



Application Guidelines for Thermoset Roofing Systems

Approved April 14, 2010

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Disclaimer

SPRI has prepared these 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 guide is proper and applicable under all conditions.

1.0 General

1.01 Description

- A. This specification describes typical application guidelines for thermoset single-ply roofing membranes. The SPRI manufacturer/supplier shall be contacted for specific information about particular products and systems.
- B. These membranes are applicable for new roofing, replacement, and recovering on substrates that have been accepted by the SPRI manufacturer/supplier. The membranes shall conform to the requirements of ASTM D-4637 or ASTM D-5019.

1.02 Scope

The roofing contractor shall furnish and install thermoset roofing membrane as described in this guideline and in accordance with the requirements of the SPRI manufacturer/supplier.

1.03 Quality Assurance

- A. The roofing system shall be installed by a contractor authorized by the SPRI manufacturer/supplier.
- B. There shall be no deviations from the SPRI manufacturer's/supplier's specifications or the approved shop drawings without the prior written approval of the SPRI manufacturer/supplier.
- C. Applicable code/insurance requirements shall be identified by the owner or his representative.
- D. Upon completion of the installation, an inspection may be made by a representative of the SPRI manufacturer/supplier to determine that the visible elements of the roofing system has been installed in accordance with the SPRI manufacturer's/supplier's specifications, details and approved changes.

1.04 Submittals

- A. Shop drawings required by the project specifications shall be accepted by the SPRI manufacturer/supplier prior to submittal.
- B. The contractor shall submit written verification from the SPRI manufacturer/supplier that he/she is an authorized applicator.
- C. The contractor shall verify that the specifications for the roofing project are in accordance with the recommendations of the SPRI manufacturer/supplier.
- D. The contractor or specifier shall submit evidence that the system to be installed meets specified code/insurance requirements.

1.05 References

- A. Flexible Membrane Roofing: A Professional's Guide to Specifications, Parts 1 and 2. SPRI.
- B. ANSI/SPRI WD-1, Wind Design Standard Practice for Roofing Assemblies, SPRI.
- C. ANSI/SPRI RP-4; Wind Design Standard for Ballasted Single-Ply Roofing Systems.
- D. SPRI Application Guidelines for Fasteners Used with Flexible Membrane Roofing Systems. SPRI.
- E. SPRI Guidelines for the Fabrication of Field Splices Using Tape Adhesive for Vulcanized EDPM Sheets Used in Roofing Applications. SPRI.
- F. SPRI Guidelines for the Fabrication of Field Splices Using a Liquid Applied Adhesive for Vulcanized EDPM Sheets Using in Roofing Application. SPRI.
- G. SPRI Application Guidelines for the Fabrication of Field Splices Using Hot Air Seaming. SPRI.
- H. SPRI Roofing Insulation Adhesives Application Guide. SPRI.

- I. SPRI Roofing Membrane Adhesives Application Guide. SPRI.
- J. Loss Prevention Data Sheet 1-49, "Perimeter Flashing." Factory Mutual Systems.
- K. ANSI/SPRI ES-1, Wind Design Standard for Edge Systems Used with Low Slope Roofing Systems. SPRI.

1.06 Delivery, Storage & Handling

- A. Materials shall be delivered in their original, unopened containers.
- B. Packaging shall be clearly labeled with the manufacturer's/supplier's name, product name and other identifying information as appropriate.
- C. Prolonged exposure of curable materials to temperatures greater than 80°F will reduce the shelf life of those materials.
- D. Adhesives, sealants and coatings should be at a minimum temperature of 60°F before application.
- E. All flammable materials shall be stored in a cool, dry area away from sparks and open flames. Precautions outlined in containers or provided by the manufacturer/supplier shall be followed.
- F. Materials damaged in handling or storage shall not be used without the authorization of the manufacturer/supplier.
- G. Material Safety Data Sheets available from the manufacturer/supplier shall be available at the job site at all times.

