

Planiseal MB

Moisture Barrier and Consolidating Epoxy



FOR PROFESSIONAL USE ONLY

DESCRIPTION

Planiseal® MB is a 100%-solids, epoxy moisture barrier that is designed to effectively stop moisture-related problems with toppings, as well as act as a surface-consolidating epoxy.

FEATURES AND BENEFITS

- Treats substrates with up to 25 lbs. (11.3 kg) MVER per ASTM F1869 and/or relative humidity (RH) up to 100% per ASTM F2170
- Low viscosity allows it to penetrate into the substrate, consolidating and tightly bonding surfaces to substrates.
- Low odor and VOC compliance for use in interior, occupied environments
- Single-coat applicability means faster turnaround and lower installation costs.
- Extended working time allows trapped air to escape and ensures film integrity.
- Alkaline-resistance-tested for prolonged exposure to a pH of 14 per ASTM D1308 with no effect on *Planiseal* MB
- Cost-effective protection against the most severely MVER-challenged substrates
- Deep penetration into substrate provides a strong, consolidating effect.

WHERE TO USE

- Interior applications
- 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 of up to 25 lbs. per 1,000 sq. ft. (11.3 kg per 92.9 m²) per 24 hours and/or RH of up to 100%

- Sound, stable, fully cured gypsum underlayments or lightweight concretes requiring surface consolidation

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.
- Sound, fully cured gypsum or lightweight substrates requiring surface consolidation before application of additional flooring systems
- Weak concrete substrates (capable of a direct tensile pull of 60 psi [0.41 MPa] or greater) that require consolidation, or concrete substrates with hairline cracks that require treatment
- *Planiseal MB* may be installed on concrete substrates that have had at least 7 days to cure. When installing on green concrete, be aware that continued shrinkage in the substrate during curing may lead to the formation of substrate cracks that penetrate *Planiseal MB*. This is a natural risk associated with installations over green concrete, particularly with concrete that has a high water-to-cement ratio. Cracks generated by substrate movement are not covered by the MAPEI warranty.
- *Planiseal MB* may be used over substrates exhibiting 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 degrees Fahrenheit (2.8 degrees Celcius) above the dew point to avoid condensation on the concrete surface as *Planiseal MB* hardens.

SURFACE PREPARATION

- All substrates must be structurally sound, dry, solid, stable, and free of bond-inhibiting or bond-breaking materials such as curing compounds, topical and penetrating sealers, oil, oil residue, dust and grease.
- Mechanically prepare the surface to obtain a CSP of #2 to #3 by shotblasting. Ensure that all old adhesives, contaminants, etc., are completely removed.
- If outgassing is a concern (which may lead to pinholing in the primer surface), wait 16 to 24 hours after shotblasting before applying *Planiseal MB*.
- Mechanically prepare cracks, control joints and construction joints.
- Expansion and movement joints must be honored through the finished flooring system.
- Do not acid-etch surfaces before applying *Planiseal MB*.

MIXING

Before product use, take appropriate safety precautions. Refer to the Safety Data Sheet for details.

1. Premix Part A to a homogeneous consistency (for 2 to 3 minutes) using a low-speed mixer (at 300 to 450 rpm) and a Jiffy mixing paddle.
2. Pour Part B into the Part A container and mix thoroughly (for 3 minutes) to a smooth, homogeneous consistency. Do not mix at high speeds, which can trap air within the mixed material.
3. Pour and spread the entire unit of any mixed *Planiseal MB* onto the substrate within 5 minutes of mixing.

Joint and crack treatment before application of *Planiseal MB*

- *Planiseal MB* is designed for moisture mitigation and as a consolidating epoxy. Consult with an experienced engineer to determine the appropriate substrate repair procedures and joint treatment. The various treatment types listed below represent procedures for consideration by a consultant or engineer to

address expansion and contraction (including control or saw-cut), as well as 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 with oil-free compressed air and/or vacuum 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 MB* per the "Product Application" section below. Repair any open cracks before the applied *Planiseal MB*.
- Cracks narrower than or equal to 1/8" (3 mm) may typically be filled with *Planiseal MB* 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 MB*, or with an alternate high-modulus epoxy such as *Planibond EBA* (consider an epoxy mortar if appropriate) before the installation of *Planiseal MB*. Fill the joints to be full-depth and flush to the surface.

Construction, expansion and isolation joint treatment

Contact MAPEI's Technical Services Department for application recommendations.

PRODUCT APPLICATION

Read all installation instructions thoroughly before installation.

1. For reduced outgassing, porous concrete may require 16 to 48 hours of time between mechanical abrasion of the surface and the application of *Planiseal MB*.
2. Pour mixed *Planiseal MB* onto the surface of the properly prepared substrate within 5 minutes of mixing.
3. Apply *Planiseal MB* to the substrate and immediately pull it tight to the surface with a squeegee. This first pass or prime coat effectively "self-primers" the substrate, driving the air out of the concrete. Follow within 30 to 45 minutes with a single-coat application of *Planiseal MB* to achieve the required dry film thickness (DFT) on the surface as indicated in the "Approximate Coverage" chart below.
4. Spread the *Planiseal MB* mixture using a 3/16" to 1/4" (4.5 to 6 mm) notched squeegee and, if required, back-roll with a caged roller that has a short nap (1/4" to 3/8" [6 to 10 mm]).
5. For treating construction, expansion or isolation joints: Ensure that inside edges of these joints receive a consistent film of *Planiseal MB*, applied with a brush. Complete the joint treatment by placing a backer rod and appropriate joint sealant before installing flooring.
6. Apply the entire contents of the mixed unit onto the substrate to cover the substrate entirely with a wet film thickness (WFT) of about 10 mils. Use a quality paintbrush for the hard-to-reach areas.
7. Ensure that all areas maintain an adequate wet film to realize the correct DFT for the substrate's RH and/or MVER (see the "Approximate Coverage" chart below).
8. Ensure that all voids and pinholes are filled/sealed before moving on to the next flooring phase. When applied over very porous concrete, *Planiseal MB* may exhibit what appear to be "air bubbles." This apparently trapped air is a function of the low-viscosity *Planiseal MB* having penetrated into the concrete pores, sealing them and forcing out the air to the surface. The path from the escaping air may manifest itself in the surface of the film as it crosslinks and hardens.

