WATERPROOFING SPECIFICATION PREPARED BY SIPLAST, INC.

PA-750 HOT-APPLIED RUBBERIZED ASPHALT

WATERPROOFING SYSTEM

This specification is provided as a general guide for use of Siplast products based on typical building conditions and standard roofing practices. Siplast is strictly a manufacturer of roofing systems and has no experience, training or expertise in the areas of architecture/engineering or in the area of consulting with respect to matters related to such areas. Siplast recommends that the Owner's representative independently verify the accuracy and appropriateness of a specification provided for a specific project.

August 12, 2025

07 14 13 – HOT FLUID APPLIED WATERPROOFING

PART 1 GENERAL

* 1. SECTION INCLUDES:
1. Flashing Application
2. Waterproofing Membrane Application
3. Incorporation of Sheet Metal Flashing Components and Accessories into the deck Membrane System
4. Overburden Installation over Waterproofing Membrane
	1. PRODUCTS INSTALLED BUT NOT FURNISHED UNDER THIS SECTION
5. Sheet Metal Flashing and Trim
6. Sheet Metal Specialties
	1. RELATED SECTIONS
7. Section [----] - Rough Carpentry
8. Section 03 50 00 – Structural Concrete Roof Deck
9. Section [----] - Sheet Metal Flashing and Trim
10. Section [----] - Sheet Metal Specialties
	1. REFERENCE STANDARDS

References in these specifications to standards, test methods, codes, etc., are implied to mean the latest edition of each such standard adopted. The following is an abbreviated list of associations, institutions, and societies that may be used as references throughout these specifications.

ASTM American Society for Testing and Materials

 Philadelphia, PA

CGSB Canadian General Standards Board

 Gatineau, Quebec

OSHA Occupational Safety and Health Administration

 Washington, DC

SMACNA Sheet Metal and Air Conditioning Contractors National Association

 Chantilly, VA

UL Underwriters Laboratories

 Northbrook, IL

* 1. SUBMITTALS

All submittals that do not conform to the following requirements will be rejected.

1. Submittals of Equals: Submittals for primary waterproofing systems to be considered as equals to the specified system shall be made no less than 10 days prior to the bid date. Waterproofing systems that have been reviewed and accepted as equal to the specified Waterproofing system will be listed in an addendum prior to the bid date; only then will equals be accepted at bidding. Submittals of equals prior to bid shall include:
	1. Two 3-inch x 5-inch samples of the primary waterproofing membrane, fabric reinforcement, protection course, and standard flashing sheet.
	2. The latest edition of the waterproofing system manufacturer's specifications and installation instructions.
	3. Descriptive list of the materials proposed for use.

* 1. Complete list of material physical and mechanical properties for each component including: weights and thicknesses; low temperature flexibility; flow, cone penetration, toughness, toughness ratio, adhesion rating, water vapor permeance, water absorption, low temperature flexibility, crack bridging, and viscosity.
	2. Letter from the proposed primary waterproofing manufacturer confirming that the proposed waterproofing membrane and flashing components meet or exceed the physical and mechanical requirements listed in Part 2 of this specification.
	3. Sample copy of the specified guarantee/warranty.
1. Submittals Prior to Contract Award:
	1. Letter from the proposed primary waterproofing system manufacturer confirming that the bidder is an acceptable Contractor authorized to install the proposed system.
	2. Letter from the primary waterproofing system manufacturer stating that the proposed application will comply with the manufacturer's requirements in order to qualify the project for the specified Guarantee/Warranty.

1. Submittals Prior to Project Close-out:
	1. In addition to the guarantee/warranty, furnish to the Owner the manufacturer's printed recommendations for proper maintenance of the specified waterproofing system including inspection frequencies, penetration addition policies, temporary repairs, and leak call procedures.
	2. QUALITY ASSURANCE