1.07 Job Conditions

- A. If water products, petroleum, grease, oil, solvents, mineral oil or other contaminants come into contact with the roofing system, the SPRI manufacturer/supplier shall be contacted for protection or repair requirements.
- B. Roofing materials shall not be installed during periods of precipitation. Some membranes may be installed under certain adverse weather conditions (temperature, moisture, humidity, etc.); the contractor shall consult with the manufacturer/supplier as certain precautions will apply.
- C. Each day's roofing work shall be completed in accordance with the SPRI manufacturer's/supplier's specifications including flashings, terminations and surfacing.
- D. When the roofing contractor will not be the primary contractor: The roofing contractor shall advise the general contractor concerning potential damage to the membrane and the precautions to be taken to avoid such damage during construction.

When the roofing contractor will be the primary contractor: The roofing contractor shall take precautions necessary to avoid damage to the membrane during construction.
- E. When staging material on the roof and during application, the contractor or specifier shall ensure that overloading of the deck and structure does not occur.
- F. For projects requiring removal of the existing roof system: Only as much existing roofing and insulation as can be replaced and made watertight the same day shall be removed.
- G. Any deteriorated deck or flashing substrate which is discovered shall be promptly reported to the architect or owner.
- H. The roofing contractor or specifier shall investigate all existing roof drain lines. Non-functioning drains shall be reported to the owner's representative prior to job start.
- I. The contractor shall conform to OSHA and EPA requirements.

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1.08 Warranty

Various warranty types may be available from the SPRI manufacturer/supplier. Consult the SPRI manufacturer/supplier. Consult the SPRI manufacturer/supplier for durations and terms available.

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 Membrane

- A. The roofing membrane must be provided in a thickness recommended by the SPRI manufacturer/supplier for the intended roofing system.
- B. It is advisable to prevent chemical contaminants from coming into direct contact with the roofing membrane. If resistance to specific chemicals is required, contact the SPRI manufacturer/supplier for recommendations.

2.03 Components

- A. Cleaners, Adhesives and Sealants—EPDM
 - 1. Membrane/Splice Cleaner: for cleaning the membrane for splicing.
 - 2. Primer: for preparing the membrane for splicing.
 - 3. Splice Adhesive (liquid, heat-activated tapes or pressure sensitive tapes): for splicing membrane sheets together.
 - 4. In-Seam Sealant (optional): for providing an additional waterproofing seal for the field splice.
 - 5. Lap Sealant: for sealing the exposed splice edge.
 - 6. Bonding Adhesive: for bonding membrane to a substrate.
 - 7. Water Cut-Off Mastic: for making gasket-type seals where the roofing system terminates to a structure.
 - 8. Pourable Sealer: for sealing around pipe clusters or angular shapes, and for completing night seals.
- B. Cleaners, Adhesives and Sealants—CSPE
 - 1. Cleaning Solution: for cleaning/preparing the membrane for splicing.
 - 2. Activator: for preparing uncured or surface-cured membrane for splicing.
 - 3. Heat Welding Equipment: for making hot air welding splice.
 - 4. Splice Adhesive (liquid or pressure sensitive tapes): for field splicing membrane sheets together without using heat welding equipment.
 - 5. Edge Sealant: for sealing the exposed membrane reinforcing fabric at splice edges.
 - 6. Pourable Sealer: for sealing around pipe clusters or angular shapes, and for completing night seals.
- C. Flashings—EPDM and CSPE
 - 1. Cured membrane flashings: deck membrane used as flashing.
 - 2. Uncured flashings: non-vulcanized material (designed for roof-top cure) used as flashing.
 - 3. Prefabricated flashings: preformed inside corners, outside corners and pipe boots.
 - 4. Pressure sensitive tape flashings: cured or uncured membrane laminated to a pressure sensitive tape adhesive.

