



Ref: 210522.L.003.RJ
17 November 2021

**Mr M Humphries,
FAO: Mr L. White
c/o Silver Trowel Developments**



Dear Mike,

Re: Gas Protection Validation, Barn Edges – Burford Mill, Burford, Tenbury Wells, Shropshire.

Roberts Environmental Limited (REL) were instructed by Silver Trowel Developments on 20 May 2021 to validate gas protective measures to be installed within the Barns at Burford Mill, Burford.

It is our understanding that the gas protective measures are to be installed by contractors appointed by the client, with the works independently inspected and validated by REL.

The REL validation works are to be phased to accommodate the proposed development works and will be undertaken over two site visits and reports, as instructed by Silver Trowel Developments. The validation programme will be completed when all elements of the gas protective measures have been inspected and deemed to be satisfactorily installed.

This letter report has been produced following the site visit in order to report and advise on the installation and validation of the Alderprufe GRA Gas Barrier on the cavity and edges of the barns on the site and should be read in conjunction with the other reports provided by REL for this site. In particular the outstanding validation report of the remaining barn central floor area and doorways, which was not ready for validation as part of this report.

Information Sources

REL have been provided with the following documents for review:

- Ground Gas Investigation at Burford Mill Barns, Burford, Shropshire, Ground Investigation & Piling Ltd (GIP), 21 January 2020, Reference: ML/28568.



REL produced the following report prior to commencing the installation of the gas protection measures at the site and should be read in conjunction with this letter report:

Remediation Strategy and Verification Plan for Installation of Ground Gas Protective Measures – Burford Mill, Burford, Tenbury Wells, Shropshire. REL, Reference: 210522.L.002.RJ, dated: 14 October 2021.

Both documents should be read in conjunction with the above document.

An initial validation was undertaken on 14 October 2021 by a representative of REL based on photographic records provided by the Client, to inspect the structural/suspended floor elements of each plot.

The photographs from the client were corroborated during the site visit on 28 October 2021 by a representative of REL to undertake a validation inspection and to confirm inspection of the following points:

- Structural/suspended floor elements;
- Chasing into existing wall;
- Wall cavity;
- Gas membrane type;
- Gas membrane condition;
- Lapping design;
- Laps and joints seals;
- Service entry seals.

The REL Photographic Record Sheet which summarises the findings of the site visit is included in Enclosure 1. In addition, the photographic record provided by the client for the site is included within Enclosure 1.

Adopted Guidance

The REL report outlines the methods to install gas protective measures at the site, based on the conclusions of the GIP report (21 January 2020). It is not the intention of this document to review or comment on the technical accuracy of the third-party report and recommendations.

The GIP report concluded that the ground gas regime for the site was Characteristic Situation 2 (CS-2) in accordance with CIRIA C665 and Amber 1 in accordance with BS8485.



As such, Silver Trowel Developments have instructed the contractor to install gas protective measures in accordance with CS2 at the site. REL understand the Remediation Strategy and Verification Plan has been submitted to the Local Authority, as a discharge of conditions, following RELs correspondence with the Local Authority.

Scope of Gas Protection

In accordance with CIRIA C665, the site has been determined to be CS2 and classified as a 'Type A' building in accordance with BS8485:2015+A1:2019. For this combination, the building will need to be constructed to achieve 3.5 points.

The gas protective measures to be installed include:

Reinforced slab – 1.5 points; and,

Alderburgh Alderprufe GRA gas protective membrane – 2 points.

REL assume that this approach has been accepted by the Local Authority.

It is our understanding that the plots are to be protected by the Alderburgh Alderprufe GRA Gas Barrier to protect against ground gas ingress (see Enclosure 2 for Technical Datasheet). Within the Alderburgh Alderprufe GRA Technical Datasheet, it states that the membrane;

'Alderprufe GRA is a proprietary gas barrier that is compliant with BS8485:2015, Ciria 665 and is suitable for Amber 1 & 2 applications. It provides an effective barrier to methane, carbon dioxide, radon, and hydrocarbon vapours; as Ciria C748 notes, aluminium simply does not allow any permeation of almost any common organic pollutant. It can be installed above or below a slab, above or below insulation or beneath a screed. The methods of jointing provide an effective barrier to the passage of gases, hydrocarbon vapours, liquid water and water vapour from the ground.'

Gas Protection Validation

REL can confirm that the Alderprufe GRA membrane has been chased into the existing walls of Barns 1 and 2, and across the cavities. The membrane had been laid with care, with no evidence of tears, rips or punctures noted.



Based on observations undertaken during the REL site inspection, it is the opinion of REL that the gas protection measures installed to date have been installed in accordance with the scope of gas protection measures agreed.

As such, taking into consideration information presented above and enclosed, it is the opinion of REL that the gas protection elements placed at the time of the inspection, have been installed to an acceptable standard.

Please note, as stated previously, this report represents only 1 of 2 reports which will be issued for the subject site. The validation discussed within this report relates only to the cavity and edges of Barns 1 and 2.

Conclusion

The overall installation of the Alderprufe GRA Gas Barrier was satisfactory at present however, further validation is required prior to the final validation and verification of Barns 1 and 2 at Burford Mill. Protective measures at the time of the inspection are still required across the centre of the Barns and within the doorways. In addition, jubilee clips on service entries were required and the water main in Barn 1 required further works to make the edges gas tight. In the subsequent report, confirmation or otherwise will be provided with regards to the outstanding protection measures.

We trust that these comments and attachments are to your satisfaction and if you require any further information or clarification, please do not hesitate to contact us.

Yours sincerely,



**Rebecca Jordan BSc (Hons) MEnv M.I. Soil Sci
Consultant**

For and on behalf of Roberts Environmental Ltd

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Enc:




1. REL Site Photograph Sheet.
2. Aldeprufe Technical Datasheets.









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Enclosure 1

<p>1.</p>	<p>Barn 1 Burford Mill Barns, Burford Mill</p> <p>View confirming traditional reinforcement has been installed across the entire footprint of the plot, within the concrete slab.</p> <p><i>Photograph provided by client, prior to slab pour.</i></p>	
<p>2.</p>	<p>Barn 1 Burford Mill Barns, Burford Mill</p> <p>View confirming reinforced concrete slab has been installed across the entire footprint of the plot, within the concrete slab.</p> <p><i>Photograph provided by client.</i></p>	
<p>3.</p>	<p>Barn 1 Burford Mill Barns, Burford Mill</p> <p>View of gas membrane chased and sealed at a corner into the existing Barr wall, using concrete. Gas membrane used is the Alderburgh Alderprufe GRA, with Alderburgh 1.5mm thick double-sided tape used for sealing overlapped areas.</p>	

4.	<p>Barn 1 Burford Mill Barns, Burford Mill</p> <p>View of gas membrane sealed to service penetration using preformed Top Hat, Alderprufe GRA Double Sided Jointing Tape. It was advised jubilee clips should be added to form an effective seal, prior to final validation.</p>	
5.	<p>Barn 1 Burford Mill Barns, Burford Mill</p> <p>At present a water main runs through the boundary wall of Barn 1. The client was awaiting the water suppliers to move this water main to allow the gas protection measures to be complete in this area. Photographic records will be provided by the client following the completion of this work and the sealing of this area.</p>	
6.	<p>Barn 1 Burford Mill Barns, Burford Mill</p> <p>View confirming Alderprufe GRA Gas Barrier installation on the edges of the site, including corner seals, reinforced with Aldeprufe Single Sided tape. The membrane was installed to a suitable standard.</p>	

<p>7.</p>	<p>Barn 2 Burford Mill Barns, Burford Mill</p> <p>View confirming traditional reinforcement has been installed across the entire footprint of the plot, within the concrete slab.</p> <p><i>Photograph provided by client, prior to slab pour.</i></p>	
<p>8.</p>	<p>Barn 2 Burford Mill Barns, Burford Mill</p> <p>View confirming reinforced concrete slab has been installed across the entire footprint of the plot, within the concrete slab.</p> <p><i>Photograph provided by client.</i></p>	
<p>9.</p>	<p>Barn 2 Burford Mill Barns, Burford Mill</p> <p>View of gas membrane chased and sealed into the existing Barn wall, using concrete. Gas membrane used is the Alderburgh Alderprufe GRA.</p>	

