



The Concrete Overlay Experts™

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**SYSTEM GUIDE SPECIFICATION FOR CONCRETE OVERLAY SYSTEM S-15000  
CONCRETE ROOF & DECK WATERPROOFING SYSTEM  
Divisions 01/03 01 21 / 03 54 00 / 07 16 16 / 09 94 00 / 09 97 26 / 09 97 26.23**

This specification is written according to the Construction Specification Institute (CSI) with numbers and titles from the Master Format 2004 Edition. This section must be carefully reviewed and edited by the Architect to meet the requirements of the project and local building codes. Coordinate this section with other specification sections and drawings. This is the recommended specification for the Super-Krete S-15000 Concrete Roof and Deck Waterproofing System.

Specification Notes: This application system includes waterproofing and chemical encapsulation of the concrete substrate, installation of a seamless crack resistant membrane and various optional decorative or basic surfacing applications. The use of this system requires the installation of a complete system of products and applications to ensure long-term success against product failures.

## **PART 1 - GENERAL**

### **1.1 SUMMARY**

- A. This system is for use over on- grade and above- grade concrete roof and decks to provide a crack and water resistant finish. This system may be used over concrete roofs, patio decks, parking structures, bridge decks and other installations requiring a heavy-duty surfacing system. The finish will be determined by the project requirements.

### **1.2 SYSTEM INCLUDES:**

- A. Super-Krete S-12000 Heavy Duty Degreaser™
- B. Super-Krete S-1300 Pene-Krete®
- C. Super-Krete S-2100 Rust Buster™
- D. Super-Krete S-300 Super-Quik™ Concrete Repair System
- E. Super-Krete S-9600 Structural Mix™
- F. Super-Krete S-7000 Underlayment™
- G. Super-Krete S-9300 Bond-Kote®
- H. Super-Krete S-3500 Elastique-Matting™
- I. Super-Krete Finishes: Multiple Systems Available

### **1.3 QUALITY ASSURANCE**

- A. To be eligible for coverage under the Super-Krete Limited Product Warranty, installation of the S-15000 Concrete Roof and Deck System must be performed by Applicators who are Certified in writing by Super-Krete International, Inc. Applicator must apply and file with Super-Krete International, Inc. a copy of the project specifications, certified applicator card and a list of the required products, tools and equipment to be utilized on the project prior to application for the Super-Krete 5-Year Limited Product Warranty.
- B. The Super-Krete Concrete Roof and Deck System can be installed over any structurally sound concrete substrate that is free of curing compounds, un-coated and of sufficient porosity to provide full depth penetration of the internal waterproofing and a co-adhesive bond of the surfacing system.
- C. All Super-Krete products must be applied in strict accordance with Super-Krete's instructions for use and installation specifications.



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- D. The Super-Krete S-15000 Concrete Roof and Deck System is a “complete” system designed and engineered for each product to cohesively bond. Product compatibility is only guaranteed when they are Super-Krete products. Using alternative products will jeopardize the integrity of the system and void all warranties.
- E. Super-Krete International, Inc. does hereby certify that its products and systems are warranted to perform according to their written instructions. direct contact with the concrete until utilized.

#### 1.4 PRODUCT DELIVERY, STORAGE AND HANDLING

- A. Packaging and Shipping
  - a. All components of the system shall be delivered in unbroken original packages bearing the Manufacturer’s name and brand designation, batch number and date of manufacture.
- B. Storage and Protection:
  - a. The Installer shall be provided with a storage area for all components. The area shall be between 35 F and 85 F, dry, out of direct sunlight, and elevated from the floor to avoid contact with moisture, and in accordance with the Manufacturer’s recommendations and relevant health and safety regulations. Liquid products are to be kept from freezing and dry goods to be protected from humidity.
  - b. Copies of MSDS for all components shall be kept on site for review by the Engineer and other personnel.
  - c. Protect materials during handling and application to prevent damage or contamination.
  - d. Dispose of cementitious materials as concrete and dispose of solvent-based materials in accordance with requirements of local authorities having jurisdiction.
  - e. Product to be purchased through authorized Super-Krete distributor.

