

## CCS™ COATING

# HIGH BUILD MARINE STRUCTURES

### Epoxy Coating For Concrete And Steel Marine Applications

CCS Coating, High Build Marine Structures is a two component, solvent free, epoxy resin coating designed for single coat application on concrete, steel and wood marine structure surfaces. It may be applied above and below the waterline in both salt and fresh water environments. Typical applications include coating of concrete piers, seawalls, dock floors, drainage ditches, abutments, sewer and outfall pipes; protection of steel structure surfaces such as pilings, drilling rigs, production platforms, ship hulls, buoys, well jackets and bulkheads; and protective coating of wooden structures such as pilings, piers, shelters and power poles. CCS Coating, High Build Marine Structures bonds to properly prepared dry, damp, wet and submerged substrates and cures to a tough, water resistant, impervious protective surface. The coating is freeze/thaw resistant and will not embrittle but will acquire a chalky surface when exposed to sunlight. The product is Kevlar® reinforced for extra toughness and high wear applications.

#### Features

- Convenient 2 : 1, by vol. mix ratio
- High build viscosity for single coat application
- Bonds to dry, damp, wet and submerged substrates
- For use in both salt and fresh water environments
- Cures to a tough, water resistant, impervious surface
- Does not embrittle when exposed to direct sunlight
- Environmentally safe - No VOC solvents

**Limitations:** The recommended minimum substrate temperature during installation and cure is 50 °F. In underwater and tidal zone applications, the coating may have to be applied within a relatively short period of time (30 minutes to several hours) after the substrate was cleaned to achieve an adequate bond. Wave action may displace the coating if exposure occurs before the coating has reached hard set. Do not add solvents or otherwise thin this material.

<i>Approximate Yield</i>	
<u>Coating Thickness, mil</u>	<u>Square feet/gallon</u>
6	267
15	105
20	80
25	64
30	53

**Packaging & Colors:** Package sizes of Part A + Part B are 3 and 15 gallons. Color is off-white; custom colors available

**Chemical Resistance:** High Build Marine Structures provides excellent resistance to salt and fresh water, salt solutions, gasoline, kerosene, crude, fuel and mineral oil, most industrial waste solutions and many other chemicals. It has limited resistance to hydrocarbon solvents. Performance is a function of the specific chemical and concentration, ambient and solution temperature, exposure time and housekeeping procedures. For information on specific chemicals and exposure conditions, contact a ChemCo Systems, Inc., technical representative.

**Surface Preparation:** Substrate surfaces may be dry, damp, wet or submerged. Wet or dry sandblast to remove all loose and deteriorated substrate material, other surface contaminants such as tars, oils, paints, waterproofing materials, rust, barnacles, etc., that may interfere with the formation of a good bond. Cleaned concrete surfaces should have a minimum strength of 200 psi in direct tension. Steel surfaces should be cleaned to "white metal" according to SSPC SP 5.

**Mixing:** High Build Marine Structures 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 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. **Do not mix the material underwater.**

**Installing:** Above the waterline: Use normal techniques applicable to viscous coating materials. Apply the material after the daily substrate temperature cycle has reached its peak. When the substrate is wet, use sufficient brush pressure to displace the water with the coating. Below the waterline: Apply with a brush using slow, deliberate motion and sufficient pressure to displace the water with the coating.

**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.

**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		2: 1
	by wt		100: 24
Color:	Part A	VISUAL	Off-white
	Part R		Clear amber
	Mixed		Off-white
Weight per Gallon, lb:	Part A	ASTM D 1475	17.1
	Part B		8.3
	Mixed		14.2
Viscosity, poise:	Part A	ASTM D 2393	880
	Part B		70
	Mixed		625
Gel Time, 200 g, minutes		ASTM D 2471	25
Cure Time @ 68° F:	soft gel, hours	CHEMCO	2.5
	hard gel, hours		3.0
	full cure, days		3
Bond Strength To Immersed ASTM C 109 Cement Mortar, psi (3)		ASTM D 4541	>200 (4)

- (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) Test specimens conditioned, prepared and cured underwater (salt and fresh) at 68° ± 4 F.
- (4) Compressive strength of cement mortar, 4500 psi.

**Handling and Toxicity:** This bulletin does not accompany the product when sold. For hazard warnings, safe handling end first aid instructions. CAREFULLY READ 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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