



PUDLO GP Titan Bond Membrane

DESCRIPTION

PUDLO GP Titan Bond is a dual performance membrane that provides protection from gas including VOC's, Carbon Dioxide, Methane, Radon, Hydrocarbons and protects the structure from water ingress. **PUDLO GP Titan Bond** is a multi-layer, polythene membrane which is fleece-backed providing a fully bonded system to the concrete.

USES

For all aspects of gas protection and where a Grade 3 (waterproofing) environment is required as part of a dual system recommended in BS8102:2009. **PUDLO GP Titan Bond** can be used in horizontal or vertical application. **PUDLO GP Titan Bond** is suitable for all ground floor and basement construction including lift pits, slabs, liner walls, capping beams and service penetrations. **PUDLO GP Titan Bond** can also be used as single system.

BENEFITS

- Recognised as an accepted system for gas and water protection by NHBC.
- Full surface contact between the membrane and concrete.
- Quick and easy installation.
- Can be installed in all weather conditions.
- No requirement for priming. Overlaps are sealed by hot welding or joint tape (dependant on gas present).

PUDLO GP Titan Bond is pre-applied with the fleece backed material side facing outwards towards the concrete. **PUDLO GP Titan Bond** is classified as Type A (Barrier) system in accordance with BS 8102:2009. **PUDLO GP Titan Bond** hydrocarbon barrier offers a safe solution for the protection of buildings and its occupiers against all levels of hydrocarbons, methane, carbon dioxide and radon. **PUDLO GP Titan Bond** is manufactured and designed to withstand most aggressive environments.

TECHNICAL DATA

Testing has been completed and carried out in accordance with the new test criteria under BS 8485:2015 and CIRIA C748 to determine the permeation rates for a range of VOC's, methane and Carbon Dioxide. Immersion testing has also been completed for chemical resistance to EN 1441 and EN 14415.

Physical Properties

Characteristics	Test Method	Unit	PUDLO GP Titan Bond
Thickness	EN 1849-2	mm	1.0
Width	EN 1849-2	M	2
Length	EN 1849-2	M	25
Weight	EN 1849-2	g/m ²	700

Hydraulic Properties

Characteristics	Test Method	Unit	PUDLO GP Titan Bond
Water Vapour Rate	EN 1931	g/m ² /day	0.14
Water Tightness (60kPa)	EN 1928	-	PASS
Water Tightness (196kPa – 20m water head)	EN 1928	-	PASS



PRODUCT DATA SHEET

Mechanical Properties

Characteristics	Test Method	Unit	PUDLO GP Titan Bond
Resistance to Static Load	EN 12730	Kg	>20
Tensile Strength (MD)	EN 12311-1	N/50mm	>550
Tensile Strength (CMD)	EN 12311-1	N/50mm	>400
Tear Resistance (MD)	EN 12310-1	N	>300
Tear Resistance (CMD)	EN 12310-1	N	>300
Resistance to Impact	EN 12691-B	N	650
Reaction to Fire	EN ISO 11925-2	Class	E
Concrete Peel Adhesion	ASTM D903 (mod)	Kn/M	>3.0
Resistance to Artificial Ageing	EN 1296	-	PASS
Resistance to Chemicals	EN 1847	-	PASS

Vapour Permeability – 100% Concentration

Characteristics	Test Method	Unit	PUDLO GP Titan Bond
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	95.25
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

Characteristics	Test Method	Unit	PUDLO GP Titan Bond
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

Certification 7 Compliance

Organisation	Requirements
CE Mark	EN13967
NHBC	Chapter 5.4 & Traffic Light System
BS 8485:2015	Methane, Carbon Dioxide
CIRIA C748	VOC Barrier
BS 8102:2009	Type A (Barrier)

PUDLO GP Titan Bond complies with the latest codes of practice as set out by BRE, CIRIA C748, BS 8485:2015 and BS 8102. PUDLO GP Titan Bond is also suitable for use as a ground gas / Hydrocarbon protection from NHBC under the traffic light system (Green, Amber 1, Amber 2 and Red sites).



PRODUCT DATA SHEET

MEMBRANE OVERLAPS

Membrane overlaps are sealed using 2 different methods. The method of sealing overlaps is determined what gases are present and at what level following the review from the 3rd party gas verification plan. These methods are as follows:

VOC (Volatile Organic Compound) = Hot Welded Joint's only.

Carbon Dioxide and Methane = Hot Welded Joints or Tape (Dependent on gas verification report).

Radon = Tape only.

Note; PUDLO do not offer a warranty on gas protection only for waterproofing. Gas membrane installation when hot welding must be carried out by a 3rd party approved installer.

PACKAGING

2.0m x 25m roll. (50m²). Roll Weight = 35kg

ANCILLARY PRODUCTS

- PUDLO GP Titan Tape (100mm selvedge overlap tape).
- PUDLO GP Titan Bond EXT (300mm roll end tape).
- HDBR Waterbar (sealing construction joints).

HEALTH & SAFETY

PUDLO GP Titan Bond rolls are heavy and may need mechanical lifting. Please refer to **PUDLO GP Titan Bond** MSDS for more information.

FIRE

PUDLO GP Titan Bond is a product that is non-toxic nor flammable.

STORAGE & SHELF LIFE

PUDLO GP Titan Bond has a shelf life of 12 months when kept in dry conditions at a temperature of 5°C to 45°C. Storage at higher temperatures and high humidity may reduce the shelf life of the product.

For further information on accessories that are used with **PUDLO GP Titan Bond** please contact PUDLO Head Office on 01954 780687 or email sales@pudlo.com.