1. Acceptable Contractor: Have a minimum of 2 years of experience in successfully installing similar materials and be certified in writing by the waterproofing materials manufacturer to install the primary waterproofing products.
2. Scope of Work: The work to be performed under this specification shall include but is not limited to the following: contractor shall attend necessary job meetings and furnish competent and full time supervision, experienced mechanics, all materials, tools, and equipment necessary to complete, in an acceptable manner, the membrane installation in accordance with this specification. Comply with the latest written application instructions of the manufacturer of the primary waterproofing products.
3. Local Regulations: Conform to regulations of public agencies, including any specific requirements of the city and/or state of jurisdiction.
4. Manufacturer Requirements: The primary membrane materials manufacturer shall provide trained company personnel to attend necessary job meetings, perform periodic inspections as necessary, and conduct a final inspection upon successful completion of the project.
	1. PRODUCT DELIVERY STORAGE AND HANDLING
5. Delivery: Deliver materials in the manufacturer's original sealed and labeled containers and in quantities required to allow continuity of application.
6. Storage: Store materials out of direct exposure to the elements. Store roll goods and asphalt boxes on a clean, flat, and dry surface. All material stored on the deck overnight shall be stored on pallets. Protection course, flashing, and reinforcement rolls must be stored on ends. Store materials in a manner so as to preclude overloading of the deck and building structure. Store materials such as solvents, adhesives, and asphalt cutback products away from open flames, sparks, or excessive heat. Cover all material using a breathable cover, such as a canvas. Polyethylene or other non-breathable plastic coverings are not acceptable.
7. Handling: Handle all materials in such a manner as to preclude damage and contamination with moisture or foreign matter. Handle rolled goods to prevent damage to edges or ends.
8. Heating Equipment: As a minimum, heating and mixing kettles shall be of the double boiler oil heat transfer type with a built-in agitator. Kettles shall be equipped with two functional, permanently installed dial-type thermometers with an accuracy of ±2°C to measure the temperature of the melted compound and oil. A separate calibrated thermometer with an accuracy of ±2°C to verify the material temperature shall be available on the job site.
9. Damaged Material: Any materials that are found to be damaged or stored in any manner other than that stated above will be automatically rejected, removed, and replaced at the Contractor's expense.
	1. PROJECT/SITE CONDITIONS
10. Requirements Prior to Job Start
	1. Notification: Give a minimum of 5 days' notice to the Owner and manufacturer prior to commencing any work, and notify both parties daily of any change in work schedule.
	2. Permits: Obtain all permits required by local agencies and pay all fees that may be required for the performance of the work.
	3. Safety: Familiarize every member of the application crew with all fire and safety regulations recommended by OSHA, NRCA, and other industry or local governmental groups.
	4. Preconstruction Conferences (edit per project): The membrane manufacturer, membrane installer, owner’s representative, general contractor, overburden specifier, overburden installer, and all other necessary parties shall meet at the jobsite prior to membrane installation to discuss project conditions as they relate to the integrity of the full system (membrane and overburden).
11. Environmental Requirements
	1. Precipitation: Do not apply waterproofing materials to a wet, saturated, or frosted substrate. Do not apply waterproofing materials during precipitation or in the event there is a probability of precipitation during application. Take adequate precautions to ensure that materials, applied membrane, and building interiors are protected from possible moisture damage or contamination.
	2. Temperature Restrictions – rubberized asphalt: At ambient temperatures of 40°F (4°C) and below, special precautions must be taken to ensure that the specified rubberized asphalt maintains a minimum acceptable 380 - 400ºF (193 - 204ºC) at the point of application. The rubberized asphalt must not be overheated to compensate for cold conditions. The use of insulated handling equipment is strongly recommended. Hot luggers, carts, and kettle-to-roof supply lines should be insulated. Luggers and carts should never be more than half-filled at all times.
12. Protection Requirements
	1. Membrane Protection: Provide protection against staining and mechanical damage for newly applied waterproofing and adjacent surfaces throughout this project.
	2. Torch Safety: Crew members handling torches shall be trained by an Authorized Certified Roofing Torch Applicator (CERTA) Trainer, be certified according to CERTA torch safety guidelines as published by the National Roofing Contractor's Association (NRCA), and follow torch safety practices as required by the contractor's insurance carrier. Designate one person on each crew to perform a daily fire watch. The designated crew member shall watch for fires or smoldering materials on all areas during roof construction activity, and for the minimum period required by CERTA guidelines after roofing material application has been suspended for the day.
	3. Limited Access: Prevent access by the public to materials, tools, and equipment during the course of the project.
	4. Debris Removal: Remove all debris daily from the project site and take it to a legal dumping area authorized to receive such materials.
	5. Site Condition: Complete, to the Owner's satisfaction, all job site clean-up, including building interior, exterior, and landscaping where affected by the construction.

* 1. GUARANTEE/WARRANTY

1. Warranty: Upon successful completion of the project, and after all post installation procedures have been completed, furnish the Owner with the manufacturer's **[10, 20, 25]** year limited warranty.

