SECTION 07 18 16

VEHICULAR TRAFFIC COATINGS

PART 1 - GENERAL

1.01 SECTION INCLUDES

A. Liquid-applied elastomeric, vehicular traffic-bearing, waterproofing

B. Flashings

C. Traffic surface

1.02 MEASUREMENT AND PAYMENT

A. General: Measurement and payment for vehicular traffic deck coating will be either by the lump-sum method or by the unit-price method as determined by the listing of the bid item for vehicular traffic deck coating indicated in the Bid Schedule of the Bid Form.

B. Lump Sum: If the Bid Schedule indicates a lump sum for vehicular traffic deck coating, the lump-sum method of measurement and payment will be in accordance with Section 01 20 00 - Price and Payment Procedures, Article 1.03.

C. Unit Prices: If the Bid Schedule indicates a unit price for vehicular traffic deck coating, the unit-price method of measurement and payment will be as follows:

1. Measurement

   a. Vehicular traffic deck coating, will be measured for payment by the square foot or square yard, as indicated in the Bid Schedule of the Bid Form, acceptably furnished and installed.

   b. Substrate preparation, installation accessories, and protection of completed surfaces will not be measured separately for payment, but will be considered included with the measurement specified above.

2. Payment: Vehicular traffic deck coating, will be paid for at the Contract unit price for the computed quantities as determined by the measurement method specified in Article 1.02.C.1.

1.03 SYSTEM DESCRIPTION

A. The traffic deck coating (traffic topping) system shall be a VOC-compliant, cold, liquid-applied polyurethane or aliphatic urethane, elastomeric, waterproof membrane with integral skid-resistant vehicular traffic-bearing wearing surface.

B. The membrane may be single-component or multi-component, and shall consist of at least three coats (base, intermediate, and top coats), built up to a minimum overall dry-film thickness of 45 mils or the minimum thickness recommended by the manufacturer's installation instructions, whichever is greater. The finished installation shall be capable of bridging 1/16 inch new cracks

and floor movement, at a minimum, without failure. Membrane shall be recoatable and repairable.

1.04 REFERENCES

A. American Society for Testing and Materials (ASTM):

1. ASTM C811 Practice for Surface Preparation of Concrete for Application of Chemical-Resistant Resin Monolithic Surfacings

2. ASTM C957 Specification for High-Solids Content, Cold Liquid-Applied Elastomeric Waterproofing Membrane with Integral Wearing Surface

3. ASTM D4263 Test Method for Indicating Moisture in Concrete by the Plastic Sheet Method

B. International Concrete Repair Institute (ICRI):

1. ICRI 03732 Guideline for Selecting and Specifying Concrete Surface Preparation for Sealers, Coatings, and Polymer Overlays

1.05 SUBMITTALS

A. General: Refer to Section 01 33 00 - Submittal Procedures, and Section 01 33 23 - Shop Drawings, Product Data, Samples, for submittal requirements and procedures.

B. Shop Drawings: Submit installation and flashing details for all roof deck penetrations, curbs, and parapets.

C. Product Data: Submit manufacturer's product data and installation specifications of the traffic deck coating system.

D. Samples: Submit sample 10-inch squares of the finished traffic deck coating installation, in manufacturer's standard color as selected by the Engineer. Color and texture proposed for the finished installation require approval of the Engineer before the work of this Section may proceed.

E. Manufacturer's Certification: At completion of the installation, submit written certification, signed by the manufacturer or its authorized representative, that the materials used in the work were in accordance with these Specifications, and that they were installed in accordance with the material manufacturer's installation instructions and recommendations.

1.06 QUALITY ASSURANCE

A. Vehicular traffic-bearing deck coating system shall be installed by an applicator/installer skilled and experienced in the type of work involved. Applicator/installer shall be licensed and approved by the manufacturer that furnishes the materials.

B. The Contractor shall make necessary arrangements with the manufacturer of the materials to be installed to provide on-site consultation and inspection services to assure the correct installation of the traffic-bearing deck coating system.

