

SECTION 071813

PEDESTRIAN TRAFFIC COATINGS (*Addendum-03*)

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes: Pedestrian traffic coatings.
- B. Related Sections:
 - 1. Section 076200 "Sheet Metal Flashing and Trim".
 - 2. Section 079200 "Joint Sealants".

1.3 PREINSTALLATION MEETINGS

- A. Preinstallation conference: Conduct conference at Project site.
 - 1. Meet with a representative of the pedestrian traffic coating manufacturer, contractor, architect, and other parties affected by this section. Review methods and procedures, substrate conditions, scheduling, and safety.

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product, including installation instructions.
- B. Shop Drawings: For pedestrian traffic coatings.
 - 1. Include details for treating substrate joints and cracks, flashings, penetrations, and other termination conditions.
- C. Samples for Initial Selection: For each type of exposed finish.
- D. Samples for Verification: For each type of exposed finish, prepared on rigid backing.
 - 1. Provide stepped Samples on backing to illustrate buildup of pedestrian traffic coatings.
- E. Technical Data: Submit manufacturer's product data and Safety Data Sheets (SDS) on each product.

1.5 INFORMATIONAL SUBMITTALS

- A. Applicator Qualifications: Submit letter from manufacturer stating applicator is approved to install the specified pedestrian traffic coating system.
- B. Product Certificates: For each type of pedestrian traffic coating.
- C. Field quality-control reports.

1.6 CLOSEOUT SUBMITTALS

- A. Maintenance Data: For pedestrian traffic coatings to include in maintenance manuals.

1.7 QUALITY ASSURANCE

- A. Installer Qualifications: Approved to install specified system.
- B. Requirement of Regulatory Agencies: Comply with applicable codes, regulations, ordinances and laws regarding use and application of coating systems.
- C. Mockups: Build field sample mockups to verify selections made under submittals and to demonstrate aesthetic effects and set quality standards for fabrication and installation.
 - 1. Install a field sample of at least 100 square feet at the project site or pre-selected area as agreed to by owner's representative, applicator and manufacturer .
 - 2. Apply material in accordance with manufacturer's written application instructions.
 - 3. Field sample will be standard for judging color and texture on remainder of project.
 - 4. Maintain field sample during construction for workmanship comparison.
 - 5. Do not alter, move, or destroy field sample until work is completed and approved by Owner's representative.

1.8 DELIVERY, STORAGE AND HANDLING

- A. Delivery: Materials shall be delivered in original sealed containers, clearly marked with supplier's name, brand name and type of material.
- B. Storage and Handling: Recommended material storage temperature is 75°F/23°C. Handle products to prevent damage to container. All materials shall be stored in compliance with local fire and safety requirements. Do not store at high temperatures or in direct sunlight.

1.9 PROJECT CONDITIONS

- A. Prior to starting work, read and follow the SDS and container labels for detailed health and safety information.
- B. Proceed with application of materials only when substrate temperature is 40°F/4°C or greater. Do not proceed if precipitation is imminent. Only apply to dry, clean surfaces; do not apply to damp, dirty, or frosty surfaces. Ambient temperature should be a minimum 40°F/4°C and rising, and more than 5°F/3°C above dew point. Take special precautions when ambient and/or substrate temperatures are approaching, at, or above 100°F/38°C; it may be necessary to limit material application to evening hours for exterior exposed decks.

- C. Coordinate waterproofing work with other trades. Applicator shall have sole right of access to the specified area for the time needed to complete the application and allow the pedestrian traffic coatings to cure adequately. Coordinate waterproofing work with other trades. Applicator shall have sole right of access to the specified area for the time needed to complete the application and allow the pedestrian traffic coatings to cure adequately.
- D. Protect plants, vegetation or other surfaces not to be coated against damage or soiling.
- E. Keep products away from spark or flame. Do use equipment which may produce sparks during application and until all vapors have dissipated. Post "No Smoking" signs.
- F. Maintain work area in a neat and orderly condition, removing empty containers, rags and rubbish daily from the site.

