

By Email

17th September 2026

To whom it may concern



Coed Darcy, Llandarcy – Gas Membrane Certification

Please find enclosed the gas membrane inspection reports and verification certificates for Plots 22–27, 30–36 and 50–53 at the above development, together with the relevant Solshield Ultra Gas Barrier technical information.

The inspections confirmed that the installations complied with the design specification and that no defects, damage or non-conformances were identified.

Please do not hesitate to contact me if you require any further information.

Yours sincerely,
For and on behalf of T. Richard Jones (Betws) Ltd

.....
Richard Llewellyn
Director

T. RICHARD JONES
(BETWS) LTD.
CYF.

Betws Industrial Park,
Foundry Road,
Ammanford,
Carmarthenshire,
SA18 2LS

Tel: (01269) 591103
Fax: (01269) 596207
Email: enquiries@trjltd.co.uk

**CONSTRUCTION & CIVIL
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**FACILITIES MANAGEMENT
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HAULAGE & PLANT HIRE

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***“Adeiladu ar
Sylfaen Gadarn”***

***“Building on a
Firm Foundation”***

Directors/ Cyfarwyddwyr
D.H.Jones
O.H.Jones, M.Sc., B.A.
J.R.Jones, B.Sc.
R.Llewellyn, B.Sc (Hons)

VAT Registration
No. 122 4124 25

Registration in England
No. 1024603

Gas Membrane Inspection Report

Report Date: 18th August 2026 | Ref: RPW-CO2-MEM-2026-003

Job Details

Client	TRJ	Membrane Type	Gas-Barrier Composite
Site Address	Coed Darcy Plot 22 Llandarcy, Neath, SA10 6GZ	Installer	TRJ
Inspection Date	18 th August 2026	Report Status	Final

Membrane Specification

Product Name	SOLSHEILD Ultra Gas Barrier	Certification	BBA
Material	Multi-layer composite	Min. Lap Width	150 mm taped
Thickness	0.6 mm	Application	Floor slab / Walls / Combined

Inspection Findings

Area / Component	Status	Notes / Action Required
Floor slab – central area	PASS	Membrane continuous, no visible damage or punctures observed
Floor slab – perimeter	PASS	Lap widths confirmed at minimum 150 mm throughout; correctly taped
Wall / floor junction (all sides)	PASS	Correctly upturned and sealed to DPC level throughout
Soil pipe penetration	PASS	Correctly collared and sealed with manufacturer-approved tape
Electric conduit penetration	PASS	Collar and sealant correctly applied around conduit entry point
Membrane surface – all areas	PASS	No punctures, tears or damage observed across membrane surface
Expansion joint treatment	PASS	Correctly bridged with flexible cover strip as per specification
Tape joints / laps throughout	PASS	Correct tape product used; laps $\geq$ 150 mm confirmed throughout
Gas sump integration	PASS	Correctly installed and integrated; sump perforations correctly positioned

Additional Notes & Observations

The membrane had been installed in advance of the inspection and was found to be clean, undamaged and free from debris or standing water at the time of visit. All penetrations were found to be neatly executed and in accordance with the manufacturer's installation guidelines. No areas of concern were identified during the inspection. The installer's workmanship was observed to be of a high standard throughout. Radon reading found - 18 Bq/m³.

Overall Assessment & Inspector Sign-Off

Overall Assessment

✅ All inspection items passed. The gas membrane installation at Coed Darcy has been inspected and found to be fully compliant with the design specification.

No defects, damage or non-conformances were identified. The membrane is confirmed as fit for purpose and the slab may proceed to pour.

Radon Wales Ltd hereby issues this report as a Gas Membrane Verification Certificate for this installation.

Standards: BS 8485:2015+A1:2019 | CIRIA C735 | BRE BR 211

Inspector Sign-Off

Inspector Name: Lee Waters

Qualifications: NVQ Level 6 Senior Site Inspection

Signature: 

Date: 18th August 2026

Gas Membrane Inspection Report

Report Date: 18th August 2026 | Ref: RPW-CO2-MEM-2026-004

Job Details

Client	TRJ	Membrane Type	Gas-Barrier Composite
Site Address	Coed Darcy Plot 23 Llandarcy, Neath, SA10 6GZ	Installer	TRJ
Inspection Date	18 th August 2026	Report Status	Final

Membrane Specification

Product Name	SOLSHEILD Ultra Gas Barrier	Certification	BBA
Material	Multi-layer composite	Min. Lap Width	150 mm taped
Thickness	0.6 mm	Application	Floor slab / Walls / Combined

