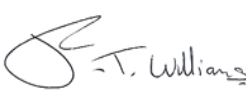


Ground-Gas Design Report

Site: Waterside and Riverview, Oxford Road, Uxbridge, London UB8 1HS

On behalf of Elmwin Bridge Limited

Report Reference: GWPR7157/GGDR/September 2026		Status: Final
Issue	Prepared By	Checked and Verified By
V1.01		
	Natasha Kearn BSc (Hons) AMIEnvSc Lead Geoenvironmental Engineer	Francis Williams MGeol (Hons) FGS CEnv CGeol Director

Site Investigations | Environmental Consultants | Geotechnical Engineers

2 The Long Barn, Norton Farm, Selborne Road, Alton, Hampshire GU34 3NB
0333 600 1221 enquiries@groundandwater.co.uk **groundandwater.co.uk**

Registered Office: Kineton House, 31 Horse Fair, Banbury, Oxfordshire OX16 0AE Registered in England No. 07032001

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1.0 INTRODUCTION

1.1 General

Ground and Water Limited were instructed by Elmwin Bridge Limited (the “client”) on the 27th August 2026 to produce a Ground-Gas Design Report for the project at Waterside and Riverview, Oxford Road, Uxbridge, London UB8 1HS (the “site”).

1.2 Aims of the Investigation

The aim of this report was to supply the client and their designers with information regarding the ground-gas protection measures that will be implemented in the proposed development. The report was also to provide information on the water pipes chosen.

This Ground-Gas Design Report must be read in conjunction with the following reports:

- Phase I Desk Study Report, produced by Ground and Water Limited (report reference: GWPR2463/DS/March 2018) (presented in Appendix B);
- Phase II Contamination Assessment Report, produced by Ground and Water Limited (ref: GWPR3283/GIR/December 2019) (presented in Appendix C); and,
- Remediation and Validation Method Statement, produced by Ground and Water Limited (version 1.01 issued 18/12/2020),
- Contamination Gap Analysis Report, produced by Ground and Water Limited (Ref: GWPR5088/CGA/December 2025), and
- Soil Remediation Method Statement, produced by Ground and Water Limited (Ref: GWPR5088/RMS/June 2026).

This report references the Desk Study Reports by third parties referenced, that could be made available upon request. Ground and Water Limited cannot be held accountable from any shortcomings within these reports:

- Phase I Environmental Audit of The Uxbridge Park Estate, Uxbridge by WSP Environmental Limited, dated March 2003 (Ref: 12021154).
- A Phase I Environmental Assessment, undertaken by WSP Environmental Limited in April 2013 (report ref: 38109).

1.3 Conditions and Limitations

This report has been prepared based on the terms, conditions and limitations outlined within Appendix A.

1.4 Technical Glossary

Generic technical terms can be viewed within the glossary provided within Appendix B.

2.0 SITE SETTING

2.1 Site Location

The site comprised a 26,350m² rectangular shaped plot of land, orientated in a north-east to south-west direction. The site was situated on the southern side of Oxford Road, on the far south-eastern side of the Colne Valley Regional Park. The Grand Union Canal and the River Colne ran directly along the south-eastern and western boundaries of site respectively. The site was located in north-west Uxbridge, west Greater London

2.2 Site Description

At the time of a site walkover undertaken in February 2018, the site was used as a commercial space, with three large office buildings present onsite. The offices were operated by Xerox (UK) Limited (a printing equipment supplier). On-site parking within a multi-storey car park and a ground-level car park were also provided.

The site was primarily covered with concrete and tarmac hardstanding with an outside ground-level car park noted in the eastern portion of site. The western and north-western portions of site were covered in grass soft landscaping, used as communal amenity areas with several picnic benches present.

Two electricity sub-stations were noted on site; one was located in the middle of the site within the car park and the other adjacent to the three-storey buildings within the western portion of the site. No potential sources of asbestos were observed in the existing building fabrics on site.

2.3 Proposed Development

At the time of reporting in September 2026, the proposed development comprised the change of use of Riverview House and Waterside House from office accommodation to 237No. residential units (15 x studio flats and 224 x 1-bedroom flats). Construction of new outbuildings for bin and cycle storage were also proposed.

A method statement for retrofitting the membrane has provided within Appendix C. In Appendix D drawings of the foundation construction can be viewed and are separated into the following:

- (SK)001 - the existing section view of the foundation construction,
- (SK)002 - the proposed foundation construction including membrane,
- (SK)003 – the existing telescopic vent locations which are at 1,575mm centres. NB: both Riverview and Waterside have the exact same spacing and number,
- (SK)004 – existing telescopic vent example photo taken from site.

geotechnical and environmental consultants



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3.0 WATER SUPPLY PIPE RISK ASSESSMENT

As part of the proposed development it is expected that new water supply pipes will be installed at the site. Water supply pipes have the potential to be exposed to contaminants in the ground that can lead to unacceptable concentrations within the drinking water. If a risk is identified, specialist pipes that are protective of the drinking water are required.

A pipe selection risk assessment should be submitted to the water supply company as part of the development based on the supplier's assessment criteria. An indication of whether there is likely to be a risk can be seen tabulated below, where the PE pipe thresholds are based on *UKWIR Contaminated Land Assessment Guidance, 2014*.

Pipe Selection Risk Assessment			
Determinand	PE Pipe Threshold (mg/kg)	Laboratory Analysis Range (mg/kg)	Was the Threshold Exceeded?
Total BTEX and MTBE	0.1	<2 - <5	No - LOD
Total VOCs	0.5	Not tested	No
Total SVOCs	2	Not tested	No
Phenols	2	< 2	No
TPH EC5 – EC10 (aliphatics and aromatics)	2	< 4.12	No - LOD
TPH EC10 – EC16 (aliphatics and aromatics)	10	<9 - 74	Yes
TPH EC16 – EC40 (aliphatics and aromatics)	500	98 - 1899	Yes
Naphthalene	5	< 0.1 – 3.04	No

The results indicate that determinands were above the threshold for the use of a PE pipe at the site and alternative pipes should be utilised.

The chosen potable pipe is the PE80 MDPE which incorporates a continuous metallic barrier layer which will ensure the pipe is not degraded by the hydrocarbons present in the soils. The Water Main Specification and the installation and technical guidelines to be followed are included within Appendix E. The relevant local water company authority will sign off on the installation of the pipe.

4.0 GROUND GAS RISK ASSESSMENT

4.1 Ground-Gas Risk Assessment

Based on the data to date a maximum Carbon Dioxide concentration of 5.5% by volume in WS1 (16/10/2019) was noted. The lowest oxygen concentration recorded was 3.1% by volume in WS6 (16/10/2019). No Hydrogen Sulphide, Carbon Monoxide or Methane was detected. No Methane as LEL was detected. A worst case low and falling pressure scenario was captured.

Out of the thirty ground-gas readings undertaken on-site, only three results were >5.0%. No constant or peak flow rate has been measured across all monitoring. The low permeability of the Alluvium was unlikely to allow the migration of ground-gas from off-site sources. Made Ground was encountered across the site.

The Alluvium encountered was found to range between a thickness of 1.00 – 3.00m. The gas concentrations noted appear to be associated with the natural decay of relatively shallow Made Ground or the Alluvium and not an off-site source.

The maximum GSV was calculated to be 0.0055 l/hr based on Carbon Dioxide.

This indicates the site falls within a Characteristic Situation 1 (CS1) based on BS 8485:2015+A1:2019. However, it is noted that where carbon dioxide concentrations exceed 5% a CS2 for the site should be considered but given out of the thirty ground-gas readings undertaken on-site, only three results were >5.0% a CS1 scenario was deemed most appropriate.

4.2 Re-Evaluated Conceptual Site Model, Specific to Ground-Gas

A low risk of ground-gas production from deep Made Ground and infilled Wharfs, with the main source ground-gas likely to come from alluvium deposits underlying the site; however, rates for ground-gas production are generally low. Carbon dioxide levels have been identified as being generally low following the site investigation.

Multiple pathways of ground-gas migration are possible, be it through anthropogenic pathways, natural pathways, inhalation and the possible risk of explosion.

Multiple receptors could be affected by ground-gas emissions, such as end users of the site (residents), site operative during demolition and redevelopment, and maintenance workers.

A previous site investigation revealed Waterside House and Riverview House included a gas-resistant membrane and passive venting as a precautionary measure.

Following the ground-gas risk assessment, the site was confirmed to be CS1, however, given the existing protection measures in place which appear to cover for CS2 and the increased sensitivity of the end users (now residential) it is considered CS2 protection should be incorporated in design.

4.3 Ground-gas Protection Measures

Type B buildings on CS2 classified sites require **3.5 points** worth of protection, in accordance with BS8485:2015+A1:2019. Points must be made up through a structural barrier, ventilation, and/or membrane, where at least two methods are incorporated.

The gas protection measures that are to be adopted:

Cast in situ suspended floor slab (with minimal penetrations) (1 point)

The reinforced slabs existing in both buildings are to be retained. The appointed structural engineer Carb Zero Consultants Limited have inspected both slabs and confirmed there is no sign of cracking or excess wear of the slabs. The proposed domestic load will also be lower than the load the slab was originally designed for. The signed letter from Carb Zero Consultants Ltd can be viewed in Appendix F.

Passive sub-floor dispersal layer, typically no fine gravel or polystyrene (1.5 points):

In accordance with BS8485: The volume flow-through rate is governed by the size and number of side vents; for small to medium width buildings (up to 15 m wide – considered to be present onsite), the minimum area of side ventilation should be 1500mm²/m run of wall on at least two opposite sides. Where there are multiple internal obstructions to air flow (caused by beams), there should be four or five times the area of the side vents provided in the internal obstructions.

The existing telescopic floor cavity vents are at 1,575mm²/m centres which are to be re-instated as part of the redevelopment works to match the existing.

Gas Resistant Membrane meeting the criteria below (2 points):

- Sufficiently impervious to the gases (methane and carbon dioxide);
- Sufficiently durable to remain serviceable for the anticipated life of the building and duration of gas emissions;
- Sufficiently strong to withstand in-service stresses (e.g. settlement if placed below a floor slab);
- Sufficiently strong to withstand the installation process and following trades until covered (e.g. penetration from steel fibres in fibre reinforced concrete, penetration of reinforcement ties, tearing due to working above it, dropping tools, etc);
- Capable, after installation, of providing a complete barrier to the entry of the relevant gas;

- Verified by a suitably trained independent engineer in accordance with CIRIA C735.

The membrane chosen is the Visqueen Gas Barrier NF-400 which is adequate to protect for CS2 classification. The specification sheet, certification and retrofitting method can all be viewed in Appendix C. The proposed foundation construction detail showing the membrane in section view can be viewed in Appendix D.

As part of the retrofitting of the membrane, the external ventilated façade is cantilevered from the existing concrete structure, with a Helping Hand bracket suspended from the SFS and existing structure. As the external brick leaf is existing, the membrane cannot be continued beneath the wall to the external leaf. Instead, the membrane will be detailed to bridge the cavity over the top of the existing blockwork and cavity closer, continuing across to the external brick leaf. The membrane will then be pinned and sealed between the existing external brick skin and the SFS rail/façade system to provide continuity and maintain the required seal. This should be installed by a suitably qualified groundworker.

4.3.1 Verification

The gas resistant membrane must be visually verified in accordance with CIRIA C735, by an appropriately trained engineer with photographs obtained of all components (overlaps, service entries, corners, repairs). This is required prior to pouring of the floor slab.

Following completion of all the verification works, outlined above, a report should be submitted to the local authority for approval. This should include as a minimum, verification photographs of the visual checks.

FIGURES

APPENDIX A: Conditions and Limitations

The ground is a product of continuing natural and artificial processes. As a result, the ground will exhibit a variety of characteristics that vary from place to place across a site, and also with time. Whilst a ground investigation will mitigate to a greater or lesser degree against the resulting risk from variation, the risks cannot be eliminated.

The report has been prepared on the basis of information, data and materials which were available at the time of writing. Accordingly, any conclusions, opinions or judgements made in the report should not be regarded as definitive or relied upon to the exclusion of other information, opinions and judgements.

The investigation, interpretations, and recommendations given in this report were prepared for the sole benefit of the client in accordance with their brief; as such these do not necessarily address all aspects of ground behaviour at the site. No liability is accepted for any reliance placed on it by others unless specifically agreed in writing.

Any decisions made by you, or by any organisation, agency or person who has read, received or been provided with information contained in the report ("you" or "the Recipient") are decisions of the Recipient and we will not make, or be deemed to make, any decisions on behalf of any Recipient. We will not be liable for the consequences of any such decisions.

Current regulations and good practice were used in the preparation of this report. An appropriately qualified person must review the recommendations given in this report at the time of preparation of the scheme design to ensure that any recommendations given remain valid in light of changes in regulation and practice, or additional information obtained regarding the site.

Any Recipient must take into account any other factors apart from the Report of which they and their experts and advisers are or should be aware. The information, data, conclusions, opinions and judgements set out in the report may relate to certain contexts and may not be suitable in other contexts. It is your responsibility to ensure that you do not use the information we provide in the wrong context.

This report is based on readily available geological records, the recorded physical investigation, the strata observed in the works, together with the results of completed site and laboratory tests. Whilst skill and care has been taken to interpret these conditions likely between or below investigation points, the possibility of other characteristics not revealed cannot be discounted, for which no liability can be accepted. The impact of our assessment on other aspects of the development required evaluation by other involved parties.

The opinions expressed cannot be absolute due to the limitations of time and resources within the

context of the agreed brief and the possibility of unrecorded previous in ground activities. The ground conditions have been sampled or monitored in recorded locations and tests for some of the more common chemicals generally expected. Other concentrations of types of chemicals may exist. It was not part of the scope of this report to comment on environment/contaminated land considerations.

The conclusions and recommendations relate to Waterside and Riverview, Oxford Road, Uxbridge, London UB8 1HS.

Trial hole is a generic term used to describe a method of direct investigation. The term trial pit, borehole or window sampler borehole implies the specific technique used to produce a trial hole.

The depth to roots and/or of desiccation may vary from that found during the investigation. The client is responsible for establishing the depth to roots and/or of desiccation on a plot-by-plot basis prior to the construction of foundations. Where trees are mentioned in the text this means existing trees, recently removed trees (approximately 15 years to full recovery on cohesive soils) and those planned as part of the site landscaping.

Ownership of copyright of all printed material including reports, laboratory test results, trial pit and borehole log sheets, including drillers log sheets, remain with Ground and Water Limited. Licence is for the sole use of the client and may not be assigned, transferred or given to a third party.

Only our client may rely on this report and should this report or any information contained in it be provided to any third party we accept no responsibility to the third party for the contents of this report save to the extent expressly outlined by us in writing in a reliance letter addressed from us to the third party.

Recipients are not permitted to publish this report outside of their organisation without our express written consent.

APPENDIX B: Technical Glossary

TECHNICAL GLOSSARY

The list of possible definitions within the report may be seen below. Please note that some definitions may not be relevant to this report.

HYDROGEOLOGY:

A **Principal Aquifer** is a layer of rock or drift deposits that have high intergranular and/or fracture permeability - meaning they usually provide a high level of water storage. They may support water supply and/or river base flow on a strategic scale. In most cases, principal aquifers are aquifers previously designated as major aquifer.

Secondary (A) Aquifers consist of deposits with permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as Minor Aquifers.

Secondary (B) Aquifers consist of deposits with predominantly lower permeability layers with may stoke and yield limited amounts of groundwater due to localised features such as fissures, think permeable horizons and weathering. These are generally the water-bearing parts of the former non-aquifers.

Secondary Aquifers (Undifferentiated) are assigned in cases where it has not been possible to attribute either category A or B to a rock type. In most cases, this means that the layer in question has previously been designated as both a minor aquifer and non-aquifer in different locations due to the variable characteristics of the rock type.

Unproductive Strata are rock layers with low permeability that have negligible significance for water supply or river base flow. These were formerly classified as non-aquifers.

FLOOD ZONES:

Environment Agency Flood Zone 2, defined as; land having between a 1 in 100 and 1 in 1,000 annual probability of river flooding; or land having between a 1 in 200 and 1 in 1,000 annual probability of sea flooding.

Environment Agency Flood Zone 3 shows the extent of a river flood with a 1 in 100 (1%0 or greater chance of occurring in any year or a sea flood with a 1 in 200 (0.5%) or greater chance of occurring in any year.

Environment Agency Flood Zone 3 area that benefits from flood defences, defined as; land and property in this flood zone would have a high probability of flooding without the local flood defences. These protect the area against a river flood with a 1% chance of happening each year, or a flood from the sea with a 0.5% chance of happening each year.

GROUNDWATER SOURCE PROTECTION ZONES (SPZS):

Inner Zone (SPZ1): This zone is 50 day travel time of pollutant to source with a 50 metres default minimum radius.

Outer Zone (SPZ2): This zone is 400 day travel time of pollutant to source. This has a 250 or 500 metres minimum radius around the source depending on the amount of water taken.

Total Catchment (SPZ3): This is the area around a supply source within which all the groundwater ends up at the abstraction point. This is the point from where the water is taken. This could extend some distance from the source point.

Zone of Special Interest (SPZ4): This zone is where local conditions require additional protection.

IN-SITU STRENGTH GEOTECHNICAL TESTING:

Windowless Sample and/or Cable Percussion and/or Rotary Boreholes provide samples of the ground for assessment but they do not give any engineering data. The standard penetration test (SPT) is an in-situ dynamic penetration test designed to provide information on the geotechnical engineering properties of soil. The test uses a thick-walled sample tube, with an outside diameter of 50mm and an inside diameter of 35mm, and a length of around 650mm. This is driven into the ground at the bottom of a borehole by blows from a slide hammer with a weight of 63.5kg falling through a distance of 760mm. The sample tube is driven 150mm into the ground and then the number of blows needed for the tube to penetrate each 75mm up to a depth of 450mm is recorded. The sum of the number of blows is termed the "standard penetration resistance" or the "N-value".

Dynamic Probing involves the driving of a metal cone into the ground via a series of steel rods. These rods are driven from the surface by a hammer system that lifts and drops a 63.5kg (SHDP) hammer onto the top of the rods through a set height, thus ensuring a consistent energy input. The number of hammer blows that are required to drive the cone down by each 100mm increment are recorded. These blow counts then provide a comparative assessment from which correlations have been published, based on dynamic energy, which permits engineering parameters to be generated. (The Dynamic Probe 'Super Heavy' (SHDP) Tests were conducted in accordance with BS 1377; 1990; Part 9, Clause 3.2).

APPENDIX C: Membrane Specification Sheet, Certification and Retrofitting Method Statement



Declaration of Performance

Unique identification code of the product-type:

1.	Product name	Colour	Thickness
	Visqueen Gas Barrier NF-400	Blue/White	400 micron

2.	Intended use	for water vapour control layers in buildings Type A, PE
3.	Name, registered trade name or registered trade mark and contact address of the manufacturer as set out in article 11 (5)	Visqueen Heanor Gate Industrial Estate, Derbyshire, DE75 7RG
4.	Name and contact address of the authorised representative who has received a mandate for the tasks set out on Article 12 (2):	Not relevant
5.	System or systems for assessment and verification of constancy of performance of the construction product in accordance with Annex V	System 2+
6.	a. In the case of a declaration of performance concerning a construction product that is covered by a harmonised standard	EN 13967:2012
	Notified body/ies	SGS Italia 1381
6	b. In case of a declaration of performance concerning a construction product for which a European Technical Assessment was issued	Not relevant

7. Declaration performance

7	Essential Characteristics	Performance	Harmonised Technical Specification
	Water tightness 2kPa	Pass	EN 13967:2012
	Water tightness after ageing 2kPa	Pass	
	Water tightness after alkali ageing 2kPa	Pass	
	Tensile strength MD	26.3	
	Tensile strength CD	29.4	
	Elongation @ break MD	607	
	Elongation @ break CD	921	
	Resistant to tearing nail shank MD	265	
	Resistant to tearing nail shank CD	240	
	Joint strength taped	217N/50mm	
	Joint strength welded	401N/50mm	
	Resistance to Impact	≥200mm	
	Deformation under load	>15kg	
	Water vapour diffusion Sd	459m	
	Water vapour resistance MNs/g	2296	
	Water vapour resistance factor μ	1.14*10 ⁶	

Signed for and on behalf of the manufacturer by:

Place

Signature

Date

Derbyshire, UK

22/07/2024

Cameron Yates
Technical Product Manager

Safety Data Sheet



Date prepared: 01/09/2018

Date revised: 30/05/2025 Version 3

1. Identification of the Substance/Preparation and the Company/Undertaking

1.1 Product Identification: Polyethylene, polyolefin

Trade name:

- Visqueen Air and Vapour Control Layers:
(Vapour Check, Vapour Barrier, Visqueen NF-Vapour Barrier)
- Visqueen Damp Proof Courses:
(Zedex CPT High performance DPC, Zedex Housing DPC, Ultimate Gas DPC)
- Visqueen Damp Proof Membranes:
(DPM, High Performance DPM)
- Visqueen Gas Membranes:
(Low Permeability Gas Membrane, R400 Radon Membrane, Radonblok 400 and 600, Gas Barrier NF-400, Ultimate Gas Barrier NF-500 and NF-600, Ultimate HC BLOK)
- Visqueen Waterproofing Membranes:
(CM20 and CM8, Protect&Drain Pre-Applied, Ultimate GeoSeal)
- Visqueen Stormwater Membranes:
(UDG and High Performance UDG)
- Visqueen carrier films for tapes
- Visqueen TreadGuard 1500
- Visqueen Temporary Protection Sheeting
- Visqueen Gas Vent Mat

1.2 Intended use Polyethylene based membranes to be used for various construction applications

1.3 Company/undertaking name & address: British Polythene Limited t/a Visqueen
Heanor Gate Industrial Estate
Heanor
Derbyshire
DE75 7RG

1.4 Emergency telephone: +44 (0) 333 202 6800

Email: enquiries@visqueen.com

2. Hazards Identification

2.1 Classification of substance: This product is not classified as dangerous, according to directive 1999/45/EC or 67/548/EEC (see section 15)

2.2 Labelling Not Required

2.3 Other hazards
Physical and chemical hazards
/ fire and explosion hazards:

Polythene can burn when ignited (for example when exposed to an external heat source)during the fire the polythene will melt and may generate drops that could propagate the fire.

Safety Data Sheet



Date prepared: 01/09/2018

Date revised: 30/05/2025 Version 3

-
- Toxic gases will form upon combustion. see section 5 “firefighting measures”.
 - Decomposes. Flammable / toxic gases will form upon decomposition. see section 10 “stability and reactivity”.
 - Product can accumulate electrostatic charges when rubbed, chafed, or abraded. static discharge in the presence of volatile or flammable mixtures presents a potential fire or explosion hazard.

3. Composition

3.1 Chemical name:	Polyethylene
Chemical formula:	(C ₂ H ₄) _x
CAS ref:	9002-88-44
Chemical family:	Olefinic Polymer
3.2 hazardous components	None
3.3 Additives:	Dependent on product additives may include; colour pigments, slip, anti-block, anti-static, calcium carbonate, flame retardant, polyamide, ethylene-vinyl alcohol, anti-melt fracture, ultra violet inhibitors etc. additional information is available on special request.

4.1 First Aid Measures

Inhalation:	In case of adverse exposure to vapours and / or aerosols formed at elevated temperatures, immediately remove the affected victim from exposure. Administer artificial respiration if breathing is stopped. keep at rest. call for prompt medical attention.
Skin:	Not applicable under normal working conditions. For hot product, immediately immerse in or flush the affected area with large amounts of cold water to dissipate heat. Cover with clean cotton sheeting or gauze and get prompt medical attention. No attempt should be made to remove material from skin or to remove contaminated clothing, as the damaged flesh is easily torn.
Ingestion:	First aid is not normally required.
Eye contact:	This product is an inert solid. if in eye, remove as one would any foreign object.

5. Fire Fighting Measures

5.1 Fire extinguish methods:	Water spray, extinguishing powder, foam, carbon dioxide
5.2 Fire-fighting procedures:	Use suitable extinguishing media to cool fire, exposed surfaces and to protect personnel. block the supply to the fire. extinguish the fire by cooling. all unprotected personnel must leave the area immediately.
Advice for firefighters:	Respiratory and eye protection required for firefighting personnel. see section 3 “first aid measures” and 9 “stability and reactivity”.
5.3 Fire related hazards:	Under oxygen lean condition, carbon monoxide (co) and irritating smoke may be produced which may contain soot and cracked products: aldehydes, ketones, hydrocarbons and volatile fatty acids additionally if flame retardants are present, hydrogen bromide or hydrochloric gases may be produced. if eva is present this can form acetic acid (irritant).

Safety Data Sheet



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6. Accidental Release Measures

- 6.1 General information: Sweep up spilled material and place in suitable containers for recycle or disposal. Consult an expert on disposal of recovered material and ensure conformity to local disposal regulations.
See section 4 “first aid measures” and 10 “stability and reactivity”.

7. Handling and Storage

- 7.1 Storage temperature (deg c): ambient
Transport temperatures (deg c): ambient
Loading/unloading temperature (deg c): ambient
Viscosity (cst): not applicable
Storage transport pressure (kpa): atmospheric

7.2 Storage / handling, general notes:

- Do not handle or store near an open flame, sources of heat, or sources of ignition. protect material from direct sunlight.
- Care should be taken when storing and handling this product. Apart from the specific nature of the polythene product, conditions such as humidity, sunlight and temperature have an influence on the products final properties. The main hazards are associated with handling, these are related to pallet stock slippage and fork truck manoeuvres which can cause injury to personnel. for manual handling please follow the manual handling operation regulation 1992.

8. Exposure Controls and Personal Protection

General advice:

The use and choice of personal protection equipment is related to the hazard of the product, the workplace, and the way the product is handled.

Skin protection:

Direct contact with skin does not normally lead to skin irritation. no precautions other than clean body covering clothing should be needed.

Hand protection:

Wear heavy duty gloves to protect against skin abrasion or cuts.

Foot protection :

Wear safety shoes when handling rolls.

8.2 Environmental exposure controls:

see section 12.

9. Physical and Chemical Properties

- 9.1 Physical state: Sheet material in roll form.
Form/Colour: Various depending on pigment
Odour: Odourless
9.2 Other Information N/a

10. Stability and Reactivity

Safety Data Sheet



Date prepared: 01/09/2018

Date revised: 30/05/2025 Version 3

Conditions to avoid:	Stable under normal handling and storage conditions.
Materials to avoid:	Strong oxidizing agents, excess heat
Hazardous decomposition	Carbon dioxide (CO ₂), carbon monoxide (CO), flammable hydrocarbons and fumes, if flame retardants are present, hydrogen bromide (HBR) or hydrochloric (HCl) gases may be produced. if eva is present acetic acid may also be formed.

11. Toxicological Information

Acute:

Inhalation:

- negligible hazard at ambient temperatures (-18 to 38 deg c)
- vapours or aerosols which may be formed at elevated temperatures may be irritating to eyes and respiratory tract.
- dust may be irritating to eyes and respiratory tract.

Skin contact:

- negligible hazard at ambient temperatures (-18 to 38 deg c)
- exposure to hot material will cause thermal burns.

Eye contact:

- particulates may scratch eye surfaces / cause mechanical irritation.

Ingestion:

- minimal toxicity

12. Ecological Information

This product is not classified as a volatile organic compound, according to the directive 99/13/EC.

Environmental degradability: this substance is expected to persist.

13. Disposal Considerations

General information:

The following advice only applies to the product as supplied. combination with other materials may well indicate another route of disposal.

Empty packaging should be taken for recycling, recovery or disposal through a suitably qualified or licensed contractor. Care should in any case be taken to ensure compliance with EC, national and local regulations.

Suitable routes of disposal of this product are incineration in appropriate incinerators with energy recovery, disposal in landfills or appropriate recycling methods.

14. Transport Information

General information:

Not regulated for Land, Inland waterways, sea or air transport.

Safety Data Sheet



Date prepared: 01/09/2018

Date revised: 30/05/2025 Version 3

15. Regulatory Information

Classification and labelling according to EEC directives

classification/symbol: not regulated

Governing directive: dangerous substances directive 67/548/EC, as modified.

16. Other Information

This information is given in good faith, being based on the latest knowledge available to British Polythene Limited t/a Visqueen. No known relevant information has been omitted from this data sheet and the information provided is designed to enable the user to use the product safely. The user should not assume on the basis of the information provided in this data sheet that the product is suitable for any abnormal use. If the information provided is insufficient to ensure safety in any particular application, contact Visqueen for further advice before the proposed application is undertaken.

Additional information is available on special request

Version	Reason for Re-issue	Date
001	Updated in new format	01/09/2018
002	Products added	20/05/2024
003	Products added NF Range	30/05/2025
004		
005		

Safety Data Sheet



Date prepared: 01/09/2018

Date revised: 30/05/2025 Version 3

1. Identification of the Substance/Preparation and the Company/Undertaking

1.1 Product Identification: Polyethylene, polyolefin

Trade name:

- Visqueen Air and Vapour Control Layers:
(Vapour Check, Vapour Barrier, Visqueen NF-Vapour Barrier)
- Visqueen Damp Proof Courses:
(Zedex CPT High performance DPC, Zedex Housing DPC, Ultimate Gas DPC)
- Visqueen Damp Proof Membranes:
(DPM, High Performance DPM)
- Visqueen Gas Membranes:
(Low Permeability Gas Membrane, R400 Radon Membrane, Radonblok 400 and 600, Gas Barrier NF-400, Ultimate Gas Barrier NF-500 and NF-600, Ultimate HC BLOK)
- Visqueen Waterproofing Membranes:
(CM20 and CM8, Protect&Drain Pre-Applied, Ultimate GeoSeal)
- Visqueen Stormwater Membranes:
(UDG and High Performance UDG)
- Visqueen carrier films for tapes
- Visqueen TreadGuard 1500
- Visqueen Temporary Protection Sheeting
- Visqueen Gas Vent Mat

1.2 Intended use Polyethylene based membranes to be used for various construction applications

1.3 Company/undertaking name & address: British Polythene Limited t/a Visqueen
Heanor Gate Industrial Estate
Heanor
Derbyshire
DE75 7RG

1.4 Emergency telephone: +44 (0) 333 202 6800

Email: enquiries@visqueen.com

2. Hazards Identification

2.1 Classification of substance: This product is not classified as dangerous, according to directive 1999/45/EC or 67/548/EEC (see section 15)

2.2 Labelling Not Required

2.3 Other hazards
Physical and chemical hazards
/ fire and explosion hazards:

Polythene can burn when ignited (for example when exposed to an external heat source) during the fire the polythene will melt and may generate drops that could propagate the fire.

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-
- Toxic gases will form upon combustion. see section 5 “firefighting measures”.
 - Decomposes. Flammable / toxic gases will form upon decomposition. see section 10 “stability and reactivity”.
 - Product can accumulate electrostatic charges when rubbed, chafed, or abraded. static discharge in the presence of volatile or flammable mixtures presents a potential fire or explosion hazard.

3. Composition

3.1 Chemical name:	Polyethylene
Chemical formula:	(C ₂ H ₄) _x
CAS ref:	9002-88-44
Chemical family:	Olefinic Polymer
3.2 hazardous components	None
3.3 Additives:	Dependent on product additives may include; colour pigments, slip, anti-block, anti-static, calcium carbonate, flame retardant, polyamide, ethylene-vinyl alcohol, anti-melt fracture, ultra violet inhibitors etc. additional information is available on special request.

4.1 First Aid Measures

Inhalation:	In case of adverse exposure to vapours and / or aerosols formed at elevated temperatures, immediately remove the affected victim from exposure. Administer artificial respiration if breathing is stopped. keep at rest. call for prompt medical attention.
Skin:	Not applicable under normal working conditions. For hot product, immediately immerse in or flush the affected area with large amounts of cold water to dissipate heat. Cover with clean cotton sheeting or gauze and get prompt medical attention. No attempt should be made to remove material from skin or to remove contaminated clothing, as the damaged flesh is easily torn.
Ingestion:	First aid is not normally required.
Eye contact:	This product is an inert solid. if in eye, remove as one would any foreign object.

5. Fire Fighting Measures

5.1 Fire extinguish methods:	Water spray, extinguishing powder, foam, carbon dioxide
5.2 Fire-fighting procedures:	Use suitable extinguishing media to cool fire, exposed surfaces and to protect personnel. block the supply to the fire. extinguish the fire by cooling. all unprotected personnel must leave the area immediately.
Advice for firefighters:	Respiratory and eye protection required for firefighting personnel. see section 3 “first aid measures” and 9 “stability and reactivity”.
5.3 Fire related hazards:	Under oxygen lean condition, carbon monoxide (co) and irritating smoke may be produced which may contain soot and cracked products: aldehydes, ketones, hydrocarbons and volatile fatty acids additionally if flame retardants are present, hydrogen bromide or hydrochloric gases may be produced. if eva is present this can form acetic acid (irritant).

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6. Accidental Release Measures

- 6.1 General information: Sweep up spilled material and place in suitable containers for recycle or disposal. Consult an expert on disposal of recovered material and ensure conformity to local disposal regulations.
See section 4 “first aid measures” and 10 “stability and reactivity”.

7. Handling and Storage

- 7.1 Storage temperature (deg c): ambient
Transport temperatures (deg c): ambient
Loading/unloading temperature (deg c): ambient
Viscosity (cst): not applicable
Storage transport pressure (kpa): atmospheric

7.2 Storage / handling, general notes:

- Do not handle or store near an open flame, sources of heat, or sources of ignition. protect material from direct sunlight.
- Care should be taken when storing and handling this product. Apart from the specific nature of the polythene product, conditions such as humidity, sunlight and temperature have an influence on the products final properties. The main hazards are associated with handling, these are related to pallet stock slippage and fork truck manoeuvres which can cause injury to personnel. for manual handling please follow the manual handling operation regulation 1992.

8. Exposure Controls and Personal Protection

General advice:

The use and choice of personal protection equipment is related to the hazard of the product, the workplace, and the way the product is handled.

Skin protection:

Direct contact with skin does not normally lead to skin irritation. no precautions other than clean body covering clothing should be needed.

Hand protection:

Wear heavy duty gloves to protect against skin abrasion or cuts.

Foot protection :

Wear safety shoes when handling rolls.

8.2 Environmental exposure controls:

see section 12.

9. Physical and Chemical Properties

- 9.1 Physical state: Sheet material in roll form.
Form/Colour: Various depending on pigment
Odour: Odourless
9.2 Other Information N/a

10. Stability and Reactivity

Safety Data Sheet



Date prepared: 01/09/2018

Date revised: 30/05/2025 Version 3

Conditions to avoid:	Stable under normal handling and storage conditions.
Materials to avoid:	Strong oxidizing agents, excess heat
Hazardous decomposition	Carbon dioxide (CO ₂), carbon monoxide (CO), flammable hydrocarbons and fumes, if flame retardants are present, hydrogen bromide (HBR) or hydrochloric (HCl) gases may be produced. if eva is present acetic acid may also be formed.

11. Toxicological Information

Acute:

Inhalation:

- negligible hazard at ambient temperatures (-18 to 38 deg c)
- vapours or aerosols which may be formed at elevated temperatures may be irritating to eyes and respiratory tract.
- dust may be irritating to eyes and respiratory tract.

Skin contact:

- negligible hazard at ambient temperatures (-18 to 38 deg c)
- exposure to hot material will cause thermal burns.

Eye contact:

- particulates may scratch eye surfaces / cause mechanical irritation.

Ingestion:

- minimal toxicity

12. Ecological Information

This product is not classified as a volatile organic compound, according to the directive 99/13/EC.

Environmental degradability: this substance is expected to persist.

13. Disposal Considerations

General information:

The following advice only applies to the product as supplied. combination with other materials may well indicate another route of disposal.

Empty packaging should be taken for recycling, recovery or disposal through a suitably qualified or licensed contractor. Care should in any case be taken to ensure compliance with EC, national and local regulations.

Suitable routes of disposal of this product are incineration in appropriate incinerators with energy recovery, disposal in landfills or appropriate recycling methods.

14. Transport Information

General information:

Not regulated for Land, Inland waterways, sea or air transport.

Safety Data Sheet



Date prepared: 01/09/2018

Date revised: 30/05/2025 Version 3

15. Regulatory Information

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Additional information is available on special request

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Visqueen Gas Barrier NF-400

Features & benefits

- BDA Agreement Certification - third party accreditation
- Complies with NHBC Foundation NF94 guidance for use in Type A membrane locations - non foil system
- Complies with the methane gas transmission rate, mass per unit area and thickness requirements of BS 8485:2015 + A1:2019 - industry standard for methane and carbon dioxide protection
- Multi functional - also acts as a radon and damp proof membrane
- Dual jointing methods - depending upon specification, lap joints can be heat welded or taped

Product description

Visqueen Gas Barrier NF-400 is a co-extruded, multi-layer thermoplastic gas membrane, 0.4mm thick (400 micron). The membrane is blue on the upper surface, white on the underside and supplied 2.4m x 43.5m in a single wound roll.

Approvals and standards

- Third party accreditation (BDA Agreement Certificate BAB-24-339-P-A-UK)
- Complies with the methane gas transmission rate, mass per unit area and thickness requirements of BS 8485:2015 + A1:2019
- Suitable for all Characteristic Gas Situation (CS) ground gas regimes
- Complies with NHBC Foundation NF94 guidance for use in Type A membrane locations (non foil system)
- Conforms to the specification requirements of NHBC Amber 1 and Amber 2 applications
- Conforms to the specification requirements of BR 211:2023
- UKCA UKNI CE to EN 13967:2012
- Visqueen certified with Quality Management System ISO 9001:2015
- Visqueen certified with Occupational Health and Safety System ISO 45001:2018
- Visqueen certified with Environmental Management System ISO 14001:2015

Usage

Visqueen Gas Barrier NF-400 is suitable for use in all types of buildings to prevent the ingress of harmful levels of methane, carbon dioxide and radon.

The barrier can be positioned above or below reinforced cast in situ concrete floor slabs e.g. ground bearing, suspended or raft, or above precast suspended segmental subfloors, e.g. beam and block floor.

The barrier can also be used as a high performance radon membrane and/or damp proof membrane.

NHBC NF94 guidance: Radon, carbon dioxide, and methane protection
Visqueen Gas Barrier NF-400 when installed with either welded or taped joints complies with NHBC Foundation NF94 publication, Hazardous ground gas - an essential guide for housebuilders, in Type A membrane locations in precast suspended segmental subfloors and reinforced cast in situ concrete floor slabs (ground bearing, suspended or raft).

For site or zone characteristic gas situations of CS4 and above, contact Visqueen Technical Office.

The barrier is not intended for use where there is a risk of hydrostatic pressure.

System components

- VisqueenPro Double Sided Jointing Tape, 50mm x 10m
- VisqueenPro Detailing Strip, 300mm x 10m
- Visqueen TreadGUARD 1500, 1m x 2m
- Visqueen TreadGUARD 300, 2m x 75m
- Visqueen Ultimate Top Hat Units
- Visqueen NF-Detailing Strip, 300mm x 10m
- Visqueen NF-60 Lap Tape, 60mm x 45m
- Visqueen NF-150 Lap Tape, 150mm x 10m

Storage and handling

When storing Visqueen Gas Barrier NF-400 care should be taken to:

- store in its original packaging;
- avoid exposure to direct sunlight and high or low temperatures for prolonged periods of time;
- store in a well-ventilated covered area to protect from rain, frost, humidity and mechanical damage;
- store away from possible ignition sources;
- store rolls of the barrier horizontally on a flat surface and not stacked.

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

Care should be taken when handling the product in line with current manual handling regulations.

Visqueen Gas Barrier NF-400

Preparation

Visqueen Gas Barrier NF-400 should be installed with the blue side facing upwards onto a smooth, continuous surface. e.g. grouted beam and block floor, a compacted blinding layer e.g. 50mm thick sand blinding, or smooth concrete blinding. The substrate should be free from irregularities such as loose aggregates or other sharp protrusions, voids, projections or mortar deposits.

The barrier can be cut with a sharp retractable safety knife or robust scissors.

Hand rollers are required during lap joint formation and sealing membrane detailing. Typical hand rollers include 40mm silicone pressure roller and 6mm brass penny pressure roller.

Consult the project specification to ensure the correct method of lap joint formation for the project is followed (welded or taped).

Rolls of tape should be kept in a warm, dry location prior to use to ensure the tape is workable and can be more easily applied.

Installation

Installation of Visqueen Gas Barrier NF-400 should be carried out by a competent contractor experienced with this type of product e.g. hold an NVQ Level 2 Diploma in substructure work occupations (Installation of Gas Membranes - Construction).

The installation should be subjected to third-party validation in accordance with BS 8485:2015 +A1:2019 and CIRIA C735.

Visqueen Gas Barrier NF-400 should be loose laid on the substrate with the blue side facing upwards ensuring that the barrier sheet edges are aligned allowing adequate overlap for jointing between the sheets.

The barrier lap area should be clean and dry at the time of jointing. The barrier has been designed to exhibit superior welding properties using hot wedge and hot air welding, therefore onsite welding of all lap joints is recommended. When hot air hand welding the lap joints, the joint should be overlapped by approximately 100mm and an approximate 35mm weld is normally achieved. During hand welding, the lap joints should be firmly compressed using a hand roller to ensure an adequate bond is achieved.

When taping the lap joints, the joint should be overlapped by approximately 100mm and bonded with VisqueenPro Double Sided Jointing Tape (positioned approximately 25mm from the edge of the sheet) and sealed with Visqueen NF-60 Lap Tape or Visqueen NF-150 Lap Tape depending on the project specification. The lap joints should be firmly compressed using a hand roller during taping to ensure an adequate bond is achieved.

Creating an effective gas barrier often requires complex three-dimensional detailing, such as around internal and external walls, corners, doorway thresholds, service pipes, party walls, and structural columns. Visqueen NF-Detailing Strip is gas resistant and can be used in place of the gas barrier to maintain continuous protection. The detailing strip lap joints should be firmly compressed using a hand roller to ensure an adequate bond is achieved. Visqueen Ultimate Preformed Units are also available.

If the barrier is punctured or perforated a patch of the same material should be lapped at least 100mm beyond the limits of the puncture and either welded in position, or bonded with VisqueenPro Double Sided Jointing Tape (positioned approximately 25mm from the edge of the sheet) and sealed with Visqueen NF-60 Lap Tape or Visqueen NF-150 Lap Tape depending on the project specification. Alternatively a patch can be formed using Visqueen NF-Detailing Strip lapped at least 150mm beyond the extents of the puncture.

Long periods of exposure to ultraviolet light will reduce the effectiveness of the barrier. The barrier should be covered by a protective layer e.g. Visqueen TreadGuard protection or other approved protection material, immediately after installation to prevent damage from following trades, ultraviolet light, etc. Care should be taken to ensure that the barrier is not punctured, stretched or displaced during or post installation.

VisqueenPro Detailing Strip is also suitable for sealing detailing junctions and patch repairs, however when the gas protection measures are to conform with the requirements of NHBC NF94 guidance, please ensure acceptance by all stakeholders prior to use.

