



# Planiseal MVR™

## Moisture-Vapor-Reducing Epoxy and Alkalinity Barrier



### DESCRIPTION

*Planiseal MVR* is an alkali-resistant, two-component, 100%-solids epoxy coating that is compliant with ASTM F3010-13 and designed to control moisture and alkalinity beneath finished floor coverings. *Planiseal MVR* reduces moisture vapor emission rates (MVERs) of up to 25 lbs. per 1,000 sq. ft. (11,3 kg per 92,9 m<sup>2</sup>) per 24 hours to below the limit of 3 lbs. per 1,000 sq. ft. (1,36 kg per 92,9 m<sup>2</sup>), when installed at the designated film thickness. Applied in a single-coat application, *Planiseal MVR* facilitates the fast-track completion and long-term performance of adhered flooring systems in challenging installation environments.

### FEATURES AND BENEFITS

- Compliant with ASTM F3010-13
- Permeability less than 0.1 perm at 10 mils in dry film thickness (DFT) per ATM E96-05
- Alkaline resistance up to pH 14 (no effect per ASTM D1308)
- Single-coat application, reduces labor and turnaround time
- Ready for subsequent flooring in as soon as 6 hours
- Low-odor and VOC-compliant (meets SCAQMD Rule 1113-12)
- Low-viscosity, high-density resin that penetrates the substrate, effecting consolidation well below the surface

### INDUSTRY STANDARDS AND APPROVALS

- Meets or exceeds the performance attributes of ASTM F3010-13, "Standard Practice for Two-Component Resin Based Membrane-Forming Moisture Mitigation Systems for Use Under Resilient Floor Coverings"

### LEED Points Contribution

### LEED Points

MR Credit 5, Regional Materials\* ..... Up to 2 points  
 IEQ Credit 4.2, Low-Emitting Materials – Paints & Coatings.....1 point

*\* Using this product may help contribute to LEED certification of projects in the categories shown above. Points are awarded based on contributions of all project materials.*

### WHERE TO USE

- Properly prepared sound and stable concrete substrates (at least 7 days old for conventional and at least 5 days old for post-tensioned concrete) with an MVER up to 25 lbs. per 1,000 sq. ft. (11,3 kg per 92,9 m<sup>2</sup>) per 24 hours, and/or relative humidity (RH) up to 100%
- Sound, cured, water-stable cementitious toppings and screeds

### LIMITATIONS

- Substrate and ambient temperatures must be between 50°F and 85°F (10°C and 29°C). Verify that the substrate is free of bond-inhibiting or bond-breaking materials such as curing compounds and dust.
- Do not install moisture-sensitive sloping, self-leveling underlayments or patching compounds beneath *Planiseal MVR*.
- Do not apply on wet substrates.
- Repair all cracks and treat joints correctly to ensure system performance.
- Do not use on on-grade slabs that are subject to freeze/thaw cycles.

Consult MAPEI Technical Services for installation recommendations regarding any substrates and conditions not listed.



## SUITABLE SUBSTRATES

- Properly prepared concrete substrates that have been mechanically prepared using dustless engineer-approved methods to an International Concrete Repair Institute (ICRI) concrete surface profile (CSP) of #2 to #3. Substrates with a profile greater than CSP #3 will realize lower coverage rates. The substrate profile should not exceed CSP #6.
- *Planiseal MVR* may be used over substrates exhibiting an RH of up to 100% (when tested in accordance with ASTM F2170). In all cases, the surface temperature of the prepared concrete slab must be at least 5°F (2,8°C) above the dew point to avoid condensation on the concrete surface while *Planiseal MVR* cures.

## SURFACE PREPARATION

- Do not use over any substrates containing asbestos.
- All substrates must be structurally sound, dry, solid and stable.
- Mechanically prepare the surface by shotblasting to obtain an ICRI CSP of #2 to #3. Diamond grinding is acceptable in areas that are not accessible by shotblasting equipment.
- Ensure that all old adhesives, contaminants, cures and other bond breakers are completely removed. Surfaces that have been contaminated with oil, or treated with silicates or other penetrating treatments require mechanical profiling to remove these bond breakers before *Planiseal MVR* is applied.
- Inadequate mechanical surface preparation and improper subsequent cleaning could leave cures and contaminants on the substrate surface, which may affect the performance of the *Planiseal MVR* application.
- After being shotblasted, some substrates may require a waiting time of 16 to 24 hours before *Planiseal MVR* can be applied. Waiting time can reduce outgassing from the shotblasted concrete surface.
- Expansion and movement joints must be honored through the finished flooring.
- Do not acid-etch surfaces before applying *Planiseal MVR*.

