



# GP® TITANBOND

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

CHARACTERISTIC	TEST METHOD	UNIT	GP® TITANBOND
<b>PHYSICAL PROPERTIES</b>			
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/M <sup>2</sup>	650
<b>HYDRAULIC PROPERTIES</b>			
WATER VAPOUR TRANSMISSION RATE	EN 1931	G/M <sup>2</sup> /day	0.14
WATERTIGHTNESS (60 kPa)	EN 1928	-	PA55
WATERTIGHTNESS (196 kPa - 20m WATER HEAD) (BASEMENT APPLICATION)	EN 1928	-	PA55
<b>MECHANICAL PROPERTIES</b>			
RESISTANCE TO STATIC LOAD	EN 12730-B	Kg	>20
TENSILE STRENGTH (MD)	EN 12311 - 1	N/50mm	>550
TENSILE STRENGTH (CMD)	EN 12311 - 1	N/50mm	>400
TENSILE ELONGATION (MD/CMD)	EN 12311-1	%	>550
TEAR RESISTANCE (MD/CMD)	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)	RN/m	>3.0
RESISTANCE TO ARTIFICIAL AGEING	EN 1296/EN1928	-	PA55
RESISTANCE TO CHEMICALS	EN 1847/EN 1928	-	PA55
<b>COMPLIANCE AND CERTIFICATION</b>			
CE MARK - EN13967:2012			
NHBC STANDARDS COMPLIANT			
B5 8485:2015 COMPLIANT [METHANE AND CARBON DIOXIDE BARRIER] AND CIRIA C748 COMPLIANT [VOC BARRIER]			
B5 8102:2009 COMPLIANT [TYPE A WATERPROOFING BARRIER]			



**GP® TITANBOND**

- ⊕ **Quick and easy installation.**
- ⊕ **Can be a fully welded system.**
- ⊕ **High resistance to ground gases.**
- ⊕ **Exceptional Chemical Resistance.**
- ⊕ **Manufactured to meet the most up to date British Standards and guidance.**
- ⊕ **Long Term Durability (performance guaranteed for the lifetime of the building).**