Usable temperature range

When Visqueen Gas Barrier NF-400 is installed with taped lap joints, the air temperature should not be below 5°C or falling to prevent the risk of surface condensation affecting the tape adhesion.

When ambient temperatures are above 25°C or rising, the barrier should be covered immediately after installation.

Additional information

When used in accordance BS8485:2015 + A1:2019 a subfloor ventilation system or pressure relief may also be required.

To assist build sequencing, Visqueen Ultimate Gas DPC is available for gas protection through the wall construction.

Visqueen Gas Barrier NF-400

For further information contact Visqueen Technical Office on 0333 202 6800.

The information in this datasheet was correct at the time of publication. It is the user's responsibility to obtain the latest version of the datasheet as it is updated on a regular basis. The information contained in the latest datasheet supersedes all previously published editions.

Property	Test method	Units	Compliance criteria	Result
Dimensions	BS EN 1848-2	m	-	2.4 x 43.5
Nominal thickness	BS EN 1849-2	mm	+/-10%	0.4
Mass	BS EN 1849-2	g/m ²	>370	>370
Tensile strength - machine direction	BS EN 12311-2 method B	N/mm ²	MDV	26.3
Tensile strength - cross direction	BS EN 12311-2 method B	N/mm ²	MDV	29.4
Elongation at break - machine direction	BS EN 12311-2 method B	%	MDV	607
Elongation at break - cross direction	BS EN 12311-2 method B	%	MDV	921
Joint strength - taped joint	BS EN 12317-2	N/50mm	MDV	217
Joint strength - welded joint	BS EN 12317-2	N/50mm	MDV	405
Watertightness at 2kPa for 24 hours	BS EN 1928 method A	-	Pass/Fail	Pass
Watertightness at 2kPa for 24 hours after ageing	BS EN 1296 (12 weeks) + BS EN 1928 method A	-	Pass/Fail	Pass
Watertightness at 2kPa for 24 hours after alkali environment	BS EN 1847 (28 days) + BS EN 1928 method A	-	Pass/Fail	Pass
Resistance to impact	BS EN 12691 method A	mm	MDV	400
Low temperature flexibility	BS EN 495-5	°C	MDV	-20
Resistance to tearing (nail shank) - machine direction	BS EN 12310-1	N	MDV	265
Resistance to tearing (nail shank) - cross direction	BS EN 12310-1	N	MDV	240
Water vapour resistance	BS EN 1931 method B	MNs/g	MDV	2,296
Water vapour permeability	BS EN 1931 method B	g/m ² /d	MDV	0.08
Water vapour resistance factor	BS EN 1931 method B	μ	MDV	1,140,000
Water vapour diffusion equivalent air layer thickness	BS EN 1931 method B	SD in m	MDV	459
Methane gas transmission rate - membrane	BS ISO 15105-1	ml/m ² /day/atm	MDV	13.2
Methane gas transmission rate - welded membrane joint	BS ISO 15105-1	ml/m ² /day/atm	MDV	15
Carbon dioxide gas transmission rate	BS ISO 15105-1	ml/m ² /day/atm	MDV	22
Radon gas transmission rate - membrane	SP method	m/s	MDV	<3.0 x 10 ⁻⁹
Puncture CBR	BS EN 12236	N	MDV	1620
Tensile yield strength - machine direction	ASTM D4885-01	kN/m	MDV	8

Visqueen Gas Barrier NF-400

Tensile yield strength - cross direction	ASTM D4885-02	kN/m	MDV	7.3
Resistance to static loading	BS EN 12730 method C	kg	MDV	15
Elongation yield - machine direction	ASTM D4885-01	%	MDV	405.3
Elongation yield - cross direction	ASTM D4885-01	%	MDV	400.2
Tear resistance - trouser method A - machine direction	BS ISO 34-1	kN/m	MDV	128
Tear resistance - trouser method A - cross direction	BS ISO 34-1	kN/m	MDV	109.7
Tear resistance - angle method B - machine direction	BS ISO 34-1	N	MDV	137
Tear resistance - angle method B - cross direction	BS ISO 34-1	N	MDV	139.6

Health and safety information

Refer to the Visqueen Gas Barrier NF-400 safety datasheet (SDS).

About Visqueen

Visqueen is a leading provider of construction membrane technologies and design-based solutions for ground gas, structural waterproofing, damp proofing and fire protection.

We offer complete support at every stage of the specification, including the supply chain process. As the UK's principal technical authority, we are best placed to ensure that the principal designer and contractor specify the most technically suited, durable, and competitive solution to guarantee their project is protected for the lifetime of the building.

Visqueen is at the forefront of advanced membrane technology and innovation in the construction industry, earning the trust and loyalty of specifiers throughout the UK and Europe.

For more information, visit visqueen.com or contact our sales office at +44 (0) 333 202 6800 or enquiries@visqueen.com

Complete Range, Complete Solution



Passive Fire Protection



Gas Protection



Damp Proof Membrane



Air and Vapor Control



Stormwater



Damp Proof Course



Temporary Protection

Visqueen Technical Support

Visqueen offer a comprehensive full nationwide technical support. Our team of CSSW qualified technical support managers provide on site design-based solutions for specifiers, contractors and builders merchants, and will ensure that from design stage to installation the project is fully risk assessed and the specification is approved by all stakeholders.

Our Technical Office, can design, prepare and manage CAD detailing, together with assisting in quantity take offs, while offering advice on technical installations and product selection.

Competency & Design

Visqueen promotes competency in building design by ensuring that its technical team possesses the necessary skills, knowledge, experience, and ethical practices. The company adopts the "golden thread of information," ensuring all project data is digitally secure and accessible throughout a building's lifecycle. This approach aligns with the Building Safety Act and aims to foster accountability and compliance with evolving regulations, providing clients with confidence in the safety and reliability of their projects.

Visqueen CPD Seminars

Visqueen's CPD Seminars offer insights into Building Regulations, Standards, and industry guidance related to damp proofing, hazardous ground gas protection, and structural waterproofing. These one-hour seminars are



Visqueen Gas Barrier NF-400

tailored for construction design professionals and delivered by our Technical Support Managers. Visit our website to book a free CPD.

Visqueen Contract Design Services

Visqueen Contract Design Services offers a bespoke design service led by our team of Certified Surveyors in Structural Waterproofing (CSSW), providing experienced and specialised waterproofing design expertise for complex projects. We provide comprehensive support throughout the entire project, ensuring that all work meets the requirements of warranty providers and adheres to the highest standards of quality, reliability and current legislation.

Visqueen Training Academy

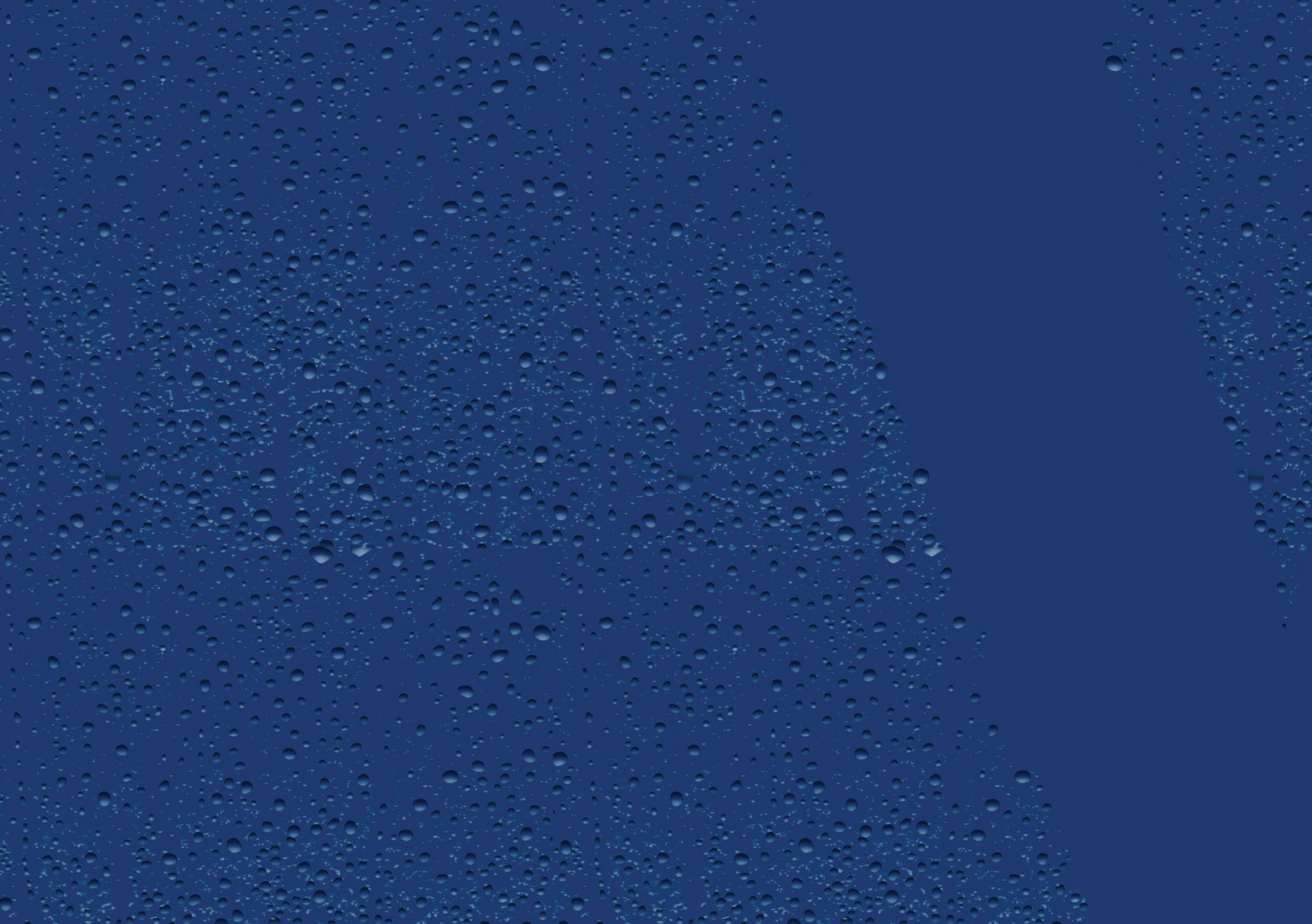
Based at our Derbyshire facility, the Visqueen Training Academy offers a variety of training programs across the UK. These include one-day product awareness sessions for distributors and builders' merchants, and intensive two-day courses for hands-on product installation training. Contact us for more information.

VISQUEEN

Product Guide April 2026

Complete range - Complete solution





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Building the Future - Protecting the Present

For more than 50 years, the construction industry has placed its trust in Visqueen products and design services to safeguard a wide range of residential and commercial buildings against harmful ground-based gases, water ingress, damp and fire. Visqueen is at the forefront of innovation technologies, earning the trust and loyalty of industry professionals throughout the UK and Europe.

The following pages provide you with product information across our diverse product portfolio.

For further information and technical support please call our Technical Office +44 (0) 333 202 6800

Notes

Passive Fire Protection



Passive Fire Protection AVCL

Product description

Visqueen A2 Vapour Barrier is a multi-layer reinforced aluminium AVCL (air and vapour control layer). The product has a reflective aluminium finish on the upper surface and a matt aluminium surface on the reverse. The barrier is supplied in single wound rolls (not folded), 1.2m x 50m long.

Usage

Visqueen A2 Vapour Barrier is used in buildings where an air and vapour control layer (AVCL) is required that achieves a reaction to fire classification A2 - s1, d0 to BS EN 13501-1:2018. The barrier is used to reduce the risk of interstitial condensation occurring within the structure as well as improving the airtightness of the building.

The barrier restricts the passage of warm, moist air within the building from permeating into the floor, wall or roof structure.

The barrier is designed to be installed to the warm side of floors, walls and roofs and is suitable for humidity classes 1, 2, 3, 4 and 5 to BS 5250:2021.

For conformity with the reaction to fire classification, usage of Visqueen FR+ Vapour Tape must not exceed 10% of the area of the Visqueen A2 Vapour Barrier.

Care should be taken by the Designer to ensure suitability for applications other than those stated above. Visqueen A2 Vapour Barrier should be approved by all stakeholders prior to use.

Features and benefits

- Achieves a reaction to fire classification A2 - s1, d0 to BS EN 13501-1:2018 - compliant with UK Building Regulations
- Used within floor, wall and roof constructions
- Single wound roll



Installation

Visqueen A2 Vapour Barrier should be installed in accordance with the recommendations of BS 5250:2021 Management of moisture in buildings - code of practice. The barrier should be installed on the warm side of the insulated structure, with care being taken to ensure that all laps, penetrations and abutments are sealed. The barrier should be continuous in order to ensure optimum airtightness and vapour control performance.

All joints in the barrier should be lapped by 75mm and sealed with Visqueen FR+ Vapour Tape applied centrally over the lap. To aid formation laps should be made over a solid substrate.

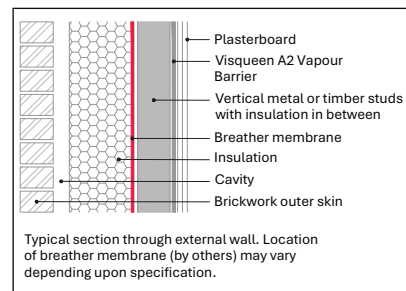
Ensure barrier continuity at the junction of horizontal and vertical substrates. Seal abutments with Visqueen FR+ Vapour Tape applied centrally over the junction. Failure to suitably connect the barrier to other building elements will severely reduce airtightness and vapour control performance.

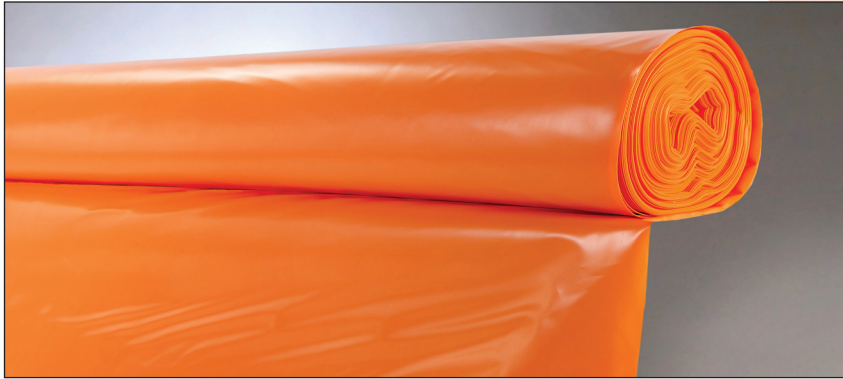
Please note that the product's A2 fire classification does not cover the use of any alternative tapes.

For full installation instructions, please see product Technical Datasheet

System components

- Visqueen FR+ Vapour Tape, 75mm x 25m





Installation

Visqueen Class B FR Vapour Check should be installed in accordance with the recommendations of BS 5250:2021 Management of moisture in buildings - code of practice. The membrane should be installed on the warm side of the insulated structure, with care being taken to ensure that all laps, penetrations and abutments are sealed. The membrane should be continuous in order to ensure optimum airtightness and vapour control performance.

Visqueen FR Double Sided Vapour Tape is available for bonding the membrane to substrates such as metal or timber studs or noggings.

All joints in the membrane should be lapped by minimum 75mm and sealed with Visqueen FR Single Sided Vapour Tape applied centrally over the lap. To aid formation laps should be made over a solid substrate e.g. located on studs or noggings.

For full installation instructions, please see product Technical Datasheet

System components

- Visqueen FR Double Sided Vapour Tape, 20mm x 50m (5 rolls per box)
- Visqueen FR Single Sided Vapour Tape, 50mm x 50m (5 rolls per box)

Product description

Visqueen Class B FR Vapour Check is an orange tinted, semi transparent modified polyethylene AVCL (air and vapour control layer).

The membrane is supplied in centre-folded rolls 2.45m x 50m and multi-folded rolls 4m x 50m.

Usage

Visqueen Class B FR Vapour Check is used in buildings where an air and vapour control layer (AVCL) is required that achieves a reaction to fire classification B - s1, d0 to BS EN 13501-1:2018. The membrane is used to reduce the risk of interstitial condensation occurring within the structure as well as improving the airtightness of the building.

The membrane restricts the passage of warm, moist air within the building from permeating into the floor, wall or roof structure and is designed to be installed on the warm side of the structure.

For conformity with the reaction to fire classification, usage of Visqueen FR Single Sided Vapour Tape must not exceed 10% of the area of the Visqueen Class B FR Vapour Check.

Care should be taken by the Designer to ensure suitability for applications other than those stated above. Visqueen Class B FR Vapour Check should be approved by all stakeholders prior to use.

Features and benefits

- Achieves a reaction to fire classification B - s1, d0 to BS EN 13501-1:2018 - compliant with UK Building Regulations
- Used within floor, wall and roof constructions
- Large format roll



Product description

Visqueen Non-Combustible Preformed Units

are factory manufactured, made to order, three dimensional shapes. The units are manufactured as standard from stainless steel to BS EN 10088 grade 1.4301 (BS 1449 grade 304). Other stainless steel grades are also available.

Usage

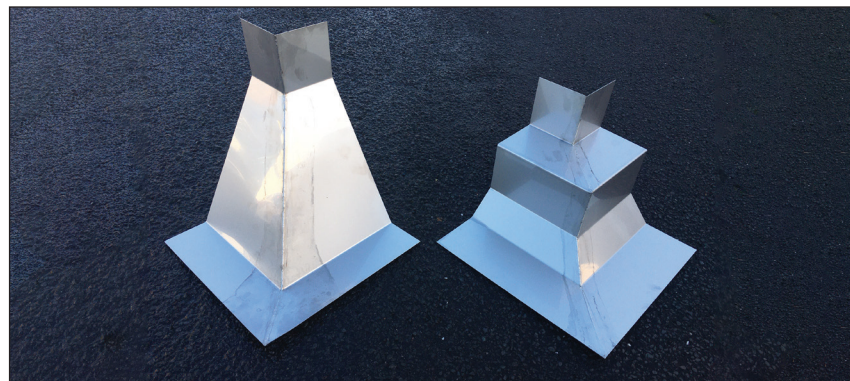
Visqueen Non-Combustible Preformed Units are designed for detailing complicated junctions in cavity wall constructions including those with a structural framing system inner leaf and a masonry outer leaf, in residential, commercial and multi-storey buildings.

In conjunction with Visqueen Zedex Non-Combustible DPC and associated system components, the units are used where a DPC cavity tray is required that achieves a minimum reaction to fire classification A2 - s1, d0 to BS EN 13501-1:2018.

Care should be taken by the Designer to ensure suitability for applications other than those stated above.

Features and benefits

- Range of rigid non-combustible units - provides cavity tray design solutions at complicated junctions
- Off-site factory manufactured - reduces the risk of water ingress
- Three dimensional shapes - simplifies complex detailing
- Extensive range - suitable for a variety of awkward cavity tray locations such as corners or changes in level
- Available for different surface fixed cavity tray profiles



Installation

When used for sealing complex junctions in cavity tray applications, Visqueen Non-Combustible Preformed Units should be installed prior to the main run of the cavity tray material.

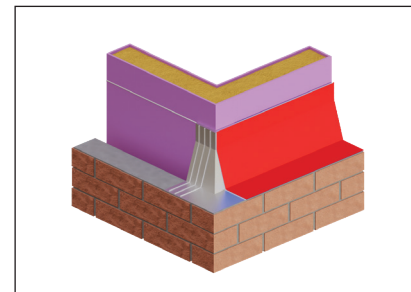
All DPC to Preformed Unit laps should be a minimum of 100mm and sealed with Visqueen Zedex Mastic.

Where the Preformed Unit is surface fixed to the inner leaf of a cavity wall construction, the vertical portion of the unit should be sealed to the inner leaf with Visqueen Zedex Mastic. Visqueen Non-Combustible Fixing Strip should be used to secure the upper edge of the unit to provide a permanent mechanical fix using stainless steel fixings appropriate for the substrate.

For full installation instructions, please see product Technical Datasheet

System components

- Visqueen Zedex Mastic, 380ml
- Visqueen Non-Combustible Fixing Strip, 1240mm long, 17 per pack





Product description

Visqueen Zedex Non-Combustible Flexi Preformed

Units are manufactured from Visqueen Zedex Non-Combustible DPC. The range consists of surface fixed (face fixed) external and internal 90 degree corner units with a 150mm vertical rise and 100mm vertical fixing flange. The innovative design allows each unit to be suitable for an approximate 50mm cavity width variance when incorporated into a brickwork outer leaf.

External and internal surface fixed units are available for the following cavity width ranges: 40-100mm, 100-150mm, 150-200mm, 200-250mm, and 250-300mm.

NB. Cavity width is measured from the cavity face of the inner leaf e.g. weather defence board, to the cavity face of the masonry outer leaf. The units are rolled up, individually wrapped and supplied 4 per box.

Usage

Visqueen Zedex Non-Combustible Flexi Preformed Units are specifically designed for use with a surface fixed, sloping Visqueen Zedex Non-Combustible DPC cavity tray with a 150mm vertical rise between the outer and the inner leaf. This cavity tray profile is shown in Visqueen drawing DPC-ZXNC-03. The units are designed to fit a 90 degree masonry corner.

Features and benefits

- Off-the-shelf surface fixed external and internal 90 degree corner units - reduced lead times
- Off-site factory manufactured - reduces the risk of water ingress
- Flexible 90 degree corner units - provides an allowance for site tolerances
- Corner units designed for approx. 50mm variance in cavity widths - each unit suitable for cavity widths within a specific range

Installation

Visqueen Zedex Non-Combustible Flexi Preformed Units must be installed with the red surface facing upwards or outwards i.e. facing towards the direction of moisture penetration. NB During installation, internal corner units must be manipulated so that the red surface faces upwards or outwards.

The preformed units are designed to be surface fixed (face fixed) to the inner leaf and allow for a 150mm vertical rise in the cavity tray profile. When surface fixing the preformed units to weather defence boards, they should be permanently secured to the inner leaf substrate using 12mm shank austenitic stainless steel staples at 150mm centres.

When surface fixing the preformed units to concrete, masonry, etc., they should be permanently secured to the inner leaf substrate using Visqueen Non-Combustible Fixing Strip and stainless steel fixings suitable for the substrate.

For full installation instructions, please see product Technical Datasheet



System components

- Visqueen Zedex Mastic, 380ml
- Visqueen Non-Combustible Fixing Strip, 1240mm long, 17 per pack
- Visqueen DPC Joint Support

Product description

Visqueen Zedex Non-Combustible Damp Proof Course (DPC) achieves a reaction to fire classification A2 - s1, d0. The product is compliant with the requirements of The Building Regulations 2010 (England and Wales) (as amended) and The Building (Scotland) Regulations 2004 (as amended).

The DPC is a flexible 0.6mm composite damp proof course and cavity tray system. It is supplied in 20m length rolls and the following standard widths: 100mm, 150mm, 225mm, 300mm, 450mm, 500mm, 600mm, 700mm, 800mm and 900mm.

Usage

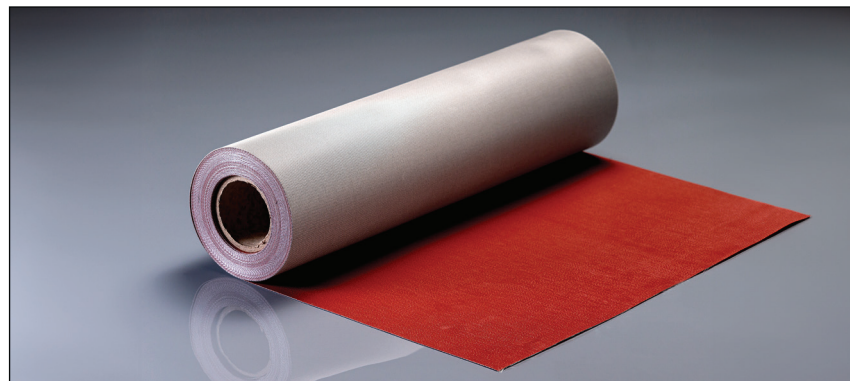
Visqueen Zedex Non-Combustible Damp Proof Course and cavity tray is designed for cavity wall constructions including those with a structural framing system inner leaf and a masonry outer leaf, in residential, commercial and multi-storey buildings.

The product is used where a DPC or DPC cavity tray is required to achieve a reaction to fire classification A2 - s1, d0 to BS EN 13501-1:2018.

Care should be taken by the Designer to ensure suitability for applications other than those stated above. Visqueen Zedex Non-Combustible DPC should be approved by all stakeholders prior to use.

Features and benefits

- Achieves a reaction to fire classification A2 - s1, d0 to BS EN 13501-1:2018 by Warrington Fire - compliant with UK Building Regulations
- Flexible preformed corner units available - Visqueen Zedex Non-Combustible Flexi PFUs
- Range of system components - Visqueen Non-Combustible Fixing Strip and DPC Joint Supports available



Installation

Visqueen Zedex Non-Combustible DPC must be installed with the red surface facing upwards or outwards i.e. facing towards the direction of moisture penetration.

When surface fixing the preformed units to weather defence boards, they should be permanently secured to the inner leaf substrate using 12mm shank austenitic stainless steel staples at 150mm centres.

When surface fixing the preformed units to concrete, masonry, etc., they should be permanently secured to the inner leaf substrate using Visqueen Non-Combustible Fixing Strip and stainless steel fixings suitable for the substrate.

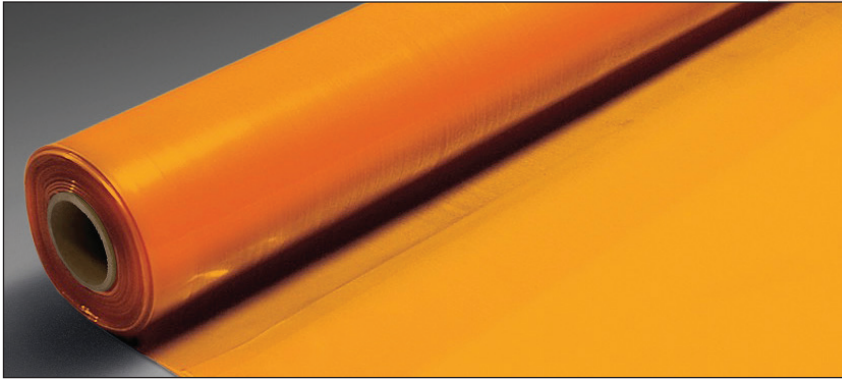
When used as a site formed cavity tray, the DPC can be either built-in to the inner leaf or surface fixed to the cavity face of the inner leaf depending upon the type of wall construction.

For full installation instructions, please see product Technical Datasheet

System components

- Visqueen Zedex Mastic, 380ml
- Visqueen Non-Combustible Fixing Strip, 1240mm long, 17 strips per pack
- Visqueen Non-Combustible Preformed Units
- Visqueen DPC Joint Support
- Visqueen Zedex Non-Combustible Flexi Preformed Units





Installation

Unroll Visqueen Flame Retardant Polythene Protection and cut to fit the area that needs protecting. For large covered areas it may be necessary to lap adjacent film sheets and a taped joint is recommended to ensure continuity of protection. When taping, allow an overlap of at least 50mm and secure the joint using Visqueen FR Single Sided Tape. Prior to taping ensure that the lap area is clean and free from dust and any moisture.

For full installation instructions, please see product Technical Datasheet



System components

- Visqueen FR Single Sided Tape, 50mm x 50m

Product description

Visqueen Flame Retardant Polythene Protection

is manufactured using virgin polymers with specific additives to ensure the product is flame retardant to LPS1207 - Loss Prevention Standard cert no. 1792a/02.

The sheeting is supplied as centre folded rolls on a supporting core. Standard roll sizes are:

- 4m x 25m x 250 micron (Orange)
- 4m x 50m x 65 micron (White)

Usage

Visqueen Flame Retardant Polythene Protection can be used for screening off individual areas, draping and for a variety of surfaces. The product can be easily cut and re-sized for pallet hood / cover protection.

Flame retardant sheeting can be also used in various other applications whilst buildings undergo refurbishment work or in new build construction projects whilst also providing protection from dust and the risks of electrical hazards.

Features and benefits

- LPS1207 cert.no 1792a/01 - 3rd party flame retardant certification for Temporary Protection materials
- Large roll format - Ideal for draping, screening, covering or hanging. Quick and easy installation.
- Flame retardant - helps reduce the risk of losses from fires on construction sites
- 0.25mm (1000 gauge) thick - Approved for asbestos removal or wrapping film

Notes

Gas protection



Product description

Visqueen Gas Barrier NF-400 is a co-extruded, multi-layer thermoplastic gas membrane, 0.4mm thick (400 micron). The membrane is available either transparent with a blue tint or coloured blue/white and supplied 2.4m x 43.5m in a single wound roll.

Usage

Visqueen Gas Barrier NF-400 is suitable for use in all types of buildings to prevent the ingress of harmful levels of methane, carbon dioxide and radon.

The barrier can be positioned above or below reinforced cast in situ concrete floor slabs e.g. ground bearing, suspended or raft, or above precast suspended segmental subfloors, e.g. beam and block floor.

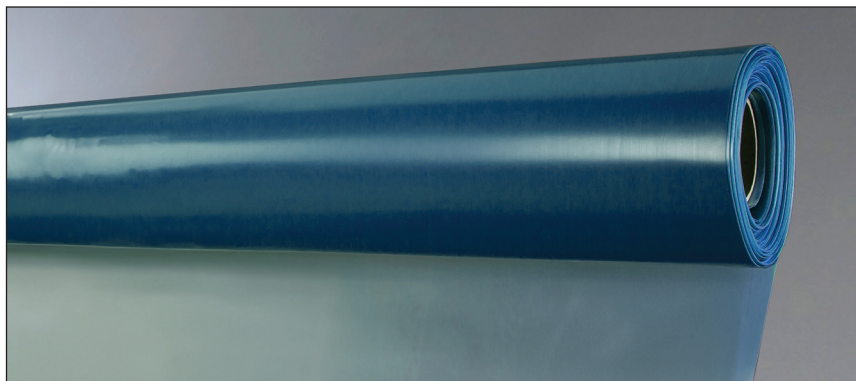
The barrier can also be used as a high performance radon membrane and/or damp proof membrane.

Radon, carbon dioxide, and methane protection - NHBC NF94 guidance:

Visqueen Gas Barrier NF-400 when installed with either welded or taped joints complies with NHBC Foundation's NF94 publication, Hazardous ground gas - an essential guide for housebuilders, in Type A membrane locations in precast suspended segmental subfloors and reinforced cast in situ concrete floor slabs (ground bearing, suspended or raft).

Features and benefits

- BDA Agreement Certification - third party accreditation
- Complies with NHBC Foundation's NF94 guidance for use in Type A membrane locations - non foil system
- Complies with the methane gas transmission rate, mass per unit area and thickness requirements of BS 8485:2015 + A1:2019 - industry standard for methane and carbon dioxide protection
- Multi functional - also acts as a radon and damp proof membrane
- Dual jointing methods - depending upon specification, lap joints can be heat welded or taped



Installation

Visqueen Gas Barrier NF-400 should be loose laid on the substrate ensuring that the barrier sheet edges are aligned allowing adequate overlap for jointing between the sheets. The transparent barrier can be laid either side facing upwards, the blue/white barrier must be installed with the blue surface facing upwards or outwards.

The barrier lap area should be clean and dry at the time of jointing. The barrier has been designed to exhibit superior welding properties using hot wedge and hot air welding, therefore onsite welding of all lap joints is recommended. When hot air hand welding the lap joints, the joint should be overlapped by approximately 100mm and an approximate 35mm weld is normally achieved. During hand welding, the lap joints should be firmly compressed using a hand roller to ensure an adequate bond is achieved.

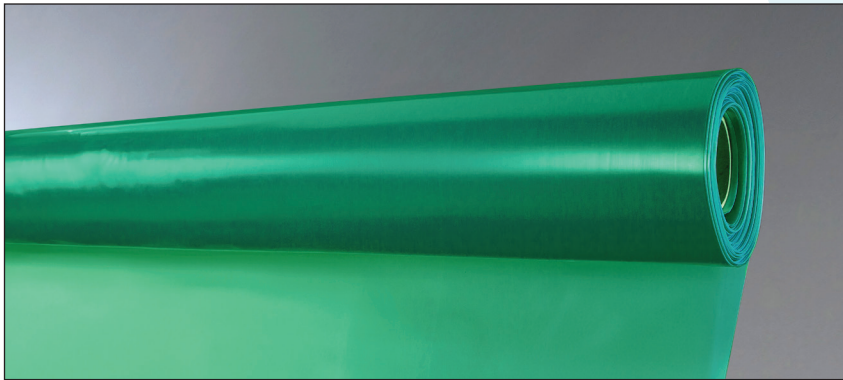
When taping the lap joints, the joint should be overlapped by approximately 100mm and bonded with VisqueenPro Double Sided Jointing Tape (positioned approximately 25mm from the edge of the sheet) and sealed with Visqueen NF-60 Lap Tape or Visqueen NF-150 Lap Tape depending upon the project specification. The lap joints should be firmly compressed using a hand roller during taping to ensure an adequate bond is achieved.

For full installation instructions, please see product Technical Datasheet

System components

- VisqueenPro Double Sided Jointing Tape, 50mm x 10m
- Visqueen NF-60 Lap Tape, 60mm x 45m
- Visqueen NF-150 Lap Tape, 150mm x 10m
- Visqueen NF-Detailing Strip, 300mm and 500mm x 10m
- Visqueen TreadGUARD 300, 2m x 75m





Installation

Visqueen Ultimate Gas Barrier NF-500 should be loose laid on the substrate ensuring that the barrier sheet edges are aligned allowing adequate overlap for jointing between the sheets. The transparent barrier can be laid either side facing upwards, the green/white barrier must be installed with the green surface facing upwards or outwards.

The barrier lap area should be clean and dry at the time of jointing. The barrier has been designed to exhibit superior welding properties using hot wedge and hot air welding, therefore onsite welding of all lap joints is recommended. When hot air hand welding the lap joints, the joint should be overlapped by approximately 100mm and an approximate 35mm weld is normally achieved. During hand welding, the lap joints should be firmly compressed using a hand roller to ensure an adequate bond is achieved.

When taping the lap joints, the joint should be overlapped by approximately 100mm and bonded with VisqueenPro Double Sided Jointing Tape (positioned approximately 25mm from the edge of the sheet) and sealed with Visqueen NF-150 Lap Tape. The lap joints should be firmly compressed using a hand roller during taping to ensure an adequate bond is achieved

For full installation instructions, please see product Technical Datasheet

System components

- VisqueenPro Double Sided Jointing Tape, 50mm x 10m
- VisqueenPro Detailing Strip, 300mm x 10m, 500mm x 10m
- Visqueen TreadGUARD 1500, 1m x 2m
- Visqueen TreadGUARD 300, 2m x 75m
- Visqueen NF-Detailing Strip, 300mm x 10, 500mm x 10m
- Visqueen NF-150 Lap Tape, 150mm x 10m
- Visqueen Ultimate Top Hat Units, 110mm, 135mm and 160mm

Product description

Visqueen Ultimate Gas Barrier NF-500 is a co-extruded, multi-layer thermoplastic volatile organic compound barrier and gas barrier, 0.5mm thick (500 micron). The membrane is available either transparent with a green tint or coloured green/white and supplied 2.4m x 43.5m in a single wound roll.

Usage

Visqueen Ultimate Gas Barrier NF-500 is suitable for use in all types of buildings to prevent the ingress of harmful levels of volatile organic compounds (VOCs), methane, carbon dioxide and radon. The barrier can be positioned above or below reinforced cast in situ concrete floor slabs e.g. ground bearing, suspended or raft, or above precast suspended segmental subfloors, e.g. beam and block floor.

The barrier can also be used as a high performance radon membrane and/or damp proof membrane. Where protection against VOCs or hydrocarbon contamination is required, the barrier system should be applied with welded joints.

Features and benefits

- Agreement certified - third party accreditation
- Complies with NHBC Foundation's NF94 guidance for use in Type A and Type B membrane locations
- Complies with CIRIA C748:2014 - industry standard for volatile organic compounds (VOC) protection
- Complies with the methane gas transmission rate, mass per unit area and thickness requirements of BS 8485:2015 + A1:2019 – industry standard for methane and carbon dioxide protection
- Also provides radon and damp proof membrane protection
- Dual jointing methods - depending upon specification, lap joints can be taped or heat welded



Product description

Visqueen Ultimate Gas Barrier NF-600 is a co-extruded, multi-layer thermoplastic volatile organic compound barrier and gas barrier, 0.6mm thick (600 micron). The membrane is available as either transparent with a blue tint or coloured blue/white and supplied 2m x 50m in a single wound roll.

Usage

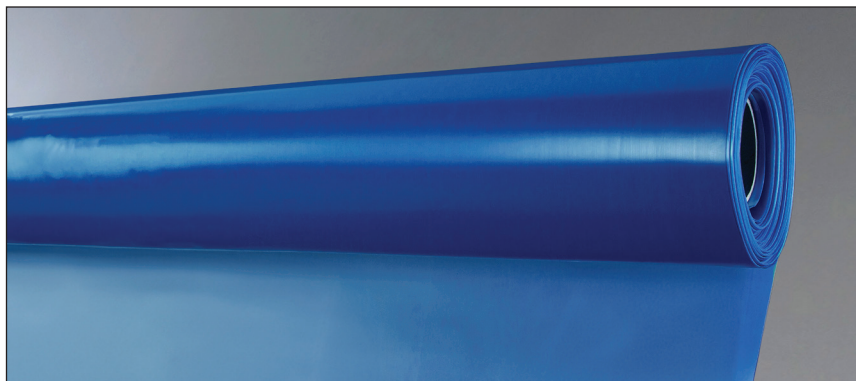
Visqueen Ultimate Gas Barrier NF-600 is suitable for use in all types of buildings to prevent the ingress of harmful levels of volatile organic compounds (VOCs), methane, carbon dioxide and radon.

The barrier can be positioned above or below reinforced cast in situ concrete floor slabs e.g. ground bearing, suspended or raft, or above precast suspended segmental subfloors, e.g. beam and block floor.

The barrier can also be used as a high performance radon membrane and/or damp proof membrane. Where protection against VOCs or hydrocarbon contamination is required, the barrier system should be applied with welded joints.

Features and benefits

- Agreement certified - third party accreditation
- Complies with NHBC Foundation's NF94 guidance for use in Type A, Type B and Type C membrane locations
- Complies with CIRIA C748:2014 - industry standard for volatile organic compounds (VOC) protection
- Complies with the methane gas transmission rate, mass per unit area and thickness requirements of BS 8485:2015 + A1:2019 – industry standard for methane and carbon dioxide protection
- Also provides radon and damp proof membrane protection
- Dual jointing methods - depending upon specification, lap joints can be taped or heat welded



Installation

Visqueen Ultimate Gas Barrier NF-600 should be loose laid on the substrate ensuring that the barrier sheet edges are aligned allowing adequate overlap for jointing between the sheets. The transparent barrier can be laid either side facing upwards, the blue/white barrier must be installed with the blue surface facing upwards or outwards.

The barrier lap area should be clean and dry at the time of jointing. The barrier has been designed to exhibit superior welding properties using hot wedge and hot air welding, therefore onsite welding of all lap joints is recommended. When hot air hand welding the lap joints, the joint should be overlapped by approximately 100mm and an approximate 35mm weld is normally achieved. During hand welding, the lap joints should be firmly compressed using a hand roller to ensure an adequate bond is achieved.

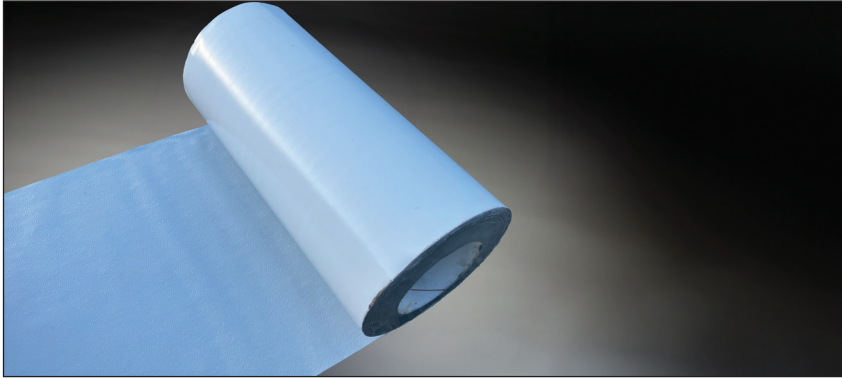
When taping the lap joints, the joint should be overlapped by approximately 100mm and bonded with VisqueenPro Double Sided Jointing Tape (positioned approximately 25mm from the edge of the sheet) and sealed with Visqueen NF-150 Lap Tape. The lap joints should be firmly compressed using a hand roller during taping to ensure an adequate bond is achieved

For full installation instructions, please see product Technical Datasheet

System components

- VisqueenPro Double Sided Jointing Tape, 50mm x 10m
- VisqueenPro Detailing Strip, 300mm x 10m, 500mm x 10m
- Visqueen TreadGUARD 1500, 1m x 2m
- Visqueen TreadGUARD 300, 2m x 75m
- Visqueen NF-Detailing Strip, 300mm x 10, 500mm x 10m
- Visqueen NF-150 Lap Tape, 150mm x 10m
- Visqueen Ultimate Top Hat Units, 110mm, 135mm and 160mm





Installation

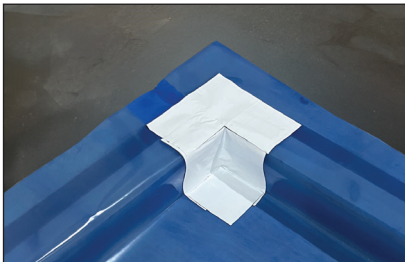
Surfaces must be smooth and free from sharp protrusions, ensure the surface and working area is not water logged and is frost free. When applying to blockwork or brickwork the joints must be flush pointed. Prior to bonding, substrates such as masonry, concrete and steel should be primed using Visqueen HP Tanking Primer and allowed to dry thoroughly. Visqueen HP Tanking Primer must not be used on Insulation or ICF systems.

Visqueen NF-Detailing Strip can be cut with a sharp retractable safety knife. Hand rollers are required during application. Typical hand rollers include 40mm silicone pressure roller and 6mm brass penny pressure roller.

Position and peel back the Visqueen NF-Detailing Strip release film and apply the pressure sensitive, self adhesive face to the prepared substrate. Apply pressure by rolling to ensure a full bond is achieved. All lap joints should be a minimum of 150mm and must be pressed and rolled to ensure damp, gas or waterproofing continuity.

When used for sealing membranes punctures, Visqueen NF-Detailing Strip should be lapped at least 150mm beyond the extents of the puncture.

For full installation instructions, please see product Technical Datasheet



System components

- Visqueen HP Tanking Primer, 5L

Product description

Visqueen NF-Detailing Strip is a composite of white polymer film and a cold weather butyl compound protected by a release film. It is available in roll format, 300mm x 10m and 500mm x 10m.

