

# E4E-87 ECO POLY

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



## Technical Data Sheet

### Description

E4E-87 ECO POLY is a two-component (1A:1B), non-yellowing, polyaspartic floor coating system.

E4E-87 ECO POLY can be used as a clear top coat and as a colored base coat using Universal Pigment Pods. The product offers an attractive combination of long working time (25 minutes\*) and short curing (tack free of 60 minutes or lower\*) allowing the installation of the floor system in a single day as well as a very fast return to service. E4E-87 ECO POLY 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 Flake Depot Vinyl Chips in combination with E4E products. Two- or three-coat systems can be considered.

\* Depends on R.H. and temperature levels

### Uses

The chemical and mechanical properties of E4E-87 ECO POLY provide excellent results for several applications. Note that the smell may not be suitable for all applications depending on tolerance and ventilation.

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

### Advantages

- + Best Value in the E4E Series
- + Non-yellowing
- + Excellent impact and abrasion resistance
- + Easy to use 1A:1B system
- + High solids content at ~80%
- + Clear top coat, can also be tinted using Universal Pigment Pods for base coat
- + Possibility to install base coat and top coat in a single workday
- + Cures quickly and reacts at very low temperatures (below -10°C / 14°F)
- + Ideal for exterior applications
- + Long working time of approx. 25 minutes
- + 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

<b>Mix Ratio</b>	1A:1B	
<b>Packaging</b>	2 US gallon kits (2 x 3.78L)	
<b>Color</b>	Clear	
<b>Solids Coverage / US GAL</b>	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
<b>Shelf Life</b>	Six months, in original unopened factory pails under normal storage conditions.	
<b>Application Temperature</b>	Min -10°C / 14°F, Max 30°C / 86°F	
<b>Cure Time</b>	22°C / 72°F and 50% Rel. Hum.	
Working time	25 min	
Tack Free	60 min	
Recoat	60 min - 24 h	
Dry Through	5 h	
Foot Traffic	24 h	
Light Traffic	48 h	
Full Cure	2 weeks	
<b>Pot Life</b>	20 min	

## Technical Properties

Hardness ASTM D2240 Shore D at maturity	70
Abrasion (1000 cycles) ASTM D4060	<45 mg loss
Pull Off Test ASTM D4541	≈3 Mpa
Solids Content	80%
Viscosity	200 +/-50 cps
VOC Content	209 g/l
Tensile Strength ASTM D412	>3500, <5000 psi
DE 500 hr ASTM 3424	<2.0
Gardner Impact (Dir/Rev)	>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 considered system (refer to the American Resins MVB 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 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 epoxy 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 ECO 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

### Clear Top Coat

Before final mixing, pre-mix part A at low speed using a mixer blade. Mixing should be done until the color is uniform. If a metallic pigment system is being considered, it is imperative to read the Metallic Pigments data sheet for mixing times as well as application advice.

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 particles. 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 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 scrape 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.

### Colored Base Coat

Use one Universal Pigment Pod per gallon of E4E-87 ECO POLY Part A. Before final mixing, pre-mix part A at low speed with a Universal Pigment Pod. Mix until the color is perfectly uniform using a mixer at low speed.

Then, using a mixer blade, mix two parts of A and one part of B together at low speed in a separate container. There is no need to rebalance the mixing ratios to compensate for the volume of part A that will exceed its part B counterpart once the pod has been poured into the part A. The mixing container must be clean and free of any outside particle. Mix thoroughly for three minutes using 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. Only mix the quantity of product required depending on the pot life and the working time required

### Application

Best results will be obtained between -10°C / 14°F and 30°C / 86°F, with a relative humidity of less than 80%. This product will also cure at temperatures well below 0°C / 32°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 especially designed to adhere to 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 + Vinyl Chips	Top Coat	Base Coat 1	Base Coat 2 + Vinyl Chips	Top Coat
8-13 mils	8-13 mils	4-9 mils	4-9 mils	8-13 mils

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 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, E4E has made recommendations in the Vinyl Chips section of this document.

It is also possible to use the E4E-87 ECO POLY as a protective coat over epoxy. In addition to the superior chemical resistance and cleanability, the E4E-87 ECO POLY also provides additional UV protection that will significantly slow the yellowing of epoxy over time. 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 epoxy 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.

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