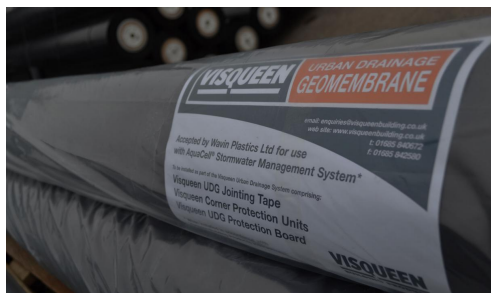


## Urban Drainage Geomembrane (UDG)

Page 1



- Impervious membrane for underground stormwater storage systems
- Also suitable for permeable paving systems
- Restricts water entering the sub-grade
- Preserves sub-grade structural integrity
- Manufactured in the UK, installed with tape bonded or welded joints

### Background

Every potential major development in the UK is examined for the risk of flooding following storm events. Sustainable drainage systems (known as SUDS) offer an alternative approach to traditional drainage. SUDS effectively manage drainage at source and aim to detain run-off and release it slowly into watercourses.

The “Code for Sustainable Homes 2006” (a code of practice for sustainable home building) uses a sustainable rating system that helps designers’ and builders’ choice of development and also aids home buyers’ selection of home. Category 4 “surface water run off” mentions that added points will be scored if an attenuation system is used. The Visqueen UDG, used in conjunction with an underground stormwater system, increases the development’s sustainable rating.

### Description

Visqueen Urban Drainage Geomembrane is a UK manufactured membrane using high performance polymers, suitable for underground stormwater storage systems and also for permeable paving systems.

The Visqueen Urban Drainage Geomembrane System has been specially designed and tested for use with underground stormwater storage systems. Wavin has accepted it for use with their AquaCell® Stormwater Management System when installed in accordance with Visqueen Building Products’ instructions.

When used under permeable block systems it is important to use Visqueen underlay and protection layer in conjunction with Visqueen Urban Drainage Geomembrane. Please see typical details UDG 03, UDG 04 and UDG 05.

Impermeable geomembranes used in stormwater storage systems are subjected to very high hydrostatic pressures during the lifetime of the system. To avoid geomembrane failure in these demanding applications Visqueen Building Products has designed a high performance geomembrane system. For these type of applications use Visqueen High Performance UDG.

Visqueen Urban Drainage Geomembrane is a category 1 impermeable membrane under BS 7533 part 13.

### System

Visqueen Urban Drainage Geomembrane can be supplied as either a taped system to be fabricated on site or partially fabricated as factory welded panels. Where an installation necessitates on-site welding other Visqueen Geomembranes will be supplied.

### Factory Welded Panel Installations

Factory welded panels of Visqueen Urban Drainage Geomembrane are recommended for larger attenuation schemes where there are a greater number of joints. Visqueen Urban Drainage Geomembrane can be prewelded to suit tank dimensions,



## Urban Drainage Geomembrane (UDG)

minimising the amount of workmanship required on site during installation.

The benefits of factory welded panels are pre-tested high integrity joints as well as allowing for a faster installation time. Factory welded panels may then be tape jointed on site using the installation procedures detailed in the previous section. Under certain site conditions taped joints may not be suitable. Please refer to the earlier adverse ground conditions section for more information.

### On-Site Jointing Procedures

When taped joints are used on site the Visqueen Urban Drainage System can be used on any attenuation or storage installation (not more than two units deep) other than those which are:

- In contaminated ground.
- In high water table.

All laps must be a minimum of 150mm wide. Visqueen UDG Jointing Tape should be applied approximately 50mm from the edge. The next width of Visqueen Urban Drainage Geomembrane should then be overlapped. Ensure that the geomembrane is clean, dust free and dry at the time of joining. The use of Visqueen UDG Protection Board provides additional support to taped joints as well as eliminating the risk of puncture from backfill.

Visqueen Urban Drainage Geomembrane taped joints have been extensively tested for durability under hydrostatic pressure and have been proved to be highly effective.

