



# GP® H

GP® H - high performance SUDS, permeable paving, hydrocarbon and gas barrier is a mono layer, high density polyethylene membrane specifically designed and manufactured to perform as a robust hydrocarbon protection system, which is suitable for use in various demanding geomembrane applications where hydrocarbons are present. GP® H is chemically resistant to a range of hydrocarbons, acids and aggressive ground salts, providing a solution for a range of demanding applications.

## TITANTECH®

For developers of brownfield and contaminated sites the TITANTECH® family of products represent a major step forward in safeguarding projects against gaseous and chemical contamination.

GP® H is a fully weldable, category 2 attenuation grade liner fully conformant to C753 and BS7533-13 and is CE marked for use in the following application areas: EN13361, EN 13362, EN13492, EN13493, EN13382 (listed requirements for SUDS system impermeable liners).

GP® H complies with the latest codes of practice as published by BRE and CIRIA. Suitable for use as gas and vapour protection for NHBC GREEN and AMBER 1 site characterisations. GP® H is also suitable as a hydrocarbon barrier for attenuation tanks, permeable paving and structural waterproofing.

<b>Thickness</b>	1.0 mm or 1.5 mm
<b>Width</b>	5.1 m or 2.5 m
<b>Length</b>	1.0 mm in 100 or 35 m 1.5 mm in 100 or 25 m
<b>Density</b>	0.939 g/cm <sup>3</sup>





Feature	Characteristics	Test Method	GP® H	
<b>Physical Properties</b>	Thickness	EN 1849-2	1.0 mm	1.5 mm
	Width	EN 1849-2	5.1 or 2.5 m	5.1 or 2.5 m
	Length	EN 1849-2	100 m or 35 m	100 m or 25 m
	Density	EN ISO 1183	0.939 g/cm <sup>3</sup>	
	Resistance to Roots	CEN/TS 14416	Impenetrable	
<b>Hydraulic Properties</b>	Permeability to liquids	EN 14150	1.0 x 10 <sup>-6</sup> m <sup>3</sup> /(m <sup>2</sup> .d)	
	Water Vapour Transmission	EN 1931	300 m	
	Water Tightness (60 kPa)	EN 1928	Pass	
<b>Mechanical Properties</b>	Resistance to Static Load	EN 12730-B	> 20 kg	> 20 kg
	Tensile Strength (MD)	EN 12311-1	850 N/50mm	1000 N/50mm
	Tensile Strength (CMD)	EN 12311-1	850 N/50mm	1000 N/50mm
	Tensile Elongation (MD)	EN 12310-1	950 %	950 %
	Tensile Elongation (CMD)	EN 12310-1	950 %	950 %
	Puncture Resistance	EN 12236	3200 N	4300 N
	Resistance to Impact	EN 12691(A)	> 700 mm	
	Tear Strength	ISO 34-1	140 N	
Shear Resistance of Welded Joint	EN 12317-2	850 N/50mm		
<b>Durability and Chemical Resistance</b>	Transmission Rate of Volatile Liquids - Diesel	ISO 6179:2010 (B)	0.047 g/m <sup>2</sup> /h	0.026 g/m <sup>2</sup> /h
	Transmission Rate of Volatile Liquids - Xylene	ISO 6179:2010 (B)	1.886 g/m <sup>2</sup> /h	0.549 g/m <sup>2</sup> /h
	Transmission Rate of Volatile Liquids - Toluene	ISO 6179:2010 (B)	4.432 g/m <sup>2</sup> /h	0.987 g/m <sup>2</sup> /h
	Transmission Rate of Volatile Liquids - Petrol	ISO 6179:2010 (B)	2.318 g/m <sup>2</sup> /h	0.623 g/m <sup>2</sup> /h
<b>Gas Permeability</b>	Methane Permeability	BS EN ISO 15105-1	< 55 ml/m <sup>2</sup> /day/atm	
	Carbon Dioxide Permeability	BS EN ISO 15105-1	< 55 ml/m <sup>2</sup> /day/atm	
	Radon Permeability	K124/02/95	1.1 x 10 <sup>-11</sup> m <sup>2</sup> /s	
<b>Compliance and Certification</b>	CE Mark - EN13967:2012			
	CE mark - EN13361, EN13362, EN13492, EN13493, EN13382			
	BS7533-13 and 'Code for Sustainable Homes 2006' Conformant			
	Conforms to CIRIA C697 and C753 as an Attenuation Membrane			

**JUTA UK**

Please contact JUTA  
UK Directly for more  
information on GP® H

GP® H provides resistance to root penetration from invasive species, including (but not limited to): Japanese Knotweed, Bamboo, Mustard Seed, Meadow Grass, Ivy, Hybrid Poplars, Willow, Elm, Maple, Mare's tail, ground creeping plants, edible plants and aquatic plants.



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## Application

GP® H is a robust weldable geomembrane suitable for attenuation tank encapsulations, porous sub-base installations, containment and cut-off trenches, structural waterproofing. GP® H is suitable for use where sites are affected but various hydrocarbons and VOC's. GP® H is a chemically inert membrane offering designers and specifiers a range of critical properties that meet the needs of today's demanding geomembrane applications including high water table sites. GP® H can be fully welded where required.

Note - where design and usage require compliance to BS8485:2015, BS8102:2009 and C748 for protection of inhabitants against ground gases and VOC's. It is recommended to use our GP® TITANFLEX® membrane system, which provides additional mitigation against the ingress of harmful gases and VOC's.

Every potential major development in the UK is examined for the risk of flooding following (1:100) storm events. Sustainable drainage systems (Known as SUDS) offer an alternative approach to traditional drainage. SUDS effectively manage drainage at source and aim to detain run off and release it slowly into watercourses. The "code for Sustainable Home 2006" (a code of practice for sustainable homebuilding) uses a sustainable rating system that helps designers' and builders' choice of development and also aids home buyers' selection of home. Category 4 "Surface water run off" mentions that added points will be cored if an attenuation system is used. GP® H, used in conjunction with an underground storm water system, increases the development's sustainable rating.

## Additional System Components

- 300TT - non-woven geotextile protector of use following installation to protect the membrane from damage against backfilling. Typically used in attenuation tank encapsulation, 300TT geotextile is a CE marked BS7533-13 and C753 conformant protection grade textile.
- GP® H Top Hat Unit - preformed pipe sleeve unit for sealing around pipe penetrations.
- PF2000 - non-woven geotextile protector for light weight protection from backfilling.



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**Installation**

GP® H should be installed on a blinded or smooth surface, free from sharp protrusions (typically maximum permissible particle size in direct contact with the membrane should be <10 mm). Avoid areas of unsupported membrane. Where required, adequate protection should be applied over the membrane to prevent damage after installation. GP® H exhibits superior welding properties, making it ideal for on-site welding joints.

**Storage and Handling**

Store in a warm clean and dry environment, with rolls stacked no more than 5 units high. GP® H is classified as non-hazardous. It is chemically inert and is not affected by acids and alkalis that may be present in the subsoils. The material is not recommended for uses where it will be exposed to long periods of outdoor weathering, such as exposure to Ultraviolet light that will embrittle the product. Care should be taken to avoid accidental damage when handling the membrane on site.

