

## Assembly Identification

### Substrate

I = Insulated

Number of Plies →

# 3P I N-BW-CR

### Cap Sheet

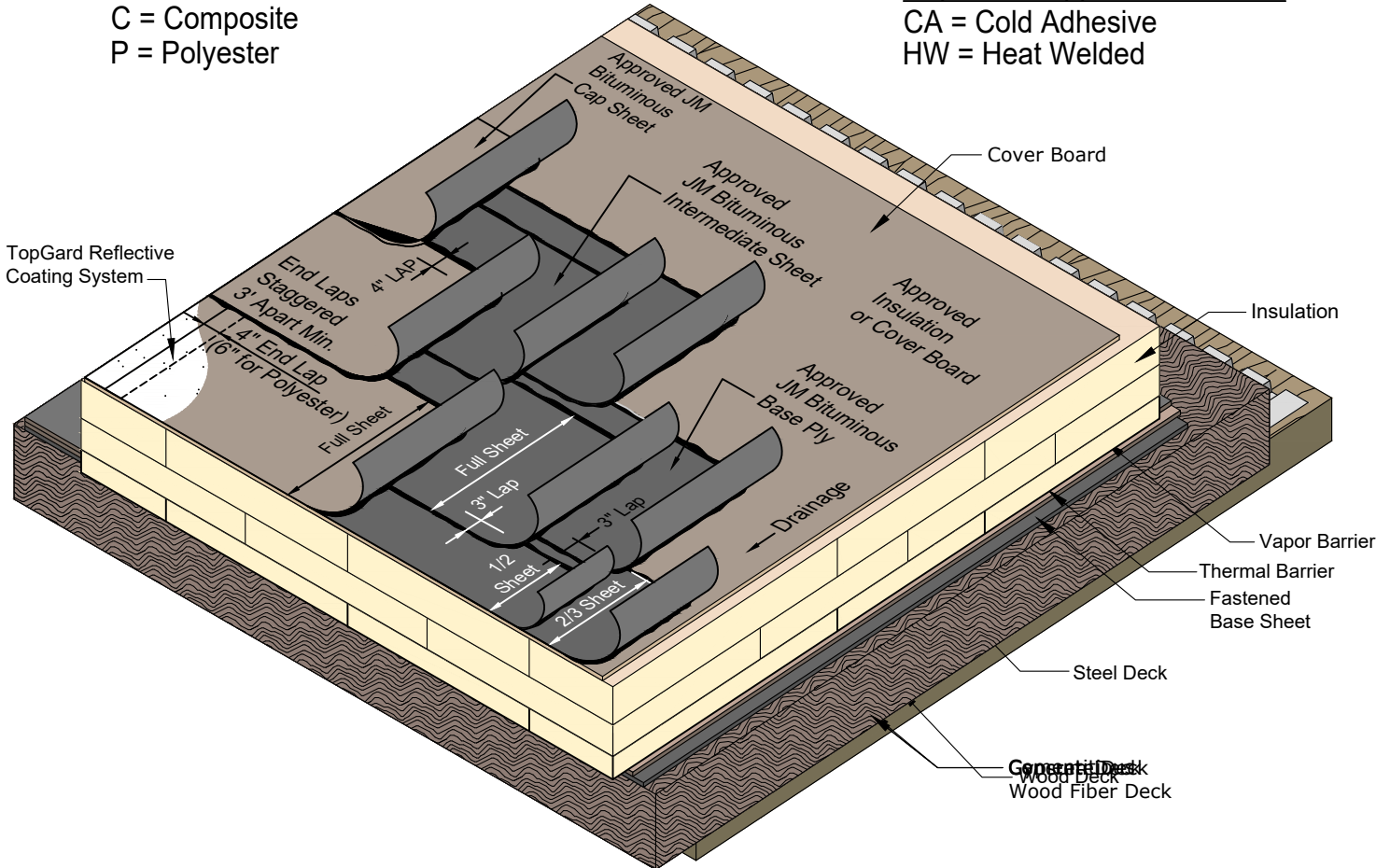
C = Composite  
P = Polyester

### Surfacing

N = APP Cap Sheet (Granule Surface)  
S = Smooth  
CR = Mineral Surfaced Cool Roof Sheet

