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SIKA SPECIFICATION NOTE: This guide specification includes test methods, materials and installation procedures for Sikalastic 320 Cold Fluid Applied Bitumen-modified Polyurethane Waterproofing Membrane System. Sikalastic 320 is a fully bonded, elastomeric waterproofing membrane designed for use over most common construction surfaces including concrete, plywood sheathing, and/or metal substrates. Sikalastic 320 is installed as single ply, multi-ply and single ply with reinforcement.

## SECTION 07 14 00

### FLUID-APPLIED MEMBRANE WATERPROOFING

#### 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 cold fluid-applied bitumen-modified polyurethane waterproofing system on structural concrete, plywood sheathing, metal or other substrates.
  - 1. Work includes substrate preparation.
  - 2. Work includes bridging and sealing air leakage and water intrusion pathways and gaps including connections of the walls to the roof air barrier, and penetrations of the building envelope including piping, conduit, ducts and similar items.
- 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 21 14 25 – DECK DRAINS.
  - 6. DIVISION 6 – WOOD, PLASTICS AND COMPOSITES for wood decking
  - 7. DIVISION 32 – EXTERIOR IMPROVEMENTS for pavers and pavement

##### 1.3 PERFORMANCE REQUIREMENTS

- A. Cold fluid applied bitumen-modified polyurethane waterproofing system is intended to perform as a continuous barrier against liquid water and to flash or discharge to the exterior incidental water. Membrane system is not long-term UV resistant and is intended to receive an overburden of concrete, tile in a cementitious setting bed, pavers in a sand setting bed, pavers on supporting pedestals, or soil/growing media, and shall accommodate movements of building materials as required with accessory sealant materials at locations such as: changes in substrate, perimeter conditions and penetrations. Installed waterproofing membrane system shall not permit the

passage of water, and will withstand the design pressures calculated in accordance with the most current revision of ASCE 7.

- B. Manufacturer shall provide all primary waterproofing materials that are physically and chemically compatible when installed in accordance with manufacturers current application requirements.

#### 1.4 SUBMITTALS

- A. Submittals: Comply with project requirements for submittals as specified in Division 01.
- B. Product Data: For each product.
- C. Shop Drawings: Manufacturer's standard details and shop drawings for the specified system.
- D. Installer's Authorization: Installer shall provide written documentation from the manufacturer of their authorization to install the 10 and 20 year system, and eligibility to obtain the warranty specified in this section.
- E. Manufacturer' Certification: Certification showing full time quality control of production facilities and that each batch of material is tested to ensure conformance with the manufacturer's published physical properties.
- F. VOC Certification: Manufacturer's certification that all waterproofing system products meet current Volatile Organic Compound (VOC) regulations as established by the State in which they are being installed; and stating total VOC content, in grams per liter, for all system components (i.e. primers, adhesives, coatings, etc.).

#### 1.5 QUALITY ASSURANCE

- A. Manufacturer's Qualifications: Manufacturer shall demonstrate qualifications to supply materials of this section by certifying the following:
  - 1. Membrane Manufacturer shall have available an in-house technical staff to assist the contractor when necessary in the application of the products and site review of the assembly.
- B. Installer's Qualifications: The Contractor shall demonstrate qualifications to perform the Work of this Section by submitting certification or license by the waterproofing membrane manufacturer as a trained and authorized applicator of the product the installer intends to use.
- C. Source Limitations: All components listed in this section shall be provided by a single manufacturer or approved by the primary waterproofing manufacturer.
- D. Materials Compatibility: All materials included in the waterproofing assembly, as well as associated materials adhered to/applied beneath the waterproofing membrane shall have been tested and verified to be compatible. Include written testing documentation and test reports if requested by Architect.
- E. 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).

- F. Waterproofing Terminology: Refer to ASTM D1079 and the glossary of the National Roofing Contractors Association (NRCA) Roofing and Waterproofing Manual for definitions of waterproofing terms related to this section.