1.10 WARRANTY

- A. **Manufacturer's Warranty:** Manufacturer agrees to repair or replace pedestrian traffic coating that fails in materials or workmanship within specified warranty period.
 - 1. Failures include, but are not limited to, the following:
 - a. Adhesive or cohesive failures.
 - b. Abrasion or tearing failures.
 - c. Surface crazing or spalling.
 - d. Intrusion of water, oils, gasoline, grease, salt, deicer chemicals, or acids into deck substrate.
 - 2. Warranty Period: Ten years from date of Substantial Completion.
- B. **Installer's Warranty:** Installer agrees to repair or replace pedestrian traffic coating at no cost to the Owner for failures due to workmanship within specified warranty period.
 - 1. Warranty Period: 5 years from date of Substantial Completion

PART 2 - PRODUCTS

2.1 MATERIALS, GENERAL

- A. **Material Compatibility:** Provide primers; base-, intermediate-, and topcoat; and accessory materials that are compatible with one another and with substrate under conditions of service and application, as demonstrated by manufacturer based on testing and field experience.
- B. **Source Limitations:**
 - 1. Obtain primary pedestrian traffic-coating materials, including primers, from pedestrian traffic-coating manufacturer. Obtain accessory materials including aggregates, sheet flashings, joint sealants, and substrate repair materials of types and from sources recommended in writing by primary material manufacturer.

2.2 PERFORMANCE REQUIREMENTS

- A. Fire Resistance: Class A per ASTM E108.
- B. Dynamic Coefficient of Friction:
 - 1. Dry Surface: 0.76 per ANSI A137.1.
 - 2. Wet Surface: 0.63 per ANSI A137.1.

2.3 PEDESTRIAN TRAFFIC COATING

- A. Traffic Coating: Manufacturer's standard, traffic-bearing, seamless, UV-resistant, skid-resistant, waterproofing membrane system with integral wearing surface for pedestrian traffic.
 - 1. Manufacturer: Neogard, a part of Hempel, 2728 Empire Central, Dallas, TX 75235, (800) 321-6588, www.neogard.com.
- B. Concrete Primer/Sealer: As recommended by manufacturer.
- C. Base Coat: Single-component, moisture-cured aromatic urethane.
 - 1. Basis-of-Design: 70410 (45010).
 - a. Color: Gray.
- D. Wear Coat: Single-component, moisture-cured aromatic urethane.
 - 1. Basis-of-Design: 7430 (57040) series.
 - a. Color: As selected by Architect.
- E. Topcoat: Single-component, aliphatic urethane.
 - 1. Basis-of-Design: 7470 (47LJB) series.
 - a. Color: As selected by Architect.
- F. Reinforcing Fabric: Stitchbonded, 100% polyester reinforcing material.
 - 1. Basis-of-Design: 86220 (63BJB) Tietex T-272 Roofing Fabric.
- G. Flashing Tape: Sealant tape.
 - 1. Basis-of-Design: 86218 (62ZJB) EternaBond WebSeal Tape.
- H. Sealant: Polyurethane sealant.
 - 1. Basis-of-Design: 70991 (47XJB).
- I. Aggregate: Uniformly graded hard aggregate.
 - 1. Basis-of-Design: 7992 (66010) 16/30 mesh silica quartz sand.
- J. Misc. Accessories: All items incorporated into this system shall be compatible with and approved by the coating manufacturer.

