



SCOFIELD® Overlay™

A premium-quality, single-component, self-leveling cementitious topping for leveling and resurfacing interior floors subject to pedestrian and light vehicular traffic.

TECH-DATA BULLETIN C-504.12

1. Product Description:

Formulated to provide strong, durable, interior flooring, SCOFIELD® Overlay™ is a flowable topping material that self-levels and cures quickly to create a flat, hard wear surface. Especially suitable for fast-turnaround applications due to its rapid strength gain, SCOFIELD Overlay is used to level and restore existing floors, correct construction errors, or as a follow-up to rough-screed projects. Typical applications include commercial and residential floors for new or renovation construction over fully cured concrete and certain other types of nonmoving, structurally sound subflooring. SCOFIELD Overlay is ideal for subfloors where a thin topping installation is required because of existing thresholds, fixtures, or equipment. While the SCOFIELD Overlay material performs at depths from 1/4 inch (6 mm) to 1 1/2 inches (38 mm) unextended, it can be extended with pea gravel for depths from 1 inch (25 mm) to 6 inches (150 mm), the maximum extended depth. A minimum application depth of 3/8 of an inch (10 mm) is recommended on most interior floor applications for ease of placement and improved surface appearance.

Environmentally friendly and formulated without formaldehyde or protein, SCOFIELD Overlay is suitable for use in hospitals, restaurants, retail stores, offices, clean rooms, food service facilities, and other sensitive interior spaces. SCOFIELD Overlay does not emit noxious chemicals during or after curing or create an environment for bacterial growth and will not cause or contribute to Sick Building Syndrome, a health-related problem which has been associated with some buildings.

Designed for commercial applications, SCOFIELD Overlay offers many advantages including high strength and excellent abrasion resistance. SCOFIELD Overlay is easy to mix and economical to install.

2. Coverage:

The amount of SCOFIELD Overlay required will vary depending on depth of installation, subfloor surface profile and texture, preparation procedures, and other conditions. Approximate coverage rates per bag at various depths and extension levels are given in the table below.

Approximate Coverage Per Bag		
PEA GRAVEL	TOPPING DEPTH	COVERAGE
None	1/4 in. (6 mm)	25 ft ² (2.5 m ²)
None	3/8 in. (10 mm)	16.6 ft ² (1.5 m ²)
None	1/2 in. (13 mm)	12.5 ft ² (1.1 m ²)
30 lb (14 kg)	1 in. (25 mm)	8.4 ft ² (0.78 m ²)
50 lb (23 kg)	1 1/2 in. (38 mm)	6.6 ft ² (0.61 m ²)

3. Limitations:

SCOFIELD Overlay is designed for interior use only, over non-moving, structurally sound, properly prepared subfloors in temperature controlled environments. Installation must occur after the building is enclosed. Since SCOFIELD Overlay forms a rigid, thin layer over the subfloor, any subfloor movement will produce fine cracks in the overlayment. Subfloor movement may result from building vibration, temperature change,

or any number of other causes, which may not be readily apparent. Some fine, hairline cracking may also occur due to temperature fluctuations. Temperature variations of over ±20° F (±10° C) are likely to result in micro cracking. These "micro cracks" do not affect the integrity of the bond between the SCOFIELD Overlay topping and the subfloor and are often characteristic of successful SCOFIELD Overlay applications.

Not all subfloors are suitable for the installation of SCOFIELD Overlay, including those consisting of gypsum-based materials, concrete with a high moisture vapor emission rate, concrete that is not fully cured, most light-weight concrete, some underlayments, and wood. It is not designed for use in areas that are subject to heavy abrasion or impact, metal or hard-plastic wheeled vehicular traffic, or severe point loading.

SCOFIELD Overlay must not be used in areas subject to freeze-thaw cycling, hydrostatic pressure, active water leaks, or continuous water immersion. Without specific prior testing, SCOFIELD Overlay must not be installed in areas subject to harsh chemicals.

Cementitious topping products, including SCOFIELD Overlay, are not seamless flooring materials. Craze cracking similar to the type occurring in flat-troweled concrete floors may occur because of unfavorable substrate or environmental conditions. Flow lines will be detectable in most installations, especially when overwatered mixes or poor wet-on-wet installation techniques are used.

