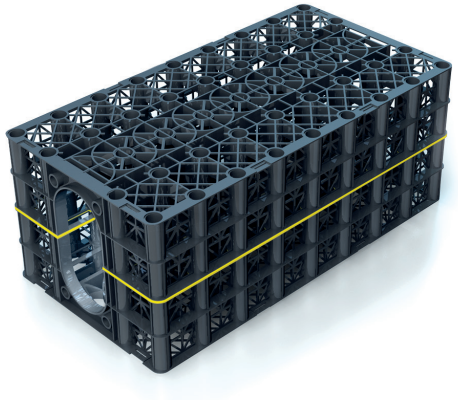
Polystorm Inspect

Data Sheet

Product code: PSM4

The Polystorm Inspect cell is complementary to the Polystorm range of modular cell solutions. Its primary purpose is to provide a tunnel along the length of a fully installed Polystorm structure to enable access for inspection and maintenance. Polystorm Inspect is a high strength thermoplastic cell which evenly distributes its load through the Polystorm structure. The tunnel end is left open by default but the unit can be closed off if required by clipping into place the moulded end plate. For purposes of identification the cell features a yellow centre section and end plate.



Applications

Polystorm Inspect is designed to work with the rest of the Polystorm range within a layered hybrid system enabling an intelligently engineered attenuation or infiltration structure to be created. It is intended to be used from the inlet point of the Polystorm structure. If used other than along an inlet tract, the Polystorm Inspect end plate should be used to cap off the tunnel entrance. The most cost effective way to create a tank is to use a combination of Polystorm Inspect cells and other Polystorm modular cells.

Key Benefits

- Creates a horizontal tunnel running through the middle of the tank to provide access for inspection and maintenance, i.e. jetting and rodding
- Can be used with Polystorm Lite, Polystorm-R and Polystorm (cannot be used in the same layer as Polystorm Xtra as the Polystorm Inspect cell is deeper)
- Tunnel can be used as a flow inlet track achieving greater stormwater flow distribution within the unit
- Large access tunnel (height 320mm and width 172mm nominal) – allows maximum field of vision while maintaining the system's structural performance
- High strength to weight ratio
- Light in weight cell – allows easier handling and reduced Health & Safety risk
- Utilises the same Shear Connectors and Clips as the Polystorm range
- The tunnel restricts the dissipation of silt in to the overall structure making inspection and maintenance easier
- Polystorm Inspect cells with 225mm (PSM4CRD225) or 300mm (PSM4CRD300) inlets are available

Technical Support

Detailed guidance and assistance is available.
For further information, please contact our Technical Team on **+44 (0) 1509 615100** or email **civils@polypipe.com** or visit **www.polypipe.com/civils-technical-hub**

UNIT TYPE	VALUE
PHYSICAL PROPERTIES	
Length	1m
Width	0.5m
Depth	0.4m
Total volume	0.2m³
Unit weight	11.6kg
Unit storage volume	0.188m³ (188 litres)
Void ratio	94%
SHORT TERM COMPRESSIVE STRENGTH	
Vertical	Maximum 440kN/m²*
Lateral	Maximum 63kN/m²*
SHORT TERM DEFLECTION	
Vertical	63.2kN/m² per mm
Lateral	5.5kN/m² per mm

Note: The table above is applicable to PSM4 without the end plate. End plates to be purchased separately as required.

* Compressive strength at yield, maximum recommended value for design purposes

Please note: The use of Polystorm Inspect does not negate the requirement for a Silt Trap to be installed prior to the Polystorm structure. The use of a Silt Trap or other silt prevention device would always be recommended.

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RECOMMENDED MAXIMUM DEPTH OF INSTALLATION (to cell invert) [m]

TYPICAL SOIL TYPE	TYPICAL ANGLE OF SHEAR RESISTANCE	WITHOUT GROUNDWATER (below base of cells) NORMAL CASE		WITH GROUNDWATER AT 1M BELOW GROUND LEVEL AND UNITS WRAPPED IN GEOMEMBRANE	
		Pedestrian	Trafficked (cars)	Pedestrian	Trafficked (cars)
Stiff over consolidated clay e.g. London clay	24°	2.3	2.0	1.8	1.7
Normally consolidated silty sandy clay e.g. alluvium, made ground	26°	2.4	2.2	1.9	1.7
Loose sand and gravel	30°	2.8	2.6	2.0	1.8
Medium dense sand and gravel	33°	3.2	2.9	2.1	1.9
Dense sand and gravel	38°	3.9	3.6	2.2	2.1

Note:
1) Stated depths based on the calculation methodology detailed within CIRIA C680 (2008)
2) Assuming a soil density = 19 kN/m³ water density = 9.81 kN/m³
3) Assumed ultimate limit state (ULS) partial factor of safety applied to: Material = 2.75 Live load = 1.5 Dead load = 1.35

Notes:

1. Unless stated, all values are nominal and may vary within normal production tolerances.
2. Polypipe reserve the right to change product specifications without prior notice.
3. This document is uncontrolled and updates will not be issued automatically.

RECOMMENDED MINIMUM COVER LEVELS [m]

LIVE LOAD CONDITIONS	PEDESTRIAN	LIGHT TRAFFICKED
		Car park with vehicle mass <6000kg
Minimum cover depth required (m)	0.50	0.60

Note:
1) Stated depths based on the calculation methodology detailed within CIRIA C680 (2008)
2) Assumed serviceability limit state (SLS) partial factor of safety applied to: Material = 1.5 Live load = 1.0 Dead load = 1.0
3) Shallower minimum burial depths may be applicable subject to specific site conditions.

Polystorm Inspect can be utilised in these SuDS techniques

TECHNIQUES												
Blue-Green roofs	Podium Decks	Trees	Sports Pitches	Cycle Paths	Permeable Paving (sub base & podium)	Bioretention & Rain Gardens	Attenuation Storage Tanks	Infiltration	Swales	Filter Drains	Detention Basins	Ponds & Wetlands	Filter Strips
			✓			✓	✓	✓	✓	✓	✓	✓	

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