SIKA SPECIFICATION NOTE: This guide specification is provided in CSI Format for use by design professionals for individual construction projects. Modify the text based on your project requirements, and delete products not required. Questions? Call 800-933-SIKA.

SIKA SPECIFICATION NOTE: This guide specification includes test methods, materials and installation procedures for Sikalastic Polyurethane Traffic Coatings, a cold applied, highly durable, seamless, fully bonded, elastomeric polyurethane waterproofing and traffic bearing membrane which is applied direct to concrete, plywood, and existing traffic coatings, and is intended for direct pedestrian traffic.

SECTION 07 18 16

VEHICULAR TRAFFIC COATINGS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Provide a polyurethane traffic coating system as specified and as indicated on the Drawings.

B. Related Work: The following items are not included in this Section and are specified under the designated Sections:

1. Section 03 30 00 – CAST-IN-PLACE CONCRETE.
2. Section 06 16 00 – SHEATHING.
3. Section 07 60 00 – FLASHING AND SHEET METAL.
4. Section 07 92 13 – ELASTOMERIC JOINT SEALANTS.
5. Section 22 14 26 – PLAZA DRAINS.

1.3 PERFORMANCE REQUIREMENTS

A. Cold fluid applied polyurethane traffic waterproofing system is intended to perform as a continuous barrier against liquid water and to flash or discharge to the incidental water. Membrane system shall accommodate movements of building materials as required with accessory sealant materials at such locations, changes in substrate, perimeter conditions and penetrations.

B. Installed waterproofing membrane/surfacing system shall not permit the passage of water, and will withstand the anticipated traffic wear exposures in accordance with the most current revision of ASTM C957, “High-Solids Content, Cold Liquid-Applied Elastomeric Waterproofing Membrane with Integral Wearing Surface.”

C. Intent is to bridge and seal the following air and water leakage pathways and gaps:

1. Connections of the walls to the deck.
2. Piping, conduit, duct and similar penetrations.
3. All other air leakage and water intrusion pathways to building envelope connections.

1.4 SUBMITTALS

A. Submittals: Comply with project requirements for submittals as specified in Division 01.

B. Product Data:

1. Materials list of items proposed to be provided under this Section.
2. Manufacturer's specifications and other data needed to prove compliance with the specified requirements.
3. Drawings or catalog illustrations in sufficient detail to show installation and interface of the work of this Section with the work of adjacent trades.
4. Manufacturer's current recommended installation procedures.

C. Mock-Ups: Provide a mock-up on site to demonstrate workmanship and final appearance. Locate in an area acceptable to the Architect. Accepted mock-up may remain in place.

1.5 QUALITY ASSURANCE

A. Installer Qualifications:

1. Installer shall have at least three years of experience in installing materials of types specified and shall have successfully completed at least three projects of similar scope and complexity.
2. Installer shall designate a single individual as project foreman who shall be on site at all times during installation.

B. Field Adhesion Test Method: Use manufacturer's standard field adhesion test methods and methods to verify proper priming and surface preparation techniques required to obtain optimum adhesion. Evaluate and report results of field adhesion testing.

C. Waterproofing Terminology: Refer to ASTM D1079 and the Sikalastic Traffic Systems Applicator Manual for definitions of waterproofing terms related to this section.

1.6 PRE-INSTALLATION CONFERENCE

A. Prior to scheduled commencement of installation and associated work, conduct a meeting at the project site with the installer, architect/consultant, owner, manufacturer’s representative and any other persons directly involved with the performance of the Work. The Installer shall record conference discussions and to include decisions and agreements reached (or disagreements), and furnish copies of recorded discussions to each attending party. The main purpose of this meeting is to review foreseeable methods and procedures related to the Work.

1.7 REGULATORY REQUIREMENTS

A. Applicable Regulations: Comply with local code and requirements of authorities having jurisdiction. Do not exceed VOC regulations as established by the State in which they are being installed; including total VOC content, in grams per liter, for all system components (i.e. primers, adhesives, coatings, and similar items.)

1.8 DELIVERY, STORAGE AND HANDLING

A. Deliver materials to the job site in the manufacturer's unopened containers with all labels intact and legible at time of use. Record all product lot numbers and expiration dates Handle and store materials in accordance with manufacturer's recommendations with proper precautions to ensure fitness of material when installed.

1.9 WARRANTY

A. Warranty: Provide manufacturer's standard warranty for each type of product. Include written testing documentation and test reports if requested by Architect.

PART 2 - PRODUCTS

2.1 MANUFACTURER

A. Basis-of-Design Manufacturer: Sika Corporation, 201 Polito Avenue, Lyndhurst NJ 07071. Toll Free 800-933-SIKA (7452), www.usa.sika.com. No substitutions without prior written approval by the Architect.