9. If any doubt remains about the 100% sealing of these voids, apply a very “tight” (thin) second coat of *Planiseal MB*.
10. Allow to dry until tack-free – typically for 5 to 6 hours at 73°F (23°C). In cases where the desired finish is a topping, such as *Ultratop*® [NA], apply *Planibond EBA* at 10 mils wet and spread 16- to 30-mesh, sorted, oven-dried sand with no fines using the sand-broadcast method. Seed the epoxy to rejection within 30 minutes of placement. Follow NIOSH safety standards when broadcasting with sand. Remove excess sand the following day by vacuum and apply *Ultratop* [NA] according to its Technical Data Sheet.

CLEANUP

- Clean equipment before the material cures. Cured material can only be removed mechanically.

LIMITATIONS

- Optimum installation temperatures (ambient and substrate) are from 50°F to 85°F (10°C to 29°C). Precondition *Planiseal MB* to 70°F (21°C) for 24 hours before mixing and installation. It is important to precondition the material to ensure a viscosity that permits substrate penetration and effective consolidation. Extreme heat should also be avoided, because it will reduce the epoxy's time for penetrating the substrate.
- Test the MVER of concrete substrates using a calcium chloride test (ASTM F1869).
- Do not use over substrates containing asbestos.
- Verify that the substrate is free of bond-inhibiting or bond-breaking materials such as curing compounds, topical and penetrating sealers, oil, oil residue, dust and grease, etc.
- Do not use on slabs that are on-grade and subject to freeze/thaw cycles.
- Do not apply on wet substrates.
- Once *Planiseal MB* has been applied, protect the surface from traffic or damage until it is covered by a subsequent product.

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

Product Performance Properties

Laboratory Tests	Results
Solids content	100%
VOC content (SCAQMD Rule 1168 category)	< 250 g/L
Typical VOC content per SCAQMD Rule 1168 testing methods	39 g/L
Viscosity	190 to 230 cps
Density	65.6 lbs. per cu. ft. (1.05 g per cm ³)
Permeability – ASTM E96-05	< 0.1 perm at > 10 mils DFT
Reduction of moisture vapor – ASTM E96-05	> 96% (8 mils DFT)
Pull-off adhesion / bond strength – ASTM D7234	> 1,000 psi (6.90 MPa) with failure in concrete substrate (at 28 days)
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

* Tested per ASTM D1308 with both a 10% and 30% solution of sodium hydroxide

Shelf Life and Product Characteristics

before mixing

Shelf life	2 years when stored in original, unopened packaging. Store in dry place at between 40°F to 95°F (4°C to 35°C).
Color	Part A – transparent yellow Part B – transparent amber

Application Properties

Consistency	Pourable liquid
Open time at 73°F (23°C)	90 minutes
Drying time at 73°F (23°C)	5 to 6 hours
Flash point (Seta flash)	> 199°F (93°C)

CSI Division Classifications

Concrete Topping	03 53 00
Cast Underlayment	03 54 00

Packaging

Size
Pail: Part A, 2.2 U.S. gals. (8.33 L)
Jug: Part B, 0.8 U.S. gal. (3.03 L)

Approximate Coverage**

Thickness	Coverage
10 mils WFT	125 to 160 sq. ft. per U.S. gal. (3.06 to 3.92 m ² per L)

*** Typical coverage realized in field conditions. Coverage varies depending on the desired build as well as the profile and porosity of the substrate.*

ADDITIONAL INFORMATION

Refer to the Safety Data Sheet (SDS) for specific data related to health and safety as well as product handling.

For information on MAPEI's commitment to sustainability and transparency, as well as how MAPEI products may contribute to green building standards and certification systems, contact sustainability-durabilite@mapei.com.

WARNING

The test results shown in the TECHNICAL DATA table were obtained in compliance with test methods and curing cycles, if applicable, defined in the industry standards referenced on the Technical Data Sheet. Please note that the use of test procedures or methods other than those indicated in the table could lead to different values and that, in such cases, any liability of our company is excluded.

LEGAL NOTICE

The contents of this Technical Data Sheet ("TDS") may be copied into another project-related document, but the resulting document shall not supplement nor replace requirements per the TDS in effect at the time of the MAPEI product installation. For the most up-to-date TDS and warranty information, please visit our website at www.mapei.com. **ANY ALTERATIONS TO THE WORDING OR REQUIREMENTS CONTAINED IN OR DERIVED FROM THIS TDS SHALL VOID ALL RELATED MAPEI WARRANTIES.**

Before using, the user must determine the suitability of our products for the intended use, and the user alone assumes all risks and liability. **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.**

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For the most current product data and BEST-BACKEDSM warranty information,
visit www.mapei.com.

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