

Visqueen High Performance Urban Drainage Geomembrane

Features and benefits

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

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.

Approvals and standards

- Conforms to the SUDS specification requirements of Appendix C of CIRIA C697 and C753
- Suitable for use as an impermeable membrane in a permeable paving systems to BS 7533-13:2009 (System C - no infiltration)
- 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 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.

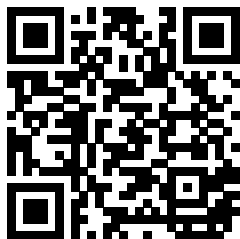
Regarding attenuation systems, Visqueen High Performance Urban Drainage Geomembrane is recommended when the depth of tank is more than 3 crates, as the product offers excellent welding characteristics and therefore the joints can resist hydrostatic pressure. The product can be used with taped joints 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.

System components

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

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Visqueen High Performance Urban Drainage Geomembrane

Storage and handling

Visqueen High Performance Urban Drainage Geomembrane 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 High Performance Urban Drainage Geomembrane can be cut with a sharp retractable safety knife or robust scissors.

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 GR Lap Tape. All lap joints should be pressed and rolled to ensure a completely sealed joint is achieved.

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Where the geomembrane lap joints are being welded, pipe penetrations should be sealed with welded geomembrane. Alternatively Visqueen Pro Detailing Strip can be used to seal pipe penetrations.

Where the geomembrane lap joints are being taped, 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 and sealed with Visqueen GR Lap Tape. The upstand should be secured with the supplied jubilee clip. Alternatively Visqueen Pro 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 using the same technique as employed for the geomembrane lap joints. Alternatively a patch can be formed using Visqueen Pro Detailing Strip and lapped at least 150mm beyond the extents of the puncture.

When used as a liner for stormwater attenuation crates, ensure that the base of the trench is level and free from voids or protrusions. Blind the substrate with minimum 100mm sand blinding, level and compact. When installing the geomembrane, it should be protected on the external face with Visqueen TreadGuard 300 protection layer. Visqueen UDG Corner Protection Units (unit dimension 150mm x 150mm x 150mm) should be positioned at the external corners of the crate system. Due to the robust nature of the geomembrane, in normal service conditions it does not require covering with a protective layer on the internal face, however care should still be taken to ensure that it is not punctured, stretched or displaced when positioning the crates.

When used in a System C permeable paving application, the geomembrane should be laid on a smooth continuous blinded subgrade free from irregularities such as voids or protrusions, or alternatively the blinding can be replaced with a layer of Visqueen TreadGuard 300 protection.

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

Usable temperature range

It is recommended that Visqueen High Performance Urban Drainage Geomembrane 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.

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Property	Test method	Units	Compliance criteria	Result
Colour				Grey
Length	BS EN 1848-2	m	-0/+10%	50
Width	BS EN 1848-2	m	-0/+10%	1.4
Thickness	BS EN 1849-2	mm	+/-20%	1
Mass	BS EN 1849-2	g/m ²	-12%/+12%	974
Tensile strength - MD	BS EN 12311	N/mm ²	MLV	22
Tensile strength - CD	BS EN 12311	N/mm ²	MLV	20
Tensile elongation - MD	BS EN 12311	%	MLV	799
Tensile elongation - CD	BS EN 12311	%	MLV	848
Joint strength	BS EN 12317-2	N	MLV	515
Watertightness to 60kPa for 24 hours	BS EN 1928	-	Pass/Fail	Pass
Resistance to impact	BS EN 12691	mm	MLV	600
Resistance to static loading	BS EN 12730	kg	MDV	-20
Resistance to nail tear - MD	BS EN 12310-1	N	MLV	705
Resistance to nail tear - CD	BS EN 12310-1	N	MLV	745
Durability - heat ageing	BS EN 1296	-	Pass/Fail	Pass
Durability - chemical resistance	BS EN 1847	-	Pass/Fail	Pass
Resistance to low temperature	BS EN 495-5	°C	MDV	-40
Water vapour transmission - resistance	BS EN 1931	MNs/g	MDV	1171
Water vapour permeability	BS EN 1932	g/m ² /day	MDV	0.11
Reaction to fire	BS EN 13501-1	Class	MDV	F
Chemical resistance - acids	BS EN 14414-A	-	Pass/Fail	Pass
Chemical resistance - alkalis	BS EN 14414-B	-	Pass/Fail	Pass
Chemical resistance - organic solvents	BS EN 14414-C	-	Pass/Fail	Pass
Chemical resistance - visual defects	BS EN 14414	-	Pass/Fail	Pass
Resistance to leaching - hot water	BS EN 14415-A	-	Pass/Fail	Pass
Resistance to leaching - aqueous alkaline liquids	BS EN 14415-B	-	Pass/Fail	Pass
Resistance to leaching - organic alcohols	BS EN 14415-C	-	Pass/Fail	Pass
Resistance to leaching - visual defects	BS EN 14415-A	-	Yes/No	No

Health and safety information

Refer to the Visqueen High Performance Urban Drainage Geomembrane safety datasheet (SDS).

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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 three day courses giving detailed hands-on training in the practical skills required for safe and robust product installation.