2.2 TRAFFIC COATINGS (SIKALASTIC 720-ONE SHOT VEHICULAR POLYURETHANE)

A. Vehicular Traffic Coating: Sikalastic 720-One Shot, Integrally Textured, fast curing, aliphatic polyurethane Traffic System applied in a single step application comprised of the following:

1. Primer:
Sikalastic Primer 1C fast curing PU primer (for recoat applications only)
Sikalastic FTP LoVOC 100% solids epoxy primer (as a standard primer and for recoat applications and elevated substrates with moisture content up to 6% by Tramex).
Sikalastic PF Lo-VOC 100% solids epoxy primer (for rough and/or porous substrates).
Sikalastic MT 100% solids epoxy primer (for substrates with elevated moisture content up to 6 % by Tramex).

B. Detailing: detailing cracks with Sikalastic 720 Base Coat following guidelines set forth in Sika DeckPro Traffic Systems Applicator Manual.

C. Single Coat Traffic System Applied Total Film Thickness:

1. Sikalastic 720-One Shot Polyurethane Membrane: One single coat application to 48 mils wet (WFT), 45 mils dry (DFT)

D. Aggregate:

1. Sikalastic 720-One Shot Aliphatic Polyurethane Coating is integrally textured for slip resistance. Additional aggregate not to be added.

E. Two-component integrally textured, fast curing, coating applied in one single coat application: Typical Physical properties complying with the following.

1. Sikalastic 720-One Shot (Aliphatic Polyurethane)

2.	Pot Life	20 minutes
3.	Total Volume Solids (ASTM D2697)	95% (including aggregate)
4.	VOC Content (ASTM D2369)	20.9 g/l
5.	Tensile Strength (ASTM D2240)	2400 +/- 100 psi
6.	Elongation at Break (ASTM D412)	800 +/- 50%
7.	Tear Resistance (Die C, ASTM D624)	300 +/- 25 pli
8.	Shore A Hardness (ASTM D2240)	90 +/- 5

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

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verify that surfaces and conditions are ready to accept the Work of this section. Notify Architect in writing of any discrepancies. Commencement of the Work in an area shall mean Installer's acceptance of the substrate.

3.2 PREPARATION

A. Substrates shall be clean, dry, sound and free of surface contaminants, with an open texture. Remove all traces of laitance, grease, oils, curing compounds, form release agents and foreign particles by mechanical means, such as shot blast, milling, grinding or scarifying as acceptable to the Architect. Blow surface free of all dust. If using compressed air ensure compressor is equipped with an oil and moisture trap. All projections, depressions and rough spots should be removed or dressed off to achieve a level surface prior to the application.

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

C. Plywood shall be clean and smooth, APA and exterior grade, not less than 1/2 inch thick, and spaced and supported according to APA guidelines. Seams should be sealed with Sikaflex 2c or 1a followed with a 4" wide detail coat with embedded Sikalastic Flexitape Heavy fabric tape reinforcement centered over the seams and flashed up onto the wall(s).

D. Metal shall be thoroughly cleaned by grinding or blast cleaning followed with a solvent wipe of Xylol, Xylene or Acetone and primed with a metal primer: Sikalastic EP Primer Rapid or Sikaflex 260 Primer.

3.3 PRIMING – DO NOT PROCEED WITH MEMBRANE WORK IF DECK IS OUTGASSING. CONDUCT A RUBBER MAT TEST (OR SIMILAR) TO CONFIRM NO MOISTURE OUTGASSING IS PRESENT.

A. Concrete (<4% moisture content by weight, measured with Tramex Concrete Moisture Encounter Meter) and Plywood:

1. Apply Sikalastic Primer at 280 sf/gal with a flat squeegee or roller and work well into the substrate to insure adequate penetration and sealing. Do not allow primer to collect/puddle in surface depressions. No mixing required. Apply using phenolic resin core roller or similar. Allow primer to cure a minimum of 45 minutes at 70°F and 50% RH or until tack free before applying Sikalastic 720-One Shot System. Refer to data sheet for more detailed information, or consult Sika for other primer options.

B. Concrete (<5% moisture content by weight, measured with Tramex Concrete Moisture Encounter Meter):

1. For concrete substrates with 5% maximum moisture content by weight, apply Sikalastic PF Lo-VOC primer at 200 sf/gal. with a flat squeegee or roller and work well into the substrate to ensure adequate penetration and sealing. Puddles are to be avoided. Premix both components. Sikalastic PF Lo-VOC Primer, Part "A" is white in color. Sikalastic PF Lo-VOC Primer, Part "B" is black in color.
2. In a separate mixing vessel, add the Sikalastic PF Lo-VOC Primer, Part "B" to the Sikalastic PF Lo-VOC Part "A". Mix thoroughly with a mechanical mixer (i.e.Jiffy Mixing Paddle) for 3 minutes. This mixture will appear as a grey color.

3. Allow primer to cure a minimum of 6 hours at 70°F and 50% RH or until tack free before applying second primer or base coat.
4. Refer to data sheet for more detailed information, or consult Sika for other primer options.

