



JM TPO RhinoPlate™ System Over ENRGY 3® Insulation Fastened to a Steel Deck

General

This specification is for use over any approved structural steel deck which is suitable to receive a mechanically fastened insulation. This specification can also be used in certain re-roofing applications.

Install insulation in accordance with the appropriate JM insulation specification detailed in the current JM Single Ply Roofing Systems Manual.

- Insulation: Mechanically fasten using High Load Fasteners and JM TPO RhinoPlates.
- Membrane: Induction weld to RhinoPlates.

Note: Consider all general instructions contained in the current JM Single Ply Roofing Systems Manual as part of the specification.

Design

Consider local conditions and characteristics when designing, specifying and installing any roofing system. Information from the Single Ply Roofing Industry (SPRI), FM Global® and local building codes can provide guidelines for the designer.

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.

Deck Preparation

Ensure the deck is clean, dry and smooth so that the insulation lays flat. Steel decks must be a minimum 22 gauge (0.76 mm) and FM-approved fastening methods must be followed to achieve the desired uplift. Please check with the deck manufacturer for further guidelines.

Insulation Fasteners and Plates

Install High Load Fasteners and JM TPO RhinoPlates at a minimum rate of six fasteners per 4' x 8' (1.22 m x 2.44 m) board. Fasteners must pierce the flange of the deck at a minimum of 1" (25 mm). It is essential to keep plates installed in a straight line. This will improve system performance and aid in more efficiently identifying plates under the membrane.

Insulation Application

Store products per manufacturer's recommendations. Remove any wet product and discard. Recommended minimum width is 6" (152 mm).

A minimum offset of 6" (152 mm) is recommended from the previous layer of insulation. The top layer of insulation must be a minimum 1.4" (36 mm) thick.

Position the insulation with the long side of the board running perpendicular with the flutes of the deck. Each of the edges must be centered on the flange. No board widths less than 6" (152 mm) are allowed. Perimeters and corners fastener density must be enhanced per FM publication 1-29. **Call JM Technical Services at (800) 922-5922 for specific approvals for ENRGY 3 insulation.**

Membrane Application

Before installation, unroll the JM TPO Membrane, and "relax":

- 15 minutes when the temperature is above 60°F (16°C)
- 30 minutes when the temperature is below 60°F (16°C)

Position the membrane so that all field sheets run perpendicular to the flutes of the deck. Begin fastening with induction tool once the membrane has been properly positioned.

Membrane Securement with RhinoPlate Induction Tool

Ensure calibration of the induction welder and follow all recommended instructions for the JM TPO RhinoPlate System. Locate a plate under the membrane and center the induction welder over the plate. Ensure there is no debris including small particulates between the induction welder and the membrane. Activate the weld taking care not to disturb the welder during the cycle. Remove the induction welder after the cycle ends and immediately set a cooling clamp directly onto the center of the plate. Take care not to twist the cooling clamp when setting in place. Repeat this process for each plate.

Welding of Lap Areas

The laps of JM TPO Membrane with RhinoPlate must be hot air welded. Clean all surfaces to be welded. Follow manufacturer's operating instructions for welding equipment. All welds must be a minimum of 1.5" (38 mm) in width.

Quality Control of Seams

After heat welding, check the seams for integrity with a blunt-ended probe. Repair any cold welds or "fishmouths". Each day, take test cuts at the seams and pull until failure 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

Secure attachment of the TPO roofing membrane at the perimeter and at penetrations by mechanically fastening using High Load Fasteners and RhinoPlates or other approved fasteners appropriate for substrates.

The minimum width of the perimeter enhancements should be calculated in accordance with FM 1-29.