



## MVB Moisture Vapor Barrier Floor Coating

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### Description:

**SIMIRON MVB** is a 100% solids, two-component, epoxy primer designed for concrete floors with severe moisture vapor transmission (MVT) problems. SIMIRON MVB can control emission rates up to 20lb/24hr/1000 square feet. This primer is designed to be used as a moisture vapor barrier under SIMIRON decorative floor coatings along with other flooring systems.

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### Features & Benefits:

- Helps reduce the effects of moisture vapor transmission
  - One Coat Application
  - Easy to Apply
  - VOC Compliant Nationwide
  - Virtually No Odor
  - Exceeds the requirement for ASTM F3010, two-component resin based membrane-forming moisture mitigation systems for use under resilient floor coverings.
  - LEED V4. Compliant
  - Excellent adhesion to damp concrete (ASTM D7234)
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### Typical Uses:

- Over Concrete Surfaces
  - New Construction
  - Decorative Chip
  - Decorative Quartz
  - Metallic
  - High/Thin Build Systems
  - Mortars
  - Carpet
  - Wood Floors
  - Terrazzo
  - Cementitious Overlays
  - Vinyl Sheets
  - Tiles (Ceramic, Porcelain & Stone)
  - Vinyl Tile (VCT)
  - Polymeric Flooring
  - Other Flooring Systems
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### Product Limitations:

- This product is never tintable and is not UV Stable
- Product is clear and color may vary batch to batch
- Always check that surface temperature is at least 5°F above Dew Point
- Always apply with a high quality roller cover. 3/8" nap
- All new concrete must be cured for at least 28 days prior to application
- Minimum compressive strength must be a minimum of 3,500 psi & a minimum tensile strength of 300 psi
- Testing is required to confirm a moisture vapor emission rate below 20 lb./24hr/100 ft<sup>2</sup> per ASTM F1869 or between 75% and 95% for ASTM F2170

- Concrete surface must be clean, free of all laitance and contaminants
- Concrete must be prepared by grinding or shot blasting to have a surface profile minimum of CSP3 as per the International Concrete Repair Institute
- This product should never be exposed to water until it is fully cured
- Simiron 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
- This product will not prevent failures caused by insufficient surface preparation, improper applications, Alkaline Silica Reactions, ionic compounds or soluble salts in the concrete
- Simiron is not responsible for failures caused by cracks in the concrete, pin holes or damage caused by use or wear. Cracks, joints are not covered by any warranty
- This product is not warranted for use with any products that are not recommended or manufactured by Simiron
- Upon application to the concrete, outgassing may occur resulting in pin holes or voids when the air is displaced. If this occurs, reapplication is necessary. The surface should be lightly grinded and dust should be removed. Make sure the surface is dry and re-coat. In severe cases, the use of a patching material made with a thickening agent may be needed on these pin-holes and voids
- Thinner applications than recommended may result in insufficient moisture vapor protection
- 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 prevention penetration of the coating into the substrate
- Any claim of warrant breach, must be provided to Simiron in writing within 30 days of the discovery of the breach of warranty. In the event of any breach of warranty, the 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
- All concrete slabs must be at least 4" thick with a functioning vapor barrier
- Simiron does not warrant penetration and bond where cores are not tested unless and until project owner submits cores and lab establishes no impediment to bond or penetration is or was present
- Physical properties are typical values and not specifications

**Technical:**

Physical Data

Finish:	Gloss
Color:	Clear
Components:	2
Volume Solids:	100%
Weight Solids:	100%
VOC (EPA method 24):	0 g/L
Mixed Viscosity @77°F (25°C):	500 (cPs)
Pot-Life (150gram mass @ 77°F (25°C):	75 min
Mix Ratio:	2 Parts Base: 1 Part Activator (by volume)

<u>Coverage</u>	ft <sup>2</sup> /Gallon	m <sup>2</sup> /Liter
16 mils (406.4 microns)	100	9.29

**Performance:**

Performance Data	Test Method	Results
Adhesion to wet concrete 7 day cure @ 73°F (23°C)	ASTM 7234	300 psi (bulk concrete failure)
Bond Strength	ASTM D4541	Greater Than Concrete
Permeance	ASTM E96	0.064 Perms (grains/hr./ft <sup>2</sup> )
Hardness, Shore D	ASTM D2240	78-80

