

FULLY ADHERED ROOFING SYSTEM INSTALLATION INSTRUCTIONS



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GENERAL INFORMATION

This Rooftop Guide has been designed to give the user a GENERAL overview of the application of a WeatherBond[®] RBR fully adhered EPDM roof. This Rooftop Guide is intended as a broad reference aid, and is not intended to be all-inclusive. Please visit www.weatherbondroofing.com for information concerning additional applications.

If the adhesive is not allowed to dry properly, gas bubbles or blisters may form under the membrane sheet. These bubbles or blisters may subside over time.

Due to solvent flash-off, condensation may form on freshly applied adhesive when the ambient temperature is near the dew point. If condensation develops, possible surface contamination may occur, and the application of adhesive must be discontinued. Allow the surface to dry, and when conditions allow, apply a thin coat at a coverage rate of approximately half the normal coverage rate for re-adhering a previously coated surface.

Use extreme care when working on ladders, roofs, below-grade applications or elevations above ground. If used as an emergency repair to a roofing system, contact the roofing system manufacturer for compatibility and to ensure compliance with terms and limitations of the warranty.

Surface may be slippery when wet, damp or frost-covered. Do not stretch the product during installation. Do not expose product to temperatures in excess of 180° F. This product is not intended for use if roof top traffic or activity is anticipated.

THIS INFORMATION, AS WELL AS INFORMATION CONTAINED IN MATERIAL SAFETY DATA SHEETS AND ON PRODUCT PACKAGING, MUST BE REVIEWED PRIOR TO STORAGE, HANDLING OR USE OF THESE PRODUCTS.

PRECAUTIONS

Liquid adhesives, primers, and sealants, as well as their fumes, contain petroleum distillates and are EXTREMELY FLAMMABLE. Do not inhale vapors. Maintain proper ventilation. Store these products away from heat, flame and sparks. Do not smoke near these materials. A fire extinguisher must be present when these products are used.

Keep containers closed when not in use. Make sure that open containers are not placed near fresh air ventilators on the roof. Avoid contact with eyes. Glasses, goggles or face shields are recommended. If contact is made with the eyes, flush immediately with plenty of water for a minimum of 15 minutes, and contact a physician. Avoid contact with the skin. Chemically resistant gloves are required for hand protection. In case of skin contact, thoroughly wash the affected area with soap and water.

When loading materials onto the roof, make sure that concentrated loads do not exceed the design load limitations of the existing roof structure. If stacking products, ensure sufficient stability of the materials.

To ensure proper adhesion, clean membranes with Weathered Membrane Cleaner prior to installation.

TOOLS AND EQUIPMENT

Soft bristle push broom

Steel or silicone 2" hand roller

Roofing nails

Hammer

Scissors Utility knife Lumber crayon Caulk gun Cotton rags

Duct tape

Chalk line

Coated or solventresistant (Hycron[™]) gloves

Safety glasses

Fire extinguisher

4" and 9" medium nap paint roller and handle

Paper hole punch

ROOF SURFACE PREPARATION

The WeatherBond RBR fully adhered system will adhere to wood, metal, plastic, glass, fiberglass, rubber, masonry, brick, smooth-surface built-up roofs, nongranular roll roofing, non-granular "half lap" roofing, painted surfaces, wood fiberboard, lightweight concrete and polyisocyanurate. This product may NOT be applied to polystyrene insulation. Priming of the roof deck is not required.

Be sure the roof surface is clean, and free of dust, dirt, rust, oil, grease and loose material. The roof surface must be dry. This product will not adhere to wet or damp surfaces. Trapped moisture may vaporize and negatively affect the performance of this product.

Quality roofing practice dictates that ponding water be prevented. The roof surface should have a positive slope of at least $\frac{1}{2}$ ":12" to prevent ponding water. Ponding water is defined as the presence of standing water within 24 hours of precipitation.

Before starting, please consult the Precautions section at the beginning of this manual.