Inspection Findings

Area / Component	Status	Notes / Action Required
Floor slab – central area	PASS	Membrane continuous, no visible damage or punctures observed
Floor slab – perimeter	PASS	Lap widths confirmed at minimum 150 mm throughout; correctly taped
Wall / floor junction (all sides)	PASS	Correctly upturned and sealed to DPC level throughout
Soil pipe penetration	PASS	Correctly collared and sealed with manufacturer-approved tape
Electric conduit penetration	PASS	Collar and sealant correctly applied around conduit entry point
Membrane surface – all areas	PASS	No punctures, tears or damage observed across membrane surface
Expansion joint treatment	PASS	Correctly bridged with flexible cover strip as per specification
Tape joints / laps throughout	PASS	Correct tape product used; laps $\geq$ 150 mm confirmed throughout
Gas sump integration	PASS	Correctly installed and integrated; sump perforations correctly positioned

Additional Notes & Observations

The membrane had been installed in advance of the inspection and was found to be clean, undamaged and free from debris or standing water at the time of visit. All penetrations were found to be neatly executed and in accordance with the manufacturer's installation guidelines. No areas of concern were identified during the inspection. The installer's workmanship was observed to be of a high standard throughout. Radon reading found - 12 Bq/m³.

Overall Assessment & Inspector Sign-Off

Overall Assessment

✅ All inspection items passed. The gas membrane installation at Coed Darcy has been inspected and found to be fully compliant with the design specification.

No defects, damage or non-conformances were identified. The membrane is confirmed as fit for purpose and the slab may proceed to pour.

Radon Wales Ltd hereby issues this report as a Gas Membrane Verification Certificate for this installation.

Standards: BS 8485:2015+A1:2019 | CIRIA C735 | BRE BR 211

Inspector Sign-Off

Inspector Name: Lee Waters

Qualifications: NVQ Level 6 Senior Site Inspection

Signature: 

Date: 18th August 2026

Gas Membrane Inspection Report

Report Date: 18th August 2026 | Ref: RPW-CO2-MEM-2026-005

Job Details

Client	TRJ	Membrane Type	Gas-Barrier Composite
Site Address	Coed Darcy Plot 24 Llandarcy, Neath, SA10 6GZ	Installer	TRJ
Inspection Date	18 th August 2026	Report Status	Final

Membrane Specification

Product Name	SOLSHEILD Ultra Gas Barrier	Certification	BBA
Material	Multi-layer composite	Min. Lap Width	150 mm taped
Thickness	0.6 mm	Application	Floor slab / Walls / Combined

Inspection Findings

Area / Component	Status	Notes / Action Required
Floor slab – central area	PASS	Membrane continuous, no visible damage or punctures observed
Floor slab – perimeter	PASS	Lap widths confirmed at minimum 150 mm throughout; correctly taped
Wall / floor junction (all sides)	PASS	Correctly upturned and sealed to DPC level throughout
Soil pipe penetration	PASS	Correctly collared and sealed with manufacturer-approved tape
Electric conduit penetration	PASS	Collar and sealant correctly applied around conduit entry point
Membrane surface – all areas	PASS	No punctures, tears or damage observed across membrane surface
Expansion joint treatment	PASS	Correctly bridged with flexible cover strip as per specification
Tape joints / laps throughout	PASS	Correct tape product used; laps $\geq$ 150 mm confirmed throughout
Gas sump integration	PASS	Correctly installed and integrated; sump perforations correctly positioned

Additional Notes & Observations

The membrane had been installed in advance of the inspection and was found to be clean, undamaged and free from debris or standing water at the time of visit. All penetrations were found to be neatly executed and in accordance with the manufacturer's installation guidelines. No areas of concern were identified during the inspection. The installer's workmanship was observed to be of a high standard throughout. Radon reading found - 9 Bq/m³.

Overall Assessment & Inspector Sign-Off

Overall Assessment

✅ All inspection items passed. The gas membrane installation at Coed Darcy has been inspected and found to be fully compliant with the design specification.

No defects, damage or non-conformances were identified. The membrane is confirmed as fit for purpose and the slab may proceed to pour.

Radon Wales Ltd hereby issues this report as a Gas Membrane Verification Certificate for this installation.

