

## PRODUCT GUIDE SPECIFICATION

Please contact us for this document in MS Word

Specifier Notes: This product guide specification is written according to the Construction Specifications Institute (CSI) Format, including *MasterFormat*, *SectionFormat* and *PageFormat* contained in the CSI Manual of Practice.

The 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 the drawings. Delete all "Specifier Notes" when editing this section.

Section 09660

## STATIC DISSIPATIVE SEALER FOR CONCRETE SUBSTRATES

Specifier Notes: This section covers United SCP's ElectraSeal hygroscopic static dissipative floor coating system for use on interior concrete flooring slabs and other hard surface flooring substrates. The ElectraSeal ESD flooring system consist of the following:

**Standard:** Three coats of ElectraSeal Static Control Concrete Sealer.

**Optional:** Three Coats of ElectraSeal followed by one thin coat of ElectraGlaze. Note ElectraGlaze performs as a sacrificial coating that may be high speed burnished. It may be stripped and re-applied if needed.

Please contact United SCP if needed for assistance in editing this section for the specific application.

## PART ONE: GENERAL

### 1.1 SECTIONS

A. Static Dissipative floor coating system for interior concrete slabs.

### 1.2 RELATED SECTIONS

Specifier Notes: Edit the following list as required for the project. List other sections with work directly related to the static control floor coating system.

A. Section 03300 - Cast in place concrete.

### 1.3 REFERENCES

Specifier Notes: List standards referenced in this section, complete with designations and titles. This article does not require compliance with standards, but is merely a listing of those used.

A. ANSI/ESD STM7.1-2020 - Flooring Systems Resistive Characterization.

B. ANSI/ESD S20.20-2021, ESD Control Program.

C. ANSI/ESD STM97.1, Flooring Footwear System

D. ESD TR53, Flooring Section

E. ASTM D-4623 - Concrete vapor emission test method.

F. ASTM D-968-17, abrasion resistance.

#### **1.4 SUBMITTALS**

A. Comply with Section 01330 - Submittal Procedures

B. Product Data: Submit manufacturer's product data including physical properties, electrical properties and application instructions.

#### **1.5 QUALITY ASSURANCE**

A. Applicators Qualifications: Ensure applicators qualifications by one of the following:

1) Use applicator experienced in application of similar materials for a minimum of 5 years on projects of similar size and complexity. Submit list of completed projects including project name and location, name of Architect, name of material manufacturer and approximate quantity of materials applied.

2) Submit letter of approval from manufacturer stating applicator is qualified to apply the specified materials.

B: Applicators Personnel: Employ persons trained for application of specific materials.

Specifier Notes: Describe requirements for a meeting to coordinate the application of the static control floor coating system and sequence related work.
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C. Pre-application Meeting: Convene a pre-application meeting [ ] weeks before start of application of static control flooring system. Require attendance of parties directly affecting work in this section, including Contractor, Architect and applicator. Review surface preparation, application, application timeframe, curing, protection and coordination with other work. Contact United SCP (manufacturer) with questions pertaining to application and usage of these products.

#### **1.16 DELIVERY, STORAGE AND HANDLING**

A. Delivery: Deliver materials to site in manufacturer's original, unopened containers and packaging with labels clearly identifying product name, manufacturer, batch or dye lot numbers and SDS sheets.

B. Storage: Store materials in accordance with manufacturer's instructions. Keep containers sealed until ready for use.

C. Handling: Protect materials during handling and application to prevent damage or contamination.

#### **1.17 ENVIRONMENTAL CONDITIONS**

A. Ensure environment is fully enclosed; weather tight, well lighted and air temperatures at time of installation are between 60 and 80 degrees F.

## **PART TWO: PRODUCTS**

### **2.1 MANUFACTURER**

A. United SCP Incorporated, 2124 South Prairie Ave, Complex D, Pueblo, CO 81005.

Phone (719) 676-3928 (option 3 for tech support during normal business hours, option 8 for afterhours tech support).

Specifier Notes: Select 2.2 or 2.3
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### **2.2 HEAVY DUTY STATIC CONTROL CONCRETE SEALER**

A. ElectraSeal hygroscopic static control concrete sealer.

- 1) Enhanced urethane concrete sealer.
- 2) Available colors: Translucent

### **2.3 HEAVY DUTY STATIC CONTROL CONCRETE SEALER WITH ESD FLOOR FINISH**

A. ElectraSeal hygroscopic static control concrete sealer followed by one coat of ElectraGlaze.

- 1) Enhanced urethane topical concrete sealer followed by ESD floor finish.
- 2) Available colors: Translucent

## **PART THREE: EXECUTION**

### **3.1 EXAMINATION**

A. Examine substrate to receive static control coating system. Notify Architect if substrate is unacceptable. Do not begin preparation or application until conditions are acceptable.

B. Pre-application Product Testing: Mask off a 36" x 36" test area. Apply three thin coats of ElectraSeal. Optional: Follow with one thin coat of ElectraGlaze Allow the coating (s) to cure for at least 24 hours. Pre-test material bond strength to substrate per ElectraSeal product instructions. Test Electrical conductivity to ANSI/ESD STM7.1-2020 - Point to Point Electrical Resistance, flooring. Contact manufacturer should results exceed >1.0E09 Ohms.

C. Test vapor emission of concrete slab per ASTM D-4623. This test involves taping an 18" x 18" polyethylene sheet to the concrete subfloor and then waiting at least 16 hours prior to collecting the results. Visible condensation on the bottom of the sheet or darkening of the concrete indicates excessive moisture. Test the concrete's pH level in this area. The pH levels shall be between 7 and 10.

Should testing indicate excessive vapor emissions or inappropriate pH levels contact United Static Control Products prior to proceeding with the application.

