



LS®

premium lithium-silicate sealer, hardener & densifier for concrete



SCIENTIFIC CERTIFICATION SYSTEMS
SCS-IAQ-01604

OVERVIEW

Consolideck® LS® is the premium hardener, densifier and sealer for concrete surfaces. This patented formulation is a penetrating lithium silicate treatment that reacts with the concrete to produce insoluble calcium silicate hydrate within the concrete pores. Treated surfaces resist damage from water and surface abrasion. The increased surface hardness imparted by LS® reduces dusting and simplifies maintenance producing a cleaner, healthier environment.

Safer, faster and easier to apply than conventional sodium or potassium silicate hardeners, LS® will not trigger or contribute to surface ASR (Alkali Silicate Reaction).

SPECIFICATIONS

For all PROSOCO product specifications visit www.prosoco.com and click on "SpecBuilder" or "Solution Finder."

ADVANTAGES

- Easy, one step application. No scrubbing. No flushing. No caustic wastewater.
- May be applied to broom finished, steel trowelled, power trowelled or burnished concrete finishes.
- Patented formulation penetrates and reacts quickly to produce better initial and ultimate hardness.

- Tested and conforms to California Collaborative for High Performance School Indoor Air Quality standards. Use can contribute to LEED® for Schools points (EQ Credit 4).
- Provides better abrasion resistance than conventional hardeners.
- Produces a fast surface gloss which improves with traffic and maintenance.
- Improves performance, appearance and light reflectance of new or old concrete.
- Reduces application time and costs of diamond polishing operations.
- Will not contribute to surface crazing. High lithium content combats surface ASR.
- Lithium will not absorb water or contribute to floor sweating.
- Gloss and hardness do not reduce slip resistance.
- Breathable and UV stable. Will not yellow, discolor, peel or flake.
- VOC Compliant. Non-flammable. Non-toxic. Low odor.
- Cures quickly. Most floors can be opened to traffic within one hour of treatment.
- Treated surfaces are easy to maintain and require no waxing.
- Compatible with Consolideck® GemTone ColorCoats and SafetyColors.

REGULATORY COMPLIANCE

VOC Compliance

Consolideck® LS® is compliant with the following national, state and district AIM VOC regulations

- US Environmental Protection Agency
- California Air Resources Board SCM Districts
- South Coast Air Quality Management District
- Maricopa County, AZ
- Northeast Ozone Transport Commission

TYPICAL TECHNICAL DATA

FORM	clear, water-like liquid
SPECIFIC GRAVITY	1.10
pH	11.0
WT/GAL	9.2 lbs
ACTIVE CONTENT	14.5%
TOTAL SOLIDS	14.5%
VOC CONTENT	< 20 g/L
FLASH POINT	NA
FREEZE POINT	32°F (0°C)
SHELF LIFE	2 years in unopened, factory-sealed container

PREPARATION

Protect people, vehicles, property, plants and all surfaces not designated to receive LS® from the product, splash and wind drift. Use polyethylene or other proven protective material.

Do not apply to surfaces which are frozen, dirty or have standing water. Surfaces must be clean, dry and absorbent. Confirm surface absorbency with a light water spray — surfaces designated for treatment should wet uniformly. If the surface does not wet uniformly, use the appropriate Consolideck® surface preparation cleaner or mechanical process to remove remaining surface contaminants.

New Concrete

Though Consolideck® LS® may be applied to freshly placed concrete after final finishing and installation of the control joints, Consolideck® LS/CS® may be a better choice. Contact your PROSOCO representative or PROSOCO Customer Care (1-800-255-4255) for recommendations.

When applying to new concrete, remove soft cut saw debris before applying Consolideck® LS®.

Existing Concrete

Consolideck® LS® is ideal for application to existing, cured concrete of any age. Surfaces must be clean and structurally sound. Remove all foreign materials including bond breakers, curing agents, surface grease and oil, and construction debris using the appropriate Consolideck® surface prep cleaner listed below:

Consolideck® SafStrip

- cure & seals;
- paint and high strength coatings

Consolideck® SafEtch®*

- concrete laitance
- construction soiling

*Not for use on concrete previously treated with Consolideck® LS®, LS/CS® or LSGuard®.

