

Stone Images Carveable Limestone Overlay

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

Stone Images Carveable Limestone Overlay is a unique one-component overlay that recreates the look and beauty of natural stone. The special blend of natural quarried-crushed limestone, cement, polymer and other proprietary additives combine to make a product that is easy to trowel and texture. Typically applied at a 1/4 - to 3/8 -inch thickness, Stone Images Carveable Limestone Overlay will bond to most stable substrates such as concrete, stone, tile, brick and properly prepared wood surfaces. Stone Images Carveable Limestone Overlay can be used on both interior and exterior surfaces.

Product Benefits

- Stone Images Carveable Limestone Overlay is a system comprised of the overlay, color and sealer.
- Stone Images Carveable Limestone Overlay is a zero VOC product that contributes toward LEED's points.
- Contains natural quarried limestone.
- Designed to be hand carved to provide a one-of-a-kind stone surface.
- Functions as a durable concrete wear surface.
- Ideal for interior as well as exterior applications.
- Stone Images Carveable Limestone Overlay provides a fast track construction option by allowing the delay of decorative flooring installation until after the initial heavy construction is complete. This eliminates the need to invest in protection of the surface and greatly reduces damage from construction-related traffic.
- Stone Images Carveable Limestone Overlay may be applied in a thickness ranging from feather edge to 1 1/2 inches thick. Recommended thickness is 1/4 inch.
- Available in natural white limestone color.
- Stone Images Carveable Limestone Overlay can be integrally colored or surface colored to many natural earthtone shades
- Can be modified to set faster or slower by using common concrete admixtures like Fritpak set retarder or non-chloride set accelerator.

Pre-Application

1. Always produce an actual finished mock up sample for approval prior to installation of each application.
2. ChemSystems, Inc. utilizes International Concrete Repair Institute (ICRI) Concrete Surface Profile (CSP) standards for specifying finished surface roughness prior to applying Carveable Limestone Overlay. For proper adhesion, the concrete must have a minimum of a #3 surface profile in accordance with the ICRI CSP chart. Contact the ICRI at www.ICRI.org or ChemSystems, Inc. for more information on these surface profiles.
3. Concrete, new or old, must be cleaned of all grease, paint, curing agents or loose concrete patches and droppings. In particular, be sure to remove all grease, oil, silicone coatings or any other materials on concrete that prevent adhesion.
4. Mechanical shot blasting, grinding, or power washing with a 3500- 4000 psi turbo nozzle is recommended.
5. Always check the substrate for contaminants, alkalinity and moisture emissivity. Test and record the surface alkalinity and moisture emissivity. Note: Although Stone Images Carveable Limestone Overlay is resistant to water, excessive moisture vapor transmission (MVT) can increase alkalinity at the bond line and promote delamination. Always monitor and record MVT conditions on grade and below grade surfaces. When MVT is not within specified tolerances, contact ChemSystems, Inc. for assistance. After the surface has been thoroughly cleaned, inspect substrate for proper control joints and expansion joints. All joints must be maintained. Proper maintenance is best achieved by placing a corresponding joint in the Stone Images Carveable Limestone Overlay material during or after installation, followed by caulking and/or grout installation. Furthermore, inspect substrate for undesirable cracks. Working cracks are anticipated to show through the surface of Stone Images Carveable Limestone Overlay unless properly treated. Working cracks can be repaired using a semi rigid crack repair or bridging system.. If cracks are aggressive (exceeding 1/8-inch), Skuda crack isolation system can be applied to minimize crack transfer. Non-working (hairline) cracks require no repair.

Application

Correct mixing of Stone Images Carveable Limestone Overlay is important. Variations in mix water from batch to batch can lead to discoloration and product performance issues. Environmental conditions may create the need for less or more mix water.

Base Coat

1. In a clean 5 gallon pail measure out 1.25 gallons of cool clean water, and 1 pint of HBS RA-1A-55 Reinforcing Admixture polymer.
2. Start mixing the water and polymer with a mechanical blade mixer, (or equivalent) while gradually adding half a bag of Stone Images Carveable Limestone Overlay Powder. Mix until thoroughly blended.
3. Add an additional 0.5 gallons of water and the remainder of the bag and mix to a loose consistency.
4. Apply the base coat with a trowel, squeegee or magic trowel. Cover the entire area surface with a thin scratch coat to provide 100% bonding adhesion.
5. Let the base coat dry until you can walk across the surface without leaving imprints.

Texture Coat

1. In a clean 5 gallon pail measure out 1.00 gallons of cool clean water.
2. Start mixing the water with a mechanical blade mixer, (or equivalent) while gradually adding half a bag of Stone Images Carveable Limestone Overlay Powder. Mix until thoroughly blended. If integrally coloring the texture coat, add the color pigment and mix well.
3. Add an additional 0.25 gallons of water and the remainder of the bag and mix well. The texture coat will be thicker than the base coat.
4. Using a pool trowel or sponge, lightly spread the texture coat over the surface at approximately 1/4 inch thickness.
5. Create a skip troweled finish to whatever degree of texture is desired.
6. When the texture coat has set up enough for foam boards to be placed on the surface without any indentations, lightly trowel over the texture again, using small amounts of water if necessary, to create the final texture.
7. Once the texture coat has dried just enough to walk on in socks, cut the desired pattern using a cement board scoring knife or similar tool. Remember to vary the grout lines in order to achieve a more natural look.
8. After it is completely dry, clean up the grout lines and sweep and blow off the entire surface.

