FULLY-ADHERED AND MECHANICALLY-ATTACHED TPO ROOFING SYSTEM INSTALLATION GUIDE

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WeatherBond® PRO TPO
Installation Guide

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WeatherBond PRO Details
Introduction

This manual has been developed to serve as a reference guide for those responsible for actual roof installation, primarily the roofing foreman or lead man.

The following pages contain routine pre-installation precautions, safety reminders, basic installation procedures, and the most often utilized details pertaining to WeatherBond PRO TPO Roofing Systems.

This manual is offered as a supplement to the Specification Manual and must always be considered as such.
What is WeatherBond PRO??

WeatherBond PRO membrane is a thermoplastic polyolefin (TPO) based on advanced polymerization technology that combines the durability and weatherability of ethylene-propylene (EP) rubber with the heat weldability of polypropylene. The membrane is specifically formulated for long-term weather resistance without the use of plasticizers.

Physical properties of the membrane are enhanced by a strong polyester fabric that is encapsulated between the TPO-based top and bottom plies. The combination of the fabric and TPO plies provide WeatherBond PRO reinforced membranes with high breaking and tearing strength and puncture resistance, all critical to the performance of mechanically fastened roofing assemblies.

Thermoplastic polyolefin material has been successfully used in the automotive industry since the early part of 1980 used as trim accessories, bumpers and dashboard coverings. In 1989, TPO was sought as a replacement to other heat weldable roofing materials and continues to gain popularity, especially in those locations where light colored membrane is desired.

The WeatherBond PRO membrane offers:

- 0.045", 0.060", 0.072" and 0.080" thicknesses
- Available in white
- Environmentally sensitive membrane, contains no plasticizers or chlorine.
- Greater thickness above scrim compared to most manufacturers.
- Easy installation and fewer components.
- Wider sheets allowing for labor and material savings during installation.
- Greater welding speeds.
- Energy-efficiency, obtained the U.S. Environmental Protection Agency Energy STAR label (white WeatherBond PRO TPO Membrane).
- Color stability and superior weather resistance.
Roof System Description

WeatherBond PRO Mechanically Fastened Roofing System

- Incorporates 12 foot (3.7 m), 10 foot (3 m), or 8 foot (2.4 m) wide, 0.045 inch (1 mm), 0.060 inch (1.5 mm), 0.072 inch (1.8 mm), or 0.080 inch (2.03 mm) thick scrim-reinforced, white WeatherBond PRO Thermoplastic Polyolefin (TPO) membrane field sheets.

- Insulation is mechanically fastened to an acceptable roof deck.

- WeatherBond PRO perimeter sheets (6 or 4 feet wide respectively), installed along building edges, and field membrane sheets are mechanically fastened to the roof deck with the appropriate WeatherBond PRO Fasteners and Fastening Plates.

- Adjoining sheets of WeatherBond PRO membrane are overlapped and joined together with a minimum 1-1/2 inch (4 cm) wide hot air weld.

WeatherBond PRO Adhered Roofing System

- The primary membrane is fully adhered to an approved insulation or substrate with WeatherBond PRO TPO Bonding Adhesive.

- Adhesive is applied to both the membrane surface and the substrate at a coverage rate of approximately 60 square feet per gallon per finished surface (includes coverage on both membrane and substrate).

Products

The following is a brief outline of WeatherBond PRO products including descriptions, shelf life, packaging, application procedures and cautions and warnings. For additional information, refer to “Attachment I”, Products, in the Design Criteria section of the
WeatherBond PRO TPO Specification or the applicable Technical Data Bulletins.

**WeatherBond PRO TPO Membrane**

WeatherBond PRO standard reinforced 0.045" (1 mm) and 0.060" (1.5 mm) 0.072 inch (1.8mm), or 0.080 inch (2.03 mm) thick Thermoplastic Polyolefin (TPO) is available in white. Special colors are also available. Membrane rolls of 12, 10 and 8 feet (3.7m, 3 m, and 2.4 m) wide by 100 foot (30 m) lengths are used as field sheets. Perimeter sheets are available in 6 and 4 foot (1.8m, 1.2 m) widths by 100 foot lengths. 6 foot wide perimeter sheets are used with 10 and 12 foot wide field sheets and 4 foot wide perimeter sheets are used with the 8 foot wide membrane.

0.045" thick standard membrane weighs approximately 0.25 pounds per square foot (1.2 kg/m²), 0.060" thick membrane weighs 0.34 pounds per square foot (1.7 kg/ m²), 0.072" thick membrane weighs 0.36 pounds per square foot (1.8 kg/ m²), and 0.080" thick membrane weighs 0.40 pounds per square foot (2.0 kg/ m²).

For complete physical properties, refer to “Attachment I” of the Design Criteria Section of the WeatherBond PRO Specification.

**Adhesives and Sealants**

**TPO Cut-Edge Sealant**

**Description:** Used to seal cut edges of reinforced WeatherBond PRO Membrane where scrim reinforcement is exposed. Available in clear and white.

**Shelf Life:** 1 year

**Packaging:** Eight 16 ounce (.45 kg) bottles per carton

**Coverage:** Approximately 225 - 275 linear feet per squeeze bottle when applied with 1/8 inch (3 mm) diameter bead.
Application:
1. All surfaces must be clean, dry and free from oil, grease, dirt and other foreign materials. Do not apply to vertical surfaces.
2. Sealant should be tack-free in 2 hours and fully cured in 24 hours depending on weather conditions and application thickness.

Cautions and Warnings –
• Flammable - Contains solvents that are fire and explosion hazards when exposed to heat.
• Do not smoke while applying.
• Avoid using in confined or unventilated areas.
• Vapors are heavier than air and may travel along the ground to a distant ignition source and flashback.
• Avoid breathing vapors; keep container closed when not in use.
• Avoid contact with eyes, safety glasses or goggles are recommended.
• Avoid contact with skin; wash thoroughly after handling.
• Review the TPO Cut-Edge Sealant Material Safety Data Sheet for complete safety information prior to use.
• Keep out of the reach of children.

WeatherBond PRO TPO
Bonding Adhesive

Description: A high-strength, synthetic rubber adhesive used for bonding WeatherBond PRO membrane to various surfaces.

Packaging: 5 gallon (19 l) pails

Shelf Life: 1 year

Coverage: 60 square feet per gallon (6 m² /l) finished surface (includes coverage on both surfaces). Coverage rate is average and may vary due to conditions on the job site. Porous surfaces and substrates may require more bonding adhesive than the typical coverage rate.
Application:
1. The surface should be clean, smooth, dry, free of fins, sharp edges, loose and foreign materials, oil and grease.
2. Remove all sharp projections by sweeping, blowing or vacuuming.
3. Do not thin. Thinning will affect performance. Excessively thick or gelled material should be discarded.
4. After thoroughly stirring (minimum 5 minutes), apply to substrate and membrane using a ½ inch (13 mm) thick medium nap roller.
5. Avoid globs or puddles.
6. Do not apply to splice areas that are to be hot air welded.
7. The adhesive should be dry to the touch prior to closing the membrane.
8. Roll membrane onto the adhesive coated substrate while avoiding wrinkles.
9. Immediately brush down the bonded portion of the sheet with a soft bristle push broom or clean dry roller applicator to achieve maximum contact.
10. Opened containers of adhesive should be used within 48 hours.
11. Adhesive must be allowed to dry thoroughly before closing membrane. If excess solvent remains in adhesive layer when membrane is installed, blisters may form under the membrane. Typically, these blisters will not dissipate over time.

Cautions and Warnings:
• Flammable
• Contains solvents that are dangerous fire and explosion hazards when exposed to heat.
• Do not smoke while applying.
• Do not use in confined or unventilated areas.
• Vapors are heavier than air and may travel along the ground to a distant ignition source and flashback.
• Ground containers when transferring from one container to another.
• Avoid breathing vapors; keep container closed when not in use.
• Avoid contact with eyes, safety glasses or goggles are recommended.
• Avoid contact with skin; wash thoroughly after handling. Hycron® gloves are recommended to be worn when using this product.
• Review the WeatherBond PRO Bonding Adhesive Material Safety Data Sheet for complete safety information prior to use.
• Keep out of the reach of children.

**TPO Low VOC Bonding Adhesive**

**Description:** A high strength solvent-based contact adhesive that allows bonding of WeatherBond PRO membrane to various porous and non-porous substrates. It is specially formulated using a blend of VOC exempt and non-exempt solvents to be in compliance with the state of California Clean Air Act of 1988 (updated in 1997) and as further regulated by California’s Air Quality control Districts listing VOC grams per liter limitations.

**Packaging:** 5 gallon (19 l) pails

**Shelf Life:** 1 year

**Coverage:** 60 square feet per gallon (5.6 m² /l) finished surface (includes coverage on both surfaces). Coverage rate is average and may vary due to conditions on the job site. Porous surfaces and substrates may require more bonding adhesive than the typical coverage rate.

**Application:**
1. The surface should be clean, smooth, dry, free of fins, sharp edges, loose and foreign materials, oil and grease.
2. Remove all sharp projections by sweeping, blowing or vacuuming.
3. Do not thin. Thinning will affect performance. Excessively thick or gelled material should be discarded.
4. After thoroughly stirring (minimum 5 minutes), apply to substrate and membrane using a ½ inch (13 mm) thick medium nap roller.
5. Avoid globs or puddles.
6. Do not apply to splice areas that are to be hot air welded.
7. An open time of 5 to 50 minutes based on drying conditions is recommended before assembly. The adhesive should not string.
8. Roll membrane onto the adhesive coated substrate while avoiding wrinkles.
9. Immediately brush down the bonded portion of the sheet with a soft bristle push broom or clean dry roller applicator to achieve maximum contact.
10. Opened containers of adhesive should be used within 48 hours.
11. Adhesive must be allowed to dry thoroughly before closing membrane. If excess solvent remains in adhesive layer when membrane is installed, blisters may form under the membrane. Typically, these blisters will not dissipate over time.

Cautions and Warnings:
- Extremely Flammable
- Contains solvents that are dangerous fire and explosion hazards when exposed to heat, flame or sparks.
- Do not smoke while applying.
- Do not use in confined or unventilated areas.
- Vapors are heavier than air and may travel along the ground to a distant ignition source and flashback.
- Ground containers when transferring from one container to another.
- A red caution label is required when shipping.
- A fire extinguisher should be available. In case of fire, use water spray, foam, dry chemical or carbon dioxide.
- Avoid breathing vapors; keep container closed when not in use. Use with adequate ventilation.
- Avoid contact with eyes, safety glasses or goggles are recommended.
- Avoid contact with skin; wash thoroughly after handling. Hycron® gloves are recommended to be worn when using this product.
- If swallowed, DO NOT INDUCE VOMITING. Call a physician immediately.
- Review the Low VOC Bonding Adhesive Material Safety Data Sheet for complete safety information prior to use.
- Keep out of the reach of children.
Weathered Membrane Cleaner

Description: Used to prepare membrane for heat welding that has been exposed to the elements for a period of 7 days or longer.

Packaging: 1 and 5 gallon pails (3.8 and 19 liters)

Shelf Life: 1 year

Coverage: 600 linear feet (182 m) per gallon for a typical 1-1/2” (4 cm) wide standard hot air welded splice area.

Application:
1. Apply to the surface of the material that has been exposed to weather for a period of 7 days or longer.
2. White natural fiber rags should be used to wipe along the direction of the seam.
3. A Primer Pad may be necessary to remove a heavy build-up of dirt. Pour a small amount of Weathered Membrane Cleaner over a primer pad and rub the area to be welded using a circular motion. Wipe away residual dirt with natural fiber rags.

Cautions and Warnings:
• Combustible liquid. Close lid when not in use.
• Avoid contact with eyes. Use of safety glasses or goggles is recommended.
• Avoid contact with skin; wash thoroughly after handling.
• Use of oil resistant gloves is recommended.
• Review the Weathered Membrane Cleaner Material Safety Data Sheet for complete safety information prior to use.
• Keep out of the reach of children.
Multipurpose Primer

**Description:** Multipurpose Primer is a solvent-based product designed for priming the surface of WeatherBond PRO TPO membrane prior to the application of TPO Pressure Sensitive products. The primer is also utilized to coat the inside of the sealant pockets and penetrations prior to filling with sealant.

**Packaging:** One carton contains six 1-gallon containers.

**Coverage:** Approximately 250 square feet per gallon.

**Shelf Life:** Six months (unopened container)

**Application:**
1. Thoroughly stir primer until all settled materials are blended into the solution.
2. Apply the primer with a clean, paint brush, or 4" wide short nap paint roller to achieve a thin, even coating on the membrane. The properly primed area will be free of globs or puddles.
3. The excessive use of Multipurpose Primer will not significantly enhance the adhesion of the Pressure Sensitive products or TPO Molded Pocket Sealant. Use only the amount necessary to obtain 100% coverage of the area where the tape or sealant will be applied.
4. Allow the Multipurpose Primer to dry until it does not transfer to a dry finger touch.
5. Install the Pressure Sensitive material or pocket sealant per instructions.

**Cautions and Warnings:**
- This product is **flammable.** Precautions should be taken to keep the primer away from heat, flame and sparks during storage and use.
- Keep container closed when not in use. Use with adequate ventilation. Avoid breathing vapors. Avoid contact with eyes and skin.
- Chemically-resistant gloves must be worn with Multipurpose Primer to protect hands from staining and irritating ingredients.
• Job site storage temperatures in excess of 90°F (32°C) may affect product shelf life. Should the primer be stored at temperatures lower than 60°F (15°C), restore at room temperature prior to use.
• Review the Multipurpose Primer Material Safety Data Sheet for complete safety information prior to use.
• Keep out of the reach of children.

PT-304 Sealant

Description: PT-304 is a white, polyurethane caulking and is used for general caulking such as above termination bars and metal counterflashings.

Packaging: 24 cartridges, 10.3 fl. oz. each

Coverage: A 3/8” diameter bead will cover approximately 20 linear feet.

Shelf Life: 12 months unopened container.

Application:
1. Joint surfaces shall be clean and dry, clean and free of all dust, or contamination, which may adversely affect the adhesion of the sealant. In the event mechanical cleaning is required, area shall be wiped with Weathered Membrane Cleaner and the solvent allowed to evaporate prior to sealant application.
2. Apply sealant with standard caulking equipment using sufficient pressure to ensure uniform coverage.
3. Multipurpose Primer must be applied to TPO membrane and TPO flashings prior to application of PT-304. This will ensure proper adhesion to the TPO surfaces.

