LABPOX® MVB FAST

VOC-Free, High-Performance Moisture Vapor Barrier Epoxy with Pinhole Mitigation Technology

Technical Data Sheet

DESCRIPTION

The LABPOX® MVB FAST is a 100% solids, two-component (2A:1B), and VOC-free epoxy moisture vapor barrier for concrete floor coatings. The main property of the LABPOX® MVB FAST is its ability to initially adhere to damp slabs with up to 100% relative humidity. Additionally, the LABPOX® MVB FAST demonstrates a permeance rating of less than 0.1 perm @ 16 mils which can reduce moisture vapor emission rate from 25 lbs/1000sq.ft/24hrs to less than 3 lbs/1000 sq.ft/24hrs on concrete on concrete. This performance aligns with the highest standards in the industry. The LABPOX® MVB FAST is used as a primer before installing a complete epoxy or polyaspartic system. The LABPOX® MVB FAST is formulated with Pinhole Mitigation Technology that reduces pinholes by up to 98%. The product can receive a subsequent layer of coating in as little as 3 hours, enabling very rapid commissioning. The product has been formulated with state-of-the-art components and is one of the most efficient vapor barrier systems in the industry.

USES

The LABPOX® MVB FAST provides excellent results for the most demanding applications:

+ Industrial, commercial and residential uses
+ Manufacturing facilities
+ Warehouses
+ Commercial centers
+ Office buildings
+ Retail stores
+ Garages
+ Food/beverage processing and preparation plants
+ Public facilities including hospitals and schools
+ Pharmaceutical companies

ADVANTAGES

+ Pinhole Mitigation Technology reduces pinholes by up to 98%
+ Effective membrane against residual moisture up to 100%
+ Ideal for concrete slabs with less than 28 days of curing
+ Suitable for damp concrete substrates
+ Can be broadcasted with flakes or other aggregates
+ Environment friendly (100% solids, VOC-free and no solvent)
+ Virtually odor-free
+ Quick curing
+ Regulates MVER (moisture vapor emission rates) to acceptable levels
+ Easy 2A:1B mixing ratio
+ Potential for LEED eligibility
+ Can be used in combination with epoxy or polyaspartic floor systems
+ Low viscosity, easy to apply
+ Indoor and outdoor use

PRODUCT DATA

Mix Ratio	2A:1B	
Packaging	3 Gal kit (3 x 3.78L) 15 Gal kit (3 x 18.9L)	
Color	Clear, Grey, Tan, Black, White	
Solids Coverage / GAL	Mils	Sq. Ft.
Recommended	8	200
	10	160
	12	133
	14	114
	16	100
	18	89
Shelf Life	One year, in original unopened factory pails under normal storage conditions	
Pot Life	20 min	
Application Temperature	Min 16°C / 61°F, Max 30°C / 86°F	
Cure Time	**22°C / 72°F and 50% Rel. Hum.**	
Working time	25 min	
Tack Free	3 h	
Recoat	3 - 24 h	
Dry Through	8 h	
Foot Traffic	24 h	
Full Cure	1 week	

TECHNICAL PROPERTIES

Hardness ASTM D2240	80	Shore D at maturity
Pull Off Test ASTM D7234		>3 Mpa
Tensile Strenght ASTM D638		7450 psi
Compressive Strenght ASTM D695		14800 psi (102 Mpa)
Solids Content by Volume		100%
Viscosity (A&B)		900 +/- 100 cps
VOC Content		Clear: 10 g/l Pretinted: 9g/l
Permeability (up to 100% residual humidity) ASTM E96		< 0.1 perms @ 16 mils

SURFACE PREPARATION

Concrete should be clean, dry and free of grease, oil, paint, curing agents or any contaminants that may inhibit proper adhesion. The surface humidity should be controlled for more than three hours prior installing the LABPOX® MVB FAST.

Proper testing procedures should be practiced with regards to moisture vapor transmission. Use a Tramex® CME / CMExpert to measure the moisture content of the concrete slab. The first thing to do is to make sure that the floor is completely dry before application. Floors with higher results can receive the LABPOX® MVB FAST moisture mitigation.

