

## Solshield VOC Gas Barrier

### Description:

Solshield VOC Gas Barrier is a multi-layer composite of virgin polyethylene (PE) The VOC Gas Barrier is specifically designed & certified to provide exceptional resistance to the passage of ground gas and organic vapours. The VOC Gas Barrier also acts as a high performance Damp Proof Membrane (DPM)

Solshield VOC Gas Barrier is suitable for the following applications:

- Carbon dioxide and methane affected sites in accordance with BS 8485:2015 + A1:2019 & NHBC
- Radon affected sites in accordance with BRE211:2015
- Damp protection in accordance with Building Regulations Part C
- Low level VOC contaminated sites (Specific Site Assessment required)

### Compliance:

- NHBC Standards 2019, Chapters 4.1/5.1.
- CE Marking Standard EN13967:2012
- BS 8485:2015+A1:2019 Compliant
- CP 102:1973, Section 2.

### Installation

1. The Solshield VOC Gas Barrier must be installed and fixed in accordance with the Certificate holder's instructions, the relevant clauses of BRE Report BR 211 : 2015 and BS 8485 : 2015
2. Particular care should be taken to ensure that the product is incorporated into the building as part of a complete system to prevent the ingress or build-up of contaminants; this may require the use of additional methods such as sumps and ventilation.
3. The product can be installed in all normal site conditions, provided that the air temperature is not below 5°C (to prevent the risk of surface condensation).
4. The product must only be applied to surfaces that have a smooth finish, ie they should be free from voids, projections and mortar deposits. Surfaces should be dry and free from dust and frost.
5. Concrete surfaces should be dense. Vertical surfaces of brickwork and blockwork must be dry and rendered to provide an even surface. Brickwork or blockwork not rendered must be flush pointed to give a smooth surface without sudden changes in level.
6. The membrane is rolled out ensuring that it is properly aligned. All end and side overlaps should be a minimum of 100 mm where taped .
7. All surfaces must be dried thoroughly prior to joining.
8. Joints can be installed using butyl tape; however, the chemical compatibility must be checked. A strip of the tape is unrolled over the membrane with its nearest edge 50 mm from the edge. The protective paper is removed from the butyl tape prior to rolling an adjacent run of the membrane, which must be carefully unrolled over the jointing tape, ensuring a 100 mm overlap.
9. Where doubt exists over the suitability of the butyl tape, the membrane can be welded using hot air or wedge-welding equipment. All laps and junctions must be overlapped by 100 mm. The weld width must be a minimum of 50 mm.
10. Before welding work is carried out, trials must be completed to determine the 'operating window' for the welding equipment, materials and ambient conditions. Typically, the operating window will be between 180 and 240°C at a rate of 3 m.min. In case of doubt, contact our technical department
11. All service penetrations and direction changes should be properly detailed. Service ducts should be vented to prevent the possibility of gas accumulating in confined spaces



### Physical Properties to EN 1849 - 2

- Thickness 0.4 mm
- Width 2 mt
- Length 50 mt
- Weight 400 g/m

## Installation Cont'd:

12. The continuity of the gas protection must extend over the footprint of the building, and the gas membrane must be sealed to Solcourse GR DPC where required.
13. The membrane should be covered by a screed or other protective layer, such as Solco Protection Fleece, as soon as possible after installation. If blockwork protection is used, care must be taken to avoid damage to the product during construction.
14. The product's installation should be subject to third-party independent validation, in accordance with BS 8485 : 2015.

## Repair:

Any damage to the product must be repaired using a patch of the product, and laps welded or sealed with double-sided tape, and secured with the butyl tape. All patched areas must extend a minimum of 100 mm from the damaged area. If required by the local authority, repair work should be confirmed by an independent validation report, as all gas membrane installation should be subject to third-party validation in accordance with BS 8485 : 2015.