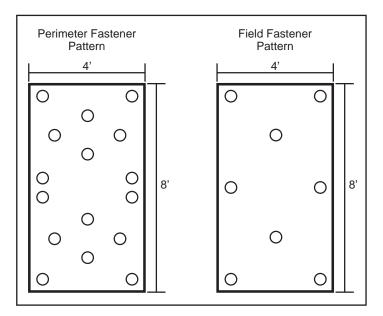
INSTALLATION OF INSULATION (OPTIONAL)

Butt all insulation boards together, staggering the joints. All spaces larger than one-quarter inch (1/4") must be filled to provide a uniform, smooth surface.

Screws and deck plates shall be applied at the minimum rate of eight (8) per 4' x 8' sheet of insulation, and five (5) per 4' x 4' sheet, or as required by the insulation manufacturer. When installing insulation around the perimeter, the fastening pattern is one (1) deck plate and one (1) screw every two (2) square feet or sixteen (16) per 4' x 8' sheet in a diamond in the box pattern, and eight (8) per 4' x 4' sheet.

Extra fasteners should be installed around protrusions such as pipes, chimneys, skylights and irregularities in the roof deck.

Do not lay more insulation than can be covered with the WeatherBond RBR EPDM membrane by the end of the working day.



For buildings less than 60' in height, the width of the perimeter is defined as .4 x the building's height.

General:

Stir adhesive thoroughly before applying to surface(s).

Refer to the sections in this manual designated to pipes, penetrations, curbs, perimeters and terminations for instructions on installing membrane to surfaces with these characteristics.

Adjoining sheets MUST be positioned so that an overhang of AT LEAST 3" for both the length and width of the roof is achieved.

DO NOT apply bonding adhesive to any seam areas (see Seams section of this manual for installation instructions on seaming adjoining sections of the membrane together).

Substrate Preparation (for both 1-sided and 2-sided application methods):

Be sure that surface is clean and free of any dirt, dust, oil, grease, rust or any other loose material (see Roof Surface Preparation section). Note: The surface MUST be dry before applying adhesive. Any moisture may negatively affect the performance of these products.

Clean any excessive dirt from the membrane with WeatherBond Membrane Cleaner, or wipe talc off with a brush or clean cloth.

Unroll the WeatherBond RBR EPDM membrane over the substrate so that it is wrinkle-free, and the pre-marked lines are face up at the upper edge. Position to allow for proper termination and overlap of adjacent sheets.

Allow the WeatherBond RBR EPDM membrane to relax for thirty (30) minutes.

Beginning at the low edge of the roof, cut the membrane to length (if necessary), and position the sheet so that it achieves an overhang of at least 3" (for both width and length of the roof). Use duct tape to secure width, and half the length into place.

Avoiding wrinkles, fold the membrane in half onto itself, exposing the substrate deck.

Two-Sided (Contact) Application:

For application of WeatherBond EPDM Membrane onto porous or non-porous surfaces EXCEPT polystyrene insulation. NOTE: Refer to the Surface Preparation section in this manual to ensure that both the substrate and the WeatherBond EPDM membrane are ready for installation.

INSTALLATION OF ROOFING

Open and thoroughly stir the WeatherBond RBR LC-60 or WeatherBond RBR Acrylic Water-Based Bonding Adhesive.

Use a medium nap, solvent-accepting paint roller to apply the Bonding Adhesive to both the EPDM Membrane and the substrate at a rate of sixty (60) square feet per gallon.

The adhesive must be applied to 100% of both surfaces in an evenly distributed coat without any globs or puddles.

Keep both surfaces exposed, to allow the adhesive to dry until it is tacky to the touch. Note: Adhesive should have a tacky, not stringy feel before you proceed to the next steps of installation.

Starting from the middle, to avoid wrinkles, roll the coated sheet onto the coated substrate.

Immediately after both surfaces have been adhered, broom the surface of the EPDM membrane to ensure maximum contact. Note: DO NOT apply an excessive amount of pressure while brooming, as this will cause the membrane to wrinkle.

Repeat the two-sided (contact) method of application for the other half of the EPDM membrane.

1-Sided (Wet Lay-In) Application for WeatherBond Water-Based Adhesive:

Caution: The one-sided application method should not be used if there is a risk of temperatures falling below 45° F within 48 hours of installation.