D. Ensure new concrete has the following properties:

- 1) Maximum water/cement ratio of 0.45
- 2) Cured 60 days at a minimum of 60 degrees F.
- 3) Minimum compressive strength of 3,500 PSI.
- 4) Minimum tensile strength of 200 PSI.

### 3.2 SURFACE PREPARATION

Specifier Notes: A properly prepared substrate is essential for successful application. Contaminants, dust and sealers of an unknown origin may inhibit bonding of coating to substrate.

A. Prepare substrates in accordance with manufacturer's instructions.

B. Ensure substrate is clean, free of dirt, oil, grease, wax and other compounds which may inhibit bonding of ElectraSeal to substrate.

C. Repair cracked and eroded concrete in accordance with manufacturer's instructions. Remove and repair unsound substrates.

### 3.3 APPLICATION

A. Mask all encumbrances such as existing wall base and columns prior to application of coatings in accordance with manufacturer's instructions.

B. Install electrical grounding foil in accordance with manufacturer's recommended grounding methods as is shown [here](#). Use two ground connections for small areas (<3,000 square feet) and one additional ground connection for every 3,000 square feet thereafter.

C. Ensure that concrete or other substrate is visibly dry.

C. ElectraSeal is designed for use as supplied. Do not add thinners to any component of this conductive floor coating system.

D. Apply 1st coat of ElectraSeal to prepared concrete per manufacturer's recommended guidelines. Do not over apply - apply a thin even coat. Allow to cure for at least 2 hours prior to proceeding\*.

E. Apply 2nd coat of ElectraSeal per manufacturer's recommended guidelines. Do not over apply - apply a thin even coat. Allow to cure at least 2 hours prior to proceeding\*.

F: Apply 3rd coat of ElectraSeal per manufacturer's recommended guidelines. Do not over apply - apply a thin even coat. Allow to cure at least 2 hours prior to proceeding\*.

**\*NOTE:** When applied in environments with an ambient humidity in excess of 80% rH, increase the drying time between coats to at least 4 hours while maintaining the suggested ambient application temperature of 60 degrees F.

F. OPTIONAL: Apply one thin coat of ElectraGlaze per manufacturer's instructions. Allow coatings 1 hour to dry before subjecting to foot traffic and 24 hours prior to subjecting to moderate forklift traffic.

### 3.4 TESTING

A. Test the flooring for compliance to ANSI/ESD S20.20-2021 per test method ANSI/ESD STM7.1-2020, Flooring Systems Resistive Characterization, section 6.2 Product Acceptance of Installed or Applied Flooring Systems (electrical resistance point to point and electrical resistance to ground).

B. Optional: Compliance Verification per ESD TR53, Page 6, Table 2 Personnel Grounding Requirement per TR53 Footwear Section.

### 3.5 PROTECTION

A. The ElectraSeal system gains hardness and conductivity during a curing phase lasting 48 hours. Protect floor coating system while curing and especially during move in of heavy equipment.

3.6 OPTIONAL SPECIFICATIONS	
Nonvolatile Solids	25% +/- 0.6%
VOC Content	Meets CDHP V1.2 <a href="#">See Test Results</a>
Total Active	30.1% +/- 1.6%
Typical resistivity as applied to in place concrete slabs per ANSI/ESD STM7.1-2020, Section 6.2 Product Acceptance of Installed or Applied Flooring Systems.	>1.0E04 and < 1.0E09 Ohms @ 40% relative humidity
ANSI/ESD S20.20-2021, Table 2, Page 6, ANSI/STM 97.1 and ANSI/STM 97.2, Product Qualification	PASSES
Static Dissipation	< 0.3 Second
pH	8.4 - 9.0
Gloss 60	85+ @ 3 coats
Color	Translucent
Weight Per Gallon	8.55 - 8.8
Slip Resistance (ASTM)	0.65 Minimum (excellent)
Stability	2 year minimum at room temperature and in unopened containers
Freeze/Thaw Stability	3 cycles minimum
Drying Time Between Coats	1 Hour
Water Resistance	Good
Gallon Coverage (Feet 2 )	1500 - 2000 per gallon per coat
Abrasion Resistance, ASTM D968-17	6,480 grams

### END OF SECTION

#### Revision History:

June 3, 2006: Original Release.

May 17, 2007: Revised to reflect ANSI/ESD S20.20-2007, 97.1

May 30, 2017: Revised to remove ANSI/ESD S20.20-2007 and replaced with ANSI/ESD S20.20-2014. Compressive strength removed (the product has the same compressive strength as the concrete substrate it is applied to). MSDS sheet replaced with SDS sheet.

July 19, 2017: Added Abrasion Resistance using new ASTM standard

March 20, 2018: Revised to reflect optional application of ElectraGlaze. Raised vapor emission limit to 9 lbs. Included pretesting of conductivity.

August 1, 2018: Added "Ohms" to Typical Resistivity. 3.6 Optional Specifications

December 19, 2019: Modified number of ground straps required, section 3.3 APPLICATION, B. From 2ksf to 3ksf (minimum of 2 for small areas under 3ksf. Approved by SRC

January 16, 2020: Added in-situ vapor testing of concrete. Approved by SRC

October 24, 2023: Added ANSI/ESD STM7.1-2020 "Flooring Systems Resistive Characterization." Approved by SRC

October 24, 2023: Added TR53 Compliance Verification, Flooring / Footwear System. Approved by SRC

October 24, 2023: Removed optional testing per ANSI/ESD STM97.2 (this testing is normally accomplished in product qualification by manufacturer of the flooring materials. Approved by SRC

February 20, 2024: Increased drying time between coats, added application update when applying in high humidity environments. Approved SRC

2/20/2024