## Technical Data:

Feature	Characteristics	Test Method	Solshield VOC
<b>Physical Properties</b>	Thickness	EN 1849-2	0.4 mm
	Width	EN 1849-2	Various m
	Length	EN 1849-2	Various m
	Weight	EN 1849-2	400 g/m <sup>2</sup>
<b>Hydraulic Press</b>	Resistance to Water Penetration	EN 1928 (A)	Pass
<b>Mechanical Properties</b>	Resistance to Static Load	EN 12730	> 20 g
	Tensile Strength (MD)	EN 12311-2 (A)	> 300 N/50m
	Tensile Strength (CMD)	EN 12311-2 (A)	> 300 N/50m
	Resistance to Tearing (Nail Shank) MD	EN 12310-1	> 230
	Resistance to Tearing (Nail Shank) CMD	EN 12310-1	> 230
	Impact Resistance	EN 12691-B	500 mm
	Puncture Resistance	ASTM D 4833	> 160
	Puncture Resistance	EN 12236	1.60 kN
	Reaction to Fire	EN 13501-1	E
<b>Vapour Permeability</b>	Methane Permeability	BS EN ISO 15105-1	0.12 ml/m <sup>2</sup> /day/atm
	Carbon Dioxide Permeability	BS EN ISO 15105-1	1.53 ml/m <sup>2</sup> /day/atm
	Hydrogen Permeability	BS EN ISO 15105-1	68.7 ml/m <sup>2</sup> /day/atm
	Benzene Permeability	BS EN ISO 15105-2	0.41 ml/m <sup>2</sup> /day
	Oxygen Permeability	BS EN ISO 15105-2	<3 ml/m <sup>2</sup> /day
	Radon Permeability	K124/02/95	1.0 x 10 <sup>-12</sup> m <sup>2</sup> /s
<b>Fuel Vapour Permeability</b>	Petrol	BS EN ISO 15105-2	(ave.) 3.4 x 10 <sup>-13</sup> /mol/(m <sup>2</sup> .s.Pa)
	Diesel	BS EN ISO 15105-2	(ave.) 3.4 x 10 <sup>-13</sup> /mol/(m <sup>2</sup> .s.Pa)
<b>Durability</b>	Durability Watertightness After Artificial Ageing	EN 1928	Pass
	Durability Watertightness Against Chemicals	EN 1928	Pass
<b>Compliance and Certification</b>	CE Mark - EN 13967:2012		
	NHBC Standards Compliant		
	BS 8485:2015 + A1 2019 Accordant		

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### Solshield VOC Gas Barrier System Accessories

Solco Top Hats	Form an effective seal where a pipe, duct, or service penetrates Solsheet membranes.	Units
Solco S/S Butyl Tape	A double-sided synthetic butyl mastic tape, used for securing joints and laps in DPC's, Cavity trays & pre-formed Cloaks.	Rolls
Solco D/S Butyl Tape	A double-sided synthetic butyl mastic tape, used for securing joints and laps in DPC's, Cavity trays & pre-formed Cloaks.	Rolls
Solco Venting Accessories	Allows the effective venting of gas from beneath a building.	Units
Solco Int / Ext Corners	Preformed units that ensure protection at corners.	Units
Solco GR DPC	A gas resistant tri-polymer damp proof course.	Rolls
Solco Protection Fleece	Forms a protective layer to prevent damage to the membrane.	Rolls
Solsheet GR SAM	A gas resistant self-adhesive membrane.	Rolls
Solseal HP Primer	Used to provide adhesion to bitumen enhanced geomembranes.	Tins
Solshield Venting Mat	Cuspated (HDPE) drainage mat for providing a drainage / venting channel.	Rolls
Solseal Liquid Gas Barrier	A gas resistant liquid applied membrane	Tins

### Storage and Handling on Site:

- Solshield Ultra is classified as non-hazardous (code of practice CP102 1973).
- Rolls should be stored on a flat surface, kept under cover, and protected from sunlight and mechanical damage. The product is chemically inert and any acids or alkalis present in the subsoil will not affect the membrane.
- Do not use when exposed to sunlight and general outdoor weather conditions for long periods of time.
- Quality control during the laying of the membrane is extremely important.
- The membrane should be protected either through the use of temporary protection over its whole area or the immediate laying of the concrete slab. Care should be taken when handling building materials over the exposed surface.



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