# LABPOX® 40 UV

**UV Resistant, 100% solids, High-Performance Epoxy**

Technical Data Sheet

## DESCRIPTION

The LABPOX® 40 UV is a 100% solids, two-component (2A:1B), low-VOC, and self-priming specialty epoxy designed for concrete floor coatings with optimal UV resistance. Available in translucent, the product exhibits superior resistance to UV irradiation (color retention over time), making it best suited for residential and commercial applications. It possesses superior mechanical properties as well as a long pot life and working time. Ideal for lighter colors and metallic systems. While the LABPOX® 40 UV is primarily designed as a topcoat epoxy, it can also be applied directly to concrete as it is self-priming. The LABPOX® 40 UV formulation is based on high-performance cycloaliphatic polyamine technology,displaying outstanding properties and delivering a superior aesthetic finish.

## USES

The LABPOX® 40 UV provides excellent results for the following applications:

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

## ADVANTAGES

+ Offering one of the best UV resistances in this product category
+ Environment friendly (100% solids, no solvent and low-VOC content)
+ Potential for LEED eligibility
+ Virtually odor-free
+ Easy application with long pot life and working time (60 min)
+ Ideal for metallic epoxy systems
+ Good elongation and excellent abrasion resistance
+ High resistance to amine blush and contamination (fisheyes)
+ Excellent defoaming even at thicker levels
+ Superior mechanical and chemical properties
+ Impermeability / low moisture sensitivity
+ High density of the product prevents dirt penetration resulting in low maintenance post application

## PRODUCT DATA

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|---|---|---|
| **Mix Ratio** | 2A:1B | |
| **Packaging** | 3 Gal kit (3 x 3.78 L) | |
| **Color** | Clear, Super Opaque White | |
| **Solids Coverage / GAL** | Mils | Sq. Ft. |
| | 8 | 200 |
| | 10 | 160 |
| | 12 | 133 |
| | 30 | 54 |
| | 40 | 40 |
| | 50 | 32 |
| **Shelf Life** | One year, in original unopened factory pails under normal storage conditions | |
| **Pot Life** | 50 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 | 60 min | |
| Tack Free | 9 h | |
| Recoat | 9 - 24 h | |
| Dry Through | 13 h | |
| Foot Traffic | 24 h | |
| Light Traffic | 48 h | |
| Full Cure | 1 week | |

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## TECHNICAL PROPERTIES

| | | |
|---|---|---|
| Hardness ASTM D2240 | 83 | Shore D at maturity |
| Abrasion Resistance ASTM D4060 (Taber Abraser, Wheel CS 17/1000 g (2.2 lbs) / 1000 cycles) | | 60 mg loss |
| DRY Coefficient of Friction (Smooth coating) ASTM E303 | | 1.2 |
| Pull Off Test ASTM D7234 | | >3 Mpa |
| Elongation at break ASTM D638 | | 14% |
| Tensile Strenght ASTM D638 | | 8500 psi |
| Compresive Strenght ASTM D695 | | 13000 psi (90 Mpa) |
| Solids Content by Volume | | 100% |
| Viscosity (A&B) | | 1000 +/-100 cps |
| VOC Content | | 9 g/l |
| DE 500 hr ASTM D3424 | | 5 |

UV Resistance value measured according to ASTM D3424 refers to the clear version at 15 mils thickness only. The reported Delta E value is based on testing performed under standardized laboratory conditions and should be considered a reference value only. Actual color change may vary depending on substrate conditions, application methods, environmental exposure, and other project-specific variables. Consequently, in-field Delta E performance may differ from the reported laboratory result.

## SURFACE PREPARATION

Concrete should be clean, dry and free of grease, oil, paint, curing agents or any contaminants that may inhibit proper adhesion. Concrete should be cured at least 28 days before applying the coating system. If the concrete slab has been installed within 28 days, the LABPOX® MVB FAST moisture mitigation system can be considered system (refer to the LABPOX® MVB FAST technical data sheet for application details).

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. Moisture content must be below 4% before applying the product. It is necessary to take several measurements at various places on the slab. If the reading is higher than 4%, steps will be required to neutralize the soil moisture. 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.

If the product is applied over an existing LABPOX® flooring system that has been cured for a period longer than 24 hours, it should be sanded with a proper floor machine. A mechanical bond to a sanded surface is required and the pores of the existing coating must be opened for better adhesion. Vacuum dust and properly wipe the surface with alcohol or solvent prior applying the LABPOX® 40 UV. The alcohol or solvent must be completely evaporated before applying the product. This preparation is necessary to ensure proper adhesion. Conduct adhesion tests if there is a doubt about surface preparation.

When installing a broadcast decorative 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. Mixing should be done until the color is uniform. If a metal pigment system is being considered, it is imperative to read the LABTEC Metallic Pigments data sheet for mixing times as well as application advice.

Use the same batch number when working with pretinted products, In the event that different batch numbers have to be use for a same job, we recommend pre-mixing all part A's individually, then mix together part A's from the different batch numbers for two minutes until homogenous color.

