



Sustainable damp proof
membrane - 100% recycled

Sustainability in the Construction Sector

There is growing awareness of sustainability within the construction industry. Not only has it become the main focus of government policy in the construction sector (under the banner of Sustainable Communities), but it is increasingly on clients' agendas as a result of being asked to explain their approach to sustainability by investors, employees or suppliers.

Specifying Recycled Products

Specifying recycled products, in particular those exclusively manufactured from 100% post use waste, keeps reusable material in the economy, diverts waste from landfill and conserves resources.

Plastics consumption is growing about 4% every year in Western Europe. In the UK it is estimated that plastics account for 7% of Household Waste of which 1.2 million tonnes are believed to be recoverable. Every year an estimated 17 billion plastic bags are given away by supermarkets which is equivalent to over 290 bags for every person in the UK.*

The construction sector alone is estimated to consume almost 1 million tons of plastic each year so increasing the usage of recycled products has an enormous impact on the environment. Independent studies on the production of products made from recycled rather than virgin polythene show that the use of recycled plastic results in the following environmental benefits:

- Reduction of energy consumption by two-thirds.
- Production of only a third of the sulphur dioxide and half of the nitrous oxide.
- Reduction of water usage by nearly 90%.
- Reduction of carbon dioxide generation by two-and-a half times.

It is estimated that 1.8 tonnes of oil are saved for every tonne of recycled polythene produced.**

We live in an increasingly 'throw-away' society and households are the biggest source of plastic waste, nearly 80% of which is landfilled. By specifying **100% post use recycled products** the recycling loop is closed through the creation of demand for the materials recovered by recycling collection schemes.

USING POST USE WASTE



Sustainable:

"(Of economic development, energy sources, etc.) capable of being maintained at a steady level without exhausting natural resources or causing ecological damage."

The Largest Polyethylene Recycler in Europe

Visqueen Building Products, part of bpi plc Recycled Products Division, have an enviable reputation as the leader in the field of polyethylene recycling. Each year we recycle approximately 70,000 tonnes of low density polyethylene across our Environment Agency Accredited sites.

Operate an ISO 14001 Accredited Environmental Management System

Our business processes are accredited to ISO 14001, the internationally recognised standard for Environmental Management Systems (EMS).

Sustainable Product Development

Many of our damp proof membranes (DPM) and damp proof courses (DPC) products already contain a significant proportion of reprocessed and recycled polyethylene. Our product development strategy has been to introduce new products with strong environmental credentials.

Zedex CPT High Performance DPC minimises material usage without compromising performance, by using one-third less material than competing high performance damp proof course's.

Visqueen Gas Protection Membranes assist in the safe economic development of contaminated brownfield sites.

Plaswood an award winning range of wood replacement products manufactured from 100% recycled polyethylene for use as boardwalks, bollards, signage and street furniture.

Specifying Recycled

All of our literature is available electronically and in print format we only use 100% recycled paper of which 80% is classified as post use.

* Source: Plastics in The UK Economy, Waste Watch. **Source: www.wasteonline.org.uk

Visqueen EcoMembrane® Guaranteed 100% recycled post-use consumer waste

As part of our commitment to developing sustainable products we conducted an extensive research and development programme with the specific objective of reducing the amount of polyethylene waste going to landfill.

With the assistance of **WRAP** (www.wrap.org.uk) one of our partners in the project, the result is the first damp proof membrane produced exclusively from 100% post-use polyethylene waste.

New Visqueen EcoMembrane® is the first wholly sustainable DPM and is **guaranteed** to contain

NO virgin LDPE

NO factory reprocessed waste

...even the product colour is achieved using a sustainable source of post use polymer.

Visqueen EcoMembrane® - Sustainability without compromising Performance

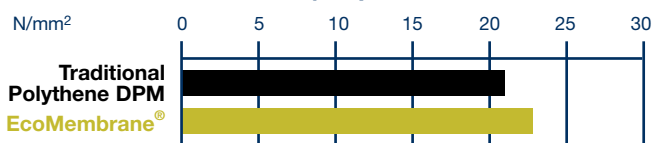
Developed using Visqueen's years of experience

As a world leader in the development and application of damp proof membranes we have a thorough understanding of the critical performance characteristics required from a Damp Proof Membrane. During the Research and Development programme the standards of performance set for Visqueen EcoMembrane® were not compromised and the result is a membrane that achieves a performance level equivalent to our leading PIFA DPM range.

