Solshield VOC & Hydrocarbon Gas Membrane

CE TYPE A EN 13967

Description:

Solshield VOC & Hydrocarbon Gas Membrane is a multi-layer composite of virgin polyethylene (PE) The Solshield VOC & Hydrocarbon Gas Membrane is specifically designed & certified to provide exceptional resistance to the passage of ground gas and hydrocarbon vapours. The Solshield VOC & Hydrocarbon Gas Membrane has a high resistance to tear and also acts as a robust DPM.

Solshield VOC & Hydrocarbon Gas Membrane has been engineered to meet the requirements on brown-field sites or contaminated land. Contaminated land risk assessment often identify a range of harmful gases. Solshield VOC & Hydrocarbon Gas Membrane will provide the necessary protection against a broad spectrum of toxic vapours & gases.

Solshield VOC Gas Barrier is also 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

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.
- Independently tested to ISO 15105-2
- NHBC - Green Amber 1 & Red 2

Installation

1) Solshield VOC Gas Barrier must be installed and fixed in accordance with Solco typical details to 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

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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 CIRIA C735 and as required in BS8485 : 2015

Technical Data:

Property	Method	Units	Nominal	Min	Max
PHYSICAL PROPERTIES					
Mass per unit area	EN 1849-2	g/m2		-10%	+10%
Maximum tensile force (MD)	EN 12311-2	N/50mm	435	-20%	+20%
Elongation at max. tensile force (MD)	EN 12311-2	%	722	-20%	+20%
Maximum tensile force (XD)	EN 12311-2	N/50mm	430	-20%	+20%
Elongation at max. tensile force (XD)	EN 12311-2	%	715	-20%	+20%
Resistance to tearing MD (nail shank)	EN 12310-1	N	310	-20%	+20%
Resistance to tearing XD (nail shank)	EN 12310-1	N	350	-20%	+20%
DURABILITY PROPERTIES					
Durability against ageing	EN 1296	Pass			
Durability against chemicals	EN 1847	Pass			
PERFORMANCE PROPERTIES					
Resistance to water penetration (60kPa)	EN 1928	-	Pass		
Temperature resistance		℃		-40	+70
Resistance to static loading	EN 12730	kg	>20		
Resistance to impact (Method A)	EN 12691	mm	190		
Resistance to impact (Method B)	EN 12691	mm	>2300		
Reaction to water penetration (60 kPa)	EN 1928	-	Pass		
Resistance to water penetration after ageing (Method A	EN 1928		Pass		
Reaction to fire	EN 13501-1	class	F		
ADDITIONAL PROPERTIES					
Length	EN 1848-2	m	50	50	51
Width	EN 1848-2	mm	3000	2990	3010

Gas Permeability:

EN ISO 15105-2 Benzene: 4 g/m2/day Toluene: 4 g/m2/day Ethyl Benzene: 5 g/m2/day Xylene:

8 g/m2/day EN ISO 15105-1 Methane: 0.14 ml/m2/day/atm CO2: 3.01 ml/m2/day

Radon: 1 x 10-14/m2/s

Performance data for a wide range of harmful chemicals can be provided - Please consult the Solco technical team for specific chemical analysis

Physical Properties to EN 1849-2

- Thickness 0.5 mm
- Width 3 mt
- Weight 71kg

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Solshield VOC & Hydrocarbon Gas Membrane 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 VOC & Hydrocarbon Gas Membrane 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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