Visqueen
Radon Membrane System

Description

Independently Accredited by BRE Certification Ltd (Certificate Number 083/01) Visqueen Radon Membrane is an unreinforced polyethylene membrane, **suitable for use in the protection of buildings from the ingress of Radon gas.**

Visqueen Radon Membrane will act as an effective passive radon membrane in most typical applications when installed in accordance with our instructions and will also act as a Damp Proof Membrane.

For effective protection the Visqueen Radon Membrane system should be used. The system comprises:

- **Visqueen Radon Membrane**
- **Visqueen Double Sided Jointing Tape**
- **Visqueen Girth Jointing Tape**
- **Visqueen Top Hat Units**
- **Visqueen Polythene DPC**
- **Visqueen Radon Sump Units**
- **Visqueen Self Adhesive Membrane**

Data Sheets are available for these products.

Technical Data

Visqueen Radon Membrane

Thickness	300mu
Width	4m
Length	25m
Colour	Red
Roll Weight	27.6kg

Technical Performance

Elongation at Break (BS 2782: Part 3: 320A)	550%
Tear Resistance (MOAT 27 :1983 5.4.1)	119N
Moisture Vapour Transmission Rate (BS 3177)	0.33 g/m^2/day
Radon Permeability (*k*) 10^{-12} m^2/s	8
Radon Transmittance (P) 10^{-9} m/s	26

Installation Procedures

Standard technical details along with a detailed Visqueen Radon Membrane Installation Guide are available upon request. Visqueen Radon Membrane must be installed in accordance with BRE Certification Ltd recommendations (Certificate No. 083/01).

For UK installations Visqueen Radon Membrane and ancillary components must follow the recommendations of Building Research Establishment Reports BR 211" Radon : guidance on protective measures for new dwellings" and BR 212 " Construction of new buildings on gas contaminated land"

In Ireland Visqueen Radon Membrane must be installed in accordance with the recommendations of IS 325: Part 2 1995 and clause 11 of BS CP 102 1973 Code of Practice for protection of buildings against water from the ground. Further guidance in relation to radon is contained in Technical Guidance Document C of Building Regulations 1997 which should be read in conjunction with the DOE Publication "Radon in Buildings".

Visqueen Radon Membrane can be used in most common floor constructions. It is installed in a similar way to damp proof membranes, but with a much greater attention to workmanship and detailing in order to achieve effective sealing at all locations. Visqueen Radon Membrane is not intended for use where there is the risk of hydrostatic pressure. The product should be installed on a blinded or smooth surface allowing adequate overlap for jointing between the sheets and avoiding bridging (i.e. areas of unsupported membrane). In order to provide a continuous barrier the membrane must be joined to the Damp Proof Course.

Jointing Procedures

After the Visqueen Radon Membrane has been unrolled, **Visqueen Double Sided Tape** should be applied approximately 50mm from the edge. The next width of Visqueen Radon Membrane should then be overlapped. For an effective radon proof system all laps must be a minimum of 150mm and the joint should be secured with **Visqueen Girth Jointing Tape,** a single sided tape which provides added security against any potential leakage path. Ensure that the membrane is clean, dust free and dry at the time of jointing.

Punctures

The integrity of the Visqueen Radon Membrane sheet must be maintained during installation. Visqueen Radon Membranes are 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, sealed with Visqueen Double Sided Tape and secured with Visqueen Girth Jointing Tape.

Service Pipe Penetrations

Visqueen Top Hat Units should be used to form airtight seals around service entry points. The base of the top hat unit must be sealed to Visqueen Radon Membrane using Visqueen Double Sided Tape and Visqueen Girth Jointing Tape. The unit must be fastened to the service pipe using a combination of the Visqueen Jointing Tape system and a jubilee clip to provide fastness.

Continuity through walls

The membrane must be continuous with a cavity tray formed across the cavity using **Visqueen Polyethylene DPC** as a minimum. All laps must be sealed using Visqueen DPC Double Sided Jointing Tape.

Sumps for use in full protection areas

Where sub floor depressurisation is required, then a **Visqueen Radon Sump** should be used. This is a prefabricated plastic sump, which should be located as close to the centre of the building as possible. All pipe work connecting to the sump should be fully sealed using the Visqueen Radon Membrane Jointing System. A venting pipe should be connected to the sump, which needs to leave the building. Until such time as a fan is installed, the pipe should be capped. Note: a sump is only installed as a fallback measure and does not provide any radon removal until a fan is installed or is connected to a passive stack system.

Covering

A screed or other protective layer should cover Visqueen Radon Membrane as soon as possible after installation. Care should be taken to ensure that the membrane is not punctured, 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 barrier the wire reinforcements must be prevented from contacting the barrier. It is recommended that the barrier be covered with screed before positioning the reinforcement.

Continuity at Corners

Special care must be taken when installing at corners to ensure continuity at corners. To help achieve this special preformed wall / slab corner units are available from Visqueen Building Products.

Internal Walls

Visqueen Radon Membrane must be continuous with Visqueen Polythene DPC used below internal walls. All laps must be a minimum of 150mm and fully sealed.

Sealing to Columns

Sealing to steel or concrete structural columns should be undertaken using Visqueen Gas Resistant Self Adhesive Membrane. Ensure that the surface to be treated is free from loose particles, dry and frost free. Installation should be in accordance with BS Code of Practice 102 and BS 8102. All surfaces should be sealed using Visqueen Tanking Primer Solution and allowed to dry thoroughly. All laps to Visqueen Radon Membrane must be a minimum of 150mm.

Provision for Settlement

It is important to minimise differential movement between walls and concrete slabs. Further advice is contained in Visqueen Radon Membrane Installation Guide, available upon request.

Storage and Handling

Visqueen Radon Membrane 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. The material is not recommended for uses where it will be exposed to long periods of outdoor weathering. However weathering will not occur when the membrane is installed in accordance with CP102 1973. Care should be taken to avoid accidental damage when handling Visqueen Radon Membrane on site. 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^{o}C.

Technical Advice

For advice on detailing or installation call the Visqueen Building Products Technical Help Line 01993 779911.