- D. Other Components—EPDM and CSPE
1. Thermal barrier (if required).
 2. Insulation.
 3. Perimeter securements: wood nailers, metal plates, metal strips, plastic plates, plastic strips, reinforced membrane strips, etc., to anchor the membrane at perimeters and around penetrations.
 4. Membrane and insulation securement: metal plates, metal strips, plastic plates, plastic strips, etc., to anchor the membrane or insulation across the field of the roof.
 5. Fasteners: nails or screws used for attaching wood nailers, membrane, terminations, insulation, etc. to the deck or wall.
 6. Terminations: metal, plastic or rubber bars, counter flashings, coping and edging to waterproof the exposed edge of the membrane.
 7. Protection/Separation layer: for protecting or separating the membrane from the substrate or ballast.
 8. Vapor or air barrier (if required).
 9. Color coating: for aesthetics only.
 10. Roof walkways: for protection of the membrane exposed to regular rooftop maintenance.

Part 3 Execution

3.01 Pre-Job

The primary contractor shall conduct a pre-roofing conference before any work begins, so all parties involved in the roofing system construction, or who may work on or through the roofing system, understand their obligations with respect to the roofing membrane.

3.02 Substrate Inspection/Approval

- A. A proper substrate (as defined by the SPRI manufacturer/supplier) shall be provided to receive the membrane roofing system. The roofing contractor shall notify the owner or architect in writing of any defects in the substrate. Work shall not proceed until the substrate has been repaired or replaced.
- B. The roof surface shall be free of standing water, ice, snow or other forms of moisture.
- C. [Steep slopes will require additional design considerations. The SPRI manufacturer/supplier shall be consulted for more information.]

3.03 Substrate Preparation

- A. For existing graveled surfaces: Loose gravel shall be removed. If necessary, accumulations of bitumen or other surface irregularities shall be spudded and/or removed so as to produce a flat, smooth surface. Insulation boards shall lay flat forming a continuous plane from one board to another.
- B. All areas of wet insulation shall be removed and replaced.
- C. Surfaces on which the thermoset membrane is to be applied shall be compatible, clean, smooth, free of fins, sharp edges, loose and foreign material, oil, grease, and fresh bitumen.
- D. Building code requirements for thermal barrier between the roof deck and some roof insulations shall be met.
- E. The SPRI manufacturer's/supplier's specifications for substrate preparation shall be satisfied prior to membrane application.

3.04 Vapor Retarder

The design professional shall determine the necessity for and the placement of

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the vapor retarder within the roof system assembly.

3.05 Wood Nailers

- A. Treated wood nailers shall be installed at the perimeter of the entire roof and around roof projections and penetrations as specified on project drawings and in accordance with the requirements of the SPRI manufacturer/supplier.
- B. Nailers shall be securely anchored to the deck to resist a minimum force of 100 pounds per linear foot. [Loss Prevention Data Sheet 1-49, "Perimeter Flashing," Factory Mutual Systems, contains recommendations for spacing and size of fasteners.]
- C. 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.

3.06 Insulation

- A. Insulation shall be installed according to the insulation manufacturer's/supplier's instructions.
- B. Insulation shall be adequately supported to sustain normal roof traffic without damage.
- C. Insulation material shall be installed in parallel courses with end joints staggered and adjacent boards butted together with no joints greater than ¼ inch.
- D. Multiple layers of insulation shall be installed when thermal efficiency is desired. If more than one layer of insulation is used, all joints between layers shall be offset.
- E. Where field trimmed, insulation shall be fitted tightly around roof protrusions and terminations.
- F. Insulation Attachment:
 - 1. [When insulation is to be secured for the proposed roofing system.] Only fasteners, stress plates, adhesives, and fastening patterns accepted for use by both the roofing membrane and insulation manufacturers/suppliers shall be used. Fastening patterns shall be utilized which meet applicable code/insurance requirements and/or the insulation manufacturer's recommendations.
 - 2. [When membrane is to be adhered to insulation:] Only adhesive accepted by both the roofing membrane and insulation manufacturers/suppliers shall be used.
- G. Tapered insulation boards shall be installed in accordance with the insulation manufacturer's/supplier's shop drawings.
- H. No more insulation shall be applied than can be covered with the roof membrane by the end of the day or the onset of inclement weather.