<p>10.</p>	<p>Barn 2 Burford Mill Barns, Burford Mill</p> <p>View of gas membrane sealed to service penetration using preformed Top Hat, Alderprufe GRA Double Sided Jointing Tape. It was advised jubilee clips should be added to form an effective seal, prior to final validation.</p>	
<p>11.</p>	<p>Barn 2 Burford Mill Barns, Burford Mill</p> <p>View of full plot, centre and doorways are requiring gas membrane installation.</p>	
<p>12.</p>	<p>Barn 2 Burford Mill Barns, Burford Mill</p> <p>View of gas membrane chased and sealed at a corner into the existing Barr wall, using concrete. Gas membrane used is the Alderburgh Alderprufe GRA, with Alderburgh 1.5mm thick double-sided tape used for sealing overlapped areas.</p>	



ROBERTS
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Enclosure 2

Membranes



ALDER PRUFE
Gas Barriers

PRUFE



FULLY DESIGNED SYSTEMS

To protect against all ground borne gases and land contamination

- METHANE
- CARBON DIOXIDE
- VOC's - VOLATILE ORGANIC COMPOUNDS
- HYDROCARBONS
- RADON



SYSTEMS COMPLIANCE

- BS8485:2015
- NHBC - AMBER 1 & 2
- CIRIA 748
- CIRIA 665

CE COMPLIANT
BBA CERTIFICATION



ALDERPRUFE Gas Barrier Systems

The reasons for gas protection are well documented, whether it be to protect against methane, carbon dioxide, radon, hydrocarbons or hydrocarbon vapours. Careful consideration must be given to any construction project and steps taken to minimise and or eliminate that risk –guidance on classification and appropriate levels of protection can be found in Ciria 665:2007, BRE414:2001, NHBC Report 10627-R01(04):2007 NHBC Technical Extra issue 20, Ciria C748, and more commonly now for gas protection BS8485:2015.

Our comprehensive range of fully compatible gas protection products form integrated systems to protect buildings from the ingress of ground borne gases and contamination, whatever the construction method, gas Characteristic Situation (CS), Gas Screening Value (GSV) or NHBC 'Amber' category.

We offer a range of Alderprufe gas barrier membranes, gas dpc and pre-formed sections to suit all type of construction methods. Our Geovoid range of gas venting void formers allows for maximum flexibility to design gas dilution and dispersal systems to suit every type of construction (refer to separate Alderburgh Gas Ventilation brochure).

Our range of products includes loose-laid, self-adhesive and pre-applied barriers, Membrane Holdfast system which can be used to tie any membrane to the underside of slab, gas dpc / cavity closure, sealing tapes, and prepared factory-made units for sealing around stanchions, service entries, piles which penetrate the membranes. The whole system is fully compatible and designed to seal the whole structure from gas migration including the floor, walls and cavities. These systems also conform with current Building Regulation requirements to protect buildings from water penetration from the ground.

It is essential that proper consideration and application is undertaken to ensure proper sealing at all joints, laps and service entries, and to ensure that damage by follow-on trades is avoided.

Frequently, Inspection and Validation of the installed system is required in accordance with Ciria C735; indeed it is a necessity if the system is to comply with BS8485:2015 –Alderburgh Group can arrange this for you.

Alderburgh Ltd can provide Technical Support to help you meet the requirements for your project.



ALDERPRUFE

Product Guide Check List

Product Guide Check List	Alder Prufe GRA	Alder Prufe Ultra	Alder Prufe HC	Alder Prufe MR50	Alder Prufe LGM	Alder Prufe GRM	Alder Course Tuflex	Super Yellow Gas Barrier	Alder Course GRA	HC Dpc	Tuflex Dpc
Methane Resistant	4	4	4	4	4	4	4	4	4	4	4
Carbon Dioxide Resistant	4	4	4	4	4	4	4	4	4	4	4
Radon Resistant	4	4	4	4	4	4	4	4	4	4	4
Hydrocarbon /VOC	4	4	4	4	4				4	4	
NHBC Amber Applications	Amber 1 & 2	Amber 1 & 2	Amber 1 & 2	Amber 1 & 2	Amber 1 & 2	Amber 1	Amber 1	Amber 1	Amber 1 & 2	Amber 1 & 2	Amber 1
Ciria 665	4	4	4	4	4	4	4	4	4	4	4
BS8485:2015	4	4		4	4				4		
Ciria Q48	4	4	4	4	4				4	4	
Thickness	0.6mm	0.5mm	1mm	2mm	1mm	0.5mm	0.5mm - 1mm	0.5mm	3.5mm	1mm	1mm
Roll size	2m x 50m	2m x 50m	1.2m x 30m	1m x 15m	5kg 15kg	2m x 50m	1.2m x 50m	1.2m x 50m	various x 8m	various x 30m	various x 20m
Colour	Blue/ Silver	Black/ Silver	Black	Black	Red/ Green	Blue/ White	Grey/ Black	Yellow	Sanded	Black	Grey/ Black

Refer to Alderburgh Ltd Technical support and published guidance documents for further information.

Alderprufe GRA Gas Barrier is a multilayer, low-density polyethylene membrane, reinforced with a polypropylene reinforcing grid with an integral aluminium foil (BBA 16/5368) for use above or below a concrete ground floors that are not subject to hydrostatic pressure, to protect buildings against gas penetration from the ground.

General Description

Alderprufe GRA is a proprietary gas barrier that is compliant with **BS8485:2015**, **Ciria 665** and is suitable for **Amber 1 & 2** applications. It provides an effective barrier to methane, carbon dioxide, radon, and hydrocarbon vapours; as **Ciria C748** notes, aluminium simply does not allow any permeation of almost any common organic pollutant.

It can be installed above or below a slab, above or below insulation or beneath a screed.

The methods of jointing provide an effective barrier to the passage of gases, hydrocarbon vapours, liquid water and water vapour from the ground.

Alderprufe GRA is suitable for use in accordance with the relevant clauses of CP102:1973 Code of Practice for protection of buildings against water from the ground (as amended), in concrete floors not subject to a hydrostatic pressure, and will meet Requirement of Building Regulations Approved Document C (England and Wales), in that sheet thickness is at least 1000 gauge.

Alderprufe GRA has a high resistance to puncture. On smooth or blinded surfaces it will not be damaged by normal on-site foot traffic but care should be taken to avoid damage during installation, particularly when handling building materials and equipment over the surface and when placing concrete or screed since it can be punctured by sharp objects.

Alderprufe GRA may be installed under all conditions normal to the construction of ground floor slabs.

The membranes remain flexible and do not soften at the extreme temperatures likely to occur in practice. When used in accordance with the manufacturer's instructions there will be no adverse effect on the membranes from underfloor heating under normal conditions of use, **Alderprufe GRA** will provide an effective barrier to the transmission of gases, liquid water and water vapour for the life of the concrete slab in which it is installed.



ALDERPRUFE GRA GAS BARRIER

Characteristic	Test Method	Unit	Alderprufe GRA
Physical Properties			
Thickness	EN 1849-2	mm	0.60
Width	EN 1849-2	m	2
Length	EN 1849-2	m	50 / 25
Weight	EN 1849-2	g/m ²	350
Gas Permeability			
Methane	EN ISO 15105 - 1	ml/m ² /day/atm	0.09
Carbon Dioxide	EN ISO 15105 - 1	ml/m ² /day/atm	0.09
Radon	K124/02/95	m ² /s	8.00
Water Vapour Transmission	EN 1931	g/m ² /day	0.10
Complies with: BS8485:2015, CIRIA C664, CIRIA C748, NHBC (Green Amber 1, Amber 2, Red),			

Installation

Unless the base is smooth, a surface blinding of soft sand or **Geotex 300PP** protection should be used to avoid puncturing the membrane during installation or when the concrete or screed is being placed.

Before jointing, sheets must be clean and free from dirt and grease. Adjacent sheets should be overlapped by at least 100mm wide and bonded with 100mm wide double-sided **Gastite Tape**.

Perforation or puncture of the sheets should be patched with sheets of identical thickness lapped at least 150mm beyond the limit of the puncture and sealed with 100mm wide **Gastite Tape**.