Cautions and Warnings:
• Combustible liquid. Keep away from sparks and flame. In case of fire, use water spray (fog), foam, dry chemical or CO2.
• Avoid contact with eyes, skin and clothing. If inhaled, remove to fresh air.
• May cause allergic reaction, respiratory tract, skin and eye irritation.
• Not for application over silicones or in the presence of curing silicones.
• Review the PT-304 Material Safety Data Sheet for complete safety information prior to use.
• Keep out of the reach of children.

**Thermoplastic One-Part Pourable Sealer**

**Description:** TPO Molded Pocket Sealant is a one-part, moisture curing, elastomeric polyether sealant providing rapid skin time when exposed to atmospheric moisture forming a waterproof rubber surface in less than an hour. Moisture curing continues for fourteen to twenty-eight days, until a two-inch deep solid rubber seal encases the penetration. Complete cure time will vary depending on relative humidity and temperature.

**Packaging:** Four 0.5 gallon pouches per bucket. (four 2 liter)

**Coverage:** One 0.5-gallon pouch (2-liter) will fill 122 cubic inches of volume within a sealant pocket. One TPO Molded Sealant Pocket will require .46 gallons (1.75 liters) to fill completely (with no penetrations).

**Shelf Life:** 18 months unopened container. After opening, any unused sealant remaining in a pouch will remain useable up to 30 days if the pouch is resealed with original cap.

**Application:**
1. Bonding surfaces must be free of moisture, dirt, or any contaminants. Any previously applied asphalt, caulking, or sealants must be removed from the penetration(s). Clean all surfaces with Weathered Membrane Cleaner.
2. Fill any voids in the roof deck around the penetration(s) to prevent sealant from seeping through roof.
3. **Multipurpose Primer is required.** Apply Multipurpose Primer to all bonding surfaces including penetration(s), TPO membrane, inside walls and rim of TPO Molded Sealant Pocket. Allow primer to dry.
4. Remove cap from pouch and pour Thermoplastic One-Part Pourable Sealer directly into pocket. Fill pocket completely until rim is covered with Thermoplastic One-Part Pourable Sealer making sure all voids are filled.
5. To save unused sealant, squeeze air from pouch and replace cap. Unused sealant should be used within 30 days.
For best results maintain this product at room temperature before application.
For cold weather applications remove any frost or moisture from inside pocket using a hand held heat gun. Proceed with installation steps 1-5.

**Cautions and Warnings:**
- Uncured adhesive irritates eyes.
- Avoid prolonged skin contact.
- In case of eye contact immediately flush with water, and call a physician.
- Review the Thermoplastic One-Part Pourable Sealer Material Safety Data Sheet for complete safety information prior to use.
- Keep out of the reach of children.

**WeatherBond Water Cut-Off Mastic**

**Description:** WeatherBond Water Cut-Off Mastic is used to prevent moisture migration at drains, compression terminations and beneath conventional metal edging.

**Packaging:** 25 tubes per carton

**Coverage:** 10' (3m) per tube using a 7/16” (11mm) bead.

**Shelf Life:** 1-year unopened container

**Application:**
1. All surfaces to be sealed with WeatherBond Water Cut-Off mastic must be a masonry, metal or glass substrate and free of moisture, oil, dirt and other foreign materials.
2. Apply a 7/16" (11mm) bead of WeatherBond Water Cut-Off mastic between the substrate and the edge of the membrane.
3. Apply appropriate termination material and secure to provide constant compression for the WeatherBond Water Cut-Off Mastic.

**Cautions and Warnings:**
- WeatherBond Water Cut-Off mastic is flammable. It contains solvents that are dangerous fire and explosion hazards when exposed to heat, flame or sparks. Store away from all sources of heat, flame or sparks. Do not smoke while applying. Do not use in a confined or unventilated area.
- Avoid breathing vapors. Keep container closed when not in use. Use with adequate ventilation.
- Avoid contact with eyes. Safety glasses are recommended. If splashed in eyes, immediately flush eyes with clean water for at least 15 minutes. Contact a physician immediately.
- Avoid contact with skin. Wash hands thoroughly after handling.
- Review the WeatherBond Water Cut-Off Mastic Material Safety Data Sheet for complete safety information prior to use.
- Keep out of the reach of children.

**Pre-Molded Accessories**

**TPO Outside Corners**

**Description:** A one-piece injection molded corner used for flashing outside corners on a variety of details. Available in white 0.060 inch (1.5 mm) thick.

**Installation:**
1. Begin welding at the innermost corner point and work away from the corner.
2. Use a lower temperature setting on the heat welder than when welding the reinforced membrane.
3. Use the edge of the roller to crease the corner flashing into any membrane step off for a proper seal.

**Packaging:** 12 corners per bag
**TPO Inside Corners**

**Description:** A pre-molded flashing product used for flashing inside corners on a variety of details. Available in white. Inside Corners are 0.060 inch (1.5 mm) thick.

**Installation:**
1. Position the Inside Corner into the building corner, begin welding at the innermost corner point and work away from the corner.
2. Use a lower temperature setting on the heat welder than when welding the reinforced membrane.
3. Use the edge of the roller to crease the corner flashing into any membrane step off for a proper seal.

**Packaging:** 12 corners per bag

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**TPO Molded Pipe Seals**

**Description:** An injection molded, pre-formed flashing for pipes 1 inch (2.5 cm) to 6 inches (15 cm). Available in white.

**Installation:**
1. Cut pipe seal adjacent to raised “ring” one size smaller than pipe diameter. The boot should fit snug around the pipe.
2. Pull pipe seal over pipe until base flange is in contact with the membrane. Heat may have to be applied to the top portion of the pipe seal to allow installation over pipe.

3. Mark pipe around the top of the pipe seal.

4. Pull pipe seal upward until mark on pipe is visible.

5. Install WeatherBond Water Cut-Off Mastic below mark that indicates the top of the installed pipe seal.

6. Pull pipe back down and into position.

7. Heat weld the pipe seal base flange to deck membrane.

8. Install a stainless steel universal clamping ring to provide constant compression of the sealant. On a 1” diameter pipe, double wrap the clamping ring to achieve proper bite of the clamping screw.

Packaging: Boxes of 8 including universal clamping rings.

**TPO Molded Sealant Pockets**

Description:
- A two piece, interlocking injection molded flexible pocket with a rigid polypropylene vertical wall and pre-formed deck flanges. Available in white.
- Installed size is a nominal 7.5 inch by 6 inch oval.
- Used in conjunction with TPO Molded Pocket Sealant and Multipurpose Primer.

- Used to waterproof pipe clusters or other odd shaped penetrations on WeatherBond PRO TPO Roofing Systems.

**Installation:**

1. Clean the inside of the Molded TPO Sealant Pocket as well as the areas where the pocket flange overlaps, the underside of the pocket flange and the deck membrane with Weathered Membrane Cleaner. (Use a Primer Pad with the cleaner if the membrane has been exposed for an extended period of time).

2. Place the Molded TPO Sealant Pocket around the penetration(s), overlapping the two sections of the pocket.

3. Cut a piece of cardboard (approx. 4" X 4") and place between the overlapping area of the Molded TPO Sealant Pocket and the deck membrane. The cardboard prevents the pocket from welding to the membrane when first welding the overlaps.

4. Using a hand welder, weld the angle change in the overlap area. Using the end of a seam probe assists in this process. (The hand-welder temperature setting should be between 5 and 6).

5. Hand-weld the remainder of the horizontal overlap.

6. Repeat steps 4 and 5 to weld the overlap on the other side of the Molded TPO Sealant Pocket.

7. Position the Molded TPO Sealant Pocket so that the vertical overlap is against the penetration. This will allow proper pressure to be applied to the overlap with the 2-inch silicone roller.

8. Weld both vertical overlaps starting at the angle change and progressing to the top of the pocket.

9. Make tack-welds on all four sides of the sealant pocket to hold it in place.

10. Weld the entire horizontal flange to the deck membrane.

11. Using a seam probe, check all splices for voids and cold-welds. Make any needed repairs.
12. Apply a thin coat of Multipurpose Primer to the inside and around the top rim of the pocket, to the deck membrane inside the pocket, and to the penetration using a small paint brush.

13. Fill the pocket with Thermoplastic One-Part Pourable Sealer. Use an adequate amount of sealant to ensure that contact is made with the top rim of the pocket.

**Packaging:** Five TPO Molded Sealant Pockets per carton.

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### Pre-Fabricated Products

#### TPO Split Pipe Seals

**Description:** A pre-fabricated flashing made of 45-mil reinforced WeatherBond PRO TPO membrane for pipes 1-inch (25.4 mm) to 6-inches (152.4 mm) in diameter. A split (cut) and overlap tab are incorporated into these parts to allow the pipe seals to be opened and wrapped around a round pipe with an obstruction. Such obstructions prevent the use of a standard pre-molded pipe-seal. Sizes are available in white only.

**Installation:** Order the proper size pipe-seal. The following outlines the method to determine the proper size.
The nominal diameter of the pipe-seal indicates the maximum size the part will effectively fit. Each Pipe Seal can accommodate a pipe 15/16 of an inch smaller in diameter than the nominal size indicates. For example, the 2-inch part can be utilized to flash pipes from 1-1/16 inches to 2 inches in diameter, the 3-inch part will fit pipe diameters from 2-1/16 inches to 3 inches in diameter, etc.

1. Open pipe-seal by pulling apart the tack welds located on the vertical leg of the flashing.
2. Wrap the pipe-seal around the pipe until the vertical leg is tight against the outside diameter of the pipe.
3. Tack weld the back edge of the pipe-seal's vertical leg ensuring that good contact is maintained between the pipe seal and the pipe. This process will hold the pipe-seal in place.
4. Heat-weld the entire width of the vertical overlap. Hand roll against the outer surface of the pipe to create the pressure necessary to achieve an acceptable weld.
5. Heat-weld the base flange to the deck membrane and complete the horizontal overlap weld.
6. Install a bead of WeatherBond Water Cut-off Mastic between the installed pipe seal and the pipe.
7. Install a stainless steel universal clamping ring to provide constant compression of the sealant.
8. Apply TPO Cut-Edge Sealant to all edges of the pipe-seal that are located on the horizontal plane. Do not apply the sealant to vertical surfaces.

**Packaging:** Boxes of 8 including universal clamping rings.
TPO Square Tubing Wraps

Description: A pre-fabricated flashing made of 45-mil reinforced WeatherBond PRO TPO membrane. A split (cut) and overlap tab are incorporated into these parts to allow the seals to be opened and wrapped around square tubing with an obstruction. Stock sizes include: 3-inch (76 mm) by 3-inch (76 mm), 4-inch (102 mm) by 4-inch (102 mm) and 6-inch (152 mm) by 6-inch (152 mm). Overall height of the flashings is 11 inches. Stock sizes are available in white only.

Installation:
1. Clean the penetration to eliminate any rust or scale and wipe with a natural fiber rag saturated with Weathered Membrane Cleaner.
2. Open square tubing wrap by pulling apart the tack welds located on the vertical leg of the flashing.
3. Wrap the square tubing wrap around the penetration until the vertical leg is tight against the penetration.
4. Mark the tubing ¼" above the top of the square tubing wrap.
5. Remove the square tubing wrap from around the pipe.
6. Prime the areas of the tubing and square tubing wrap where the tape will contact with Multipurpose Primer.
7. Wrap a piece of three (3) inch wide Brite-Ply Secure Tape (included in the box) around the penetration at
the mark made previously. The tape should overlap approximately one inch.

8. Wrap the square tubing wrap around the penetration until the vertical leg is tight against the penetration. Use a 2-inch roller to roll the membrane into the tape.

9. Tack-weld the back edge of the square tubing wrap’s vertical leg ensuring that good contact is maintained between the tubing wrap and the penetration. This process will hold the square tubing wrap in place.

10. Heat-weld the entire width of the vertical overlap. Hand roll against the outer surface of the penetration to create the pressure necessary to achieve an acceptable weld.

11. Heat-weld the base flange to the deck membrane and complete the horizontal overlap weld.

12. Using a probe, check all splices for voids and cold-welds. Make any needed repairs.

13. Apply a bead of PT-304 sealant at the top of the tubing wrap so the seam tape and the top of the square tubing wrap are covered with sealant.

14. Apply WeatherBond TPO Cut-Edge Sealant to all edges of the square tubing wrap that are located on the deck. Do not apply the sealant to vertical surfaces.

**Packaging:** TPO Square Tubing Wraps are packaged in boxes of eight and include the necessary pressure sensitive tape to complete the topside termination.
TPO Curb Wrap Corners

Description: A pre-fabricated flashing made of 45-mil reinforced WeatherBond PRO membrane designed to reduce installation time to flash a curb when compared to conventional methods. Each corner is fabricated with a 6-inch (150mm) wide base flange and a 12-inch (300mm) overall height. Six sizes are available to fit curbs up to 6-feet (1.8m) by 6-feet (1.8m) in size. One curb requires 4 corners for a complete installation. Stock sizes are available in white only, gray and tan are available on a special order basis. Custom sizes are also available on a special order basis.

Installation:
1. Remove curb wrap corners from the shipping box. Crease the flashing to create the 90-degree angle change at the curb base. Complete this on both legs of the corners.
2. Clean the deck membrane with Weathered Membrane Cleaner. (Use a Scotch-Brite Pad with the cleaner if the membrane has been exposed for an extended period of time).
3. Position four TPO Curb Wrap Corners around the curb ensuring each remains plumb and tack-weld in place.
4. Weld the four corners together after placing a piece of cardboard between the deck membrane and the deck flange overlaps. (The cardboard prevents the horizontal deck flange from fusing to the deck
membrane allowing the entire flange to be welded with an auto-welder later in the installation process).

5. After removing the cardboard pieces, weld the horizontal deck flanges of the curb wrap to the deck membrane with an auto or hand-held welder. If an auto-welder is utilized, at each outside corner the nozzle must be removed to change directions. Leave an opening large enough to insert the nozzle of a hand-held welder and weld these areas tight once the rest of the deck flange is welded in place.

6. Using a seam probe, check all splices for voids and cold-welds. Make any needed repairs.

7. Nail off or tack-weld the flashing to the top of the curb.

8. Apply WeatherBond TPO Cut Edge Sealant to all edges of the flashing on the deck. Do not apply the sealant to vertical surfaces.

Packaging: TPO Curb Wrap Corners are packaged in boxes of twelve.

