



## P r o d u c t I n f o r m a t i o n

# MEMBRANE

## VAPOR RETARDING PENETRANT

### Product Description

Membrane is a uniquely formulated moisture-cure urethane polymer penetrant that quickly cross-links and dries to form a densified concrete surface.

Membrane is safe, VOC exempt, non-corrosive and will block the negative effects of pH on adhesives and reduce MVER by more than 70% by penetrating the concrete surface, densifying and restricting capillary activity, creating a tight water-proof bond. It is recommended that a test patch be performed prior to application to determine fitness for a particular usage and correct installation method.

### Installation

All subfloors must be level, firm, dry, smooth and free of dust, dirt, wax, cut-back, paint, grease, oil, curing agents, mold, bond breakers, residual alkaline salts, densifiers, hardeners or any other foreign material that would inhibit bonding. Use only mechanical or physical methods to clean existing subfloor. Do not use sweeping compounds or use any other chemical to clean concrete substrate. Honor all cracks. Fill depressions using a quality acrylic modified Portland cementitious compound. **Do not use Gypsum based compounds.** Roughen glossy surfaces before adhesive application.

Concrete floors must be completely free of dust and debris. It is necessary that an independent series of moisture evaluations be conducted prior to installation per ASTM F1869, F710 and F2170 respectively, to determine vapor emission rate in order to satisfy warranty requirements.

Consult technical advise prior to installation if the resulting vapor emission tests are above 12.0 lbs/1000sf/24hr and/or pH above 12.0 and/or in-situ relative humidity exceeds 85%.

The installation area should be acclimated to at least 60° F for 24 hrs prior, during and 72 hrs following the installation procedure. Do not install if temperature exceeds 80° F.

To insure porosity and provide a clean bonding surface it is recommended that the concrete surface be shot blasted. The steel shot should not exceed a #280 mesh profile. Aggressive shot blasting will require a cementitious skim coat, sand and vacuum prior to application.

Two coats of product are typical for porous substrates. The first coat functions to penetrate and the second coat to back fill any voids. Blue-green product color will disappear upon cure. To insure that a proper application is achieved look for **damped concrete appearance** of coating as a positive indicator. **Do not create a continuous gloss sheet.** Topical film is useless and may require removal. Only apply what the substrate will allow to avoid surface film build up. If first coat is readily absorbed (without any gloss formation) allow at least 1hr before application of second coat.

### Application

Before proceeding ventilate work area and turn on HVAC. Vacuum all dust from floor. The characteristic odor of Membrane is safe, VOC exempt and passes Calif. Section 01350 protocol. Refer to T-bar illustration for proper technique. Pour only enough material to cover 25sf at a time. Using a 18" weighted foam T-bar, lightly apply the Membrane at full strength in sections. A section is defined as a workable area suitable for complete flooring installation in 1-2hrs. Do not cover more than 500sf at a time. This allows set-up suitable for boot traffic in order to matte heavy application areas showing gloss and will limit any irritation from odor. The appearance of **damped concrete not wet** is sufficient, (analogous to a fresh squeegeed floor without gloss). Feather out or matte application areas to a flat finish till pad is dry prior to set up and before pouring additional material. Membrane is reactive and will cure only with atmospheric and substrate moisture. Allow 1hr before second coat to avoid boot tracking. **Lightly apply second coat** and smooth out all heavy areas immediately with T-bar that appear glossy. Do not over apply. **Topical film is useless and may require removal. Penetration of Membrane is critical, not film development.** Hand sand and vacuum any accidental gloss patches before adhesive application with a 100 grit screen attached to a wall board sander. Coverage is approximately 350-400sf/gal total or 2 coats at 700-800sf/gal/coat. Areas without gloss and some surface grab are acceptable and can be considered dry. A 2hr dry time for Membrane is approximate and can vary depending on environmental conditions high humidity, very low temperatures, high vapor rates, and skim coating of non-porous old or new concrete can alter the cure rate.

**Call technical service if any questions pertaining to the above description develops.**

## Special Note

It is imperative that penetration into the concrete with the Membrane is achieved. It is advised to perform a test patch to become familiar with proper technique. A good measure is to begin with applying the coating on a 5 ft by 5 ft area, using the weighted T-Bar. Always apply in sections as a general rule. Large areas are more prone to contamination from the work environment and are always hard to control.

Proper preparation of a high moisture condition is key to final success. Use a mechanical method to obtain porosity. The steel bead shot size should be a #280 mesh in order to obtain a satisfactory surface and avoid excessive profiling. Be sure that this effort is not too aggressive as to require skim coating of the entire area afterwards.

Membrane once installed will densify and reduce the porosity of the concrete surface. When using a MULTI type wet-set adhesive for vinyl sheet, care **MUST** be taken to allow sufficient flash. If the sheet flooring is installed prematurely on a treated floor a potential for locking intrinsic water present in the adhesive formulation can result. This will also eliminate trowel lines, entrap air and create possible bubble formation.

Avoid excessive topical water from maintenance practice. Penetration of a wide tile seam can create adhesive bleed and discoloration.

## Chemical & Physical Properties

<b>Base:</b>	<b>Moisture-Cured Urethane</b>
<b>Vehicle:</b>	<b>Solvent</b>
<b>Color:</b>	<b>Blue (dries clear)</b>
<b>Solids:</b>	<b>&lt;50%</b>
<b>Density:</b>	<b>8.0lbs/gal</b>
<b>Flammability:</b>	<b>Nonflammable</b>
<b>VOC:</b>	<b>"0", Exempt</b>
<b>Application:</b>	<b>See Instructions</b>
<b>Shelf Life:</b>	<b>One Year*</b>

\*From date of manufacture and stored in original, sealed container

## Packaging

Membrane is available in 4.25gal natural high density plastic pails. For the name of a distributor near you, contact Customer Service at 714-429-9804.

## Warranty

Formulators warrants Membrane free from defects in material and workmanship for a period of five (5) years when properly installed in combination with Hydro-Seal adhesive, not to delaminate due to moisture levels not to exceed 12.0lbs/1000sf/24hrs, pH 12.0 and in-situ relative humidity of 85%, (shelf life limited to one year from date of manufacture, stored in an unopened container at 70°F), certified by an independent series of moisture tests in accordance with ASTM F1869, F710 and F2170 respectively and performed by a testing service of Formulators choosing.

Formulators excludes and will not pay consequential or incidental damages under this warranty. All remedies shall extend to the replacement of finished flooring materials and adhesive in affected areas only and as determined by Formulators. Formulators will not warranty the use of any adhesive except those produced by Formulators. Formulators will not pay damages resulting from poor installation, loss of bond due to the dimensional characteristics of the flooring material, telegraphing of trowel marks through the flooring material, improper trowel selection, discoloration due to moisture, typically applied alkaline penetrations, seam failures or voids, tears, rips, misapplied curing compounds, residual mold release, leveling or patching compounds of any kind, improper preparation technique and any other condition beyond the control of Formulators and unrelated to the integrity of the adhesive.

The suitability of this product for an intended use shall be solely the users responsibility. Formulators makes no warranty of merchantability or fitness for a particular application, installation or purpose. No other warranty is expressed or implied.

**For complete warranty information, see Formulators Performance Warranty.**

## Clean Up & Storage

Remove wet Membrane from floor covering and tools with mineral spirits. Use mineral spirits to remove dried film. The container should be kept closed between spreading cycles and after use. The product should be stored in the original container in a cool, dry place.

