



LITHOCHROME® Colorwax™

A color-matched, low VOC, environmentally sound, two-component curing material for exterior concrete flatwork.

TECH-DATA BULLETIN A-514.09

1. Product Description:

LITHOCHROME® Colorwax™ is a two-component system formulated for curing exterior concrete that has been colored with CHROMIX® Admixtures for Color-Conditioned® Concrete or LITHOCHROME® Color Hardener. Color-matched to the concrete color, or used in A-11 Concrete Gray on uncolored concrete, LITHOCHROME Colorwax is an ideal curing material where a uniform appearance is desired and the concrete will be allowed to weather naturally. It allows the concrete to develop its full color potential and brings out the inherent beauty of the surface.

For curing, LITHOCHROME Colorwax is a premium-quality, environmentally sound curing membrane that complies with stringent air-quality regulations. Formulated to enhance color development, it retains moisture throughout the entire curing cycle to provide proper strength gain and to reduce shrinkage. Its superior curing properties are achieved with a thin film, reducing material cost. Concrete strength and abrasion resistance are increased while the surface is protected and staining is reduced. The concrete is easier to clean and maintain.

An additional thin coat of LITHOCHROME Colorwax may be applied over the initial cure coat to renew the appearance of exterior concrete at the completion of construction or to renew old applications of LITHOCHROME Colorwax after they have weathered or worn away.

2. Coverage:

LITHOCHROME Colorwax must be applied full strength without thinning by airless sprayer or roller. The recommended coverage rate per coat is 300 square feet per gallon (7 m²/L).

3. Limitations:

If either component, Part A (Color Additive) or Part B (Base) is omitted or not completely used or if another manufacturer's material is substituted or added, curing failure will occur. In its liquid state, LITHOCHROME Colorwax is destroyed by freezing. It cannot be restored to a usable condition by thawing and remixing.

Since it is not entirely opaque, LITHOCHROME Colorwax cannot be used to change the color of concrete, hide surface blemishes, or to cover construction errors. Over time it will wear or weather away, exposing the underlying concrete surface.

LITHOCHROME Colorwax should only be used on exterior concrete that is placed on a well-drained subgrade that is not subject to hydrostatic pressure. Alkali or hard-water deposits may form on or under the coating at edges, cracks, joints, depressions or other locations where water collects or enters the concrete substrate. Potted plants or other damp objects may leave deposits, stains, or discolorations if allowed to remain on the coated concrete for an extended period of time.

Due to greater retention of moisture in the slab, LITHOCHROME Colorwax should not be used to cure concrete that contains reactive aggregates since the possibility of pop-outs will be increased. LITHOCHROME Colorwax must not be used in areas subject to continuous water submersion or over surfaces previously treated with a water or stain repellent.

LITHOCHROME Colorwax must be applied evenly or lap marks and gloss variations will be visible.

LITHOCHROME Colorwax must be allowed to dry completely before it is subjected to temperatures below 42° F (6° C) or to water from any source. Water-based curing compounds that are applied to improperly prepared surfaces, applied too heavily, allowed to puddle in indentations and joints, or that cannot dry properly may be slippery and become sensitive to water, lose adhesion, and whiten or soften.

WARNING!

LITHOCHROME Colorwax must only be used in thin coats on surfaces adequately textured for slip resistance. It is intended for use on freshly placed concrete and on surfaces previously coated with LITHOCHROME Colorwax. If applied improperly or too heavily, the surface may whiten, peel, or become slippery, particularly on pool decks or other areas where water may remain on the surface.

TEST SECTION

Prior to general application, a representative jobsite test section must be produced including casting, finishing, curing, and finish-coating as applicable to verify and approve suitability, color, proper surface preparation methods, adhesion, safety, performance, wet and dry slip resistance, application techniques, and coverage.

4. Composition and Materials:

LITHOCHROME Colorwax is a proprietary, two-component, waterborne emulsion.

5. Applicable Standards and Building Codes:

LITHOCHROME Colorwax conforms to the moisture retention requirements of ASTM C 309 *Liquid Membrane-Forming Compounds for Curing Concrete*. The curing of colored flatwork is discussed in ACI 302.1R *Guide for Concrete Floor and Slab Construction*, which recommends against the use of plastic sheeting and curing paper for this purpose since they cause discoloration and mottling.

LITHOCHROME Colorwax complies with applicable air quality management regulations that restrict VOC content to less than 100 g/L (0.83 lb/gal).