Continuity with DPC: **Alderprufe GRA** membrane must be continuous with damp-proof course in the surrounding walls; lapped and bonded to **Aldercourse GRA** gas dpc for continuation through load-bearing walls. Where necessary **Alderprufe MR50** should be used as a vertical course to link the two (refer to typical details and separate data sheets.)

Placing Concrete or Screed: **Alderprufe GRA** must be covered by a screed or other protective layer as soon as possible after installation. Care should be taken to ensure that the membrane is not stretched or displaced when placing the concrete or screed.

Best practice is to use pre-formed collars and cloaks at penetrations to the gas barrier, for example at columns, pipes or piles. If gas ventilation is needed, refer to **Aldervent Gas Ventilation** brochure.

Use with: Aldercourse GRA gas dpc * Gastite Tape * Preformed pipe collars, column cloaks, pile collars * Geotex 300PP or Backerboard HD protection * Membrane Holdfast * Alderprufe MR50

Alderprufe Ultra VOCM Gas & Volatile Organic Compounds including Hydrocarbons Barrier is a multilayer flexible polyethylene membrane with a unique core component, specifically designed to provide protection against methane, carbon dioxide, radon, VOCs and hydrocarbons.

Alderprufe Ultra VOCM has been designed to withstand the most aggressive environments, typically on sites that were formally petrol stations, coalfields, contaminated industrial sites or landfill.

General Description

Alderprufe Ultra VOCM is a proprietary gas barrier that is compliant with **BS8485:2015**, **Ciria C748**, **Ciria 665** and is suitable for **Amber 1 & 2** applications. It provides an effective barrier to methane, carbon dioxide, radon, hydrocarbon vapours and hydrocarbons –permeation testing is in accordance with **BS8485:2015** and **Ciria C748**.

It can be installed above or below a slab, above or below insulation or beneath a screed, and provides an effective barrier to the passage of gases, VOC vapours, liquid water and water vapour from the ground.

Alderprufe Ultra VOCM is suitable for use in accordance with the relevant clauses of CP102:1973 Code of Practice for protection of buildings against water from the ground (as amended), in concrete floors not subject to a hydrostatic pressure, and will meet Requirement of Building Regulations Approved Document C (England and Wales), in that sheet thickness is at least 1000 gauge.

Alderprufe Ultra VOCM has a high resistance to puncture. On smooth or blinded surfaces it will not be damaged by normal on-site foot traffic but care should be taken to avoid damage during installation, particularly when handling building materials and equipment over the surface and when placing concrete or screed since it can be punctured by sharp objects.

Alderprufe Ultra VOCM may be installed under all conditions normal to the construction of ground floor slabs. The membranes remain flexible and do not soften at the extreme temperatures likely to occur in practice. When used in accordance with the manufacturer's instructions there will be no adverse effect on the membranes from underfloor heating under normal conditions of use, **Alderprufe Ultra VOCM** will provide an effective barrier to the transmission of gases, VOCs, liquid water and water vapour for the life of the concrete slab in which it is installed.

Application

Unless the base is smooth, a surface blinding of soft sand or **Geotex 300PP** protection should be used to avoid puncturing the membrane during installation or when the concrete or screed is being placed.

Jointing: Before joining, sheets must be clean and free from dirt and grease, adjacent sheets should be overlapped by at least 100mm. Ideally the laps will be **heat-welded** by a specialist installer, but if this can't be achieved 100mm wide **Gastite Tape** could be used ensuring laps are well-rolled for good adhesion.

Perforation: Perforation or puncture of the membrane can be patched; laps should be at least 150mm beyond the limit of the puncture and sealed using the same method as the joints.

Continuity with DPC: **Alderprufe VOCM** membrane must be continuous with damp-proof course in the surrounding walls; lapped and bonded to **Aldercourse GRA** gas dpc or **Aldercourse HC Dpc** for continuation through load-bearing walls.

Placing Concrete or Screed: **Alderprufe VOCM** must be covered by a screed or other protective layer as soon as possible after installation. Care should be taken to ensure that the membrane is not stretched or displaced when placing the concrete or screed.

Best practice is to use pre-formed collars and cloaks at penetrations to the gas barrier, for example at columns, pipes or piles. If gas ventilation is needed refer to **Aldervent Gas Ventilation** brochure.

Use with: *Aldercourse GRA gas dpc * Gastite Tape * Preformed pipe collars, column cloaks, pile collars * Geotex 300PP or Backerboard HD protection * Membrane Holdfast * Alderprufe MR50*

ALDERPRUFE ULTRA VOCM

Characteristic	Test Method	Unit	Alderprufe Ultra VOCM
Physical Properties			
Thickness	EN 1849-2	mm	0.5
Width	EN 1849-2	m	2
Length	EN 1849-2	m	50
Weight	EN 1849-2	g/m ²	500
Hydraulic Properties			
Water Vapour Transmission Rate	ASTM E96	g/m ² /day	0.93-0.95
Watertightness	EN 1928	-	PASS
Mechanical Properties			
Resistance to Static Load	EN 12730 - B	Kg	>20
Tensile Strength (MD)	EN 12311 -2 (A)	N/50mm	>550
Tensile Strength (CMD)	EN 12311 -2 (A)	N/50mm	>400
Tensile Elongation (MD/CMD)	EN 12311 -2 (A)	%	>550
Tear Resistance (MD/CMD)	EN 12310-1	N	>300
Resistance to Impact	EN 12691 - B	mm	650
Reaction to Fire	EN ISO 11925-2	Class	E
Resistance to Artificial Ageing	EN 1296	-	PASS
Resistance to Chemicals	EN 1847	-	PASS
Vapour Permeability - 100% concentration			
Transmission rate of Benzene	EN ISO 15105 - 2	mg/m ² /day	2250
Transmission rate of Toluene	EN ISO 15105 - 2	mg/m ² /day	2370
Transmission rate of Ethyl Benzene	EN ISO 15105 - 2	mg/m ² /day	400
Transmission rate of Xylene (m,p,o)	EN ISO 15105 - 2	mg/m ² /day	690
Transmission rate of Hexane	EN ISO 15105 - 2	mg/m ² /day	92.25
Transmission rate of Vinyl chloride	EN ISO 15105 - 2	mg/m ² /day	36.44
Transmission rate of 1,1,2 Trichloroethene (TCE)	EN ISO 15105 - 2	mg/m ² /day	1.44
Transmission rate of 1,1,2,2-tetrachloroethene (PCE)	EN ISO 15105 - 2	mg/m ² /day	1.59
Gas Permeability			
Methane Permeability	EN ISO 15105 - 1	ml/m ² /day/atm	0.13
Methane Permeability (Welded Joint)	EN ISO 15105 - 1	ml/m ² /day/atm	1.00
Carbon Dioxide Permeability	EN ISO 15105 - 1	ml/m ² /day/atm	3.01
Transmission rate of Vinyl chloride Gas	EN ISO 15105 - 1	ml/m ² /day/atm	0.04
Radon Permeability	K124/02/95	m ² /s	1.0 x 10 ⁻¹²
Complies with: BS8485:2015, CIRIA C748, NHBC Standards (Green Amber 1, Amber 2, Red), CE Mark - EN13967:2012			

Durability & Chemical Resistance	Test Method	Tensile Strength Retained	Result
Sulfuric Acid (10% Solution H ₂ SO ₄ , 50o for 56 days)	EN 14414-A	100%	PASS
Basic (Calcium Hydroxide saturated suspension, 10% Solution 50o for 56 days)	EN 14414-B	100%	PASS
Solvents (35% Diesel, 35% Paraffin, 30% Oil HD30 (vol) 50o for 56 days)	EN 14414 -C	> 80%	PASS
Synthetic Leachate (mixture of 14 acids, chlorides, sulphates & phosphates, 50o for 56 days)	EN 14414-D	100%	PASS
Resistance to Leaching (Hot Water, deionised, 50o for 56 days)	EN 14414-A	100%	PASS
Resistance to Leaching (Aqueous Alkaline, saturated Calcium Hydroxide, 50o for 56 days)	EN 14414-B	100%	PASS

ALDERPRUFE HC

Alderprufe HC Geomembrane is a high quality single layer HDPE membrane, suitable for use as a barrier membrane on brownfield sites that require protection from a wide range of chemical contaminants and hydrocarbons on sites that typically have been used for petrol stations, landfill, coalfields or contaminated industrial sites.

