

Helix ReStore Concrete Stain

Technical Data Sheet



Helix Color Systems is 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 ReStore Concrete Stain is a non-hazardous, ultra-low VOC water-based penetrating concrete stain free of acid or acrylic. These products make it easy to rejuvenate colored surfaces or plain gray concrete by minimizing discolorations without altering surface texture.

Helix ReStore Concrete Stain consists of two products:

- Helix ReStore Solid Color Stain is a polymer-modified, water-based, high-quality solid color concrete stain that penetrates the surface of concrete, forming an opaque, breathable finish that does not require a sealer.
- Helix ReStore Translucent Stain is used over Helix ReStore Solid Color Stain in a contrasting color to produce an antiquing effect.

Product Benefits

- Helix ReStore Concrete Stain products are made especially for use with existing, unsealed, interior or exterior, concrete and other cementitious surfaces, and are ideal for use with overlays.
- Applications include, patios, theme parks, resorts, city buildings, pool decks and driveways.
- Standard colors for Helix ReStore Solid Color Stain, Helix ReStore Translucent Stain can be chosen from the CSI Color Selection Color Chart. All products can be special ordered in any standard CSI product color.
- Helix ReStore Concrete Stain products can be used to create specialty decorative designs with stencils. Note: Helix ReStore Concrete Stain products must be applied in very light applications with an appropriate hand brush to avoid bleeding under the stencil.

Pre-Application

1. ChemSystems, Inc. utilizes the International Concrete Repair Institute (ICRI) Concrete Surface Profile (CSP) standards for specifying finished surface roughness prior to applying Helix ReStore Concrete Stain. 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.
2. Helix ReStore Solid Color Stain should be applied to concrete that has fully cured. For optimum results, allow concrete to cure a minimum of 28 days prior to application. If stains are applied to concrete that has not fully cured, undesirable results may occur. New overlays must cure a minimum of 24 hours.
3. Mask off any wall lines and adjacent areas where staining is not desired.
4. Concrete temperature should range from 50-95 °F (10-35 °C). In cold temperature applications, the surface will need to be above 50 degrees and rising for a minimum of 3 days.
5. Concrete surface should be dry with all standing water removed prior to installation.
6. Surface must be completely free of sealers, oils, dirt, paint, alkali, penetrating sealers, curing compounds or any foreign materials that will prevent the stain from penetrating. If in doubt, test the surface by sprinkling with water. If water beads up on the surface, additional cleaning and testing must be done. Do not use when hydrostatic pressure is excessive.
7. Pressure washing will be necessary to ensure that the concrete surface is porous enough to achieve sufficient penetration. This rule also applies to newly cured concrete. Hot pressure washing should be done when oil or grease is present or cold pressure washing with a cleaner is acceptable. Pressure washing equipment should be of adequate size and power to sustain 3,000 psi at 4-gallons per minute. Use a 15- or 25-degree fan tip. Do not use a jet stream (0-degree) tip. Keep the wand straight up and down while cleaning. Maintain a consistent distance from the concrete with the nozzle tip while covering the entire area with smooth, even strokes. Overlap each row, slowing down over areas with oil, paint or other undesirable materials to ensure thorough cleaning. Never bear down on the concrete.
8. For an even deeper penetration “hot water” pressure washing is recommended in conditions where extreme pedestrian or vehicular traffic is present. This will help prolong the life of the stain.
9. For extremely dense or burnished surfaces, you may chemically open the floor up using dilute acid or mechanically open the floor by using a floor machine with a 40 to 100 grit sanding screen.
10. If surface is prepared by acid washing, it must be flushed with clean water and neutralized with CSI Neutralizer/Degreaser*. Repeat rinsing and neutralizing as needed. Acid residue on the surface can prevent bonding.

Helix ReStore Solid Color Stain

Mixing Instructions

1. Begin mixing Helix ReStore Solid Color Stain Kit by emptying the entire contents of both Bottle 1 and Bottle 2 into a clean bucket (5-gallons or larger for full size kit, 2 gallons or larger for small size kit). 10 gallon or bigger for 1 gallon kits, and a 55 gallon drum is required for a 5 gallon kit. Note - for 1 and 5 gallon kits, specialized large scale mixing equipment is required - consult your local CSI sales representative for details.
2. Mix thoroughly with a paint mixer on a slow speed hand held drill for 2-3 minutes.
3. Empty the contents of Bottle 3 in the same bucket.
4. Fill Bottle 3 with clean water to the shoulder of the bottle and screw the cap back on.
5. Shake Bottle 3 for 30 seconds to fully mix any remaining color. Once mixed pour the contents into the bucket.
6. Complete steps 4 and 5 three more times. The bucket will contain Bottle 1, Bottle 2, Bottle 3 and a total of 4 parts water.
7. Mix contents thoroughly with a paint mixer on slow speed hand held drill for 1 minute or until the pigment is fully mixed.

