

LABFAST® VOC-EXEMPT

VOC-Exempt, Long Working Time and Quick Curing Polyaspartic

Technical Data Sheet



Description

The LABFAST® VOC-EXEMPT is a VOC-free, high-solids, two-component (1A:1B), and non-yellowing polyaspartic for concrete floor coating. The colored LABFAST® VOC-EXEMPT serves as the base coat, while the clear version is used as a protective topcoat, both sharing a common hardener. Three high-solids versions are available, 70%, 80% and 90% solids. LABFAST® VOC-EXEMPT offers two variations ((Ultra-Fast Set (-) and Prolonged Working Time (+)). The system provides a quick turnaround with very rapid curing time (tack free of 35-45 minutes) allowing the installation in a single day as a very fast return to service. The product displays excellent curing capability even at very low temperature levels. It offers superior mechanical and chemical properties, is low maintenance, and exhibits a superior aesthetic finish with excellent UV stability, making it ideal for both interior and exterior applications. We recommend using LABTEC vinyl chips in combination with LABFAST® products. Two- or three-coat systems can be considered.

Uses

The chemical and mechanical properties of LABFAST® VOC-EXEMPT provide excellent results for several applications:

- + Garages
- + Other residential applications
- + Commercial centers
- + Office buildings
- + Retail stores
- + Manufacturing facilities
- + Public facilities including hospitals and schools
- + Other commercial uses

Advantages

- + VOC-Exempt
- + Potential for LEED eligibility
- + High-solids content ~70%, 85%, 90%
- + Non-yellowing
- + Excellent impact and abrasion resistance
- + Easy to use 1A:1B system with common hardener for the base coat and topcoat
- + Possibility to install base coat and topcoat in a single workday
- + Cures quickly - recommended to obtain best curing at very low temperature levels (below -10°C / 14°F)
- + Ideal for exterior applications
- + (+) version offers longer working time of approx. 25 min.
- + Possible to install two- or three-coat systems
- + Easy to install due to the very low viscosity of the product
- + Very long recoat window and pot life
- + Excellent chemical and mechanical resistance
- + Impermeability / low moisture sensitivity

- + Superior gloss finish
- + High density of the product prevents dirt penetration resulting in low maintenance

Application Data

Mix Ratio	1A:1B			
Packaging	2 US gallon kits (2 x 3.78L) 10 US gallon kits (2 x 18.9L)			
Color	Clear			
Solids Coverage / US GAL	Mils	Sq. Ft.		
	4	400		
	5	320		
	6	267		
	7	229		
	8	200		
	9	178		
	10	160		
	11	145		
	12	133		
	13	123		
	14	114		
	15	107		
	16	100		
Shelf Life	One year, in original unopened factory pails under normal storage conditions.			
Application Temperature	Min -30°C / -22°F , Max 30°C / 86°F			
Cure Time	22°C / 72°F and 50% Rel. Hum.			
VOC-EXEMPT Version	70 -	80-	80+	90-
Working time	15 min	15 min	25 min	15 min
Tack Free	35 min	45 min	2 h	45 min
Recoat	35 min - 24 h	2 h - 24 h	45 min - 24 h	45 min - 24 h
Dry Through	2 h	2 h	6 h	2 h
Foot Traffic	24 h	24 h	24 h	24 h
Light Traffic	48 h	48 h	48 h	48 h
Full Cure	2 weeks	2 weeks	2 weeks	2 weeks
Pot Life 250 ml	15 min	20 min	10 min	10 min
Larger Volume	30 min	30 min	30 min	30 min



