



SCOFIELD® Selectseal-S™

A ready-to-use, solvent-based, one-component, clear urethane sealer formulated to seal and protect interior concrete floors and vertical concrete.

TECH-DATA BULLETIN B-514.02

1. Product Description:

SCOFIELD® Selectseal-S™ is a premium-quality, one-component, clear, nonyellowing, aliphatic moisture cure urethane sealer that is highly resistant to staining, abrasion and ultraviolet (UV) radiation. It reacts with atmospheric moisture to form an extremely durable film with superior chemical and abrasion resistance characteristics. SCOFIELD Selectseal-S is formulated to seal and protect new or existing, colored or uncolored interior concrete floors, vertical concrete and SCOFIELD® Overlay™ toppings where an exceedingly durable, clear, high gloss or matte finish is desired. An integral part of the Scofield engineered systems for interior floors and vertical concrete, it is ideal for use over antiqued or imprinted decorative concrete surfaces.

2. Coverage:

SCOFIELD Selectseal-S must be applied full strength without thinning by airless sprayer, High Volume Low Pressure (HVLP) sprayer, woven fabric floor applicator, or roller. Thinning or reducing SCOFIELD Selectseal-S with a nonexempt solvent is unlawful and will void the performance warranty. The coverage will vary depending on the method of application and the texture of the surface. Two coats are required on all unsealed concrete and SCOFIELD Overlay toppings.

For application by airless sprayer, High Volume Low Pressure sprayer, woven fabric floor applicator, or roller, apply at a coverage rate of 300 square feet per gallon (7 m²/L) for the first coat and 400 square feet per gallon (10 m²/L) for the second coat.

3. Limitations:

SCOFIELD Selectseal-S must only be used on interior concrete that is placed on a well-drained subgrade that is not subject to hydrostatic pressure. Before application of SCOFIELD Selectseal-S, the Moisture Vapor Emission Rate (MVER) of newly placed and older existing concrete or SCOFIELD Overlay toppings must be measured and be less than 3 pounds per 1000 square feet per 24 hours (1.5 kg/100 m²/24 hr).

Alkali or hard-water deposits may form on or under the sealer 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 discoloration if allowed to remain on the sealed concrete for an extended period of time.

SCOFIELD Selectseal-S should not be used in areas subject to continuous water submersion, concentrated abrasion and scratching, or metal-wheeled traffic. On areas subject to forklift traffic, the use of nonmarking tires is recommended to avoid unsightly, black tire marks.

SCOFIELD Selectseal-S must be applied evenly or lap marks and gloss variations will be visible. As with most high-gloss, solvent-borne sealers, SCOFIELD Selectseal-S will give surfaces to which it is applied a wet appearance, causing any underlying colors to darken and brighten. Like all clear sealers, SCOFIELD Selectseal-S will accentuate any nonuniformity in concrete color, texture, or finish.

SCOFIELD Selectseal-S must be allowed to dry completely, at least 24–48 hours, before it is subjected to temperatures below 42° F (6° C) or to water from any source. Urethane sealers that are applied to improperly prepared surfaces, applied too heavily, allowed to puddle in joints and indentations, or that cannot dry properly, may foam and become sensitive to water. Adhesion failure and softening of the coating may result.

SCOFIELD Selectseal-S is a premium-quality sealing formulation and, like all such products, will require periodic maintenance and reapplication. Spills should be removed promptly and floors cleaned regularly to minimize possible staining and damage to the sealer.

WARNING

SCOFIELD Selectseal-S must only be used in thin coats on interior surfaces that are adequately textured for slip resistance.

TEST SECTION

Sealing concrete flatwork takes skill and practice. Prior to general application, a representative jobsite test area must be prepared and sealed to verify and approve suitability, proper surface preparation methods, adhesion, safety, performance, wet and dry slip resistance, application techniques, and coverage.

4. Sizes:

SCOFIELD Selectseal-S is available from stock in 1-gallon (3.8 L) and 5-gallon (18.9 L) pails.

5. Storage and Shelf Life:

When stored indoors in the original unopened containers and protected from prolonged storage at high temperatures, the shelf life of SCOFIELD Selectseal-S is at least 1 year from the date of purchase. Inventory should be rotated.

