



WEATHERBOND ROOFING SYSTEMS

G U I D E - S P E C

EPDM Adhered Roofing System

January 2024

This **GUIDE-SPEC** is a brief outline of WeatherBond®'s EPDM Adhered Roofing System requirements and is intended for use as a submittal with a bid package. Specifiers and the WeatherBond Recognized Roofing Contractor must comply with the WeatherBond Technical Manual prior to design or bid. The "Products" Section included in the WeatherBond technical manual and WeatherBond's Technical Data Bulletins contain information on proper usage of WeatherBond products as well as applicable cautions and warnings. Prior to the installation of this roofing system, this information must be thoroughly reviewed.

PART I GENERAL

1.01 DESCRIPTION

The **WeatherBond Adhered Roofing System** incorporates 45, 60 or 90- mil thick non-reinforced EPDM (Black) or 45, 60 or 90-mil thick non-reinforced EPDM (white-on-black) or 45, 60 or 75-mil reinforced EPDM (Black) membrane or 60-mil thick reinforced EPDM (white). An acceptable insulation is mechanically fastened to the roof deck or adhered with WeatherBond supplied urethane-based insulation adhesive or hot asphalt and the EPDM membrane is fully adhered to the insulation with WeatherBond EPDM Bonding Adhesive (WeatherBond LC-60 EPDM Bonding Adhesive, EPDM x-23 Low-VOC Bonding Adhesive, Solvent-Free EPDM Bonding Adhesive, Low-VOC Bonding Adhesive or Acrylic Water-Based Bonding Adhesive). Adjoining sheets of EPDM membrane are spliced together using 3" or 6" wide Peel & Stick Seam Tape and Primer OR Pre-Applied Peel & Stick Seam Tape and Primer. There are no maximum slope restrictions for the application of this roofing system.

1.02 QUALITY ASSURANCE

- A. Building codes are above and beyond the intended purpose of this specification. The building owner, owner's representative or Specifier should verify local codes for applicable requirements and limitations. It is the responsibility of the specifier to review local, state and regional codes to determine their impact on the specified WeatherBond Roofing System.
- B. For specific code approvals achieved with this system, refer to FM Approvals or UL Fire Resistance Directory for Roofing Materials and Systems.

1.03 SUBMITTALS

- A. Prior to installation, consult the WeatherBond Technical Manual for installation instructions and detailing requirements.
- B. Upon completion of installation, complete and submit a WeatherBond Membrane material warranty application or WeatherBond Extended Warranty Request. Extended Material Warranties are only made available to WeatherBond Recognized Roofing Contractors and require a warranty charge based on square footage of roof and warranty duration. Warranty application forms are available at www.weatherbondroofing.com.

1.04 GENERAL DESIGN CONSIDERATIONS

- A. It is the responsibility of the building owner or his/her designated representative to verify structural load limitation. In addition, a core cut may be taken to verify weight of existing components when the roofing system is to be specified on an existing facility.
- B. On new construction projects, especially in cold climate regions, moisture generated due to the construction process could adversely impact various components within the roofing assembly if not addressed. Refer to Specification Supplement G-01-18 "Construction Generated Moisture" included in the WeatherBond Technical Manual.
- C. On structural concrete decks, when a vapor retarder is not used, gaps in the deck along the perimeter and around penetrations must be sealed along with vertical joints between tilt-up panels, if present, to prevent infiltration of hot humid air and possible moisture contamination resulting from condensation. This is specifically important when adhesive is used to attach the roof insulation.

CAUTION: If left unaddressed, collected moisture could weaken insulation boards and facers resulting in a blow-off or increase the probability of mold growth.

- D. Concentrated loads from rooftop equipment may cause deformation of insulation/underlayment and possible damage to the membrane if proper protection is not provided. A protection course or sleepers must be specified.

1.05 WARRANTY

WeatherBond Adhered Warranty Options

Years	EPDM (Black) or EPDM (White-on-black) Non-Reinforced and Reinforced Membranes	
	Non-Residential Membrane Material Warranty	Extended Material Warranty
	Roofing Contractor	WeatherBond Recognized Contractors
10 or 15 year	45-mil EPDM (min.)	45-mil EPDM (min.)
20 year	60-mil EPDM (min.)	60-mil EPDM (min.)
25 year	75-mil or 90-mil EPDM	75-mil or 90-mil EPDM
30 year	75-mil or 90-mil EPDM	90-mil EPDM only

1.06 PRODUCT DELIVERY, STORAGE AND HANDLING

- A. Deliver materials to the job site in **original**, unopened containers.
- B. When loading materials onto the roof, the WeatherBond Recognized Roofing Contractor must comply with the requirements of the specifier/owner to prevent overloading and possible disturbance to the building structure.
- C. Job site storage temperatures in excess of 90° F (32° C) may affect shelf life of curable materials (i.e., uncured flashing, adhesives, sealants, primers, P&S Seam Tape and Peel & Stick Flashing/Accessories).
- D. **When the temperature is expected to fall below 40°F (5°C)**, outside storage boxes should be provided on the roof for temporary storage of liquid adhesives, sealants, primers, P&S Seam Tape and Peel & Stick Flashing/accessories. Containers must be rotated to maintain their temperature above 40° F (5°C).

