SECTON 071800 - TRAFFIC COATINGS

PART 1 - GENERAL

1.1 SUMMARY
   A. This Section includes traffic coatings for the following applications:
      1. Interior and exterior, pedestrian traffic.
      2. Vehicular traffic.

1.2 SUBMITTALS
   A. Product Data: For each product indicated.
   B. LEED Submittal:
      1. Product Data for Credit EQ 4.2: For interior field-applied traffic coatings and pavement marking paints, including printed statement of VOC content.
   C. Shop Drawings: Show extent of each traffic coating. Include details for treating substrate joints and cracks, flashings, deck penetrations, and other termination conditions.
   D. Samples for Verification: For each type of traffic coating required, prepared on rigid backing and of same thickness and material indicated for the Work.
   E. Qualification data.
   F. Material test reports.
   G. Material certificates.
   H. Maintenance data.
   I. Warranty.

1.3 QUALITY ASSURANCE
   A. Installer Qualifications: Manufacturer's authorized representative who is trained and approved for installation of traffic coatings required for this Project.
   B. Source Limitations:
      1. Obtain traffic coatings from a single manufacturer.
      2. Obtain primary traffic coating materials, including primers, from traffic coating manufacturer. Obtain secondary materials including aggregates, sheet flashings, joint
sealants, and substrate repair materials of type and from source recommended in writing by primary material manufacturer.

C. Fire-Test-Response Characteristics: Provide traffic coating materials with the fire-test-response characteristics as determined by testing identical products per test method below for deck type and slopes indicated by an independent testing and inspecting agency that is acceptable to authorities having jurisdiction.

1. Class A, B, C roof covering per ASTM E 108 or UL 790.
2. All applicable test requirements.

D. Mockups: Apply mockups to set quality standards for materials and execution.

1. Architect/Engineer will select one representative surface for each traffic coating and each substrate to receive traffic coatings. Apply each coating to at least 200 sq. ft. (18.5 sq. m) of each substrate to demonstrate surface preparation, joint and crack treatment, thickness, texture, color, and standard of workmanship.
2. Remove and reapply mockups until they are approved by Architect/Engineer.
3. Approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.4 WARRANTY

A. Special Warranty: Manufacturer's standard form in which traffic coating manufacturer agrees to repair or replace traffic coatings that deteriorate during the specified warranty period. Warranty does not include deterioration or failure of traffic coating due to unusual weather phenomena, failure of prepared and treated substrate, formation of new substrate cracks exceeding 1/16 inch (1.6 mm) in width, fire, vandalism, or abuse by weather, maintenance equipment, and truck traffic.

1. Deterioration of traffic coatings includes 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: Five years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Traffic Coatings: Complying with ASTM C 957.

B. VOC Content: Provide traffic coatings and pavement marking paints, for use inside the weatherproofing system, with VOC content of 150 g/L when calculated according to 40 CFR 59, Subpart D (EPA Method 24).
C. Material Compatibility: Provide primers; base, intermediate, and topcoats; and miscellaneous 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.

2.2 TRAFFIC COATING

A. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, the following:

1. Advanced Polymer Technology Corp.;
2. Degussa Building Systems, Sonneborn Brand Products;
3. Pecora Corporation;
4. 3M Specified Construction Products Division;
5. Tremco Incorporated, Sealant/Waterproofing Division;

B. Primer: Manufacturer's standard factory-formulated primer recommended for substrate and conditions indicated.

1. Material: Epoxy or Urethane.

C. Preparatory and Base Coats: Single- or multi-component, aromatic liquid urethane elastomer.

D. Intermediate Coat: Single- or multi-component, aromatic liquid urethane elastomer, or Single- or multi-component, aliphatic liquid urethane elastomer, or Liquid epoxy.

E. Topcoat: Single- or multi-component, aromatic liquid urethane elastomer, or Single- or multi-component, aliphatic liquid urethane elastomer, or Single- or multi-component, aromatic liquid urethane elastomer with UV inhibitors, or Liquid epoxy. Color: As selected by Architect/Engineer from manufacturer's full range.

F. Component Coat Thicknesses: As recommended by manufacturer for substrate and service conditions indicated, but not less than the following (measured excluding aggregate):

1. Base Coat: 1/16” minimum dry film thickness.
2. Intermediate Coat: 1/16” minimum dry film thickness.
3. Topcoat: 1/16” minimum dry film thickness.