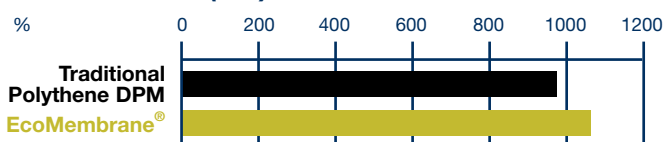
Visqueen EcoMembrane® is Sustainable

Being produced exclusively from 100% post use material Visqueen EcoMembrane® is the first sustainable DPM ensuring valuable reusable material is retained in the economy and reducing waste going to landfill.

TENSILE STRENGTH (CD)



ELONGATION (CD)



Post-use waste explained

Post-use: "Materials collected from outside the individual manufacturing industry after it has been used for its primary purpose. This can include material from agricultural use, commercial, industrial, retailing, distribution and domestic outlets, but in all cases the material will have been used for the purpose for which it was manufactured." (British Polythene Industries 1994)

Independently tested and approved by BRE

To endorse Visqueen EcoMembrane® credentials, we asked BRE (our second project partner and the foremost UK authority on construction materials, www.bre.org.uk) to rigorously test Visqueen EcoMembrane® against the new DPM European Test Standard BS EN 13967: 2004 (Flexible sheets for waterproofing. Plastic and rubber damp proof sheets including plastic and rubber basement tanking sheet). Consequently Visqueen EcoMembrane® is now the **first** DPM to be tested and accredited by BRE to this new exacting European Standard.

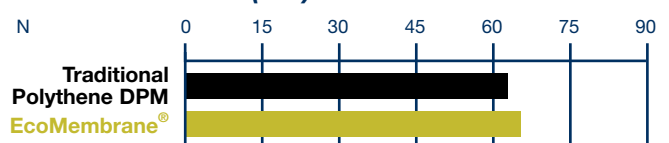
Visqueen EcoMembrane® is Robust and Strong

The conclusions of the exhaustive BRE testing programme show that Visqueen EcoMembrane®, due to our careful specification of post use materials, exhibits high strength and robustness ensuring that damage during installation is minimised.

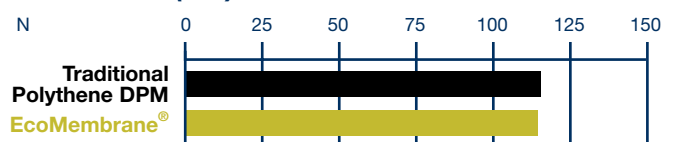
Visqueen EcoMembrane® provides Lasting Protection

BRE submitted Visqueen EcoMembrane® to a range of extreme environmental conditions including accelerated uv exposure / elevated temperature / moisture cycles to demonstrate that long term damp proof protection is provided throughout the lifetime of the building.

TROUSER TEAR (CD)



NAIL TEAR (CD)



EcoMembrane Product Data

Key features

- Independently accredited by BRE Certification Ltd, Certificate No.112/04
- Manufactured from 100% post-use polyethylene, diverting more waste from landfill.
- High tear resistance helps reduce damage during installation.
- Does not compromise on traditional DPM performance.
- Available in traditional sizes and thicknesses and installed in the same way.

Description

Visqueen EcoMembrane® DPM is a blown film of extruded low-density polyethylene for use as a Type “A” damp proof membrane as defined by BS EN 13967: 2004. It is manufactured from 100% post-use waste, is black in colour and available in 250mu, 300mu and 500mu thicknesses.

It has been independently accredited by BRE Certification Ltd (Certificate Number 112/04) copies available on request.

Visqueen EcoMembrane® DPM is classified as non-hazardous when used in accordance with the relevant Code of Practice (CP 102: 1973). The product is chemically inert and is not affected by acids and alkalis that may be present in the sub-soils.

Applications and use

Visqueen EcoMembrane® DPM is suitable for use in concrete floors, in accordance with clause 11 of CP 102: 1973, where there may be capillary rise of moisture but not where it may be subject to hydrostatic pressure. In such a circumstance, Visqueen Self-adhesive DPM should be used.

Where there is a risk that the ground may be waterlogged, sub-soil drainage in accordance with CP 102 and BS 8102 should be provided.