6. Composition and Materials:

SCOFIELD Selectseal-S represents the most advanced polymer technology available. It is a proprietary, one-component aliphatic urethane optimally designed for leveling ability and ease of application without thinning.

7. Cautions:

DANGER! FLAMMABLE LIQUID AND VAPOR. VAPOR HARMFUL. CAUSES EYE IRRITATION. HARMFUL OR FATAL IF SWALLOWED. DO NOT TAKE INTERNALLY. KEEP OUT OF THE REACH OF CHILDREN. Contains Xylene, Toluene, Ketones and Petroleum Distillates. Vapor harmful. May affect the brain or nervous system causing dizziness, headache or nausea. Causes skin irritation. Causes nose and throat irritation. Causes eye irritation. May cause allergic skin reaction.

NOTICE: Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents may be harmful or fatal. Possible cancer hazard. May contain chemicals which can cause cancer based on animal data. (Risk of cancer depends on duration and level of exposure.)

Keep away from heat, sparks and flame. Vapors may cause flash fire. Do not smoke. Extinguish all flames and pilot lights, and turn off stoves, heaters, electric motors and other sources of ignition during use and until all vapors are gone. Prevent buildup of vapors by opening all windows and doors to achieve cross-ventilation. Use only with adequate ventilation. Do not breathe vapors or spray mist. Do not get in eyes, on skin or clothing. All personnel using respirators must be properly qualified and trained in the use of those respirators. 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. Close container after each use. Avoid contact with eyes, skin and clothing.

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—**If you experience difficulty in breathing, leave the area to obtain fresh air. If continued difficulty is experienced, get medical attention immediately. **Ingestion—**If swallowed, immediately give 1 or 2 glasses of water and call a physician, hospital emergency room or poison center for way to induce vomiting. 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. After container has been emptied it may contain explosive and harmful vapors and residue. Keep away from heat, sparks and flames. Do not cut, puncture or weld on or near container. Do not reuse empty container. Dispose of empty containers in accordance with all applicable regulations. Before using or handling, read the *Material Safety Data Sheet and Warranty*.

■ 8. Textures and Slip Resistance:

Only uniformly slip-resistant concrete surfaces, such as broomed, swirl or sponge floated, sandblasted, or most imprinted concrete, should be considered for application of SCOFIELD Selectseal-S. Textures that are not slip resistant must be roughened by some texturing method such as shot-blasting or sandblasting. On flat floors extra precautions should be taken to ensure that the surface is uniformly finished so that it will not be slippery.

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

■ 9. 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. SCOFIELD Selectseal-S has good resistance to many chemicals. However, 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 coating has suitable resistance. After the test application of SCOFIELD Selectseal-S has fully dried, 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.

■ 10. Equipment for Preparation and Application:

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

Use of a pressure washer, a rotary floor machine, or a walk-behind scrubbing machine will facilitate surface preparation. A Jiffy Mixer should be used for mixing SCOFIELD Selectseal-S Matte. An airless sprayer, High Volume Low Pressure (HVLP) sprayer, roller, or a woven fabric floor applicator, such as the SCOFIELD Sealer Applicator, is required for application of SCOFIELD Selectseal-S. Hand-pump sprayers are not recommended because they cannot be used to apply the material uniformly. To effectively remove the SCOFIELD Selectseal-S residue before it hardens, all equipment must be thoroughly cleaned and rinsed immediately after use with Xylene.

For preparation of older existing concrete, the pressure washer should 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 general preparation, the rotary floor machine should be heavy duty and operate at approximately 175 rpm. It may be equipped with brushes or with a pad driver that securely holds pads in place. A stiff-bristled bassine or nylon scrub brush is recommended. Blue scrubbing or black stripping pads may be required. Walk-behind scrubbing machines should be considered for cleaning larger areas.

For mixing, a metal mixing blade with a flat bottom (Jiffy Mixer from the Jiffy Mixer Company, 800-560-2903) fitted onto a heavy-duty, 1/2 inch (13 mm), variable-speed drill should be used for SCOFIELD Selectseal-S Matte. During mixing, the drill should be used on its lowest rpm setting. A paint stirring stick or similar tool should be used to hand-mix SCOFIELD Selectseal-S Gloss.

