

VYCOR[®] enV-S[™] Data Sheet

Fully-adhered weather resistive barrier sheet

Product Description

VYCOR[®] enV-S[™] represents the next generation of weather resistive barriers and is designed to provide superior weather protection, and improved energy performance. The membrane brings together the weather protection benefits of a self-adhered membrane, with the breathability of traditional housewraps. The unique adhesive coating bonds strongly to the sheathing, but remains vapor permeable. VYCOR[®] enV-S[™] resists damage in windy conditions, leading to less rework and a high quality appearance.

Unlike conventional building wraps, installation of VYCOR[®] enV-S[™] weather resistive barrier requires no mechanical fastening or taping of seams. The membrane bonds to the sheathing, self seals at overlaps, and seals around fasteners used to install siding and other wall elements. This results in exceptionally low levels of air leakage, and improved energy efficiency of the building.

Keeping walls dry is the key to preventing rot of structural elements and mold growth. VYCOR[®] enV-S[™] fully-adhered barrier protects against wind driven rain. VYCOR[®] enV-S[™] vapor permeable membrane allows the wall system to “breathe”, and water vapor to escape.

Product Advantages

- **Fully adhered**—installation requires no mechanical fasteners or taping of seams
- **Water resistant**—forms a fully adhered barrier against wind driven rain
- **Vapor permeable**—“breathable” membrane prevents moisture from becoming trapped in the wall cavity and provides walls the ability to dry
- **Air resistive**—greatly reduces air leakage and helps improve building energy efficiency
- **Strong adhesion**—to unprimed plywood and oriented strandboard (OSB).
- **Controlled thickness**—factory made sheet ensures consistent, non-variable site application
- **Lightweight**—allows for easy handling and installation
- **Installation flexibility**—may be exposed up to 90 days
- **System solution**—when used in combination with VYCOR[®] Flashings

Principle Application

VYCOR[®] enV-S[™] water and air resistive barrier can be used for new and remedial residential construction applications. It is installed onto exterior wall substrates and behind the exterior siding or cladding.

System Components

- VYCOR® enV-S™ Weather Resistive Barrier—for use on above-grade walls at installation temperatures above 40 °F (5 °C)
- VYCOR® Flashings—membrane for flashing around windows and doors
- PERM-A-BARRIER® Primer Plus—waterbased vapor permeable primer used when adhesion appears to be marginal.
- 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 at gcpat.com by contacting GCP toll free at 866-333-3SBM (3726).

Membrane Application

Cut membrane into easily handled lengths. Apply membrane horizontally or vertically to plywood or OSB substrates. All side and end laps must be overlapped a minimum of 2 in. (51 mm) and all laps must be water-shedding.

The membrane must be pressed firmly into place with a hand roller as soon as possible, ensuring continuous and intimate contact with the substrate to prevent water from migrating under the membrane.

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 VYCOR® Flashings and overlap onto VYCOR® enV-S™ membrane in a shingled manner. Coordinate installation of the VYCOR® enV-S™ membrane with the roofing trade to ensure continuity with the roofing system at this critical transition area.

In certain applications such as on soffits or ceilings, back nail the membrane along the side lap prior to installing the next sheet of membrane to ensure positive contact to the substrate.

At the end of each working day, if the wall has been only partially covered, apply a bead of 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.

If stucco is used for siding, a separation is required between the stucco and VYCOR® enV-S.

Two options are:

- A layer of conventional building paper/felt between the stucco lath and VYCOR® enV-S
- A type of metal lath or other method that stands the stucco away from the VYCOR® enV-S

If a separation sheet is used, it must be permeable to allow the wall system to breath. Any separation sheet recommended by stucco manufacturers is acceptable.

Membrane Repairs

Repairs must be made using VYCOR® enV-S™ barrier 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.

Membrane Protection

VYCOR® enV-S™ weather resistive barrier 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 VYCOR® enV-S™ weather resistive barrier must not be double stacked. 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

VYCOR® enV-S™ weather resistive barrier must not be applied in areas where it will be permanently exposed to UV light not to exceed 90 days.

- Release liners are slippery. Remove from work area immediately following application.
- Due to its slight odor, do not use indoors.
- Gaps in sheathing panels larger than 1/4" should be filled prior to application.
- Allow Concrete to cure a minimum of 14 days prior to application
- Contact your local GCP sales representative for application at temperatures below 40F.

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.

Codes and Approvals

ICC ES ESR-3727 Approval per the requirements and standards as set forth in AC-38 (Acceptance Criteria for Water Resistive Barriers) as a Water Resistive Barrier and Air Barrier.

Supply

PRODUCT	UNIT OF SALE	APPROXIMATE COVERAGE	WEIGHT	PALLETIZATION
VYCOR® enV-S™ Weather Resistive Barrier	1 roll	400 ft ² (37.2 m ²) per roll 40 in x 120 ft (1.02m x 36.5m)	27.3 lbs/roll	42 cartons (42 rolls) per pallet
PERM-A-BARRIER® Primer Plus—5 gal pail	1 pail	450-500 ft ² /gal (11-12 m ² /L)	43 lbs/pail	36 pails per pallet

Typical Performance Properties

TEST	TYPICAL VALUE	METHOD
Color	White with Green logo	
Air permeance at test pressure of 1.57 psf (75 Pa)	<0.0004 cfm/ft ² ± 1.57 pcf 0.002 l/m ² @ 75Pa	ASTM E2178
Water vapor permeance	15 perms	ASTM E96
Water resistance	Pass	AATCC-127 Hydrostatic Head Per ICC-ES AC-38
Peel strength @ 70 °F	4 pli to unprimed plywood 3pli to VYCOR® enV-S	AAMA 711/ASTM D 3330
Breaking force	54 lbs, Machine Direction 46 lbs, Cross Direction	ASTM D5034
Low Temperature flexibility	Pass	ICC-AC38
Water penetration resistance around nails Tested per AAMA 711-07 Procedure	Pass	ASTM D1970
Surface Burning Characteristics	Class A - Flame spread index of 5 Smoke developed index of 15	ASTM E84

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