Technical Properties

VOC-EXEMPT Version	70 -	80-	90-
Hardness ASTM D2240 Shore D at maturity	70	70	70
Abrasion (1000 cycles) ASTM D4060	35 mg loss	40 mg loss	30 mg loss
DRY Coefficient of Friction (Smooth coating) ASTM E303	1.2	1.3	1.1
Pull Off Test ASTM D7234	>3 Mpa	>3 Mpa	>3 Mpa
Elongation at break ASTM D638	-	175%	-
Tensile Strength ASTM D638	7175 psi	6700 psi	7900 psi
Compressive Strength ASTM D695	9025 psi (62 MPa)	8525 psi (59 MPa)	8925 psi (61 MPa)
Impact resistance (Direct) ASTM D2794 ft lb	>9	>9	>9
Solids Content by Volume	70%	80%	90%
Viscosity (cps)	200 +/-50	300 +/-50	500 +/-50
VOC Content	0 g/l	0 g/l	0 g/l
DE 500 hr ASTM D3424	<2.0	<2.0	<2.0
Gardner Impact (Dir/Rev)	>140 lbs	>140 lbs	>140 lbs

The technical data provided pertains specifically to the LABFAST® VOC-EXEMPT (-) CLEAR versions. Other versions may have differing technical data. All information in this datasheet is based on laboratory tests, and actual values may vary due to uncontrollable factors. Testing was conducted at 22°C (72°F) with a relative humidity of 50%, unless specified otherwise.

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 could 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.

If the product is applied to an existing LABFAST®/LABSHIELD® ECO flake flooring system that has been cured for more than 24 hours (at 22°C / 72°F), the floor surface should be sanded properly until a matte appearance is reached above and between the flakes. To achieve this result, we recommend the use of a sander equipped with a sponge pad which will follow the profile of the surface and allow the sandpaper to reach the low points between the flakes. It is necessary to sand in a multidirectional way. Repeat until a matte finish is achieved on the entire floor. It is also necessary to use xylene to remove all dust after sanding and to soften the existing layer so that it can bond with the new layer. The use of xylene for this task is mandatory as it will soften the previous coat for better adhesion. The xylene must be completely evaporated before applying the next coat.

Tip: Spreading some grade #32 silica sand on the floor surface before sanding will increase the efficiency reaching lower areas between flakes.

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 LABFAST® VOC-EXEMPT. 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.

IMPORTANT: Adhesion of LABFAST® VOC-EXEMPT to LABPOX® MVBFAST can only be achieved on a full silica broadcast-to-rejection LABPOX® MVB FAST surface, EVEN WITHIN THE 24 HOUR RE-COAT WINDOW. We recommend using silica sand grade #32.

Once cured, the base coat with the flakes should be scraped and cleaned after appropriate hardness is reached prior applying the topcoat.

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 one part 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 entrapping of air. It is recommended to activate the mixer in the reverse mode after 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

Best results will be obtained between -10°C / 14°F et 30°C / 86°F and with a relative humidity of less than 80%. This product will also cure at temperatures well as low as -30°C / -22°F. If a heated floor is installed, ensure that the system is turned off during application and for the full duration of the cure. The product has been specially designed to adhere on concrete surfaces.

Once the surface has been properly prepared, squeegee and back roll the product. It is recommended to apply the product in a multi-directional (north-south, east-west) motion to ensure proper coating thickness.

The following flake systems can be considered:

LAB-FAST® VOC-EXEMPT	2-Coats System		3-Coats System		
	Base Coat + LABTEC Chips	Topcoat	Base Coat 1	Base Coat 2 + LABTEC Chips	Topcoat
70			4-9 mils	4-9 mils	
80	8-13 mils	8-13 mils	4-9 mils	4-9 mils	8-13 mils
90		8-13 mils			8-13 mils

The LABFAST® VOC-EXEMPT is used as a colored base coat and a clear topcoat using a common hardener. A prolonged working time version (+) and a fast cure version (-) are available.

We recommend the LABTEC Vinyl Chips when installing a flake system. Do not exceed a thickness of 30 mils for the entire system as solvent entrapment or lingering odors may occur following the installation. The color of the base coat should match the type of flake blend used. With that regards, Labsurface has made recommendations in the LABTEC Vinyl Chips section of this document.

It is also possible to use the LABFAST® VOC-EXEMPT as a protective coat over epoxy. In addition to the superior chemical resistance and cleanability, the LABFAST® VOC-EXEMPT also provides additional UV protection that will significantly slow the yellowing of epoxy over time. Colored versions of the LABFAST® VOC-EXEMPT can also be used as a protective coat, either pre-tint or using the LABTEC Universal Pigment Pods. When used as a protective layer on epoxy, a thickness of 10 mils is recommended.