The effectiveness of EcoMembrane® will be reduced if it is exposed to sunlight either during storage or when in use. (see Storage and Handling)

Under normal operating conditions, Visqueen EcoMembrane® DPM can be used in conjunction with underfloor heating, although follow the advice of Visqueen’s Technical Support Service.

As indicated in paragraph 4.8 of Approved Document C, joints in the membrane are sealed using the Visqueen DPM Jointing System and Visqueen Zedex DPCs and cavity trays.



Accreditation

Visqueen EcoMembrane® is the first DPM to be tested to the new European Standard BS EN 13967: 2004 Flexible Sheets for Waterproofing and carries BRE Accreditation, Certificate Number 112/04



Installation guidelines

Visqueen EcoMembrane® DPM must be installed in accordance with BRE Certificate No.112/04 and the following guidelines.

Preparation for laying the membrane

Even though Visqueen EcoMembrane® has a high puncture resistance to normal foot and site traffic, care should be taken to avoid accidental damage on site. Similarly, where the base is uneven, a blinding of soft sand of a thickness that will cover all sharp projections should be used to avoid damage to the membrane when it is being installed, and when the concrete or screed is being laid.

Joining the EcoMembrane®

Adjacent sheets of the membrane should be overlapped by at least 150mm and sealed using Visqueen Double-sided Joining Tape. The joint should then be secured using 100mm wide Visqueen Girth Joining Tape. The membrane should be clean and dry at the time of joining.

Maintaining continuity

It is essential that the Visqueen EcoMembrane® is continuous with the DPC in the surrounding walls. Where the DPM is not at the same level as the DPC, the DPM should be taken vertically and connected to the DPC so that damp proofing is continuous. The DPM should also be continuous with any DPCs to internal walls.

Special care must be taken to ensure continuity at corners. To help achieve this, special preformed wall/slab corner units are available from Visqueen Building Products. All laps must be sealed using Visqueen Double-sided Joining Tape and Visqueen Girth Joining Tape.

Punctures

Any tears or punctures in the membrane should be patched using a piece of the same material sized to overlap at least 150mm beyond the extent of the puncture, the lap being sealed with Visqueen Double-sided Tape and Visqueen Girth Joining Tape.

Service pipe penetrations

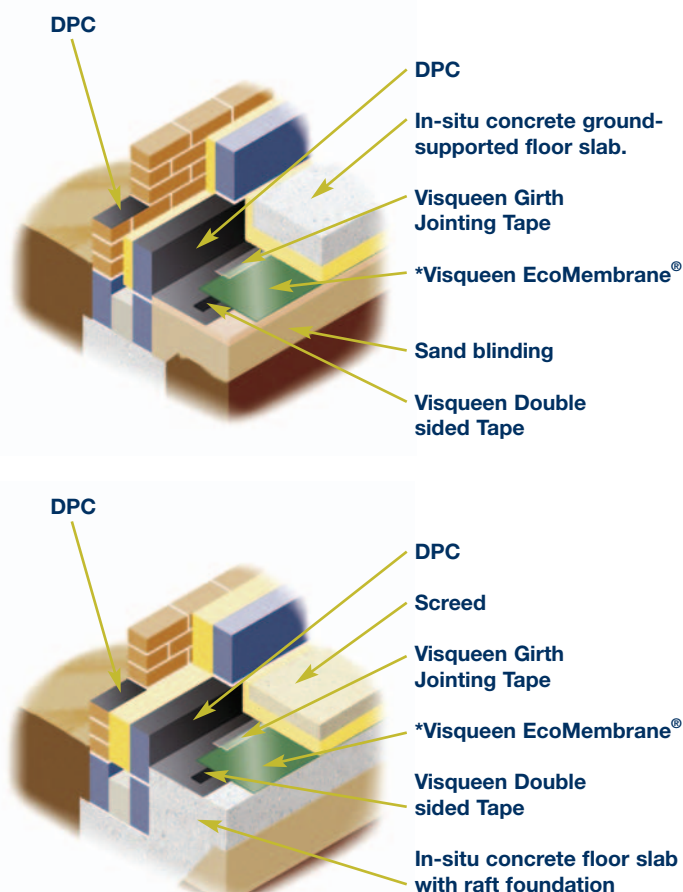
Any penetrations for service pipes should be sealed using Visqueen Pre-formed Top Hat Units. The base of the preformed Unit should be sealed using Visqueen Double-sided Joining Tape and Visqueen Girth Joining Tape.