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

For application, the HVLP sprayer must be of professional quality with a spray pressure capability of 30–70 psi (200–500 kPa) and should be used following the manufacturer's instructions.

For application by woven fabric floor applicator, the applicator must be of professional quality and in good condition to ensure that the sealer is applied at a uniform thickness and that even coverage is obtained. An adequate supply of refill covers should be available so they may be changed whenever necessary. SCOFIELD Sealer Applicators for general application and SCOFIELD Sealer Trim Applicators for application on small areas are available from Scofield.

For application by roller, the roller should be short-napped with a maximum pile depth of 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. Long-napped rollers are not recommended because their use may cause overapplication and foaming of the material.

■ 11. Preparation:

Before application of SCOFIELD Selectseal-S, the Moisture Vapor Emission Rate (MVER) of newly placed and older existing concrete or SCOFIELD Overlay toppings must be measured. To quantitatively measure the MVER, readily available calcium chloride test kits should be used as described in ASTM F 1869 *Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride*. Refer to 3. *Limitations* for MVER requirements. If a test kit is not available to test for moisture, a section of polyethylene sheeting may be taped tightly to the concrete surface as described in ASTM D 4263 *Standard Test Method for Indicating Moisture in Concrete by the Plastic Sheet Method*. If moisture is present on the underside after 24 hours, the MVER is too high for the application of SCOFIELD Selectseal-S.

Surrounding areas, landscaping, and adjacent surfaces must be masked or protected from overspray, spills, tracking, and equipment contact. When SCOFIELD Selectseal-S is used in confined areas, adequate ventilation and local exhaust must be provided.

The work area should be roped off, nearby vehicles removed, and appropriate sections closed to traffic. The surface should be divided into small work sections using walls, joint lines, or other stationary features as natural stopping points. Limit the side dimensions of each area to the width or length of typical concrete joint spacing. This allows for easier control of coverage, wet edge, and overlap.

The concrete must be tested for water penetrability before applying SCOFIELD Selectseal-S. An indication of whether the concrete is penetrable can be obtained by spotting the surface with water. The water should immediately darken the substrate and be readily absorbed. If the water beads and does not penetrate or only penetrates in some areas, additional surface preparation and testing must be performed.



All areas to receive SCOFIELD Selectseal-S must be thoroughly cleaned. Before applying SCOFIELD Selectseal-S all washed or wet areas must be allowed to dry completely.

Newly placed concrete must be uniformly and adequately textured for slip resistance as described in 8. *Textures and Slip Resistance*.

The concrete should be cured by the use of new and unwrinkled, nonstaining, kraft curing paper that conforms to ASTM C 171 *Sheet Materials for Curing Concrete*. After the concrete has sufficiently cured, typically 14–28 days after placement, and before application of SCOFIELD Selectseal-S, the Moisture Vapor Emission Rate of the concrete must be measured in accordance with ASTM F1869 and meet the MVER requirement. Curing time will vary with temperature and humidity. Generally, less time will be required in hot, dry weather and more time in cold, wet conditions.

Once the concrete has cured, the surface must be swept, and then pressure washed or scrubbed using a rotary floor machine prior to measuring the MVER. Use of a suitable, high-quality commercial detergent will facilitate cleaning. Care should be taken to completely remove any loose, unembedded antiquing release or other release agent that may have been applied since such material will adversely affect the adhesion of SCOFIELD Selectseal-S to the concrete. Additional cleaning methods are described below. The surface must be thoroughly rinsed after cleaning until the rinse water is completely clean. After MVER testing is complete and the MVER requirement has been met, SCOFIELD Selectseal-S should be applied.

Older existing concrete must have a uniformly slip-resistant surface. Textures that are not slip resistant must be roughened by some texturing method as described in 8. *Textures and Slip Resistance*. The surface should be prepared as recommended by International Concrete Repair Institute (ICRI) *Guideline Number 03732* to provide a Concrete Surface Profile (CSP) between Number 1 and Number 2.

