



# SPD Protector

## Technical Information Sheet

Rev: TIS-LY-SPD-2013-05

*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.

*\*Issued May, 2013. Subject to change. Contact Solomon/Brickform for most up-to-date information*

**SPECIFICATION: Section 03 35 00 Concrete Finishing**

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### 001: PRODUCT DESCRIPTION

**Lythic SPD Protector** (*Silica-Polymer-Dispersion*) is a concrete sealer fortified with colloidal silica, a two-part water-based epoxy that offers unique combination of protection, transparency, clarity, and durability. It utilizes new protection technology to achieve resistance to stains, oils, acid etching, and liquid penetration that equals the protection of epoxy coatings, but is so thin it is barely visible. It improves surface hardness through colloidal silica reaction. **Lythic SPD Protector** protects concrete floors and enhances the appearance of decorative concrete finishes.

Colloidal silica enables **Lythic SPD Protector** to create a protective polymer layer that is very strong yet extremely thin. Visual clarity is on a par with the thinnest breathable stain protectors, yet it provides significantly greater protection against both chemical damage and abrasion. Staining agents such as red wine will get through conventional stain protectors in a matter of hours; applied correctly, **Lythic SPD Protector** resists red wine for days. **Lythic SPD Protector** features superior resistance to scratching and wear, and can be re-burnished to restore gloss. It also offers longer service life than conventional stain protectors.

**Lythic SPD Protector** is compatible with a wide variety of con

crete finishes including decorative finishes. It deepens color and enhances appearance of polished concrete. It can be bur-nished to a high gloss. Used over a low-level diamond polish, it can mimic the appearance of higher-level polishing.

**Lythic SPD Protector** is designed for commercial, retail, and other high-traffic environments, and places where superior stain- and chemical-resistance is required. It is also an ideal choice for situations where more frequent re-application cycle of conventional stain protectors is undesirable.

### 002: FEATURES & ADVANTAGES

**Lythic SPD Protector** can be applied to newly-finished concrete, or polished concrete that has been previously protected but needs to be renewed or refreshed, to provide superior protection against staining and etching agents, abrasion, and high traffic wear, and to enhance appearance. It provides multiple advantages and benefits:

- ◇ Provides resistance to staining and etching agents for more than 24 hours
- ◇ Protects against acid- and oil-penetration
- ◇ Increases slip-resistance
- ◇ Enhances appearance and deepens color
- ◇ Improves gloss
- ◇ Non-yellowing
- ◇ Does not peel or delaminate
- ◇ Can be burnished periodically to restore gloss
- ◇ Cures for foot traffic in less than 4 hours
- ◇ Simplifies maintenance
- ◇ Durable application with long renewal cycle
- ◇ Water-based, low-VOC formula

### 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 strip and wax some floor coverings.

**Lythic Protector** has specific sustainability benefits:

- ◇ 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 SPD Protector** is shipped as a 2-ingredient kit, available in two standard package sizes. Bulk orders are also available on request.

- 2 gallon / 7.6 liter kit (Part A&B)
- 4 gallon / 15.2 liter kit (Part A&B)

**\*Important: Lythic SPD Protector parts A and B must be mixed together before use. \*(See section 007: Mixing & Dilution)**

#### 005: COVERAGE RATES

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

- ◇ Parts A & B mixed ..... 1,000 - 1,500 sf/gal (24.5 - 36.8 m<sup>2</sup>/L)

*Example: a 2-Gallon (7.6 liter) kit would cover 2,000-3,000 sf (184 - 270 m<sup>2</sup>)*

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

#### 006: SAFETY PRECAUTIONS

Inhalation of vapors and/or aerosols in high concentration may cause irritation of respiratory system. WARNING: FOR PROFESSIONAL USE ONLY. BEFORE USING PRODUCT, READ MATERIAL SAFETY DATA SHEETS (MSDS) FOR BOTH PARTS A AND B, AND INSTRUCTIONS ON PACKAGING. ALKALINE LIQUID: CONTACT CAN DAMAGE EYES, SKIN AND OTHER BODY TISSUES. HANDLE WITH CARE. INHALATION, INGESTION, OR SKIN CONTACT MAY CAUSE CENTRAL NERVOUS SYSTEM EFFECTS SUCH AS HEADACHE, NAUSEA, DIZZINESS, CONFUSION, OR BREATHING DIFFICULTIES. SEVERE CASES OF OVEREXPOSURE THROUGH INGESTION OR INHALATION CAN RESULT IN RESPIRATORY FAILURE. DO NOT TAKE INTERNALLY. USE ONLY WITH ADEQUATE VENTILATION. DO NOT BREATHE VAPORS OR SPRAY MIST. SKIN IRRITANT. SEVERE EYE IRRITANT. KEEP OUT OF REACH OF CHILDREN. VAPOR AND AEROSOL ARE RESPIRATORY TRACT IRRITANTS. 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 SPD Protector** is shipped as a two-part kit. The two parts are mixed together in equal proportions. No dilution is necessary.

- 1 - Before opening **Lythic SPD Protector** containers, shake both to fully mix contents.
- 2 - Pour one part **Lythic SPD Protector PART A** into mixing a clean mixing container.
- 3 - Add one part **Lythic SPD Protector PART B** to mixing contained to make 2 parts **Lythic SPD Protector Ready-to-Use (RTU)** mixture.
- 4 - Mix for 60 seconds using low-to-medium speed drill and mixing paddle or cage.