Usage

Visqueen NF-Detailing Strip is used for sealing junctions and complicated detailing in Visqueen gas protection systems, waterproofing systems, and damp proofing systems. It can be used on concrete, blockwork, brickwork, particle boards, steel work, steel stanchions and wooden substrates for both vertical and horizontal application.

Features and benefits

- BDA Agreement Certified detailing material - third party accreditation
- Flexible - can be cut and shaped to various applications
- Multi-use - suitable for complex junctions, stanchions, patchwork and terminations



Product description

Visqueen Gas Barrier is a multi-layer reinforced polyethylene gas barrier with a 20 micron aluminium foil. The barrier is coloured blue on the upper surface and silver on the reverse. The product is supplied in single wound rolls (not folded), 2m x 50m.

Usage

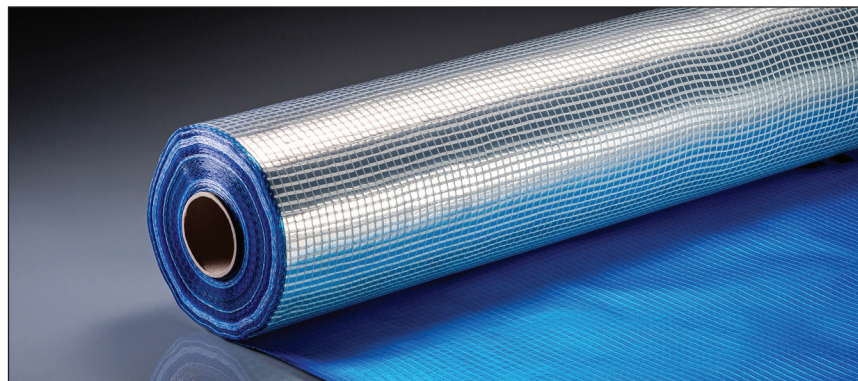
Visqueen Gas Barrier is suitable for use in all types of buildings to prevent the ingress of harmful levels of ground gases e.g. methane, carbon dioxide and radon. The barrier can be positioned above or below a solid concrete ground floor slab or above a precast suspended segmental ground floor system, e.g. beam and block floor.

The barrier can also be used as a high performance radon membrane and/or damp proof membrane.

The product is not intended for use where there is a risk of hydrostatic pressure.

Features and benefits

- BBA certified - third party accreditation
- Complies with the methane gas transmission rate, mass per unit area and thickness requirements of BS 8485:2015 + A1:2019 - industry standard for methane and carbon dioxide protection
- Also provides radon and damp proof membrane protection
- Dual jointing methods - lap joints can be taped or heat welded



Installation

Visqueen Gas Barrier should be loose laid on the substrate with the blue side up so as to avoid sunlight glare.

The barrier should be clean and dry at the time of jointing. It should be overlapped by at least 150mm, bonded with VisqueenPro Double Sided Jointing Tape and sealed with Visqueen Gas Resistant Foil Lap Tape.

Alternatively lap joints can be heat welded to achieve an effective seal. Welded lap joints can be less than 150mm provided the joint integrity is not compromised.

Airtight seals should be formed around all service entry points.

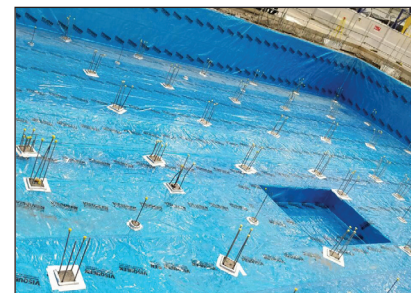
Forming an effective barrier to gases may give rise to complex three-dimensional detailing where, it is recommended Visqueen Preformed Units are used e.g. corners.

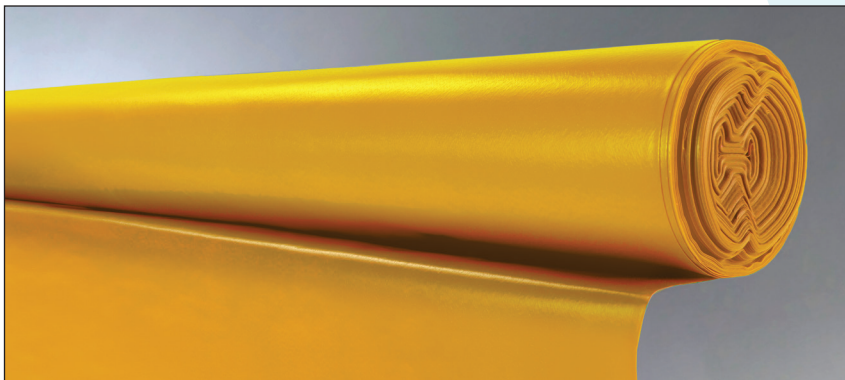
Alternatively VisqueenPro Detailing Strip can be used to seal awkward junctions.

For full installation instructions, please see product Technical Datasheet

System components

- VisqueenPro Double Sided Jointing Tape, 50mm x 10m
- Visqueen Gas Resistant Foil Lap Tape, 75mm x 50m
- Visqueen NF-150 Lap Tape, 150mm x 10m
- Visqueen Ultimate Top Hat Units
- VisqueenPro Detailing Strip, 300mm x 10m, 500mm x 10m





Product description

Visqueen Low Permeability Gas Membrane is a robust co-polymer thermoplastic gas membrane, 0.5mm thick, yellow in colour and supplied 4m x 12.5m in a center folded roll. The membrane is manufactured from virgin polymer.

Usage

Visqueen Low Permeability Gas Membrane is suitable to prevent the ingress of harmful levels of ground gases for housing applications where NHBC are the warranty provider and the site has been classified as Amber 1. In this application, the membrane is used above a precast suspended segmental ground floor system, for example a beam and block floor.

The membrane can also be used as a high performance radon membrane and/or damp proof membrane positioned within the ground floor construction either above or below the structural floor.

The product is not intended for use where there is a risk of hydrostatic pressure.

Features and benefits

- BBA certified - third party accreditation
- Complies with NHBC Amber 1 - suitable for low gas risk NHBC housing sites
- Supplied centre folded - reduces the risk of cracks in screed and limits creases
- Also provides radon and damp proof membrane protection
- Dual jointing methods - lap joints can be taped or heat welded

Installation

Visqueen Low Permeability Gas Membrane should be loose laid on the substrate. The membrane should be clean and dry at the time of jointing. It should be overlapped by at least 150mm, bonded with VisqueenPro Double Sided Jointing Tape and sealed with Visqueen Gas Resistant Foil Lap Tape or Visqueen NF-60 Lap Tape. In demanding site conditions, or where specified, seal lap joints with Visqueen NF-150 Lap Tape. Alternatively lap joints can be heat welded to achieve an effective seal. Welded lap joints can be less than 150mm provided the joint integrity is not compromised.

Airtight seals should be formed around all service entry points.

Forming an effective barrier to gases may give rise to complex three-dimensional detailing where, it is recommended Visqueen Preformed Units are used e.g. corners.

Alternatively VisqueenPro Detailing Strip can be used to seal awkward junctions.

For full installation instructions, please see product Technical Datasheet



System components

- VisqueenPro Double Sided Jointing Tape, 50mm x 10m
- Visqueen Gas Resistant Foil Lap Tape, 75mm x 50m
- Visqueen NF-60 Lap Tape, 60mm x 45m
- Visqueen NF-150 Lap Tape, 150mm x 10m
- Visqueen Top Hat Units
- Visqueen Preformed Units
- VisqueenPro Detailing Strip, 300mm x 10m, 500mm x 10m



Product description

Visqueen Radon R400 is a 0.4mm thick co-polymer thermoplastic membrane. The product is red in colour and supplied 4m x 20m in a multi-folded roll. The membrane is manufactured from virgin polymer.

Usage

Visqueen Radon R400 is used to prevent the ingress of radon in both basic and full radon protection areas. The membrane can be positioned within the ground floor construction either above or below the structural floor.

The product is not intended for use where there is a risk of hydrostatic pressure.

Features and benefits

- BBA certified - third party accreditation
- 0.4mm (1600 gauge) thick - complies with BBA regulations for radon protection membranes in line with BS8485:2015+A1:2019
- Conforms to BR 211:2023 - industry guidance for radon protection
- Also provides damp proof membrane protection
- Dual jointing methods - lap joints can be taped or heat welded



Installation

Visqueen Radon R400 should be loose laid on the substrate. The membrane should be clean and dry at the time of jointing. Joints should be overlapped by at least 150mm, bonded with VisqueenPro Double Sided Tape and sealed with either VisqueenPro Single Sided Tape or Visqueen Gas Resistant Foil Lap Tape.

Airtight seals should be formed around all service entry points. Visqueen Preformed Top Hat Units should be used for sealing service entry pipes.

Forming an effective barrier to radon may give rise to complex three-dimensional detailing where, it is recommended Visqueen Preformed Units are used e.g. corners.

When reinforced concrete is to be laid over the membrane the wire reinforcements and spacers must be prevented from puncturing the membrane.

Alternatively VisqueenPro Detailing Strip can be used to seal awkward junctions.

For full installation instructions, please see product Technical Datasheet

System components

- VisqueenPro Double Sided Jointing Tape, 50mm x 10m
- VisqueenPro Single Sided Tape, 75mm x 25m
- Visqueen Gas Resistant Foil Lap Tape, 75mm x 50m
- Visqueen NF-150 Lap Tape, 150mm x 10m
- Visqueen Top Hat Units
- VisqueenPro Detailing Strip, 300mm x 10m, 500mm x 10m





System components

- ## Product description

Usage

The liquid is suitable for use on insulated concrete formwork (ICF) as a priming solution to provide the optimum surface prior to the application of Visqueen Self Adhesive Membrane, Visqueen Gas Resistant Self Adhesive Membrane or VisqueenPro Detailing Strip.

Features and benefits

- Complies with the methane gas transmission rate, mass per unit area and thickness requirements of BS 8485:2015 + A1:2019 - industry standard for methane and carbon dioxide protection
- Type A Barrier Membrane (Tanking Membrane) - resistant to ground water in accordance with BS 8102:2022
- Conforms to the specification requirements of BR 211:2023 - provides radon protection
- Fully bonded system - self terminating at the perimeter of the installation
- Seamless application - no lap joints
- Suitable for damp surfaces or green concrete - assists build sequencing



Product description

Visqueen Ultimate Geoseal is a 1mm thick, robust pre-applied waterproofing barrier. It is coloured grey on the upper surface and black on the reverse.

The grey surface is textured to aid adhesion to cast concrete.

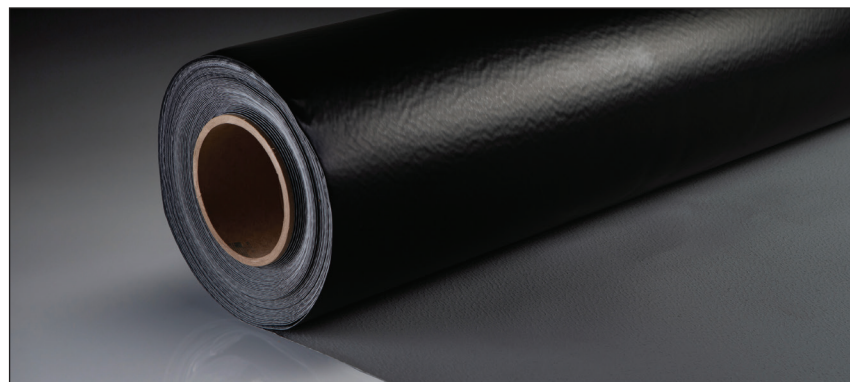
The barrier is supplied in single wound rolls (not folded), 2.44m x 20.5m.

Usage

Visqueen Ultimate GeoSeal is a pre-applied fully bonded Type A Barrier Membrane (Tanking Membrane) for use with below ground reinforced concrete structures e.g. basements, retaining walls, lift pits and car parks. The barrier also prevents the ingress of harmful levels of volatile organic compounds (VOCs) and hazardous ground gases.

Features and benefits

- Agrément certified - third party accreditation
- Complies with NHBC Foundation's NF94 guidance for use in Type B and Type C membrane locations
- Complies with CIRIA C748:2014 - industry standard for volatile organic compounds (VOC) protection
- Complies with the methane gas transmission rate, mass per unit area and thickness requirements of BS 8485:2015 + A1:2019 - industry standard for methane and carbon dioxide protection
- Type A Barrier Membrane (Tanking Membrane) - resistant to ground water in accordance with BS 8102:2022
- High resistance to impact compared to standard Visqueen DPMs - greatly reduces risk of barrier becoming damaged during the build process
- Also provides radon and damp proof membrane protection
- Dual jointing methods - lap joints can be taped or heat welded



Installation

Visqueen Ultimate GeoSeal should be loose laid on horizontal substrates and pre-applied to vertical substrate with the grey textured side facing towards the wet cast concrete so that a key to the concrete can be achieved.

The barrier has been designed to exhibit superior welding properties using hot wedge, hot air or extrusion welding, therefore onsite welding of all lap joints is recommended for all applications, and should be employed when hydrostatic water pressure or hydrocarbon/VOC contamination is present.

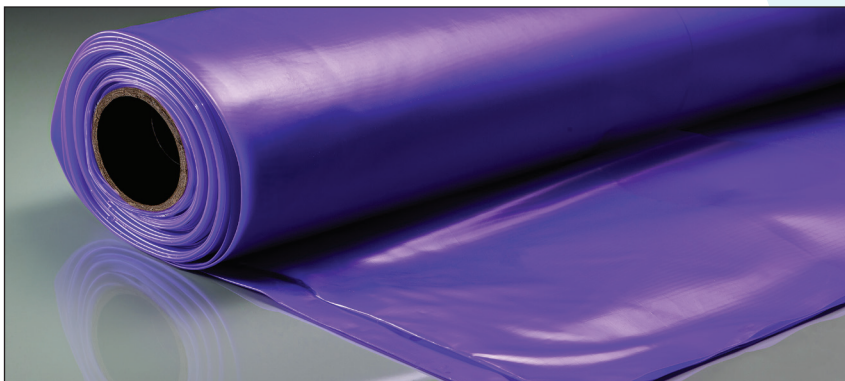
Alternatively, when the barrier is used for damp proofing, ground gas protection and sites where hydrostatic water pressure or hydrocarbon/VOC contamination is of low risk, lap joints can be bonded with Visqueen 100mm Double Sided Butyl Tape and sealed with Visqueen NF-150 Lap Tape.

For full installation instructions, please see product Technical Datasheet

System components

- Visqueen 100mm Double Sided Butyl Tape 100mm x 15m
- Visqueen NF-150 Lap Tape, 150mm x 10m
- Visqueen Ultimate Retaining Discs, 50mm long x 35mm head diameter x 500 per box
- Visqueen Ultimate Top Hat Units
- VisqueenPro Detailing Strip, 300mm x 10m, 500mm x 10m





Product description

Visqueen Ultimate RadonBlok 400 is a flexible 0.4mm thick high performance co-polymer thermoplastic membrane. The product is purple in colour and supplied 4m x 25m in centre fold format. Other sizes and formats are available on request including single wound i.e. no folds.

The membrane is manufactured from virgin polymer.

Usage

Visqueen Ultimate RadonBlok 400 is used to prevent the ingress of radon in both basic and full radon protection areas. The membrane can be positioned within the ground floor construction either above or below the structural floor.

The product is not intended for use where there is a risk of hydrostatic pressure.

Features and benefits

- Agrément certified - third party accreditation
- Conforms to BR 211:2023 - industry guidance for radon protection
- Also provides damp proof membrane protection
- Dual jointing methods - lap joints can be taped or heat welded

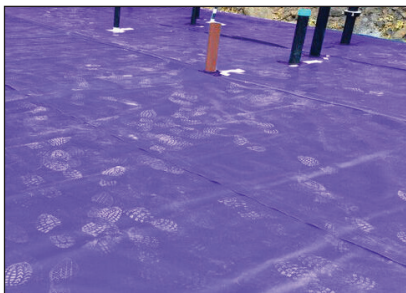
Installation

Visqueen Ultimate RadonBlok 400 should be loose laid on the substrate. The membrane should be clean and dry at the time of jointing. It should be overlapped by at least 150mm, bonded with Visqueen RadonBlok Double Sided Tape and sealed with VisqueenPro Single Sided Tape.

Alternatively lap joints can be heat welded to achieve an effective seal. Welded lap joints can be less than 150mm provided the joint integrity is not compromised.

Airtight seals should be formed around all service entry points. Visqueen Preformed Top Hat Units should be used for sealing service entry pipes. The base of the top hat and the upstand should be bonded using Visqueen RadonBlok Double Sided Tape and sealed with VisqueenPro Single Sided Tape. The upstand should be secured with the supplied jubilee clip.

For full installation instructions, please see product Technical Datasheet



System components

- Visqueen RadonBlok Double Sided Tape, 30mm x 30m
- VisqueenPro Single Sided Tape, 75mm x 25m
- Visqueen NF-150 Lap Tape, 150mm x 10m
- VisqueenPro Detailing Strip, 300mm x 10m, 500mm x 10m
- Visqueen Preformed Units /Top Hat Units
- Visqueen Radon Sump



Product description

Visqueen Ultimate RadonBlok 600 is a flexible 0.6mm thick high performance co-polymer thermoplastic membrane. The product is purple in colour and supplied 2m x 25m in a single wound roll (not folded).

The membrane is manufactured from virgin polymer.

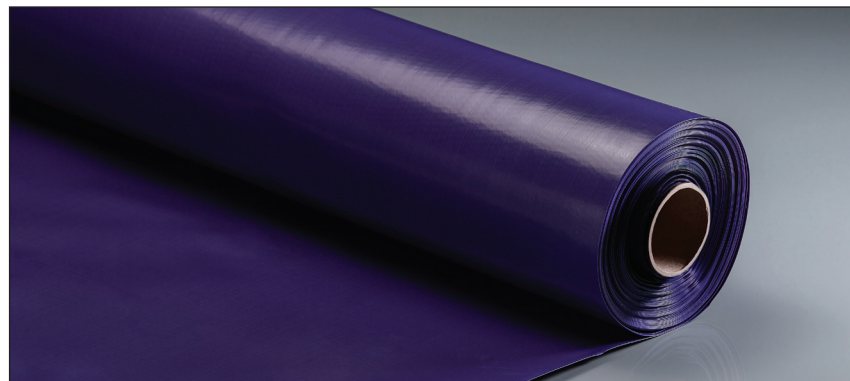
Usage

Visqueen Ultimate RadonBlok 600 is used to prevent the ingress of radon in both basic and full radon protection areas. The membrane can be positioned within the ground floor construction either above or below the structural floor.

The product is not intended for use where there is a risk of hydrostatic pressure.

Features and benefits

- Agrément certified - third party accreditation
- Conforms to BR 211:2023 - industry guidance for radon protection
- Also provides damp proof membrane protection
- Dual jointing methods - lap joints can be taped or heat welded



Installation

Visqueen Ultimate RadonBlok 400 should be loose laid on the substrate. The membrane should be clean and dry at the time of jointing. It should be overlapped by at least 150mm, bonded with Visqueen RadonBlok Double Sided Tape and sealed with VisqueenPro Single Sided Tape.

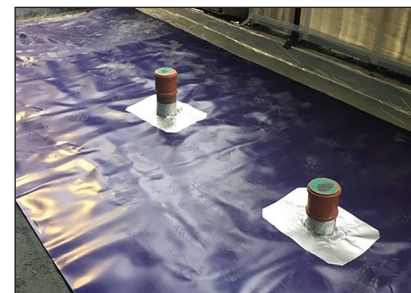
Alternatively lap joints can be heat welded to achieve an effective seal. Welded lap joints can be less than 150mm provided the joint integrity is not compromised.

Airtight seals should be formed around all service entry points. Visqueen Preformed Top Hat Units should be used for sealing service entry pipes. The base of the top hat and the upstand should be bonded using Visqueen RadonBlok Double Sided Tape and sealed with VisqueenPro Single Sided Tape. The upstand should be secured with the supplied jubilee clip.

For full installation instructions, please see product Technical Datasheet

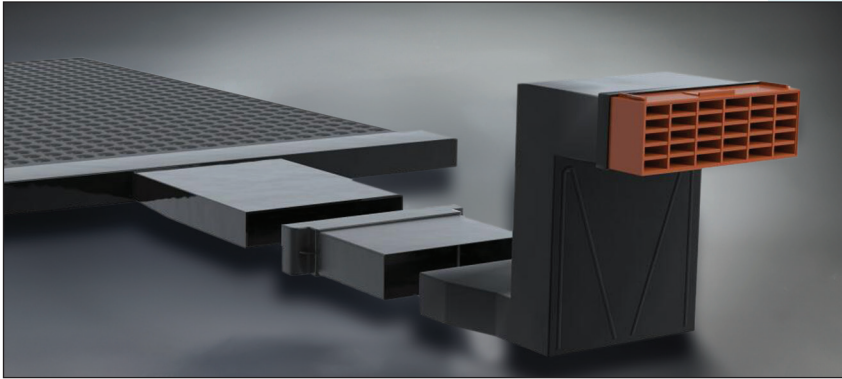
System components

- Visqueen RadonBlok Double Sided Tape, 30mm x 30m
- VisqueenPro Single Sided Tape, 75mm x 25m
- Visqueen NF-150 Lap Tape, 150mm x 10m
- Visqueen Top Hat Units
- Visqueen Preformed Units
- VisqueenPro Detailing Strip, 300mm x 10m, 500mm x 10m
- Visqueen Radon Sump



NSAI
Certification





Installation

Visqueen Adjustable Z Vents and Airbricks should be installed during the normal course of bricklaying. A Visqueen Zedex CPT High Performance DPC cavity tray should be fitted above the vent.

Vents and airbricks should be fitted in at least two opposing walls to create a through flow of air. The vents and airbricks should be placed at centers as stipulated in BS 8485:2015 + A1:2019 and within 450mm of each end of the wall. Bricklaying should then be completed as normal although care should be taken to keep the air flow passage clear from mortar droppings.

Where the vents require extending, Visqueen Extension Sleeves should be used.

For full installation instructions, please see product Technical Datasheet



System components

- Visqueen Venting Pipework and Connectors

Product description

Visqueen Adjustable Z Vents and Airbricks.

Visqueen Airbricks are manufactured from UV stabilized polypropylene and are available in Terracotta and Black. The airbrick replaces an external masonry brick. It incorporates a front mounted louvered grill to permit airflow while blocking out wind driven rain and prohibiting large insects from gaining access.

Visqueen Adjustable Z Vents are manufactured from black polypropylene and are designed to provide a clear airflow passage to the underfloor void.

Usage

Visqueen Adjustable Z Vent and Airbrick system is used within external masonry cavity wall constructions to provide a clear airflow passage to the void beneath precast suspended segmental ground floors e.g. beam and block. The system is used to achieve a passive subfloor ventilation system in accordance with BS 8485:2015 + A1:2019, effectively diluting any hazardous ground gases accumulating in the underfloor void.

Features and benefits

- Functional solution for exhausting ground gases from underfloor voids



Product description

Visqueen Gas Vent Bollard is a 110mm diameter stainless steel vent bollard with a total height of 1400mm of which between 800mm - 900mm is positioned above external ground level.

Each vent bollard provides a free air flow capacity of 25000mm².

Usage

When installed as part of a Visqueen gas venting system, Visqueen Gas Vent Bollard will safely disperse harmful ground gases to atmosphere and, due to its design, reduces the risk of rainwater entering the void.

The vent bollard is typically used in applications where the gas dispersal system cannot be taken out through a perimeter masonry wall e.g. curtain walling and glazing systems. The vent bollard can be positioned close to the building perimeter wall or within the building landscaping e.g. adjacent to pathways

Features and benefits

- Used for all ground gas venting applications including volatile organic compounds (VOCs)
- Aesthetic finish - rust proof
- High free air flow capacity - reduces number of units required
- Slotted venting design - eliminates need for a sub-base soakaway



Installation

Ensure all below ground Visqueen Gas Vent Pipe push-fit pipework joints are secure and the sub-base is well compacted before positioning the Visqueen Gas Vent Bollard.

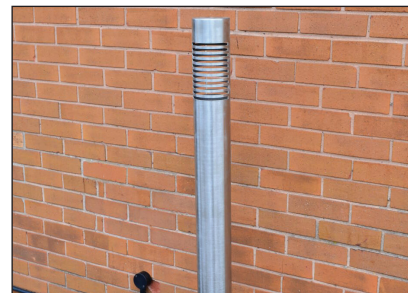
Connect the vent bollard to the vent pipe so that between 800mm and 900mm is visible above external ground level. Drill holes in the vent pipe corresponding to the pre-drilled holes in the lower portion of the vent bollard. Insert securing bar.

Ensure the vent bollard is vertical. Below ground level form a minimum 150mm concrete (strength class C25/30 to BS EN 206:2013 + A2:2021) surround to the vent bollard. Remove any concrete spill before it sets and clean off residue with soapy water.

For full installation instructions, please see product Technical Datasheet

System components

- Visqueen Venting Pipework and Connectors





Product description

Visqueen Gas Vent Mat is a geocomposite void former comprising a cuspated high density polyethylene (HDPE) core bonded to a nonwoven polypropylene geotextile filter membrane. Visqueen Gas Vent Mat is 25mm thick and supplied in rolls 900mm x 50m

Usage

Visqueen Gas Vent Mat is designed to create a 25mm deep void beneath reinforced concrete ground floor slabs. Hazardous ground gases or volatile organic compounds (VOCs) are collected within the void and dispersed to atmosphere via a designed arrangement of Visqueen connectors and venting components, collectively managing and effectively diluting the collected gases.

Where high gas concentrations have been recorded the vent mat can be laid in a blanket format with the individual mats being butted together. Where the gas concentrations are low or where pressure relief is required the vent mat can be laid in a strip format with the mat being laid at predetermined spacings.

Features and benefits

- Large format rolls - rapid installation
- Less contaminated soil to be removed compared to pipe and gravel systems
- System achieves between 0.5 and 1.5 points in accordance with BS8485:2015 + A1:2019
- Range of system components - provides various methods of exhausting gases to atmosphere

Installation

Unroll Visqueen Gas Vent Mat in position. Turn over so that the geotextile filter membrane layer faces downwards i.e. towards the substrate.

When laid in a blanket format, all joints should be butted with the overlap strip of geotextile filter membrane extending beneath the adjacent vent mat.

When laid in strip format, end laps should be butted with the overlap strip of geotextile filter membrane, when present, extending beneath the adjacent vent mat.

Where necessary the vent mat can be cut around columns, pipes and other such penetrations.

For full installation instructions, please see product Technical Datasheet



System components

- Visqueen Venting Pipework and Connectors
- VisqueenPro Detailing Strip, 300mm x 10m, 500mm x 10m



Product description

Visqueen Gas Vent Mat is a geocomposite void former comprising a cusped high density polyethylene (HDPE) core bonded to a nonwoven polypropylene geotextile filter membrane. Visqueen Gas Vent Mat is 25mm thick and supplied in rolls 900mm x 50m

Usage

Visqueen Gas Vent Mat is designed to create a 25mm deep void beneath reinforced concrete ground floor slabs. Hazardous ground gases or volatile organic compounds (VOCs) are collected within the void and dispersed to atmosphere via a designed arrangement of Visqueen connectors and venting components, collectively managing and effectively diluting the collected gases.

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When laid in a blanket format, all joints should be butted with the overlap strip of geotextile filter membrane extending beneath the adjacent vent mat.

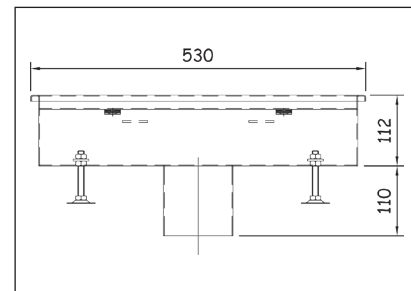
When laid in strip format, end laps should be butted with the overlap strip of geotextile filter membrane, when present, extending beneath the adjacent vent mat.

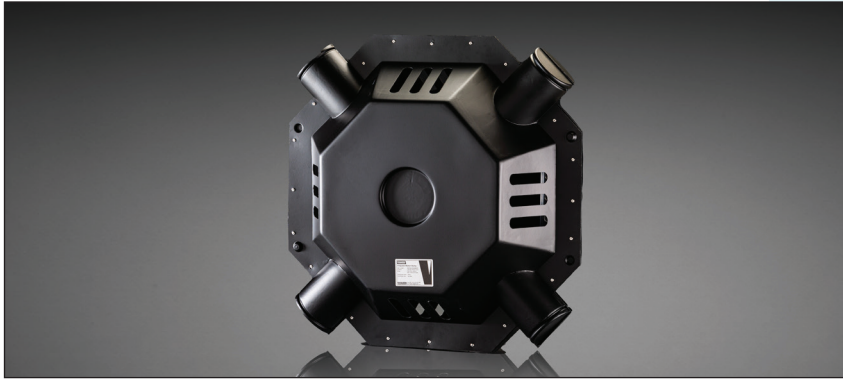
Where necessary the vent mat can be cut around columns, pipes and other such penetrations.

For full installation instructions, please see product Technical Datasheet

System components

- Visqueen Venting Pipework and Connectors
- VisqueenPro Detailing Strip, 300mm x 10m, 500mm x 10m





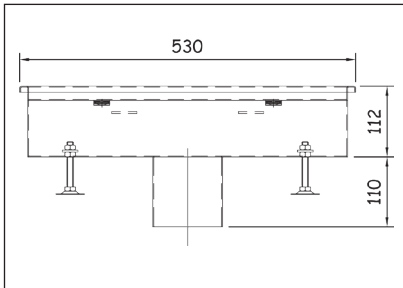
Installation

Remove the end of one of the four outlet ports on the Visqueen Radon Sump by cutting along the groove at the perimeter of the port with a fine toothed saw.

Position the sump in the base of the excavated pit and ensure it is level. Connect a 110mm diameter plastic pipe to the prepared outlet port of the sump. Extend the pipe horizontally so that it passes through the external wall. Ensure that all joints and couplings are airtight.

Backfill using a clean permeable material without excessive fines. Terminate the pipework just above ground level and approximately 100mm from the external face of the external wall. Cap off the pipe with an access plug. The pipe will then be ready to extend and vent if and when necessary. Provide an identification plate on the wall to indicate the presence of the Radon Pipe. Do not connect the Visqueen Radon Sump to any part of the drainage system.

For full installation instructions, please see product Technical Datasheet



System components

- Visqueen Venting Pipework and Connectors

Product description

Visqueen Radon Sump is a pre-fabricated sump unit manufactured from moulded black ABS plastic. The unit has four equidistant perimeter outlet ports, along with a central outlet port for vertical pipework installation.

The sump unit dimensions are 700mm x 700mm x 250mm high.

Usage

Visqueen Radon Sump is required when full radon protection has been identified. The sump can be used in solid ground floor concrete slab applications and ventilated sub floor void applications.

Depending on the permeability of the soil type, the sump can draw the harmful radon gas from a radius distance of approximately 7m i.e. providing protection to an area of approximately 150m².

In solid ground floor concrete slab applications, the sump should be positioned directly beneath the Visqueen radon membrane.

Features and benefits

- Provides sub-floor depressurisation when full radon protection is required
- Lightweight - easy to handle
- Multiple outlet ports



Product description

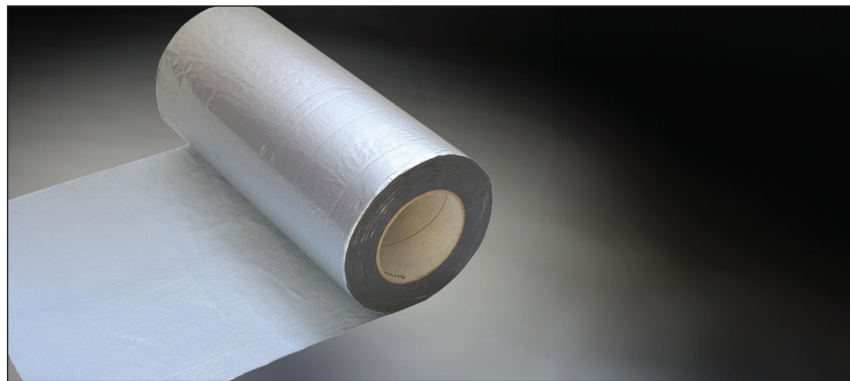
VisqueenPro Detailing Strip is a composite of PET/ aluminium and a high performance cold weather butyl compound. It is available in roll format, 300mm x 10m and 500mm x 10m.

Usage

VisqueenPro Detailing Strip is used for sealing junctions and complicated detailing in Visqueen gas protection systems, waterproofing systems, and damp proofing systems. It can be used on concrete, blockwork, brickwork, particle boards, steel work, steel stanchions and wooden substrates for both vertical and horizontal application.

Features and benefits

- Flexible - can be cut and shaped to various applications
- Multi-use - suitable for complex junctions, stanchions, patchwork and terminations
- Gas resistant aluminium core



Installation

Surfaces must be smooth and free from sharp protrusions, ensure the surface and working area is not water logged and is frost free.

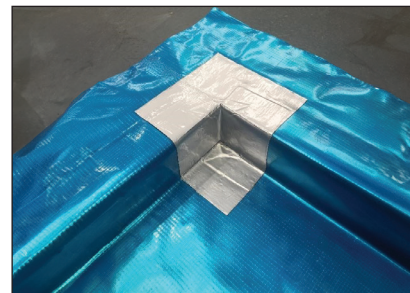
When applying to blockwork or brickwork the joints must be flush pointed. Prior to bonding, substrates such as masonry, concrete and steel should be primed using Visqueen HP Tanking Primer and allowed to dry thoroughly. Visqueen HP Tanking Primer must not be used on Insulation or ICF systems.

Position and peel back the VisqueenPro Detailing Strip release film and apply the pressure sensitive, self adhesive face to the prepared substrate. Apply pressure by rolling to ensure a full bond is achieved. All lap joints should be a minimum of 150mm and must be pressed and rolled to ensure damp, gas or waterproofing continuity. When used for sealing membranes punctures, VisqueenPro Detailing Strip should be lapped at least 150mm beyond the extents of the puncture.

For full installation instructions, please see product Technical Datasheet

System components

- Visqueen HP Tanking Primer, 5L





Notes

Structural Waterproofing



Structural Waterproofing Cavity Drain System

CM20
MEMBRANE

VISQUEEN

Product description

Visqueen CM20 Membrane is a 1mm thick high density polyethylene (HDPE) profiled sheet with approximate 20mm high studs. The membrane is supplied in large formats roll of 2m x 20m.

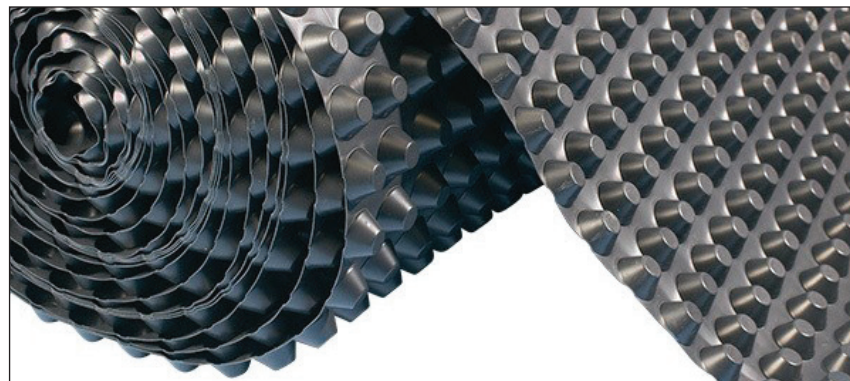
Usage

Type C waterproofing is defined in BS 8102:2022 as 'drained protection'. This is achieved by the incorporation of a drained cavity within the sub structure. The walls and floor must provide enough primary resistance to water ingress to ensure the cavity only accepts a controlled amount of water or dampness. Water is collected in the cavity, between the external wall/floor and an internal lining (cavity drain membrane), and diverted to a suitable drainage point.

The membrane can be used as an internally applied horizontal or vertical membrane as part of a Visqueen Cavity Drain System. The system is typically used for internally tanking basements, sub structures and retaining walls within new, existing and retrofit build projects.

Features and benefits

- Suitable for use as part of a Type C waterproofing protection system in accordance with BS 8102:2022
- Compliant with the requirements of NHBC Chapter 5.4 as a method of waterproofing protection
- Suitable for heritage buildings and conservation projects - causes little or no damage to the existing structure
- 1mm HDPE membrane - acts as a radon barrier
- Suitable for new and retrofit substructure walls, floors, vaults and tunnels



Installation

Begin at one side of the room and unroll the Visqueen CM20 Membrane against the wall membrane with the studs facing down onto the floor and cut the membrane to the desired length or width of the floor. Repeat until the lengths/widths required to cover the floor area have been cut allowing for a three stud membrane overlap.

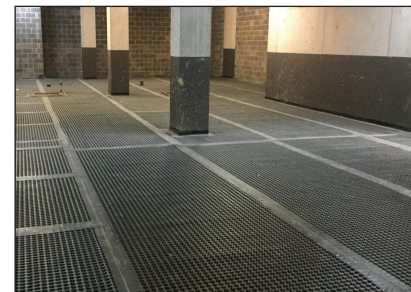
The individual sheets of membrane that have now been cut, are joined together with Visqueen CM Butyl Rope. The sealing rope is positioned between the three stud formations along the edge of the membrane to be overlapped. Remove the release paper.

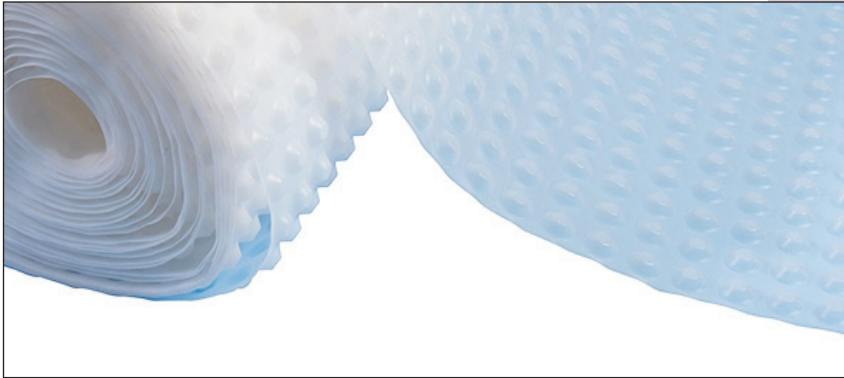
Lift the next sheet of membrane over the three interlocking studs and press the overlapping membrane down onto the sealing rope.

For full installation instructions, please see product Technical Datasheet

System components

- Visqueen Cavity Membrane System Components





Installation

Position the Visqueen CM8 Membrane on the wall and drill a 10 mm diameter hole through the centre of the stud into the wall. Take care when drilling holes to avoid excessive masonry dust from falling into the cavity. Place the Visqueen CM Brick Plug with seal washer into the hole and drive the fixing home with a wooden or rubber mallet. The seal must be compressed to function as a barrier against water ingress, and this should be visually checked as each plug is fixed. Spacings between these fixings will depend on the method of dry lining to be applied. When using preservative-treated timber battens the fixings should be kept to a maximum of 400 mm centres vertically and 600 mm horizontally. Proprietary metal fast track systems and independent frame systems will require fewer fixings, but sufficient number should be used to ensure that the membrane is reasonably tight to the wall, especially at corners.

For full installation instructions, please see product Technical Datasheet



System components

- Visqueen Cavity Membrane System Components

Product description

Visqueen CM8 Membrane is a 8mm studded cavity membrane formed from 0.45mm thick high density polyethylene (HDPE). The cavity membrane is translucent off-white in colour and supplied in rolls, 2m x 20m which includes an 85mm stud free overlap flange along the length of the roll.

Visqueen CM8HD Membrane is an 8mm studded high density variant that can be used as part of a radon protection system. The membrane is 2m x 20m.

Usage

Visqueen CM8 Membrane is used as an internally applied vertical membrane as part of a Visqueen cavity drainage system. However in areas where the design permits, the membrane is suitable for use for both horizontal and vertical substrates. The membrane system is used for damp proofing and internally waterproofing new or retrofit substructure build projects such as the walls (and floors where the design permits) of basements, vaulted ceilings, retaining walls, and tunnels.

The membrane system causes little or no damage to the existing structure making it suitable for heritage buildings and conservation projects.

Features and benefits

- Suitable for use as part of a Type C waterproofing protection system in accordance with BS 8102:2022
- Compliant with the requirements of NHBC Chapter 5.4 as a method of waterproofing protection
- Suitable for heritage buildings and conservation projects - causes little or no damage to the existing structure
- Suitable for new and retrofit substructure walls, floors, vaults and tunnels



Structural Waterproofing External Water Management

Product description

Visqueen Protect&Drain is a geocomposite void former comprising a cuspatated high density polyethylene (HDPE) core, bonded to a nonwoven polypropylene geotextile filter membrane. The product is supplied in rolls and available in the following three thicknesses; 6mm (970mm x 25m), 12mm (1m x 25m) and 25mm (900mm x 25m).

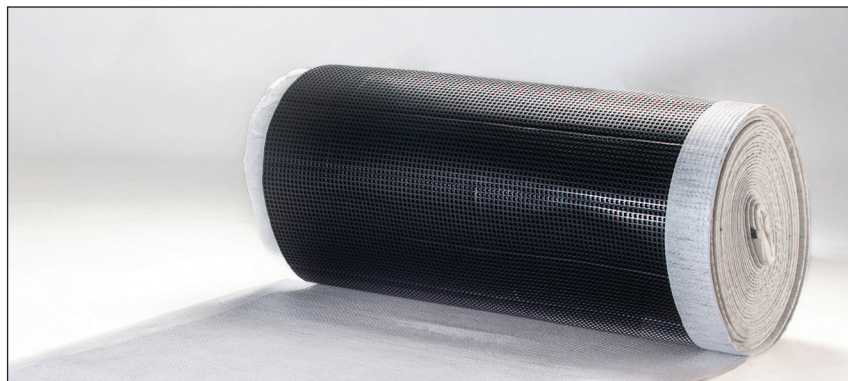
Usage

Visqueen Protect&Drain is used for below ground waterproofing applications where an externally applied Type A barrier membrane (tanking membrane) protection layer is required combined with an integral sub-surface drainage layer. The product forms a void to collect and transmit water into adjacent sub-surface drainage outlets or collector pipes and so reduce the risk of a head of water (hydrostatic pressure) forming against the structure.

Typical applications include use as part of a groundwater management system for slab edges, retaining walls, basement walls and lift pit walls. Product selection should be based on the groundwater risks highlighted in the site ground investigation report.

Features and benefits

- Provides a combined protection layer and drainage layer
- Range of thicknesses available - provides options for water flow capacity
- Large format rolls - rapid installation



Installation

Visqueen Protect&Drain is designed to be installed with the geotextile filter membrane facing the direction of the water flow i.e facing towards the backfill.

Unroll into position. The product can be installed as a series of abutting strips running across the face of the vertical substrate e.g. starting at the bottom and running left to right, or installed vertically on the substrate e.g. top to bottom.

The strips can be temporarily held in position using VisqueenPro Double Sided Jointing Tape.

