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PUDLO GP Ultra+

DESCRIPTION

PUDLO GP Ultra+ 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 Ultra+** is a multi-layer, polythene membrane which is fleece-backed (black fluffy side up) 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 Ultra+** can be used in horizontal or vertical application. **PUDLO GP Ultra+** is suitable for all ground floor and basement construction including lift pits, slabs, liner walls, capping beams and service penetrations. **PUDLO GP Ultra+** 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 Ultra+ is pre-applied with the fleece backed material side facing outwards towards the concrete. **PUDLO GP Ultra+** is classified as Type A (Barrier) system in accordance with BS 8102:2009. **PUDLO GP Ultra+** 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 Ultra+** 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 been completed for chemical resistance to EN 1441 and EN 14415.

Physical Properties

Characteristics	Test Method	Unit	PUDLO GP Ultra+
Thickness	EN 1849-2	mm	1.0
Width	EN 1849-2	M	1.9
Length	EN 1849-2	M	25
Weight	EN 1849-2	g/m ²	700



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PRODUCT DATA SHEET

Hydraulic Properties

Characteristics	Test Method	Unit	PUDLO GP Ultra+
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

Mechanical Properties

Characteristics	Test Method	Unit	PUDLO GP Ultra+
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 Ultra+
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 ULTRA+
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)



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PRODUCT DATA SHEET

PUDLO GP Ultra+ complies with the latest codes of practice as set out by BRE, CIRIA C748, BS 8485:2015 and BS 8102. **PUDLO GP Ultra+** 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).

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

1.9m x 25m roll. (47.5m²). Roll Weight = 35kg

ANCILLARY PRODUCTS

- PUDLO Ultra Tape (100mm selvedge overlap tape)
- PUDLO Ultra EXT Tape (300mm roll end tape)
- Surestop BWB
- Surestop SWB
- Surestop Adhesive
- Surestop SM
- Surestop Voidformer

HEALTH & SAFETY

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

FIRE

PUDLO GP Ultra+ is a product that is non-toxic nor flammable.

STORAGE & SHELF LIFE

PUDLO GP Ultra+ 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 Ultra+** please contact PUDLO Head Office on 01954 780687 or email sales@pudlo.com.