

# AQUALAB PUR MATTE

Topcoat, High-Performance Water-Based Aliphatic Polyurethane

Technical Data Sheet



## Description

The AQUALAB PUR MATTE is a two-component, low-odor, water-based aliphatic polyurethane floor coating product which has low-VOC. The product offers a smooth (no orange peel) matte, clear finish and is non-yellowing. It can be applied directly on the concrete or as a protective and decorative layer over Labsurface's LABPOX epoxies. The AQUALAB PUR MATTE has a superior chemical resistance which makes it an ideal candidate to protect standard epoxies from staining prematurely. It also offers an additional UV protection that will significantly delay the yellowing of the epoxies. The AQUALAB PUR MATTE formulation is based on advanced aliphatic water-based polyol technology displaying superior aesthetic finish and excellent UV stability.

## Uses

The chemical and mechanical properties of AQUALAB PUR MATTE provide excellent results for several applications:

- + Residential, commercial, industrial and institutional uses
- + Metallic systems
- + 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

- + Low-VOC, potential for LEED eligibility
- + Low-odor formulation
- + Non-yellowing
- + Smooth finish with no orange peel
- + One of the best abrasion resistances in the industry
- + Very high chemical and stain resistance
- + Easier cleanability versus epoxies
- + Protects epoxy coatings by providing a UV barrier that will slow down the yellowing of epoxies
- + Long pot life
- + Application-friendly with low viscosity and auto-leveling properties reducing the risk of roll marks
- + Interior and exterior applications
- + Impermeability / low moisture sensitivity
- + High density of the product prevents dirt penetration resulting in low maintenance post application

## Application Data

<b>Mix Ratio</b>	5A:1B		
<b>Packaging</b>	1 US gallon kits (3.78L)		
<b>Color</b>	Clear		
<b>Solids Coverage</b>	Mils (wet)	Mils (solids)	Sq. Ft.
<b>/ US GAL</b>	2	0.8	800
	3	1.3	535
<b>Shelf Life</b>	Six months, in original unopened factory pails under normal storage conditions		
<b>Pot Life</b>	3 h		
<b>Application Temperature</b>	Min 15°C / 59°F, Max 30°C / 86°F		
<b>Cure Time</b>	22°C / 72°F and 50% Rel. Hum.		
Working time	20 min		
Tack Free	1 h		
Recoat	4 - 24 h		
Dry Through	4 h		
Foot Traffic	24 h		
Light Traffic	48 h		
Full Cure	2 weeks		

## Technical Properties

Solids Content	42%
VOC Content	16 g/l
Pencil Hardness (1 week)	F
Viscosity	96 cps
Abrasion (1000 cycles) ASTM D4060	55 mg loss
DRY Coefficient of Friction (Smooth coating) ASTM D1894	1.4
Pull Off Test ASTM D4541	>3 Mpa
DE 500 hr ASTM 3424	0.6



## 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 not reached 28 days of curing, the LABPOX MVB FAST moisture mitigation system can be considered (refer to the LABPOX MVB FAST technical data sheet for additional details).

Proper testing procedures should be practiced with regards to slab acidity and moisture vapor transmission. Take a pH reading to ensure concrete is neutral (a reading between 5 and 9 is acceptable). Use a Tramex® CME / CMExpert to measure the moisture content of the concrete slab. Moisture content must be below 4% to apply 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 slab 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.

When AQUALAB PUR GLOSS is installed directly on concrete, the surface must be prepared mechanically to obtain a CSP 1-2 depending on the total thickness of the application. Ensure the surface is free of contaminants, and the pores are open to allow the product to penetrate.

The product can be applied over Labsurface's LABPOX epoxies as well as LABFAST and LABSHIELD ECO products without sanding if applied within the 24h recoat window. If the product is applied over an epoxy from another manufacturer, it is imperative to do proper tests prior applying the AQUALAB PUR MATTE. When applied over an existing epoxy, a mechanical preparation of the epoxy will improve the adhesion of the AQUALAB PUR MATTE. The epoxy coating should be sanded with a proper floor preparation equipments. Vacuuming and wiping properly prepared surface will ensure no loose dust particles from the sanding process are present.