#### 1.6 PRE-INSTALLATION CONFERENCE

- A. Prior to scheduled commencement of the waterproofing 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 DELIVERY, STORAGE AND HANDLING

- A. Deliver all waterproofing materials to the site in original containers, with factory seals intact.
- B. Store all pail goods in their original undamaged containers in a clean, dry location within their specified temperature range.
- C. Do not expose materials to moisture in any form before, during, or after delivery to the site. Reject delivery of materials that show evidence of contact with moisture.
- D. Remove manufacturer supplied plastic covers from materials provided with such. Use "breathable" type covers such as canvas tarpaulins to allow venting and protection from weather and moisture. Cover and protect materials at the end of each work day. Do not remove any protective tarpaulins until immediately before the material will be installed.
- E. Materials shall be stored above 60-95°F (15-35°C) a minimum of 24 hours prior to application

#### 1.8 PROJECT CONDITIONS

- A. Weather: Proceed with waterproofing only when existing and forecasted weather conditions permit. Membrane application should not proceed when precipitation is imminent. Ambient temperatures shall be above 36°F (2°C) when applying the waterproofing system.
- B. All surfaces to receive the waterproofing membrane shall be free from visible water, dew, frost, snow and ice. Application of waterproofing membrane shall be conducted in well ventilated areas.
- C. Application on Green Concrete:  
Horizontal: 48 hours or walkable conditions  
Vertical: 24 hours after forms removed
- D. Waterproofing Membrane:
1. Waterproofing membrane is not intended to be exposed or in contact with a constant temperature below -25°F (-31.7°C) or in excess of 200°F (93.3°C). See technical data sheets for limitations, i.e., hot pipes and vents or direct steam venting.
  2. Specified waterproofing membrane is VOC compliant. Consult container, packaging labels and Safety Data Sheets (SDS) for specific safety information.
  3. Some low molecular weight alcohols can soften. Any exposure to foreign materials or chemical discharges shall be presented to membrane manufacturer for evaluation to determine any impact on the waterproof membrane assembly performance prior to warranty issuance.

E. Contractor shall ensure adequate protection during installation of the waterproofing system.

#### 1.9 WARRANTY

A. Warranty: Provide manufacturer's standard warranty. Materials warranty shall be for a minimum of one year starting at the date of Substantial Completion. System warranty shall be for the following duration in accordance with specified system. Most warranties require the use of a protection board and drainage mat. Check [www.usa.sika.com](http://www.usa.sika.com) for the latest "Sikalastic 320 System Guidelines" for more information.

1. Warranty Length: 5 years 60 mil system.
2. Warranty Length: 10 years 90 mil system with approved project.
3. Warranty Length: 20 years 120 mil system with and without reinforcing and approved applicator.

### 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.sikausa.com](http://www.sikausa.com). No substitutions without prior written approval by the Architect.

#### 2.2 WATERPROOFING SYSTEM

A. Fluid-Applied Membrane System, 5 Year System: Sikalastic 320:

- a. Sikalastic 320, 60 mils wet film thickness resulting in 25 SF/gal coverage

B. Fluid-Applied Membrane System, 10 Year System: Sikalastic 320, Sika Flexitape Heavy:

- a. Sikalastic 320, 90 mils wet film thickness resulting in 18 SF/gal coverage
- b. Reinforcing fabric required for moving transitions such as transitions between dissimilar materials, penetrations, plywood seams, joints and cracks.

C. Fluid-Applied Membrane System, 20 Year System: Sikalastic 320, Sika Fleece-120, Sikalastic PF Lo-VOC Primer:

- a. 1. Horizontal surfaces receive Sikalastic 320 SL at 120 mils wet film thickness resulting in 13 SF/gal coverage in the following fashion: Sika approved reinforcement is immediately embedded into a 60 mil base coat with a roller until saturated in Sikalastic 320 SL then an additional 60 mil top coat is applied according to the data sheet;

Or,

2. Horizontal surfaces receive Sikalastic PF Lo-VOC Primer applied according to the datasheet and allowed to dry. Then Sikalastic 320 SL is applied at 120 mils wet film thickness resulting in 13 SF/gal coverage.