#### 1.5 ENVIRONMENTAL REQUIREMENTS

- A. Apply Super-Krete products only when the surface temperature is at least 55 degrees F. and rising with no risk of rain until the surface products are completely dried and cured. Do not apply products when the temperature exceeds 90 degrees F.

### PART 2 – PRODUCTS

#### 2.1 MANUFACTURERS

- A. Provide products from the following manufacturer:
  - a. Super-Krete International, Inc. 1290 North Johnson Avenue #101, El Cajon, CA 92020 USA 619 401 8282 / 800 995 1716 / 619 401 8288 FAX [www.super-krete.com](http://www.super-krete.com)
  - b. Manufacturer of approved system shall be single source and made in the USA.

#### 2.2 MATERIALS

- A. The surface cleaning system will be S-12000 Heavy Duty Degreaser/Cleaner.
- B. The mandatory moisture vapor reduction and chemical encapsulation treatment shall be a combination of S-1300 Pene-Krete and S-9300 Bond-Kote.
- C. S-2100 Rust Buster will be used as a rust converter for treating rusted reinforcement and providing a primer for placement of repair material.
- D. The cementitious fast setting spall repair product shall be S-300 Super-Quik.



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- E. For slow setting spall repair use S-9600 Structural-Mix.
- F. The crack treatment system shall be a combination of S-3500 Elastique Matting and S-9300 Bond-Kote.
- G. The re-grading and or re-leveling product shall be S-7000 Underlayment.
- H. The finished surface is optional depending upon final use requirements.

## 2.3 FINISH OPTIONS

- A. Roofing: Finished (flat) roofing will require S-11014 (White) Ure-Kote for UV reflection followed by sealing with S-8000 Ure-Top-Kote clear sealer.
- B. Roofing (sloped) & Patio Decks: Substrate can receive Super-Krete decorative finishes such as, but not limited to, stamp overlays, spray texture and smooth finishes in numerous designs and textures.
- C. Parking Structures & Bridge Decks: Substrate requires a minimum of (1/8") coating thickness or two applications of squeegee applied Structural Mix with a broom finish and sealed with Pene-Krete to provide additional wear and salt resistance.
- D. Above-Grade Shopping Mall Walkways: Substrate is typically finished with a colored art deco micro-top finish (smooth). Stain with S-9500 series Color Stain and seal with the appropriate Super-Krete sealer (refer to Super-Krete Specification S-2 Selecting the Right Sealer).
- E. All finishes are of commercial and industrial grade strength and durability.

## 2.4 MIX DESIGNS

- A. S-12000 Heavy Duty Degreaser is pre-mixed. Do not dilute. Stir for one minute before use.
- B. S-1300 Pene-Krete is pre-mixed. Do not dilute. Stir for one minute and screen before spraying.
- C. S-2100 Rust Buster is pre-mixed. Do not dilute. Stir for one minute and apply.
- D. S-300 Super-Quik Repair System is a 3 to 4 component rapid setting repair system. Depth of repair will determine mixing ratios.
  - a. For deep repairs pre-mix (1) part B Cementitious Aggregate with (2) parts #30 Silica Sand and (2) parts (3/8") granite aggregate. Add (1) Part A Liquid Activator, mix thoroughly and install.
  - b. For shallow or skim coat repairs pre-mix (1) part B with (2) parts #30 Silica sand. Add (1) Part A Liquid Activator and place and finish. **Note:** Applicator has approximately (5) minutes after adding activator to mix, place and finish product.
- E. S-9300 Bond-Kote is pre-mixed. Add 8 to 8 ½ quarts of water per fifty pound bag.
- F. S-3500 Elastique Matting. Cut to required length.
- G. S-9600 Structural Mix is pre-mixed. Add water only to desired consistency depending upon type of placement. For a dryer slump use less water. For a self-leveling mix use more water. Mixes may vary using as minimal as 2 quarts to a maximum of 6 quarts of water.
- H. S-7000 Underlayment is ready mixed. Add water only. Add water depending upon type of application. Dry slump mix for re-grading: Add 3 to 4 quarts of water. For filling low areas: add 6 to 8 quarts of water.

