

SECTION 07571
HYBRID URETHANE WATERPROOF / ACRYLIC TOPPING SYSTEM

PART 1 – GENERAL.

1.01 Related Documents.

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division I specification sections, apply to work in this Section.
- B. Section 03700 – Concrete Repair.
- C. Section 07900 – Joint Sealants.

1.02 Summary.

- A. This Contractor shall furnish all labor, materials, tools, and equipment to perform application of a Cementitious Decorative Traffic Deck Coating System as shown on drawings and as specified.

1.03 Submittals.

- A. Submittals to provided in accordance with Section 01300.
- B. Submittals by Contractor to Engineer shall be made in a timely manner so as to cause no delay in the work.
- C. Submittals shall bear a stamp indication review and approval by Contractor.
- D. Any deviations in the submittals from the requirements of the Project Manual shall be clearly identified in writing by Contractor.
- E. Approval by Engineer is required before beginning work affected by submittals.
- F. Submittals required by this Section include the following.
 - 1. Manufacturer's current Data Sheets, Specifications, Material Safety Data Sheets, and sample warranty for products used under this section.
- G. Intent to Warrant: Provide an Original signed copy of the Manufacturer's Intent to Warrant and a copy of the Manufacturer's Warranty that will be issued at the balance of the Work, prior to the commencement of the Work. Included in the Intent to Warrant shall be a statement that the Manufacturer or Manufacturer's Representative has read and understands the Project Specifications. The Manufacturer shall provide any discrepancies or additions in the specifications to the Engineer in writing prior to the commencement of the Work. Failure of the Manufacturer to do so shall constitute full acceptance of the Work and shall in no way constitute a breach of the warranty to be provided.

1.04 Quality Assurance

- A. Manufacturer qualifications: Company regularly engaged in manufacturing and marketing of products specified in this section.
- B. Contractor qualifications: Qualified to perform work specified due to experience or training provided by product manufacturer.
- C. Mockup: Provide mockup of at least 100 square feet to include surface profile, sealant joint, crack, flashing, and juncture details and allow for evaluation of slip resistance of Traffic Deck Coating System.
 - 1. Install mockup with specified coating types and with other components noted.
 - 2. Location of the mockup to be selected by the Engineer.
 - 3. Mockup may remain as part of Work if acceptable to Engineer.

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- D. Notify Manufacturer's authorized representative at least two weeks before start of work. Schedule minimum of 2 job site inspections by Manufacturer's authorized representative, first scheduled before application of product.

1.05 Delivery Storage, and Handling.

- A. All manufacturers' items must be factory labeled on the material or its container.
- B. Deliver products in original unopened containers with factory-installed manufacturer's name, labels, product identification, and batch numbers. Provide Material Safety Data Sheets for each product.
- C. Store and condition the specified products as recommended by the manufacturer.
- D. Products shall remain in unopened containers until ready to use.

1.06 Project Conditions.

- A. The Contractor shall inspect the job conditions. Commencement of work shall constitute approval of existing conditions.
- B. Follow manufacturer's recommendations regarding ambient weather conditions, temperature, humidity, and other additional installation information.
- C. Protect all adjacent work from contamination due to mixing, handling and application of Topping system.

1.07 Warranty.

- A. The Contractor shall furnish written joint warranties that the Work that has been executed under this section is free from defects of material and workmanship for period of not less than (5) five years from the date of final payment.

PART 2 – PRODUCTS.

2.01 Acceptable Manufacturers

- A. Masterbuilders, Pecora, SIKA and Neogard
- B. Gemstone Systems, Inc. 800-969-1998

2.02 Materials.

- A. Polyurethane waterproofing, traffic bearing membrane (follow manufacturer specifications).
 - 1. Primer: See manufacturers specifications.
 - 2. Base coat: Single component urethane or FastCure used as base waterproof coat.
 - 3. Top coat: Single component, self-leveling urethane or FastCure wear coat.
 - 4. Aggregate 40/75 mesh rounded silica sand for broadcast into top coat (to refusal).
 - 5. Sealants to be Masterbuilder CR195 or similar.

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B. Gemstone Systems.