- b. Vertical surfaces receive Sikalastic 320 NS at 90 mils wet film thickness resulting in 18 SF/gal coverage. Reinforcing fabric required for moving transitions such

as between dissimilar materials, penetrations, plywood seams, joints and cracks.

### 2.3 MEMBRANES AND COATINGS

- A. Base embedment coat with Sika Fleece reinforcement per the waterproofing system build shall be Sikalastic 320 NS, SG or SL by Sika Corp, a single component, cold fluid applied, moisture cure, bitumen modified, polyurethane base coat membrane.
- B. Top coat with Sika Fleece reinforcement per the waterproofing system build shall be Sikalastic 320 NS, SG or SL by Sika Corp, a single component, cold fluid applied, moisture cure, bitumen modified, polyurethane base coat membrane.
- C. Base coat and top coat membranes shall be low in VOC's, and be a one component elastomeric polyurethane membrane that may be brush or roller applied. Membrane shall have the following physical properties and conforms to ASTM D7311-07: Standard Specification for a single component, cold fluid applied, moisture cure, bitumen modified, polyurethane membranes.
- D. Liquid and Cured Film Property Requirements:

Standard Measurement / Grade	SL	NS	SG
ASTM D-624, Die C: Tear Resistance (psi)	55 ± 15	90 ± 15	90 ± 15
ASTM D-412: Elongation at Break (%)	550 ± 50	600 ± 25	600 ± 25
ASTM D-412: Tensile Strength (pli)	330 ± 20	350 ± 15	350 ± 15
ASTM D-2240: Hardness (Shore A)	30 ± 5	30 ± 5	30 ± 5
ASTM D-2697: Total Volume Solids (%)	95 ± 2	95 ± 2	86 ± 2
ASTM D-236: Total Weight Solids (%)	99 ± 2	96 ± 2	88 ± 2
ASTM D-2369-81: VOCs (g/l)	45	46	89
ASTM E96-15: Water Vapor Transmission (perms)	1 ± 0.2	1 ± 0.2	1 ± 0.2
Viscosity (Poise @ 80°F)	30 ± 10	350 ± 100	150 ± 50
Specific Gravity	1.19	1.19	1.19

### 2.4 MEMBRANE REINFORCEMENT - POLYESTER

- A. Reinforcement for the waterproofing membrane system shall be Sika Fleece by Sika Corp., a non-woven, needle-punched polyester fleece specifically designed to provide greater impact resistance and greater resistance to excessive thermal and structural movement while maintaining elasticity and membrane film integrity.
- B. Supplemental reinforcement of the waterproofing membrane system shall be Sika Flexitape Heavy by Sika Corp., a nylon mesh specifically designed for local reinforcement of the waterproofing membrane at structural cracks, expansion joints and transitions between dissimilar materials.

### 2.5 FILLET BEAD AND PENETRATION SEALANT

- A. Sealant for fillet bead applications and membrane penetrations shall be any Sikaflex sealant including Sikaflex 1a, 1a+, 2c NS EZ Mix, or 11FC by Sika Corp., one and two part polyurethane sealants suitable for fillet bead transition compound to be applied prior to the installation of the membrane system at changes in substrate direction, sealing reglet terminations, cracks in the substrate and penetrations of the waterproofing system.

## 2.6 PRIMERS

- A. Some warranties and/or substrates may require the use of a primer. See "Sikalastic 320 System Guidelines" for more information. Use: Sikalastic FTP Lo-VOC Primer for green or damp concrete (when required by warranty); Sikaflex Primer 449 for PVC; Sikalastic Recoat Primer for Fiberglass or before recoating on old Sikalastic 320; and Sikalastic PF Lo-VOC Primer for all other surfaces including concrete, EIFS, DensGlass, metal, and marine grade or high density plywood.

