Technical support: +44 (0) 333 202 6800

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Visqueen Ultimate VOC Blok

Features and benefits

- Complies with CIRIA C748:2014 - industry standard for volatile organic compounds (VOC) protection
- Complies with BS 8485:2015 + A1:2019 - industry standard for methane and carbon dioxide protection
- High resistance to puncture - greatly reduces risk of barrier becoming damage during the build process
- Multi functional - also acts as a radon and damp proof membrane
- Dual jointing methods - lap joints can be taped or heat welded

Product description

Visqueen Ultimate VOC Blok is a 1mm robust chemically resistant co-extruded hydrocarbon, volatile organic compound and gas barrier. The barrier is coloured grey on the upper surface and black on the reverse. The product is supplied in single wound rolls (not folded), 2.44m x 41m.

Approvals and standards

- Complies with CIRIA C748:2014
- Conforms to the specification 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
- CE Mark EN 13967:2017
- Quality Management System ISO 9001:2015
- Occupational Health and Safety System ISO 18001:2007
- Environmental Management System ISO 14001:2015

Usage

Visqueen Ultimate VOC Blok is suitable for use in all types of buildings to prevent the ingress of harmful levels of volatile organic compounds (VOCs). 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 in all types of buildings to prevent the ingress of harmful levels of ground gases e.g.methane, carbon dioxide and radon. The barrier also acts as a damp proof membrane.

The barrier is suitable where hydrostatic pressure is present, however in this application the joints must be welded and not taped. For further guidance contact Visqueen Technical Services +44 (0) 333 202 6800

System components

- Visqueen Ultimate Double Sided Jointing Tape, 100mm x 15m
- Visqueen Ultimate GR Lap Tape, 150mm x 10m
- Visqueen Ultimate Top Hat Units
- Visqueen Preformed Units
- VisqueenPro Detailing Strip, 300mm x 10m, 500mm x 10m

Find your local stockist

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Storage and handling

Visqueen Ultimate VOC Blok 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 Ultimate VOC Blok should be installed on 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 voids or protrusions.

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

Installation

Visqueen Ultimate VOC Blok should be loose laid on the substrate with the grey side up.

The barrier should be clean and dry at the time of jointing. It should be overlapped by at least 150mm, bonded with Visqueen Ultimate Double Sided Jointing Tape and sealed with Visqueen Ultimate GR 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. Visqueen Ultimate 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 Ultimate Double Sided Jointing Tape and sealed with Visqueen Ultimate GR Lap Tape. The upstand should be secured with the supplied jubilee clip.

Forming an effective barrier to gases may give rise to complex three-dimensional detailing where, it is recommended Visqueen Ultimate Preformed Units are used e.g. corners. Alternatively Visqueen Pro Detailing Strip can be used to seal awkward junctions.

If the barrier 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 Ultimate Double Sided Jointing Tape and sealed with Visqueen Ultimate GR Lap Tape. Alternatively a patch can be formed using Visqueen Pro Detailing Strip and lapped at least 150mm beyond the extents of the puncture.

Due to the robust nature of the product, in normal service conditions the barrier does not require covering with a protective layer. However care should still 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 barrier the wire reinforcements and spacers must be prevented from puncturing the barrier. Where there is a high risk of potential damage, the barrier should be covered with Visqueen TreadGUARD protection, screed, or other approved protection material before positioning the reinforcement.

In high temperature conditions the membrane should be covered immediately after installation.

Usable temperature range

It is recommended that Visqueen Ultimate VOC Blok and all associated system components should not be installed below 5°C.

Additional information

When used in accordance with CIRIA C748:2014 or BS8485:2015 + A1:2019, a subfloor ventilation system or pressure relief maybe required
Where a volatile organic compound (VOC) barrier is required for use above a precast suspended segmental ground floor system, e.g. beam and block floor, see Visqueen Ultimate HC Blok
To assist build sequencing, Visqueen Ultimate DPC is available for gas protection through the wall constructions
For suspended beam and block floor detailing see VOC-01
Visqueen Ultimate Preformed Top Hat Units should be used at service pipe penetrations see VOC-51
At internal and external corners Visqueen Ultimate Preformed Corner Units should be used see PFU-553
To seal around steel columns use Visqueen Pro Detailing Strip see VOC-52
For additional detailing information, contact Visqueen Technical Services +44 (0) 333 202 6800.