C. Concrete (4% to 6% moisture content by weight, measured with Tramex Concrete Moisture Encounter Meter):

1. For concrete substrates with 5% maximum moisture content by weight, apply Sikalastic MT primer at 175 sf/gal. with a flat squeegee or roller and work well into the substrate to ensure adequate penetration and sealing. Puddles are to be avoided.
2. For concrete substrates with >5% up to 6% maximum moisture content by weight, apply a second coat of Sikalastic MT primer at 175 sf/gal.
3. Premix both components. Sikalastic MT Primer, Part “A” is red in color. Sikalastic MT Primer, Part “B” is light amber in color.
4. Add the 1.5 gallon of Sikalastic MT Primer, Part “B” to the 3 gallons of Part “A” in the short filled Part “A” pail. Mix thoroughly with a mechanical mixer (i.e.Jiffy Mixing Paddle) for 3 minutes.
5. This mixture will appear as a red transparent color.
6. Allow primer to cure a minimum of 12 hours at 70°F and 50% RH or until tack free before applying second primer or base coat.
7. For concrete substrates with 5% maximum moisture content by weight, apply Sikalastic FTP LoVOC primer at 200 sf/gal. with a flat squeegee or roller and work well into the substrate to insure adequate penetration and sealing. Puddles are to be avoided.
8. For concrete substrates with >5% up to 6% maximum moisture content by weight, apply a second coat of Sikalastic FTP LoVOC primer at 200 sf/gal.
9. Premix both components.
10. Add the 5 gallon of Sikalastic FTP LoVOC Primer, Part “B” to the 10 gallons of Part “A”. Mix thoroughly with a mechanical mixer (Jiffy) for 3 minutes.
11. This mixture will appear as a green transparent color.
12. Allow primer to cure a minimum of 12 hours at 70°F and 50% RH or until tack free before applying second primer or base coat.
13. Refer to data sheet for more detailed information, or consult Sika for other primer options.

D. Metal: Metal shall be thoroughly cleaned by grinding or blast cleaning followed with a solvent wipe of Xylol, Xylene or Acetone and primed with a metal primer: Sikalastic EP Primer or Sikaflex 260 Metal Primer. Consult manufacturer for other primer options.

3.4 DETAILING

A. Non-Structural Cracks up to 1/16 inch: Apply a detail coat of Sikalastic 720-One Shot at 23 mils wet 4” wide and centered over the crack. Allow detail coat to become tack free before overcoating.

B. Cracks and Joints over 1/16 inch up to 1 inch: Rout and seal with Sikaflex 2c Sealant and allow to skin over and cure minimum of 24 hrs. Apply a detail coat of Sikalastic 720-One Shot at 23 mils wet, 4” wide and centered over crack/sealant. Allow detail coat to become tack free before overcoating.

C. Fabric Reinforcement: An optional 3” or 6” wide Sikalastic Flexitape Heavy fabric strip may be embedded within the wet detail coat. Flexitape width shall be chosen such that a minimum of 1” tape is embedded on either side of the crack/joint. Apply additional coating as required to fully embed the Flexitape in the coating.

D. Joints over 1 inch: Treat as expansion joints and brought up through the Sikalastic Traffic System and sealed with Sikaflex Sealant or with an engineered expansion joint manufactured by Sika Emseal.

3.5 SINGLE COAT SIKALASTIC 720-ONE SHOT ALIPHATIC POLYURETHANE

A. Sikalastic 720 -One Shot Integrally Textured single coat application:

1. After opening Part A place lid face up on ground, remove aggregate insert and place insert on pail lid. Premix Part A component using a low speed (400–600 rpm) mechanical mixer and Jiffy Paddle (5-50 gal. model) at slow speed to obtain uniform color. Slowly add aggregate from tray into Part A and continue to mix, making sure to scrape the bottom and sides of the pail, ensure aggregate is fully mixed within the Part A .
2. Slowly pour Part B into Part A while mixing so that the Part B gets pulled into the vortex of the mixing paddle. Scrape the sides of the container, Mix the combined material thoroughly for 3 minutes until a homogenous mixture and uniform color is obtained. Use care not to prevent whipping air into the material while mixing - use a slow and methodical mixing approach.
3. Apply a single coat of the mixed Sikalastic 720-One Shot with a 3/8” notched squeegee or trowel at the recommended coverage rate of 33 sf/gal and backroll using a phenolic resin core roller. Extend single coat over entire area including previously detailed cracks and control joints. Coverage rate of 33 sf/gal should provide a wet film thickness yield of 48 mils.

Allow coating to cure a minimum of 36 hours before opening to vehicular traffic. Consult Sika for other weather related recommendations.

3.6 CLEANING

A. Remove uncured materials from tools or other surfaces with an approved solvent. Remove cured materials by mechanical means.

B. Leave finished work and work area in a neat, clean condition without evidence of spillovers onto adjacent areas.

END OF SECTION