



GEOSHIELD Verification PLAN



SPECIFICATION



Part of the DBGroup

Product data sheet

PUDLO GP Ultra Seal

Description

PUDLO GP Ultra Seal is a multi-layer, polyethylene membrane with an adhesive coating for vertical application.

Uses

- PUDLO GP Ultra Seal protects structures from gas, including VOC's, Carbon Dioxide, Methane, Radon, Hydrocarbons and moisture
- PUDLO GP Ultra Seal can be used as a post applied waterproofing and damp-proof membrane

Benefits

- BBA approved
- Easy to install
- Can be used in all weather conditions due to its all-weather adhesive backing

Application

Refer to PUDLO GP Ultra Seal installation manual

Packaging

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

Installation

Please refer to PUDLO GP Ultra Seal installation manual.

Fire

Refer to PUDLO GP Ultra Seal MSDS for further information.



Ancillary products

- PUDLO Ultra Detailing Strip
- PUDLO Self Seal Primer (2 coats)
- Surestop BWB
- Surestop SWB
- Surestop Adhesive
- Surestop SM
- Surestop Voidformer

Health & safety

PUDLO GP Ultra Seal rolls are heavy - in excess of 20kg.

Please refer to PUDLO GP Ultra Seal MSDS for more information.

Storage & shelf life

Rolls of PUDLO GP Ultra Seal should be stored horizontally and pallets should not be stacked on top of one another.

PUDLO GP Ultra Seal should be stored in a cool, dry place, protected from exposure to rain, sun, heat and cold temperatures prior to installation.

Gas & Waterproofing - Below Ground - PUDLO GP Ultra Seal



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Exposure to sunlight for extended periods of time could cause difficulty with removal of the polyethylene release film.

For further information on accessories that are

used with PUDLO GP Ultra Seal, please contact PUDLO Head Office on 01954 780687 or email technical@dbgholdings.com

Technical Data

Physical properties

Characteristics	Test method	Unit	PUDLO GP Ultra Seal
Thickness	EN 1849-2	mm	1.2
Width	EN 1849-2	m	1 or 0.3
Length	EN 1849-2	m	20
Weight	EN 1849-2	g/m ²	1,000

Hydraulic properties

Characteristics	Test method	Unit	PUDLO GP Ultra Seal
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

* basement application

Mechanical properties

Characteristics	Test method	Unit	PUDLO GP Ultra Seal
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

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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 Seal
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 (mpo)	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 Seal
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

Durability & chemical resistance

Chemical Resistance - SULPHURIC ACID (10% solution of Sulphuric 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



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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°C for 56 days.	EN 14414 – D	Tensile Strength	100%
		Result	PASS
Resistance to Leaching - HOT WATER (Deionised water) 50°C for 56 days.	EN 14415-A	Tensile Strength	100%
		Result	PASS
Resistance to Leaching - AQUEOUS ALKALINE (Saturated Calcium Hydroxide) 50°C for 56 days.	EN 14415-B	Tensile Strength	100%
		Result	PASS
Resistance to Leaching - ORGANIC ALCOHOL (30% methanol, 30% isopropanol, 40% glycol) 50°C 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



