

CSI CemTint

Technical Data Sheet 38.0909DS



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

CSI CemTint is a permanent, penetrating, water-based staining compound designed to provide translucent, marbled hues and tones on gray and colored substrates. The finished color can appear similar to chemically stained surfaces.

A hydrolyzed, lithium quartz compound, CSI CemTint works by penetrating and reacting with mineral compounds and/or siliceous materials to create a translucent or marbled appearance on the substrate surface. Because the product penetrates into the pores of the substrate, there is no film or coating to be worn away.

CSI CemTint consists of two separately packaged components: 1) a colored pigment pack and 2) a CSI CemTint liquid pack. **Note: Once mixed, CSI CemTint should be used within 14 days. Always mix before using.**

Product Benefits

- CSI CemTint may be used on colored or natural concrete, brick, plaster, porous limestone, Mexican tile and gypsum products.
- When coloring concrete, CSI CemTint is an excellent nontoxic tint base for the following surfaces:
 - Colored, imprinted concrete, color-hardened concrete and surface overlays
 - Colored concrete that has been uncoated or stripped
 - Uncolored concrete that has been uncoated or stripped
 - Interior high-traffic retail or public areas
 - Interior and exterior concrete surfaces that will be regularly maintained and recoated
 - Exterior concrete surfaces that will weather naturally
 - Exposed aggregate
- CSI CemTint creates a permanent, breathable, insoluble surface that can be used for translucent coloring that will preserve the characteristics of a concrete surface.
- CSI CemTint requires a final sealer topcoat to properly protect and enhance the final color.

Pre-Application

Note: Thorough mixing is required before and during application of this product. Some separation may occur if product is left to stand for periods of time, so it is important to ensure all solids are dispersed in solution before applying CSI CemTint. Mechanical mixing with a drill mixer is recommended prior to all applications with periodic stirring during use.

1. Protect any adjoining areas (windows, doors and fixtures, etc.) from overspray. If allowed to dry on metal or ceramic surfaces, abrasion may be required for removal. CSI CemTint will not corrode or damage these materials.
2. ChemSystems, Inc. utilizes the International Concrete Repair Institute (ICRI) Concrete Surface Profile (CSP) standards for specifying finished surface roughness prior to applying CSI CemTint. 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.
3. The surface should be clean and dry. If the surface is not completely dry, the product may turn white or hazy. 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 five pounds and below are acceptable. If measurements fall outside of this range, CSI CemTint should not be applied.

In addition, a pH test should be done, using an appropriate pH pencil and following the manufacturer's instructions. An acceptable pH range is between 8-9. If measurements fall outside of this range, do not proceed. In most cases, applications cannot be completed.

For exterior surfaces, there is no method to effectively test for moisture movement and related problems. It is beneficial to look for visible signs of moisture problems—such as surrounding landscape that has been heavily irrigated, concrete adjoining steep hillside areas, poor surface drainage of landscape, dark blotchy areas, variegated surface color, etc.

This material is dependent on proper penetration. Any existing curing agents, coatings, sealers, oils, paints, dirt and/or efflorescence will inhibit penetration of CSI CemTint. Any materials that would prevent penetration must be removed before application. In the case of sealers, cures, and coatings, mechanical removal—such as shot-blasting, sand-blasting or terrazzo-grinding—is advisable. Use a concrete degreaser to help remove grease and oil. Harsh chemicals should never be used to remove any of the materials cited here.

4. CSI CemTint should only be applied to substrates above 50 °F and below 100 °F.
5. CSI CemTint may appear different when applied over concrete patching material than when applied over plain concrete.
6. Apply this product in light, uniform coats with an airless or backpack pump-up sprayer. When using any sprayer, make sure the sprayer is completely clean of solvents and foreign materials, including water. If applying with an airless sprayer, use a tip ranging from 410-811.
7. **Important Note:** Before applying product to new or existing concrete, test CSI CemTint in an inconspicuous area on the actual surface for desired results. Inconsistencies in job site conditions, base color, surface permeability, concrete mix design, slump, curing methods, finishing practices, and age and condition of concrete in existing slabs may produce variations in the color of the finished product. The translucent effects of this product—considered hallmarks and not defects—will not cover up any variations, inconsistencies, stains or flaws of the concrete in existing slabs or in any substrate. For application questions, contact ChemSystems, Inc.
8. To alleviate surface tension, a mild acidic cleaner is especially useful for surface preparation to break the surface tension and to allow proper penetration of the product.
9. To test the surface (to be stained) for the presence of sealers, curing compounds or release agents, mist the surface with water from a hand-held spray bottle. Potential problem areas will not “wet out” uniformly. Extremely dense or burnished surfaces should be slightly abraded to better accept CSI CemTint followed by recommended finish sealers. Abrade with 100 grit to 120 grit sanding screen.
10. Be sure the CSI CemTint color pack is thoroughly mixed with the clear liquid portion prior to staining. Use a mechanical mixer for 1 to 2 minutes to ensure a homogeneous mix is achieved. Frequent agitation may be needed to ensure material does not settle out during application.

