

SECTION 096280

Eco-Top Conductive Spark Proof Floor

SECTION 09 62 80 – Eco-Top Conductive Spark Proof Floor

1. PART 1 GENERAL

1.1 SUMMARY

- A. Section includes:
 - 1. Moisture vapor emission testing.
 - 2. Surface preparation.
 - 3. Joint treatment.
 - 4. Furnishing and installation of conductive flooring system.
- B. Related Sections:
 - 1. Section 03300 - Cast-In-Place Concrete:
 - a. Concrete slabs on or below grade shall be installed over an effective moisture vapor barrier.
 - b. Concrete slabs shall be cured 30 days, be structurally sound and have a steel trowel finish.
 - c. Surface shall be well sloped to drains, straight and level with the permissible degree of tolerance of 1/4" in 10'-0" in any direction.
 - d. No curing compounds or surface contaminants shall be used in placing new concrete.

1.2 SYSTEM DESCRIPTION

- A. The flooring system shall consist of a primer, body coat and two topcoats. Total dry film thickness shall be approximately 30 mils.
- B. Finished flooring system shall have the following performance characteristics:
 - 1. Tensile Strength, psi (ASTM D 638)..... 6,230
 - 2. Ultimate Elongation, % (ASTM D 638) 11
 - 3. Compressive Yield Strength, psi (ASTM D 695) 9,850
 - 4. Ultimate Compressive Strength, psi (ASTM D 695) 19,501
 - 5. Ultimate Flexural Strength, psi (ASTM D 790) 9,680
 - 6. Hardness, Shore D (ASTM D-2240)..... 78
 - 7. Bond Strength to Concrete (ASTM D 4541) 350
 - 8. Gloss (60 degrees)..... 70-75
 - 9. Tabor Abrasion (1000 gm. load 1000 cycles, CS 17 wheel)..... 30-40mg.loss
 - 10. Surface Resistance ANSI/ESD 7.1 2.5E4-1E6- 1E9 ohms 25,000-1,000,000
 - 11. Voltage generation, ESD STM 97.2 <15 v
 - 12. Static Decay, 5,000V- 0V < 0.10 seconds
- C. Chemical Resistance: (ASTM D-1308 24 HOUR IMMERSION)
 - Urineno effect
 - Blood.....no effect
 - Whiskeyno effect
 - Black Inkno effect
 - Brake Fluid.....no effect
 - Gasoline.....no effect
 - Skydrol 500B-4.....no effect
 - Hydraulic Fluid #83282no effect
 - Mineral Spiritsno effect
 - Xyleneno effect
 - MEK film softened
 - 50% Sodium Hydroxide.....no effect
 - 25% Hydrochloric Acidno effect
 - 25% Sulphuric Acidno effect
 - 25% Acetic Acidno effect

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1.3 SUBMITTALS

- A. Submit manufacturer's product data, literature and brochures.
- B. Submit manufacturer's samples showing color choices and texture.
- C. Submit a statement from the manufacturer indicating the installer's certification and completion of 5 projects totaling 500,000 square feet of static dissipative installations.
- D. Prior to commencing work, installer shall prepare two 6" x 6" samples of the resinous flooring chosen for the project showing actual color, thickness and texture. These samples shall serve as a basis for comparison through the duration of the work.

1.4 QUALITY ASSURANCE

- A. All resin material used in this system shall be manufactured by a single manufacturer to ensure compatibility and proper bonding.
- B. Applicator must have a minimum of 5 years' experience installing polymeric flooring systems and be certified by the manufacturer.
- C. All work shall be performed in strict accordance with the manufacturer's written instructions.

1.5 DELIVERY, STORAGE AND HANDLING

- A. All material shall be delivered to the jobsite in unopened containers clearly labeled by the manufacturer and stored in a dry location at a minimum of 65 degrees F.

1.6 WARRANTY

- A. Manufacturer shall guarantee that his materials are free from defects and comply with published specifications.
- B. Applicator shall warranty against faulty workmanship for a period of 5 years from substantial completion of the project.

2. PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Resin materials shall be supplied by DiamondStone, Inc. Scottsdale, AZ

2.2 MATERIALS

- A. Primer: 100 percent volume solids epoxy primer.
- B. Base Coat: 100 percent volume solids epoxy.
- C. Ground Plane: 60 percent volume solids carbon particulate ground plane.
- D. First Coat : 59 percent volume solids conductive Polyurethane coating.
- E. Top Coat : 59 percent volume solids conductive Polyurethane coating.

3. PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verification of Conditions:
 - 1. Inspect surfaces to receive floor system.
 - 2. Conduct calcium chloride moisture vapor emission testing according to ASTM F 1869-04. If test reading is above three pounds, consult manufacturer before proceeding.
 - 3. Before starting work, report in writing to the Architect any unsatisfactory conditions.
 - 4. Application of any material shall signify that surfaces have been inspected and are satisfactory.

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3.2 SURFACE PREPARATION

- A. Surfaces to receive flooring system shall be abraded to a minimum of CSP 3 profile using shot blasting preparation method. No other prep method is acceptable.

3.3 INSTALLATION

- A. Allow sufficient time for the installation of the flooring system. At no time shall the speed of project completion be allowed to detrimentally affect the application.
- B. Provide sufficient light, power, heat and working conditions to permit proper application of the materials. Substrate temperature shall be at a minimum of 50°F during application and for 48 hours thereafter.
- C. Prime prepared substrate with Diamond-Eprime at 8 mils a rate of 200 sq. ft. per gallon. Allow to cure overnight before proceeding.
- D. Apply copper tape to at least one grounding point per 1000 square feet.
- E. Apply body coat of Diamond-Epoxy AP at 10 mils a rate of 160 square foot per gallon.
- F. Apply carbon ground plane at 5.3mils a rate of 300 square foot per gallon.
- G. Apply build coat of Eco-Top Conductive at 5.3 mils a rate of 300 sq. ft. per gallon.
- H. Apply top coat of Eco-Top Conductive at 5.3 mils a rate of 300 sq. ft. per gallon.

3.4 FIELD QUALITY CONTROL

- A. Installer shall monitor the thickness of the system as the work progresses. Areas found not to meet the required thickness shall receive additional material until desired thickness is attained.

3.5 PROTECTION

- A. Installation areas must be kept free from traffic and other trades during the application procedure and cure time.

3.6 MAINTENANCE

- A. Floor should be cleaned with ammonia and water or a mild, non-filming detergent. For difficult stains, paint thinner may be used without harming the floor.

END OF SECTION