Alderprufe HC Geomembrane combines strength with flexibility enabling high levels of stress/crack resistance to be achieved together with excellent bi-axial load absorption characteristics. Due to its high puncture and impact resistance

Alderprufe HC Geomembrane generally requires no protective screed or boarding when laying reinforced concrete above it.

Alderprufe HC Geomembrane can be jointed using heat-welding, which can be undertaken in a wide range of climate conditions. If taped joints are used, then laps must be a minimum 100mm, and fully sealed with **Gastite Tape** in the laps and **Alderprufe Lap Tape** over the laps, all rolled well for good adhesion.

General Description

Alderprufe HC can be installed above or below a slab, above or below insulation or beneath a screed, and provides an effective barrier to the passage of gases, vapours, liquid water and water vapour from the ground.

Alderprufe HC is suitable for use in accordance with the relevant clauses of CP102:1973 Code of Practice for protection of buildings against water from the ground (as amended), in concrete floors not subject to a hydrostatic pressure (unless joints are welded), and will meet Requirement of Building Regulations Approved Document C (England and Wales), in that sheet thickness is at least 1000 gauge.

Alderprufe HC has a high resistance to puncture. On smooth or blinded surfaces it will not be damaged by normal on-site foot traffic but care should be taken to avoid damage during installation, particularly when handling building materials and equipment over the surface and when placing concrete or screed; however it can be used without a protection layer.

Alderprufe HC may be installed under all conditions normal to the construction of ground floor slabs.

The membrane does not soften at the extreme temperatures likely to occur in practice. When used in accordance with the manufacturer's instructions there will be no adverse effect on the membranes from underfloor heating under normal conditions of use, **Alderprufe HC** will provide an effective barrier to the transmission of gases, liquid water and water vapour for the life of the concrete slab in which it is installed.

Continuity with DPC: **Alderprufe HC** membrane must be continuous with dpc, lapped and bonded to **Aldercourse GRA** gas dpc or HC Dpc for continuation through load-bearing walls. Where necessary Alderprufe MR50 should be used as a vertical course to link the two (refer to typical details and separate data sheets.) If gas ventilation is needed, refer to **Aldervent**

Gas Ventilation brochure.



ALDERPRUFE HC HYDROCARBON BARRIER

Characteristic	Test Method	Unit	Alderprufe HC
Physical Properties			
Thickness	EN 1849-2	mm	1
Width	EN 1849-2	m	1.2
Length	EN 1849-2	m	30
Weight	EN 1849-2	g/m ²	972
Vapour Permeability - 100% concentration			
Transmission rate of Diesel	MDV	g/m ² /hr	7.00
Transmission rate of Petrol	MDV	g/m ² /hr	14.80
Transmission rate of Xylene	MDV	g/m ² /hr	14.60
Transmission rate of Toluene	MDV	g/m ² /hr	23.00
Gas Permeability			
Methane Permeability	EN ISO 15105 - 1	ml/m ² /day/atm	76.20
Complies with: CIRIA 665, CIRIA C748, NHBC (Green Amber 1, Amber 2, Red),			

Use with: Aldercourse GRA gas dpc *HC Dpc * Gastite Tape * Preformed pipe collars, column cloaks, pile collars * Geotex 300PP or Backerboard HD protection * Membrane Holdfast * Alderprufe MR50

ALDERPRUFE MR50



Alderprufe MR50 self-adhesive waterproofing membrane is intended for use in concrete, brickwork and blockwork construction, both internally and externally, to protect buildings against water and the ingress of methane, carbon dioxide and radon gases from the ground.

Alderprufe MR50 high performance gas resistant membrane is derived from the well-established **Alderprufe 20K** structural waterproofing membrane (BBA 16/5370).

Alderprufe MR50 incorporates a 50micron aluminium layer next to the cross laminated HDPE carrier, between two 1mm layers of modified bitumen; the aluminium layer provides an effective barrier to VOC as noted in **Ciria C748**. The upper membrane surface is protected by a thin PE film and the lower surface by a siliconised release paper.



Benefits

Alderprufe MR50 offers the ease of application of a self-adhesive membrane with total gas resistance by the aluminium foil. It provides economic protection in a single application without the need for taping strips at overlaps. The modified bitumen layers provide the aluminium core with complete protection from alkali attack from the over site concrete or screed. The laps are self-adhesive, or can be heat-bonded.

Installation

Alderprufe MR50 should generally be installed in accordance with the recommendations of CP102: 1973, Code of Practice for the Protection of Buildings against water from the ground and in accordance with **BS8102:2009** and **BS8485:2015**.

All surfaces should be smooth, clean and dry. Loosely adhering material or sharp protrusions should be removed; brickwork must be skimmed with sand /cement to provide an even surface. Concrete and render should be completely cured, dry and dust free. All areas must first be primed with **Alderprufe Tac Primer** and allowed to dry. Only prime sufficient to be covered with membrane in the same working day. Cut the membrane to the appropriate length, remove about 200mm of release sheet and bond the membrane firmly to the substrate. Remove the release sheet progressively pressing the membrane onto the primed surface. To prevent air being trapped, pressure must be applied from the centre. All side and end laps to be 100mm and rolled to ensure a complete seal. For total security, laps may be heat sealed by lightly heating the upper surface of the laid sheet at overlaps to a width of 100mm to expose the bitumen before applying the next sheet. This provides for a complete homogenous welded joint. Angles and corners should be provided with a suitable fillet and reinforced with a 300mm wide strip of **Alderprufe MR50** equidistant across the directional change.

Continuity with DPC: **Alderprufe MR50** must be continuous with dpc, lapped and bonded to **Aldercourse GRA** gas dpc for continuation through load-bearing walls.

Alderprufe MR50 must not be applied when the surface temperatures fall below 5°C. Only sufficient membrane should be laid as can be adequately protected as work proceeds. **Alderprufe MR50** must be stored in dry conditions under cover at a minimum temperature of 5°C and a maximum of 30°C. Rolls must be stored on their sides, stacked no more than 5 high. If gas ventilation is needed, refer to **Aldervent Gas Ventilation** brochure.

ALDERPRUFE MR50

Characteristic	Test Method	Unit	Alderprufe MR50
Physical Properties			
Thickness	EN 1849-2	mm	2
Width	EN 1849-2	m	1
Length	EN 1849-2	m	15
Weight	EN 1849-2	g/m ²	2000
Water Vapour Resistance			
Transmission rate of Diesel	MDV	g/m ² /hr	7.00
Transmission rate of Petrol	MDV	g/m ² /hr	14.80
Transmission rate of Xylene	MDV	g/m ² /hr	14.60
Transmission rate of Toluene	MDV	g/m ² /hr	23.00
Gas Permeability			
Methane	EN ISO 15105 - 1	ml/m ² /day/atm	0.85
Carbon Dioxide	EN ISO 15105 - 1	ml/m ² /day/atm	0.28
Radon	K12/05/95	m ² /s	4 x 10 ⁻¹²
Complies with: BS8485:2015, CIRIA 665,NHBC (Green Amber 1, Amber 2, Red), BS8102:2009, and CIRIA C748 (* vapours - impermeable aluminium core			

Use with: Membrane Holdfast * Alderprufe GRA * Alderprufe Ultra VOCM * Alderprufe HC * Alderprufe GRM * Alderprufe Tuflex * Super Yellow gas barrier



ALDERPRUFE GRM

Alderprufe GRM Gas Barrier is a multilayer, low-density polyethylene membrane, reinforced with a polypropylene reinforcing grid for use above or below a concrete ground floors that are not subject to hydrostatic pressure, to protect buildings against gas penetration from the ground.

General Description

Alderprufe GRM is a 2000g reinforced gas barrier compliant with **CIRIA C665** and **NHBC Amber 1** classification. It provides an effective barrier to carbon dioxide, radon and low levels of methane. It can be installed above or below a slab, above or below insulation or beneath a screed.

The methods of jointing provide an effective barrier to the passage of gases, liquid water and water vapour from the ground.