Before measuring the MVER and applying SCOFIELD Selectseal-S, all dirt, oil, and previously applied releases, curing compounds, and coatings must be completely removed. Failure to completely remove all contaminants and coatings that impede the penetration of the sealer into the concrete will cause appearance defects, adhesion loss, peeling, and reduced durability. Testing should be performed to verify that the cleaning or stripping methods and materials will not damage the concrete.

The cleaning method to be used depends on the surface finish and the condition of the concrete. Detergents, paint removers, or other commercial cleaners should be considered and tested. Pressure washing or scrubbing with a rotary floor machine is normally required. After cleaning, the surface must be rinsed to remove any remaining residue. Rinsing should continue until the rinse water is completely clean. Wet vacuums may be helpful to remove dirty water. After drying, the surface must be carefully inspected and retested for penetrability. Additional general or spot cleaning and rinsing should be performed if necessary.

Acid washing may be required when the above surface preparation does not yield adequate penetration or if there are excessive alkali deposits or surface discoloration. Acid washing may also be beneficial to clean and brighten exposed-aggregate finishes. Since acid washing may affect the appearance or uniformity of the color, a representative area should first be tested. After preparation as described above, the surface should be acid washed using a solution of one part muriatic acid (20° Baume or 31.4% hydrochloric acid) to 20 parts water. Proper protective gear as recommended by the acid supplier must be worn. The reacted residue must be scrubbed and thoroughly rinsed until the rinse water is clear and free of dissolved solids, a minimum of two times. After rinsing, neutralize any remaining acid residue by washing with a solution of baking soda (sodium bicarbonate) and water, using 1 pound of baking soda per 5 gallons of water (454g/19 L). The solution should be applied until it stops fizzing. After neutralization, the surface should be rinsed thoroughly with clean water several times to remove soluble salts. Rinsing should continue until the rinse water is clean. Rinse water should be removed with a wet vacuum,

squeegee, or by similar means. Rinse water left on the surface to evaporate may cause efflorescence. After drying, the surface should be retested for penetrability as described above. Additional acid washing and rinsing should be performed if necessary.

All applicable federal, state, and local safety, disposal, and other regulations, including OSHA, must be followed.

Concrete floors topped with SCOFIELD Overlay must be sealed as soon as possible after installation of the Overlay topping as directed in the Scofield Tech-Data Bulletin *C-504 SCOFIELD Overlay*. Newly placed Overlay surfaces may be sealed with SCOFIELD Selectseal-S 24 hours after the Overlay installation if the Moisture Vapor Emission Rate of the topping meets the MVER requirement. The surface should be swept and thoroughly cleaned using a suitable, high-quality commercial detergent. The surface must be thoroughly rinsed after cleaning until the rinse water is completely clean.

■ 12. *Mixing:*

The work area should be roped off and appropriate sections closed to traffic. Adjacent and surrounding surfaces should be protected.

SCOFIELD Selectseal-S is a one-component, ready-to-use material. Immediately prior to use SCOFIELD Selectseal-S Gloss should be lightly mixed by hand in its container. SCOFIELD Selectseal-S Matte should be mixed in its container using a Jiffy Mixer and a variable-speed drill on its lowest rpm setting, taking care not to entrain air into the product. All of the material in a container should be used at one time to minimize exposure to atmospheric moisture which can react with the unused material and render it unusable.

■ 13. *Application:*

The sealer should be applied when concrete and ambient temperatures are between 50 and 90° F (10–32° C) and the relative humidity is between 30–70%. The surface must be dry and not subject to moisture that may interfere with the sealer drying properly. Application should not be made under very humid conditions when water condensation forms on the surface.

An airless sprayer, HVLP sprayer, SCOFIELD Sealer Applicator, or roller should be used to apply SCOFIELD Selectseal-S. On small areas a SCOFIELD Sealer Trim Applicator should be used. An airless sprayer or HVLP sprayer must be used on vertical surfaces. If the first coat is applied by sprayer on horizontal surfaces, it must be back-rolled to ensure good penetration into the concrete and to eliminate puddling. If the SCOFIELD Selectseal-S is allowed to puddle during application, foaming will occur.