For application on acceptable porous substrates including:

Minimum ¹⁵/₃₂"-thick Plywood

Minimum 7/16"-thick Oriented Strand Board

Minimum 1/2"-thick High Density Fiberboard

Minimum 1/2"-thick Dens Deck® Prime

When applying WeatherBond RBR Acrylic Water-Based Bonding Adhesive to vertical surfaces, apply as a two-sided (contact) adhesive. NOTE: Refer to the Surface Preparation section in this manual to ensure that both the substrate and the WeatherBond EPDM membrane are ready for installation.

Open and thoroughly stir the WeatherBond RBR Acrylic Water-Based Bonding Adhesive.

Dens Deck is a trademark of G-P Gypsum Corporation.

INSTALLATION OF ROOFING

Start at the fold of the membrane. Using a medium nap paint roller, sprayer or squeegee, apply 10 to 12 mils of adhesive to the substrate ONLY at a rate of 100 to 120 square feet per gallon (depending on job conditions and porosity of substrate).

IMMEDIATELY lay the membrane into the STILL WET adhesive to ensure that the appropriate amount of adhesive transfers onto the membrane surface. NOTE: Wet adhesive will be white in color; if the adhesive has turned transparent, apply a thin coat of adhesive to the membrane, and proceed by using the two-sided contact application method.

Mating the membrane with the wet adhesive will allow for some membrane repositioning before the adhesive sets.

Once half of the sheet is in place, use a push broom or roller to go over the surface. Keeping steady pressure with the roller or broom against the membrane will eliminate the formation of air bubbles.

Remove any wrinkles by repositioning the sheet with a push broom, roller, or by hand (if possible).

Repeat the application procedure for the second half of the membrane.

PIPES/PENETRATIONS

If a pipe or penetration is encountered when laying out the field sheets, roll the folded membrane to the pipe. Be sure to maintain the proper alignment of the sheet with the roof edge, wall and seams. Make a straight cut from the pipe to the nearest edge of the field sheet. Cut a hole to match the diameter of the pipe, and roll the field sheet around the pipe. Check the final position of the sheet. Fold the membrane back, and begin the bonding procedure.

After the field sheet has been glued and broomed into place, apply a WeatherBond 6"-wide Peel and Stick Cured Coverstrip over the entire cut in the field sheet, from the pipe to the end of the sheet. Apply lap sealant around entire Coverstrip. See the Prefabricated Pipe Boot section of this manual for further information on finishing this detail.

CURBS (Skylights, Chimney)

When encountering an outside corner on a perimeter wall, refer to the Perimeter Wall details in this manual. When encountering outside corners on a rooftop penetration such as a skylight or chimney, follow instructions on the next page.

INSTALLATION OF ROOFING

Prior to applying the adhesive, and while maintaining proper sheet alignment with walls, perimeter edges and other protrusions, unroll the membrane up to the base of the unit.

Measure the width and depth of the unit, and transfer the corresponding dimensions onto the folded membrane. Draw an X inside the box. Cut the X mark, and from one corner, cut a straight line to the nearest edge of the membrane. Roll the membrane around the unit, leaving a triangle of membrane, and turn up each one of the four (4) sides. Using a standard paper punch or scissors, punch or cut a round hole at every angle change of the membrane at the outside corners. (This will prevent the cut in the membrane from expanding.)

After all cuts are made, and the membrane is correctly positioned, fold the membrane back and begin bonding procedures. After the field is complete, bond the triangles up the sides of the unit (i.e. chimney, skylight etc.). Take care to bond the membrane into the angle change so that the membrane is completely adhered. After the field sheet has been glued and broomed into place, apply a WeatherBond 6" Peel-and-Stick Cured Coverstrip over the entire cut in the field sheet from the curb to the end of the sheet. Apply lap sealant around the entire Coverstrip. Refer to the Outside Corners section of this manual for further details on finishing the curb.

PERIMETER WALLS

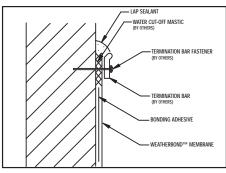
The membrane on the wall should be a continuation of the deck membrane. The membrane should extend up the wall as far as possible, to prevent the possibility of moisture infiltration behind the membrane. The membrane must extend on the roof deck a minimum of 6" and up the wall a minimum of 12".

Position the sheet in the desired location, folding back the material that will be installed on the wall. Apply Bonding Adhesive to the wall, deck and membrane, and allow to dry. Roll sheet to the base of the angle change. Firmly press or crease the sheet tightly into the angle change.

