

# Helix LithoPolish



## Technical Data Sheet 44.0310DS

*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 LithoPolish concrete chemical hardener, sealer and densifier is a patented Nano Lithium™ surface treatment that both penetrates and seals by reacting chemically to the concrete surface forming a clear, dense, durable and hard inorganic topical surface layer that is breathable, abrasion-resistant, and extremely hard. It is excellent for concrete floors needing long-term protection against heavy wear and abuse, moisture, dirt and grime buildup, as well as protection against alkalinity and efflorescence (salt residue.) Helix LithoPolish is a colorless, odorless water-based solution that is V.O.C. compliant and environmentally safe to use.

Helix LithoPolish's unique reactive chemistry forms an insoluble bond with the free lime forming an extremely strong Tri-calcium silicate compounds that bind together micro particles (lime and fine aggregate) forming a non-expansive gel that rapidly cures into inorganic cement that is stronger, more durable than the cement itself. Helix LithoPolish's unique atomic structure (Particle Size) and lower viscosity to conventional treatments provides superior penetration within the capillary channels providing a more consistent and uniform cure. The patented Advanced Nano Lithium™ (NL) technology will not absorb water or effect alkalinity and is suitable for both interior and exterior applications on new or existing concrete. Treated surfaces maintain the sheen even against pedestrian and traffic wear and regular maintenance. Floors last longer and cost less to maintain and aesthetically look better over time. In fact, the surface sheen increases with age and regular maintenance from a satin to a glossy clear finish.

### Product Benefits

- Penetrates deep inside the concrete capillaries chemically reacting with the free lime forming a permanent insoluble bond with the concrete.
- Forms a protective surface layer that is breathable, dense and abrasion resistant.
- Creates a stronger, more impenetrable, and better-looking finish (satin – glossy) that is dust-proof, resistant to staining and deterioration.
- Molecular size of Lithium provides for deeper penetration more permanent protection.
- Non-soluble / Non-expansive Lithium will not absorb water or cause the floor to sweat (SSF).
- Will not scratch or peel.
- Chemically reacts with concrete to produce insoluble calcium silicate hydrate making it harder and less permeable.
- Reduces dusting for cleaner and safer environments.
- Easy one coat application. No water wash required.
- Can be applied on fresh, newly troweled concrete and tilt-up construction slabs.
- Curing compounds can be applied on top of treated surfaces to provide ultimate hydration without discoloring or whitening the surface.
- Does not contain sodium or potassium salts that may contribute to surface crazing, efflorescence, and surface ASR.
- Provides high reflectivity (surface sheen) that beautifies concrete and holds up to heavy traffic and improves aseptically over time.
- Treated surfaces require no waxing and provide immediate sheen that improves over time with normal wear and maintenance.
- Water based, contains no solvents, low order. Low VOC content, < 50g/L.
- Permanent and durable surface resists marks, improves traction, and helps prevent waterborne containments for staining.
- Makes concrete easier to clean, creating an environment that is less susceptible to the proliferation of harmful bacteria.
- Prevents efflorescence and the leaching of lime.
- USDA approved for incidental food contact.
- Extends the life expectancy, and integrity of the floor lasting longer than other floor sealer, hardener, or densifier technology.
- Little or no downtime.

### Pre-Application

1. Application by spray, roller or brush to new or old concrete.
2. Always test a small area for compatibility before proceeding with application.
3. Do not use on surfaces that have been previously sealed.
4. If after application, white film forms, wash away with water. If it persists, scrub with brush and water.
5. Protect adjacent areas from overspray, especially glass, metal, ceramics, glazed tile aluminum, wood and vegetation. Protect or remove personal items such as watches, jewelry, etc.