Other Products

TPO Coated Metal

Description:
- 24 gauge (.9 mm) galvanized steel sheet coated with a layer of .035 inch (.9 mm) thick non-reinforced WeatherBond PRO TPO Flashing.
- The sheet is cut to the appropriate width and used to fabricate metal drip edges or other roof perimeter edging profiles.
- WeatherBond PRO TPO Membrane may be heat welded directly to the coated metal. Coated metal is available in sheets 4’ X 10’ (1.2 m x 3 m) and comes packaged 10 or 25 sheets per pallet.
- Available in white
TPO Heat Weldable Walkway Rolls

Description:
- Made from specially compounded TPO offering superior tear, puncture, flexibility and weather resistance.
- Herringbone tread pattern offers superior slip resistance.
- Designed to protect the WeatherBond PRO TPO membrane in those areas exposed to repetitive foot traffic or other hazards.
- May be heat welded to the WeatherBond PRO TPO membrane using an automatic heat welder or hand held heat welder.
- Walkway Rolls are 30 inches (76 cm) wide by 50 feet (15.25 m) long and are nominal 120 mils (3.1 mm) thick (3.1 mm).
- Stocked in white only.

Packaging: 75 pounds (34 kg) per roll

Installation:
1. If membrane or walkway has been exposed for over 7 days, use Weathered Membrane Cleaner and a Primer pad to prepare the area to be welded to the walkway material.
2. Once the cleaner has dried completely, position the walkway material. Cut the Walkway Rolls into maximum 10-foot lengths and position with a 1-inch gap between adjacent pieces to allow for water drainage. Cut the walkway so a 4-inch minimum gap is created over any field splices. (Since the attachment of the walkway to the membrane is permanent, this will allow for access to the field seams).
3. Using an automated welder, weld all four sides of the walkway material to the membrane. (Typically the same speed and temperature settings will be used for this procedure as for welding membrane to membrane. A test weld is always recommended prior to performing welds to the installed membrane). A hand welder may be utilized, however, productivity will be decreased.
Cautions and Warnings:
• Walkway Rolls are a maintenance item and are not covered under the WeatherBond membrane systems warranty.

Pressure-Sensitive Walkway Pads

Description: White Pressure-Sensitive Walkway Pads consist of molded EPDM with a slip resistant surface. The product combines Pressure-Sensitive Seam Tape technology with an EPDM based walkway pad, providing a labor saving alternative for the applicator. 3-inch wide Pressure-Sensitive Seam Tape on poly release film eliminates the need for additional heat welding.

Installation:
1. Clean the existing membrane (and metal if applicable) with Weathered Membrane Cleaner.
2. Prime the membrane (and metal if applicable) using standard Multipurpose Primer.
3. Once the primer has dried to the touch, the Pressure-Sensitive Walkway Pad is applied and secured by applying pressure to the areas where Seam Tape is in contact with the membrane.

Packaging: 50, 30" x 30" pads per pallet.

TPO Pressure-Sensitive Cover Strip

Description:
• A 6" wide, 40-mil non-reinforced WeatherBond PRO TPO membrane laminated to a 35-mil thick, fully cured synthetic rubber pressure-sensitive adhesive.
• The cover strip is suitable for stripping in metal drip edge or rows of fasteners and plates used for membrane securement and is available in white
• Pressure-Sensitive Cover Strip cannot be used for flashing corners, pipes, T-joints or any angled metal flanges such as gravel stops or other canted metal edgings. PS Cover Strip cannot be used on 20 year warranted projects.
• Storage and use of PS Cover Strip at temperatures below 40°F (4°C) will result in a loss of adhesive tack. Hot boxes for job site storage must be provided to maintain a minimum product temperature of 40°F (4°C).

Installation:
4. Clean the existing membrane (and metal if applicable) with Weathered Membrane Cleaner.
5. Prime the membrane (and metal if applicable) using standard Multipurpose Primer.
6. Once the primer has dried to the touch, the TPO Pressure-Sensitive Cover Strip is applied and rolled using a 2-inch wide roller.
7. In areas where the TPO PS Coverstrip crosses a metal joint, a membrane seam (T-joint) or at an end lap use a hot air gun to heat the top surface (TPO membrane) of the TPO PS Coverstrip and crease the material into the step-off. This process reduces the possibility of a water channel forming.

Packaging: Two 100-foot rolls per carton.

**TPO 6-inch Pressure-Sensitive RUSS**

Description:
• A nominal 0.045" (1.14 mm) thick reinforced TPO membrane strip with a nominal 0.035" (0.89 mm) thick, fully cured synthetic rubber pressure sensitive adhesive laminated along one edge.
• The reinforced TPO membrane is 6" (150 mm) wide while the adhesive strip is 3" (75 mm) wide.

Installation:
1. TPO/White EPDM Pressure-Sensitive RUSS may be used with WeatherBond PRO TPO and WeatherBond RBR EPDM membrane and should only be installed on horizontal surfaces using an appropriate WeatherBond or WeatherBond approved fastener below the deck membrane to provide additional securement at angle changes.
2. For WeatherBond PRO TPO membrane, HPWX fasteners and HPWX Plates are utilized for RUSS securement. Contact WeatherBond for a list of approved fasteners for WeatherBond RBR EPDM membrane.

3. This product allows a continuous piece of membrane to be run up a parapet wall without fastener penetrations at the angle change.

Packaging: Two 6” (150mm) wide X 100’ (30m) long rolls per carton.

TPO 10-Inch Pressure-Sensitive RUSS

Description:
• TPO 10-Inch Pressure Sensitive RUSS is used in place of narrow sheets to secure membrane in the perimeter area of the roof. The use of this product allows field membrane to be utilized over the entire roof area.
• The 10-Inch TPO PS RUSS consists of a strip of nominal 0.045” (1.14 mm) thick reinforced TPO membrane and a strip of nominal 0.035” (0.89 mm) thick, fully cured synthetic rubber pressure sensitive tape laminated along each edge.
• The use of this product is ideal when multiple perimeter sheets or non-standard perimeter spacings are required.

Installation:
1. The TPO 10-Inch Pressure Sensitive RUSS is installed by first fastening the RUSS to the deck with an appropriate WeatherBond fastener and Piranha Plate.
2. The underside of the membrane is then cleaned with Weathered Membrane Cleaner (if necessary) and coated with Multipurpose Primer in the area that is to come in contact with the pressure sensitive tape.
3. Once the primer has dried to the touch, the membrane is positioned onto the tape and rolled using a hand roller.

Packaging: One 10-inch (250mm) wide x 100-foot (30m) long roll per carton.
**TPO Reinforced Flashing**

**Description:**
6-inch wide, 0.045 inch thick reinforced WeatherBond PRO TPO membrane. The reinforced flashing is suitable for stripping in rows of fasteners and plates used for membrane securement. The product is available in white.

**Packaging:** Three 100-foot rolls per carton.

**TPO Non-Reinforced Flashing**

**Description:**
12-inch or 24-inch wide, 0.060 inch thick non-reinforced WeatherBond PRO TPO used where membrane must be formed to complete specific details. The product is available in white.

**Packaging:** One 50-foot roll per carton.

**Fasteners and Plates**

**HPWX Fastener**

**Description:**
- A heavy duty #15 threaded fastener with a #3 Phillips head design.
- Deep buttress threads (12 per inch) provide an increased surface area in contact with the bottom of the deck increasing pullout and backout resistance.
- Black epoxy electro-deposition coating provides excellent corrosion resistance values of less than 15% red rust after 25 cycles (FM 4470 corrosion test requirement is 15% red rust after 15 cycles) in the Kesternich cabinet.
Installation:
1. No predrilling necessary.
2. Insert the HPWX Fastener through the HPWX Plate (Mechanically-Fastened Roofing Systems) or 3” (8 cm) diameter Insulation Plate (Adhered Roofing System) and install with a standard clutch drive electric screw gun. (2,500 rpm maximum)

Packaging: Fasteners are packaged 1,000 or 500 per container. Plates are packaged 1,000 per container.

Pullout: Steel decks (22 gauge) - 700 pounds (318 kg) typical. Wood plank (minimum 15/32 inch plywood) - 375 pounds (170 kg) typical.

**HPWX Plate**

**Description:** A 2-3/8 inch (6 cm) diameter, 20 gauge (0.9 mm), metal barbed fastening plate required for membrane securement with WeatherBond HPWX Fasteners for membrane securement. This plate can also be used for insulation securement on Mechanically-Fastened Roofing Systems.

**Packaging:** 1,000 per container

**Termination Bar Nail-Ins (By Others)**

**Description:**
- A zinc plated steel pin is used to provide excellent corrosion resistance while the zinc alloy body provides excellent holding power.
- Used with termination bar or Seam Fastening Plates to secure membrane to concrete block, brick or concrete walls.

**Installation:**
1. Drill a pilot hole with an ANSI standard ¼ inch (6 mm) diameter masonry drill bit. The pilot hole must be pre-drilled to a sufficient depth to prevent contact between the fastener tip and any accumulated dust in the pre-drilled hole.
2. Insert Term Bar Nail-In and tap gently until anchor body head is set tightly against the termination bar or seam plate.
3. Hammer the drive pin flush with the head to expand the anchor body.

**Job Site Considerations**

**Material Safety Data Sheets** must be on location at all times during the transportation, storage and application of materials. The MSDS contains important information on products including ingredients, physical characteristics, flammability, safe handling instructions, etc.

**Wear sunglasses** (UV filtering) to filter out ultraviolet light since the membrane surface is highly reflective.

**Wear** appropriate clothing (**long sleeve shirt and long pants**) and **sunscreen to protect skin** from sunlight since the WeatherBond PRO TPO membrane reflects heat and light.

**Exercise** care (**rope off perimeter of roof**) when working close to the roof edge especially when the surrounding area is snow covered. The roof edge may not be clearly visible.

**Exercise** caution during cold conditions to prevent falls. The membrane **surface** may promote slippery conditions due to frost and ice buildup.

**Exercise** caution when walking on wet membrane. **Membranes are slippery when wet.**

**Place** a waste can on the roof designated for oily rags to safely contain used rags that have come in contact with solvents.
Storage and Handling

Do not store adhesive containers with opened lids due to loss of solvent which occurs from flash-off.

Store WeatherBond PRO TPO membrane in the original undisturbed plastic wrap in a cool, shaded area and cover with light colored, breathable tarpaulins.

Insulation and underlayment must be stored so it is kept dry and protected from the elements. Store insulation on a skid and completely cover with a breathable material such as tarp or canvas (weight to prevent possible wind damage).

Substrate Preparation

Defects in the substrate surface must be reported and documented to the specifier, general contractor and the building owner for assessment.

Do not proceed with the installation unless the defects are corrected.

1. **On retrofit - recover projects**, cut and remove wet insulation, as identified by the specifier. Fill all voids created by such removal with new insulation so it is relatively flush (+/- 1/4 inch) with the existing surface.

   a. **For existing PVC membranes**, if the membrane is not removed, it must be cut into maximum 10’ X 10’ (3 m x 3 m) sections. All PVC flashings or PVC coated metal at the perimeter, roof drains and roof penetrations must be removed.

   b. When installing the roofing system over an **existing gravel surfaced built-up roof, loose gravel must be removed**. Power brooming is recommended by WeatherBond to remove the loose gravel that may trap moisture. Any uneven areas of the substrate must be leveled to prevent insulation from bridging.
2. Substrate must be relatively even without noticeable high spots or depressions. Accumulated water, ice or snow must be removed to prevent the absorption of moisture in the new roofing components and roofing system.

3. Prior to the placement of membrane underlayment, clear the substrate of debris and foreign material.

**Wood Nailers**

Factory Mutual (FM) publishes design recommendations for the attachment of wood nailers to various substrates and for the attachment of perimeter flashing details to wood nailers.

This information is contained in Factory Mutual’s Loss Prevention Data Bulletin 1-49. In accordance with that bulletin, the information listed below should be referenced when selecting an appropriate perimeter attachment method.

**General Criteria**

1. Wood nailers that are anchored to steel, wood or masonry decking should not be less than 2” X 6” (5 cm x 15.5 cm) nominal (minimum 1-1/2” X 5-1/2”).

2. Wood nailers should be Douglas Fir, Southern Yellow Pine or of wood having similar decay resistant properties.

**Attachment to Masonry Walls**

When fastening to a masonry wall, a 1/2-inch (13 mm) corrosion resistant anchor bolt is placed 48 inches (1.2 m) on center at an 8-inch (20 cm) minimum depth (12 inches minimum when masonry walls are composed of lightweight aggregate or cinder) as shown in **Figure 1**. Each anchor bolt is positioned (staggered if the wood nailer is wider than 6 inches) in a block core or air space and tightly filled with concrete to the depth of the bolt.
Note: Plastic parts must not be used with masonry anchors.

Factory Mutual has specific requirements concerning filling of cores or voids in the top course of cinder blocks. Projects in FM I-90 securement zones or higher, the entire top course of cinder blocks must be filled. Projects in FM I-60 securement zones only require fill where anchor bolts are positioned.

At outside corners, the fastening density must be increased within the first 8 feet (2.4 m) in each direction by positioning anchor bolts 24 inches (61 cm) on center.

An alternate method may be used by installing 3/8-inch (1 cm) diameter corrosion resistant anchor bolts spaced 32 inches (81 cm) apart. For outside corners, bolts are fastened 16 inches (41 cm) apart, 8 feet from each side of the corner. If additional wood nailers are needed, refer to Figure 5 for attachment.
Attachment to Steel and Wood Decking
Penetration of the fasteners should be to the top flutes only. The fasteners must be staggered as shown in Figure 2.

Caution: Attention should be paid to the Factory Mutual requirement that calls for corrosion resistant steel washers (minimum 5/8 inch outside diameter) to be used in conjunction with corrosion resistant screws. This requirement is not recognized in most cases and often forgotten.
The staggered fastening pattern should be increased within 8 feet from outside corners as shown in Figure 3-1.

FIGURE 3-1

If the perimeter nailer is to be secured to a steel angle, anchor bolts must be positioned at 48 inch (1.2 m) centers as show in Figure 4-1 and 4-2.
On wood decks, the staggered fastening pattern with corrosion resistant steel screws should be utilized as shown in Figure 2.
Attachment of Additional Wood Nailers

When additional wood nailers are required, they must be attached with corrosion resistant nails or lag screws that penetrate into the bottom nailer at 1-1/4 inches (3.5 cm) using a staggered fastening pattern in two rows at 24 inches (61 cm) apart as shown in Figure 5.

The increased fastening density within 8 feet from outside corners is still required and must comply with Figure 3-1 shown previously.

WeatherBond strongly emphasizes the importance of the perimeter wood nailer securement and compliance with Factory Mutual Loss Prevention Data Bulletin 1-49 to improve wind performance and minimize roof edge disturbance. The bulletin also contains important information pertaining to attachment of metal fascia/edging especially for those edgings that are shop fabricated.