Roll the sheet up the wall. Use a bristle broom to firmly adhere the membrane sheet to the wall and roof deck. Refer to the Outside Corner or Roof Edge Details for instructions on terminating the edge of the membrane.

Vertical Termination

After desired flashing height is attained and the membrane is adhered, determine the placement of the Termination Bar, peel the top edge of the membrane back, and apply a bead of Water Cut-Off Mastic between the membrane and the wall or curb. Install the Termination Bar directly over the membrane and Water Cut-Off Mastic. Clean any Water Cut-Off Mastic from the Termination Bar, and apply a bead of Lap Sealant over the top of the bar.



NOTES:

- Apply on hard, smooth surface only; not for use on wood.
- Water cut-off mastic must be held under constant compression.
- Do not wrap compression termination around corners.
- Allow ¼" (6 mm) min. to ½" (13 mm) max. spacing between consecutive lengths of termination bar.

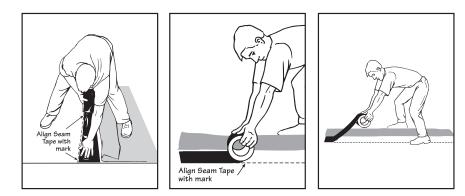
SEAMS

SEAMING USING SEAM TAPE

The membrane should be positioned so that the width of the seam is 3". If a premarked line is not present, remove excess chalk from a chalk line by snapping the line into the air, and then chalk a line one-quarter (1/4") to one-half inch (1/2") from the leading seam edge.

Fold the top sheet back to expose the seam area. Using the medium nap paint roller, apply the WeatherBond Multipurpose Primer to the seam area, using backand-forth strokes with moderate pressure until the seam surface attains a smooth, black appearance. Apply the WeatherBond Multipurpose Primer past the seam edge to the chalk line. Allow the Primer to flash off.

NOTE: If the EPDM membrane is contaminated with dirt, dust or debris, clean the seam area with Weathered Membrane Cleaner before applying WeatherBond Multipurpose Primer.

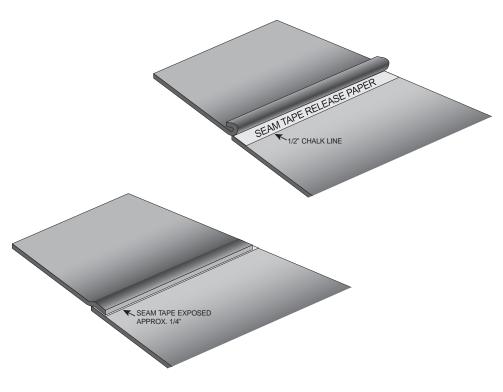


Unroll the 3"-wide Seam Tape along the length of the seam, tape side down, and align the Seam Tape (not the clear backing) along the chalk line. Using moderate pressure, set the Seam Tape into place to avoid air entrapment. Fold the top membrane onto the Seam Tape release paper. (If the Seam Tape does not visibly extend beyond the leading seam edge, the membrane edge should be cut back to expose one quarter inch (¼) of Seam Tape.)

SEAMS

Reaching under the top ply of membrane, pull the release paper away from the Seam Tape at a 45° angle to the seam. While removing the paper, draw your hand across the seam, from the back to the leading edge. This will prevent wrinkles and fish mouths from forming in the seam. After the paper is removed, roll the entire length of the seam with a steel or silicone hand roller, first across the seam, and then across the length of the seam.

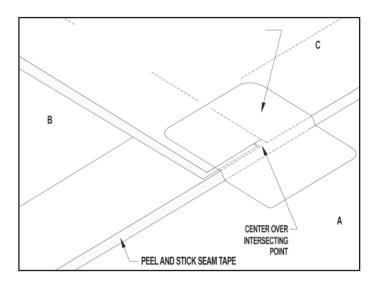
NOTE: When splicing Seam Tape, overlap each piece a minimum of one inch (1"), and firmly roll with a steel or silicone hand roller. Apply lap sealant along the seam's leading edge, 3" in each direction from where the seam tape is spliced together.



