

# PERM-A-BARRIER® VPS

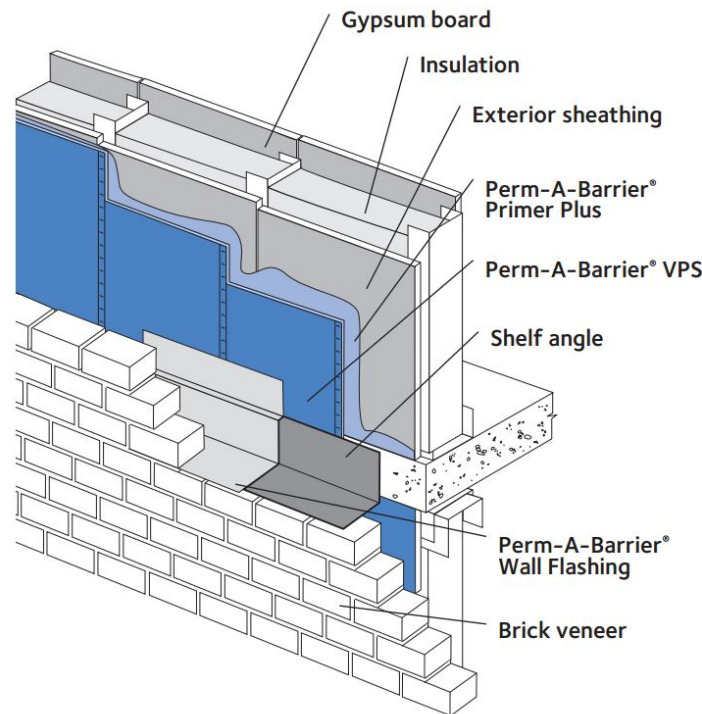
Self-adhering vapor permeable air barrier membrane

## Product Description

PERM-A-BARRIER® VPS (Vapor Permeable Sheet) is a vapor permeable air barrier membrane consisting of a proprietary breathable carrier film with a specially designed adhesive.

This product provides superior protection against the damaging effects of air and water ingress on building structures. It creates a solid barrier against air infiltration and exfiltration, which minimizes associated energy loss and condensation problems.

PERM-A-BARRIER® VPS membrane is vapor permeable for wall assemblies requiring this “breathable” characteristic. As a vapor permeable membrane, it permits the diffusion of water vapor that may otherwise condense in the wall structure; but is impermeable to liquid water, which allows the material to act as a water drainage plane.



Drawings are for illustration purposes only. Please refer to [gcpat.com](http://gcpat.com) for specific application details.

## Product Advantages

- Fire Resistant—meets NFPA 285 as part of various wall assemblies
- Air tight—protects against air passage and associated energy loss
- Vapor permeable—“breathable” membrane prevents moisture from being trapped in the wall cavity by allowing walls the ability to dry
- Water resistant—resists hydrostatic water pressure and wind driven rain

- Self-adhered—eliminates the need for mechanical fasteners
- Controlled thickness—factory made sheet ensures constant, non-variable site application
- Lightweight—allows for easy handling and installation
- Flexible—accommodates minor settlement and shrinkage movement; bridges crack and joints in substrate
- Strong adhesion—to prepared construction substrates such as plywood, oriented strand board (OSB) block, masonry and exterior gypsum boards
- Compatible with PERM-A-BARRIER® Flashing Systems

## Principal Applications

Vapor permeable air barrier for new and remedial commercial and residential applications. PERM-A-BARRIER® VPS membrane is installed onto exterior wall substrates and behind the exterior cladding.

## System Components

- PERM-A-BARRIER® VPS — for use on above-grade walls at installation temperatures above 20°F (-6°C)
- PERM-A-BARRIER® Primer Plus — Water-based vapor permeable primer used to facilitate tenacious adhesion of PERM-A-BARRIER® VPS to the substrate. For use at temperatures between 40°F and 120°F
- PERM-A-BARRIER® Adhesive — Low temperature vapor permeable primer used to facilitate tenacious adhesion of PERM-A-BARRIER® VPS to the substrate at temperatures as low as 20°F (-7°C)
- PERM-A-BARRIER® Wall Flashing — heavy duty, fully-adhered membrane for throughwall flashing detailing
- PERM-A-BARRIER® Detail Membrane — flexible, fully-adhered membrane for detail flashing areas
- BITUTHENE® Liquid Membrane — two-component, elastomeric liquid applied detailing compound used for details and terminations
- BITUTHENE® Mastic — rubberized asphalt-based mastic used for details and terminations
- Sealants — refer to Technical Letter 1 for details on compatible waterproofing sealants

## Installation

### Safety

Refer to product label and Safety Data Sheet before use. All users should acquaint themselves with this information prior to working with the material. Carefully read detailed precaution statements on the product labels and SDS before use. SDSs can be obtained from our web site or by contacting GCP toll free at 866-333-3SBM (3726).

