SECTION 07 18 00

TRAFFIC COATINGS

PART 1 – GENERAL

1.1 SUMMARY

A. Section Includes:

1. Provide all labor, materials, equipment, and services necessary, including surface preparation, to remove existing traffic coating / waterproofing membrane system and install a new heavy duty traffic coating system at parking deck, ramp, or other surfaces where present, where shown on Drawings, and as needed for a complete and proper installation.

B. Related Sections:

1. Section 03 31 00 – Structural Concrete.
2. Section 03 93 00 – Concrete Repairs.
3. Section 03 94 00 – Concrete Crack Repairs.
4. Section 07 92 00 – Joint Sealants.
5. Section 07 95 00 – Expansion Control

1.2 SUBMITTALS

A. Comply with provisions of Section 01 11 00, Article 1.12.

B. Samples: Furnish coating samples on rigid boards showing type, texture, and color of the system to be used. Furnish coating samples prior to performing field mockups. Resubmit samples as requested until desired color and texture are achieved. Infill slab field mockups should be performed on completed concrete repairs as directed by the Engineer.

C. Product Data: Submit manufacturer's specifications, project specific surface preparation and application instructions, and warranty sample, for waterproofing membrane system and associated sealants, primers, etc.

D. Statement of Manufacturer's Review: Furnish a written statement from the product manufacturer that they:

1. Are familiar with the project, aware of job conditions, and aware of associated sealants and concrete repair products proposed for the project.

2. Agree with the intended application of the products as specified.

3. Agree with project specifications. If necessary, submit revisions to project specifications.

4. Agree that the product is compatible with associated sealants and concrete repair materials proposed for the project.

5. Has reviewed surface preparation of sample/mockup and agrees with preparation methods.

6. Has reviewed installed sample/mockup and agrees with coating application methods.

E. Coating Plan: Contractor shall submit project specific application plan for the installation indicating expected areas to be coated, coating thickness, and amount of coating material to be used in each area. Plan shall be submitted as least one week prior to coating application and updated plans submitted weekly indicating actual coating installation progress.

F. Samples, product data, quality control procedures, and manufacturer's review statement shall be submitted at least two weeks in advance of field sample.

G. Special Warranty: Submit special warranty form, including warranty from product manufacturer, prior to using proprietary products. Use of products listed in specification is contingent on receipt of warranty that conforms to project specification requirements.

1.3 QUALITY ASSURANCE

A. Approved Applicator: The applicator of the waterproofing membrane system shall be trained and licensed by the product manufacturer.

B. Manufacturer's Field Services: Provide the services of the manufacturer's technical representative at the job site during preparation of sample/mockup, at start of production, periodically as work progresses, and as otherwise requested by the Engineer to facilitate installation or application of specified products.

C. Field Mockup: Provide a field sample/mockup at location designated by the Engineer to represent completed work for qualities of color, texture, appearance, materials, and installation for each system to be used. Manufacturer's representative shall observe surface preparation and membrane installation of sample/mockup. Final acceptance of color and finish will be from the field mockup. After acceptance by the Engineer, the approved field mockup will be used for evaluation of the remainder of the work.

1.4 MEASUREMENT AND PAYMENT PROCEDURES

A. Concrete coating including surface preparation of exterior concrete surfaces will be paid in accordance with Contract Documents. The quantity measurement and payment for repair types are as follows:

1. Preparing concrete surfaces for new waterproofing membrane system application, including concrete delaminations, spalls, voids, depressions, cracks, and joints on unit price basis.

2. Installing new waterproofing membrane system at locations designated on drawings including vertical transitions on columns, walls, and beams on a Lump Sum basis.

1.5 SPECIAL WARRANTY

A. Provide 5-year written warranty for workmanship and material signed by the Manufacturer and Contractor agreeing to repair or replace waterproofing membrane system installations that show evidence of water leakage, excessive wear, peeling, cracking, chalking, debonding, blistering, or other failures.