Coating and finishing material as to slip resistance only. 6L90

6. Colors:

LITHOCHROME Colorwax is available in colors to match all colors depicted on Scofield's Color Charts A-312 *CHROMIX Admixtures for Color-Conditioned Concrete*, A-112 *LITHOCHROME Color Hardener*, and A-132 *Color Selection Chart*. It is also available in A-11 Concrete Gray that approximates the color of uncolored concrete made with medium-gray cement. Custom colors can be manufactured for use with custom colors of CHROMIX Admixtures, or LITHOCHROME Color Hardener, as well as for CHROMIX Admixtures when the use of white cement, or unusually light or dark cements, causes colors to vary from those shown on the color chart. Contact your SCOFIELD representative for minimum quantity requirements, pricing and lead times.

**7. Sizes:**

LITHOCHROME Colorwax is available in two-component, 1-gallon (3.8 L) and 5-gallon (18.9 L) kits consisting of the color additive (Part A) and the base (Part B), packaged separately.

8. Storage and Shelf Life:

When stored indoors in the original unopened containers at temperatures between 40–90° F (4–32° C), the shelf life of LITHOCHROME Colorwax is at least 1 year from the date of purchase. Inventory must be rotated to maintain product that is within shelf life limits. Some separation occurs during storage that is easily reincorporated when power-mixed before using.

9. Cautions:**WARNING!**

MAY CAUSE EYE, SKIN, AND RESPIRATORY TRACT IRRITATION. DO NOT TAKE INTERNALLY. KEEP OUT OF THE REACH OF CHILDREN. Use only with adequate ventilation. Do not breathe vapors or spray mist. Do not get in eyes, on skin or clothing. Ensure fresh air entry during application and drying. If you experience eye watering, headaches, or dizziness or if air monitoring demonstrates vapor/mist levels are above applicable limits, wear a properly fitted P100/organic vapor respirator (NIOSH TC-84A approved) during and after application. Follow respirator manufacturer's directions for respirator use.

First Aid: Eyes—DO NOT RUB EYES. FLUSH IMMEDIATELY WITH WATER. Hold eyelids apart while flushing material out thoroughly with large amounts of water. Skin—Wash thoroughly with soap and water. Remove soiled clothing and footwear and wash before reuse. Inhalation—Move to fresh air. If symptoms persist or develop or if ingested, get medical attention.

Wash thoroughly immediately after handling. Close container after each use. In case of spillage, absorb with inert material and dispose of in accordance with applicable regulations. Do not reuse empty container. Before using or handling, read the *Material Safety Data Sheet and Warranty*.

10. Chemical Resistance and Staining:

Chemical resistance may vary depending on the condition of the concrete substrate, curing techniques, surface preparation, method of application, the length of time the chemical remains on the surface, and other factors. When chemical protection is required or resistance to staining is important, a representative test application should be made on the jobsite substrate to determine if the product has suitable resistance. After the test application of LITHOCHROME Colorwax has fully cured, a minimum of 14 days, the chemical in question should be applied and left on the surface for the maximum possible time it would remain under the expected conditions of service.

11. Textures and Slip Resistance:

Only uniformly slip-resistant exterior concrete surfaces, such as broomed, swirl, sponge floated, or most imprinted concrete should be considered for an application of LITHOCHROME Colorwax. Textures that are not slip resistant must be roughened by some texturing method such as acid etching, sandblasting, or machine scarifying.

For safety considerations, a representative jobsite test section must be prepared prior to general application and the entire surface inspected after completion to verify and approve the adequacy of wet and dry slip resistance.

12. Equipment for Preparation and Application:

When using equipment and materials during preparation and installation, suitable protective gear must be worn and government regulations, manufacturer's instructions, and all applicable safety requirements must be followed.

For preparation, the pressure washer must be equipped with a fan tip and have a minimum pressure capability of 2000 psi (14 MPa). Hot water capability may facilitate cleaning of existing concrete. Nonmarking hoses are helpful.

For preparation, the rotary scrubbing machine must be heavy duty and operate at approximately 175 rpm. It may be equipped with brushes or with a pad-driver that securely holds the pads in place. For cleaning or stripping, a stiff-bristled bassine or nylon scrub brush is recommended. A walk-behind scrubbing machine should be considered for cleaning larger areas.

For mixing, a metal mixing paddle fitted onto a slow speed drill and with a metal shaft long enough to reach the bottom of the container must be used. Hand mixing can result in color defects and performance failure and is not recommended.