## PART 3 – EXECUTION

### 3.1 PREPARATION

- A. All cementitious substrates must be structurally sound, solid and of adequate porosity to provide product penetration and a co-adhesive bond.



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- B. The substrate shall be clean and free of any surface contamination that may create a bond-breaker and prevent product from penetrating the substrate and providing a co-adhesive bond.
- C. Substrates shall be pre-tested to determine the rate of moisture vapor transmissions using testing procedure ASTM F1869. Rate of moisture vapor transmissions shall not exceed (3) pounds per (1,000) square feet of area after the Pene-Krete treatment.
- D. When applying Super-Krete cement-based underlayments and toppings, the surface will require a lightly dampened substrate to open the pores of the concrete to achieve a co-adhesive bond, to dissolve fine dust particles and provide additional product workability.
- E. Clean out all expansion joint materials if replacement is required. If no replacement required, cover with duct tape or other methods for protection.
- F. Provide a PH reading of the substrate to determine rate of alkalinity. PH rate shall not be higher than (9) or lower than (7.5) after Pene-Krete application and curing period.

### 3.2 APPLICATION OF S-12000 HEAVY DUTY DEGREASER

- A. Saturate the dry substrate with S-12000 Heavy Duty Degreaser Cleaner at a rate of 300 square feet per gallon. Apply by hand held sprayer or by pouring onto the surface. Work material into the surface using a stiff bristled broom. Allow cleaner to "etch" the surface for approximately 30 minutes before rinsing by water-blaster.

### 3.3 APPLICATION OF RUST CONVERTER

- A. Use S-2100 Rust Buster to stabilize all rusted or deteriorated steel reinforcing and provide primer for repair material. Remove all concrete at perimeter of the exposed reinforcing. Using a wire brush or sand-blaster remove all loose or flaky rust. Do not remove all of the rust or activation will not take place. Apply 2 applications of Rust Buster at 2-hour intervals and allow to cure twenty four hours before applying product to the repair area.

### 3.4 APPLICATION OF MOISTURE VAPOR BARRIER

- A. Treat concrete substrate for moisture vapor emissions.
  - a. Saturate the dry substrate with S-1300 Pene-Krete at a rate of 300 square feet per gallon by hand held sprayer only.
  - b. Ensure full depth penetration of Pene-Krete into the slab by working the material into the surface using a soft bristled broom. Re-saturate any areas drying too rapidly.
  - c. One hour after application saturate the surface with water. For full depth penetration, repeat water saturation a total of (3) times at one hour intervals.
  - d. Allow Pene-Krete application to cure 24-hours, followed by water-blasting to remove all internal contamination forced to the surface to be removed.
  - e. If oil is forced to the surface, re-apply Super-Krete S-12000 Heavy Duty Degreaser followed by water-blasting.
  - f. After twenty four hour curing period the surface shall alkali residue on the surface. Remove alkali residue by water-blasting and repeat initial process until no alkali is present.

### 3.5 REPAIR OF SPALLS & STRUCTURAL CRACKS

- A. SPALL REPAIR. Repair all spalls using S-300 Super-Quik.
  - a. Clean spall area by shot-vac only to remove all loose dust and other contamination. Pour mixed material into spall and finish with wet trowel.



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- b. For overhead or vertical repairs add less Part A Liquid Activator to a semi-dry slump consistency and place material into void with trowel and hold trowel into place until material partially sets. Super-Quik co-adheres to itself so partial placements can be made. Super-Quik is a self leveling system by adding additional Liquid Activator. Set time is approximately 5 to 7 minutes.