Covering

Visqueen EcoMembrane® should be covered by a protective layer (such as a screed) as soon as possible after installation. The membrane should be sufficiently loosely laid against upstands to ensure that the membrane is not stretched or displaced when applying the screed or concrete. A minimum thickness of 50mm screed is recommended.

When reinforced concrete is to be laid over the membrane, the wire reinforcements or spacers must be prevented from contacting the membrane. It is recommended that the membrane be covered with Visqueen Protection Board or 50mm screed prior to placing the reinforcements.

When underfloor heating is to be installed, Visqueen recommend that the barrier is positioned between the blinded hardcore and the insulation to protect the installation from moisture and to avoid any risk of overheating the membrane.



The EcoMembrane®

DPM system

Visqueen DPM jointing system

The Visqueen DPM Jointing System consists of:

- Visqueen Double-sided Jointing Tape.
- Visqueen Girth Jointing Tape.

Visqueen Jointing Tapes		
Dimensions		
	Visqueen Double-sided Jointing Tap	Visqueen Girth Jointing Tape
Roll length (m)	10	33
Roll width (mm)	50	100

The system is used for jointing:

- Between sheets of EcoMembrane® DPM.
- Around Visqueen Pre-formed Top Hat Units.
- To Visqueen Zedex DPCs and cavity trays.

Visqueen Double-sided Tape is a double-sided adhesive strip, which forms a tenacious bond between sheets.

Visqueen Girth Jointing Tape is a self-adhesive pressure-sensitive tape used in conjunction with Visqueen Double-sided Jointing Tape.

Visqueen Pre-formed Top Hat Units are available in various sizes, the most common being 110mm diameter. Visqueen Top Hat Units should be used to form airtight seals around service entry points.

Storage and handling

Visqueen EcoMembrane® is supplied in rolls, shrink wrapped on pallets, the wrapping bearing the manufacturers and products names, the BRE identification mark and Certificate number, details of the length, width and thickness, and the fact that it is a Type “A” product as defined in BS EN 13967: 2004.

The material is not recommended for use where it will be exposed to long periods of outdoor weathering. The rolls should be protected from sunlight and stored under cover before use.

When the weather is cold, Visqueen Double-sided Jointing Tape and Visqueen Girth Jointing Tape should be kept in a warm, dry place until needed. Installation is not recommended below 5°C.

Pricing and availability

Prices may be obtained from our UK Network of merchant stockists. For details of these, call our Sales Office on 01685 840 672.

Technical Properties				
Nominal Characteristics of Visqueen EcoMembrane®				
Thickness	250	300	500	
Roll Width (m)	4	4	4	
Roll length (m)	25	25	12.5	
Colour	black	black	black	
Technical Performance				
Property	Test Description	Nominal Thickness of sheets (mm)		
		0.25	0.30	0.50
Visible defects	BS EN 1850-2	None	None	None
Mass per unit area	BS EN 1849-2	240 g/m ²	265 g/m ²	460 g/m ²
Watertightness	BS EN 1928, Method A with pressure of 2kPa	Pass	Pass	Pass
Resistance to impact	BS EN 12691	Pass-30mm -puncturing tool	Pass-30mm -puncturing tool	Pass-30mm -puncturing tool
Durability against ageing	BS EN 1296, with exposure period of 12 weeks followed by BS EN 1928, Method A with pressure of 2kPa	Pass	Pass	Pass
Watertightness after ageing				
Durability Against chemicals	BS EN 1847, with exposure to dilute alkali for 16 weeks followed by BS EN 1928, Method A with pressure of 2kPa	Pass	Pass	Pass
Watertightness after exposure				
Resistance to tearing (Nail shank) in Machine direction	BS EN 12310-1	165 N	205 N	310 N
Resistance to tearing (Nail shank) in Cross direction	BS EN 12310-1	170 N	215 N	315 N
Max Tensile stress in Machine direction	BS EN 12311-2	19.4 N/mm ²	24.9 N/mm ²	18.5 N/mm ²
Elongation		370%	390%	370%
Max Tensile stress in Machine direction	BS EN 12311-2	23.2 N/mm ²	23.7 N/mm ²	19.9 N/mm ²
Elongation		430%	430%	380%
Resistance to static loading	BS EN 12730, Method B	Pass with 20kg load	Pass with 20kg load	Pass with 20kg load
Water Vapour Transmission Properties				
Density of water vapour flow rate*	BS EN 1931	4.20 x 10 ⁻⁹ kg/m ² /s	3.71 x 10 ⁻⁹ kg/m ² /s	1.91 x 10 ⁻⁹ kg/m ² /s
Water vapour resistance factor**	BS EN 1931	3.14 x 10 ⁵	3.29 x 10 ⁵	3.92 x 10 ⁵

