

PERM-A-BARRIER[®] VC20

Self-Adhesive, Fully Bonded Air & Vapour Control Layer

Product Description

PERM-A-BARRIER[®]VC20 Membrane is a self-adhesive vapour impermeable air barrier membrane, composed of a reinforced cross-laminated HDPE film, and a synthetic non-bituminous adhesive. PERM-A-BARRIER[®]VC20 Membrane incorporates the GCP ADVANCED BOND TECHNOLOGY[®]

Applications

PERM-A-BARRIER[®]VC20 membrane provides a complete barrier to both air leakage and vapour diffusion through the building enclosure.

Perm-A-Barrier systems:

- Prevent premature deterioration of the building envelope caused by interstitial condensation or rain penetration.
- Save energy costs by enhancing thermal performance of the structure.
- Improve comfort for the building occupants by increasing the level of indoor air quality.

Compatibility

PERM-A-BARRIER[®]VC20 Membrane is compatible with various substrates without the use of primer including Cement Particle Board (CPB).

For use with other substrates such as Oriented Strand Board (OSB), Cross Laminated Timber (CLT), Glass Fibre Gypsum Sheathing, insulated block work, bricks, masonry or concrete we recommend you to contact GCP Applied Technologies for further advice.

System Components

- PERM-A-BARRIER[®] VC20 - for use on above-ground walls at installation temperatures above 5 °C.
- PERM-A-BARRIER[®] Detail Membrane - heavy duty, fully bonded membrane for throughwall flashing detailing.
- PERM-A-BARRIER[®] Aluminium Flashing - heavy duty, fully bonded aluminum surfaced membrane for throughwall flashing detailing.
- BITUTHENE[®] Liquid Membrane - two-component, elastomeric liquid applied detailing compound used for details and terminations.
- PREPRUFE[®] SC1 Primer - Primer used to facilitate tenacious adhesion of PERM-A-BARRIER[®] VC20 Membrane to certain substrates.

Advantages

- Fully Bonded to the substrate to protect from the elements.
- Resists Wind Loads – During construction phase.
- Energy Efficiency – Substantially reduces energy consumption through airtight construction.
- Durability – Building lifetime protection.
- Ease of Application – Lightweight, flexible and easy to install.
- Prevents Water Migration – Between substrate and membrane.
- Reaction to fire (Euroclass) - D



Declared values according to EN 13984:2004 +A1:2006

Property	Declared Value
Water tightness to liquid water	Pass
Resistance to impact (mm)	NPD
Durability of water vapour transmission against artificial ageing	Pass
Durability of tensile properties against alkali	NPD ³
Resistance to tearing (Nail Shank - unreinforced sheets) (N)	Long ¹ ≥ 70 Trans ² ≥ 70
Joint strength (N/50mm)	> 120
Water vapour transmission	450000 ± 30%
μ value (μ = SD/d) SD value (m)	185 ± 30%

Tensile properties - unreinforced sheets (N/6mm)	Long ¹ ≥ 4.5 Trans ² ≥ 4.5
Tensile properties - unreinforced sheets (Elongation %)	Long ¹ ≥ 110 Trans ² ≥ 110
Reaction to fire (Euroclass)	D
Dangerous substances	NPD

Footnotes:

1. Longitudinal - related to the roll direction
2. Transversal - related to the roll direction
3. Not required due to application
4. NPD - No performance determined.

All declared values shown in this data sheet are based on test results determined under laboratory conditions and with the product sample taken directly from stock in its original packing without any alteration or modification of its component parts.

Limitations

PERM-A-BARRIER®VC20 Membrane must not be applied in areas where they will be permanently exposed to UV light and must be covered within a reasonable amount of time, not to exceed 90 days.

Warranty

Perm-A-Barrier systems are warranted to be free of defects in manufacture for a period of 10 years.

