WEATHERBOND
ROOFING SYSTEMS

G U I D E - S P E C

WeatherBond® TPO Mechanically Attached Roofing System
RhinoBond Attachment Method

January 2024

This **GUIDE-SPEC** is a brief outline of WeatherBond's Mechanically Attached Roofing System requirements using the RhinoBond Attachment Method and is intended for use as a submittal with a bid package. Specifiers and the WeatherBond Authorized Roofing Contractor must comply with the applicable sections of WeatherBond's Technical Manual prior to design or bid.

PART I GENERAL

1.01 DESCRIPTION

The WeatherBond Mechanically Attached Roofing System incorporates 12', 10' or 8' wide, white, gray or tan 45, 60 or 80-mil thick scrim-reinforced WeatherBond Thermoplastic Polyolefin (TPO) membrane. Insulation is mechanically fastened to an acceptable roof deck using approved fasteners and RhinoBond plates. WeatherBond membrane is positioned over the secured RhinoBond plates and welded to the top surface of the plate with the Rhinobond Induction Welding Tool. Adjoining sheets of WeatherBond membrane are overlapped and joined together with a minimum 1-1/2" wide hot air weld. Refer to the Thermoplastic Specification for the required fastener spacing.

1.02 QUALITY ASSURANCE

A. This roofing system must be installed by a WeatherBond Authorized Roofing Contractor in compliance with shop drawings as approved by WeatherBond.

B. Upon request, an inspection shall be conducted by a Field Service Representative of WeatherBond to ascertain that the membrane roofing system has been installed according to WeatherBond's published specifications and details applicable at the time of bid. It is not intended as a final inspection for the benefit of the owner.

C. For specific code approvals achieved with this system, refer to WeatherBond's Code Approval Guide, DORA (Directory of Roof Assemblies), FM Approvals or UL Fire Resistance Directory for Roofing Materials and System.

1.03 SUBMITTALS

A. To ensure compliance with WeatherBond's requirements, the following projects should be forwarded to WeatherBond for review prior to installation, preferably prior to bid.

1. Air pressurized buildings, canopies, and buildings with large openings, cold storage buildings or freezer facilities, adhered roofing system projects over 100' in height or projects where the membrane is expected to come in direct contact with petroleum-based products, waste products (i.e., grease, oil, animal fats, etc) and other chemicals.

B. Shop drawings must be submitted to WeatherBond by the WeatherBond Authorized Roofing Contractor along with a completely executed Copy-A – Job Approval Request for approval. Approved shop drawings are required for inspection of the roof and on projects where on-site technical assistance is requested.

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 Spec Supplement G-01-11 "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. Vapor Retarders

1. WeatherBond does not require a vapor retarder for the protection of the membrane; however, it should be considered by the specifier for the protection of the roofing assembly (i.e. primarily insulation, underlayment and adhesives). The following criteria should be considered by the specifier:

   a. Use of a vapor retarder to protect insulation and reduce moisture accumulation within an insulated roofing assembly, should be investigated by the specifier.

   b. In the generally temperate climate of the United States, during the winter months, water vapor flows upward from a heated, more humid **interior toward** a colder, drier exterior. Vapor retarders are more commonly required in northern climates than in southern regions, where downward vapor pressure may be expected and the roofing membrane itself becomes the vapor retarder.

1.06 PRODUCT DELIVERY, STORAGE AND HANDLING

A. Deliver materials to the job site in the original, unopened containers labeled with the manufacturer's name, brand name and installation instructions.

B. Store WeatherBond membrane in the original undisturbed plastic wrap.

C. Job site storage temperatures in excess of 90° F may affect shelf life of curable materials (i.e., adhesives and sealants).

D. When liquid adhesives and sealants are exposed to lower temperatures, restore to a minimum of 60° Fahrenheit before use.

E. Do not store adhesive containers with opened lids due to the loss of solvent, which will occur from flash off.

1.07 JOB CONDITIONS

Refer to WeatherBond Technical Manual for applicable project specific Job Conditions.

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.