> Siplast PA-750 Rubberized Asphalt Membrane Limited Warranty

PART 2 PRODUCTS

* 1. DESCRIPTION OF SYSTEMS
1. Hot Fluid Applied Waterproofing Membrane Assembly: A waterproofing membrane assembly consisting of a thick, flexible membrane composed of a special formulation of refined asphalts, synthetic rubbers, and an inert clay filler, intended for use in waterproofing applications. The waterproofing membrane shall be reinforced with a spunbound polyester fabric, encapsulated between applications of the rubberized asphalt. The system shall meet all requirements of Canadian General Standards Board specification 37.50-M89, “Standard for: Asphalt, Rubberized, Hot-Applied for Roofing and the following physical requirements as a minimum.

* 1. Rubberized Asphalt Waterproofing System
		1. Application temperature range: 375 - 400°F (193 - 204°C)
		2. Flow @ 60 ±2°C for 5h at 75° (60°C): 3 mm max.
		3. Cone Penetration @ 25 ±2°C 110 max. (ASTM D 5329)
		4. Cone Penetration @ 50 ±2°C 200 max. (ASTM D 5329)
		5. Toughness: 5.5 joule min.
		6. Toughness Ratio: 0.04 min.
		7. Adhesion Rating: 1 min.
		8. Water Vapor Permeance: 1.7 ng/Pa. m2.s max (ASTM E 96)
		9. Water Absorption: 0.35g max gain or 0.18g max loss
		10. Low Temperature Flexibility: -13°F (-25°C) Pass
		11. Crack Bridging: -13°F (-25°C) Pass 10 Cycles
		12. Heat Stability: 5 hours Pass
		13. Viscosity at Application Temperature: 2-15 seconds
		14. Flash Point: C.O.C. 500°F (260°C) minimum; or 45°F (25°C) minimum above recommended application temperature. (ASTM D 92)

> Siplast PA-750 Hot Fluid Applied Rubberized Asphalt Waterproofing System

1. Reinforcing Fabric: A spunbound polyester fabric reinforcement designed specifically for use with the specified rubberized asphalt waterproofing system to improve tear strength and puncture resistance, as well as treat substrate cracks and deck-to-wall transitions.
	1. Reinforcing Fabric
2. Sheet Grab Tensile (MD): 22 lb (129 N)
3. Sheet Grab Tensile (XD): 14.5 lb (96 N)
4. Sheet Trapezoid Tear (MD): 5.9 lb (26 N)
5. Sheet Trapezoid Tear (XD): 7.7 lb (34 N)
6. Unit Weight: 1.35 oz/yd² (46 gsm)
7. Textest Air Permeability: 607 Cfm (308cc/s/cm²)
8. Thickness: 9.7 mils (0.25 mm)

> Siplast PA-750 Reinforcing Fabric

1. Protection Layer Select the specified flashing membrane from the options in Items A through C below.
	1. Concealed Protection Layer (10 Year Warranty Only): A fiberglass reinforced, Styrene-Butadiene-Styrene (SBS) modified asphalt-coated sheet having an average mil thickness of 47 and a minimum weight of 20 lb/sq.

 > Siplast Parabase Plus

* 1. Concealed Protection Layer: A fiberglass reinforced, Styrene-Butadiene-Styrene (SBS) modified asphalt-coated sheet having a nil thickness of 80 and a minimum weight of 40 lb/sq.

 > Siplast Paratech Glass Base

* 1. Fire-Rated Protection Layer: A fiberglass-reinforced, Styrene-Butadiene-Styrene (SBS) modified asphalt sheet having a minimum thickness of 95 mils minimum weight of 90 lb/sq, and surfaced with a granule surface.

> Siplast Paratech Glass Cap FR

1. Flashing Materials: Select the specified flashing membrane from the options in Items 1 through 3 below.
	1. Foil-surfaced Modified Bitumen Flashing Membrane (UV Exposed): A flashing membrane consisting of a prefabricated, reinforced, Styrene-Butadiene-Styrene (SBS) block copolymer modified asphalt membrane with a continuous, channel-embossed metal-foil surfacing. The flashing ply shall conform to ASTM D 6298 and the following physical and mechanical property requirements.