As with most cementitious products, cracks or joints in the subfloor will telegraph through the SCOFIELD Overlay topping. The existing subfloor joints must be extended up through the full depth of the topping by dry saw-cutting. Wet saw-cutting will cause staining of the SCOFIELD Overlay surface and is not recommended.

All subfloors must be primed with SCOFIELD® Epoxy Primer combined with an embedded sand broadcast layer prior to SCOFIELD Overlay installation. Failure to remove all contaminants and coatings that impede the bond of the priming system to the surface of the subfloor will cause adhesion loss, reduced durability, and allow water penetration. Primed floors must be kept clean, dry, and protected from water, traffic, and abrasion. Refer to Scofield's Tech-Data Bulletin C-914 SCOFIELD Epoxy Primer for complete priming instructions.

Tiled subfloors with deep joints or badly scarred subfloors must receive SCOFIELD Overlay applications that have enough depth, a minimum of 1/2 inch (13 mm), so that tile joints or damaged areas such as cracks, scratches, gouges, and trench-cut patches do not telegraph through the SCOFIELD Overlay topping.

SCOFIELD Overlay installation must take place when air and subfloor surface temperatures are between 60° F and 90° F (16–32° C). SCOFIELD Overlay cures more slowly at reduced temperatures and if the concrete substrate is cool, setting and early strength development may be delayed. **Optimum temperature for the SCOFIELD Overlay mixed material is approximately 70° F (21° C) and the mixed material temperature must be between 65° F (18° C) and 75° F (24° C).** Mix temperatures outside of this temperature range will likely result in placement, appearance or ultimate performance problems. Refer to section 16. *Mixing* for further information.



Control of factors that increase the evaporation rate at the surface of freshly placed, cementitious toppings is necessary to minimize craze cracking. Exposure to air currents through windows, doors, or other openings, or operation of indoor space heaters and heating and air conditioning systems of various types can contribute to cracking or crazing, due to low humidity and movement of air rapidly drying the topping surface.

The volume of water added to the mix must be accurately measured. For proper performance, mixing must be uniform, thorough, and consistent. Proper mixing cannot be achieved by hand, only by mechanical means.

SCOFIELD Overlay is a self-leveling material and cannot be used to achieve a sloped surface. It must not be installed in thicknesses greater than 6 inches (150 mm) or less than 1/4 inch (6 mm), and must be extended with pea gravel for applications over 1 1/2 inches (38 mm) in depth. Although SCOFIELD Overlay is self-leveling, spreading will be required, particularly on larger installations or when pea gravel is added. The surface must be smoothed to release entrapped air. Overwatering the mix or overworking the surface will cause cracking and other appearance problems.

After chemical staining and/or preparation for sealing, SCOFIELD Overlay must not be further exposed to water until it has been properly sealed. Discoloration and other appearance defects will result if unsealed SCOFIELD Overlay surfaces are subjected to moisture prior to sealing.

4. Composition and Materials:

SCOFIELD Overlay is a complex, precisely engineered, polymer-modified cementitious formulation produced by a proprietary manufacturing and intergrinding process. Designed to the highest safety standards, SCOFIELD Overlay is non-gypsum based and free of protein, formaldehyde, and calcium chloride.

5. Technical Data:

Compressive and flexural strengths of SCOFIELD Overlay and results of abrasion resistance testing are given in the table below. All values are typical of those obtained when tested by ASTM methods at 70° F (21° C).

Compressive and Flexural Strength	
PROPERTY	RESULTS
Compressive Strength	
1 Day	3750 psi (25.9 MPa)
3 Days	4250 psi (29.3 MPa)
7 Days	5000 psi (34.5 MPa)
28 Days	6750 psi (46.5 MPa)
Flexural Strength	
1 Day	900 psi (6.2 MPa)
28 Days	1200 psi (8.3 MPa)
Abrasion Resistance Testing	
MATERIAL TESTED	DEPTH OF WEAR
SCOFIELD Overlay 28 Days	0.05 mm
Concrete, 5800 psi 28 Days	0.40 mm

6. Applicable Standards:

Professional standards and practices, including those published by the American Concrete Institute (ACI), the Portland Cement Association (PCA), the American Society for Testing and Materials (ASTM), the Resilient Floor Covering Institute (RFCI), and the International Concrete Repair Institute (ICRI) should be followed.