Application to New Concrete

1. **Warning:** Do not apply CSI CemTint to fresh concrete. CSI CemTint is not a curing compound. Allow *at least* 14 days for concrete to cure. For optimum results, allow concrete to cure for 28 days or longer.
2. Prep surface with a mild acidic cleaner. After scrubbing thoroughly, rinse the slab of any residue and allow substrate to dry thoroughly before application of CSI CemTint.
3. Add entire contents of colored pigment pack to CSI CemTint liquid pack. Mix thoroughly. **Note:** Once color pigment pack is added to liquid pack, product life is 14 days.
4. Using an airless or backpack pump-up sprayer at the recommended coverage rates, apply light, uniform coats of CSI CemTint. CSI CemTint can be applied with a brush, sponge or rag for small detail areas.
5. Do not apply more material than the surface will readily absorb. Do not allow the material to puddle or run.
6. Multiple applications may be done as long as the material continues to penetrate. If the material no longer penetrates the concrete, no more coats should be applied.
7. Apply consecutive coats as soon as the surface is dry to the touch. Cooler temperatures will cause product to penetrate at a slower rate. Each successive coat will dry more slowly than the previous coat. Normally, two coats are needed on trowel-finished concrete. On more porous surfaces, more coats may be needed to achieve the degree of coloration desired. Apply only as much material as the concrete will accept without rejecting the color.

8. Sponging, ragging or other specialty application methods can be used to achieve faux effects.
9. After application, lightly scrub, mop and wash any excess residue with water and allow to dry.
10. After CSI CemTint residue has been removed and the surface has dried, seal immediately.

Application to Existing or Old Concrete

1. Surface must be thoroughly cleaned, rinsed and allowed to dry. To clean surface, use a mild acidic cleaner to open and clean the surface of the concrete. Use of a mild acidic cleaner will break the surface tension of hard-troweled concrete and allow proper penetration of CSI CemTint. After scrubbing thoroughly, rinse the slab of any residue and allow substrate to dry thoroughly before application of CSI CemTint. On smooth surfaces, use a low-speed buffer equipped with scrubbing pads or brushes.
2. When applying CSI CemTint to existing concrete, test prior to application in an inconspicuous area to ensure compatibility. If in doubt about compatibility with existing concrete, contact ChemSystems, Inc.
3. After cleaning and testing surface, follow application steps listed in the "Application to New Concrete" section.

Surface Protection and Maintenance

ChemSystems, Inc. offers a full range of high-end sealer systems for colored and stained surfaces to ensure the long lasting protection and enhanced color of the final project.

All decorative concrete installations should be maintained on a routine basis with the use of CSI maintenance products to ensure the preservation of a high-quality, long-lasting surface. Maintenance schedules will vary depending on a number of factors, including volume and intensity of traffic, ultraviolet light exposure, geographical location and weather conditions. Resealing will be required periodically, depending on the amount of foot traffic. As with any other surface treatment, the lifetime of this product is dependent on the care it is given. The use of a qualified flooring maintenance contractor is recommended for resealing, especially in commercial applications.

Limitations and Precautions

- Do not apply CSI CemTint to fresh concrete. Allow *at least* 14 days for concrete to cure. For optimum results, allow concrete to cure for 28 days or longer.
- If using pastel or light CSI CemTint colors over dark gray concrete, very little color will be achieved due to its transparent characteristics. Pastel or lighter colors are best applied over light gray concrete or light colored overlays.
- Failure to remove dirt and debris from the surface or failure to properly clean the surface before application will result in poor color development.
- CSI CemTint will not seal structural cracks, voids or holes in concrete.
- CSI CemTint can bond to glazed materials such as metals, glass and ceramic tile. If adhesion is created, abrasion may be required for removal. CSI CemTint is not harmful to these materials.
- Certain exotic colors are not UV stable. (Contact ChemSystems Inc. for details).
- Light colors may not completely cover the inherent color of substrate. Test the material before application.

Coverage Rates and Drying Times

Coverage rates may vary depending on the texture, porosity, age and condition of the concrete, the application method, and other local conditions. CSI CemTint is a true penetrating tinting product. As such, coverage rates may fluctuate dramatically depending on the porosity of the surface. Very porous surfaces, such as porous brick and Mexican pavers, will yield a lower coverage rate.

- *Smooth Finish* – 500-600 square feet per gallon.
- *Rough or Broom Finish* – 400-500 square feet per gallon.

Drying times will vary depending on surface permeability, temperature, humidity and local conditions. When drying, do not cover surface with anything non-permeable for a minimum of 24 hours.

- *Dense Surfaces, Set to Touch* – Dense surfaces will absorb product at a slower rate. For multiple applications of this product, see instructions under "Application to New Concrete" section. Drying time may vary between 5-10 minutes. Dry means that the surface is dry to the touch.
- *Porous Surfaces, Set to Touch* – Porous surfaces may absorb product at a rapid rate, and drying time may vary between 1-10 minutes. As soon as the first coat is dry, repeat.
- *Recoat* – Apply recoats as soon as possible after initial coats. Recoats may be applied at later times, but final color may vary. Test any recoat in a small area prior to full application.

Shelf Life and Storage

CSI CemTint, if stored unopened in two distinct packs (tint concentrate pack, liquid pack) has a shelf life of one year. CSI CemTint, once colored, must be used within two weeks (14 days). CSI CemTint should be stored indoors. Do not allow product to freeze.

Package Sizes

CSI CemTint is available in 1-gallon units (with 1-pint water-based tint concentrate) and 5-gallon units (with 1-quart water-based tint concentrate).

Applicable Standards

LEED Qualified

Technical Data

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

Color Tinted to CSI specification colors or custom colors as desired
 Flash Point None
 VOC Content 0 (Zero)
 Other Nontoxic; contains no VOCs or solvents.

Product Handling

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

Warranty

CSI CemTint, 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.

*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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