

As space becomes even more limited in the urban environment we need to look to more sustainable ways of managing the flow of rainwater. Traditionally, rainwater collection systems have been designed to collect and convey water away from the roof and podium levels as quickly as possible into the underground drainage system with minimal control of debris and pollutants.

By using the Polypipe water management and source control systems on roofs and podiums in conjunction with the trusted Terrain above ground drainage systems, building services designers can utilise these areas to integrate effective water management at source and control the flow of water at a designated rate into the underground drainage system.

Engineered Solution

Permavoid is an engineered, geocellular water management solution to meet the demands of current legislation and guidance.

BS8582:2013, code of practice for surface water management for development sites, on the integration and management of surface water run off within urban design and highlights the requirement for rainwater interception above ground.



The capture of rainwater at source and subsequent control of surface water runoff is integral to the SUDS philosophy.

Source control is a key element for interception, the capture and retention of the first 5mm of a rainfall event to prevent any surface water runoff occurring. This minimises changes in the volume and rate of surface water runoff from pre-development (greenfield / brownfield sites) to post-development.

SUDS Key benefits

Design

- Designed and tested for attenuation or soakaway at shallower depths
- Oil interception at source - no need for petrol interceptors

Installation

- Interlocking raft for rigidity and a high compressive and tensile strength under load
- Suitable for use beneath porous and non-porous surfaces

Application

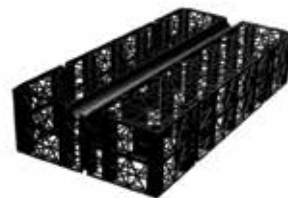
- Provides effective source control
- Allows water to be spread across a wide area
- Provides treatment to remove silt and hydrocarbon deposits

Permavoid Key benefits

- Individual modular units tie together using Permatie Interlocking connectors
- The Permaties have integral creep resistance
- The Permatie provides rigidity and minimises deflections
- Permavoid podium and roof interception systems comply fully with the latest CIRIA guidance on structural design of geocellular drainage tanks
- On multi layer systems Shear Connectors are inserted to maintain rigidity and minimises lateral displacement
- Permavoid geocellular units are manufactured from recycled polypropylene and can be recycled at the end of the useful life

Incorporating SUDS reduces flood risk and environmental damage. SUDS source control schemes can also be used to:

- Use rainwater as a resource
- Enhance amenity and bio-diversity
- Allow for the design of sub catchments within the built environment



Permavoid

(85mm and 150mm)

Geocellular storage system that fits together to form an interlocking raft of exceptional high compressive and tensile strength.

The Permavoid geocellular structures have a 95% void ratio, thus considerably enhancing the attenuation and storage capacity of Podium/ roof areas. The system is suitable beneath asphaltic, membrane, block paved or concrete finishes and has a high compressive strength and bending resistance to minimise the depth of bedding required.



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Look out for
the next Terrain Water
Management Solutions
Technical Bulletin
coming soon