### Geomembrane Installation Procedures

- Ensure that the base of the trench is a structurally sound, smooth, level surface cleared of any loose particles.
- This surface must then be covered by 100mm sand blinding, levelled and compacted.
- Cover the bed with a suitable geotextile fleece to ensure that the geomembrane is not punctured.
- Lay Visqueen Urban Drainage Geomembrane over the geotextile and up the sides of the trench, detailing around corners using Visqueen UDG Corner Units.
- Take the geomembrane around the structure ensuring that corner units are positioned at all corners and that the tank is completely sealed.
- Protect the geomembrane from backfill by using Visqueen UDG Protection Board.
- Lay a 100mm sand bed between the trench walls and Visqueen UDG Protection Boards.
- The geomembrane laid on top of the units should be protected as soon as possible after installation with Visqueen UDG Protection Board and 100mm sand blinding.
- The integrity of the Visqueen Urban Drainage Geomembrane sheet must be maintained during installation. Visqueen Urban Drainage Geomembrane is resistant to puncturing and tearing however, where tears or punctures occur, these should be covered with another part of the sheet, overlapped by at least 150mm and sealed with Visqueen UDG Jointing Tape. Installations should be carried out above 5°C.
- For applications outside of these conditions please contact Visqueen Building Products for advice.

### Storage and Handling

Visqueen Urban Drainage Geomembrane is classified as non-hazardous when used in accordance with our instructions.

The product is chemically inert and is not generally affected by acids and alkalis that may be present in the sub-soils. The material is not recommended for use where it will be exposed to long periods of outdoor weathering. However, weathering will not occur when the membrane is installed in accordance with our instructions. Care should be taken to avoid accidental damage when handling Visqueen Urban Drainage Geomembrane on site.

When the weather is cold Visqueen UDG Jointing Tape should be kept in a warm, dry place until needed. Installation is not recommended to be carried out below 5°C.



## Urban Drainage Geomembrane (UDG)

### Product Data

#### Product Data

Characteristic	Test method	Units	Compliance criteria	0.5mm
Colour				Black
Length	EN 1848-2	m	-0/+10%	12.5
Width	EN 1848-2	m	-0/+10%	4
Puncture	ASTM D4883	N	MDV	135
Impact resistance Method A hard surface	EN12691	mm	MDV	250
Jointed membrane Watertightness - 60kPa	EN 1928	-	Pass/Fail	Pass
Jointed membrane Watertightness - 250kPa	MOAT 27 5.1.4	-	Pass/Fail	Pass
Tensiles Yield strength MD	ASTM D4885-01	kN/m	MDV	11.9
Tensiles Yield strength CD	ASTM D4885-01	kN/m	MDV	12.7
Elongation @ break MD	ASTM D4885-01	%	MDV	>790
Elongation @ break CD	ASTM D4885-01	%	MDV	>880



# Urban Drainage Geomembrane (UDG)

## Appendix A

### About Visqueen

Visqueen is the market leader in the manufacture and supply of structural waterproofing and gas protection systems. Visqueen offers the complete package – a proven, reliable range backed by a technical support service that goes unmatched in the market - everything you would expect from a reputable and ethical company.

### Complete Range, Complete Solution

- Structural Waterproofing
- Damp Proof Course
- Damp Proof Membranes
- Gas Protection and Gas Venting
- Vapour Control Layers
- Stormwater Protection

### Download Library

- Technical Datasheet
- Standard Details
- Technical Service
- Visqueen Gas Protection Brochure
- NBS Clauses
- BBA Certificates
- Material Safety Datasheets
- Specification Guide

### Find your local stockist

Search our directory of Visqueen specification [Specialist Centres](#) to locate your nearest Visqueen Partner.

### Technical support throughout your project

We are specialists in our field and can help you specify the correct solutions with the necessary performance levels, in accordance with building regulations.

- Nationwide site support team
- Specification advice
- Installation guidance & project sign off
- System design including CAD details

### CPD Seminars and Training Academy



#### Gas Protection CPD

The specification, technical design, and installation of gas protection systems, enabling the sustainable regeneration of brownfield sites.



#### Structural Waterproofing CPD

The specification, technical design, and installation of structural waterproofing systems for protection against water and damp ingress in both above and below ground projects.



#### Visqueen Training Academy

We are now able to offer exclusive in depth training opportunities on a wide variety of Visqueen products at our Training Academy.



#### Visqueen Special Projects

We provide high-level expertise, comprehensive support and experience in all types of waterproofing and gas protection.

**VISQUEEN**

Part of RPC bpi group

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