

Our ref: 43207/MV/BP

26th February 2025

Colin Burton & Sons Builders Ltd
28 Heath Lane South
Earl Shilton
Leicestershire
LE9 7PG

For the attention of Mr Stuart Burton

Dear Stuart

Re: Station Road, Earl Shilton (Membrane Validation Works – Plots 1 to 3)

Following instruction from yourself, an Engineer from GeoDyne attended site to validate the installation of the ground gas protection measures within Plots 1 to 3 at the above site. Plot 4 at the site is not currently being developed and is not covered by this report.

PROJECT UNDERSTANDING

The site comprises an irregularly shaped parcel of land located to the rear of 223 Station Road, Earl Shilton. The site of the proposed development may be centred around approximate Ordnance Survey National Grid Reference 446350E 296780N and extends to approximately 0.31Ha (hectares). A Site Location Plan (43207/MV/01) is included as Appendix I.

The site is currently being redeveloped with 3No. detached residential properties including private gardens, and associated infrastructure by Colin Burton & Son Builders Ltd (the Client).

The following reports have previously been prepared in relation to the site.

- GeoDyne Limited report entitled '*Station Road, Earl Shilton – Combined Phase I and Phase II Exploratory Investigation For Colin Burton Builders Ltd*', reference 43207, dated 5th February 2024.
- GeoDyne Limited letter report entitled '*Station Road, Earl Shilton (Cable Percussion Works)*', reference 43207/MV/BP, dated 1st August 2024.

The site investigation report included the following assessment of the ground gas characteristics at the site:

'Therefore, with a maximum GSV of 0.0138 L/h, a maximum carbon dioxide concentration of 6.9% by volume and a maximum flow rate of 0.2L/h, the site may be classified as 'CS1' in accordance with Table 2 of BS 8485 and based on the visits undertaken. However, where methane concentrations exceed 1% by volume and carbon dioxide concentrations exceed 5% by volume, the British Standard recommends that consideration should be given to increasing the ground gas regime from CS1 to CS2. Based on the monitoring results obtained at the site, Carbon dioxide concentrations greater than 5% by volume were recorded in WS3 on four of the six monitoring visits. In view of the recorded carbon dioxide concentrations and taking into consideration the historical uses of the site and its surroundings, it is recommended that the site classification is adjusted to 'CS2'.'

The site was classified the site as falling within Characteristic Situation CS2 in accordance with Table 4 of BS8485:2015+A1:2019 based solely on the carbon dioxide concentrations exceeding 5% in a single borehole.

At the request of the Client a Ground Gas Verification Plan (GGVP) was produced to set out the process for the verification of ground gas protection measures:

- GeoDyne Limited report entitled 'Station Road, Earl Shilton – Ground Gas Verification Plan For Colin Burton Builders Ltd', reference 43207, dated 15th October 2024.

It is recommended that the above report is read in conjunction with this report.

The provision of ground gas protection measures are in general accordance with the Verification Plan for the site.

MANUFACTURERS MEMBRANE SPECIFICATION DETAILS

The proprietary gas protection membrane included within the dwellings has been supplied and installed by the Client.

The membrane selected by the Client was the Visqueen Low Permeability Gas Membrane, which is at variance with the Visqueen Gas Barrier membrane identified in the GGVP.

Visqueen Low Permeability Gas Membrane is a flexible 0.5mm thick thermoplastic membrane manufactured from virgin polymer.

The technical details relating to the Visqueen Low Permeability Gas Membrane are provided on the attached product data sheet and are summarised in Table 2 below.

TABLE 2 – SUMMARY OF TECHNICAL SPECIFICATION OF VISQUEEN LOW PERMEABILITY GAS MEMBRANE	
Property	Visqueen Low Permeability Gas Membrane
Minimum weight/unit area	460g/m ²
Maximum thickness	0.5mm
Minimum tensile strength	20N/mm ² (manufacturing direction) 20N/mm ² (cross direction)
Carbon dioxide permeability	2.8 x 10 ⁻¹⁷ m/s/Pa
Methane transmission rate	213 ml/m ² /day/atm

The selection of the Visqueen Low Permeability Gas Membrane is a variation from the Verification Plan. The Visqueen Low Permeability Gas Membrane has been installed in support of a well-ventilated subfloor void and under these circumstances is considered to offer adequate protection against the carbon dioxide risk present at the site.

VALIDATION PROTOCOL – GAS MEMBRANE

The validation protocol applicable to the gas membrane undertaken by GeoDyne Limited on Plots 1 to 3 was detailed within our Verification Plan and has been undertaken as part of our validation works.

INSPECTION/VALIDATION WORKS

An Engineer from GeoDyne attended site to undertake a visual inspection of the membranes installed within Plots 1 to 3 on 5th February 2025. Verification works were undertaken in accordance with the Verification Plan.

Membrane Detail

Inspection of the membrane installed by the Client within Plots 1 to 3 revealed that the Visqueen Low Permeability Gas Membrane had been installed.

Installation Detail

The membrane in each plot was installed in a single stage following the construction of the insulated beam and block floor.

The membrane was installed on the insulated beam and block floor, extending to the internal perimeter of the plot. The internal membrane was sealed to an external perimeter formed from Visqueen Ultimate Gas DPC to span the wall cavity and thus cover the entire building footprint. The membrane was installed above the airbricks in the perimeter walls.