2.4 ACCESSORY MATERIALS

- A. Joint Sealants: As specified in Section 079200 "Joint Sealants".
- B. Sheet Flashing: Nonstaining. As specified in Section 076200 "Sheet Metal Flashing and Trim".
- C. Miscellaneous materials such as cleaning agents, adhesives, reinforcing fabric, backer rod, deck drains, etc., compatible with the specified pedestrian traffic coating system.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify that the work done under other sections meets the following:
 - 1. Concrete deck surface shall be free of ridges and sharp projections. If metal forms or decks are used, they shall be ventilated to permit adequate drying of concrete.
 - 2. Concrete was cured for a minimum of 28 days and minimum of 3,000 psi compressive strength. Water-cured treatment of concrete is preferred. The use of concrete curing agents, if any, shall be of the sodium silicate base only; others require written approval by manufacturer.
 - 3. Concrete was finished by a power or hand steel trowel followed by soft hair broom to obtain light texture or "sidewalk" finish.
 - 4. Damaged areas of the concrete deck shall be restored to match adjacent areas. Use manufacturer's clear 100% solids epoxy and sand for filling and leveling.

3.2 CALCIUM CHLORIDE TESTS

- A. Surfaces to receive coating system shall be tested by an experienced firm to determine suitability to receive pedestrian traffic coating system.
- B. Calcium Chloride Test Requirements:
 - 1. Provide anhydrous calcium chloride tests according to ASTM F1869 in accordance with all surface preparation methods outlined. Tests shall be installed onto freshly abraded contaminant free concrete.

3.3 PREPARATION

- A. General: Prior to applying pedestrian traffic coatings, clean and prepare substrates according to ASTM C 1127 and manufacturer's written instructions to produce clean, dust-free, dry substrate for pedestrian traffic coating application. Remove projections, fill voids, and seal joints if any, as recommended in writing by pedestrian traffic coating manufacturer.
- B. Schedule preparation work so dust and other contaminants from process do not fall on wet, newly coated surfaces.
- C. Mask adjoining surfaces not receiving pedestrian traffic coatings to prevent overspray, spillage, leaking, and migration of coatings. Prevent pedestrian traffic coating materials from entering deck substrate penetrations and clogging weep holes and drains.

D. Concrete Substrates:

1. Cleaning: Surfaces contaminated with oil or grease shall be vigorously scrubbed with a stiff bristle broom and a strong non-sudsing detergent as recommended by manufacturer. Thoroughly wash, clean, and dry. Areas where oil or other contaminants penetrate deep into the concrete may require removal by mechanical methods.
2. Shot-Blasting: Mechanically prepare surface by shot-blasting to industry standard surface texture (ICRI's CSP3-CSP4) without causing additional surface defects in substrate. Shot-blasting does not remove deep penetrating oils, grease, tar or asphalt stains; proper cleaning procedures shall be followed to ensure proper bonding of the deck coating.
3. Acid Etching: If shot blasting is not practical, treat concrete surfaces with 10% to 15% solution of muriatic acid to remove laitance and impurities. After acid has stopped foaming or boiling, immediately rinse thoroughly with water. Re-rinse as required to remove muriatic acid solution. Acid etching does not remove deep penetrating oils, grease, tar or asphalt stains; proper cleaning procedures should be followed to ensure proper bonding of the deck coating.
4. Cracks and Cold Joints: Visible hairline cracks (less than 1/16-inch in width) in concrete and cold joints shall be cleaned, primed as required and treated with thoroughly mixed base coat material a minimum distance of 2 inches on each side of crack to yield a total thickness of 30 dry mils. Large cracks (greater than 1/16-inch in width) shall be routed and sealed with specified sealant. Sealant shall be applied to inside area of crack only, not applied to deck surface. Detail sealed cracks with thoroughly mixed base coat material a distance of 2 inches on each side of crack to yield a total thickness of 30 dry mils.
5. Control Joints: Seal control joints equal to or less than 1-inch in width with 70991 urethane sealant. Depending on the width to depth ratio of the joint, backing material and a bond breaker may be required. Install sealants in accordance with ASTM C 1193 and manufacturer's instructions. Detail sealed joints with thoroughly mixed 70410 base coat material a distance of 2 inches on each side of joint to yield a total thickness of 30 dry mils.
6. Flashing Tape: Install flashing tape and reinforcing fabric where indicated on the drawings and/or where required by the manufacturer prior to the application of base coat.
7. Surface Condition: Surface shall be clean and dry prior to coating.

