

# LABFAST LO 90

Long Working Time, Quick Curing and Low-Odor Polyaspartic

## Technical Data Sheet



### Description

The LABFAST LO is a low-odor, high-solids, two-component (1A:1B) and non-yellowing polyaspartic for concrete floor coating commonly used with vinyl flakes. The colored LABFAST LO serves as the base coat, while the clear version is used as a protective topcoat, both sharing a common hardener. The LABFAST LO 90 offers two (Ultra-Fast Set (-) and Prolonged Working Time (+)). LABFAST LO 90 provide optimal work time cure time ratio. The utilization of the LABFAST LO allows the installation of a full floor system in one single day, with rapid return to service. The product displays excellent curing capability even at very low temperature levels. This product offers superior mechanical and chemical properties and is low maintenance. It also displays a superior aesthetic finish and excellent UV stability which makes it ideal for exterior applications. We recommend the utilization of the LABTEC Vinyl Chips in combination with the LABFAST LO. Two or three-coat systems can be considered.

### Uses

The chemical and mechanical properties of the LABFAST LO 90 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

- + Faint odor
- + High-solids content 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 up to 25 minutes working time
- + 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 -10°C / 14°F , Max 30°C / 86°F	
Cure Time	22°C / 72°F and 50% Rel. Hum.	
Version	LO 90 -	LO 90 +
Working time	15 min	25 min
Tack Free	45 min	1 h 20
Recoat	45 min - 24 h	2 h - 24 h
Dry Through	2 h	8 h
Foot Traffic	24 h	24 h
Light Traffic	48 h	48 h
Full Cure	2 weeks	2 weeks
Pot Life		
250 ml	20 min	20 min
Larger Volumes	30 min	30 min



## Technical Properties

Hardness ASTM D2240 Shore D at maturity 70

Abrasion Resistance ASTM D4060 15 mg loss  
(Taber Abraser, Wheel CS 17/1000 g (2.2 lbs) / 1000 cycles)

Pull Off Test ASTM D4541 >3 Mpa

Elongation at break ASTM D638 85%

Tensile Strength ASTM D638 9225 psi

Compressive Strength ASTM D695 9775 psi (67 MPa)

Impact Resistance (direct) ASTM D2794 ft lb >9

Solids Content 90%

Viscosity (cps) 500 +/-50

VOC Content 122 g/l

DE 500 hr ASTM 3424 <2.0

Given the numerous versions of the LABFAST LO 90, the technical data provided pertains specifically to the LABFAST LO 90 - CLEAR version. 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 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 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.

If the product is applied over an existing LABPOX floor coating that has been cured for a period longer than 24 hours, it should be sanded with the proper floor equipment. 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 isopropyl alcohol or solvent prior applying the LABFAST LO 90. 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. This sanding procedure is necessary at all times when LABFAST LO 90 is applied over LABPOX MVB FAST, even if within the 24-hour recoat window. We recommend using 80-grit sandpaper and exerting good pressure to allow for proper anchoring of the product.

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.

Use the same batch number when working with pre-tinted products. In the event that different batch numbers have to be used 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 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 below -10°C / 14°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:

	2-Coats System		3-Coats System		
	Base Coat + LABTEC Chips	Topcoat	Base Coat 1	Base Coat 2 + LABTEC Chips	Topcoat
LO 90	8-13 mils	8-13 mils	4-9 mils	4-9 mils	8-13 mils

The LABFAST LO 90 is used as a base coat (colored) 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 may occur above those levels. 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 LO 90 as a protective coat over epoxy. In addition to offering a superior chemical resistance and cleanability, the LABFAST LO 90 also provides additional UV protection that will significantly slow the yellowing of epoxy over time. Colored versions of the LABFAST LO 90 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.

IMPORTANT. This sanding procedure is necessary at all times when LABFAST LO is applied over LABPOX MVB FAST, even if within the 24-hour recoat window. We recommend using 80-grit sandpaper and exerting good pressure to allow for proper anchoring of the product.