## 2.7 REPAIR AND PATCHING

- A. Cementitious repair mortar to repair bug holes, spalled areas, and other non-structural surface defects, to fill uneven areas and birdbaths, or to repitch decks shall be SikaQuick 1000 by Sika Corp., a two component, polymer-modified, Portland cement, fast-setting, trowel-grade mortar.

## 2.8 DRAINAGE MAT

- A. Dimpled core polystyrene drainage mat with a non-woven (420) and woven (720) polypropylene filter fabric bonded to the topside of the mat, and a bonded protection sheet on the underside of the mat. To be installed between the waterproofing membrane and extruded polystyrene insulation. Drainage mat to be Sika Drainage Mat 420 or 720.
- B. Geonet polypropylene composite drainage mat with a non-woven polypropylene filter fabric bonded to the topside of the mat, and a bonded protection sheet on the underside of the mat. To be installed between the waterproofing membrane and extruded polystyrene insulation. Drainage mat to be Sika Drainage Mat 1000.
- C. Impermeable dimpled polystyrene drainage perforated core with a bonded to a root resistant non-woven polypropylene filter fabric on the top side and non-woven polypropylene membrane protection fabric on the bottom side. The core is installed dimpled side down to allow water retention within the cups. Excess water is collected and conveyed to a proper collection system, helping to control drainage flow. To be installed between the waterproofing membrane and extruded polystyrene insulation. Drainage mat to be Sika Drainage Mat GRS.

## 2.9 EXTRUDED POLYSTYRENE INSULATION

- A. Extruded polystyrene foam board insulation, either flat stock or tapered, meeting the requirements of ASTM 578 Type VI (40 psi – stone ballast or pavers in sand bed/direct application), Type VII (60 psi – concrete pavers on pedestals), or Type V (100 psi – superimposed loads). Insulation shall be Sarnatherm XPS by Sika Corp.

## 2.10 FILTER FABRIC

- A. Non-woven needle-punched polyester UV-stabilized mat, 3 oz./sq.yd., used between the extruded polystyrene insulation and overburden. Filter fabric shall be Sika 120 Fleece by Sika Corp.

## 2.11 SPRAY EQUIPMENT

- A. Use Sikalastic® 320 SG
- B. Graco GH 833 Big Rig or Titan Hydra Pro IV airless pump.

For Graco GH 833 Bare:

- (PN 287915) - 1.5" Solvent-Resistant Siphon Kit
- (PN 277253) - 1/2" Graco High Pressure Hose (4000 psi)
- (PN 277249) - 1/4" x 3' Graco High Pressure Whip (4000 psi)

- (PN LTX535) - Graco 535 Spray Tip
- (PN 287020) - Graco 15" Tip Extension Wand
- (PN 246468) - Graco Flex Plus Gun

For Titan Hydra Pro IV with 1" pick up hose:

- (PN 500450050) - 50' 1/2" airless hose
- (PN 500450010) - 100' 1/2" airless hose
- (PN 316-533) - 6 foot 1/4" whip hose
- (PN 0550070) - S-5 airless spray gun
- (PN 662-535) - Airless spray tip
- (PN 310-390) - 3' extension with swivel
- (PN 814-003) - 1/4" to 1/2" hose fitting
- (PN 815-005) - 3/8" to 1/2" manifold to hose fitting

### 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.
- B. Surfaces shall be sound, clean and free of standing water, oil, grease, dirt, excess mortar or other contaminants. Fill voids, gaps and spalled areas in substrate to provide an even plane. Strike masonry joints full flush.