We recommend calculating the quantity of material needed for the immediate work at hand, and only making as much **Lythic SPD Protector RTU** mixture as needed. RTU mixture remains workable for approximately 60 minutes.

**\* Important: RTU mixture must be used within 60 minutes after mixing. Left over RTU mixture cannot be stored.**

#### 008: EQUIPMENT

Apply using a roller-pan and short nap microfiber roller.

#### 009: PRE-APPLICATION

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

- ◇ Any adjacent areas, surfaces, or objects not intended to be treated with **Lythic SPD Protector** should be protected from overspray or drift with plastic sheeting or other proven protective material.
- ◇ Measure area (square feet/m<sup>2</sup>) that will require **Lythic SPD Protector**.
- ◇ Fully prepare work area before mixing **Lythic SPD 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**.
- ◇ Designate trained operator(s) to apply **Lythic Protector SPD** 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 SPD**, 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 SPD Protector** and burnishing. **NOTE:** Grinding and polishing operations may significantly alter slip resistance of surface. **Lythic SPD 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 application procedures during the job. These guidelines are based on terminology used within the concrete and flooring industry sector.

- 1 - Pour **Lythic SPD Protector** RTU mixture into roller pan.
- 2 - Apply **Lythic SPD Protector** to concrete with roller, spreading in a thin, even coat. Do not leave puddles. Avoid repeated passes once product is laid down.
- 3 - If applying a second coat of **Lythic SPD Protector**, allow first application to dry completely before second application.
- 4 - Allow to dry 2-4 hours before allowing light traffic. **Lythic SPD Protector** cures fully in 72 hours.
- 5 - After 24 hours, burnish using high speed burnishing machine with red pad, hogs-hair fiber pad, or fine diamond-impregnated fiber pad to enhance appearance and increase gloss.

*Important: Do not allow standing water to remain on the surface for during 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 durable concrete sealer, but it is not a permanent sealer. Periodic renewal may be required.
- ◇ **Lythic Protector** is not membrane-forming curing compound.
- ◇ **Lythic Protector** provides 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 SPD Protector** application should be checked every two years 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 DENSIFIER USED IN CONJUNCTION WITH:**

- ◇ **Lythic DAY1** .....(Troweling aid and curing agent)
- ◇ **Lythic Densifier** .....(Larger particle 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
Pot Life.....	1 hour
VOC Content.....	< 50 g/l
Set up for light traffic.....	8-12 hours @ 70°F / 21° C
Set up for heavy traffic.....	72 hours @ 70°F / 21° C
Freeze point.....	32°F / 0° C
Hot tire pick up resistance.....	72 hours @ 72F / 21° C
Slip Resistance.....	improves floor friction coefficient
Shelf Life (separate parts A & B).....	18 months
Coverage.....	1000-1500 sf / gal
Working Temperature.....	60-90°F / 15-32° C

**016: STORAGE & SHELF LIFE**

**Lythic SPD Protector** Parts A & B should be kept in the original containers when possible, with the lids fastened tightly. **Lythic Protector** Parts A & B have an optimized shelf life of 18 months from the date of manufacture. This date is available on the batch reference number on the original container. 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 SPD 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 SPD Protector** proven defective. The end user shall be responsible for determining product's suitability and assumes all risks and liability.

**018: FIRST AID**
**PART A:**

*Eye Contact:* Hold eyelids apart and immediately flush eyes with plenty of water for at least 15 minutes.

*Skin Contact:* Wash affected area with soap and water. Wash clothing before reuse.

*Ingestion:* Low in toxicity.

*Inhalation:* Move victim to fresh air if effect occurs

*General:* No specific antidote. Supportive care. Treatment based on judgment of the physician in response to the reactions of the patient.

**PART B and RTU MIXTURE:**

*General Advice:* Seek medical advice. If breathing has stopped or is labored, give assisted respirations. Supplemental oxygen may be indicated. If the heart has stopped, trained personnel should begin cardio-pulmonary resuscitation immediately.

*Eye Contact:* Rinse immediately with plenty of water for at least 15 minutes.

*Skin Contact:* Immediately remove contaminated clothing, and any extraneous chemical; if possible, do so without delay.

*Ingestion:* Never give anything by mouth to an unconscious person. If a person vomits when lying on his back, place him in the recovery position. Prevent aspiration of vomit. Turn victim's head to the side.

*Inhalation:* If breathing has stopped or is labored, give assisted respirations. Supplemental oxygen may be indicated. If the heart has stopped, trained personnel should begin cardiopulmonary resuscitation immediately. Move to fresh air.

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

Concrete Condition	Possible Applications	Basic Coverage	Second Coat Coverage
Porous Condition Concrete	2 Coat Application	1000– 1200 ft per Gallon	1400 - 1600 ft per Gallon
Normal Condition Concrete	1 Application	1200 - 1500 ft per Gallon	<b>Optional:</b> 1400 - 1600 ft per Gallon
Hard Condition Concrete	1 Application	1400 - 1600 ft per Gallon	<b>Optional:</b> 1400 - 1600 ft per Gallon