Surface must be shot blasted or prepared with an equivalent mechanical means in line with CSP-2 or more depending on the application. Ensure the surface is free of contaminants, and the pores are open to allow the product to penetrate.

When applying a resinous coating over fiber-reinforced concrete, ensure that all surface fibers are completely removed before installing the primer or base coat.

When fibers are present in the concrete mix, the surface is more likely to develop an uneven or bumpy texture, as well as voids, which can be very difficult to correct once coated.

Voids in the coating can act as channels for contaminants, allowing moisture or chemicals to migrate beneath the coating. This may significantly reduce the system's performance and long-term durability.

To ensure the permeance rating and performance of LABPOX MVB, it is essential that a minimum film thickness of 16 mils covers all surface fibers.

Fibers can act as conduits for moisture vapor transmission, which may compromise the coating's barrier performance if not fully encapsulated.

When installing a vinyl flake or other aggregates broadcast system, after appropriate hardness has been reached, the base coat in which the aggregates are broadcasted should be carefully scraped and swept and then thoroughly vacuum cleaned to remove any remaining residues prior applying the topcoat. Contact us for more details on how to use the product with broadcast systems.

MIXING

Before final mixing, pre-mix part A at low speed using a Jiffy® or an Exomixer® mixer blade. Special attention must be paid to colored versions of the product since pigments may have separated from the rest of the formulation during storage. Mixing should be done until the color is uniform.

Then, using a Jiffy® or an Exomixer® mixer blade, mix two parts of A and one part of B together at low speed in a separate container. The mixing container must be clean and free of any outside particles. Mix thoroughly for a minimum of three minutes, until a completely homogeneous mixture is obtained. Use a low speed drill (300-450 rpm) to minimize the air entrapment. It is recommended to activate the mixer in the reverse mode after the first 90 seconds for the liquid to mix from the bottom of the mixing can to the top. Make sure to scrape sides and bottom of mixing container so no unmixed material remains. Mix only the necessary quantity to be used according to the specified pot life / working time. Once the product is properly mixed, it needs to be immediately poured on the floor. Leaving mixed material for too long in a mixing pail will create an exothermic reaction and the product will no longer be usable.

APPLICATION

The LABPOX® MVB FAST has been specifically designed to adhere to damp concrete substrates with a residual humidity of up to 100% and new concrete slabs having been installed within 28 days. Note that very high levels of humidity may also indicate a hydrostatic pressure problem. Hydrostatic pressure is usually caused by a drainage failure or a water leak. Make sure the causes of hydrostatic pressure are checked before installing the product.

Perm rating requirements and performance criteria are typically specified when LABPOX® MVB FAST is used as a subfloor moisture mitigation coating prior to the installation of finished floor coverings such as LVT, vinyl, wood, bamboo, cork, or carpet.

Perm rating requirements are generally not applicable when LABPOX® MVB FAST is used beneath Labsurface resinous floor coating systems.

Unlike finished floor coverings, resinous coatings and resinous flooring systems do not require perm rating compliance, provided that the resinous materials installed over the LABPOX® MVB FAST are more permeable (less impermeable) than the LABPOX® MVB FAST itself.

For the purposes of resinous flooring applications, this condition is typically met when the resinous coating or system installed over LABPOX® MVB FAST:

+ Exhibits a water vapor permeance greater than 0.1 perm when tested in accordance with ASTM E96, and/or
+ Is capable of sustaining moisture vapor emission rates up to 3 lbs / 1,000 sq ft / 24 hours when evaluated per ASTM F1869.

When these conditions are satisfied, water vapor does not get trapped within the system, and perm rating performance of the resinous flooring is not a governing requirement.

The primary function of LABPOX® MVB FAST in resinous flooring systems is to provide reliable initial and long-term adhesion on substrates exhibiting high internal relative humidity and/or high levels of MVER (Moisture Vapor Emission Rate), thereby reducing the risk of adhesion failure pressure.