Proper tests should be conducted prior application. Contact a Labsurface representative for additional information.

Recoat

If the product is applied to an existing LABFAST®/LABSHIELD® ECO flooring system that has been cured for more than 24 hours (at 22°C / 72°F), the floor surface should be sanded properly until a matte appearance is reached above and between the flakes. To achieve this result, we recommend the use of a sanding machine equipped with a soft sanding pad which will follow the profile of the surface and allow the sandpaper to reach the low points between the flakes. It is necessary to sand in a multidirectional way. Repeat until a matte finish is achieved on the entire floor. It is also necessary to use xylene to remove all dust after sanding and to soften the existing layer so that it can bond with the new layer. The use of xylene for this task is mandatory. Make sure the solvent is completely evaporated and there are no residues. In case there are remaining residues, wipe the surface using a dry rag or swab.

Tip: Spreading some grade #32 silica sand on the floor surface before sanding will increase the efficiency reaching lower areas between flakes.

IMPORTANT: Adhesion of LABFAST® VOC-EXEMPT to LABPOX® MVB FAST can only be achieved on a full silica broadcast-to-rejection LABPOX® MVB FAST surface, EVEN WITHIN THE 24 HOUR RECOAT WINDOW. We recommend using silica sand grade #32.

All information in this datasheet is based on laboratory tests, and actual values may vary due to uncontrollable factors. Testing was conducted at 22°C (72°F) with a relative humidity of 50%, unless specified otherwise.

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 LABPOX® MVB FAST moisture mitigation system is used. Adhesion to LABPOX® MVB FAST can only be achieved on a full silica broadcast-to-rejection LABPOX® MVB FAST surface, EVEN WITHIN THE 24 HOUR RECOAT WINDOW. Do not exceed a thickness of 30 mils for the entire system as solvent entrapment may occur above those levels. It is recommended to use 100% solids products and avoid solvent-based products for installations beyond those normal thickness levels. It is also recommended to do proper testing if a nonconventional installation is considered. Everything else being equal, thicker is the film, longer is the curing time. Drying time will be faster in a hot and/or humid environment. Conversely, the drying time will be longer in a cold and/or dry environment. Do not clean the fini-

shed surface during the week following installation. Keeping the product stored at room temperature.

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 shortened working times and/or issues with adhesion.

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. 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 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.

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.

Available Colors

Clear (compatible with LABTEC Universal Pigment Pods, ref. to TDS for more details)

Pre-tint: Grey, Tan, Black, White

LABTEC Vinyl Flakes

Marble LABTEC Chips



BASALT
Pre-tint Color: Grey
Pods Suggestions:
Light Concrete, Mid
Concrete, Dark
Concrete



SCHIST
Pre-tint Color: Grey
Pods Suggestions:
Light Concrete, White



DOLERITE
Pre-tint Color: Grey
Pods Suggestions:
Stone Concrete,
Mid Concrete,
Dark Concrete

Terrazzo LABTEC Chips



DENALI
Pre-tint Color: Grey
Pods Suggestions:
Stone Concrete,
Mid Concrete,
Light Concrete



JUNEAU
Pre-tint Color: Grey
Pods Suggestions:
Stone Concrete,
Mid Concrete,
Light Concrete



ARMADILLO
Pre-tint Color: Grey
Pods Suggestions:
Stone Concrete,
Beechwood

....AND MORE

To explore our full range of options, including all **Signature LABTEC Chips 1/4" and 1/16"**, we invite you to visit our website and browse through the available samples.

EXAMPLES



Terrazzo **ARMADILLO** Flooded



Terrazzo **ARMADILLO** with LABFENDER 240



Terrazzo **DENALI** Flooded



Terrazzo **DENALI** with LABFENDER 240



Signature 1/16" **NIGHTFALL**



Signature 1/16" **NIGHTFALL** with LABFENDER



Signature 1/4" **NIGHTFALL**



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