Standards: BS 8485:2015+A1:2019 | CIRIA C735 | BRE BR 211

Inspector Sign-Off

Inspector Name: Lee Waters

Qualifications: NVQ Level 6 Senior Site Inspection

Signature: 

Date: 18th August 2026

Gas Membrane Inspection Report

Report Date: 18th August 2026 | Ref: RPW-CO2-MEM-2026-006

Job Details

Client	TRJ	Membrane Type	Gas-Barrier Composite
Site Address	Coed Darcy Plot 25 Llandarcy, Neath, SA10 6GZ	Installer	TRJ
Inspection Date	18 th August 2026	Report Status	Final

Membrane Specification

Product Name	SOLSHEILD Ultra Gas Barrier	Certification	BBA
Material	Multi-layer composite	Min. Lap Width	150 mm taped
Thickness	0.6 mm	Application	Floor slab / Walls / Combined

Inspection Findings

Area / Component	Status	Notes / Action Required
Floor slab – central area	PASS	Membrane continuous, no visible damage or punctures observed
Floor slab – perimeter	PASS	Lap widths confirmed at minimum 150 mm throughout; correctly taped
Wall / floor junction (all sides)	PASS	Correctly upturned and sealed to DPC level throughout
Soil pipe penetration	PASS	Correctly collared and sealed with manufacturer-approved tape
Electric conduit penetration	PASS	Collar and sealant correctly applied around conduit entry point
Membrane surface – all areas	PASS	No punctures, tears or damage observed across membrane surface
Expansion joint treatment	PASS	Correctly bridged with flexible cover strip as per specification
Tape joints / laps throughout	PASS	Correct tape product used; laps $\geq$ 150 mm confirmed throughout
Gas sump integration	PASS	Correctly installed and integrated; sump perforations correctly positioned

Additional Notes & Observations

The membrane had been installed in advance of the inspection and was found to be clean, undamaged and free from debris or standing water at the time of visit. All penetrations were found to be neatly executed and in accordance with the manufacturer's installation guidelines. No areas of concern were identified during the inspection. The installer's workmanship was observed to be of a high standard throughout. Radon reading found - 17 Bq/m³.

Overall Assessment & Inspector Sign-Off

Overall Assessment

✅ All inspection items passed. The gas membrane installation at Coed Darcy has been inspected and found to be fully compliant with the design specification.

No defects, damage or non-conformances were identified. The membrane is confirmed as fit for purpose and the slab may proceed to pour.

Radon Wales Ltd hereby issues this report as a Gas Membrane Verification Certificate for this installation.

Standards: BS 8485:2015+A1:2019 | CIRIA C735 | BRE BR 211

Inspector Sign-Off

Inspector Name: Lee Waters

Qualifications: NVQ Level 6 Senior Site Inspection

Signature: 

Date: 18th August 2026

Gas Membrane Inspection Report

Report Date: 18th August 2026 | Ref: RPW-CO2-MEM-2026-007

Job Details

Client	TRJ	Membrane Type	Gas-Barrier Composite
Site Address	Coed Darcy Plot 26 Llandarcy, Neath, SA10 6GZ	Installer	TRJ
Inspection Date	18 th August 2026	Report Status	Final

Membrane Specification

Product Name	SOLSHEILD Ultra Gas Barrier	Certification	BBA
Material	Multi-layer composite	Min. Lap Width	150 mm taped
Thickness	0.6 mm	Application	Floor slab / Walls / Combined

Inspection Findings

Area / Component	Status	Notes / Action Required
Floor slab – central area	PASS	Membrane continuous, no visible damage or punctures observed
Floor slab – perimeter	PASS	Lap widths confirmed at minimum 150 mm throughout; correctly taped
Wall / floor junction (all sides)	PASS	Correctly upturned and sealed to DPC level throughout
Soil pipe penetration	PASS	Correctly collared and sealed with manufacturer-approved tape
Electric conduit penetration	PASS	Collar and sealant correctly applied around conduit entry point
Membrane surface – all areas	PASS	No punctures, tears or damage observed across membrane surface
Expansion joint treatment	PASS	Correctly bridged with flexible cover strip as per specification
Tape joints / laps throughout	PASS	Correct tape product used; laps $\geq$ 150 mm confirmed throughout
Gas sump integration	PASS	Correctly installed and integrated; sump perforations correctly positioned

Additional Notes & Observations

The membrane had been installed in advance of the inspection and was found to be clean, undamaged and free from debris or standing water at the time of visit. All penetrations were found to be neatly executed and in accordance with the manufacturer's installation guidelines. No areas of concern were identified during the inspection. The installer's workmanship was observed to be of a high standard throughout. Radon reading found - 18 Bq/m³.

Overall Assessment & Inspector Sign-Off

Overall Assessment

✅ All inspection items passed. The gas membrane installation at Coed Darcy has been inspected and found to be fully compliant with the design specification.

No defects, damage or non-conformances were identified. The membrane is confirmed as fit for purpose and the slab may proceed to pour.

Radon Wales Ltd hereby issues this report as a Gas Membrane Verification Certificate for this installation.

