



# Application Guidelines for Modified Bitumen Roofing Systems

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### Disclaimer

SPRI has prepared these generic specifications for use only as a guideline. The guide is not intended to be used verbatim as an actual specification. Specific installation instructions and procedures for each particular job must be obtained from the manufacturer supplying the materials. SPRI, its members and employees do not warrant that this standard is proper and applicable under all conditions.

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### **1.01 Description**

- A. This guideline describes typical application methods for modified bitumen roofing membranes which are constructed with a fully adhered finish ply with the base ply (or plies) partially adhered, fully adhered or mechanically attached to the roof substrate. The SPRI manufacturer/supplier shall be contacted for specific information about particular products and systems.
- B. These membranes are applicable for new roofing and re-cover on substrates that have been accepted by the SPRI manufacturer/ supplier.
- C. Related Work

[Reference appropriate sections here, e.g.]

- 1. Sheet Metal
- 2. Concrete
- 3. Roof Decks
- 4. Sealants, Primers and Caulking
- 5. Plumbing, Roof Drains, Sumps or Hoppers
- 6. Masonry
- 7. Carpentry
- 8. Curtain Wall
- 9. HVAC
- 10. Electric
- 11. Roof Nailers and Cants
- 12. Roof Hatches and Curbs for Mechanical Equipment
- 13. Skylights
- 14. Lightning Protection Systems
- 15. Preparation for Reroofing
- 16. Solar Collection Systems
- 17. Vegetative Roofs

### **1.02 Scope**

Furnish and install a modified bitumen system, with a base ply (or plies) which is partially adhered, fully adhered or mechanically attached as described in this guideline and in accordance with the requirements of the SPRI manufacturer/ supplier.

### **1.03 Quality Assurance**

- A. Install the roofing system using a contractor authorized by the SPRI manufacturer/supplier.
- B. Deviations from the SPRI manufacturer/ supplier's specifications or the approved shop drawings without the prior written approval of the SPRI manufacturer/supplier are prohibited.
- C. Identification of applicable code/insurance requirements is the responsibility of the owner or his representative.
- D. Upon completion of the installation, when applicable, an audit made by a representative of the SPRI manufacturer/supplier shall determine that the visible elements of the roofing system have been installed in accordance with the SPRI manufacturer/ supplier's specifications, details, and approved changes.

### **1.04 Qualifications**

- A. Manufacturer: Company to have domestically manufactured product specified in this Section for a period of not less than five years.
- B. Applicator: Company specializing in performing the work of this section and approved by the roofing membrane manufacturer to construct and repair the manufacturer's guaranteed roofing systems.

### 1.05 Regulatory Equipment

- A. Conform to applicable code for roof assembly fire hazard required.
- B. Underwriters Laboratories Class \_\_\_\_\_ Fire Hazard Classification.
- C. FM Approvals \_\_\_\_\_ Classification.

### 1.06 Submittals

- A. Submit manufacturer's information on membrane and bitumen materials, base flashing materials, insulation, vapor retarders and other roofing materials.
- B. Submit two samples, minimum 3 x 4 inch in size illustrating manufacturer's finish ply surfacings.
- C. Submit all shop drawings required by the project specifications to the SPRI manufacturer/supplier for review.
- D. Submit written verification from the SPRI manufacturer/supplier that the contractor is an authorized applicator.
- E. Submit manufacturer's published maintenance recommendations and/or guidelines.
- F. Verify that the specifications for the proposed roofing project are in accordance with the recommendations of the SPRI manufacturer/ supplier.
- G. Submit evidence that fastener type and spacing are acceptable to the SPRI manufacturer/supplier.
- H. [List other submittal requirements here.]

