

PERM-A-BARRIER[®] NPL

Fluid-applied air and vapor barrier membrane

Description

PERM-A-BARRIER[®]NPL air and vapor barrier is a fluid- applied, one component membrane that cures to form a resilient, monolithic, fully bonded elastomeric sheet when applied to construction surfaces. PERM-A-BARRIER[®]NPL membrane protects above grade wall assemblies against the damaging effects of air and liquid water ingress on building structures. The product creates a solid barrier against air infiltration and exfiltration, which minimizes associated energy loss and condensation problems.

Product Advantages

- NFPA 285 compliance
- Plasticizer, Phthalate and Halogen-free
- Air tight
- Single component
- Fully bonded
- Seamless
- Strong adhesion to common construction substrates
- Compatible with PERM-A-BARRIER[®] Flashing Systems

Advantages

- **Fire resistant** - meets NFPA 285 as part of various wall assemblies with foam plastic insulation
- **Plasticizer, Phthalate and Halogen-free** - safe and environmentally-friendly
- **Air tight** - protects against air passage and associated energy losses. Meets new ASTM E2357 standard
- **Single component** - fast and easy application with simple spray equipment
- **Fully bonded** - transmits wind loads directly to the substrate
- **Seamless** - continuous membrane integrity with no laps
- **Strong adhesion** to common construction substrates such as block, concrete, gypsum sheathing and metal
- **Compatible** with PERM-A-BARRIER[®] Flashing Systems

Principal Applications

Air and vapor barrier for new and remedial commercial and residential applications:

- Concrete block walls with brick veneer or pre-formed cladding panels
- Steel or wood stud walls with exterior gypsum sheathing, brick veneer or pre-formed panels, plywood and OSB

System Components

- PERM-A-BARRIER® NPL membrane - for vertical applications
- S100 Sealant - one part neutral curing, ultra low modulus silicone sealant for detailing and joint treatments
- BITUTHENE® Liquid Membrane - two component, trowel grade, asphalt modified urethane for sealing patches, terminations, brick ties, etc
- PERM-A-BARRIER® Wall Flashing - heavy duty fully-adhered membrane for through-wall flashing detailing
- PERM-A-BARRIER® Detail Membrane - flexible, fully-adhered membrane for detail flashing areas
- PERM-A-BARRIER® Aluminum Flashing - flexible, aluminum faced, fully-adhered membrane for detail flashing areas

Installation

Safety

Refer to product label and SDS (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 at gcpat.com or by contacting us toll free at 866-333-3SBM (3726).

Surface Preparation

All surfaces must be sound and free from spalled areas, loose aggregate, loose nails or screws, sharp protrusions or other matter that will hinder the adhesion or regularity of the membrane installation. The surface must also be free from frost, dirt, grease, oil or other contaminants. Clean loose dust and dirt from the surface by brushing or wiping with a clean, dry cloth.

Concrete and Other Monolithic Cementitious Surfaces

Surface irregularities greater than 1/4 in. (6 mm) across and/or 1/8 in. (3 mm) in depth should be pre-treated with BITUTHENE® Liquid Membrane or repaired with a lean mortar mix or nonshrinking grout. Remove concrete form lines and any high spots greater than 1/8 in. (3 mm) in height to ensure uniform surface. On highly dusty or porous substrates it may be necessary to apply a scratch coat of PERM-A-BARRIER® NPL membrane prior to spraying to full thickness.

Concrete Masonry Units (CMU)

The CMU surface should be smooth and free from projections. Strike all mortar joints full and flush to the face of the concrete block. Fill all voids and holes, particularly at the mortar joints, with a lean mortar mix or nonshrinking grout. Alternatively, a parge coat (typically one part cement to three parts sand) may be used over the entire surface.

Exterior Sheathing Panels

PERM-A-BARRIER®NPL membrane may be applied directly to exterior sheathing panels such as glass faced wall boards and CMU. To avoid deflection at the panel joints, fasten corners and edges with appropriate screws. Fasteners should be driven flush with the panel surface (not counter sunk) and into the framing system in accordance with the manufacturers recommendations. Completely fill the sheathing joint with S100 Sealant and then install a scratch coat (approx. 15-30 mils) of S100 Sealant with a margin trowel or similar onto the face of the sheathing approximately 1 in. (25 mm) on each side of the sheathing joint, ensuring the edges are tapered to prevent shadowing of the spray application. Once the sealant is tack free, the PERM-A-BARRIER®NPL membrane may be applied.

Detailing

Detailing should be completed prior to applying the full coverage of PERM-A-BARRIER®NPL membrane. The field application should completely cover the detail areas to provide a continuous membrane.

For a complete description and instructions on individual details, consult the separate detail sheets found on our web site at gcpat.com.

