

E4E-87 POLY

(SLOW/ FAST)

Best Performance, Long Working Time, Quick Curing and Low Odor Polyaspartic



Technical Data Sheet

Description

E4E-87 POLYASPARTIC is a two-component (1A:1B), non-yellowing, low odor polyaspartic floor coating system. The E4E-87 POLY is used as a clear topcoat and a colored base coat using a common hardener. The system provides a quick turnaround with very rapid curing time with a

tack free as low as 45 minutes* allowing the installation of the floor system in a single day. 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 interior and exterior applications. We recommend the utilization of (The Flake Depot) Vinyl Chips in combination with E4E-87 products. Two- or three-coat systems can be considered.

E4E-87 POLYASPARTIC provides excellent resistance to abrasion and chemical resistance. E4E-87 POLYASPARTIC meets all kinds of requirements such as durability, performance as well as aesthetics. This seamless coating offers an unlimited choice of color, and a smooth or non-slip finish can be achieved using very fine to very aggressive aggregates. This system has been approved by the Canadian Food Inspection Agency (CFIA). It meets LEED standards. ECTR also meets FDA and USDA requirements.

* Depends on R.H. and temperature levels

Uses

The chemical and mechanical properties of the E4E-87 POLY 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, ~85%
- + Non-yellowing
- + Excellent impact and abrasion resistance
- + Easy to use 1A:1B system with common hardener for the base coat and top coat
- + Possibility to install base coat and top coat 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
- + (SLOW) 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 Six months, 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	E4E-87 Fast	E4E-87 Slow
Working time	15 min	25 min
Tack Free	45 min	2 h
Recoat	45 min - 24 h	2 - 24 h
Dry Through	2 h	6 h
Foot Traffic	24 h	24 h
Light Traffic	48 h	48 h
Full Cure	2 weeks	2 weeks
Pot Life	10 min	20 min

Technical Properties

Version	E4E-87 Fast	E4E-87 Slow
Hardness ASTM D2240 Shore D at maturity	70	70
Abrasion (1000 cycles) ASTM D4060	30 mg loss	30 mg loss
Pull Off Test ASTM D4541	≈3 Mpa	≈3 Mpa
Solids Content	85%	85%
Viscosity (cps)	300 +/-50	300 +/-50
VOC Content	169 g/l	169 g/l
Elongation ASTM D412	51%	-
Tensile Strength ASTM D412	5500 psi	5500 psi
DE 500 hr ASTM 3424	<2.0	<2.0
Gardner Impact (Dir/Rev)	>140 lbs	>140 lbs

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 American Resins MVB moisture mitigation system could be a considered system (refer to the American Resins MVB TDS 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 American Resins MVB 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 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 Epoxy 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 to applying the E4E-87 Poly. 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.

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

Mixing

Before final mixing, pre-mix part A at low speed using a 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 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 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 + Flake Depot Chips	Top Coat	Base Coat 1	Base Coat 2 + Flake Depot Chips	Top Coat
E4E-87	8-13 mils	8-13 mils	4-9 mils	4-9 mils	8-13 mils

E4E-87 POLY is used as a base coat (colored) and a clear topcoat using a common hardener. A prolonged working time version (slow) and a fast cure version (fast) are available.

We recommend the Flake Depot 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, E4E has made recommendations in the Vinyl Chips section of this document.

It is also possible to use E4E-87 POLY as a protective coat over epoxy. In addition to offering a superior chemical resistance and cleanability, the E4E-87 POLY also provides additional UV protection that will significantly slow the yellowing of epoxy over time. Colored versions of the E4E-87 POLY can also be used as a protective coat, either pre-tint or using the E4E 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 E4E representative for additional information.

Recoat

If the product is applied to an existing E4E 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.

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 MVB 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 non conventional 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.

E4E stands behind the quality of its products. However, E4E cannot guarantee results since E4E has no control over surface preparation, operating conditions and application procedures. Clients are solely responsible to test E4E's products to determine if they perform as expected. Although E4E 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 E4E.

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 E4E for further information regarding the limitations of this product.

Available Colors

- Clear**
- Pre-tint: Grey, Tan**

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