#### 3.2 SURFACE PREPARATION

- A. Verify that the deck is clean and smooth, free of depressions, waves, or projections, and properly sloped to drains, valleys, eaves, scuppers or gutters. Verify that all openings or penetrations through the intended substrate are secured back to solid blocking. Ensure all preparatory Work is complete prior to applying membrane.
- B. Mechanical fasteners used to secure sheathing boards or penetrate sheathing boards shall be set flush with sheathing and fastened into solid backing.
- C. All surfaces shall be blown clean using an air compressor to remove any remaining loose debris.
- D. All cracks and voids greater than 1/16 inch shall be routed and caulked with a Sikaflex sealant. Allow to cure per waterproofing membrane manufacturer's technical data sheets prior to over-coating with the specified waterproofing membrane system. Green concrete cracks or joints can be sealed with Sikaflex 1a+.
- E. At all inside corners, gaps or voids at the juncture of the deck and penetrations apply a minimum 3/4 inch fillet bead of Sikaflex sealant and allow to cure per waterproofing membrane manufacturer's technical data sheets prior to installing the waterproofing membrane system.
- F. Sikaflex Sealants used in detailing can be over coated with Sikalastic 320 once tack free.
- G. Membrane is self-terminating but membrane terminations can be established prior to project start-up and documented in shop drawings. Terminations can occur in raked-out mortar joints, saw cut terminations or under installed counter-flashing materials.
- H. Use tape lines to achieve a straight edge detail.

### 3.3 SUBSTRATE PREPARATION

- A. Acceptable substrates include concrete, concrete block, solid wood/plywood sheathing, and metal.
- B. Structural Concrete:
  - 1. Acceptable concrete substrates are limited to poured in place concrete decks.
  - 2. Minimum deck thickness for structural concrete is 4 inches (10.2 cm).
  - 3. Concrete surface to be light broom finish or equivalent.
  - 4. Curing agents shall be checked for compatibility with specified waterproofing materials. Most curing agents shall be completely removed from the substrate by grinding, scarifying, or other mechanical means.
  - 5. Concrete and masonry surfaces shall be low-pressure (5,000 psi or less) power-washed in accordance with ICRI Guideline No. 03732: Selecting and Specifying Concrete Surface Preparation for Sealers, Coatings, and Polymer Overlays to remove all dirt, debris or surface contamination that would compromise bonding of the specified waterproofing membrane system. Remove oil or grease with solvents, or detergent and water. Rinse surface clean of remaining cleaning agents.
- C. Metal Decking:
  - 1. Metal profile decks shall be sound and secured to purlins, bar joists, etc. A ½" thick thermal barrier shall be installed and secured over all metal profile decks in accordance with wind uplift requirements.
- D. Metal Surfaces:
  - 1. Exposed drain bowls, pipes, and other metal surfaces shall be cleaned by power tool cleaning (SSPC SP-3) to remove corrosion deposits back to a clean, bright metal followed by a solvent wipe prior to application of the specified primer.

### 3.4 PRIMING

- A. Metal
  - 1. Apply Sikalastic PF Lo-VOC primer for metal surfaces. To clean and prepared drain bowls and other metal surfaces by brush or roller at the application rate shown on the technical data sheet to achieve an overall wet film thickness of 8 mils. **High porosity and roughness of the substrate will decrease coverage rates.**
  - 2. Allow to cure and dry in accordance with manufacturer's technical data sheets.
- B. PVC
  - 1. Apply Sikaflex 449 Primer to clean and prepared PVC surfaces by brush or roller at the application rate of 100-150 SF/gal. **High porosity and roughness of the substrate will decrease coverage rates.**
  - 2. Allow to cure and dry in accordance with manufacturer's technical data sheets.

### 3.5 MEMBRANE REINFORCEMENT

- A. Reinforcement of Cracks, Plywood and Cover Board Joints/Seams, and Base/Curb Flashing Transitions:



1. For all locations where the specified membrane system is to be applied directly to the substrate surface, reinforcement of cracks and joints prior to applying the specified membrane system is conditional on the terms agreed to in a given warranty
2. For all horizontal-to-vertical transitions, provide a  $\frac{3}{4}$ " x  $\frac{3}{4}$ " Sikaflex polyurethane sealant cant.
3. Back roll reinforcement to fully embed reinforcement into the wet liquid polyurethane membrane. Add more liquid membrane as needed to fully embed the reinforcement.
4. Ensure reinforcement is not in tension during embedment.