B. Upon notification of such defects, make necessary repairs or replacement at no cost to the Owner and at the convenience of the Owner. Repair work shall be in accordance with the requirements of these Contract Documents.

PART 2 - PRODUCTS

2.1 HEAVY-DUTY TRAFFIC COATING / WATERPROOFING MEMBRANE SYSTEM

A. MasterSeal Traffic 2500 Deck Coating System by BASF Building Systems, Shakopee, MN. System includes:

1. Primer: MasterSeal P 255 at 5-8 wet mils thickness

2. Base Coat: MasterSeal M 265 at 25 wet mils thickness

3. Intermediate Coat: MasterSeal TC 295 at 25 wet mils thickness

4. Top Coat: MasterSeal TC 295 at 20 wet mils thickness. Color as selected by Owner.

5. Band Coat where Reinforcing Fabric is embedded: MasterSeal M 200

6. Reinforcing Fabric: MasterSeal 960

7. Aggregate: MasterSeal 941 / 941 DR or equivalent clean 16-30 mesh rounded silica sand approved by membrane manufacturer.

B. Qualideck Traffic Bearing Membrane by Advanced Polymer Technology Corporation (APT) of Harmony PA. System includes:

1. Primer: Q152 at 4 wet mils thickness
2. Base Coat: Q252 at 25 wet mils thickness
3. Intermediate Coat: Q372 AR at 25 wet mils thickness
4. Top Coat: Q582 AL at 20 wet mils thickness. Color as selected by Owner.
5. Band Coat where Reinforcing Fabric is embedded: Q252
6. Reinforcing Fabric: 4 Oz Fiberglass Cloth by System Three Resins or as otherwise approved by membrane manufacturer
7. Aggregate: Clean 12-20 mesh silica sand by U.S. Silica or as otherwise approved by membrane manufacturer.

C. Other equivalent products approved by Engineer.

2.2 EPOXY OVERLAY MORTAR FOR FILLING DEPRESSIONS

A. MasterSeal 350 by BASF Building Systems.

B. Aggregate: MasterSeal 941 / 941 DR or equivalent clean 16-30 mesh rounded silica sand approved by epoxy overlay manufacturer.

2.3 RELATED MATERIALS

A. Associated sealants, recoat primers and other materials shall be as specified by the coating manufacturer.

PART 3 - EXECUTION

3.1 PREPARATION

A. Remove existing traffic coating prior to concrete repairs to enable proper identification and repair of concrete deterioration. Removal methods shall be selected that minimize damage or abrasion of existing concrete surfaces.

B. Concrete Repairs: reference Section 03 93 00.

C. Concrete Substrate Surface Preparation:

1. Concrete must be fully cured, structurally sound, clean, and dry. Dry the substrate, if needed, as recommended by the manufacturer and make certain that the substrate is free of moisture or other conditions detrimental to coating adhesion.

2. Clean substrate, removing projections and substances detrimental to the work. Completely remove previous coating, laitance, surface contamination, foreign material, weak concrete surfaces, etc. that can inhibit adhesion.

3. Prepare the substrate using shotblasting and/or mechanical preparation methods in accordance with coating manufacturer's recommendations. At minimum sandblast the surfaces to obtain ICRI CSP-3 (concrete surface profile) or equivalent 100 grit sandpaper unless otherwise recommended by waterproofing membrane manufacturer. Acid-etching is not permitted.

4. Grind uneven surfaces of concrete to provide a smooth surface transition for new deck coating. If any paint/coatings/markings exist, remove by grinding.

5. Commencement of coating application shall constitute acceptance of substrate conditions by the Contractor.

D. At terminations on horizontal surfaces, cut a ¼" x ¼" sawcut keyway into the concrete surface. Fill and coat keyway with application of basecoat.

E. Protection and cleaning:

1. Protect areas adjacent to the work areas as required during surface preparation. Protect topside areas adjacent to work during coating application (i.e., area not scheduled to receive products of this section) by masking off or other suitable methods against spills, overspray, drips, and other damage. Contractor should make necessary repairs of damaged area at no cost to the Owner.