We understand that corner details were pre-formed offsite by the Client using Visqueen Ultimate Gas DPC and sealed using Visqueen Double Sided Jointing Tape. Pre-formed corners were installed by being sealed to the internal membrane and the perimeter using Visqueen Double Sided Jointing Tape. Areas of damage identified by the Client were also repaired at this stage.

Service Penetrations, Corner Details and Membrane Integrity

Our inspections of the installed membranes revealed that the continuity of the installed gas barrier was maintained across the perimeter walls and the external wall cavity. The joins in the membranes had been suitably lapped and sealed using Visqueen Double Sided Jointing Tape. Service penetrations had been sealed using Visqueen Top Hat Units that were sealed to the services using metal jubilee clips and sealed to the membrane using Visqueen Double Sided Jointing Tape.

Our inspection revealed that corners were generally suitably formed and service penetrations appropriately sealed, however some of the Visqueen Top Hat Units had not been correctly sealed to the membrane. Some minor gaps were identified in the double-sided tape joints as were some minor cuts and other areas of damage.

Repairs were made to the defective areas of the membranes by the Client as part of the installation process during our visit. Identified defects were repaired by using Visqueen Double Sided Jointing Tape to complete seals or by using pieces of Visqueen Low Permeability Gas Membrane that were sealed to the internal membrane using Visqueen Double Sided Jointing Tape. All repairs were inspected and approved by GeoDyne.

Taped joints were lapped using Visqueen Gas Resistant Foil Lap Tape,

Plates

Plates Nos 41172/MV1/P1 to 41172/MV1/P3 show selected views of the Plots 1 to 3 taken during our inspection and validation works.

CONCLUSIONS

Based entirely on our inspection of completed membrane details as viewed on the specified dates we can confirm that the membranes appear to have been appropriately installed within Plots 1 to 3, in general accordance with the protocols laid down within our Verification Plan.

We would note that the responsibility for providing and installing the membrane in an appropriate manner rests with the Client. Our findings and comments reflect the suitability of the membrane on the day of our visit and are limited to areas completed, physically accessible and visible to the naked eye. No responsibility will be taken for any areas of membrane that could not be inspected or for any damage which occurs to the membranes after our inspections.

We note that there were detached garages associated with Plots 1 to 3 covered by this report. No specific ground gas protection measures are considered to be necessary in detached garages as no part of the garages are proposed for habitable space.

Our Verification Plan noted: *'Should there be any instances where service pipe penetrations are to act as ducting for smaller service pipes (i.e. water supply etc.), we would anticipate that these smaller pipes would be installed at a later stage during the construction process and therefore we are unable to inspect the seals of the pipes within the ducting at the time of our inspection visits. An appropriate method of sealing the ducting should be adopted by the Client (such as injection of an appropriate depth of partially or fully closed cell expanding foam, with liquid gas membrane painted over the top) to minimise the risk of the duct acting as a conduit for ground gases to enter the buildings'*. The Client should ensure that all such penetrations are appropriately sealed.

We would recommend that a copy of this report is issued to the Local Planning Authority (Hinckley & Bosworth Borough Council) and LABC for comment/approval.

Yours sincerely

For and on the behalf of GeoDyne Limited

A handwritten signature in blue ink, appearing to read 'B. Parry'.