Standards: BS 8485:2015+A1:2019 | CIRIA C735 | BRE BR 211

Inspector Sign-Off

Inspector Name: Lee Waters

Qualifications: NVQ Level 6 Senior Site Inspection

Signature: 

Date: 18th August 2026

Gas Membrane Inspection Report

Report Date: 18th August 2026 | Ref: RPW-CO2-MEM-2026-008

Job Details			
Client	TRJ	Membrane Type	Gas-Barrier Composite
Site Address	Coed Darcy Plot 27 Llandarcy, Neath, SA10 6GZ	Installer	TRJ
Inspection Date	18 th August 2026	Report Status	Final

Membrane Specification			
Product Name	SOLSHEILD Ultra Gas Barrier	Certification	BBA
Material	Multi-layer composite	Min. Lap Width	150 mm taped
Thickness	0.6 mm	Application	Floor slab / Walls / Combined

Inspection Findings		
Area / Component	Status	Notes / Action Required
Floor slab – central area	PASS	Membrane continuous, no visible damage or punctures observed
Floor slab – perimeter	PASS	Lap widths confirmed at minimum 150 mm throughout; correctly taped
Wall / floor junction (all sides)	PASS	Correctly upturned and sealed to DPC level throughout
Soil pipe penetration	PASS	Correctly collared and sealed with manufacturer-approved tape
Electric conduit penetration	PASS	Collar and sealant correctly applied around conduit entry point
Membrane surface – all areas	PASS	No punctures, tears or damage observed across membrane surface
Expansion joint treatment	PASS	Correctly bridged with flexible cover strip as per specification
Tape joints / laps throughout	PASS	Correct tape product used; laps ≥ 150 mm confirmed throughout
Gas sump integration	PASS	Correctly installed and integrated; sump perforations correctly positioned

Additional Notes & Observations
The membrane had been installed in advance of the inspection and was found to be clean, undamaged and free from debris or standing water at the time of visit. All penetrations were found to be neatly executed and in accordance with the manufacturer's installation guidelines. No areas of concern were identified during the inspection. The installer's workmanship was observed to be of a high standard throughout. Radon reading found - 11 Bq/m3.

Overall Assessment & Inspector Sign-Off	
Overall Assessment  All inspection items passed. The gas membrane installation at Coed Darcy has been inspected and found to be fully compliant with the design specification. No defects, damage or non-conformances were identified. The membrane is confirmed as fit for purpose and the slab may proceed to pour. Radon Wales Ltd hereby issues this report as a Gas Membrane Verification Certificate for this installation. <i>Standards: BS 8485:2015+A1:2019 CIRIA C735 BRE BR 211</i>	Inspector Sign-Off Inspector Name: Lee Waters Qualifications: NVQ Level 6 Senior Site Inspection Signature:  Date: 18th August 2026

Rev	Date	By	Chg	Description
CE1	15/04/2024	AP	AP	First Issue
CE2	26/05/2025	AP	AP	Keyrings added, PV and ASDP added to all plots, Sheds and bin stores added in line with Plot 100G.

 Electric Meter Box
 EV Charging
 BT
 SVP
 RWP
 ASHP
 PV Panel
 Tool/Bike Store
 Bin Store
 Rotary Clothes Line
 BATTERY



Client Name 

Scale	Project No.				
1/100 @ A1	9856				
Status	Purpose Of Issue				
C1	Issued for Construction				
Project	Orig	Vol	Level	Form	Job
11341	• RL	• ZZ	• 00	• DR	• A
Number	Revision				
0920	C02				

Gas Membrane Inspection Report

Report Date: 30th June 2026 | Ref: RPW-CO2-MEM-2026-002

Job Details			
Client	TRJ	Membrane Type	Gas-Barrier Composite
Site Address	Coed Darcy	Installer	TRJ
Inspection Date	10 th June 2026	Report Status	Final

Membrane Specification			
Product Name	SOLSHEILD Ultra Gas Barrier	Certification	BBA
Material	Multi-layer composite	Min. Lap Width	150 mm taped
Thickness	0.6 mm	Application	Floor slab / Walls / Combined

Inspection Findings		
Area / Component	Status	Notes / Action Required
Floor slab – central area	PASS	Membrane continuous, no visible damage or punctures observed
Floor slab – perimeter	PASS	Lap widths confirmed at minimum 150 mm throughout; correctly taped
Wall / floor junction (all sides)	PASS	Correctly upturned and sealed to DPC level throughout
Soil pipe penetration	PASS	Correctly collared and sealed with manufacturer-approved tape
Electric conduit penetration	PASS	Collar and sealant correctly applied around conduit entry point
Membrane surface – all areas	PASS	No punctures, tears or damage observed across membrane surface
Expansion joint treatment	PASS	Correctly bridged with flexible cover strip as per specification
Tape joints / laps throughout	PASS	Correct tape product used; laps $\geq$ 150 mm confirmed throughout
Gas sump integration	PASS	Correctly installed and integrated; sump perforations correctly positioned