### 3.6 COLD FLUID APPLIED MEMBRANE APPLICATION

- A. Install waterproofing membrane system in accordance with current technical data sheets and in accordance with warranty guideline requirements.
- B. Apply base embedment coat to horizontal deck and vertical wall surfaces by brush or with 1/2 inch – 3/4 inch nap roller to achieve a continuous and uniform minimum wet film thicknesses as specified in warranty guideline requirements.
- C. Immediately lay specified conformable reinforcement into the wet base embedment resin coat.
- D. Apply pressure to the membrane reinforcement with a roller as appropriate to fully embed and saturate the membrane reinforcement into liquid waterproofing material. Remove air pockets from under the membrane by rolling them out.
- E. Apply additional liquid material as required to ensure desired millage and the membrane reinforcement is fully embedded and has conformed to the substrate without tenting or visible pinholes.
- F. Overlap sheets of Fleece membrane reinforcement 3 inches at side laps and 6 inches at end laps.
- G. Extend membrane reinforcement vertically at adjacent wall surfaces in accordance with project details and specifications.
- H. When using polyester fleece reinforcement, immediately apply the resin top coat wet-on-wet when Sikalastic 320 is mixed with water. If Sikalastic 320 is not mixed with water, apply reinforced system in two separate coats with 16-24 hours in between coats. DO NOT mix Sikalastic 320 SG with water when using an airless sprayer and/or pump. This could cause material to cure inside the pump.
- I. Apply top coat by nap roller or brush to achieve a continuous and uniform minimum wet film thickness as specified in warranty guideline requirements.
- J. Install all flashings in accordance with manufacturer's construction details.

### 3.7 PARAPET AND WALL FLASHINGS

- A. Clean, prepare and prime if necessary substrate surfaces ready to receive membrane.
- B. All parapet, wall, and curb flashings shall be provided with a Sikaflex sealant cant bead membrane application.
- C. Terminate waterproofing membrane system at raked-out mortar joints, termination saw cut joint, or under installed counter-flashing materials. Seal all mortar joints and saw cut joints with Sikaflex polyurethane sealant.

- D. Install metal counter flashings in accordance with details.

### 3.8 DRIP EDGES AND OTHER METAL FLANGED FLASHING

- A. Clean, prepare and prime metal flange surfaces ready to receive membrane.
- B. Metal flanges are typically encapsulated between two membrane layers, usually by providing membrane flashing as a stripping ply over the metal flange, with the field or flashing membrane extending beneath the metal flange. It is also acceptable to install the stripping ply under the metal flange, and extend the field or flashing membrane over the metal flange.

### 3.9 DRAINS

- A. Clean, prepare and prime surfaces ready to receive membrane applications. Block drain bowl opening to avoid waterproofing material from entering the drainage system.
- B. Remove strainer baskets and clamping rings from the drain bowl assembly. Temporarily replace the bolts back into assembly to avoid miss-alignment of connections after membrane applications are completed.
- C. Extend the liquid waterproofing material and membrane reinforcement directly into the throat of the prepared drain.
- D. Remove drain blocks and allow the waterproofing system to fully cure dry prior to re-connecting the drain bowl assembly.

### 3.10 PENETRATIONS

- A. Clean, prepare and prime surfaces ready to receive membrane. Ensure that penetrations are secured to prevent movement.
- B. Apply a cant bead of Sikaflex sealant the base of penetrations and apply Sikalastic 320 membrane vertically up the penetration 6-8 inches.

### 3.11 EXPANSION JOINTS

- A. Expansion joints are formed separately from the Sikalastic 320 membrane.

