

Low Permeability Gas Membrane

CE Mark to EN 13967

Page 1



VISQUEEN
BUILDING PRODUCTS



- Low permeability to carbon dioxide, radon and low levels of methane
- Approved for use in NHBC Amber 1 application
- High quality robust co-polymer thermoplastic membrane
- Supplied in centre folded sheeting which reduces the risk of cracks in screed
- BBA Certificate 13/5069 and CE Mark 13967

Description

The Building Regulations require that proper precautions be taken to prevent danger to health and safety when building on contaminated land. Visqueen Low Permeability Gas Membrane offers a safe solution for the protection of buildings against methane, radon, stythe (a gas commonly found from disused mines, also known as blackdamp), when installed in accordance with the relevant codes of practice such as BRE, CIRIA and the Chartered Institute of Environmental Health Ground Gas Handbook.

Visqueen Low Permeability Gas Membrane is a robust co-polymer thermoplastic membrane approved for use in NHBC Amber 1 application. For ease of identification on site the membrane is coloured yellow. The membrane is supplied in 4m x 12.5m roll. It is flexible and is easy to install, and is also suitable for use as a damp proof membrane.

The membrane is manufactured as a centre folded product to **limit creases which aids jointing and welding applications** on site. Centre Folded films can also help to **reduce cracks** found in structural concrete screeds where traditional multi-folded DPMs are used.

Application

Visqueen Low Permeability Gas Membrane offers a safe solution for the protection of buildings and occupiers against radon, carbon dioxide and low levels of methane gas in NHBC Amber 1. Typically these are sites previously used as coalfields, landfill or are contaminated industrial sites.

System components

Visqueen Double Sided Jointing Tape
Visqueen Gas Resistant (GR) Foil Tape
Visqueen Top Hat Units
Visqueen TreadGUARD1500
Visqueen Detailing Strip

Installation

Visqueen Low Permeability Gas Membrane and ancillary components must be installed in accordance with the recommendations of Building Research Establishment BRE 414 "Protective measures for housing on gas contaminated land", and CIRIA C665 "Assessing risks posed by hazardous ground gases to buildings", NHBC guidelines and the Chartered Institute of Environmental Health Ground Gas Handbook. The product is not intended for use where there is the risk of hydrostatic pressure.

The membrane should be installed on a compacted sand blinding layer or smooth concrete float finish allowing adequate overlap for jointing between the sheets and avoiding bridging (i.e. areas of unsupported membrane). In areas where high levels



Low Permeability Gas Membrane

CE Mark to EN 13967

Page 2

of unsupported membrane occur it is recommended that Visqueen Pre Applied Membrane is used. To avoid slip or shear planes and high compressive loadings it is not recommended to take the membrane through the wall. In order to provide a continuous barrier across the cavity Visqueen Zedex CPT DPC should be taken through the blockwork and incorporated below the damp proof course cavity tray in the outer leaf.

Laps can be joined together by either using the Visqueen Gas Barrier jointing system or welded by our specialist on-site contractors.

Jointing and Sealing

Visqueen Low Permeability Gas Membrane should be overlapped by at least 150mm and bonded with Visqueen Double Sided Tape. The joint should then be secured with Visqueen Gas Resistant (GR) Foil Jointing Tape. Ensure that the membrane is clean and dry at the time of jointing. Airtight seals should be formed around all service entry points. Visqueen Pre-formed Top Hat Units must be used for sealing service entry pipes. The base of the top hat should be sealed using Visqueen Double Sided Tape and Visqueen GR Foil Jointing Tape should be used to secure the joint.

NB. In demanding site conditions use Visqueen Gas Lap Tape as a high performance alternative to Visqueen GR Foil Jointing Tape.

Ventilation

BS8485 recommends ventilation layers on open voids may be required beneath the floor slab in order to dilute and disperse ground gases to the atmosphere. Open voids are normally restricted to beam and block floors or other precast concrete floor systems. An alternative for providing ventilation to in situ concrete floor slabs is to install a Visqueen Ventilation System.