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Property	Test method	Units	Criteria	Result	
Colour				Black/grey	
Weight		kg		97	
Length	EN 1848-2	m	-0/+10%	41	
Width	EN 1848-2	m	-0/+10%	2.44	
BS 8485:2015 + A1:2019 and C748:2014 physical test results					
Puncture	BS EN ISO 12236:2006	N	MDV	2850	
Impact resistance method A hard surface	EN 12691	mm	MDV	750	
Impact resistance method B soft surface	EN 12691	mm	MDV	>2000	
Tensiles yield strength MD 1	ASTM D4885-01	kN/m	MDV	11.9	
Tensiles yield strength CD 1	ASTM D4885-01	kN/m	MDV	12.7	
Yield elongation MD 1	ASTM D4885-01	%	MDV	>500	
Yield elongation CD 1	ASTM D4885-01	%	MDV	>501	
Tear resistance - trouser method A - MD	BS ISO 34-1	kN/m	MDV	79.6	
Tear resistance - trouser method A - CD	BS ISO 34-1	kN/m	MDV	75.8	
Tear resistance - angle method B - MD	BS ISO 34-1	N	MDV	128.3	
Tear resistance - angle method B - CD	BS ISO 34-1	N	MDV	126.9	
1 - this is at yield and not break as the equipment used was not strong enough to break the membrane					
BS 8485:2015 + A1:2019 - methane testing	Test method	Units	Criteria	Result	
Methane permeability unjointed	ISO 15105-1	ml/m^2/d/ atm	MDV	3.2	
Methane permeability welded joint	ISO 15105-1	ml/m^2/d/ atm	MDV	34.7	
In order to comply with C748, Visqueen has expressed the test result units by volume (ml) and weight (mg)					
C748:2014 - Permeation vapour tests - 100% concentration		Criteria	ml/m^2/d	mg/m^2/d	mg/m^2/ hr
Benzene	ISO 15105-2	MDV	0.08	67.7	2.82
Toluene	ISO 15105-2	MDV	0.09	75.9	3.16
Ethyl benzene	ISO 15105-2	MDV	0.11	90.7	3.78
m,p xylene	ISO 15105-2	MDV	0.01	6.5	0.27
Hexane	ISO 15105-2	MDV	gas	2.5	0.1
Vinyl chloride	ISO 15105-2	MDV	0	6.2	0.26
Tetrachloroethene (PCE)	ISO 15105-2	MDV	0	3.1	0.13
Trichloroethene (TCE)	ISO 15105-2	MDV	solid	0.3	0.01
Naphthalene	ISO 15105-2	MDV	0.03	19.1	0.8
C748:2014 - Chemical immersion testing Pass is achieved if the aged membrane is within 25% of the fresh sample		weight %	Thickness %	Tensiles/ elongation	
Benzene	EN 14414	Pass	Pass	Pass	
Toluene	EN 14414	Pass	Pass	Pass	
Ethyl benzene	EN 14414	Pass	Pass	Pass	
(m,p, and o) xylene	EN 14414	Pass	Pass	Pass	

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Property	Test method	Units	Criteria	Result	
Hexane	EN 14414	Pass	Pass	Pass	
Vinyl chloride	EN 14414	Pass	Pass	Pass	
Tetrachlororthene	EN 14414	Pass	Pass	Pass	
Trichloroethene	EN 14414	Pass	Pass	Pass	
Naphthalene	EN 14414	Pass	Pass	Pass	
Visqueen can issue individual test reports on request					
CE Marking to EN 13967 Type A					
Characteristic	Test method	Units	Criteria	Result	
Tensile strength - MD	EN 12311	N/mm2	MDV	23.6	
Tensile strength - CD	EN 12311	N/mm2	MDV	22.4	
Tensile elongation - MD	EN 12311	%	MDV	701	
Tensile elongation - CD	EN 12311	%	MDV	706	
Joint strength	EN 12317-2	N	MDV	598	
Watertightness 2kPa	EN 1928	-	Pass/Fail	Pass	
Resistance to impact	EN 12691	mm	MDV	750	
Durability watertightness after heat ageing	EN 1296	-	Pass/Fail	Pass	
Durability watertightness against chemicals	EN 1847	-	Pass/Fail	Pass	
Resistance to tearing (nail shank) CD	EN 12310-1	N	MDV	720	
Resistance to tearing (nail shank) MD	EN 12310-1	N	MDV	750	
Resistance to static loading	EN 12730	kg	>MLV	20	
Water vapour transmission - resistance	EN 1931	MNs/g	MDV	2142	
Water vapour transmission - permeability	EN 1931	$g/m^2/d$	MDV	0.063	
Radon permeability	SP Method 3873	m^2/s	MDV	$<3x\ 10^{-12}$	
Carbon dioxide permeability	ISO 15105-1	$ml/m^2/d/atm$	<40	7	

Health and safety information

Refer to the Visqueen Ultimate VOC Blok material safety datasheet (MSDS).

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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 PI designs and special projects

From initial design to the completed project, Visqueen are with you every step of the way. Whether it be hazardous ground gas protection and/or below ground waterproofing protection employing barrier, structurally integral or drained systems, Visqueen can offer professional indemnity (PI) insurance for bespoke Visqueen design solutions.

Visqueen Technical Support Managers work with all stakeholders to provide cost effective Visqueen solutions offering complete peace of mind throughout the construction phase and beyond.

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.

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