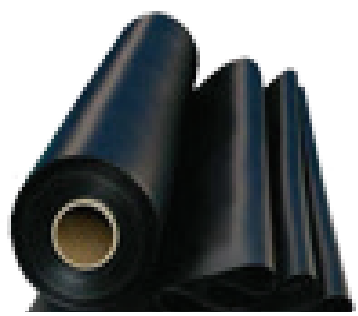


SOLSHIELD GP Titan Hydrocarbon Barrier



SOLSHIELD GP Titan Hydrocarbon Barrier is a multi-layer, polyethylene membrane. SOLSHIELD GP Titan is specifically designed and manufactured to perform as a Methane, Carbon Dioxide, Radon, Ground Gas, VOC, air & moisture, and Hydrocarbon protection system.



- Complies with latest codes of practice by BRE & Ciria C748
- Compliant with EN15105-1/2 testing & BS8485:2015
- Suitable for Ground Gas/Hydrocarbon protection to NHBC Green, Amber 1,2 & Red site characterisations
- Suitable against most aggressive chemicals
- Manufactured using the latest extrusion technology
- Market leading performance (see below)
- Also acts as a high performance DPM

SOLSHIELD - Gas Protection System

Last Issue Date 28.09.17

Product Description

SOLSHIELD GP Titan Hydrocarbon Barrier is a multi-layer flexible membrane, with a unique core component which is designed and manufactured to provide a barrier to the most aggressive chemicals and to comply with current guidance on Hydrocarbons. Manufactured using the latest extrusion technology. SOLSHIELD GP Titan has been developed as a new membrane suitable for applications that are affected by Hydrocarbons. There is a common misconception that monolithic polyolefin barriers, such as HDPE and LLDPE are effective barriers to resist Hydrocarbons. This is an incorrect assumption, as Hydrocarbons will readily permeate through monolithic polyolefin barriers. The product is available in roll format, 2.0m x 50m, (other dimensions available on request) in Black and Silver colour. SOLSHIELD GP Titan is also available as a tanking membrane for vertical application, as SOLSHIELD GP Titan Tank, and as a pre-applied membrane SOLSHIELD GP Titan Bond.

SOLSHIELD GP Titan Hydrocarbon Barrier offers a safe solution for the protection of buildings and occupiers against all levels of hydrocarbons, methane, carbon dioxide and radon ingress. Typically these are sites previously used as petrol

stations, coalfields landfill sites, contaminated industrial sites, Fracking sites, and heavily contaminated sites. The membrane also acts as a damp-proof membrane. Due to the flexible nature the SOLSHIELD GP Titan Hydrocarbon Barrier also provides a flexible membrane suitable for various applications unlike rigid HDPE rich membranes. SOLSHIELD GP Titan is designed to withstand the most aggressive environments. Testing has been completed in accordance with BS8485:2015 and Ciria C748 to determine the permeation rates for Methane, Carbon Dioxide, and a range of VOC's. Immersion testing has also been completed for Chemical Resistance to EN 14414 and EN 14415.

SOLSHIELD GP Titan has market leading performance as a Hydrocarbon Barrier and chemical resistant barrier with exceptional resistance to a wide range of pollutants including hydrocarbons, industrial chemicals, toxic waste, natural and radioactive gases; it also acts as a high performance DPM.

Note – there are materials on the market, declaring compliance with BS8485:2015 and C748, with listed test values for a range of challenge chemicals. User should be wary of 'Technical Data Sheets' showing test values reported as 'MDV' (manufacturer declared value), and always check the units of measurement against the ISO 15105-2 test. It is unethical, and illegal for suppliers of material to mislead end users with falsified information.

ISO 15105-2 Rate of Permeation (mg/m ² /day)				
	Benzene	Toluene	Ethyl Benzene	Xylene (m,p,o)
GP-TITAN	2250	2370	400	690
PURAFLEX	3846	3763	494	767
HDPE (1.0mm)	146626	151725	117912	114672

SOLSHIELD GP Titan Hydrocarbon Barrier

SOLSHIELD - Gas Protection System

Last Issue Date 28.09.17

Handling

Roll weights can be in excess of 20kg and appropriate care and equipment is required for unloading and handling.

Storage

SOLSHIELD GP Titan should be stored on stable/level ground and stacked not more than five rolls high, with no other material stacked on top. The rolls can be stored outdoors when packaged, but should be protected from exposure to UV.

Installation

SOLSHIELD GP Titan should be installed in accordance with the product installation guidelines, and in accordance with BS 8485:2015.

Jointing and Sealing

It is recommended SOLSHIELD GP Titan be heat welded where possible, with welding carried out by competent personnel with suitable qualifications in accordance with best practice, and guidance contained within BS 8485:2015. SOLSHIELD GP Titan should be overlapped by at least 100mm. If taping joints, only suitable tape must be used, ensuring application with a silicone roller to remove trapped air. SOLCO pre-formed details, or Self Adhesive Gas Membrane are available for sealing around protuberances.

