DIVISION 7 – THERMAL AND MOISTURE PROTECTION
Section 071800 – Traffic Coatings

Part 1 – General

1.01 Summary
A. This specification describes the application of a seamless waterproofing membrane resistant to specified traffic wear exposures. The specified products shall meet or exceed the requirements of ASTM C957, High-Solids Content, Cold Liquid-Applied Elastomeric Waterproofing Membrane with Integral Wearing Surface.

1.02 Quality Assurance
A. Manufacturing qualifications: The manufacturer of the specified product shall be ISO 9001/9002 certified and have in existence a recognized ongoing quality assurance program independently audited on a regular basis.
B. Contractor qualifications: Contractor shall be qualified in the field of concrete repair and protection with a successful track record of 5 years or more. Contractor shall maintain qualified personnel who have received product training by a manufacturer’s representative.
C. Install materials in accordance with all safety and weather conditions required by manufacturer or as modified by applicable rules and regulations of local, state and federal authorities having jurisdiction. Consult Material Safety Data Sheets for complete handling recommendations.
D. Traffic system used must use a concrete primer.
E. All intermediate and top coats used after the base coat is applied, must be an aliphatic urethane for good UV stability.

1.03 Delivery, Storage and Handling
A. All materials must be delivered in original, unopened containers with the manufacturer’s name, labels, product identification, and batch numbers. Damaged material must be removed from the site immediately.
B. Store all materials off the ground and protect from rain, freezing or excessive heat until ready for use.
C. Condition the specified product as recommended by the manufacturer.

TURNER STRUCTURAL ENGINEERING COMPANY
1.04 Job Conditions
   A. Environmental Conditions: Do not apply material if it is raining or
      snowing or if such conditions appear to be imminent. Minimum
      application temperature 40 deg F. and rising.
   B. Protection: Precautions should be taken to avoid damage to any
      surface near the work zone due to mixing and handling of the
      specified coating.

1.05 Submittals
   A. Submit two copies of manufacturer’s literature, to include: Product
      Data Sheet, and appropriate Material Safety Data Sheets (MSDS).

1.06 Warranty
   A. Provide a written warranty from the manufacturer against defects
      of materials for a period of five (5) years, beginning with date of
      substantial completion of the project.

Part 2 – Products

2.01 Manufacturers
   A. Sikalastic 710/735 AL Traffic System, as manufactured by Sika
      Corporation, 201 Polito Ave., Lyndhurst, NJ 07071, is considered to
      conform to the requirements of this specification.
   B. Any materials required for repair prior to installations shall be
      manufactured by the same supplier of the proposed traffic coating
      system.

2.02 Materials
   A. Sikalastic 710/735 AL Heavy Pedestrian Traffic System is a
      complete system of compatible materials comprised of the
      following:
      1. Sikafloor FTP water-based epoxy primer or other primer
         recommended by manufacturer
      2. Sikalastic 710 Base one-component aromatic polyurethane
         base coat.
      3. Sikalastic 735 AL aliphatic top coats.
   B. Total dry film thickness exclusive of aggregate shall be 43 mils.
      See data sheet System Guide for coverage rates and application
      methods.
   C. Aggregate shall be clean, rounded, oven dried quartz sand with a
      minimum gradation of 16-30 mesh, and a minimum hardness of
      6.5 per the Moh’s scale. Aggregate shall be supplied in pre-
      packaged bags and free of metallic or other impurities.
   D. Color of traffic system to be coordinated with owner.
2.03 Performance Criteria

A. Properties of standard Siklastic base and top coats:

<table>
<thead>
<tr>
<th>Property</th>
<th>710 Base</th>
<th>735 AL Top</th>
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<tbody>
<tr>
<td>Viscosity</td>
<td>6500+/−3000 cps</td>
<td>2500+/−7000 cps</td>
</tr>
<tr>
<td>Total Volume Solids (ASTM D2697)</td>
<td>71%</td>
<td>74%</td>
</tr>
<tr>
<td>VOC Content (ASTM D2369-81)</td>
<td>240 g/l</td>
<td>225 g/l</td>
</tr>
<tr>
<td>Tensile Strength (ASTM D412)</td>
<td>800+/−100 psi</td>
<td>4200+/−300 psi</td>
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<tr>
<td>Elongation at Break (ASTM D412)</td>
<td>500+/−50%</td>
<td>230+/−50%</td>
</tr>
<tr>
<td>Tear resistance (Die C, ASTM D624)</td>
<td>250+/−25 pli</td>
<td>400+/−50 pli</td>
</tr>
<tr>
<td>Hardness (ASTM D2240)</td>
<td>55+/−5 Shore A</td>
<td>90+/−5 Shore A</td>
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B. Any substitutions or alternative products must meet the minimum performance standards for both the base coat and aliphatic top coats as currently specified.