### Surface Preparation

Surface must be smooth, clean, dry to the touch and free of voids, spalled areas, 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. OSB and plywood must have moisture content below 12%.

### Temperature

PERM-A-BARRIER® VPS membrane may be applied only in dry weather when air and surface temperatures are above 20°F (-7°C) with PERM-A-BARRIER® Adhesive and above 40°F (5°C) with PERM-A-BARRIER® Primer Plus.

## Membrane Protection

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

## Application

Apply PERM-A-BARRIER® Primer Plus product by air spray, brush or roller application. Allow the product to dry until surface becomes tacky. Drying times may vary depending on temperature and humidity conditions. Refer to PERM-A-BARRIER® Primer Plus or PERM-A-BARRIER® Adhesive, product data sheet for installation recommendations and Technical Letter 2, *Substrate Preparation for Application of PERM-A-BARRIER® Products to Glass-Mat Faced Gypsum Sheathing* for priming requirements on specific glass-mat faced sheathing products.

## Membrane Application

Cut membrane into easily handled lengths. Apply membrane horizontally or vertically to primed substrates.

For conditions with existing masonry anchors (ties), apply PERM-A-BARRIER® VPS membrane horizontally to primed wall, beginning at the base. Each length of the membrane must be installed so that the upper edge runs continuously along the underside of the line of masonry anchors (ties). Subsequent membrane applied above must overlap the sheet below by 2 in. (51 mm) immediately below the line of anchors (ties). The membrane may be cut to an appropriate width such that it fits between the rows of anchors and allows for a min. 2 in. overlap onto the membrane below. It will be necessary to cut the membrane at the location of the anchors projecting from the wall to enable the sheet to be laid in place. End laps that occur in subsequent lengths that follow should maintain a minimum overlap of 2 in. (51 mm). See Figures 1 and 2.

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.

In certain applications such as on soffits or ceilings, backnail the membrane along the side lap prior to installing the next sheet of membrane or install a termination bar that spans the soffit to ensure positive contact to the substrate.

Apply BITUTHENE®Liquid Membrane, BITUTHENE®Mastic or compatible sealant to seal around the anchors. Fit the PERM-A-BARRIER® VPS product tightly around all penetrations through the membrane and seal using compatible sealant.

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, such as windows, doors, etc. Flash framed openings with PERM-A-BARRIER® Detail Membrane and overlap onto PERM-A-BARRIER® VPS product in a shingled manner. Coordinate installation of the PERM-A-BARRIER® VPS product 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®Liquid Membrane, BITUTHENE®Mastic or compatible sealant 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 compatible sealant to ensure it is worked into the surface.

Inspect the membrane before covering and repair any punctures, damaged areas or inadequately lapped seams.

## Membrane Repairs

Repairs must be made using PERM-A-BARRIER® VPS product sized to extend 6 in. (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 in the text 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. Apply a bead of compatible sealant along the top edge of the repair piece. Cover areas where PERM-A-BARRIER® Adhesive comes in contact with the top surface of PERM-A-BARRIER® VPS membrane by using BITUTHENE® Mastic extended 1 inch in each direction from the effected area.

## Storage and Handling Information

All materials must be protected from rain and physical damage. Pallets of PERM-A-BARRIER® VPS product 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 90 °F (32 °C) for extended periods. All products must be stored in a dry area away from high heat, flames or sparks. Store only as much material at point of use as is required for each day's work.

## Limitations

PERM-A-BARRIER® VPS 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 150 days.

## Warranty

PERM-A-BARRIER® products are warranted to be free of defects in manufacture for a period of 5 years. Material will be provided at no charge to replace any defective product.

## Technical Service

Support is provided by full-time technically trained GCP field sales representatives and technical service personnel, backed by a central research and development technical services staff.

