

CCS™ COATING, FC

EPOXY COATING FOR DIRECT FOOD CONTACT (DRY BULK AND AQUEOUS)

CCS Coating, FC is a two-component, rigid, epoxy floor and wall concrete coating with resistance to mild acids and bases, solvents, industrial chemicals and automotive fluids [fuels, lubricants, hydraulic fluids] that complies with FDA 21 CFR 175.300 for dry bulk and aqueous food contact when properly mixed and cured. When seeded or blended with aggregate, it can be used on properly prepared concrete, steel and wood surfaces to provide a pedestrian or vehicular traffic surface with excellent chemical, wear and slip/skid resistance. FC will bond to properly prepared dry, damp and wet (no free-standing water) substrates and cures to a tough, blush-free, tile-like surface. In outdoor use, the coating is freeze/thaw resistant and will not embrittle but may acquire a slight chalky surface when exposed to sunlight. No primer required.

FEATURES

- Convenient 2 : 1, by vol. mix ratio
- Compliant with FDA 21 CFR 175.300
- Cures to a tough, blush-free, tile-like surface
- Bonds to dry, damp and wet substrates
- Does not embrittle when exposed to direct sunlight
- Resistant to most common industrial chemicals
- Environmentally safe - 0 VOC solvents

LIMITATIONS: The recommended minimum substrate temperature during installation is 50°F. Apply after the daily substrate temperature has peaked. (Slab on grade floors should be investigated prior to coating for excessive moisture vapor transmission (see also ChemCo's MVR Coating)). Substrates on or below grade must have a functioning vapor barrier to minimize the potential for blistering or delaminating of the applied coating. Do not add solvents.

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 may be required upon long-term storage.

CHEMICAL RESISTANCE: CCS Coating, FC 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, and many other chemicals. Exposure to organic acids (vinegar), strong acids end alkali, hot water (above 180°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. FC 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 end exposure conditions, contact ChemCo Systems, Inc.

SURFACE PREPARATION: Concrete surfaces may be dry, damp or wet (no free-standing water). Dry substrates are strongly 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 (see separate application specification). 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. Galvanized steel and aluminum are difficult substrates to coat and require special surface preparation.

MIXING: CCS Coating, FC 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. Mix 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 10 mils per coat. For optimum chemical resistance, 3 coats of 10 mils each is recommended. Apply in multiple thin coats rather than one thick coat using a stiff bristle brush, short nap roller, squeegee or two-component spray equipment. Subsequent coats may be applied as soon as the previous coat is touch-dry (7-9 hr @ 70° F). Avoid excessive cure times between coats. The recommended applied thickness for floor surfacings is single or multiple coats at 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 #20x40 or #30x50 mesh. Use only kiln-dried aggregates in bags. Typical aggregate broadcast rates are .75 - 1.50 -lb/sq ft.

Coating Thickness, mil	Approximate Yield	
	Square feet/gallon	
6	267	
10	160	
20	80	
25	64	
30	53	
40	40	

PACKAGING & COLORS: Standard package sizes of Part A & Part B are 3 and 15 gallons. Standard color is Concrete gray (blue-gray). Other custom colors may be available.

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.

TYPICAL PROPERTIES (1)

Property (2)	Test Method	Value
Mix Ratio, A:B,	by vol by wt	2: 1 100: 36
Color:	Part A Part B Mixed	VISUAL White Black Gray
Weight per Gallon, lb:	Part A Part B Mixed	ASTM D 1475 12.1 8.0 10.7
Viscosity, cP:	Part A Part B Mixed	ASTM D 2393 2280 275 1600
Gel Time, 200 gm, minutes		ASTM D 2471 120
Thin Film Set Time, hours		ASTM D 1640 4.5
Recoat Time, hours:	@ 60° F @ 73° F @ 90° F	CHEMCO 8-72 4-36 2-18
Tensile Strength, psi		ASTM D 638 6000
Elongation at Break, %		ASTM D 638 5
Compressive Yield Strength, psi		ASTM D 695 10000
Compressive Modulus, psi		ASTM D 695 350,000
Heat Deflection Temp, deg F		ASTM D 648 120
Hardness, Shore D		ASTM D 2240 83
Taber Abraser, mg loss		ASTM D 4060 91 (2)

(1) Cure schedule, 7 days at 73° ± 4° F and test temperature, 73° ± 4° F unless otherwise indicated.

(2) CS-17 wheels, 1000 g load, 1000 cycles.

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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