



Concrete Restoration Products

Product Information

CRP 350 Epoxy

Epoxy Floor Coating

Description

CRP 350 Epoxy is a two component, 100% solids, high-build, low viscosity, low odor, modified cycloaliphatic, chemical resistant epoxy. This highly versatile epoxy coating comes in both clear and a variety of pigmented colors. It can be used as a primer (when vapor emission is below 4.5lbs/1000 ft²/24hr), base coat, or as a topcoat.

Uses

CRP 350 Epoxy is used to create industrial seamless floors in manufacturing plants, mechanical rooms, warehouses, commercial kitchens, aircraft hangars, and residential garages. In combination with color quartz or paint chips it can be used to create a decorative floor coating. CRP 350 Epoxy can be used to bind clean, kiln decorative rock or can be mixed with aggregate and used as a mortar for overlays or repairs for concrete. 350 clear is an excellent high build concrete sealer for interior use over many other types of coatings such decorative concrete or over acid stained floors.

Advantages

- Meets USDA criteria
- 100% Solids
- Chemical Resistant
- High Strength
- Water Clear or Pigmented
- Low Odor
- High-Build
- Superior Adhesion

Coverage

Coverage will vary depending on condition of surface and desired thickness.

As a Primer:

250-300 ft²/gal. If cut with solvent, apply at a minimum of 300 ft²/gal to properly cure.

As a Coating:

200-300 ft²/gal

For Epoxy Mortar:

1 gallon of epoxy mixed with 4 gallons of silica sand will yield approximately 3 to 4 gallons of mortar.

Packaging

1 1/2 gallon kits
15 gallon kits

Colors

Clear, Travatan, Cape Cod Grey, Deep Tan, Pewter Grey, Stone Gray, White, Black, and more. See CRP color card for all available colors.

Inspection

Concrete must be clean, dry, and free of grease, paint, oil,

dust, curing agents, or any foreign material that will prevent proper adhesion. The concrete should be at least 2500 psi and feel like 30-grit sandpaper. The concrete should be porous and be able to absorb water. A minimum of 28 days cured is required on all concrete. Relative humidity in the concrete floor slab should be below 80% (per ASTM F-2170).

Before starting flooring work, test existing concrete slab to make sure there is no efflorescence or high levels of alkalinity. Alkalinity refers to a high pH reading which means the floor is not neutral. A high alkaline environment can cause salts to creep up through the cement called efflorescence. These salts have a tendency to prevent or destroy the bonding of coatings to the concrete. The most common form of testing is the use of a wide-range pH paper or tape. Make sure the floors pH reading ranges between 5-9 to ensure adhesion. The testing of concrete for alkalinity can show the amount of alkalinity only at the time the test is ran, and cannot be used to predict long-term conditions.

Calcium chloride tests should be conducted to determine if the concrete is sufficiently dry for an epoxy flooring installation. The calcium chloride tests should be conducted in accordance with the latest edition of ASTM F 1869, *Standard Test Method for Measuring Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride*. When running a calcium chloride test, it is important to remove any grease, oil, curing agents, etc. so accurate readings can be obtained. A rate of 4.5lbs/1000 ft²/24hr period or less is an acceptable amount of vapor pressure for an epoxy flooring installation. If the reading ranges from 4.5lbs to 15lbs, a moisture barrier system such as our CRP Moisture Block can be installed to reduce the emissions.

Failing to adhere to these strict guidelines can result in product delamination, discoloration, blistering, or all together failure of the coating system. Testing is the responsibility of the applicator. CRP bears no responsibility for failures due to any of the above conditions.

Surface Preparation

Over Concrete Surfaces: Shotblasting or diamond grinding is the preferred method for preparing the concrete. Proper preparation should achieve a clean, porous, and uniform surface that feels like 50 grit sandpaper that will allow the product will soak in and properly bond.

Over existing CRP Epoxy: Sand the surface with a floor buffer and 100 grit sandpaper. Remove debris and wipe with acetone just before new application. Always test a small area to ensure adhesion prior to application.