### 3.12 APPLICATION OF PENETRATION SEALANT

- A. Seal reglet-based membrane terminations, heads of exposed mechanical fasteners, around penetrations, duct work, electrical and other apparatus extending through the waterproofing membrane with specified penetration sealant.

### 3.13 FLOOD TEST

- A. Upon the completion of the waterproofing membrane system and associated terminations the contractor shall flood test the system. Provide temporary stops and plugs for the drains within the test area. Flood test with a minimum 2 inches of water for no less than 24 hours.
- B. Repair and retest the system for no less than 24 hours, report all deficiencies to the Architect. Remove temporary stops and plugs. No other Work is to proceed without prior direction from the Architect.

### 3.14 PROTECTION

- A. Protect waterproofing Work from other trades until completion.
- B. Stage materials in such a manner that avoids foot traffic over completed waterproofed areas.
- C. Provide temporary walkways and platforms to protect completed Work from traffic and point loading during the application process.
- D. Provide temporary membrane tie-ins and water-stops at the end of each workday and remove prior to commencement of work the following day.

### 3.15 PREFABRICATED COMPOSITE DRAINAGE AND PROTECTION MAT

- A. Install the drainage mat when it can be followed immediately by the installation of the extruded polystyrene insulation and overburden. If the drainage mat cannot be installed within one week of membrane application, a protection course must be applied over the membrane to protect from other trade work and UV radiation.
- B. Install the drainage mat on horizontal and vertical surfaces in accordance with the product data sheet. Lay out and position drainage mat, and allow to lay flat. Cut and closely fit drainage mat to perimeter and penetrations.
- C. Overlap filter fabric from adjacent sheets/rolls, and bond all fabric overlaps with Sikaflex sealant. Install supplemental filter fabric as required to ensure filter fabric continuity at flashing locations.

### 3.16 INSTALLATION OF EXTRUDED POLYSTYRENE INSULATION

- A. Before the application of the insulation, any damage or deterioration to the composite drainage and protection mat shall be repaired.
- B. Loose lay insulation in a staggered manner, and tightly butt together all insulation boards. The maximum acceptable joint width is 3/8 inch. Cut and closely fit insulation within 3/4 inches to perimeter and penetrations.
- C. For multi-layer insulation applications, the bottom layer shall be the thickest layer and shall be a minimum of 2 inches thick. Stagger the joints of each insulation layer.
- D. Vertical insulation applications can be spot-adhered to the drainage mat and to additional insulation layers, utilizing an acceptable adhesive.
- E. Do not install damaged insulation boards.

### 3.17 FILTER FABRIC

- A. Install filter fabric on horizontal and vertical surfaces over the extruded polystyrene insulation in accordance with the product data sheet.
- B. Lay out and position filter fabric. Cut and closely fit filter fabric to perimeter and penetrations, extending the filter fabric vertically to the height of the overburden.
- C. Overlap filter fabric to achieve 6 inch side and end laps. As required, bond all fabric overlaps with Sikaflex sealant to ensure filter fabric continuity prior to and during overburden installation.

3.18 TRAFFIC-BEARING OVERBURDEN

- A. Install traffic-bearing overburden, in accordance with specifications and as per Division 32.

3.19 CLEAN-UP

- A. Work areas are to be kept clean, clear and free of debris at all times.
- B. Do not allow trash, waste, and/or debris to collect on the work area. Trash, waste, and/or debris shall be removed from the work area on a daily basis.
- C. All tools and unused materials shall be collected at the end of each workday and stored properly off of the finished waterproofed surface and protected from exposure to the elements.
- D. Dispose of or recycle all trash and excess material in a manner conforming to current EPA regulations and local laws.
- E. Properly clean the finished deck surface after completion, and make sure the drains and gutters are not clogged.
- F. Clean and restore all damaged surfaces to their original condition

END OF SECTION

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