

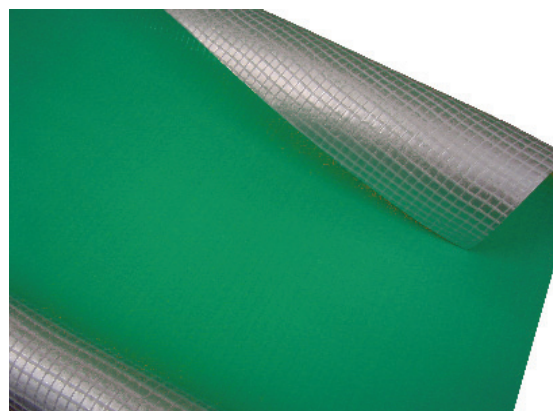
SOLSHIELD Ultra Gas Barrier



Solshield Ultra Gas Barrier is a flexible, loose laid proprietary gas barrier for use on sites with Radon (RN), Carbon Dioxide (Co²), Methane (CH⁴) and Hydrocarbon Vapours



- **Complies with latest codes of practice as published by BRE, CIRIA & BSI (BS8485:2015)**
- **BBA Certificate Pending**
- **Suitable to protect against the ingress of Radon (RN), Carbon Dioxide (Co²), Methane (CH⁴) and Hydrocarbon/VOC Vapours.**
- **A multi-layer reinforced polyethylene membrane with integral aluminium foil**
- **Suitable for use as gas protection for NHBC Green, Amber 1, and Amber 2 site situations.**
- **High resistance to puncture.**
- **Also acts as a damp proof membrane**



SOLSHIELD - Gas Protection Systems

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Rev C

Product Description

Solshield Ultra Gas Barrier is a flexible loose laid proprietary gas barrier for use on sites with Radon (RN), Carbon Dioxide (Co²), Methane (CH⁴) and Hydrocarbon Vapours where it is separated from the ground above a block and beam floor.

Solshield Ultra Gas Barrier can be used on any site where carbon dioxide, methane, radon, hydrocarbon or VOC vapours are present. Solshield Ultra 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 Ultra Gas Barrier is a multi layer, low density polyethylene membrane, reinforced with a polypropylene grid with an integral aluminium foil. The membrane is extremely flexible for ease of installation and is robust enough to cope with site conditions.

Compliance

Solshield Ultra Gas Barrier adheres to the most up to date and current guidance related to the use, installation and validation of ground gas barriers as contained within BS8485:2015, CIRIA guidance documents and NHBC guidelines.

Solshield Ultra is tested to the agreed standard EN ISO 15105-1 and is suitable for use for NHBC Green, Amber 1 & Amber 2 classifications.

Installation

Solshield Ultra Gas Barrier should be installed in accordance with BRE 414, CIRIA 665 & NHBC guidelines. The membrane should be installed on a sand blinding layer, Solshield P30 protection fleece or a smooth concrete floor at finish. In order to provide a continuous barrier across the cavity Solshield Ultra Gas Barrier should be taken through the blockwork and incorporated below the damp proof course cavity tray in the outer leaf.

Solshield Ultra Gas Membrane 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.

Jointing & Welding

Solshield Gas Barriers have excellent welding properties, 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 designed to be heat welded or tape jointed, this ensures 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.

Storage & Handling on site

Solshield Ultra Gas Barrier is classified as non-hazardous (code of practice CP102 1973).

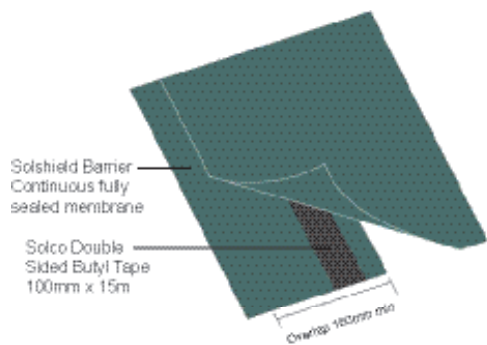
The product is chemically inert and any acids or alkalis present in the subsoil will not affect the membrane.

It is not recommended for use when exposed to sunlight and general outdoor weather conditions for long periods of time. Weathering will not occur when installed.

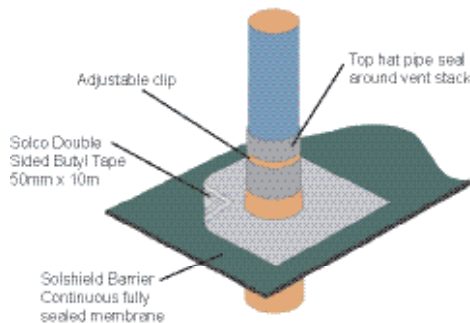
Rolls should be stored undercover.