NOTE: Prolonged exposure of Peel & Stick Flashing and P&S Seam Tape to temperatures below 40°F (5°C) will cause the pre-applied adhesive tape to lose tack and in extreme cases, not bond to the substrate. Refer to Spec Supplement E-02-18 “EPDM Membrane Splicing and Slice Repairs” in WeatherBond’s Technical Manual for application procedures in colder temperatures.

- E. Do not store adhesive containers with opened lids due to the loss of solvent, which will occur from flash off.
- F. Insulation/underlayment must be stored so it is kept dry and is protected from the elements. Store insulation on a skid and completely cover with a breathable material such as a tarp or canvas. If the insulation is lightweight, it should be weighted to prevent possible wind damage.

1.07 JOB CONDITIONS

- A. When possible on multiple level roofs, begin the installation on the highest level to avoid or minimize construction traffic on completed roof sections.
- B. On projects at high altitudes (6,000’ and above) rapid flash off (drying) of substrate adhesive and primers will occur due to low atmospheric pressure.
- C. Wood nailers are required for the securement of metal edgings, scuppers, and insulated pipes. Treated or non-treated wood nailers may be specified and shall be secured per specifier recommendation or in accordance with Factory Mutual’s Property Loss Prevention Data Sheet 1-49. Refer to Design Reference DR-08-11 “Wood Nailers and Securement Criteria” in the WeatherBond Technical Manual.
- D. For fully adhered or mechanically attached systems specified over existing standing seam, flat seam or corrugated metal roofs, refer to the WeatherBond’s Metal Retrofit Roofing System Specifications.
- E. When any of the EPDM Roofing Systems are specified on a portion of a roof, tie-ins to existing roofing membranes will be required. Depending on the type of the existing roofing system, the tie-in method will vary. Total isolation between two roofing systems or weep holes may be required to address moisture migration from one roofing system to the other. Prior to the selection of any tie-in detail, ensure the selected detail will not restrict drainage.

PART II PRODUCTS

2.01 GENERAL

The components of this roofing system are to be products of WeatherBond or accepted by WeatherBond as compatible. The installation, performance or integrity of products by others, **when selected by the specifier and accepted by WeatherBond**, is not the responsibility of WeatherBond and is expressly disclaimed by the WeatherBond Warranty.

2.02 MEMBRANE

- A. **Non-Reinforced EPDM (Black/White-on-black) Membranes:** Cured non-reinforced EPDM (Ethylene, Propylene, Diene Terpolymer) compounded elastomer. 45, 60 or 90 mil thick Non-Reinforced EPDM membrane is available in Black or White (White-on-black). White membranes are installed with the white surface facing up. EPDM (Black) membrane with thickness up to 60-mil can be available in widths up to 50' and lengths up to 100'. EPDM White (White-on-black) membrane with thickness of 60-mil is available up to 20' widths and lengths up to 100' long. EPDM (Black/White-on-black) 90-mil membranes are available in widths up to 10' and lengths up to 100'. EPDM Clean (no dust) black EPDM Membrane (mica dust has been removed during manufacturing) is available for sheets maximum 10' wide.
- B. **Reinforced EPDM (Black) Membranes:** Cured reinforced EPDM (Ethylene, Propylene, Diene Terpolymer) compounded elastomer. Reinforced EPDM Membrane is available, in black in 45, 60, or 75-mil thicknesses. Reinforced EPDM Membrane is available in white in 60-mil thickness. Reinforced membrane with polyester fabric conforms to ASTM D4637, Type II (reinforced). All sheets are available with 3" or 6" factory applied Peel & Stick Seam Tape.

