



SCOFIELD® Formula One™ Finish Coat

A chemically reactive, non-film forming, colorless treatment designed to protect concrete from water and many staining materials and provide increased gloss on architectural or ground and polished concrete floors.

TECH-DATA BULLETIN B-434.02

1. Product Description:

SCOFIELD® Formula One™ Finish Coat is a VOC-free, cost-effective treatment that will extend the nominal service life of concrete floors and reduce floor maintenance costs. It is used on architectural or ground and polished concrete floors after treatment with SCOFIELD® Formula One™ Lithium Densifier MP to reduce porosity and to protect the surface by improving chemical resistance and reducing water permeability while remaining vapor permeable (breathable).

SCOFIELD Formula One Finish Coat is an economical product capable of providing longer life and higher reflectivity (gloss) for architectural or ground and polished concrete floors of all types. The treated and finished concrete will provide a surface that is nontoxic, easy-to-maintain, and environmentally sound with a moderate sheen. This product does not contain sodium silicate or potassium silicate. When properly installed, it will not leave the whitish surface bloom characteristic of nonarchitectural silicate products.

SCOFIELD Formula One Finish Coat is normally used on architectural concrete floors after treatment with SCOFIELD Formula One Lithium Densifier MP, a product designed to provide a hardening, densification reaction that improves the abrasion resistance and overall durability of the treated concrete. Refer to Scofield's Tech-Data Bulletin B-424 *SCOFIELD Formula One Lithium Densifier MP* for product information. SCOFIELD Formula One Finish Coat can provide increased durability, excellent water and stain repellency and enhanced gloss which will develop over time. SCOFIELD Formula One Finish Coat used in conjunction with SCOFIELD Formula One Lithium Densifier MP as a system will provide treated floors that require minimum maintenance. Periodic cleaning with an alkaline or neutral cleaner is generally sufficient to maintain a like-new appearance.

SCOFIELD Formula One Finish Coat has zero VOC content and is an environmentally sound, green building material. It may contribute to earning LEED® credits for Indoor Environmental Quality, EQ Credit 4.2: Low-Emitting Materials: Paints & Coatings, based on low contribution of VOC. See the current *Material Safety Data Sheet* for exact VOC documentation.

2. Coverage:

The application rate of SCOFIELD Formula One Finish Coat is determined by the porosity and the polished surface profile of the concrete floor at the time of treatment. Concrete that has not been polished will usually require an application rate of 200–300 square feet per gallon (5–7 m²/L). Some polished concrete with a fine surface profile (400–800 grit) will require an application rate between 400–500 square feet per gallon (10–12 m²/L).

3. Limitations:

SCOFIELD Formula One Finish Coat does not conform to ASTM C 309 requirements. SCOFIELD Formula One Finish Coat is highly alkaline and can react with glass and aluminum. Such areas adjacent to the concrete to be treated should be properly covered for protection.

Floors treated with SCOFIELD Formula One Finish Coat must not be cleaned with or exposed to acidic cleaners or substances because acid will cause white spots on the treated concrete.

If residual SCOFIELD Formula One Finish Coat is allowed to dry on the concrete surface it will leave unsightly white areas that are difficult to remove. The appearance of white

residue on the concrete surface after completion indicates that the removal of excess SCOFIELD Formula One Finish Coat was not complete. This white residue can only be removed by grinding, which will alter the surface profile and appearance.

The water and stain repellency of floors treated with SCOFIELD Formula One Finish Coat will develop over time; 2 weeks is generally sufficient for this to take place.

WARNING!

SCOFIELD Formula One Finish Coat is very strongly alkaline and can quickly damage eyes, skin and other body tissues upon contact. Use of proper safety equipment is required. Before using or handling, read the *Material Safety Data Sheet and Warranty*.

TEST SECTION

Treating architectural concrete or ground and polished concrete flatwork takes skill and practice. Prior to general application, a representative jobsite test section must be produced and approved on each individual concrete surface as described in section 6. *Jobsite Test Sections* to verify and approve suitability, proper surface preparation methods, application techniques, coverage, grinding and polishing procedures where applicable, resulting appearance, overall performance, and wet and dry slip resistance.

4. Textures and Slip Resistance:

When properly applied, SCOFIELD Formula One Finish Coat will not alter the texture of architectural concrete. The treated concrete surfaces will slowly develop a shiny, almost wet look, which may appear darker than the original installation. Only surfaces that will have adequate texture to provide slip resistance should be considered for treatment with SCOFIELD Formula One Finish Coat. After application of SCOFIELD Formula One Finish Coat, the slip resistance (Coefficient of Friction) should be determined to ensure that it is within established safety guidelines.

