



## TECHNICAL DATA SHEET

# Isopoxy 410 MVB

Isopoxy 410 MVB (Moisture Vapor Barrier) is a two component 100% solids epoxy seal coat. It is a Class I Vapor Retarder that can control moisture vapor emission rates up to 15-20 lbs/24hr/1000 ft<sup>2</sup>. This product is intended to be applied over concrete before the application of polymeric coating systems, tiles, terrazo, wood flooring, carpet, etc. At the recommended thickness, this product has a perm value of 0.013-0.018, easily meeting the ASTM F3010 product requirements for vapor permeance.

### APPLICATIONS

- Indoor horizontal concrete

### PRODUCT ADVANTAGES

- 100% Solids
- Easy to apply. Most projects require only one coat
- Excellent adhesion
- Excellent Adhesion to Concrete
- Prevents issues caused by moisture intrusion
- Provides resistance against surface dusting
- VOC compliant

\*Values given are not intended to be used in specific preparation

### Component Properties

Color - Resin	Colorless
Color - Activator	Colorless
Mixed Viscosity - ASTM D-2196 - (74°F)	400 - 700 cps
% Solids - by Weight	100 %
% Solids - by Volume	100 %
Coverage Area - 17 mils	94 sq/ft

### Reactivity Profile

Ratio by Volume - (Resin:Activator)	2 - 1
Tack Free Time	6 - 10 Hours
Application Temperature	40 - 95 °F
Full Cure	3 - 7 Days
Recoat Window	12 - 16 Hours
Working Time	30 - 50 Minutes

### Typical Physical Properties

Adhesion - ASTM D4541 - Elcometer	500 - 600 psi
Hardness - ASTM D2240 - Shore D	75 - 80 D
Tear Strength - ASTM D624, Die C	350 - 400 pli
Tensile Strength - ASTM D412	8000 - 9000 psi
Elongation - ASTM D412	3 - 4 %
VOC	0 g/L
Recommended Film Thickness	17 Mil

### RECOMMENDED APPLICATION AND HANDLING INSTRUCTIONS

#### • COVERAGE:

The approximate coverage is 1 gallon/90-95 square feet (17 mils). Coverage rate will vary depending on the porosity of the substrate.

#### • PACKAGING:

This product is available in 1.5 gallon kits, 3 gallon kits, 15 gallon kits, and 150 gallon kits.

#### • PRODUCT MIXING:

This product has a 2:1 mix ratio, or two parts A (Resin) to one part B (Activator) by volume. Packaging is in pre-measured kits and should be mixed as supplied in the kit. We recommend that the kits not be broken down unless suitable weighing equipment is available. After parts A & B are combined, mix well with slow speed mixing equipment such as a jiffy mixer to mix the material thoroughly for 3-5 minutes until it is well mixed and streak free. Do not over mix or lift mixer in an up and down motion while mixing. This can cause air entrapment resulting in bubbles in the coating. The material is now ready to be applied on a properly prepared substrate. This product has a short pot life, so only mix that which can be used in the prescribed pot life. See the cure schedule section of this data sheet. Improper mixing may result in product failure.

#### • PRIMING:

This product is only intended as a 100% solids seal coat suitable for most properly prepared substrates.

#### • PRODUCT APPLICATION:

The mixed material can be applied by brush, roller, or serrated squeegee and back rolled as long as the appropriate thickness recommendations are maintained. Maintain temperatures and relative humidity within the recommended ranges during the application and curing process. If concrete conditions or over aggressive mixing causes air entrapment, then a pin roller should be used prior to the coating tacking off to remove the air entrapped in the coating. Always maintain a wet edge to avoid different color shading.

- **RECOAT OR TOPCOATING:**

Prior to recoating, you must first be sure that the previous coating has tacked off. However, all previous coats should be de-glossed by sanding to insure a better mechanical bond prior to application of topcoats. Colder temperatures will require more cure time for the product before recoating or top coating can commence. Before recoating, check for epoxy amine blush (a whitish, greasy film). If a blush is present, it can be removed by any standard detergent cleaner prior to top coating. Many epoxy coatings and urethanes are compatible for use as a topcoat.

- **CLEANUP:**

Use Xylol

- **FLOOR CLEANING:**

Product requires topcoating.

- **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.

- **LIMITATIONS:**

- Color or gloss may be affected by environmental conditions like humidity, temperatures, chemicals or lighting such as sodium vapor lights.
- Check the lot number on the container and only use product from the same lot for an entire job.
- Because of the short pot life and dry time, attention should be given to the trim work and tie-in areas to keep a wet edge so as to avoid roller marks, differences in color or shading problems.
- This product is not UV color stable.
- Substrate temperature must be 5°F above dew point.
- All new concrete must be cured for at least 28 days prior to application.
- Physical properties are typical values.