Even though not emphasized in the bulletin, contractors should examine or question existing conditions to determine if existing wood nailers are attached in compliance with the above criteria. If not, existing wood nailers should be refastened using one of these options and additional wood nailers must be secured using Figure 5.
Insulation Placement and Securement

1. Do not install more insulation/underlayment than can be covered by membrane in the same day.

2. All insulation boards must be butted together with no gaps greater than 1/4 inch (6 mm). Gaps greater than 1/4 inch are not acceptable.

3. When multiple layers of insulation are specified, staggering joints between layers is recommended.

Mechanically-Fastened Roofing Systems

a. Insulation must be mechanically fastened to the roof deck with WeatherBond Fasteners and Seam Fastening Plates, Insulation Plates or HPWX Plates.

b. Refer to WBPMA-27.X Details for fastening density requirements located in the detail section of this guide. Fastener tolerance shall be ± 1 inch (2.5 cm).

c. When gypsum board is specified as the membrane underlayment to meet certain fire ratings, it must be fastened at the same rate as outlined in Detail WBPMA-27.1

Adhered Roofing Systems

a. Insulation must be mechanically fastened to the roof deck with WeatherBond Fasteners and 3" (7.5 cm) diameter Insulation Fastening Plates.

b. Refer to WBPA-27.X Details for fastening density requirements located in the detail section of this guide.
Membrane Placement and Securement

1. **Ensure** water does not flow beneath any completed sections of the membrane system by completing all flashings, terminations and daily seals by the end of each workday.

2. **Sweep** all loose debris from the substrate.

3. On Mechanically-Fastened Roofing Systems, the type of WeatherBond Fastener and Fastening Plate used for membrane securement is dependent on the deck type.

### Acceptable Membrane Fasteners and Criteria

<table>
<thead>
<tr>
<th>Deck Type</th>
<th>Min. Pullout</th>
<th>Approved Fasteners &amp; Plates</th>
<th>Min. Penetration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Steel, 22 gauge or heavier</td>
<td>500 lbs. Mech. Fast</td>
<td>HPWX Fasteners and HPWX Plates</td>
<td>3/4 inch</td>
</tr>
<tr>
<td></td>
<td>360 lbs. Adhered</td>
<td>HPWX</td>
<td></td>
</tr>
<tr>
<td>Steel, less than 22 gauge</td>
<td>300 lbs. Adhered Only (3)</td>
<td>HPWX Fasteners</td>
<td>3/4 inch</td>
</tr>
<tr>
<td>Lightweight Insulating Concrete over steel (4)</td>
<td>360 lbs.</td>
<td>HPWX Fasteners &amp; HPWX Plates</td>
<td>3/4&quot; inch</td>
</tr>
<tr>
<td></td>
<td></td>
<td>HPWX Fasteners (Adhered)</td>
<td></td>
</tr>
<tr>
<td>Structural Concrete, rated 3,000 psi or greater</td>
<td>800 lbs.</td>
<td>Contact WeatherBond</td>
<td>1 inch</td>
</tr>
<tr>
<td>Wood Planks, minimum 15/32&quot; thick Plywood (8)</td>
<td>360 lbs.</td>
<td>HPWX Fasteners and HPWX Plates (Mech. Fast.)</td>
<td>1&quot; (Max. 1-1/2&quot; on wood planks)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>HPWX Fasteners (Adhered)</td>
<td></td>
</tr>
<tr>
<td>Minimum 7/16&quot; thick Oriented strand board (OSB)</td>
<td>360 lbs. Mech. Fast</td>
<td>Contact WeatherBond</td>
<td>1-1/2&quot; inch</td>
</tr>
<tr>
<td></td>
<td>250 lbs. Adhered</td>
<td>HPWX Fasteners</td>
<td>1 inch</td>
</tr>
<tr>
<td>Cementitious Wood Fiber and Gypsum</td>
<td>300 lbs.</td>
<td>Contact WeatherBond</td>
<td>1-1/2 inches</td>
</tr>
</tbody>
</table>
For membrane attachment on Mechanically-Fastened systems (1) and approved fasteners for insulation attachment on Adhered Systems.

Notes:

1. For membrane fastening density requirements, refer to Attachment III in the WeatherBond PRO Design Criteria Specification.

2. Mechanically-Fastened Roofing Systems are not permitted over corrugated steel decks, regardless of gauge.

3. Mechanically-Fastened Roofing Systems are not permitted over steel decks less than 22 gauge unless used in conjunction with lightweight insulating concrete and acceptable pullouts are obtained using HPWX Fasteners.

4. Fasteners are installed through the lightweight insulating concrete into the steel deck below.

5. If the minimum pullout into plywood decks cannot be achieved, a trial test should be conducted with an acceptable Fastener to determine acceptability (refer to Note 3 on the next page).

6. On OSB decks 5/8" thick or greater, WeatherBond HPWX Fasteners may be used if a minimum pullout value of 360 pounds can be achieved.

7. For adhered systems, only 3" diameter insulation fastening plates can be used for insulation attachment.
# Field Sheet Securement Requirements

<table>
<thead>
<tr>
<th>Wind Zone</th>
<th>Deck Type</th>
<th>Bldg. Hgt.</th>
<th>Field Membrane Width</th>
<th>Fastening Density (Field &amp; Perimeter Sheets)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Zone 1</strong></td>
<td>Steel, Lightweight Insulating Concrete Over Steel, Structural Concrete, Wood Planks</td>
<td>Max. 75'</td>
<td>12'</td>
<td>12&quot; O.C.</td>
</tr>
<tr>
<td>Up to 100 MPH</td>
<td>Steel, Lightweight Insulating Concrete Over Steel, Structural Concrete, Plywood, Wood Planks or Oriented Strand Board (3)</td>
<td>Max. 75'</td>
<td>10'</td>
<td>12&quot; O.C.</td>
</tr>
<tr>
<td></td>
<td>Gypsum Cementitious Wood Fiber</td>
<td>Max. 75'</td>
<td>10'</td>
<td>9&quot; O.C.</td>
</tr>
<tr>
<td></td>
<td>Steel, Lightweight Insulating Concrete Over Steel or Wood Planks (New or Tearoff)</td>
<td>Max. 40'</td>
<td>12'</td>
<td>6&quot; O.C.</td>
</tr>
<tr>
<td></td>
<td>Steel, Lightweight Insulating Concrete Over Steel or Wood Planks (Reroof / No Tearoff)</td>
<td>Max. 40'</td>
<td>12'</td>
<td>12&quot; O.C.</td>
</tr>
<tr>
<td></td>
<td>Steel, Lightweight Insulating Concrete Over Steel, Plywood, Wood Planks or Oriented Strand Board (3)</td>
<td>Max. 50'</td>
<td>10'</td>
<td>12&quot; O.C.</td>
</tr>
<tr>
<td><strong>Zone 2</strong></td>
<td>Structural Concrete</td>
<td>Max. 40'</td>
<td>12'</td>
<td>12&quot; O.C.</td>
</tr>
<tr>
<td>100-119 MPH</td>
<td>Gypsum and Cementitious Wood Fiber</td>
<td>Max. 50'</td>
<td>10'</td>
<td>9&quot; O.C.</td>
</tr>
<tr>
<td></td>
<td>Steel or Lightweight Insulating Concrete over Steel</td>
<td>Max. 50'</td>
<td>10'</td>
<td>9&quot; O.C.</td>
</tr>
<tr>
<td></td>
<td>Structural Concrete</td>
<td>Max. 75'</td>
<td>10'</td>
<td>12&quot; O.C.</td>
</tr>
<tr>
<td></td>
<td>Plywood, Wood Planks (2), Oriented Strand Board, Gypsum &amp; Cementitious Wood Fiber</td>
<td>Max. 50'</td>
<td>8'</td>
<td>9&quot; O.C.</td>
</tr>
<tr>
<td><strong>Zone 3</strong></td>
<td>Steel or Lightweight Insulating Concrete over Steel</td>
<td>Max. 75'</td>
<td>10'</td>
<td>9&quot; O.C.</td>
</tr>
<tr>
<td>120-129 MPH (4)</td>
<td>Structural Concrete</td>
<td>Max. 50'</td>
<td>10'</td>
<td>12&quot; O.C.</td>
</tr>
<tr>
<td></td>
<td>Plywood, Wood Planks (2), Oriented Strand Board, Gypsum &amp; Cementitious Wood Fiber</td>
<td>Max. 50'</td>
<td>8'</td>
<td>9&quot; O.C.</td>
</tr>
<tr>
<td><strong>Zone 4</strong></td>
<td>Steel or Lightweight Insulating Concrete over Steel</td>
<td>Max. 75'</td>
<td>10'</td>
<td>6&quot; O.C.</td>
</tr>
<tr>
<td>130 MPH or Greater</td>
<td>Structural Concrete</td>
<td>Max. 50'</td>
<td>8'</td>
<td>12&quot; O.C.</td>
</tr>
<tr>
<td></td>
<td>Plywood, Wood Planks (2), Oriented Strand Board, Gypsum or Cementitious Wood Fiber</td>
<td><strong>NOT ACCEPTABLE</strong> (2)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Notes:
1. Refer to Attachment II in the WeatherBond PRO Specifications, for minimum roof deck/pullout requirements and the required WeatherBond Fasteners.
2. On plywood or wood plank decks, if pullout tests exceed 425 pounds per fastener, the membrane securement requirements for steel decks may be followed providing the pullout tests are submitted to WeatherBond for approval.
3. On oriented strand board decks less than 5/8 inch in thickness, Approved Fasteners are required for membrane securement. For oriented strand board decks 5/8 inch thick or greater, HPWX Fasteners may be used for membrane securement if a minimum pullout value of 360 pounds can be achieved.
4. Those areas located between wind zone contours of 90-100 MPH within 20 miles of the coastline shall be considered as a Zone 4 Wind Zone.

### Perimeter Sheet Securement Requirements

<table>
<thead>
<tr>
<th>Wind Zone</th>
<th>Bldg. Height</th>
<th># of Perimeter Sheets Required (Note 1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zone 1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Up to 100 mph</td>
<td></td>
<td>1 or 2 (Note 2)</td>
</tr>
<tr>
<td>51' to 75'</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Zones 2 &amp; 3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>100 to 129 mph</td>
<td></td>
<td>2 (Note 2)</td>
</tr>
<tr>
<td>130 mph or greater</td>
<td></td>
<td>4</td>
</tr>
</tbody>
</table>

Notes:
1. Fastener spacing for perimeter membrane sheets are equivalent to the fastener spacing for field sheets.
2. Two perimeter sheets required when 12' sheets are fastened 12" on center.
3. Gypsum and cementitious wood fiber decks in Zone 3 require 3 perimeter sheets.

1. **Position** WeatherBond PRO perimeter membrane sheets along perimeter of the roof over the acceptable insulation/underlayment.
Expansion joints, control joints, and fire walls in the field of the roof or roof ridges with slopes less than 3 inches (8 cm) to the horizontal foot shall not be considered as part of the roof perimeter.

When using **10 foot (3 m) and 12 foot (3.7m) wide field sheets, 6 foot (1.8 m) wide perimeter sheets shall be used.**

When **8 foot (2.4 m) wide field sheets are to be utilized, perimeter sheets shall be 4 foot (1.2 m) wide.**

The roof perimeter is defined as all edges of each roof section. Where multi-level roofs meet at a common wall, the adjacent edge of the upper roof is treated as a roof perimeter if the difference in height is greater than 3 feet (91 cm).

Perimeter sheets are not required at the base of the wall at the lower level. Refer to Detail WBPMA-OPT. 1 or 2 at the end of this section for further information.

6. **Secure the membrane** at the approved fastening density with the required WeatherBond Fastener and Fastening Plates.

7. **Position** adjoining field membrane sheets (12, 10 or 8 feet wide) to allow an approximate overlap of 5-1/2 to 6 inches (14 to 15.5 cm) at locations where Fastening Plates are located (along the length of the membrane).

Overlap end roll sections (the width of the membrane) a minimum of 2 inches (5 cm).

As an option to using perimeter sheets, 10-inch wide TPO Pressure Sensitive RUSS can be used beneath the field sheets for perimeter securement.

1) The underside of the deck membrane must be primed with Multipurpose Primer where contact with RUSS will occur.
2) When field sheets are positioned parallel to the roof perimeter, 10-inch wide Pressure Sensitive RUSS is placed approximately down the center of the field sheet. When a RUSS divides a field sheet in half, 2 perimeter sheets are created.

3) When field sheets extend perpendicular to the edge of the roof, install 10-inch wide Pressure Sensitive RUSS beneath the field membrane sheets approximately 4 – 5 feet from the edge of the roof. When multiple perimeter sheets are required, additional RUSS shall be positioned 4 to 5 feet from the previous RUSS.

Note: When fastening 10-inch Pressure Sensitive RUSS, position approved fasteners / plates along the center line or the RUSS. 6 inch wide TPO Pressure-Sensitive RUSS cannot be used to create perimeter sheets.

Buildings With Large Openings and Overhangs

When any wall contains major openings with a combined area which exceeds 10% of the total wall area on which the openings are located, four (4) perimeter sheets (centered over the opening) must be specified as shown.

1. When using 12 (3.7 m) and 10 foot (3 m) wide field membrane sheets, 6 foot (1.8 m) wide perimeter sheets are utilized. When using 8 foot (2.4m) wide field sheets, 4 foot (1.2m) wide perimeter sheets are utilized.

2. As an option to the above perimeter securement, an adhered membrane section may be used in lieu of the mechanically fastened membrane at large openings in accordance with the WeatherBond Specification for WeatherBond PRO TPO Adhered Roofing Systems.
Large Openings

**Note:** Fastening plates are required at the end laps of the perimeter membrane sheets on both sides of the opened area.

Overhangs

The membrane must be specified with perimeter sheets installed over the entire overhang area extending onto the main roof deck when at the same level.
Membrane Fullness

When dealing with installation of membrane with fullness, tighten the sheet between fasteners as follows:

1. Unroll sheets and position.
2. Place a fastener and plate in one end of the sheet on the appropriate fastener mark. Go to the opposite end of the sheet, pull it tight and place a fastener and plate at the appropriate mark. Place the remaining fasteners into the sheet.
3. Proceed to weld the sheet in place and continue across the roof.

Windy Conditions

Outlined below is a method to prevent membrane distortion during windy conditions:

1. Unroll sheet approximately 5 feet (1.5 m) and position edge of membrane with overlap line on adjacent sheet.
2. Install fasteners along the 5 foot exposed edge.
3. While the 5 feet of exposed membrane is being fastened, begin welding the overlapped edge using the Automatic Hot Air Welder.
4. As sheet is being welded and fastened concurrently, unroll membrane. Unroll only enough membrane to stay a few feet ahead of the welding and fastening process. This reduces the amount of unsecured membrane to be distorted by the wind.
5. Continue this process for each adjoining sheet.