Consolideck® Wax & Cure Remover

- waxes, sealers & coatings
- low-solids cure & seals

Consolideck® Cure & Seal Remover

- high-solids cure & seals

Consolideck® Concrete Floor Restorer

- general soiling and light wax coatings
- rust and other metallic staining

Consolideck® Cleaner/Degreaser

- general soiling
- grease and oil

Consolideck® Oil & Grease Stain Remover

- deep-seated oil & grease staining

Follow the appropriate cleaner with thorough water rinsing. If a d-limonene based cleaner/stripper is used, clean treated surfaces with Consolideck® Cleaner/Degreaser and rinse thoroughly.

Acid-stained concrete must be thoroughly neutralized and rinsed prior to application.

Application may begin as soon as prepared surfaces are dry and free of ponded water.

Surface & Air Temperatures

Temperatures for application should be 40-100°F (4-38°C).

Equipment

Apply with low pressure sprayer, mop or a soft-bristled push broom.

Storage & Handling

Store in a cool, dry place. Always seal container after dispensing. Do not alter or mix with other chemicals. Published shelf life assumes upright storage of factory-sealed containers in a dry place. Maintain temperatures of 40-100°F (4-38°C). Keep from freezing. Do not double stack pallets. Dispose of in accordance with local, state and federal regulations.

APPLICATION

Before application, read "Preparation" and "Safety Information." ALWAYS TEST using equipment and procedures selected for general application. Follow the application instructions to pre-test each slab. Pre-testing will confirm suitability of surface preparation and application procedures proposed for general application. Pre-testing will

ALWAYS TEST

ALWAYS TEST a small area of each surface to confirm suitability and desired results before starting overall application. Test with the same equipment, recommended surface preparation and application procedures planned for general application.

also determine the average coverage rates to be maintained over the entire project. Let surfaces dry thoroughly before inspection and approval.

Dilution

Do not dilute or alter. Apply as packaged.

Coverage Rates

Variations in concrete quality, porosity, job site conditions, temperature and relative humidity will affect coverage rates and drying times. Calculate the Target Coverage Rate by testing a representative section of the prepared surface using the following instructions.

Estimated Coverage Rates

The following coverage rates are offered for estimating only. See below for instructions on calculating project-specific target coverage rates.

Freshly Placed, Uncured, Steel Troweled Concrete

- 800–1000 sq.ft. (74–93 sq.m.) per US gal

Cured, Steel Troweled Concrete

- 600–800 sq.ft. (56–74 sq.m.) per US gal

Cured, Ground/Honed Concrete

- 500–700 sq.ft. (46–65 sq.m.) per US gal

Calculating Project-Specific Target Coverage Rate

1. Prepare the test section in accordance with "Preparation" information above. Surfaces must be clean, dry and absorbent. Confirm surface absorbency with a light water spray — surfaces designated for treatment should wet uniformly.
2. Add 1-gallon of LS® to a clean, pump-up sprayer fitted with a 0.5 gpm spray tip. Lightly apply according to Application Instructions steps #1-4 for the appropriate floor type.

Repeat as necessary to determine correct rate of application.

3. Measure the test area to establish the Target Coverage Rate per gallon.

Application Instructions

Freshly Placed, Uncured Steel-Troweled Concrete

1. After final finishing, soft cut control joints.
2. Clean concrete of any dirt, residue or soft cut saw debris.
3. Using a low pressure sprayer fitted with a 0.5 gpm spray tip, apply a single coat of LS®. Apply sufficient material to wet the surface without producing puddles. Use a clean, soft-bristle push broom or microfiber pad to spread product evenly and ensure uniform wetting. Avoid spreading once drying begins. Scrubbing is not necessary. If surfaces dry immediately, apply more product. Surface should remain wet for 5-10 minutes. Adjust rate of application to eliminate puddles.

NOTE: Allowing excess material to puddle on the floor will extend dry times and create white residues which must be removed immediately. Call the Consolideck® Hotline at 866-363-4567 for removal instructions.