GEOSHIELD Verification Plan



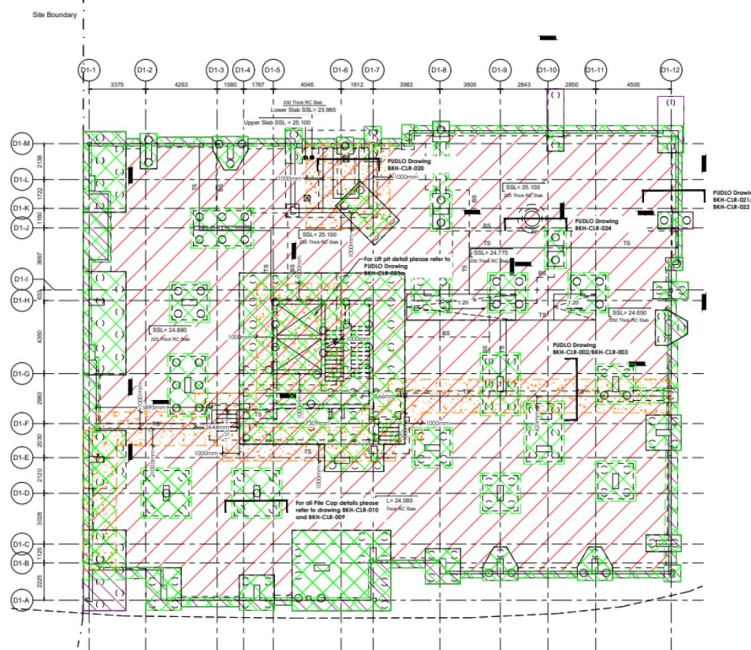
DETAILS



Development Layout - Phase 3 includes Blocks D1, D2, D3 and D4

GEOSHIELD Verification Plan

DETAILS



NOTE: For all section overlay details please refer to PUDLO drawing **BKH-CLB-OV-100** and to be read in conjunction with the engineers latest construction drawings.

- Notes:**
- Do not scale from this drawing.
 - In case of any discrepancies in drawings, details or bills, refer to engineers for clarification, unless otherwise stated, the contractor will not be accepted.
 - This drawing is to be read in conjunction with all related documents, specifications & Sub-Contractors drawings and specifications.
 - The contractor is advised that all design drawings and information are to be read concurrently and any discrepancies or omissions reported directly to PTA Structural Department.
 - For site visit notes refer to PTA.org W257-PTA-DD-22-06-0-0-020.

PUDLO Key

- PUDLO CBP Modified Concrete
- PUDLO GP Ultra
- PUDLO GP Ultra Seal
- PUDLO Liquid GB

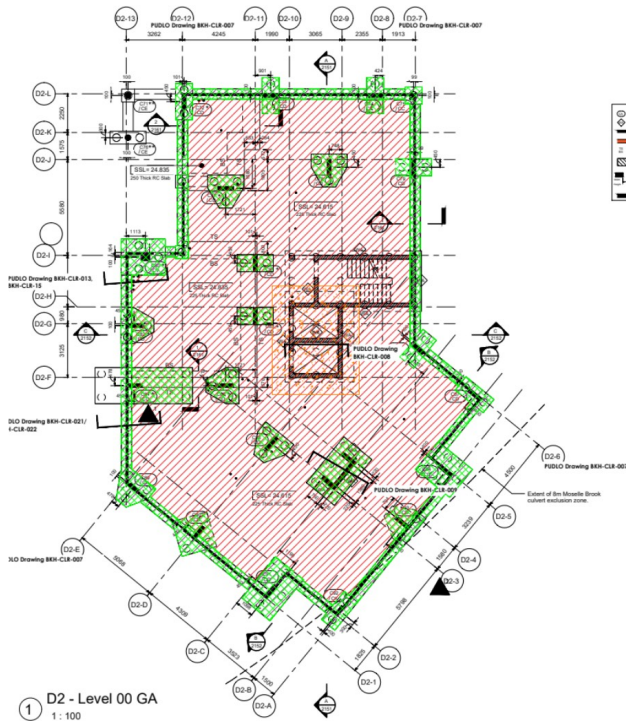
1 D1 - Level 00 GA
1:100

Part of the GB Group	
Revision History	
REVISION	DESCRIPTION
1	Initial Design
2	Design Development
3	Final Design
4	Construction
5	As Built
PTA GENERAL ARRANGEMENT 25 Red Lion Street Clarendon Road W257-PTA-DD-22-06-0-0-020 Tel: +44 (0)181 5000 000 Email: info@pta.co.uk Website: www.pta.co.uk	
FOR INFO	DO NOT SCALE
BKH-CLB-GA-100	C 1 of 1
Scale	1:100
Sheet	A1

Clarendon Road Ph3a	
Block D1 - Ground Floor Layout	
DATE	Top 2019
DESIGN	LM
CHECK	DA (checked)
DATE	11/11/19
DESIGN	HP
CHECK	AM
DATE	11/11/19
DESIGN	HP
CHECK	AM
DATE	11/11/19
W257-PTA-DD-22-06-0-0-020	
Consulting Civil & Structural Engineers	
25 Red Lion Street Clarendon Road W257-PTA-DD-22-06-0-0-020 Tel: 0181 5000 000 www.pta.co.uk	

GEOSHIELD Verification Plan

DETAILS



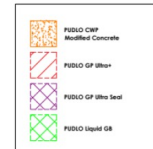
Health & Safety Notes:

- Warning symbol indicates a residual risk. Refer to PTA-CM Risk Assessment Report W257-PTA-DE-22-APP-0-01-0101 for details.
- Note that risks shown here are not exhaustive. It is assumed that all works will be carried out by a competent contractor working, where appropriate, to an approved method statement and also conducting its own risk assessments.
- In addition to the hazards/risks normally associated with the types of work detailed on this drawing, note the following:
 - Working adjacent to existing retaining wall.
 - Working near existing live sewer.