### Application

1. **NEW CONCRETE:** Helix LithoPolish may be applied to newly installed concrete immediately after final trowel. Thoroughly clean the substrate so it is free of all foreign materials such as bond breakers, curing agents, form release oils, dust, construction laitance, drywall residue etc. Use a low pressure or HVLP sprayer to apply Helix LithoPolish so as to form an even, consistent, monolithic glistening sheen and to ensure complete saturation of the surface. Apply enough Helix LithoPolish to keep the surface wet for 20 minutes. Let the surface dry. (Usually 1 to 2 hours). Follow with an ASTM C 309 approved curing agent.
2. **TILT-UP CONSTRUCTION APPLICATIONS:** Helix LithoPolish may be applied immediately after finishing operation and then a wet-cure or bondbreaker/ curing material shall be applied over the top of Helix LithoPolish curing material or bond breaker manufacturer's instructions. When a curing compound must be applied to freshly placed concrete, use a water dissipating nonresin / non-film forming curing compound. Prior to applying the bond breaker, use the above procedure, then apply bond breaker as the curing agent on top of the Helix LithoPolish treatment.
3. **EXISTING (OLD) CONCRETE:** Helix LithoPolish may be applied to existing, cured concrete of any age. All surfaces must be clean and sound. Mechanically remove any surface laitance and patch or fix cracks and damaged areas. Remove all membrane forming curing compounds, sealers, oil, grease, dirt, dust and other containments. We recommend thoroughly cleaning surface with black scrubbing pad (light abrasion) and a neutral pH detergent. We recommend NOT etching the surface with an acidic solution because it requires thorough rinsing using a neutral pH cleaner to effectively neutralize the surface (if not properly neutralized the pH may cause whitening.) by brushing and a thorough water rising. For best results clean the surface by sanding the floor with a 60-100 grit sanding screen or diamond abrasive pad. Remove, dust and residue with riding or walk-by "scrubber" using water or broom then water rinse and squeegee surface dry. Use a low pressure or HVLP sprayer to apply Helix LithoPolish so as to form an even, consistent, monolithic glistening sheen and to ensure complete saturation of the surface. Apply enough Helix LithoPolish to keep the surface wet for 20 minutes. Let the surface dry.

### Surface Protection and Maintenance

- Routine sweeping, mopping, washing and mechanical scrubbing of floors with water and neutral pH cleaners (if necessary) is recommended. Water only is sufficient for most environments.
- DO NOT USE cleaners that are acidic or that have citrus (de-limonene) or Butyl compounds. Although Helix LithoPolish is chemically resistant and helps reduce staining, its application in specific chemical environments and some acidic concentrates, may etch the surface causing a residual stain. Regular maintenance and cleaning will help prolong surface shine. Wipe up any chemical spills as soon as possible. Prior to painting, stripping, or applying resilient tile wait 6-12 hours after application and conduct an adhesion test. Use a stiff broom or power sweeper to remove dirt and dust. Please consult the manufacturer to inquire about surface preparation and recommendations. Always test adhesion and performance for suitability and desired results before application.

## Limitations and Precautions

- Helix LithoPolish is not suitable for asphaltic or non cementitious surfaces or painted surfaces
- Helix LithoPolish will not bridge or fill cracks and will not salvage honeycombed or structurally unsound surfaces.
- Helix LithoPolish is not recommended for plastic concrete or mortar or resin-based terrazzo mixes.
- Do not allow Helix LithoPolish to dry on terrazzo (resin-based) floors except as indicated in application instructions.
- Do not allow Helix LithoPolish to come in contact with any glass, fabric, metal, or painted surfaces. Immediately wipe contaminated surfaces with a clean water-saturated cloth, then wipe dry with a second clean cloth.

## 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.

- Steel Trowelled 400-550 square feet per gallon
- Re-coat applications 250-350 square feet per gallon

**Drying times** may vary, floor is ready for traffic and use when dry. Typical drying time is 1-2 hours.

## Shelf Life and Storage

Helix LithoPolish has a shelf life 1 year in factory container. Store product indoors, away from heat, moisture and direct sunlight. Do not allow product to freeze.

## Package Sizes

Helix LithoPolish is available in 1-gallon and 5-gallon units.

## Technical Data

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

Form.....	Clear, pale light green, water-based solution
Total.....	Solids 16%
Active Ingredients:.....	100% of total solids
Specific Gravity:.....	1.11
PH.....	11.0
Flash Point:.....	N/A
V.O.C. Content.....	0 lbs/gal or 0 g/l per gallon of coating
Freeze point.....	32°F(0°)
Slip Resistance.....	Does not change floor friction coefficient*
Depth of Surface Penetration.....	2-8mm

\*Must employ all recognized slip and fall prevention techniques

## Product Handling

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

## Warranty

CSI LithoPolish 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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