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3.07 Fasteners

- A. All fasteners shall be driven perpendicular to the work surface.
- B. The fastener assembly (distribution plate, batten bars, and fasteners) by its design and/or proposed application shall be installed so as to avoid abrasion or any type of damage to the membrane.
- C. The fastener manufacturer's recommendations shall be followed for:
 - 1. Fastener substrate suitability for the specific roofing system.
 - 2. Proper drill bit for drilling correct hole size (diameter and depth) into concrete, lightweight concrete, gypsum and cementitious/wood fiber decks, when pre-drilling is required.
 - 3. Minimum depth of embedment into the deck to achieve required resistance to pull-out. Typical minimum depths of embedment are 1- ¼ inches for structural concrete, ¾ inch for steel, and 1 inch for wood.

4. Selection of fastener length to provide proper fastening into deck.
- D. Fasteners that are improperly installed shall be removed or corrected. Improper installation may be characterized as:
 1. Overdriven: Fastener is driven to the point that it is causing the stress distribution surface to become concave or deformed. [Excessive driving may cause failure by disengaging or stripping out the fastener threads from the deck.]
 2. Underdriven: Fastener head is not properly seated on the stress distribution surface (plate or batten).
 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.

3.08 Separation Layer

If required, the separation layer (slip sheet) shall be installed directly over the substrate. Care shall be taken to ensure that the separation layer is installed with adequate side and end laps.

3.09 Membrane Installation

A. Ballasted Systems

1. All loose debris shall be swept from the substrate. The substrate shall be dry before continuing.
2. The membrane sheets shall be positioned over the substrate without stretching. A minimum overlap of 3 inches or of a dimension required by the system supplier shall be provided.
3. The overlap shall be shingled so as not to restrict water flow.
4. Non-reinforced membranes shall be allowed to relax for approximately ½ hour prior to splicing. Reinforced membrane sheets may be spliced immediately.
5. The field splicing procedure shall be completed following the system supplier's recommendations and the SPRI guidelines for the fabrication of field splices using liquid and tape adhesives or heat seaming.
6. The membrane shall be ballasted by the end of the day, following the ANSI/SPRI RP-4 Wind Design Guide for Ballasted Roofing Systems.
7. Care must be taken during the application of ballast to prevent damage to either the membrane or insulation. Heavily traveled areas during the ballasting operation must be protected by using plywood runways or other such protection.

B. Adhered Systems—One-Part Adhesives

1. All loose debris shall be swept from the substrate. The substrate shall be dry before continuing.
2. The first membrane sheet shall be positioned over the substrate without stretching.
3. Non-reinforced membrane sheets shall be allowed to relax for approximately ½ hour prior to adhering to the substrate. Reinforced and fleece-backed membrane sheets may be adhered immediately.
4. For contact adhesives, the membrane sheet shall be folded across its width (narrow dimension) so that half the underside is exposed. For wet lay-in adhesives, the membrane sheet shall be folded back across its length (long dimension) so that half of the underside is exposed. The fold shall be smoothed to eliminate wrinkles and buckles.
5. The bonding adhesive shall be stirred for a minimum of 5 minutes,

scraping the sides and bottom of the can to ensure complete dispersion of solids.