Notes:

- Do not scale from this drawing.
 - In case of any discrepancies in drawings, details or bills, refer to requirements for construction: structural decisions by the contractor will not be accepted.
 - This drawing is to be read in conjunction with all related Architectural, Structural & Sub-Contract drawings and specifications.
 - The contractor is advised that all design drawings and information are to be read concurrently and any discrepancies or omissions reported directly to PTA Structural Department.
 - For all site notes refer to PTA dty W257-PTA-DE-22-APP-0-01-0101.
- Refer to PTA dty 0045 for site constraint plan.
- For enabling works details refer to PTA dty 0044 (0046) and documents 9071, 9072, 9074, 9076 and 9077.
- For site wide landscape foundation details refer to PTA dty 0045 (0046).
- For water feature structure details refer to PTA dty 0071 (0070).
- For details of core plating and walls refer to PTA dty 0051 (0053).
- For waterproofing and gas protection details refer to PTA dty 0042.
- For geotechnical and geo-environmental site investigation, refer to Abaco report 1180204_PA_DE_R001.
- For survey of Mossley Brook culvert refer to Plogrammer Column 010 (0081) 01.
- * Denotes Original / Class 2; Type A finish with 15x15mm chamfer to corners.
- ** Denotes Photo / Class 1; Type B finish.

NOTE- For all section overlay details please refer to PUDLO drawing BKH-CLR-OV-100 and to be read in conjunction with the engineers latest construction drawings.



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Revision History			
DATE	DESCRIPTION	BY	CHK
21/10/22	PUDLO Liquid GB added to File Caps.	C	CM
02/10/22	PUDLO Liquid GB added to Ground Beams.	B	CM
23/09/22	Notes added to drawing.	A	CM
16/07/22	File issue.	B	CM
DATE	DESCRIPTION	BY	CHK

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Tel: +44 (0)1954 780467 Email: sales@pudlo.com
www.pudlo.com

PROJECT: Clarendon Road

SCALE: As shown on A1

FOR INFO: DRAWING NUMBER: BKH-CLR-GA-101, REVISION: C, SHEET No: 1 of 1

CDS: Berkeley Homes

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FOR CONSTRUCTION

NO	DESCRIPTION	DATE	BY	CHK
01	Drawn by: [Name]	16/07/22	B	CM
02	Checked by: [Name]	16/07/22	B	CM
03	Approved by: [Name]	16/07/22	B	CM
04	Drawn by: [Name]	16/07/22	B	CM
05	Checked by: [Name]	16/07/22	B	CM
06	Approved by: [Name]	16/07/22	B	CM
07	Drawn by: [Name]	16/07/22	B	CM
08	Checked by: [Name]	16/07/22	B	CM
09	Approved by: [Name]	16/07/22	B	CM
10	Drawn by: [Name]	16/07/22	B	CM
11	Checked by: [Name]	16/07/22	B	CM
12	Approved by: [Name]	16/07/22	B	CM

Clarendon Road Ph3a

Block D2 - Ground Floor Layout

NO	DESCRIPTION	DATE	BY	CHK
01	Drawn by: [Name]	16/07/22	B	CM
02	Checked by: [Name]	16/07/22	B	CM
03	Approved by: [Name]	16/07/22	B	CM
04	Drawn by: [Name]	16/07/22	B	CM
05	Checked by: [Name]	16/07/22	B	CM
06	Approved by: [Name]	16/07/22	B	CM
07	Drawn by: [Name]	16/07/22	B	CM
08	Checked by: [Name]	16/07/22	B	CM
09	Approved by: [Name]	16/07/22	B	CM
10	Drawn by: [Name]	16/07/22	B	CM
11	Checked by: [Name]	16/07/22	B	CM
12	Approved by: [Name]	16/07/22	B	CM



DETAILS