For safety considerations, a representative jobsite test section as described in section 6. *Jobsite Test Sections* must be produced prior to SCOFIELD Formula One Finish Coat application. The entire surface of the test section must be inspected after completion to verify and approve the adequacy of wet and dry slip resistance.

5. Storage and Shelf Life:

Under normal conditions and when kept indoors, off of the floor, and within a temperature range of 40–100° F (4–38° C), the nominal shelf life of SCOFIELD Formula One Finish Coat in unopened containers is 2 years from the date of purchase. Opened containers should be closed after use and then used within 1 month and must be discarded if the material becomes cloudy. Inventory must be rotated to maintain product that is within shelf life limits.

SCOFIELD Formula One Finish Coat must not be exposed to freezing temperatures. If product becomes frozen it must be discarded.

**6. Jobsite Test Sections:**

To verify and approve suitability, appearance, and safety, representative test sections must be produced on the actual jobsite substrate prior to general application of SCOFIELD Formula One Finish Coat. Test sections must be of adequate size to be representative, and be produced by the same workers who will apply the SCOFIELD Formula One Finish Coat using the contemplated application or grinding and polishing equipment and techniques where applicable. All test sections must be prepared and treated as specified to verify and approve the suitability of the product for its intended purpose. The entire surface of the test section must be inspected after completion to verify and approve the adequacy of wet and dry slip resistance.

7. Cautions:**WARNING!**

CORROSIVE TO EYES AND SKIN. CAUSES SEVERE BURNS. SPRAY MIST CAUSES IRRITATION TO RESPIRATORY TRACT. DO NOT TAKE INTERNALLY. KEEP OUT OF THE REACH OF CHILDREN. Contains silicic acid, lithium salt. Use only with adequate ventilation. Do not breathe vapors or spray mist. Avoid contact with eyes, skin and clothing. Possible developmental hazard. Contains lithium that may adversely affect the developing fetus. 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 appropriate *Material Safety Data Sheet and Warranty*.

8. Applicable Standards:

No ASTM specifications exist at this time covering silicate treatments for concrete. Typical test results for 28 day old concrete or mortar specimens treated with both SCOFIELD Formula One Lithium Densifier MP and SCOFIELD Formula One Finish Coat, as compared to similar concrete or mortar control specimens of the same age and composition and tested at 56 days, are given in the table below.

9. Packaging:

SCOFIELD Formula One Finish Coat is available in 1-gallon (3.8 L) and 5-gallon (18.9 L) pails and in 55-gallon (208 L) drums.

10. 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 spray application pump-type sprayers, such as a Chapin or Hudson sprayer, must be of professional quality and equipped with a fan tip. Follow the equipment manufacturer's instructions. For uniform results sprayers are recommended for application of SCOFIELD Formula One Finish Coat. Airless sprayers must not be used. All equipment should be washed with several rinses of water after use.

For larger wet-scrub applications, the rotary floor machine should operate at 175 rpm. It may be equipped with brushes or with a pad-driver that securely holds the pads in place. A good-quality, soft-bristled polishing brush may also be used.

For removal of wet grinding slurry and clean up of treatment and rinse water, a wet vacuum equipped with a squeegee-type attachment should be used.

For scrubbing after application, the push broom should be equipped with soft polystyrene or nylon bristles. A push broom is required to scrub SCOFIELD Formula One Finish Coat into the surface after spray application. Spill-and-spread methods using a push broom can also be used for application.

11. Substrate Preparation:

Surrounding areas and adjacent surfaces must be masked or protected from overspray, spills, tracking, and equipment contact. The work area should be roped off and appropriate sections closed to traffic. The surface should be divided into work sections using walls, joint lines, or other stationary features as natural stopping points.

For optimum performance on colored architectural concrete, SCOFIELD Formula One Finish Coat must only be applied to fully cured concrete that is a minimum of 28 days old to allow for adequate penetration of the surface.

Wet concrete should be allowed to dry adequately prior to application of SCOFIELD Formula One Finish Coat so that the pores near the surface are not filled with water. During cooler temperatures or higher relative humidity conditions, the drying interval should be increased to achieve the level of dryness necessary for good penetration.

Where applicable, all grinding and polishing should be completed prior to application of SCOFIELD Formula One Finish Coat, because it is designed as a near-surface treatment rather than a deeply penetrating product.

12. Application:

All surfaces must be properly prepared as described in section 11. *Substrate Preparation*. Apply SCOFIELD Formula One Finish Coat at the coverage rate described in section 2. *Coverage* that is correct for the concrete substrate finish profile.