3.4 TERMINATIONS AND PENETRATIONS

- A. Prepare vertical and horizontal surfaces at terminations and penetrations through pedestrian traffic coatings and at expansion joints, drains, and sleeves according to ASTM C1127 and manufacturer's written instructions.
- B. Provide sealant cants at penetrations and at reinforced and nonreinforced, deck-to-wall butt joints.
- C. Terminate edges of deck-to-deck expansion joints with preparatory base-coat strip.
- D. Install sheet flashings at deck-to-wall expansion and dynamic joints, and bond to deck and wall substrates according to manufacturer's written recommendations.

3.5 PEDESTRIAN TRAFFIC-COATING APPLICATION

- A. General: The following factors affect dry film thickness: Volume of solids, thinning, surface profile, application technique and equipment, overspray, squeegee, brush and roller wet out, container residue, spills and other waste are among the many factors that affect the amount of wet coating required to yield proper dry film thickness.

1. To ensure that specified dry film thickness is achieved, use a wet mil gauge to verify actual thickness of wet coating applied, adjusting as needed for those factors which directly affect the dry film build.

B. Seed and Backroll Method:

1. Primer: Where required, thoroughly mix primer, and apply at a rate of 300 sf/gal (0.33 gal/100 sf) to all concrete surfaces. Within 24 hours of applying primer, apply base coat. If base coat cannot be applied within 24 hours, inspect surface for contaminants, clean surface as necessary, and re-prime.
2. Base Coat: Thoroughly mix base coat and apply at a rate of 60 sf/gal (1.66 gal/100 sf or 26 wet mils), to yield 20 dry mils. Extend base coat over cracks and control joints which have received detail treatment.
3. Topcoat: Thoroughly mix topcoat series and apply at a rate of 100 sf/gal (1.0 gal/100 sf or 16 wet mils) to yield 12 dry mils. Immediately broadcast aggregate at a rate of approximately 10 lbs/100 sf and backroll to encapsulate aggregate.
4. System coating thickness shall be 32 mils dry thickness exclusive of primer and aggregate.

C. Applicator shall be responsible for applying sufficient coating to the substrate.

3.6 FIELD QUALITY CONTROL

A. Testing Agency: Owner will engage a qualified testing agency to perform the following field tests and inspections:

1. Materials Testing:

- a. Samples of material delivered to Project site shall be taken, identified, sealed, and certified in presence of Owner and Contractor.
- b. Testing agency shall perform tests for characteristics specified, using applicable referenced testing procedures.
- c. Testing agency shall verify thickness of coatings during pedestrian traffic coating application for each 600 sq. ft. of installed pedestrian traffic coating or part thereof.

2. If test results show pedestrian traffic coating does not comply with requirements, remove and replace or repair the membrane as recommended in writing by pedestrian traffic coating manufacturer and make further repairs after retesting until pedestrian traffic coating installation passes.

B. Final Pedestrian Traffic-Coating Inspection: Arrange for pedestrian traffic-coating manufacturer's technical personnel to inspect membrane installation on completion.

1. Notify Architect or Owner 48 hours in advance of date and time of inspection.

C. Additional testing and inspecting, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.

D. Prepare test and inspection reports.

- E. The contractor for work under this section shall maintain a quality control program specifically to verify compliance with this specification. A daily log shall be kept to record actions in the field.

3.7 CLEANING

- A. Clean spillage and soiling from adjacent construction using cleaning agents and procedures recommended by manufacturer of affected construction.
- B. Remove debris resulting from completion of coating operation from the project site.
- C. Refer to the manufacturer's preventive maintenance manual for typical cleaning methods.

3.8 PROTECTION

- A. Protect pedestrian traffic coatings from damage and wear during remainder of construction period.
 - 1. After completion of application, do not allow pedestrian traffic on coated surfaces for a period of at least 48 hours at 75°F/23°C and 50% relative humidity, or until completely cured.

END OF SECTION