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 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.

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.

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 40ºF (5ºC) 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 one (1) year, beginning with date of substantial completion of the project.

Part 2 - Products

2.01 Manufacturers

A. Sikalastic 710/715 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 installation shall be manufactured by the same supplier of the proposed traffic coating system.

2.02 Materials

A. Sikalastic 710/715 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 715 Top one-component aromatic polyurethane top coat
4. Sikalastic 700 ACL accelerator (optional)
5. Sikalastic 735 AL, 736 AL Lo-VOC and 748 PA optional aliphatic top coats

B. Total dry film thickness exclusive of aggregate shall be 33 mils for pedestrian traffic, 43 mils for heavy pedestrian and light vehicular traffic, and 55 mils for heavy vehicular traffic. 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 for vehicular traffic and 20-40 mesh for pedestrian traffic, 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.

2.03 Performance Criteria

A. Properties of standard Sikalastic base and top coats:

	710 Base	715 Top
Viscosity	6500 +/- 3000 cps	1500 +/- 500 cps
Total Volume Solids (ASTM D2697)	71%	72%
VOC Content (ASTM D2369-81)	240 g/l	243 g/l
Tensile Strength (ASTM D412)	800 +/- 100 psi	3200 +/- 300 psi
Elongation at Break (ASTM D412)	500 +/- 50%	500 +/- 50%
Tear Resistance (Die C, ASTM D624)	250 +/- 25 pli	350 +/- 50 pli
Hardness (ASTM D2240)	55 +/- 5 Shore A	85 +/- 5 Shore A

B. Properties of optional Sikalastic aliphatic top coats:

	735 AL	736 AL Lo-VOC	748 PA
Viscosity	2500 +/- 700 cps	3500 +/- 700 cps	200 +/- 50 cps
Total Volume Solids (ASTM D2697)	74%	83%	78%
VOC Content (ASTM D2369-81)	225 g/l	99 g/l	100 g/l
Tensile Strength (ASTM D412)	4200 +/- 300 psi	4000 +/- 300 psi	2500 +/- 200 psi
Elongation at Break (ASTM D412)	230 +/- 50%	250 +/- 50%	100 +/- 25%
Tear Resistance (Die C, ASTM D624)	400 +/- 50 pli	400 +/- 50 pli	300 +/- 50 pli
Hardness (ASTM D2240)	90 +/- 5 Shore A	90 +/- 5 Shore A	50 +/- 5 Shore D

Note: Tests were performed with material and curing conditions at 75F and 50% relative humidity.

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, shotblasting, etc., as approved by the engineer. Blow surface free of dust using compressed air line equipped with an oil trapSurface 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 1/2” thick, and spaced and supported according to APA guidelines. Seams should be sealed with Sikflex 2c or 1a and detailed and may need imbedded fabric reinforcement.

D. Metal should be thoroughly cleaned by grinding or blast cleaning.

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. Refer to data sheet for more detailed information, or consult Sika for other primer options.

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°F and 50% RH or until tack free before applying base coat.

C. Metal – Consult Sika 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 2c or 1a 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 expansion joints and brought up through the Sikalastic Traffic System and sealed with Sikaflex 2c or 1a sealant.

3.04 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 (see System Guide) 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°F and 50% RH or until tack free before top coating.

3.05 Top Coats

A. Thoroughly mix Sikalastic 715 Top or optional 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 (see System Guide) using a flat or notched squeegee and backroll using a phenolic resin core roller. Apply aggregate evenly distributed at the appropriate rate immediately into wet coating and backroll if required (see System Guide). Allow coating to cure a minimum of 16 hours at 70°F and 50% RH or until tack free between coats, and a minimum of 72 hours before opening to vehicular traffic.

B. Refer to mixing and application instructions in separate data sheet for optional Sikalastic 735 AL, 736 AL Lo-VOC and 748 PA aliphatic top coat substitutions.

3.06 Accelerator

A. Sikalastic 700 ACL may be added to Sikalastic 710 Base, 715 Top or optional single component aliphatic top coats in order to accelerate cure time, particularly in cold weather conditions. Maximum amount that may be added is 1:20 ratio (1 quart to 5 gallons). Apply only to material that will be applied within 2-3 hours.

3.07 Mock-up

A. A job site mock-up should always be completed to confirm acceptability of workmanship, material 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.

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