

Assembly Identification

Membrane Thickness
 4 = 45 mil (1.14 mm)
 6 = 60 mil (1.51 mm)
 8 = 80 mil (2.03 mm)

S = Single Ply

TPO Membrane

ST8RA

Attachment

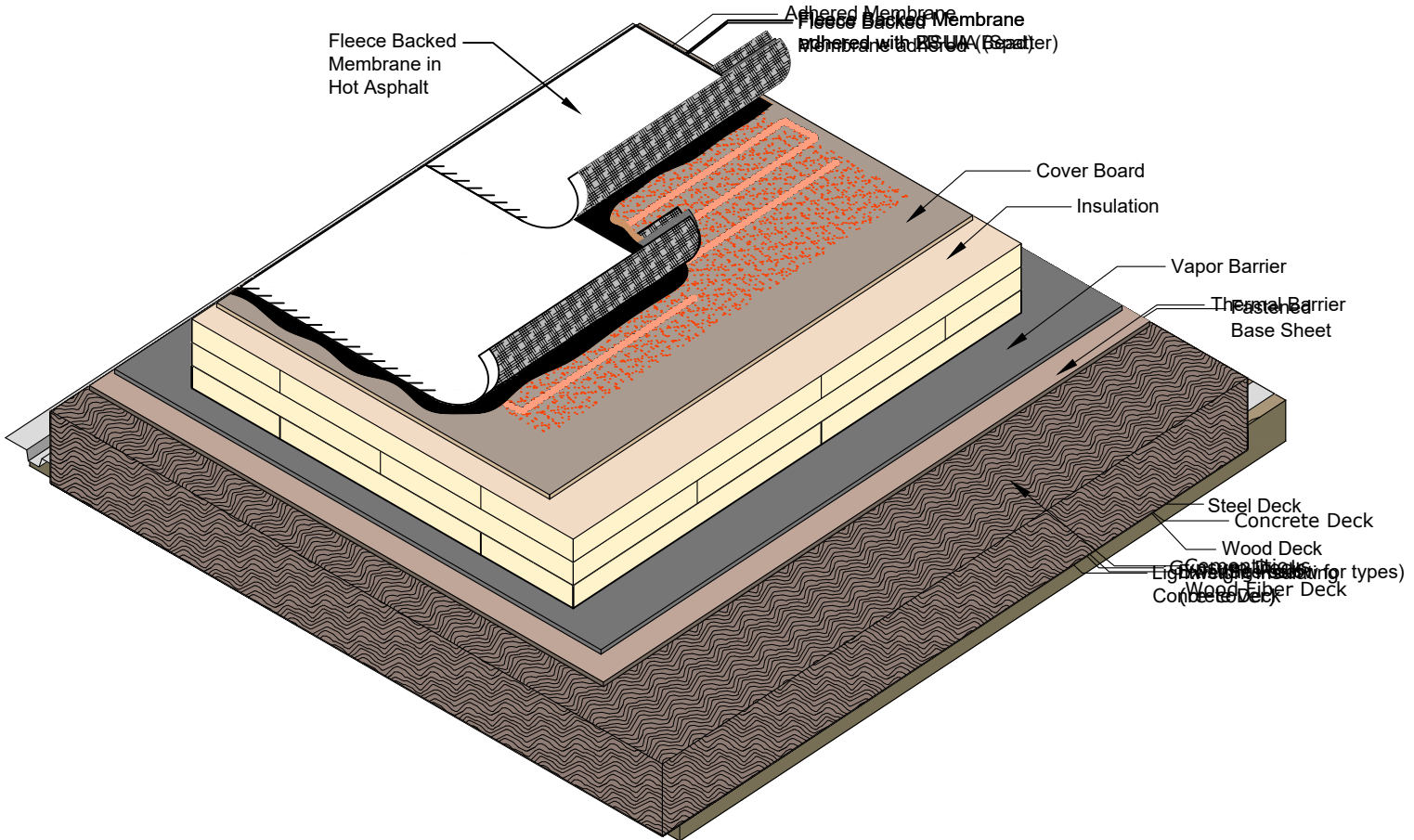
A = Adhered

U = Urethane Adhesive

Membrane Type

R = Reinforced

P = Polyester Fleece Backed



For JM Guarantee Requirements Contact JM Technical Services at (800) 922-5922 Option 3 or Refer to the JM Peak Advantage Charges and Requirements-Single Ply document