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 particle. 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

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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® 40 UV is used mainly as a topcoat layer. The product can also be used as a base layer when a clear wet or white system is sought. When used as a topcoat, it must be covered with a AQUALAB® PUR, LABFAST®, LABSHIELD® ECO or LABFENDER® product.

Apply only when air and slab temperature is between 16°C / 61°F - 30°C / 86°F and the 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 designed to adhere to concrete surfaces.

The LABPOX® 40 UV is self-priming. Apply the first coat with a squeegee in thin coat and back roll to properly seal the surface. Most porous concrete are affected with outgazing, which raises the probabilities of pineholes creation. If pineholes appear within the working time window, we recommend going back on the surface with a spike or regular roller to burst the bubbles. This will reduce significantly the chances of bubbles reappearing. Do not exceed working time window. Take into account that hot temperatures will reduce working time. If there are still pinholes after applying the first coat, sand and plug the pinholes with epoxy gel prior applying the second coat. For the second coat, squeegee and back roll the product to the desired thickness. It is recommended to apply the product in a multi-directional (north-south, east-west) motion to ensure proper coating thickness.

For standard systems, we recommend the application of one base coat and one topcoat for total system thickness of approximately 20 mils. Coverage rates can vary significantly depending on the concrete's porosity.  Porous or soft concrete will require more base coat resin to achieve full saturation.

For metallic systems, we recommend a thickness level between 30 and 50 mils for the metallic topcoat. The LABTEC Metallic Pigments system requires specific installation steps (Refer to the LABTEC Metallic Pigments technical data sheet). It is crucial to prevent sweat or water droplets from coming into contact with the product while blending the product or spreading/rolling it out. This precaution is necessary to avoid the formation of circles and/or fisheyes. Additionally, wall-mounted Air Wick type devices and aerosols should be avoided during both the installation and drying processes, as they can also cause circles or fisheyes.

For vinyl flakes and quartz floor systems, consider the following elements will influence the amount of resin required for topcoat:

+ Flake size: Smaller flakes will require more topcoat resin to achieve full encapsulation.
+ Scraping method: Different scraping techniques leave varying surface profiles; a more pronounced profile will require more topcoat resin.
+ Desired finish: A smooth finish (less orange peel) will require more topcoat resin than a standard orange-peel texture.

A variation in pigment concentration among different mixtures could have a perceptible impact on the effect and color perception. Make sure to maintain the same ratio throughout the entirety of each project.

For better stain and chemical resistance, we strongly recommend the usage of a AQUALAB® PUR, LABFAST®, LABSHIELD® ECO or LABFENDER® product over the LABPO®X 40 UV or over any epoxy product other than a Novolac epoxy. In addition to the superior chemical resistance and cleanability, the matte version of the AQUALAB PUR possesses a unique characteristic which is to make the scratches less apparent. The AQUALAB® PUR, LABFAST®, LABSHIELD® ECO or LABFENDER® products also provide additional UV protection that will significantly slow the yellowing of the epoxy.

We recommend the LABTEC Vinyl Chips when installing a flake system. Proper testing should be conducted prior application.

## 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.

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## Available Colors

Clear, Super Opaque White

LABTEC Universal Pigment Pods
Standard Color Chart

Metallic Color Chart

## LIMITATIONS

Requires a dry substrate. Moisture content of the substrate must be measured with a Tramex® CME / CMExpert and must be below 4% before applying the product. This product should not be applied to concrete substrates that show high levels of moisture/humidity unless a moisture a LABPOX® MVB FAST moisture mitigation system is used. If the LABPOX® 40 UV SUPER OPAQUE WHITE is used as a topcoat, it is mandatory to use a AQUALAB® PUR, LABFAST® or LABSHIELD® ECO product over it. 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. Drying time will be faster in a hot environment. Conversely, the drying time will be longer in a cold environment and the appearance of 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. Not suited for exterior applications. 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.

To ensure QUV performance of the product, do not use a LABPOX® 30's part A or B or other LABPOX® products with the LABPOX® 40 UV. UV resistance may decrease depending on storage conditions (including exposure to heat, humidity, and light) and the duration of storage before application. Failure to comply with the recommended storage conditions in this technical data sheet or on the product label may result in actual performance lower than advertised.

In the event that dew point conditions lead to condensation persisting above the concrete surface, and for which the grinding process fails to eliminate this condensation, it is crucial to thoroughly dry the surface before installation. Neglecting this step may result in adhesion issue.

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 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

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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.

This product is not immune to transfers of plasticizers contained in rubber, including car tires. Although the transfer of plasticizers phenomenon is very rare, under specific circumstances combining high tire temperature with i) high levels of plasticizers, and/or (ii) certain plasticizer types and/or (iii) certain tire types, it is possible for plasticizers to transfer from the tire rubber to the floor coating. This phenomenon is irreversible and can cause staining of the coated area. Tires should therefore cool down prior to the parking of the vehicle in the coated area.

Pressure washing and power washing (power washing involves water heating while pressure washing uses cold water) must be used with caution. Extreme pressure could damage the coating. Using hot water could also cause irreversible damage. When used to clean polymer coatings, water temperature must not exceed 49°C / 120°F and should be ideally between 32°C and 43°C / 90°F and 110°F.

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.**

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