* Equivalent to water vapour permeability of:
 250 µm 0.36 g/m2/day
 300 µm 0.32 g/m2/day
 500 µm 0.16 g/m2/day

** Equivalent to water vapour resistance of:
 250 µm 586 MNs/g
 300 µm 682 MNs/g
 500 µm 1390 MNs/g

Technical Support Service

A comprehensive technical support service is available to provide you with assistance when designing or building your project. The service includes:

Visqueen Building Products Specifiers Guide

Visqueen's Specifiers Guide to Damp Proof Membranes, DPC's and Gas Protection Systems provides guidelines on installation and easy to follow accurate details. Many traditional solutions have been revisited and new recommendations made.

CAD Support Service

Our CAD department will assist in the design of pre-formed cavity tray units.

Technical Site Support Service

A responsive service to provide advice on site.

www.visqueenbuilding.co.uk

Our website provides detailed product and technical information. The site is unique from a damp proofing and gas protection supplier in that it contains downloadable technical data sheets and a selection of standard details from our extensive library covering typical dpc, tanking and gas protection applications.

CPD Training Seminars

Visqueen Building Products offer CPD Training Seminars for both Damp Proofing and Gas Protection of buildings. If you are interested, please arrange for your CPD organiser to contact us.

NBS Plus Specifications

To assist with preparing specifications, a comprehensive range of Visqueen's products are available in NBS format. These can be faxed or emailed to you upon request.

Useful references

- CP 102:1973 Code of practice for the protection of buildings against water from the ground.
- BS 8102:1990 Code of practice for the protection of structures against water from the ground.
- BS 8215:1991 Code of practice for the design and installation of damp proof courses in masonry construction.
- BS 8000: Part 4: 1989 Workmanship on building sites: Code of practice for waterproofing.
- BS EN ISO 14001:1996 Environmental Management Systems - Specification with guidance for use, Web site: <http://www.brecertification.co.uk/iso14001.jsp>
- BS EN 13967: 2004 Flexible Sheets for Waterproofing – Plastic and rubber damp proof sheets including plastic and rubber basement tanking sheet – Definitions and characteristics.



Complete Protection System Range



Specification of Visqueen EcoMembrane® DPM

Permission is granted for the reproduction of this page for the purpose of inclusion into specifications.

Visqueen EcoMembrane® DPM prevents the ingress of moisture into buildings when installed in accordance with our instructions. All laps must be sealed and the membrane continuous with a DPC.

PRODUCT REFERENCE: Visqueen EcoMembrane®
Visqueen Double-sided Jointing Tape
Visqueen Girth Jointing Tape
Visqueen Pre-formed Top Hat Unit
Visqueen Zedex DPC/cavity tray

COMPANY DETAILS: Visqueen Building Products,
Maerdy Industrial Estate, Rhymney,
Tredegar, NP22 5PY
t: 01685 840672 f: 01685 842580
e: enquiries@visqueenbuilding.co.uk
www.visqueenbuilding.co.uk

Further product and technical information is available from the Visqueen Building Products web site. The site includes downloadable technical data sheets and typical installation details.

Specifiers using NBS (National Building Specification) can specify Visqueen EcoMembrane® DPM using clauses from Work Sections J40 and F30.

For further information about NBS subscription services contact: NBS Services, The Old Post Office, St Nicholas Street, Newcastle Upon Tyne, NE1 1RH. t: 0191 232 9594 f: 0191 232 5714.



VISQUEEN
BUILDING PRODUCTS



Printed using vegetable based inks onto Revive Uncoated - 100% recycled (80% de-inked post-consumer waste, 20% mill broke). Chlorine free.

