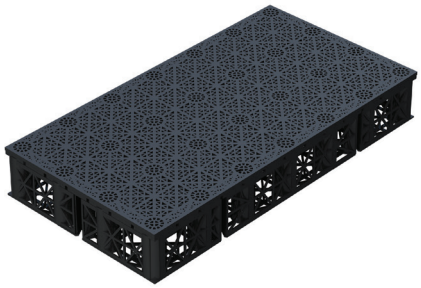
Permavoid Modular Cell 85

Data Sheet

PRODUCT INFORMATION **P1** **ISSUE 3 - JAN 2016**

Product code: PVPP85

Permavoid is a geocellular interlocking system designed for shallow ground water storage or infiltration, to be used in place of traditional aggregate sub-base. The system has an exceptionally high compressive and tensile strength and bending resistance with a proprietary jointing system to create a horizontal structural 'raft' within the pavement that is ideal for the shallow attenuation of surface water. The system can also be combined in layers using interlocking shear connectors to increase depth in 85mm and 150mm increments. This is particularly useful in designing infiltration systems, allowing flexibility in balancing the soil permeability/infiltration area of the Permavoid storage units and residual temporary attenuation.



Key Benefits

- High strength, high capacity, shallow, sub-base replacement system
- Stormwater attenuation and/or infiltration system
- Used as part of a sustainable drainage system (SuDS) scheme to offer stormwater storage at shallow construction depth
- 100% recyclable
- Units are manufactured from 90% recycled polypropylene (PP)

Applications

The Permavoid units are suitable for use as a stormwater attenuation and/or infiltration system. The system comprises of single, interconnected cells which can be installed in the ground as part of sub-base formation. Permavoid is suitable for use in a range of applications including residential, industrial estates, car parks, sports pitches, roofs, basements, pedestrian areas and rainwater harvesting.

Performance

The structural load bearing capacity of the Permavoid units have been tested in accordance with the following European Standard: BS 7533-13:2009. The system's structural design life expectancy, based upon creep test data (tested in accordance with CIRIA guidelines) is as follows; for lightly loaded areas such as car parks a design life of 50 years is achievable. For areas with prolonged HGV loading a typical design life may only be 25 years, depending on the design of the pavement surfacing and structural layers over the tank.

Installation Standard

All calculations for Permavoid units are based upon site-specific load cases, pavement construction types and thicknesses, soil cover and ground conditions and the suitability must therefore be approved for each project.

Technical Support

Detailed guidance and assistance is available.
For further information, please contact our Technical Team on **+44 (0) 1509 615 100** or email **civils@polypipe.com**

ELEMENT	VALUE
PHYSICAL PROPERTIES	
Weight per unit	2.25kg
Weight per square metre	9kg
Length	708mm
Width	354mm
Depth	85mm
SHORT TERM COMPRESSIVE STRENGTH	
Vertical	715kN/m²
Lateral	156kN/m²
SHORT TERM DEFLECTION	
Vertical	1mm per 126kN/m²
Lateral	1mm per 15kN/m²
TENSILE STRENGTH	
Of a single joint	42.4kN/m²
Of a single joint at (1% secant modulus)	18.8kN/m²
Bending resistance of unit	0.71kN/m
Bending resistance of single joint	0.16kN/m
Volumetric void ratio	92%
Average effective perforated surface area	52%
OTHER PROPERTIES	
Intrinsic permeability (k)	Minimum 1.0 x 10^{-5}
Ancillary	Permavoid Permatie Permavoid Shear Connector
Material	Polypropylene (PP)

HYDRAULIC PERFORMANCE			
3 units wide, 1 unit deep (1.06m x 0.15m)			
FREE DISCHARGE			
Gradient (%)	0	1	2
Flow Rate (l/m/s)	4	6	7

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