Apply only when air and floor temperature is between 16°C / 61°F - 30°C / 86°F, and with a relative humidity of less than 85%. If a heated floor is installed, ensure that the system is turned off 2-4 hours (depending on type of radiant floor) before application and for the full duration of the cure. The product has been specifically designed to adhere to concrete surfaces. Make sure the concrete surface is completely dry at the time of installation. The surface humidity must be controlled for more than three hours, which corresponds to the time required for the product to harden sufficiently.

If floor repairs are to be made, use LABPOX® MVB FAST mixed with silica or other filing agents. When mixed with silica or other filling agents, use a low-speed drill to minimize the air entrapment.

The vapor barrier performance of the product is directly proportional to the thickness of the coating. Labsurface recommends 16 to 18 mils. The vapor barrier protection increases with thickness. It is also important that the film thickness is uniform over the entire floor.

As a primer on green concrete (less than 28 days), or on up to 100% R.H. concrete

A thickness of 4-6 mils is recommended when LABPOX® MVB FAST is used as a primer.

It is recommended to use only the quantity required to seal the concrete. Apply with a squeegee in a thin coat without back rolling to seal the surface properly. This will also help reduce the creation of pinholes. If there is appearance of pinholes during the application, allow sufficient time to go back and either burst the pinholes by rolling back and forth or with another squeegee pass. If there are still pinholes after coating has dried, sand and plug the pinholesusing LABPOX® MVB FAST mixed with silica or other filing agents.

As a basecoat (broadcast coat) with flakes systems.

When the surface has been properly prepared, apply 8-12 mils of the LABPOX® MVB FAST pretinted using a squeegee and back roll to even out the surface. It is recommended to apply the product in a multidirectional manner (north-south, east-west) to ensure that the desired coverage rate is achieved. Immediately saturate to rejection with vinyl flakes. Then, scrape and vacuum the surface to remove all loose particles before installing the clear topcoat.

Directly broadcasting flakes onto the LABPOX® MVB FAST is only recommended for dark colors. LABPOX® MVB FAST is considered a fast-curing epoxy which, like any fast-curing epoxy, will amber or yellow faster than a regular epoxy.

System when Optimal Permeability is needed

Note that optimal permeability of the substrate is **not required** for the installation of subsequent Labsurface products over LABPOX® MVB FAST.

Perm rating requirements and performance criteria are typically specified when LABPOX® MVB FAST is used as a subfloor moisture mitigation coating prior to the installation of finished floor coverings such as LVT, vinyl, wood, bamboo, cork, or carpet.

For a system with optimal permeability and to achieve the specified level of permeability less than or equal to 0.1 perm according to ASTM E96, the following steps need to be completed. First use the clear version of the LABPOX® MVB FAST for optimal adhesion and permeability. When the surface has been properly prepared, apply the first coat at 6-8 mils with a squeegee (no back roll) to allow a good seal of the surface and to minimize the pinholes phenomenon. Once dry, if there are pinholes, scrape to burst bubbles and clean. Then repair the pinholes using the LABPOX® MVB FAST mixed with silica sand. While mixing the silica sand, make sure there is no air bubbles trapped in the mix. Then spread the second coat of LABPOX® MVB FAST to a minimum thickness of 8-10 mils (for a total system thickness of 16 mils or more) using a squeegee and back roll to even out the surface. It is recommended to apply the product in a multidirectional manner (north-south, east-west) to ensure that the desired coverage rate is achieved.

If floor repairs are to be made, use LABPOX® MVB FAST mixed with silica or other filing agents. When mixed with silica or other filling agents, use a low-speed drill to minimize the air entrapment.

IMPORTANT

LABPOX® epoxy products can be installed over the LABPOX® MVB FAST without additional preparation if installed within the 24h recoat window. Passed the 24h recoat window, the LABPOX® MVB must be sanded to an even dull finish to provide good adhesion.

LABFAST® and LABSHIELD® ECO polyaspartic products can only be installed over sanded LABPOX® MVB FAST, even if within the 24h recoat window.

RECOAT

Do not recoat without sanding if last coating of the product has been applied for more than 24 hours. The floor surface should be sanded/abraded until a uniform dullness is achieved. There should be no gloss on the prior coating after vacuuming and before applying the next coat.

