## Section 03 35 43 Polished Concrete Technical Data Sheet





# AmeriPolish<sup>®</sup> SureLock<sup>™</sup> Dye



## PRODUCT FEATURES

## DESCRIPTION

Concrete dye concentrate for interior use

#### USES

Coloring concrete; especially designed for diamond-polished concrete.

Ameripolish<sup>®</sup> SureLock<sup>™</sup> Dye is part of the three-component SureLock<sup>™</sup> Color System designed specifically for coloring and polishing concrete floors. To obtain optimum performance, all three components system, SureLock Dye, SureLock<sup>™</sup> DensiColor, and SureLock<sup>™</sup> Stain Protector should be used together to lock in colors for long term beauty. Dye concentrate may be diluted in SureLock Densifier, acetone, or water. Product can be used with densifiers and stain protectors from other manufacturers, however, optimum stain resistance and color retention cannot be assured.

## SELECTION CRITERIA

• SureLock Dye provides consistent color that penetrates the surface layer deeply, and is reactive with concrete, forming a bond that locks color into slab, minimizing color migration or diffusion.

- Bonds with the other SureLock Color System components to protect color in slab.
- Is available in a broad range of vibrant colors.
- Contains UV stabilizer to help protect colorants in concrete against fading.
- Liquid concentrate eliminates 3-hour wait to dissolve dye required by other products.
- VOC compliant (< 40g/L)

## ♦ SUSTAINABILITY CRITERIA

Polished and exposed concrete floors are inherently sustainable because they eliminate the need for applied floor coverings. Exposed concrete floors are very durable, eliminating the need for periodic replacement of applied floor coverings. Along with easy, low-impact maintenance requirements (dry mop, wash with water or mild cleanser) and elimination of waxing and stripping chemicals, exposed concrete has low life-cycle impacts on the environment.

Surelock Dye in working solution has <40g/L VOCs. It does not require wet removal of excess or residue, minimizing disposal of pollutants.

Reflectivity of polished and high sheen floors may help optimize lighting and reduce illumination-energy consumption. It is shipped as a concentrate to reduce packaging and impacts of transportation and storage.

## AVAILABILITY

Global.

### + COST

Comparable with conventional concrete dyes.

## LIMITATIONS

New concrete must cure for at least 28 days before application. Not intended for exterior applications. While in most cases the SureLock Color System will extend resistance to color fading or dissipating, due to variables in application, maintenance, and the concrete itself, appearance may change over time.

## WARRANTY

This product is for use by licensed contractors. Since manufacturer does not exercise control of product's use or project conditions, AmeriPolish, Inc. represents and warrants only that this product is of consistent quality within manufacturing tolerances. **NO OTHER ORAL OR WRITTEN REPRESENTATION OR STATEMENT OF ANY KIND, EXPRESS OR IMPLIED, IS AUTHO-RIZED OR WARRANTED BY AMERIPOLISH, INC., INCLUDING THOSE OF MERCHAN-TIBILITY OR FITNESS FOR A PARTICULAR** 



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PURPOSE, OR THE EFFECTS OR RESULTS OF SUCH USE. AMERIPOLISH, INC. WILL NOT BE LIABLE FOR SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES, INCLUDING DAMAGES FOR DELAYS OR LOST PROFITS.

Claims must be made in writing and received within one year from date of product sale to original buyer. Sole remedy shall be replacement of product proven defective.

## ♦ SAFETY PRECAUTIONS

WARNING – Before using or handling this material, read the Material Safety **Data Sheet and Warranty. FOR DILUTION** WITH SURELOCK DENSIFIER, SEE SAFETY PRECAUTIONS ON DENSIFIER TECHNICAL DATA SHEET. For Dilution with Acetone: **AMERIPOLISH SURELOCK CONCRETE DYES ARE HIGHLY FLAMMABLE WHEN MIXED** WITH ACETONE. GREAT CARE SHOULD **BE TAKEN WHEN USING THIS PRODUCT!** Acetone will produce vapors that are highly flammable and can be harmful to the applicator's health. Make sure rooms are properly ventilated. Open windows and use fans to achieve air movement. Non-explosive exhaust devices may be required in areas with poor ventilation. Make absolutely certain no source of open flame is present. Pilot lights, heaters, cigarettes, and electric tools should not be used or turned on until all vapors have dissipated. Always wear a carbon filter respirator, eye protection, and chemical resistant gloves. Devices are available to measure acetone vapors. Avoid contact with skin, eyes, and clothing: may permanently stain. KEEP OUT **OF REACH OF CHILDREN. DO NOT TAKE** INTERNALLY.