2.03 RELATED MATERIALS

- A. WeatherBond LC-60 EPDM Bonding Adhesive, EPDM X-23 LVOC Bonding Adhesive, Low-VOC or Solvent Free EPDM Bonding Adhesive, Acrylic Water-Based Bonding Adhesive, Aqua Base Bonding Adhesive, Multi-Purpose or Low VOC Primer, P&S Seam Tape, Lap Sealant, Cured Coverstrip, P&S uncured Flashing, Seam Fastening Plates and Peel & Stick Reinforced Perimeter Strip (with the corresponding fasteners) are required for use with this roofing system. Other WeatherBond products, such as, insulation, insulation fasteners, edgings and termination bars are also required when specified.
- B. Other Products: Insulation, Insulation Fasteners, Edgings and termination bars, Walkway Pads, Pre-Molded Pipe Flashings, Quick-Applied Inside/Outside Corners, Pipe Flashings, LIQUISEAL Liquid Flashing and Pourable Sealer Pockets.

PART III EXECUTION

3.01 GENERAL

- A. Safety Data Sheets (SDS) must be on location at all times during transportation, storage and application of materials. The contractor shall follow all safety regulations as recommended by OSHA and other agencies having jurisdiction.
- B. When feasible, begin the application at the highest point of the highest roof level and work to the lowest point to prevent moisture infiltration and to minimize construction traffic on completed sections. This will include completion of all flashings and terminations and daily seals.

3.02 ROOF DECK CRITERIA

- A. A proper substrate shall be provided by the building owner. The structure shall be sufficient to withstand normal construction loads and live loads.
- B. Defects in the roof deck must be reported and documented to the specifier, general contractor and building owner for assessment. The WeatherBond Recognized Roofing contractor shall not proceed unless the defects are corrected.
- C. Refer to WeatherBond Technical Manual for acceptable decks and the applicable WeatherBond Fasteners (when mechanical attachment of insulation is specified).

3.03 SUBSTRATE PREPARATION

- A. On retrofit-recover projects, cut and remove wet insulation, as identified by the specifier, and fill all voids with new insulation so that it is relatively flush.
- B. For all projects, the substrate must be even without noticeable high spots or depressions, and must be free of accumulated water, ice or snow.
- C. Clear the substrate of debris and foreign material. Fresh bitumen based roof cement must be removed or concealed.

3.04 INSTALLATION

Refer to the applicable Safety Data Sheets and Technical Data Bulletins for cautions and warnings.

- A. **Insulation Attachment**

1. WeatherBond DASH or Flexible DASH Adhesive may be specified for insulation securement as outlined in the WeatherBond Technical Manual.
2. WeatherBond Fasteners may be used, when specified, to secure WeatherBond Insulation at the specified density outlined in the WeatherBond Technical Manual

B. Membrane Installation

1. Position EPDM membrane over the acceptable substrate without stretching. Allow the membrane to relax approximately 1/2 hour prior to bonding (Fully Adhered Systems).
2. Place adjoining membrane sheets in the same manner, overlapping edges appropriately to provide for the minimum splice width (2-1/2"). It is recommended all splices be shingled to avoid bucking of water.
3. Fully adhere the EPDM membrane to the acceptable substrate with WeatherBond LC-60 EPDM Bonding Adhesive, EPDM X-23 LVOC Bonding Adhesive, Low-VOC or Solvent Free EPDM Bonding Adhesive, Acrylic Water-Based Bonding Adhesive or Aqua Base Bonding Adhesive at the rate specified on the container label. A contact type adhesive must be applied to both the membrane and the surface to which it is bonded.
4. Fold membrane sheet back so half of the underside of the sheet is exposed. Sheet fold should be smooth without wrinkles or buckles.
5. Stir EPDM Adhesive thoroughly scraping the sides and the bottom of the can (minimum 5 minutes stirring is recommended). Bonding surfaces must be dry and clean.

CAUTION: If aesthetics are of concern when EPDM (White-on-black) membrane is used, protect the white surface next to the edges of the folded membrane sheet so Adhesive will not discolor the white surface. Do not place Adhesive containers or their lids directly on the white surface of the EPDM (White-on-black) membrane.

6. Apply Bonding Adhesive evenly, without globs or puddles, with a plastic core medium nap paint roller. A 9" roller will easily fit into the 5-gallon containers.
7. Apply contact type bonding adhesive to both the membrane sheet and the substrate to achieve continuous coating of both surfaces at a coverage rate of approximately 120 square feet per gallon per one surface (membrane or substrate) or approximately 60 square feet per gallon per finished surface (includes coverage on both membrane and substrate). Depending on adhesive used and the substrate type adhesive coverage rate will vary. Refer to Technical Data Bulletin for the appropriate adhesive for the proper coverage rate.

A mechanical roller dispenser or a mechanical sprayer can be used to apply Bonding Adhesive when the continuous coating and coverage rate noted above are maintained. When used, the adhesive must be rolled after applying with a plastic core medium nap paint roller to provide continuous coverage.

CAUTION: 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 apply a thin freshener coat at the coverage rate, which is approximately half of the coverage rate stated above to the previously coated surface when conditions allow for continuing.

