

SOLSHIELD GP TITANFLEX Gas & Hydrocarbon Barrier



GP TITANBOND is a a multi-layer, polythene membrane - specifically designed and certified to perform as a methane, carbon dioxide, radon, ground gas, VOC, air & moisture and hydrocarbon system.

- Complies with BS 8485:2015 & CIRIA C748.
- Quick and easy installation.
- Suitable for Ground Gas/Hydrocarbon protection to NHBC Green, Amber 1,2 & Red site characteristics.
- Good chemical resistance.
- Manufactured using the latest extrusion technology.
- Market leading performance.
- Also acts as a high performance DPM.
- Long term Durability (Guaranteed for the lifetime of a building).



SOLSHIELD - Gas Protection System

Last Issue Date 05.03.19
Rev 3

Product Description

Solshield GP TITANFLEX is a multilayer polythene waterproofing membrane with a gas and VOC resistant core.

Solshield GP TITANFLEX 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.

Solshield GP TITANFLEX, if installed, used and maintained in accordance with SOLCO guidelines, can satisfy or contribute to satisfying the relevant requirements in relation to NHBC Standards, Chapters 4.1 Land quality – managing ground conditions and 5.1 Substructure and ground bearing floors, Clause 5.1.20 Damp-proofing concrete floors, for use below the slab and in sandwich constructions.

GP TITANFLEX is used for gas/hydrocarbon protection for a number of site characteristics.

Due to the flexible nature the GP® TITANFLEX Hydrocarbon Barrier also provides a flexible membrane suitable for various applications unlike rigid HDPE rich membranes. GP TITANFLEX is designed and tested 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.



ISO 15105-2 Rate of Permeation (ml/m ² /day)				
	Benzene	Toluene	Ethyl Benzene	Xylene (M,P,O)
GP-TITANFLEX	<3.6	<13.8	<2.7	<7.7
PURAFLEX	3846	3763	494	767
HDPE (1.0mm)	146626	151725	117912	114672

SOLSHIELD GP TITANFLEX Gas & Hydrocarbon Barrier

SOLSHIELD - Gas Protection System

Last Issue Date 05.03.19
Rev 3

Handling

Roll weights are 50kg and appropriate care and equipment is required for unloading and handling.

Storage

SOLSHIELD GP TITANFLEX 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 TITANFLEX 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 TITANFLEX 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 TITANFLEX should be overlapped by at least 150mm. 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 TITANFLEX.

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
Resistance to Leaching	SYNTHETIC LEACHATE (Mixture of 14 acids, chlorides, sulphates and phosphate) 50° for 56 days	EN 14414 - D	Tensile Strength Retained	100%
			Result	PASS
	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 GPTITANFLEX Gas & Hydrocarbon Barrier

SOLSHIELD - Gas Protection System

Last Issue Date 05.03.19
Rev 3

Technical

Characteristic	Test Method	Unit	Size
Thickness	EN 1849 - 2	mm	0.5
Width	EN 1849 - 2	m	2.0
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	0.11-0.18
Watertightness (60kPa)	EN 1928	-	PASS
Watertightness (196 kPa - 20m Water Head) <small>(Basement)</small>	EN 1928	-	PASS
Mechanical Properties			
Resistance to Static Load	EN 12730-B	kg	≥20
Puncture Resistance	EN 12236	kN	≥2.0
Tensile Strength (MD)	EN 12311 - 1	N/50mm	>550
Tensile Strength (CMD)	EN 12311 - 1	N/50mm	>400
Tensile Elongation (MD/CMD)	EN 12310 - 1	%	>550
Tear Resistance (MD/CMD)	EN 12310-1	N	>300
Resistance to Impact	EN 12691-B	mm	650
Reaction to Fire	EN 13501-1	CLASS	E
Resistance to Chemicals	EN 1847 / EN 1928	-	PASS
Vapour Permeability (100% Concentration)			
Transmission Rate of Benzene	EN ISO 15105-2	mg/m ² /day	<3.6
Transmission Rate of Toluene	EN ISO 15105-2	mg/m ² /day	<13.8
Transmission Rate of Ethyl Benzene	EN ISO 15105-2	mg/m ² /day	<2.7
Transmission Rate of Xylenes (M,P,O)	EN ISO 15105-2	mg/m ² /day	<7.7
Transmission Rate of Hexane	EN ISO 15105-2	mg/m ² /day	<0.6
Transmission Rate of Vinyl Chloride	EN ISO 15105-2	mg/m ² /day	<0.05
Transmission Rate of Trichloroethene (TCE)	EN ISO 15105-2	mg/m ² /day	<54.7
Transmission Rate of Tetrachloroethene (PCE)	EN ISO 15105-2	mg/m ² /day	<26.2
Transmission Rate of Naphthalene	EN ISO 15105-2	mg/m ² /day	<0.00006
Transmission Rate of CIS-1,2-Dichloroethylene	EN ISO 15105-2	mg/m ² /day	<1.1
Durability & Chemical Resistance			
Radon Permeability	K124/02/195	m ² /s	1.0x 10 ⁻¹²
Carbon Dioxide Permeability	EN ISO 15105 - 1	ml/m ² /day/atm	3.01
Methane Permeability	EN ISO 15105 - 1	ml/m ² /day/atm	0.13
Vinyl Chloride Gas Permeability	EN ISO 15105 - 1	ml/m ² /day/atm	0.04

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.