## **PRODUCT PROPERTIES**

## COMPOSITION

SureLock Dye is a concentrated liquid dispersion of nano-sized colorant particles. It is designed to be diluted by the user with SureLock Densifier, acetone, or water, in a ratio of 1:16.

## PROPERTIES

SureLock Dye penetrates concrete surfaces and reacts with the concrete to form chemical bonds

between the colorant and the concrete matrix. It contains a UV stabilizer to minimize fading. It chemically bonds to SureLock Densifier to lock color into the slab.

## **PRODUCT PLACEMENT** ◆ PREPARATION

WARNING: People, property, vehicles, animals, plants, and all surfaces not intended to be dyed should be protected from the product, splash, overspray, and wind drift, using polyethylene sheeting or other proven protective material. If design requires discreet areas of color, mask adjoining areas, lining color edges with painter's blue tape or similar adhesive masking material. Surfaces, animals, or clothing contacted by dye may be permanently colored.

SURFACES MUST BE CLEAN AND DRY **BEFORE APPLICATION OF THE DYE. NEW** SLABS MUST HAVE CURED FOR AT LEAST 28 DAYS BEFORE APPLICATION. For best results perform a moisture content test on both newly-poured and existing slabs. Slabs with a moisture content of 5 lbs per foot or less show best performance (calcium chloride test per ASTM F1869). High moisture levels may affect performance of color. Do not apply if concrete is frozen, dirty or has standing water. Test surface absorbency with a light water spray - concrete surface should wet uniformly. If concrete does not wet uniformly, remove any surface contaminants with appropriate cleaning treatment or mechanical process.

As used in the SureLock Color System, dye is mixed with densifier in a combination called SureLock Densi-Color. SureLock Dye or Densi-Color may be applied to cured concrete of any age. Surfaces should be clean, structurally sound, and free of all foreign materials including sealants, adhesives, bond breakers, curing compounds, curing agents, surface grease and oil, and construction debris.

Ground or sanded surfaces should be vacuumed thoroughly. Acid-stained concrete should be neutralized and rinsed before application of Densi-Color or dye.

## DILUTION AND COVERAGE

In the SureLock Color System: SureLock Dye is applied twice: once in combination with SureLock Densifier (Densi-Color), and a second



time as a stand-alone dye solution.

SureLock Dye can also be used as a standalone dye in coordination with other manufacturer's densifiers and stain protectors.

#### Mixing SureLock Dye and Densifier

(Densi-Color): Mix SureLock Densifier according to maufacturer's directions. Do not dilute SureLock Dye wth other manufacturer's densifiers. Add SureLock Dye Concentrate to SureLock Densifier:

For 1-gallon pack: Pour .5 (3.8 L) gal water into a clean, empty 1.5 gal (5 L) plastic bucket. Add 8 oz (.24 L) SureLock Dye concentrate, mix. Add .5 gal (3.8 L) SureLock Densifier concentrate.

For 5-Gallon Pack: Pour 2.5 gal (9.5 L) water into a clean, empty 5 gal (20 L) plastic bucket. Add 32 oz (.9 L) SureLock Dye concentrate, mix. Add 2.5 gal (9.5 L) SureLock Densifier concentrate.

Coverage varies depending on concrete mixture, porosity, and moisture content and on ambient conditions. Use test areas to determine appropriate application procedure and adjust application rate.

