

CCS™ COATING, HIGH CHEMICAL RESISTANCE

EPOXY COATING FOR CONCRETE EXPOSED TO STRONG INDUSTRIAL CHEMICALS

CCS Coating, High Chemical Resistance is a two-component, rigid, epoxy coating with excellent resistance to strong acids and bases, organic acids in moderate concentrations, industrial chemicals and aircraft and automotive fluids (fuels, lubricants, hydraulic fluids). When seeded or blended with aggregate, it can be used on properly prepared concrete, steel, wood stone and FRP surfaces to provide a chemical resistant surface with excellent slip/skid resistance and wear characteristics. The product has been tested by large cities for use in sewer (acid gas exposure) and wastewater treatment facilities and in secondary containment. CCS Coating, High Chemical Resistance will bond to properly prepared dry and damp substrates and cures to a tough, blush-free surface. In exterior use, the coating is freeze/thaw resistant and will not embrittle but may acquire a slight chalky surface. This product requires no primer.

FEATURES

- Convenient 2 : 1, by vol. mix ratio
- Fast cure for short downtime
- Cures to a tough, blush-free, tile-like surface
- Bonds to dry and damp substrates.
- Does not embrittle when exposed to direct sunlight
- Resistant to most strong industrial chemicals
- Resists sewer acid gases
- Environmentally safe - No VOC solvents

LIMITATIONS: Do not apply on wet substrates. Minimum installation and cure temperature is 50°F. Apply after daily substrate temperature has peaked. Concrete floors on or below grade must have a functioning vapor barrier to minimize the potential for blistering or delaminating of the applied coating (see also CCS Coating MVR). Do not add solvents thin this material.

PACKAGING & COLORS: Standard package sizes of Part A & Part B are 3 and 15 gallons. Standard color is concrete gray (beige-gray); brick red (special order).

SHELF LIFE: Three years minimum in unopened, original containers when stored between 60- 90°F in a dry place away from sunlight. Remixing of components is required after long-term storage.

CHEMICAL RESISTANCE: CCS Coating, High Chemical Resistance provides excellent resistance to water, detergent and salt solutions, alcoholic and carbonated beverages, gasoline, kerosene, crude, fuel and mineral oil, strong alkali and inorganic acids in concentrations up to 25% and to most organic acids. Exposure to organic acids, strong acids and alkali in higher concentrations, hot water (above 140°F), bleaches and other highly corrosive chemicals should be occasional and time limited. Resistance under these conditions should be determined by actual test before the product is applied. CCS Coating, High Chemical Resistance 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 (not wet) though dry substrates are preferred and must be sound and free of all bond-inhibiting substances. Prepare surfaces in accordance with ASTM D 4259 or ACI 503R and ChemCo Systems' specific recommendations. Cleaned concrete surfaces should have a minimum strength of 250 psi in direct tension according to ASTM D4541. Steel surfaces should be cleaned to "white metal" according to SSPC SP 5. Galvanized steel and aluminum are difficult substrates to coat and require special surface preparation.

MIXING: CCS Coating, High Chemical Resistance is a two-component system. The resin to hardener (Part A: Part B) mix ratio is 2 : 1, by volume. Read all safety data (SDS) information before handling the product. Wear safety glasses and rubber gloves when handling the materials. Premix the individual components before use. 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.

INSTALLING: The recommended applied thickness for floor and wall coatings is two coats minimum at 6 - 8 mils per coat. Apply in multiple thin coats rather than one thick coat using a stiff bristle brush, short nap roller, squeegee or two-component spray equipment. A minimum of 2-3 coats are required for optimum chemical resistance (see separate application specification). Subsequent coats may be applied as soon as the previous coat is "touch" dry (6 - 7 hr @ 70° F). Avoid excessive cure times between coats. The recommended applied thickness for floor surfacings is 20 - 30 mils per coat. Pour mixed material onto the substrate and spread to the desired coverage with a V-notch trowel or squeegee. Aggregate, if used, must be broadcast onto the coating within 15 minutes of application. The recommended aggregate size is #20 x 0 or #30 x 50 mesh. Typical aggregate broadcast rates are .75 - 1.50-lb/sq ft.

Approximate Yield	
Coating Thickness, mil	Square feet/gallon
15	105
20	80
25	64
30	53

TYPICAL PROPERTIES (1)

Property (2)		Test Method	Value
Mix Ratio, A:B,	by vol by wt		2: 1 100: 35
Color:	Part A Part B Mixed	VISUAL	Concrete beige-gray Clear amber Concrete beige-gray
Weight per Gallon, lb:	Part A Part B Mixed	ASTM D 1475	12.1 8.4 10.9
Viscosity, p:	Part A Part B Mixed	ASTM D 2393	115 7 35
Gel Time, 200 g, minutes		ASTM D 2471	37
Recoat Time, hours	@ 60° F @ 73° F @ 90° F	CHEMCO	8 - 72 4 - 24 2 - 10
Tensile Strength, psi		ASTM D 638	6200
Elongation at Break, %		ASTM D 638	2.0
Compressive Yield Strength, psi		ASTM D 695	12,000
Compressive Modulus, psi		ASTM D 695	430,000
Heat Deflection Temperature, °F		ASTM D G48	110
Hardness, Shore D		ASTM D 2240	85
Taber Abraser, mg loss		ASTM D 4060	120 (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 unless otherwise indicated.
- (3) CS-17 wheels, 1000 g load, 1000 cycles.

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 SAFETY DATA SHEETS AND CONTAINER WARNING LABELS. **Warning: If large quantities of mixed (A+B) epoxy are left in bulk longer than the gel time, an exothermic reaction can generate dangerous smoke and heat. Carefully add sand or dirt to dilute excess material in bulk and to decrease temperature.** For industrial use only.

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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