggregate 4 – 20mm particle size | Course concreting sand |
| Jointing Material | Aggregate 1 – 4mm clean crushed stone | Dry pavior sand |

DOs

If in any doubt about what you are selling – seek guidance from the block manufacturer

Remind your customer that if any of the blocks are cut water suppression must be used

Depth of sub base will depend on ground conditions and should be checked by the contractor.

DON'Ts

Supply stabilising solution without seeking manufacturers guidance

For further information on this subject and other BMF SELLING... guides please visit www.bmf.org.uk

**15 Soho Square
London W1D 3HL**

**Tel: 020 7439 1753
Fax: 020 7734 2766**