6. Bonding adhesive used in a contact application shall be applied evenly (without globs or puddles) with a plastic core short nap paint roller to the exposed membrane sheet and the substrate. Bonding adhesives used in a wet lay-in application shall be applied to the substrate only. Contact the system supplier for specific bonding adhesive recommendations and coverage rates.
 7. The bonding adhesive may be spray applied, but back-rolling is typically required to ensure 100 percent coverage. The system supplier should be consulted for recommendations.
 8. The contact adhesive shall be allowed to dry until it is tacky but will not string or stick to a dry finger touch. The wet lay-in adhesive shall not be allowed to dry.
 9. The membrane shall be rolled over the coated substrate taking care to avoid forming wrinkles.
 10. The adhered half of the membrane shall be brushed down with a soft bristle push broom to achieve maximum contact.
 11. The loose half of the membrane shall be folded back and the application procedure repeated.
 12. Adjoining membrane sheets shall be installed in a similar manner, overlapping edges a minimum of 3 inches or a dimension required by the system supplier.
 13. The overlap shall be shingled so as not to restrict water flow.
 14. The field splicing procedure shall be completed following the system supplier's recommendations and the SPRI guidelines for the fabrication of field splices using liquid and tape adhesives or heat seaming.
- C. Adhered Systems—Two-Part Polyurethane Adhesives
1. All loose debris shall be swept from the substrate. The substrate shall be dry before continuing.
 2. The first membrane sheet shall be positioned over the substrate without stretching.
 3. The membrane sheet shall be folded back across its width (narrow dimension) so that half the underside is exposed. The fold shall be smoothed to eliminate wrinkles and buckles.
 4. The polyurethane adhesive shall be spray-applied or applied in beads/ribbons to the substrate only. The adhesive shall be continuously sprayed onto the substrate so that the resultant foam will rise to an approximate $\frac{1}{8}$ to $\frac{1}{4}$ inch thickness. Beads/ribbons of adhesive shall be applied to the substrate in minimum $\frac{1}{2}$ inch diameter wet beads and shall be spaced 4, 6 or 12 inches on center, depending upon the location on the roof (field, perimeter or corner areas) and the exposure conditions of the building. Consult the system supplier for specific requirements.
 5. The adhesive shall be allowed to rise for a sufficient amount of time to develop "string/body" (approximately 1- $\frac{1}{2}$ to 2 minutes). The string/body time will vary depending upon environmental conditions such as temperature and humidity.
 6. The membrane shall be placed over the foamed adhesive and shall be immediately rolled with a 100 to 150 pound roller to ensure embedment into the foam.
 7. The loose half of the membrane shall be folded back and the application procedure repeated.

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8. Adjoining membrane sheets shall be installed in a similar manner, overlapping edges a minimum of 3 inches or a dimension required by the system supplier.
 9. The overlap shall be shingled so as not to restrict water flow.
 10. The field splicing procedure shall be completed following the system supplier's recommendations and the SPRI guidelines for the fabrication of field splices using liquid and tape adhesives or heat seaming.
- D. Reinforced and Non-Reinforced Mechanically Attached System—Through the Membrane Attachment Method
1. All loose debris shall be swept from the substrate. The substrate shall be dry before continuing.
 2. The appropriate width membrane sheet(s) shall be positioned along the perimeter of the roof without stretching. A minimum overlap of 3 inches shall be provided. Consult the system supplier for specific sheet and splice width information.
 3. The appropriate width membrane sheet shall be positioned in the field of the roof using the same overlap as referenced above. Only as many sheets as can be field spliced in one day shall be positioned.
 4. The overlap shall be shingled so as not to restrict water flow.
 5. Non-reinforced membrane sheets shall be allowed to relax for approximately ½ hour prior to splicing. Reinforced and fleece-backed membrane sheets may be spliced immediately.
 6. The field splicing procedure shall be completed following the system supplier's recommendations and the SPRI guidelines for the fabrication of field splices using liquid and tape adhesives or heat seaming.
 7. Bars, plates or other attachment devices shall be positioned over the membrane following the fastening and layout requirements of the system supplier.
 8. The bars, plates or other attachment devices shall be stripped in using uncured flashing or cured membrane as directed by the system supplier.
- E. Reinforced and Non-Reinforced Mechanically Attached Systems—Under the Membrane Attachment Method
1. All loose debris shall be swept from the substrate. The substrate shall be dry before continuing.
 2. Plates, bars, strips or other attachment devices shall be positioned across the substrate and fastened to the deck as directed by the system supplier.
 3. The appropriate width membrane sheet(s) shall be positioned along the perimeter of the roof without stretching. A minimum overlap of 3 inches shall be provided. Consult the system supplier for specific sheet and splice width information.
 4. The appropriate width membrane sheet shall be positioned in the field of the roof using the same overlap as referenced above. Only as many sheets as can be field spliced in one day shall be positioned.
 5. The overlap shall be shingled so as not to restrict water flow.
 6. Non-reinforced membrane sheets shall be allowed to relax for approximately ½ hour prior to splicing or attaching to the plates, bars, strips or other attachment devices. Reinforced and fleece-backed membrane sheets may be spliced or attached immediately.
 7. The field splicing of adjoining membrane sheets shall be completed following the system supplier's recommendations and the SPRI guidelines for the fabrication of field splices using liquid and tape

