

## CCS™ COATING, EPOXY HEALER-SEALER

### ULTRA-LOW VISCOSITY EPOXY PENETRANT FOR TOPICAL CONCRETE APPLICATIONS

CCS Coating, Epoxy Healer-Sealer (EHS) is a very low viscosity, solvent free, two-component epoxy resin system for topical application on porous and/or cracked concrete to restore structural monolithic integrity, protect internal steel from corrosion and reduce further spalling. After mixing, Epoxy Healer - Sealer is polymerized to a high strength hydrophobic polymer, resistant to water, deicing solutions and automotive fluids. Typical applications include gravity filling of free cracks, reconsolidating distressed areas and strengthening of weak and porous surface layers. Epoxy Healer-Sealer has been successfully used on many concrete bridge and parking deck applications. The product may also be used as primer in flooring and deck coating applications and is particularly effective in cracked and distressed areas. Epoxy Healer-Sealer has been used to seal decorator concrete countertops by professional shops. Test results show that Epoxy Healer-Sealer can penetrate fine cracks as narrow as 2 mils to 4 inches depth by a combination of gravity flow and capillary action. The low odor, low volatility and high flash point minimize job site risks and make possible application in congested urban areas and interior uses.

#### FEATURES

- Ultra-Low viscosity
- Enhanced with surface-active additives to lower surface tension and achieve deep penetration
- Fast cure minimizes downtime and traffic disruption
- Low odor and low volatility
- Bonds to previous cured coats (bonds to itself)
- Resistant to water, salts and automotive chemicals
- 0 VOC solvents

**LIMITATIONS:** Concrete surfaces must be dry. Minimum installation and cure temperature is 50°F. Do not apply on concrete subject to hydrostatic pressure or at substrate temperatures above 120°F. Do not change specified proportions when blending the components of the product. The daily temperature cycle of the substrate may cause out-gassing and resist penetration of the material.

**COLOR AND PACKAGING:** Clear, light amber. Standard unit sizes are 1, 5 and 50 gallons.

**CHEMICAL RESISTANCE:** CCS Coating, Epoxy Healer-Sealer is resistant to a wide range of commonly used deicing and automotive chemicals. Limited resistance to alcohols and hydrocarbon solvents.

**SURFACE PREPARATION:** Substrate surfaces must be clean, dry, sound and free of all bond-inhibiting substances. Prepare surfaces by abrasive blast removal of asphaltic and petroleum products, concrete curing seals and other coatings followed by manual or power sweeping the entire surface to be treated. Blow loose material from visible cracks using oil free, high-pressure air blast. Exposed steel should be cleaned to "white metal" according to SSPC SP 5.

**MIXING:** CCS Coating, Epoxy Healer - Sealer is a two-component system. The resin to hardener (Part A : Part B) ratio is 4 : 1 by volume. Wear safety glasses, rubber gloves and long sleeves when handling the materials. Consult SDS for complete handling and PPE recommendations. Transfer appropriate quantities of Part A and Part B into a mixing container. Use smallest quantities feasible to maximize penetration after application before the open time (about 20 minutes at 70°F) of the mixed material expires. Blend thoroughly for approximately 1 minute using a Jiffy mixer attached to a low speed (350 to 750 rpm) electric or pneumatic drill. **Quickly pour all mixed material from bulk mix container onto substrate to avoid possible exotherm.**

**INSTALLING:** Pour the mixed material onto the substrate and distribute with a squeegee to a coverage rate of approximately 75 to 100 ft<sup>2</sup>/gal. Let the material penetrate for 10 minutes and then redistribute the excess with squeegees or a broom leaving the minimum amount of material possible on the surface. Repeat the process if the material is rapidly absorbed. Wait a minimum of 20 minutes and broadcast dry; #20 mesh blasting sand at a rate of approximately 2 lb/yd<sup>2</sup>. After hardening, remove excess sand by vacuuming or sweeping prior to opening of traffic. Do not open to traffic until the treated surface is tack-free (non-oily) and sand cover adheres sufficiently to resist brushing by hand. See separate ChemCo installation specification for additional details.

**CLEAN UP:** All tools and equipment must be cleaned before the mixed material cures. Cleaning can be facilitated with a solvent such as acetone or heavy-duty detergents. Cured material may be removed from equipment and tools by soaking in an epoxy stripper.

**SHELF LIFE:** 36 months minimum in unopened, original containers when stored between 40-90° F and away from direct sunlight.

## Typical Properties <sup>(1)</sup>

Property <sup>(2)</sup>	Test Method	Value
Mix ratio, A:B,	by volume	4: 1
	by weight	100: 23.4
Color:	Part A	Clear
	Part B	Lt. Amber
	Mixed	Clear
Weight/gal, lb:	Part A	9.5
	Part B	8.7
	Mixed	9.4
Viscosity, cP:	Part A	93
	Part B	11
	Mixed	75
Flash Point, deg. F	ChemCo	>180
Gel Time, 60 g, minutes	ASTM C 881	13
Tack - Free Time, min.	ChemCo	<400
Thin Film Set (50 mil, touch dry), hr	ChemCo	5.5
Water Absorption, 1 Day, %w	ASTM D 570	0.19
Tensile Strength, psi	ASTM D 638	7,800
Elongation at Break, %		4.5
Compressive Yield, psi	ASTM D 695	14,990
Hardness Development, Shore D,	ASTM D 2240	74/63 (1)
Initial Reading / after 10 Seconds, (Cure, Days)		80/76 (2)
		83/78 (3)
Bond Strength to ASTM C 109 Cement Mortar (dry), psi	ASTM D 4541	500 (2)
SSD Bond Strength, 24 hr, psi	CA Test 551	860 (PCC Failure)
(1) Cure schedule: 7 days @ 73° ± 4 F. Test temperature, 73° ± 4 F.		
(2) Compressive strength of cement mortar, 4500 psi		

**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. FOR INDUSTRIAL USE ONLY. **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.**

**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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