Ben Parry
Geo-Environmental Engineer

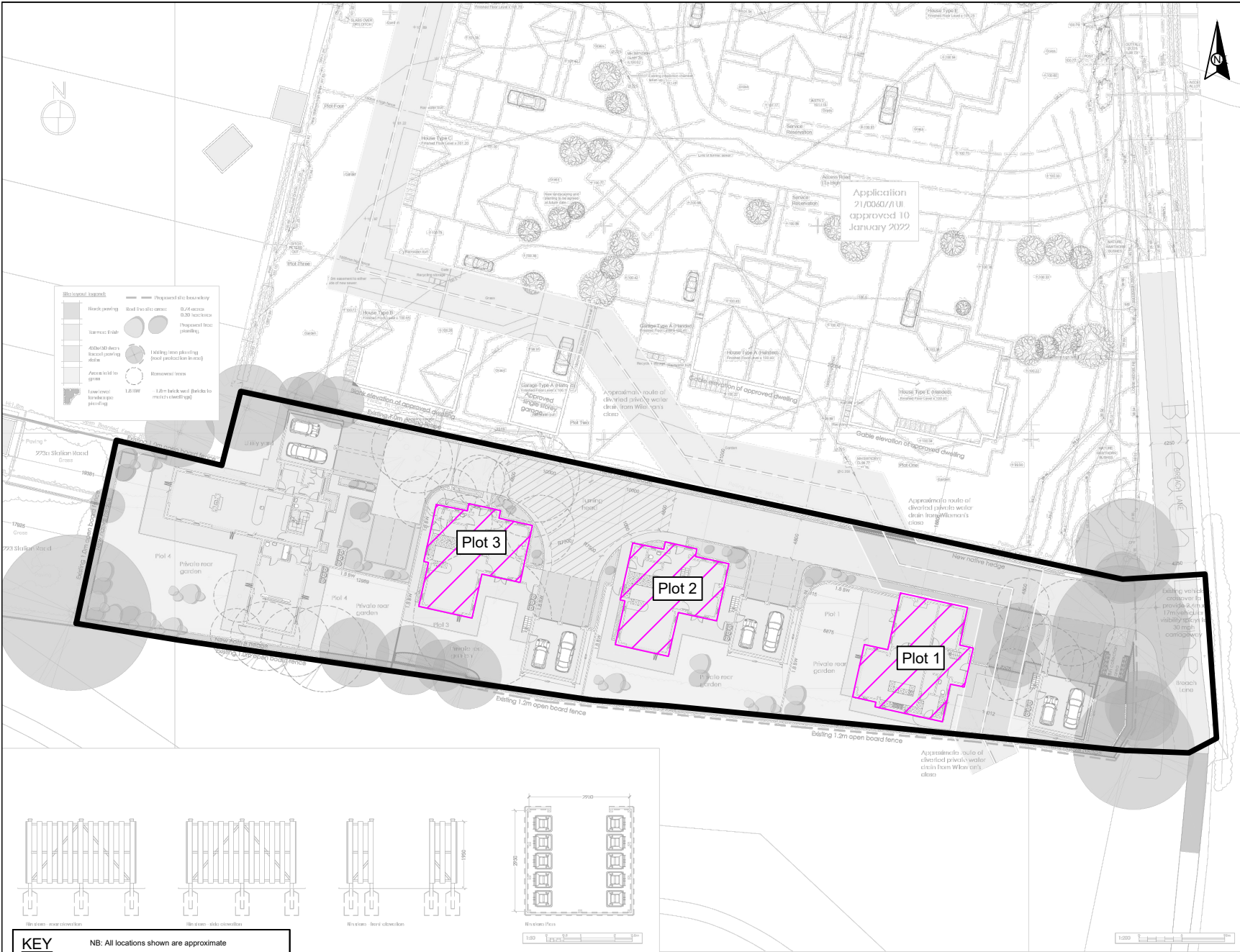
Encl.

Site Location Plan (43207/MV/01)
Gas Membrane Validation Plan (43207/MV/02)
Visqueen Materials Data Sheets
Plates (43207/MV/P1 to 43207/MV/P3)
Conditions and Limitations



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Project No.	43207	Drawn By	ACH	 Nottingham 0115 962 0001 Derby 01332 290 798 info@geodyne.co.uk www.geodyne.co.uk
Client	Colin Burton and Son Builders Ltd	Checked By	BP	
		Approved By	RS	
Project	223 Station Road, Earl Shilton, Leicestershire	Scale	NTS	
		Date Drawn	14/02/2025	
Title	Site Location Plan	Revision		
		Figure No.	43207/MV/01	



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Project No.	43207
Client	Colin Burton and Son Builders Ltd
Project	223 Station Road, Earl Shilton, Leicestershire
Title	Gas Membrane Validation Plan
Drawn By	ACH
Checked By	BP
Approved By	RS
Scale	NTS
Date Drawn	14/02/2025
Revision	
Figure No.	43207/MV/02



Nottingham 0115 962 0001
Derby 01332 290 798

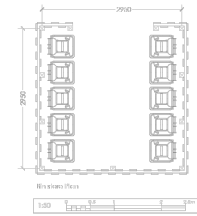
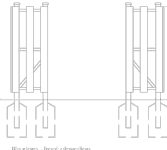
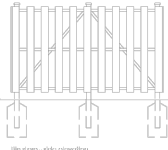
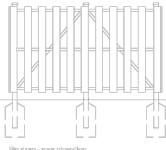
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KEY

NB: All locations shown are approximate



Plots Subject to Gas Membrane Validation



Visqueen Low Permeability Gas Membrane

Features & benefits

- BBA certified - third party accreditation
- Complies with NHBC Foundation's NF94 guidance for use in Type A and Type B membrane locations in reinforced cast in situ suspended floor slabs and rafts
- 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

Product description

Visqueen Low Permeability Gas Membrane is a flexible 0.5mm thick thermoplastic membrane. The product is yellow in colour and supplied 4m x 12.5m in a centre folded roll.

The membrane is manufactured from virgin polymer.

Approvals and standards

- Third party accreditation (BBA 13/5069)
- Complies with NHBC Foundation's NF94 guidance for use in Type A and Type B membrane locations in reinforced cast in situ suspended floor slabs and rafts
- Conforms to the specification requirements of NHBC Amber 1 applications
- Conforms to the specification requirements of BR 211:2023
- UKCA UKNI CE to EN 13967:2017
- 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 Low Permeability Gas Membrane can 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 slab.

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

Visqueen Low Permeability Gas Membrane when installed with either taped or welded joints complies with NHBC Foundation's NF94 publication, Hazardous ground gas - an essential guide for housebuilders, in Type A membrane locations in cast in situ monolithic reinforced ground bearing rafts and reinforced cast in situ suspended floor slabs with minimal penetrations. Visqueen Low Permeability Gas Membrane also complies with this guidance when installed with welded joints in Type B membrane locations in cast in situ monolithic reinforced ground bearing rafts and reinforced cast in situ suspended floor slabs with minimal penetrations. For site or zone characteristic gas situations of CS4 and above, contact Visqueen Technical Services.