Mixing

As a Coating: Premix each component separately. Mix 2 parts A with 1 part B, by volume, into a clean container. Mix thoroughly with a low speed (400-600 rpm) drill motor for 3-4

minutes. Make sure to scrape the sides and bottom of the container during mixing. The product may be thinned with acetone in which case it must be applied thinly enough to allow solvent to escape (minimum 300 ft²/gal). After mixing is completed, remove from container within 5 minutes as epoxy will begin to generate heat. Spread immediately onto the floor, as product is spread out you will have longer working time (25-30 minutes at 70 degrees).

For an Epoxy Mortar: Mix 2 to 5 parts of a washed and kiln dried aggregate, by volume, to 1 part of mixed CRP 350 and mix until uniform in consistency.

Application

Primer: Prime the surface using CRP Moisture Block or CRP Primer. Read individual product information sheets. Primer coat should be applied thinly and worked into the surface to help avoid pinholes.

Over Cementitious Overlay: First coat should always be pulled as tight as possible using a flat edge trowel and backrolled. Apply at a minimum of 300 ft²/gal to minimize material outgassing. A higher build can be achieved with subsequent coats.

As a Coating: Apply CRP 350 within 24 hours after the primer coat. Immediately after mixing, spread a strip of the batch onto the surface along the edges where it will be "cut in", using a brush or weenie roller. Pour the remaining material near the "cut in" area and spread evenly using a trowel or squeegee and back roll using a 1/4" or 3/8" non-shedding nap or mohair roller cover. A notched trowel or squeegee will help regulate the thickness and a porcupine roller will help to release trapped air and minimize bubbles. Depending on the look, thickness, chemical and abrasion resistance desired, 1 to 2 coats may be applied. A non-skid surface can be achieved by broadcasting and/or back rolling a washed and kiln dried aggregate into the coating. We recommend the CRP 40-60 Clear Cut aggregate or aluminum oxide.

For an epoxy mortar: Prime the area with a CRP Moisture Block or CRP Primer (medium grit sand may be broadcast into this coat to promote adhesion). Within 24 hours, clean excess sand and apply the prepared mortar using a trowel.

Drying Time

You may re-coat as soon as the surface is completely dry to touch or in about 12 hours (but not later than 24 hours). If recoat time has been exceeded, lightly sand the surface and wipe clean with acetone before next application. Light foot traffic may be permitted in 24 hours, light vehicle traffic in 72 hours, and heavy traffic in 7 days. All times are based on average temperature of 70 degrees and 50% humidity. Cooler temperatures will increase drying time.

Limitations

- Do not apply at temperatures below 50°F or above 95°F.
- Do not let mixed product sit in bucket for prolonged period of time or it will become very hot and unusable.
- Do not apply over concrete with Moisture Vapor Emissions above 4.5lbs/1000 ft²/24hr.
- For interior use only unless protected by a pigmented UV resistant coating.
- Do not apply if humidity exceed 85%, temperature is less than 5° above the dew point, or if rain is expected within 24 hours.
- Concrete must be cured for a minimum of 28 days.
- Solvents added to thin such as acetone will make product combustible or flammable in which case be aware of sparks or open flame.
- If solvent is added, the product must be applied thinly (300+ ft²/gal to allow the solvent to escape and proper curing to occur.
- Shelf Life of this material is 1 year from the date of manufacture. (See batch number for manufactured date)
- CRP recommends the use of angular slip resistant aggregate in all coatings or flooring systems that may be exposed to wet, oily or greasy conditions. It is the contractor and end users' responsibility to provide a flooring system that meets current safety standards.

Clean Up

Uncured material can be removed with a solvent. Cured material can only be removed mechanically. All empty containers must be disposed of according to local, state, and federal regulations.