A T-Joint is formed when two sheets of membrane form a seam that travels under or over a third ply. The center of the "T" is where the middle sheet ends, and the top sheet bridges over the middle sheet.

Use WeatherBond 6" Peel-and-Stick Cured T-Joint patches or WeatherBond 6" Peel-and-Stick Uncured Flashing to form T-Joint patches. T-Joint patches should be at least 6" X 6". Apply primer to membrane surface before applying T-Joint patches.

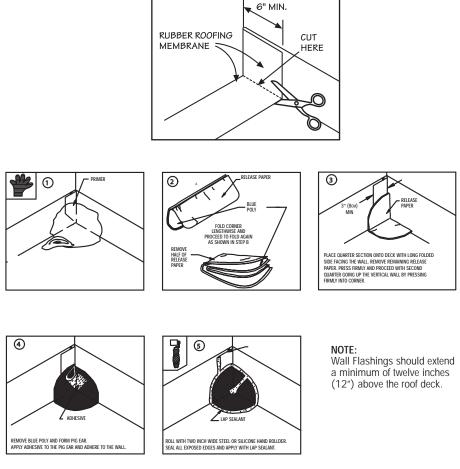
NOTE: All T-Joint Patches should be thoroughly rolled with a steel or silicone hand roller. **NOTE:** When applying T-Joint patches over 60-mil WeatherBond EPDM membrane, Lap Sealant is required around all edges of the patch.



INSIDE CORNERS

The membrane should extend up the wall as far as possible (6" min.). Cut the membrane as shown. Apply Bonding Adhesive to the wall, roof deck and membrane. Roll sheet to the base of the angle change. Firmly press or crease the sheet tightly into the angle change. Roll the sheet up the wall. Use a bristle broom to firmly adhere the membrane sheet to the wall and roof deck. Apply Bonding Adhesive to the back of the flap and the membrane, and secure the flap to the wall. Refer to the Vertical Termination Section at Perimeter Walls for instructions on terminating the edge of the vertical membrane.

Use WeatherBond Peel-and-Stick Inside/Outside Corners to finish the inside corner.

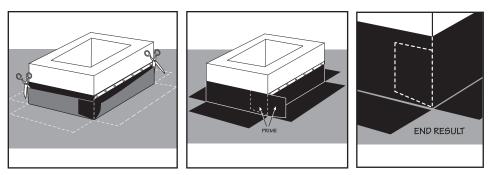


OUTSIDE CORNERS

Measure and cut a piece of membrane to wrap the penetration and overlap itself by a minimum of 3". Allow at least 3" of material to extend onto the deck, and at least 3" of membrane to extend past the triangle of membrane already adhered to the curb. Mark the desired height of the membrane on the penetration. This mark will serve as the starting point of the installation of the membrane piece. Apply WeatherBond LC-60 Bonding Adhesive to the penetration, roof deck and membrane. Allow the adhesive to flash off properly.

Starting at the mark, press the material into place, working from the top of the membrane to the bottom while working around the penetration. This step will be easier if a second person holds the membrane away from the penetration. The material that will splice onto the deck should fold back against the penetration. At the final corner, use scissors to cut out the 3" excess that will fold down on to the roof deck. DO NOT cut the 3" excess that will be adhered to the penetration.

Starting with one side, cut down to the angle change at the corner. Roll the membrane tightly into the angle change and onto the roof deck. Repeat on each side of the penetration. Apply adhesive to the membrane at the penetration where the excess membrane flap will attach to the penetration.



Refer to the Vertical Termination Section at Perimeter Walls for instructions on terminating the edge of the vertical membrane.

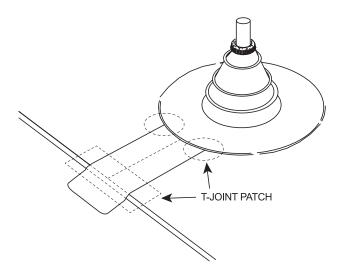
CORNERS

Finish the outside corner with WeatherBond Peel-and-Stick Inside/Outside Corners.



