



Single Ply Roofing Systems (PVC) Specification SP5RM/SP6RM/SP8RM

Mechanically Fastened PVC Single Ply Roofing System. For use over Johns Manville (JM) approved decks or insulation.

For Regions 1, 2 and 3

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

PVC Membrane 105 sq. ft. (9.8 sq. meters)

Approximate installed weight: . . 37.5 - 40 lbs. (17-18 kgs.)/ sq.

General

This specification is for use over any type of approved structural deck which is suitable to receive a mechanically fastened membrane.

This specification is also for use over certain Johns Manville roof insulations which provide a suitable surface for the PVC membrane. Insulation should be installed in accordance with the appropriate JM Insulation Specification detailed in the current JM Single Ply Roofing Systems Manual. All insulation boards must be mechanically attached to "standard" decks unless specifically accepted for hot asphalt or cold adhesive securement for the particular application by JM PVC roofing systems. There should be a minimum of 5 fasteners per 4' x 8' (1.22 m x 2.44 m) board or 4 fasteners for boards with dimensions no greater than 4' x 4' (1.22 m x 1.22 m). Additional fastening of insulation under mechanically fastened membranes is not required. This specification can also be used in certain reroofing applications.

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. Minor ponding is acceptable.

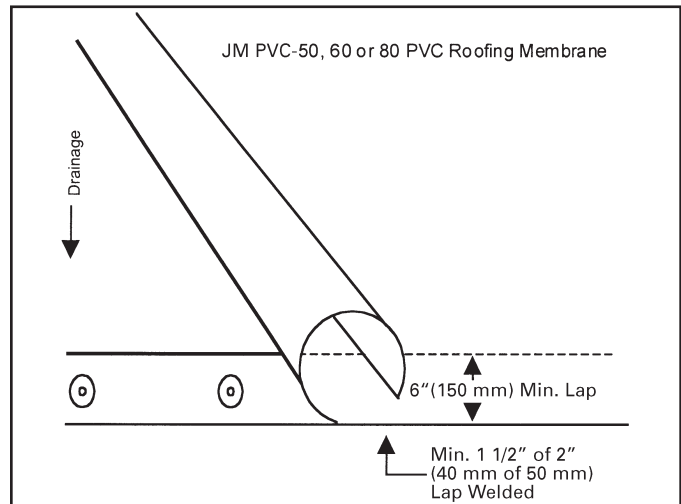
Note: All general instructions contained in the current JM Single Ply Roofing Systems Manual shall be part of this specification.

Flashings

Flashing details can be found in **Section 7** of the JM Single Ply Roofing Systems Manual.

Application

Local wind uplift conditions and characteristics should be considered when designing, specifying, and installing any roofing system. Information from the Single Ply Roofing Industry, FM Global and local building codes can provide guidelines for the designer.



Unroll the JM PVC Membrane and allow to relax for at least 15 minutes when the temperature is above 60°F (16°C), or 30 minutes when temperature is below 60°F (16°C), prior to installation. The JM PVC Mechanically Fastened (Plate in the Seam) Roofing Membrane shall only be applied over compatible, clean, dry and smooth surfaces in accordance with the JM PVC Detail Drawings. The PVC Roofing membrane should be installed so that the long dimension of the sheet is perpendicular to the roof slope except on steel decks, where the long dimension must be perpendicular to the ribs of the deck. Instructions for positioning and placing the membrane sheet are provided in the **PVC Application Guide** which is available on the web site at www.jm.com. Except where no other alternative exists, good roofing practice dictates that the sheets should be laid shingle fashion, so that the seams avoid back-water laps. The membrane should be smooth and free of wrinkles and buckles.

Welding of Lap Areas

JM PVC Mechanically Fastened Roofing Systems shall be hot air welded only. All surfaces to be welded shall be clean and dry. Machines for hot air welding are available from several different sources. Each set of manufacturer's operating instructions shall be followed, as well as all local codes regarding electric grounding, supply and other related functions. Since most automatic welding machines require 218 to 230 volts, the use of a portable generator on the roof is recommended for greater flexibility. Hand-held welding machines are also available to weld membrane. After the preheated nozzle tip is applied in the overlap area and the material starts



to flow, immediately follow with a hand roller to press the heated membrane surfaces together with slow, even movements. Keep the roller within 1" (25 mm) of the nozzle tip. Angle the hot air tool so that the flowing air faces the roller. The temperature of the hot air tool shall be adjusted so that a minimum amount of smoke is developed and material from the bottom of the sheet begins to soften and flow from the seam. Seam strength may be tested when cool.

Quality Control of Seams

After heat welding, the seams are checked for integrity with a blunt-ended probe. Any openings or "fishmouths" shall be repaired with a hand-held hot air tool fitted with a narrow nozzle tip and with a roller. Each day, several sections of welded seams shall be pulled apart by the roofing contractor to test the quality of the welds. Should the welds be deficient, a more thorough examination of the work performed must be carried out and necessary repairs made.

Perimeter Attachment

Install perimeter sheets per the specifier's requirements (but not less than two perimeter sheets) parallel to the perimeter and fastened with JM PVC roofing systems accepted fasteners and plates at the predetermined spacing in the lap area. Secure attachment of the PVC roofing membrane at the perimeter and at penetrations can be accomplished by mechanical fastening using High Load Fasteners and Plates or APB Plates or other approved fasteners as appropriate for substrate. For FM Global insured buildings, follow guidelines in the FM Global Loss Prevention Data Sheet 1-28, i.e., the smaller of 0.1 times the lesser plan dimension or 0.4 times the height, but not less than 4% of the lesser plan dimension, or 3 ft. (0.92 m). Fasteners shall be supplied and installed in accordance with these specifications.

