



# SCOFIELD® Formula One™ Liquid Dye Concentrate

*A penetrating, translucent dye concentrate designed to color interior concrete surfaces prior to being sealed, densified, or polished. Ideal for use on older interior slabs where acid stain cannot be used, or areas that must be quickly returned to service.*

## TECH-DATA BULLETIN A-434.05

### 1. Product Description:

SCOFIELD® Formula One™ Dye Concentrate is an acetone soluble dye, formulated to color interior concrete surfaces prior to being densified, sealed, or ground and polished. Designed for easy job-site dilution, the diluted material will penetrate into the pores of properly prepared new or old concrete. It can be applied lightly to gently tone surfaces, or applied heavily to develop deep rich color.

SCOFIELD Formula One Liquid Dye is not designed as a stand-alone floor finish. After application it must be sealed into the concrete with a premium protective coating such as SCOFIELD® Formula One™ Finish Coat, Scofield® Selectseal-W™, Scofield® Cureseal-W™, Scofield® Cureseal-S™, Scofield® Cureseal-VOC™, Scofield® Cureseal-100™, CEMENTONE® Clear Sealer, or Scofield® Formula One™ Guard-W.

### 2. Color Effects:

SCOFIELD Formula One Liquid Dye Concentrate is available in 22 standard colors approximated on Scofield's Color Chart A-432 SCOFIELD Formula One Liquid Dye Concentrate. Dye colors can be combined to create an unlimited number of color variations. The final color effect produced will be unique to each concrete surface and sealer system selected, and may differ significantly from that shown on the color chart. Always evaluate dye mixtures, sealer systems, and application techniques as prescribed in Section 6 Jobsite Test Sections before beginning large jobs.

### 3. Coverage:

After proper dilution with acetone, SCOFIELD Formula One Liquid Dye will cover 300–600 square feet per gallon (7–15 m<sup>2</sup>/L), depending on surface conditions and desired color intensity. Concrete porosity, texture, age, mix design and method by which the surface was finished, will all affect penetration, coverage rate, and final color.

### 4. Limitations:

SCOFIELD Formula One Liquid Dye will not perform properly on surfaces where oil, dirt, prior coating, sealer, or other substances that impede penetration are present. If any of these are present, dye may not penetrate. SCOFIELD Formula One Liquid Dye is not opaque. It will not hide surface blemishes, construction errors, or imperfections.

**SCOFIELD Formula One Liquid Dye is for interior use only.** Exposure to sunlight can cause color change or fading. Do not use on damp concrete, concrete slabs on damp ground, or concrete that will be exposed to moisture. Moisture can cause Liquid Dye to discolor or move within the slab and cause color variation. Prior to application, ensure the concrete is dry by confirming that the Moisture Vapor Emission Rate (MVER) is below 5 lbs/1000sq.ft per 24 hours, or test to determine Relative Humidity (RH) within the concrete is below 85%.

Because concrete surface porosity varies, mottling and color variations are likely to occur. Concrete from different loads or pours, and in patched areas, may accept dye differently and be different in color. Always evaluate a Jobsite Test Section for color, as described in section 6. Jobsite Test Sections.

### 5. Textures and Slip Resistance:

Before finalizing application technique and sealer system selection, prepare Jobsite Test Sections as described in section 6 and evaluate for adequate slip resistance and SCOF (Static Coefficient of Friction). **Do not create slippery floors that are dangerous.** Test completed projects to ensure floors are safe.

### 6. Jobsite Test Sections:

Prior to general application, representative Jobsite Test Section(s) must be produced and approved for each individual concrete surface, and for each color and sealer combination that will be created. Use Jobsite Test Sections to verify system suitability, surface preparation methods, adhesion, safety, performance, wet and dry slip resistance, application techniques, color, visual appearance, and product coverage. **Do not proceed with products, techniques, or finishing systems that do not meet required specifications or meet with site owner approval.**

Select Jobsite Test Sections that are in close proximity to the larger job area, and made from the same or similar concrete pour. Ideally, select areas that will later be covered by another type of flooring material such as sheet vinyl, tile or carpet. Test sections should be sized to be representative of the finished project, and be produced by the same workers who will apply the dye mixture and sealing system. **All test sections should be presented to owners for visual and performance approval prior to beginning main project areas.**

Begin Job Site Test Sections by applying a small amount of dye to test for penetration. If penetration is poor because the surface is unusually dense from power or steel troweling, grind the concrete surface with a 400 grit diamond/polymer disc, or acid etch the surface to open pores for dye to enter. Remove all dust and residue from the surface, and allow it to completely dry, before retesting.

**Ground and Polished Floors:** Producing ground and polished concrete takes experimentation and practice. Apply dye mixtures to floors ground to the desired aggregate exposure/profile and finished with a 400 grit resin/diamond pad. Apply a liberal coat of SCOFIELD Formula One Lithium Densifier MP and polish with 800 grit resin/diamond pad. Apply SCOFIELD Formula One Finish Coat, or SCOFIELD Formula One Guard-W and continue polishing with progressively finer grit until the desired finish is achieved.

### 7. Packaging:

SCOFIELD Formula One Liquid Dye Concentrate is supplied in bottles containing 4 fluid ounces (118 ml) of material which is sufficient to produce 1 gallon (3.8 L) of ready-to-use dye.