Additional Notes & Observations
The membrane had been installed in advance of the inspection and was found to be clean, undamaged and free from debris or standing water at the time of visit. All penetrations were found to be neatly executed and in accordance with the manufacturer's installation guidelines. No areas of concern were identified during the inspection. The installer's workmanship was observed to be of a high standard throughout

Overall Assessment & Inspector Sign-Off	
Overall Assessment ✅ All inspection items passed (30-36, 50-53). The gas membrane installation at Coed Darcy has been inspected and found to be fully compliant with the design specification. No defects, damage or non-conformances were identified. The membrane is confirmed as fit for purpose and the slab may proceed to pour. Radon Wales Ltd hereby issues this report as a Gas Membrane Verification Certificate for this installation. <i>Standards: BS 8485:2015+A1:2019 CIRIA C735 BRE BR 211</i>	Inspector Sign-Off Inspector Name: Lee Waters Qualifications: NVQ Level 6 Senior Site Inspection Signature:  Date: 10th June 2026

Solshield Flexible Hydrocarbon Barrier

Description:

Solshield Flexible Hydrocarbon Gas Barrier is a specially engineered tri-polymer membrane that provides a highly effective barrier against Radon, Methane, Carbon Dioxide, and Hydrocarbon gases. The Membrane is produced from a uniquely formulated blend of polymers to produce outstanding chemical resistance, mechanical properties, dimensional stability, and thermal aging characteristics. The membrane is ideally suited for sites formerly used as coalfield, landfill, or industrial sites that previously contained volatile liquids such as petrol stations.

Solshield Flexible Hydrocarbon Gas Barrier is a very effective gas barrier for protecting buildings and occupiers from the ingress of gas and moisture. Building regulations require that proper precautions be taken to prevent danger to health and safety when building on gas contaminated land. Solshield Flexible Hydrocarbon Gas Barrier is an advanced high performance flexible membrane suitable for both damp proofing and tanking applications. The membrane has a textured face on one side designed to aid adhesion to cast concrete.

The membrane can be used in applications such as:

- Tanking below ground structures.
- Heavy duty reinforced concrete slabs.
- Permanent shutter work.
- Lift pits.
- Slab edges.

Solshield Flexible Hydrocarbon Gas Barrier is classified as non-hazardous (code of practice CP101 1973). The membrane is chemically inert and will not react with any acidic or alkaline environment it is laid in.

Solshield Flexible Hydrocarbon Barrier has been subjected to accelerated life immersion tests. These tests, EN 14414 & EN 14415, require the membrane to be subjected to a range of challenge chemicals at 50°C and are tested to establish the effect they have on the membrane.



- Complies with relevant codes of practice such as current BRE and CIRIA.
- Excellent resistance to chemical and hydrocarbon gases typically found in contaminated industrial sites.
- High-quality robust flexible Tri-Polymer Membrane.
- Suitable for hot welding.
- Very high puncture & tear resistance.
- Tested to ISO 15105-1.
- Complies to BS 8485:2015+A1:2019.

Technical Data:

Property	Test Method	Value
Gas Permeability		
Radon Permeability		9.5 x 10 ⁻¹² m ² /s
Methane Permeability	ISO 15105-1	28 ml/m ² /day/atm
Diesel Permeability	ISO 6179	0.096 g/m ² h
Petrol Permeability	ISO 6179	5.172 g/m ² h
Xylene Permeability	ISO 6179	4.845 g/m ² h
Toluene Permeability	ISO 6179	6.695 g/m ² h

Solco, Unit 51, Portmanmoor Road Industrial Estate, Ocean Park, Cardiff, CF24 5HB

Technical Data (Cont.):

Property	Test Method	Value
Mechanical Properties		
Thickness	EN 1849-2	1.00mm
Width	EN 1849-2	1.3m
Length	EN 1849-2	20m
Mass	EN 1849-2	921 g/m ²
Hydraulic Properties		
Water Vapour Permeability	EN 1932	0.08 g/m ² /day
Watertightness (At 2 kPa)	EN 1928	Pass
Mechanical Properties		
Tensile Strength (MD)	EN 12311	24 N/mm ²
Tensile Strength (CMD)	EN 12311	22 Nmm ²
Tensile Elongation (MD)	EN 12310	398%
Tensile Elongation (CMD)	EN 12310	446%
Joint Strength	EN12317-2	520 N
Resistance to Tearing (MD)	EN 12310 - 1	700 N
Resistance to Tearing (CMD)	EN 12310 - 1	750 N
Resistance to Static Load	EN 12730	20 kg
Resistance to Impact	EN 12691	660mm
Resistance to Low Temperature	EN 495-5	Pass at -40°C
Durability and Chemical Resistance		
Durability (Heat Ageing)	EN 1926	Pass
Durability (Chemical Resistance)	EN 1847	Pass
Chemical Resistance (Acidic)	EN 14414-A	MD - 376 CD - 488
Chemical Resistance (Basic)	EN 14414-B	MD - 388 CD - 487
Chemical Resistance (Solvents)	EN 14414-C	MD - 388 CD - 518
Resistance to Leeching (Hot Water)	EN 14415-A	MD - 377 CD - 404
Resistance to Leeching (Aqueous Alkaline)	EN 14415-B	MD - 361 CD - 428
Resistance to Leeching (Organic Alcohol)	EN 14415-C	MD - 388 CD - 449
Reaction to Fire	EN 13501-1	Class F