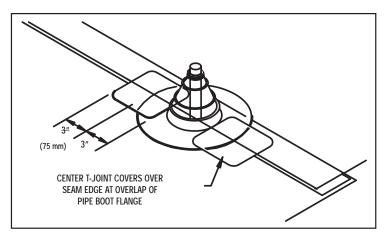
MOLDED PIPE SEAL

- 1. Cut the pipe seal adjacent to the raised "ring" one size smaller than the pipe diameter. DO NOT CUT DIAGONALLY THROUGH THE INDEX RING.
- 2. Pull pipe seal over pipe until base flange is in contact with the membrane.
- 3. Mark pipe around the top of the pipe seal.
- 4. Pull pipe seal upwards on pipe, until mark on the pipe is visible.
- 5. Install Water Cut-Off Mastic below the mark that indicates the top of the installed pipe seal.
- 6. Apply WeatherBond Multipurpose Primer to the EPDM deck membrane in the area where the base flange will be bonded. Allow to dry.
- 7. Pull pipe seal back down over pipe and into position.
- 8. Remove release paper from the tape, and with hand pressure, press tape to primed area. Roll splice area with a hand roller.
- 9. Install a stainless steel universal clamping ring to the top of the pipe seal to provide constant compression of the Water Cut-Off Mastic.
- 10. Apply WeatherBond 6" Peel-and-Stick Cured T-Joint Patches (or WeatherBond 6" Peel-and-Stick Uncured Flashing) where pipe seal intersects a field splice.
- 11. Apply Lap Sealant around T-Joint Patches.



NOTE: Temperature of the pipe must not exceed 180° F.

MOLDED PIPE SEAL

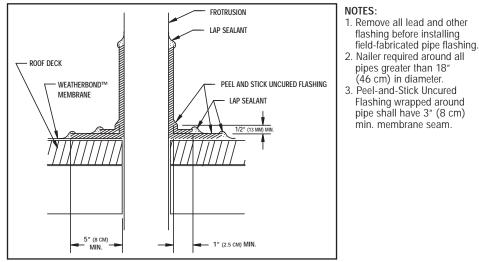


NOTES:

- 1. Remove all lead and other flashing.
- 2. Pipe seal must have intact rib at top edge, regardless of pipe diameter.
- 3. Deck flanges of the pre-molded pipe seal shall not be overlapped, cut or applied over any angle change.

PIPE AND PENETRATION FLASHINGS

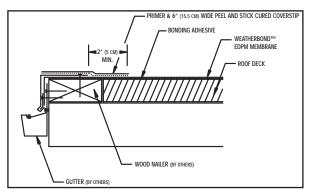
To fabricate a pipe seal or flashing for other penetrations follow the procedures below using two layers of WeatherBond Peel and Stick Uncured Flashing.



Metal Drip Edge and Drip Edge to Gutter Using 6" Peel-and-Stick Cured Coverstrip

Install metal drip edge (by others) per manufacturer's instructions. Apply primer to the metal drip edge and the membrane, for the entire length of the drip edge. To ensure proper adhesion, apply primer to an area that is wider than the Coverstrip. The Coverstrip should be applied ½" from the outside edge of the metal drip edge while extending onto the deck membrane by at least 2".

When splicing two pieces of Peel-and-Stick Cured Coverstrip, allow for a minimum lap of 1". Apply T-Joint patches and Lap Sealant where needed.



NOTES:

- 1. Min. 2" (5 cm) seam from nail head.
- Peel-and-Stick Coverstrip must overlap deck membrane min. 2" (5 cm).
- 3. Fasteners and fastener pattern as recommended by metal edge manufacturer.
- Wood nailer must extend past total width of metal edge deck flange.
- Underside of metal flange must be sealed at all joints. Consult respective manufacturer for appropriate sealant.

NOTES:

1. Fastener pattern

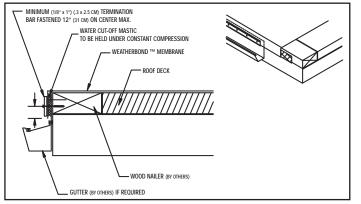
of termination

constant compression

on Water Cut-Off Mastic.

bar must provide

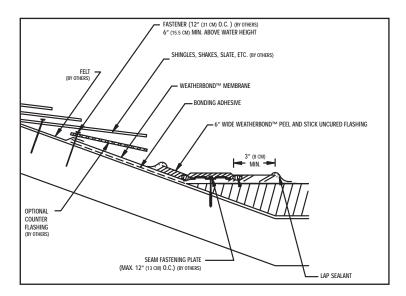
Termination Bar to Gutter



MEMBRANE TO SHINGLE TRANSITION

When installing a WeatherBond EPDM membrane system with a tie-in to an existing shingle roof, remove a minimum of 3 courses of shingles. Adhere the membrane onto the sloped roof deck. Nail the top of the membrane every six inches (6"), and install the shingles over the EPDM membrane as shown.