## Joint and Crack Treatment Before Application of *Planiseal MVR*

*Planiseal MVR* is designed for moisture mitigation only. Consult with an experienced engineer to determine the appropriate substrate repair procedures and joint treatment. The various treatments listed below represent procedures for consideration by a consultant or engineer to address contraction (including control or saw-cut), and potential movement, isolation and expansion joints. Regardless of treatment, MAPEI does not warrant against the appearance of cracks or debonding that results from subsequent substrate movement of any kind.

Mechanically prepare control and construction/expansion joints with a diamond crack-chasing/concrete-cutting blade. Overcut the joint width to obtain a sound, clean edge. Clean cracks or joints by vacuuming with a dustless collection system to completely remove contaminants (follow ACI RAP Bulletin 2, "Crack Repair by Gravity Feed with Resin").

## Crack repair

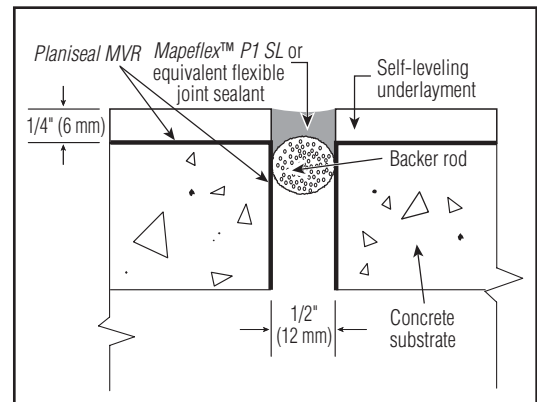
Apply *Planiseal MVR* per instructions. Repair any open cracks after the applied *Planiseal MVR* has cured. Cracks narrower than 1/8" (3 mm) may typically be filled with *Planiseal MVR* neat. Cracks wider than 1/8" (3 mm) should be repaired by filling with a suitable high-modulus epoxy such as *Planibond® EBA*; consider adding sand to create an epoxy mortar, if appropriate.

## Contraction, control or saw-cut joint treatment

Dormant control joints may typically be filled with *Planiseal MVR*, or with an alternate high-modulus epoxy such as *Planibond EBA* (consider an epoxy mortar if appropriate) after the installation of *Planiseal MVR*. Fill the joints to be full-depth and flush to the surface.

## Movement, expansion and isolation joint treatment

(See the following diagram.)



## MIXING

Note: Choose all appropriate safety equipment before use. Refer to the Safety Data Sheet for more information.

- Pour Part B into the Part A container and mix thoroughly (for 2 to 3 minutes) using a low-speed mixer and a Jiffy (paint mixer) mixing paddle to a smooth, homogenous consistency.
- Do not mix at high speeds, which can trap air within the mixed material.

## PRODUCT APPLICATION

1. Pour the entire contents of the mixed *Planiseal MVR* onto the surface of the properly prepared substrate within 5 minutes of mixing.
2. Spread mixed *Planiseal MVR* using a notched squeegee and back-roll after 10 to 15 minutes with a 3/8" (10 mm) nap phenolic-core roller to ensure uniform coverage.

## Product Performance Properties

Laboratory Tests	Results
Chemistry	2-part, 100%-solids epoxy
VOCs	46 g per L (meets SCAQMD Rule 1113-12)
Percent solids	100%
Viscosity	190 to 230 cps
Density	65.6 lbs. per cu. ft. (1,05 g per cm <sup>3</sup> )
Consistency	Pourable liquid
Color	Part A – transparent yellow Part B – transparent amber
Permeability	< 0.1 perm at 10 mils DFT per ASTM E96-05
Reduction of moisture vapor	> 96% per ASTM E96-05 (10 mils DFT)
Pull-off adhesion / bond strength	> 1,000 psi (6,90 MPa) with failure in concrete substrate (at 28 days per ASTM D7234)
Resistance to high alkalinity (pH 14)	14-day spot test, covered – no effect* 14-day spot test, uncovered – no effect* 14-day immersion – no effect*
Shelf life	2 years in unopened original packaging. Store in cool dry place at 40°F to 95°F (4°C to 35°C).
Pot life (open time)	30 minutes
Tack-free time at 73°F (23°C) (waiting time before being able to safely walk on the surface and apply primer)	6 to 8 hours
Flash point (Seta flash)	> 199°F (93°C)

