Datasheet

SOLSHIELD GP TITANBOND Hydrocarbon Barrier

GP TITANBOND is a pre-applied waterproofing membrane comprised of GP TITAN and a specialist bonded geotextile to provide a bonding layer for poured concrete specifically for waterproofing applications, offering a safe solution for the protection of buildings and occupiers against all levels of hydrocarbons, methane, carbon dioxide and radon ingress.

CE TYPE A EN 13967

- **Complies with BS 8485:2015+A1:2019 & CIRIA C748.**
- **Quick and easy intallation.**
- **Suitable for Ground Gas/Hydrocarbon protection to NHBC Green, Amber 1,2 & Red site characteristics.**
- **Suitable against most aggressive chemicals.**
- **Also acts as a high performance DPM.**
- **Long term Durability (Guaranteed for the lifetime of a building).**

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Product Description

SOLSHIELD GP TITANBOND is a pre-applied fully bonded waterproofing membrane, incorporating the GP TITANFLEX membrane and a heavy duty virgin polypropylene geotextile. The geotextile is laminated to the membrane to provide a dual function; protecting the membrane from damage and providing an integrated 'bond' to poured concrete, ensuring a fully bonded waterproofing barrier which has exceptionally high resistance to ground gas and VOCs/Hydrocarbons.

GP TITANBOND is used for the Gas/Waterproofing/Tanking on underground structures, where harmful ground gases are anticipated.

The membrane can be used externally to provide an effective barrier to the transmission of liquid water where Grades 1 to 3 waterproofing protection is required, as defined BS 8102 : 2009. GP TITANBOND must not be used for negative side pressure waterproofing applications.

SOLSHIELD GP TITANBOND 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.

SOLSHIELD GP TITANBOND provides exceptional resistance to a wide range of pollutants, including hydrocarbons, industrial chemicals, toxic waste, natural and radioactive gases. The membrane can also act as a high performance DPM.

Due to its' flexible nature, SOLSHIELD GP TITANBOND 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 +A1:2015 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.

NOTE: Solshield Titanbond should only be used in vertical applications when it is pre-applied to shuttering, to allow adhesion to concrete when concrete is poured against Titanbond. For post-application to RC walls, use Solshield Titantank. A protection board or drainage medium should be placed against the membrane prior to backfill.

ISO 15105-2 Rate of Permeation (ml/m²/day)				
	Benzene	Toluene	Ethyl Benzene	Xylenes (M,P,O)
GP-TITANBOND	<3.6	<13.8	<2.7	<7.7
PURAFLEX	3846	3763	494	767
HDPE (1.0mm)	146626	151725	117912	114672

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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 TITANBOND 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 TITANBOND 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 and Self Adhesive Gas Membranes are available for sealing around protuberances.

Accessory Products

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

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

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Technical Data

Characteristic	Test Method	Unit	Size
Thickness	EN 1849 - 2	mm	2.0
Width	EN 1849 - 2	m	1.9
Length	EN 1849 - 2	m	25
Weight	EN 1849 - 2	g/m2	650
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) (Basement)	EN 1928	-	PASS
Mechanical Properties			
Resistance to Static Load	EN 12730-B	kg	≥20
Puncture Resistance	EN 12236	kN	≥2.5
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	EN 12310-1	N	>300
Resistance to Impact	EN 12691-B	mm	>1650
Reaction to Fire	EN 13501-1	CLASS	E
Concrete Peel Adhesion	ASTM D903 (MOD)	kN/m	>3.0
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 Permeabiltiy	K124/02/195	m^2/s	1.0x 10^{-12}
Carbon Dioxide Permeabiltiy	EN ISO 15105 - 1	ml/m^2/day/atm	3.01
Methane Permeabilty	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

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