The geotextile filter membrane extends beyond the width of the dimpled HDPE core at one side; this creates an overlap flap which should be secured to the adjacent strip with VisqueenPro Detailing Strip. Seal perimeter edges of installation with VisqueenPro Detailing Strip to prevent ingress of fines/soil.

For full installation instructions, please see product Technical Datasheet

System components

- VisqueenPro Double Sided Jointing Tape, 50mm x 10m
- VisqueenPro Detailing Strip, 300mm x 10m, 500mm x 10m





Installation

Visqueen Axiom Guard can be applied directly from the tin using a brush, or transferred to another suitable container and then applied by roller.

For concrete, brickwork, blockwork, timber and metal substrates apply 2 coats. Apply the first coat at a coverage rate of 0.75kg/m^2 , and the second coat at 0.75kg/m^2 . When used as a 2 coat system, a 20kg tin will cover approximately 13.3m^2 . Allow a minimum of 6 hours between application of coats.

Good ventilation is required to ensure adequate curing of the coating.

Long periods of exposure to ultraviolet light will reduce the effectiveness of the membrane. The membrane should be covered by a protective layer immediately after installation to prevent damage from following trades, ultraviolet light, etc.

For full installation instructions, please see product Technical Datasheet

System components

- Visqueen Axiom Primer, 4kg
- Visqueen IGW5 and IGW10 Waterstops



Product description

Visqueen Axiom Guard is a grey, single component liquid damp proof and waterproof membrane. It is supplied in 20kg tins.

Usage

Visqueen Axiom Guard is suitable for damp proofing applications including concrete floors and masonry wall constructions. The product is also suitable for waterproofing below ground concrete substructures including retaining walls, cast concrete, precast concrete and steelwork. The product is ideal for complex detailing and difficult to reach areas.

The product is not designed as a decorative coating.

The product can be used to achieve one form of waterproof for Grades 1, 2 and 3 as defined in BS 8102:2022.

Features and benefits

- Agrément certified - third party accreditation
- Type A Barrier Membrane (Tanking Membrane) - resistant to ground water in accordance with BS 8102:2022
- No mixing required - use straight from the tin
- Cures to form a flexible elastic coating
- Fully bonded system - self terminating at the perimeter of the installation
- Radon resistant - third party testing



Structural Waterproofing Liquids

Product description

Visqueen Axiom UniSeal is a two component system both supplied in the same tin with an overall product weight of 15.6kg. The first component (Part A) is a bitumen-extended polyurethane fluid (15kg). The second component (Part B) is an accelerator hardener (0.6kg).

Usage

Visqueen Axiom UniSeal is specially formulated for waterproofing below ground structures. It is suitable for complex shapes, irregular profiles and angle fillets. It can be used to seal pipe penetrations and steel stanchions and around steel reinforcement. It can also be used on various surfaces including steel, timber, plywood, bitumen membranes, concrete and masonry.

Visqueen Axiom UniSeal is a liquid waterproofing membrane which meets the requirements of BS8102:2022 for Grades 1, 2 and 3, and is classified as a fully bonded Type A membrane.

The product is not designed for use as a decorative finish and is not suitable for long periods of exposure to sunlight.

Features and benefits

- Agrément certified - third party accreditation
- Type A Barrier Membrane (Tanking Membrane) - resistant to ground water in accordance with BS 8102:2022
- Fully bonded system - self terminating at the perimeter of the installation
- Radon resistant - third party testing



Installation

The following tools are suitable for installation; scraper, gauging trowel, steel plasterers trowel and plasterers hawk. Tools can only be cleaned by scraping off the excess material. Using the appropriate tools, apply onto the substrate using the same principle as plastering. Areas that require fillets or complex detailing should be completed using an appropriate width scraper or gauging trowel.

Angle fillet coverage - in fillet applications the material should be at least 20mm thickness in the horizontal and vertical surfaces. Coverage is approximately 78 liner metres per 15.6kg tin.

Render coat coverage - when used as a 2.5mm thick render coat (minimum thickness), coverage is approximately 6.24m².

Once mixed, the product must be applied within one hour. The product cannot be resealed for later use.

For full installation instructions, please see product Technical Datasheet

System components

- Visqueen Protect&Drain
- Visqueen TreadGUARD 1500, 1m x 2m





Installation

Open the Visqueen Axiom Guard PRO drum and mechanically stir the contents at a slow speed for two minutes to ensure that all components are fully mixed.

Visqueen Axiom Guard PRO can be used straight from the drum. Apply a generous coat (approx. 80% of overall coverage) of Visqueen Axiom Guard PRO onto the substrate. Without delay, embed and dry roller the Visqueen Axiom Guard PRO Matting into the liquid product until the liquid is drawn through, then immediately apply a further coat of liquid product (approx. 20% of overall coverage) ensuring the matting is fully embedded and coated. Avoid any pinholes in the coating or ruckles in the matting. Matting overlaps to be minimum 50mm.

The whole area to be waterproofed must be coated as above to form a continuous seamless membrane.

For full installation instructions, please see product Technical Datasheet



System components

- Visqueen Axiom Guard PRO Matting
- Visqueen Axiom Guard PRO Topcoat

Product description

Visqueen Axiom Guard PRO is a polyurethane liquid-applied membrane.

The product is dark grey in colour and supplied in 15kg drums.

Usage

Visqueen Axiom Guard PRO is suitable for waterproofing below ground substructures including podium decks, retaining walls and lift pit walls. The product can be applied to a variety of substrates including cast concrete, precast concrete, flush pointed blockwork, flush pointed brickwork, and steelwork. It can be applied in both vertical and horizontal applications. The membrane can be used to achieve one form of waterproofing to Grades 1, 2 and 3 as defined in BS 8102:2022.

The product is also suitable for damp proofing applications including concrete floors, flush pointed masonry walls and wet rooms. The product can be applied to a variety of substrates including those listed above, and wet room tile backing boards.

When used in conjunction with Visqueen Axiom Guard PRO Topcoat, Visqueen Axiom Guard PRO is suitable for waterproofing balconies, terraces, walkways, bund walls, surfaces that are subject to total permanent immersion in water, and some flat roofing applications.

Features and benefits

- Agreement certified - third party accreditation
- Type A Barrier Membrane - resistant to ground water in accordance with BS 8102:2022
- UV resistant when used with Axiom Guard PRO Topcoat - suitable for exposed applications
- Moisture curing - can be applied to damp substrates and resistant to rain once applied
- Versatile - ideal for large areas and complex detailing



Structural Waterproofing Tanking Membranes

Product description

Visqueen Gas Resistant Self Adhesive Membrane

is a foil lined modified bitumen rubber membrane with a self adhesive coating protected by a removable polyethylene release film. The product is silver on the upper surface and supplied in rolls 1m x 20m.

Usage

Visqueen Gas Resistant Self Adhesive Membrane is a cold applied product, suitable for use as a Type A Barrier Membrane (Tanking Membrane) for above and below ground applications e.g. basements, retaining walls and lift pits.

It is also suitable for use in all types of buildings to prevent the ingress of harmful levels of ground gases e.g. methane, carbon dioxide and radon.

The membrane can be applied to a variety of substrates including concrete, blockwork, brickwork, particle boards and steelwork, in both vertical and horizontal applications.

The membrane can be used to achieve waterproofing to Grades 1, 2 and 3 as defined in BS 8102:2022.

Features and benefits

- BBA certified - third party accreditation
- Type A Barrier Membrane (Tanking Membrane) - resistant to ground water in accordance with BS 8102:2022
- Complies with the methane gas transmission rate, mass per unit area and thickness requirements of BS 8485:2015 + A1:2019 - industry standard for methane and carbon dioxide protection
- Also provides radon and damp proof membrane protection
- Self adhesive application - no jointing tapes required



Installation

Visqueen Gas Resistant Self Adhesive Membrane lap joints should be a minimum of 150mm and should be pressed and rolled to form a continuous bond and to ensure watertightness.

At 90 degree changes of direction a Visqueen Axiom UniSeal fillet should be formed prior to membrane installation. Substrates must be primed with Visqueen HP Tanking Primer.

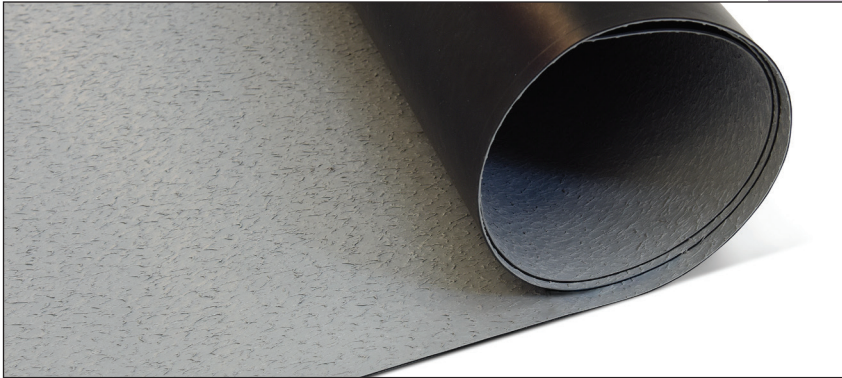
For vertical applications cut the membrane to a suitable length allowing an additional 150mm for laps. Position and peel back release film and apply the self adhesive face to the substrate. Apply pressure to ensure a full bond is achieved. Commence at the top of the wall and work downwards, progressively removing the release film.

For full installation instructions, please see product Technical Datasheet

System components

- Visqueen HP Tanking Primer, 5L
- Visqueen Ultimate Top Hat Units
- Visqueen TreadGUARD 1500, 1m x 2m
- Visqueen Protect&Drain
- Visqueen Pile Cap Sealer, 25kg
- Visqueen IGW5 and IGW10 Waterstops





Installation

Visqueen Pre Applied Membrane should be loose laid on horizontal substrates and pre-applied to vertical substrate with the grey textured side facing towards the wet cast concrete so that a key to the concrete can be achieved. The membrane has been designed to exhibit superior welding properties using hot wedge, hot air or extrusion welding, therefore onsite welding of all lap joints is recommended for all applications, and should be employed when hydrostatic water pressure is present.

Alternatively, when the membrane is used for damp proofing, radon protection and sites where hydrostatic water pressure is of low risk, lap joints can be bonded with Visqueen 100mm Double Sided Butyl Tape and then sealed with Visqueen NF-150 Lap Tape. When using tapes to secure laps, the overlap should be minimum 150mm and the membrane surfaces to be jointed should be dry and free from contamination such as dust or sand. Once the tapes are applied, the lap should be well rolled with a seam roller to ensure full adhesion and continuity.

For full installation instructions, please see product Technical Datasheet



System components

- Visqueen 100mm Double Sided Butyl Tape
- Visqueen NF-150 Lap Tape, 150mm x 10m
- Visqueen Ultimate Retaining Discs, 50mm long x 35mm head diameter x 500 per box
- Visqueen Top Hat Units
- VisqueenPro Detailing Strip, 300mm x 10m, 500mm x 10m
- Visqueen IGW5 and IGW10 Waterstops

Product description

Visqueen Pre Applied Membrane is a 1mm thick, robust co-extruded waterproofing membrane. It is coloured grey on the upper surface and black on the reverse. The grey surface is textured to aid adhesion to cast concrete.

The membrane is supplied in single wound rolls (not folded), 2.44m x 20.5m.

Usage

Visqueen Pre Applied Membrane is a pre-applied fully bonded Type A Barrier Membrane (Tanking Membrane) for use with below ground reinforced concrete structures e.g. basements, retaining walls, lift pits and car parks.

The pre-applied membrane can be used to achieve waterproofing to Grades 1, 2 and 3 as defined in BS 8102:2022.

Features and benefits

- Agrément certified - third party accreditation
- Type A Barrier Membrane (Tanking Membrane) - resistant to ground water in accordance with BS 8102:2022
- High resistance to impact compared to standard Visqueen DPMs - greatly reduces risk of barrier becoming damaged during the build process
- Also provides radon and damp proof membrane protection
- Dual jointing methods - depending on specification, lap joints can be taped or heat welded



Structural Waterproofing Tanking Membranes

TORCHON TANKING
MEMBRANE

VISQUEEN

Product description

Visqueen TorchOn Tanking Membrane is a modified bitumen rubber tanking membrane. It has a sanded finish to the top surface and a heat dispersible film on the underside. The roll is supplied 1m x 8m.

Usage

Visqueen TorchOn Tanking Membrane is a heat bonded product, suitable for use as a Type A Barrier Membrane (Tanking Membrane) for above and below ground applications e.g. basements, retaining walls and lift pits.

When applied as a two layer system the product is suitable for waterproofing podium decks.

It is also suitable for use in all types of buildings to prevent the ingress of harmful levels of ground gases e.g. methane, carbon dioxide and radon.

The membrane can be applied to a variety of substrates including concrete, blockwork, brickwork and steelwork, in both vertical and horizontal applications.

The membrane can be used to achieve waterproofing to Grades 1, 2 and 3 as defined in BS 8102:2022.

Features and benefits

- BBA certified - third party accreditation
- Type A Barrier Membrane (Tanking Membrane) - resistant to ground water in accordance with BS 8102:2022
- Complies with the methane gas transmission rate, mass per unit area and thickness requirements of BS 8485:2015 + A1:2019 - industry standard for methane and carbon dioxide protection
- Also provides radon and damp proof membrane protection
- Heat bonded application - no jointing tapes required
- Heat bonded application - ideal for cold and damp conditions



Installation

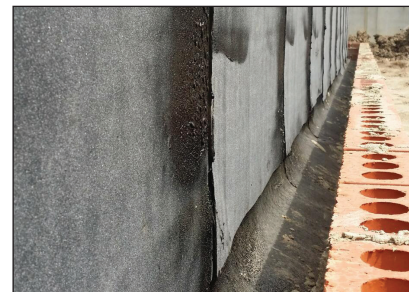
Visqueen TorchOn Tanking Membrane side and end laps to be minimum 150mm. All lap joints should be fully bonded; a bead of bitumen should extrude from the joint.

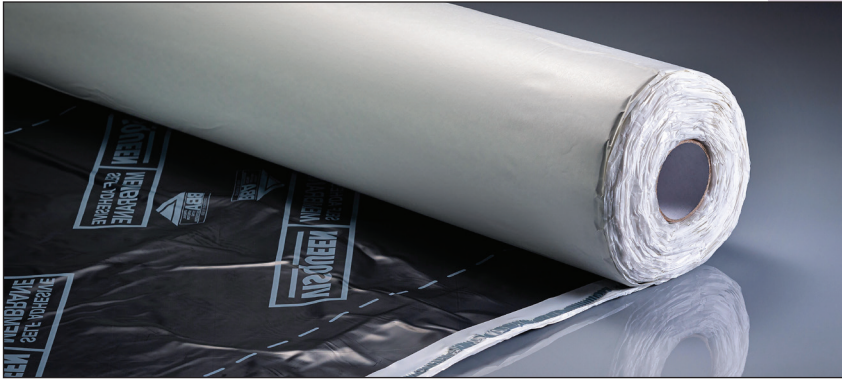
The membrane must be fully bonded to the prepared substrate using the gas torch-on technique. For horizontal work, an approximate 500mm neck tube and 50mm diameter propane gas burner should be used and for vertical and detailing work, an approximate 200mm neck tube and 35mm diameter propane gas burner is appropriate. During bonding, ensure that a constant flow of bitumen is maintained across the full width of the roll and that a bead of bitumen is extruded from each edge demonstrating that a correct seal has been obtained.

For full installation instructions, please see product Technical Datasheet

System components

- Visqueen HP Tanking Primer, 5L
- Visqueen TreadGUARD 1500, 1m x 2m
- Visqueen Protect&Drain
- VisqueenPro Detailing Strip, 300mm x 10m, 500mm x 10m
- Visqueen Pile Cap Sealer, 25kg
- Visqueen IGW5 and IGW10 Waterstops





Product description

Visqueen Self Adhesive Membrane is a modified bitumen rubber membrane with a self adhesive coating protected by a removable polyethylene release film. It is dark grey on the upper surface and supplied in rolls 1m x 20m.

Usage

Visqueen Self Adhesive Membrane is a cold applied product, suitable for use as a Type A Barrier Membrane (Tanking Membrane) for above and below ground applications e.g. basements, retaining walls and lift pits. The membrane can be applied to a variety of substrates including concrete, blockwork, brickwork, particle boards and steelwork, in both vertical and horizontal applications.

The membrane can be used to achieve waterproofing to Grades 1, 2 and 3 as defined in BS 8102:2022.

Features and benefits

- BBA certified - third party accreditation
- Type A Barrier Membrane (Tanking Membrane) - resistant to ground water in accordance with BS 8102:2022
- Also provides radon and damp proof membrane protection
- Self adhesive application - no jointing tapes required

Installation

Visqueen Self Adhesive Membrane lap joints should be a minimum of 150mm and should be pressed and rolled to form a continuous bond and to ensure watertightness.

At 90 degree changes of direction a Visqueen Axiom UniSeal fillet should be formed prior to membrane installation. Substrates must be primed with Visqueen HP Tanking Primer.

For vertical applications cut the membrane to a suitable length allowing an additional 150mm for laps. Position and peel back release film and apply the self adhesive face to the substrate. Apply pressure to ensure a full bond is achieved. Commence at the top of the wall and work downwards, progressively removing the release film.

For full installation instructions, please see product Technical Datasheet



System components

- Visqueen HP Tanking Primer, 5L
- Visqueen Top Hat Units
- Visqueen TreadGUARD 1500, 1m x 2m
- Visqueen Protect&Drain
- Visqueen Pile Cap Sealer, 25kg
- Visqueen IGW5 and IGW10 Waterstops



Structural Waterproofing Tanking Membranes

Product description

Visqueen Ultimate Geoseal is a 1mm thick, robust pre-applied waterproofing barrier. It is coloured grey on the upper surface and black on the reverse.

The grey surface is textured to aid adhesion to cast concrete.

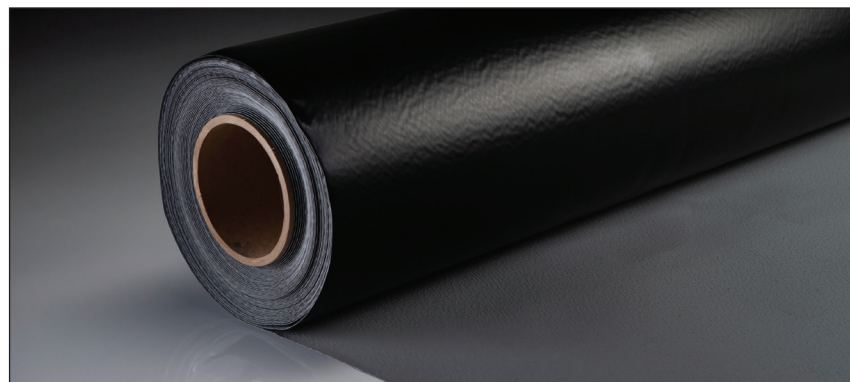
The barrier is supplied in single wound rolls (not folded), 2.44m x 20.5m.

Usage

Visqueen Ultimate GeoSeal is a pre-applied fully bonded Type A Barrier Membrane (Tanking Membrane) for use with below ground reinforced concrete structures e.g. basements, retaining walls, lift pits and car parks. The barrier also prevents the ingress of harmful levels of volatile organic compounds (VOCs) and hazardous ground gases.

Features and benefits

- Agrément certified - third party accreditation
- Complies with NHBC Foundation's NF94 guidance for use in Type B and Type C membrane locations
- Complies with CIRIA C748:2014 - industry standard for volatile organic compounds (VOC) protection
- Complies with the methane gas transmission rate, mass per unit area and thickness requirements of BS 8485:2015 + A1:2019 - industry standard for methane and carbon dioxide protection
- Type A Barrier Membrane (Tanking Membrane) - resistant to ground water in accordance with BS 8102:2022
- High resistance to impact compared to standard Visqueen DPMs - greatly reduces risk of barrier becoming damaged during the build process
- Also provides radon and damp proof membrane protection
- Dual jointing methods - depending upon specification, lap joints can be taped or heat welded



Installation

Visqueen Ultimate GeoSeal should be loose laid on horizontal substrates and pre-applied to vertical substrate with the grey textured side facing towards the wet cast concrete so that a key to the concrete can be achieved.

The barrier has been designed to exhibit superior welding properties using hot wedge, hot air or extrusion welding, therefore onsite welding of all lap joints is recommended for all applications, and should be employed when hydrostatic water pressure or hydrocarbon/VOC contamination is present.

Alternatively, when the barrier is used for damp proofing, ground gas protection and sites where hydrostatic water pressure or hydrocarbon/VOC contamination is of low risk, lap joints can be bonded with Visqueen 100mm Double Sided Butyl Tape and sealed with Visqueen NF-150 Lap Tape.

For full installation instructions, please see product Technical Datasheet

System components

- Visqueen 100mm Double Sided Butyl Tape 100mm x 15m
- Visqueen NF-150 Lap Tape, 150mm x 10m
- Visqueen Ultimate Retaining Discs, 50mm long x 35mm head diameter x 500 per box
- Visqueen Ultimate Top Hat Units
- VisqueenPro Detailing Strip, 300mm x 10m, 500mm x 10m





Product description

Visqueen IGW Admix is a crystalline waterproofing admixture powder consisting of a blend of specially selected chemicals. The Admix is suitable for CEM1 (100% cement content), CEM2 (up to 35% cement replacement), and GGBS (up to 70% cement replacement) mixes. When combined with ready mix concrete at batching plant, it produces a crystalline reaction which enhances water resistance and durability of the cured concrete. The product is available in a tub consisting of six 4.1 kg soluble bags and used in the ratio of one 4.1kg bag for each 1m³ of concrete.

Usage

Visqueen IGW Admix is used to provide Type B watertight concrete protection in accordance with BS 8102:2022. Typically the product is used in reinforced concrete basement walls and floors.

When used as a combined system in accordance with BS 8102, the Type B watertight concrete is used in conjunction with a Type A barrier membrane such as Visqueen Pre Applied Membrane and/or a Type C cavity drain system such as Visqueen V8 and V20 Cavity Drain System.

Features and benefits

- Crystalline growth - provides continuous protection for the lifetime of the concrete structure
- Reduces water penetration - reduced permeability when compared to an equivalent plain concrete
- Improves reinforcement protection - enhanced resistance to reinforcement corrosion when compared with an equivalent plain concrete

Installation

Installation must be in accordance with BBA certificate 20/5783. Visqueen IGW Admix is used in the ratio of one 4.1kg bag for each 1m³ of concrete.

Ready Mix Plant - add the Visqueen IGW Admix soluble bag and contents to water e.g. approximately 2 bags (8.2kg) of admix mixed with 10L of water. Pour the required amount of material into the drum of the ready-mix truck. The aggregate, cement and water should be batched and mixed in the plant in accordance with standard practices (taking into account the quantity of water that has already been placed in the ready-mix truck). Pour the concrete into the truck and mix for at least 5 minutes to ensure even distribution of the admix throughout the concrete.

For full installation instructions, please see product Technical Datasheet

System components

- Visqueen IGW5 and IGW10 Waterstops
- Visqueen IGW Pipe Strap
- Visqueen Waterstop Adhesive, 310ml cartridge



Structural Waterproofing Waterstops

Product description

Visqueen IGW5 and IGW10 Waterstops are swellable hydrophilic polymer waterstops. Manufactured from thermoplastic synthetic rubber, the products are lightweight and highly flexible. Both products are coloured blue for ease of recognition. Visqueen IGW5 Waterstop is supplied in 10m long strips, 20mm wide and 5mm high. There are 5 strips per box (50m total).

Visqueen IGW10 Waterstop is supplied in 10m long strips, 20mm wide and 10mm high. There are 7 strips per box (70m total).

Usage

Visqueen IGW5 and IGW10 Waterstop are used to block the passage of ground water at construction joints and day-joints in poured in-situ below ground concrete structures which are 175mm wide or wider e.g. retaining walls.

For concrete thicknesses between 175mm and 300mm, use Visqueen IGW5 Waterstop. For concrete thicknesses wider than 300mm, use Visqueen IGW10 Waterstop.

The waterstops are not intended for use in expansion joints. For salt water or contaminated water applications, contact Visqueen Technical Services +44 (0) 333 202 6800.

Features and benefits

- Agreement certified - third party accreditation
- Suitable for both horizontal and vertical construction joints
- Inbuilt activation delay - suitable for use in wet weather conditions
- Visqueen Waterstop Adhesive eliminates the need for mechanical fixings



Installation

Visqueen IGW5 and IGW10 Waterstops should not be mechanically fixed. Bed the 20mm wide face of the waterstops on an approximate 10mm continuous bead of Visqueen Waterstop Adhesive and press firmly into position. When applying the adhesive, the bead should be sufficient to level any minor roughness in the substrate and extrude slightly from either side of the waterstop when pressed into position. Application of the waterstop must be completed within 90 minutes of applying the adhesive.

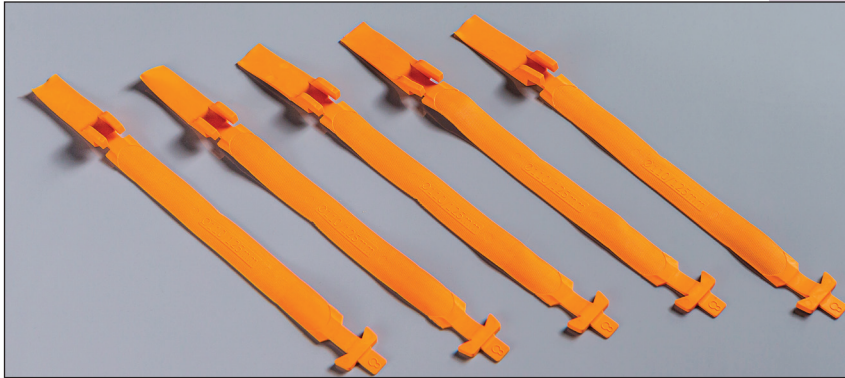
The waterstop should be positioned centrally between the inner and outer rows of reinforcing bars ensuring a minimum of 75 mm concrete coverage of the waterstop at all edges.

At ends and junctions, closely butt joint the waterstop and apply a 10mm bead of adhesive over the butt joint to seal the junction.

For full installation instructions, please see product Technical Datasheet

System components

- Visqueen Waterstop Adhesive, 310ml



Installation

Refer to Visqueen drawing IGW-PS-01.

Extend the pipe strap around the pipe and interlock the crossed end of the strap into the toothed recess. Ensure that the strap is tight against the pipe and that the tail end of the strap lies flat against the pipe and is not twisted or folded.

Once applied, pour concrete over the exposed pipe strap within 48 hours. Prior to pouring the concrete, the pipe strap should be inspected for damage and premature swelling. Damaged and/or swollen product must be replaced at this stage.

When pouring the concrete, compact well around the pipe strap taking particular care not to dislodge or damage the product during the process.

For full installation instructions, please see product Technical Datasheet



Product description

Visqueen IGW Pipe Strap is a swellable hydrophilic polymer waterstop. Manufactured from thermoplastic synthetic rubber, the product is lightweight and highly flexible. The strap is coloured orange for ease of recognition.

Visqueen IGW Pipe Strap is supplied in packs of 5 straps.

Usage

Visqueen IGW Pipe Strap is specifically designed for sealing around pipework positioned in below ground cast in-situ concrete structures. The product blocks the passage of ground water at the pipe-concrete interface.

For salt water or contaminated water applications, contact Visqueen Technical Services +44 (0) 333 202 6800.

Features and benefits

- Agreement certified - third party accreditation
- Versatile - suitable for 110mm to 125mm outside diameter pipework
- Inbuilt activation delay - suitable for use in wet weather conditions
- No tools required for installation



Structural Waterproofing Pile Cap Sealer

Product description

Visqueen Pile Cap Sealer is a grey cementitious compound containing portland cement, graded quartz sands, aggregates and chemical additives. It is available in 25kg tubs.

Usage

Visqueen Pile Cap Sealer is used to make the concrete surface waterproof for waterproofing Grades 1, 2 and 3 in accordance to BS8102:2022. It can be used on concrete piles, exposed pile cap rebar, ground beams or concrete junctions as a link between membranes, or it can be used as a standalone waterproof system. It is also used where traditional membranes are not suitable. Visqueen Pile Cap Sealer can be applied internally and externally and is suitable in compressed load applications such as a piled cap to concrete slab junctions.

Features and benefits

- Cementitious material
- Creates a continuous watertight seal through concrete pile cap junctions



Installation

Please do not pour the water into the powder. The powder is added into a bucket of water at the ratios stated below.

Visqueen Pile Cap Sealer should be mixed with water at the following ratio by volume:

4 parts Visqueen Pile Cap Sealer

1 part clean water

Apply Visqueen Pile Cap Sealer to the full area of the pile cap including minimum 100mm vertically.

Mechanically mix Visqueen Pile Cap Sealer at an approximate ratio of 4:1 with clean water by volume by adding the powder into the water. Coverage rate is 1.5kg/m². This can be achieved by applying either one coat or two (2 x 0.75 kg/m²). The second coat should be applied whilst the first coat is still green.

For full installation instructions, please see product Technical Datasheet



Notes

Damp Proof Courses



Damp Proof Courses Cavity Tray Systems

Product description

Visqueen Zedex CPT High Performance Damp Proof Course (DPC) is a black, flexible 0.8mm co-polymer thermoplastic (CPT) damp proof course and cavity tray system.

It is manufactured from a mixture of thermoplastic polymers and additives including elastomers.

It is supplied in 20m length rolls and various widths from 100mm to 1400mm including 450mm and 600mm.

Usage

Visqueen Zedex CPT High Performance Damp Proof Course is suitable for installation in internal walls to prevent rising damp. The DPC is also suitable for installation in external cavity walls with a masonry outer leaf, including walls with a light gauge steel frame, structural timber frame or masonry inner leaf. The DPC is suitable for residential, commercial and multi storey buildings.

The DPC can be site formed into built-in or surface fixed cavity trays to manage the downward passage of water in cavity wall applications. The DPC is also suitable for use as a gas DPC for NHBC Amber 1 conditions or where radon gas exists.

Features and benefits

- BBA certified - third party accreditation
- Assessed in accordance with Technical Requirement R3 - conforms to NHBC requirements and suitable for NHBC sites
- Gas resistant - part of the Visqueen Low Permeability Gas Membrane system to provide gas protection to NHBC Amber 1
- Used in conjunction with the Visqueen Radon membranes to provide radon protection
- Widths from 100mm to 1400mm
- Visqueen Preformed Units available - simplifies complex or awkward detailing



Installation

When built into a masonry wall construction Visqueen Zedex CPT High Performance Damp Proof Course should be installed on an even bed of wet mortar, and any perforations in adjacent courses of masonry should be completely filled with mortar. To ensure mortar adhesion, as soon as possible after laying the DPC, lay at least one further course of masonry including a bed of mortar. If positioned on the sleeper walls below a suspended ground floor e.g. beam and block floor system, the DPC can be dry laid, however all sharp protrusions must be removed from the substrate. The DPC must extend through the full thickness of the masonry wall, including pointing, applied rendering or other facing materials.

When used as a site formed cavity tray, the DPC can be either built-in to the inner leaf or surface fixed to the cavity face of the inner leaf.

For full installation instructions, please see product Technical Datasheet

System components

- Visqueen 100mm Double Sided Butyl Tape, 100mm x 15m
- Visqueen HP Tanking Primer, 5L
- Visqueen Zedex DPC Surface Fixing System
- Visqueen Preformed Units
- Visqueen DPC Joint Support
- VisqueenPro Detailing Strip, 300mm x 10m, 500mm x 10m





Installation

When built into a masonry wall construction Visqueen Zedex High Bond Damp Proof Course should be installed on an even bed of wet mortar, and any perforations in adjacent courses of masonry should be completely filled with mortar. To ensure mortar adhesion, as soon as possible after laying the DPC, lay at least one further course of masonry including a bed of mortar. Where the specification requires, the DPC can be fully heat bonded to the primed substrate. The DPC must extend through the full thickness of the masonry wall, including pointing, applied rendering or other facing materials.

When used as a site formed cavity tray, the DPC can be either built-in to the inner leaf or surface fixed to the cavity face of the inner leaf.

For full installation instructions, please see product Technical Datasheet



System components

- Visqueen 100mm Double Sided Butyl Tape, 100mm x 15m
- Visqueen HP Tanking Primer, 5L
- Visqueen Zedex DPC Surface Fixing System
- VisqueenPro Detailing Strip, 300mm x 10m, 500mm x 10m

Product description

Visqueen Zedex High Bond Damp Proof Course

is a DPC and cavity tray system manufactured with a polyester reinforced carrier, rubber modified bituminous coating and surfaced on both sides with a fine silica sand. It is supplied in 8m length rolls and the following widths: 450mm, 600mm and 1000mm.

Usage

Visqueen Zedex High Bond Damp Proof Course is suitable for masonry applications including residential and commercial up to and including three storey buildings. It can be site formed into a built-in or surface fixed cavity tray to manage the downward passage of water in cavity wall applications. It can also be used on sleeper walls below a ground floor construction e.g. beam and block floor system.

Due to its superior mortar adhesion, the DPC is ideal for use on buildings where a low imposed load occurs but a high mortar bond is required e.g. parapet walls, beneath masonry coping or capping. The DPC reduces the risk of masonry slippage due to poor mortar adhesion.

Features and benefits

- Manufactured in excess of British Standard 6398
- Sand surfaced product - used where low compressive load applications occur
- Heat bonded material - suitable to form complex or awkward detailing on site
- Modified bituminous coating - laps can be tape bonded or heat bonded



Damp Proof Courses Cavity Tray Systems

Product description

Visqueen Zedex Housing Grade Damp Proof Course (DPC) is a black, flexible 0.6mm damp proof course and cavity tray system. It is supplied in 20m length rolls and the following widths: 100mm, 112.5mm, 150mm, 225mm, 300mm, 337.5mm, 450mm, 600mm, 750mm and 900mm.

Usage

Visqueen Zedex Housing Grade Damp Proof Course is designed for residential buildings up to and including 3 storeys high. The DPC is suitable for installation in internal walls to prevent rising damp. The DPC is also suitable for installation in external cavity walls with a masonry outer leaf, including walls with a light gauge steel frame, structural timber frame or masonry inner leaf. The DPC can be site formed into built-in or surface fixed cavity trays to manage the downward passage of water in cavity wall applications. The DPC can also be used on sleeper walls below a ground floor construction e.g. beam and block floor system.

Features and benefits

- BBA certified - third party accreditation
- Assessed in accordance with Technical Requirement R3 - conforms to NHBC requirements and suitable for NHBC sites
- Widths from 100mm to 900mm
- Visqueen Preformed Units available - simplifies complicated junctions e.g. cavity tray corners



Installation

When built into a masonry wall construction Visqueen Zedex Housing Grade Damp Proof Course should be installed on an even bed of wet mortar, and any perforations in adjacent courses of masonry should be completely filled with mortar. To ensure mortar adhesion, as soon as possible after laying the DPC, lay at least one further course of masonry including a bed of mortar. If positioned on the sleeper walls below a suspended ground floor e.g. beam and block floor system, the DPC can be dry laid, however all sharp protrusions must be removed from the substrate. The DPC must extend through the full thickness of the masonry wall, including pointing, applied rendering or other facing materials.

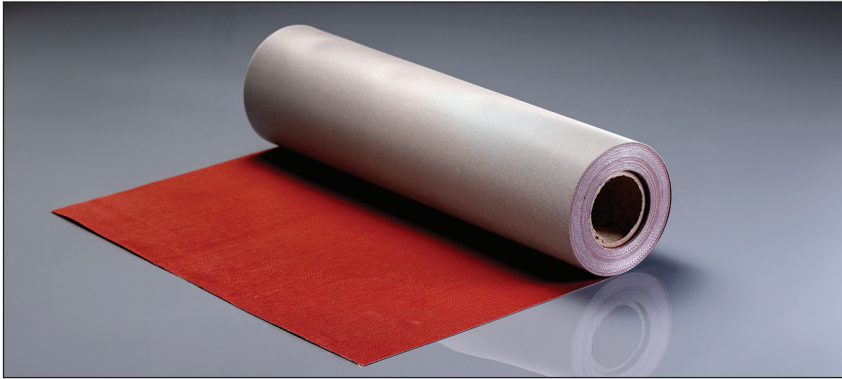
When used as a site formed cavity tray, the DPC can be either built-in to the inner leaf or surface fixed to the cavity face of the inner leaf.

For full installation instructions, please see product Technical Datasheet

System components

- Visqueen 100mm Double Sided Butyl Tape, 100mm x 15m
- Visqueen HP Tanking Primer, 5L
- Visqueen Zedex DPC Surface Fixing System
- Visqueen Preformed Units
- VisqueenPro Detailing Strip, 300mm x 10m, 500mm x 10m





Installation

Visqueen Zedex Non-Combustible DPC must be installed with the red surface facing upwards or outwards i.e. facing towards the direction of moisture penetration.

When surface fixing the preformed units to weather defence boards, they should be permanently secured to the inner leaf substrate using 12mm shank austenitic stainless steel staples at 150mm centres.

When surface fixing the preformed units to concrete, masonry, etc., they should be permanently secured to the inner leaf substrate using Visqueen Non-Combustible Fixing Strip and stainless steel fixings suitable for the substrate.

When used as a site formed cavity tray, the DPC can be either built-in to the inner leaf or surface fixed to the cavity face of the inner leaf depending upon the type of wall construction.

For full installation instructions, please see product Technical Datasheet



System components

- Visqueen Zedex Mastic, 380ml
- Visqueen Non-Combustible Fixing Strip, 1240mm long, 17 strips per pack
- Visqueen Non-Combustible Preformed Units
- Visqueen DPC Joint Support
- Visqueen Zedex Non-Combustible Flexi Preformed Units

Product description

Visqueen Zedex Non-Combustible Damp Proof Course (DPC) achieves a reaction to fire classification A2 - s1, d0. The product is compliant with the requirements of The Building Regulations 2010 (England and Wales) (as amended) and The Building (Scotland) Regulations 2004 (as amended).

The DPC is a flexible 0.6mm composite damp proof course and cavity tray system. It is supplied in 20m length rolls and the following standard widths: 100mm, 150mm, 225mm, 300mm, 450mm, 500mm, 600mm, 700mm, 800mm and 900mm.

Usage

Visqueen Zedex Non-Combustible Damp Proof Course and cavity tray is designed for cavity wall constructions including those with a structural framing system inner leaf and a masonry outer leaf, in residential, commercial and multi-storey buildings.

The product is used where a DPC or DPC cavity tray is required to achieve a reaction to fire classification A2 - s1, d0 to BS EN 13501-1:2018.

Care should be taken by the Designer to ensure suitability for applications other than those stated above. Visqueen Zedex NonCombustible DPC should be approved by all stakeholders prior to use.

Features and benefits

- Achieves a reaction to fire classification A2 - s1, d0 to BS EN 13501-1:2018 by Warrington Fire - compliant with UK Building Regulations
- Flexible preformed corner units available - Visqueen Zedex Non-Combustible Flexi PFUs
- Range of system components - Visqueen Non-Combustible Fixing Strip and DPC Joint Supports available



Damp Proof Courses Cavity Tray Systems

Product description

Visqueen Ultimate Gas DPC is a 0.5mm thick, flexible 7 layer co-extruded film providing volatile organic compound (VOC) and ground gas resistance.

The DPC has an embossed/debossed finish, is coloured gold/white and can be installed with either surface facing upwards.

It is supplied in 20m length rolls and the following widths as standard: 500mm, 600mm, 750mm and 900mm.

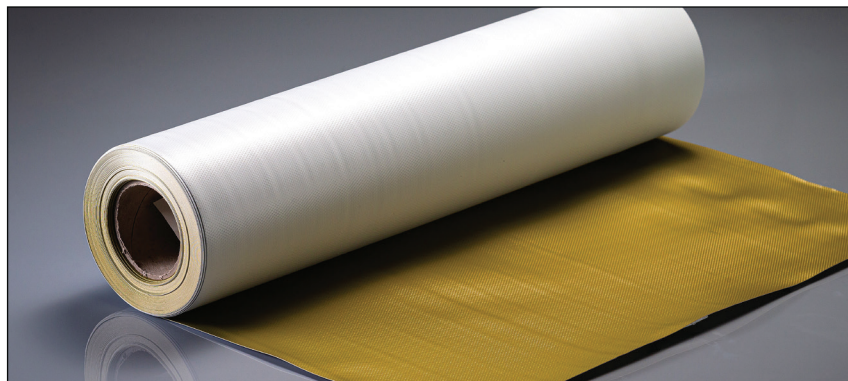
Usage

Visqueen Ultimate Gas Damp Proof Course is suitable for installation in external cavity walls with a masonry outer leaf, including walls with a light gauge steel frame, structural timber frame or masonry inner leaf. The DPC is suitable for residential, commercial and multi storey buildings. It can be site formed into a built-in or surface fixed cavity tray to manage the downward passage of water in cavity wall applications.

The DPC is used to prevent harmful volatile organic compounds (VOCs) and hazardous ground gases from entering into the cavity from the ground or entering the building via internal walls. The DPC is also suitable for use on NHBC Amber 1 and 2 sites or where radon gas exists. It can also be used on sleeper walls below a ground floor construction e.g. beam and block floor system.

Features and benefits

- Complies with CIRIA C748:2014 - industry standard for volatile organic compounds (VOC) protection
- Complies with the methane gas transmission rate, mass per unit area and thickness requirements of BS 8485:2015 + A1:2019 - industry standard for methane and carbon dioxide protection
- Provides protection against radon, carbon dioxide, methane and VOCs
- Dual jointing methods - depending on specification, lap joints can be taped or heat welded
- Visqueen Ultimate Preformed Units available - simplifies complicated detailing e.g. corners



Installation

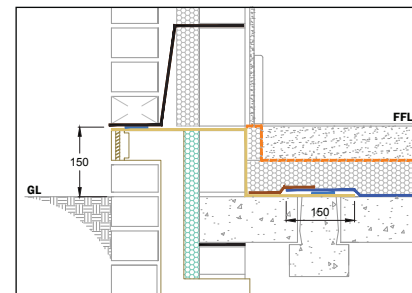
When built into a masonry wall construction the DPC should be installed on an even bed of wet mortar, and any perforations in adjacent courses of masonry should be completely filled with mortar. To ensure mortar adhesion, as soon as possible after laying the DPC, lay at least one further course of masonry including a bed of mortar. If positioned on the sleeper walls below a suspended ground floor e.g. beam and block floor system, the DPC can be dry laid, however all sharp protrusions must be removed from the substrate. The DPC must extend through the full thickness of the masonry wall, including pointing, applied rendering or other facing materials.

When used as a site formed cavity tray, the DPC can be either built-in to the inner leaf or surface fixed to the cavity face of the inner leaf.