7. Colors:

SCOFIELD Overlay is available in A-11 Concrete Gray and 0266 Ash White. SCOFIELD Overlay is made to order; contact your Scofield representative for availability.

8. Sizes:

SCOFIELD Overlay is available in 55-pound (25 kg) bags.

9. Storage and Shelf Life:

Under normal conditions and when kept dry and moisture free, the shelf life of SCOFIELD Overlay is at least 6 months from the date of purchase. Storage must be indoors, protected from moisture and excessive heat, out of direct sunlight, and off the floor. Inventory must be rotated to maintain product that is within shelf life limits.

10. Cautions:

WARNING!

HARMFUL IF INHALED. IRRITATING TO EYES AND SKIN. MAY CAUSE DELAYED LUNG INJURY (SILICOSIS). DO NOT TAKE INTERNALLY. KEEP OUT OF THE REACH OF CHILDREN. CONTAINS CEMENT AND SILICA (QUARTZ). Cancer hazard. Contains Silica (Quartz) which can cause cancer. (Risk of cancer depends on duration and level of exposure.) Use only with adequate ventilation. Do not breathe dust. Wet cement may cause alkali burns. Avoid contact with eyes, skin, and clothing. Wear dust (particulate) respirator (NIOSH TC-84A approved), safety goggles, and gloves. Follow respirator manufacturer's directions for respirator use.

First Aid: Eyes—DO NOT RUB EYES. Immediately flush thoroughly with water. Skin—Wash thoroughly with soap and water. Remove soiled clothing and wash before reuse. Inhalation—If inhaled, or if difficulty in breathing is experienced, move to fresh air. If symptoms persist or develop, or if ingested, get medical attention.

Wash thoroughly immediately after handling. Store in a cool, dry, well-ventilated area, in unopened original packaging or in tightly closed labeled containers. Avoid generating dust during recovery or disposal. Disposal of all residual or recovered product must be in accordance with applicable federal, state, and local regulations. Before using or handling, read the *Material Safety Data Sheet and Warranty*.

11. Jobsite Test Sections:

Proper installation of cement-based, self-leveling toppings requires skill and practice. Preparation techniques, air and subfloor temperature, air movement, evaporation rate, priming, mix design, mixing and installation techniques, experience in use of the material, and other factors will each affect the performance of the SCOFIELD Overlay topping. Using a section of the actual jobsite subfloor, a representative test section must be installed to verify and approve subfloor preparation, priming procedures, mix design, mixing and installation techniques, adhesion, levelness, surface condition, performance, and suitability for the intended purpose.

The test section must be of adequate size and configuration to be representative, a minimum of 100 square feet (10 m²). It must be produced by the same workers who will install the SCOFIELD Overlay topping, under the same expected ambient conditions, using the planned surface preparation procedures, primer system, mix design, mixing and installation equipment, and techniques. For safety considerations, the entire surface of the jobsite test section must be inspected after completion to verify and approve the adequacy of wet and dry slip resistance.

**12. Equipment and Materials:**

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.

Proper surface preparation and priming are essential for successful topping installation. SCOFIELD Overlay is normally installed by pouring or pumping directly onto the prepared and primed subfloor, allowing the material to self-level, spreading as required, and then smoothing the surface.

For subfloor preparation, use grinding, scarifying, shot-blasting, sandblasting, or similar equipment to remove laitance, curing compounds, coatings, and other contaminants and to roughen the floor surface. For concrete, the surface preparation should be as recommended in ICRI *Guideline Number 03732* to provide a Concrete Surface Profile (CSP) Number of 2 or greater.

If adhesive is present, use rotary scrapers or blades to remove adhesive residues prior to roughening. After roughening, sweep up debris then follow with a thorough cleaning using a high pressure water washer and an industrial wet vacuum to remove all loose particles from the floor. Do not use sweeping alone as it usually leaves dust on the prepared floor surface, which may cause adhesion problems.

For mixing SCOFIELD Epoxy Primer, use a metal mixing blade with a flat bottom sized to match the mixing vessel (Jiffy Mixer from the Midwest Rake Company, 800-815-7253) fitted onto a heavy-duty, 1/2-inch (13 mm), variable-speed drill. The drill motor must be capable of mixing at approximately 650 rpm under load. Mix in a container of a suitable size, usually a 3 to 5 gallon pail.