1. Gemstone Base Flex. Polymer-modified acrylic-cementitious colored bond coat used to increase bonding adhesion for Gemstone Topping. Used as background and grout color in the Gemstone System.
2. Gemstone Diamond Deck or Gemstone Colored Topping. Cementitious decorative finish system applied over bond coat, Gemstone Base Flex. Pattern shall be approved by Owner.
3. Apply one of the Gemstone System Clear, Top Coats (G-100, G-200, G-450, G-650, see data sheets for more details).
4. Provided other materials, not specifically described but required for a complete and proper installation, as selected by the Contractor and approved by the coating system manufacturer as compatible, subject to the approval of the Owner/Engineer.

2.03 Colors and Patterns.

- A. Colors and patterns shall be determined by OWNER.

PART 3 – EXECUTION.

3.01 Examination.

- A. Inspect all areas involved in work to establish extent of work, access and need for protection of surrounding construction.
- B. Protect all surroundings from Primers, Patching Repair Compounds, and Finish products to include, but not be limited to, windows, roofs, walkways, drives, automobiles, and landscaping.

3.02 Site Verification of Conditions.

- A. Conduct all pre-application inspections of site verification with authorized Representative.
- B. Inspect all expansion joints to insure that there is no deteriorated sealant, adhesion loss, or non-elastomeric caulks installed in joints. Remove all deficient sealant.
- C. Inspect all through deck penetrations, including electrical, lighting, signage, plumbing, HVAC, fire sprinkler piping for watertight seal. Repair deficiencies with sealant in accordance with Section 07900.

3.03 Surface Preparation: Concrete.

- A. Complete removal and disposal of existing floor finishes, including adhesives and membranes that may exist beneath floor coverings, for all specified floor surfaces by chipping hammers, scarifying, pressure washing, water blasting, shot blasting, grinding, or combination thereof. Any defects in the floor surfaces caused by surface preparation shall be repaired as needed.
- B. Repair concrete in accordance with the recommendations and requirements as stated in this Project Manual.
- C. Prior to installation of Acrylic Topping System, each floor area will be tested for proper slope by flooding with water and marking the low spots. The Engineer must be present during these tests and will determine the amount of acceptable slope. The Contractor may wish to re-test sloped areas to insure adequate slope was provided. This test cannot be conducted without the Engineer being present.
- D. Concrete must be fully cured, (28 days), structurally sound, clean, and dry. All concrete surfaces must be mechanically prepared to remove previous coating, laitance, and all miscellaneous surface contamination. The Contractor shall provide the proper preparation of the surfaces to achieve a Concrete Surface Profile of CSP 3 to a maximum of CSP 4 and/or as directed by the manufacturer in writing to the Engineer.
- E. Remove all dust, dirt, and contaminants from surfaces that require detail work.

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- 3.03 Surface Preparation: Concrete (continued)
- F. Rout cracks and joints over 1/16" inch wide to minimum of ¼" inch clean and seal with BASF CR195 or similar. Allow sealant to fully cure.
 - G. Seal expansion joints exceeding 1" inch wide by priming and install urethane sealant. Do not coat such joints, including primary wide expansion-joint system, so they can perform independently of deck coating system.
 - H. Provided sealant cants at rigidly connected wall and slab intersections. Form CR195 sealant, or similar, cant into corner at junction of all horizontal and vertical surfaces, (wall sections, curbs, columns), and allow sealant to cure. *see manufacturer installation guides. *

3.04 Application.

- A. Complete all preparatory work before application begins.
- B. Apply Urethane Base Coat with properly sized squeegee to arrive at required mil thickness. (25 mil/ 60 sq. ft. per gallon) Backroll as needed. Allow to cure overnight.
- C. Apply Urethane Top Coat with proper sized roller (100 – 120 sq. ft. per gallon). Broadcast aggregate (40/75 sieve size) to refusal while coating is wet. Let cure approximately 16 to 24 hours.
- D. sweep and vacuum aggregate after cured. *see installation guides.*
- E. Apply Gemstone Base Flex with proper size roller. Brush/cut in all perimeters and under handrails. Let coating dry.
- F. Hand tape pattern or use desired stencil pattern. Mask and protect walls and fixtures.
- G. Spray apply Gemstone Diamond Deck material or Gemstone Spray mix material mix. See Gemstone application instructions for mixing directions.
- H. Apply clear seal coats when dry. See Gemstone application for sealer options and cure times.