AQUALAB PUR

Top Coat, High Performance Water-Based Aliphatic Polyurethane

Technical Data Sheet

Description

The AQUALAB PUR is a two-component low odor water-based aliphatic polyurethane floor coating system which has low VOC. The product is offered in a smooth (no orange peel) gloss, satin and a matte clear finish and is non-yellowing. The gloss is also available in a colored version. It can be applied directly on the concrete or as a protective and decorative layer over Labsurface's LABPOX epoxies. The AQUALAB PUR 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 slow the yellowing of the epoxies. The AQUALAB PUR 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 provide excellent results for several applications:

+ Residential, commercial and industrial 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
+ Available in gloss, satin and matte finishes
+ The clears offer a smooth finish with no orange peel
+ Gloss also available in a colored version
+ 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

Mix Ratio	5A:1B		
Packaging	1 US gallon kits (3.78L)		
Finish	**MATTE**	**SATIN**	**GLOSS**
Color	Clear	Clear	Clear / Grey
Solids Coverage / US GAL	Mils (wet)	Mils (solids)	Sq. Ft.
	2	0.8	800
	3	1.3	535
	4	1.7	401
	5	2.1	321
	6	2.5	267
Shelf Life	Six months, in original unopened factory pails under normal storage conditions		
Pot Life	3 h		
Application Temperature	Min 15°C / 59°F , Max 30°C / 86°F		
Cure Time	22°C / 72°F and 50% Rel. Hum.		

Version	**MATTE**	**SATIN**	**GLOSS**
Working time	20 min	20 min	20 min
Tack Free	1 h	3 - 4 h	3 - 4 h
Recoat	4 - 24 h	4 - 24 h	4 - 24 h
Dry Through	4 h	10 - 12 h	10 - 12 h
Foot Traffic	24 h	24 h	24 h
Light Traffic	48 h	48 h	48 h
Full Cure	2 weeks	2 weeks	2 weeks

Technical Properties

Version	**MATTE**	**SATIN**	**GLOSS**
Solids Content	42%	48%	48%
VOC Content	16 g/l	53 g/l	57 g/l
Pencil Hardness (1week)	F	F	F
Viscosity	96 cps	96 cps	96 cps
Abrasion (1000 cycles) ASTM D4060	61 mg loss	60 mg loss	60 mg loss
DE 500 hr ASTM 3424	0.6	<2	<2
Coefficient of Friction ASTM D1894	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 been installed within 28 days, the LABPOX MVB moisture mitigation system can be considered (refer to the LABPOX MVB technical data sheet for additional details).

Proper testing procedures should be practiced with regards to soil 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% 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 moisture mitigation.

Surface must be shot blasted or prepared with an equivalent mechanical means in line with CSP 1-2 depending on 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 products without a mechanical bounding if the products have been applied in less than 24 hours. If the product is applied over an epoxy from another manufacturer, it is imperative to do proper tests prior applying the AQUALAB PUR. When applied over an epoxy, a mechanical preparation of the epoxy will improve the adhesion of the AQUALAB PUR. The epoxy coating should be sanded with a proper floor machine. 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. 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 can to the top. Make sure to scrap 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.

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.

Any significant variation in thickness may differ results. Two coats are recommended to assure a uniform finish. For applications directly on concrete, test sections should be completed 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.

It is recommended to apply the product in only one direction (either north-south or east-west). Doing so will ensure uniformity in all planes. Apply evenly without applying pressure to the roller. Avoid creating extra thicknesses or ridges as these will take longer to cure and may remain white after curing. Keep a wet rim during application to minimize the appearance of possible overlap lines. Allow the first coat to harden completely before proceeding with the second coat.

For the gloss and satin versions, it is recommended to apply the product between 5 and 6 mils per coat (wet) to obtain a smooth finish with no orange peel. For the matte version, it is recommended to apply between 2 and 3 mils per coat (wet).

Recoat

A second coat of AQUALAB PUR 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. Do not recoat without sanding if the last coat of the product was applied over 16 hours ago (at 22°C / 72°F). Beyond 16 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 bounding if the products have been applied in less than 24 hours.

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
GLOSS	B	B	B
SATIN	B	B	B
MATTE	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 a LABPOX MVB moisture mitigation system is used. The LABTEC Universal Pigment Pods are not compatible with the AQUALAB PUR. 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. Curing time may extend significantly at lower temperature levels. It is not recommended to install the product on a hot surface. Keep the product stored at room temperature to ensure consistent results.

It should be noted that the matte or gloss 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 inputs delivered to Labsurface.

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.

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.

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 Colors

Clear: Gloss, Satin, Matte
Mid Concrete: Gloss

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