Carbon dioxide and methane protection - NHBC Traffic Light System:

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 subfloor, e.g. beam and block floor.

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

System components

- VisqueenPro Double Sided Jointing Tape, 50mm x 10m
- Visqueen Gas Resistant Foil Lap Tape, 75mm x 50m
- VisqueenPro Detailing Strip, 300mm x 10m, 500mm x 10m
- Visqueen Top Hat Units
- Visqueen TreadGUARD 1500, 1m x 2m
- Visqueen TreadGUARD 300, 2m x 75m

Storage and handling

Visqueen Low Permeability Gas Membrane should be stored horizontally, under cover in its original packaging.

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

Preparation

Visqueen Low Permeability Gas Membrane should be installed on a smooth continuous substrate free from irregularities such as voids or protrusions e.g. grouted beam and block floor, 50mm thick sand blinding, or smooth concrete blinding.

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

Visqueen Low Permeability Gas Membrane

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 Visqueen Pro Double Sided Jointing Tape and sealed with Visqueen Foil Lap Tape. In demanding site conditions seal lap joints with Visqueen Ultimate GR Lap Tape. Alternatively lap joints can be heat welded to achieve an effective seal. The overlap in the barrier is typically 100mm and when hand welding, a 35mm weld is normally achieved. When hand welding, a roller must be used.

Airtight seals should be formed around all service entry points. Visqueen Preformed Top Hat Units are available for sealing service entry pipes. The base of the top hat and the upstand should be bonded using Visqueen Pro Double Sided Jointing Tape and sealed with Visqueen Foil Lap Tape. The upstand should be secured with the supplied jubilee clip. Alternatively VisqueenPro Detailing Strip can be used to seal service entry points. The upstand should be secured with a jubilee clip.

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.

If the membrane is punctured or perforated a patch of the same material should be lapped at least 150mm beyond the limits of the puncture and either heat welded or bonded with Visqueen Pro Double Sided Jointing Tape and sealed with Visqueen Foil Lap Tape. Alternatively a patch can be formed using VisqueenPro Detailing Strip and lapped at least 150mm beyond the extents of the puncture.

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. Care should be taken to ensure that the membrane is not punctured, stretched or displaced when applying a screed or final floor covering. A minimum thickness of 50mm screed is recommended. When reinforced concrete is to be laid over the membrane the wire reinforcements and spacers must be prevented from puncturing the membrane. Where there is a high risk of potential damage, the membrane should be covered with Visqueen TreadGuard protection, screed, or other approved protection material before positioning the reinforcement.

Usable temperature range

It is recommended that Visqueen Low Permeability Gas Membrane and all associated system components should not be installed below 5°C

Additional information

When used in full radon protection areas, a Visqueen Radon Sump or subfloor ventilation system maybe required. To assist build sequencing, Visqueen Zedex CPT DPC is available for gas protection through masonry wall constructions. For additional detailing information, contact Visqueen Technical Services +44 (0) 333 202 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
Visible defects	BS EN 1850 -2	-	Pass/Fail	Pass
Length	BS EN 1848-2	m	-10%/+10%	12.5
Width	BS EN 1848-2	m	-2.5%/+2.5%	4
Straightness	BS EN 1848-2	-	Pass/Fail	Pass
Thickness	BS EN 1849-2	mm	-12%/+12%	0.5
Tensile strength - MD	BS EN 12311	N/mm ²	MLV	15
Tensile strength - TD	BS EN 12311	N/mm ²	MLV	15
Tensile elongation - MD	BS EN 12311	%	MLV	400
Tensile elongation - TD	BS EN 12311	%	MLV	400
Joint strength	BS EN 12317-2	N	MDV	298
Watertightness to 2kPa for 24 hours	BS EN 1928	-	Pass/Fail	Pass
Resistance to impact	BS EN 12691	mm	>MLV	200
Durability (artificial ageing)	BS EN 1296 and	-	Pass/Fail	Pass

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Visqueen Low Permeability Gas Membrane

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 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 Ultimate Gas Damp Proof Course

Features & 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 - lap joints can be taped or heat welded
- Visqueen Ultimate Preformed Units available - simplifies complex or awkward detailing

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.

Approvals and standards

- Complies with CIRIA C748:2014
- 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
- Conforms to the specification requirements of NHBC Amber 1 and Amber 2 applications
- Conforms to the specification requirements of BR 211:2015
- Shear strength tested to BS EN 1052-4:2000 Methods of test for masonry - Part 4.
- Flexural mortar bond strength tested in accordance with DD 86-1:1983
- UKCA UKNI CE to EN 14909:2012 Type A
- 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 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.

System components

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

Storage and handling

Visqueen Ultimate Gas Damp Proof Course should be stored vertically, under cover in its original packaging.

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

Preparation

Visqueen Ultimate Gas Damp Proof Course can be cut with a sharp retractable safety knife or robust scissors.

Different jointing options are available depending on product use. Where protection against VOCs or hydrocarbon contamination is required, the DPC should be applied with welded joints.

Installation

DPCs and DPC cavity trays systems to be designed and installed in accordance with the relevant sections of BS 8215:1991, PD 6697:2019 and BS 8000-3:2020.

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

Visqueen Ultimate Gas Damp Proof Course

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.