Part 3 – Execution

3.01 Surface Preparation

A. The substrate must be clean, dry, sound and free of surface contaminants. Remove all traces of dust, laitance, grease, oils, curing compounds, form release agents and foreign particles by mechanical means, i.e. – milling, scarifying, shot blasting, etc., as approved by the owner. Blow surface free of dust using compressed air line equipped with an oil trap Surface Preparation. Surface must be clean, dry and sound with an open texture. Remove dust, laitance, grease, curing. All projections, rough spots, etc. should be dressed off to achieve a level surface prior to the application.

B. Concrete should be cleaned and prepared to achieve a laitance and contaminant free, open textured surface by blast cleaning or equivalent mechanical means (CSP 3-4 per ICRI guidelines).

C. Plywood should be clean and smooth, APA and exterior grade, not less than ¼” thick, and spaced and supported according to APA guidelines. Seams should be sealed with Sikflex 2c and detailed and may need imbedded fabric reinforcement.

D. Metal should be thoroughly cleaned by grinding or blast cleaning.
E. All existing slab deficiencies (i.e. cracks, spalls, chips, irregular joints) visible before or after surface prep, that will adversely affect the application of the traffic coating system, shall be repaired prior to applying the traffic system. All products used for repairs must be from the same manufacturer of the traffic system so a single warranty can be provided.

3.02 Priming

A. Concrete and plywood - Apply Sikafloor FTP primer at 300 sf/gal with a flat squeegee or roller and work well into the substrate to insure adequate penetration and sealing and puddles are avoided.

B. Premix both components. Sikafloor FTP, Part “H” is dark olive green in color and may appear black in the container. Sikafloor FTP, Part “R” is light amber in color. Add the 1 gallon of Sikafloor FTP, Part “R” to the 1.25 gallons of Part “H” in the short filled Part “H” pail. Mix thoroughly with a mechanical mixer (Jiffy) for 3 minutes. This mixture will appear as a light olive green color. Slowly add 1.25 gallons of potable water to the mixture under agitation. Mix for an additional 2 minutes until the mixture is fully dispersed. Fully dispersed material will appear as light green in color. Allow primer to cure a minimum of 3-4 hours at 70 deg F and 50% RH or until tack free before applying base coat.

C. Metal - Consult manufacture regarding primer.

3.03 Detailing

A. Non-structural cracks up to 1/16 inch - Apply a detail coat of Sikalastic 710 Base at 32 mils wet, 4” wide, centered over the crack. Allow to become tack free before overcoating.

B. Cracks and joints over 1/16 inch up to 1 inch - Route and seal with Sikaflex 2x sealant and allow to cure. Apply a detail coat of Sikalastic 710 Base at 32 mils wet, 4” wide, centered over crack. Allow to become tack free before overcoating.

C. Joints over 1 inch - should be treated as an expansion joints and brought up through the Sikalastic Traffic System and sealed with Sika Flex 2x sealant.

3.04 Leveling

A. For low areas less than 1 inch in depth apply Sikalastic 720 base material extended at 1:1 ratio with 20-40 mesh oven dried silica sand.
3.05 Base Coat
   A. Thoroughly mix Sikalastic 710 Base using a mechanical mixer (Jiffy) at slow speeds until a homogenous mixture and color is obtained. Use care not to allow the entrapment of air into the mixture. Apply at the recommended coverage rate using a notched squeegee or trowel and backroll using a phenolic resin core roller. Extend base coat over entire area including previously detailed cracks and control joints. Allow coating to cure a minimum of 16 hours at 70 deg F and 50% RH or until tack free before top coating.

3.06 Top Coats
   A. Thoroughly mix Sikalastic 735 AL using a mechanical mixer (Jiffy) at slow speed until a homogenous mixture and color is obtained. Use care not to allow the entrapment of air into the mixture. Apply at the recommend coverage rate and backroll using a phenolic resin core roller. Apply aggregate evenly distributed at the appropriate rate immediately into wet coating. Allow coating to cure a minimum of 16 hours at 70 deg F and 50% RH or until tack free between coats, and a minimum of 72 hours before opening to traffic.
   B. Over horizontal surfaces apply top coats as stated in 3.01 A. Over vertical risers apply as stated in 3.01 A except with single top coat and no broadcast.

3.07 Mock-up
   A. A job site mock-up should be completed to confirm acceptability of workmanship, material and coverage rates and aesthetics.

3.08 Cleaning
   A. Uncured materials can be removed from tools or other surfaces with an approved solvent. Cured materials can only be removed by mechanical means.
   B. Leave finished work and work area in a neat, clean condition without evidence of spillovers onto adjacent areas.
DRAIN DETAIL

- Terminate Sikalastic Traffic System at Drain
- Sikalastic Traffic System
- Sikaflex Sealant at Perimeter of Drain
- Metal Drain
- Reinforced Concrete

Note:
Provide 4" Deali Coat at Drain Perimeter.

EXPANSION JOINT DETAIL

- Sikalastic Traffic System
- Terminate Sikalastic Traffic System at Expansion Joint
- Sikaflex Sealant
- Expansion Joint 1" or Larger
- Recker Rod
- Reinforced Concrete