



# PRODUCT TECHNICAL DATA SHEET

## MVB MOISTURE VAPOR BLOCK

Advanced Coating Systems

### TWO-COMPONENT MOISTURE VAPOR CONTROL EPOXY PRIMER

#### PRODUCT DESCRIPTION

ONYX Moisture Vapor Block MVB is a two-component, high-performance concrete moisture vapor control epoxy. ONYX MVB prevents the failure of polymer coatings, tile, sheet goods, and other floor covering materials from exposure to excessive moisture vapor transmission through the concrete substrate. ONYX MVB is 100% solids and zero VOC for safer, lower odor application. ONYX MVB meets and exceeds the requirements of ASTM F3010 for floor coatings and coverings, with a moisture vapor permeance rating below 0.1 perms when applied at the recommended thickness. ONYX MVB is available in an MVB Fast version for quick turn-around and cool weather applications.

#### ADVANTAGES

- Self Priming
- 100% Solids Zero VOC
- Effective Control of Moisture Vapor in Concrete
- May Be Applied in One Coat
- Good Wear Resistance
- Resistant to Household Chemicals<sup>1</sup>
- Blush-Free
- High Gloss
- Meets ASTM F-3010

#### TYPICAL USES

- Residential, Garage, Workshop
- Food Preparation
- Healthcare / Hospitals
- Pharmaceutical
- Automotive / Service Bays
- Restrooms
- Manufacturing
- Locker Rooms
- Retail / Showrooms
- Aisles
- Educational Facilities
- Laboratories
- Animal Welfare Facilities

#### LIMITATIONS

- Not recommended for exterior applications or applications where coating is exposed to outside direct sunlight
- For best results and longest lasting UV stability, finish coat with ONYX polyurethane or polyaspartic product
- Prior to application, measure and confirm the ambient temperature and humidity conditions of air and substrate
- Measure and confirm temperature of material. Precondition material for 24 hours prior to mixing
- Minimum/Maximum substrate temperature at application: 65°F (18.5°C) / 85°F (30°C)
- Maximum relative humidity during application and curing : 80%
- Substrate must be 5°F (3°C) above dew point. Ensure conditions will not change during application and curing
- Observe concrete moisture limitations stated in Concrete Moisture section
- Not to be used for negative side waterproofing
- Not to be used for wood, plywood, steel deck, lightweight concrete, tile, or gypsum/cementitious overlays
- Protect from moisture and condensation for 24 hours after application
- Do not apply to substrates exhibiting or tested positive for alkali silica reaction (ASR) or have shown indications of near surface alkali reaction (NSAR)
- Do not apply to concrete affected by sulfate intrusion
- Do not use propane or kerosene fueled heaters. Permanent discoloration of coating may occur

FOR PROFESSIONAL USE ONLY BY EXPERIENCED PERSONNEL

#### PRODUCT DATA

|                             |                          |
|-----------------------------|--------------------------|
| Volumetric Mix Ratio        | 2A : 1B                  |
| Coverage Rate               | 100 sq ft/gal            |
| Pot Life                    | 15-20 Minutes            |
| Working Time on Floor       | 20-30 Minutes            |
| Cure Time (Vehicle Traffic) | 72 Hours                 |
| Critical Recoat Time        | Within 24 Hours          |
| Solids Content (By Volume)  | 100%                     |
| VOC                         | 0 grms/ltrs (0 lbs/gals) |
| Thinning                    | Not Recommended          |
| Shelf Life                  | 12 Months                |
| USDA Food & Beverage        | Meets Requirements       |

#### PHYSICAL PROPERTIES

|                                                                 |                          |
|-----------------------------------------------------------------|--------------------------|
| Compressive Strength ASTM D579                                  | 13,850 psi (126.62 MPa)  |
| Flexural Strength ASTM D790                                     | 2,270 psi (15.65 MPa)    |
| Tensile Strength ASTM D638                                      | 1,560 psi (10.75 MPa)    |
| Bond to Concrete ASTM D4541                                     | 350 psi (concrete fails) |
| Abrasion Resistance ASTM D4060 CS17/1000 cycles/1,000 gram Load | 59 mg loss               |
| Flammability ASTM D635                                          | Self Extinguishing       |
| Hardness ASTM D2240 SHORE D                                     | 82                       |
| Flash Point ASTM D93                                            | >200°F                   |
| Vapor Permeability ASTM F3010                                   | <0.1 Perms               |

#### PACKAGING

| Available in complete A/B kits, ready to mix |              |        |
|----------------------------------------------|--------------|--------|
| Kit Sizes                                    | Part A       | Part B |
| 3 US Gallon                                  | 2 Gal        | 1 Gal  |
| 15 US Gallon                                 | 10 (2x5) Gal | 5 Gal  |

#### AVAILABLE COLORS

Available only in Clear. Do not field pigment.

<sup>1</sup> Not suitable for harsh chemical exposure, contact ONYX for chemical resistant products suitable for harsh industrial applications.

## CONCRETE MOISTURE

Test for concrete moisture with either of the two methods below. If excessive moisture is present, apply ONYX Moisture Vapor Barrier Primer @ 100 sq ft/gal

- ASTM F2170 – 19. Excessive moisture indication: >85%
- ASTM F2659. Excessive moisture indication: > 4 %

**Calcium Chloride test (ASTM F1869) are generally considered inconclusive and inaccurate to quantitatively determine concrete moisture levels for resinous flooring and should be avoided.**

*Review the ONYX Coatings Technical Resource: Mitigation of Moisture and Vapor in Concrete*

## SURFACE PREPARATION

MVB requires a minimum Concrete Surface Profile (CSP) level of #3 in accordance to ICRI Guideline No. 03732. Acid etching, non-mechanical methods such as sanding or pressure washing of concrete are unacceptable and will void Manufacturer's warranty.