Installation

Surface Preparation

Surface must be smooth, clean, dry and free of voids, loose aggregate, loose nails, sharp protrusions or other matter that will hinder the adhesion or regularity of the wall membrane installation. Clean loose dust or dirt from the surface to which the wall membrane is to be applied by wiping with a clean, dry cloth or brush. If the substrate is damp, allow to dry or use PREPRUFE®SC1 Primer to prepare the area to receive the membrane.

Primer Installation

When required, apply PREPRUFE®SC1 Primer by air spray, brush or roller application, allowing to dry until surface becomes tacky. Drying times may vary depending on temperature and humidity conditions. Refer to PREPRUFE®SC1 Primer product data sheet for installation recommendations.

Temperature

PERM-A-BARRIER®VC20 Membrane may be applied when the surface temperatures are between 5 °C and 35 °C.

Membrane Installation

Cut membrane into easily handled lengths. Apply membrane horizontally or vertically to prepared substrates such as CPD, OSB and CLT.

Each length of the membrane must be installed so that subsequent sheets applied above must overlap the sheet below by 50 mm. Always ensure that the laps are formed in a weatherproof water shedding manner.

End laps that occur in subsequent lengths that follow should maintain a minimum overlap of 50 mm. The membrane must be pressed firmly into place with a hand roller or the back of a utility knife as soon as possible, ensuring continuous and intimate contact with the substrate to prevent water from migrating under the membrane.

Apply BITUTHENE®LM to seal around the tie wire projections. Fit the PERM-A-BARRIER®VC20 Membrane tightly around all penetrations through the membrane and seal using Bituthene LM.

Continue the membrane into all openings in the wall area, such as windows, doors, etc., and terminate at points that will prevent interior visibility. The installation must be made continuous at all framed openings.

Coordinate installation of the PERM-A-BARRIER®VC20 Membrane with the roofing trade to ensure continuity with the roofing system at this critical transition area.

At the end of each working day, if the wall has been only partially covered, apply a bead of Bituthene LM along the top edge of the membrane at its termination to prevent vertical drainage of precipitation from penetrating the end and undermining the membrane adhesion.

Tool the Bituthene LM to ensure it is worked into the surface. Inspect the membrane before covering and repair any punctures, damaged areas or inadequately lapped seams.

Repairs must be made using PERM-A-BARRIER®VC20 Membrane sized to extend 150 mm in all directions from the perimeter of the affected area. If repairs are required, carefully cut out affected areas and replace in similar procedure as outlined above. The repair piece must be pressed into place with a hand roller as soon as possible to ensure continuous and intimate contact with the substrate.

Membrane Protection

PERM-A-BARRIER®VC20 Membrane must be protected from damage by other trades or construction materials.

Storage & Handling

All materials must be protected from rain and physical damage. Pallets of PERM-A-BARRIER®VC20 Membrane must not be double stacked on the job site. Provide cover on top and all sides, allowing for adequate ventilation. Store membrane where temperatures will not exceed 30 °C for extended periods. All products must be stored in a dry area. Store only as much material at point of use as is required for each day's work.

Supply

Perm-A-Barrier VC20	1.2 m x 50 m roll
Weight	31 kg
Minimum overlap	50 mm
Storage	< 30 °C
Ancillary Products	5 & 20 litre can 10 - 12 sq m per litre 5.7 litre pack
Preprufe SC1	
Coverage*	
Bituthene LM	

(*) Depending upon method of application, surface porosity and ambient temperature.

Physical Properties

PROPERTY	TYPICAL VALUE
Thickness (mm)	0.4
Water vapour Transmission ASTM	0.019
E-96 US Perms	
Vapour Resistance MNs/g	900 ± 30%
Vapour Resistivity MNs/gm	2.25 ± 30%
μ value	450000 ± 30%
SD value (m)	185 ± 30%

Health and Safety

There is no legal requirement for a Safety Data Sheet for PERM-A-BARRIER®VC20 Membrane. For health and safety questions please contact GCP Applied Technologies Limited. For Preprufe SC1 primer and Bituthene LM read the product label and Safety Data Sheet (SDS) before use. Users must comply with all risk and safety phrases. SDS can be obtained from GCP Applied Technologies Limited.



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