Installation:

Solshield Flexible Hydrocarbon Gas Barrier must be installed in accordance with the guidelines laid out in Building Research establishment BRE No.414 "Protective measures for housing on gas contaminated land", CIRIA C665 "Assessing risks posed by Hazardous ground gases to buildings", NHBC guidelines, and CIRIA C682 the VOC Handbook.

Solshield Flexible Hydrocarbon Gas Barrier can be used in most common floor constructions and is installed in a similar manner to DPMs but with greater attention to joint sealing and under wall sealing. Where there is a risk of hydrostatic pressure, the membrane can be used so long as the jointing is made using a hot weld process and not taped. The membrane should be laid on a smooth surface or sand blinding to prevent puncture.

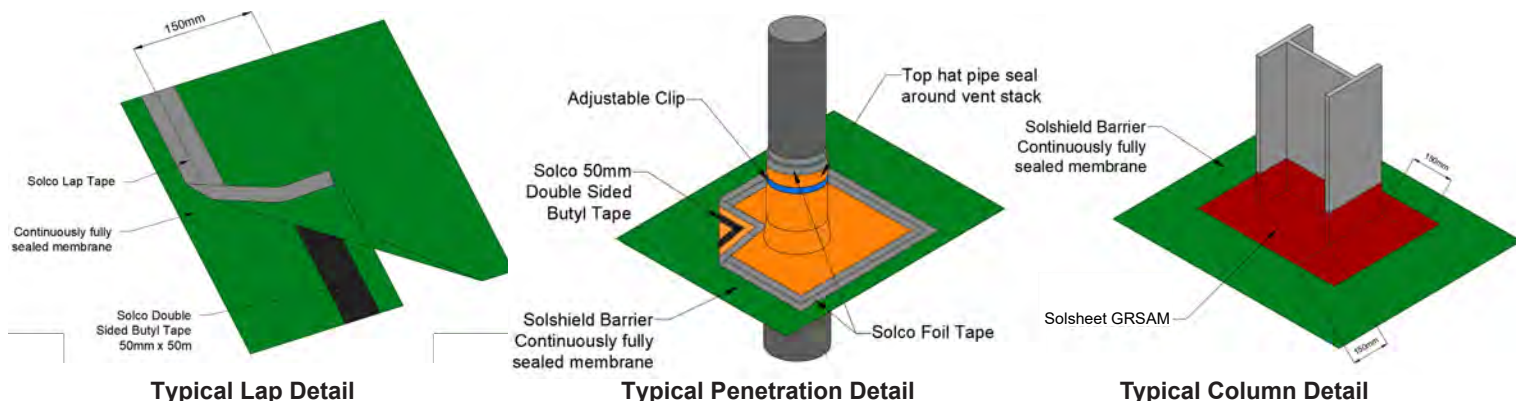
Solshield Flexible Hydrocarbon Gas Barrier has excellent welding properties, we would recommend that particularly in situations where site investigation demonstrates chemicals or harmful gases are present in significant concentrations all of our gas barriers are heat welded as opposed to being tape jointed, 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.

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 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 coloured side up, ensuring that it is properly aligned. All end and side overlaps should be a minimum of 150mm 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. The continuity of the damp proofing must extend over the footprint of the building, and the membrane must be sealed to a damp-proof course where required.
7. 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. Care should be taken when handling building materials over the exposed surface.

Jointing Detail Using Tapes:

1. Apply Solco Double Sided Butyl Tape around 50mm from the membrane edge, leaving the backing paper on.
2. Lay the next membrane, overlapping the first by 150mm.
3. 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.
4. Where the membranes overlap, apply 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 Flexible Hydrocarbon Barrier (Using Tapes)



Note:

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



Solshield Hydrocarbon Barrier System Accessories

Solco Top Hats	Form an effective seal where a pipe, duct, or service penetrates Solsheet membranes.	Units
Solco Double Sided 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 Foil Tape	A single-sided tape for securing laps & joints.	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 P30 Protection Fleece	Forms a protective layer to prevent damage to the membrane.	Rolls
Solsheet GR Self-Adhesive Membrane	A gas resistant self-adhesive membrane.	Rolls
Solseal HP Primer	Used to provide adhesion to bitumen enhanced geomembranes.	Tins
Solshield Venting Mat	Cusped (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.

