



PENNTEK
INDUSTRIAL COATINGS



TECHNICAL DATA SHEET

EMVB MOISTURE VAPOR BARRIER

PRODUCT NAME: EMVB Moisture Vapor Barrier

MANUFACTURER: Penntek Industrial Coatings

STREET ADDRESS: 7850 Lakville BLVD

CITY, STATE, ZIP: Lakeville, MN 55044

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DATE REVISED: 6.18.21

DESCRIPTION

EMVB is a two component 100% solids epoxy seal coat that can help control moisture vapor emission rates up to 20 lb/24hr/1000 ft², prior to application of polymeric coating systems. The product meets the ASTM F3010 product requirements for vapor permeance at the recommended thickness.

RECOMMENDED USE

INDOOR HORIZONTAL CONCRETE

PACKAGING

15-GALLON KIT:

Two 5 Gallon of Part A & One 5 gallon of Part B

MIX RATIO 2A : 1B (TWO PART A TO ONE PART B)

STORAGE

Store product at 65° F to 85° F for at least 48 hours prior to use.



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SURFACE PREPARATION:

Do not apply over light weight concrete. The concrete must meet acceptable industry standards as defined in ACI committee 201 report "Guide to Durable Concrete" Perform Vapor testing per ASTM F1869 to verify that the vapor pressure is below 20 lb/24hr/1000 ft² or above 75% and below 95% per ASTM F2170. The ASTM F1869 may only be used where HVAC is on 24x7 at least on week before and during tests. For moisture testing, at least one test shall be performed for each 1000 square feet of floor surface to be treated. All dirt, foreign contaminants, sealing compounds, oil, solvent, paint, wax, grease, residual adhesives, curing compounds, silicate penetrating compounds, salts, efflorescence, mold, mildew, laitance or any other foreign materials that can affect the adhesion must be removed before surface preparation to assure a trouble free bond to the substrate. Surface depressions or surface irregularities shall be filled smooth and surface cracks, grooves or other non-moving control joints shall be filled before application of the membrane and after the surface preparation has been performed. Cracks and voids should be cleaned out using a wire brush and vacuumed. Narrow cracks may need to be widened to a ¼ inch depth and width with an angle grinder and the sides should be primed with the vapor barrier coating before filling by troweling a mix of the mixed vapor barrier liquids and a thickening agent, (making a paste like consistency) into the cracks. Cracks that are very narrow, can be flooded with the vapor barrier coating when the material is applied. The most suitable surface preparation would be a shot blast to provide a suitable profile to a minimum CSP #3 per ICRI Guidelines. The concrete substrate shall be smooth to prevent irregularities in application thicknesses. Allow concrete substrate to dry for 16-24 hours after surface preparation. We recommend that a mockup installation for the moisture mitigation system of a minimum 100 ft² using the same methods and equipment that will be used for the entire installation be applied and tested for tensile bond strength to the concrete following test method D7234. The results must equal or exceed 200 psi with failure in the concrete before proceeding. For applications over 5,000 square feet, core samples and additional testing can be evaluated, such as X-ray diffraction mineralogical analysis, infrared spectroscopy analysis, ion chromatography analysis and petrographic analysis. These additional tests can give an indication as to the condition of the concrete and degree of contamination (if any), before installation. After surface preparation and while applying the membrane, coat the vertical edges of the clean and sound expansion joint and allow to dry prior to installing the expansion joint material. All dynamic, moving joints and cracks must be honored through the entire flooring system applied and filled with an elastomeric material that is suited for the general conditions of use. The joint must be installed so that the joint runs through the entire flooring system to be applied. Use of a backer rod material is employed in joints such that adequate depth in the joint is maintained for the applied joint filling. Inadequate surface preparation can result in leaving contaminants resulting in pin holes, bubbles, fish eyes or other deficiencies that can cause disbonding or coating failure.



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LIMITATIONS:

- *Color stability may be affected by environmental conditions such as high humidity, chemical exposure or certain types of lighting.
- *Product color may vary from batch to batch.
- *This product is not UV color stable.
- *Substrate temperatures must be 5°F above dew point.
- *For best results, apply with a high quality roller.
- *All new concrete must be cured for at least 10 days prior to application with a minimum compressive strength of 3,500 psi and a minimum tensile strength of 200 psi.
- * Testing must be performed to confirm a moisture vapor emission rate below 20 lb/24hr/1000 ft² per ASTM F1869 or between 75% and 95% for ASTM F2170.
- *Surface must be durable, clean, free of laitance with a surface profile minimum of CSP3 as per the International Concrete Repair Institute.
- *Do not expose this product to water until fully cured.
- *Product is not suitable for preventing hydrostatic or osmotic water conditions.
- *Manufacturer is not responsible for entrapped moisture and/or water underneath applied coatings with a low rate of water vapor transmission which can deteriorate concrete resulting in a cohesive failure within the concrete surface.
Product will not prevent failures from insufficient surface preparation, improper applications, alkaline silica reaction (ASR), ionic compounds or soluble salts in the concrete..
- *Manufacturer is not responsible for failures caused by cracks and pin holes or damage caused by use. Cracks and joints are not covered by any warranty.
- *Product is not warranted for any products not recommended by or manufactured by the vapor barrier manufacturer.
- *Any un-reacted alkaline silicate compounds within the concrete can result in osmotic action/water vapor transmission that will channel these water soluble compounds to the surface where they can effectively break the bond of the applied system as well as preventing penetration of the coating into the substrate.
- *Any claim of warrant breach, must be provided to the manufacturer in writing within thirty days of the discovery of a breach of warranty.
In the event of any breach of warranty, customers sole and exclusive remedy shall be replacement or repair of materials actually damaged (i.e., affected areas only)
No warrant shall cover any application that does not follow the surface preparation, mixing, application and covering recommendations and procedures.
- *slabs must be at least 4" thick with a functioning vapor barrier.
- *Manufacturer does not warrant penetration and bond where cores are not tested unless and until project owner submits cores and lab establishes that no impediment to bond or penetration is or was present.
- *Physical properties are typical values and not specifications.



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TECHNICAL CHARACTERISTICS

SOLIDS BY WEIGHT:

100% (+/- 1%)

SOLIDS BY VOLUME:

100% (+/- 1%)

VOLATILE ORGANIC CONTENT:

Zero

COLORS AVAILABLE:

Clear- gardner color 1-3

RECOMMENDED FILM THICKNESS:

17 mils

COVERAGE PER GALLON:

94.4 square feet per gallon @ 17 mils

PACKAGING INFORMATION:

15 gallon kits (volume approximate)

MIX RATIO:

9.25 pounds (1 gallon) part A to 4.15 pounds (0.50 gallons) part B (volumes approx.)

SHELF LIFE:

1 year in unopened containers

ADHESION:

350 psi @ elcometer (concrete failure, no delamination)

VISCOSITY:

Mixed= 500-1000 cps (typical)

DOT CLASSIFICATIONS:

Part A "not regulated"

Part B "CORROSIVE LIQUID N.O.S., 8, UN1760, PGIII"

HARDNESS:

Shore D= 75-80

CURE SCHEDULE:

Pot life (150 gram mass)

28-38 minutes @ 70°F

Tack free (dry to touch)

6 - 10 hours @ 70 °F

Recoat or topcoat

12-16 hours @ 70°F

Full cure (heavy traffic)

3-7 days @ 70°F

APPLICATION TEMPERATURE:

60-90 degrees F with relative humidity below 90%



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PRODUCT MIXING:

This product has a mix ratio of 9.25# part A to 4.15# part B. Standard packages are in pre-measured kits and should be mixed as supplied in the kit. We highly recommend that the kits not be broken down unless suitable weighing equipment is available. Mix each individual component before using. After the two parts are combined, mix well with slow speed mixing equipment such as a jiffy mixer until the material is thoroughly mixed and streak free. Avoid whipping air into the liquids. After mixing, transfer the mixed material to another pail (the transfer pail) and again remix before applying to the concrete substrate. Improper mixing may result in product failure.

PRODUCT APPLICATION:

STEP 1

Grind floor using 14 grit diamonds.

STEP 2

Access repairs needed. Cracks and pitting repairs will be done using a small batch of EMVB mixed with Cabosil (fumed silica) in order to create a paste consistency. This paste can be used to fill repairs and struck off flush.

STEP 3

Mix EMVB 2 parts A to 1 part B.

STEP 4

Apply to floor using squeegee and roller with a coverage rate of 100 sq. ft. per gallon.

STEP 5

EMVB must cure for 14 hours. Once fully cured, EMVB must be sanded using minimum of 40 grit sand paper and orbital deck sander (DO NOT GRIND). There is also no need to recheck moisture level.

STEP 6

Vacuum floor and apply coating as normal.

CLEANUP:

Use Acetone

FLOOR CLEANING:

Caution! Some cleaners may affect the color of the floor system installed. Test each cleaner in a small area, utilizing your cleaning technique. If no ill effects are noted, you can continue to clean with the product and process tested.

RESTRICTIONS:

Restrict the use of the floor to light traffic and non-harsh chemicals until the coating is fully cured (see technical data under full cure). It is best to let the floor remain dry for the full cure cycle. Dependent on actual complete system application, surface may be slippery, especially when wet or contaminated; keep surface clean and dry.