## **STORAGE**

**PRODUCT STORAGE:** Store product at 65°F to 85°F for at least 48 hours prior to use.

**SHELF LIFE:** 1 Year in unopened containers

## **SAFETY**

- **DOT CLASSIFICATION:**

Resin: "Not Regulated"

Harder: CORROSIVE LIQUID N.O.S., 8, UN1760, PGIII"

- Use only in well-ventilated areas.

- Refer to the product SDS for all relevant safety information.

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### **Date Modified**

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Since Seller exercises no control over Buyers application or use of the product manufactured by Seller ("product") and since materials used with the product may vary, it is understood that:

- THERE ARE NO WARRANTIES, EXPRESS OR IMPLIED, INCLUDING ANY WARRANTIES OR MERCHANTABILITY OR FOR ANY PARTICULAR PURPOSE. While all data presented in Seller's technical data sheet is based on the best information available to Seller and believed correct, such data is not to be construed as a warranty that the product will conform to such specifications. Such technical data sheets are subject to change without notice. Reported laboratory test results of fire redundancy in no way relates to the actual performance under fire conditions. Since all urethane systems are organic, they will burn.
- Reported laboratory test results of the color stability in no way relates to the actual performance upon exposure to light sources. Since all aromatic urethanes experience color degradation upon ultraviolet light exposure, Seller shall not be liable for any damages resulting from ultraviolet light color degradation of any aromatic urethane systems manufactured or sold by Seller.
- The liability of the Seller shall not exceed the purchase price and the Buyer shall not be entitled to nor the Seller be liable for any consequential, incidental, indirect or special damages resulting in any manner from the furnishing of the product.

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## 1. SURFACE PREPERATION

Concrete surface preparation is especially important: Compared to other surfaces, it is rather variable in its composition and characteristics. Here are some of the questions that should be answered before applying coatings.

- What existing coatings, if any, are present on the surface?
- Is the surface contaminated with other chemicals or materials that would impact coating adhesion?
- Is the concrete strong and sound, or is it damaged?
- What defects, such as voids, cracks or laitance, are present on the surface?
- Are there areas of potential moisture related problems?

The concrete must be allowed to cure a minimum of 28 days prior to coating application. The concrete must have a light broom finish or a CSP 3 to 5 profile. Surface preparation will vary according to the type of complete system to be applied. For a complete system build higher than 10 mils dry, we recommend a fine brush blast (shot blast), or diamond grind. All dirt, oil, dust, foreign contaminants and laitance must be removed to assure a trouble-free bond to the substrate. All concrete floors without an effective moisture vapor barrier are subject to possible moisture vapor transmission that may cause blistering and failure of the coating system. It is the applicator's responsibility to conduct calcium chloride and relative humidity probe testing to determine vapor emissions prior to applying any coating. Sales agents cannot be responsible for coating failures due to undetected moisture vapor emissions.

### **INTERCOAT ADHESION:**

Factors such as coating compatibility, temperature, humidity, surface prep and applications techniques, should be monitored to ensure proper intercoat adhesion between coats. Although we do not make it a requirement, sanding and cleaning between coats increases mechanical bonds.

### **CRACK REPAIR:**

Voids, cracks and imperfections will be seen in finished coating if the concrete is not patched correctly. Isopoxy Crack Repair or other suitable materials can be used to fill cracks and imperfections. After the materials are cured, diamond grind patch prior to coating.

## 2. AMBIENT TEMPERATURE APPLICATION

### **LOW TEMPERATURES:**

Low temperatures slow down the curing of coating products. This can be a benefit as the working life of the product is prolonged, but it also means that projects will take longer to complete. Re-coat times may be affected leading to delays in completing the project. Final curing time is also affected. A floor that under normal conditions could be handed over to the client after 3 days may require several more days.

Viscosity of the product is also affected. Coatings do not flow as nicely when the temperature drops. As a result, the coating that is meant to be self-leveling may not actually level.

When working in low temperatures, increased humidity in the atmosphere may also affect your floor. In cold temperatures, the dew point tends to be closer to the actual room temperature thus leading to increased relative humidity. As a result, you may get moisture settling on the uncured epoxy. This may lead to blushing, reduced gloss and surface defects on your floor. As a rule of thumb, you should only apply epoxies when the actual temperature is at least 3 degrees Celsius (5 F) above the dew point. High relative humidity can also affect urethane and polyaspartic top coatings causing bubbling. Make sure to follow the guidelines on the Technical Data Sheets for each product.

### **HIGH TEMPERATURES:**

Decrease the curing and dry times of epoxy and other coating products. Pot life, working time and recoat windows are decreased as a result of application during higher temps. Gassing or bubbles may be the result of trapped air/solvent within the coating that is not released before the surface dries. Air entrainment during mixing may also cause bubbles. Please follow the manufactures proper mixing instructions. It is recommended to use a pin roller following the application of the coating to reduce the majority of these bubbles.