

Helix Epoxy Bonder

Technical Data Sheet



Helix Color Systems are a premier line of specialty decorative concrete admixtures manufactured by ChemSystems Inc. Helix Color Systems is manufactured for the discriminating installer or designer who values service and quality. Specializing in custom colors, specialty products, and superior service, Helix Color Systems offers an innovative alternative in the decorative concrete industry.

Description

Helix Epoxy Bonder is a two component water based epoxy primer and moisture barrier. It is an excellent adhesion promoter between Helix cement-based overlay toppings and hard surface substrates. Helix Epoxy Bonder forms an impermeable membrane that acts as a moisture barrier and provides crack suppression properties. It is a slow cure product (24 hours) and is designed to be surface seeded with 90 mesh sand for optimum adhesion properties with any cement based overlay.

Product Benefits

- Helix Epoxy Bonder is an excellent adhesion promoter for all interior and exterior overlay and opaque coating applications.
- Helix Epoxy Bonder provides a barrier for moisture vapor transmission (MVT).
- Helix Epoxy Bonder provides crack suppression properties for minor surface cracking of less than 1/16"
- Helix Epoxy Bonder has excellent adhesion and flexibility.
- Helix Epoxy Bonder has a long pot life and open time (minimum 4 hours) to allow for direct application of overlays or polymer coatings.
- Helix Epoxy Bonder is a water-based formulation, with low odor, water cleanup, and is VOC compliant in all 50 states.
- Helix Epoxy Bonder has a mix ratio of 1:1, and can be diluted with water to reduce solids.

Pre-Application

1. Surface preparation: When using Helix Epoxy Bonder, the surface must be structurally sound and clean—free of dirt, grime and other foreign substances like oils, silicones, all other waterproofing materials, form release agents, curing and parting compounds, and any sign of efflorescence. Surface also must be completely dry before application. If your surface is not clean or completely dry, the sealer may turn white or hazy, or the primer may fail to form a proper film and adhesion.
2. Mixing ratios, surface moisture, application method, and temperature at time of application play a large role in the integrity and long-term durability of this primer. We strongly recommend sampling and testing this material prior to large-scale application.
3. If aggressive moisture movement on interior concrete is suspected, exact moisture movement levels can be measured using a moisture test kit in accordance with ASTM D4263 standards, following the manufacturer's instructions. Moisture measurements of six to eight pounds and below are acceptable. If measurements fall outside of this range, Epoxy Bonder SD should not be applied.
4. Hard troweled burnished concrete must be chemically or mechanically prepared to promote proper adhesion. Extremely dense or burnished surfaces should be slightly abraded to better accept Helix Epoxy Bonder.
5. ChemSystems, Inc. utilizes the International Concrete Repair Institute (ICRI) Concrete Surface Profile (CSP) standards for specifying finished

surface roughness prior to applying Helix Epoxy Bonder. For proper adhesion, the concrete must be a minimum #1 according to the ICRI CSP chart. Contact the ICRI at www.ICRI.org or ChemSystems, Inc. for more information on these surface profiles.

6. Helix PolySeal WB should only be applied to substrates above 50 °F and below 90 °F.

Application

Helix Epoxy Bonder should be applied only after concrete has fully cured, approximately 28 days.

Warning! Do not apply Helix Epoxy Bonder to fresh concrete.

1. Helix Epoxy Bonder is not recommended for application over surfaces previously painted or sealed with other sealers.
2. Before applying product, test Helix Epoxy Bonder in an inconspicuous area for desired results. For application questions, contact ChemSystems, Inc.
3. The following mixing instructions for Epoxy Bonder must be strictly adhered to. Epoxy Bonder has a mix ratio of 1 part A to 1 part B. Add Part B (cure) to Part A (resin) in an open container. Mix well. Helix Epoxy Bonder will initially turn slightly opaque when mixed, but will dry clear. Before Helix Epoxy Bonder dries, clean equipment with water.
4. Helix Epoxy Bonder is best applied with a high-quality, 1/4-inch short nap roller.
5. Helix Epoxy Bonder, should not be applied at film thicknesses greater than 10 mils wet per coat. Roll out the primer so it soaks into the surface.
6. If applying to extremely porous surface (like bead-blasted concrete), test a small amount of the primer in an inconspicuous area to determine number of coats required for adequate coverage. Porous surfaces may require two coats.
7. Cement-based top coats and overlays can be applied when Helix Epoxy Bonder is tacky.
8. If broadcasting sand, use coarse grit and broadcast to rejection within 1 hour of primer application. Let the primer cure for 24 hours, then remove excess loose sand.

Limitations and Precautions

- Do not apply Helix Epoxy Bonder if the surface or ambient temperature is below 45 °F, above 95 °F, or if the temperature is expected to fall below freezing (32 °F) within the 24-hour curing cycle.
- Failure to remove dirt and debris from the surface or failure to properly clean the surface before application will result in poor adhesion.
- DO NOT mix more sealer than can be used in a 4-hour period. Pot life is 4 hours.
- Do not over apply Helix Epoxy Bonder
- Not recommended for use as a primer for clear coatings.
- **CAUTION:** Do not seal container after mixing parts A & B.

Shelf Life and Storage

Helix Epoxy Bonder has a shelf life of one year. Store product indoors, away from heat or direct sunlight. Do not allow product to freeze.

Coverage Rate and Drying Times

Coverage rates may vary depending on the texture, porosity and condition of the concrete, application method, and other local conditions.

- *Smooth Finish*: Material usage is 350-400 square feet per gallon/coat.
- *Rough or Broom Finish*: Material usage is 250-300 square feet per gallon/coat.

Drying times below will vary depending on surface porosity, temperature, humidity and local conditions.

- *Recoat*: Surface can be recoated within 24 hours of first coat.

Package Sizes

Helix Epoxy Bonder is available in quart, 2 gallon and 10 gallon kits.

Applicable Standards

Helix Epoxy Bonder complies with the following regulations and requirements:

- ASTM D523 for gloss = 9
- Helix Epoxy Bonder conforms to all California air quality requirements

Technical Data

Please refer to the corresponding-color MSDS for hazard-related information.

Color..... Amber Liquid,
Odor..... Mild
Solids Content (by wt.)..... 75%.
Density approx. 9 pounds per gallon when mixed
Flash Point.....200 °F (93.3 °C)
Water Resistance..... Excellent
Chemical Resistance..... Excellent

Property Comparison

Pendulum Hardness Development @23 °C/50% RH

1 Day37.3 Seconds
5 Day173.1 Seconds
7 Day183.9 Seconds

Approx. Pot life at 23 °C.... 4 hrs.

Approx. Dry Time.....12 hrs @23 °C/50% RH

Chemical Resistance.... ..Excellent

VOC, g/L.....250

Product Handling

For complete instructions on handling and use, consult the corresponding Material Safety Data Sheet before using product.

Warranty

Helix Epoxy Bonder a proprietary product, is warranted to be of uniform quality within manufacturing tolerances. Since control is not exercised over its use, no warranty, expressed or implied, is made as to the effects of such use. Seller's and manufacturer's obligation under this warranty shall be limited to refunding the purchase price of that portion of the material proven to be defective. The user assumes all other risks and liabilities resulting from use of this product. If you have any questions, please contact ChemSystems, Inc.



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*For complete information on all CSI products—including product information catalogs, product brochures, color charts, technical specifications, sales aids and more—contact ChemSystems, Inc.

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