When surface fixing the cavity tray, the substrate should be primed with Visqueen HP Tanking Primer and allowed to dry. The DPC should be bonded to the inner leaf using Visqueen 100mm Double Sided Butyl Tape and permanently secured using Visqueen Fixing Strip and fixing suitable for the substrate. Visqueen Fixing Pins for both rigid urethane foam insulation boards, and pins for masonry substrates are available.

To simplify complex or awkward junctions e.g. corners, changes of level, etc, an extensive range of Visqueen Ultimate Preformed Units are available.

All DPC to DPC laps and DPC to Visqueen Ultimate Preformed Unit laps should be a minimum of 100mm and bonded with Visqueen 100mm Double Sided Butyl Tape. Different jointing options are available depending on product use. Where protection against VOCs or hydrocarbon contamination is required, the DPC system should be applied with welded joints.

Usable temperature range

It is recommended that Visqueen Ultimate Gas Damp Proof Course and all associated system components should not be installed below 5°C.

Additional information

For additional detailing information, contact Visqueen Technical Services +44 (0) 333 202 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	Criteria	Result
Colour				Gold/white
Weight		g/m ²		490
Length	BS EN 1848-2	m	-0/+10%	20
Width	BS EN 1848-2	mm	-0/+10%	500, 600, 750 and 900
Thickness	BS EN 1849-2	mm	+/-10%	0.5
BS 8485:2015 and C748:2014 physical test results		Units	Criteria	Result
Puncture	BS EN ISO 12236:2006	N	MDV	1640
Impact resistance Method A hard surface	BS EN 12691	mm	MDV	200
Impact resistance Method B soft surface	BS EN 12691	mm	MDV	1250
Tensiles yield strength MD 1	ASTM D4885-01	kN/m	MDV	5.1
Tensiles yield strength CD 1	ASTM D4885-01	kN/m	MDV	4.91
Yield elongation MD 1	ASTM D4885-01	%	MDV	76
Yield elongation CD 1	ASTM D4885-01	%	MDV	62
Tear resistance - trouser method A - MD	BS ISO 34-1	kN/m	MDV	60.2
Tear resistance - trouser method A - CD	BS ISO 34-1	kN/m	MDV	66.1
Tear resistance - angle method B - MD	BS ISO 34-1	N	MDV	48.7
Tear resistance - angle method B - CD	BS ISO 34-1	N	MDV	49.6
1 - at yield and not break as equipment used was not strong enough to break the				

Visqueen Ultimate Gas Damp Proof Course

DPC				
BS 8485:2015 - Methane testing	Test method	Units	Criteria	Result
Methane permeability unjointed	ISO 15105-1	ml/m ² /d/ atm	<40	1.3
Methane permeability welded joint	ISO 15105-1	ml/m ² /d/ atm	<40	24
Carbon dioxide	ISO 15105-1	ml/m ² /d/ atm	<40	8.3
C748:2014 - Permeation vapour tests - 100% concentration		Criteria	ml/m ² /d	mg/m ² /d
Benzene	ISO 15105-2	MDV	0.08	70
Toluene	ISO 15105-2	MDV	0.09	78.5
Ethyl benzene	ISO 15105-2	MDV	0.11	93.8
m,p xylene	ISO 15105-2	MDV	0.01	6.7
Hexane	ISO 15105-2	MDV	gas	2.6
Vinyl chloride	ISO 15105-2	MDV	0	6.4
Tetrachloroethene (PCE)	ISO 15105-2	MDV	0	3.2
Trichloroethene (TCE)	ISO 15105-2	MDV	solid	0.3
Naphthalene	ISO 15105-2	MDV	0.03	19.7
UKCA, CE, UKNI Mark EN 14909:2012				
Characteristic	Test method	Units	Criteria	Result
Tensile strength - MD	BS EN 12311	N/mm ²	MDV	32.8
Tensile strength - CD	BS EN 12311	N/mm ²	MDV	33.1
Tensile elongation - MD	BS EN 12311	%	MDV	699
Tensile elongation - CD	BS EN 12311	%	MDV	723
Joint strength	BS EN 12317-2	N	MDV	265
Watertightness 2kPa	BS EN 1928	-	Pass/	Pass

Health and safety information

Refer to the Visqueen Ultimate Gas Damp Proof Course 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](tel:+44(0)3332026800) or enquiries@visqueen.com

Complete Range, Complete Solution



Visqueen Ultimate Gas Damp Proof Course

- 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 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 Gas Resistant Foil Lap Tape, 75mm x 50m

Features and benefits

- BBA certified jointing system - third party accreditation
- Provides an overlap seal to Visqueen gas protection membranes
- Joint integrity - reduces the risk of poured concrete entering the lap joint

Product description

Visqueen Gas Resistant (GR) Foil Lap Tape is a single sided overlap tape which has a solvent acrylic adhesive with a composite aluminium/PET carrier therefore it is resistant to alkaline which is present in cement and concrete. The tape also has a release film.

The product is supplied in roll format 75mm x 50m.

To be used in conjunction with VisqueenPro Double Sided Jointing Tape, 50mm x 10m.

Approvals and standards

- Third party accreditation (BBA 13/5069)
- 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 Resistant Foil Lap Tape is used to seal lap joints on gas protection membranes. It can be used internally and externally and is suitable in compressed load applications.