### Cap Sheet Application Method

CA = Cold Adhesive  
HW = Heat Welded



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

<p><b>Cap Sheet - Heat Welded (Polyester Reinforced) (Cool Roof):</b></p> <p>ARPEX 4.5M FR CR G ARPEX 4.5M FR CR G APPeX 4.5M CR G ARPEX 4.5M FR CR G</p> <p><b>Intermediate Sheet - Heat Welded (Polyester Reinforced):</b></p> <p>ARPEX 4.5M Base ARPEX 4.5M Plus</p> <p><b>Base Ply (Heat Welded):</b></p> <p>ARPEX 4.5M Base P/SA ARPEX 4.5M Base SA/SA ARPEX 4.5M Base SD/SA PermaPly® 28 JM CleanBond® Base Sheet JM CleanBond Polyester Base Flashing</p>	<p><b>Approved Cover Boards:</b> (If Applicable)</p> <p>DuraBoard® (CA) (HW) DuraFoam® (CA) (HA) JM DEXCELL® FA Glass-Mat Roof Board (CA) (HW) JM SECUROCK Gypsum-Fiber Roof Board (CA) (HA) JM DensDeck® Prime (CA) (HA) RetroPlus™ Roof Board (CA) Protector™ HD Cover Board (CA) SeparatoR® CGF Recover Board (CA) Cover Board Thickness _____</p> <p><b>Approved JM Insulations:</b> (If Applicable)</p> <p>DuraFoam® ENERGY 3® (ENERGY 3 Options) CGF 20 PSI 25 PSI Tapered Layer 1 Thickness _____ Layer 2 Thickness _____ Layer 3 Thickness _____</p>	<p><b>Approved Thermal Barrier:</b> (If Applicable)</p> <p>JM DensDeck® Duraboard® Fesco® Board HD JM SECUROCK Gypsum-Fiber Roof Board Glass-Mat Roof Board Thermal Barrier Thickness _____</p> <p><b>Approved Vapor Barrier:</b> (If Applicable)</p> <p>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</p>	<p><b>Approved Base Sheets (Fastened):</b> (If Applicable) Over Nailable Deck</p> <p>PermaPly® 28 DynaBase® DynaBase PR DynaBase XT Ventsulation® Felt GlasBase™ Plus GlasPly Premier DynaFast® 180 HW DynaLastic® 250 S GlasTite® Flexible DynaFast 180 S DynaLastic® 180 S</p> <p><b>Deck Type:</b></p> <p>Steel (22 Ga. Min.) Structural Concrete Nailable Decks include: Cementitious Wood Fiber Gypsum Lightweight Insulating Concrete Wood (Plywood, Plank, OSB)</p>
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## General

This specification is for use over any approved structural deck that provides a suitable surface to receive the roof. This specification can also be used in certain re-roofing applications. Poured and precast concrete decks require priming prior to application of hot asphalt.

This specification is also for use over JM insulations or other rigid insulations which are not nailable and which offer a suitable surface to receive the roof. Specific written approval is required for and roof insulation not manufactured or supplied by JM. This specification is not to be used over poured or precast gypsum or lightweight, insulating concrete fills.

### Note:

Consider all general instructions contained in the current JM APP 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), Asphalt Roofing® Manufacturers Association (ARMA), and 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.

## Membrane Substrate

The surface on which the APP modified bitumen membrane is to be applied to should be an approved structural substrate. The surface must be clean, smooth, flat and dry. APP modified bitumen should not be applied directly to foam plastic insulations.

## Flashings and Components

Refer to the JM Bituminous Details in the APP Systems Application Tools.

## 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.

## 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 document 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.

## Insulation Application

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.

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 SBS 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.