\* Tested per ASTM D1308 with both a 10% and 30% solution of sodium hydroxide, at a pH of 14

## Packaging

Size
Part A, Pail: 2.2 U.S. gals. (8,33 L)
Part B, Jug: 0.8 U.S. gal. (3,03 L)

## Substrate Preparation and Recommended Application Tool

Concrete subfloor with an ICRI CSP of #2 to #3	Squeegee with 5- or 10-mil notches – followed by a roller with a 3/8" (10 mm) nap roller
--	--

## Application Thickness and Associated Coverage\* per 3 U.S. gals. (11,4 L) of mixed product

Thickness	Coverage
At 12 mils in wet film thickness (WFT)	400 sq. ft. (37,2 m <sup>2</sup> )

\* Coverage depends on the surface profile and porosity of the substrate.

## CSI Division Classification

Dampproofing and Waterproofing	07 10 00
--------------------------------	----------

3. Ensure that all voids and pinholes are filled/sealed before moving on to the next flooring phase. When applied over very porous concrete, *Planiseal MVR* may exhibit what appear to be “air bubbles.” If any doubt remains about the 100% sealing of these voids, apply a very “tight” or thin second coat of *Planiseal MVR*. Before applying the second coat of *Planiseal MVR*, “shave off” the “tops” of any bubbles that protrude off the surface of the floor, and then apply the additional *Planiseal MVR* tightly over the surface. This action will allow additional material to “wick” into and seal any voids.
4. Once *Planiseal MVR* has been applied, protect the surface from traffic or damage until it is covered by subsequent product.

### Applications Over Cured *Planiseal MVR*

- Allow to dry until tack-free – typically for 6 to 8 hours at 73°F (23°C). Apply primers before installation of self-leveling underlayments or skimcoating compounds, following all instructions written on labels, technical data sheets and other published documentation. Primers must be applied to *Planiseal MVR* within 48 hours of the *Planiseal MVR* application. If required, a second coat of *Planiseal MVR* may be applied over the first application also within 48 hours. In cases where the 48-hour window is exceeded, contact MAPEI Technical Services for instructions.
- Floating or non-adhered floor systems can be installed directly over the cured *Planiseal MVR* per the manufacturer’s recommendations.
- Reactive adhesives and water-based adhesives that are suitable for use over nonporous substrates may be direct-bonded to *Planiseal MVR* unless further floor preparation is required. Due to the wide variety of adhesives, always complete a mockup and test to ensure the bond.

### CLEANUP

Clean equipment with denatured alcohol before *Planiseal MVR* cures to a hardened state. Cured material can only be removed mechanically. Dispose of waste in accordance with all local, state and federal regulations.

### RELATED DOCUMENT

Crack Repair by Gravity Feed with Resin	ACI RAP Bulletin 2
---	--------------------

Refer to the SDS for specific data related to VOCs, health and safety, and handling of product.

### STATEMENT OF RESPONSIBILITY

Before using, user shall determine the suitability of the product for its intended use and user alone assumes all risks and liability whatsoever in connection therewith.

**ANY CLAIM SHALL BE DEEMED WAIVED UNLESS MADE IN WRITING TO US WITHIN FIFTEEN (15) DAYS FROM DATE IT WAS, OR REASONABLY SHOULD HAVE BEEN, DISCOVERED.**

We proudly support the following industry organizations:



**MAPEI Headquarters of the Americas**  
1144 East Newport Center Drive  
Deerfield Beach, Florida 33442  
Phone: 1-888-US-MAPEI  
(1-888-876-2734)

**Technical Services**  
1-800-992-6273 (U.S. and Puerto Rico)  
1-800-361-9309 (Canada)

**Customer Service**  
1-800-42-MAPEI (1-800-426-2734)

**Services in Mexico**  
0-1-800-MX-MAPEI (0-1-800-696-2734)

**Edition Date:** June 23, 2014  
PR: 6311 MKT: 14-0346