



Protector

Technical Information Sheet

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Colloidal Silica is at the heart of Lythic technology.

It is a substance that reacts with the chemistry of concrete to produce more cementitious material, which translates into higher performance concrete.

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SPECIFICATION: Section 03 35 00 Concrete Finishing

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001: PRODUCT DESCRIPTION

Lythic Protector is a colloidal silica-based breathable penetrating concrete sealer that protects concrete floors and enhances the appearance of decorative concrete finishes. It is a unique product that improves surface hardness through colloidal silica reaction, and is formulated to promote water repellence.

Lythic Protector is used as the final step of concrete polishing process. It protects against staining and etching agents, and minimizes abrasive wear to the finish. Its colloidal silica content extends the hardening begun by Lythic Densifier during polishing stages. It contains ingredients to confer water repellence on the surface.

Lythic Protector enhances concrete appearance in both color and texture. Though clear and non-yellowing, it deepens color and apparent saturation. On a polished surface, it can be burnished to a high gloss, and periodically re-burnished to refresh appearance. Nonetheless, it improves slip resistance for a safer floor.

002: FEATURES & ADVANTAGES

Lythic Protector can be applied to newly-finished concrete, or polished concrete that has been previously protected but

needs to be renewed or refreshed. It provides multiple advantages and benefits:

- ◇ Extends stain-resistance
- ◇ Increases slip-resistance
- ◇ Increases surface hardness
- ◇ Enhances appearance and deepens color
- ◇ Improves gloss
- ◇ Clear, non-yellowing
- ◇ Can be burnished periodically to restore gloss
- ◇ Cures for foot traffic in 24 hours
- ◇ Simplifies maintenance
- ◇ Water-based

003: SUSTAINABILITY

Exposed concrete is an inherently sustainable flooring solution that is durable, and offers a very long service life with only simple maintenance. It lowers materials- and energy-consumption by eliminating the need for frequently-replaced floor covering materials. In many situations, the concrete itself is already installed, further reducing materials-consumption. Exposed concrete floors require minimal, low-impact maintenance, thereby lowering maintenance energy-consumption and eliminating harsh chemicals and solvents used to strip and wax some floor coverings.

- ◇ Low VOC formula
- ◇ Ships as concentrate to lower environmental impacts and shipping and storage costs
- ◇ Low-impact maintenance with mild, non-solvent cleansers
- ◇ Maintains floor finish, reducing energy-consumption for floor refinishing

004: MATERIALS PACKAGING

Lythic Protector is packaged as a concentrate, minimizing shipping and handling expense.

- ◇ 1 Gallon / 3.78 liter Container (Concentrate)
- ◇ 5 gallon / 19 liter bucket (Concentrate)

Lythic Densifier concentrate is intended to be diluted with water before use. **(See section 007: Mixing & Dilution)*

005: COVERAGE RATES

will yield different coverage results depending on the porosity of the floor. Test on a small sample area to determine appropri-

-ate application rate and technique before applying to entire project area. *(See section 010: Project Testing)

Use these coverage rates as a starting point to determine necessary application rate:

◇ RTU mixture 1,200 - 1,800 sf/gal (37– 49 m²/L)

The coverage rates are based on a mixed ready-to-use (RTU) gallon of **Lythic Densifier**. *(See section 007: Mixing & Dilution)

**Important: (See the coverage chart on page 4)*

006: SAFETY PRECAUTIONS

WARNING: FOR PROFESSIONAL USE ONLY. BEFORE USING PRODUCT, READ MATERIAL SAFETY DATA SHEET (MSDS) AND INSTRUCTIONS ON PACKAGING. ALKALINE CONCENTRATE: CONTACT CAN DAMAGE EYES, SKIN AND OTHER BODY TISSUES. HANDLE WITH CARE. EYE AND SKIN IRRITANT. DIGESTIVE TRACT IRRITANT; DO NOT TAKE INTERNALLY. KEEP OUT OF REACH OF CHILDREN. SPRAY MIST IS RESPIRATORY TRACT IRRITANT. USE ONLY WITH ADEQUATE VENTILATION. Do not breathe vapors or spray mist. Avoid contact with eyes, skin, clothing. Observe appropriate safety and jobsite controls. Wear appropriate protection including eye protection and chemical-resistant gloves. Ensure fresh air-flow during application and until dry. If you experience headaches, dizziness, eye watering, or if air monitoring shows vapor/mist levels above applicable limits, wear a properly fitted P100/organic vapor respirator (*NIOSH TC-84A approved*), used according to manufacturer's directions, during application and drying.