Application Instructions

1. Always complete a jobsite sample.
 2. Keep product agitated and mixed thoroughly throughout application.
 3. Begin by applying the stain in a figure-eight motion, using a tufted end soft bristle nylon brush, manufactured by Magnolia Brush Corporation. Pigments must remain suspended throughout application; every time the applicator brush is placed in the bucket; submerge applicator head completely into bucket and move in a circular motion. Do not apply pressure; allow the applicator brush to naturally spread the product. Apply stain evenly, leaving no puddles. Back-brush or re-broom stain over the entire area until color is uniform and stain is almost dry. Pay close attention to joints and corners, as they will dry a slightly different color if not brushed again. Re-broom over footprints or areas of poor coverage.
- Note:** It is not necessary to maintain a wet edge for Helix ReStore Solid Color Stain.
4. Optional: Let each application dry thoroughly prior to an application of Helix ReStore Translucent Stain.

Helix ReStore Translucent Stain

Mixing Instructions

1. Begin mixing Helix ReStore Translucent Stain Kit by emptying the entire contents of both Bottle 1 and Bottle 2 into a clean bucket (5-gallons or larger for full size kit, 2 gallons or larger for small size kit).
2. Mix thoroughly with a paint mixer on a slow speed hand held drill for 3 minutes.
3. Empty the contents of Bottle 3 in the same bucket.
4. Fill Bottle 3 with clean water to the shoulder of the bottle and screw the cap back on.
5. Shake Bottle 3 for 30 seconds to fully mix any remaining color and pour the contents into the bucket.
6. Complete steps 4 and 5 two more times so the bucket contains Bottle 1, Bottle 2, Bottle 3 and a total of 3 parts water.
7. Mix thoroughly with a paint mixer on a slow speed hand held drill for 30 seconds or until the pigment is fully mixed.

Application over Helix ReStore Solid Color Stain

1. Keep product agitated and mixed thoroughly throughout application.
2. Apply Helix ReStore Translucent Stain evenly onto surface with Helix ReStore Concrete Stain applicator brush or garden sprayer (do not use a roller). Back-brushing or re-brooming is optional depending on desired results. The amount of material applied will determine the intensity of the color.
3. Maintain a wet edge to avoid overlap marks.
4. To achieve an “antiquing” effect, allow the material to puddle and dry in recessed areas.
5. Use a 3-inch paint brush for corners and edges.
6. Immediately remove excessive spots and drips with a damp rag.

Application to Uncolored Concrete

1. To tint uncolored concrete with Helix ReStore Translucent Stain, the concrete surface should be even in color. If existing concrete color is acceptable, prime the surface with Helix ReStore Primer prior to solitary application of Helix ReStore Translucent Stain.

Note: If the concrete is not even in color or a desired color, it will be necessary to apply Helix ReStore Solid Color Stain as a base color.

2. A variety of faux finishes can be achieved by blending and layering different colors of Helix ReStore Translucent Stain. Applicators such as, but not limited to, sponges, rags and hand sprayers can produce multiple effects. Any modifications to the product or application procedure or applied combinations of Helix ReStore Translucent Stain are done at applicator's risk.

Surface Protection and Maintenance

- Regular cleaning with a neutral pH floor cleaner is recommended. The application surface should be inspected periodically for thin or traffic-worn areas. Reapply product as needed with a maintenance application.

- Sealers ensure long-lasting protection of stained surfaces. If sealing is desired we recommend using a CSI approved sealer system. ChemSystems, Inc. offers a full range of high-end sealer systems for stained surfaces. These systems consist of two coats of a durable base coat sealer, followed by three coats of a special high-solids top coat maintenance sealer.

Important Note: If sealers are used, it will prevent any future maintenance coats of Helix ReStore Concrete Stain. Sealers must be removed for future stain applications with an appropriate seal stripping agent. Contact ChemSystems, Inc. for more information on these products.

