

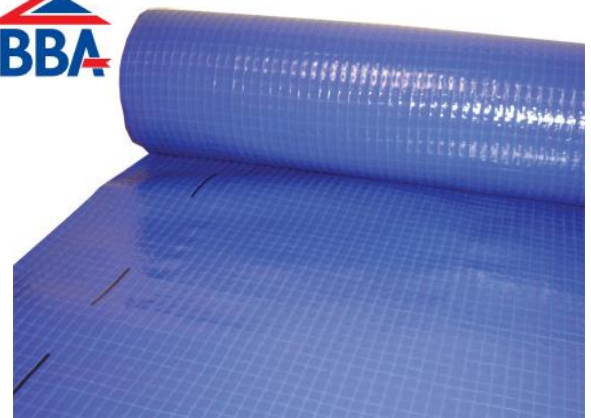
# SOLSHIELD Reinforced Gas Barrier



SOLSHIELD Reinforced Gas Barrier is a flexible, loose laid proprietary gas barrier for use on sites with Radon, Carbon Dioxide, low levels of Methane, air & moisture protection system.



- **Complies with relevant codes of practice as published by BRE, CIRIA & BSI (BS8485:2015)**
- **BBA Cert 16/5382, NHBC Compliant & CE Marked**
- **Suitable for use as gas protection for NHBC Green & Amber 1 situations**
- **High resistance to puncture.**
- **Also acts as a damp proof membrane.**
- **Typically used in coalfields, contaminated industrial sites, landfill & brown field sites.**



## SOLSHIELD - Gas Protection System

Last Issue Date 01.05.19  
Rev 6

### Product Description

SOLSHIELD Reinforced Gas Barrier is a multi layer low density reinforced polyethylene membrane, reinforced with a polypropylene reinforcing grid. SOLSHIELD Reinforced Gas Barrier is designed to be suitable for use in areas where Carbon Dioxide, Radon, low levels of methane and an air / moisture protection system.

SOLSHIELD Reinforced Barrier can be used on any site where carbon dioxide, radon, hydrocarbon or VOC vapours are present up to and including CIRIA 665 Situation 6. The membrane is sufficiently resistant to the ingress of harmful gases into a building, although on more heavily contaminated sites a passive or active venting system may be required to dilute the gases down to acceptable levels. SOLSHIELD Reinforced Gas Barrier is extremely flexible for ease of installation and is robust enough to cope with site conditions. SOLSHIELD Ultra Gas Barrier will also protect against damp and therefore will act as a DPM and satisfy Approved Document C.

### Compliance

- NHBC Standards 2019, Chapters 4.1/5.1. • CE Marking Standard EN13967:2012. • CP 102:1973. • BS8000-4:1989. • BS8000-0:2014.

### General

Solshield Reinforced Gas Membrane should not be installed at temperatures below 5°C, to prevent the risk of surface condensation.

The membrane must be installed and fixed in accordance with the relevant clauses in BRE Report BR 211:2015.

The membrane should be installed on a sand blinding layer, Solshield P30 protection fleece, or a smooth concrete float finish. In order to provide a continuous barrier across the cavity, Solshield Reinforced Gas Barrier should be taken through the blockwork and incorporated below the damp proof course cavity tray in the outer leaf.

Solshield Reinforced is suitable for installation with beam and block floor application with 150mm clear void in an Amber 2 category project with hydrocarbons, reinforced raft foundation and in situ suspended slab providing the membrane is laid above the ground and not in direct contact with the source of hydrocarbon/VOC vapour.

Long periods of exposure to ultraviolet light will reduce the effectiveness of the membrane.

### Storage & Handling on site

SOLSHIELD Reinforced Gas Barrier 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.

## Technical Data & Test Results

Characteristic	Test Method	Unit	Size
Thickness	EN 1849 - 2	mm	0.5
Thickness - Between Scrim	Micrometer	mm	0.4
Width	EN 1849 - 2	m	2.0 / 3.0
Length	EN 1849 - 2	m	50
Weight	EN 1849 - 2	g/m <sup>2</sup>	370
<b>Hydraulic Properties</b>			
Water Column Test	EN 20811	-	>300
Resistance to Water Penetration	EN 13967, EN 1928	-	PASS
Durability of Watertightness against Ageing	EN 1296, EN 13967, EN 1928	-	PASS
<b>Mechanical Properties</b>			
Resistance to Static Load	EN 12730 B	kg	20
Tensile Strength (MD)	EN 12311 - 1	N/50mm	500
Tensile Strength (CMD)	EN 12311 - 1	N/50mm	470
Tensile Elongation (MD)	EN 12310 - 1	%	15
Tensile Elongation (CMD)	EN 12310 - 1	%	20
Puncture Resistance (CBR)	EN 12236	kN	1.25
Resistance to Tearing (Nail Shank) (MD)	EN 12310 - 1	N	400
Resistance to Tearing (Nail Shank) (CMD)	EN 12310 - 1	N	350
<b>Durability &amp; Chemical Resistance</b>			
Radon Permeability	K124/02/95	m <sup>2</sup> /s	4.3 x 10 <sup>-12</sup>
Carbon Dioxide Permeability	BS EN ISO 15015 - 1	ml/m <sup>2</sup> /day/atm	<0.09
Methane Permeability	BS EN ISO 15015 - 1	ml/m <sup>2</sup> /day/atm	<0.09
Transmission Rate of Volatile Liquids - Diesel	ISO 6179:2010 (B)	g/m <sup>2</sup> /h	0.246
Transmission Rate of Volatile Liquids - Xylene	ISO 6179:2010 (B)	g/m <sup>2</sup> /h	0.571
Transmission Rate of Volatile Liquids - Toluene	ISO 6179:2010 (B)	g/m <sup>2</sup> /h	0.583
Transmission Rate of Volatile Liquids - Petrol	ISO 6179:2010 (B)	g/m <sup>2</sup> /h	0.135