8. Allow adhesive to flash off until it is tacky but will not string or transfer to a dry finger touch.
9. Roll the coated membrane into the coated substrate while avoiding wrinkles.
10. Brush down the bonded half of the membrane sheet, immediately after rolling the membrane sheet into the adhesive, with a soft bristle push broom to achieve maximum contact.
11. Fold back the unbonded half of the membrane sheet and repeat the bonding procedure.

12. Membrane Splicing with P&S Seam Tape (membrane is available with Factory-Applied Tape).

- a. Apply Multi-Purpose or Low-VOC Primer to the splice area. When tape is not factory-applied, position P&S Seam Tape onto bottom membrane sheet with the edge of the release film along a line marked 1/2" out from the top sheet. Press tape onto sheet using hand pressure, overlapping tape roll ends a minimum of 1". Remove the release film and press top sheet onto tape using hand pressure. Roll the splice with a 2" wide steel roller.
- b. Install a P&S T-Joint Cover or a 6" wide section of P&S Uncured EPDM Flashing over all field splice intersections. The use of Lap Sealant with tape splices is optional except at tape overlaps and cut edges of reinforced membrane.

C. Additional Membrane Securement

Securement must be provided at the perimeter of each roof level, roof section, expansion joint, curb flashing, skylight, interior wall, penthouse, etc., at any inside angle change where slope exceeds 2" in one horizontal foot, and at other penetrations in accordance with WeatherBond's details and securement options as listed below:

1. **Peel & Stick RPS (Reinforced Perimeter Strip):** P&S RPS is a 6" wide strip of reinforced EPDM membrane with factory-applied 3" wide

P&S Seam Tape and is installed in conjunction with WeatherBond EPDM Fasteners and 2" diameter Metal Membrane Plates spaced a maximum of 12" on center below the EPDM deck membrane. The securement strip can be fastened horizontally to the structural deck or vertically at walls and curbs.

- a. Loose lay the 6" wide Peel & Stick RPS along parapet walls and fasten with Metal Membrane Plates and the appropriate WeatherBond fastener to the roof deck or into the parapet wall. Spacing of the Metal Membrane Plates shall be a maximum of 12" on center.
 - 1) For horizontal attachment, the reinforced strip must be positioned a minimum of 1/8" to a maximum of 6" away from the angle change with pressure sensitive side facing away from the parapet and towards the roof plane.
 - 2) For vertical attachment, the reinforced strip must be attached to the vertical wall with pressure sensitive side extending onto the roof surface.

CAUTION: Horizontal RPS attachment is required when insulation is attached with adhesives to a vapor barrier or an existing asphalt based roof. For various options, Refer to Spec Supplement G-07-19 "Application Procedures for VapAir Seal 725TR Air and Vapor Barrier".

- b. Adjoining sections of the reinforced strip need not be overlapped; however, gaps between adjoining sections must not exceed 1".

CAUTION: When RPS is used for membrane securement along metal edgings, refer to the appropriate detail for applicable installation criteria. For some metal edge details, adjoining sections of the reinforced strip must be overlapped and spliced.

- c. When using Peel & Stick RPS, clean the underside of the membrane with WeatherBond Primer and allow proper flash-off prior to removing the release film from the RPS.

CAUTION: On fully adhered systems discontinue bonding adhesive application on the underside of the membrane in area of the sheet where contact with the Peel & stick RPS is to occur. Contact between Peel & stick RPS and membrane coated with bonding adhesive can result in poor peel and shear values.

2. **Metal Membrane Plates:** When the use of Peel & Stick RPS is not feasible (at smaller curbs or skylights), 2" diameter Metal Membrane Plates may be used.

- a. Metal Membrane Plates may be installed horizontally into the structural deck or into walls or curbs.
- b. Securement of the EPDM membrane with the approved WeatherBond Fasteners and Metal Membrane Plates must be a maximum of 12" on center starting 6" minimum to 9" maximum from inside and outside corners.
- c. If horizontal wood nailers are provided, secure the Metal Membrane Plates to the wood nailer with WeatherBond HPW Fasteners. Nails (i.e. ringshank, roofing, etc.) are not acceptable for securement.
- d. After securing the Metal Membrane Plates, flash in accordance with the appropriate WeatherBond Detail.

D. Membrane Flashing

1. Refer to WeatherBond Technical Manual for membrane flashing.

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WeatherBond
P.O. Box 251, Plainfield, PA 17081
866-471-5125
www.weatherbondroofing.com

Physical properties of EPDM Membrane can be referenced in Part II, "Products" of the EPDM Specification. Attach copies of the applicable WeatherBond Details that pertain to the individual project to complete a bid package submittal.