

## CCS™ BINDER, FLOORING - DECORATIVE

### Epoxy Binder For Decorative Aggregate Surfacing

CCS Binder, Flooring - Decorative is a two component, light colored, low viscosity, epoxy substrate primer and aggregate binder designed specifically for decorative aggregate surfacings in residential, commercial and institutional environments. Surfacing made with Flooring - Decorative are suitable for both interior and exterior applications (see below, Limitations) and are most frequently installed on patios, pool decks, walkways, stair risers, driveways and prefabricated, decorative building panels. The binder's resistance to wear and impact, environmental extremes and common chemicals make it ideally suited for a variety of decorative surfacing applications. Decorative surfacings made with Flooring - Decorative are slip resistant and readily drain away water from the surface. Used in conjunction with suitable aggregate, Flooring - Decorative is employed as a substrate primer and aggregate binder on concrete, masonry, stone, steel and wood substrates and may be used on dry and damp substrates. The product has a convenient 2:1, by volume mix ratio and low viscosity for high aggregate loading and complete wet out of aggregate particles. The components do not contain volatile solvents (VOC's).

#### Features

- Convenient 2: 1, by vol. mix ratio
- Fast cure for short downtime
- Low viscosity for high aggregate loading
- Bonds to dry and damp substrates
- Environmentally safe- No VOC solvents

**Limitations:** Minimum installation and cure temperature is 50 deg F. Exposure to ultra-violet (UV) light will result in gradual loss of gloss followed by whitening in more severe exposures (e.g., direct sunlight). Long-term maintenance of gloss and clarity is best attained by periodic application of a UV-resistant, clear topcoat. Suggested topcoats include UV-resistant acrylic or polyurethane emulsion concrete/ terrazzo sealers. Determine the suitability of any topcoat before use. Do not add solvents or otherwise thin this material.

**Packaging & Color:** Standard package sizes of Part A + Part B are 3 and 15 gallons. Color is Clear, light amber

**Shelf Life:** Three years minimum in unopened, original containers when stored between 60 and 90 deg F in a dry place away from sunlight.

**Chemical Resistance:** CCS Binder, Flooring - Decorative is resistant to most common residential, commercial and institutional chemicals. It has limited resistance to hydrocarbon solvents. To maintain uniform appearance, clean chemical spills immediately by flushing with water or by detergent washing and water rinsing. Use of chemical cleaners is generally not recommended. Chemical cleaners should be used only after determining suitability. Maintenance of mechanical properties and decorative appearance is a function of the specific chemical and concentration, ambient and solution temperatures, exposure times and housekeeping procedures. For information on specific chemicals and exposure conditions, contact a ChemCo Systems, Inc., technical representative

**Surface Preparation:** Substrate surfaces may be dry or damp (no free standing water), sound and free of all bond-inhibiting substances. Prepare surfaces in accordance with *ASTM C 811* or *ACI 503R* and ChemCo Systems' specific recommendations. Cleaned concrete surfaces should have a minimum strength of 250 psi in tension. Steel surfaces should be cleaned to "white metal" according to SSPC SP 5.

**Aggregate Selection:** Aggregate must be clean, dry and sound. Maximum decorative effects are achieved with the use of a single fraction of generally uniform size. Mixing of sizes is not recommended. The use of clear or white aggregate is usually avoided as UV light caused discoloration of the binder is more easily detected. The recommended minimum aggregate size is 1/8 x 1/16 inch (#6 x 12 mesh). Use of smaller particles produces surfacings with less distinct decorative effects.

*In pedestrian and vehicular traffic bearing applications:* rounded particles with a maximum particle size of 1/4 inch or less are preferred. When chips or angular particles are employed, the maximum particle size should be 1/ inch or less.

*Non-traffic bearing surfacings and decorative panels* - may employ larger sizes for increased visual effect. Marble chips are particularly effective in this application. Chip sizings in inches are: Venetian- 3/4 x 3/8, #2 - 3/8 x 1/4, #11/4 x 1/8 and #0- 1/8 x 1/16.