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## Installation

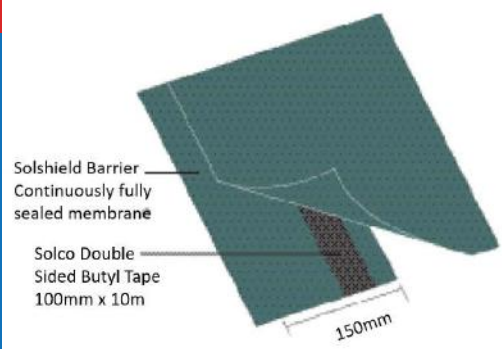
1. The membrane must only be applied to surfaces that have a smooth finish - free from voids, projections and mortar deposits. Surfaces should be dry and free from dust and frost. In order to provide a continuous barrier across the cavity, Solshield Reinforced Gas Barrier should be taken through the blockwork and incorporated below the damp proof course cavity tray in the outer leaf.
2. 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.
3. Solshield Reinforced is rolled out with the printed side uppermost, ensuring that it is properly aligned. All end and side overlaps should be a minimum of 100mm and prepared.
4. When the membrane is laid below the concrete slab, it should be loose-laid to accommodate any small movements.
5. All surfaces must be dried thoroughly prior to joining. Roll edges can be welded or taped.
6. Service ducts should be vented to prevent the possibility of gas accumulating in confined spaces.
7. The continuity of the gas protection must extend over the footprint of the building, and the membrane must be sealed to a gas-resistant damp-proof course where required.
8. 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 membrane during construction.

## Jointing Detail

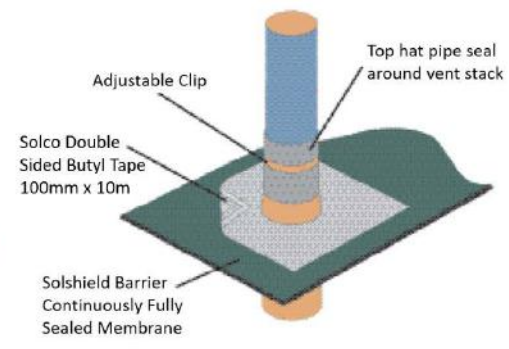
We would recommend that particularly in situations where site investigation demonstrates chemicals or harmful gases are present in significant concentrations, all of our gas barriers are to be heat welded or tape jointed - ensuring the integrity of the membrane at the joint location. Seam welding provides maximum performance integrity and enables installers to complete installations quickly and efficiently.

Apply the double sided butyl tape about 50mm from the edge, leaving the backing paper on. Lay the next width of membrane overlapping the first by 150mm. Remove the backing paper from the double sided butyl tape and join the top sheet to the bottom sheet, by applying pressure with a hand roller. Where the membranes overlap apply the Solco single sided foil tape, equidistant on both membranes (see detail). All service entry points must have airtight seals. Top hats and corner pre-forms must be sealed using double sided butyl tape.

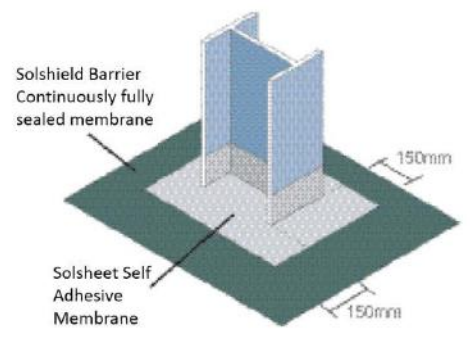
## Typical Jointing Details for Solshield Ultra Gas Barrier



**Typical Lap Detail**



**Typical Penetration Detail**



**Typical Column Detail**

**Note:**

All service entry points must have airtight seals. Top hats and corner pre-forms must be sealed using double sided butyl tape.



**Venting**

Solshield Ultra Gas Barrier can be used on sites where passive or active ventilation is required. Solshield Geocomposite Drainage & Venting Mat should be used in conjunction with the relative vent connectors where required. These types of systems are designed on a bespoke site specific nature, please contact us for our design advice.

**Gas System Accessories**



Product	Description	Sizes	Application	Supply
<b>Solco Foil Backed Jointing Tape</b>	Single sided tape for securing laps & joints	75mm x 50m	Securing Laps & Joints	Rolls
<b>Solco Double Sided Butyl Jointing Tape</b>	Butyl Adhesive Tape	50mm x 10m 100mm x 10m	Butyl based double sided tape for joints and laps	Rolls
<b>Solco Top Hat Units</b>	Polymeric	Various	For sealing around penetrations through gas membrane	Each
<b>Solcourse Hydrocarbon DPC</b>	A flexible Tri-polymer DPC	300mm - 1000mm	To prevent the transmission of Radon, CO <sub>2</sub> , Methane Gas & Hydrocarbons	20m Rolls
<b>Solco Gas Sump Units</b>	Part of the Radon Protection System	430 x 430 x 220mm	Radon Sumps are used in full protection areas, where sub floor depressurisation may be required	Each
<b>Solco XL Jointing Tape</b>	Reinforcing Tape	100, 150 & 300mm wide	Overband tape self-adhesive	100mm x 20m 150mm x 15m 300mm x 20m
<b>Solseal HP Primer</b>	Primer for SA Membrane	10L	Surface Primer	Drums
<b>Solco Protection Boards</b>	Bitumen / Polymeric	3mm thick	For heavy duty use	2.4m x 1.2m
<b>Solco P30 Protection Fleece</b>	Geotextile Fleece	2m x 50m	For pedestrian traffic	Roll