SECTION 07180

TRAFFIC COATINGS

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.02 SUMMARY

A. This Section includes traffic coatings for the following applications:
   1. Parking deck.

B. Related Sections include the following:
   1. Division 3 Section "Cast-In-Place Concrete " for traffic-bearing base.
   2. Division 3 Section “Concrete Rehabilitation” for resurfacing of existing concrete.

1.03 SUBMITTALS

A. Product Data: For each product indicated.

B. Shop Drawings: Show extent of each traffic coating. Include details for treating substrate joints and cracks, flashings, deck penetrations, and other termination conditions. Include layout of traffic striping and markings.

C. Samples for Selection: Manufacturer's color charts showing the full range of colors, textures, and patterns available for each type of product indicated.

D. Maintenance Data: To include in maintenance manuals specified in Division 1. Identify substrates and types of traffic coatings applied. Include recommendations for periodic inspections, cleaning, care, maintenance, and repair of traffic coatings.

1.04 QUALITY ASSURANCE

A. Installer (Applicator) Qualifications: An experienced applicator who has specialized in installing work similar in material, design, and extent to that indicated for this Project and who is approved by manufacturer.
   1. Approved Applicator: Hascall & Hall, 775-1481.

B. Source Limitations: As follows:
   1. Use traffic coatings of 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 by traffic coating manufacturer.

C. Fire-Test-Response Characteristics: For traffic coatings as follows:
   1. Fire-response testing was performed by UL, ITS, or another independent testing and inspecting agency that is acceptable to authorities having jurisdiction and that performs testing and follow-up services.

1.05 DELIVERY, STORAGE, AND HANDLING

A. Deliver materials in original packages and containers with seals unbroken and bearing manufacturer's labels showing the following information:
   1. Manufacturer's brand name.
   2. Type of material.
   3. Directions for storage.
   4. Date of manufacture and shelf life.
   5. Lot or batch number.
   6. Mixing and application instructions.
   7. Color.

B. Store materials in a clean, dry location protected from exposure to direct sunlight. In storage areas, maintain environmental conditions within range recommended in writing by manufacturer.

1.06 PROJECT CONDITIONS

A. Environmental Limitations: Apply traffic coatings within the range of ambient and substrate temperatures recommended in writing by manufacturer. Do not apply traffic coatings to damp or wet substrates, when substrate and air temperatures are below 40 deg F (5 deg C), when relative humidity exceeds 85 percent, or when temperatures are less than 5 deg F (3 deg C) above dew point.
   1. Do not apply traffic coatings in snow, rain, fog, or mist, or when such weather conditions are imminent during the application and curing period. Apply only when frost-free conditions occur throughout the depth of the substrate.

1.07 WARRANTY

A. General Warranty: Special warranty specified in this Article shall not deprive Owner of other rights Owner may have under other provisions of the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by Contractor under requirements of the Contract Documents.

B. Special Warranty: Written warranty, signed by traffic coating manufacturer agreeing to repair or replace traffic coatings that do not comply with requirements or 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 snowplow, maintenance equipment, and truck traffic.
   1. Deterioration of traffic coatings includes, but is 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.

C. Warranty Period: Five years from date of Substantial Completion.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Physical Requirements: Provide traffic coatings complying with ASTM C 957.

B. Material Compatibility: Provide primers; base, intermediate, and top coats; and miscellaneous materials that are compatible with one another and with substrate under conditions of service and application, as demonstrated by the manufacturer based on testing and field experience.

2.02 TRAFFIC COATING

A. Product: Subject to compliance with requirements, provide the following:
   1. Auto-Gard; Neogard.

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

C. Base Coat: 70400 series aromatic liquid polyurethane elastomer.

D. Top Coat: 7400 series aromatic liquid polyurethane elastomer.
1. Color: As selected by Architect from manufacturer's full range.

E. 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: 1-2/3 gallons per 100 square feet, yielding an average 20 mils DFT.
2. Wearing Surface Coat: 2/3 gallon per 100 square feet, yielding an average 12 mils DFT.

F. Aggregate: Neogard 7992 uniformly graded washed silica sand 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. Aggregate Top Coat: 10 to 15 lb/100 sq. ft.

2.03 MISCELLANEOUS MATERIALS

A. Joint Sealants: Multicomponent urethane sealant recommended in writing by manufacturer for substrate and joint conditions indicated and for compatibility with traffic coatings; complying with ASTM C 920, Type M, Class 25, Grade NS for sloping and vertical applications or Grade P for deck applications, and Use T where subject to traffic or Use NT elsewhere.

B. Reinforcing Strip: Manufacturer's recommended fiberglass mesh.

C. Traffic Paint: Alkyd-resin ready mixed, complying with AASHTO M 248, Type N.
1. Color: White.
a. Use blue for spaces accessible to the disabled.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Examine substrates, with Applicator present, for compliance with requirements and for other conditions affecting performance of traffic coatings.
1. 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.
2. Verify that substrates are visibly dry and free of moisture. Test for moisture by method recommended in writing by manufacturer .
3. Application of coating indicates acceptance of surfaces and conditions.

3.02 PREPARATION

A. Clean and prepare substrates according to 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 (shot blast) 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.

3.03 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 nonreinforced deck-to-wall butt joints.

3.04 TRAFFIC COATING APPLICATION

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

B. Apply traffic paint for striping and other markings with mechanical equipment to produce uniform straight edges. Apply at manufacturer's recommended rates for a 15-mil (0.38-mm) minimum wet film thickness.

3.05 CURING AND PROTECTING

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

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

END OF SECTION