Abrasion Resistance	ASTM D4060 CS17 wheel, 1000 cycles, 1Kg load	50 mg loss
Tensile Strength	ASTM D638	9,600 psi
Flexural Strength	ASTM 790	12,800 psi
Compressive Strength	ASTM C579	11,600 psi

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### Surface Preparation:

Concrete should be shot blasted or diamond ground to a minimum surface profile of CSP 3. Concrete must be clean and free of contaminants such as dirt, dust, grease, oil and other foreign materials. SIMIRON MVB must be applied directly to concrete, do not apply over any type of previous coating. Concrete must be in sound condition.

- Calcium Chloride Testing (ASTM F-1869)
- Relative Humidity Probe (ASTM 2170)

Do not apply over Gypsum compounds or 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 ft<sup>2</sup> or above 75% and below 95% per ASTN 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 foot 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 (Cab-O-Sil), (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 ft<sup>2</sup> 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 300 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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### Product Storage:

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

## Application Data:

Application Temperature Conditions:

Air	55°-95°F	13°-35°C
Surface	55°-95°F	13°-35°C
Material	55°-95°F	13°-35°C

Drying Schedule:	@ 55°F/13°C	@ 72°F/22°C	@ 95°F/35°C
Tack free (dry to touch)	14 - 24 hours	8 - 12 hours	4 - 8 hours
Recoat or Topcoat (Min)	18 - 24 hours	12 hours	10 hours
Recoat or Topcoat (Max)	48 hours	48 hours	36 hours
Full Cure	3 - 7 days	3 - 7 days	3 - 7 days

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## Application Equipment:

- Squeegee – Flat or notched rubber squeegee with EPDM rubber blade.
- Rollers – Use a 3/8" shed-resistant woven roller cover for back-rolling.

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## Mixing:

SIMIRON MVB is a two-component coating and proper mixing is required. *Be sure to mix Base prior to use.* Mix 2 parts base to 1 part activator, by volume, for three minutes. Material is immediately ready for use after mixing base and activator together; no induction time is required. Do not mix more material than can be used within the working time. Material that has begun to set (thicken) cannot be satisfactorily used and must be discarded.

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## Application Procedure:

Pour mixed material onto floor in a long bead approximately 12-18 inches wide. Do not drain or scrape remaining material in bucket. Use either a flat or notched rubber squeegee and spread material to uniform thickness. As material is being spread, another applicator should immediately back-roll material with a 3/8" shed-resistant woven roller cover. **DO NOT BACK-ROLL MATERIAL AFTER IT BEGINS TO TACK-UP.**

MVB must be applied at 16 mils or 100 sq/ft.per gallon

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## Clean Up:

Clean brushes, rollers, tools and equipment with acetone or xylene and follow solvent manufacturer's safety instructions. Use "waterless" hand cleaner to remove dried material from skin.

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## Shipping Data:

Packaging Information

### Premeasured 1.5-Gallon Kit

Base: 1 gallon 128 fl.oz. (3.78L) in a 1 gallon (3.78L) Container  
Activator: 0.5 gallon 64 fl. oz. (1.89L) in a 1 gallon (3.78L) Container

### 5-Gallon Pails

Base: 5 US Gal (18.9 L) UN Pail  
Activator: 5 US Gal (18.9 L) UN Pail

*Shelf life is 24 months when stored indoors at 55°F to 95°F (13°C to 35°C) for Base and Activator*

**Safety Precautions:**

Refer to SDS sheet before use. Safety precautions must be strictly followed during storage, handling and use. Copy of SDS can be found within Simiron.com.

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**Warranty:**

Simiron warrants this product to be free from defect in the material that affects its performance for a period of one year (from date of purchase). Simiron will replace, at no charge, the quantity of the coating that Simiron determines has failed to perform, as the sole and exclusive remedy for any breach of this warranty and/or any other defect or failure of the coating. Proof of purchase is required. Cost of labor for application of any product specifically is excluded.

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