Warranty

CRP guarantees that this product is free from manufacturing defects and complies with our published specifications. In the event that the buyer proves that the goods received do not conform to these specifications or were defectively manufactured, the buyer's remedies shall be limited to either the return of the goods and repayment of the purchase price or replacement of the defective material at the option of the seller. CRP makes no other warranty, expressed or implied, and all warranties of merchantability and fitness for a particular purpose are hereby disclaimed. Manufacturer or seller shall not be liable for prospective profits or consequential damages resulting from the use of this product. Manufacturer shall not be liable for material used outside of its shelf life. For product dating, please refer to the batch number on the product or contact CRP.

Technical Data for 350 Clear

Viscosity (ASTM-D-445-83, Brookfield, RVT, Sprindl 4)	2400 cps
Gel time (Techne GT-4 Gelation Timer)	65 (150 mass/min)
Tensile Strength (ASTM-D-638-86)	7,250 psi
Tensile Modulus	385,000 psi
Tensile Elongation (ASTM-D-638-86)	5.5 %
Heat Deflection at 264 psi (ASTM-D-648) *	47 C
Shore D Hardness (ASTM-D-2240-86) *	81
Abrasion Resistance @ 1000 cycles Wt. Loss (gms)	0.0041
Mar Resistance (ASTM-D-5178-91)	1.30 kg
Pencil Hardness	2H
Impact, inches-lbs Direct/Reverse	14/1
Glass Transition Temperature (ASTM-D-3418-82)	124 F
Color (ASTM-D-1544-80)	>1 Gardner
Thin Film Set Times at 70 F (BK Drying Recorder)	11 hrs.
Flexural Strength (ASTM-D-790-88)	12,185psi
Flexural Modulus	445,00 psi
Cross Hatch Adhesion (0-Worst, 5-Best)	4
Compressive Strength @ yield (ASTM 695-85)	11,550psi
Compressive Modulus (ASTM 695-85)	370,000 psi
Glass Transition	46C
Chemical Composition	Modified Bisphenol A epoxy resin crosslinked with aliphatic and cycloaliphatic polyamines
VOC	0 g/l

*Properties determined after 7 days cure at 25 C°

Chemical Resistance Chart:

REAGENT	Initial Hard.	After 3 hrs		After 24 hrs		After 3 days		After 7 days		After 28 days		After 90 days	
		% wt.	Hard	% wt.	Hard	% wt.	Hard	% wt.	hard	% wt.	hard	% wt.	Hard
10% Acetic Acid	82	0.7	80	2.1	72	4.01	69	6.13	62	10.15	63	15.4	46
10% Lactic Acid	82	0.38	80	1.19	79	2.31	78	3.48	77	5.71	74	8.78	59
Toluene	82	0.06	80	0.81	75	3.07	65	6.89	52	20.3	46	18.32	52
Xylene	82	0.01	78	0.04	77	0.36	75	1.29	70	4.65	72	15.39	57
Trichlorothane	82	0.05	77	0.4	77	2.31	74	3.54	68	13.74	65	-	-
Methanol	82	3.13	66	8.37	38	12.83	25	6.23	30	5.71	35	-	-
Ethanol	82	0.99	75	2.89	63	5.55	46	8.55	45	9.34	43	6.81	52
Butyl Cellosolve	82	0.37	76	1.47	73	3.83	66	6.34	63	12.42	53	-	-
Methyl Ethyl Ketone	82	6.41	63					DESTROYED					
Skydrol	82	0.11	77	0.46	77	1.26	74	2.18	74	3.67	75	6.03	56
70% Sulfuric Acid	82	0.22	83	0.11	82	0.15	81	0.21	81	0.16	81	-0.16	81
98% Sulfuric Acid	82	-15.6	80					DESTROYED					
Deionized Water	82	0.07	82	0.31	81	0.54	82	93	82	1.65	80	2.14	80
50% Sodium Hydroxide	82	0.06	82	-0.05	82	-0.04	82	-0.03	83	-0.06	83	-0.1	63
Bleach	82	0.09	83	0.28	83	0.52	83	0.83	82	1.28	81	1.67	72

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