Alderprufe GRM is suitable for use in accordance with the relevant clauses of CP102:1973 Code of Practice for protection of buildings against water from the ground (as amended), in concrete floors not subject to a hydrostatic pressure, and will meet Requirement of Building Regulations Approved Document C (England and Wales), in that sheet thickness is at least 1000 gauge.

Alderprufe GRM has a high resistance to puncture. On smooth or blinded surfaces it will not be damaged by normal on-site foot traffic but care should be taken to avoid damage during installation, particularly when handling building materials and equipment over the surface and when placing concrete or screed since it can be punctured by sharp objects.

Alderprufe GRM may be installed under all conditions normal to the construction of ground floor slabs.

The membrane remains flexible and does not soften at the extreme temperatures likely to occur in practice. When used in accordance with the manufacturer's instructions there will be no adverse effect on the membranes from underfloor heating under normal conditions of use, **Alderprufe GRM** will provide an effective barrier to the transmission of gases, liquid water and water vapour for the life of the concrete slab in which it is installed.

ALDERPRUFE GRM REINFORCED GAS BARRIER

Characteristic	Test Method	Unit	Alderprufe GRA
Physical Properties			
Thickness	EN 1849-2	mm	0.5
Width	EN 1849-2	m	2
Length	EN 1849-2	m	50
Weight	EN 1849-2	g/m ²	275
Gas Permeability			
Methane	EN 15105-1	ml/m ² /day/atm	<514
Carbon Dioxide	EN 15105-1	ml/m ² /day/atm	<514
Radon	K124/02/95	m ² /s	8.00
Water Vapour Transmission	EN 1931	g/m ² /day	0.10
Complies with:- CIRIA C665, NHBC (Green, Amber 1)			

Installation

Unless the base is smooth, a surface blinding of soft sand or **Geotex 300PP** protection should be used to avoid puncturing the membrane during installation or when the concrete or screed is being placed.

Before jointing, sheets must be clean and free from dirt and grease. Adjacent sheets should be overlapped by at least 100mm wide and bonded with 100mm wide double-sided **Gastite Tape**.

Perforation or puncture of the sheets should be patched with sheets of identical thickness lapped at least 150mm beyond the limit of the puncture and sealed with 100mm wide **Gastite Tape**.

Continuity with DPC: **Alderprufe GRM** membrane must be continuous with damp-proof course in the surrounding walls; lapped and bonded to **Aldercourse GRA** gas dpc or **Tuflex Dpc** for continuation through load-bearing walls. Where necessary **Alderprufe MR50** should be used as a vertical course to link the two (refer to typical details and separate data sheets.)

Placing Concrete or Screed: **Alderprufe GRM** must be covered by a screed or other protective layer as soon as possible after installation. Care should be taken to ensure that the membrane is not stretched or displaced when placing the concrete or screed.

Best practice is to use pre-formed collars and cloaks at penetrations to the gas barrier, for example at columns, pipes or piles.

If gas ventilation is needed, refer to **Aldervent Gas Ventilation** brochure.

Use with: Aldercourse GRA gas dpc *Tuflex dpc * Gastite Tape * Preformed pipe collars, column cloaks, pile collars * Geotex 300PP or Backerboard HD protection * Membrane Holdfast * Alderprufe MR50

ALDERPRUFE LGM

Alderprufe LGM Liquid Gas Barrier is specialist styrene butadiene latex based liquid membrane, and is supplied ready to use. It provides a simple continuous gas barrier against the ingress of methane, carbon dioxide, radon, VOC, air and moisture into a building, and is green in colour.

General Description

Alderprufe LGM is a liquid gas barrier compliant with **BS8485:2015, CIRIA C665, BR211 and NHBC Green, Amber 1 & Amber 2** classifications. It can be used to protect most building surfaces from the effect of liquid and water vapour, can be used as a dpm on floors and walls, and will provide an effective barrier to the ingress of methane, carbon dioxide and radon when applied in a minimum thickness of 1mm.

ALDERPRUFE LGM LIQUID GAS BARRIER

Characteristic	Test Method	Unit	Alderprufe LGM
Properties			
Applied Thickness	mm	>1.00	
Supplies as a Red Viscous Liquid Pack size:	5Kg / 15 Kg		
Gas Permeability			
Methane	EN 15105-1	ml/m ² /day/atm	0.01
Radon (applied >1mm provides a complete barrier to radon)	Saarland University, GER	mm	>1mm
Water Tightness	EN 11296, EN 1367		
EN 1928	PASS		
Complies with:- BS8485:2015, CIRIA C665, NHBC (Green, Amber 1, Amber 2), BR211			

Installation

The substrate should have a smooth or a light even texture; masonry should be flush pointed and defects in the surface made good prior to application. The surface should be clean, sound and free of dust, loose material, or free surface water. Do not apply **Alderprufe LGM** in wet conditions or if expected before the membrane can dry, Do not apply if the temperature is below 7oC. If multiple coats are required, apply the coats at right angles to each other, ensuring previous coats(s) are touch-dry before applying the next.

Drying time in good conditions is typically 1-2 hours in to reach touch dry, but this will vary greatly dependant on site and weather conditions. Secondary coats should be applied within 24 hours.

Alderprufe LGM can be applied by brush, roller or airless spray.

To achieve the minimum applied 1mm thickness for a gas barrier, you will need 2Kg / m².

Use **Alderprufe LGM Reinforcing Scrim** at corner, angles, edge detail, upstands, kickers as required (Roll size 120mm x 5m)
If gas ventilation is needed, refer to Aldervent Gas Ventilation brochure.

Use with: Aldercourse GRA gas dpc *HC Dpc * Gastite Tape * Preformed column cloaks, pile collars * Geotex 300PP or Backerboard HD protection * Membrane Holdfast * Alderprufe MR50 * Alderprufe HC * Alderprufe GRA * Alderprufe Ultra VOCM * Alderprufe Tuflex * Super



ALDERPRUFE Tuflex

Alderprufe Tuflex membrane is a single layer cold applied geomembrane suitable for environmental protection to structures, containments and cut-off trenches. It combines excellent chemical resistance with low flexural modulus to provide a malleable, flexible membrane suitable for non-smooth surfaces and factory prefabrication to optimise on-site installation.

Alderprufe Tuflex is a gas barrier compliant with **CIRIA C665** and **NHBC Amber 1** classification. It provides an effective barrier to carbon dioxide, radon and low levels of methane. It can be installed above or below a slab, above or below insulation or beneath a screed. The methods of jointing provide an effective barrier to the passage of gases, liquid water and water vapour from the ground.

Alderprufe Tuflex is suitable for use in accordance with the relevant clauses of CP102:1973 Code of Practice for protection of buildings against water from the ground (as amended), in concrete floors not subject to a hydrostatic pressure, and will meet the requirements of Building Regulations Approved Document C (England and Wales).

Alderprufe Tuflex has a high resistance to puncture. On smooth or blinded surfaces it will not be damaged by normal on-site foot traffic but care should be taken to avoid damage during installation, particularly when handling building materials and equipment over the surface and when placing concrete or screed since it can be punctured by sharp objects.

Alderprufe Tuflex may be installed under all conditions normal to the construction of ground floor slabs. Before jointing, sheets must be clean and free from dirt and grease. Adjacent sheets should be overlapped by at least 100mm wide and can be welded or bonded with 100mm wide double-sided **Gastite Tape**.

Perforation or puncture of the sheets should be patched with sheets of identical thickness lapped at least 150mm beyond the limit of the puncture and sealed by welding or with 100mm wide **Gastite Tape**.

Continuity with DPC: **Alderprufe Tuflex** must be continuous with damp-proof course in the surrounding walls; lapped and bonded to **Aldercourse GRA** gas dpc or Tuflex Dpc for continuation through load-bearing walls. Where necessary **Alderprufe MR50** should be used as a vertical course to link the two (refer to typical details and separate data sheets.)

Placing Concrete or Screed: **Alderprufe Tuflex** must be covered as soon as possible. Care should be taken to ensure that the membrane is not stretched or displaced when placing the concrete or screed.

Best practice is to use pre-formed collars and cloaks at penetrations to the gas barrier, for example at columns, pipes or piles. If gas ventilation is needed, refer to **Aldervent Gas Ventilation** brochure.