Coloring

- Once the texture coat is completely dry and clean the coloring can be completed.
1. Mix the Stone Images Carveable Limestone Overlay color tint pack with water. You can vary the amount of powdered color to achieve the desired final shade.
 2. Apply the color wash with a sponge or sprayer to achieve the desired effect.
 3. Other color wash options can be used. These include, but are not limited to, release powder, topical color wash systems. Acid stains, water based stains and tinted sealers.
 4. Let the color wash dry completely before sealing and or grouting.

Sealing and Grouting

1. Use a broom, blower, or vacuum to assure the surface is dry, clean and free of any contamination.
2. High pressure air may be needed to dry out joints and areas where the Stone Images Carveable Limestone Overlay comes in contact with buildings or structures.
3. Apply 1 thin coat of Helix sealer. Follow the recommended application guidelines for the sealer.
4. Once the sealer is dry, 12 – 24 hours, grouting can begin if desired.
5. For the grouting mixture, follow base coat instructions steps 1 - 3. You can mix the material slightly drier or wetter depending on personal preference.
6. If colored grout is desired, add pigment to the grout mix when mixing. Assure color is mixed well to achieve uniformity.
7. Grout the joints using a standard grout bag. Apply the grout into the joints avoiding placing material outside the grout lines as best as possible.
8. Let the grout take an initial "stiff" set, then use a damp sponge and clean the excess material, smoothing out the grout. Clean the sponge, and repeat as necessary until all the excess grout has been removed, and the surface is clean.

9. Allow 24 hours cure time. Apply final coat of sealer. Grit additive can be added to reduce slipperiness.

Cure Times

Light traffic: 1 to 2 days

Heavy Traffic: 2 to 3 days (includes furniture and sprinklers)

Vehicle Traffic: 5 to 7 days

Note: Furniture, chairs, and tables should have rubber or fabric glides to minimize scratches scuffs.

Surface Protection and Maintenance

- Maintenance will vary depending on a number of factors, including volume and intensity of traffic, ultraviolet light exposure, geographic location and weather conditions.
- All Stone Images Carveable Limestone Overlay installations should be cleaned and resealed periodically in order to maintain a top quality appearance. This includes dry sweeping, washing with pH neutral soap and water or cleaning with a pressure washer.
- Exterior surfaces should be resealed as needed depending on traffic and appearance.
- Interior applications, apply CSI Floor Finish + as a maintenance coating and reapply as needed.

Limitations and Precautions

- The substrate temperature should range from 40-90 °F. A warm substrate decreases the material's pot life and can cause mixes to be sticky. A cooler substrate will retard the cure and may cause a blush in some sealers. Never apply Stone Images Carveable Limestone Overlay to substrates below 40 °F. The surface can be lightly misted with water to reduce the temperature. Assure no standing water exists.
- Keep the unfinished flooring surface clean.
- Do not track dirt, grease or any other contaminants onto the unfinished flooring surface. Any contaminants could affect the aesthetics of the finished flooring.
- Good ventilation must be provided during application.
- This application is not designed to bridge cracks, working joints, dynamic cracks or expansion joints.

Shelf Life and Storage

Stone Images Carveable Limestone Overlay Powder has a shelf life of 12 months. Store indoors.

Package Sizes

Stone Images Carveable Limestone Overlay Powder white is available in 50-pound bags.

Coverage Rate

Actual coverage may vary depending on surface, application method, and other local conditions.

Coverage Rate per 50 lb. bag:

- **Base Coat:** 100 - 125 sq./ft. when squeegee applied on flat smooth concrete.
- **Texture Coat:** 22 - 25 sq./ft. when applied at ¼ inch thickness.

Technical Data

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

Compressive Strength	ASTM C109	7-day cure: 3250 psi
		28-day cure: 4070 psi
Freeze Thaw.....	ASTM D7234 (20 cycles)	- No loss of strength.
Indentation Characteristics	(Steadily Applied Load) MIL-D-134, Para. 4.7.4.2.1	(2,000 lbs.on 1" steel ram imposed for 30 min.): 2.26%
Adhesion.....	ASTM D7234	280 psi at 28 days
Water Absorption	MIL-D-3134:	3.41%
Tensile Strength	ASTM C190:	925 psi
Flexural Strength	ASTM C580:	7- day cure: 730 psi
		28 day cure: 950 psi
Impact Resistance	(Gardner Impact Tester)	No chipping, cracking or delamination and not more than 0.014"
Fire Resistance.....	ASTM E108	- Class A

Product Handling

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

Warranty

Stone Images Carveable Limestone Overlay, 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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