### 1.07 References

- A. Wind Load Design Guide for Adhered and Mechanically Fastened Systems. SPRI,.
- B. SPRI Application Guidelines for Fasteners Used with Flexible Membrane Roofing Systems. SPRI.
- C. Loss Prevention Data Sheet 1-28, "Wind Design" FM Global.
- D. Loss Prevention Data Sheet 1-29, "Roof Deck Securement and Above-Deck Roof Components" FM Global.
- E. Loss Prevention Data Sheet 1-49, "Perimeter Flashing" FM Global.
- F. RoofNav - FM Approvals Web-Based Approval Guide.
- G. Underwriters Laboratories Online Certifications Directory.
- H. Wind Design Standard for Edge Systems Used With Low Slope Roofing Systems, ANSI/SPRI/FM 4435 ES-1.
- I. Wind Design Standard Practice For Roof Assemblies, ANSI/SPRI WD-1.
- J. Use of Cold Applied Adhesives in Modified Bitumen Roof Systems, SPRI.
- K. NRCA Roofing and Waterproofing Manual, Specification Plates MBA (--) and MBS (--). Select the appropriate plate.
- L. Modified Bitumen Cold Weather Recommendations, SPRI.
- M. Product Specification and Test Methods for Selected System
  - 1. ASTM D 5147 "Standard Test Methods for Sampling and Testing Modified Bituminous Sheet Material."
  - 2. ASTM D 6162 "Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using A Combination of Polyester and Glass Fiber Reinforcements."
  - 3. ASTM D 6163 "Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using Glass Fiber Reinforcements."
  - 4. ASTM D 6164 "Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using Polyester Reinforcements."

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5. ASTM D 6222 "Standard Specification for Atactic Polypropylene (APP) Modified Bituminous Sheet Materials Using Polyester Reinforcements."
6. ASTM D 6223 "Standard Specification for Atactic Polypropylene (APP) Modified Bituminous Sheet Materials Using a Combination of Polyester and Glass Fiber Reinforcements."
7. ASTM D 6298 "Standard Specification for Fiberglass Reinforced Styrene-Butadiene-Styrene (SBS) Modified Bituminous Sheets with a Factory Applied Metal Surface."
8. ASTM D 6509 "Standard Specification for Attactic Polypropylene (APP) Modified Bituminous Base Sheet Materials Using Glass Fiber Reinforcements"
9. ASTM D 41 "Standard Specification for Asphalt Primer Used in Roofing, Dampproofing, and Waterproofing."
10. ASTM D 312 "Standard Specification for Asphalt Used in Roofing."
11. ASTM D 2178 "Standard Specification for Asphalt Glass Felt Used in Roofing and Waterproofing."
12. ASTM D 4601 "Standard Specification for Asphalt-Coated Glass Fiber Base Sheet Used in Roofing."
13. ASTM D 4897 "Standard Specification for Asphalt-Coated Glass Fiber Venting Base Sheet Used in Roofing"

N. Material Safety Data Sheets

**1.08 Delivery, Storage & Handling**

- A. Deliver materials in their manufacturer's original, unopened packaging, dry, undamaged, seals and labels intact.
- B. Clearly label all packaging with the manufacturer/supplier's name, product name, and such identifying numbers as are appropriate.
- C. Store materials out of direct exposure to the weather as recommended by their manufacturers/suppliers. Store rolls off of the ground on a clean, flat, and dry surface. If stored outside all materials should be covered with tarps to protect from the elements. All material stored on the roof overnight shall be stored on pallets and in a manner as to preclude overloading the deck or building structure.
- D. Store all flammable materials in a cool, dry area away from spark and open flames. Follow all precautions outlined on packaging or provided by the manufacturer/supplier.
- E. Protect all materials from handling or storage damage. Do not use materials damaged in handling or storage without the proper authorization of the manufacturer/supplier.
- F. Store rolls upright on end opposite the selvage.

**1.09 Job Conditions**

- A. If waste products, petroleum, grease, oil, solvents, mineral oil, or other contaminants come into contact with the roofing system, contact the SPRI manufacturer/supplier for protection, repair or replacement requirements. Refer to the SPRI Contaminants Document.
- B. Do not install roofing materials during periods of inclement weather. The roof substrate shall be free of standing water, frost, ice, snow, dirt, dust or other foreign contaminants. Consult with the SPRI manufacturer/supplier for precautions concerning roof application during adverse weather conditions.
- C. Complete each day's roofing work in accordance with the SPRI manufacturer/ supplier's specifications and recommend-ations.
- D. When the roofing contractor will not be the primary contractor, the general contractor should be advised concerning potential damage to the roofing system and the precautions to be taken to avoid such damage during construction.

When the roofing contractor will be the primary contractor: Take precautions necessary to avoid damage to the roofing system during construction.