> Siplast Veral flashing system, aluminum finish

1. Thickness (avg): 142 mils (3.6 mm) (ASTM D 5147)
2. Thickness (min): 138 mils (3.5 mm) (ASTM D 5147)
3. Weight (min per 100 ft² of coverage): 92 lb (4.5 kg/m²)
4. Coating Thickness – back surface (min): 40 mils (1 mm) (ASTM D 5147)
5. Low temperature flexibility @ 0 F (-18 C): PASS (ASTM D 5147)
6. Peak Load (avg) @ 73F (23C): 85 lbf/inch (15 kN/m) (ASTM D 5147)
7. Peak Load (avg) @ 0F (-18C): 180 lbf/inch (31.7 kN/m) (ASTM D 5147)
8. Ultimate Elongation (avg) @ 73F (23C): 45% (ASTM D 5147)
9. Tear-Strength (avg): 120 lbf (0.54 kN) (ASTM D 5147)
10. Dimensional Stability (max): 0.2% (ASTM D 5147)
11. Compound Stability (min): 225F (107C) (ASTM D 5147)
12. Cyclic Thermal Shock Stability (maximum): 0.2% (ASTM D 7051)
13. Approvals: UL Approved, FM Approved (products shall bear seals of approval)
14. Reinforcement: fiberglass scrim mat or other meeting the performance and dimensional stability criteria
15. Surfacing: aluminum metal foil

> Siplast Veral Aluminum

* 1. Granule-surfaced Modified Bitumen Flashing Membrane (UV Exposed): A granule surfaced flashing sheet consisting of a prefabricated, reinforced, Styrene-Butadiene-Styrene (SBS) block copolymer modified asphalt membrane. The reinforcement mat shall be impregnated and coated each side with SBS modified bitumen blend.

 > Siplast Parafor 50 LT, flashing system

A Modified Bitumen Flashing Ply

1. Thickness (avg.) - 173 mils - 4.4 mm
2. Thickness at selvage (avg.) - 157 mils - 4.0 mm (ASTM D 5147)
3. Thickness at selvage (avg.) - 154 mils - 3.9 mm (ASTM D 5147)
4. Weight (min. per 100 ft² of coverage) - 141 lb. - 6.9 kg/m²
5. Filler content in elastomeric blend - less than 35% by weight
6. Low temperature flexibility @ -4 F (-20 C) - PASS (ASTM D 5147)
7. Peak Load (avg.) @ 73 F - 60 lbf/inch (ASTM D 5147)
8. Peak Load (avg.) @ 0 F - 115 lbf/inch (ASTM D 5147)
9. Ultimate Elongation (avg.) @ 73 F - 65% (ASTM D 5147)
10. Compound Stability (min.) - 250 F (121 C) (ASTM D 5147)
11. Dimensional Stability (max.) - 0.5% (ASTM D 5147)
12. Granule Embedment (max. loss) - 2.0 grams per sample (ASTM D 5147)
13. Approvals - UL Class listed, FM Approved (products shall bear seals of approval)
14. Reinforcement - fiberglass scrim/polyester mat or other meeting the performance criteria
15. Surfacing - ceramic granules

> Siplast Parafor 50 LT

* 1. Liquid Flashing System: The specified liquid flashing system shall consist of a catalyzed PMMA-based membrane fully reinforced with a non-woven polyester fleece that is installed over a prepared or primed substrate.
		1. Parapro 123 Flashing by Siplast, Inc.
	2. WATERPROOFING ACCESSORIES

1. Bituminous Cutback Materials

1. Primer: An asphalt/solvent blend meeting ASTM D 41, South Coast Air Quality District and Ozone Transport Commission requirements.

> Siplast PA-917 Primer by Siplast; Dallas, TX

1. Mastic: An asphalt cutback mastic, reinforced with non-asbestos fibers, used as a base for setting metal flanges conforming to ASTM D 4586 Type II requirements.

> Siplast PA-1021 Plastic Cement by Siplast; Dallas, TX

1. Flashing Adhesive: A slump resistant, asphalt cutback flashing adhesive, reinforced with non-asbestos fibers, conforming to ASTM D 4586 Type II requirements.

> Siplast PA-828 Flashing Cement

1. Solvent-Free Flashing Adhesive: A single-component, solvent-free modified adhesive. The adhesive blend shall be formulated in a grade for application of flashing materials.

> Siplast SFT Cement by Siplast; Dallas, TX

1. Prefabricated Drainage Mat: A two-part prefabricated sheet drain and protection board consisting of a formed polystyrene core covered on one side with a woven polypropylene filter fabric, designed for high compression applications.