For full installation instructions, please see product Technical Datasheet

System components

- Visqueen 100mm Double Sided Butyl Tape, 100mm x 15mm
- Visqueen Zedex DPC Surface Fixing System
- Visqueen Ultimate Preformed Units
- Visqueen DPC Joint Support
- Visqueen HP Tanking Primer, 5L





Product description

Visqueen Zedex Non-Combustible Flexi Preformed

Units are manufactured from Visqueen Zedex Non-Combustible DPC. The range consists of surface fixed (face fixed) external and internal 90 degree corner units with a 150mm vertical rise and 100mm vertical fixing flange. The innovative design allows each unit to be suitable for an approximate 50mm cavity width variance when incorporated into a brickwork outer leaf.

External and internal surface fixed units are available for the following cavity width ranges: 40-100mm, 100-150mm, 150-200mm, 200-250mm, and 250-300mm.

NB. Cavity width is measured from the cavity face of the inner leaf e.g. weather defence board, to the cavity face of the masonry outer leaf. The units are rolled up, individually wrapped and supplied 4 per box.

Usage

Visqueen Zedex Non-Combustible Flexi Preformed Units are specifically designed for use with a surface fixed, sloping Visqueen Zedex Non-Combustible DPC cavity tray with a 150mm vertical rise between the outer and the inner leaf. This cavity tray profile is shown in Visqueen drawing DPC-ZXNC-03. The units are designed to fit a 90 degree masonry corner.

Features and benefits

- Off-the-shelf surface fixed external and internal 90 degree corner units - reduced lead times
- Off-site factory manufactured - reduces the risk of water ingress
- Flexible 90 degree corner units - provides an allowance for site tolerances
- Corner units designed for approx. 50mm variance in cavity widths - each unit suitable for cavity widths within a specific range

Installation

Visqueen Zedex Non-Combustible Flexi Preformed Units must be installed with the red surface facing upwards or outwards i.e. facing towards the direction of moisture penetration. NB During installation, internal corner units must be manipulated so that the red surface faces upwards or outwards.

The preformed units are designed to be surface fixed (face fixed) to the inner leaf and allow for a 150mm vertical rise in the cavity tray profile. When surface fixing the preformed units to weather defence boards, they should be permanently secured to the inner leaf substrate using 12mm shank austenitic stainless steel staples at 150mm centres.

When surface fixing the preformed units to concrete, masonry, etc., they should be permanently secured to the inner leaf substrate using Visqueen Non-Combustible Fixing Strip and stainless steel fixings suitable for the substrate.

For full installation instructions, please see product Technical Datasheet



System components

- Visqueen Zedex Mastic, 380ml
- Visqueen Non-Combustible Fixing Strip, 1240mm long, 17 per pack
- Visqueen DPC Joint Support



Damp Proof Courses Preformed Cavity Tray Units

Product description

Visqueen Non-Combustible Preformed Units

are factory manufactured, made to order, three dimensional shapes. The units are manufactured as standard from stainless steel to BS EN 10088 grade 1.4301 (BS 1449 grade 304). Other stainless steel grades are also available.

Usage

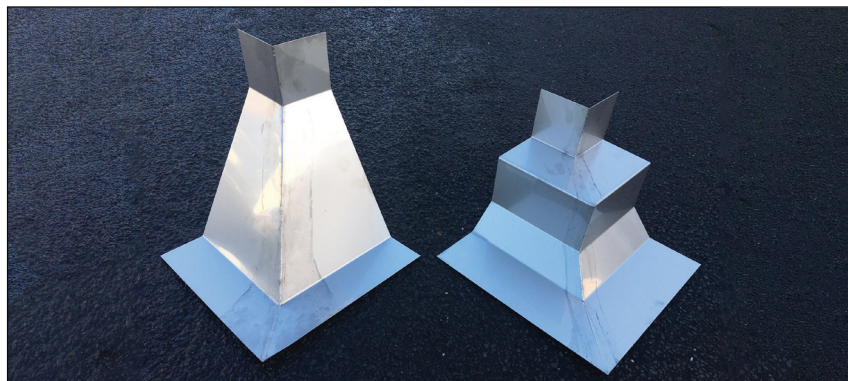
Visqueen Non-Combustible Preformed Units are designed for detailing complicated junctions in cavity wall constructions including those with a structural framing system inner leaf and a masonry outer leaf, in residential, commercial and multi-storey buildings.

In conjunction with Visqueen Zedex Non-Combustible DPC and associated system components, the units are used where a DPC cavity tray is required that achieves a minimum reaction to fire classification A2 - s1, d0 to BS EN 13501-1:2018.

Care should be taken by the Designer to ensure suitability for applications other than those stated above.

Features and benefits

- Range of rigid non-combustible units - provides cavity tray design solutions
- Manufactured - reduces the risk of water ingress at complicated junctions
- Three dimensional shapes - simplifies complex detailing
- Extensive range - suitable for a variety of awkward cavity tray locations such as corners or changes in level
- Available for different surface fixed cavity tray profiles



Installation

When used for sealing complex junctions in cavity tray applications, Visqueen Non-Combustible Preformed Units should be installed prior to the main run of the cavity tray material.

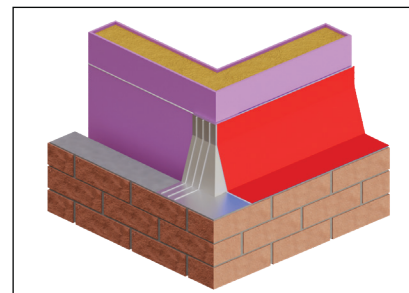
All DPC to Preformed Unit laps should be a minimum of 100mm and sealed with Visqueen Zedex Mastic.

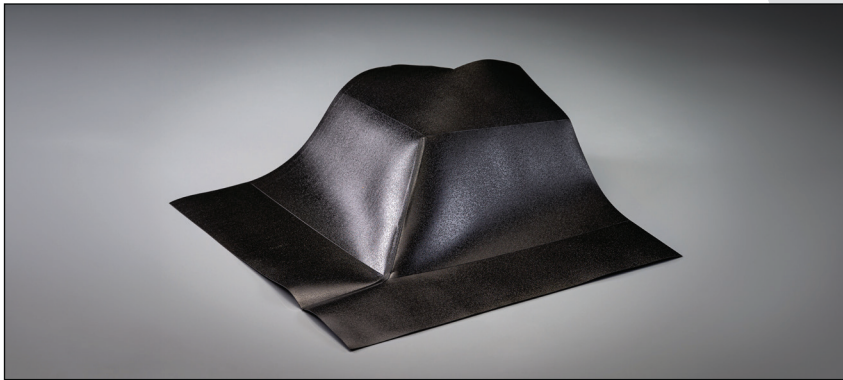
Where the Preformed Unit is surface fixed to the inner leaf of a cavity wall construction, the vertical portion of the unit should be sealed to the inner leaf with Visqueen Zedex Mastic. Visqueen Non-Combustible Fixing Strip should be used to secure the upper edge of the unit to provide a permanent mechanical fix using stainless steel fixings appropriate for the substrate.

For full installation instructions, please see product Technical Datasheet

System components

- Visqueen Zedex Mastic, 380ml
- Visqueen Non-Combustible Fixing Strip, 1240mm long, 17 per pack





Installation

When used for sealing complex junctions in cavity tray applications, Visqueen Preformed Units should be installed prior to the main run of the cavity tray material, and the lap joints bonded with Visqueen 100mm Double Sided Butyl Tape.

Where the Visqueen Preformed Unit is required to be surface fixed to the inner leaf of a cavity wall construction the vertical portion of the unit should be bonded to the inner leaf with Visqueen 100mm Double Sided Butyl Tape, the substrate having been previously primed with Visqueen High Performance Tanking Primer and allowed to dry.

Visqueen Zedex DPC Fixing Strip should be used to secure the upper edge of the unit using appropriate Visqueen Fixing Pins (or alternative approved) to provide a permanent mechanical fix.

For full installation instructions, please see product Technical Datasheet



System components

- Visqueen 100mm Double Sided Butyl Tape, 100mm x 15m
- Visqueen Zedex DPC Surface Fixing System
- Visqueen DPC Joint Support

Product description

Visqueen Preformed Units (PFUs) are factory manufactured three dimensional shapes. The units are formed from either Visqueen Zedex CPT High Performance DPC (Zedex Units) or Visqueen Ultimate Gas DPC (Ultimate Units).

Usage

Visqueen Preformed Units are designed for detailing complicated cavity tray junctions in masonry cavity wall constructions including walls with a light gauge steel frame, structural timber frame or masonry inner leaf. The units can also be used for complex junctions associated with membrane applications within floor constructions, e.g. door thresholds and corners etc. The units can also be used to prevent harmful ground gases from entering into the building at the above junctions.

Features and benefits

- Visqueen Preformed Units - part of the Visqueen Zedex and Visqueen Ultimate Gas DPC systems
- Off-site factory manufactured - reduces the risk of water ingress
- Three dimensional shapes - simplifies detailing at complicated junctions
- Flexible materials - provides an allowance for site tolerances
- Extensive range - used for both built-in and surface fixed cavity tray applications
- Used for both damp and gas proofing applications
- Compatible with all Visqueen damp and gas proof courses and membranes



Damp Proof Courses

Product description

Visqueen Polyethylene Damp Proof Course

is a black, flexible 0.5mm damp proof course manufactured to BS 6515:1984 suitable for masonry wall constructions. It is supplied in 30m length rolls and the following widths: 100mm, 112.5mm, 150mm, 225mm, 300mm, 337.5mm, 450mm, 600mm, 900mm and 1200mm.

Usage

Visqueen Polyethylene Damp Proof Course is suitable for various masonry applications in accordance with Appendix D of BS 6515:1984.

The above standard recommends that the DPC is not suitable for use above lintels in cavity walls i.e. not suitable for use as a cavity tray.

Where relevant, please refer to warranty providers standards to ensure suitability for the application considered e.g. some warranty providers state that damp proof courses manufactured to BS 6515: 1984 are not suitable for use as cavity trays but are suitable for use as a DPC to prevent moisture rising from the ground.

Features and benefits

- Manufactured to British Standard - achieves minimum DPC requirements
- Manufactured using a minimum 85% recycled polyethylene
- Diamond embossed surface - improves mortar adhesion
- Minimum DPC standard - cost effective option



Installation

When built into a masonry wall construction Visqueen Polyethylene Damp Proof Course should be installed on an even bed of wet mortar, and any perforations in adjacent courses of masonry should be completely filled with mortar. To ensure mortar adhesion, as soon as possible after laying the DPC, lay at least one further course of masonry including a bed of mortar. If positioned on the sleeper walls below a suspended ground floor e.g. beam and block floor system, the DPC can be dry laid, however all sharp protrusions must be removed from the substrate. The DPC must extend through the full thickness of the masonry wall, including pointing, applied rendering or other facing materials.

All DPC to DPC laps should be a minimum of 100mm and bonded with Visqueen 100mm Double Sided Butyl Tape.

For full installation instructions, please see product Technical Datasheet

System components

- Visqueen 100mm Double Sided Butyl Tape, 100mm x 15m



Notes

Air & Vapour Control



Air & Vapour Control Membrane

Product description

Visqueen A2 Vapour Barrier is a multi-layer reinforced aluminium AVCL (air and vapour control layer). The product has a reflective aluminium finish on the upper surface and a matt aluminium surface on the reverse. The barrier is supplied in single wound rolls (not folded), 1.2m x 50m long.

Usage

Visqueen A2 Vapour Barrier is used in buildings where an air and vapour control layer (AVCL) is required that achieves a reaction to fire classification A2 - s1, d0 to BS EN 13501-1:2018. The barrier is used to reduce the risk of interstitial condensation occurring within the structure as well as improving the airtightness of the building.

The barrier restricts the passage of warm, moist air within the building from permeating into the floor, wall or roof structure.

The barrier is designed to be installed to the warm side of floors, walls and roofs and is suitable for humidity classes 1, 2, 3, 4 and 5 to BS 5250:2021.

For conformity with the reaction to fire classification, usage of Visqueen FR+ Vapour Tape must not exceed 10% of the area of the Visqueen A2 Vapour Barrier.

Care should be taken by the Designer to ensure suitability for applications other than those stated above. Visqueen A2 Vapour Barrier should be approved by all stakeholders prior to use.

Features and benefits

- Achieves a reaction to fire classification A2 - s1, d0 to BS EN 13501-1:2018 - compliant with UK Building Regulations
- Used within floor, wall and roof constructions
- Single wound roll



Installation

Visqueen A2 Vapour Barrier should be installed in accordance with the recommendations of BS 5250:2021 Management of moisture in buildings - code of practice. The barrier should be installed on the warm side of the insulated structure, with care being taken to ensure that all laps, penetrations and abutments are sealed. The barrier should be continuous in order to ensure optimum airtightness and vapour control performance.

All joints in the barrier should be lapped by 75mm and sealed with Visqueen FR+ Vapour Tape applied centrally over the lap. To aid formation laps should be made over a solid substrate.

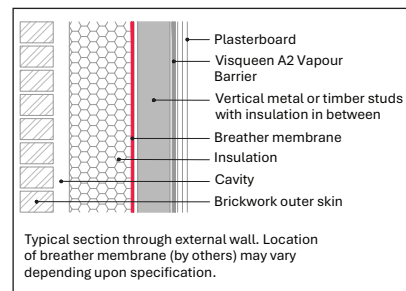
Ensure barrier continuity at the junction of horizontal and vertical substrates. Seal abutments with Visqueen FR+ Vapour Tape applied centrally over the junction. Failure to suitably connect the barrier to other building elements will severely reduce airtightness and vapour control performance.

Please note that the product's A2 fire classification does not cover the use of any alternative tapes.

For full installation instructions, please see product Technical Datasheet

System components

- Visqueen FR+ Vapour Tape, 75mm x 25m





Product description

Visqueen Fully Bonded Vapour Barrier is a foil lined, rubber modified bitumen membrane with a self adhesive coating protected by a removable polyethylene release film. It is silver on the upper surface and supplied in rolls 1m x 20m.

Usage

Visqueen Fully Bonded Vapour Barrier is an air and vapour control layer (AVCL) and is used in high condensation risk buildings, or where a fully bonded vapour barrier is required to reduce the risk of interstitial condensation occurring within the structure as well as improving the airtightness of the building.

The barrier restricts the passage of warm, moist air within the building from permeating into the floor, wall or roof structure.

The barrier is designed to be installed to the warm side of floors, walls and roofs subjected to high humidity levels e.g. dwellings with high occupancy, sports halls, canteens, school classrooms, hospitals, laundries and swimming pools.

Features and benefits

- Used within floor, wall and roof constructions
- Self adhesive application - no jointing tapes required
- Self adhesive coating - self seals around penetrating mechanical fixings

Installation

Visqueen Fully Bonded Vapour Barrier should be installed in accordance with the recommendations of BS 5250:2021 Management of moisture in buildings - code of practice. The barrier should be installed on the warm side of the insulated structure, with care being taken to ensure that all laps, penetrations and abutments are sealed. The membrane should be continuous in order to ensure optimum vapour control performance. All lap joints in the barrier should be a minimum of 75mm and should be pressed and rolled to form a continuous bond.

Ensure barrier continuity at the junction of horizontal and vertical substrates. Seal abutments with VisqueenPro Vapour Edge Tape applied centrally over the junction. Failure to suitably connect the barrier to other building elements will severely reduce vapour control performance.

For full installation instructions, please see product Technical Datasheet

System components

- Visqueen HP Tanking Primer, 5L
- VisqueenPro Vapour Edge Tape, 150mm x 15m



Air & Vapour Control Membrane

Product description

Visqueen NF-Vapour Barrier is a co-extruded, multi-layer thermoplastic barrier, 0.4mm thick (400 micron). The membrane is transparent with a blue tint and supplied 2.4m x 43.5m in a single wound roll.

Usage

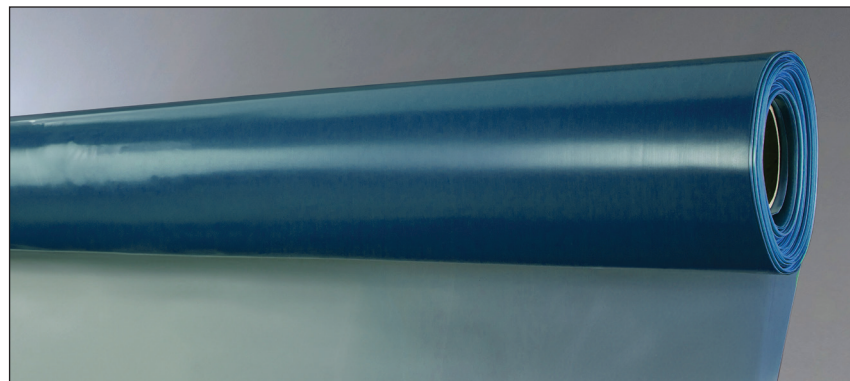
Visqueen NF-Vapour Barrier is an air and vapour control layer (AVCL) and is used in low, medium and high condensation risk buildings to reduce the risk of interstitial condensation occurring within the structure as well as improving the airtightness of the building.

The barrier restricts the passage of warm, moist air from within the building from permeating into the floor, wall or roof structure.

The barrier is designed to be installed to the warm side of floors, walls and roofs. It is suitable for all BS 5250:2021 humidity classes including those with high internal humidities e.g. laundries and swimming pools

Features and benefits

- Used within floor, wall and roof constructions
- UKCA UKNI CE to EN 13984:2013 - achieves Building Regulation and warranty provider requirements
- Suitable for all BS 5250:2021 humidity classes - prevents damage to structure and insulation
- Single wound roll



Installation

Visqueen NF-Vapour Barrier should be installed in accordance with the recommendations of BS 5250:2021 Management of moisture in buildings - code of practice. The barrier should be installed on the warm side of the insulated structure, with care being taken to ensure that all laps, penetrations and abutments are sealed. The barrier should be continuous in order to ensure optimum performance.

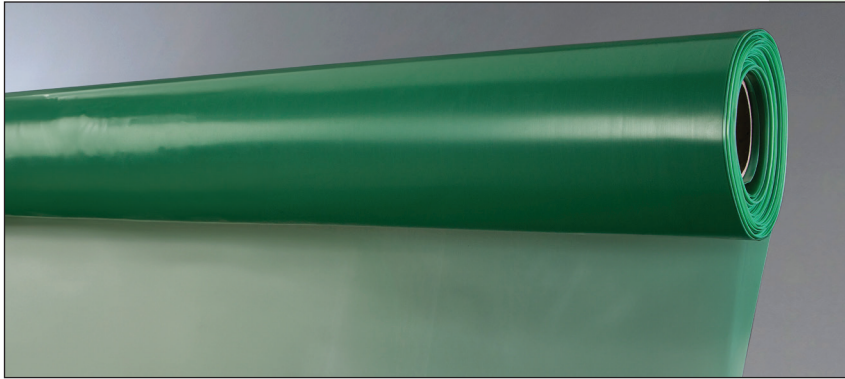
Apply Visqueen FR Double Sided Vapour Tape to securely bond the barrier to structural components, including vertical studs, horizontal noggins, head plates, and sole plates. Progressively peel off the tape release film and apply the barrier ensuring adhesion e.g. with a seam roller.

For full installation instructions, please see product Technical Datasheet

System components

- Visqueen FR Double Sided Vapour Tape, 20mm x 50m (5 rolls per box)
- Visqueen FR Single Sided Vapour Tape, 50mm x 50m (5 rolls per box)
- VisqueenPro Vapour Edge Tape, 150mm x 15m





Product description

Visqueen Vapour Barrier is a green tinted, semi-transparent polyethylene air and vapour control layer (AVCL). The membrane is supplied in single wound (not folded) 2m x 50m roll format.

Usage

Visqueen Vapour Barrier is an air and vapour control layer (AVCL) and is used in medium condensation risk buildings to reduce the risk of interstitial condensation occurring within the structure as well as improving the airtightness of the building.

The barrier restricts the passage of warm, moist air within the building from permeating into the floor, wall or roof structure.

The barrier is designed to be installed to the warm side of floors, walls and roofs.

Features and benefits

- Used within floor, wall and roof constructions
- Single wound roll
- Semi-transparent - stud locations visible through membrane

Installation

Visqueen Vapour Barrier should be installed in accordance with the recommendations of BS 5250:2021 Management of moisture in buildings - code of practice. The barrier should be installed on the warm side of the insulated structure, with care being taken to ensure that all laps, penetrations and abutments are sealed. The barrier should be continuous in order to ensure optimum vapour control performance.

Where the barrier is to be fixed to timber or metal studs, apply sufficient strips of Visqueen FR Double Sided Vapour Tape to the vertical and horizontal studs, head and sole plates, etc to ensure that the barrier remains in position until the plasterboard or construction board is mechanically fixed in position over the barrier. Progressively peel off the tape release film and apply the barrier ensuring adhesion at the tape locations .e.g. by rolling with a seam roller.

For full installation instructions, please see product Technical Datasheet

System components

- Visqueen FR Double Sided Vapour Tape, 20mm x 50m (5 rolls per box)
- Visqueen FR Single Sided Vapour Tape, 50mm x 50m (5 rolls per box)
- VisqueenPro Vapour Edge Tape, 150mm x 15m



Air & Vapour Control Membrane

Product description

Visqueen Vapour Check is a green tinted, semi transparent polyethylene air and vapour control layer (AVCL). The membrane is supplied in multifolded rolls, 2.45m x 50m and 4m x 50m.

Usage

Visqueen Vapour Check is an air and vapour control layer (AVCL) and is used in low condensation risk buildings to reduce the risk of interstitial condensation occurring within the structure as well as improving the airtightness of the building.

The membrane restricts the passage of warm, moist air within the building from permeating into the floor, wall or roof structure.

The membrane is designed to be installed to the warm side of floors, walls and roofs.

Features and benefits

- Used within floor, wall and roof constructions
- Large format rolls
- Semi-transparent - stud locations visible through membrane



Installation

Visqueen High Performance Vapour Barrier should be installed in accordance with the recommendations of BS 5250:2021 Management of moisture in buildings - code of practice. The barrier should be installed on the warm side of the insulated structure, with care being taken to ensure that all laps, penetrations and abutments are sealed. The membrane should be continuous in order to ensure optimum vapour control performance.

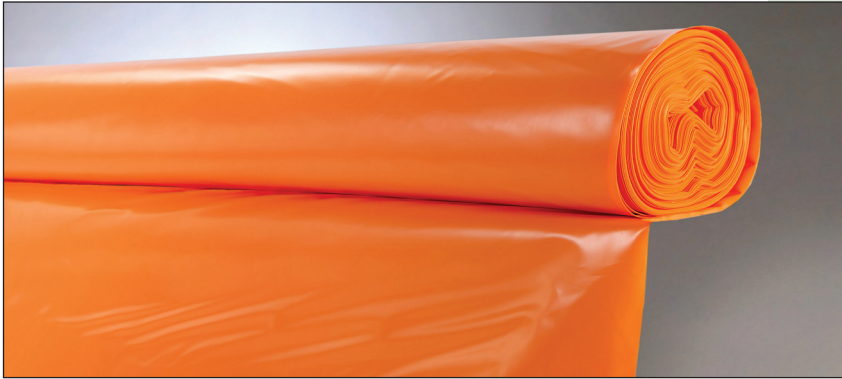
Where the barrier is to be fixed to timber or metal studs, apply sufficient strips of Visqueen FR Double Sided Vapour Tape to the vertical and horizontal studs, head and sole plates, etc to ensure that the barrier remains in position until the plasterboard or construction board is mechanically fixed in position over the barrier. Progressively peel off the tape release film and apply the barrier ensuring adhesion at the tape locations e.g. by rolling with a seam roller.

For full installation instructions, please see product Technical Datasheet

System components

- Visqueen FR Double Sided Vapour Tape, 20mm x 50m (5 rolls per box)
- Visqueen FR Single Sided Vapour Tape, 50mm x 50m (5 rolls per box)
- VisqueenPro Vapour Edge Tape, 150mm x 15m





Product description

Visqueen Class B FR Vapour Check is an orange tinted, semi transparent modified polyethylene AVCL (air and vapour control layer).

The membrane is supplied in centre-folded rolls 2.45m x 50m and multi-folded rolls 4m x 50m.

Usage

Visqueen Class B FR Vapour Check is used in buildings where an air and vapour control layer (AVCL) is required that achieves a reaction to fire classification B - s1, d0 to BS EN 13501-1:2018. The membrane is used to reduce the risk of interstitial condensation occurring within the structure as well as improving the airtightness of the building.

The membrane restricts the passage of warm, moist air within the building from permeating into the floor, wall or roof structure and is designed to be installed on the warm side of the structure.

For conformity with the reaction to fire classification, usage of Visqueen FR Single Sided Vapour Tape must not exceed 10% of the area of the Visqueen Class B FR Vapour Check.

Care should be taken by the Designer to ensure suitability for applications other than those stated above. Visqueen Class B FR Vapour Check should be approved by all stakeholders prior to use.

Features and benefits

- Achieves a reaction to fire classification B - s1, d0 to BS EN 13501-1:2018 - compliant with UK Building Regulations
- Used within floor, wall and roof constructions
- Large format roll

Installation

Visqueen Class B FR Vapour Check should be installed in accordance with the recommendations of BS 5250:2021 Management of moisture in buildings - code of practice. The membrane should be installed on the warm side of the insulated structure, with care being taken to ensure that all laps, penetrations and abutments are sealed. The membrane should be continuous in order to ensure optimum airtightness and vapour control performance.

Visqueen FR Double Sided Vapour Tape is available for bonding the membrane to substrates such as metal or timber studs or noggings.

All joints in the membrane should be lapped by minimum 75mm and sealed with Visqueen FR Single Sided Vapour Tape applied centrally over the lap. To aid formation laps should be made over a solid substrate e.g. located on studs or noggings.

For full installation instructions, please see product Technical Datasheet

System components

- Visqueen FR Double Sided Vapour Tape, 20mm x 50m (5 rolls per box)
- Visqueen FR Single Sided Vapour Tape, 50mm x 50m (5 rolls per box)



Notes

Stormwater



Stormwater Membrane

Product description

Visqueen High Performance Urban Drainage

Geomembrane is a robust thermoplastic geomembrane, black in colour, 1mm thick and supplied in single wound rolls (not folded), 1.4m x 50m.

Usage

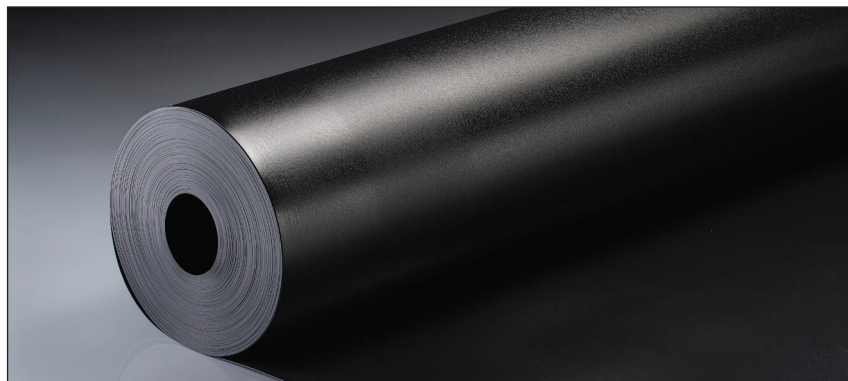
Visqueen High Performance Urban Drainage Geomembrane is used for the wrapping of underground stormwater attenuation crates in heavy duty situations (high water table), and as an impermeable membrane placed on top of the subgrade formation level and to the sides of the sub-base within a permeable paving system.

Regarding attenuation systems, Visqueen High Performance Urban Drainage Geomembrane is recommended when the depth of tank is 3 or more crates, as the product offers excellent welding characteristics and therefore the joints can resist hydrostatic pressure. The product can be used with taped joints but it is only advised if the tank has a depth of 2 crates or less.

The product is also used in applications such as containment and cut-off trenches, lagoons, canals and artificial lakes.

Features and benefits

- Used in stormwater attenuation systems and as an impermeable membrane in permeable paving systems
- Dual jointing methods - depending on specification, lap joints can be taped or heat welded



Installation

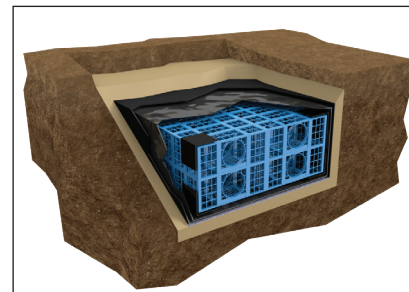
Visqueen High Performance Urban Drainage Geomembrane should be clean and dry at the time of jointing. The membrane exhibits superior welding properties making it ideal for on-site welding of joints and this method should be employed wherever possible. In certain applications the sealing of laps can be achieved using tapes. When taping joints, overlap by at least 150mm, bond with Visqueen 100mm Double Sided Butyl Tape and seal lap joints with Visqueen NF-150 Lap Tape. All lap joints should be pressed and rolled to ensure a completely sealed joint is achieved.

Where the depth of the stormwater attenuation crates equal or exceed 3 crates, lap joints should be heat welded.

For full installation instructions, please see product Technical Datasheet

System components

- Visqueen 100mm Double Sided Butyl Tape, 100mm x 15m
- Visqueen NF-150 Lap Tape, 150mm x 10m
- Visqueen Top Hat Units
- Visqueen TreadGUARD 300, 2m x 75m





Product description

Visqueen Urban Drainage Geomembrane is manufactured from a minimum 80% recycled polyethylene. The geomembrane is black in colour, 0.5mm thick and supplied in multifolded rolls 4m x 12.5m.

Usage

Visqueen Urban Drainage Geomembrane is a flexible membrane suitable for a variety of geomembrane applications including the wrapping of underground stormwater attenuation crates in light duty situations (maximum 2 units deep), and as an impermeable membrane placed on top of the subgrade formation level and to the sides of the sub-base within a permeable paving system.

Features and benefits

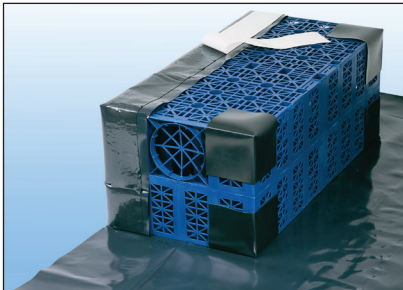
- Used in stormwater attenuation systems and as an impermeable membrane in permeable paving systems

Installation

Visqueen Urban Drainage Geomembrane should be clean and dry at the time of jointing. It should be overlapped by at least 150mm and the lap bonded with Visqueen 100mm Double Sided Butyl Tape. In demanding site conditions also seal lap joints with Visqueen NF-150 Lap Tape, 150mm x 10m. All lap joints should be pressed and rolled to ensure a completely sealed joint is achieved.

Visqueen Preformed Top Hat Units should be used for sealing pipe penetrations. The base of the top hat and the upstand should be bonded using Visqueen 100mm Double Sided Butyl Tape. The upstand should be secured with the supplied jubilee clip. Alternatively VisqueenPro Detailing Strip or Visqueen NF-Detailing Strip can be used to seal pipe penetrations. If the geomembrane is punctured or perforated a patch of the same material should be lapped at least 150mm beyond the limits of the puncture and bonded with Visqueen 100mm Double Sided Butyl Tape.

For full installation instructions, please see product Technical Datasheet



System components

- Visqueen 100mm Double Sided Butyl Tape, 100mm x 15m
- Visqueen NF-150 Lap Tape, 150mm x 10m
- Visqueen NF-Detailing Strip, 300mm x 10m and 500mm x 10m
- Visqueen Top Hat Units
- VisqueenPro Detailing Strip, 300mm x 10m, 500mm x 10m
- Visqueen Medium Duty Protection Board
- Visqueen TreadGUARD 300, 2m x 75m



Notes

Damp Proof Membranes



Damp Proof Membranes

Product description

Visqueen DPM is manufactured from a minimum 85% recycled polyethylene. The product is black in colour and available in three thicknesses: 0.25mm (4m x 25m), 0.3mm (4m x 25m) and 0.5mm (4m x 12.5m). All rolls are supplied multifolded.

Please note EcoMembrane is NOT accredited for radon applications. Please use either Visqueen Ultimate RadonBlok 600 or Visqueen Radon R400 Membrane.

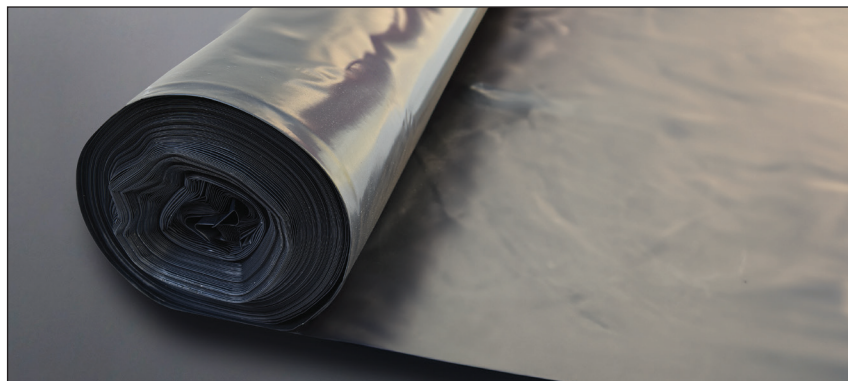
Usage

Visqueen DPM is suitable for use in ground floor constructions, positioned above or below the structural floor, to protect buildings against moisture from the ground.

The product is not intended for use where there is a risk of hydrostatic pressure or accredited for radon applications.

Features and benefits

- BBA certified - third party accreditation
- Manufactured using a minimum 85% recycled polyethylene
- Range of available thickness



Installation

Visqueen DPM should be loose laid on the substrate. The membrane should be clean and dry at the time of jointing. It should be overlapped by a minimum of 150mm, bonded with VisqueenPro Double Sided Jointing Tape and sealed with VisqueenPro Single Sided Tape.

Airtight seals should be formed around all service entry points. Visqueen Preformed Top Hat Units should be used for sealing service entry pipes. The base of the top hat and the upstand should be bonded using VisqueenPro Double Sided Jointing Tape and sealed with VisqueenPro Single Sided Tape. The upstand should be secured with the supplied jubilee clip.

For full installation instructions, please see product Technical Datasheet

System components

- VisqueenPro Double Sided Jointing Tape, 50mm x 10m
- VisqueenPro Single Sided Tape, 75mm x 25m
- Visqueen Top Hat Units
- Visqueen Preformed Units
- VisqueenPro Detailing Strip, 300mm x 10m, 500mm x 10m
- Visqueen TreadGUARD 300, 2m x 75m





Product description

Visqueen High Performance Damp Proof Membrane is a robust co-polymer thermoplastic membrane, 0.5mm thick, yellow in colour and supplied 4m x 12.5m in a center folded roll.

The membrane is manufactured from virgin polymer.

Usage

Visqueen High Performance Damp Proof Membrane is suitable for use in ground floor constructions, positioned above or below the structural floor, to protect buildings against moisture from the ground.

The product is not intended for use where there is a risk of hydrostatic pressure.

Features and benefits

- BBA certified - third party accreditation
- Supplied centre folded - reduces the risk of cracks in screed and limits creases
- Dual jointing methods - depending on specification, lap joints can be taped or heat welded

Installation

Visqueen High Performance Damp Proof Membrane should be loose laid on the substrate. The membrane should be clean and dry at the time of jointing. It should be overlapped by at least 150mm, bonded with VisqueenPro Double Sided Jointing Tape and sealed with VisqueenPro Single Sided Tape.

Airtight seals should be formed around all service entry points. Visqueen Preformed Top Hat Units should be used for sealing service entry pipes. The base of the top hat and the upstand should be bonded using VisqueenPro Double Sided Jointing Tape and sealed with VisqueenPro Single Sided Tape. The upstand should be secured with the supplied jubilee clip.

For full installation instructions, please see product Technical Datasheet



System components

- VisqueenPro Double Sided Jointing Tape, 50mm x 10m
- VisqueenPro Single Sided Tape, 75mm x 25m
- Visqueen NF-150 Lap Tape, 150mm x 10m
- Visqueen Top Hat Units
- Visqueen Preformed Units
- VisqueenPro Detailing Strip, 300mm x 10m, 500mm x 10m
- Visqueen TreadGUARD 300, 2m x 75m
- Visqueen TreadGUARD 1500, 1m x 2m



Notes

Temporary Protection



Temporary Protection Sheeting

Product description

Visqueen Clear Temporary Protective Sheeting

(TPS) is a clear polyethylene sheeting which provides high visual clarity. It is supplied on a core in rolls of 4m x 25m and 4m x 50m. The product is 20 microns thick.

Usage

Visqueen Clear Temporary Protective Sheeting is a polyethylene sheet (TPS) suitable for screening, wrapping large objects and other site construction materials such as bricks, blocks, timber and plasterboards. It's ideal for when the protected product needs to remain visible beneath the sheeting. It can be used in various other applications whilst buildings undergo refurbishment work, or in new build construction projects whilst also providing protection from showers and dust.

Features and benefits

- Provides high visual clarity
- Large roll format - Ideal for draping, screening, covering or hanging
- Provides protection against showers and dust
- Provides protection for various light duty applications whilst buildings undergo refurbishment or in new build projects



Installation

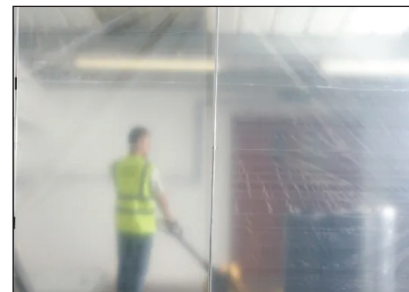
Unroll Visqueen Clear Temporary Protective Sheeting and cut to fit the area that needs protecting.

For large covered areas it may be necessary to lap adjacent (TPS) film sheets and a taped joint is recommended to ensure continuity of protection. When taping, allow an overlap of at least 50mm and secure the joint using VisqueenPro Single Sided Tape. Prior to taping ensure that the lap area is clean and free from dust and any moisture.

For full installation instructions, please see product Technical Datasheet

System components

- VisqueenPro Single Sided Tape, 75mm x 25m



Temporary Protection Sheeting



Installation

Unroll Visqueen Temporary Protective Sheeting (TPS) and cut to fit the area that needs protecting.

For large covered areas it may be necessary to lap adjacent film sheets and a taped joint is recommended to ensure continuity of protection. When taping, allow an overlap of at least 50mm and secure the joint using VisqueenPro Single Sided Tape. Prior to taping ensure that the lap area is clean and free from dust and any moisture.

For full installation instructions, please see product Technical Datasheet



System components

- VisqueenPro Single Sided Tape, 75mm x 25m

Product description

Visqueen Temporary Protective Sheeting (TPS)

is a range of semi-transparent sheeting products manufactured from recycled polyethylene. The range includes:

- Visqueen General Purpose TPS, 4m x 25m
- Visqueen Heavy Duty TPS, 4m x 25m
- Visqueen Extra Heavy Duty TPS, 4m x 25m

Details of other TPS roll sizes and colours are available on request.

Usage

Visqueen Temporary Protective Sheeting (TPS) are temporary coverings used to protect horizontal and vertical surfaces, and fixtures and fittings from the effects of dust, dirt, showers or spillages. Easy to cut and form into shape, TPS is suitable for screening, wrapping large objects and covering site construction materials such as bricks, blocks, timber and plasterboard.

TPS can be used in various other temporary applications whilst buildings undergo refurbishment work or during new build construction projects.

Features and benefits

- Suitable for internal and external temporary protection applications
- Large roll format - covers large areas fast
- Suitable for draping, screening, covering or hanging
- Provides protection against showers and dust



Temporary Protection Sheetting

Product description

Visqueen Flame Retardant Polythene Protection is manufactured using virgin polymers with specific additives to ensure the product is flame retardant to LPS1207 - Loss Prevention Standard cert no. 1792a/02.

The sheeting is supplied as centre folded rolls on a supporting core. Standard roll sizes are:

- 4m x 25m x 250 micron (Orange)
- 4m x 50m x 65 micron (White)

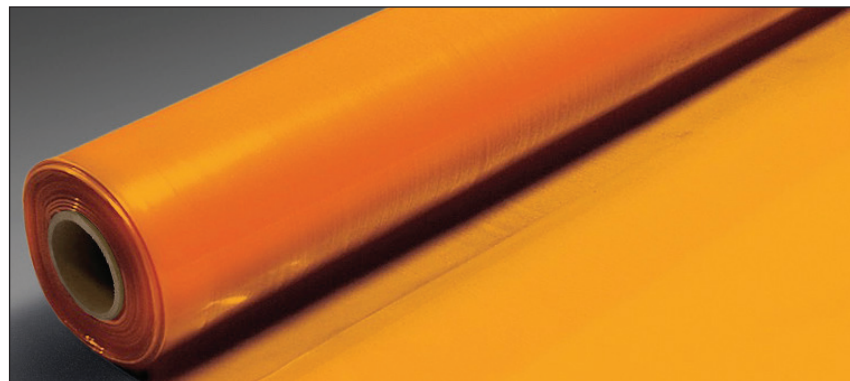
Usage

Visqueen Flame Retardant Polythene Protection can be used for screening off individual areas, draping and for a variety of surfaces. The product can be easily cut and re-sized for pallet hood / cover protection.

Flame retardant sheeting can be also used in various other applications whilst buildings undergo refurbishment work or in new build construction projects whilst also providing protection from dust and the risks of electrical hazards.

Features and benefits

- LPS1207 cert.no 1792a/01 - 3rd party flame retardant certification for Temporary Protection materials
- Large roll format - Ideal for draping, screening, covering or hanging. Quick and easy installation.
- Flame retardant - helps reduce the risk of losses from fires on construction sites
- 0.25mm (1000 gauge) thick - Approved for asbestos removal or wrapping film



Installation

Unroll Visqueen Flame Retardant Polythene Protection and cut to fit the area that needs protecting. For large covered areas it may be necessary to lap adjacent film sheets and a taped joint is recommended to ensure continuity of protection. When taping, allow an overlap of at least 50mm and secure the joint using Visqueen FR Single Sided Tape. Prior to taping ensure that the lap area is clean and free from dust and any moisture.

For full installation instructions, please see product Technical Datasheet

System components

- Visqueen FR Single Sided Tape, 50mm x 50m



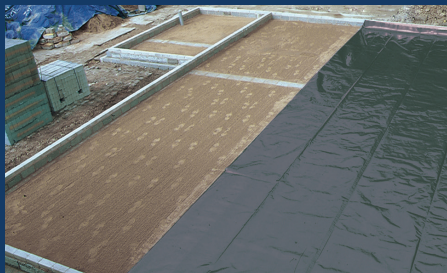
VISQUEEN

Complete Range
Complete Solution





VISQUEEN | AIR & VAPOUR
CONTROL



VISQUEEN | DAMP PROOF
MEMBRANES



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Sustainability

We are committed to working towards
minimising the environmental impact
of our products and operations.