Keep the bottom course of shingles a minimum of four inches (4") above the roof angle change. To adhere the bottom course of loose shingle tabs to the membrane, lift each tab, and apply a one-inch (1") long bead of Lap Sealant.



TERMS

BONDING ADHESIVE: Adhesive used to adhere the field sheet to substrate, walls and curbs. It should be thoroughly stirred before using, and will be yellow in color.

CURED COVERSTRIP: Six inch (6") cured EPDM membrane with Butyl Tape laminated to one side. Used when stripping in metal drip edge, repairing cuts in the field membrane or flashings, which require cured membrane.

DECK PLATES AND SCREWS: Used to mechanically attach the insulation board to the roof deck.

EPDM MEMBRANE: Cured field sheet membrane applied to roof decks, walls and flashings. Available in a variety of widths and lengths.

FISH MOUTH: A wrinkle that is formed when an increasing amount of membrane is forced onto an area that is too small to accommodate the material. When the wrinkle ends at the edge of the material, a conical opening is formed called a fish mouth. Wrinkles and fish mouths in seams are not acceptable, they must be removed, and the area must be covered with a T-Joint patch.

FLASH OFF: The solvents in the adhesives or primer will evaporate, leaving the material in a tacky, not wet or stringy condition, before mating the two surfaces together. If the proper flash off time is not allowed, blisters will form in the membrane. Blisters will not harm the membrane, and over time, will usually disappear.

LAP SEALANT: Applied to exposed edges of field seams and uncured flashings. Also applied at the top of all Termination Bar applications, and at the top of Pipe Boots after the Pipe Boot Clamp has been installed.

MEMBRANE CLEANER: When mating two surfaces of membrane, clean both surfaces with Hexaprene. Also for cleaning metal drip edge after it has been sanded, prior to applying Cover Strip, and for seam edges, prior to applying Lap Sealant.

METAL DRIP EDGE: Used to create a finished appearance and prevent water from running down the surface of fascias and walls. Metal Drip Edge is made from painted aluminum and galvanized or painted steel.

TERMS

PIPE SEAL: Pre-molded EPDM pipe seal. The best and most cost-effective way to flash pipes.

PIPE SEAL CLAMP: Stainless steel clamp used to secure the top of the Pipe Seal to the pipe.

SEAM TAPE: Butyl Tape used to splice two layers of membrane into a watertight seam.

MULTIPURPOSE PRIMER: Solvent-based primer used to clean and prime EPDM membrane before applying seam tape or any cured or uncured tape-backed membrane. Applied using a scratch pad. DO NOT APPLY PRIMER DIRECTLY TO TAPE. Primer is only applied to surface being prepared to accept tape products.

SPLICE ADHESIVE: Used to adhere two pieces of membrane. This is a more time-consuming substitute for seam tape. Adhesive is black in color, and should be thoroughly stirred before use.

SUBSTRATE: The surface upon which the membrane is applied (insulation, walls, etc.).

TERMINATION BAR: Extruded aluminum bar used to terminate the membrane at parapet walls, chimneys, skylights and AC curbs. Also used to terminate membrane fascia when no metal drip edge is used. The proper fastener should be installed per the manufacturers recommendation and a ¼-inch space maintained between bars.

PEEL-AND-STICK UNCURED FLASHING: Uncured EPDM membrane with Butyl Tape laminated to one side. Used when regular and field seams make angle changes. Uncured Flashing will cure in the position in which it is applied.

WATER CUT-OFF MASTIC: Used to create a waterproof compression gasket when the membrane is mechanically fastened using a Termination Bar or Pipe Boot Clamp. Water Cut-Off Mastic is applied between the membrane and the pipe, or wall. The mechanical termination is installed over the membrane, compressing the mastic and creating the gasket.

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