Alderprufe Tuflex has a wide range of other uses, including cut-off trench containment, where it can have been successfully installed up to 8m as a vertical barrier to contain contaminants and gases on brownfield sites and around landfill (refer to separate Tuflex geomembrane brochure for details specific to these applications)

ALDERPRUFE TUFLEX

Characteristic	Test Method	Unit	Tuflex membrane
Physical Properties			
Thickness	EN 1849-2	mm	0.75
Width	EN 1849-2	m	1.2
Length	EN 1849-2	m	50
Weight	EN 1849-2	g/m ²	900
Gas Permeability			
Methane	MDV	ml/m ² /day/atm	>40
Carbon Dioxide	MDV	ml/m ² /day/atm	>40
Water Vapour Transmission	ASTM E96	g/m ² /day	<0.01
Complies with CIRIA C665, NHBC (Green, Amber 1)			

Use with: Aldercourse GRA gas dpc * Tuflex dpc * Gastite Tape * Preformed pipe collars, column cloaks, pile collars * Geotex 300PP or Backerboard HD protection * Membrane Holdfast * Alderprufe MR50

ALDERPRUFE Super Yellow Gas Barrier

Super Yellow Gas Barrier is a 2000g gas barrier in accordance with **CIRIA 665**. It combines gas and damp proofing protection in an easy to install, flexible, co-polymer thermoplastic membrane which is coloured yellow for ease of identification on site. It can be used above or below concrete ground floors that are not subject to hydrostatic pressure, to protect buildings against gas penetration from the ground.

Super Yellow gas barrier is compliant with **CIRIA C665** and NHBC **Amber 1** classification. It provides an effective barrier to carbon dioxide, radon and low levels of methane. It can be installed above or below a slab, above or below insulation or beneath a screed.

The methods of jointing provide an effective barrier to the passage of gases, liquid water and water vapour from the ground.

Super Yellow gas barrier is suitable for use in accordance with the relevant clauses of CP102:1973 Code of Practice for protection of buildings against water from the ground (as amended), in concrete floors not subject to a hydrostatic pressure, and will meet the requirements of Building Regulations Approved Document C

Super Yellow gas barrier has a high resistance to puncture. On smooth or blinded surfaces it will not be damaged by normal on-site foot traffic but care should be taken to avoid damage during installation, particularly when handling building materials and equipment over the surface and when placing concrete or screed since it can be punctured by sharp objects.

Super Yellow gas barrier may be installed under all conditions normal to the construction of ground floor slabs.

The membrane remains flexible and does not soften at the extreme temperatures likely to occur in practice. When used in accordance with the manufacturer's instructions there will be no adverse effect on the membranes from underfloor heating under normal conditions of use, Super Yellow gas barrier will provide an effective barrier to the transmission of gases, liquid water and water vapour for the life of the concrete slab in which it is installed.

Installation

Unless the base is smooth, a surface blinding of soft sand or **Geotex 300PP** protection should be used to avoid puncturing the membrane during installation or when the concrete or screed is being placed.

Before jointing, sheets must be clean and free from dirt and grease. Adjacent sheets should be overlapped by at least 100mm wide and bonded with 100mm wide double-sided **Gastite Tape**. Joints can also be **heat-welded**.

Perforation or puncture of the sheets should be patched with sheets of identical thickness lapped at least 150mm beyond the limit of the puncture and sealed with 100mm wide **Gastite Tape**.

Continuity with DPC: **Super Yellow gas membrane** must be continuous with damp-proof course in the surrounding walls; lapped and bonded to **Aldercourse GRA** gas dpc or **Tuflex Dpc** for continuation through load-bearing walls. Where necessary Alderprufe MR50 should be used as a vertical course to link the two (refer to typical details and separate data sheets.)

Placing Concrete or Screed: **Super Yellow gas barrier** must be covered by a screed or other protective layer as soon as possible after installation. Care should be taken to ensure that the membrane is not stretched or displaced when placing the concrete or screed. Best practice is to use pre-formed collars and cloaks at penetrations to the gas barrier, for example at columns, pipes or piles. If gas ventilation is needed, refer to **Aldervent Gas Ventilation** brochure.

SUPER YELLOW GAS BARRIER

Characteristic	Test Method	Unit	Super yellow Gas Barrier
Physical Properties			
Thickness	EN 1849-2	mm	0.5
Width	EN 1849-2	m	1.2
Length	EN 1849-2	m	50
Weight	EN 1849-2	g/m ²	470
Gas Permeability			
Methane	ISO 2782 MDV	m ² /s/Pa	1.13 x 10 ⁻¹⁷
Carbon Dioxide	ISO 2782 MDV	m ² /s/Pa	2.8 x 10 ⁻¹⁷
Radon	MDV	m ² /s	5.477 x 10 ⁻¹²
Complies with CIRIA 665, NHBC (Green Amber 1), BRE414, BR211			

Precautions

Super Yellow gas membrane is classified as non-hazardous when used in accordance with CP102: 1973. The membrane is chemically inert and is not affected by acids or alkalis that may be present in the sub-soils.

Care should be taken to avoid accidental damage when handling the membrane on site.

The product is not intended for use where there is the risk of hydrostatic pressure, where it will be exposed for long periods of outdoor weathering, or where hydrocarbons or high levels of methane are recorded.

Use with: Aldercourse GRA gas dpc * Tuflex dpc * Gastite Tape * Preformed pipe collars, column cloaks, pile collars * Geotex 300PP or Backerboard HD protection * Membrane Holdfast * Alderprufe MR50 * Alderprufe LGM Liquid gas membrane

ALDERCOURSE GRA

Aldercourse GRA is an aluminium cored high performance damp-proof course, to maintain the integrity of the gas barrier system in load-bearing locations. Used combination with all Alderprufe gas barriers it provides a continuous “through the wall to floor” junction.

Aldercourse GRA is a laminate of aluminium, high quality oxidised bitumen and hessian, surfaced with a light sand finish, and is compliant with **BS8485:2015** and **BS6398**. The aluminium layer provides an effective barrier to VOC as noted in **Ciria C748**. **Aldercourse GRA** can be heat-bonded to masonry, and in addition to gas barrier applications, it can also be used in cavity tray applications including parapet walls and beneath copings and cappings.



Priming

Any surface to which **Aldercourse GRA** will be heat bonded must be primed with one coat of **Tac Primer** at a rate of 0.1 to 0.3 litres per m2 dependent on the porosity of the surface. The primer must be allowed to dry thoroughly before applying **Aldercourse GRA**.

Application

Aldercourse GRA Damp-proof course should be laid on a wet mortar bed in accordance with British Standards Codes of Practice. All laps of Aldercourse to Aldercourse must be secured by heat bonding, and should be a minimum of 150mm. Laps between Alderprufe gas barriers and **Aldercourse GRA** should be secured as follows:
 - A ‘tail’ of **Aldercourse GRA** dpc should extend onto the slab by a minimum of 150mm; the top surface of the **Aldercourse GRA** should be softened by use of a gas torch to allow the bitumen to become viscous; Gastite Tape should be applied to the exposed surface. **Alderprufe gas barrier** should then be applied Gastite Tape, and the joint rolled well for good adhesion.

ALDERCOURSE GRA GAS DPC

Characteristic	Test Method	Unit	Aldercourse GRA
Physical Properties			
Thickness	EN 1849-2	mm	3.2
Width (400mm, 500mm, 600mm, 1000mm are standard widths)	EN 1849-2	m	various
Length	EN 1849-2	m	8
Weight	EN 1849-2	g/m2	4000
Gas Permeability			
Methane	EN ISO 15105 - 1	ml/m2/day/atm	0.98
Carbon Dioxide	EN ISO 15105 - 1	ml/m2/day/atm	0.28
Radon	K12/05/95	m2/s	1.5 x 10-14
Complies with:- BS8485:2015, CIRIA 665, NHBC (Green Amber 1, Amber 2, Red), CIRIA C748 (*vapours - impermeable aluminium core)			

Use with: Alderprufe GRA* Alderprufe MR50 * Alderprufe Ultra VOXM * Alderprufe HC * Alderprufe GRM * Super Yellow Gas Barrier * Alderprufe Tuflex * Alderprufe LGM Liquid Gas Membrane

ALDERCOURSE HC DPC

HC DPC has a similar composition to **Alderprufe HC** and is used to maintain the integrity of the barrier system in load-bearing locations; when combined with Alderprufe HC it provides a continuous “through the wall to floor” junction.