#### **B. STRUCTURAL CRACK REPAIR**

- a. All structural cracks shall be repaired using S-300 Super-Quik using a crack chaser and ½" diamond edged blade.
- b. Open the crack to a width of ½" wide X 1" in depth. Using a shot-vac remove and dust or other contamination from the crack.
- c. Using a sand-filled mix of Super-Quik, fill crack flush with surface. Remove any excess material from the surface immediately. For best results fill cracks with Super-Quik in early morning hours while crack is expanded at its widest point.

### **3.6 REPAIR & RE-LEVELING OF LOW AREAS**

- A. For leveling low areas or voids
  - a. Mix S-7000 Underlayment with clean water to a thick but flowable consistency.
  - b. Dampen the surface with a light mist of water and pour mix into place and screed level using a rigid straight-edge.

### **3.7 SURFACE RE-GRADING**

- A. For re-grading of the surface to provide proper slope
  - a. Mix S-9600 Structural-Mix with clean water to a (dry slump) consistency.
  - b. Lightly dampen the surface, apply product and either trowel or screed into place.
  - c. When proper contour has been achieved, apply a light spray of water over the material and finish with trowel to provide a smooth finish.

### **3.8 INSTALLATION OF CRACK-RESISTANT MEMBRANE**

- A. Mix Bond-Kote with clean water to proper squeegee consistency. Dampen surface with water, but do not create pooling. Pour Bond-Kote mixture over the surface and spread with Super-Krete squeegee.
- B. While Bond-Kote is still in a wet state, immediately place Elastique Matting into the surface and press into the surface by running the squeegee over the matting. Bond-Kote should be spread approximately 4' over the 3' wide Elastique Matting.
- C. Work in a straight row from one side of the deck to the other and reversing the application in the opposite direct for a continuous operation. Overlap the mesh a minimum of 2".
- D. Allow the installation to cure for twenty-four hours.

### **3.9 FINISHING**

- A. Apply 2 to 3 squeegee applications of Bond-Kote over all Elastique Matting for a minimum of 1/8" coverage. Allow each application to thoroughly dry before applying additional coats.

### **3.10 PROTECTIVE SEALING**

- A. The finished must be sealed with the appropriate sealer for protection. The Super-Krete sealer to use will depend upon the use of the finished surface and project requirements.



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To determine which Super-Krete sealer should be used, refer to Super-Krete Specification S-2 Selecting the Right Sealer.

- B. Finishing Options include:** striping, coloring, reflective coatings, urethanes, decorative overlays, etc. For parking decks, bridge decks and drive-on surfaces, Super-Krete recommends solvent-based sealers only for tire mark resistance. For walk-on surfaces; Super-Krete recommends either the water-based or solvent based sealers depending upon the intended wear and tear of the surface.

### 3.11 FIELD QUALITY CONTROL

- A.** Super-Krete products are available as ready-mixed pre-packaged goods that require minimal mixing (add water only) or are ready to use as packaged. This provides excellent quality field control when mixing and applying product. Ready-mixed products allow the Architect of field superintendent to properly estimate the proper amount of material to be used based upon the coverage rate of each unit or products.
- B.** For testing of product Super-Krete International, Inc. will provide a un-opened pre-packaged container of the required products to be tested by an independent laboratory specializing in the required test procedures.

### 3.12 MAINTENANCE

- A.** To provide long term maximum life of the newly installed surface. Super-Krete recommends the surface be cleaned by washing with clean water to remove the fine dust particles from the surface. For mildew, algae and spills Super-Krete recommends the surface be cleaned using S-12000 Heavy Duty Degreaser/Cleaner followed by rinsing with a (water hose only). When signs of wear appear, clean and re-seal with the appropriate sealer. Refer to Super-Krete Specification M-1 Maintenance for further details and maintenance instructions.

**END OF SPECIFICATION**