Membrane Creeping or Moving

What to do when the membrane is creeping or moving causing wrinkles throughout the membrane surface:

1. The operator of the robot must apply foot pressure to the membrane, kicking and sliding the membrane under the robot to keep the membrane tight.
Always have the operator stand on the unfastened sheet of membrane to prevent sheet movement.

Do not release foot pressure from the membrane until the pressure wheel rolls over the membrane in front of the foot that is holding the membrane in place.

2. Use of welding tracks:

Set lengthways along the splice, close to the robot air dam wheels to reduce the effect of the membrane movement caused by the robot welding process.

The operator must continue to apply foot pressure to the welding tracks to help hold the membrane splice in place.

Welding tracks are moved as welder progresses along seam.

Welding tracks can be:

a. Sheet metal, 22 gauge – 12 inches (31 cm) wide by 10 feet (3 m) long.
b. Aluminum or steel plates – ¼” by 3” (6 mm by 8 cm), 4 to 6 feet (1.2 to 1.8 m) long.
c. Lay flat tubing filled with sand - 4” to 6’ long.
d. Wood planks – 2” by 12” (5 cm by 31 cm) by 4’ to 6’ long.
e. Heavy plywood – ¾” by 24” (19 mm by 61 cm) by 8’ (2.4 m) long

Note: Always round corners of metal welding tracks to prevent accidental puncturing of membrane.

Repair Procedure for Aged WeatherBond PRO TPO Membrane

Surface oxidation of WeatherBond PRO TPO membrane will occur upon exposure to heat and sunlight. After approximately 7 days exposure to the elements, membrane must be cleaned with Weathered Membrane Cleaner prior to hot air welding.
The following procedure should be used when standard cleaning with the Weathered Membrane Cleaner and a rag is not sufficient to produce an effective weld.

The membrane may be repaired up to 6 months to a year with the standard cleaning method, however, each project will vary due to the differences in exposure to UV and accumulated dirt.

1. Scrub the area to be welded with a Primer Pad and Weathered Membrane Cleaner. The cleaner will become discolored with dissolved membrane during this procedure.

2. Clean all residue from the area to be welded with a clean rag. If natural fiber rags are used, they must be white to prevent fabric dye from discoloring the membrane.

3. Weld the membrane to the cleaned area using standard welding procedures.

**Heat Welding Equipment**

1. **Automatic Hot Air Welding Machine**
   a. **Welding speed**: A recommended initial speed of 12.5 feet per minute is an optimum speed setting. The speed of the welding machine must be no faster than necessary to produce a good hot air weld, and will vary according to environmental conditions.
   
   c. **Temperature recommendations**: Operating temperature is approximately 1000°F (#8 temperature setting). WeatherBond PRO TPO Membrane will not “bleed out” (membrane begins to flow out from edge).
      
      Typically, the colder the ambient temperature (and likewise the membrane temperature) the slower the Automatic Hot Air Welding Machine speed control must be adjusted to produce proper seams. See the following pages for additional welding speed and temperature information.
2. **Hot Air Hand Welder**

Used to hot air weld WeatherBond PRO TPO membrane and flashing. A hand-held **silicone** rubber roller is used in conjunction with the welder to apply the pressure that fuses the heated membrane surfaces together.

The hand-held welder is typically used to repair seams, or when the use of the automatic hot air welding machine is inappropriate (such as flashing penetrations and on high sloped surfaces). Initial temperature settings are typically “#8” for reinforced membrane and “#5-6” for non-reinforced flashing.

3. **Electrical Cords:** For generator requirements and maximum length of electrical cords, refer to Generator/Electrical Requirements as follows.

4. **Seam Prober:** WeatherBond recommends the use of a cotter pin puller to probe all hot air welded seams. All seams must be probed (**after the seam has thoroughly cooled**) with the seam prober. All deficiencies must be repaired accordingly with a hand held hot air welder no later than the end of each work day.

5. **Silicone Rubber Roller:** A 2 inch (5 cm) wide rubber roller used for rolling hot air welded splices.

6. **Generator/Electrical Requirements**

Building power supplies do not typically provide the proper amount of power necessary for consistent hot air welding. The use of a portable generator conforming to the following guidelines is strongly advised.

   a. A **minimum 6500 watt generator** with a minimum output of 210 volts is required for one Automatic Hot Air Welding Machine, however, a **7500 watt generator** is recommended.
Reduced power availability will result if additional equipment is connected to the generator and may result in faulty hot air welded seams. GFI (Ground Fault Interrupter) protection is recommended.

Additional generators will be required for operating other power tools and hand held hot air welders.

**Electrical cords** (3 conductor) of the maximum length indicated must be used with the corresponding wire as listed:

<table>
<thead>
<tr>
<th>Maximum Length</th>
<th>Wire Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>50 foot (15 m)</td>
<td>#12</td>
</tr>
<tr>
<td>100 foot (30 m)</td>
<td>#10</td>
</tr>
<tr>
<td>300 foot (90 m)</td>
<td>#8</td>
</tr>
</tbody>
</table>

b. **A minimum 3,000 watt generator** may be used to power a maximum of **two hand held welders** as long as no other equipment is connected. This generator should service a minimum of 110 volts and be GFI (Ground Fault Interrupter) protected.

**Electrical cords** (3 conductor) of the maximum length indicated must be used with the corresponding wire as listed:

<table>
<thead>
<tr>
<th>Maximum Length</th>
<th>Wire Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>50 foot</td>
<td>#14</td>
</tr>
<tr>
<td>100 foot</td>
<td>#12</td>
</tr>
</tbody>
</table>

For extension cords longer than 100 feet, consult an electrician or electrical contractor to ensure proper size of generator and wire.
1. Hot Air Welding Precautions

a. Check the welding machine set-up to ensure proper alignment of the heating nozzle, weight plate (air dam), pressure wheels, or moving parts to see they move properly or are free-spinning.

Test run the welding machine to ensure it moves forward following a straight line. If the alignment is off, make necessary adjustments.

b. Make sure the air intake is open. Clean out the air intake for the blower unit at each start up.

c. Check the machine for worn or broken parts that need to be replaced. Exercise care to protect the pressure wheel from notches or cuts to prevent incomplete sealing of the welded seam.

d. Before the machine is connected to the power source, make sure it is switched off to prevent a power surge that could damage the unit.

Turn the unit on and allow the blower/heater unit to warm up for approximately 5 to 10 minutes to reach operating temperature.

e. Clean the heat nozzle with a wire brush to remove any build-up of membrane, as needed.

f. To extend the life of the heating element of the Hot Air Welding Equipment, always turn the temperature adjustment down so the welder can cool prior to switching the machine off.

g. Follow all care and maintenance instructions recommended by the respective manufacturer.

h. It is recommended that two Automatic Hot Air Welding Machines and two generators be available at the project site in the event of mechanical failure.
Hot Air Welding Procedures

Hot air weld the WeatherBond PRO TPO membrane sheets using the Automatic Hot Air Welding Machine or Hot Air Hand Welder and silicone roller.

When roof slope exceeds 5 inches per horizontal foot (13 cm/m), use of the Automatic Hot Air Welding Machine may become more difficult; use of the Hand Held Hot Air Welder is recommended.

Check the surfaces of the WeatherBond PRO TPO membrane to be hot air welded to ensure they are properly prepared as outlined below:

a. **Membrane Cleaning** - The surfaces to be hot air welded must be clean. Membrane overlaps that become contaminated with field dirt must be wiped with a clean natural fiber rag containing Weathered Membrane Cleaner. No residual dirt or contaminants should be evident. When natural fiber rags are used, they must be white to prevent fabric dye from discoloring the membrane. Weathered Membrane Cleaner will achieve approximately 600 linear feet (one surface) of coverage per gallon for a standard hot air welded splice area.

b. **Exposed Membrane Seam Preparation** - Surface oxidation of WeatherBond PRO TPO membrane will occur upon exposure to heat and sunlight. **After a period of 7 days or more exposure** to the elements, membrane must be cleaned with Weathered Membrane Cleaner or a complete fusion weld cannot be achieved. If the dirt is not easily removed, a **Primer Pad application will be necessary prior to hot air welding**:

   1) Scrub the area to be welded with a Primer pad and Weathered Membrane Cleaner. The cleaner will become discolored with dissolved membrane during this procedure.
2) Clean all residue from the area to be welded with a clean rag. No residual dirt or contaminants should be evident. If natural fiber rags are used, they must be white to prevent fabric dye from discoloring the membrane.

3) Weld the membrane to the cleaned area using standard welding procedures.

**Temperature Settings**

When making a WeatherBond PRO TPO splice, no one temperature setting or speed can be used to describe the temperature setting or speed to set the robot. The splice must be tested to determine the quality of the splice.

Consult the respective heat welding machine manufacturer for recommendations concerning proper temperature setting and speed control of their equipment.

Typically, the colder the ambient temperature (and likewise the membrane temperature) the slower the Automatic Hot Air Welding Machine speed control must be adjusted to produce proper seams.

**As a general guide, WeatherBond PRO TPO membrane will weld at a lower temperature (1000°F) and faster speed (10 feet to 15 feet per minute) than most other heat welded membrane materials.**

With the Leister Varimat Automatic Welder, the suggested heat setting is 1000°F at 10 to 13 feet (3 to 4 m) per minute. With any other brand of robot welder, the temperature should be set at the manufacturer’s recommended temperature to obtain the correct splice results.

The following is a list of items to be checked to determine the temperature setting and the speed at which a splice should be completed:
1. Early morning welder speed settings should be set slower than midday heat welder speeds due to typically colder temperatures in the morning.

2. As the membrane surface temperature increases, the welder speed may also be increased.

3. When the membrane is in direct sunlight, the temperature or robot speed may have to be adjusted when moving into a shaded area, check the splice results.

   Remember the membrane surface in a shaded area will be cooler than a membrane surface that is in sunlight.

4. Dampness on the membrane from dew, a passing rain shower or misting condition will reduce heat from the splice due to evaporating moisture from the membrane surface.

   The heat welding temperature (increased) or the robot speed (slower) will have to be adjusted to produce a good splice.

   Water must be wiped from the welding surface prior to welding the splice.

5. Wind has a cooling affect as it blows over the surface. It will also affect the air flow in the splice reducing the effectiveness of the hot air gun. This will require the operator to increase heat from the hot air gun or reduce the welder speed.

6. Substrates make a big difference in the amount of heat required to produce a proper heat welded splice. The robot will have to be adjusted accordingly:

   a. Plywood and Concrete act as heat sinks and will take a higher temperature or slower speed setting than insulation.

   b. Cool damp substrates will take a higher temperature or slower speed setting than dry substrates.
7. Membrane “bleed-out” from between sheets will not occur with WeatherBond PRO TPO membrane if properly welded.

If bleed-out is occurring (the dark underside of the membrane begins to melt and flow), the welder speed should be increased to reduce welding temperature.

**Equipment Set-Up**

Equipment set up is the responsibility of the Applicator. When poor welding is occurring check the following:

1. If the membrane is overheated on one side or the other, check the nozzle to be sure it is distributing the heat evenly between the two sheets.

2. If the heat is bypassing the edge of the sheet producing a cold weld along the edge of the splice, be sure the nozzle is completely under the sheet and the air dam is in place and functional.

3. If the probed splice is tight at the edge but a cold weld is present in the center of the splice (the heat is melting the edges but does not melt the center of the splice), check to be sure the robot is not running too fast.

4. Ensure the silicone pressure wheel is intact with no voids in the silicone. If voids are present, incomplete welding will result.

5. Be sure all wheels on the air dam are not binding. Binding wheels will cause sheet movement and distortion during the welding process.

6. The Automatic Heat Welder nozzle should be adjusted as close to the pressure wheel as possible.

   If the nozzle is too far away from the pressure wheel, distortion of the membrane may occur due to heat expansion.
NOTE: Adjust welder nozzle so the curved portion (heel) extending outside the seam area does not contact or drag on the exposed surface of the membrane. This portion of the nozzle should be 1/16” – 1/8” above membrane surface.

7. Overheating the membrane will cause poor welds. It is recommended that the automatic welder be run not less than 10 feet (3 m) a minute on average temperature days. Only on very cold days would the welder be run below this speed. The temperature and welder speeds must be determined based on test welds prior to actual sheet welding.

8. Clean screen of dirt and debris on air inlet of heat gun every day. Accumulation of contaminants on screen will reduce air flow and heat output of welder.

Membrane Welding

1. Prepare the Automatic Hot Air Welding Machine and allow to warm for approximately 5 to 10 minutes to reach operating temperature.

2. Position the Automatic Hot Air Welding Machine properly prior to seaming with the guide handle pointing in the same direction the machine will move along the seam.

3. Lift the overlapping membrane sheet and insert the blower nozzle of the Automatic Hot Air Welding Machine between the overlap.

   Immediately begin moving the machine along the seam to prevent burning the membrane.

4. Proceed along the seam ensuring that the small guide wheel in front of the machine aligns with the edge of the top membrane sheet. Guide the machine from the front only.
CAUTION: Ensure the power cord has plenty of slack to prevent dragging the machine off course (which could result from a tightly stretched cord).

5. At all splice intersections, roll the seam with a silicone roller to ensure a continuous hot air welded seam (the membrane should be creased into any membrane step-off with the edge of the silicone roller).

A false weld may result due to surface irregularities created by multiple thicknesses of WeatherBond PRO TPO membrane sheets.

NOTE: When using .060 inch (1.5 mm) thick or heavier WeatherBond PRO TPO Membrane, a TPO T-Joint Cover or a surface splice of Non-Reinforced Flashing must be applied over all “T” joint splice intersections, refer to Detail WBPMA-2.4.

6. To remove the Automatic Hot Air Welding Machine from the finished splice, stop the movement of the machine and immediately remove the nozzle from the seam area.

7. Mark the end of the hot air welded seam with a water-soluble marker for easy identification. A Hand Held Welder will be necessary to complete the weld in the area between where the Automatic Hot Air Welding Machine is stopped and restarted.

8. Perform a test cut at least at the start of work each morning and afternoon. Test cuts should be taken if any changes in substrate or weather conditions occur.

Test Cuts

WeatherBond recommends that the test weld sample be made from a piece of scrap TPO to eliminate the need to remove a section from a completed seam.

Only when necessary should a test cut be taken from the installed roofing system.
1. The test cut should be approximately 1 inch (2.5 cm) wide and longer than the width of the seam (cut across the hot air welded seam).

2. Peel the test sample apart after it has thoroughly cooled (approximately 30 minutes) and examine for a consistent 1-1/2 inch (4 cm) wide minimum weld.