Application

HC Dpc should be laid on a wet mortar bed in accordance with British Standards Codes of Practice. All laps of HC Dpc to HC Dpc can be secured by heat bonding, or can be taped using double side Gastite Tape and should be a minimum of 100mm. Laps between Alderprufe gas barriers and **HC Dpc** should be secured as follows: - A ‘tail’ of **HC Dpc** should extend onto the slab by a minimum of 150mm and welded to **Alderprufe HC** membrane or **Gastite Tape** should be applied to the exposed surface.

Alderprufe HC membrane should then be applied to the **Gastite Tape**, and the joint rolled well for good adhesion.



ALDERCOURSE HC DPC

Characteristic	Test Method	Unit	Aldercourse HC DPC
Physical Properties			
Thickness	EN 1849-2	mm	1
Width	EN 1849-2	m	600mm, 1200mm
Length	EN 1849-2	m	30
Weight	EN 1849-2	g/m ²	972
Vapour Permeability - 100% concentration			
Transmission rate of Diesel	MDV	g/m ² /hr	7.00
Transmission rate of Petrol	MDV	g/m ² /hr	14.80
Transmission rate of Xylene	MDV	g/m ² /hr	14.60
Transmission rate of Toluene	MDV	g/m ² /hr	23.00
Gas Permeability			
Methane Permeability	EN ISO 15105 - 1	ml/m ² /day/atm	76.20
Complies with: CIRIA 665, CIRIA C748, NHBC (Green Amber 1, Amber 2, Red),			

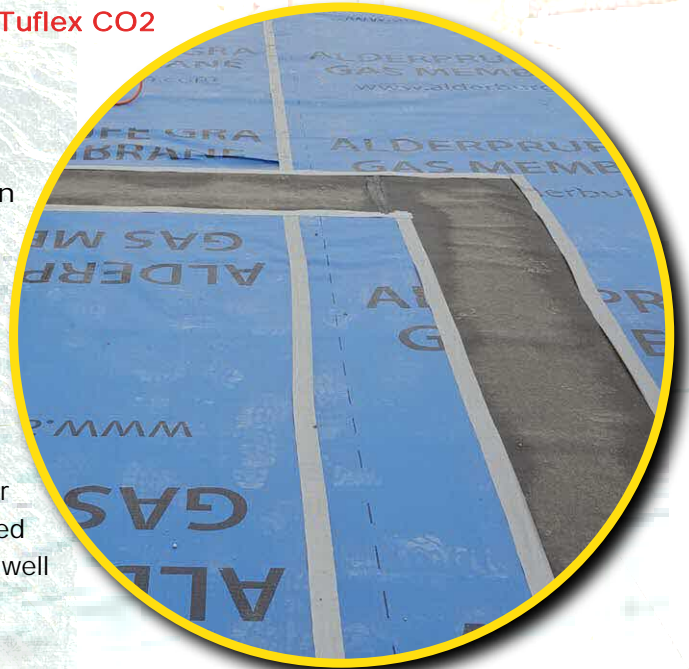
Use with: Alderprufe Ultra VOCM * Alderprufe HC * Alderprufe LGM Liquid Gas Membrane

ALDER COURSE Tuflex DPC

Tuflex DPC is a high performance polymeric dpc, a flexible sheet material of propylene copolymers for use with **Alderprufe GRM, Tuflex CO2** and **Super Yellow gas barrier**.

Application

Tuflex Dpc should be laid on a wet mortar bed in accordance with British Standards Codes of Practice. All laps of **Tuflex Dpc** to **Tuflex Dpc** can be secured by heat bonding, or can be taped using double side **Gastite Tape** and should be a minimum of 100mm. Laps between Alderprufe gas barriers and **Tuflex Dpc** should be secured as follows: - A 'tail' of **Tuflex Dpc** should extend onto the slab by a minimum of 100mm and sealed to the gas barrier by welding (if appropriate) or applying **Gastite Tape** should be applied to the exposed surface, then the membrane applied, and the joint rolled well for good adhesion.



TUFLEX DPC

Characteristic	Test Method	Unit	Tuflex DPC
Physical Properties			
Thickness	EN 1849-2	mm	1
Width	m	various	
Length	EN 1849-2	m	20
Weight	EN 1849-2	g/m ²	900
Gas Permeability			
Methane	ISO 2782	m ² /s/Pa	1.13 x 10 ⁻¹⁷
Carbon Dioxide	ISO 2782	m ² /s/Pa	2.8 x 10 ⁻¹⁷
Radon	MDV	m ² /s	5.477 x 10 ⁻¹²
Complies with CIRIA 665, NHBC (Green Amber 1)			

Use with: Alderprufe GRA* Alderprufe MR50 * Alderprufe GRM * Super Yellow Gas Barrier * Alderprufe Tuflex * Alderprufe LGM Liquid Gas Membrane

ALDERSEAL Gastite Mastic

Alderseal Gastite Mastic is a self-supporting non setting mastic, developed for sealing around cable ducts, conduits, service pipe entries and reinforcing bars against gas and water ingress, particularly at the critical point of entry when small diameter penetrations pass through the Membrane system.

It is possible for gas and water to track up and along cable, duct and steel bar penetrations of the Membrane –it is difficult to guarantee a sealed collar system on small diameter penetration; **Alderseal Gastite Mastic** has been specifically developed to solve this problem.

It has British Telecom type approval and meets the requirements of British Gas for sealing services.

Description

Firm Fibrous Mastic based on Polybutene, mineral fillers, organic fibres and water displacing materials.

Application

Alderseal Gastite Mastic is packed into the ends of the duct by hand and moulded firmly around cables and against the duct ensuring there are no gaps or fissures. The Mastic should be packed to a depth of least equal diameter of the duct.

When used for sealing around solid penetrations reinforcing bars, mains, water pipes, etc. It is moulded by hand using firm pressure pressed into the angle caused by penetration. The Mastic being moulded onto both sides of the angle by at least 40mm.

Alderseal Gastite Mastic can also be used to pack into the angle at penetrations before the application of Factory Formed Collars and Cloaks.

All surfaces should be free from loose rust, scale, dirt or previous sealant.

Properties

Alderseal Gastite Mastic Adheres to common construction materials such as steel, glazed earthen ware, clay, lead, polythene, pvc. It is unaffected by natural gas including Methane and Carbon Dioxide and water and accommodates movement.

Alderseal Gastite Mastic also adheres to wet surfaces and withstands at least 20kpa (2 metre head) water pressure for a minimum of 30 minutes.

ALDERSEAL GASTITE MASTIC

Characteristic	Test Method	Unit	Alderseal Gastite Mastic
Physical Properties			
Specific Gravity	MDV	-	1.66
Application Temperature Range	MDV	oC	0-35
Service Temperature Range	MDV	oC	-15 to + 100
Dimensions	MDV	mm	330 x 40 x 40

Use with: Alderprufe GRA* Alderprufe GRM * Alderprufe Ultra VOCM * Alderprufe HC * Alderprufe MR50 *Super Yellow Gas Barrier * Alderprufe Tuflex * Alderprufe LGM Liquid Gas Membrane * Aldercourse GRA gas dpc * HC Dpc * Tuflex Dpc

Alderseal Gastite Tape

Description

A modified polymer adhesive in sheet form with a silicone release paper, for sealing laps on all Alderprufe Gas Barrier systems, to themselves and each other, eg, Preformed Corners and Profiles, Protection Boards, both vertical and horizontally, Fillet Sections.

Roll sizes: 100mm x 15m, 50mm x 15m.

Application

Prepare surface to be adhered to. Concrete and masonry must first be allowed to dry and for best results primed using **Alderprufe TAC Primer**. Membrane surfaces must be clean and dry.

Roll well to ensure good adhesion. Warming tape by storing indoors before use will aid adhesion. Once in place the profile or product is firmly fixed and becomes an integral part of the gas protection system.

Alderprufe Membrane Holdfast

Description

Holdfast is a tying system for fixing the membrane to the underside of concrete slabs when future subsidence of the prepared ground is anticipated.

