



CONCRETE BLOCK PERMEABLE PAVEMENTS Maintenance Guidelines

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Introduction

Concrete Block Permeable Paving (CBPP) technology has proven itself over decades of successful use in the UK and around the world - notably Germany since the mid-1980s.

Experience of CBPP in use in the UK over 15 – 20 years has demonstrated its long-term performance with minimal, if any, maintenance. Routine maintenance should be no more onerous than for impervious paving and the maintenance required for conventional below-ground gulley and pipe drainage is eliminated.

The following guidelines aim to ensure that the designed permeability, structural integrity and appearance of the CBPP are maintained throughout its life. They may be varied to suit particular conditions.

Design Detailing and Construction

Correct design, detailing and construction are essential to the long-term performance of CBPP and minimising maintenance. Guidance is available from the Interpave information resource at: www.paving.org.uk

In particular:

- design and detail soft landscaping to prevent soil and mulch being washed onto the permeable pavement.
- prevent impermeable contaminants such as soil and mud from entering the base and paving surface both during and after construction.
- ensure that joints between blocks are completely filled with the correct, permeable jointing material.

Full joints ensure structural integrity and protect the laying course and sub-base from silt, therefore it is essential that:

- **topping-up and vibration should be carried out 3 months after practical completion and also at final completion when site works have finished.** Further significant settlement would not then be anticipated.

Routine Maintenance

Over time, detritus and silt collects in the upper part of the joint material between blocks where a surface 'crust' is formed, protecting the laying course and sub-base

material while allowing infiltration. Research has demonstrated that the infiltration rate of CBPP will decrease due to this build-up in the jointing material, but then stabilise with age.

However, even after allowing for clogging, the long-term infiltration capability of permeable pavements will normally substantially exceed UK hydrological requirements. Also, the performance of CBPP is not significantly affected by moss or weeds in the joints, or by leaves collecting on the surface.

Generally, any problems will be revealed on the surface by ponding (permeability issues) or damaged or displaced blocks (structural issues). **In the absence of these indications, no remedial action is necessary.** Current routine maintenance regimes for other paving can be applied to CBPP as follows:

- **Cosmetic Cleaning** – non-aggressive brushing of the whole surface (avoiding disruption of the jointing material, with suction rates adjusted, based on a trial), either manually or mechanically, will help maintain performance and appearance. This should be carried out annually.
- **Visual inspections** - should be carried out and recorded during maintenance visits. Inspection of piped outfalls (where used) and control structures is also advised.
- **Winter maintenance** - controlled use of standard road de-icing techniques including rock salt may be used without detrimentally affecting the CBPP performance. De-icing chlorides should be used in accordance with suppliers' recommendations and are unlikely to result in an increase in ground chloride levels. CBPP generally requires less de-icing than impervious paving, although it can exhibit hoar frost sooner.
- **Weed control** – excessive weed growth, typically where vehicles do not pass over (trafficking prevents weed growth), can be managed by localised spot-treatment with weed killers containing Glyphosate, in accordance with suppliers' recommendations.

Remedial Actions

Over the longer-term allowance should be made to deal with any permeability or structural issues that might arise.

With the former, action will only be necessary with loss of permeability indicated by ponding on the surface of CBPP. In this event and in affected areas only, water-jetting or agitation brushing (either manually or mechanically with a suction brush set at a 30° angle to the pavement, to prevent aggregate migration) can be used to dislodge the affected jointing material. Joints should then be refilled with the correct, clean material and vibrated.

Information on structural remedial actions and reinstatement for block paving generally can be found on the Interpave information resource www.paving.org.uk