

# PUDLO GP Titanflex

**PUDLO GP Titanflex is a multi-layer, polyethylene flexible membrane with a unique core component designed and manufactured to provide a barrier to the most aggressive of ground gases**

**PUDLO GP Titanflex protects structures from gas including Radon, CO<sub>2</sub>, Methane, Hydrocarbons and VOC's**

## USES

- PUDLO GP Titanflex is a loose lay, pre-applied membrane system that can also be used as a high performance DPM

## APPLICATION & INSTALLATION

Refer to PUDLO GP Titanflex installation manual

## STORAGE & SHELF LIFE

- Rolls of PUDLO GP Titanflex 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, the rolls should be protected from exposure to UV

## PRODUCT DIMENSIONS, COVERAGE & PACKAGING

- 2.0 x 50m x 0.5mm
- Each Roll covers an area of 100m<sup>2</sup>, always make sure to include roll overlaps when measuring. Please include a minimum of 100mm overlap

## FURTHER INFORMATION

For more accessories used with PUDLO GP Titanflex, please contact: [technical@pudlo.com](mailto:technical@pudlo.com)



## BENEFITS

- Easy to install
- Tape or heat welded (contamination dependent)
- Long term durability
- Complies with the latest codes of practice by BRE211, CIRIA 748 and BS8485:2015+A1:2019
- Complies with NHBC's Traffic Light Guidance (green, amber and red) for below ground gases

## ANCILLARY PRODUCTS

- PUDLO Ultra Tape
- PUDLO Ultra EXT Tape
- PUDLO GP Titantank

## HEALTH & SAFETY

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

## FIRE

Fire Rating- E Class



TYPE A GAS & DAMP PROOFING

**TECHNICAL DATA**

**PHYSICAL PROPERTIES**

Characteristics	Test method	Unit	PUDLO GP Titantank
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 <sup>2</sup>	500

**HYDRAULIC PROPERTIES**

Characteristics	Test method	Unit	PUDLO GP Titantank
Water vapour rate	EN 1931	g/m <sup>2</sup> /day	0.11 – 0.18
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 Titantank
Resistance to static load	EN 12730	Kg	>20
Puncture Resistance	EN 12236	KN	>2.0
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 (MD/CMD)	EN 12310-1	N	>300
Resistance to impact	EN 12691-B	mm	650
Reaction to fire	EN 13501-1	Class	E
Resistance to artificial ageing	EN 1296/ EN 1928	-	PASS
Resistance to chemicals	EN 1296/ EN 1928	-	PASS

TYPE A GAS & DAMP PROOFING

**TECHNICAL DATA**

**VAPOUR PERMEABILITY - 100% CONCENTRATION**

Characteristics	Test method	Unit	PUDLO GP Titantank
Transmission rate of benzene	EN ISO 15105-2	mg/m <sup>2</sup> /day	<3.6
Transmission rate of toluene	EN ISO 15105-2	mg/m <sup>2</sup> /day	<13.8
Transmission rate of ethyl benzene	EN ISO 15105-2	mg/m <sup>2</sup> /day	<2.7
Transmission rate of xylene (mpo)	EN ISO 15105-2	mg/m <sup>2</sup> /day	<7.7
Transmission rate of hexane	EN ISO 15105-2	mg/m <sup>2</sup> /day	<0.6
Transmission rate of vinyl chloride	EN ISO 15105-2	mg/m <sup>2</sup> /day	<0.05
Transmission rate of trichloroethene (TCE)	EN ISO 15105-2	mg/m <sup>2</sup> /day	<54.7
Transmission rate of tetrachloroethene (PCE)	EN ISO 15105-2	mg/m <sup>2</sup> /day	<26.2
Transmission rate of Naphthalene	EN ISO 15105-2	mg/m <sup>2</sup> /day	<0.0006
Transmission rate of CIS-1,2- Dichloroethylene	EN ISO 15105-2	mg/m <sup>2</sup> /day	<1.1

**GAS PERMEABILITY**

Characteristics	Test method	Unit	PUDLO GP Titantank
Methane permeability	EN ISO 15105-1	ml/m <sup>2</sup> /day/atm	0.13
Methane permeability (welded joint)	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> /s	1.0 x 10 <sup>-12</sup>

TYPE A GAS & DAMP PROOFING

**TECHNICAL DATA**

**DURABILITY & CHEMICAL RESISTANCE**

Characteristics	Test method	Unit	PUDLO GP Titantank
Chemical Resistance - SULFURIC ACID (10% solution of Sulfuric Acid (H2SO4)) 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

*\*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*

**SUPPORTING DOCUMENTS**

- PUDLO GP Titanflex MSDS
- PUDLO GP Titantank & PUDLO GP Titanflex Installation Manual
- Product webpage - please see [www.pudlo.com](http://www.pudlo.com)

**PRODUCT NUMBER**

**4165/0035**