Technical Datasheet

# Visqueen Ultimate Gas DPC Cavity Tray

## 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 BR 211:2023
- 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 the hazardous ground gases associated with all Characteristic Gas Situation (CS) ground gas regimes, from entering into the cavity from the ground or entering the building via internal walls. The DPC is also suitable for use 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 soon as possible after laying the DPC, lay at least one further course of masonry including a bed of mortar. If



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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/m² | | 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 DPC | | | | |



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| BS 8485:2015 - Methane testing | Test method | Units | Criteria | Result |
|---|---|---|---|---|
| Methane permeability unjointed | ISO 15105-1 | ml/m²/d/ atm | <40 | 1.3 |
| Methane permeability welded joint | ISO 15105-1 | ml/m²/d/ atm | <40 | 24 |
| Carbon dioxide | ISO 15105-1 | ml/m²/d/ atm | <40 | 8.3 |
| C748:2014 - Permeation vapour tests - 100% concentration | | Criteria | ml/m²/d | mg/m²/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/mm² | MDV | 32.8 |
| Tensile strength - CD | BS EN 12311 | N/mm² | 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 or enquiries@visqueen.com

## Complete Range, Complete Solution




Passive Fire | Gas Protection | Damp Proof | Air and Vapor | Stormwater | Damp Proof | Temporary



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| Protection | Membrane | Control | Course | 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.



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