Transitions to beams, columns, window and doorframes, etc. should be made with a strip of PERM-A-BARRIER®Detail Membrane, PERM-A-BARRIER®Aluminum Flashing or PERM-A-BARRIER®Wall Flashing. Only PERM-A-BARRIER®Wall Flashing can be used for through-wall flashing applications or under masonry units. Optimum adhesion will be achieved when the membrane or flashing is lapped onto the cured PERM-A-BARRIER®NPL membrane. As soon as the PERM-A-BARRIER®NPL membrane is cured (approximately 24 hrs. after application at 50% R.H, 68°F), it is ready to accept self-adhered membranes or flashings.

Any gaps around penetrations should be caulked with BITUTHENE®Liquid Membrane or a polyurethane sealant prior to the Perm-ABarrier NPL membrane application. Refer to GCP standard penetration details.

Membrane Application

PERM-A-BARRIER®NPL membrane can be installed through a spray application. The product may be applied by roller or brush, however spray application is the preferred method. If applying the membrane by roller or brush, multiple material passes may be necessary to ensure that the required wet thickness is achieved.

Contact GCP for further details of local applicators, application techniques and spray equipment.

Application Temperature

In spray applications, PERM-A-BARRIER®NPL membrane may be applied at temperatures as low as 40°F (4°C). It is not recommended for use when cold and/or damp conditions exist for prolonged periods. The product is a water-based material. As with all water-based materials, it is subject to freezing at temperatures below 32°F (0°C).

Thickness Control

Application thickness is controlled in vertical applications by marking the area and spotchecking the thickness with a wet film thickness gauge. Swipe marks on the surface of the PERM-A-BARRIER®NPL membrane are acceptable as long as the minimum thickness is maintained.

Coverage Rates

PERM-A-BARRIER®NPL membrane is typically applied at a minimum thickness of 70 mils wet. The theoretical coverage rate (not including waste) at a thickness of 70 mils is approximately 23 ft²/gal to reach a 40 mil dry thickness.

Coverage may vary depending on application technique and may be reduced over rough and uneven substrates. The applicator goal should be a continuous membrane at a thickness of 70 mils wet, adjust coverage rate accordingly.

Drying

PERM-A-BARRIER®NPL membrane is dry to touch and can be over-coated within 4 hours under normal conditions (50% R.H, 68 °F). The membrane dries through in 24 hours at normal conditions (50% R.H, 68 °F). Drying and skinning times may vary depending on temperature, humidity and surface conditions.

Application of Insulation and Finishes

PERM-A-BARRIER®NPL membrane is not suitable for permanent exposure. Insulation boards may be installed after the product has fully cured. If the insulation cannot be applied within 6 months of the membrane application, some form of temporary protection (such as tarpaulins) should be used to protect the product from the effects of sunlight. Installation of insulation boards can be accomplished by using compatible mechanical fasteners or, solvent free insulation adhesive.

Cleaning

Tools and equipment are most effectively cleaned with using a dish soap mix of 1 oz/per gallon water.(i.e. Dawn®Ultra-2x Active Suds). This method works before material is cured. Mineral Spirits can be used on cured material on tools to remove. Flush system before its used to remove the light oil which was left from factory testing. NPL is a water base product, so soapy water mix to prime pump is best (1-2 gallons). For short shutdown periods, material can remain in equipment and delivery lines. Material should not be left in system for any period of time if temperatures are expected to drop below 40 °F (4 ° C). Normal flushing of system use soapy mix until clear/clean mix is observed (stored at 40 °F or above).

** Long-term storage, after system has been cleaned with soapy water mix several options can be used. Flushing oil, Graco®- Pump Armor™, Titan™-LS-10 Liquid Shield™ Plus or Mineral Spirits can be pumped through system. Be sure to always pump soapy water mix prior to priming system with NPL.

Storage and Handling

PERM-A-BARRIER®NPL membrane should be stored under cover in original sealed containers above 40 °F (4 °C) and below 100 °F (38 °C). The shelf life is 9 months in unopened containers. Store opened containers with plastic protective liner covering the material.

Limitations

PERM-A-BARRIER®NPL membrane should not be used in areas where it will be permanently exposed to sunlight, weather or traffic.

Maximum UV exposure period is 2 months.

Do not apply PERM-A-BARRIER®NPL membrane in wet weather. The product should not be applied if rain or temperatures below 40 °F (4 °C) are expected within 24 hrs. PERM-A-BARRIER®NPL membrane should be kept from freezing as it is subject to freezing at temperatures below 32 °F (0 °C).

Finished and exposed surfaces should be protected from overspray.

PERM-A-BARRIER®NPL membrane should not be used in waterproofing applications in hydrostatic condition. This product is not compatible with petroleum solvents, fuels and oils, materials containing creosote, pentachlorophenol or linseed oil.

North America customer service: 1-877-4AD-MIX (1-877-423-6491)

We hope the information here will be helpful. It is based on data and knowledge considered to be true and accurate, and is offered for consideration, investigation and verification by the user, but we do not warrant the results to be obtained. Please read all statements, recommendations, and suggestions in conjunction with our conditions of sale, which apply to all goods supplied by us. No statement, recommendation, or suggestion is intended for any use that would infringe any patent, copyright, or other third party right.

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

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

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