> Siplast Paradrain Drainage Mat by Siplast; Dallas, TX



> Siplast Paradrain HC (High Compression) Drainage Mat by Siplast; Dallas, TX



1. Protection Board: Multi-ply semi rigid board, composed of mineral-fortified asphalt core formed between two outside layers of asphalt-impregnated fiberglass mat, weathercoated and covered with a polyethylene anti-stick sheet. Panels shall have a nominal thickness of 1/8 inch.

> PC-2 by W.R. Meadows; Hampshire, IL

1. Extruded Polystyrene Insulation (XPS): A continuous closed-cell, high compression strength polystyrene foam panel conforming to ASTM C 578. Panels to be constructed for use in protected waterproofing membrane assemblies having drainage channels on the bottom surface. Provide panels having a minimum compression strength of **[40, 60, 100]** psi nominal, a thickness of **[---]** inches.
	1. Syrofoam Brand Insulation by DuPont, provided by Siplast
	2. GreenGuard XPS by Kingspan, provided by Siplast
	3. Foamular by Owens Corning, provided by Siplast
2. Filter Fabric: A filter fabric used for placement between the polystyrene insulation system and the stone ballast, consisting of a non-woven polypropylene geotextile fabric with a random three-dimensional pore structure.
	1. ParaGREEN Filter Fabric, Siplast Inc.
3. Pedestal Pavers: Heavyweight, hydraulically pressed, 24-inch by 24-inch concrete units designed for use as plaza deck pavers, having a thickness of 2.5 inches with an integrated concrete foot to allow 1/2-inch elevation clearance for water drainage. Finish to be determined by the owner.

1. Pedestal Pavers by Hanover Architectural Products, Inc.

1. Vegetated Overburden System: See Specification Section 07 33 63.

PART 3 EXECUTION

1. PREPARATION
2. General: Ensure that substrates are free from gross irregularities, loose, unsound or foreign material such as dirt, ice, snow, water, grease, oil, bituminous products, release agents, laitance, paint, loose particles/friable matter, rust or any other material that would be detrimental to adhesion of the waterproofing system to the substrate. Some surfaces may require scarification, shotblasting, or grinding to achieve a suitable substrate.
3. Concrete Substrate Requirements: Structural concrete shall be cured a minimum of 28 days in accordance with ACI-308, have a minimum compressive strength of 2,500 psi (17 N/mm2).

 \* NOTE: Curing compounds containing waxes, oils, silicones or other materials that may inhibit adhesion of the waterproofing system should not be used.

1. Cure/Dry Time: Structural concrete substrates shall have a recommended 28 day cure time with a recommended minimum of 14 days prior to application of membrane material. Lightweight structural concrete substrates must have a recommended cure time of 60 days with a minimum 28 day cure time prior to application of membrane.
2. Concrete Substrate Finish: Provide a wood float finish or shot-blast or scarify/shot blast the surface to provide a sound substrate free from laitance and to generate a concrete surface profile of CSP-3 to CSP-5 as defined by the ICRI. Grinding may be used as a preparation method for localized areas that cannot be reached by shot blasting equipment provided that a surface profile of CSP-3 to 5 can be generated. Decks with a steel float finish may require sandblasting prior to the application of the waterproofing system to provide sufficient texture for adhesion.
3. General: Sweep or vacuum all surfaces, removing all loose aggregate, soil, and foreign substances prior to commencement of waterproofing.
4. Remove All Existing:

- Surfacing

- Waterproofing membrane

- Insulation

- Base flashings

- Edge metal

- Flanged metal flashings

- Cants, wood blocking

- Walkways

- Non-functional penetrations/curbs

- Drain assemblies

- Vapor retarder

- Metal trim, counterflashing, etc.

1. PLAZA DECK MEMBRANE INSTALLATION
2. Membrane Application: Apply plaza deck waterproofing in accordance with system manufacturer's instructions and the following requirements.
3. Concrete Substrate Preparation: Ensure that substrates are free from gross irregularities, loose, unsound or foreign material such as dirt, ice, snow, water, grease, oil, bituminous products, release agents, laitance, paint, loose particles/friable matter, rust or any other material that would be detrimental to adhesion of the rubberized asphalt waterproofing membrane. Remove spalling concrete and laitance, and correct substrate deficiencies to provide an even substrate. Remove curing compounds or any foreign matter detrimental to the adhesion of the primary waterproofing membrane or membrane flashings.
4. Crack/Joint Treatment: Seal cracks and joints 1/16 to 1/8 inch wide with a 12-inch wide, 1/8-inch thick coat of the specified rubberized asphalt membrane and reinforced with a 6-inch wide strip of reinforcing fabric, centered over the joint. Seal cracks and joints 1/8 to 1/2 inch wide with a 6-inch wide strip of the specified smooth-surfaced SBS modified bitumen stripping ply, centered over the joint and fully adhered to the prepared substrate.
5. Priming: Prime metal, concrete and masonry surfaces with a light tan coating of the specified asphalt primer at a rate of 300-600 SF/Gallon.