For primer application, SCOFIELD Epoxy Primer must be applied to all subfloors using a professional-quality, flexible, solvent-resistant flat squeegee or Magic Trowel® (available from the Midwest Rake Company, 800-815-7253). Refer to Scofield's Tech-Data Bulletin C-914 *SCOFIELD Epoxy Primer* for complete priming instructions.

For measuring, a calibrated container capable of accurate water measurement must be used. To facilitate measurement, the correct amount of water per bag can be measured into a plastic bucket. Then a slot can be cut in the bucket at the resulting water level, allowing subsequent fillings of the bucket to self-adjust to the proper volume.

For mixing on small jobs, SCOFIELD Overlay is normally mixed in a 15–30 gallon (60–120 L) plastic container. Proper mixing cannot be achieved by hand. A stainless steel, oval-shaped mixing paddle (High Viscosity Mixer available from the Midwest Rake Company, 800-815-7253) fitted onto a 1/2-inch (13 mm), heavy-duty, top-vented drill with a minimum 650 rpm, 7 amp motor must be used.

For mixing on larger jobs, SCOFIELD Overlay can be mixed in an appropriate, professional quality, two-stage mixing and pumping machine with an output of 0.5–10 gallons per minute (2–40 L/min) at 225 psi (1.5 MPa), following manufacturer's instructions and safety requirements. Not all mixing and pumping machines are suitable for use with a pea gravel mix.

For installation nonmetallic, cleated athletic shoes must be worn to prevent damage to the primer system and avoid leaving marks in the topping surface. For faster installation, on jobs up to 1 inch (25 mm) in depth, a professional quality, long-handled, gauge rake spreader tool with a variable height adjustment (CAM® Gauge Rake available from the Midwest Rake Company, 800-815-7253) may be used to spread the SCOFIELD Overlay material. A hand spreader may be used to spread material in small or hard to reach areas. A spiked roller may be used to bring air bubbles to the surface. For smoothing the surface, a professional quality, long-handled, flexible blade smoother with a 24-inch (600 mm) blade (available from the Midwest Rake Company, 800-815-7253) should be used.

For joint production dry saw-cutting equipment must be used.

13. Subfloor Preparation:

Prior to general installation, a representative test section must be produced as described in section 11. *Jobsite Test Sections*. Surrounding areas and adjacent surfaces should be protected from dust, spills, tracking, and equipment contact. The work area should be roped off and appropriate sections closed to traffic.

The most common cause of topping failure is improper subfloor preparation. All subfloors must be sound and nonmoving. Nonporous subfloors, such as tile or burnished concrete, must be mechanically roughened or opened by mechanical abrasion using equipment described in section 12. *Equipment and Materials*.

Before installing the SCOFIELD Overlay topping, all loose materials, laitance, curing membranes, coatings, floor coverings, dirt, dust, grease, oil, or other contaminants must be completely removed using the equipment described in section 12. *Equipment and Materials*. When considering the removal of resilient floor covering or any material that may contain asbestos, all applicable federal, state, and local safety, disposal, and other regulations, including OSHA, must be followed. The cleaning method to be used depends on the type and condition of the subfloor. Failure to remove all contaminants and coatings that impede the bond of the primer system will cause adhesion loss. The use of detergents, soap and water cleaning procedures, or sweeping compounds is not recommended since they leave a film that may cause bond failure. During cleaning, care should be taken not to damage the appearance of surfaces adjacent to the subfloor.

All drains and openings, cracks, joints, or holes through which material can be lost must be filled, sealed, or temporarily plugged. Caulk or tape-seal the base of walls and columns to reduce reflective cracking from the floor to vertical transition joints. Deep areas in the subfloor profile such as cracks, holes, gouges, or spalls should be primed in accordance with section 14. *Priming*, and then filled with SCOFIELD Overlay to level the subfloor before priming the entire subfloor area. All filling and sealing must be compatible with the SCOFIELD Overlay system and done to professional construction standards.

To avoid problems related to moisture vapor emission, the Moisture Vapor Emission Rate (MVER) of the subfloor prior to application of the primer system must be tested in several representative areas using readily available calcium chloride test kits per ASTM F 1869 *Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride*. The MVER must not exceed 5 pounds per 1000 square feet per 24 hours (2.5 kg/100 m²/24 hr) based on a 72 hour test period. Concrete moisture meters do not measure the moisture vapor emission rate and are not recommended.