4. Allow treated surfaces to dry.
5. Immediately apply the specified curing compound or initiate the specified curing procedure.
6. When the curing process is complete, use an automatic floor scrubber equipped with cleaning pads or brushes appropriate for removal of accumulated construction soiling and surface residues. Avoid pads or brushes which may damage the finished floor. This procedure will further enhance the surface sheen produced by Consolideck® LS®.

For additional shine and protection, apply Consolideck® LSGuard® according to label instructions.

Application Instructions

Cured, Steel Troweled Concrete

1. Remove all dirt, debris, or curing compounds using the appropriate Consolideck® surface prep cleaner listed above. Allow cleaning waters used in surface preparation to dry.

2. The prepared surface must wet uniformly. Confirm surface absorbency with a light water spray. In hot, dry weather, pre-wet the concrete with fresh water. Allow any standing water to evaporate.
3. Apply a single coat of LS® using a low pressure sprayer fitted with a 0.5 gpm spray tip. Apply sufficient material to wet the surface without producing puddles. Use a clean, soft-bristle push broom or microfiber pad to spread product evenly and ensure uniform wetting. Avoid spreading once drying begins. Scrubbing is not necessary. If surfaces dry immediately, apply more product. Surface should remain wet for 5-10 minutes. Adjust rate of application to eliminate puddles.

NOTE: Allowing excess material to puddle on the floor will extend dry times and create white residues which must be removed immediately. Call the Consolideck® Hotline at 866-363-4567 for removal instructions.

4. Allow treated surfaces to dry.
5. Remove any dried powder residue using stiff broom, power sweeper or floor scrubbing machine.
6. For immediate, enhanced shine, buff or burnish the dry concrete surface in both directions using an orbital floor machine or burnisher equipped with an appropriate polishing pad. This is a dry buffing operation.

For additional shine and protection, apply Consolideck® LSGuard® according to label instructions.

Application Instructions

Cured, Ground/Honed Concrete

1. Sand, level or grind the concrete surface with a floor sander, orbital floor machine or diamond grinding as needed to achieve desired exposure.
2. Remove all dust and debris using a floor scrubbing machine and fresh water. Remove any remaining surface contaminants using the appropriate Consolideck® surface prep cleaner. Allow wet surfaces to dry.
3. Apply a single coat of LS® using a low pressure sprayer fitted with a 0.5 gpm spray tip. Apply sufficient material to wet the surface without producing puddles. Use a clean, soft-bristle

BEST PRACTICES

Remove all loose construction debris and foreign materials from surfaces to be treated using a dry broom. Remove all curing compounds, coatings, paint, wax, embedded soiling, rust, grease and oil using the appropriate Consolideck® surface preparation cleaner.

Surfaces to be treated must be clean, dry and absorbent. Confirm surface absorbency with a light water spray. If surfaces designated for treatment do not wet uniformly, use the appropriate Consolideck® surface prep cleaner or mechanical process to remove remaining surface contaminants.

Spray applicators equipped with a 0.5 gpm (gallon per minute) fan spray tip have proven effective for application of this product.

If the desired surface finish requires mechanical removal of the top layer of cement paste, best results are achieved by sanding or grinding the cured concrete surface to achieve a 50–200 grit finish before applying Consolideck® LS®. The increased surface density which Consolideck® LS® provides will make further sanding, grinding or diamond polishing proceed faster.

Consolideck® LS® is suitable for use with wet or dry grinding and polishing procedures.

Wastewater generated by wet grinding or polishing procedures should be collected and disposed of properly.

Maintain Consolideck® hardened floors with Consolideck® LS^Klean Super Concentrate — a daily maintenance cleaner developed to further enhance the long-term performance of finished concrete floors.

push broom or microfiber pad to spread product evenly and ensure uniform wetting. Avoid spreading once drying begins. Scrubbing is not necessary. If surfaces dry immediately, apply more product. Surface should remain wet for 5-10 minutes. Adjust rate of application to eliminate puddles.

NOTE: Allowing excess material to puddle on the floor will extend dry times and create white residues which must be removed immediately. Call the Consolideck® Hotline at 866-363-4567 for removal instructions.