   Delamination of the membrane from the scrim-reinforcement is an indication of a properly welded seam.

3. Repair the test seam area by using an overlay of WeatherBond PRO TPO reinforced membrane (with rounded corners) and hand weld around the entire repair area.

   Identify the following seam problems to assure seam quality:

   Discolored or melted membrane – Increase speed or decrease temperature setting if membrane discolors or exhibits melting (membrane begins to flow).

   Voids and wrinkles - A proper hot air welded seam has no voids or wrinkles and must be at least 1-1/2 inches (4 cm) wide. Refer to Seam Probing procedures outlined below for proper inspection of seam deficiencies.

**Hand Held Welder Settings**

1. Temperature setting for hand held welders when used for flashing should be approximately “6” (on a scale from 1 to 10).

2. Temperature settings for hand held welders when used for membrane should be approximately “8” (on a scale from 1 to 10).

3. Exact settings will vary based on ambient temperatures, substrate and type of welder.
4. The Silicone roller should always be placed flat against membrane to be welded. **Do not turn roller on edge to weld membrane or flashings.**

**Seam Probing**

A WeatherBond Seam Probe is recommended for use to probe all hot air welded seams.

Probing seams must be done once hot air welds have thoroughly cooled. Hot air welded seams must be probed throughout the day to check seam quality and to make proper adjustments to hot air welding equipment. The repair of deficiencies must be done routinely throughout the day but no later than the end of each workday.

1. Allow hot air welded seams to cool thoroughly for approximately 30 minutes. Premature probing can damage warm seams.

2. Draw the probing tool tip along the edge of the hot air welded seam. Apply firm pressure to probe the seam junction, but not into the bottom membrane sheet. The tool will not penetrate into the lap area of a properly welded seam.

3. If the seam probing tool penetrates into the lap area, mark the seam using a water-soluble marker at the beginning and the end of voids or wrinkles in the seam edge.

4. Repair seam deficiencies as soon as possible using the hand held welder. WeatherBond recommends that repairs be made the same day they are discovered.

5. Probe **repaired seams** after they have cooled completely. If the repair is acceptable, wipe off the water soluble marker lines; if not acceptable, repair the seam using the procedures for repair of hot air welded seams as outlined in Repair Procedures for Aged WeatherBond PRO TPO Membrane.
Probing Notes:
• All laps must be probed each day soon after it has cooled to verify the welder set-up is effective.

• Particular attention must be given to all membrane intersections and hot air welded seams at insulation joints.

• In addition, there should be periodic checks (including at the start of each day) to verify good peel strength.

6. Apply TPO Cut-Edge Sealant on all cut edges of the reinforced membrane (where the scrim reinforcement is exposed) after seam probing is completed. TPO Cut-Edge Sealant is not required on vertical splices.

When a 1/8 inch (3 mm) diameter bead of TPO Cut-Edge Sealant is applied, approximately 225 - 275 linear feet of coverage per squeeze bottle can be achieved.

Additional Membrane Securement

Securement must be provided at the perimeter of each roof level, roof section, expansion joint, curb, skylight, interior wall, penthouse, etc., at any inside angle change where slope exceeds 2 inches to one horizontal foot, and at all penetrations as identified on the WeatherBond PRO details.

As an option, 6" wide TPO Pressure-Sensitive RUSS may be installed in conjunction with WeatherBond Fasteners and HPWX plates spaced a maximum of 12" on center below the membrane. The securement strip shall be installed horizontally at the base of walls or penetrations.

The underside of the deck membrane must be primed with Multipurpose Primer. Membrane is spliced to the RUSS and continued as wall flashing resulting in continuous membrane flashing without penetration of the deck membrane.
On Mechanically-Fastened Systems, when membrane securement is not provided in some details (i.e., pipes and sealant pockets), additional fasteners/plates must be used to provide securement. Refer to applicable WeatherBond PRO Detail.

1. The same WeatherBond Fastener and Fastening Plate required for membrane attachment must also be used for additional membrane securement.

2. Securement of the membrane shall be a maximum of 12 inches (31 cm) on center. Fasteners shall be positioned 6 inches minimum to 9 inches (23 cm) maximum from the inside or outside corner.

3. Refer to the "Membrane Fasteners and Criteria" chart in this manual for the required WeatherBond Fastener/Plate with the corresponding deck type.

4. After securing the membrane, flash in accordance with the appropriate detail.

## Flashing

1. **General Flashing Conditions**

   Flashing of parapets, curbs, expansion joints and other parts of the roof must be performed using WeatherBond PRO TPO **reinforced** membrane.

   WeatherBond PRO TPO non-reinforced membrane may be used for flashing pipe penetrations, Sealant Pockets and scuppers as well as inside and outside corners when the use of pre-molded or pre-fabricated accessories are not feasible.

   When possible, all reinforced membrane splices are hot air welded with the Automatic Hot Air Welding Machine.

   The Hand Held Hot Air Welder should be utilized in hard to reach areas, smaller curbs, vertical splices and when using non-reinforced membrane.
a. All existing loose flashing must be removed prior to application of WeatherBond PRO TPO membrane especially when the new TPO Flashing is to be adhered.

The new WeatherBond PRO TPO membrane must totally conceal all existing intact flashing, but must not conceal weep holes or cover existing throughwall counterflushing.

b. Install surface mounted reglets and compression bar terminations directly to the wall surface.

c. Application of WeatherBond PRO TPO Bonding Adhesive and Low VOC Bonding Adhesive

On vertical surfaces such as walls, curbs and pipes, Bonding Adhesive is not required when the flashing height is 12 inches (31 cm) or less and the membrane is terminated under metal counterflushing (nailed).

When a coping or termination bar is used for the vertical termination, the Bonding Adhesive may be eliminated when the flashing height is 18 inches (46 cm) or less.

1) When required, as noted on WeatherBond's installation details, membrane shall be adhered to vertical surfaces with WeatherBond PRO TPO Bonding Adhesive or Low VOC Bonding Adhesive. The Bonding Adhesive shall be applied continuously, without globs or puddles, with a plastic core medium nap paint roller.

A 9 inch (23 cm) roller will easily fit into the 5 gallon (20 l) containers.

2) The Bonding Adhesive must be applied to both the membrane and the surface to which it is being bonded to achieve 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).

3) After the Bonding Adhesive has dried to the point that it is tacky but does not string or stick to a dry finger touch, roll the membrane into the adhesive.

Note: When installing a WeatherBond PRO TPO Adhered System, Bonding Adhesive is applied to the back of the membrane and the substrate as identified above.

d. Care must be taken when setting the flashing to avoid bridging greater than 3/4 inch (19 mm) at angle changes (i.e., where a parapet or roof penetration meets the roof deck). This can be accomplished by creasing the membrane into the angle change.

e. Terminate the edges of the installed membrane in accordance with WeatherBond's applicable Termination Details.

f. In areas where metal counterflashing or surface mounted reglets are used as the vertical termination, the counterflashing must be sealed with a rubber grade caulking to prevent moisture migration behind the new wall flashing.

**Roof Walkways**

1. Install walkways in those locations as designated by the specifier in accordance with "Design Criteria", Part I of the WeatherBond PRO TPO Specification.

a. If WeatherBond PRO TPO membrane or Walkway Roll has been exposed for a period of 7 days or more, use Weathered Membrane Cleaner to prepare the area to be welded to the walkway material.

If the membrane has been exposed for an extended period of time or is heavily contaminated by dirt, a Primer Pad may be used with the Weathered Membrane Cleaner to expose a weldable surface. See previous section of this guide for cleaning procedures to aged WeatherBond PRO TPO membrane.

b. Position the walkway material, and cut the Walkway Rolls into maximum 10 feet lengths and position with a minimum 1 inch (2.5 cm) gap between adjacent pieces to allow for water drainage.

Cut the walkway so a 4 inch (10.5 cm) minimum gap is created over any field splices. (Since the attachment of the walkway to the membrane is permanent, this will allow access to the field seams).

c. Using an automatic welder, weld all four edges of the walkway material to the membrane (welding the ends of the material may be accomplished with less effort using a hand welder).

Typically the same speed and temperature settings will be used for this procedure as for welding membrane to membrane.

A test weld is always recommended prior to performing welds to the installed membrane.

A hand held welder may be utilized, however, productivity will be decreased.
3. **Concrete Paver Blocks**

Install a slip sheet of WeatherBond PRO reinforced membrane under all concrete pavers for the protection of the deck membrane.

The protective layer must extend a minimum of 2 inches (2.5 cm) on each side of the walkway.

4. **Interlocking™ Rubber Pavers**

Rubber Pavers may be loose laid directly over the membrane. Installation instruction sheets are available from WeatherBond.

**Note:** Pavers are not recommended for walkways when slopes exceed 2 inches per horizontal foot (5 cm/m).

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**Daily Seal**

1. On phased roofing, when the completion of flashings and terminations is not possible by the end of each workday, provisions must be taken to temporarily close the membrane to prevent water infiltration.

   Temporarily seal any loose membrane edge (down slope) using asphaltic based roof cement, hot asphalt, spray urethane foam or a similar product so the membrane edge will not buck water.

   Caution must be exercised to ensure the membrane is not temporarily sealed near drains in such a way as to promote water migration below the membrane.

2. On existing built-up roofs, remove the gravel. The surface must be clean and dry.

3. After embedding the membrane in daily seal material, CHECK FOR CONTINUOUS CONTACT. Provide continuous pressure over the length of the temporary seal with 15 foot (4.6 m) lengths of 2-1/2
inch (6.5 cm) diameter Lay Flat Tubing filled with dry sand.

**Note:** The use of rigid wood is not recommended due to warping and because constant compression cannot be achieved on an uneven substrate.

5. When work is resumed, pull the WeatherBond PRO TPO membrane free; trim and remove membrane where the daily seal material was previously applied before continuing installation of adjoining sections.

**Clean Up**

If required by the specifier to ensure the aesthetics of the surface of the WeatherBond PRO TPO membrane, hand prints, footprints, general traffic grime, industrial pollutants and environmental dirt may be cleaned from the surface of the WeatherBond PRO TPO membrane by scrubbing with soapy (non-abrasive soap) water and rinsing the area completely with clean water. Membrane Cleaner can also be used to clean the surface of the WeatherBond PRO TPO membrane.
Post Job Inspection

Before leaving the job site, WeatherBond recommends a post job review to identify problem areas that may result in a future issue. The following list should be used by the foreman as a post job review:

- Insulation Concerns
- Membrane Securement
- Heat Welded Field Seams
- Flashings
- Sealant Pockets
- Drains
- Pipe Seals (Molded, Split Pipe Seal and Field Fabricated)
- Corners
- Scuppers

Insulation Concerns

1. Insulation must be acceptable for use with the designated WeatherBond roofing system. Refer to the WeatherBond Specifications or contact your local WeatherBond Representative.

2. No gaps or height differences between insulation boards greater than 1/4 inch (6 mm). Broken
corners on insulation boards must be replaced to avoid gaps greater than 1/4 inch.

3. Insulation that becomes saturated during installation must be replaced.

4. Fastening patterns recommended by the insulation manufacturer must be followed. If you are not certain, contact the insulation manufacturer.

5. Insulation fastener and plate assembly must be Factory Mutual (FM) approved for single-ply roofing systems. If any fasteners other than WeatherBond Fasteners are used, check for FM approval.

**Membrane Securement**

Membrane securement must be installed at perimeters of each roof level, curbs, skylights, expansion joints and all inside deck angle changes greater than 2 inches in 12 inches (2.5 in 31 cm). Membrane securement is also required around all pipe penetrations and Sealant Pockets regardless of size on Mechanically Fastened Systems. On Adhered Systems, only when the pipe diameter exceeds 18 inches (46 cm) in size or the Sealant Pocket exceeds 12" in size is membrane securement required.

1. Proper membrane securement requires fasteners to be installed per specification but at a maximum of 12 inches (31 cm) on center.

2. Perimeter membrane sheets must be fastened at the same spacing as the field sheets.

3. 6" wide TPO Pressure Sensitive RUSS may be installed in conjunction with WeatherBond Fasteners and HPWX plates spaced a maximum of 12" on center below the membrane. The securement strip shall be installed horizontally at the base of walls or penetrations.

4. No vertical or horizontal compression type wood nailers are accepted.
Heat Welded Field Splices

1. Splices are a minimum of 1-1/2 inches (4 cm) wide. Mechanically-Fastened field splices with HPWX Plates are a minimum of 5-1/2 inches (14 cm) wide.

2. There must be no wrinkles or fishmouths through the heat welded splice area.

3. Wrinkles and fishmouths in the splice area must be cut out, then covered with a surface splice using like material if insulation is exposed, otherwise, WeatherBond PRO TPO Flashing may be used.

3. TPO Cut Edge Sealant must be used on all cut edges of the reinforced membrane (where the scrim reinforcement is exposed). TPO Cut Edge Sealant is not required on vertical splices.

Flashings

1. Flash all penetrations to conform to the appropriate WeatherBond PRO Detail.

2. Remove all lead flashings, rust, etc. from pipes before installing WeatherBond PRO flashings.

3. Make sure all flashings, except those listed below, are terminated with a WeatherBond PRO Termination Detail.

   WBPC-1.X – Metal Edging
   WBPC-16.X – Molded Sealant Pockets
   WBPC-18.X – Scuppers

Sealant Pockets

1. Clean penetrations of any foreign materials (i.e., asphalt, coal tar, rust, etc.) with a wire brush and always clean with Weathered Membrane Cleaner.

WeatherBond PRO TPO Molded Sealant Pockets or TPO Pre-fabricated Sealant Pockets are recommended. Install
the TPO Molded Sealant Pocket per the instructions listed on the previous pages of this Installation Guide.

If metal pockets are to be used, corners of the metal pan deck flanges must be continuous and rounded.

2. Run flashing up, over and down inside the Sealant Pocket Dam a minimum of 1/2 inch (13 mm).

3. Apply Multipurpose Primer to all surfaces that will come in contact with the TPO Pocket Sealant. Completely fill Sealant Pockets to the top of the rim with TPO Pocket Sealant.

4. Minimum clearance from penetration to the wall of the Sealant Pocket and between all penetrations is 1 inch (2.5 cm).

**Drains**

1. All bolts/clamps must be in place and tight.

2. WeatherBond Water Cut-Off Mastic must be used.

3. Drainage hole in the TPO membrane must be larger than drain tube.

4. Compression ring drain components must be intact, not broken.

5. Drain sump cannot exceed 6 inches (15.5 cm) in 12 inches (31 cm) slope when using insulation.

**Pipe Seals**

*Molded Pipe Seals*

1. Cannot be cut and spliced.

2. Must not be installed inside out.

3. Must have WeatherBond Water Cut-Off Mastic and stainless steel clamps at the top of the cone. Top rib must be intact.
4. Base flanges of factory boots cannot overlap or turn up angle changes.