Holdfast are square cellular pads which are fixed to the membrane at pre-determined centres. When concrete is poured, it enters in to the Holdfast cells and so bonds the membrane to the slab; this simple, cost effective system can be used in conjunction with any Alderprufe membrane.

Holdfast can be applied by heat-welding or using **Gastite Tape** (as appropriate)

Dimensions: 100mm x 100mm cells on a membrane background.

Preformed Pipe Collars (Top Hats)

The Preformed Pipe Collar is easily installed wherever penetration of the Gas barrier membrane is necessary for ducting or other services. Seal to the Alderprufe gas barrier membrane using **Gastite Tape**, or heat-bonding as appropriate; seal the collar to the pipe using **Gastite Tape** or **Alderprufe MR50**. Available in 110mm, 123mm, 135mm or 160mm as standard diameter; special sizes can easily be made to order.

Preformed Column Cloaks

Description

Factory formed column cloaks designed to eliminate all risk in applications of membranes at the weakest point. Eliminates any risk of error by applicator guaranteeing a complete waterproof and gastite detail.

Manufactured in the factory with fully tested joints.

The profiles are supplied to the exact size of the stanchions or the profile they are sealing. Heat bonded to the steel and either welded or adhered using **Gastite Tape** to the membrane, the profiles guarantee total security against ingress at the most difficult point to seal –these are always installed as part of our guaranteed systems.

Column Cloaks are made to suit the Alderprufe membrane they are to be used with to form a totally compatible system.

Preformed Corner Cloaks

Description

Factory formed corner cloaks designed to eliminate all risk in applications of membranes at the weakest point. Eliminates any risk of error by applicator guaranteeing a complete waterproof and gastite detail.

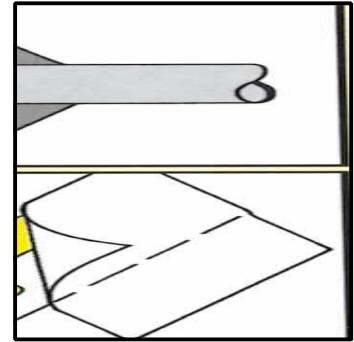
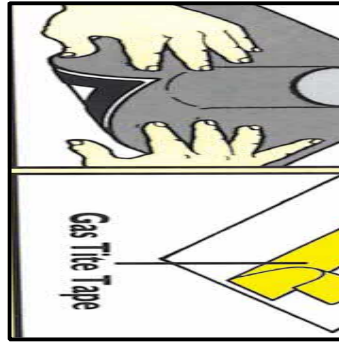
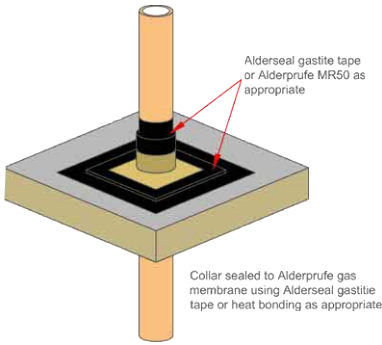
Manufactured in the factory with fully tested joints.

The profiles are supplied to the exact size to suit site requirements and adhered to the membrane or gas dpc using **Gastite Tape** or heat welding as appropriate.

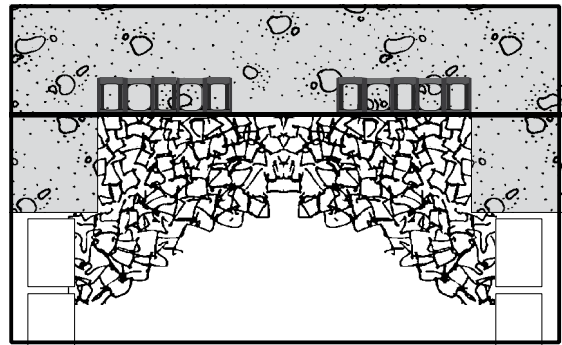
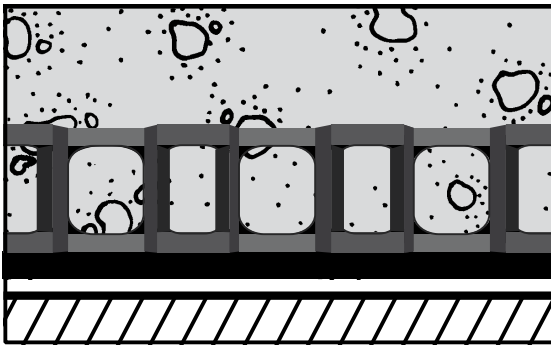
Corner Cloaks are made to suit the Alderprufe membrane they are to be used with to form a totally compatible system.

Use with: Alderprufe GRA* Alderprufe GRM * Alderprufe Ultra VOCM * Super Yellow Gas Barrier * Alderprufe Tuflex * Alderprufe LGM Liquid Gas Membrane * Aldercourse GRA gas dpc * HC Dpc * Tuflex Dpc.

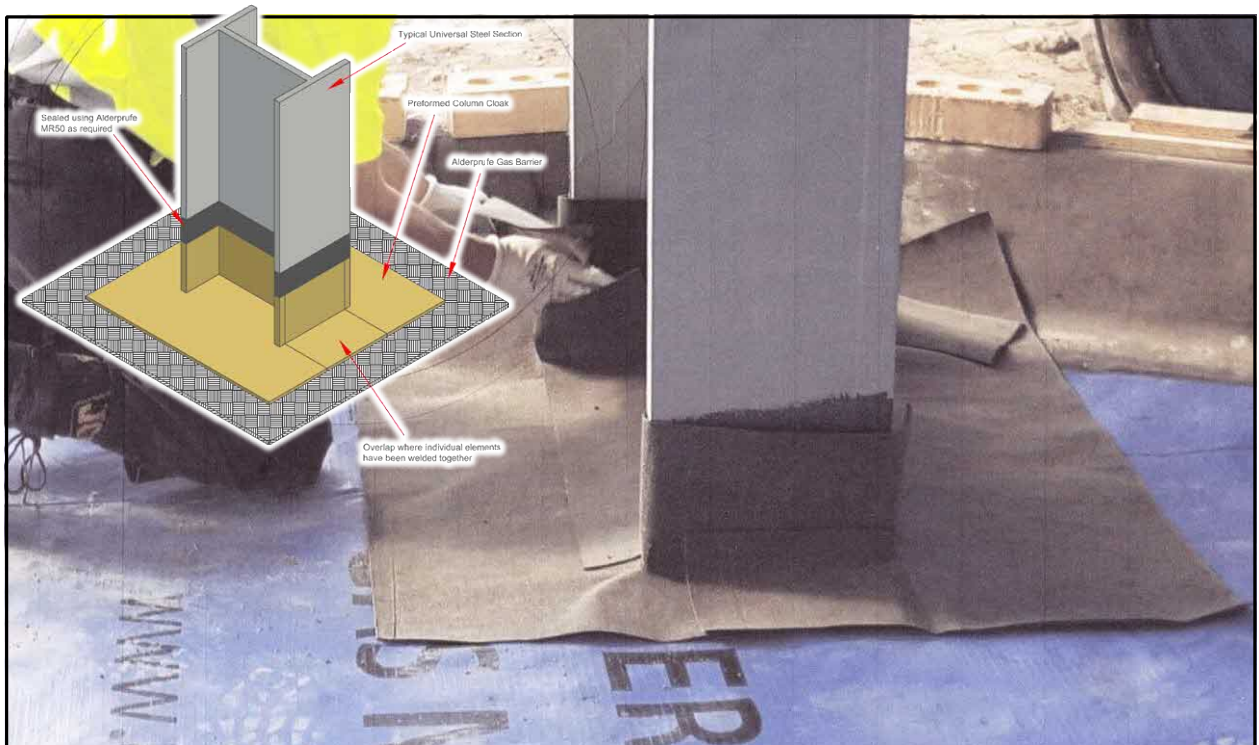
ALDERBURGH Service Pipe Cloak



Alderprufe Membrane Holdfast



ALDERBURGH Column Cloak





ALDERPRUFE

Gas Barriers



ALDERPRUFE Gas Protection

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Alderburgh Ltd will not accept any responsibility for damage or injury arising from storage, handling, misapplication or misuse of its products.

All transactions are subject to our standard condition of sale; a copy is available on request.

To find out more about these systems and products please contact us



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