Venting:

- Solshield Flexible Hydrocarbon Barrier can be used on site 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.

Solco, Unit 51, Portmanmoor Road Industrial Estate, Ocean Park, Cardiff, CF24 5HB

Solshield Ultra Gas Barrier

Description:

Solshield Ultra Gas Barrier is a multi-layer low density polyethylene (LDPE) gas barrier and damp-proof membrane reinforced with a polypropylene grid with an integral aluminium foil. The membrane is designed for use in concrete ground floors, above and below slab not subject to hydrostatic pressure.

Solshield Ultra protects buildings against Moisture, Radon, Carbon Dioxide, and Methane from the ground.

Air & Moisture protection system.

Resistance to puncture - the membrane has a strong resistance to puncture and on smooth surfaces will not be damaged by foot/site traffic.

Durability - the membrane remains effective against the ingress of water and water vapour, will restrict the ingress of radon, methane, and carbon dioxide during the lifetime of the flooring construction in which it is installed.

Compliance:

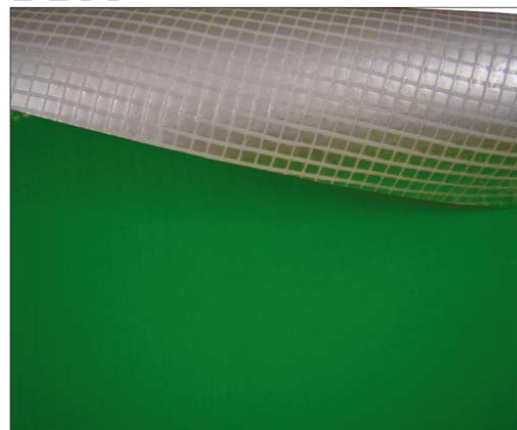
- NHBC Standards 2019, Chapters 4.1/5.1.
- CE Marking Standard EN13967:2012
- BS 8485:2015+A1:2019.
- CP 102:1973, Section 2.
- BS8000-4:1989.
- BBA Certificate No. 20/5737.

General:

- Solshield Ultra 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, and guidance given in BS 8485:2015+A1:2019.
- 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 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 projects.
 - Reinforced raft foundation and in situ suspended slab, providing the membrane is laid above the ground and not in direct contact with any source of hydrocarbon/VOC vapour.
- Long periods of exposure to ultraviolet light will reduce the effectiveness of the membrane.

Venting:

- Solshield Ultra can be used on site 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.



- Complies with latest codes of practice as published by BRE, BSI & CIRIA.
- BBA Certified, NHBC Compliant & CE Marked.
- Suitable to protect against the ingress of Rn, CO₂, and CH₄.
- BS 8485:2015+A1:2019 Accordant.
- 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.

Solco, Unit 51, Portmanmoor Road Industrial Estate, Ocean Park, Cardiff, CF24 5HB

Technical Data:

Property	Test Method	Value
Thickness	EN 1849-2	0.60mm
Thickness - Between Scrim	BS EN ISO 9863-1:2016	0.40mm
Width	EN 1849-2	2.0m
Length	EN 1849-2	50m
Weight	EN 1849-2	370 g/m ²
Hydraulic Properties		
Water Column Test	EN 20811	> 300
Resistance to Water Penetration	EN 13967 / EN 1928	Pass
Watertightness	EN 1296 / EN 1367 / EN 1928	Pass
Mechanical Properties		
Resistance to Static Load	EN 12730-B	20 kg
Tensile Strength (MD)	EN 12311 - 1	600 N/50mm
Tensile Strength (CMD)	EN 12311 - 1	480 N/50mm
Tensile Elongation (MD)	EN 12310 - 1	20%
Tensile Elongation (CMD)	EN 12310 - 1	20%
Puncture Resistance	EN 12236	1.25 kN
Resistance to Tearing (Nail Shank) (MD)	EN 12310 - 1	330 N
Resistance to Tearing (Nail Shank) (CMD)	EN 12310 - 1	400 N
Durability and Chemical Resistance		
Transmission Rate of Volatile Liquids (Diesel)	ISO 6179:2010 (B)	0.246 g/m ² /hr
Transmission Rate of Volatile Liquids (Xylene)	ISO 6179:2010 (B)	0.571 g/m ² /hr
Transmission Rate of Volatile Liquids (Toluene)	ISO 6179:2010 (B)	0.583 g/m ² /hr
Transmission Rate of Volatile Liquids (Petrol)	ISO 6179:2010 (B)	0.135 g/m ² /hr
Gas Permeability		
Methane Permeability	BS EN ISO 15105-1	< 0.09 ml/m ² /day/atm
Carbon Dioxide Permeability	BS EN ISO 15105-1	< 0.09 ml/m ² /day/atm
Radon Permeability	K124/02/95	8.0x10 ⁻¹⁵ m ² /s