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 within the Roof Insulations document for Adhesive Bead Patterns.

When using a low rise urethane adhesive product for insulation boards, all surfaces must be clean, dry, smooth, compatible and free of dirt, debris, oil/grease and gravel. 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 JM insulation 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.

## Cover Board Application

Cover boards may be installed using asphalt, mechanical fasteners, or adhesives. 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 section Insulation Application below for Cover Board Securement Information including Adhered and Fastened methods of attachment.

## Base Sheet Application

Using one of the base sheets listed, start with a piece  $\frac{2}{3}$  sheet wide. The remaining sheets are to be applied full width with 4" (102 mm) side and 4" (102 mm) end laps over preceding sheets. Polyester reinforced sheets require a 6" (152 mm) end lap. Refer to the APP Modified Bitumen document for additional information.

## Asphalt Application

Asphalt should meet the requirements of ASTM D 312. JM guarantees require the use of Trumbull asphalt or another JM approved asphalt. The slope of the roof as well as the climate governs the grade of asphalt to be used.

JM endorses the guidelines established by the NRCA and ARMA for heating asphalt for proper applications. Asphalt should be applied at the Equiviscous Temperature (EVT) +/- 25°F (+/- 4°C).

## Modified Bitumen Sheet Application - Cold Adhesive

Roll a  $\frac{1}{2}$  width piece of one of the intermediate sheets listed over the nailed base sheet into a full coating of MBR Cold Application Adhesive, Premium Cold Application Adhesive or MBR Bonding Adhesive. The remaining sheets are to be applied full width, in the same manner, with 4" (102 mm) side and 4" (102 mm) end laps over the preceding sheets.

Apply a full width piece of one of the cap sheets listed into a full coating of MBR Cold Application Adhesive, Premium Cold Application Adhesive, or MBR Bonding Adhesive. The remaining sheets are to be applied in the same manner with 4" (102 mm) side laps and 6" (152 mm) end laps over preceding sheets. Apply all sheets so that they are firmly and uniformly set, without voids. Refer to the APP Application Guide for further information.

## Modified Bitumen Sheet Application - Heat Welded

Heat Weld a half width piece of one of the intermediate sheets listed over the base sheet. The remaining sheets are to be applied full width, in the same manner, with 4" (102 mm) side and 4" (102 mm) end laps over the preceding sheets.

Starting at the low point of the roof, heat weld a full width piece of one of the Cap Sheets listed over the installed intermediate ply. Remaining sheets are to be applied in the same manner, with 4" (102 mm) side laps and 6" (152 mm) end laps over the preceding sheets. Apply all sheets so that they are firmly and uniformly set, without voids. Maintain a  $\frac{1}{8}$ " (3 mm) to  $\frac{3}{8}$ " (10 mm) bleed out beyond all laps. Refer to the APP Modified Bitumen Specifications document for further information.

## Roof Coatings

TopGard® 4000 and TopGard 5000 are one part acrylic elastomeric roof coatings. When used over a modified bitumen roof, TopGard Base Coat must be applied as a base coat prior to application of TopGard 4000 and TopGard 5000. It is recommended that TopGard Base Coat be used with all installations of TopGard 4000 and TopGard 5000. Drying time between coats is normally 4 to 12 hours, depending on weather conditions. Apply when temperature is 50°F (10°C) and rising using a brush, roller or spray equipment. TopGard 5000 is ideal for cold weather climates. Refer to the TopGard 4000 and TopGard 5000 data sheets for further information.

### Note:

Sheets with polyester reinforcement must be allowed to relax in an unrolled position prior to installation. Allow the membrane to relax for at least 15 minutes when the temperature is above 60°F (16°C), or 30 minutes when the temperature is below 60°F (16°C) prior to installation.

## Steep Slope Requirements

Special procedures are required on inclines over 1/2" per foot (41 mm/m). Refer to the JM APP Application Guide 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-Multi 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 as outlined in the APP Modified Bitumen Specifications document. 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.