Concrete subfloors must be cured fully, a minimum of 28 days. Subfloors must be completely clean, sound, and free of any contaminant that may cause loss of bond. All loose, crumbling, spalled, broken, or otherwise unsound concrete must be removed down to sound concrete. The surface of hard-troweled or burnished concrete must be opened by mechanical abrasion. Concrete must not be acid etched, since it weakens the surface and reduces the bond of the primer system to the subfloor. Follow ICRI *Guideline Number 03732* for preparation of the concrete subfloor. ASTM standards D 4258 *Standard Practice for Surface Cleaning Concrete for Coating*, D 4259 *Standard Practice for Abrading Concrete*, and D 4261 *Standard Practice for Surface Cleaning Concrete Unit Masonry for Coating*, should be referred to for additional subfloor surface preparation information.



■ 14. Priming:

The newly prepared subfloor must be primed with SCOFIELD Epoxy Primer combined with a uniformly broadcast embedded sand layer. The subfloor must be prepared and cleaned as described in section 13. *Subfloor Preparation*. Equipment and materials, as described in section 12. *Equipment and Materials*, should be available. The work area should be roped off and appropriate sections closed to traffic. Adjacent and surrounding surfaces should be protected.

The Part A and Part B SCOFIELD Epoxy Primer components must be preconditioned to be within a temperature range of 60–80° F (16–27° C) prior to mixing. Stir Part A and Part B separately in their containers and then combine in the mixing container and thoroughly power mix for 3 minutes. The mixed epoxy primer must be spread uniformly over the subfloor as soon as possible at a coverage rate of 160 ft²/gal (4 m²/L) and must then be back-rolled using a short-nap roller. While the epoxy primer layer is still in a fully liquid state, a 20–40 mesh sand broadcast must be applied until the epoxy is completely covered, using approximately 1 pound of sand for each square foot of floor. After the epoxy cures, all excess (unembedded) sand must be completely removed by sweeping and vacuuming prior to installation of the SCOFIELD Overlay topping.

The SCOFIELD Epoxy Primer and embedded sand system functions as a substrate sealer as well as a bonding agent for SCOFIELD Overlay applications. If insufficient epoxy primer is used on high profile, highly absorbent or porous substrates, pinholing may occur on the surface of the SCOFIELD Overlay topping. The only foot traffic allowed on the epoxy primer and embedded sand is when cleated shoes are worn during SCOFIELD Overlay installation. Refer to Scofield's Tech-Data Bulletin C-914 *SCOFIELD Epoxy Primer* for complete information on application methods and equipment use.

■ 15. Mix Design:

Use 4 1/2 quarts (4.3 L) of clean, fresh water per 55-pound (25 kg) bag of SCOFIELD Overlay for mixing. Adjustments of ± 4 fluid ounces (± 0.1 L) to the amount of mixing water per bag shall be made only as necessary to achieve an initial flow of 6 inches (150 mm) when temperature or humidity affects water demand. SCOFIELD Overlay can be installed up to 1 1/2 inches (38 mm) in depth without the use of pea gravel (unextended). For installations of greater depth, pea gravel must be added to the fluid SCOFIELD Overlay.

For requirements and guidelines on the use of aggregate, refer to the Coverage Chart in section 2. *Coverage*. The addition of pea gravel will reduce the workability of the material, produce a rougher surface, and may affect the self-leveling properties of the SCOFIELD Overlay topping. The added pea gravel must be clean, rounded, 3/8-inch (10 mm) aggregate. Angular aggregate will make the SCOFIELD Overlay topping more difficult to spread and smooth.

■ 16. Mixing:

Work area temperature conditions must be considered before mixing. Air and substrate surface temperatures must be between 60° F and 90° F (16–32° C). If air temperature is expected to drop below 60° F (16° C) or exceed 90° F (32° C) during placement, the SCOFIELD Overlay topping must not be installed.

The subfloor must be primed as described in section 14. *Priming*. Equipment and materials, as described in section 12. *Equipment and Materials*, should be available. Divide the surface into small work sections using walls, existing joint lines, or other stationary features as natural stopping points to avoid cold joints or seams. Section-off areas with foam rubber tape or weather stripping to create joints. Limit the side dimensions of each area to the width or length of typical concrete joint spacing.