# TECHNICAL DATA

CHARACTERISTIC	TEST METHOD	UNIT	GP® TITANBOND
<b>VAPOUR PERMEABILITY 100% CONCENTRATION</b>			
TRANSMISSION RATE OF BENZENE	EN ISO 15105 - 2	mg/m <sup>2</sup> /day	2250
TRANSMISSION RATE OF TOLUENE	EN ISO 15105 - 2	mg/m <sup>2</sup> /day	2370
TRANSMISSION RATE OF ETHYL BENZENE	EN ISO 15105 - 2	mg/m <sup>2</sup> /day	400
TRANSMISSION RATE OF XYLENE (M,P,O)	EN ISO 15105 - 2	mg/m <sup>2</sup> /day	690
TRANSMISSION RATE OF HEXANE	EN ISO 15105 - 2	mg/m <sup>2</sup> /day	0.58
TRANSMISSION RATE OF VINYL CHLORIDE	EN ISO 15105 - 2	mg/m <sup>2</sup> /day	0.112
TRANSMISSION RATE OF TRICHLOROETHENE (TCE)	EN ISO 15105 - 2	mg/m <sup>2</sup> /day	54.67
TRANSMISSION RATE OF TETRACHLOROETHENE (PCE)	EN ISO 15105 - 2	mg/m <sup>2</sup> /day	25.91
TRANSMISSION RATE OF NAPHTHALENE	EN ISO 15105 - 2	mg/m <sup>2</sup> /day	0.00057
TRANSMISSION RATE OF CIS-1,2-DICHLOROETHENE	EN ISO 15105 - 2	mg/m <sup>2</sup> /day	3.09
<b>GAS PERMEABILITY</b>			
METHANE PERMEABILITY	EN ISO 15105 - 1	ml/m <sup>2</sup> /day/atm	0.13
METHANE PERMEABILITY (JOINTED)	EN ISO 15105 - 1	ml/m <sup>2</sup> /day/atm	1.00
CARBON DIOXIDE PERMEABILITY	EN ISO 15105 - 1	ml/m <sup>2</sup> /day/atm	3.01
TRANSMISSION RATE OF VINYL CHLORIDE GAS	EN ISO 15105 - 1	ml/m <sup>2</sup> /day/atm	0.04
RADON PERMEABILITY	K124/02/195	M <sup>2</sup> /5	1.0 X 10 <sup>-12</sup>
<b>DURABILITY AND CHEMICAL RESISTANCE</b>			
Chemical Resistance - SULFURIC ACID (10% solution of Sulfuric Acid (H <sub>2</sub> SO <sub>4</sub> )) 50° for 56 days.	EN 14414 - A	TENSILE STRENGTH RETAINED	100%
		RESULT	PA55
Chemical Resistance - BASIC (Calcium Hydroxide saturated suspension) 50° for 56 days.	EN 14414 - B	TENSILE STRENGTH RETAINED	100%
		RESULT	PA55
Chemical Resistance - SOLVENTS (35% Diesel, 35% Paraffin, 30% Oil HD30 (vol)) 50° for 56 days.	EN 14414 - C	TENSILE STRENGTH RETAINED	>80%
		RESULT	PA55
Chemical Resistance - SYNTHETIC LEACHATE (Mixture of 14 acids, chlorides, sulphates and phosphate) 50° for 56 days.	EN 14414 - D	TENSILE STRENGTH RETAINED	100%
		RESULT	PA55
Resistance to Leaching - HOT WATER (Deionised water) 50° for 56 days.	EN 14415 - A	TENSILE STRENGTH RETAINED	100%
		RESULT	PA55
Resistance to Leaching - AQUEOUS ALKALINE (Saturated Calcium Hydroxide) 50° for 56 days.	EN 14415 - B	TENSILE STRENGTH RETAINED	100%
		RESULT	PA55
Resistance to Leaching - ORGANIC ALCOHOL (30% METHANOL, 30% ISOPROPANOL, 40% GLYCOL) 50° for 56 days.	EN 14415 - C	TENSILE STRENGTH RETAINED	100%
		RESULT	PA55
Chemical Resistance - BENZENE - 100% Saturated concentration	EN 14414 - D (MOD)	TENSILE STRENGTH RETAINED	95% (MD) 102% (CMD)
		RESULT	PA55
Chemical Resistance - TOLUENE - 100% Saturated concentration	EN 14414 - D (MOD)	TENSILE STRENGTH RETAINED	94% (MD) 91% (CMD)
		RESULT	PA55
Chemical Resistance - ETHYL BENZENE - 100% Saturated concentration	EN 14414 - D (MOD)	TENSILE STRENGTH RETAINED	99% (MD) 97% (CMD)
		RESULT	PA55
Chemical Resistance - XYLENES - 100% Saturated concentration	EN 14414 - D (MOD)	TENSILE STRENGTH RETAINED	91% (MD) 106% (CMD)
		RESULT	PA55
Chemical Resistance - TCE - 100% Saturated concentration	EN 14414 - D (MOD)	TENSILE STRENGTH RETAINED	99% (MD) 93% (CMD)
		RESULT	PA55
Chemical Resistance - PCE - 100% Saturated concentration	EN 14414 - D (MOD)	TENSILE STRENGTH RETAINED	93% (MD) 93% (CMD)
		RESULT	PA55
Chemical Resistance - NAPHTHALENE - 100% Saturated concentration	EN 14414 - D (MOD)	TENSILE STRENGTH RETAINED	101% (MD) 93% (CMD)
		RESULT	PA55
Chemical Resistance - HEXANE - 100% Saturated concentration	EN 14414 - D (MOD)	TENSILE STRENGTH RETAINED	99% (MD) 104% (CMD)
		RESULT	PA55

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