Covering

Visqueen Low Permeability Gas Membrane should be covered by a protective layer as soon as possible after installation. 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 contacting the membrane. It is recommended that the membrane is covered with Visqueen TreadGUARD1500 or screed before positioning the reinforcement. When underfloor heating is being installed, it is recommended that the membrane is positioned between the blinded hardcore and insulation. This will protect the insulation from moisture and avoid any risk of overheating the membrane.

Storage and Handling

The membrane should be stored under cover in a dry environment. The material is not recommended for uses where it will be exposed to long periods of outdoor weathering as exposure to ultraviolet light will embrittle the product. Weathering will not occur when the membrane is installed in accordance with CP 102:1973. Care should be taken to avoid accidental damage when handling the membrane on site. When the weather is cold all jointing tapes should be kept in a warm and dry place until needed. Installation is not recommended below 5°C

Technical Data and CE Mark

Visqueen Low Permeability Gas Membrane complies with the requirements and clauses of EN 13967 - Flexible sheets for waterproofing - Plastic and rubber damp proof sheets including plastic rubber basement tanking sheet - Definitions and characteristics.

British Board of Agreement performed the initial inspection of the manufacturing plant and of factory production control and the continuous surveillance, assessment and evaluation of factory production control, and issued the certificate of constancy of conformity of the factory production control. 0836-CPD – 13/F029 applies.



Low Permeability Gas Membrane

CE Mark to EN 13967

Product Data

Product Data

heading	Characteristic	Test method	Units	Compliance criteria	Value or Statement
	Visible defects	EN 1850 -2	-	Pass/Fail	Pass
	Length	EN 1848-2	m	-0%/+10%	12.5
	Width	EN 1848-2	m	-2.5%/+2.5%	4
	Straightness	EN 1848-2	-	Pass/Fail	Pass
	Thickness	EN 1849-2	mm	-12.5%/+12.5%	0.5
	Mass	EN 1849-2		-12.5%/+12.5%	460
	Tensile Strength - MD	EN EN12311		>MLV	20
	Tensile Strength - CD	EN EN12311		>MLV	20
	Tensile Elongation - MD	EN EN12311	%	>MLV	675
	Tensile Elongation - CD	EN EN12311	%	>MLV	665
	Joint Strength	EN12317-2	N	>MLV	298
	Watertightness 2kPa	EN 1928	-	Pass/Fail	Pass
	Resistance to impact	EN 12691	mm	>MLV	250
	Durability (artificial ageing)	EN 1296 and EN 1928	-	Pass/Fail	Pass
	Durability Chemical Resistance	EN 1847	-	Pass/Fail	Pass
	Resistance to tearing (nail shank) CD	EN 12310-1	N	MDV	333
	Resistance to tearing (nail shank) MD	EN 12310-1	N	MDV	335
	Resistance to static loading	EN 12730	Kg	>MLV	Pass-20kgs
	Water vapour transmission - resistance	EN 1931	MNs/g	MDV	2100
	Water vapour transmission - permeability	EN 1931		MDV	0.08
	Radon Permeability	SP Test Method		MDV	5.477x10-12
	Radon Transmittance	SP Test Method	m/s	MDV	1.095x10-8
	Carbon Dioxide Permeability	ISO 2782	m/s/Pa	MDV	2.8x10-17
	Methane Permeability	ISO 2782	m/s/Pa	MDV	1.13x10-17



Low Permeability Gas Membrane

CE Mark to EN 13967

Appendix A



Visqueen Building Products

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.

System Accessories

To ensure full waterproofing protection please use the following certified system components:

- Visqueen High Performance (HP) Tanking Primer
- Visqueen TreadGUARD1500
- Visqueen Protect&Drain
- Visqueen Top Hat Unit

Downloads Library

- Technical Datasheet
- Declaration of Performance
- Visqueen's Guide to CE Marking

Find your local stockist

Search our directory of Visqueen specification Stocking Centres to locate your nearest Visqueen Partner.

Distributor Support

Our specification Stocking Centres can access a free library of sales support tools, bespoke catalogues and more, [click here](#).

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