For application, the airless sprayer must be of professional quality with a variable output fluid pressure of 1500–2500 psi (10–17 MPa). The sprayer must be fitted with a fan tip of 0.013–0.018 inches (0.33–0.46 mm).

For application by roller, the roller must be short-napped with a maximum pile depth of $\frac{3}{8}$ inch (10 mm), of professional quality, and a suitable size. An adequate supply of refill rollers should be available so they may be changed whenever necessary. Brushes and long-napped rollers are not recommended because they cannot be used to apply the material uniformly.

13. Preparation of Concrete Previously Cured with LITHOCHROME Colorwax:

Before applying an additional finish coat of LITHOCHROME Colorwax to concrete surfaces previously cured with LITHOCHROME Colorwax, all dirt, oil, and grease must be completely removed. Failure to remove all contaminants will cause appearance defects, adhesion loss, peeling, and reduced durability.

14. Mixing:

LITHOCHROME Colorwax is a two-component material supplied as a kit consisting of Part A (Color Additive) and Part B (Base), packaged in separate containers. The entire contents of both containers must be used and the mixing of partial kits should not be attempted.

Using the equipment described in section 12. *Equipment for Preparation and Application*, Part B (a milky liquid) should be power-stirred and while stirring continues, the entire contents of Part A (a colored liquid) should be added. The sides and bottoms of the Part A container must be thoroughly scraped to remove all of the color additive. Power mixing should continue until a uniform consistency and a streak-free color is reached. During mixing, the paddle should be moved up and down and around the sides of the container, but should always remain below the surface of the liquid so that air will not be trapped.

After combining the components, material from different containers should be mixed together (boxed) to minimize the possibility of color variation. If protected from freezing and extreme heat, COLORCURE Concrete Sealer may be premixed and stored in closed containers without reduction in shelf life until needed for use. It must be mixed again immediately prior to use.

**15. Application Procedure:**

The work area must be roped off, nearby vehicles removed, and appropriate sections closed to traffic. Surrounding areas, landscaping, and adjacent surfaces must be masked or protected from overspray, spills, tracking, and equipment contact. The surface should be divided into work sections using walls, joint lines, or other stationary features as natural stopping points. This allows for easier control of coverage, wet edge, and overlap. On finish-coat applications, all surfaces must be properly prepared as described in section 13.

Preparation of Concrete Previously Cured with LITHOCHROME Colorwax.

Immediately prior to use, the liquid material must be thoroughly power-mixed as described in section 14. *Mixing*. Application must be made full strength (unthinned) at the coverage rate recommended in section 2. *Coverage* using the equipment described in section 12. *Equipment for Preparation and Application*. LITHOCHROME Colorwax will appear lighter when wet, but will dry to the proper color.

LITHOCHROME Colorwax must be applied thinly and uniformly or lap marks and gloss variations will be visible. A wet edge should be maintained, and overlap controlled. Material should not be overapplied or allowed to puddle or collect in joint indentations. A brush or rag should be kept available to brush out or mop up excess material.

LITHOCHROME Colorwax must be allowed to dry completely, normally 12–48 hours, before it is subjected to temperatures below 42° F (6° C) or to water from any source, such as hoses, sprinklers, condensation, or rain.

All surfaces must be thoroughly inspected to verify and approve installation and safety, including wet and dry slip resistance, before opening the area to traffic. Cured or finish-coated surfaces should be protected from damage by other trades. Contaminants such as cutting oil will stain the surface and heavy objects dropped or dragged will abrade it.

16. Application as a Curing Membrane:

The concrete must be uniformly and adequately textured for slip resistance as described in section 11. *Textures and Slip Resistance*. Newly placed concrete should be colored when placed by using CHROMIX Admixtures, or LITHOCHROME Color Hardener, and then cured with LITHOCHROME Colorwax. Freshly placed concrete is darker in color than it will be when fully cured. LITHOCHROME Colorwax is formulated to match the color of concrete after curing.

The curing membrane must be applied uniformly with an airless sprayer as soon as the surface of the concrete has sufficiently set so that it can be walked on gently without marring, the surface moisture has evaporated, and no condensation or sweating can occur. During application, all surfaces must be in approximately the same state of hardening.

During cold, foggy, or damp weather or periods of significantly falling temperatures, the concrete may sweat or condensation may form on the surface, thereby preventing the curing membrane from drying and adhering properly. Application of the membrane should be made when condensation ceases, usually from 24–48 hours after placement, and when temperatures will not fall below 42° F (6° C).

