

## Grace Air & Vapor Barriers

# PERM-A-BARRIER® DETAIL MEMBRANE

Self-adhesive, rubberized asphalt/polyethylene detail membrane for air and vapor barrier applications

## Description

Perm-A-Barrier® Detail Membrane is ideal for protecting and sealing critical areas of the building superstructure from the damaging effects of the elements. By minimizing air and water vapor flow through the building exterior at transition areas, Perm-A-Barrier Detail Membrane:

- Seals transition and detail areas to provide a continuous air barrier
- Prevents premature deterioration of the building envelope

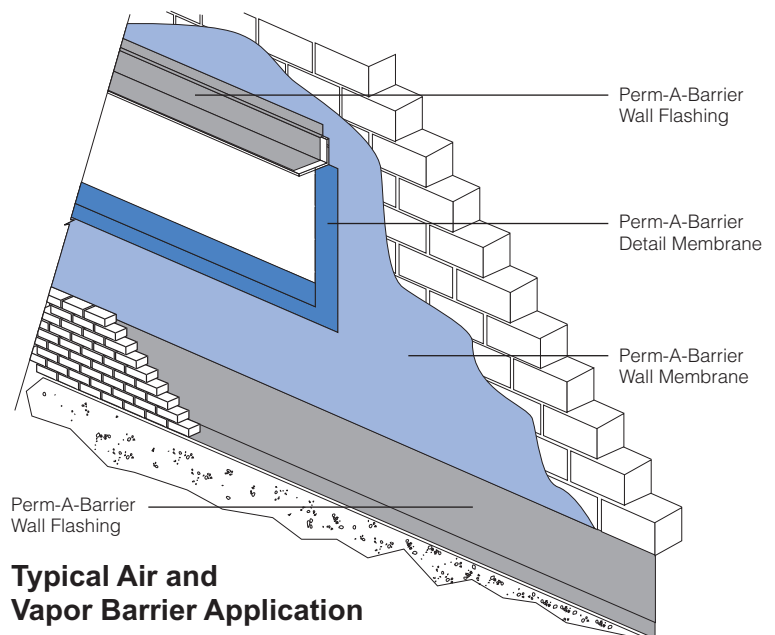
## Advantages

- **Fully bonded**—transmits wind loads directly to the substrate
- **Waterproof and impermeable to moisture**—impermeable to the passage of liquid water and water vapor

- **Air tight**—exceeds CCMC requirements for air barrier membranes and complies with Massachusetts State Energy Code
- **Cross laminated film**—provides dimensional stability, high tear strength, puncture and impact resistance
- **Cold applied**—no flame hazard; self-adhesive overlaps ensure continuity
- **Flexible**—accommodates minor settlement and shrinkage movement
- **Controlled thickness**—factory made sheet ensures constant, non-variable site application
- **Aggressive, conformable adhesive**—allows self-sealing around mechanical fasteners
- **Wide application window**—Perm-A-Barrier Detail Membrane surface and ambient temperatures at 25°F (-4°C) and above

## Product Advantages

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- Flexible
- Controlled thickness
- Aggressive, conformable adhesive
- Wide application window



## Typical Air and Vapor Barrier Application

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

## System Components

- **Perm-A-Barrier Detail Membrane**—fully adhered flashing for protecting and sealing critical detail areas
- **Perm-A-Barrier Primer Plus** — water-based vapor permeable primer used to facilitate tenacious adhesion of Perm-A-Barrier self-adhered membranes to the substrate
- **Perm-A-Barrier WB Primer**—high tack, water-based primer for use with Perm-A-Barrier Detail Membrane on cementitious and exterior gypsum wall-boards
- **Bituthene Primer B2 LVC**—low VOC primer used to prime green concrete or damp surfaces
- **Grace S100 Sealant**—one part neutral curing, ultra low modulus silicone sealant for sealing penetrations, terminations, brick ties and final terminations.
- **Bituthene Mastic Trowel Grade**—rubberized asphalt mastic for sealing patches, terminations, brick ties, etc.
- **Bituthene Liquid Membrane**—two component, trowel grade, asphalt modified urethane for sealing patches, terminations, brick ties, etc.