TPO Membrane and Specification Number:

45 mil	- ST4RA
60 mil	- ST6RA
80 mil	- ST8RA
FB 115™	- ST6PU (Urethane Adhesive)
FB 115	- ST6PA (Adhered)
FB 135™	- ST8PU (Urethane Adhesive)
FB 135	- ST8PA (Adhered)
FB 150	- ST6PA (Hot Asphalt Adhered)
FB 175	- ST8PA (Hot Asphalt Adhered)

Approved JM Insulations:

ENRGY 3®
(ENRGY 3 Options)
CGF
FR
20 PSI
25 PSI
Tapered
Layer 1 Thickness _____
Layer 2 Thickness _____
Layer 3 Thickness _____

Approved Vapor Barrier:
(If Applicable)

DynaBase®(CA) (HA)
DynaBase PR (CA) (HA)
GlasPly®IV (HA)
GlasPly Premier (HA)
APPeX®4S (HW)
DynaWeld™Base (HW)
DynaBase HW (HW)
DynaWeld 180 S (HW)
JM APP™Base Sheet (HW)
DynaGrip® Base SD/SA (SA)
JM BaseGrip™ SD/SA (SA)
JM Vapor Barrier SA (SA)
6 or 10 mil poly with taped seams

Approved Base Sheets:
(If Applicable) Over Nailable Deck

DynaBase®
DynaBase PR
DynaFast®180 S
DynaLastic®180 S
GlasBase™ Plus
GlasTite® Flexible
PermaPly®28
Ventulation® Felt

Approved Cover Boards: (If Applicable)

RetroPlus™ Roof Board
JM DEXCELL®
FA Glass-Mat Roof Board
JM SECUROCK®
Gypsum-Fiber Roof Board
JM DensDeck® Prime Roof Board
ProtectoR™ HD Cover Board
SeparatoR® CGF Recover Board
Cover Board Thickness _____

Approved Thermal Barrier:
(If Applicable)

JM SECUROCK®
Gypsum-Fiber Roof Board
Glass-Mat Roof Board
JM DEXCELL
FA Glass-Mat Roof Board
Glass-Mat Roof Board
JM DensDeck Roof Board
JM DensDeck Prime Roof Board
JM ProtectoR HD
Thermal Barrier Thickness _____

Deck Type:

Existing Roof (re-cover)
Steel (22 Ga. Min.)
Structural Concrete
Nailable Decks include:
Cementitious Wood Fiber
Gypsum
Lightweight Insulating Concrete
Wood (Plywood, Plank, OSB)

General

This specification is for use over any approved structural deck which is suitable to receive the above selected system. This specification is also for use over certain JM roof insulations which provide a suitable surface for the JM membrane. This specification can also be used in certain re-roofing applications.

Note:

Consider all general instructions contained in the current JM TPO Application Guide as part of this 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 substantially within 48 hours of a rain event.

TPO Membrane Application

Before installation, unroll the JM TPO membrane and allow it to "relax". The laps of JM TPO adhered systems must be hot air welded. Clean all surfaces to be welded. Follow manufacturer's operating instructions for welding equipment. All heat welded laps must be a minimum of 1 1/2" (38 mm) in width. Do not apply adhesive to the lap areas of the sheet that will be welded. Refer to detail T-MS-07 for heat welding lap information. Refer to the JM TPO Application Guide for further information.

TPO Edge Sealant is required on all cut or non-encapsulated edges of reinforced membrane. This includes factory cut membrane. Refer to detail T-MS-01 for further information.