1. Melters: Melters shall be insulated, oil-jacketed, and equipped with accurate, fully readable thermometers and a built-in fume reduction unit. Do not heat the rubberized asphalt to or above its flash point. Avoid heating at or above the FBT, should conditions make this impractical, heating must be no more than 25ºF below the EVT and no more than 25ºF above EVT.
2. Rubberized Asphalt Temperatures: If the EVT information is not provided, the following rubberized asphalt temperature shall be observed. Maximum heating temperature shall be 450ºF (260ºC). Minimum application temperature shall be 350 - 400ºF (193 - 204ºC).
3. Bitumen Consistency: Cutting or alterations of bitumen, primer, and sealants will not be permitted.
4. Rubberized Asphalt Supplemental Flashing Application: Pre-cut the reinforcement fabric to ensure a proper fit at transitions and corners prior to the waterproofing membrane application. Evenly distribute the base coat of the rubberized asphalt to provide a minimum thickness of 90 mils, extending a minimum of 6 inches up all vertical flashing surfaces and a minimum of 6 inches onto the horizontal deck substrate. Ensure that the rubberized asphalt is applied to extend beyond the reinforcing fabric by a maximum of 1/4 inch (6 mm). While the base coat is still in a molten state, fully embed the specified reinforcing fabric into the base coat, removing trapped air and ensuring that there are no buckles or wrinkles. Lap reinforcement layers a minimum of 2 inches (5 cm) and apply an additional coat of rubberized asphalt between layers of overlapping fabric. Evenly distribute the top coat of the specified rubberized asphalt at a rate sufficient to provide a minimum thickness of 125 mils over the flashing reinforcement fabric to provide for a total average membrane thickness of 215 mils with a minimum 185 mils (approximately 1/4 inch).
5. Rubberized Asphalt Waterproofing System Application: Evenly distribute the base coat of the specified rubberized asphalt at a rate sufficient to provide a minimum thickness of 1/11 inch (90 mils), to form a seamless waterproofing membrane. Application shall be total in coverage, leaving no breaks or voids. While the base coat is still in a molten state, fully embed the specified reinforcing fabric into the base coat. Use a shop broom to remove trapped air and ensure that there are no buckles or wrinkles. Lap the reinforcing fabric a minimum of 2 inches (5 cm) at all side and head laps and apply an additional coat of rubberized asphalt between layers of overlapping fabric. Ensure that the membrane bitumen is applied to extend beyond the reinforcing fabric by a maximum of 1/4 inch (6 mm). During application of the top coat of rubberized asphalt, ensure that the reinforcing fabric is completely encapsulated between the two layers of rubberized asphalt. Evenly distribute the top coat of the specified rubberized asphalt at a rate sufficient to provide a minimum thickness of 1/8 inch (125 mils) over the membrane reinforcement fabric to provide for a total minimum membrane thickness of 1/4 inch.
6. Protection Layer: While the rubberized asphalt is still warm enough to provide full adhesion, apply the protection layer free of wrinkles, creases or fishmouths. Exert sufficient pressure on the roll during application to ensure prevention of air pockets without displacing the underlying rubberized asphalt. Butt sides and ends of the protection layer.
7. Foil-Surfaced Flashing Application: [Torch apply the metal foil-faced flashing sheets into place using three foot widths (cut off the end of roll) always lapping the factory selvage edge. Apply the metal foil-faced flashing sheet in the specified solvent-free cement using three foot widths (cut off the end of roll) , always lapping the factory selvage edge.] Extend the flashing sheet a minimum of 4 inches beyond the vertical flashing substrate onto the surface of the rubberized asphalt waterproofing membrane and up the wall or curb to the desired flashing height. Exert pressure on the flashing sheet during application to ensure complete contact with the vertical/horizontal surfaces, preventing air pockets; this can be accomplished by using a damp sponge or shop rag. Check and seal all loose laps and edges. Nail the top edge of the flashing on 9 inch centers. (See manufacturer's schematic for visual interpretation).
8. Granule- and Film-surfaced Flashing Application: [Torch apply the flashing sheets into place using three foot widths (cut off the end of roll) always lapping the factory selvage edge. Apply the flashing sheet in the specified flashing cement using three foot widths (cut off the end of roll) , always lapping the factory selvage edge.] Extend the flashing sheet a minimum of 4 inches beyond the vertical flashing substrate onto the surface of the rubberized asphalt waterproofing membrane and up the wall or curb to the desired flashing height. Exert pressure on the flashing sheet during application to ensure complete contact with the vertical/horizontal surfaces, preventing air pockets. Check and seal all loose laps and edges. Nail the top edge of the flashing on 9 inch centers. (See manufacturer's schematic for visual interpretation).
9. SYSTEM INTERFACE WITH RELATED COMPONENTS
10. Protection Board: Loose lay protection board per manufacturers requirements, overlapping edges a minimum of 2”.
11. Drainage Mat: Place the specified drainage mat with the filter fabric side up, unadhered directly over all areas of the newly applied membrane, extending to walls, curbs, and other related junctures.
12. Insulation: Place the specified insulation unadhered directly over the [membrane protection layer, drainage mat], with the channeled edges down. Install the panels to fit tightly; leaving a maximum opening between panels of 3/8 inch. Closely abut walls, penetrations, and projections leaving a maximum opening between panels and projections of 3/4 inch. Conform to the following requirements where insulation is installed in multiple-layer configurations.