- E. When staging material on the roof and during application, ensure that overloading of the deck and structure does not occur.
- F. For projects requiring removal of the existing roof system: remove only as much existing roofing and insulation as can be replaced and made watertight the same day.
- G. The substrate shall be suitable to receive the base ply and the subsequent installation of the membrane system.
- H. Promptly report any deteriorated deck or substrate which is discovered to the architect or building owner. Work shall not proceed until defects in the substrate have been repaired.
- I. Obtain/Request building owner certification that all existing roof drain lines are functioning. Non-functioning drains shall be reported to the owner's representative prior to job start.
- J. Conform to all applicable safety requirements and recommendations, including but not limited to OSHA, NRCA, ARMA and the SPRI manufacturer/supplier.
- K. [Insert membrane-specific considerations here:]

#### **1.10 Warranty**

- A. A warranty is available from the SPRI manufacturer/supplier. Consult the SPRI manufacturer/supplier for durations and terms.
- B. Installer to provide standard two-year workmanship warranty.

### **PART 2 PRODUCTS**

#### **2.01 General**

All components of the roofing system shall be manufactured, supplied, or accepted by the SPRI manufacturer/supplier.

#### **2.02 Base Sheet/Base Ply**

- A. The base sheet provided shall be as required by the SPRI manufacturer/supplier for the intended application.
  - 1. ASTM D 4601 "Standard Specification for Asphalt-Coated Glass Fiber Base Sheet Used in Roofing"
  - 2. ASTM D 4897 "Standard Specification for Asphalt-Coated Glass Fiber Venting Base Sheet Used in Roofing"
  - 3. ASTM D 2626 "Standard Specification for Asphalt Saturated & Coated Organic Felt Base Sheet Used in Roofing"
  - 4. ASTM D 226 "Standard Specification for Asphalt Saturated Organic Felt Used in Roofing and Waterproofing"
  - 5. ASTM D 6222 "Standard Specification for Atactic Polypropylene (APP) Modified Bituminous Sheet Materials Using Polyester Reinforcements."
  - 6. ASTM D 6223 "Standard Specification for Atactic Polypropylene (APP) Modified Bituminous Sheet Materials Using a Combination of Polyester and Glass Fiber Reinforcements."
  - 7. ASTM D6509 "Standard Specification for Attactic Polypropylene (APP) Modified Bituminous Base Sheet Materials Using Glass Fiber Reinforcements"
  - 8. ASTM D 6162 "Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using a Combination of Polyester and Glass Fiber Reinforcements."
  - 9. ASTM D 6163 "Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using Glass Fiber Reinforcements."

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10. ASTM D 6164 "Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using Polyester Reinforcements."

### **2.03 Reinforcing Plies**

- A. The ply sheets provided shall be as required by the SPRI manufacturer/supplier for the intended application.
  1. ASTM D 2178, Type IV or VI "Standard Specification for Asphalt Glass Felt Used in Roofing and Waterproofing"

### **2.04 Cap Sheet**

- A. The roofing membrane provided shall be as required by the SPRI manufacturer/supplier for the intended application.
  1. ASTM D 5147 "Standard Test Methods for Sampling and Testing Modified Bituminous Sheet Material."
  2. ASTM D 6162 "Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using A Combination of Polyester and Glass Fiber Reinforcements."
  3. ASTM D 6163 "Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using Glass Fiber Reinforcements."
  4. ASTM D 6164 "Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using Polyester Reinforcements."
  5. ASTM D 6222 "Standard Specification for Atactic Polypropylene (APP) Modified Bituminous Sheet Materials Using Polyester Reinforcements."
  6. ASTM D 6223 "Standard Specification for Atactic Polypropylene (APP) Modified Bituminous Sheet Material Using a Combination of Polyester and Glass Fiber Reinforcements."
  7. ASTM D 6298 "Standard Specification for Fiberglass Reinforced Styrene-Butadiene-Styrene (SBS) Modified Bituminous Sheets with a Factory Applied Metal Surface."