## Installation

### Safety

Perm-A-Barrier products must be handled properly. Vapors from the mastic and solvent-based primer are harmful and flammable. For these products, the best available information on safe handling, storage, personal protection, health and environmental considerations has been gathered. Refer to product label and Material 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 MSDS before use. MSDSs can be obtained from our web site at [graceconstruction.com](http://graceconstruction.com) or by contacting us toll free at 866-333-3SBM (3726).

## Surface Preparation

Surface must be smooth, clean, dry 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 detail membrane is to be applied by wiping with a clean, dry cloth or brush.

If the substrate is damp, allow to dry or use Bituthene Primer B2 LVC to prepare the area to receive the membrane. DO NOT apply any primer to Perm-A-Barrier Detail Membrane.

## Temperature

Perm-A-Barrier Detail Membrane may only be applied in dry weather when air and surface temperatures are above 25°F (-4°C).

## Application

**Priming**—Perm-A-Barrier Primer Plus and Perm-A-Barrier WB Primer are water-based primers which impart an aggressive, high tack finish on the treated substrate. They are packaged ready to use and are specifically designed to facilitate tenacious adhesion of Perm-A-Barrier Detail Membrane to various substrates including glass-mat faced gypsum sheathing. Refer to 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.

**Detail Membrane Application**—Pre-cut Perm-A-Barrier Detail Membrane to easily handled lengths. Peel release paper from roll to expose rubberized asphalt and carefully position tape against substrate. Press firmly into place with a steel hand roller or the back of a utility knife as soon as possible, fully adhering the tape to the substrate to prevent water from migrating under the Perm-A-Barrier Detail Membrane. Overlap adjacent pieces 2 in. (51 mm) and roll overlap with a steel hand roller.

### **When applying Perm-A-Barrier Detail Membrane to Perm-A-Barrier Wall Membranes and Perm-A-Barrier Wall Flashing**

Apply a bead of Grace S100 Sealant, Bituthene Mastic or Bituthene Liquid Membrane along top edges, cuts, penetrations, all laps and seams on horizontal surfaces (e.g. sill plates), critical areas and as shown in Grace detail drawings, and trowel into place.

### **When applying Perm-A-Barrier Detail Membrane to Perm-A-Barrier Liquid, Perm-A-Barrier VP, Perm-A-Barrier VP Low Temp or Perm-A-Barrier VPO**

Apply a bead of Grace S100 Sealant or Bituthene Liquid Membrane along top edges, cuts, penetrations, all laps and seams on horizontal surfaces (e.g. sill plates), critical areas and as shown in Grace detail drawings, and trowel into place. If Perm-A-Barrier Liquid is more than 7 days old, priming may be necessary. Refer to Technical Letter 11 for more information.

No reglet is necessary when installing Perm-A-Barrier Detail Membrane to vertical surfaces. Complete installation instructions and details are available upon request.

If wrinkles develop, carefully cut out affected area and replace in similar procedure 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.

All non water shedding edges must be sealed with Grace S100 Sealant, Bituthene Liquid Membrane or Bituthene Mastic.

### **Membrane Protection**

Perm-A-Barrier Detail Membrane must be protected from damage by other trades or construction materials.

## **Storage and Handling Information**

All materials must be protected from rain and physical damage. Pallets of Perm-A-Barrier Detail 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 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 membrane systems 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 60 days. Refer to Technical Letter 19, *Exposure Guidelines for Perm-A-Barrier Self-Adhered Membranes*.

Perm-A-Barrier Detail Membrane and all other Perm-A-Barrier self-adhered membranes should not be applied over Grace S100 Sealant.