### 8. Storage and Shelf Life:

When stored in sealed containers between 50°F and 100°F, SCOFIELD Formula One Liquid Dye Concentrate has a 2 year shelf life from date of purchase. Once mixed with acetone, the shelf life is six months.



## 9. Cautions:

### WARNING!

**WARNING! MAY IRRITATE EYES, SKIN AND RESPIRATORY TRACT. DO NOT TAKE INTERNALLY. KEEP OUT OF THE REACH OF CHILDREN.**

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 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. Equipment for Preparation and Application:

All equipment, protective clothing, and masking materials used must be safe for use with acetone. Wear rubber gloves, goggles, and dust mask. Wear an organic vapor respirator if using in any space where vapors may collect.

**For application,** Dye mixture may be applied by brush or pump sprayer. When spraying, use a hand-pump sprayer that is of professional quality, nonelectrical and designed for use with acetone. Follow the equipment manufacturer's instructions. For intricate work, a fine brush or Precision sprayer can be used. Clean equipment with clean acetone.

## 11. Substrate Preparation:

SCOFIELD Formula One Liquid Dye must only be applied to concrete that is fully cured, dry, and a minimum of 28 days old. Surfaces to be dyed must be dry and clean of all prior sealers, curing compound, oils, or other materials that might prevent penetration. Use masking materials that are not affected by acetone. Divide work areas into sections using walls, joint lines, or other stationary features to provide natural stopping points. If preparing to color concrete that will be later polished, grind the concrete to the desired aggregate exposure and profile prior to application of dye.

## 12. Stain Preparation and Mixing:

SCOFIELD Formula One Liquid Dye Concentrate must be mixed with acetone prior to application. Each 4 fluid ounce bottle of dye concentrate is designed to be mixed with 124 fluid ounces of acetone to produce 1-gallon of dye that is ready for application. Mixing can take place in an acetone resistant pail, sprayer, or in a gallon-size acetone container after removing 4 fluid ounces of acetone. Mix the dye concentrate and acetone by hand stirring with a wooden paint stick, or by shaking closed containers for 2 minutes. Do not use power tools or any device that may produce a spark. Always wear protective clothing such as goggles, gloves, and respirators as outlined in the acetone producer's MSDS and safety instructions.

### WARNING!

**WHEN SCOFIELD FORMULA ONE LIQUID DYE CONCENTRATE IS MIXED WITH ACETONE, THE MIXTURE AND VAPORS WILL BE DANGEROUS, HIGHLY FLAMMABLE, AND HARMFUL IF INHALED. VAPOR MAY CAUSE FLASH FIRE. CAUSES EYE IRRITATION. BREATHING VAPORS MAY CAUSE DROWSINESS AND DIZZINESS. CAUSES RESPIRATORY TRACT IRRITATION. ASPIRATION HAZARD IF SWALLOWED. PROLONGED OR REPEATED CONTACT MAY DRY THE SKIN AND CAUSE IRRITATION.**

**A NONEXPLOSIVE VENTILATION SYSTEM MAY BE REQUIRED TO ACHIEVE PROPER VENTILATION. DURING USE AND UNTIL VAPORS ARE GONE, KEEP AREA PROPERLY VENTILATED AND KEEP AWAY FROM HEAT, SPARKS OR OPEN FLAMES. READ AND FOLLOW THE ACETONE MANUFACTURER'S MATERIAL SAFETY DATA SHEET AND LABEL CAUTIONS.**

## 13. Application:

Apply the SCOFIELD Formula One Liquid Dye mixture uniformly in a consistent, overlapping circular motion. When spraying, hold the spray tip approximately 12 inches above the concrete surface. If puddles appear on the surface, the mixture is being applied too heavy. SCOFIELD Formula One Liquid Dye will dry to the touch in 5–15 minutes, and is ready for sealer system application 30 minutes after drying.

To ensure good finish coat adhesion, all excess dye remaining on the surface must be removed prior to application of the topcoat or sealer. Remove excess dye with water and mild detergent using an autoscrubber, floor scrubber, or medium stiffness bristle brush.

**AVOID ROLLER MARKS! Only apply solvent based topcoats and sealers with spray equipment.**

## 14. Availability:

SCOFIELD Formula One Liquid Dye Concentrate is marketed internationally through strategically located dealers, and representatives. 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](http://www.scofield.com) for further information.

## 15. Limited Warranty:

L. M. Scofield Company (Scofield) represents and warrants only that its products are of consistent quality and within manufacturing tolerances. NO OTHER ORAL OR WRITTEN REPRESENTATION OR STATEMENT OF ANY KIND, EXPRESS OR IMPLIED, NOW OR HEREAFTER MADE IS AUTHORIZED OR WARRANTED BY SCOFIELD, INCLUDING THOSE OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Liability for breach of contract, negligence, or on any other legal basis is limited to the lesser of refund or replacement of defective materials. SCOFIELD WILL NOT BE LIABLE FOR SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES, INCLUDING FOR DELAYS OR LOST PROFITS. Communication of this warranty and its limitations to end users is not the responsibility of Scofield, but should be communicated by those in direct contract with the end user. Any claim regarding product defect must be received in writing within one year from the date of manufacture. No claim will be considered without such written notice or after the specified time interval. The end user shall determine the suitability of the products for the intended use, and assumes all risks and liability in connection therewith.



**SCOFIELD PRODUCTS ARE INTENDED FOR PROFESSIONAL USE ONLY**

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■ **L. M. Scofield Company customer service: 1 800 800 9900**

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