LABPOX® products chemically adhere to LABPOX® MVB FAST without sanding within the 24-hour window.

LABFAST® and LABSHIELD® ECO systems do not chemically adhere to LABPOX® MVB FAST, even when applied within the 24-hour recoat window. As a result, mechanical surface preparation is mandatory prior to application. The LABPOX® MVB FAST must be thoroughly sanded or abraded to achieve a uniform, dull, matte surface profile. All surface gloss must be completely removed. After abrasion, the surface shall be vacuumed clean of all dust and contaminants before applying LABFAST® or LABSHIELD® ECO polyaspartic systems. Failure to properly abrade the surface may result in loss of adhesion.

AVAILABLE COLORS

CLEAR, GREY, TAN, BLACK, WHITE

Not compatible with LABTEC Universal Pigment Pods

LIMITATIONS

The initial adhesion feature to bond to concrete that has high residual moisture (up to 100% RH) is independent from the permeability (low vapor transmission) feature. Also post installation adhesion (over the long term) is independent from initial adhesion and permeability.

It is essential to recognize that the permeability (low vapor transmission) property, initial adhesion and long-term concrete adhesion are unrelated. Although LABPOX® MVB FAST adheres extremely well on humid concrete, exhibits remarkable vapor transmission performance, and long-term adhesion performance, it will not resist to all conditions. Water pressure can exert immense stress on materials. Under high hydrostatic pressure, even the most robust membranes have a threshold beyond which they cannot withstand the force of water.

Always consider the specific requirements of the application and the potential for high water pressure to ensure it is suitable for the intended purpose.

The surface humidity must be controlled for more than three hours, the time required for the product to harden sufficiently. If this applies, make sure that the causes of hydrostatic pressure are checked before installing the product. The LABTEC Universal Pigment Pods are not compatible with the LABPOX® MVB FAST. Although this product may be applied in a wide range of thickness, limitations may apply when taking into consideration curing time. Everything else being equal, thicker is the film, quicker is the curing time. Temperature will also impact curing time. Curing time may extend significantly at low temperature levels and the surface may be affected. Leaving mixed material for too long in a mixing pail will create an exothermic reaction and the product will no longer be usable. Do not clean the finished surface during the week following installation. Keep the product stored at room temperature to ensure consistent results. Although Labsurface makes reasonable efforts to control the quality of the finished product and its components, ASTM results may vary depending on the quality of the inputs delivered to Labsurface.

Sanding the surface of the LABPOX® MVB FAST to a dull finish is always mandatory when installing LABFAST® or LABSHIELD® ECO polyaspartics on LABPOX® MVB FAST, even if within 24h recoat window.

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While resinous coatings provide excellent chemical and mechanical resistance, they are not immune to osmotic, alkali-silica reaction (ASR) or hydrostatic pressure. Moisture in the substrate may adversely affect coating performance such as blistering, delamination, or other coating failures.

The usage of direct-fired, unvented and certain other heat sources are not recommended as they emit byproducts that may negatively impact the curing process of the resin and lead to defects such as amine blush, whitening, loss of adhesion, or other surface imperfections.

Labsurface stands behind the quality of its products. However, Labsurface cannot guarantee results since Labsurface has no control over surface preparation, operating conditions and application procedures. Clients are solely responsible to test Labsurface's products to determine if they perform as expected.

To meet our strict requirements, we are continuously testing our coatings and on occasion, formulations may be modified to improve certain properties within each coating. Information and data included in this reference document may not be up to date as of the date of reference. Contact Labsurface for further information regarding the limitations of this product.

Exposure to certain chemicals may cause reactions similar to those experienced with allergies. Chemicals that may cause sensitivity include synthetic and natural substances found in the Part A or the Part B of flooring or casting products. Once cross linked and completely cured, those substances are inert and therefore should not result in allergic reactions. Raw materials used by Labsurface do not differ significantly from comparable products manufactured by our competitors.

Refer to the most recent Material Safety Data Sheet prior using this product.

LABSURFACE

2250, Louis-Blériot, Mascouche, (QC) CANADA J7K 3C1
Phone: 450 966-9000 / Fax : 450 621-3135
Labsurface.com

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