



# Single Ply Roofing Systems (EPDM)

## Specification

### SE4B-(T)/SE6B-(T)/SE9B-(T)

#### Ballasted EPDM Single Ply Roofing System

For use over Johns Manville (JM) insulation or approved decks on inclines up to 2:12

For Regions 1, 2 and 3

#### Materials per 100 sq. ft. (9.3 sq. meters) of roof Area

JM EPDM Membrane . . . . . 105 sq. ft. (9.8 sq. meters)

#### Materials per 100 lin. ft. (30.5 m) of Lap Area (3 in. [80 mm] lap

JM EPDM Tape Primer/Wash . . . . . 0.15 gal. (0.57 liters)

JM EPDM Seam Tape . . . . . 100 lin. ft. (30.5 m)

Approximate installed weight: 1028 - 1037 lbs. (466 - 470 kgs.)/sq.

#### General

This specification is for use over any type of approved structural deck which provides a suitable surface to receive the membrane.

This specification is also for use over JM roof insulations which provide a suitable surface for the EPDM membrane. Insulation should be installed in accordance with the appropriate JM Insulation Specification detailed in the current JM Single Ply Roofing Systems Manual. This specification can also be used in certain reroofing applications.

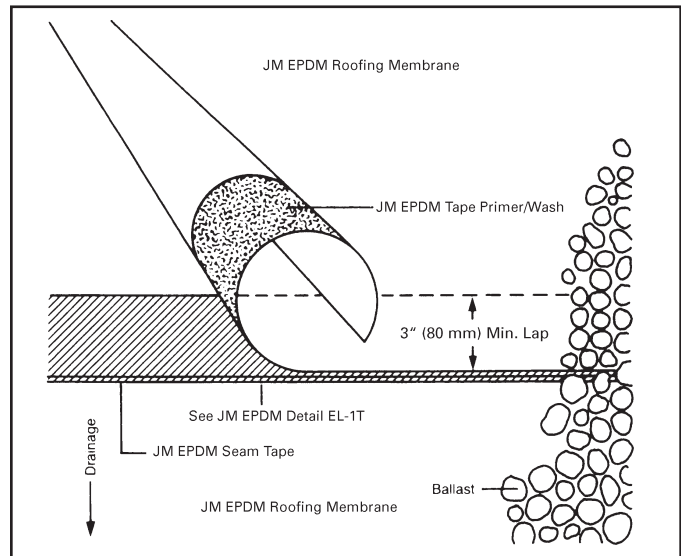
THIS SPECIFICATION SHALL ONLY BE INSTALLED WHERE THE STRUCTURE CAN ACCOMMODATE THE WEIGHT OF THE COMPLETE ROOFING SYSTEM, INCLUDING INSULATION (IF USED), MEMBRANE, BALLAST, SNOW LOADS, AND WIND LOADING. THE DETERMINATION OF WHETHER OR NOT THE STRUCTURE IS CAPABLE OF SUPPORTING THE WEIGHT OF THE COMPLETE ROOFING SYSTEM IS SOLELY THE RESPONSIBILITY OF THE OWNER AND HIS TECHNICAL REPRESENTATIVES.

**Design and installation of the deck and/or roof substrate must result in the roof draining freely, to outlets numerous enough and so located as to remove water promptly and completely. Areas where water ponds for more than 48 hours are unacceptable and will not be eligible for a JM Roofing System Guarantee.**

**Note:** All general instructions contained in the current JM Single Ply Roofing Systems Manual shall be considered part of this specification.

#### Flashings

Flashing details can be found in **Section 17** of the current JM Single Ply Roofing Systems Manual.



#### Application

Unroll and unfold the membrane to its fullest width. Move the membrane into place without stretching. When possible, begin the installation at the highest point of the project area, working to the lowest point, making sure the seams do not buck water.

Allow a minimum of **30** minutes before fastening or splicing, so that the membrane can relax and release any tension induced by packaging and handling. Visually inspect the membrane for any flaws or damage which would interfere with the acceptable application or performance of the JM EPDM membrane.