## Supply

PRODUCT	UNIT OF SALE	APPROXIMATE COVERAGE	WEIGHT	PALLETIZATION
PERM-A-BARRIER® VPS	1 roll	450 ft <sup>2</sup> (41.8 m <sup>2</sup> ) / roll	28.7 lbs/roll	25 cartons (25 rolls) / pallet
		38.4 in x 141 ft (1.0 m x 43 m)		
PERM-A-BARRIER® Wall Flashing				
12 in. (305 mm)	3 rolls	75 linear ft / roll	25 lbs/roll	25 cartons (75 rolls) / pallet
18 in. (457 mm)	2 rolls	75 linear ft / roll	37.5 lbs/roll	25 cartons (50 rolls) / pallet
24 in. (610 mm)	1 roll	75 linear ft / roll	55 lbs/roll	35 cartons (35 rolls) / pallet
36 in. (914 mm)	1 roll	75 linear ft / roll	75 lbs/roll	25 cartons (25 rolls) / pallet

PERM-A-BARRIER® Detail Membrane

6 in. (152 mm)	6 rolls	75 linear ft / roll	11 lbs/roll	25 cartons (150 rolls) / pallet
9 in. (225 mm)	4 rolls	75 linear ft / roll	16 lbs/roll	25 cartons (100 rolls) / pallet
12 in. (305 mm)	3 rolls	75 linear ft / roll	22 lbs/roll	25 cartons (75 rolls) / pallet

BITUTHENE® Mastic — 5 gal pail	1 pail	approx. 120 ft <sup>2</sup> at 60 mils	54 lbs/pail	36 pails / pallet
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BITUTHENE® Mastic — 30 oz tube	12 tubes	approx. 30 linear ft x 1/4 in. bead	32 lbs/carton	72 cartons (864 tubes) / pallet
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BITUTHENE® Liquid Membrane

1.5 gal pail	1 pail	approx. 200 linear ft/gal @ 1" wide x 90 mils.	16 lbs/roll	100 pails / pallet
4 gal pail	1 pail	approx. 200 linear ft/gal @ 1" wide x 90 mils.	44 lbs/roll	24 pails / pallet
5 gal pail	1 pail	450–500 ft <sup>2</sup> /gal (11–12 m <sup>2</sup> /L)	43 lbs/roll	36 pails / pallet

PERM-A-BARRIER® Primer Plus

5 gal pail	1 pail	450–500 ft <sup>2</sup> /gal (11–12 m <sup>2</sup> /L)	42 lbs/roll	36 pails / pallet
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PERM-A-BARRIER® Adhesive

5 gal pail	1 pail	250–300 ft <sup>2</sup> /gal (7–7 m <sup>2</sup> /L)	43 lbs/roll	36 pails / pallet
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## Typical Performance Properties

TEST	TYPICAL VALUE	METHOD
Color	White	
Air permeance at test pressure of 1.57 psf (75 Pa)	< 0.02 L/s/m <sup>2</sup> (0.004cfm/ft <sup>2</sup> )	ASTM E2178
Assembly air permeance at test pressure of 1.57 psf (75 Pa)	< 0.2 L/s/m <sup>2</sup> (0.04cfm/ft <sup>2</sup> )	ASTM E2357
Water vapor permeance	Minimum 10 perms, Method A, Dry Cup Minimum 10 perms, Method B, Wet Cup	ASTM E96
Water resistance	Pass	ICC - AC38
Peel strength @ minimum temperature (40°F)	> 5 pli to primed exterior gypsum board 4 pli to PERM-A-BARRIER® VPS > 2.5 pli to primed CMU	ASTM D903
Pull adhesion	> 15 psi to primed exterior gypsum board > 12 psi to primed CMU	ASTM D4541
Breaking force	> 40 lbs, Machine Direction > 35 lbs, Cross Direction	ASTM D5034

Low temperature flexibility	Pass	ASTM D1970
Water penetration resistance around nails	Pass	ASTM D1970
Surface burning characteristics	Flame Spread Index, Class A Smoke Developed Index, Class A	ASTM E84
Wall assembly fire test	Pass as part of various wall assemblies with foam plastic insulation	NFPA 285

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GCP Applied Technologies Inc., 62 Whittemore Avenue, Cambridge, MA 02140.

In Canada, 294 Clements Road, West, Ajax, Ontario, Canada L1S 3C6.

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