VISQUEEN
TECHNICAL SITE SUPPORT



VISQUEEN
CONTRACT DESIGN



Heanor Gate, Heanor, Derbyshire, DE75 7RG

+44 (0) 333 202 6800

enquiries@visqueen.com

www.visqueen.com

Visqueen Construction

METHOD STATEMENT

Retrofitting Visqueen Gas Barrier NF-400 to Existing Suspended Ventilated Concrete Floor

Project	Riverview & Waterside Buildings, Uxbridge
Document	Method Statement – Visqueen Gas Barrier NF-400
Product	Visqueen Gas Barrier NF-400
Revision	P01
Date	30 September 2026

1. Scope of Works

This method statement covers the installation of Visqueen Gas Barrier NF-400 to the existing ground-floor construction comprising a suspended, ventilated concrete floor slab. The proposed gas protection arrangement comprises a continuous Visqueen Gas Barrier NF-400 membrane installed:

- continuously across the upper surface of the existing concrete floor slab;
- turned up against the internal face of the existing blockwork;
- continued vertically over the top of the blockwork;
- extended horizontally across the cavity;
- retained beneath the proposed SFS façade system;
- coordinated with the telescopic cavity ventilator located below;
- coordinated with the SFS façade construction above; and
- maintained independently of the continuous, non-deformable full-fill cavity barrier, which provides complete separation of the cavity.

The membrane is to form a continuous gas-resistant layer, with all joints and changes in direction sealed to prevent the uncontrolled passage of ground gases.

The installation is to be undertaken in accordance with the latest Visqueen Gas Barrier NF-400 Technical Datasheet, BDA Agrément BAB-24-339-P-A-UK, the project-specific gas protection strategy and the requirements of the appointed specialist consultants.

2. Pre-Installation Requirements

Before commencing installation, the contractor shall undertake a full inspection of the existing construction and confirm that the proposed installation can be completed without compromising the existing building or the continuity of the gas protection system.

- Confirm the existing concrete floor slab is structurally suitable to receive the proposed membrane installation.
- Confirm the existing concrete surface is sufficiently smooth, sound, dry and free from loose material.
- Remove or suitably repair sharp projections, loose aggregate, voids, mortar deposits or other irregularities capable of damaging the membrane.
- Confirm the existing blockwork is sound and capable of receiving the proposed membrane detailing and retention arrangement.
- Confirm the proposed route of the membrane has been coordinated with the existing and proposed cavity construction.
- Confirm the telescopic cavity ventilator remains unobstructed and operational.
- Confirm the cavity barrier remains continuous and is not compromised by the membrane installation.
- Coordinate the SFS system, brickwork and cavity barrier interfaces before installation.
- Identify all service penetrations through the membrane and detail them prior to commencement.
- Confirm the required ground-gas protection measures with the appointed geo-environmental/gas protection specialist.

3. Materials

- Visqueen Gas Barrier NF-400 – 400 micron.
- VisqueenPro Double-Sided Jointing Tape – 50mm.
- Visqueen NF-60 Lap Tape or Visqueen NF-150 Lap Tape, as specified.
- Visqueen NF-Detailing Strip where required for changes in direction and complex junctions.
- Approved protective layer/protection board where required.
- Approved mechanical retention/fixing system to the top of the blockwork, subject to confirmation by Visqueen.
- Appropriate cleaning materials.
- Hand rollers suitable for forming taped joints.

4. Installation Sequence

4.1 Preparation of Existing Concrete Slab

The existing concrete floor shall first be thoroughly cleaned. Remove loose concrete, sharp projections, loose aggregate, mortar deposits, dust and debris, protruding fixings and any other material that could puncture, abrade or prevent adhesion of the membrane.

Where local irregularities are identified, these shall be made good using an appropriate repair material to provide a smooth and continuous substrate.

The slab shall be dry at the time of installation.

4.2 Setting Out

The membrane shall be set out to provide a continuous gas barrier throughout the area being treated. The installation shall be planned so that unnecessary joints are avoided.

- perimeter walls;
- corners;
- changes in level;
- service penetrations;
- structural interfaces;
- door thresholds; and
- the transition from the horizontal floor to the vertical blockwork and subsequently across the cavity.

The membrane shall not be stretched tightly around corners or changes in direction. Sufficient material shall be provided to form the junction without creating tensile stress in the membrane.

4.3 Installation Across Existing Concrete Slab

The NF-400 membrane shall be loose laid over the prepared existing concrete slab with the blue surface facing upwards/outwards. The membrane shall be laid flat without excessive creasing, stretching or displacement.

Where more than one sheet is required, adjacent sheets shall be positioned to provide a minimum 100mm overlap. The membrane shall be arranged so that all subsequent joints remain accessible for inspection and sealing.

4.4 Taped Membrane Joints

All membrane-to-membrane joints shall be formed using the Visqueen-approved taped jointing system.

1. Provide a minimum 100mm membrane overlap.
2. Ensure both membrane surfaces within the joint area are clean and dry.
3. Apply VisqueenPro Double-Sided Jointing Tape approximately 25mm from the edge of the sheet.
4. Remove the release film.
5. Carefully bring the overlapping membrane into contact with the adhesive tape.
6. Apply firm, even pressure using a suitable hand roller.

7. Seal the external edge of the joint with Visqueen NF-60 Lap Tape or NF-150 Lap Tape, as specified.
8. Roll the completed joint to ensure continuous adhesion and eliminate air pockets.

5. Perimeter / Blockwork Junction

At the perimeter of the building, the membrane shall transition continuously from the horizontal concrete slab onto the internal face of the existing blockwork.

9. Extend the membrane from the horizontal floor.
10. Turn the membrane vertically up the internal face of the blockwork.
11. Dress the membrane tightly into the wall/floor junction without puncturing or overstressing the membrane.
12. Continue the membrane over the top of the blockwork.
13. Bridge the cavity in accordance with the approved project detail.
14. Terminate the membrane above the brick course as indicated on the construction drawings.

Where the change in direction creates a complex three-dimensional junction, Visqueen NF-Detailing Strip shall be used where required to maintain continuity of the gas protection layer. Any detailing strip shall be fully bonded and firmly compressed using a hand roller.

6. Membrane Across Cavity

The membrane shall be carefully dressed across the cavity to form a continuous gas-resistant connection between the internal blockwork and the external wall construction.

- The membrane shall not be left unsupported where this could result in excessive sagging, tearing or displacement.
- The membrane shall be coordinated with the brickwork, telescopic cavity ventilator, SFS framing, insulation and cavity barrier.

Cavity Barrier

The proposed non-deformable continuous full-fill cavity barrier shall remain continuous and provide complete separation of the cavity.

- The membrane shall not displace the cavity barrier.
- The required compression of the cavity barrier shall not be reduced.
- No gap shall be created around the barrier.
- The barrier shall not be penetrated.
- The tested/assessed installation arrangement of the cavity barrier shall not be compromised.
- The installation shall not create an unintended route between the separated cavity zones.

The cavity barrier installation shall remain in accordance with the cavity-barrier manufacturer's tested/assessed system.

7. Retention at Top of Blockwork

Following installation of the membrane over the blockwork, the upper section of the membrane shall be positioned above the proposed brick course and retained using the SFS bottom rail in accordance with the approved project detail.

Any mechanical fixing through the NF-400 membrane shall only be undertaken where specifically approved by Visqueen and the project gas-protection designer.

- the membrane remains continuous;
- fixings do not create uncontrolled gas paths;

- the membrane is not excessively punctured;
- the membrane is not torn during installation;
- the brick course provides continuous retention; and
- any penetrations are appropriately sealed.

Visqueen Technical approval shall therefore be obtained for the proposed membrane retention detail prior to installation.

8. Telescopic Cavity Ventilator

The telescopic cavity ventilator shall remain fully operational following installation of the gas membrane.

- The ventilation opening is not obstructed.
- The telescopic ventilator remains open to the intended cavity.
- The membrane is not damaged by the ventilator.
- No uncontrolled gas path is created around the ventilator.
- The membrane does not interfere with the movement or adjustment of the telescopic component.

Where the membrane requires a local penetration or complex junction around the ventilator, this shall be treated as a proprietary gas-protection detail using an approved detailing method.

9. SFS Façade Interface

The membrane installation shall be coordinated with the SFS façade system before installation.

- The SFS framing and associated brackets/fixings shall not be permitted to puncture the completed gas barrier unless the penetration has been specifically designed and sealed.
- Where the membrane passes below the SFS components, sufficient tolerance shall be provided to avoid tearing, puncturing, excessive stretching, abrasion or displacement.
- Any required penetrations shall be sealed using the approved Visqueen detailing system.

10. Service Penetrations

All service penetrations through the membrane shall be kept to a minimum. Each penetration shall be individually sealed.

Where appropriate, Visqueen NF-Detailing Strip or an approved preformed unit shall be used.

No unsealed pipe, conduit, cable, bracket or fixing shall pass through the completed membrane.

11. Repairs

Following installation, the entire membrane shall be inspected for punctures, tears, cuts, abrasion, incomplete tape adhesion, open laps, unsealed edges, displaced membrane, damaged corners and damaged detailing around penetrations.

Where the membrane has been punctured or perforated, the damaged area shall be repaired using a patch of NF-400 extending at least 100mm beyond the damaged area, or using NF-Detailing Strip in accordance with the manufacturer's requirements.

For a taped repair, the manufacturer's procedure requires VisqueenPro Double-Sided Jointing Tape and NF-60/NF-150 Lap Tape. All repairs shall be inspected and recorded before the membrane is concealed.

12. Protection

The completed membrane shall be protected from subsequent construction activities. Particular care shall be taken to prevent damage from foot traffic, tools, scaffolding, SFS installation, brickwork, sharp materials, temporary works and mechanical equipment.

Where the membrane is to remain exposed during construction, an approved protection layer shall be provided.

13. Inspection and Quality Control

Stage 1 – Substrate

- Slab is clean.
- Slab is dry.
- No sharp projections.
- No loose material.
- No voids.
- Blockwork is suitable.

Stage 2 – Membrane Installation

- Correct membrane.
- Correct orientation.
- Membrane continuous.
- Adequate overlaps.
- No excessive stretching.
- Corners correctly formed.

Stage 3 – Jointing

- Minimum 100mm overlaps.
- Surfaces clean and dry.
- Double-sided tape correctly positioned.
- External lap tape installed.
- All joints rolled firmly.
- No visible gaps or lifting edges.

Stage 4 – Perimeter Junction

- Membrane continuously turns up blockwork.
- Membrane continues over blockwork.
- Cavity bridge is continuous.
- Membrane is correctly retained.
- Cavity barrier remains complete.
- Telescopic ventilator remains unobstructed.
- SFS interface is coordinated.

Stage 5 – Final Inspection

A photographic record shall be taken of representative floor areas, all membrane joints, corners, perimeter junctions, cavity crossing, ventilator interfaces, service penetrations, cavity barrier interfaces and repaired areas.

The membrane shall not be concealed until the installation has been inspected and accepted.

14. Environmental / Installation Conditions

- The membrane and tape shall be kept clean and dry.
- Tape shall be stored in a warm, dry location before use.
- Installation shall not proceed where the air temperature is below 5°C or falling.
- Where temperatures exceed 25°C or are rising, the membrane shall be protected immediately following installation.

15. Competency

Installation shall be undertaken by a competent specialist contractor experienced in gas membrane installation.

Where required by the project gas protection strategy, third-party validation shall be arranged.

16. Key Hold Points

Hold Point	Requirement
HP01 – Existing floor inspection	Existing slab and blockwork inspected and accepted prior to membrane installation.
HP02 – Gas membrane junction approval	Project-specific perimeter/cavity/SFS junction confirmed by the appointed geo-environmental/gas protection consultant and Visqueen Technical Department.
HP03 – Membrane installation	NF-400 installed and all taped joints inspected.
HP04 – Cavity interface	Cavity barrier, telescopic ventilator and membrane interface inspected before closing the cavity.
HP05 – Final gas membrane inspection	Complete membrane inspected, photographed and any defects repaired.
HP06 – Concealment	Approval recorded prior to covering the membrane or closing the associated wall construction.

17. Important Design / Installation Caveat

IMPORTANT: This method statement is to be read in conjunction with the approved construction drawings, project-specific gas protection strategy, geo-environmental assessment and the latest Visqueen Gas Barrier NF-400 technical literature. The proposed installation to the existing suspended concrete floor and associated perimeter/cavity junction is a project-specific application and shall be reviewed and confirmed by the appointed geo-environmental/gas protection specialist and Visqueen Technical Department prior to installation.

The continuity and performance of the gas protection system shall not be assumed solely from the use of the NF-400 product. Particular attention shall be given to the floor-to-wall junction, transition over the blockwork and cavity, retention above the brick course, service penetrations, SFS interfaces, telescopic cavity ventilator and interaction with the full-fill cavity barrier.

Any deviation from the manufacturer's installation requirements or the approved project-specific detail shall be referred to the relevant specialist for review prior to implementation.

18. Manufacturer Information Reviewed

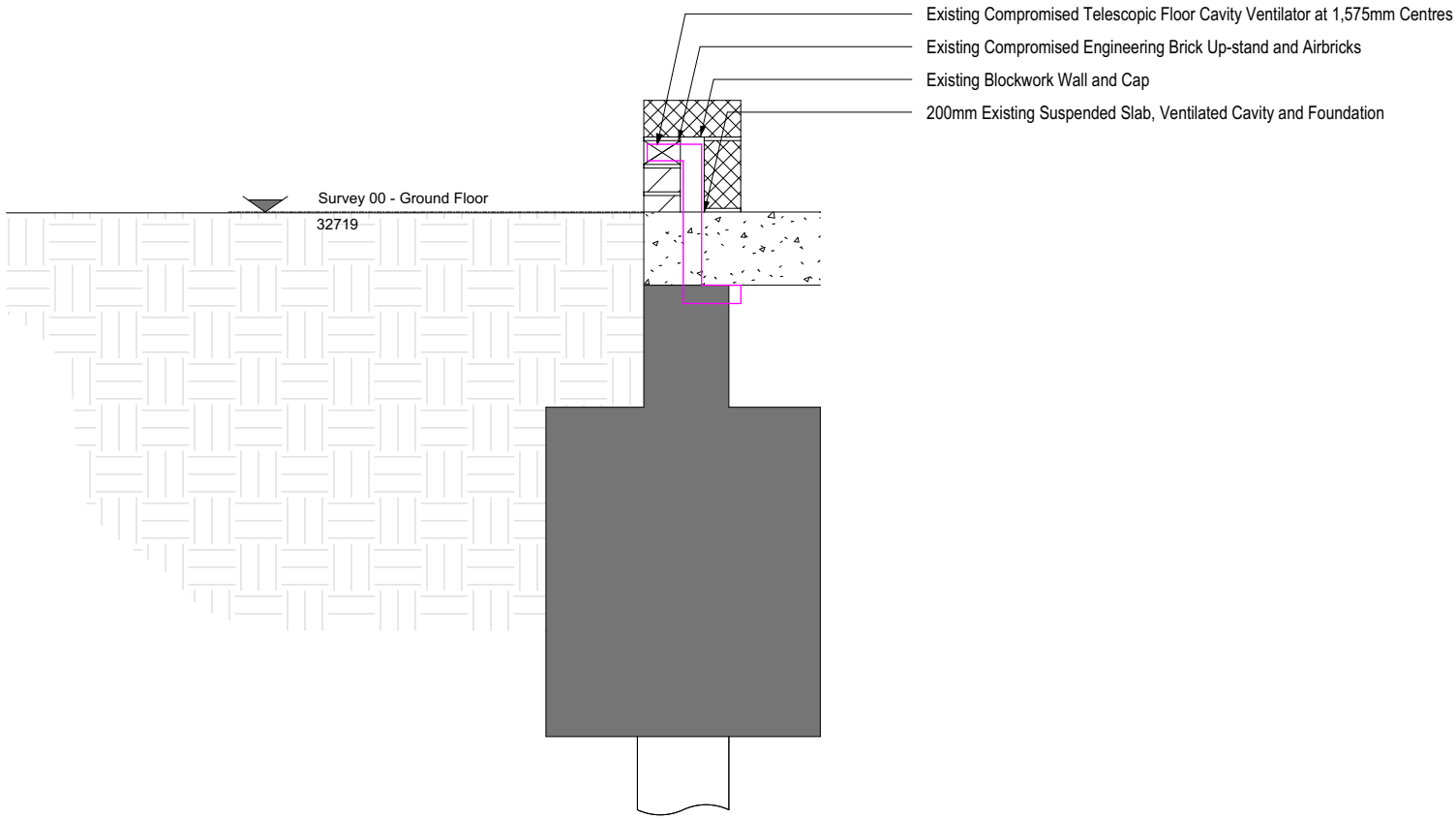
- Visqueen Gas Barrier NF-400 Technical Datasheet, published 14 September 2026, Version 26257.
- Kiwa BDA Agrément BAB-24-339-P-A-UK – Visqueen Gas Barrier NF-400.
- Visqueen Gas Barrier NF-400 Declaration of Performance, DoP No. VBP/CPR/GAS030, Issue 03, revision dated 13 August 2026.
- Visqueen Product Guide, April 2026.
- Visqueen Polyethylene Construction Products Safety Data Sheet, Version 3, revised 30 May 2025.

19. References / Technical Basis

The method statement is based on the manufacturer's supplied information. The BDA Agrément identifies NF-400 as a flexible polyethylene gas barrier and damp-proof membrane suitable for use above suspended concrete ground floors and requires installation in accordance with the Agrément and manufacturer requirements. It also requires project-specific design to achieve complete integrity across the building footprint.

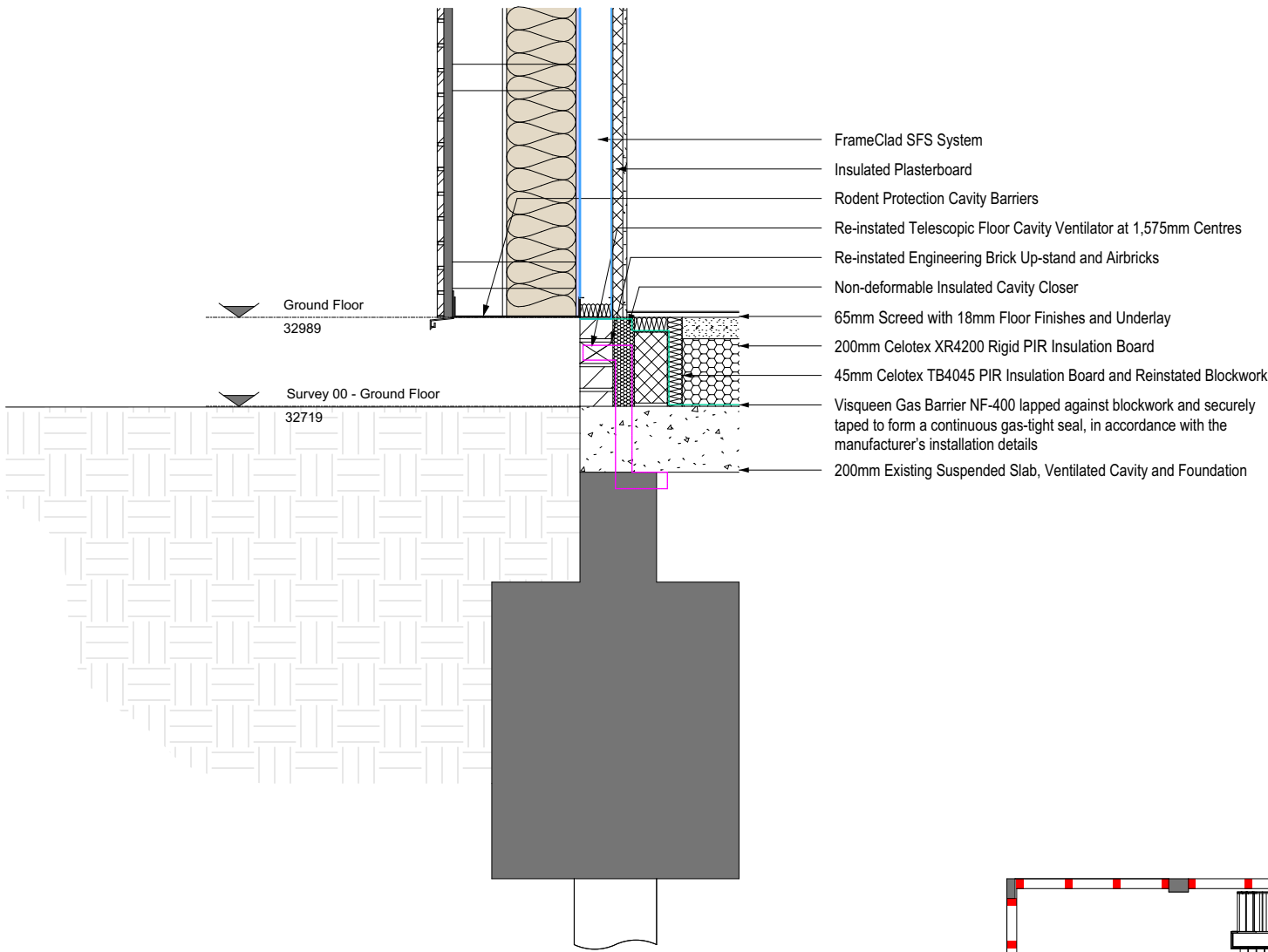
The current Visqueen technical datasheet identifies NF-400 as suitable above suspended reinforced concrete floor slabs and specifies taped joints using approximately 100mm overlap, VisqueenPro Double-Sided Jointing Tape and NF-60/NF-150 Lap Tape. It also recommends installation by a competent contractor and third-party validation in accordance with BS 8485:2015 + A1:2019 and CIRIA C735.

APPENDIX D: Foundation Construction Drawings



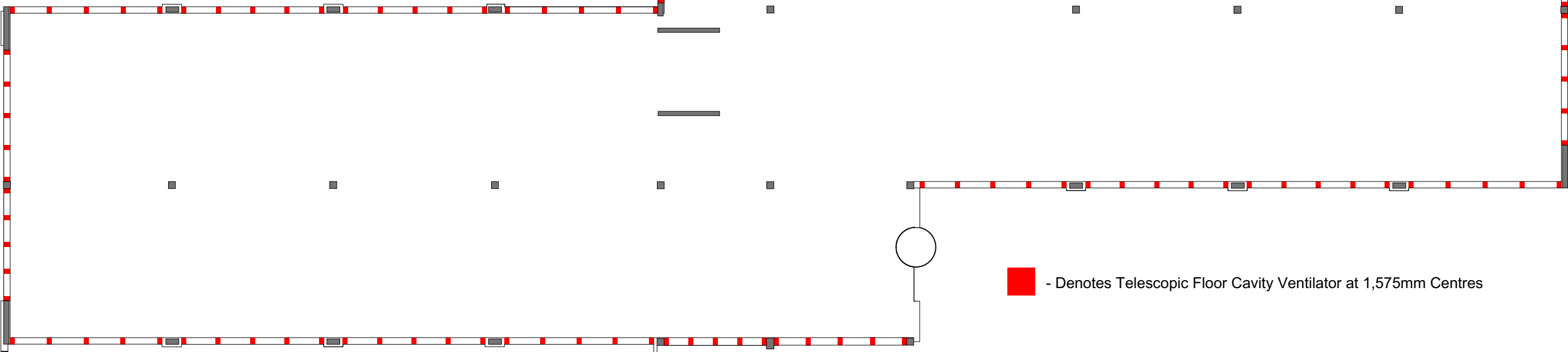
(SK)001_Existing Foundation Construction Detail

Scale 1:20@A2



(SK)002_Proposed Foundation Construction Detail

Scale 1:20@A2



(SK)003_Existing Telescopic Vent Locations

Scale 1:200@A2



(SK)004_Existing Telescopic Vent Image

Scale N/A

Notes:

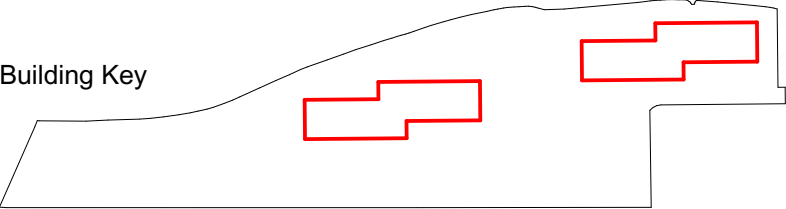
The proposed gas protection detail to the existing concrete structure is indicative only and has been developed based on the information currently available. The requirement for, specification of, and suitability of the Visqueen NF-400 gas barrier, including all laps, joints, penetrations, interfaces and termination details, shall be reviewed and confirmed by the appointed Geoenvironmental Engineer and the manufacturer prior to installation.

The Geoenvironmental Engineer shall confirm the applicable ground gas/contamination risk, required level of protection and performance criteria. The final installation shall be undertaken strictly in accordance with the approved specification, manufacturer's installation requirements and recommendations of the Geoenvironmental Engineer.

Any existing construction, substrate condition or site constraints that may affect the continuity or performance of the gas barrier shall be identified and addressed prior to installation. Any deviations from the indicated detail shall be subject to review and approval by the relevant specialist.

The Contractor is to check and verify all building and site dimensions, levels, sewer invert levels and positions of drains before works start. Any discrepancy to be notified to MDG Architects. DO NOT SCALE FROM THIS DRAWING. This drawing and the building works depicted are the copyright of MDG Ltd and may not be reproduced or amended except by written permission. No liability will be accepted for amendments made by other persons.

Rev.	Date	DRN/CKD	Revision
A	30/09/26	-	Updated to Geoenvironmental Engineer comments



PLEASE NOTE:
All drawing information provided herein is indicative only and subject to ongoing design development and detailed design input. No element of the drawing(s) should be relied upon for construction, costing, or statutory approvals without further verification.

The position and extent of all utilities (above and below ground), easements, topographical features, and trees are to be confirmed through additional surveys. The site boundary is to be confirmed based on the Land Registry title plan and further on-site investigations. The layout has been produced for feasibility and discussion purposes only, and is based on PDF survey data that is subject to a full measured building survey. This sketch is based on incomplete and unverified survey information. Core areas are assumed to contain vertical circulation but remain unconfirmed. The proposal is subject to full measured, structural, and M&E surveys, and represents an early-stage feasibility concept.

Further design development is required to address the following (non-exhaustive):
A compliant fire strategy, including:
Means of escape, Protected lobbies, Evacuation lift requirements, Fire-rated construction, Acoustic and thermal performance in line with current Building Regulations, including enhancements between residential uses where appropriate. Ventilation of habitable and shared spaces per Approved Document F, and assessment of overheating risk in accordance with Approved Document O. Structural capacity of the existing building to support any new residential use and associated loadings. Natural light provision, and performance against daylight/sunlight guidance as outlined by BRE.

Services coordination, including:
Drainage infrastructure, Vertical risers, Ventilation and duct routes, Access and inclusivity, including potential lift upgrades and Part M compliance. Refuse and cycle storage in accordance with local authority standards. Assessment of hazardous materials (e.g., asbestos) within the existing building fabric.

All elements of the proposal remain subject to:
Detailed technical input, Comprehensive measured and specialist surveys, Compliance with current planning policy and building regulations.

USE OF THIS DOCUMENT:
This document and any associated drawings are not for construction and are issued solely for preliminary design coordination, internal review, and stakeholder discussion. Use beyond these purposes is at the user's own risk.

MDG Architects
201 The Folium
5-8 Caroline Street
The Jewellery Quarter, Birmingham
B3 1TR
Tel: 0121 638 0201
www.mdgarchitects.co.uk
innovation@mdg.co.uk



PROJECT
Riverview & Waterside House, Uxbridge

Highgrass Ltd

DRAWING
Riverview & Waterside Buildings
Contamination Condition

SCALE	As Stated @ A2	CHECKED	-
DATE	September 2026	DRAWN	-
DWG. No.	A1452_(SK)1000	REVISION	A

SKETCH

APPENDIX E: Water Pipe Specification, Installation and Technical Guidelines



PROTECTA-LINE

BARRIER PIPE AND FITTINGS SYSTEMS

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Installation and Technical Guidelines





Our Company

GPS PE Pipe Systems is a member of the international Aliaxis Group of Companies who manufacture and sell pipe systems and related products for residential and commercial construction, industrial and public utilities.

We specialise in the research, development and manufacture of polyethylene and multi-layer pipe systems including fittings for gas and water transportation in the utilities, offshore and industrial markets.

Resulting from the amalgamation of two market leading companies, GPS PE Pipe Systems brings together over one hundred years of experience and knowledge in plastic pipe systems.

The Environment

We actively and consistently strive to reduce our impact on the environment. We have measured our performance against various environmental indicators since 1997 and operated an environmental management system accredited to ISO 14001 since 1999. We are currently working towards an independent verification of our carbon footprint under the Certified Emissions Measurement And Reduction Scheme (CEMARS).

Market Oriented

GPS PE Pipe Systems products have a broad range of applications in the industrial and utilities markets on a worldwide basis. The utilities of water and gas distribution are important sectors for high integrity products where the maintenance of water quality and the safe transport of gaseous fuels are of paramount importance. Industrial applications include: alternative energy installations in landfill gas systems; effluent transportation and mineral slurries.

Many of the brands in the GPS portfolio have a long record of innovation in meeting the needs of the water and gas utilities. One of the foremost pioneers in polyethylene pipe systems, GPS is continually improving and updating its offering to meet the ever growing needs of the distribution engineer, ensuring they stay at the forefront of world gas and water distribution/treatment systems.

Manufactured in the UK, our products are sold to more than 60 countries worldwide.

Customer Focus

The key to our success lies in the commitment we pledge to provide the highest quality service and support to our customers and industry end-users. We are a team of highly motivated and experienced individuals who are dedicated to helping our customers achieve their goals.

We place the utmost importance in meeting the needs of our customers, constantly evolving our extensive product portfolio to meet the ever changing demands of the water and gas utilities, industrial and offshore markets.

Quality

Designed, manufactured and supplied under a BS EN ISO 9001:2008 accredited Quality Management System, GPS products comply with relevant national, European and international product standards to ensure peace of mind for our customers.



Certificate No. FM 34819



Certificate No. E 51385



World leaders in the design, manufacture, marketing and sales of high performance, high integrity plastic and composite piping systems.

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Introduction

Previously used contaminated land is increasingly being reused for new developments where drinking water is needed. Such land, in particular former industrial land, must either be remediated to reduce contamination to acceptable levels, or a pipe system must be installed which can guarantee the long term safety and quality of the water supply. Without remediation, conventional metal and polyethylene (PE) piping systems are not recommended in such land as certain residual chemicals can permeate or corrode the pipe wall causing unpleasant tastes and shortening the life of the pipe. For further details refer to the WRc Polyethylene Pipe Systems Manual - version 01/02 - Ref: ED11 and UKWIR 10/MW/03/21.

The fully integrated barrier pipe and fittings system for safely transporting water through contaminated land

Protecta-Line is an award winning fully integrated barrier pipe and fittings system in sizes from 25mm to 355mm. The five-layer pipe comprises: an internal standard PE host pipe for carrying the water; an aluminium barrier layer to stop the ingress of contaminants; an outer polyethylene protection layer; and two adhesive tie-layers.

Protecta-Line prevents the tainting that can be caused by through-wall permeation by hydrocarbons and related chemicals that might be present in contaminated land. Introduced in 1996 to the UK market, Protecta-Line won the IWEX Innovation Award in 1997. Due to its structure any chemicals left in the land cannot damage the pipe wall, ensuring preservation of long-term strength, many years of usage and whole-life cost savings. The double bonded construction incorporates an impermeable metallic barrier wrapped onto a standard central core of PE80 or PE100 (Excel) pipe conforming to BS 6572 or WIS 4-32-17/BS EN 12201.

The Protecta-Line Advantages

- WRAS and Regulation 31/27 approval for total peace of mind to the highest standards of safety demanded by water companies and other installers.
- The whole Protecta-Line system is Kitemarked to WIS 4-32-19, the only industry standard for pipe systems for potable water in contaminated land.
- Protecta-Line has all the installation benefits of conventional PE pipe - a lightweight, flexible material that is fast and easy to install.
- Protecta-Line system encompasses the most complete and fully integrated range of compatible pipe and fittings, approved for safe transportation of drinking water through contaminated land.
- Protecta-Line allows for a lower cost of installation than metallic pipe and is significantly less disruptive.
- Protecta-Line pipes may be subjected to cold bending as for standard polyethylene pipes (see GPS Installation & Technical Guidelines Brochure - GP-IT005).

Approvals

- Approved by the Secretary of State
- WRAS (**complete system approved**)
- BS 6572 (25mm - 63mm pipes)
- WIS 4-32-17 (25mm - 355mm pipes)
- BS EN 12201 (90mm - 355mm pipes)
- WIS 4-32-19 (**complete system is Kitemarked**).
System permeation tests independently verified

Protecta-Line is an approved system.

Only Protecta-Line fittings shall be used with Protecta-Line pipe. The use of alternative fittings will have the following effects on your Protecta-Line system:

- Invalidity of WRAS approval and manufacturers system performance warranty.
- Compromised permeation resistance (causing non-compliance with WIS 4-32-19 and possible risks to health).
- Danger of pipe-layer delamination, compromising system performance integrity and risking pipe bursts. It would be illegal to install non-WRAS approved fittings.



0609132
0702502
0902519
0902515
0703510



07472
66151
508224



WIS 4-32-19
KM 514626

The most complete system

The Protecta-Line range consists of:

- Protecta-Line Pipe from 25mm to 110mm in SDR11 and 125mm to 355mm in SDR17. Available in 6m and 12m sticks; 25m, 50m and 100m coils, depending on diameter.
- Protecta-Line Mechanical Compression Fittings from 25mm to 63mm including Couplers, Reducing Couplers, Transition Fittings, Equal Tees, 90° Elbows, End Connectors and Reducing Sets.
- Protecta-Line Stop Cocks at 25mm & 32mm.
- Protecta-Line Self-Tapping Ferrule Off-Takes in mains sizes 63mm to 355mm with 25mm or 32mm outlets.
- Protecta-Line Ferrule Off-Takes in mains sizes 90mm to 355mm with 63mm outlets.
- Protecta-Line Ductile Iron Ferrule in 3/4" x 25mm.
- Protecta-Line Fluid Compression Fittings from 63mm to 180mm including Couplers, Reducers, 90° Elbows, 45° Elbows, Equal Tees, Flanged Branch Tees, Repair Couplers, Stub Flange Adaptors and Duck Foot Bends.
- Protecta-Line Electrofusion Fittings from 90mm to 355mm including Couplers, Reducers, 90° Elbows, 45° Elbows, Equal Tees, Flanged Branch Tees and Flange Adaptors.
- A range of fabricated fittings for butt-fusion in sizes from 90mm to 355mm, without need to wrap in the field.

Sizes 90mm to 355mm of Protecta-Line can be joined using Electrofusion or Butt-fusion. When made in accordance with GPS PE Pipe Systems' recommended procedures, butt-fusion and electrofusion joints of the Protecta-Line system have been independently shown to meet the requirements of WIS 4-32-19 without any need for subsequent wrapping. This does not exempt installers from local regulations and the local Water Company preferences must be adhered to.

Protecta-Line systems should be pressure tested after installation using the standard industry procedures employed for PE pipelines, taking extra care when working in a contaminated environment as set out by the Local Water Undertaking.

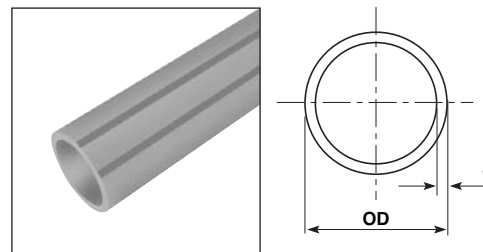
View Protecta-Line installation videos online.

Use your mobile to scan this code.



Protecta-Line Pipe

- Kitemarked to WIS 4-32-19.
- Standard blue PE100 (Excel) or PE80 (MDPE) core pipe with aluminium barrier layer and protective outer PE skin.
- In 6m and 12m sticks and 25m, 50m or 100m coils.
- For use with Protecta-Line mechanical compression fittings up to 63mm and fluid compression fittings from 63mm up to 180mm.
- Suitable for butt-fusion or electrofusion jointing where specified, in sizes 90mm and above.
- Brown stripes provide easy identification and comply with NJUG regulations.



Straight Lengths

Size* (mm)	Std Length (m)	Material	Pressure Rating (bar)	SDR	Min OD (mm)	Max OD (mm)	Mean Bore (mm)	Min Wall Thickness (mm)	Max Wall Thickness (mm)	Mean Weight (kg/m)	6M Code	12M Code
63	6	PE80 (MDPE)	12.5	11	64.3	65.6	51	6.5	7.6	1.3	44 512 311	-
90	6/12	PE100 (Excel)	16	11	92.2	93.5	73	9.3	10.7	2.6	44 512 313	44 527 313
110	6/12	PE100 (Excel)	16	11	112.2	113.5	89	11.1	12.7	3.7	44 512 314	44 527 314
125	6/12	PE100 (Excel)	16	11	127.2	128.5	101.2	12.5	14.2	4.7	44 512 315	44 652 315
	6/12	PE100 (Excel)	10	17	127.2	128.5	110	8.5	9.8	3.4	44 653 315	44 654 315
160	6/12	PE100 (Excel)	10	17	163.2	165.1	140	10.7	12.4	5.4	44 653 317	44 654 317
180	6/12	PE100 (Excel)	16	11	183.3	185.4	146.8	17.6	20	9.5	44 512 318	44 652 318
	6/12	PE100 (Excel)	10	17	183.3	185.4	158	11.9	13.7	6.8	44 653 318	44 654 318
225	6/12	PE100 (Excel)	10	17	227.3	229.8	197	14.6	16.6	10.2	44 653 320	44 654 320
250	6/12	PE100 (Excel)	10	17	252.3	254.9	220	16	18.3	12.4	44 653 321	44 654 321
280	6/12	PE100 (Excel)	10	17	282.3	285.1	246	17.8	20.1	15.3	44 653 322	44 654 322
315	6/12	PE100 (Excel)	10	17	317.3	320.2	277	19.9	22.4	19.2	44 653 323	44 654 323
355	6/12	PE100 (Excel)	10	17	357.3	360.6	312	22.3	25.1	24.2	44 653 324	44 654 324

Coils

Size* (mm)	Coil Lengths Available (m)	Material	Pressure Rating (bar)	SDR	Min OD (mm)	Max OD (mm)	Mean Bore (mm)	Min Wall Thickness (mm)	Max Wall Thickness (mm)	Approx Weight (kg/m)	Code
25	25/50	PE80 (MDPE)	12.5	11	26.3	27.5	20	3.0	3.7	0.26	44 658 308/44 659 308
32	25/50	PE80 (MDPE)	12.5	11	33.3	34.5	26	3.7	4.4	0.39	44 658 308/44 659 308
63	25/50/100	PE80 (MDPE)	12.5	11	64.3	65.6	51	6.5	7.6	1.3	44 658 311/44 659 311/44 660 311
90	50/100	PE100 (Excel)	16	11	92.2	93.5	73	9.3	10.7	2.6	44 659 313/44 660 313
110	50/100	PE100 (Excel)	16	11	112.2	113.5	89	11.1	12.7	3.7	44 659 314/44 660 314
125	50/100	PE100 (Excel)	16	11	127.2	128.5	101.2	12.5	14.2	4.7	44 659 315/44 660 315
	50/100	PE100 (Excel)	10	17	127.2	128.5	110	8.5	9.8	3.4	44 655 315/44 656 315
160	50/100	PE100 (Excel)	10	17	163.2	165.1	141	10.7	12.4	5.4	44 655 317/44 656 317
180	50/100	PE100 (Excel)	16	11	183.3	185.4	146.8	17.6	20	9.5	44 659 318/44 660 318
	50/100	PE100 (Excel)	10	17	183.3	185.4	158	11.9	13.7	6.8	44 655 318/44 656 318

* The nominal size is the nominal core pipe outside diameter.

Other lengths and SDRs may be available to order subject to a minimum order value. Please contact our Sales Office for further information.

To connect Protecta-Line to alternative barrier pipe systems, a mechanical connection should be used: either a threaded connection in the case of the service pipe sizes or a flange connection in the case of larger sizes. Contact our Technical Support for further details.

Testing and Commissioning

The sequence of events for Protecta-Line includes the same basic testing procedures as for conventional PE pipes, but taking extra care appropriate for a contaminated environment as set out by the Local Water Undertaking.

As for normal PE pipes these procedures will normally require, as a minimum, the adequate flushing of the services and the testing of all pipes and joints to the maximum head to which the system is to be subjected.

Only Protecta-Line fittings shall be used with Protecta-Line pipe. The use of alternative fittings will have the following effects on your Protecta-Line system:

- Invalidity of WRAS approval and manufacturers system performance warranty.
- Compromised permeation resistance (causing non-compliance with WIS 4-32-19 and possible risks to health).
- Danger of pipe-layer delamination, compromising system performance integrity and risking pipe bursts.
- It would be illegal to install non-WRAS approved fittings.

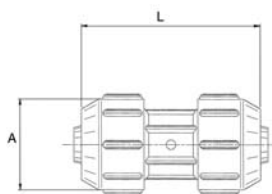
Protecta-Line Mechanical Compression Fittings

Protecta-Line Mechanical Compression Fittings are supplied for use with pipe sizes between 25mm and 63mm.

These acetal fittings are WRAS approved fittings for use with 25mm to 63mm Protecta-Line pipe as they are proven to WIS 4-32-19 to offer barrier protection against contaminants. They also carry a unique pipe insert to totally seal against the pipe bore ensuring there can be no contact between the drinking water and the pipe's aluminium layer.

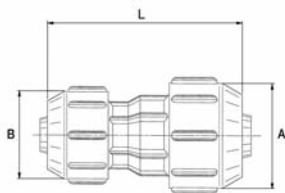
- Proven barrier protection against contamination.
- No pipe end preparation required.
- No wrapping required.
- No risk of joint corrosion.
- No contact between the pipe's protective aluminium layer and drinking water.
- Easy and rapid installation.
- No specialist equipment required.
- All weather installation.
- Employs O-ring seal, in body of fitting only.
- Suitable for connecting Protecta-Line to a standard PE pipe.

PE to PE Couplers



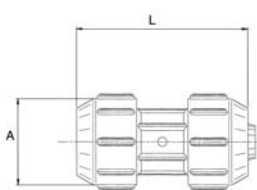
Size (mm)	A (mm)	L (mm)	Weight (kg)	Code
25 x 25	51	93	0.12	44 100 307
32 x 32	60	99	0.19	44 100 308
63 x 63	105	155	0.70	44 100 311

PE to PE Reducing Couplers



Size (mm)	A (mm)	B (mm)	L (mm)	Weight (kg)	Code
32 x 25	60	51	100	0.15	44 114 409
63 x 25	105	81	155	0.58	44 114 412
63 x 32	105	105	155	0.78	44 114 415

PE to Copper Coupler



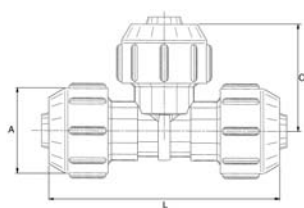
Size (mm)	A (mm)	L (mm)	Weight (kg)	Code
25 x 15	51	93	0.12	44 996 005
25 x 22	51	93	0.13	44 996 006
32 x 28	60	93	0.21	44 996 007

Fittings for Protecta-Line in Brownfield and Contaminated Land

Protecta-Line Pipe Sizes (mm)												
25	32	63	90	110	125	160	180	225	250	280	315	355
Mechanical Compression Fittings												
			Fluid Compression Fittings									
			25mm and 32mm Self-Tapping Ferrule Off-Takes									
			63mm Ferrule Off-Takes									
			Electrofusion or Butt-Fusion									

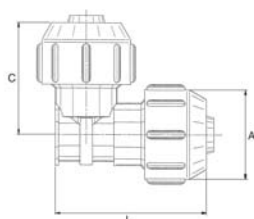
A range of fabricated fittings for butt-fusion in sizes 90mm to 355mm is available to order – please contact Sales Office for further information.