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adhesives or heat seaming.

- F. Reinforced and Non-Reinforced Mechanically Attached Systems—In-Splice Attachment Method
 - 1. All loose debris shall be swept from the substrate. The substrate shall be dry before continuing.
 - 2. The appropriate width membrane sheet(s) shall be positioned along the perimeter of the roof without stretching. A minimum overlap of 5 inches shall be provided. Consult the system supplier for specific sheet and splice width information.
 - 3. The appropriate width membrane sheet shall be positioned in the field of the roof using the same overlap as referenced above.
 - 4. The overlap shall be shingled so as not to restrict water flow.
 - 5. Non-reinforced membrane sheets shall be allowed to relax for approximately ½ hour prior to attachment. Reinforced and fleece-backed membrane sheets may be attached immediately.
 - 6. One edge of the membrane sheet shall be secured to the structural deck using fastening plates or bars and mechanical fasteners placed within the field splice. The fastening device shall be located in the center of the field splice for liquid and tape adhesive splices, and to within ½ inch of the inside splice edge on heat welded splices. Typical spacing of fasteners is either 6 or 12 inches on center. Consult the system supplier for specific requirements on fastener spacing.
 - 7. The adjoining membrane sheet edge shall be overlapped and fastened at the opposite edge as described above.
 - 8. Work shall continue progressively across the roof area, fastening only as many membrane sheets as can be field spliced in one day.
 - 9. The field splicing of adjoining membrane sheets shall be completed following the system supplier's recommendations and the SPRI guidelines for the fabrication of field splices using liquid and tape adhesives or heat seaming.
- G. Membrane Termination/Securement
 - 1. Securement shall be provided at all membrane terminations at the perimeter of each roof level, roof section, curb flashing, skylight, expansion joint, interior wall, penthouse, etc.
 - 2. Securement shall be provided at any angle change where the slope or combined slopes exceed(s) two inches in one horizontal foot.
 - 3. Mechanical securement shall meet the pull-out strengths required by the SPRI manufacturer/supplier.
 - 4. All membrane termination fasteners shall be sealed in accordance with the SPRI manufacturer's/supplier's requirements.

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3.10 Flashings

- A. Base Flashings
 - 1. The longest pieces of flashing material which are practical shall be used. All flashings and terminations shall be performed in accordance with the manufacturer's/supplier's applicable details.
 - 2. Flashing shall not be applied over existing thru-wall flashings or weep holes.
 - 3. Vertical Surfaces
 - a. EPDM
 - When using flashing on a vertical surface, the seam between the

flashing and the main roof sheet shall be completed before bonding the flashing to the vertical surface.

b. CSPE

When using flashing on a vertical surface, the flashing shall be secured before the seam between the flashing and the main roof sheet is completed.

4. The flashing membrane shall extend the prescribed distance onto the main roof sheet a minimum of 2 inches beyond the mechanical securement, or as required by the system supplier. As an alternate, the main roof sheet shall be extended as flashing up the vertical surface.
5. Care shall be taken to ensure that the flashing does not bridge more than ½ inch where there is change of direction (e.g. where the parapet meets the roof deck).
6. The top of the installed flashings shall be terminated under metal counterflashing, or coping cap, termination bar, metal edging, etc., as required by the system supplier.