Apply the adjoining sheets in the same manner, lapping the edges a minimum of 3" (80 mm). Sheets should be laid out in an offset pattern, with a minimum of 3 feet (0.92 m) between adjacent end laps. Laps should be constructed with the uphill sheet overlapping the adjoining sheet in a shingle manner to avoid any laps opposing natural drainage.

#### Perimeter Attachment

Secure attachment of the JM EPDM roofing membrane at the perimeter and at penetrations can be accomplished by either mechanical fastening (using JM EPDM Anchor Discs or JM EPDM Termination Bars) or adhesive fastening (using JM EPDM Reinforced Termination Strips). Refer to the JM EPDM Flashing Details for further information.



### Surfacing

Requirements for type and amount of ballast are as follows:

#### Ballast Surfacing

The ballast should be of a suitable type, and of sufficient amount, to provide protection against wind uplift. Local wind conditions and characteristics should be taken into account when assessing the ballast requirements. The Single Ply Roofing Industry (SPRI) has issued guidelines to assist the designer in its "Wind Design Guide for Ballasted Single Ply Roofing Systems" (ANSI/SPRI RP-4). Information can also be obtained from local building codes and from FM Global Loss Prevention Data Sheet 1-29, "ROOF DECK SECUREMENT AND ABOVE-DECK ROOF COMPONENTS."

The final decision on type and amount of ballast ultimately rests with the building owner or his or her technical representative but should not be less than 10 lbs. per sq. ft. (1000 lbs. per 100 sq. ft. [48.8 kgs./sq. meter]). Note: this amount may not provide complete coverage of the EPDM membrane.

JM does not supply ballast materials; however, the following materials are approved for use with ballasted Specifications SE4B and SE6B:

**Nominal 1½" (40 mm) Aggregate:** Clean, smooth, river bottom stone consisting of ballast gradation Size #4 (or, alternatively, Size #3), as specified in ASTM D 448 "Standard Sizes of Coarse Aggregate". The ballast should consist of (#4) ¾" to 1½" (20 mm to 40 mm) or (#3) 2" to 1" (50 mm to 25 mm) washed river stone with a minimum of 85% retained on a ¾" (20 mm) screen (#4) or a 1" (25 mm) screen (#3).

**Nominal 2½" (65 mm) Aggregate:** Clean, smooth river bottom stone consisting of ballast gradation Sizes #1 or #2 as specified in ASTM D 448 "Standard Sizes of Coarse Aggregate". It should consist of 3½" to 1½" (90 mm to 40 mm) (#1) or 2½" to 1½" (65 mm to 40 mm) (#2) washed river stone with a minimum of 85% retained on a 1½" (40 mm) screen.

**Pavers:** Standard pavers (minimum 18 psf [87.9 kgs./sq. meter]), or interlocking lightweight pavers (minimum 10 psf [48.8 kgs./sq. meter]) may be substituted for nominal 1½" (40 mm) stone. Interlocking, lightweight pavers with documented or demonstrated equivalent wind performance data or 22 psf (107.4 kgs./sq. meter) standard pavers may be substituted for nominal 2½" (65 mm) stone.

When pavers are used as ballast, and these pavers do not incorporate integral drainage channels, the pavers must be placed on supports or pedestals. These supports should be located at the intersection of the corners of the paver blocks. All four corners of adjacent pavers should rest on the same 6" (150 mm) square support or pedestal. The approximate ½" (15 mm) air space between the pavers and the membrane will allow moisture vapor to vent to the atmosphere. When concrete pavers are not installed on pedestals or supports, one layer of JM Polyester Mat Protection Material, cured JM EPDM membrane, GlasPly® Premier or PermaPly® 28 must be installed between the paver and the membrane.

If crushed rock or ballast with sharp edges is used, a protective layer of JM Polyester Mat Protection Material, GlasPly Premier or other approved protection material must be used under the ballast.

Gravel ballast must be clean and free of excessive fines, to avoid clogging the drains.

JM recommends that sufficient ballast be applied to the membrane surface as soon as areas are completed, to provide immediate protection against wind uplift.