007: MIXING & DILUTION

Lythic Protector is shipped as a concentrate. Before use, it must be diluted with clean potable water in a ratio of 1:1.

- 1 - Before opening **Lythic Protector** container, shake to agitate the concentrate.
- 2 - Pour one part **Lythic Protector** concentrate into mixing container or directly into sprayer.
- 3 - Add one part clean potable water to make **Lythic Protector** Ready-to-Use (RTU) mixture.
- 4 - Mix for 30 seconds using low-to-medium speed drill and mixing paddle, or shake sprayer for 60 seconds, until mixture is homogeneous and uniform.

We recommend calculating the quantity of material needed for the immediate work at hand, and only making as much **Lythic Protector** RTU mixture as needed. Left over RTU mixture can be stored in an air-tight container, and needs to be used within 2 months after being mixed from concentrate, or the stated expiration date, whichever comes first. Manufacturing date can be found within the batch number on the original packaging. Over prolonged periods of time, RTU mixture may settle. Before using RTU mixture, agitate container to mix contents.

IMPORTANT: The water used to dilute **Lythic Protector concentrate must be clean potable water. Any contaminants in the water could reduce the shelf life of RTU mixture.*

008: EQUIPMENT

- ◇ Apply using a low-pressure pump sprayer.
- ◇ Spread with a micro-fiber or flat cotton pad applicator.

009: PRE-APPLICATION

Advanced planning is critical to all successful concrete work, including the use of **Lythic Protector**.

- ◇ Any adjacent areas, surfaces, or objects not intended to be treated with **Lythic Protector** should be protected from overspray or drift with plastic sheeting or other proven protective material.
- ◇ Measure area (*square feet/m²*) that will require **Lythic Protector**.
- ◇ Mix an appropriate quantity of **Lythic Protector** for job-size, per instructions in Section **007: MIXING & DILUTION**, using estimated coverage rates in Section **005: COVERAGE RATES**.
- ◇ Check that sprayers and tips are in working order.
- ◇ Designate trained operator(s) to apply **Lythic Protector** throughout project, to ensure consistent application.

010: PROJECT TESTING

To assure that performance and slip-resistance specifications are met, and that desired appearance is achieved, test a sample area of each slab to be treated, applying the complete sequence of proposed treatments using the proposed methods and techniques, coverage rates, and equipment, with the work performed by the same installation personnel who will do the project. Test section should be large enough to properly represent the overall slab. Specific to **Lythic Protector**, check whether coverage rate is appropriate, that concrete accepts the product, and that desired appearance is achieved after burnishing. Test to determine that safe levels of wet and dry slip-resistance are achieved after application of **Lythic Protector** and burnishing. **NOTE:** Grinding and polishing operations may significantly alter slip resistance of surface. **Lythic Protector** improves slip-resistance.

011: APPLICATION GUIDELINES

Application of **Lythic Protector** may vary depending on the type of project and other jobsite specifics. The information provided is best practice guidelines for **Lythic Protector**. Every project will present variables that may require adjustment of applica-

-tion procedures during the job. These guidelines are based on terminology used within the concrete and flooring industry sector.

- 1 -Agitate **Lythic Protector** RTU mixture before pouring into sprayer.
- 2. Pour **Lythic Protector** RTU mixture into sprayer. Keep the sprayer at optimized levels, allowing even distribution when applying to concrete surface.
- 3. Dampen a micro-fiber or flat cotton pad applicator with **Lythic Protector**.
- 4. Spray apply **Lythic Protector** to concrete surface in a light mist, holding spray tip 12-24 inches above surface and moving in a circular motion to achieve even distribution.
- 5. Use the pad applicator to spread the **Lythic Protector** spray in a thin film coat, using a “figure 8” motion to reduce streaking and prevent puddling. Work leaving a wet edge. Work-in areas bordered by joints or natural breaks. If product becomes too “sticky” to work easily, moisten applicator pad with water.
- 6. Allow to dry tack-free before burnishing or applying a second coat.
- 7. Apply second coat using the same procedures, steps 1-5.

High speed burnishing using a diamond-impregnated fiber pad, or hogs-hair fiber pad, will enhance the finished surface.

Cure finished floor for 24 hours before allowing regular foot traffic. Do not allow standing water to remain on the surface for the first 72 hours. **Lythic Protector** is intended for interior use.

