



# ChemCo Systems

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## CCS™ COATING, AC-1 FOR CONCRETE

### Chemical Resistant Epoxy Coating For Concrete

CCS Coating, AC - 1 For Concrete is a two-component, semi-flexible, epoxy coating with excellent resistance to aircraft and automotive chemicals including jet fuel, gasoline, hydraulic fluids (e.g., Skydrol, brake fluid), anti-freeze and battery acid. When seeded or blended with aggregate, it can be used on properly prepared concrete and steel substrates to provide a traffic surface with excellent skid resistance and wear characteristics. Protecting substrates from chemical exposure requires the application of two coats to a total film thickness of 40 mils minimum. AC - 1 is ideally suited for use in service areas of aircraft parking aprons, around gasoline pumps in filling stations, on ramps, walkways, loading bays and concrete industrial floors. The product is available in two colors - concrete gray (blue/gray) and black.

#### Features

- Convenient 1:1, by vol. mix ratio
- Fast cure for short downtime
- Low self-leveling viscosity without volatile solvents
- Does not embrittle when exposed to direct sunlight
- Resists auto and aircraft chemicals
- Environmentally safe-No VOC solvents

**Limitations:** Substrates must be dry. Minimum installation and cure temperature is 50 deg F. Cured material has limited crack-bridging capabilities. Apply after daily substrate temperature has peaked. Before applying, make sure the pavement is not subject to hydrostatic pressure that can cause blistering or delaminating of the coating. Environmental exposure may cause color changes- black becoming lighter, gray turning sand color. Do not add solvents or otherwise thin this material.

Approximate Yield	
Coating Thickness, mil	Square feet/gallon
15	105
20	80
25	64
30	53
40	40

**Packaging & Colors:** Standard package sizes of Part A + Part B are 2, 10 and 100 gallons. Standard color is Concrete gray (blue-gray) and black; 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. Remixing of components may be required upon long-term storage.

**Chemical Resistance:** Resistant to a wide range of commonly used aircraft and automotive chemicals including jet fuels, gasoline, hydraulic fluids, anti-freeze and battery acid. Ongoing exposure to gasohol and heavy-duty brake fluid (polyether glycol based lubricants) is not recommended. 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 must be dry, sound and free of all bond-inhibiting substances. Prepare surfaces in accordance with *ASTM D 4259 "Standard Practice for Abrading Concrete,"* or *ACI 503R "Preparing Surfaces for Epoxy Compound Application,"* 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.

**Mixing:** AC-1 For Concrete is a two-component system. The resin to hardener (Part A: Part B) mix ratio is 1 : 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.

**Installing:** Protecting concrete and steel substrate from intrusion of chemicals requires the application of two coats minimum. Pour mixed material onto the substrate and spread to a coverage of 105 sq ft/gal (15 mils) with a 3/8" nap paint roller or squeegee. Allow the coating to become tacky to tack-free (4 - 7 hr @ 70 deg F) before applying the second coat. Apply the second coat and spread to a coverage of 64 sq ft/gal (2.5 mils) with a V-notch trowel or squeegee. Allow the material to level and back-roll with a 3/8" nap paint roller. Avoid excessive cure times between coats. Aggregate, if used, is broadcast onto the second coat of AC-1 For Concrete. The recommended aggregate size is #20 x 40 or #30 x 50 mesh. Typical aggregate broadcast rates are 0.75 -1.50 lb/sq ft. Broadcast aggregate within 15 minutes of applying the second coat. Allow overnight cure (12 - 16 hours) before opening to traffic. At pavement temperatures below 60 deg F, heavy traffic use should be limited for another 8 hours. For most applications, cure sufficient for traffic exposure has been obtained when the binder resists indentation by a thumb nail and aggregate cannot be dislodged with thumb pressure.

**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 <sup>(1)</sup>

Property <sup>(2)</sup>	Test Method	Value
Mix Ratio, A:B,	by vol	1: 1
	by wt	100: 94
Color:	Part A	Opaque amber
	Part B	Concrete blue-gray or black
	Mixed	Concrete blue-gray or black
Weight per Gallon, lb:	Part A	9.3
	Part B	8.8
	Mixed	9.1
Viscosity, cp:	Part A	1000
	Part B	2500
	Mixed	1600
Gel Time, 200 g, minutes	ASTM D 2471	30
Tensile Strength, psi	ASTM D 638	2000
Elongation at Break, %	ASTM D 638	40
Taber Abraser, mg loss	ASTM D 4060	168 (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) 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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