Appropriate JM Membrane Adhesives include:

- JM LVOC Membrane Adhesive (TPO & EPDM)
- JM TPO 1168 Membrane Adhesive
- JM Membrane Bonding Adhesive (TPO & EPDM)
- JM TPO Water Based Membrane Adhesive
- Roofing System Urethane Adhesive (RSUA) (Fleece Backed Only)
- JM Two-Part Urethane Insulation Adhesive Canister (2P UIA) using the spatter method (Fleece Backed Only)
- Hot Asphalt (Fleece Backed Only)

When installing a water based, low-VOC, or solvent based two sided application with smooth backed membrane, apply adhesive to both membrane and approved substrate at rates listed on specific product data sheets. Most applications apply approximately half the listed rate to the membrane and the other half to the substrate. Once the adhesive begins to change color and feels tacky, but with no stringers, carefully roll the membrane to the substrate. For porous substrates such as wood and gypsum, apply more adhesive to the substrate. Water based, low VOC and solvent based adhesives can be used to bond JM TPO membrane to both horizontal and vertical surfaces. Refer to detail T-FW-M11 for further information.

When installing a Water Based, one sided application with Fleece Backed membrane, apply adhesive to the substrate only, not to the membrane or in the weld area - refer to details T-MS-07 & T-MS-08. Keep both surfaces clean and dry. Apply adhesive to the substrate at the rates listed on specific product data sheets. Assemble membrane and substrate while the adhesive on the substrate is still wet. Refer to the Fully Adhered Systems section in the JM TPO Application Guide for further information.

When installing a Fleece Backed Membrane in urethane adhesive (beads of RSUA or spatter JM 2P UIA Canister), apply the adhesive directly to the substrate and allow it to begin to rise and build body before placing membrane into the adhesive. Membrane attachment requires the membrane be rolled with a 150 lb. roller to ensure positive contact between membrane and substrate. Refer to the installation instructions for JM urethane in the application guide and follow the application instructions for the type of adhesive utilized.

When installing a Hot Asphalt application for fleece backed membrane, the membrane must be firmly and uniformly placed in a full mopping of hot asphalt, without voids. Asphalt must not be applied to the selvage edges of the fleece backed membrane to allow for a minimum 1 1/2" (38 mm) weld. The maximum sheet width for TPO Fleece Backed Hot Asphalt application is 10 feet.

Flashings and Components

Refer to the JM TPO Flashing Details in the TPO Roofing Systems Application Tools. Refer to the JM TPO Accessories Schematic and the JM TPO Accessories Selector Guide for available System Components.

For TPO membrane information refer to the JM TPO Membrane Selector Guide.

Cover Board Application

A minimum offset of 6" (152 mm) is recommended from previous layers of insulation. No board widths less than 6" (152 mm) are allowed. Refer to the JM Cover Boards Selector Guide for JM Cover Boards product information. Refer to the Insulation Application section below for Cover Board Securement Information including Adhered and Fastened methods of attachment.

Insulation Application

A minimum offset of 6" (152 mm) is recommended from the previous layer of insulation. Loose laid insulations should be positioned with the long side of the boards running perpendicular to the TPO sheet orientation and continuous. End joints should be staggered at least 12" (305 mm) from the end joint in adjacent rows. A minimum offset of 6" (152 mm) is recommended from plywood joints. Refer to the Insulation Installation Instructions document for further information. Install board products using bead method only.

Appropriate JM Insulation Adhesives Include:

- JM One Step Foamable Adhesive
- JM Roofing System Urethane Adhesive (RSUA)
- JM Two-Part Urethane Insulation Adhesive (UIA)
- JM Green Two-Part Urethane Insulation Adhesive
- Hot Asphalt

Refer to JM drawing UA-12 INS for Adhesive Bead Patterns.

* UIA spatter not approved.

When installing a low rise urethane adhesive product for insulation boards, all surfaces must be clean, dry, smooth, compatible and free of dirt, debris, oil/grease. Apply JM urethane adhesive directly to the substrate and allow it to rise and build body before placing board stock into the adhesive. Board stock attachment requires the board stock to be walked in to ensure positive contact between the board stock, adhesive and substrate. When installing JM One-Step Foamable Adhesive, insulation boards must be set into the adhesive immediately and walked in due to the rapid curing time of the adhesive. Refer to the specific JM product data sheets of JM insulation adhesives listed above for coverage rates and specific application information.