2.02 MEMBRANE

WeatherBond white, gray or tan 45, 60, 80-mil thick reinforced Thermoplastic Polyolefin (TPO) membrane is used for this system. Field membrane sheets are 12', 10' or 8' wide by 100' long based on project conditions.

2.03 RELATED MATERIALS

WeatherBond Non-Reinforced or Reinforced Flashing, Bonding Adhesive, Cut Edge Sealant, Water Cut-Off Mastic, Weathered Membrane Cleaner, Molded Pocket Sealant, Heat Weldable Walkway Pads, Pre-Molded Inside/Outside Corners, Pipe Flashings, Curb Wraps and Sealant Pockets.

PART III EXECUTION

3.01 GENERAL

A. 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, terminations and

daily seals.

3.02 ROOF DECK CRITERIA

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 Authorized Contractor shall not proceed with installation unless defects are corrected.

C. Refer to WeatherBond Technical Manual for acceptable decks and the applicable Sure-Seal 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 specifier, and fill all voids with new insulation so it is relatively flush with existing surface.

B. For all projects, 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 Material Safety Data Sheets and Technical Data Bulletins for applicable cautions and warnings.

A. **Insulation Attachment**

1. After placement of insulation on substrate, secure the insulation at a rate of six HP-X Fasteners and RhinoBond Plates per 4’ x 8’ in the designated field and eight HPVX Fasteners and RhinoBond Plates around the perimeter. Refer to appropriate WeatherBond detail for patterns and depth of perimeter area.

Note: Avoiding fastener overdrive to prevent plate from deforming.

B. **Membrane Placement, Attachment and Hot Air Welding**

1. Place WeatherBond membrane over the appropriate RhinoBond Plates and allowing membrane to relax.
2. Place RhinoBond Induction Tool centered over the RhinoBond Welding Plate (+/- 1”) under the roofing membrane.
3. Elevate the temperature of plate from ambient to 400-500°F using induction tool.
4. Immediately place Cooling Clamp on the membrane over the plate and leave in place for at least 60 seconds.
5. Resume process ensuring membrane is attached to all plates.
6. Overlap adjacent membrane a minimum of 2" at end roll sections (width of the membrane).
7. Hot air weld the membrane sheets a minimum of 1-1/2” with an Automatic Hot Air Welding Machine.
8. Membrane that has been exposed to the elements for approximately 7 days must be prepared with Weathered Membrane Cleaner. Wipe the surface where Weathered Membrane Cleaner has been applied with a clean, dry Splice Wipe or other white rag to remove cleaner residue prior to hot air welding.

C. **Additional Membrane Securement**

The membrane must be secured at the perimeter of each roof level, roof section, expansion joint, curb, skylight, interior wall, penthouse, etc., at any angle change which exceeds 2" in one horizontal foot and at all other penetrations in accordance with WeatherBond's Details published with WeatherBond's Specifications.

D. **Membrane Flashing**

1. Flash all walls and curbs with WeatherBond reinforced membrane. Non-Reinforced membrane shall be limited to inside and

outside corners, field fabricated pipe seals, scuppers and Sealant Pockets where the use of pre-molded accessories are not practical.

2. On vertical surfaces, such as walls, curbs and pipes, Bonding Adhesive is not required when the flashing height is 12" or less and the membrane is terminated under a metal counterflashing (nailed). When a coping or termination bar is used for vertical terminations, Bonding Adhesive may be eliminated for flashing heights 18" or less.

3. Terminate the flashing in accordance with an appropriate WeatherBond Details above anticipated slush line.

4. When using the Pressure-Sensitive Cover Strip to overlay metal edging flanges or fasteners/plates, WeatherBond Weathered Membrane Cleaner is used to clean surfaces as needed. Apply WeatherBond TPO Primer prior to applying Pressure-Sensitive Cover Strip.

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Physical properties of WeatherBond Membrane can be referenced in Part II, "Products" of the Thermoplastic Specification.

Attach copies of the applicable WeatherBond Details that pertain to the individual project to complete a bid package submittal.