Equal Tees



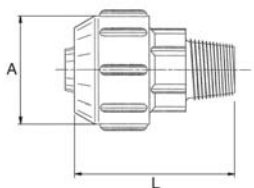
Size (mm)	A (mm)	C (mm)	L (mm)	Weight (kg)	Code
25 x 25	51	64	134	0.18	44 122 307
32 x 32	60	68	146	0.30	44 122 308
63 x 63	105	100	216	1.25	44 122 311

90° Elbows



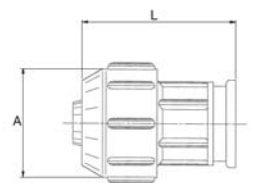
Size (mm)	A (mm)	C (mm)	L (mm)	Weight (kg)	Code
25	51	68	93	0.13	44 115 307
32	60	71	97	0.22	44 115 308
63	105	105	158	0.90	44 115 311

End Connectors - PE x Male Iron BSP Tapered



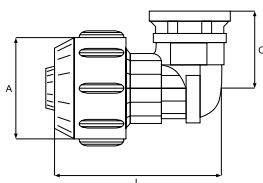
Size (mm x inch)	A (mm)	L (mm)	Weight (kg)	Code
25 x 3/4	51	64	0.07	44 151 608
32 x 3/4	60	74	0.08	44 151 611
32 x 1	60	77	0.11	44 151 612
63 x 1 1/2	105	100	0.39	44 151 628
63 x 2	105	105	0.39	44 151 629

End Connectors - PE x Female Iron BSP Tapered



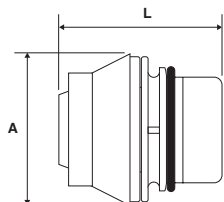
Size (mm x inch)	A (mm)	L (mm)	Weight (kg)	Code
25 x 3/4	51	67	0.08	44 101 608
32 x 1	60	75	0.12	44 101 612
63 x 2	105	100	0.43	44 101 629

90° Elbows - PE x Female Iron BSP Tapered



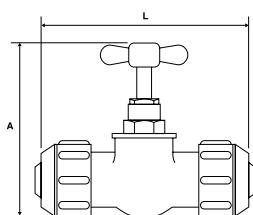
Size (mm x inch)	A (mm)	C (mm)	L (mm)	Weight (kg)	Code
25 x ¾	51	35	73	0.08	44 396 608
32 x ¾	60	39	80	0.18	44 396 612
63 x 2	105	62	145	0.57	44 396 629

Reducing Sets - to allow easy Protecta-Line diameter changes



Size (mm)	A (mm)	L (mm)	Weight (kg)	Code
32 x 25	44	42	0.03	44 105 409
63 x 32	80	51	0.15	44 105 415

Stop Cocks - BS 5433 Type

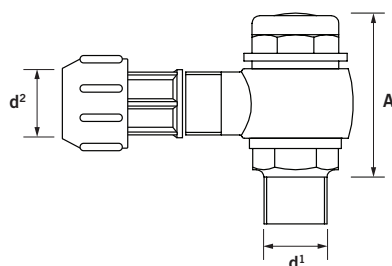


Size (mm)	A (mm)	L (mm)	Weight (kg)	Code
25*	140	135	0.9	44 142 307
32**	165	170	1.7	44 142 308

* Now includes 22mm copper Type A insert

** Now includes 28mm copper Type A insert

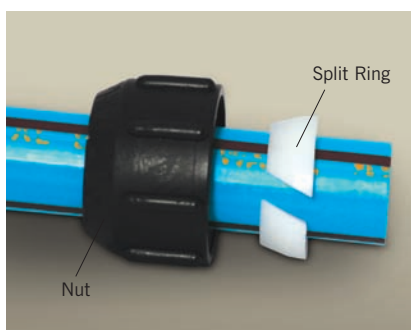
Ductile Iron Ferrule - PE x Male Iron BSP Tapered



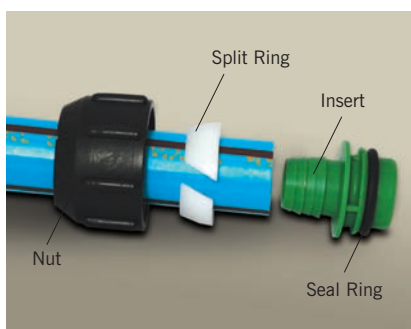
Size (inch x mm) d1 x d2	A (mm)	Weight (kg)	Code
¾ x 25	60	0.45	44 762 407

Joining Instructions for 25mm-63mm Protecta-Line Mechanical Compression Fittings (Service Pipes)

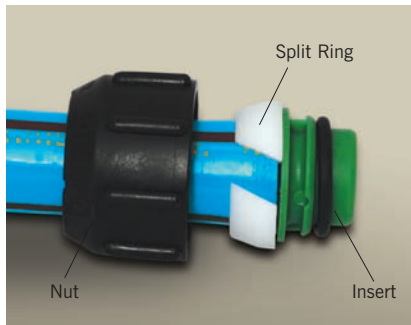
For use on GPS Protecta-Line pipe only.



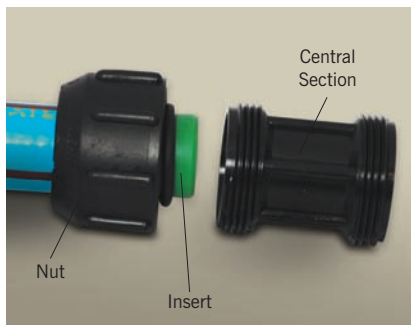
1. Cut the pipe square. Unscrew the Protecta-Line fitting and remove the nut and white split ring. Slide these on to the Protecta-Line pipe, nut first ensuring that the taper of the split ring faces towards the nut.



2. Tap the insert into the end of the Protecta-Line pipe with a flat wooden object. Ensure that the seal ring is correctly positioned on the pipe insert.

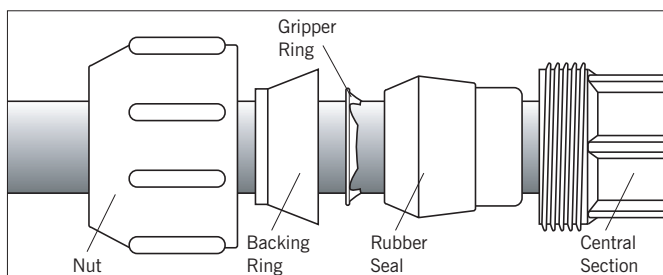


3. Slide the split ring along the Protecta-Line pipe until it is up against the insert. Snap the nut over the split ring.



4. Offer the body of the fitting to the Protecta-Line pipe end and screw the nut on to the fitting body. Continue to tighten the nut until the thread on the body is no longer visible.

Protecta-Line to copper joint (incorporates insert set for Copper Type A for above ground use on Table X tube).



1. Cut copper pipe square, preferably with cutters, and deburr.
2. Degrease pipe and roughen with wire wool or similar.
3. Unscrew nut from copper side of Protecta-Line fitting and slide this nut and plastic backing ring along copper pipe – with taper of backing ring towards nut.
4. Then slide metal gripper ring on to pipe and position it 10–15mm from end, ensuring flat face of gripper ring is facing towards backing ring/nut (i.e. slots in the gripper ring must face towards fitting body).
5. Next slide rubber seal on to copper pipe all the way up to internal stop - taper facing towards other parts already on pipe.
6. This will make certain that the metal gripper ring is pushed to correct location along pipe.
7. Slide backing ring forward to meet gripper ring/rubber seal.
8. Push assembly into body of Protecta-Line fitting and engage nut.
9. Tighten nut firmly with a wrench.
10. Ensure all pipework is securely anchored to counteract end loading.

Caution: Do not use heat near plastics and do not re-use gripper ring.

Connecting Protecta-Line mechanical compression fittings to iron fittings

When screwing Protecta-Line Mechanical Compression Fittings onto iron fittings it is important not to use excessive amounts of **thread** sealing tape or other material **because** this can result in unreasonable force needed to complete the joint. Thread sealing tape should be WRc approved.

Installation Instructions for Protecta-Line Ductile Iron Ferrule

1. Drill and tap the ductile iron main and insert the ferrule nipple in the usual way.



2. Fit the Protecta-Line end connector compression fitting to the outlet of the ferrule banjo, employing sufficient PTFE tape to ensure a good seal. Fit the Protecta-Line service pipe into the compression fitting on the outlet as described on page 7.



3. Fit the banjo onto the ferrule nipple and replace the securing collar. After aligning the outlet to the desired position, tighten the securing collar.



4. Remove the plug from the top of the securing collar and withdraw the nipple plug all the way up to the top of the stem to achieve a good seal and then replace the plug.



5. Reinstall any protective wrappings to the ductile iron pipe.

Note: The ductile iron ferrule may have a gunmetal rather than an acetal top cap on some fittings.

Protecta-Line Ferrule Off-Takes

- 25mm and 32mm Protecta-Line self-tapping ferrule off-take for 63mm to 355mm Protecta-Line mains.
- 63mm Protecta-Line ferrule off-take for 90mm to 355mm Protecta-Line mains.
- Each ferrule off-take incorporates a self-locking insert sleeve that grips into drilled/tapped hole in the mains pipe and securely seals the pipe crown to the underside of the fittings base.

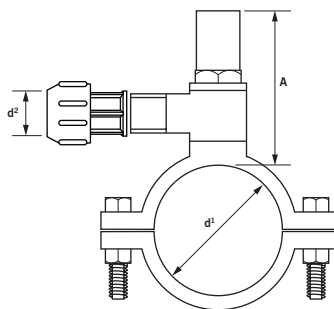
- The insert sleeve features a captive seal that positively isolates the barrier pipe aluminium layer from the drinking water.
- Ground contaminants and pipe aluminium barrier layer are isolated from water supply.
- Simple all weather installation and use.

Note: Protecta-Line gunmetal ferrule off-takes should always be used in preference to PE electrofusion saddles.

25mm and 32mm Self Tapping Ferrule Off-Takes



Fitting includes 1 x PE x Female Iron BSP Tapered End Connector.

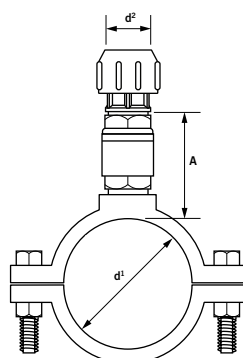


Size (mm) d1 x d2	A (mm)	Weight (kg)	Code
63 x 25	95	0.92	44 762 412
90 x 25	95	1.07	44 762 393
110 x 25	95	1.10	44 762 394
125 x 25	95	1.19	44 762 395
160 x 25	95	1.28	44 762 397
180 x 25	95	1.35	44 762 398
225 x 25	95	1.90	44 762 400
250 x 25	95	2.30	44 762 401
280 x 25	95	2.50	44 762 402
315 x 25	95	3.20	44 762 403
355 x 25	95	3.30	44 762 404
63 x 32	100	1.24	44 762 415
90 x 32	100	1.31	44 762 417
110 x 32	100	1.37	44 762 418
125 x 32	100	1.42	44 762 419
160 x 32	100	1.52	44 762 421
180 x 32	100	1.60	44 762 422
225 x 32	100	2.10	44 762 424
250 x 32	100	2.50	44 762 425
280 x 32	100	2.70	44 762 426
315 x 32	100	3.40	44 762 427
355 x 32	100	3.50	44 762 428

63mm Ferrule Off-Takes

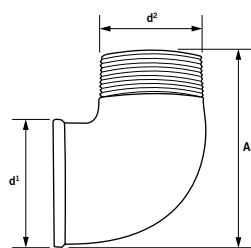


Fitting includes 1 x 63mm PE x Male Iron BSP Tapered End Connector.



Size (mm) d1 x d2	A (mm)	Weight (kg)	Code
90 x 63	155	3.38	44 762 459
110 x 63	155	3.77	44 762 460
125 x 63	155	3.79	44 762 461
160 x 63	155	3.73	44 762 463
180 x 63	155	3.88	44 762 464
225 x 63	155	5.01	44 762 466
250 x 63	155	5.12	44 762 467
280 x 63	155	5.29	44 762 468
315 x 63	155	4.97	44 762 469
355 x 63	155	6.12	44 762 470

90° Gunmetal Elbow, FI/MI (for use with 63mm Ferrule Off-Takes)



Size (mm x inch) d1 x d2	A (mm)	Weight (kg)	Code
63 x 2	72	0.89	44 996 050

Installation Instructions for 25mm and 32mm Protecta-Line Gunmetal Self-Tapping Ferrule Straps

For use on GPS Protecta-Line pipe only.

Gloves and safety glasses must be worn during the whole assembly process.

The ferrule strap cutter includes a sealing sleeve that prevents water contact with the aluminium barrier layer.

1. Fit the Protecta-Line end connector compression fitting to the ferrule strap male outlet, employing sufficient PTFE tape to ensure a good seal. (It is advisable to rotate the ferrule outlet having first slackened the securing collar).



2. Clean the surface of the Protecta-Line main where the self-tapping ferrule strap is to be installed, avoiding areas which appear damaged.



3. Ensuring that the sealing "O" ring is in place under the upper ferrule strap (and taking care not to damage this on the protruding sleeve), fit the self-tapping ferrule squarely around the main and tighten the two strap bolts evenly and symmetrically.



4. Fit the Protecta-Line service pipe into the compression fitting on the outlet, as described in the separate instructions. After aligning the outlet to the desired position, tighten the securing collar.



5. Remove the plug from the top of the ferrule cap, and, using an 8 or 11mm (depending on service pipe size) square section key, wind down the cutter assembly all the way until hard and solid resistance is felt. Note that before the solid resistance is felt there may be a temporary drop in resistance, followed by an increase as the sleeve around the cutter enters the main.

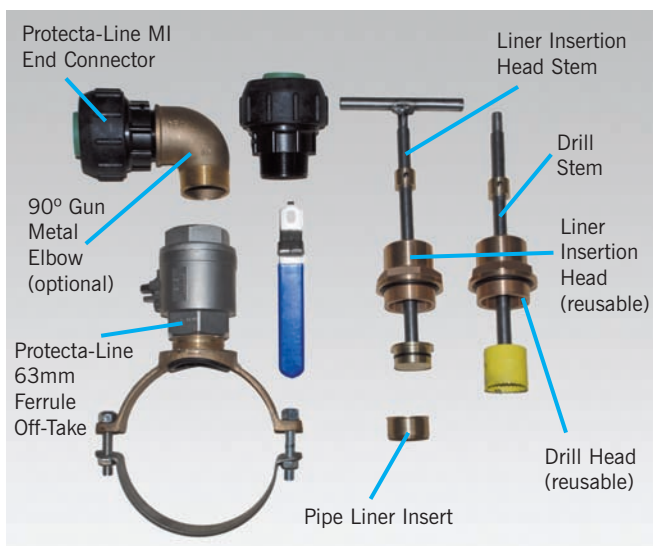


6. Withdraw the cutter all the way up to the top of the stem, employing a final counter-clockwise torque of approximately 15Nm to ensure a good seal and replace the plug. Some leakage through the plughole is normal before the cutter has been fully unscrewed.



Caution: Do not remove cutter or sleeve from this product before use.

Installation Instructions for 63mm Protecta-Line Gunmetal Ferrule Off-Takes



Accessory	Code
* Protecta-Line 2" Drill Head	44 794 003
**Protecta-Line 2" Liner Head	44 794 004
***Protecta-Line Drill/Liner Head O-Ring Kit	44 996 062

*Drill Head setting: fix stop at 230mm from base to drill tip

**Drill Liner setting: fix stop at 180mm from stop base to bottom of tip on liner head

*** Includes four O-rings for replacement in either Drill Head or Liner Head

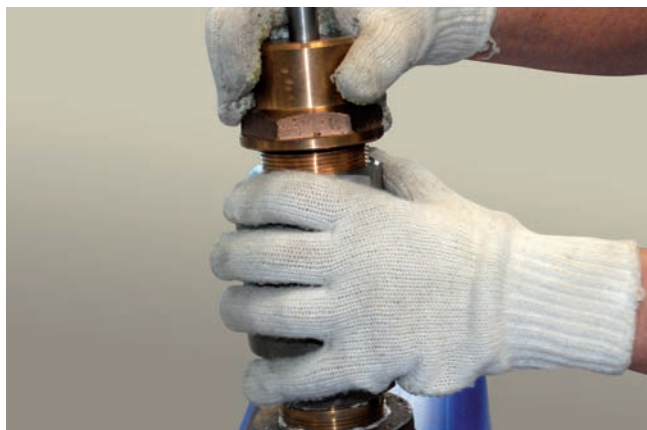
1. Ensuring that the sealing O-ring is in place under the upper ferrule strap, fit the ferrule squarely around the main in the required position and tighten the two strap bolts evenly and symmetrically. Ensure that ball valve operates correctly before fitting.



2. After assembling the drill stem with a 48mm hole cutter, withdraw the drill stem fully into the drill head.



3. Ensure that the ball valve is in the fully open position (anti-clockwise rotation). Fit the drill head to the outlet of the ferrule.



4. Attach the chuck of an electric drill to the top of the drill stem (ensuring that the power supply is disconnected). Re-connect the power supply to the electric drill and operate the drill with downward pressure until the stop on the drill stem contacts the top of the drill head.



5. Disconnect the power supply to the electric drill and remove the drill from the drill stem. Withdraw the drill stem, until the cutter is fully returned into the drill head and fully close the ball valve (clockwise rotation) before removing the drill head from the outlet of the ferrule.



6. Position the liner insert onto the carrier of the liner insertion head.



7. Fully withdraw the carrier and pipe liner insert into the liner insert head (indicated by the lower depth mark on the stem).



8. Fit the liner insertion head to the outlet of the ferrule. Open the ball valve (anti-clockwise rotation) and fully insert the liner insert, by applying downward pressure on the tee-bar handle on the shaft of the liner insertion head until the stop on the liner insertion head stem contacts the top of the liner insertion head.



9. Withdraw the liner insertion head stem until the carrier is fully withdrawn into the liner insert head (indicated by the lower depth mark on the stem). Close the ball valve (clockwise rotation) and remove the liner insertion head.



10. The communication pipe can now be fitted to the outlet of the ferrule utilising a Protecta-Line 63mm x 2" MI mechanical end connector, either directly to the ferrule outlet (side connection) or in conjunction with 2" MI/FI 90° elbow (top connection).



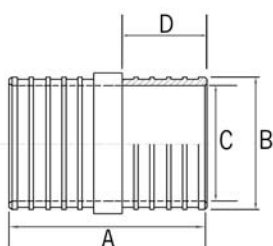
11. Open the ball valve (anti-clockwise rotation).

Protecta-Line Fluid Compression Fittings

Protecta-Line fluid compression fittings are available for pipe sizes from 63mm to 180mm, to suit the SDR and PE class employed. The fittings comprise of a shell, or one or more half-shells, made from epoxy coated steel featuring an integral inner copper membrane. A simple pipe support liner is provided, again made from Rilsan coated steel. Fluid Compression Fittings are available as Couplers, Repair Couplers, Reducers, 90° Elbows, 45° Elbows, Equal Tees, Stub Flanges, Flanged Branch Tees and Duck Foot Bends. No pipe preparation or subsequent joint wrapping is required.

- Easy all weather installation.
- 100% barrier protection without wrapping.
- WIS 4-24-01 Type 1 approved fitting (fully end load bearing).
- PE core pipe swages closely into the insert liner grooves to give a perfect seal without the need for any elastomeric seals.
- Compatible with pipe rating.
- Uses environmentally friendly Protecta-Line hydraulic fluid.
- Outer shell and sleeve are Rilsan and epoxy coated for maximum corrosion resistance.

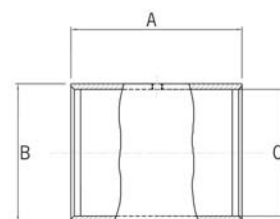
Couplers



Consists of 1 x liner and 1 x standard full sized shell. Weight shown is for complete product.

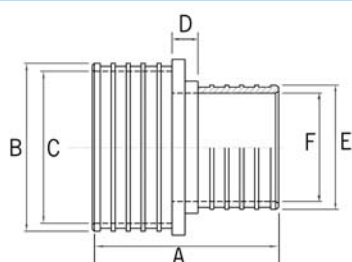
Full Shell Dimensions

Size (mm)	A (mm)	B (mm)	C (mm)
63	102	84	66
90	136	111	94
110	161	133	114
125	180	196	130
160	200	184	166
180	230	207	188



Size (mm)	SDR 11 Liner Dimensions						SDR 11 Code	SDR 17 Liner Dimensions						SDR 17 Code
	A (mm)	B (mm)	C (mm)	D (mm)	Weight (kg)			A (mm)	B (mm)	C (mm)	D (mm)	Weight (kg)		
63	82	50	43	36	1.3		44 110 311	-	-	-	-	-		-
90	116	71	62	53	2.7		44 100 313	-	-	-	-	-		-
110	141	87	74	60	4.8		44 100 314	-	-	-	-	-		-
125	-	-	-	-	-		-	160	107	95	70	6.2		44 109 315
160	-	-	-	-	-		-	180	138	122	80	11.2		44 109 317
180	-	-	-	-	-		-	210	155	137	95	15.5		44 109 318

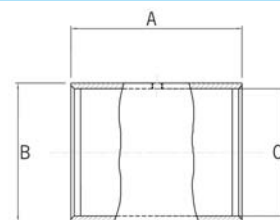
Reducers



Consists of 1 x reducing liner and 2 x half sized shells. Weight shown is for complete product.

Half Shell Dimensions

Size (mm)	A (mm)	B (mm)	C (mm)
63	102	79	66
90	111	110	94
110	125	133	114
125	125	196	130
160	150	184	166
180	172	207	188

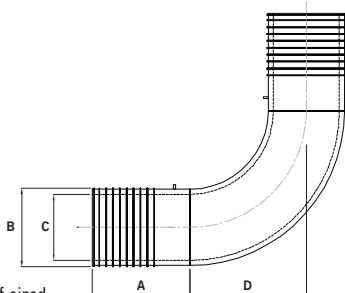


Size (mm)	SDR 11 Liner Dimensions							SDR 11 Code	SDR 17 Liner Dimensions							SDR 17 Code
	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	Weight (kg)		A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	Weight (kg)	
90 x 63	260	71	62	81	50	43	4.3	44 441 459	-	-	-	-	-	-	-	-
110 x 90	290	87	75	100	71	62	7.3	44 441 483	-	-	-	-	-	-	-	-
125 x 110*	-	-	-	-	-	-	-	-	428	107	95	152	86	74	8.4	44 440 493
160 x 125	-	-	-	-	-	-	-	-	335	138	125	87	95	83	15.9	44 440 504
180 x 125	-	-	-	-	-	-	-	-	340	156	142	114	108	96	18.7	44 440 505

Please note that both ends of all reducers are for the stated SDR.

* 125mm SDR17 reducing down to 110mm SDR11.

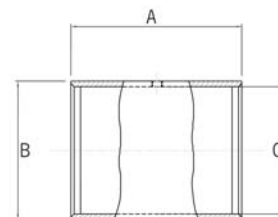
90° Elbows



Consists of 1 x elbow liner and 2 x half sized shells. Weight shown is for complete product.

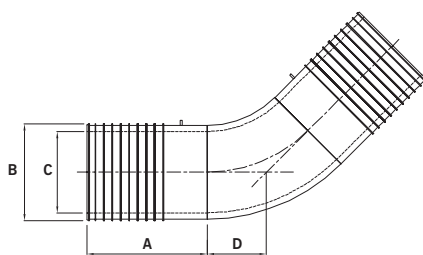
Half Shell Dimensions

Size (mm)	A (mm)	B (mm)	C (mm)
63	102	79	66
90	111	110	94
110	125	133	114
125	125	196	130
160	150	184	166
180	172	207	188



Size (mm)	SDR 11 Liner Dimensions						SDR 17 Liner Dimensions					
	A (mm)	B (mm)	C (mm)	D (mm)	Weight (kg)	SDR 11 Code	A (mm)	B (mm)	C (mm)	D (mm)	Weight (kg)	SDR 17 Code
63	115	50	43	81	3.0	44 209 311	-	-	-	-	-	-
90	124	71	61	100	5.4	44 210 313	-	-	-	-	-	-
110	138	87	74	119	9.5	44 210 314	-	-	-	-	-	-
125	-	-	-	-	-	-	138	107	95	87	11.3	44 208 315
160	-	-	-	-	-	-	167	137	122	114	22.2	44 208 317
180	-	-	-	-	-	-	192	155	137	130	27.7	44 208 318

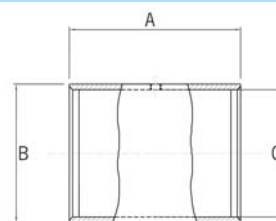
45° Elbows



Consists of 1 x elbow liner and 2 x half sized shells. Weight shown is for complete product.

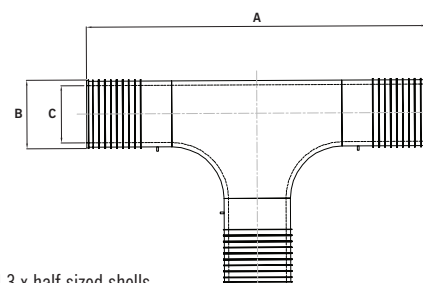
Half Shell Dimensions

Size (mm)	A (mm)	B (mm)	C (mm)
63	102	79	66
90	111	110	94
110	125	133	114
125	125	196	130
160	150	184	166
180	172	207	188



Size (mm)	SDR 11 Liner Dimensions						SDR 17 Liner Dimensions					
	A (mm)	B (mm)	C (mm)	D (mm)	Weight (kg)	SDR 11 Code	A (mm)	B (mm)	C (mm)	D (mm)	Weight (kg)	SDR 17 Code
63	115	50	43	40	2.9	44 215 311	-	-	-	-	-	-
90	124	71	61	49	5.2	44 216 313	-	-	-	-	-	-
110	138	87	74	56	9.2	44 216 314	-	-	-	-	-	-
125	-	-	-	-	-	-	138	107	95	74	10.7	44 214 315
160	-	-	-	-	-	-	167	137	122	89	21.1	44 214 317
180	-	-	-	-	-	-	192	155	137	105	25.9	44 214 318

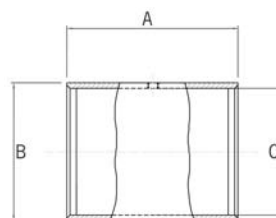
Equal Tees



Consists of 1 x equal tee liner and 3 x half sized shells. Weight shown is for complete product.

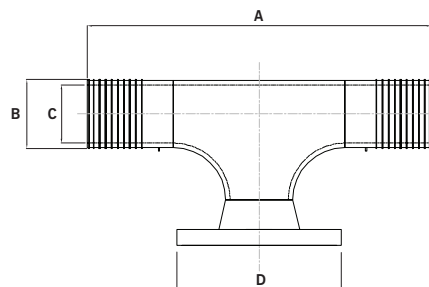
Half Shell Dimensions

Size (mm)	A (mm)	B (mm)	C (mm)
63	102	79	66
90	111	110	94
110	125	133	114
125	125	196	130
160	150	184	166
180	172	207	188



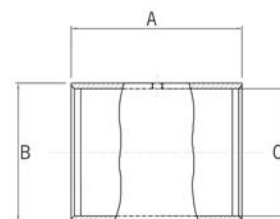
Size (mm)	SDR 11 Liner Dimensions					SDR 17 Liner Dimensions				
	A (mm)	B (mm)	C (mm)	Weight (kg)	SDR 11 Code	A (mm)	B (mm)	C (mm)	Weight (kg)	SDR 17 Code
63	362	50	43	5.3	44 221 311	-	-	-	-	-
90	404	71	61	9.5	44 222 313	-	-	-	-	-
110	452	87	74	15.9	44 222 314	-	-	-	-	-
125	-	-	-	-	-	500	107	95	19.6	44 220 315
160	-	-	-	-	-	596	137	122	36.7	44 220 317
180	-	-	-	-	-	634	155	137	47.2	44 220 318

Flanged Branch Tees



Half Shell Dimensions

Size (mm)	A (mm)	B (mm)	C (mm)
90	111	110	94
110	125	133	114
125	125	196	130
160	150	184	166
180	172	207	188

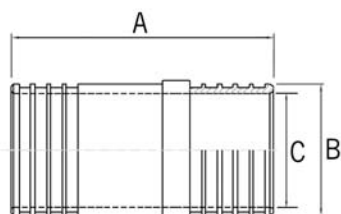


Consists of 1 x flanged branch tee liner and 2 x half sized shells. Weight shown is for complete product. (Bolt set not supplied).

Size (mm x PN)	Bolting	Torque (Nm +/- 10%)	PCD	SDR 11 Liner Dimensions						SDR 17 Liner Dimensions					
				A (mm)	B (mm)	C (mm)	D (mm)	Weight (kg)	SDR 11 Code	A (mm)	B (mm)	C (mm)	D (mm)	Weight (kg)	SDR 17 Code
90 x DN80 PN16	M16 X 8	70	160	404	71	62	200	11.0	44 351 313	-	-	-	-	-	-
110 x DN80 PN16	M16 X 8	70	160	448	86	74	200	NA	44 351 314	-	-	-	-	-	-
125 x DN80 PN16	M16 X 8	70	160	-	-	-	-	-	-	436	108	96	200	19.0	44 363 315
160 x DN80 PN16	M16 X 8	70	160	-	-	-	-	-	-	590	138	121	200	NA	44 363 317
180 x DN80 PN16	M16 X 8	70	160	-	-	-	-	-	-	634	156	142	200	42.5	44 363 318
90 x DN100 PN16	M16 X 8	80	180	404	71	62	220	11.9	44 352 313	-	-	-	-	-	-
110 x DN100 PN16	M16 X 8	80	180	448	86	74	220	NA	44 352 314	-	-	-	-	-	-
125 x DN100 PN16	M16 X 8	80	180	-	-	-	-	-	-	500	108	96	220	19.9	44 364 315
160 x DN100 PN16	M16 X 8	80	180	-	-	-	-	-	-	590	138	121	220	NA	44 364 317
180 x DN100 PN16	M16 X 8	80	180	-	-	-	-	-	-	634	156	142	220	41.5	44 364 318
160 x DN150 PN16	M20 X 8	120	240	-	-	-	-	-	-	590	138	121	285	NA	44 365 317
180 x DN150 PN16	M20 X 8	120	240	-	-	-	-	-	-	634	156	142	285	43.9	44 365 318

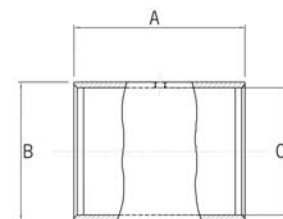
The information given for bolting torque values are for metal to metal connections. Drilled to BS EN 1092-1:2007 Table 13.

Repair Couplers



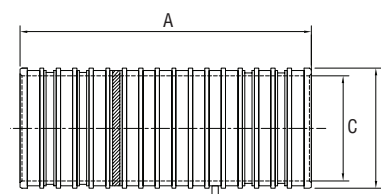
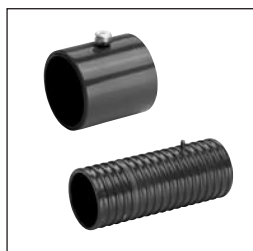
Repair Shell Dimensions

Size (mm)	A (mm)	B (mm)	C (mm)
63	145	79	66



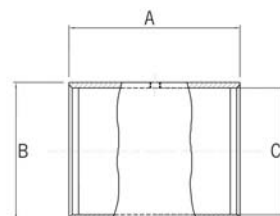
Consists of 1 x repair coupler liner and 1 x repair coupler sized shell. Weight shown is for complete product.

Size (mm)	SDR 11 Liner Dimensions					SDR 17 Liner Dimensions				
	A (mm)	B (mm)	C (mm)	Weight (kg)	SDR 11 Code	A (mm)	B (mm)	C (mm)	Weight (kg)	SDR 17 Code
63	126	50	43	1.7	44 246 311	-	-	-	-	-



Repair Half Shell Dimensions

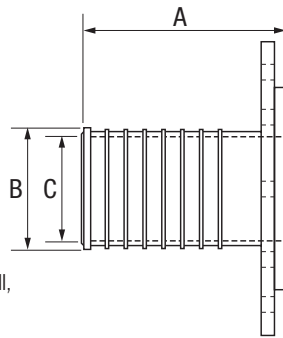
Size (mm)	A (mm)	B (mm)	C (mm)
90	111	110	66
110	125	133	114
125	125	196	130
160	150	184	166
180	172	207	188



Consists of 1 x repair coupler liner and 2 x half sized shells.

Size (mm)	SDR 11 Liner Dimensions					SDR 17 Liner Dimensions				
	A (mm)	B (mm)	C (mm)	Weight (kg)	SDR 11 Code	A (mm)	B (mm)	C (mm)	Weight (kg)	SDR 17 Code
90	177	71	61	3.5	44 246 313	-	-	-	-	-
110	203	86	74	6.0	44 246 314	-	-	-	-	-
125	-	-	-	-	-	236	107	95	7.7	44 245 315
160	-	-	-	-	-	269	122	122	12.5	44 245 317
180	-	-	-	-	-	319	155	137	20.4	44 245 318

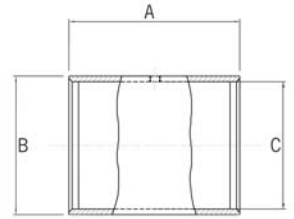
Stub Flange Adaptors



Consists of 1 x stub flange liner, 1 x half sized shell, backing ring and gasket. (Bolt set not supplied)

Half Shell Dimensions

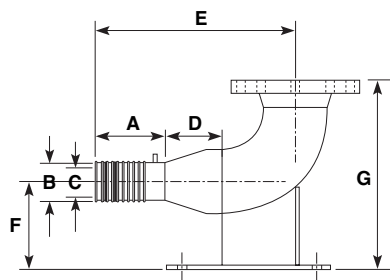
Size (mm)	A (mm)	B (mm)	C (mm)
63	102	79	66
90	111	110	94
110	125	133	114
125	125	196	130
160	150	184	166
180	172	207	188



Size (mm x PN)	Bolting	Torque (Nm +/- 10%)	PCD	SDR 11 Liner Dimensions					SDR 17 Liner Dimensions				
				A (mm)	B (mm)	C (mm)	Weight (kg)	SDR 11 Code	A (mm)	B (mm)	C (mm)	Weight (kg)	SDR 17 Code
63 x DN50 PN16	M16 X 4	60	125	115	50	43	3.1	44 227 311	-	-	-	-	-
63 x DN80 PN16	M16 X 8	70	160	115	50	43	3.4	44 228 311	-	-	-	-	-
90 x DN80 PN16	M16 X 8	70	160	124	71	62	6.0	44 228 313	-	-	-	-	-
110 x DN100 PN16	M16 X 8	80	180	138	87	75	8.9	44 228 314	-	-	-	-	-
125 x DN100 PN16	M16 X 8	80	180	-	-	-	-	-	138	108	96	10.9	44 226 315
160 x DN150 PN16	M20 X 8	120	240	-	-	-	-	-	167	138	125	17.9	44 226 317
180 x DN150 PN16	M20 X 8	120	240	-	-	-	-	-	192	156	142	21.9	44 226 318

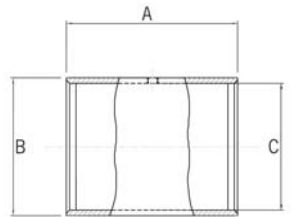
The information given for bolting torque values are for metal to metal connections.
Drilled to BS EN 1092-1:2007 Table 13.

Duck Foot Bends



Half Shell Dimensions

Size (mm)	A (mm)	B (mm)	C (mm)
63	102	79	66
90	111	110	94
110	125	133	114
125	125	196	130
160	150	184	166
180	172	207	188



Consists of 1 x flanged bend, 1 x half sized shell and gasket. (Bolt set not supplied)

Size (mm x PN)	Bolting	Torque (Nm +/- 10%)	PCD	Weight (kg)	SDR 11 Liner Dimensions								SDR 17 Liner Dimensions							
					A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	SDR 11 Code	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)	G (mm)	SDR 17 Code
63 x DN80 PN16	M16 x 8	70	160	9.0	115	50	43	89	320	135	300	44 384 459	-	-	-	-	-	-	-	-
90 x DN80 PN16	M16 x 8	70	160	9.0	124	71	62	89	320	135	300	44 384 313	-	-	-	-	-	-	-	-
110 x DN80 PN16	M16 x 8	70	160	9.5	138	87	75	N/A	240	135	300	44 384 483	-	-	-	-	-	-	-	-
125 x DN80 PN16	M16 x 8	70	160	13.5	-	-	-	-	-	-	-	-	138	108	96	N/A	245	135	300	44 385 484
160 x DN80 PN16	M16 x 8	70	160	-	-	-	-	-	-	-	-	-	167	138	125	102	370	135	300	44 385 486
180 x DN80 PN16	M16 x 8	70	160	16.5	-	-	-	-	-	-	-	-	192	156	142	127	420	135	300	44 385 487

The information given for Bolting Torque Values are for metal to metal connections.
Drilled to BS EN 1092-1:2007 Table 13.

Accessories



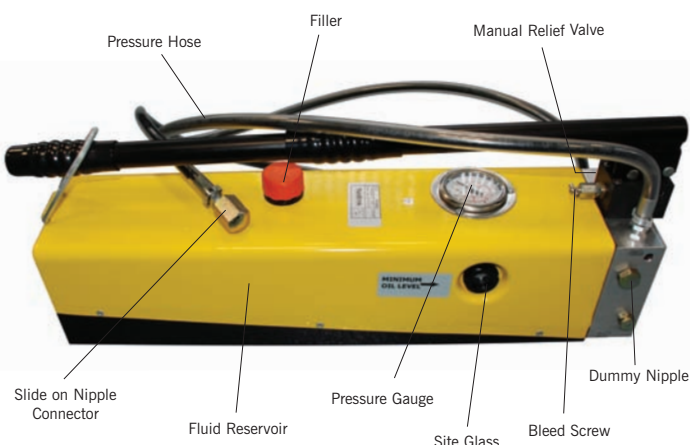
Hydraulic pump available for hire through the following outlets:
MCA Hire Services
www.mcahire.com
Plant & Site Services Ltd.
www.psshire.com

Accessory	Weight (kg)	Code
Aluminium wrapping tape (45m long x 50mm wide).	0.5	44 996 008
Hydraulic Pump	12.0	44 996 009
Protecta-Line hydraulic fluid (5 litres)	5.0	44 996 010

Only Protecta-Line hydraulic fluid should be used with the pump as any other type of fluid can damage it.

Installation Instructions for Protecta-Line Fluid Compression Fittings - Pressurising the Joint

Gloves and safety glasses must be worn during the whole assembly process. Residual pressure within the fitting may be released while removing the connector, causing a momentary spurt of fluid.



1. A calibrated hydraulic pump must be used for all pressurisation of the Protecta-Line fluid compression fitting range. The pump must be filled with Protecta-Line hydraulic fluid.
2. Slide the nipple connector over the nipple on the Protecta-Line fluid compression fitting. Please note that the nipple connector is a slide fit over the nipple, not a push fit. An alternative nipple connector, secured in position by a knurled nut may be fitted. Care should be taken not to overtighten the connector and damage the seal.
3. Gently raise and lower the pump handle, watching the pressure gauge. As the pressure gauge approaches 260 bar, the pressure breaker valve will activate. This indicates that the required pressure has been achieved. Wait 10 seconds and repeat the pumping action until the pressure breaker valve activates. Wait 10 seconds and repeat again. The pressure gauge should now show a steady reading of approximately 260 bar. The joint is now made.
4. **The pressure must be released before removing the slide-on fitting connector from the Protecta-Line Fluid Compression shell.** Depress the manual relief valve on the pump for 2 seconds then slide off the nipple connector from the Protecta-Line fluid compression fitting.

5. If for any reason the nipple needs to be removed, the pressure in the fitting **must** be released first by using the pressure release tool, i.e. depressing the centre part of the fitting nipple. (N.B. Care should be taken as a momentary spurt of fluid may occur).
6. Check that the marks on the pipe still line up with the end of the fitting.
7. The joint is now complete.

Fluid Quantities

Approximate fluid quantities to pressure the fitting shell (full shell):

Shell Size	Fluid Quantity (cc)	Number of Shells/Litre
63	40	25 Approx
90	90	11 Approx
110	150	6 Approx
125	190	5 Approx
160	320	3 Approx
180	375	2 Approx

Only Protecta-Line hydraulic fluid should be used with the pump as any other type of fluid can damage it.

Alternative Nipple Connector

1. An alternative style nipple connector is fitted to some hydraulic pumps.
2. The nipple connector slides over the nipple of the Protecta-Line Fluid Compression fitting and is secured in position by screwing the knurled nut at the top. Care should be taken not to overtighten the connector and damage the seal.
3. After the pressure is released (Stage 4) the nipple connector is removed by first unscrewing the knurled nut at the top of the connector sufficiently to slide the connector off of the nipple.



How to Bleed the Pump

Gloves and safety glasses must be worn during the whole assembly process.



Pumps fitted with a bleed screw

1. The bleed screw is positioned below the pump handle at the rear of the block.
2. Park the nipple connector onto the dummy nipple positioned on the pump block.
3. Raise handle to fullest extent.
4. Turn bleed screw anti-clockwise approximately one quarter of a turn.
5. Lower handle applying gentle pressure, oil will dribble out of the bleed valve.
6. Once the handle has reached the end of its stroke turn the bleed valve clockwise until solid.
7. Wipe any excess oil from around the bleed valve.
8. Check for pressurisation and repeat the bleed operation sequence if necessary.



Note: Residual pressure within the system may be released while removing the nipple connector, causing a momentary spurt of fluid.

9. If unit still fails to pressurise after bleeding, return to supplier.

Pumps not fitted with a bleed screw

1. Park the nipple connector onto the dummy nipple positioned on the pump block.
 2. Activate the manual relief valve and hold down.
 3. Raise and lower the pump handle ten times, in each case achieving maximum stroke.
 4. Release the manual relief valve.
 5. Check for pressurisation and repeat bleed operation sequence if necessary.
 6. Operate the manual relief valve and remove the nipple connector from the dummy nipple.
- Note: Residual pressure within the system may be released while removing the nipple connector, causing a momentary spurt of fluid.**
7. If unit still fails to pressurise after bleeding, then return to supplier.

Joining Instructions for 63mm-180mm Protecta-Line Fluid Compression Fittings (Mains Pipes)

For use on GPS Protecta-Line pipe only.

Gloves and safety glasses must be worn during the whole assembly process.