As a starting point to determine coverage: 500-700 sf / gal (12-17m<sup>2</sup> / L)

**<u>Mixing Stand-alone Dye:</u>** To add color without densifier, SureLock Dye concentrate can be diluted with acetone or water in a 1:16 ratio:

- Mix 8 oz (.23 L) SureLock Dye concentrate with 1 gal (3.8 L) acetone **OR** 8 oz (.23 L) Sure-Lock Dye concentrate with 1 gal (3.8 L) water
- Mix 32 oz (.9 L) SureLock Dye concentrate with 5 gal (18.9 l) acetone  ${\bf OR}$  32 oz (.9 L)

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SureLock Dye concentrate with 5 gal (18.9 L) water

Coverage varies depending on concrete mixture, porosity, and moisture content and on ambient conditions. Use test areas to determine appropriate application rate. As a starting point to determine coverage:

400 sf / gal (9.8 m<sup>2</sup> / L)

## APPLICATION

**Testing:** Prior to starting project, apply Sure-Lock Dye or SureLock Densi-Color to sample area of each type of concrete to be treated, using applications procedures proposed for project. Confirm that concrete is receptive to dye or dye/densifier combination and that color is acceptable.

**Project Conditions:** Ambient temperature during application should be 40-100°F (4-38°C).

#### FOR SURELOCK SYSTEM – DENSI-COLOR:

Equipment: Spray apply SureLock Densi-Color using Patriot<sup>™</sup> 500 or Patriot 350 or similar low pressure sprayer with Patriot Gray #8 or similar conical mist tip with 8.4 gal/hr flow at 40 psi. (31.8 L /hr at 275.8 kPa), SureLock microfiber pad or similar microfiber floor finish applicator pad.

#### **Application Instructions:**

1. Grind up to 200-grit resin bond diamonds. (If not using a 200-grit step, grind up to 100-grit resins.)

2. Remove all dust and debris. If wet cleaning is performed, allow surfaces to dry.

3. Vacuum surface thoroughly.

4. Spray SureLock Dye (stand-alone) to lightly wet surface without creating puddles. Apply in a consistent, overlapping circular motion, holding the wand approximately 12-18 inches above the surface. Dye will absorb into concrete more quickly in some places than others. This is normal and does NOT indicate that extra dye is needed.

5. For acetone-dye mixtures, immediately upon completion of application, run clear acetone through the pump and wand, followed by clean water. For water-dye mixtures, clean with water only. This is recommended between color changes and prior to storing the sprayer

#### between jobs.

6. Allow surface to dry.

7. Spray SureLock Densicolor in an overlapping motion. Lightly use applicator to spread Densi-Color evenly on surface. Avoid puddles. Product does not need vigorous scrubbing-in and will not form a gel. As product is absorbed into surface, apply additional product as needed until floor starts to reject the product. Over-application or puddles of excess material will lengthen drying time, and may produce white surface residue that must be removed immediately. In the event of over-application, call manufacturer at 800.592.9320 or +1 479.725.0033 for removal instructions.

8. Clean equipment with fresh water before product dries. Overspray on unprotected surfaces should be immediately washed off.

9. Allow surface to dry.

10. Polish up to 400-grit resin bond diamonds.

11. Apply SureLock Dye (stand-alone) again for maximum color, using same method as step 4.

12. Clean sprayer as in step 5.

13. Allow surface to dry.

14. Remove dye residue with an autoscrubber fitted with a white pad and water. Perform white-rag test to assure that residue is removed. Wipe a dry white rag across the floor. A light tinge of residual color on the rag is acceptable, but any strong color indicates that excessive dye must still be removed. Unremoved dye residue will load resin diamonds and may produce



#### undesirable marks.

15. Polish with 800-grit resins, and 1500-grit or 3000-grit if desired.

Absorption-resistance of densified surface continues to develop over 7 days. However, concrete, even after becoming densified and polished, is still a porous substrate. Densifiers can take 2-6 months to attain full densification.

#### FOR STAND-ALONE DYE:

**Equipment:** Spray apply SureLock Dye using Patriot 500 or Patriot 350 or similar low pressure sprayer with Patriot Red #6 or similar conical mist tip with 6.4 gal/hrflow at 40 psi (24.2 L/hr 275.8 kPa).