## Mixing

Before final mixing, pre-mix part A individually at low speed. Then, mix five 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. We recommend using a complete kit to avoid mixing errors related to the ratio. 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 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 container to the top. Make sure to scrape sides and bottom of mixing container so no unmixed material re-

mains. Do not add any water to the mix with the perception of making it easier to apply. Adding water to the mix will increase roll marks probabilities.

## Application

Apply only when air and floor temperatures are between 15°C / 59°F - 30°C / 86°F, and with a relative humidity of less than 80%. If a heated floor is installed, ensure that the system is turned off during application and for the full duration of the cure. It is also important to turn off ventilation as it may cause the product to cure prematurely and affect the finish. If uses outside, block the wind from the surface.

Any significant variation in thickness will have an impact on the final appearance. Two coats are recommended to assure a uniform finish. For applications directly on concrete, test patch should be performed prior to installation as adjustments may be required depending on the porosity of the substrate and field conditions. Dip and roll method is recommended using a 5 mm low nap lint-free roller.

Evenly apply 2-3 mils on to the surface (Dip & Roll "W" pattern method) using a 5-10mm lint free roller. **Within 2 minutes**, with a prepared 10 mm lint-free microfiber roller, smooth out the application with a single backroll, done at 90° angle from the "W" pattern initially done by pulling the roller towards you. The roller should be well wetted with AQUALAB PUR MATTE. This operation must be done without applying pressure on the roller while ensuring that pressure is uniform across the roller to avoid the appearance of roller marks.

## Preparation of rollers:

Prepare the roller by cutting the hairs at the ends at a 45 degree angle and remove all loose hairs. Saturate the roller in the AQUALAB PUR MATTE and evacuate the excess before starting back-rolling. An unprepared and dry roller will not leave enough material on the floor while a over-saturated roller will leave too much material on the floor.

## Recoat

A second coat of AQUALAB PUR MATTE can be installed 4-6 hours (at 22°C / 72°F) after the first coat. It is recommended to gently sand (approx. 180 grits) the product prior to applying the next coat. Beyond 24 hours, the floor surface should be sanded/abraded and vacuumed. Prior to applying the following coat, it is recommended to use a clean cloth and water to remove all the dust from having vacuumed.

The product can be applied over Labsurface's LABPOX epoxies as well as LABFAST and LABSHIELD products without a mechanical preparation if the products are within their respective recoat window. **DO NOT EXCEED 2 MINUTES BEFORE BACK ROLLING.**



## Cleaning

Due to their chemical nature, matte finishes require a more thorough cleaning process than the gloss or satin finishes. For many users and installers, the matte finish remains an ideal choice for light traffic residential or commercial applications. The gloss and satin finishes are easily cleanable, providing optimal results for all applications including heavy traffic industrial applications.  
**B = Best   G = Good   NR = Not recommended**

Finish	Residential	Commercial	Industrial
<b>GLOSS</b>	B	B	B
<b>SATIN</b>	B	B	B
<b>MATTE</b>	B	G	NR

## Limitations

Requires a dry substrate. Moisture content of the substrate must be measured with a Tramex® CME / CMExpert at 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 mitigation system such as the LABPOX MVB FAST used. The LABTEC Universal Pigment Pods are not compatible with the AQUALAB PUR MATTE. This product will take more time to cure in a high humidity environment. Although this product may be applied in a certain range of thickness, limitations may apply when taking into consideration curing time. Everything else being equal, thicker is the film, longer is the curing time. Do not exceed suggested thickness levels since the product may cure with a cloudy finish. Temperature will also impact curing time. High temperature will accelerate curing time while significantly reducing the working time. Opposite is also true as lower temperature will slow the curing time while extending the working time. Do not install the product when ambient and/or floor substrat exceeds 30 degrees. Keep the product stored at room temperature to ensure consistent results.

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 nstallation. Neglecting this step may result in shortened working times and/or issues with adhesion.

**DO NOT EXCEED 2 MINUTES BEFORE BACK ROLLING.**

It should be noted that the matte finish of the coating can vary when installed on unsealed concrete and / or with a spreading rate lower than what is recommended. 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 raw materials delivered to Labsurface.

It is also important to turn off ventilation as it may cause the product to cure prematurely and affect te finish. If uses outside, wind should be blocked from the surface.

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 parking the vehicle in the coated area.

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 loss of adhesion, or other surface imperfections.

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.

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 Lab-surface do not differ significantly from comparable products manufactured by our competitors.

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.

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



## Available Color

**Clear**

## Labsurface

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