G. Aggregate: Uniformly graded, washed silicon carbide sand, or Uniformly graded, washed silica sand, or Uniformly graded, washed flint shot silica, or Aluminum-oxide grit of particle sizes, shape, and minimum hardness recommended in writing by traffic coating manufacturer.

1. Spreading Rate: As recommended by manufacturer for substrate and service conditions indicated, but not less than the following:
   a. Intermediate Coat: 8 to 10 lb/100 sq. ft. (3.6 to 4.5 kg/10 sq. m), To refusal.
   b. Topcoat: 8 to 10 lb/100 sq. ft. (3.6 to 4.5 kg/10 sq. m), as required to achieve slip-resistant finish.
2.3 MISCELLANEOUS MATERIALS

A. Joint Sealants: As specified in Division 07 Section "Joint Sealants."

B. Sheet Flashing: Non-staining.
   1. Minimum Thickness: 60 mils (1.5 mm).
   2. Material: Sheet material recommended in writing by traffic coating manufacturer, or Uncured neoprene sheet, or Cured neoprene sheet.

C. Adhesive: Contact adhesive recommended in writing by traffic coating manufacturer.

D. Reinforcing Strip: Fiberglass mesh recommended in writing by traffic coating manufacturer.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates, with Installer present, for compliance with requirements and for other conditions affecting performance of traffic coatings.
   1. For the record, prepare written report, endorsed by Installer, listing conditions detrimental to performance.
   2. Verify compatibility with and suitability of substrates.
   3. Begin coating application only after minimum concrete curing and drying period recommended by traffic coating manufacturer has passed, after unsatisfactory conditions have been corrected, and after surfaces are dry.
   4. Verify that substrates are visibly dry and free of moisture.
      a. Test for moisture vapor transmission by plastic sheet method according to ASTM D 4263.
      b. Test for moisture content by measuring with an electronic moisture meter, or method recommended in writing by manufacturer.
   5. Application of coating indicates acceptance of surfaces and conditions.

3.2 PREPARATION

A. Clean and prepare substrates according to ASTM C 1127 and manufacturer's written recommendations to produce clean, dust-free, dry substrate for traffic coating application.

B. Mask adjoining surfaces not receiving traffic coatings, deck drains, and other deck substrate penetrations to prevent spillage, leaking, and migration of coatings.

C. Concrete Substrates: Mechanically abrade concrete surfaces to a uniform profile according to ASTM D 4259. Do not acid etch.
   1. Remove grease, oil, paints, and other penetrating contaminants from concrete.
   2. Remove concrete fins, ridges, and other projections.
3. Remove laitance, glaze, efflorescence, curing compounds, concrete hardeners, form-release agents, and other incompatible materials that might affect coating adhesion.
4. Remove remaining loose material to provide a sound surface, and clean surfaces according to ASTM D 4258.

3.3 TERMINATIONS AND PENETRATIONS

A. Prepare vertical and horizontal surfaces at terminations and penetrations through traffic coatings and at expansion joints, drains, and sleeves according to ASTM C 1127 and manufacturer's written recommendations.

B. Provide sealant cants at penetrations and at reinforced and non-reinforced, 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.

3.4 JOINT AND CRACK TREATMENT

A. Prepare, treat, rout, and fill joints and cracks in substrates according to ASTM C 1127 and manufacturer's written recommendations. Before coating surfaces, remove dust and dirt from joints and cracks according to ASTM D 4258. Comply with recommendations in ASTM C 1193 for joint-sealant installation.

3.5 TRAFFIC COATING APPLICATION

A. Apply traffic coating material according to ASTM C 1127 and manufacturer's written recommendations. Verify that wet film thickness of each component coat complies with requirements every 100 sq. ft. (9 sq. m).

B. Apply traffic coatings to prepared wall terminations and vertical surfaces to height indicated, and omit aggregate on vertical surfaces.

C. Cure traffic coatings according to manufacturer's written recommendations. Prevent contamination and damage during application and curing stages.

3.6 PROTECTING AND CLEANING

A. Protect traffic coatings from damage and wear during remainder of construction period.

B. Clean spillage from adjacent construction using cleaning agents and procedures recommended by manufacturer of affected construction.

END OF SECTION 071800