#### Application Instructions: (To use SureLock Dye with in concert with other manufacturer's densifiers.)

1. Dilute SureLock Dye concentrate with acetone or water, mixed as directed. Acetone will provide better penetration, especially with dense or "tight" slabs. Where solvents are not desirable, dilute SureLock Dye concentrate with water. **Do not dilute SureLock Dye wth other manu-**

## facturer's densifiers.

2. Grind up to 200-grit resin bond diamonds. (If not using a 200-grit step, grind up to 100-grit resins.)

3. Remove all dust and debris. If wet cleaning is performed, allow surfaces to dry.

4. Vaccum surfaces thoroughly.

5. Apply SureLock Dye to small sample area of each type of concrete to be treated to confirm that concrete is receptive to dye and color is acceptable.

6. Spray a single application of SureLock Dye to lightly wet surface without creating puddles. Apply in a consistent, overlapping circular motion, holding the wand approximately 12-18 inches above the surface. Dye will absorb into concrete more quickly in some places than others. This is normal and does NOT indicate that extra dye is needed.

7. Allow to dry.

8. For acetone-dye mixtures, immediately upon completion of application, run clear acetone through the pump and wand, followed by clean water. For water-dye mixtures, clean with water only. This is recommended between color

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changes and prior to storing the sprayer between jobs.

9. Polish with progressively finer abrasives up to 400-grit resin bond diamonds.

- 10. Spray second application of SureLock Dye.
- 11. Clean sprayer as in step 8.

12. Remove dye residue with an autoscrubber fitted with a white pad and water. Perform white-rag test to assure that residue is removed. Wipe a dry white rag across the floor. A light tinge of residual color on the rag is acceptable, but any strong color indicates that excessive dye must still be removed.

13. Allow to dry

14. Apply densifier according to manufacturer's directions.

15. Continue polishing process 800-grit resins, and 1500-grit or 3000-grit if desired.

## NEXT STEPS

Apply SureLock Stain Protector following manufacturer's instructions to complete protection and enhance appearance. SureLock Stain Protector is strongly recommended for all colored polished concrete to protect color from staining or acidic etching agents, as well as minimizing color loss through diffusion or dispersion.

Allow 24 hours for Stain Protector curing time



before burnishing. Chemical resistance gains strength over time. Avoid chemical exposure for first 7 days.

## MAINTENANCE

Remove dust and debris with microfiber pad or dry mop. Buff dry with high speed burnisher to enhance sheen.

Spills of staining agents or acidic etching agents including acidic food substances (e.g. vinegar, pickle juice) should be cleaned up immediately to minimize damage to surface.

Surface should be cleaned regularly using an automatic floor scrubber with Ameripolish Sure-Lock Replenishing Cleaner. mixed with water according to manufacturer's directions.

Replenishing Cleaner is a pH neutral formulathat will not damage concrete and replenishes the Stain Protector application to maintain liquid and chemical resistance. **DO NOT use with acidic cleansers.** Autoscrubber should be fitted with non-aggressive cleaning tools such as brushes. **Do not perform regular maintenance with aggressive pads such as diamond-impregnated pads or other abrasives.** Use of aggressive pads will wear away stain protection and may, in time, wear away color from concrete surface.

MIDNIGHT BLACK

BLACK

Renew SureLock Stain Protector application every two years or more often depending on wear and usage conditions.

## ♦ First Aid

**Ingestion:** DO NOT induce vomiting. Drink large quantities of water or milk. Seek medical attention immediately.

**Eye Contact:** Remove contact lenses. Immediately flush eyes for 15 minutes in clear running water; hold eyelids open. Seek medical attention if irritation persists after flushing.

**Skin Contact:** Wash affected area with soap and water. If irritation persists, seek medical attention.

**Inhalation:** remove victim to fresh air. If necessary, use artificial respiration to support vital functions. Seek medical attention if adverse effect continues after removal to fresh air.

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