### **2.05 Base Flashings**

- A. ASTM D 6162 "Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using A Combination of Polyester and Glass Fiber Reinforcements."
- B. ASTM D 6163 "Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using Glass Fiber Reinforcements."
- C. ASTM D 6164 "Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using Polyester Reinforcements."
- D. ASTM D 6222 "Standard Specification for Atactic Polypropylene (APP) Modified Bituminous Sheet Materials Using Polyester Reinforcements."
- E. ASTM D 6223 "Standard Specification for Atactic Polypropylene (APP) Modified Bituminous Sheet Materials Using a Combination of Polyester and Glass Fiber Reinforcements."
- F. ASTM D 6298 "Standard Specification for Fiberglass Reinforced Styrene-Butadiene-Styrene (SBS) Modified Bituminous Sheets with a Factory Applied Metal Surface."

### **2.06 Related Materials**

- A. Wood Nailers: #2 or better lumber, pressure treated for rot resistance.
- B. Thermal Barrier: As required by code/ insurance requirements.
- C. Vapor Retarder: Design or environmental conditions may require the use of a vapor retarder. Consult NRCA, CRREL, SPRI manufacturer/supplier for specific guidelines.

- D. Insulation: [Specify type, thermal conductance or thermal resistance value, and ASTM standard or Federal Specifications.]
- E. Insulation Fasteners: Conforming to the performance requirements as defined in SPRI's Application Guidelines for Fasteners (see Section 2.4 of this publication). Contact the SPRI manufacturer/supplier for specific information concerning those fasteners which are approved or necessary, or both for warranty validation.
- F. Adhesives, Sealants, Mastics
- G. Primers: ASTM D 41. Primer shall be applied by brush, roller or sprayer at a rate specified by the product manufacturer. Consult the SPRI manufacturer/supplier for other approved primers.
- H. Asphalt: ASTM D 312 "Specifications for Asphalt Used in Roofing"
- I. Membrane Fasteners: Contact the SPRI manufacturer/supplier for specific information concerning fastener requirements.
- J. Prefabricated Flashings
- K. Expansion Joints: As required by the architect or engineer.
- L. Sheet Metal: Aluminum/galvanized steel, stainless steel, copper.
- M. Sheet Metal Fasteners: Nails or screws compatible with sheet metal and substrate.
- N. Roof Walkways: Consult the SPRI manufacturer/supplier for approved walkway materials.
- O. Field-Applied Surfacing: Consult the SPRI manufacturer/supplier for approved surfacing materials.

## **PART 3 EXECUTION**

### **3.01 Pre-Job Requirements**

- A. Conduct a pre-roofing conference before any work begins, so all parties involved in the roofing system construction, or who work on or make penetrations through the roofing system, understand their obligations with respect to the roofing system.
- B. Minimum slope shall be sufficient to permit positive drainage. Consult the SPRI manufacturer/supplier for specific slope limitations.

### **3.02 Substrate Preparation/Inspection Approval**

- A. Provide a proper substrate (acceptable to the installing contractor, e.g. structural concrete to receive the modified bitumen roofing system). The roofing contractor shall notify the owner or architect in writing of any defects in the substrate.
- B. Surfaces on which the modified bitumen roof system is to be applied shall be compatible, clean, and smooth. Surfaces shall be free of fins, sharp edges, loose and foreign materials, oil and grease, blisters, or other surface irregularities.
- C. Where required, prime the substrate with SPRI Manufacturer/supplier recommended primer and allow to dry.
- D. The SPRI manufacturer/supplier's specifications for substrate preparation shall be satisfied prior to membrane application.
- E. Verify roof openings, curbs, pipes, sleeves, ducts, and vents through roof are solidly set, and cant strips, nailing strips, and reglets are in place.

### **3.03 Wood Nailers**

- A. Install treated wood nailers at the perimeter of the entire roof and around such other roof projections and penetrations as required by the calculated load. [FM Global Loss Prevention Data Sheet 1-49, "Perimeter Flashing," contains recommendations for spacing and size of fasteners.]
- B. The thickness of the nailer shall be such that the top of the nailer is flush with the surface to which the membrane is to be applied.

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### 3.04 Vapor Retarder

The necessity for and the placement of the vapor retarder within the roof system assembly shall be determined by the architect, engineer or design professional. [When applicable, insert installation instructions for vapor retarder here.]