a) The bottom layer must be the thickest layer in the insulation configuration, and have a minimum thickness of 2 inches.

b) Stagger the panel joints between insulation layers.

c) Install all layers unadhered.

1. Filter Fabric: Place the specified filter fabric unadhered directly over the insulation. Overlap edges and ends of the fabric a minimum of 1 foot. Extend the fabric a minimum 3 inches above the stone/gravel ballast at all penetrations with the exception of drains. Do not lap the fabric within 6 feet of the perimeter of the area. Immediately install ballast over the fabric to prevent heat-buildup beneath the fabric. High temperatures may result in damage to the underlying insulation panels. The use of a light-color tarp should be considered if fabric is to be exposed in hot weather or when exposed to severe UV.
2. Pedestals/Pavers: Install the pedestals/pavers following the instructions and requirements of the insulation and pedestal/paver manufacturer, as well as the specified wind uplift criteria, including specifications as applicable for adhesion of pedestals, perimeter securement and incorporation of metal fabricated restrainments at the perimeter. For applications that require mechanical attachment of the corners of the paver to the pedestal base, ensure that the fastener is snug without overtightening.
3. Vegetative Overburden: Install the overburden components in accordance with the project requirements and manufacturer recommendations.
4. FIELD QUALITY CONTROL AND INSPECTIONS
5. Site Condition. All areas around the job site shall be free of debris, waterproofing materials, equipment, and related items after completion of job.
6. Notification Of Completion: Notify the manufacturer by means of manufacturer's printed Notification of Completion form of job completion in order to schedule a final inspection date.
7. Membrane Integrity Test: Membrane to be integrity tested to ensure it is water tight prior to placement of the vegetated and/or paver overburden by one of the following methods.
	1. Electronic Leak Detection (ELD)
	2. Prior to the application of the overburden plug the drains and scuppers, and flood the waterproofing surface with water a minimum of 1 to 2 inches deep. Leave the water for a minimum of 24 hours to ensure the system is leak free.

\* NOTE: Precautions must be taken to determine if the structure can hold the weight of the water for the duration of the test.

1. Final Inspection
2. Post-Installation Meeting: Hold a meeting at the completion of the membrane application (prior to the application of the drainage layer and soil) attended by all parties that were present at the pre-job conference. A punch list of items required for completion shall be compiled by the Contractor and the manufacturer's representative. Complete, sign, and mail the punch list form to the manufacturer's headquarters.
3. Drain Verification: At final inspection of all work, verify that all drains, scuppers, etc., are functioning properly. Drains shall have adequate strainers.
4. Issuance Of The Guarantee. Complete all post installation procedures and meet the manufacturer's final endorsement for issuance of the specified guarantee.

END OF SECTION 07 14 13