Use a two-stage mixing and pumping machine for best results. For small amounts mixed with a drill, install as soon as possible after mixing for best results. The mixing container must be prewet and excess water drained before preparing the first batch of SCOFIELD Overlay.

When adding pea gravel, the aggregate must be prewet, drained, and allowed to dry so that the surface appears dry, but no additional water will be absorbed (saturated surface dry). Accurately measure 4 1/2 quarts (4.3 L) of water for each 55 pounds (25 kg) of SCOFIELD Overlay to be mixed. Overwatering causes bleeding and sand/aggregate settling below the surface and can result in weakening of the surface, low strengths, crazing, cracking, disbonding, and visual surface defects. Under watering decreases working time, flowability, and leveling properties.

Since the work life of the SCOFIELD Overlay material varies with temperature, for ease of installation the temperature of the mixed material must be between 65° F (18° C) and 75° F (24° C) with the optimum temperature being approximately 70° F (21° C). In hot environments or when SCOFIELD Overlay has been stored before use at temperatures above 70° F (21° C), the use of cold water or water cooled with ice (block or bagged, no loose chips) is necessary to maintain the mixed material temperature and maximize the work life.

It is important that the components are added in the same sequence, thoroughly power mixed, and that all mixing procedures continue for the specified time. Water must be added to the mixer or mixing container first, then the SCOFIELD Overlay material. The dry materials must always be added to the mix water. This process must never be reversed. Adding water to the dry materials may cause lumps, hindering the self-leveling properties of the mixture and its ability to reach the desired thickness of installation.

While mixing, the dry ingredients must be added to the water slowly and power-mixed a minimum of 3 minutes until a smooth, fluid, uniform, lump-free consistency is reached. When mixing in a container, the paddle should be moved up and down and around the sides of the container, but should always remain below the surface of the mixture so that air will not be trapped, causing bubbles in the installed SCOFIELD Overlay topping. If pea gravel is used it must be added after the SCOFIELD Overlay material has been mixed for a minimum of 3 minutes. After addition of pea gravel, continue mixing for at least 30 seconds.

■ 17. Installation:

The subfloor should be prepared and cleaned as described in section 13. *Subfloor Preparation* and primed as described in section 14. *Priming*. The SCOFIELD Overlay material should be mixed as described in sections 15. *Mix Design* and 16. *Mixing*, and installed using the equipment and materials described in section 12. *Equipment and Materials*.

The effective minimum thickness of the SCOFIELD Overlay topping must be based on the highest point of the entire floor area. As with most cementitious products, cracks or joints in the subfloor will telegraph through the SCOFIELD Overlay topping. Since the subfloor and topping will move together, all working joints in the subfloor must be reproduced in the topping to reduce cracking.

Joints must be dry saw-cut after the material has set. Control joints must be full depth, placed precisely over existing joint positions in the subfloor, and be as wide as or wider than the old joints. As in concrete, the control joints must be saw-cut as soon as the SCOFIELD Overlay topping gains adequate strength so that sawing does not ravel the edges and before cracking occurs, normally within 4–8 hours after placement.



The work life of the fluid SCOFIELD Overlay topping mix will vary depending on air temperature and humidity. Work life is approximately 20 minutes when mixed material is at 70° F (21° C). The SCOFIELD Overlay material must be poured immediately after mixing and must not be retempered. Retempering may cause the cured topping to craze crack or create other problems. Any topping mixture which has not been installed by the end of its work life must be discarded. Previously mixed material must not be added to newly mixed material.

The CAM gauge rake set to the desired thickness must be used to gently spread the fluid topping mixture across the subfloor as required. Visible flow lines will develop between pours. To blend them together, the CAM gauge rake must be used with a forward and backward motion extending for approximately 3–6 inches (75–150 mm) across each side of the flow line so that the edge of each new pour is blended into the edge of the preceding pour. Spreading should be minimized, but continued until the flow line is eliminated.

Entrapped air will migrate upward through the wet topping and be released as air bubbles which will leave small crater-like indentations (pinholes) in the topping surface. Proper timing of smoothing operations minimizes pinholing. The time that is required for air voids to reach the surface increases when temperature rises or where thickness is greater. Approximately 5 minutes after placement and spreading, the surface must be lightly skimmed with a flexible blade smoother to facilitate leveling and to break air bubbles. As with most cementitious, self-leveling products, overworking the surface during spreading and smoothing will cause segregation, leaving a paste-rich layer at the surface which will develop craze cracks as drying occurs.