012: MAINTENANCE

Only an approved maintenance regimen should be used. Remove dust and debris daily. Clean daily or weekly using **Lythic Cleaner** or other neutral pH cleanser. Avoid acidic cleaners and detergents containing hydroxides or sulfates as these may etch or dull the surface. Consult Lythic Solutions for more information.

013: LIMITATIONS & IMPORTANT NOTES

- ◇ **Lythic Protector** is a breathable penetrating concrete sealer, but it must be considered a sacrificial layer requiring periodic renewal, not a permanent sealer.
- ◇ **Lythic Protector** is not membrane-forming curing compound.
- ◇ **Lythic Protector** provides temporary protection from staining and etching agents, but it will not seal or prevent staining indefinitely. Spills must be removed in a timely manner to assure complete protection of the floor finish.

- ◇ Performance of the **Lythic Protector** application should be checked yearly by the original installer or other qualified professional, to determine when renewal of the protection is required.
- ◇ Jobsite samples are strongly recommended prior to application of all Solomon/Brickform and Lythic products.

014: LYTHIC PROTECTOR USED IN CONJUNCTION WITH:

- ◇ **Lythic DAY1**(Troweling aid and curing agent)
- ◇ **Lythic Densifier**(Colloidal Silica densifier)
- ◇ **Lythic Densifier XL**(Larger particle densifier)
- ◇ **Lythic SPD Protector**(Color enhancer & stain protection)
- ◇ **Lythic Cleaner**(Colloidal silica cleaning agent)
- ◇ **CONTRAZZO**(Polished concrete overlay system)
- ◇ **Pro-Dye**(Penetrating colorant concentrate)

Other Solomon/Brickform products can be used in conjunction with **Lythic Densifier.*

015: PHYSICAL PROPERTIES

Appearance.....	milky white liquid
Drying Time.....	20 min to 1 hour
VOC Content.....	25 g/l
Active Ingredients.....	100% of total solid
pH	10-11
Freeze point.....	32°F
Shelf Life.....	1 year
Coverage.....	1500-2000 ft ² / gal (37m ² – 49 m ² /L)

016: STORAGE & SHELF LIFE

Lythic Protector should be kept in the original container when possible, with the lid fastened tightly. **Lythic Protector** concentrate has an optimized shelf life of 12 months from the date of manufacture. This date is available on the batch reference number on the original container.

Storage of RTU mixture: see Section **006: Mixing & Dilution**

Keep in a cool, dry place raised off the floor. Keep in temperature range of 40–100°F / 4–38°C.

***Important: Do Not Allow to Freeze**

017: WARRANTY

Lythic Protector is intended for use by licensed contractors and installers, experienced and trained in the use of these types of products. It is warranted to be of uniform quality, within manufacturing tolerances. The manufacturer has no control over the use of this product, therefore, no warranty, expressed or implied, is or can be made either as to the effects or results of such use. In any case, the manufacturer’s obligations shall be

limited to refunding the purchase price or replacing **Lythic Protector** proven defective. The end user shall be responsible for determining product's suitability and assumes all risks and liability.

018: FIRST AID

Ingestion: Not expected to be toxic. Never give an unconscious person anything to ingest. If swallowed, immediately give two glasses of water, DO NOT INDUCE VOMITING. Seek medical attention if ill effects develop.

Inhalation: May cause irritation. Remove to fresh air and provide oxygen. If not breathing, give artificial respiration. Seek medical attention if irritation persists.

Eye Contact: Flush with plenty of water for at least 15 minutes. Seek medical attention if irritation persists.

Skin Contact: May cause irritation. Wash affected area with soap and water. Remove contaminated clothing and shoes. Seek medical attention if irritation persists.

The chart offers generalized guidelines of application rates for **Lythic Protector**, according to the condition of the slab. High porosity or heavily damaged concrete could require multiple applications of **Lythic Protector**. Test samples are important to enable the correct coverage rates and optimized performance of **Lythic Protector**. *(See section 010: Project Testing)

Concrete Condition	Possible Applications	Basic Coverage	Second Coat Coverage
<i>Porous Condition Concrete</i>	<i>2 Coat Application</i>	1000– 1200 ft per Gallon	1200 - 1800 ft per Gallon
<i>Normal Condition Concrete</i>	<i>1 Application</i>	1200 - 1800 ft per Gallon	Optional: 1500 - 2000 ft per Gallon
<i>Hard Condition Concrete</i>	<i>1 Application</i>	1500 - 2000 ft per Gallon	Optional: 1500 - 2000 ft per Gallon