**TPO Split Pipe Seals**

1. Select the correct size Split Pipe Seal for proper installation. Follow the installation instructions found on the previous pages of this Installation Guide.

2. **Apply TPO Cut-Edge Sealant** on all cut edges of the reinforced membrane (where the scrim reinforcement is exposed) after *seam probing* is completed. TPO Cut-Edge Sealant is not required on vertical splices.

3. Must have WeatherBond Water Cut-Off Mastic and stainless steel clamps at the top of the pipe seal.

**Field Fabricated Pipe Seals**

1. Must be made with a least two pieces of flashing - one base, one vertical wrap.

2. Base piece must extend 3 inches (8 cm) minimum away from the pipe, extend 1/2 inch (13 mm) minimum up the pipe and the cut in the base piece must be overlapped 1 inch (2.5 cm) minimum.

3. Vertical wrap must splice onto the base piece 1 inch (2.5 cm) minimum and achieve an 1.5 inch (3.8 cm) minimum vertical splice.

4. Look for splice separation (bridging) at the angle change.

5. Stainless steel clamping rings are required at the top of the pipe flashings.

**Corners**

All inside and outside corners must be completed using TPO Inside and Outside Corners or be fabricated from WeatherBond PRO TPO Flashing.
Scuppers

1. All flanges must have continuous, rounded corners.

2. WeatherBond Water Cut-Off Mastic must be applied behind the metal flange.

3. The metal flange must be fastened to provide constant compression of WeatherBond Water Cut-Off Mastic.

4. A 2-inch (5 cm) minimum splice is required from the point of scupper securement.
WeatherBond PRO TPO
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1. INSTALL WEATHERBOND PRO COATED METAL WITH 1/8" - 1/4" (3 - 6 mm) JOINTS BETWEEN ADJOINING SECTIONS.

2. INSTALL 2" (50 mm) WIDE FOIL GRIP ALUMINUM TAPE OVER JOINTS IN WEATHERBOND PRO COATED METAL.

3. HEAT WELD 6" (150 mm) WIDE PIECE OF WEATHERBOND PRO NON-REINFORCED MEMBRANE OVER JOINT.

4. POSITION WEATHERBOND PRO REINFORCED MEMBRANE AND HEAT WELD TO WEATHERBOND PRO COATED METAL A MINIMUM OF 1-1/2" (40 mm) AS SHOWN BELOW.
COATED METAL DRIP EDGE

WeatherBond™ Pro ROOFING SYSTEM

NOTES:

1. FASTENERS USED TO ATTACH WEATHERBOND PRO COATED METAL MUST PENETRATE WOOD NAILERS A MINIMUM OF 1-1/4" (32 mm). IF 1/2" (13 mm) PLYWOOD IS USED AS THE TOP NAILER, FASTENERS MUST PENETRATE A MINIMUM OF 1-1/4" INTO NAILER BELOW.

2. APPROXIMATELY 1/8" (3 mm) DIAMETER BEAD OF CUT-EDGE SEALANT IS REQUIRED ON CUT EDGES OF WEATHERBOND PRO REINFORCED MEMBRANE.

3. GAUGE OF CONTINUOUS CLEAT IS DEPENDENT ON THE FASCIA HEIGHT AS SHOWN ON THE CHART BELOW.

<table>
<thead>
<tr>
<th>MAX. FASCIA LENGTH</th>
<th>GAUGE OF CONT. CLEAT</th>
</tr>
</thead>
<tbody>
<tr>
<td>4&quot; (100 mm)</td>
<td>24 GAUGE (.59 mm)</td>
</tr>
<tr>
<td>6&quot; (150 mm)</td>
<td>22 GAUGE (.75 mm)</td>
</tr>
<tr>
<td>8&quot; (200 mm)</td>
<td>20 GAUGE (.91 mm)</td>
</tr>
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NOTES:

1. CLEAN THE EXISTING MEMBRANE (AND METAL IF APPLICABLE) WITH WEATHERED MEMBRANE CLEANER. PRIME THE MEMBRANE USING WEATHERBOND MULTIPURPOSE PRIMER. ONCE THE PRIMER IS PROPERLY DRIED, THE PS COVER STRIP IS APPLIED AND ROLLED USING A 2" WIDE ROLLER.

2. WOOD NAILER MUST EXTEND PAST TOTAL WIDTH OF METAL FASCIA DECK FLANGE.

3. FASTENERS AND FASTENER PATTERN AS RECOMMENDED BY METAL EDGE MANUFACTURER.

4. DECK FLANGE MUST BE TOTALLY COVERED BY PS COVER STRIP WITH MINIMUM 2" (50 mm) COVERAGE PAST NAIL HEADS.
WeatherBond™ Pro ROOFING SYSTEM

CREASE MEMBRANE AT ANGLE CHANGE TO LIMIT BRIDGING TO 3/4" (19 mm) MAXIMUM

- FASTEN 12" (300 mm) O.C.
- METAL CAP OR COUNTERFLASHING (BY OTHERS)
- WEATHERBOND PRO BONDING ADHESIVE (SEE NOTES 1 & 2)
- WEATHERBOND PRO REINFORCED MEMBRANE (SEE NOTE 4)
- APPROVED SEAM FASTENING PLATE, 12" (300 mm) O. C. MAX.
- MINIMUM 1-1/2" (40 mm) HOT AIR WELD
- CUT-EDGE SEALANT (SEE NOTE 4)
- WEATHERBOND PRO REINFORCED MEMBRANE

ACCEPTABLE INSULATION

- USE ONE CONTINUOUS SHEET OF REINFORCED MEMBRANE TO WRAP AROUND CURB OR FORM FROM COATED METAL
- INSTALL OUTSIDE CORNERS PER DETAIL WBPC-15.3 OR WBPC-15.4

NOTES:

1. BONDING ADHESIVE IS NOT REQUIRED WHEN FLASHING HEIGHT IS 12" (300 mm) OR LESS AND MEMBRANE IS FASTENED "AS SHOWN" AT TOP OF CURB.
2. WHEN WEATHERBOND TERMINATION BAR IS USED BENEATH THE COUNTERFLASHING, BONDING ADHESIVE CAN BE ELIMINATED WHEN THE FLASHING HEIGHT IS 18" (500 mm) OR LESS.
3. FLASHING MEMBRANE FASTENED APPROXIMATELY 12" ON CENTER. IF FASTENER PENETRATES METAL COUNTERFLASHING, USE NEOPRENE WASHER OR APPLY WATER CUT-OFF MASTIC UNDER COUNTERFLASHING OR CAULK FASTENER HEAD.
4. APPROXIMATELY 1/8" (3 mm) BEAD OF CUT-EDGE SEALANT IS REQUIRED ON CUT EDGES OF WEATHERBOND PRO REINFORCED MEMBRANE.
5. REFER TO SPECIFICATION FOR ACCEPTABLE FASTENERS AND PLATES.
6. FOR CORNER FLASHING, REFER TO APPLICABLE WBPC-15 DETAIL.
CREASE MEMBRANE AT ANGLE CHANGE TO LIMIT BRIDGING TO 3/4" (19 mm) MAXIMUM

FASTEN 12" (300 mm) O.C.
METAL CAP OR COUNTERFLASHING (BY OTHERS)
TPO CURB WRAP CORNER (SEE NOTE 3)
APPROVED SEAM FASTENING PLATE, 12" (300 mm) O. C. MAX.
MINIMUM 1-1/2" (40 mm) HOT AIR WELD
CUT-EDGE SEALANT (SEE NOTE 3)
WEATHERBOND PRO REINF. MEMBRANE

ACCEPTABLE INSULATION

LIMITED TO 12" (300 mm) MAXIMUM FLASHING HEIGHT (CUSTOM SIZES AVAILABLE - HEIGHT AND OVERALL LENGTH)

USE ONE TPO CURB WRAP CORNER AT EACH CORNER OF THE CURB. HOT AIR WELD ALL SEAMS IN ACCORDANCE WITH STANDARD SPlicing METHODS. REFER TO NOTE 1 ON NEXT PAGE.
NOTES:

1. FOUR (4) TPO CURB WRAP CORNERS WILL COMPLETELY FLASH A MAXIMUM CURB SIZE OF 6’ X 6’ (1.8 X 1.8 m). FOR LARGER CURBS USE THE TPO CURB WRAP CORNERS IN CONJUNCTION WITH ADDITIONAL SECTIONS OF WEATHERBOND PRO TPO MEMBRANE.

2. FLASHING MEMBRANE FASTENED APPROXIMATELY 12” ON CENTER. IF FASTENER PENETRATES METAL COUNTERFLASHING, USE NEOPRENE WASHER OR APPLY WATER CUT-OFF MASTIC UNDER COUNTERFLASHING OR CAULK FASTENER HEAD.

3. APPROXIMATELY 1/8" (3 mm) BEAD OF CUT-EDGE SEALANT IS REQUIRED ON THE CUT EDGES OF THE TPO FIELD WRAP CORNER.

4. REFER TO SPECIFICATION FOR APPROVED FASTENERS AND PLATES.
WEATHERBOND™ Pro ROOFING SYSTEM

COATED METAL CURB FLASHING

- Fasten 12" (300 mm) O.C.
- metallic cap or counterflashing (by others)
- WeatherBond Pro coated metal
- Minimum 1-1/2" (40 mm) hot air weld
- Wood nailer (by others)
- 1-1/4" (32 mm)
  - Min. ring shank nails
  - 6" (150 mm) O.C.
  - staggered
  - approx. 1/2"
  - (13 mm)
- WeatherBond Pro reinforced membrane

Acceptable insulation

- Allow 1/4"
  - gap in WeatherBond Pro coated metal
- Install 2" (50 mm)
  - Wide foil grip aluminum tape
  - over joint in WeatherBond Pro coated metal

WBPC-5.2 (continued on next page)
COATED METAL CURB FLASHING
NOTE:

1. COATED METAL FLASHING FASTENED APPROXIMATELY 6" (150 mm) ON CENTER. IF FASTENER PENETRATES METAL COUNTERFLASHING, USE NEOPRENE WASHER OR APPLY WATER CUT-OFF MASTIC UNDER COUNTERFLASHING OR CAULK FASTENER HEAD.

2. APPROXIMATELY 1/8" (3 mm) DIAMETER OF CUT-EDGE SEALANT IS REQUIRED ON CUT EDGES OF WEATHERBOND PRO REINFORCED MEMBRANE.
NOTES:

1. REMOVE ALL LEAD AND OTHER FLASHING.

2. ALL BOLTS AND CLAMPS MUST BE IN PLACE TO PROVIDE CONSTANT COMPRESSION ON WATER CUT-OFF MASTIC.

3. CUT THE MEMBRANE SO IT EXTENDS A MINIMUM OF 1/2" (13 mm) FROM THE ATTACHMENT POINTS OF THE DRAIN CLAMPING RING.

4. FOR DRAIN SUMPS WITH SLOPES GREATER THAN 3" (75 mm) IN 12" (300 mm) REFER TO DETAIL WBPC-6.2.

5. IT IS PREFERRED TO LOCATE SPLICES AT LEAST 6" (150 mm) OUTSIDE DRAIN SUMP. IF SPLICES EXTEND UNDER CLAMPING RING, ENTIRE SPLICE OVERLAP MUST BE HOT AIR WELDED.
WeatherBond™ Pro ROOFING SYSTEM

FOR DRAINS WITH TAPERED INSULATION AT DRAIN SUMP GREATER THAN 3” TO 1 HORIZONTAL FOOT (75 mm/300 mm)

NOTES:

1. EXTEND THE REINFORCED MEMBRANE APPROXIMATELY 5-1/2” (140 mm) OUT OF THE SUMP AREA.

2. REMOVE ALL LEAD AND OTHER FLASHING.

3. ALL BOLTS OR CLAMPS MUST BE IN PLACE TO PROVIDE COMPRESSION ON WATER CUT-OFF MASTIC.

4. CUT THE MEMBRANE SO IT EXTENDS A MINIMUM OF 1/2” (13 mm) FROM THE ATTACHMENT POINTS OF THE DRAIN CLAMPING RING.

5. APPROXIMATELY 1/8” (3 mm) DIAMETER BEAD OF CUT-EDGE SEALANT IS REQUIRED ON CUT EDGE OF WEATHERBOND PRO REINFORCED MEMBRANE.
WeatherBond™ Pro ROOFING SYSTEM

FOR DRAINS WITH TAPERED INSULATION AT DRAIN SUMP GREATER THAN 3" TO 1 HORIZONTAL FOOT

MINIMUM 1-1/2" (40 mm) WIDE HOT AIR WELD ALONG ENTIRE MEMBRANE EDGE (INCLUDING CUT SECTIONS UP DRAIN SUMP) REFER TO DETAIL WBPC-6.3 PAGE 2 OF 2

WEATHERBOND PRO REINFORCED MEMBRANE

ACCEPTABLE INSULATION

WEATHERBOND PRO REINFORCED MEMBRANE (REFER TO DETAIL WBPC-6.3 PAGE 2 OF 2)

WATER CUT-OFF MASTIC

NOTES:

1. REMOVE ALL LEAD AND OTHER FLASHING.

2. ALL DRAIN BOLTS OR CLAMPS MUST BE IN PLACE TO PROVIDE COMPRESSION ON WATER CUT-OFF MASTIC.

3. CUT MEMBRANE SO IT EXTENDS A MINIMUM OF 1/2" (13 mm) FROM ATTACHMENT POINTS OF THE CLAMPING RING.

4. APPROXIMATELY 1/8" (3 mm) DIAMETER BEAD OF CUT-EDGE SEALANT IS REQUIRED ON CUT EDGES OF WEATHERBOND PRO REINFORCED MEMBRANE.
WeatherBond™ Pro ROOFING SYSTEM

FOR DRAINS WITH TAPERED INSULATION AT DRAIN SUMP GREATER THAN 3” TO 1 HORIZONTAL FOOT

CUT SECTION OF WEATHERBOND PRO REINFORCED MEMBRANE AS SHOWN AND POSITION INTO DRAIN SUMP. EXTEND MEMBRANE OUT OF DRAIN SUMP APPROXIMATELY 6” (150 mm) (ROUND CORNERS).

EXTEND WEATHERBOND PRO MEMBRANE ONTO MEMBRANE SECTION POSITIONED AT DRAIN SUMP AND CUT AS SHOWN TO LAY FLAT IN SUMP. HOT AIR WELD A MINIMUM OF 1-1/2” (40 mm) COMPLETELY SURROUNDING AREA.

