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PRODUCT DATA SHEET

PUDLO GP Ultra Tank

DESCRIPTION

PUDLO GP Ultra Tank is a multi-layer, flexible membrane with a unique core component designed and manufactured to provide a barrier to the most aggressive chemicals. **PUDLO GP Ultra Tank** should be used to provide gas protection above ground level.

USES

PUDLO GP Ultra Tank protects structures from gas including VOC's, Carbon Dioxide, Methane, Radon and Hydrocarbons. **PUDLO GP Ultra Tank** is a post applied membrane system and can also be used as a high performance DPM.

BENEFITS

- Recognised as an accepted system for gas and water protection by NHBC.
- Quick and easy installation.

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 Ultra Tank
Thickness	EN 1849-2	mm	0.5
Width	EN 1849-2	M	2
Length	EN 1849-2	M	50
Weight	EN 1849-2	g/m ²	5000

Hydraulic Properties

Characteristics	Test Method	Unit	PUDLO GP Ultra Tank
Water Vapour Rate	EN 1931	g/m ² /day	0.93-0.95
Water Tightness (60kPa)	EN 1928	-	PASS
Water Tightness (196kPa – 20m water head) *	EN 1928	-	PASS

**basement application*

Mechanical Properties

Characteristics	Test Method	Unit	PUDLO GP Ultra Tank
Resistance to Static Load	EN 12730	Kg	>20
Tensile Strength (MD)	EN 12311-1	N/50mm	>25
Tensile Strength (CMD)	EN 12311-1	N/50mm	>25
Tear Resistance (MD)	EN 12310-1	N	>400
Tear Resistance (CMD)	EN 12310-1	N	>400
Resistance to Impact	EN 12691-B	N	900
Reaction to Fire	EN ISO 11925-2	Class	E



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Resistance to Artificial Ageing	EN 1296	-	PASS
Resistance to Chemicals	EN 1847	-	PASS

Vapour Permeability – 100% Concentration

Characteristics	Test Method	Unit	PUDLO GP Ultra Tank
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	98.25
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 Tank
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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Durability and Chemical Resistance

Chemical Resistance - SULFURIC ACID (10% solution of Sulfuric Acid (H ₂ SO ₄)) 50° for 56 days.	EN 14414 – A	Tensile Strength	100%
		Result	PASS
Chemical Resistance - BASIC (Calcium Hydroxide saturated suspension) 50° for 56 days.	EN 14414 – B	Tensile Strength	100%
		Result	PASS
Chemical Resistance - SOLVENTS (35% Diesel, 35% Paraffin, 30% Oil HD30 (vol) 50° for 56 days.	EN 14414 – C	Tensile Strength	100%
		Result	PASS
Chemical Resistance - SYNTHETIC LEACHATE (Mixture of 14 acids, chlorides, sulphates and phosphate) 50° for 56 days.	EN 14414 – D	Tensile Strength	100%
		Result	PASS
Resistance to Leaching - HOT WATER (Deionised water) 50° for 56 days.	EN 14415-A	Tensile Strength	100%
		Result	PASS
Resistance to Leaching - AQUEOUS ALKALINE (Saturated Calcium Hydroxide) 50° for 56 days.	EN 14415-B	Tensile Strength	100%
		Result	PASS
Resistance to Leaching - ORGANIC ALCOHOL (30% methanol, 30% isopropanol, 40% glycol) 50° for 56 days.	EN 14415-C	Tensile Strength	100%
		Result	PASS

*Table above, 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.

ISO15105-2 Rate of Permeation (mg/m ² /day)	BENZENE	TOLUENE	ETHYL BENZENE	XYLENE (m,p,o)
PUDLO GP Ultra Tank	2250	2370	400	690

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

2.0 x 50m. Product is available in black and silver colour.

ANCILLARY PRODUCTS

- **PUDLO Ultra Tape or heat weld application (see above).**



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HEALTH & SAFETY

PUDLO GP Ultra Tank rolls are heavy in excess of 20kg. Please refer to **PUDLO GP Ultra Tank** MSDS for more information.

FIRE

Refer to **PUDLO GP Ultra Tank** MSDS for further information.

STORAGE & SHELF LIFE

Rolls of **PUDLO GP Ultra Tank** should be stored on stable/level ground and stacked no more than five rolls high, with no other material stacked on top. The rolls can be stored outdoors when packaged. However, should be protected from exposure to UV.

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