System components

Visqueen Gas Resistant Foil Lap Tape, 75mm x 50m

Storage and handling

Store in warm, dry and clean environment in its current packaging. The tape should not be exposed to long periods of ultraviolet light. In very cold weather, prior to use ensure that the material is stored in warm conditions above 5°C.

Preparation

Ensure all surfaces are clean and dry. The membrane joint surfaces should be dry and free from contamination such as dust or sand. Ensure the surface and working area is not water logged. Avoid areas of unsupported jointing.

Installation

The membrane should be overlapped by at least 150mm, bonded with Visqueen Pro Double Sided Jointing Tape and sealed with Visqueen Gas Resistant Foil Lap Tape.

When using Visqueen Gas Resistant Foil Lap Tape, apply the tape equidistant over the lap area of the laid sheet and the overlap adjoining membrane. Apply pressure to the jointed area to ensure adhesion. Once the tape is applied, the completed lap should be well rolled with firm pressure to ensure a complete seal joint has occurred, and continuity with the adjacent sheet has been achieved.

Usable temperature range

It is recommended that Visqueen Gas Resistant Foil Lap Tape should not be installed below 5°C.

Additional information

In demanding site conditions seal lap joints with Visqueen GR Lap Tape.

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.

Visqueen Gas Resistant Foil Lap Tape, 75mm x 50m

Property	Result
Dimensions	75mm x 50m
Peel adhesion	750N/m
Adhesive type	Solvent acrylic

Health and safety information

Please refer to Visqueen Gas Resistant Foil Lap Tape safety datasheet (SDS).

Visqueen Gas Resistant Foil Lap Tape, 75mm x 50m

About Visqueen

The Visqueen name has long been recognised as one of the leading manufacturers of high quality advanced membrane technologies and design based solutions by specifiers, distributors, builders merchants and contractors throughout the UK and Europe.

For further guidance on the Visqueen services shown below, please refer to the relevant section of the Visqueen website (www.visqueen.com) or contact Visqueen Technical Services on +44 (0) 333 202 6800 or enquiries@visqueen.com

Complete Range, Complete Solution



Structural
Waterproofing



Gas
Protection



Damp Proof
Membrane



Tapes



Damp Proof
Course



Stormwater



Vapour
Control

Visqueen Technical Support

Visqueen combine an extensive product portfolio with industry leading levels of service and support which includes guidance over the phone, bespoke CAD drawings to help with complex detailing, electronic NBS specifications and access to a dedicated team of highly knowledgeable and experienced field based Technical Support Managers.

Visqueen Technical Support is available to all our customers including architects, specifiers, distributors, builders merchants, contractors and end users. All of our technical team have been awarded the industry recognised qualification Certificated Surveyor in Structural Waterproofing (CSSW).

Visqueen CPD Seminars

The Visqueen Continuing Professional Development (CPD) Seminars provide up-to-date information on changes within Building Regulations/Building Standards and nationally recognised industry guidance affecting damp proofing, water vapour control, hazardous ground gas protection and below ground structural waterproofing.

The one hour seminars have been produced for design specialists within the construction sector and are delivered by our team of Technical Support Managers.

Visqueen Training Academy

Based at our manufacturing facility in Derbyshire, the Visqueen Training Academy is available to support Visqueen customers throughout the UK by providing a wide range of both theory and practical skills related training.

Courses include one day product awareness training for our distributors and builders merchants to help them in their day-to-day jobs, through to intensive two day courses giving detailed hands-on training in the practical skills required for safe and robust product installation.

VisqueenPro Double Sided Jointing Tape, 50mm x 10m

Features and benefits

- Part of a Visqueen's DPM and gas protection BBA approved jointing system
- Provides resistance to harmful bulk gases ingress and moisture ingress

Product description

VisqueenPro Double Sided Jointing Tape is a blue, double sided butyl based self adhesive lap bonding tape with an oversize quick release film. It is available in roll format 50mm x 10m.

Approvals and standards

- 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

VisqueenPro Double Sided Jointing Tape is used to bond membranes (gas or damp) together along the lap joints.

To complete the joint, seal with the appropriate Visqueen single sided tape.

System components

VisqueenPro Double Sided Jointing Tape, 50mm x 10m

Storage and handling

Store in a dry and clean environment in its current packaging. The tape should not be exposed to long periods of ultraviolet light. Prior to use, ensure that the tape is stored at temperatures above 5°C.

The tape can be cut with a sharp retractable safety knife.

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

Preparation

Ensure all lap joint surfaces are clean, dry and free from contamination such as dust or sand. Ensure the surface and working area is not water logged. Avoid areas of unsupported jointing.

Installation

Apply VisqueenPro Double Sided Jointing Tape to the lap area of the laid sheet starting approximately 50mm from the membrane edge. Apply pressure to the tape to ensure the tape has adhered to the membrane. Remove release paper from the tape and overlap the adjoining membrane by minimum 150mm. For Visqueen damp proof membranes and gas protection membranes lap joints should then be sealed using the appropriate Visqueen lap tape. Once the tape is applied, the completed lap should be well rolled with firm pressure to ensure a completely sealed joint has occurred, and continuity with the adjacent sheet has been achieved.

Usable temperature range

It is recommended that VisqueenPro Double Sided Jointing Tape should be installed above 5°C.