4. Allow treated surfaces to dry.
5. Remove any dried powder residue using stiff broom, power sweeper or floor scrubbing machine.
6. If additional surface sheen is desired, buff or burnish the concrete surface in both directions with an orbital floor machine or burnisher equipped with an appropriate polishing pad. This is a dry buffing operation.

For additional shine and protection, apply Consolideck® LSGuard® according to label instructions.

Application Instructions

Cured and Polished Concrete

Follow steps 1–5 listed above for Honed Concrete. Using progressively finer abrasives, continue diamond polishing in consecutive steps to achieve the desired finish. Remove all polishing dust and debris.

For additional shine and protection, apply Consolideck® LSGuard® according to label instructions.

Cleanup

Before product dries, clean tools and equipment with fresh water. Immediately wash off over spray from glass, aluminum, polished or other surfaces with fresh water.

Final Results

The floor is ready to use when dry. Smooth and hardened concrete surfaces will exhibit reduced water absorption and increased surface sheen upon drying. Maximum water resistance will develop over 7 days. Surface sheen and hardness

will increase with time and proper maintenance.

Maintenance

Remove surface dust and debris daily using a micro fiber pad or dry dust mop. Dry buff with a high-speed burnisher to refresh gloss.

Regular maintenance cleaning will improve surface shine. Maintain the floor with Consolideck® LS-Klean Super Concentrate.

Do not use acidic cleaners. Though Consolideck® LS® will improve the resistance of concrete surfaces to staining, acid concentrates and acidic foods may etch the floor and leave a residual stain. Clean up such spills quickly to minimize any potential for damage.

Though protective treatments simplify maintenance of concrete floors, all spills must be cleaned up in a timely manner.

For improved resistance to water or oily stains, apply Consolideck® SLX100® Water & Oil Repellent according to label instructions. Apply SLX100® directly to the hardened concrete surface. Do not apply SLX100® over Consolideck® LSGuard®.

If additional protective treatments or surface coatings are desired, consult Customer Care for recommendations by calling 1-800-255-4255.

SAFETY INFORMATION

Consolideck® LS® is a water carried product. Use appropriate safety and job site controls during application and handling. Read the full label for precautionary instructions before use.

First Aid

Ingestion: Drink large quantities of water or milk. DO NOT induce vomiting. Seek medical attention immediately. **Eye Contact:** Remove contact lenses. Immediately flush eyes for 15 minutes in clear running water while holding eyelids open. Seek medical attention immediately. **Skin Contact:** Wash contacted area with soap and water. DO NOT attempt to neutralize with chemical agents. If irritation persists, seek medical attention. **Inhalation:** Remove affected person to fresh air. Wash mouth and nasal passages with

water repeatedly. If breathing difficulties persist, seek medical attention.

24-Hour Emergency Information: INFOTRAC at 800-535-5053

WARRANTY

The information and recommendations made are based on our own research and the research of others, and are believed to be accurate. However, no guarantee of their accuracy is made because we cannot cover every possible application of our products, nor anticipate every variation encountered in masonry surfaces, job conditions and methods used. The purchasers shall make their own tests to determine the suitability of such products for a particular purpose. PROSOCO, Inc. warrants this product to be free from defects. **Where permitted by law, PROSOCO makes no other warranties with respect to this product, express or implied, including without limitation the implied warranties of merchantability or fitness for particular purpose.** The purchaser shall be responsible to make his own tests to determine the suitability of this product for his particular purpose. PROSOCO's liability shall be limited in all events to supplying sufficient product to re-treat the specific areas to which defective product has been applied. Acceptance and use of this product absolves PROSOCO from any other liability, from whatever source, including liability for incidental, consequential or resultant damages whether due to breach of warranty, negligence or strict liability. This warranty may not be modified or extended by representatives of PROSOCO, its distributors or dealers.

CUSTOMER CARE

Factory personnel are available for product, environment and job-safety assistance with no obligation. Call 800-255-4255 and ask for Customer Care - technical support. Factory-trained representatives are established in principal cities throughout the continental United States. Call Customer Care at 800-255-4255, or visit our web site at www.prosoco.com, for the name of the Consolideck® representative in your area.