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.

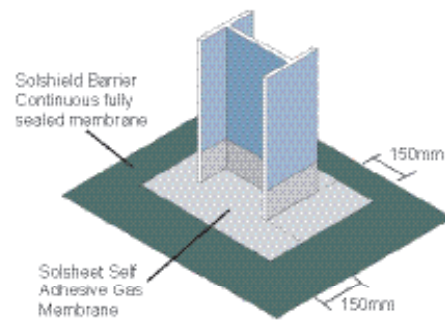
Typical Jointing Details for Solshield Ultra Gas Barrier



Typical Lap Detail



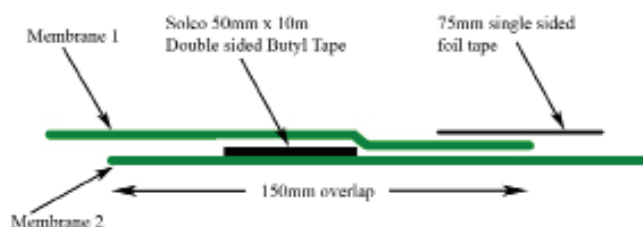
Typical Penetration Detail



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.



Typical Jointing Detail

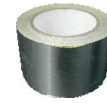
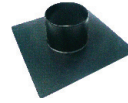
Venting

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.

Technical Data & Test Results

Characteristic	Test Method	Unit	Size
Thickness	EN 1849 - 2	mm	0.6
Width	EN 1849 - 2	M	Various
Length	EN 1849 - 2	M	Various
Weight	EN 1849 - 2	g/m ²	350
Hydraulic Properties			
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
Mechanical Properties			
Resistance to Static Loading	EN 12730 - B	Kg	20
Tensile Strength MD	EN 12311 - 1	N/50mm	600
Tensile Strength CMD	EN 12311 - 1	N/50mm	480
Tensile Elongation MD	EN 12311 - 1	%	20
Tensile Elongation CMD	EN 12311 - 1	%	20
Puncture Resistance	EN 12236	kN	1.25
Resistance to tearing (nail shank) MD	EN 12310 - 1	N	330
Resistance to tearing (nail shank) CMD	EN 12310 - 1	N	400
Durability & Chemical Resistance			
Transmission rate of volatile liquids - Diesel	ISO 6179:2010 (B)	g/m ² /h	0.246
Transmission rate of volatile liquids - Xylene	ISO 6179:2010 (B)	g/m ² /h	0.571
Transmission rate of volatile liquids - Toluene	ISO 6179:2010 (B)	g/m ² /h	0.583
Transmission rate of volatile liquids - Petrol	ISO 6179:2010 (B)	g/m ² /h	0.135
Gas Permeability			
Methane Permeability	BS EN ISO 15105 - 1	ml/m ² /day/atm	<0.09
Carbon Dioxide Permeability	BS EN ISO 15105 - 1	ml/m ² /day/atm	<0.09
Radon Permeability	K124/02/95	m ² /s	8 x 10 ⁻¹⁵

Gas System Accessories



Product	Description	Sizes	Application	Supply
Solco Foil Backed Jointing Tape to BS EN ISO 15105 - 1	Single sided tape for securing laps and joints	75mm x 50m	Securing laps and joints	Rolls
Solco Double sided Butyl Jointing Tape	Butyl Adhesive Tape	50mm x 10m 100mm x 15m	Butyl based double sided tape for joints and laps	Rolls
Solco Top Hat Units	Polymeric	Various	For sealing around penetrations through gas membrane	Each
Solcourse Hydrocarbon DPC	A flexible Tri-polymer DPC	300mm - 1000mm	To prevent the transmission of Radon, CO ₂ , Methane Gas and Hydrocarbons	20m Rolls
Solco Gas Sump Units	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
Solco XL Jointing Tape	Reinforcing Tape	100, 150 & 300mm wide	overband tape self-adhesive	20m Rolls
Solseal Bitumen Primer	Primer for SA Membrane	5L & 25L	Surface Primer	Drums
Solco Protection Boards	Bitumen / Polymeric	3mm thick	For heavy duty use	2m x 1m
Solco Corrugated Board	Plastic Corrugated	2mm thick	For light duty use	2m x 1m
Solco P30 Fleece	Geotextile Protection	2 x 50mt	For foot traffic	Roll