### 3.05 Insulation

- A. Install insulation according to the insulation manufacturer/supplier's instructions.
- B. Install insulation material in staggered courses and butt adjacent boards together.
- C. Fit insulation tight around roof protrusions and terminations.
- D. When more than one layer of insulation is used, offset all joints between layers a minimum of six inches.
- E. Install tapered insulation boards in accordance with the insulation manufacturer's/supplier's shop drawings.
- F. Install no more insulation than can be covered with the roof system by the end of the day or the onset of inclement weather.

### 3.06 Fasteners

- A. Fasteners used to secure separator sheets, tapes, and membrane shall be acceptable to the SPRI manufacturer/supplier.
- B. Follow the fastener manufacturer/supplier's recommendations for:
  - 1. Fastener suitability for specific applications.
  - 2. Proper drill bit for drilling correct hole size (diameter and depth) into concrete, lightweight concrete, and gypsum decks.
  - 3. Fastener length to provide proper fastening into the deck and minimum pull-out resistance.
  - 4. Fastener installation instructions.
- C. Remove or correct fasteners that are improperly installed. Improper application is characterized as, but not limited to:
  - 1. Overdriven: Fastener is driven to the point that it is causing the stress distribution surface to become concave (or deformed, in the case of batten strips).
  - 2. Underdriven: Fastener head is not properly seated on the stress distribution surface.
  - 3. Snapped: Fastener breaks under the driving load.
  - 4. Bent: Fastener is bent to the point that it adversely affects the installation.
  - 5. Not Engaged: Fastener is improperly located or of insufficient length.

### 3.07 Base Sheet/ Base Ply

Attach the base ply using mechanical fasteners, partially adhere, or fully adhere as per the SPRI manufacturer/supplier's recommendations. Ensure that the base ply is installed with proper fastener type and spacing, when mechanically fastened.

### 3.08 Membrane Installation

- A. Placement
  - 1. Begin work at the low point of the roofing project area such that the direction of the water flow is not against the laps. The direction of the overlap shall be changed as the direction of the water flow changes.
  - 2. Fully adhere the modified bitumen membrane to the base sheet, interplies, or insulation, starting at the low point of the roof.
  - 3. Apply sheets perpendicular to the slope. The SPRI manufacturer/supplier shall be consulted regarding the specific application requirements for slopes exceeding 1/4" in 12".



4. Cut the membrane to fit neatly around penetrations and roof projections without the formation of "backwater laps." Consult the SPRI manufacturer/supplier's flashing details.
  5. Minimum side and end lap widths shall be in accordance with the SPRI manufacturer/supplier's requirements. Stagger end laps as specified by the SPRI manufacturer supplier.
- B. Unroll membranes and allow to relax before rerolling. Torch applied membranes may not require relaxation prior to torch application. Consult the SPRI manufacturer / supplier for specific recommendations.
- C. Torch-Applied Membranes
1. Unroll the membrane and position to allow proper overlap. The roll shall then be re-rolled, except for the starter end. Heat the sheet to achieve bitumen flow so that proper adhesion is obtained with the substrate and at the side and end laps. Apply pressure to the membrane to ensure contact and good bonding. Caution must be exercised to avoid overheating or underheating the roofing sheet, as defined for the specific membrane by the SPRI manufacturer/supplier.
  2. Check T-joint seams to be certain they are bonded and sealed.
  3. Observe special treatment at seams requirements by the SPRI manufacturer/ supplier.
  4. Observe safety precautions as open flames are used. Ensure that all NFPA, CERTA, and all local fire safety guidelines are followed during any torch application.
- D. Asphalt-Adhered Membranes
1. Firmly embed the membrane into hot asphalt. The contractor shall ensure that the proper asphalt and application rate are used as specified by the SPRI manufacturer/supplier for the slope, substrate, and membrane type.
  2. Adhesion: Mopping asphalt shall be a minimum of 400°F, at the point of membrane embedment.
- E. Cold Process Adhered Membranes
1. Apply the membrane into adhesive. The contractor shall ensure that the proper application rate is used as specified by the SPRI manufacturer/supplier for specific coverage rate requirements. Adhesive may be applied using spray equipment, roller, or squeegee. Apply pressure to the top surface of the membrane to ensure uniform contact.
  2. Side laps, end laps, and T-joint may require special treatment including heat or alternative adhesive to ensure that they are bonded and sealed. Consult the SPRI manufacturer/supplier for specific requirements.
- F. Self Adhesive Membranes
1. Unroll the membrane and position to allow proper overlap. Primer may be required to ensure proper adhesion, consult the SPRI manufacturer/supplier for specific requirements. Remove film from the back surface of the membrane. Apply pressure to the top surface of the membrane to ensure contact and good bonding. Caution must be exercised to ensure the substrate is clean and free of dust or debris.
  2. Side laps, end laps, and T-joint may require special treatment including heat or adhesives to ensure that they are bonded and sealed. Consult the SPRI manufacturer/supplier for specific requirements.
- G. Seaming
- Inspect all side and end laps for evidence of complete and continuous closure.
- H. Slope
- For slopes in excess of ½ inches per foot, contact SPRI manufacturer/ supplier for specific instructions or proper fastening.