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 a LABPOX MVB FAST moisture mitigation system is used. 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 finished 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 de-

fects 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

**Pre-tint: Grey, Tan, Black, White**

### LABTEC Vinyl Chips

#### Signature LABTEC Chips 1/4"

 <b>BEAN</b> Pre-tint Color: Tan Pods Suggestions: Beechwood, Sand, Tan, Black	 <b>CABIN FEVER</b> Pre-tint Color: Grey Pods Suggestions: Light Concrete	 <b>DARKSIDE</b> Pre-tint Color: Black Pods Suggestions: Stone Concrete, Black
 <b>DOMINO</b> Pre-tint Color: Grey Pods Suggestions: Light Concrete, Black, White	 <b>GRAVEL</b> Pre-tint Color: Grey Pods Suggestions: Light Concrete, Dark Concrete, White	 <b>GUNFLINT</b> Pre-tint Color: Tan Pods Suggestions: Beechwood, Sand, Tan, Black
 <b>MANDRAS</b> Pre-tint Color: Grey Pods Suggestions: Light Concrete, Dark Concrete	 <b>NIGHTFALL</b> Pre-tint Color: Grey Pods Suggestions: Mid Concrete, Dark Concrete, Light Concrete, Black	 <b>ORBIT</b> Pre-tint Color: Grey Pods Suggestions: Light Concrete, Mid Concrete, Black
 <b>OUTBACK</b> Pre-tint Color: Tan Pods Suggestions: Beechwood, Beige, Sand, Tan, Black	 <b>RAINSTORM</b> Pre-tint Color: Grey Pods Suggestions: Light Concrete, White	 <b>SHORELINE (CAMEL)</b> Pre-tint Color: Tan Pods Suggestions: Tan, Sand
 <b>STAMPEDE</b> Pre-tint Color: Grey Pods Suggestions: Light Concrete, Mid Concrete, Stone Concrete, Black, White	 <b>STORM</b> Pre-tint Color: Grey Pods Suggestions: Light Concrete, Mid Concrete, Black, White	 <b>WOMBAT</b> Pre-tint Color: Grey Pods Suggestions: Light Concrete, Mid Concrete, Black, White
 <b>WOODCLIFF</b> Pre-tint Color: Tan Pods Suggestions: Beechwood, Sand, Beige, Tan, Dark Concrete		

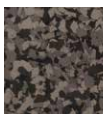
## Signature LABTEC Chips 1/16"



**BEAN**  
Pre-tint Color: Tan  
Pods Suggestions:  
Beechwood,  
Sand, Tan, Black



**CABIN FEVER**  
Pre-tint Color: Grey  
Pods Suggestions:  
Light Concrete



**DARKSIDE**  
Pre-tint Color: Black  
Pods Suggestions:  
Stone Concrete,  
Black



**DOMINO**  
Pre-tint Color: Grey  
Pods Suggestions:  
Light Concrete, Black,  
White



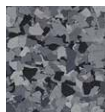
**GRAVEL**  
Pre-tint Color: Grey  
Pods Suggestions:  
Light Concrete,  
Dark Concrete,  
White



**GUNFLINT**  
Pre-tint Color: Tan  
Pods Suggestions:  
Beechwood, Sand,  
Tan, Black



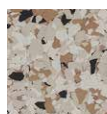
**MANDRAS**  
Pre-tint Color: Grey  
Pods Suggestions:  
Light Concrete, Dark  
Concrete



**NIGHTFALL**  
Pre-tint Color: Grey  
Pods Suggestions:  
Mid Concrete, Dark  
Concrete, Light  
Concrete, Black



**RAVEN**  
Pre-tint Color: Black  
Pods Suggestions:  
Dark Concrete, Black



**SHORELINE  
(CAMEL)**  
Pre-tint Color: Tan  
Pods Suggestions:  
Tan, Sand

\*While quantities last

## 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



**PUMICE**  
Pre-tint Color: Grey  
Pods Suggestions:  
Sand, Light Concrete



**OBSIDIAN**  
Pre-tint Color: Grey  
Pods Suggestions: Tan,  
Mid Concrete, Stone  
Concrete, Dark Concrete,  
Light Concrete

## Terrazo 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

## Labsurface

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