ADVANCED RESINS

Designer Metallic Epoxy

Technical Data Sheet

100% Solids, Low-Viscosity Blend

Description

The **Designer Metallic Epoxy** is a 100% solids two-component (2A:1B) epoxy floor coating system which is virtually VOC-free. This product possesses superior mechanical properties best suited for industrial, commercial and r esidential applications. It offers a long pot life and working time. The Designer Metallic Epoxy has been designed as a topcoat epoxy but is also a self-priming base coat. The Designer Metallic Epoxy formulation is based on a high-p erformance cycloaliphatic polyamine technology displaying outstanding properties and superior aesthetic finish.

Uses

Designer Metallic Epoxy provides excellent results for the most demanding applications:

+ Industrial, commercial and residential uses
+ Manufacturing facilities
+ Warehouses
+ Commercial centers
+ Office buildings
+ Retail stores
+ Metallic systems
+ Parking garages
+ Food/beverage processing and preparation plants
+ Public facilities including hospitals and schools
+ Pharmaceutical companies

Advantages

+ Environment friendly (100% solids, VOC-free and no solvent)
+ Potential for LEED eligibility
+ Virtually odor free
+ Easy application with long pot life and working time (60 minutes)
+ Can be used for metallic epoxy systems
+ Superior mechanical and chemical properties suited for the toughest industrial applications
+ Good elongation and excellent abrasion resistance
+ High resistance to amine blush and contamination (fish eyes)
+ Impermeability / low moisture sensitivity
+ High density of the product prevents dirt penetration resulting in low maintenance post application
+ Available in unlimited color range

Application Data

Mix Ratio	2A:1B	
Packaging	3 US gallon kit (3 x 3.78L) 15 US gallon kit (3 x 18.9L)	
Color	Clear or colored	
Solids Coverage / US GAL	Mils	Sq. Ft.
	8	200
	10	160
	12	133
	30	54
	40	40
	50	32
Shelf Life	One year, in original unopened factory pails under normal storage conditions	
Substrate temp.	Min 16°C / 61°F, Max 30°C / 86°F	
Cure Time		
Working time	60 min	22°C / 72°F and 30% Rel. Hum.
Tack Free	9 hours	22°C / 72°F and 30% Rel. Hum.
Recoat Time	10-24 hours	22°C / 72°F and 30% Rel. Hum.
Dry Through	13 hours	22°C / 72°F and 30% Rel. Hum.
Foot Traffic	24 hours	22°C / 72°F and 30% Rel. Hum.
Light Traffic	48 hours	22°C / 72°F and 30% Rel. Hum.

Technical Properties

Hardness	ASTM D2240	80	Shore D
Abrasion (1000 cycles)	ASTM D4060	78	(mg loss)
Pull-Off Test		>3	Mpa
Elongation	ASTM D412	9	%
Tensile Stress	ASTM D412	7700	PSI
Viscosity	Clear / Colors	900 +/-100	cps
Solids Content		100%	

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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, A MVB moisture mitigation system can be considered.

(Refer to The 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 calcium chloride test to measure moisture vapor transmission. Readings of 3.5 lbs/1000 sq. ft. during a 24-hour period or less are acceptable for applying coatings. Floors with higher results can receive a MVB moisture mitigation system.

Surface must be shot blasted or prepared with an equivalent mechanical means in line with CSP-2 or more. Ensure the surface is free of contaminants, and the pores are open to allow the product to penetrate.

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 bound to a sanded surface is required and the pores of the existing coating must be opened for better adhesion. Vacuum dust and properly wipe th e surface with alcohol prior to applying the **Designer Metallic Epoxy!** Conduct adhesion tests if there is a doubt about surface preparation.

When using a broadcast decorative system, the base coat with the flakes should be scraped and cleaned after appropriate hardness is reached prior applying the topcoat. Contact us for more details on how to use the product with broadcast systems.

Mixing

Before final mixing, pre-mix part A at low speed. 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.

If a metal pigment system is being considered, it is imperative to read the METALLIC PIGMENTS data sheet for mixing times as well as advice. Then, mix two parts of A and one part of B togeth er 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 mix ture is obtained. Use a low-speed drill (300-450 rpm) to minimize th e entrapment of air. It is recommended to activate the mixer in th e 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 mat erial remains.

Application

Apply only when air and slab temperature is between 16°C / 61°F - 30°C / 86°F and the relative humidity of less than 85%. 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 designed to adhere to concrete surfaces.

The Designer Metallic Epoxy is self-priming. When used as a base coat, apply with a squeegee in thin coats without back rolling to seal properly the surface, this will help reduce the creation of pin holes. For the second coat, repeat the same steps and back roll the product. It is recommended to apply the product in a multidirectional (north- south, east-west) motion to ensure proper coating thickness. If there is a significant presence of pinhol es after applying the first coat due to the porosity of the concrete, sand and plug the pinholes with epoxy gel.

We recommend the application of one base coat and one topcoat for total system thickness of approximately 20 mils for standard systems. For metallic systems, we recommend a thickness level between 30 and 50 mils for the metallic topcoat. The METALLIC PIGMENTS system requires specific installation steps (Refer to the METALLIC PIGMENTS technical data sheet or contact us for additional details).

For better stain and chemical resistance, we strongly recommend the usage of Polyurethane or Glass Coat over the Designer Metallic Epoxy.

We recommend vinyl chips when installing a flake system. Proper t esting should be conducted prior application.

Recoat

Do not recoat without sanding if last coating of the product has been applied for more than 24 hours. The floor surface should be sanded/abraded until a uniform dullness is achieved. There should be no gloss on the prior coating after vacuuming and before applying the next coat.

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Limitations

Requires a dry substrate. Moisture content of the substrate 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. Although this product may be applied in a wide range of thickness, limitations may apply when taking into consideration curing time. Everything else being equal, thicker is the film, quicker is the curing time. Drying time will be faster in a hot environment. Conversely, the drying time will be longer in a cold environment and the appearance of the surface may be affected. Do not clean the finished surface during the week following installation. Keep the product stored at room temperature to ensure consistent results. Not suited for exterior applications.

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