Do not apply to wet substrates. Thoroughly vacuum prepared surface to remove all dust just prior to application. Protect prepared surface against contamination prior to application of product. Tack off prepared surfaces immediately prior to application to reduce dust contamination in coating.

*Review the ONYX Coatings Technical Resource: The Keys to Success on a Properly Prepared Floor*

## PATCHING, CRACKS, REPAIR

Voids, cracks, spalling, and imperfections will print in finished coating if the concrete is not patched correctly. Static joints may be filled. Do not bridge dynamic joints. All dynamic joints must be honored and used as termination points for the application system where required.

## HEALTH & SAFETY

Read and fully understand all of these instructions before beginning mixing and application. Read and understand product SDS and other safety warnings.

Obtain and wear all required personal protection equipment (PPE.)

In case of skin contact, wash with water and soap. In case of eye contact, immediately rinse with water for at least 15 minutes. Consult with a doctor. For respiratory problems, transport victim to fresh air. Remove contaminated clothes and clean before reuse.

## MIXING

*Substrate/Ambient Temp must be > 50°F & 5°F above Dew Point  
Material Temp must be 70°F - 85°F - RH < 80%*

MVB mix ratio is 2 parts 'A' to 1 part 'B' by volume. Do not alter mix ratio. Do not alter mix ratio. Mix only the amount of material that can be properly applied within the stated pot life. Use a drill-mounted Jiffy/Jiffiler type mixer and premix the Part A for 45-60 seconds until uniform and pigment is completely dispersed.

For 15 gallon bulk units, pour desired amount of premixed 'A' resin component into a clean 5 gallon pail. Then add measured amount of 'B' component. 3 gallon packaged units come in a short-filled 3.5 gallon pail that can be used for mixing entire A/B unit at once.

**MIX PART 'A' AND PART 'B' TOGETHER FOR  
3 MINUTES**

Scrape sides and bottom corners of bucket to ensure complete consolidation

<sup>1</sup> Do not mix curing agents with standard cure product.

## APPLICATION PROCESS

ONYX MVB is typically applied in one [1] coat at 100 sq ft/gal (16 mils, WFT). Always apply in stable or descending temperatures. Rising temperatures and air movement will cause out-gassing. It is recommended, when possible, to apply coatings in stable or descending temperatures. Ambient temperature should be between 65 - 90°F (18° - 32°C) and at least 5°F above the dew point before and during application.

Apply with a thin-bladed, non-marking squeegee and back rolled with a solvent resistant, non-shedding roller cover to achieve a uniform wet film thickness. 9-inch rollers are suitable for smaller areas. 18-inch rollers will help avoid excessive roller marks.

Avoid puddling of material in low spots, or defects in concrete surface, skinning over may occur and material will not cure properly.

Roll evenly and quickly to avoid re-rolling finished material. Keep a wet edge for subsequent mixes.

## CLEAN UP

MVB, uncured, can be cleaned up with water and degreaser, isopropyl alcohol, xylene, or acetone. Always observe safe practices when using flammable solvents.

## MAINTENANCE

Refer to ONYX Cleaning & Maintenance Guide

## WARRANTY

ONYX Concrete Coatings, Inc. (ONYX) warrants that all ONYX products for a period of twelve months from the date of purchase will be free from defects in materials and workmanship when applied in accordance with proper standards and procedures. ONYX makes no other warranty, express or implied, including any WARRANTY OF MERCHANTABILITY OR WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE. Nothing herein shall be construed as a recommendation to use any product(s) in conflict with patents or trademarks covering any material or its use.

### Exclusions

The following are exceptions and exclusions: Dissatisfaction arising from improper and unapproved application methods. Damage from ground movement or settling, including cracks, moisture and moisture vapor transmission, chemical attack, alkali reactions, and surface damage, force majeure, by others.

### Limitations of Liability

The sole and exclusive remedy of Purchaser for any claim concerning this product, including, but not limited to, claims alleging breach of warranty, negligence, strict liability, or otherwise, is the replacement of the product or refund of the purchase price, at the sole option of ONYX. ONYX Concrete Coatings, Inc. SHALL NOT BE LIABLE UNDER ANY LEGAL THEORY FOR SPECIAL OR CONSEQUENTIAL DAMAGES.

### Notification

Purchaser shall submit any claims concerning this product in writing to ONYX Concrete Coatings, Inc. within thirty days of discovery of failure. This period must fall within one year of completion of the application and during the warranty period. Purchaser waives any claims not presented within that period. The data expressed herein is true and accurate to the best of our knowledge at the time of publication. It is, however, subject to change. THIS WARRANTY IS SUBJECT TO THE LIMITATIONS AND CONDITIONS DESCRIBED ABOVE AND IS EXPRESSLY IN LIEU OF ANY OTHER WARRANTIES. ONYX Concrete Coatings, Inc. SHALL NOT BE RESPONSIBLE FOR THE USE OF THIS PRODUCT IN A MANNER TO INFRINGE ON ANY PATENT OR ANY OTHER INTELLECTUAL PROPERTY RIGHTS HELD BY OTHERS.