The curing surfaces should not be walked on for a minimum of 12 hours after application. Freshly placed colored concrete should not be covered with plastic sheeting or waterproof paper. If additional protection is absolutely required, the curing surfaces should remain uncovered for a minimum of 4 days, after which time new and unwrinkled, nonstaining, reinforced kraft curing paper that conforms to ASTM C 171 *Sheet Materials for Curing Concrete* may be used. The use of plastic sheeting for protection is never recommended. When protection from plastering is required, the kraft paper should be removed at the end of each day, the concrete cleaned of all plaster and plaster-water residue, and the paper reinstalled the next morning if necessary.

17. Application as a Finish Coat:

Surfaces to receive a finish coat must have been previously cured or coated with LITHOCHROME Colorwax. LITHOCHROME Colorwax must be applied by airless sprayer or roller at the recommended coverage rate in section 2. *Coverage*. All surfaces must be textured as described in section 11. *Textures and Slip Resistance* and cleaned and prepared for coating as described in section 13. *Preparation of Concrete Previously Cured with LITHOCHROME Colorwax*.

Application should be on a calm day when concrete and air temperatures are between 50 and 90° F (10–32° C) and will not fall below 42° F (6° C). Application should not be made during rainy, foggy, or very humid weather when water condensation forms on the surface. On hot, dry days, application should be made during the cooler part of the day and when the concrete is in the shade.

Coated surfaces will be tack-free after approximately 1–2 hours at a temperature of 75° F (24° C) and 50% relative humidity. Under these conditions, the area may be walked on gently after a minimum of 4 hours.

After the coating is completely dry, the area may be opened to light use after a minimum of 24 hours and to general use after a minimum of 72 hours. The coating gains strength during the first several days after application. Longer drying times are helpful and will be necessary if temperatures are lower or the humidity is higher.

18. Removal:

LITHOCHROME Colorwax can be removed from fully cured concrete by using LITHOCHROME™ Coating Remover. Scrubbing with a rotary scrubbing machine equipped with a stiff-bristled bassine or nylon brush will facilitate removal. Abrasive stripping may wear away softer concrete and test areas are recommended. Multiple applications of remover may be required. Following the stripping procedure, the concrete surface must be thoroughly rinsed and allowed to dry. LITHOCHROME Colorwax may then be reapplied following the instructions in section 17. *Application as a Finish Coat*. Information on stripping and cleaning concrete surfaces is available in Scofield's Tech-Data Bulletin M-544 *LITHOCHROME Coating Remover*.

19. Availability:

LITHOCHROME Colorwax is marketed nationwide and internationally, directly to the user and through strategically located warehouses, dealers, and representatives. Contact Scofield for its nearest representative.

Scofield offers a complete line of engineered systems for coloring, texturing, and improving performance in architectural concrete. Scofield Systems address specialized requirements for interior, exterior and vertical uses with compatible systems of complementary products including coloring admixtures, color hardeners, colored cementitious toppings, stains, curing compounds, sealers, coatings, repair products and texturing tools. Visit the Scofield website at www.scofield.com for further information.

20. Warranty Summary:

For the complete warranty statement and important limitations, read the *Material Safety Data Sheet and Warranty*. Generally, Scofield represents and warrants only that its products are of consistent quality. No other oral or written statement is authorized. Any liability is limited to refund or replacement of defective product. The end user shall determine product's suitability and assume all risks and liability.



Suggested Short Form Specification for Curing (optional: and Finish-Coating) Concrete Flatwork:

All concrete flatwork designated as colored in the plans and specifications shall be cured (*optional:* and finish-coated) with LITHOCHROME® Colorwax™ in _____ color (matching the designated concrete color), manufactured by L. M. Scofield Company, (800) 800-9900, Los Angeles, CA, (323) 720-3000 and Atlanta, GA, (770) 920-6000. LITHOCHROME® Colorwax™ shall be applied full strength in accordance with Scofield Tech-Data Bulletin A-514 LITHOCHROME® Colorwax™. *For optional finish coat:* After construction operations have been completed and the concrete has cured and been thoroughly cleaned, a single finish coat shall be applied in accordance with Scofield Tech-Data Bulletin A-514 LITHOCHROME® Colorwax™.



1 800 800 9900 or www.scofield.com

SCOFIELD PRODUCTS ARE INTENDED FOR PROFESSIONAL USE ONLY

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