Additional information

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VisqueenPro Double Sided Jointing Tape, 50mm x 10m

Property	Result
Width	50mm
Length	10m
Colour	Blue
Adhesive type	Butyl
Dynamic Shear Adhesion	14 N/cm ²
Dynamic Tensile Adhesion	18 N/cm ²
180° Peel Adhesion	11 N/cm ²
Moisture Vapour Transmission Rate	0.24 g/m ² /d
Service Temperature Range	-40 to 90°C
Application temperature	>5°C

Health and safety information

Refer to VisqueenPro Double Sided Jointing Tape safety datasheet (SDS).

VisqueenPro Double Sided Jointing Tape, 50mm x 10m

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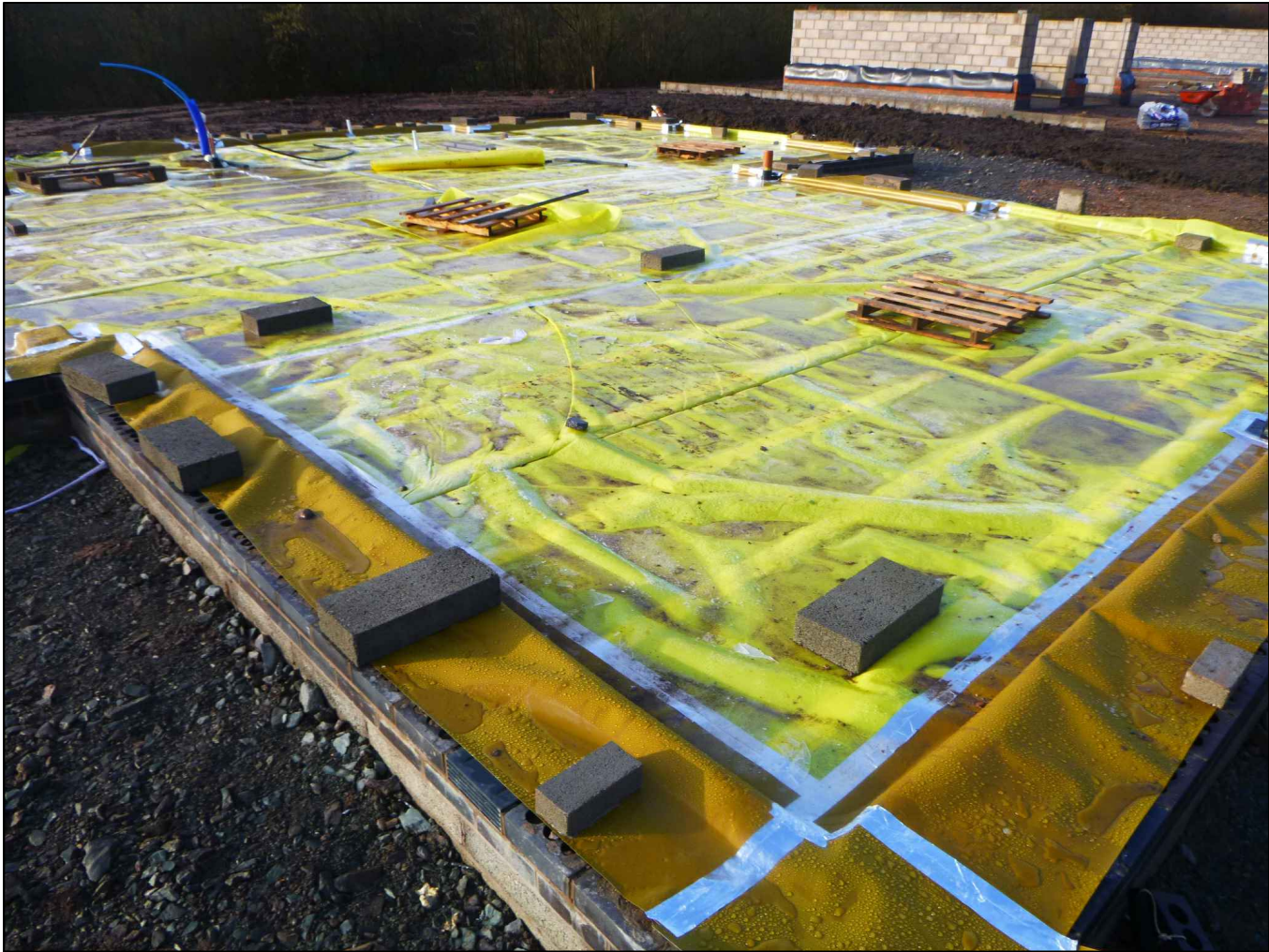
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Plot 1



A General View of Plot 1



B View of Plot 1 showing substrate



C View of Air Bricks in Plot 1

Project No.	43207	Drawn By	ACH
Client	Colin Burton and Son Builders Ltd	Checked By	BP
		Approved By	RS
Project	223 Station Road, Earl Shilton, Leicestershire	Scale	NTS
		Date Drawn	14/02/2025
Title	General Views During Validation Works - Plot 1 (05/02/2025)	Revision	
		Figure No.	43207/MV/P1



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Warrington 01925 661739
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www.geodyne.co.uk