When adhering insulation boards using hot asphalt, firmly set the insulation boards long joints continuous and short joints staggered, into a full width mopping of hot asphalt. Porous substrates may require greater amounts of asphalt. Concrete decks must be primed with Asphalt Primer prior to application of hot asphalt. Refer to the Insulation Installation Instructions document for further information.

Appropriate JM Insulation Fasteners Include:

- All Purpose Fasteners
- UltraFast Fasteners and Plates
- Structural Concrete Deck Fasteners and Plates
- Polymer Auger Fasteners

Install Fasteners and Plates at an appropriate rate determined by building code, specification, and/or JM Guarantee requirements. Refer to the JM Minimum Insulation Fastening Requirements-Adhered Membrane bulletin for further information. Refer to the Fastening Patterns in the TPO Roofing Systems Application Tools.

Roof Insulation plays a key role in energy efficiency shown in codes and standards that have mandated increasingly higher minimum R-values in all U.S. climate zones. Local codes dictate the required R-values for commercial and industrial projects and the local jurisdiction should be consulted for this information.

Refer to the JM TPO Adhered Membrane-Fastened Insulation FM Approvals document for Single Ply System Code and FM Global Approval information.

Refer to the JM TPO Adhered Membrane-Adhered Insulation FM Approvals document for Single Ply System Code and FM Global Approval information.

Vapor Barrier Application

All surfaces receiving vapor barrier must be clean and free from oil, grease, rust, scale, loose paint and dirt. The substrate may need to be cleaned according to JM Application Instructions, and any required primers installed. An adhesion test may need to be performed to determine if the substrate is adequate. Vapor Barrier attachment methods include Hot Asphalt, Cold Adhesive, Heat Welded, and Self Adhered. Refer to the JM Vapor Barrier SA Installation Guide, the Vapor Barrier Data Sheets, and the Vapor Retarders section in SBS Roofing Systems for further information.

Thermal Barrier Application

Apply the units of approved JM thermal barrier products with long joints continuous. End joints should be staggered so that they are offset at least 12" (305 mm) from the end joints in adjacent rows. Thermal barriers provide a fire resistive layer in the roof assembly directly above the deck.

Base Sheet Application

The bituminous base sheets for these systems are mechanically fastened. Refer to the "BM" Fastening Patterns section in SBS System Application Tools for Base Sheet fastening patterns and further information.

Primer Application

Surfaces must be free from oil, grease, rust, scale, loose paint and dirt, frost or any debris prior to the application to the top surface. Apply JM Primers between 40 degrees and 100 degrees F (4 degrees and 38 degrees C). Primers should be applied with no streaks or puddles and allowed to dry completely. Primer should be tacky but should not transfer to a dry finger.

Deck Preparation

Before roofing work is started, the deck should be carefully inspected by the roofing contractor, the deck contractor, and the owners representative to determine that it will be able to receive the roofing system by some method which will hold the system securely, either by adhesion, ballast, or mechanical fasteners. Refer to the JM Roof Decks document in System Considerations for further information.

Re-Roofing

A large percentage of all commercial and industrial roofing pertains to re-roofing of existing buildings. Refer to the JM Re-Roofing document for inspection, testing, components and other valuable information pertaining to re-roofing projects.

JM Guarantee Requirements

JM Peak Advantage® Guarantees are available up to a 30 year term with approved components and assembly make-up. Refer to the JM Peak Advantage Charges and Requirements-Single Ply document for additional guarantee information.

Refer to the JM Peak Advantage Guarantee Information document for additional guarantee information and guidelines.

Refer to the JM Peak Advantage Guarantee Specimen document to see a JM Peak Advantage Guarantee sample.

All guaranteed installations must follow the guidelines for the requested guarantee. Not all JM specifications are eligible for all JM Peak Advantage Guarantee terms or enhanced coverage. Please contact JM Guarantee Services at (800) 922-5922 Option 3 for specific requirements.

All projects requiring a guarantee from JM must be applied for a minimum 14 days in advance of job start.

Refer to the Preventative Maintenance Brochure for roof and building maintenance guidelines.