The flexible blade smoother should be held nearly flat with the front edge slightly raised as it is passed over the surface. Smoothing should be kept to a minimum; normally one or two passes is sufficient.

Setting time varies with air temperature and humidity. The SCOFIELD Overlay topping may be walked on gently without cleats after it has reached sufficient strength, approximately 4–6 hours after installation. All surfaces must be thoroughly inspected and installation and safety verified and approved prior to opening the area to traffic.

If the surface is rougher than desired, a finish layer of SCOFIELD Overlay 1/4 inch (6 mm) to 1/2 inch (13 mm) in thickness can be applied after the previously installed material has cured sufficiently, at least 16 hours after placement. Prior to applying the finish layer, the surface of the initial SCOFIELD Overlay installation must be primed as described in section 14. *Priming*.

SCOFIELD Overlay gains strength rapidly. After sealing, the area can be opened to traffic when it reaches sufficient strength not to be damaged, a minimum of 24 hours for foot traffic and approximately 3–7 days for heavier traffic. The curing surfaces must be protected from damage by other trades.

■ 18. Chemical Staining:

The surface of SCOFIELD Overlay toppings must be lightly abraded with a white polishing pad prior to the application of LITHOCHROME® Chemstain™ Classic or LITHOCHROME® Tintura™ Stain. A white pad is effective and should be used with water to open the surface. All residue must be removed by power vacuuming before the topping is stained.

If the SCOFIELD Overlay surface is to be chemically stained with LITHOCHROME Chemstain Classic, a test application and some experimentation are required to obtain the proper combination of colors and techniques to achieve the desired effect. Prior to staining, the SCOFIELD Overlay topping must be sufficiently cured to walk on without damage, at least 4–6 hours after installation at 70° F (21° C). All dust, slurry residue, or other contaminants must be removed from

the prepared SCOFIELD Overlay surface before LITHOCHROME Chemstain Classic is applied. SCOFIELD Overlay is a fast curing system which should be stained as soon as possible for best color development, no later than 1–2 days after installation.

The SCOFIELD Overlay topping surface must not be acid etched prior to using LITHOCHROME Chemstain Classic. Scofield's Tech-Data Bulletin A-414 *LITHOCHROME Chemstain Classic* must be read completely before using. All chemically stained surfaces must be completely neutralized and thoroughly rinsed and protected from traffic until they are sealed.

If the SCOFIELD Overlay surface is to be stained with LITHOCHROME Tintura Stain, the topping must be sufficiently cured to walk on without damage and allowed to dry thoroughly prior to staining, at least 4–6 hours after installation at 70° F (21° C) and 50% relative humidity. Surfaces stained with LITHOCHROME Tintura Stain must be sealed with SCOFIELD® Selectseal-W™. Scofield's Tech-Data Bulletins A-424 *LITHOCHROME Tintura Stain* and B-504 *SCOFIELD Selectseal-W* must be read completely before using.

■ 19. Sealing:

For ease of maintenance and to protect the surface, all SCOFIELD Overlay surfaces must be sealed with a recommended Scofield sealer as soon as possible after installation. Prior to sealing, the SCOFIELD Overlay surface must be cleaned with water using a rotary floor machine equipped with a white pad. After cleaning, all debris must be completely removed by power vacuuming before the sealer is applied. When a clear sealer is desired or after LITHOCHROME Chemstain Classic is applied, the surface should be sealed with SCOFIELD Selectseal-W or SCOFIELD® Cureseal-W™. COLORCURE® Concrete Sealer in the matching color may be applied to most SCOFIELD Overlay toppings to provide surface protection and improve appearance. Where a lower-cost sealer is desired, the use of CEMENTONE® Clear Sealer may be considered. The appropriate Scofield Tech-Data Bulletin B-504 *SCOFIELD Selectseal-W*, B-204 *SCOFIELD Cureseal-W*, A-634 *COLORCURE Concrete Sealer*, or A-764 *CEMENTONE Clear Sealer* must be read completely before using.

