

CCS™ BINDER, FLOORING-INDUSTRIAL

Epoxy Binder For Industrial And Institutional Floor Surfacing

CCS Binder, Flooring -Industrial is a two - component, low viscosity, chemical and wear resistant, epoxy binder for industrial and institutional monolithic floor surfacings. Used in conjunction with suitable aggregate, Flooring Industrial is employed as a substrate primer and aggregate binder in multi layer broadcast, self leveling, slurry and trowel compacted systems. The product is designed for chemical exposure applications requiring surfacings resistant to common industrial and institutional chemicals as well as general service applications requiring impact and abrasion resistance, filling of shallow depressions, sloping to drains and repairing spalls. Surfacing made with Flooring - Industrial find use in heavy and light manufacturing, warehouse and institutional facilities, breweries, wineries, bottling plants, dairies, canneries, food processing plants, etc., providing resistance to forklift traffic and steel wheel loads, impact from dropped objects and attack from moderately corrosive chemicals. Flooring - Industrial's low viscosity, short cure cycle and tolerance of surface dampness make it ideally suited for a variety of surfacing applications. Each application may have specific installation and performance requirements. Evaluation of trial mixes particularly under low temperature, damp conditions prior to installation is recommended.

Features

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

Limitations Do not apply on wet substrates. Minimum installation and cure temperature is 50 deg F. Full cure required before exposure to harsh chemicals and abuse. Maximum thickness of approx. 1 inches per lift. Do not add solvents or otherwise thin this material.

Packaging & Colors: Standard package sizes of Part A + Part B are 3 and 15 gallons. Standard color is Clear, dark amber; custom colors available:

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- Industrial provides excellent resistance to salt and fresh water, detergent and salt solutions, alcoholic and carbonated beverages, gasoline, kerosene, crude, fuel and mineral oil, weak alkali and inorganic acids, trichlor, heavy duty brake fluid, Skydrol and many other chemicals. Exposure to organic acids (vinegar), strong acids and alkali, hot water (above 140 F), bleaches and other highly corrosive chemicals should be occasional end time limited. Resistance under these conditions should be determined by actual test before the product is applied. Flooring- Industrial has limited resistance to hydrocarbon solvents. Performance 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: Concrete surfaces may be dry or damp (dry substrates preferred) but must be sound and free of all bond-inhibiting substances. Prepare surfaces in accordance with *ASTM C 811*, "Surface Preparation of Concrete for Application of Chemical-Resistant Resin Monolithic Surfacing" or *ACI 503R*, and ChemCo Systems' specific recommendations. Cleaned concrete surfaces should have a minimum strength of 250 psi in direct tension. Steel surfaces should be cleaned to "white metal" according to SSPC SP 5.

Aggregate Selection

The preferred aggregate for most applications is high silica sand (>85% SiO₂), washed, kiln-dried, graded and bagged. The sand particles should be round to sub angular in shape.

For most multi-layer broadcast applications: A #20 x 40 or #30 x 50 mesh sand is recommended.

For thin, self-leveling surfacings: A 5:1 blend of #20 x 30 or #30x50 mesh sand and #140 or 200-mesh ground silica is recommended.

For screed-applied slurries: Use #8 x 16, #12 x 20 or #16 x3 0 mesh depending on the applied topping thickness. The recommended sand for thick, trowel-compacted patching, sloping and surfacing mixtures is a 2 :1 or 3 :1 blend of #12 or 16 mesh and #70 or 90 mesh.

For all mixtures: The maximum particle size of the aggregate employed should not exceed 1/3 of the installed surfacing thickness.

Mixing: CCS Binder, Flooring - Industrial 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. For fluid, epoxy-rich mixtures continue mixing and slowly add aggregate to the mixing vessel. Mix for an additional 1 - 2 minutes after addition of all the aggregate. For less fluid, epoxy-lean mixtures, transfer the mixed binder to a mortar or plaster mixer, add aggregate (coarse first, fine last) and mix an additional 1 - 2 minutes.

TYPICAL PROPERTIES ⁽¹⁾

Property ⁽²⁾	Test Method	Value
Mix Ratio, A:B,	by vol by wt	2: 1 100: 43
Color:	Part A Part B Mixed	VISUAL Clear amber Dark amber Dark amber
Weight per Gallon, lb:	Part A Part B Mixed	ASTM D 1475 9.5 8.5 9.2
Viscosity, cp:	Part A Part B Mixed	ASTM D 2393 400 150 320
Gel Time, 100 g, minutes	ASTM D 2471	25
Tensile Strength, psi	ASTM D 638	7000
Elongation at Break, %	ASTM D 638	3
Compressive Yield Strength, psi	ASTM D 695	11,000
Compressive Modulus, psi	ASTM D 695	250,000
Heat Deflection Temp., deg F.	ASTM D 648	105

(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 end test temperature, 73 ± 4 F.

Installing: Most applications require prime coating the substrate with neat binder at a thickness is 8 -10 mils (160 - 200 sq ft/gal). Apply the prime coat with a brush, roller or airless spray equipment. Broadcast systems and self-leveling surfacings are usually applied on partially cured (slightly tacky to tack-free) primer while slurries and trowel-compacted surfacings are usually applied on uncured (wet) primer. Avoid excessive primer coat cure time. Apply the surfacing system using conventional tools and installation techniques. Broadcast surfacings typically employ multiple layers consisting of 20 - 30 mils of binder with aggregate broadcast and optional top coat. Self-leveling surfacings (typical thickness, 1/8 inch) and slurry surfacings (typical thickness, 3/8 inch) may include a surface aggregate broadcast and topcoat. Trowel-compacted surfacings (typical thickness, 1/4 inch) usually do not require an aggregate broadcast or topcoat. 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- 3 (Serious Hazard). Contains alkaline amines. Danger! Causes severe eye and skin burns. 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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