Accessory Products

A wide range of accessories are available for use with the SOLSHIELD GP Titan.

Additional Information

For additional information or assistance, please contact SOLCO directly.



PLEASE NOTE - Product Data Values are Typical, with the exception of Thickness, which is Nominal. Typical indicates the mean value derived from the samples taken for any one test as defined in the BS EN ISO standard - usually the mean of five samples. Nominal is a guide value.

Durability and Chemical Resistance				
Chemical Resistance	SULPHURIC ACID (10% Solution of Sulphuric Acid (H2SO4)) 50° for 56 days	EN 14414 - A	Tensile Strength Retained	100%
			Result	PASS
	BASIC (Calcium Hydroxide saturated suspension) 50° for 56 days	EN 14414 - B	Tensile Strength Retained	100%
			Result	PASS
	SOLVENTS (35% Diesel, 35% Paraffin, 30% Oil HD30 (vol)) 50° for 56 days	EN 14414 - C	Tensile Strength Retained	>80%
			Result	PASS
	SYNTHETIC LEACHATE (Mixture of 14 acids, chlorides, sulphates and phosphate) 50° for 56 days	EN 14414 - D	Tensile Strength Retained	100%
			Result	PASS
Resistance to Leaching	HOT WATER (Deionised water) 50° for 56 days	EN 14415 - A	Tensile Strength Retained	100%
			Result	PASS
	AQUEOUS ALKALINE (Saturated Calcium Hydroxide) 50° for 56 days	EN 14415 - B	Tensile Strength Retained	100%
			Result	PASS
	ORGANIC ALCOHOL (30% methanol, 30% isopropanol, 40% glycol) 50° for 56 days	EN 14415 - C	Tensile Strength Retained	100%
			Result	PASS

SOLSHIELD GP Titan Hydrocarbon Barrier

SOLSHIELD - Gas Protection System

Last Issue Date 28.09.17

Product Data			
Characteristic	Test Method	Unit	Result
Physical Properties			
Thickness	EN 1849-2	mm	0.5
Width	EN 1849-2	M	2
Length	EN 1849-2	M	50
Weight	EN 1849-2	g/m ²	500
Hydraulic Properties			
Water Vapour Transmission Rate	EN 1931	g/m ² /day	0.93-0.95
Watertightness (60 kPa)	EN 1928	-	PASS
Watertightness (196kPa - 20m water head) [Basement Application]	EN 1928	-	PASS
Mechanical Properties			
Resistance to Static Load	EN 12730 - B	Kg	>20
Tensile Strength (MD)	EN 12311 -1	N/mm ²	25
Tensile Strength (CMD)	EN 12311 -1	N/mm ²	25
Tensile Elongation (MD)	EN 12311 -1	%	400
Tensile Elongation (CMD)	EN 12311 -1	%	400
Resistance to Impact	EN 12691 - B	N	900
Reaction to Fire	EN ISO 11925-2	Class	E
Resistance to Artificial Ageing	EN 1296	-	PASS
Resistance to Chemicals	EN 1847	-	PASS
Vapour Permeability - 100% concentration			
Transmission rate of Benzene	EN ISO 15105 - 2	mg/m ² /day	2250
Transmission rate of Toluene	EN ISO 15105 - 2	mg/m ² /day	2370
Transmission rate of Ethyl Benzene	EN ISO 15105 - 2	mg/m ² /day	400
Transmission rate of Xylene (m,p,o)	EN ISO 15105 - 2	mg/m ² /day	690
Transmission rate of Hexane	EN ISO 15105 - 2	mg/m ² /day	98.25
Transmission rate of Vinyl Chloride	EN ISO 15105 - 2	mg/m ² /day	36.44
Transmission rate of Trichloroethene (TCE)	EN ISO 15105 - 2	mg/m ² /day	1.44
Transmission rate of Tetrachloroethene (PCE)	EN ISO 15105 - 2	mg/m ² /day	1.59
Gas Permeability			
Methane Permeability	EN ISO 15105 - 1	ml/m ² /day/atm	0.13
Methane Permeability (Welded Joint)	EN ISO 15105 - 1	ml/m ² /day/atm	1.00
Carbon Dioxide Permeability	EN ISO 15105 - 1	ml/m ² /day/atm	3.01
Transmission rate of Vinyl chloride Gas	EN ISO 15105 - 1	ml/m ² /day/atm	0.04
Radon Permeability	SP Method 3873	m ² /s	3.0 x 10 ⁻¹²
Compliance and Certification			
CE Mark - EN13967:2012			
NHBC Standards Compliant			
CIRIA C748 Compliant			
BS 8485:2015 Compliant			

PLEASE NOTE - Product Data Values are Typical, with the exception of Thickness, which is Nominal. Typical indicates the mean value derived from the samples taken for any one test as defined in the BS EN ISO standard - usually the mean of five samples. Nominal is a guide value.