B. Penetrations

1. All penetrations (pipes, supports, soil attacks, cold vents, etc.) passing through the roofing membrane shall be flashed in accordance with the SPRI manufacturer's/supplier's specifications.
2. The flashing seal shall be made directly to the penetration passing through the roofing system.
3. Existing flashing shall be removed where required. [Where the new flashing is terminated to an intermediate element (metal flashing, insulation, surface treatment, etc.) which itself could fail and admit moisture beneath the membrane. FAILURE OF THAT ELEMENT TO REPEL MOISTURE WILL BE BEYOND THE LIMITS OF THE MEMBRANE ROOFING SYSTEM.]
4. When bonding or sealing directly to metal, the manufacturer's/supplier's details shall be consulted for the use of metal primer.
5. Premolded or prefabricated flashings shall be used where their installation is recommended by the SPRI manufacturer/supplier. Premolded pipe flashings shall not be cut and patched. Premolded pipe flashing flanges shall not be overlapped.
6. Pipe Clusters and Unusual Shapes
 - a. Clusters of pipes and other penetrations which cannot be sealed with membrane or prefabricated flashing shall be sealed by surrounding them with pourable sealer.
 - b. Penetration pockets shall be installed, flashed, and filled with pourable sealer as shown in the manufacturer's published details.
 - c. Penetration pans shall not be used where pre-molded, prefabricated, or field fabricated flashings are possible.
7. Roof Drains
 - a. Existing flashing and asphalt shall be removed in preparation for sealant and membrane.
 - b. A smooth, clean finish shall be provided on the mating surfaces between the clamping ring and the drain flange.
 - c. Insulation shall be tapered around the drain to prevent the membrane from bridging and to provide a smooth transition from the roof surface to the drain clamping ring.
 - d. The seal between the membrane and the drain flange shall be provided by sealant under constant, even compression from the

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drain clamping ring. The sealant shall be as specified by the SPRI manufacturer/supplier.

- e. The contractor shall consult the SPRI manufacturer's/supplier's published details for the various methods of installation.

C. Fascia

1. The deck membrane shall be installed over a perimeter wood nailer to the outside fascia of the building. The membrane shall extend below the bottom of the wood nailer and shall be secured to the wood nailer.
2. The fascia shall be installed and secured through the membrane as recommended by the manufacturer, and in accordance with ANSI/SPRI ES-1. Securement provided by the contractor shall prevent buckling and prohibit the fascia from pulling free.
3. Flashing of the fascia flange shall be as recommended by the SPRI manufacturer/supplier.

3.11 Surfacing

[Optional fluid-applied coatings may be specified, but they are not a factor with respect to the watertight performance of the membrane system. They may be applied for aesthetic considerations, and with some systems, for fire resistance when used in conjunction with a silica sand.] Coatings and coating/sand combinations shall be applied in accordance with the SPRI manufacturer's/supplier's recommendations.

3.12 Walkways

- A. Walkways shall be provided where specified.
[Walkway systems shall be installed at all traffic concentration points (e.g. roof hatches, access doors, rooftop ladders, etc.) regardless of traffic frequency. Walkways shall also be provided in areas receiving regular traffic (once or more per month) to service roof top units or where a passageway over the surface is required.]
- B. Walkways shall not be installed over flashings or field seams.

3.13 Daily Seal

Measures shall be taken to ensure that water does not flow beneath the completed sections of the new roofing system. Water cut-offs shall be provided on a daily basis and at the onset of inclement weather. Water cut-offs shall be removed prior to the resumption of work. The placement of the water cut-off is the sole responsibility of the roofing contractor.

3.14 Membrane Repair

If the roof is under warranty, contact the system supplier. If not, consult the SPRI/NRCA "Manual of Roof Inspection, Maintenance and Emergency Repair of Existing Single-Ply Roof Systems."

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