## **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 Grace 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
<b>Perm-A-Barrier Detail Membrane</b> —6 in. (152 mm) —9 in. (225 mm) —12 in. (305 mm)	6 rolls 4 rolls 3 rolls	75 linear ft per roll 75 linear ft per roll 75 linear ft per roll	11 lbs/roll 16 lbs/roll 22 lbs/roll	25 cartons (150 rolls) per pallet 25 cartons (100 rolls) per pallet 25 cartons (75 rolls) per pallet
<b>Bituthene Mastic—5 gal pail</b>	1 pail	approx. 120 ft <sup>2</sup> at 60 mils	54 lbs/pail	36 pails per pallet
<b>Bituthene Mastic—30 oz tube</b>	12 tubes	approx. 30 linear ft x ¼ in. bead	32 lbs/carton	72 cartons (864 tubes) per pallet
<b>Grace S100 Sealant</b> —29 oz cartridge	1 Cartridge	approx. 30 linear ft x ¼ in. bead	29 oz cartridge	10 cartridges/ carton 42/cartons/palle
<b>Bituthene Liquid Membrane</b> —1.5 gal pail	1 pail	approx. 200 Linear ft/gal @ 1" wide x 90 mils	16 lbs/pail	100 pails per pallet
<b>Bituthene Liquid Membrane</b> —4 gal pail	1 pail	approx. 200 Linear ft/gal @ 1" wide x 90 mils	44 lbs/pail	24 pails per pallet
<b>Perm-A-Barrier</b> <b>Primer Plus—5 gal pail</b>	1 pail	450–500 ft <sup>2</sup> /gal (11–12 m <sup>2</sup> /L)	43 lbs/pail	36 pails per pallet
<b>Perm-A-Barrier</b> <b>WB Primer—5 gal pail</b>	1 pail	250–350 ft <sup>2</sup> /gal (6–8 m <sup>2</sup> /L)	45 lbs/pail	32 pails per pallet
<b>Bituthene Primer</b> <b>B2 LVC—5 gal pail</b>	1 pail	325–425 ft <sup>2</sup> /gal (7.5–10 m <sup>2</sup> /L)	44 lbs/pail	48 pails per pallet

## Physical Properties

Property	Perm-A-Barrier Detail Membrane	Test Method
Thickness	¾ in. (1 mm)	ASTM D3767 method A
Minimum tensile strength, membranes	400 psi (2.8 MPa)	ASTM D412 die C modified
Minimum tensile strength, film	5000 psi (34.5 MPa)	ASTM D412 die C modified
Minimum elongation, to failure of rubberized asphalt	200%	ASTM D412 die C modified
Pliability, at 180° bend over 1 in. (25 mm) mandrel	Pass at -25°F (-32°C)	ASTM D1970
Crack cycling, ½ in. (3.2 mm) at -25°F (-32°C)	Unaffected	ASTM C836
Minimum puncture resistance, membrane	40 lbs (178 N)	ASTM E154
Lap peel adhesion at minimum application temperature	4 lbs/in. (700 N/m width)	ASTM D1876 modified
Maximum permeance to water vapor transmission	0.05 perms/(Pa.s.m <sup>2</sup> ) (2.9 ng)	ASTM E96 method B
Air permeance <sup>1</sup>	0.0002 cf/min/ft <sup>2</sup> (<0.001 L/s/m <sup>2</sup> )	ASTM E2178
Air permeance of in-place membrane <sup>2</sup>	No change in air permeance value	ASTM E330
Water absorption (weight gain at 24 hours)	0.1%	ASTM D570

### Footnote:

1. Air permeance measured at a pressure differential of ¼ in. (68 Pa) Hg.
2. Air permeance measured at a pressure differential of ¼ in. (68 Pa) Hg after wall being subjected to a negative 57/64 in. (3014 Pa) Hg pressure difference for 10 seconds.

[www.graceconstruction.com](http://www.graceconstruction.com)

For technical assistance call toll free at 866-333-3SBM (3726)

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PAB-067G Printed in U.S.A. 05/13

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