Limitations and Precautions

- Inconsistencies in jobsite conditions, mixing and application methods, finishing techniques, curing methods or other local conditions may produce variations in the final appearance of the finished product.

- Helix ReStore Concrete Stain is not recommended for pre-sealed or dense surfaces, including glazed tile, marble or granite, dense brick, dense slate, or terrazzo.

- Helix ReStore Concrete Stain products should be applied to concrete that has fully cured. For optimum results, allow concrete to cure a minimum of 28 days prior to application.

- Some Helix ReStore Solid Color Stain colors may require more than the average two applications to achieve desired opacity.

- Helix ReStore Translucent Stain cannot be used to create solid color.

- Helix ReStore Solid Color Stain colors should not be combined to try and create another desired color.

- These products have minimal effect on concrete texture and will not repair cracks or patches, or prevent any foreign material from penetrating or soiling the substrate.

- Adhesion problems will occur if used on any surface that will prevent product from penetrating the concrete, such as soiled, sealed, dusting, spalling or painted surfaces.

- Product must not be applied when temperatures are below 50 °F (10 °C) or exceed 95 °F (35 °C).

- It is strongly recommended that a tufted end, soft bristle, nylon brush from Magnolia Corporation be used for applying Helix ReStore Solid Color Stain.

- Mixed stain kits must be stirred thoroughly throughout application to keep pigments suspended and used within approximately 3 hours.

- Due to product liquidity, use extra care when applying to vertical surfaces.

Important Note on Color Limitations: For large jobs with multiple kits, it is recommended to combine all the mixed solid stain or translucent stain together prior to application.

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.

- Helix ReStore Solid Color Stain

Small Size Kit — Covers approximately 45 square feet, in two coats.

Large Size Kit — Covers 250-400 square feet, in two coats.

Extra Large Size Kit — Covers 1000 - 1500 square feet.

- Helix ReStore Translucent Stain

Small Size Kit — Covers 75-150 square feet.

Large Size Kit — Covers 300-600 square feet.

Extra Large Size Kit — Covers 1400 square feet.

Drying times will vary depending on surface temperature, air temperature, humidity, rate of re-brooming, porosity and condition of the concrete and other local conditions.

- Each additional application can be completed when the surface is dry to the touch (not tacky) and after at least 1 hour.

- Use the "wet test" to determine suitability of subsequent applications. In an inconspicuous area, place a small amount of water on the stained surface and gently rub with a clean rag. If product softens or re-emulsifies it is not ready for a subsequent application. Wait and repeat the test.

- Surface should not get wet for at least 4-6 hours following application. Surface can be walked on 2-8 hours following application, drivable 48 hours following application. For parking, 5-10 days is recommended to make sure the product has fully cured as temperature and environmental conditions can affect cure time. Surface is cleanable 1 week following application. Note: This is a general rule. In warmer temperatures, drying times could be less.

Shelf Life and Storage

Helix ReStore Concrete Stain products have a shelf life of one year. Store product indoors, away from heat, moisture and direct sunlight. Do not allow products to freeze.

Package Sizes

- Helix ReStore Solid Color Stain

Small Size Kit — Contains three 4-oz. bottles, labeled 1, 2, and 3

Large Size Kit — Contains three 32-oz. bottles, labeled 1, 2, and 3

Extra Large Size Kit — Contains three 1-gallon pails, labeled 1, 2, and 3

- Helix ReStore Translucent Stain

Small Size Kit — Contains three 4-oz. bottles, labeled 1, 2 and 3

Large Size Kit — Contains three 16-oz. bottles labeled 1, 2 and 3

Extra Large Size Kit — Contains three 1-gallon pails, labeled 1, 2, and 3

Applicable Standards

EQ Credit 4.2: Low-Emitting Materials: Paints & Coatings

SS Credit 7.1: Heat Island Effect: Non-Roof

Depending on Location:

MR Credit 5.1: Regional Materials: 10% Extracted, Processed & Manufactured Regionally 53

MR Credit 5.2: Regional Materials: 20% Extracted, Processed & Manufactured Regionally

Technical Data

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

Physical Liquid/Powder Solids percentage.....11%

Odor Milky/Slight Specific gravity.....Heavier than water

Product Handling

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

Warranty

Helix ReStore Concrete Stain, 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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V3_110616DS