C. The manufacturer's representative shall be present at the time any phase of the work is started. Membrane waterproofing deck coating system shall be applied only over substrate surfaces previously approved by the manufacturer's representative.

1.07 GUARANTY

A. Waterproof traffic-bearing deck coating work shall be guarantied against defective materials and work quality and against leakage due to faulty or inferior materials, inadequate installation, and installation supervision, and inadequate protection of completed work. Any such defects or leakage occurring during the period of the guaranty shall be promptly and completely corrected, including all affected work, at no additional cost to the District.

B. In addition to the guaranty requirements specified in General Conditions Article GC4.9, said guaranty shall be in effect for a period of five years from the date of the Certificate of Substantial Completion issued by the District. The guaranty shall be signed by the deck coating system applicator or installer and countersigned by the Contractor, and shall be submitted to the Engineer as specified in Section 01 77 00 - Closeout Procedures.

PART 2 - PRODUCTS

2.01 MATERIALS

A. Deck Type and Manufacturer: The liquid-applied polyurethane or aliphatic urethane elastomeric, waterproof, traffic-bearing floor and base coating system and materials shall conform to applicable requirements of ASTM C957, and shall be the products of a manufacturer who specializes in and is regularly engaged in the manufacture of these materials. Latex type membrane coating systems will not be acceptable. Include the base coat, intermediate coats, and top coat, and all installation accessories and non-skid materials, all by the same manufacturer.

B. Flashings: Flashings shall be an integral composition flashing material similar to and monolithic with the elastomeric membrane specified above.

C. Color: Color of the traffic surface and base shall be as selected and approved by the Engineer from manufacturer's standard colors.

PART 3 - EXECUTION

3.01 INSPECTION AND PREPARATION OF SUBSURFACES

A. Inspection of Subsurfaces: Before starting the installation of any traffic-bearing deck coating work, examine all surfaces that the deck coating and base membrane and flashings are to be applied. Examination includes bond, moisture, and alkali testing of concrete as required or recommended by the manufacturer of the deck coating system components.

1. Test concrete deck for moisture in accordance with ASTM D4263.

B. Cleaning and Preparation of Substrate Surfaces:

1. Substrate surfaces that the deck coating membrane, base, and flashings are to be applied shall be dry, clean of dirt and dust, paint, grease, and free of bond-breaking and curing compounds.

   a. Concrete substrate surfaces shall be properly prepared and cleaned in accordance with ASTM C811 as recommended by the deck coating system manufacturer.

   b. Where the manufacturer determines that the concrete substrate needs to have a "roughened" surface to provide mechanical key for better adhesion of the base coat, perform shotblasting or bead blasting in accordance with ICRI 03732.

2. Substrate surfaces shall also be free from roughness and defective surfaces that will prevent a level and plane installation. Fill all joints, cracks, or depressions in substrate surfaces with floor patch or underlayment material recommended by the manufacturer of the deck coating system components, as required. Substrate surfaces shall be level to within 1/8 inch in 8 feet when checked in any direction by an 8-foot straightedge, or sloped for drainage as indicated.

3.02 INSTALLATION

A. The waterproof, composition, elastomeric traffic-bearing membrane coating system and related flashings shall be installed in accordance with the manufacturer's specifications, installation instructions, and recommendations, using only workers skilled and experienced in the installation of the type of work involved.

B. The finished installation shall be uniform in color and texture.

3.03 FIELD QUALITY CONTROL

A. Verify that the installed deck coating membrane is free from wrinkles, blisters, and exposed surfaces. Damaged or defective membrane shall be corrected.

B. If water test of horizontal surfaces is required by the Contract Specifications, conduct such test by applying a flood coat of water along the high areas so that water at least 1/4 inch deep flows over the areas. Perform test under the observation of the Engineer. Should a leak or low spot appear, repair the area and retest as specified above until all work is watertight and acceptable.

C. Clean adjacent surfaces of spillage and spatterings of deck coating materials, if any.

END OF SECTION 07 18 16