Test results for specimens treated with SCOFIELD Formula One Lithium Densifier MP/Finish Coat compared to control specimens

| ASTM Test Method | Property Measured | Test Result (*compared to untreated control) |
|--------------------------------|-----------------------------|--|
| D 4060, H-22, 1000 g, 1000 cyc | Taber Abrasion Resistance | * 20–50% increase in abrasion resistance |
| D 4541 | Elcometer pull-off adhesion | * 10–30% increase in bond strength |
| C 805 | Rebound # Compressive | * 10–30% increase in compressive strength |
| Rilem Tube Method | Water uptake | * 5–10% absorption mL/hr |
| G-154, 1000 hr, 4/cond, 8/UV | Artificial weathering, UV | No change in color or appearance |
| D 523, at 60° | Specular Gloss | 40–50 gloss units |



After the proper amount is applied, brush the surface vigorously with a push broom or rotary floor machine equipped with a brush or pad to facilitate penetration. Allow SCOFIELD Formula One Finish Coat to remain on the surface for at least 20 minutes. Adjust the application rate to provide a wet layer on the surface. If the applied material soaks in quickly, additional material should be applied until the surface is flooded with a visible layer. As necessary during this 20 minute minimum penetration period, keep the surface from drying by reapplying SCOFIELD Formula One Finish Coat to areas that start to lose the wet-film sheen. It is important to maintain a fluid condition of the in-place SCOFIELD Formula One Finish Coat so that it can penetrate properly.

Once the required treatment period is complete and the SCOFIELD Formula One Finish Coat has been on the concrete surface for at least 20 minutes, use a squeegee and wet vacuum to remove excess material. Follow this with a fresh water rinse scrubbed into the surface and then removed completely with a squeegee and wet vacuum before it dries. If residual SCOFIELD Formula One Finish Coat is allowed to dry on the concrete surface it will leave unsightly white areas that can only be removed by grinding. The appearance of white residue on the concrete surface after completion indicates that the removal of excess SCOFIELD Formula One Finish Coat was not complete. This white residue can only be removed by grinding, which will alter the surface profile and appearance.

Allow the SCOFIELD Formula One Finish Coat treated concrete to dry thoroughly. Drying time will vary depending on relative humidity, temperature and air movement. Drying time could range from less than an hour to several hours. If the floor has a high rate of absorption, a second application may be required.

All treated and finished surfaces must be thoroughly inspected to verify and approve installation and safety, including wet and dry slip resistance, prior to opening the area to traffic.

■ 13. Maintenance:

Architectural concrete and polished concrete surfaces treated with SCOFIELD Formula One Finish Coat are generally very durable and require little maintenance other than scheduled scrubbing with water and a neutral or alkaline cleaner. This recommended cleaning process provides water to hydrate the reactive components of the treatment and to further harden and cure the treated concrete. Spills should be cleaned up when they occur in accordance with good housekeeping practices. No waxes or subsequent surface treatments are necessary in most applications but if wax or floor finish is used it should be tested for compatibility prior to use.

Floors previously treated with SCOFIELD Formula One Finish Coat that lose the initial sheen can receive a maintenance application to restore the sheen and enhance water and stain resistance. The need for maintenance applications will vary depending on traffic and exposure conditions of the floor, and is typically on an as-needed basis. To determine if a maintenance application is needed, the floor can be evaluated by spotting it with water. As long as the floor surface does not darken quickly no reapplication is required. If the water causes the floor to darken and wet quickly, clean the floor thoroughly and reapply SCOFIELD Formula One Finish Coat as described in section 12. *Application*. The water and stain repellency will be restored to full levels as the new application reacts over time, generally within 2 weeks after application. All coatings, waxes or other materials must be completely stripped and the floor dried prior to the reapplication of SCOFIELD Formula One Finish Coat.

■ 14. Availability:

SCOFIELD Formula One Finish Coat is marketed nationwide and internationally, directly to the user 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.

■ 15. Limited Warranty:

Since no control is exercised over product use, L. M. Scofield Company (Scofield) represents and warrants only that its products are of consistent quality 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.



1 800 800 9900 or www.scofield.com

SCOFIELD PRODUCTS ARE INTENDED FOR PROFESSIONAL USE ONLY

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

Western Headquarters: 6533 Bandini Blvd., Los Angeles, CA 90040 **voice:** 323 720 3000 **fax:** 323 720 3030

Eastern Headquarters: 4155 Scofield Road, Douglasville, GA 30134 **voice:** 770 920 6000 **fax:** 770 920 6060

www.scofield.com