1. Inspect the end of the pipes to be joined for any obstruction, removing any large burrs or ridges. Check the pipe ends are reasonably square.



2. Using a tape measure and a suitable marker pen mark the appropriate dimension "X" from the ends of the pipes to be joined.

63 - 47mm	110 - 71mm	160 - 91mm
90 - 64mm	125 - 81mm	180 - 106mm



3. Slide the outer shell over the pipe end (where there is evidence that the pipe has some degree of ovality then the pipe end should be re-rounded). Push the insert into the pipe end making sure that the pipe end is firmly against the shoulder of the insert.



4. Connect the pipe and insert on to the free pipe end and push home fully, ensuring that both pipe spigot ends are in contact with the central stop of the insert.



5. Slide the outer shell over the assembly until the two marks on each end of the pipe are visible at each end of the outer shell.



6. The joint is now ready to be pressurised. Follow the pressurisation procedure.



For all fittings other than the coupler and repair coupler, the marking dimensions are as follows:

63 - 102mm	110 - 125mm	160 - 150mm
90 - 111mm	125 - 125mm	180 - 172mm

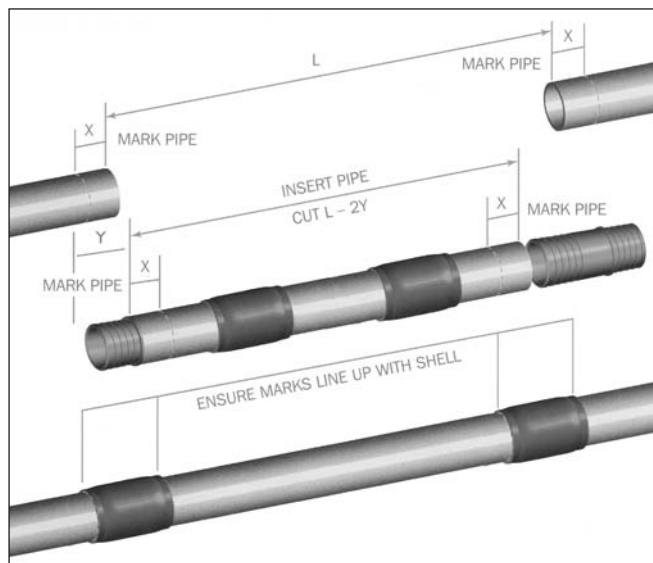
Note: The insert should be pushed into the pipe spigot until the stop is reached. The outer shell should be positioned so that one edge is aligned with the mark on the pipe and the other aligned with the end of the pipe. The spigots of stub flanges should be fully inserted into the pipe end up to the flange.



Joining Instructions for Protecta-Line Fluid Compression Repair Fittings

63mm Repair Couplers

Gloves and safety glasses must be worn during the whole assembly process



Pipe Diameter	X	2Y	Min 'L'
63	47	108	400

- Remove damaged Protecta-Line pipe section. The length removed, L, must be at least as long as stated in the table.
- Mark pipe ends left in the ground 'X' mm from ends using the repair gauge and marker pen.
- Cut length of new Protecta-Line pipe L - 2Y long and also mark 'X' mm in from each end. Note Y = insert liner spigot shorter length + shoulder.
- Slide 2 repair shells over the new pipe section and push the longer spigots of the associated insert liners into both ends of this section.
- Position the new pipe section in line with the existing pipe in the ground and move both the insert liners outwards until their shoulders are hard against the cut ends of the existing pipe.
- Slide the two repair shells outwards so that the four marks previously made line up with the ends of the shells.
- Both repair fittings are now ready to be pressurised as per above.

90–180mm Repair Couplers

Gloves and Safety Glasses must be worn during the whole assembly process



1. Cut out the damaged pipe section. The minimum length of the cut is shown in the table below.



2. The pipe should be internally deburred with a polyethylene deburring tool.



3. Where there is evidence that the pipe spigot has some degree of ovality, then the pipe spigot should be re-rounded.



4. From an undamaged pipe length cut out a repair piece. The length of the repair piece should be equal to the length of the cut out less the dimension 'Y' (see table below).



5. Clearly mark the penetration depth (dimension 'Z') on spigot ends (see table below).



6. Clearly mark dimensions on the new pipe.



7. Push the repair coupler inserts into the pipe with the short end of the repair couplers protruding. Ensure that the pipe ends are firmly against the stops on the inserts. Slide the repair coupler half shells on to the new pipe.



8. Slide the remaining half shells onto the pipe where the repair coupler inserts are to be fitted and insert the repair section with inserts into the pipeline. Slide the repair couplers and shells into position.



9. Ensure that the shells line up with the marks on the pipe. The joint is now ready to be pressurised. Please follow pressurisation procedure.

Pipe Diameter	Cut out Length (Min)	Dimension Y	Dimension Z
90	390	128	66
110	440	145	75
125	525	168	85
160	570	182	92
180	690	235	117

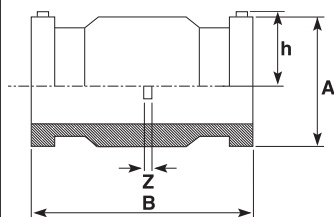
Protecta-Line Electrofusion Fittings

Protecta-Line Electrofusion Fittings are supplied for use with pipe sizes in sizes 90mm to 355mm.

Each fitting has a barcode to allow Electrofusion Control Units (ECU's) to read information such as Product Type and Size, Fusion Time and Cooling Time to ensure quick and easy installation. Fittings can be jointed either in manual mode or by scanning their integral barcode label.

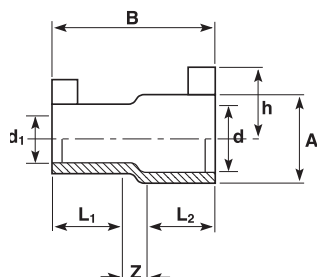
- Easy and rapid installation.
- Can be carried out in a trench, especially useful for repairs or tie-ins.
- Proven barrier protection against contamination.
- No risk of joint corrosion.
- No contact between the pipe's protective aluminium layer and drinking water.

Couplers - 39.5 Volt



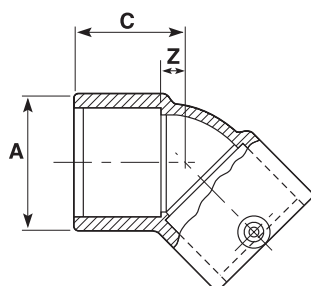
Size (mm)	A (mm)	B (mm)	h (mm)	Z (mm)	Weight (kg)	Fusion Time (Sec)	Cooling Time (mins)	Code
90	119	127	74	3	0.60	120	8	PL100313
110	141.5	135	82	3	0.80	160	10	PL100314
125	158.5	147	92	3	1.10	180	12	PL100315
160	198	164	113	3	1.60	300	14	PL100317
180	221	167	123	3	2.10	400	16	PL100318
225	278	220	145	8	3.90	500	18	PL100320
250	310	224	155	8	5.10	600	20	PL100321
280	341	256	175	8	7.10	700	28	PL100322
315	389	291	192	8	9.50	980	30	PL100323
355	405	295	218	4	9.00	980	28	PL100324

Reducer - 39.5 Volt



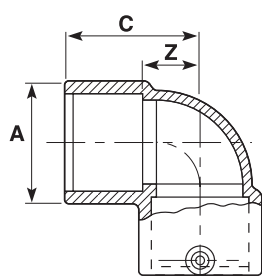
Size (mm) d x d ₁	A (mm)	B (mm)	L ₁ (mm)	L ₂ (mm)	h (mm)	Z (mm)	Weight (kg)	Fusion Time (Sec)	Cooling Time (mins)	Code
110 x 90	136	189	72	85	83	32	0.9	200	12	PL402483
125 x 90	155	210	67	90	91	53	1.2	180	14	PL402484
125 x 110	156	201	73.5	95	93	32.5	1.3	240	14	PL402493
160 x 110	195	254	72	101	114	81	2.2	300	14	PL402495
180 x 125	214	276	83	110	124	83	2.6	300	16	PL402505

45° Elbows - 39.5 Volt



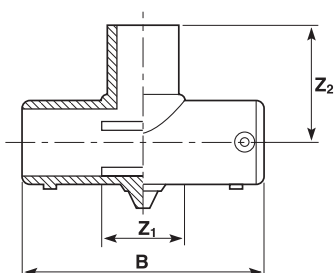
Size (mm)	A (mm)	C (mm)	Z (mm)	Weight (kg)	Fusion Time (Sec)	Cooling Time (mins)	Code
90	115	89	20	0.8	120	10	PL105313
110	136	97	27	1.0	160	10	PL105314
125	156	105	30	1.4	180	12	PL105315
160	198	120	36	2.6	300	16	PL105317
180	223	128	40	3.4	400	18	PL105318

90° Elbows - 39.5 Volt



Size (mm)	A (mm)	C (mm)	Z (mm)	Weight (kg)	Fusion Time (Sec)	Cooling Time (mins)	Code
90	114.5	118	49	0.9	120	10	PL104313
110	137	130	60	1.3	160	10	PL104314
125	155.5	143	67	1.8	180	12	PL104315
160	199	171	87	2.6	300	16	PL104317
180	222	185	98	4.4	400	18	PL104317

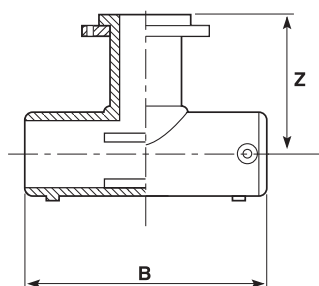
Equal Tees - 39.5 Volt



Size (mm)	B (mm)	Z ₁ (mm)	Z ₂ (mm)	Weight (kg)	Fusion Time (Sec)	Cooling Time (mins)	Code
90	211	83.5	150	1.1	120	10	PL408313
110	240	108	171	1.7	160	10	PL408314
125	280	119	177	2.3	240	12	PL408315
160	314	150	227	4.4	260	14	PL408317
180	365	161	225	5.8	440	20	PL408318

Supplied factory-wrapped to ensure complete barrier performance.

Flanged Branch Tees - 39.5 Volt



Size (mm)	B (mm)	Z (mm)	Weight (kg)	Fusion Time (Sec)	Cooling Time (mins)	Code
90 x 80 PN16	211	296	2.6	12	10	PL301313
110 x 80 PN16	240	515	3.9	160	10	PL301314
125 x 80 PN16	280	532	4.7	240	12	PL301315
160 x 80 PN16	314	615	6.7	260	14	PL301317
180 x 80 PN16	365	834	7.9	440	20	PL301318
90 x 100 PN16	211	534	3.2	100	10	PL302313
110 x 100 PN16	240	310	3.9	160	10	PL302314
125 x 100 PN16	280	301	4.3	240	12	PL302315
160 x 100 PN16	314	650	7.6	260	14	PL302317
180 x 100 PN16	365	671	9.2	440	20	PL302318
160 x 150 PN16	314	410	8.5	260	14	PL303317
180 x 150 PN16	365	415	5.2	440	20	PL303318

Supplied factory-wrapped to ensure complete barrier performance.

Flange Adaptor Kits



Adaptor Kit comprises of:-

- 1 x Stub Flange
- 1 x Coupler
- 1 x Gasket (representation)
- 1 x Backing Ring
- 1 x Bolt set

Size (mm)	SDR 11 Code	SDR 17 Code
90 x 80 PN16	PL251313	
110 x 100 PN16	PL251314	
125 x 100 PN16		PL250315
160 x 150 PN16		PL250317
180 x 150 PN16		PL250318
225 x 200 PN16		PL250320
250 x 200 PN16		PL250534
250 x 250 PN16		PL250321
280 x 250 PN16		PL250542
315 x 250 PN16		PL250543
315 x 300 PN16		PL250323
355 x 300 PN16		PL250547
355 x 350 PN16		PL250324

Procedures for Butt-Fusion and Electrofusion of Protecta-Line Pipelines of 90mm and above in Diameter

When made in accordance with GPS PE Pipe Systems' recommended procedures, butt-fusion and electrofusion joints of the Protecta-Line system have been independently shown to meet the requirements of WIS 4-32-19 without any need for subsequent wrapping. This does not exempt installers from local regulations and the local Water Company preferences must be adhered to.

Standard butt-fusion and electrofusion procedures must be adhered to, but please note the following additional points:

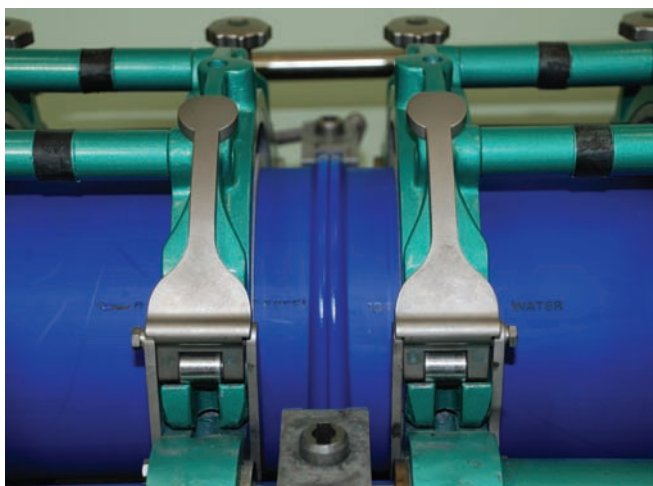
Butt-Fusion

Where this is permitted by the local water company, it is important that the outer PE and aluminium layers are removed far enough back, using the Protecta-Line Surprep tool (see next pages), to prevent the aluminium from coming into contact with the butt-fusion machine trimmer or heater plates.

In addition, the outer PE and aluminium layers should be removed far enough back to permit normal debearing of the completed joint for normal quality control purposes.

It is recommended that the layers should be removed to a length equal to the width of the debearing tool on the end of each pipe. This should be increased by 50% when carrying out dummy weld procedures prior to final jointing.

Butt-fusion clamps should be checked for suitability before commencing work, particularly in larger sizes. Care should be taken not to damage the outer layers of Protecta-Line pipe when clamping it in the butt-fusion machine. In the case of some machines this may necessitate gently radiusing the edges of the jaw shutlines.



Electrofusion

It is essential that the Protecta-Line pipe is properly prepared prior to electrofusion jointing. It is necessary first to remove the outer PE layer, aluminium layer and any residual adhesive layer material.

Note: It is potentially dangerous to carry out electrofusion jointing where the aluminium layer is still in place.

The Protecta-Line Surprep Scraper must be used for pipe end preparation, as it not only removes the outer layers, but it also prepares the core pipe for electrofusion jointing.

Electrofusion clamps should be checked for suitability before commencing work, particularly in larger sizes. All electrofusion joint assemblies must be held in clamps throughout the fusion and cooling periods.

Protecta-Line Jointing End Preparation for Electrofusion Procedures

Pipe Size (mm)	Length (B) (mm)	Register (Z) (mm)	Min preparation insertion depth (mm)	Max preparation depth (mm)
90	127	3	62	67
110	135	3	66	71
125	147	3	72	77
160	164	3	81	86
180	167	3	82	87
225	220	8	106	111
250	224	8	108	113
280	256	8	124	129
315	291	8	142	147
355	295	8	144	149

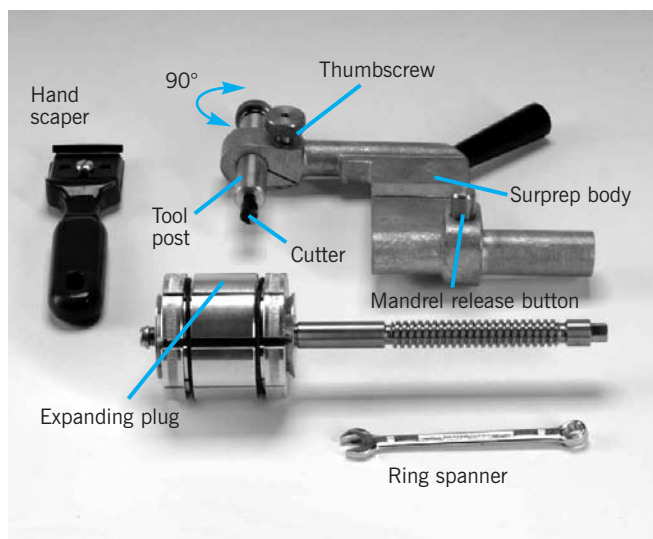
Aluminium Foil Wrapping Lengths - Foil width 50mm

Size (mm)	E/F fitting length (mm)	Amount of foil required (metres)	Joints per roll
25	76	0.38	132
32	83	0.69	72
63	111	2.04	25
90	130	3.37	15
110	135	4.46	11
125	150	5.06	10
160	165	7.41	7
180	165	8.22	6
225	220	14.05	4
250	225	15.71	3
280	260	19.58	3
315	290	25.42	2
355	300	27.12	2

Only Protecta-Line fittings shall be used with Protecta-Line pipe. The use of alternative fittings will have the following effects on your Protecta-Line system:

- Invalidity of WRAS approval and manufacturers system performance warranty.
- Compromised permeation resistance (causing non-compliance with WIS 4-32-19 and possible risks to health).
- Danger of pipe-layer delamination, compromising system performance integrity and risking pipe bursts.
- It would be illegal to install non-WRAS approved fittings.

Procedure for Using the Protecta-Line Surprep Scraper (90mm-180mm)



Code	90mm	110mm	125mm	160mm	180mm
01-07-081	●	●			
01-07-083			●	●	●

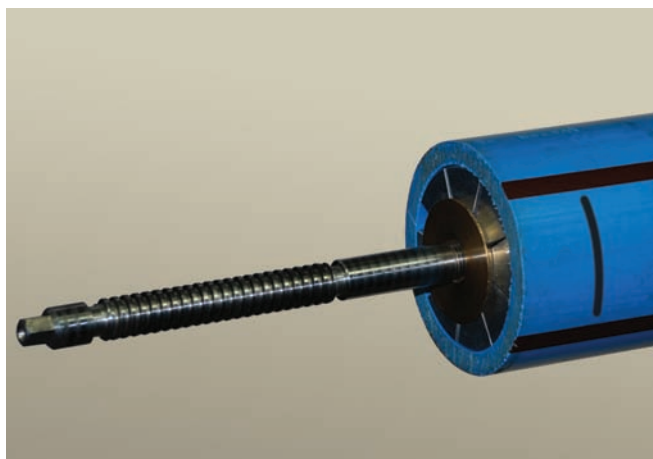
To order, please contact Caldervale directly on 01924 469571 or sales@caldertech.co.uk

The Surprep Kit is available for hire through MCA Hire Services www.mcahire.com and Plant & Site Services Ltd www.psshire.com

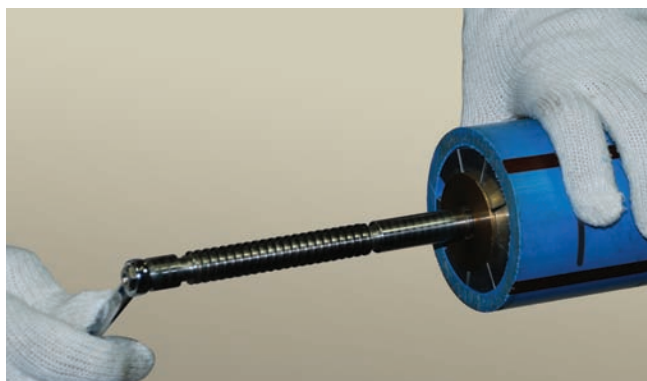


The Protecta-Line Surprep Kit has been designed to allow the correct scraping of Protecta-Line barrier pipe prior to electrofusion jointing.

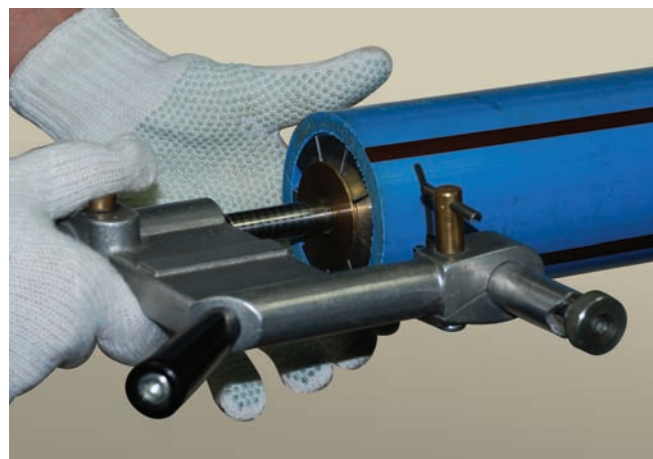
1. Measure the insertion depth of the electrofusion fitting to be used. Place a mark on both pipes to show the position where the edge of the fitting will be.
2. Clamp the pipe to be prepared taking care to avoid damage to the pipe's outer covering.
3. Separate the mandrel from the body of the Protecta-Line Surprep Scraper.



4. Hold the expanding plug and rotate the mandrel anti-clockwise until the plug is a light interference fit in the pipe bore.
5. Push into pipe until edge of plug is level with edge of pipe. Expand plug further using the 10mm ring spanner. Do not over-tighten in order to avoid pipe distortion.

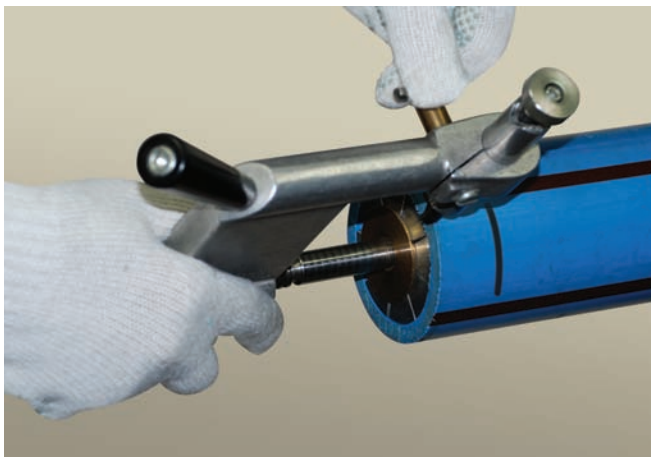


6. Slide the body of the Protecta-Line Surprep Scraper onto the mandrel, depress the release button and position the cutter close to the edge of the pipe.

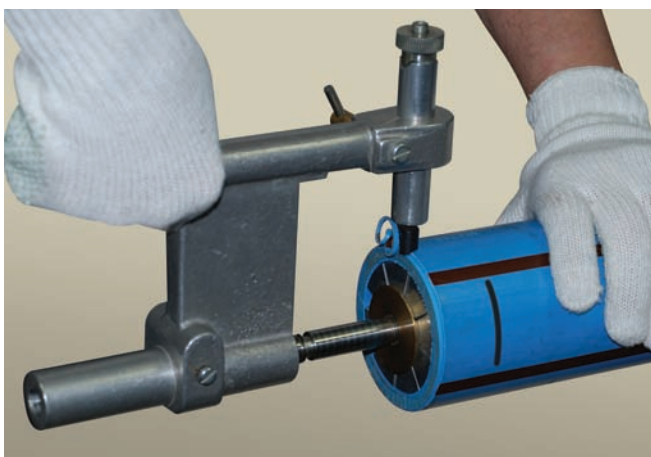


Note: Protecta-Line Surprep Scraper cuts in an anti-clockwise direction, beginning at the end of the pipe.

7. Rotate the knob on the top of the tool post through 90°, against the spring tension, such that the cutter is in its raised position.



8. Loosen the body thumbscrew and position the cutter shoe on the edge of the pipe. Tighten the thumbscrew.



9. Rotate the knob on top of the post through 90° so that spring pressure is applied to the cutter.
10. Rotate the tool anti-clockwise in a smooth continuous motion to remove the outer layers in a continuous strip.
11. Stop cutting when the socket depth mark is reached.



12. Rotate the knob on top of the tool post so that the spring pressure is released.

13. Use the hand scraper to remove the peeled strip from the pipe.

Caution: Do not attempt to break the peeled strip by pulling with bare hands, it has a sharp edge!

Remove the tool in the reverse order of assembly (steps 3-6).

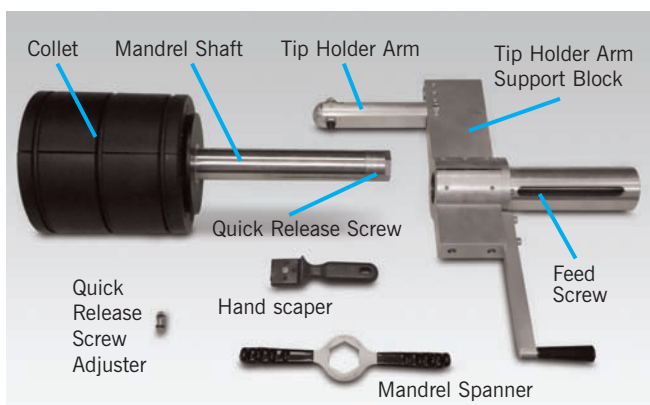


14. Inspect the prepared surface to ensure:
- i) All of the metallic layer has been removed.
 - ii) All of the adhesive which bonds the metallic layer to the blue core has been removed.
15. If, for any reason, the prepared surface is not a uniform blue colour all over, use the hand scraper to complete the preparation process.

Never attempt a second pass with the Protecta-Line Surprep Scraper.

When made in accordance with GPS PE Pipe Systems' recommended procedures, butt-fusion and electrofusion joints of the Protecta-Line system have been independently shown to meet the requirements of WIS 4-32-19 without any need for subsequent wrapping. This does not exempt installers from local regulations and the local Water Company preferences must be adhered to.

Procedure for Using the Large Diameter Protecta-Line Scraper (above 180mm)



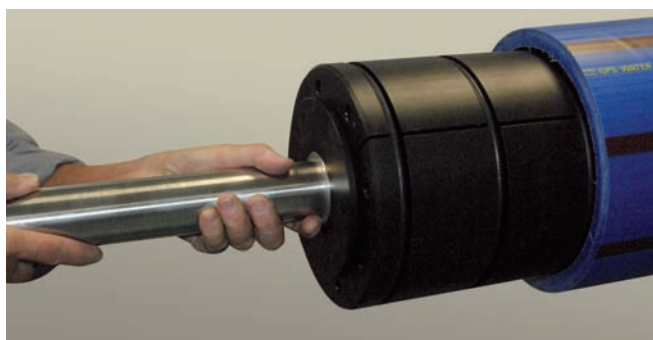
For Protecta-Line sizes above 180mm, the Surprep Scraper is a dedicated tool for each pipe size, with the cutter set to produce the required outside diameter. Adjustments must be done by a competent person and should not be carried out on site.

	225mm	250mm	280mm	315mm	355mm
Pipe insert collet					
01-07-255	●				
01-07-256		●			
01-07-257			●		
01-07-258				●	
01-07-259					●
Rotary tool c/w mandril shaft*					
01-07-251	●	●	●	●	●

* Includes 2 collet expanding cones

To order, please contact Caldervale directly on 01924 469571 or sales@caldertech.co.uk

The Large Diameter Scraper is available for hire through MCA Hire Services www.mcahire.com and Plant & Site Services Ltd www.psshire.com

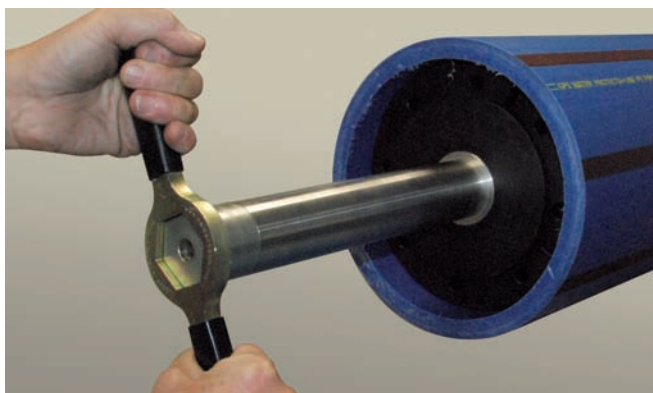


1. First mark the required length of pipe to be scraped (see table on page 23).

Ensure that the correct size collet for the pipe to be scraped is fitted to the mandrel.

Adjust the collet by twisting the mandrel shaft anti-clockwise until it achieves its smallest outside diameter.

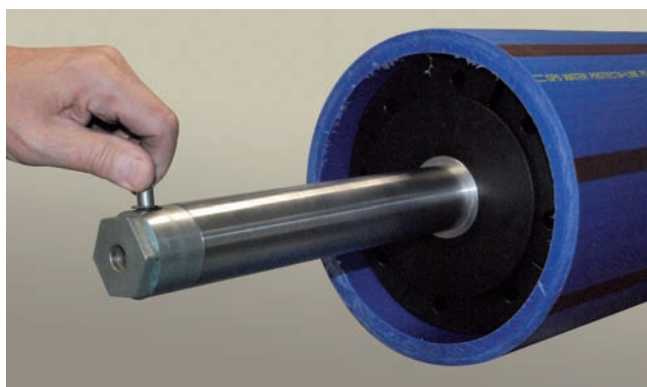
Slide the collet into the bore of the pipe, allowing 20mm of pipe to show after the collet, to allow for the barrelling effect found at the end of the pipe.



2. Adjust the collet by twisting the mandrel shaft clockwise until the mandrel becomes secure in the bore of the pipe and tighten with the mandrel spanner.

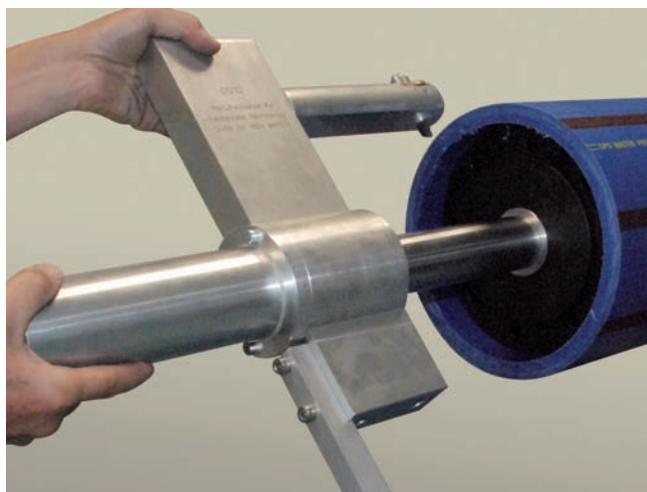
To achieve the correct alignment parallel to the pipe bore, a joggling action in all directions is required.

The collet also acts to re-round the pipe so check for gaps between the collet and the bore of the pipe.



3. Once the mandrel is secure and is parallel with the pipe bore, screw down the quick release screw to its full extent (about one and a half turns) using the adjuster, which is stored at the base of the tip arm support block.

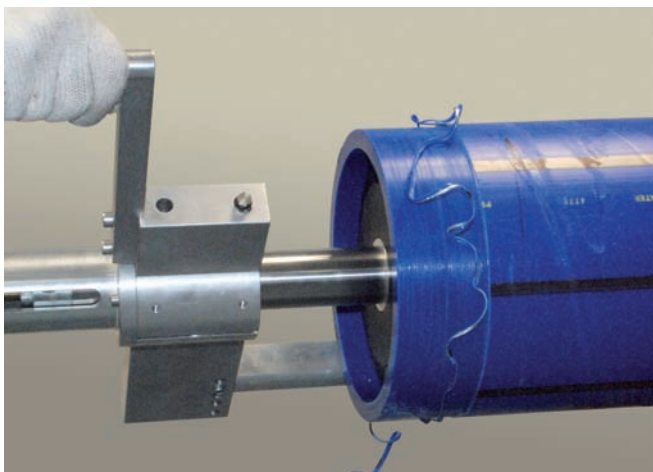
Note: Remember the position of the quick release screw.



4. Ensure that the tip holder arm has been located in the hole corresponding to the pipe size in the tip holder support block.

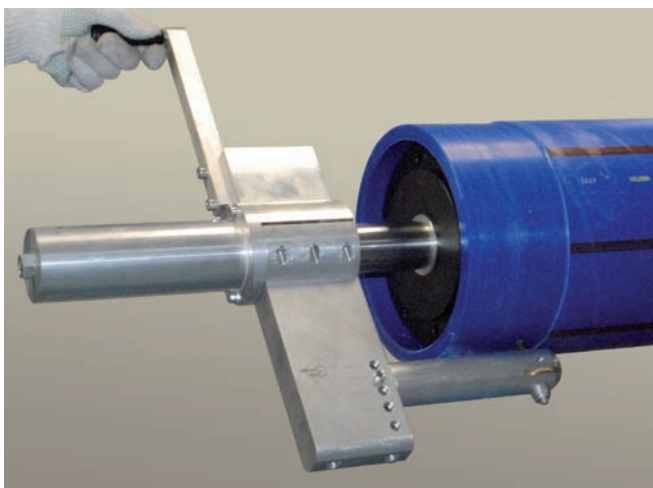
Locate the tool onto the mandrel shaft taking care not to damage the bore of the tool.

Slowly slide the tool along the mandrel shaft using a twisting action, until the feed screw touches the quick release feed screw nut.



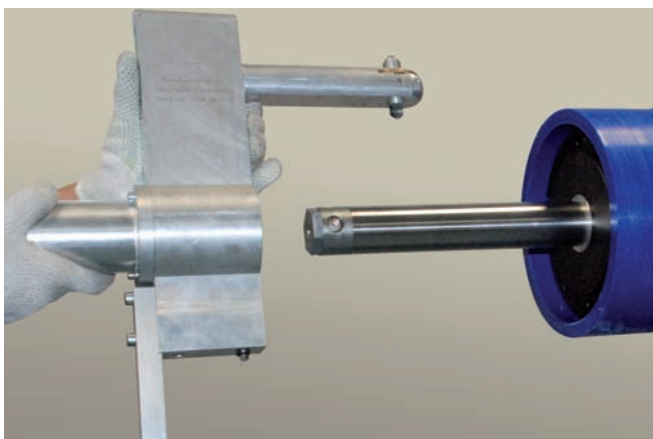
5. Taking care to avoid damaging the quick release nut and feed screw, rotate the tool in a clockwise direction with a slight force pushing forward.

Once the feed screw has engaged with the quick release nut, it will now proceed to travel along the length of the mandrel shaft, removing the outer barrier layers and preparing the pipe for electrofusion jointing.



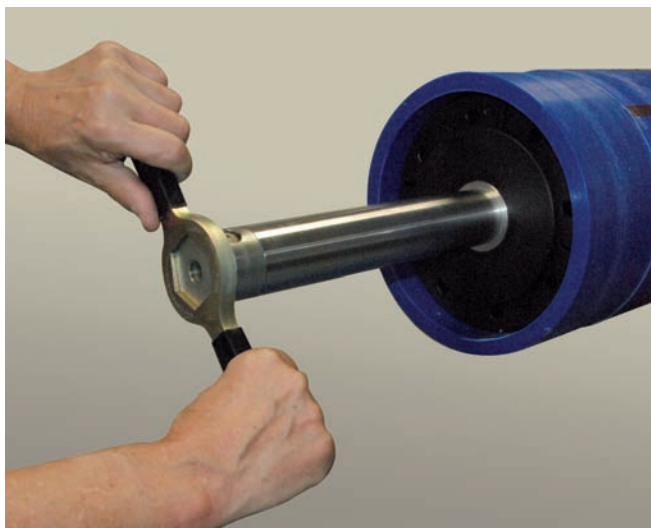
6. When the required length of pipe has been prepared, raise the quick release screw to its top position (about one and a half turns).

The quick release screw can be accessed through the slot in the feed screw housing tube.



7. The tool can now be removed from the mandrel shaft.

Note: The tool should be removed to a clean dry and safe area.



8. Loosen the collet using the mandrel spanner on the mandrel shaft in an anti-clockwise direction until free.



9. Remove the collet and mandrel from the pipe.

The collet should be removed to a clean dry and safe area.

If there are any areas of pipe that have not been prepared properly, then the hand scraper should be used to complete the preparation process.

Note: The barrelling effect found at the end of the pipe may result in the barrier layers remaining on the pipe surface for a short distance in from the end of the pipe.

Repair Using Electrofusion (for Protecta-Line 225mm-355mm)

The pipe stops incorporated in the Protecta-Line or Durafuse couplers are shearable and have been provided for the specific purpose of using the fittings for making repairs or breaking into existing pipelines.

1. Cut out the damaged section of the Protecta-Line pipe at least four times the length of the electrofusion repair couplers and ensure the pipe ends are cut square.
2. Measure the distance between the exposed pipe ends and cut a length of plain PE100 pipe of the same diameter and wall thickness as the existing Protecta-Line pipe, equal to the measured distance less 10mm ensuring that the pipe ends are cut square
3. Clean the ends of the cut section of plain pipe, for a distance slightly greater than the overall length of the repair couplers.
4. Using the pipe end preparation tool, remove the entire surface of the pipe over the marked area, preferably as a continuous ribbon or strip. **Note: The use of mechanical end preparation tools is preferred as hand scraping requires great care and can be time-consuming especially on larger diameter pipes. It is essential that material is removed by scraping or peeling; scratching or abrading is not sufficient.**
5. Remove the pipe stops in the coupler. This can be most satisfactorily achieved by placing one end of a **thoroughly cleaned** short length of pipe into the coupler and striking the other end onto a hard surface. The pipe stops can also be removed using a sharp knife, but care must be taken not to damage the bore of the fitting.
6. Clean the ends of the Protecta-Line pipe for repair and prepare for electrofusion jointing using the Protecta-Line Suprep Scraper as described on pages 26 and 27.
7. Using a suitable marker pen, draw circumferential lines half the length of the repair coupler on the prepared Protecta-line pipe ends which will be used to indicate the location of each repair coupler prior to fusion.
8. Care should be taken to ensure any residual water in the mains is not allowed to come into contact with the electrofusion area.
9. Insert the new plain section of pipe with repair couplers and then slide the repair couplers onto the Protecta-Line pipe ends, ensuring that they are positioned up to the marks on the prepared Protecta-Line pipe ends. Ensure that the surfaces are clean and dry.
10. Carry out the electrofusion jointing procedure as described in the GPS Installation & Technical Guidelines brochure - GP-IT005.



Alternative Method

Alternatively, stub flange assemblies may be fitted to the ends of the Protecta-Line pipe (after preparation with the Protecta-Line Surprep Scraper) and then connected with a double flanged ductile iron spacer.



This method may be used where there is a risk of water in the pipe contaminating electrofusion joints during installation. Foam pigs can be used to temporarily seal the pipe bore. When electrofusion jointing of the stub flange assemblies has been completed, they can be removed before installation of the double flanged ductile iron spacer.

Squeeze-off of Protecta-Line pipe

Protecta-Line pipe can be squeezed off in the industry-approved way, as summarised in the GPS Installation and Technical Guidelines. However, as a precaution after re-rounding previously squeezed off areas should be wrapped with Protecta-Line aluminium tape followed by a proprietary waterproof petrolatum tape (equivalent to Denso™), in addition to any reinforcement bands that may be required to be fitted. For information on acceptable usage conditions refer to Table 9.2 in the WRc PE Pipe Systems Manual version 01/02.

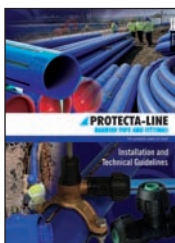
When made in accordance with GPS PE Pipe Systems' recommended procedures, butt-fusion and electrofusion joints of the Protecta-Line system have been independently shown to meet the requirements of WIS 4-32-19 without any need for subsequent wrapping. This does not exempt installers from local regulations and the local Water Company preferences must be adhered to.

FAX BACK

If you would like to receive further information regarding other GPS products, please photocopy this page, tick the information you require and fax back to us on **01480 458829**



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Scan to view
Protecta-Line videos

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St Peter's Road, Huntingdon, PE29 7DA
Tel: +44 (0)1480 52121
Fax: +44 (0)1480 458829
Web: www.gpsuk.com
Email: enquiries@gpsuk.com
Twitter: GPS_PE_Pipes



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Incoming Water Mains Specification

Project – Water Side Uxbridge

Provision Incoming Potable Water Main – Contaminated Ground

Provide a factory manufactured, multilayer MDPE barrier pipe system suitable for conveying potable water through land known or suspected to be contaminated.

- Pipe: PE80 MDPE pressure pipe incorporating a continuous metallic barrier layer, with internal and external polyethylene protection and aluminium layer . Actual size to be confirmed.
- Standard: BS 8588:2017 and BS EN 12201, where applicable.
- Pressure specification rating: SDR 11, minimum 12.5 bar at 20°C, unless the calculated design pressure, including surge, requires a higher rating.
- Size: As indicated on the drawings and confirmed by hydraulic calculations.
- Identification: Blue potable water pipe with the manufacturer's permanent barrier pipe identification markings.
- Approvals: Complete pipe and fitting system to be approved for potable-water use and acceptable to the local water undertaker.
- Basis of design: Protecta Line.

Provide pipe, fittings, adaptors, valves and jointing components from a compatible proprietary barrier pipe system. The barrier protection shall remain continuous across all buried joints, fittings and connections. Standard MDPE fittings that expose the polyethylene carrier pipe to the surrounding ground shall not be used.

Install strictly in accordance with the manufacturer's instructions and the water undertaker's requirements. Minimise buried joints and use continuous coils wherever practicable. Protect open pipe ends against dirt and contamination during storage and installation.

Continue the barrier pipe through the contaminated area and terminate only within the building. Seal the building entry against water, gas and contaminant migration.

Provide selected granular bedding and surround suitable for polyethylene pipework, free from sharp objects and contaminants that could damage the external protective layer. Provide detectable blue warning tape above the pipe.



Pressure test, flush, disinfect and sample the completed potable-water installation before connection and use, in accordance with BS EN 806-4, BS 8558 and the water undertaker's requirements.

Design qualification: Final pipe selection and route shall be confirmed against the site contamination assessment and accepted by the local water undertaker before procurement. Ordinary blue MDPE is not acceptable where barrier protection is required. BS 8588-compliant barrier pipe uses a reinforced construction to prevent contaminants from permeating the water supply.

APPENDIX F: Structural Engineer Letter

Carb Zero Consultants Ltd.
Consulting Civil & Structural Engineers

Bloxham Mill
Barford Road
Bloxham
Banbury
Oxon
OX15 4FF
01295 722805
timh@carbzero.co.uk

Ground and Water
2 The Long Barn
Norton Farm
Selbourne Road
GU34 3NB

30th September 2026

Project: Waterside and Riverside – For the attention of Natashe Kearl

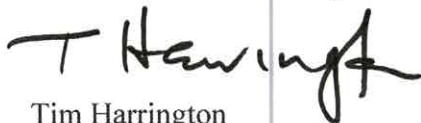
Dear Sirs

We would confirm we have inspected the ground floor areas of the 2 buildings.

The ground floor construction consists of pre cast concrete planks spanning between reinforced concrete ground beams with a ventilated void. The pre cast units have an insitu concrete structural topping.

There is no sign of cracking or excessive wear and the units are in good condition.

The ground floor was designed for a greater loading than the proposed domestic load.



Tim Harrington
BEng. CEng. MStructE

Carb Zero Consultants Ltd.