**Mixing:** CCS Binder, Flooring - Decorative is a two-component system. The resin to hardener (Part A : Part B) mix ratio is 2:1, by volume. Read all material safety data (MSDS) information before handling the product. Wear safety glasses and clean neoprene rubber gloves when handling the materials, Premix the individual components before drawing from bulk packaging. Transfer appropriate quantities of Part A and Part B into a mixing container. Use quantities that can be applied before the pot life of the mixed material expires. Blend thoroughly using a Jiffy mixer blade attached to a low speed (350 - 750 rpm) electric or pneumatic drill. Proper mixing will take 2 - 3 minutes, Transfer mixed binder to a concrete or plaster mixer. Add aggregate at a rate of approx. 180 lb of 3/8 x 1/8 inch aggregate per gallon of mixed binder. Larger aggregate will allow for a higher aggregate loading (up to approx. 220 lb); smaller aggregate will require a lower loading (down to approx. 150 lb). Binder amounts must be sufficient to thoroughly coat each aggregate particle with a slight excess to assure bond between the particles and to the primed substrate Mix for an additional 1 - 2 minutes after addition of all the aggregate.

TYPICAL PROPERTIES <sup>(1)</sup>

Property <sup>(2)</sup>	Test Method	Value
Mix Ratio, A:B, by vol by wt		2: 1 100: 42
Color: Part A Part B Mixed	VISUAL	Clear, light amber Clear amber Clear, light amber
Weight per Gallon, lb: Part A Part B Mixed	ASTM D 1475	9.5 7.9 8.9
Viscosity, cP: Part A Part B Mixed	ASTM D 2393	1650 60 1100
Gel Time, 1 quart, minutes	ASTM D 2471	35
Tensile Strength, psi Elongation at Break, %	ASTM D 638 ASTM D 638	7000 3.0
Compressive Yield Strength, psi	ASTM D 695	9200
Flexural Strength, psi	ASTM D 790	8500
Bond Strength to ASTM D 4541 ASTM C 109 Cement Mortar, psi: Dry substrate Damp substrate		500 (3) 500 (3)

(1) The properties listed are typical and descriptive of the product and should not be used for specification purposes. For specification preparation, reference the ChemCo Systems, Inc., product guideline specification.

(2) Cure schedule, 7 days at 73 ± 4 F and test temperature, 73 ± 4 F.

(3) Compressive strength of cement mortar, >4500 psi.

**Installing:** Most applications require prime coating the substrate with neat binder at a thickness is 8 - 10 mils (160 - 200 sq ft/gal). Primer quantities will vary according to the substrate profile and the applied primer thickness. Apply the prime coat with a brush, roller or squeegee. Apply the binder + aggregate mix before the primer begins to cure. Dump the mix onto the primed substrate, screed or rake level and finish with a clean trowel or float. At a cure temperature of 73 deg F, the surfacing may be opened to light foot traffic after 48 hours cure time; 7 days cure time recommended before exposure to heavy foot or light vehicular traffic. In most cases, a UV-resistant topcoat may be applied after 48 hours of cure time. For additional installation information, see *ACI 503R, Chapter 7, "Applying Epoxy Compounds."* For specific recommendations and installation procedures, contact ChemCo Systems, Inc.

**Clean up:** Excess mixed product is best removed from the work area and tools before it hardens. Use of rags and solvents such as acetone or heavy-duty detergents facilitate cleaning. Cured product may be removed from tools by soaking in an epoxy stripper.

**Handling and Toxicity:** This bulletin does not accompany the product when sold. For hazard warnings, safe handling and first aid instructions, READ CAREFULLY THE MATERIAL SAFETY DATA SHEETS AND CONTAINER WARNING LABELS.

**Part A:** Liquid epoxy resin, HMIS Health Hazard Rating- 2 (Moderate Hazard). Warning! Causes eye and skin irritation. May cause allergic skin reaction. Harmful if swallowed. Avoid contact with eyes, skin and clothing. Wash thoroughly after handling. Avoid prolonged or repeated contact with skin.

**Part B:** Liquid epoxy hardener, HMIS Health Hazard Rating- 2 (Moderate Hazard). Contains alkaline amines. Warning! Causes eye and skin irritation. May cause allergic skin and respiratory reaction. Combustible, corrosive. Do not get in eyes or skin or on clothing. Avoid breathing vapor. Keep container closed. Use only with adequate ventilation. Wash thoroughly after handling. Keep away from heat and open flame.

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