For unstained SCOFIELD Overlay surfaces, prepare the topping surface for sealing and then seal as soon as the topping has cured sufficiently and dried completely. If LITHOCHROME Chemstain Classic was used, all stained surfaces must be completely neutralized and cleaned thoroughly prior to sealing. Failure to completely remove all Chemstain residue and to neutralize and rinse all surfaces adequately prior to sealing will likely result in disbonding of the sealer. Refer to Scofield's Tech-Data Bulletin A-414 *LITHOCHROME Chemstain Classic* for neutralization and rinsing instructions.

For optimum performance and durability SCOFIELD Selectseal-W is recommended for sealing and protecting SCOFIELD Overlay toppings. The Scofield Tech-Data Bulletin B-504 *SCOFIELD Selectseal-W* must be read completely before using.

After saw-cutting, the working joint edges in the in-place SCOFIELD Overlay topping must be cleaned and a joint sealant must be installed to prevent water infiltration. Refer to Scofield's Tech-Data Bulletin S-404-3G *LITHOSEAL™ Trafficalk-3G™* for complete information on the use of joint sealants.

All sealed 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.



20. Floor Maintenance:

A maintenance application of the same Scofield sealer originally used should be made periodically as the sealer is worn off the surface. Instructions for the maintenance and resealing of concrete surfaces are available in the Scofield Tech-Data Bulletins B-504 SCOFIELD Selectseal-W, B-204 SCOFIELD Cureseal-W, and A-634 COLORCURE Concrete Sealer, which must be read completely before using.

For maintaining interior architectural floors or when a higher gloss is desired, a compatible, slip-resistant, emulsion-type, commercial floor finish must be applied and maintained following the manufacturer's instructions and safety requirements. Recommendations can be obtained 24 hours a day by phoning the JohnsonDiversey hot line at 800-558-2332.

21. Availability:

SCOFIELD Overlay 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.

22. 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 Interior Overlay Floors:

All interior architectural concrete floor areas designated in the plans or specifications as having a single-component, colored, self-leveling, cementitious overlayment surface shall be primed with SCOFIELD® Epoxy Primer in accordance with Tech-Data Bulletin C-914. An overlayment of SCOFIELD® Overlay™ shall be placed in accordance with Tech-Data Bulletin C-504, using _____ color at a minimum thickness of _____ inches. All overlayment surfaces shall be sealed with SCOFIELD® Selectseal-W™ or SCOFIELD® Cureseal-W™ in accordance with Tech-Data Bulletin B-504 or B-204 where a clear sealer is designated, or with COLORCURE® Concrete Sealer in the matching color in accordance with Tech-Data Bulletin A-634. All products shall be manufactured by L. M. Scofield Company, (800) 800-9900, Los Angeles, CA, (323) 720-3000 and Atlanta, GA, (770) 920-6000.

Suggested Short Form Specification for Chemically Stained, Interior Overlay Floors:

All interior architectural concrete floor areas designated in the plans or specifications as having a stained, single-component, colored, self-leveling, cementitious overlayment surface shall be primed with SCOFIELD® Epoxy Primer in accordance with Tech-Data Bulletin C-914. An overlayment of SCOFIELD® Overlay™ shall be placed in accordance with Tech-Data Bulletin C-504, using _____ color at a minimum thickness of _____ inches. The overlayment surface shall be stained with LITHOCHROME® Chemstain™ Classic or LITHOCHROME® Tintura™ Stain in accordance with Tech-Data Bulletin A-414 or A-424 using _____ color(s). The contractor shall submit the final stain color and application techniques on jobsite test samples to be approved by the architect prior to installation. All overlayment surfaces stained with LITHOCHROME® Chemstain™ Classic shall be sealed with SCOFIELD® Selectseal-W™ or SCOFIELD® Cureseal-W™ in accordance with Tech-Data Bulletin B-504 or B-204. All overlayment surfaces stained with LITHOCHROME® Tintura™ Stain shall be sealed with SCOFIELD® Selectseal-W™ only in accordance with Tech-Data Bulletin B-504. All products shall be manufactured by L. M. Scofield Company, (800) 800-9900, Los Angeles, CA, (323) 720-3000 and Atlanta, GA, (770) 920-6000.



1 800 800 9900 or www.scofield.com

SCOFIELD PRODUCTS ARE INTENDED FOR PROFESSIONAL USE ONLY

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