

CCS™ COATING, FC

Epoxy Coating For Direct Food Contact (Dry bulk and aqueous)

CCS Coating, FC is a two - component, rigid, hi-build epoxy floor and wall coating with excellent 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 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 is required.

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, damp and wet (no free standing water) substrates

Does not embrittle when exposed to direct sunlight

Resistant to most common industrial chemicals

Environmentally safe - No VOC solvents

Limitations: The recommended minimum substrate temperature during installation is 50°F. Apply after the daily substrate temperature has peaked. 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 or otherwise thin this material.

Shelf Life: Three years minimum in unopened, original containers when stored between 60 and 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, trichlor, heavy duty brake fluid, Skydrol 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 a ChemCo Systems, Inc., technical representative.

Surface Preparation: Concrete surfaces may be dry, damp or wet (no free standing water) 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. 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 material safety data (MSDS) information before handling the product. Wear safety glasses and clean 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 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. Typical aggregate broadcast rates are .75 - 1.50 -lb/sq ft.

Approximate Yield	
Coating Thickness, mil	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).

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		2:1
	by wt		100:36
Color:	Part A	VISUAL	White
	Part B		Black
	Mixed		Gray
Weight per Gallon, lb:	Part A	ASTM D 1475	12.1
	Part B		8.0
	Mixed		10.7
Viscosity, cP:	Part A	ASTM D 2393	2280
	Part B		275
	Mixed		1600
Gel Time, 100 gm, minutes		ASTM D 2471	120
Thin Film Set Time, hours		ASTM D 1640	4.5
Recoat Time, hours:	@ 60° F	CHEMCO	8-72
	@ 73° F		4-36
	@ 90° F		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 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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