2. Control debris generated by surface preparation as necessary. Prepare concrete topsides to avoid contaminating areas already prepared. Surfaces that become contaminated shall be cleaned in a manner acceptable to the Engineer and coating manufacturer.

3. Protect drains from debris and clean areas of debris accumulation at the end of each work day. Maintain active pedestrian areas in a manner acceptable to the Owner.

3.2 APPLICATION

A. Adhere to limitations and cautions as indicated by the waterproofing membrane and other related product manufacturers. Apply coatings only in favorable conditions and when moisture and temperature conditions of air and surfaces are within the limits specified by the product manufacturer. Do not proceed with

membrane work when weather forecasts are unfavorable. Apply coating at manufacturer recommended application temperatures.

B. Mix coating material in accordance with manufacturer recommendations. Apply coating materials according to manufacturer's instructions using manufacturer recommended equipment.

C. Allow manufacturer recommended curing time prior to applying additional coats. The surface of the previous coat should have a slight tack prior to applying additional coats. Previous coat should not be exposed for longer than 24 hours.

D. Band Coating and Detailing:

1. Rout and seal cracks and joints as required by Contract Documents.

2. Prime all surfaces that receive band coat with 4 wet-mils of band coat primer. Allow primer to dry tack free. Apply primer only to those areas that will be coated with band coat within 12 hours.

a. At all crack and joint locations, apply band coat at minimum 25 wet-mils thickness, extending 3 in. minimum on each side of crack or joint.

b. At crack or joint locations indicated on drawings, apply band coat at minimum 25 wet-mils thickness, extending 4 in. minimum on each side of crack or joint, and embed reinforcing fabric.

c. At joints between precast members, following installation of joint or cove sealant, apply band coat at minimum 25 wet-mils thickness, extending 4 in. minimum on each side of joint, and embed reinforcing fabric.

E. Fill localized shallow depressions with base coat membrane in accordance with waterproofing membrane manufacturer recommendations. Costs of filling localized shallow depressions 1/8 in. or less deep are incidental to new waterproofing membrane costs.

F. Fill deeper depressions where directed by the Engineer by filling with specified epoxy overlay mortar as specified and according to manufacturer recommendations. Up to ¾ in. thickness, mix epoxy resin with aggregate at 3:1 aggregate:resin by volume.

G. Heavy-Duty Waterproofing Membrane:

1. Prime surface with 4 wet-mils of primer. Allow primer to dry tack free. Apply primer only to those areas that will be coated with base coat within 12 hours.

2. Apply base coat at minimum 25 wet-mils thickness. For sloped areas, use slope-grade base coat. Extend base coat over cracks and joints which have received band coat. Immediately backroll to level base coat. Allow manufacturer recommended curing time, minimum 4 hours, prior to applying intermediate coat. Intermediate coat must be applied to cured basecoat within 24 hours.

3. Apply intermediate coat at minimum 25 wet-mils thickness. Immediately broadcast aggregate to complete saturation (refusal). If wet spots develop, immediately broadcast additional aggregate until dry surface is re-established. Remove excess aggregate by sweeping, blowing, or vacuuming, prior to applying topcoat. Allow manufacturer recommend curing time, minimum 6 hours, prior to applying topcoat.

4. Apply top coat at minimum 20 wet-mils thickness. Immediately back-roll to level top coat. While coating is still wet, broadcast aggregate at manufacturer's recommended rate and immediately back roll into the coating to fully encapsulate.

I. Allow minimum cure time of 24 to 48 hours prior to vehicular traffic. Allow minimum cure time of 4 hours prior to pedestrian traffic. Additional cure time may be necessary based on environmental conditions.

3.3 PRECAUTIONS

A. Adhere to limitations and cautions as indicated by the coating and other related product manufacturers.

B. Wear appropriate protective clothing, gloves, equipment, or other items to protect oneself during surface preparation and coating application.

END OF SECTION