Each coat must be applied thinly and uniformly. A wet edge should be maintained, and overlap controlled. Material should not be over-applied 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. When a SCOFIELD Sealer Applicator is used, the sealer should be spread thinly and evenly as far as possible without leaving streaks.

The first coat must be allowed to dry completely until it is tack-free before applying the second coat, normally 24–48 hours at 75° F (24° C) and 50% relative humidity. The second coat must be applied at a 90-degree angle to the first coat and not more than 48 hours after application of the first coat. If the second coat is not applied within 48 hours, the first coat must be lightly sanded immediately prior to application of the second coat.

When a matte finish is desired, a prime coat of SCOFIELD Selectseal-S Gloss should be applied, followed by a topcoat of SCOFIELD Selectseal-S Matte. The topcoat should be applied after the prime coat has dried completely, normally 24–48 hours at 75° F (24° C) and 50% relative humidity.

On vertical surfaces, spray applications of SCOFIELD Selectseal-S should be applied in a light coat while maintaining a wet edge to ensure penetration into the surface. Overapplication and excessive rundown should be avoided.

SCOFIELD Selectseal-S must be allowed to dry completely, normally 24–48 hours, before it is subjected to temperatures below 42° F (6° C) or to water from any source.



After the sealer 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 sealer gains strength during the first several days after application. Longer drying times are helpful and will be necessary if the temperature and/or the humidity are lower.

All sealed surfaces should be thoroughly inspected to verify and approve installation and safety, including wet and dry slip resistance, before the area is opened to traffic. Sealed surfaces should be protected from damage by other trades.

■ 14. Maintenance, Resealing, and Removal:

All maintenance and removal methods should be tested, and all surrounding areas should be closed to traffic, roped off, and protected.

For maintenance, sealed surfaces should be top-coated with a sacrificial floor finish to protect and maintain the original appearance and extend the period between reapplications of SCOFIELD Selectseal-S. After the final Selectseal-S application has been allowed to dry a minimum of 72 hours, a compatible, slip-resistant, emulsion-type, commercial floor finish should be used following the manufacturer's instructions and safety requirements. For recommendations, based on extensive product testing, or answers to your floor care questions, call the JohnsonDiversey 24-hour hot line: (800) 558-2332.

For resealing, SCOFIELD Selectseal-S should be reapplied periodically as it is worn off the surface. The need for resealing will be accelerated in areas of heavy use or that receive frequent or aggressive cleaning. All dirt and contaminants must be completely removed from the surface of the sealer, and the surface thoroughly rinsed and allowed to dry. It is not necessary to strip the previously applied sealer from the floor unless the surface cannot be cleaned sufficiently. Wear paths, scratches, scrapes, and other areas where the sealer has been removed by wear or cleaning should be spot-sealed with SCOFIELD Selectseal-S using a fine-bristle brush or airless sprayer to feather the sealer into the surrounding surface. After the spot-sealed areas are completely dry, the sealer may be reapplied and slip resistance verified following the instructions in 13. *Application*. Care must be taken so that excessive buildup of the sealer does not occur.

Suggested Short Form Specification for Sealing Concrete Flatwork:

All interior concrete flatwork designated as being sealed in the plans and specifications shall be sealed with two coats of SCOFIELD® Selectseal-S™ manufactured by L. M. Scofield Company, (800) 800-9900, Los Angeles, CA, (323) 720-3000, and Atlanta, GA, (770) 920-6000. SCOFIELD® Selectseal-S™ shall be applied full strength in accordance with Scofield's Tech-Data Bulletin B-514.

For removal of SCOFIELD Selectseal-S, use mechanical means such as shot-blasting. Abrasive removal methods may wear away softer concrete and test areas are recommended. Following the removal procedure, the concrete surface must be thoroughly rinsed and allowed to dry. SCOFIELD Selectseal-S should then be reapplied and slip resistance verified following the instructions in 13. *Application*.

■ 15. Availability:

SCOFIELD Selectseal-S is marketed nationwide and internationally, directly to the user and through strategically located warehouses, dealers, and representatives. Scofield should be contacted 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 agents, sealers, coatings, repair products and texturing tools. Visit the Scofield website at www.scofield.com for further information.

■ 16. 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.



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

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