Solco, Unit 51, Portmanmoor Road Industrial Estate, Ocean Park, Cardiff, CF24 5HB

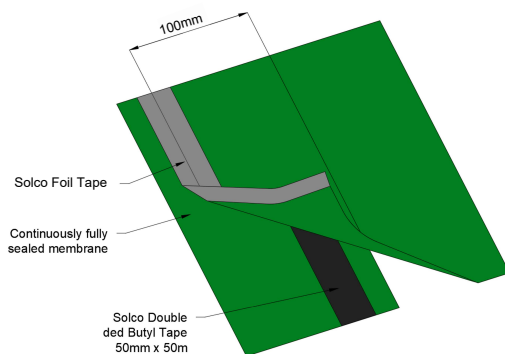
Installation:

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 Ultra should be taken through the blockwork and incorporated below the damp proof course cavity 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 Ultra is rolled out with the coloured side up, 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. The continuity of the damp proofing must extend over the footprint of the building, and the membrane must be sealed to a damp-proof course where required.
7. 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. Care should be taken when handling building materials over the exposed surface.

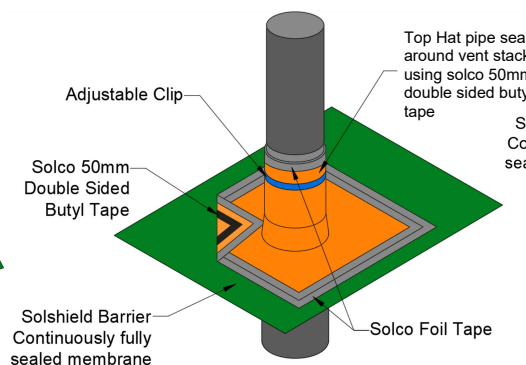
Jointing Detail:

1. Apply Solco Double Sided Butyl Tape around 50mm from the membrane edge, leaving the backing paper on.
2. Lay the next membrane, overlapping the first by a minimum of 100mm.
3. 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 to remove trapped air.
4. Where the membranes overlap, apply 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.

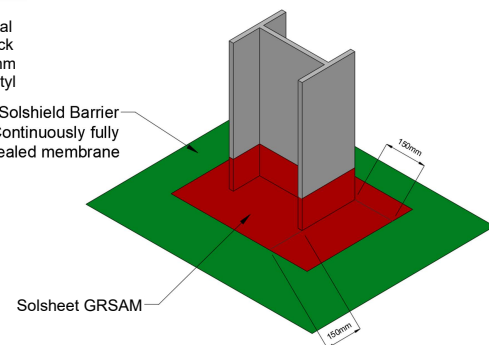
Typical Jointing Details for Solshield Ultra



Typical Lap Detail



Typical Penetration Detail

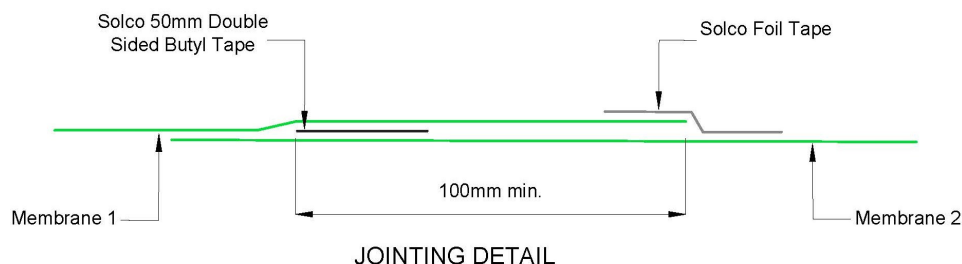


Typical Column Detail

Solco, Unit 51, Portmanmoor Road Industrial Estate, Ocean Park, Cardiff, CF24 5HB

Note:

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



Solshield Ultra System Accessories

Solco Top Hats	Form an effective seal where a pipe, duct, or service penetrates Solsheet membranes.	Units
Solco Double Sided 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 Foil Tape	A single-sided tape for securing laps & joints.	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 P30 Protection Fleece	Forms a protective layer to prevent damage to the membrane.	Rolls
Solsheet GR Self-Adhesive Membrane	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.

Solco, Unit 51, Portmanmoor Road Industrial Estate, Ocean Park, Cardiff, CF24 5HB