Plot 2



A General View of Plot 2



B General View of Plot 2



C View of Air Bricks in Plot 2

Project No.	43207	Drawn By	ACH
Client	Colin Burton and Son Builders Ltd	Checked By	BP
		Approved By	RS
Project	223 Station Road, Earl Shilton, Leicestershire	Scale	NTS
		Date Drawn	14/02/2025
Title	General Views During Validation Works - Plot 2 (05/02/2025)	Revision	
		Figure No.	43207/MV/P2



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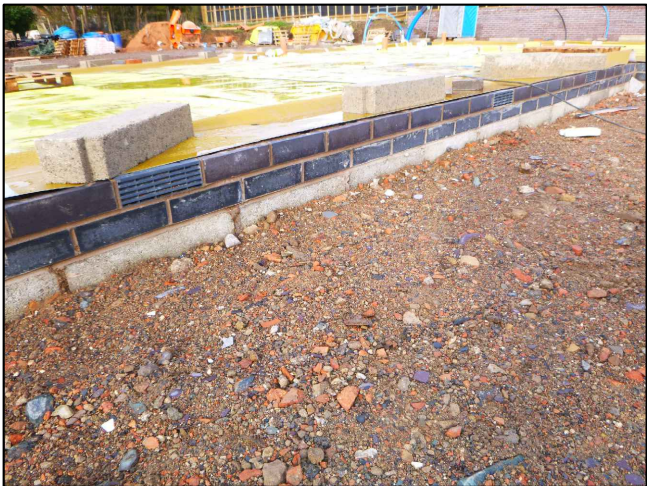
Plot 3



A General View of Plot 3



B General View of Plot 3



C View of Air Bricks in Plot 3

Project No.	43207	Drawn By	ACH
Client	Colin Burton and Son Builders Ltd	Checked By	BP
		Approved By	RS
Project	223 Station Road, Earl Shilton, Leicestershire	Scale	NTS
		Date Drawn	14/02/2025
Title	General Views During Validation Works - Plot 3 (05/02/2025)	Revision	
		Figure No.	43207/MV/P3



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Conditions & Limitations

Phase I Desk Studies

1. Works undertaken to provide the basis of the Phase I Desk Study report comprise a review of information available from a number of sources/parties (potentially also including the Client) together with a walk over of the site (where applicable and included within the quotation). The opinions given in the Phase I Desk Study are based on the information available from third parties/sources that has been obtained within the available timeframe. GeoDyne Limited assumes all third party information to be true and correct and therefore cannot accept liability for the accuracy of such information supplied.
2. Should additional information become available that may affect the comments and opinions made within the Phase I Desk Study, GeoDyne Limited reserves the right to review such information and make modifications to comments/opinions as appropriate.
3. It should be borne in mind that a Phase I Desk Study collates available information to generate a conceptual model of the site. The actual geotechnical and environmental considerations can only be fully quantified by intrusive investigation works to confirm the accuracy of the conceptual site model.

Phase II Intrusive Investigations

1. Our quotation assumes that access to the site will be arranged by others at no cost to ourselves.
2. We have assumed that free access is available throughout to the entire site and that works can be undertaken during a single mobilisation. Where restricted access is encountered, or where additional unscheduled mobilisations are required, additional costs may be incurred to the client.
3. We have assumed that all available information relating to buried services will be supplied by the Client at no cost to ourselves. No responsibility will be accepted for damage to underground services that have not been brought to our prior attention by the Client.
4. All excavations/boreholes will be backfilled with compacted arisings upon completion, with any excess arisings left proud of ground levels. Excess arisings will not be removed from the site unless specifically requested by the Client. Where we are requested to remove excess arisings, all associated costs will be passed to the Client.
5. We will attempt to leave the site in a clean and tidy state, however, it must be understood that some disturbance of the site is unavoidable during intrusive works.
6. Exploratory holes are positioned approximately on site by GeoDyne Limited. Should the client require precise locations of all exploratory points, additional fees will be incurred. It must be borne in mind that backfilled trial pits can create 'soft spots', therefore, should the Client wish to designate 'no dig' zones, for example under the footprint of proposed structures, these must be brought to our attention prior to commencement of works.
7. Groundwater observations relate to conditions encountered at the time of investigation. It must be understood that groundwater levels may vary as a result of recent climatic conditions or seasonal variation.
8. Trial pits and boreholes examine only a small proportion of the total site area. No liability can be accepted for conditions not revealed in exploratory holes, particularly between positions. All extrapolations of available data are given in good faith.

Payment

1. Payment terms are strictly 28 days from the invoice date. GeoDyne reserve the right to charge interest on any late payments.
2. Prior to commencement of works, we require receipt of formal written instruction from the party accepting full financial responsibility for the work. In the absence of such an instruction, we would expect the instructing Consulting Engineers/Architects to accept full financial responsibility for the works.
3. Receipt of instruction to commence work shall be taken as acceptance and compliance of the foregoing conditions.
4. GeoDyne reserve the right to charge for abortive costs for any site works cancelled by the client within 5 working days before mobilisation to site.

Liability

1. GeoDyne Limited offer £5,000,000.00 Professional Indemnity Insurance (in aggregate over the year). This shall be the limit of our liability for works undertaken. No individual liability shall be implied to, or accepted by, any employee for works undertaken for and on the behalf of GeoDyne Limited.