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### 3.09 Flashings and Accessories

#### A. General

1. Follow the SPRI manufacturer/supplier's specifications and details, or the SPRI Details when applicable to the manufacturer/supplier, in all flashing applications.
2. Follow the SPRI manufacturer/supplier's specifications where the flashing membrane changes direction (e.g. where the parapet meets the roof deck).
3. Fasten the top of the installed membrane flashing under metal counterflashing, coping cap, etc., in accordance with the requirements of the SPRI manufacturer/ supplier.
4. Coordinate installation of roof drains, sumps and related flashings.

#### B. Edge Flashing

Set any metal flanges which are incorporated into the roof assembly according to approved SPRI manufacturer/supplier's installation detail.

#### C. Base Flashing

Install membrane flashing at all vertical projections. A cant shall be used to break the sharp angle between the parapet and the roof deck. Construct corners in the flashing in the manner specified by the SPRI manufacturer/ supplier.

#### D. Vertical Terminations

Mechanically fasten the top of vertical membrane flashings to the wall or curb in accordance with the SPRI manufacturer/supplier's requirements. Metal counterflashing is recommended to protect the top termination of the flashing membrane. Seal all counterflashing to the wall or projection as recommended by the SPRI manufacturer/ supplier.

#### E. Penetrations

Flash all roof penetrations in accordance with the SPRI manufacturer/ supplier's requirements.

#### F. [If the project includes the use of metal flashings (new or existing), insert installation requirements here.]

#### G. Expansion Joints

Flash all expansion joints in accordance with the SPRI manufacturer/ supplier's requirements.

### 3.10 Surfacing

- A. Perform any inspections which are required before the application of surfacing materials.
- B. When applicable, apply surface treatment in accordance with the requirements of the SPRI manufacturer/supplier.

### 3.11 Walkways

- A. When applicable, provide walkways in accordance with the requirements of the SPRI manufacturer/supplier. It is recommended that walkways be installed at all traffic concentration points, e.g. roof hatches, access doors, rooftop ladders, and any rooftop equipment which requires maintenance.
- B. Do not install walkways over flashings.
- C. Install roof walkways in accordance with the requirements of the SPRI manufacturer/supplier.
- D. Install roof walkways in such a manner as to not impede the flow of water.

### 3.12 Solar Collection Systems

Follow the SPRI manufacturer/supplier's specifications when installing solar collection systems.

### **3.13 Vegetative Roof Systems**

Follow the SPRI manufacturer/supplier's specifications when installing a vegetative roof system.

### **3.14 Water Cut-Offs**

Ensure that water does not flow beneath the completed sections of the membrane system. At the end of each day install water cut-off consisting of two plies of felts or one ply of coated base sheet installed in a mopping of asphalt extending onto the deck a minimum of 6 inches. Cover all exposed edges of insulation. Completely remove cut-off before resuming work.

The integrity of the water cut-off is the sole responsibility of the roofing contractor.

### **3.15 Membrane Repair**

- A. Reseal any seam area in which laps are not fully adhered in accordance with the requirements of the SPRI manufacturer/ supplier.
- B. Repair all misaligned or inadequately lapped seams, buckles, blisters, non-adhered areas, punctures and other types of membrane damage in accordance with the requirements of the SPRI manufacturer/supplier.
- C. Consult the SPRI/NRCA Manual of Inspection, Maintenance and Emergency Repair of Single-Ply Roofing Systems and the ARMA/NRCA/SPRI Repair Manual for Low Slope Membrane Roofing.