MIN. 1-1/2” WIDE HOT AIR WELD

CONTINUOUS FIELD MEMBRANE

MIN. 3” (75 mm)

FIELD MEMBRANE - CUT TO LAY FLAT IN SUMP AREA

MIN. 1-1/2” WIDE HOT AIR WELD

DRAIN CLAMPING RING

WEATHERBOND PRO REINFORCED MEMBRANE

APPROX. 6”

MIN. 6”

DRAIN SUMP BOUNDARY

DRAIN SUMP

DRAIN BASE

MIN. 12”
(300 mm)
NOTES:
1. REMOVE ALL LEAD AND OTHER FLASHING.
2. TEMPERATURE OF PIPE MUST NOT EXCEED 120º F (49º C).
3. PIPE SEAL MUST HAVE INTACT RIB AT TOP EDGE, REGARDLESS OF PIPE DIAMETER.
4. INSTALL 3 FASTENERS AND PLATES AROUND PIPE EQUALLY SPACED. FASTENERS MAY ALSO BE POSITIONED MAXIMUM 12" (300 mm) FROM PIPE, FASTENED 12" ON CENTER AND FLASHED WITH WEATHERBOND PRO REINFORCED MEMBRANE. FASTENERS/PLATES ARE NOT REQUIRED ON ADHERED SYSTEMS UNLESS PIPE DIAMETER EXCEEDS 18" (500 mm).
5. IF PLATES CANNOT BE INSTALLED AS SHOWN THEY CAN BE POSITIONED OUTSIDE THE PIPE FLASHING FLANGE AS SHOWN ON DETAIL WBPC-8.6.
6. PIPE FLASHING DECK FLANGE MUST BE HOT AIR WELDED A MINIMUM OF 1-1/2" (40 mm) BEYOND FASTENING PLATES.
7. INSTALL A SECTION OF WEATHERBOND PRO REINFORCED MEMBRANE OVER SPLICE INTERSECTIONS PRIOR TO INSTALLING PRE-MOLDED PIPE SEAL.
NOTES:

1. REMOVE ALL LEAD AND OTHER FLASHING BEFORE INSTALLING FIELD FABRICATED PIPE SEAL.

2. TEMPERATURE OF PIPE MUST NOT EXCEED 120°F (49°C).

3. WEATHERBOND PRO NON-REINFORCED MEMBRANE WRAPPED AROUND PIPE SHALL HAVE MINIMUM 1-1/2" (40 mm) VERTICAL HOT AIR WELD.

4. INSTALL A MINIMUM OF 4 FASTENING PLATES AROUND PIPES WITH A DIAMETER UP TO 6" (150 mm). ADDITIONAL FASTENING PLATES WILL BE REQUIRED FOR PIPES GREATER THAN 6" IN DIAMETER AND SHALL BE SPACED 12" (300 mm) ON CENTER MAXIMUM.

FASTENERS/PLATES ARE NOT REQUIRED ON ADHERED SYSTEMS UNLESS PIPE DIAMETER EXCEEDS 18" (500 mm).

5. REFER TO "ATTACHMENT I, MEMBRANE FASTENING CRITERIA" FOR PROPER FASTENERS AND PLATES.

6. APPROXIMATELY 1/8" (3 mm) DIAMETER BEAD OF CUT-EDGE SEALANT IS REQUIRED ON CUT EDGES OF WEATHERBOND PRO REINFORCED MEMBRANE.
NOTES:

1. FIELD-FABRICATED PIPE SEAL FOR USE WITH HOT PIPE, 120º F (49º C) OR HOTTER.

2. WEATHERBOND PRO NON-REINFORCED MEMBRANE WRAPPED AROUND PIPE SHALL HAVE MINIMUM 1-1/2" (40 mm) VERTICAL HOT AIR WELD.

3. TEMPERATURE OF METAL COLLAR MUST NOT EXCEED 120º F.
NOTES:

1. REMOVE ALL LEAD AND OTHER FLASHING.

2. TEMPERATURE OF PIPE MUST NOT EXCEED 120° F (49° C).

3. INSTALL 4 FASTENERS AND PLATES AROUND PIPE EQUALLY SPACED. FASTENERS MAY ALSO BE POSITIONED MAXIMUM 12" (300 mm) FROM PIPE, FASTENED 12" ON CENTER AND FLASHED WITH WEATHERBOND PRO REINFORCED MEMBRANE.

FASTENERS/PLATES ARE NOT REQUIRED ON ADHERED SYSTEMS UNLESS PIPE DIAMETER EXCEEDS 18" (500 mm).

IF PLATES CANNOT BE INSTALLED AS SHOWN THEY CAN BE POSITIONED OUTSIDE THE PIPE FLASHING FLANGE AS SHOWN ON DETAIL WBPC-8.6.

4. PIPE FLASHING DECK FLANGE MUST BE HOT AIR WELDED A MINIMUM OF 1-1/2" (40 mm) BEYOND FASTENING PLATES.
WeatherBond® Pro ROOFING SYSTEM

APPLY HEAT TO FLASHING AND FORM BY HAND PRIOR TO HOT AIR WELDING

NOTES:

1. REMOVE ALL LEAD AND OTHER FLASHING BEFORE INSTALLING FIELD FABRICATED PIPE SEAL.

2. INSTALL A MINIMUM OF 4 FASTENING PLATES AROUND TUBES WITH A DIMENSION UP TO 6” (150 mm). ADDITIONAL FASTENING PLATES WILL BE REQUIRED FOR TUBES WITH SIDE DIMENSIONS GREATER THAN 6” AND SHALL BE SPACED 12” (300 mm) ON CENTER MAXIMUM.

FASTENERS/PLATES ARE NOT REQUIRED ON ADHERED SYSTEMS UNLESS TUBE SIDE DIMENSIONS EXCEED 18” (500 mm).

3. REFER TO "ATTACHMENT I, MEMBRANE FASTENING CRITERIA" FOR PROPER FASTENERS AND PLATES.

4. APPROXIMATELY 1/8” (3 mm) DIAMETER BEAD OF CUT-EDGE SEALANT IS REQUIRED ON CUT EDGES OF WEATHERBOND PRO REINFORCED MEMBRANE.
NOTES:

1. REMOVE ALL LEAD AND OTHER FLASHING BEFORE INSTALLING FIELD FABRICATED PIPE SEAL.

2. INSTALL A MINIMUM OF 4 FASTENING PLATES AROUND TUBES WITH A DIMENSION UP TO 6" (150 mm). ADDITIONAL FASTENING PLATES WILL BE REQUIRED FOR TUBES WITH SIDE DIMENSIONS GREATER THAN 6" AND SHALL BE SPACED 12" (300 mm) ON CENTER MAXIMUM. FASTENERS/PLATES ARE NOT REQUIRED ON ADHERED SYSTEMS UNLESS TUBE SIDE DIMENSIONS EXCEED 18" (500 mm).

3. PLATES MAY BE POSITIONED INSIDE (OR BELOW) THE PIPE FLASHING FLANGE AS SHOWN ON DETAIL WBPC-8.4.

4. REFER TO "ATTACHMENT I, MEMBRANE FASTENING CRITERIA" FOR PROPER FASTENERS AND PLATES.

5. APPROXIMATELY 1/8" (3 mm) DIAMETER BEAD OF CUT-EDGE SEALANT IS REQUIRED ON CUT EDGES OF WEATHERBOND PRO REINFORCED MEMBRANE.
WeatherBond™ Pro ROOFING SYSTEM

WBPC-9.3 COUNTERFLASHING TERMINATION

NOTES:
1. COUNTERFLASHING SHALL BE ELEVATED ABOVE PONDED WATER.
2. NOT FOR USE ON 15-YEAR WARRANTY PROJECTS (REFER TO DETAIL WBPC-9.6).
3. BONDING ADHESIVE IS NOT REQUIRED WHEN FLASHING HEIGHT IS 12" (300 mm) OR LESS.

WBPC-9.6 MECHANICAL TERMINATION

NOTES:
1. APPLY ON HARD SMOOTH SURFACE ONLY; NOT FOR USE ON WOOD.
2. DO NOT WRAP COMPRESSION TERMINATION AROUND CORNERS.
3. FASTENERS OF METAL BAR MUST PROVIDE CONSTANT COMPRESSION ON WATER CUT-OFF MASTIC.
4. ALLOW 1/4" to 1/2" (6 to 13 mm) SPACING BETWEEN CONSECUTIVE LENGTHS OF TERMINATION BAR.
5. BONDING ADHESIVE IS NOT REQUIRED WHEN FLASHING IS 18" (500 mm) OR LESS.

WBPC-9 (continued on next page) FLAShING TERMINATIONS
WeatherBond™ Pro ROOFING SYSTEM

WBPC-9.5 COPING STONE TERMINATION

WEATHERBOND PRO BONDING ADHESIVE IS NOT REQUIRED WHEN FLASHING HEIGHT IS 18" (500 mm) OR LESS
COPING STONE (BY OTHERS)
WEATHERBOND PRO REINFORCED MEMBRANE
WATER CUT-OFF MASTIC
WEATHERBOND PRO BONDING ADHESIVE

WBPC-9.2 CAP FLASHING TERMINATION

METAL CAP (BY OTHERS)
WEATHERBOND PRO REINFORCED MEMBRANE
WEATHERBOND PRO BONDING ADHESIVE

WBPC-9 (continued from previous page)
FLASHING TERMINATIONS
WeatherBond™ Pro ROOFING SYSTEM

CREASE MEMBRANE AT ANGLE CHANGE TO LIMIT BRIDGING TO 3/4” (19 mm) MAXIMUM

NOTES:

1. POSITION FASTENING PLATES 1/2” (13 mm) TO 1” (25 mm) FROM EDGE OF DECK MEMBRANE.

2. APPROXIMATELY 1/8” (3 mm) DIAMETER BEAD OF CUT-EDGE SEALANT IS REQUIRED ON CUT EDGES OF WEATHERBOND PRO REINFORCED MEMBRANE.

3. WHEN COUNTERFLASHING IS USED FOR TERMINATION, BONDING ADHESIVE IS NOT REQUIRED WHEN FLASHING HEIGHT IS 12” (300 mm) OR LESS. WHEN COPING OR A TERMINATION BAR IS USED, ADHESIVE MAY BE ELIMINATED WHEN FLASHING HEIGHT IS 18” (500 mm) OR LESS.

4. REFER TO "ATTACHMENT I, MEMBRANE FASTENING CRITERIA" FOR PROPER FASTENERS AND PLATES.

5. FASTENING PLATES CAN BE INSTALLED VERTICALLY.

WEATHERBOND PRO REINFORCED MEMBRANE
WEATHERBOND PRO BONDING ADHESIVE (SEE NOTE 3)
APPROVED FASTENER AND FASTENING PLATE, 12” (300 mm) O.C. MAX. (NOTES 4 & 5)
MIN. 1-1/2” (40 mm) HOT AIR WELD
SEE NOTE 2
WEATHERBOND PRO REINFORCED MEMBRANE
APPROVED INSULATION

ANY WBPC-9 TERMINATION

WBPC-12.1
PARAPET FLASHING
WeatherBond™ Pro ROOFING SYSTEM

CREASE MEMBRANE AT ANGLE CHANGE TO LIMIT BRIDGING TO 3/4" (19 mm) MAXIMUM

ANY WBPC-9 TERMINATION

WEATHERBOND PRO BONDING ADHESIVE

APPROVED FASTENERS AND PLATES, MAXIMUM 12" O.C. (SEE NOTE 2)

6" (150 mm) WIDE WEATHERBOND TPO PS RUSS

WEATHERBOND PRO MEMBRANE

APPROVED INSULATION

PRIMER MUST BE APPLIED TO BACK SIDE OF MEMBRANE PRIOR TO ADHERING MEMBRANE TO WEATHERBOND PS RUSS

NOTES:

1. FOR CORNER APPLICATION, SEE DETAIL WBPC-15.5.

2. WHEN COUNTERFLASHING IS USED FOR TERMINATION, BONDING ADHESIVE IS NOT REQUIRED WHEN FLASHING HEIGHT IS 12" (300 mm) OR LESS. WHEN COPING OR TERMINATION BAR IS USED, ADHESIVE MAY BE ELIMINATED WHEN FLASHING HEIGHT IS 18" (500 mm) OR LESS.

WBPC-12.2
WALL FLASHING/PS RUSS

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NOTES:

1. APPROXIMATELY 1/8" (3 mm) DIAMETER BEAD OF CUT-EDGE SEALANT IS REQUIRED ON CUT EDGES OF REINFORCED MEMBRANE.

2. A COUNTERFLASHING TERMINATION MAY BE USED IN LIEU OF METAL CAP FLASHING. REFER TO DETAIL WBPC-9.3.

3. PLACE A LAYER OF WEATHERBOND PRO MEMBRANE UNDER THE METAL CAP TO PROTECT AGAINST MOISTURE INfiltrATION AT JOINTS.
1. ALLOW 1/4" GAP BETWEEN ADJOINING SECTIONS OF COATED METAL.

2. INSTALL 2" (50 mm) WIDE DUCT TAPE OVER JOINT IN COATED METAL.

3. HEAT WELD 6" (150 mm) WIDE PIECE OF NON-REINF. MEMBRANE OVER JOINT.
NOTE:

WHEN ROOF SLOPE IS TOWARD THE WEATHERBOND PRO ROOFING SYSTEM, DRILL A 3/8" (10 mm) DIAMETER DEEP HOLE IN THE BOTTOM FLUTES OF THE STEEL DECK ALONG THE PERIMETER OF THE TIE-IN 6" TO 12" (150 TO 300 mm) FROM THE FASTENING PLATES.
NOTES:

1. THE USE OF THE TERMINATION BAR IS TO PREVENT MIGRATION OF WATER BENEATH THE WEATHERBOND PRO ROOFING SYSTEM.

2. TERMINATION BAR IS NOT REQUIRED WHEN EXISTING ROOF SLOPE IS TOWARD EXISTING ROOFING SYSTEM.

3. REFER TO “ATTACHMENT I” IN THE “APPLICATION” SECTION OF THE WEATHERBOND PRO SPECIFICATION FOR PROPER FASTENERS AND PLATES.
NOTES:

1. REFER TO SPECIFICATION FOR ACCEPTABLE FASTENERS AND PLATES.

2. REFER TO WEATHERBOND'S EPDM INSTALLATION PROCEDURE FOR SURFACE PREPARATION REQUIREMENTS FOR EXISTING MEMBRANE.

3. PRIOR TO SEAM ADHESIVE APPLICATION, USE WEATHERED MEMBRANE CLEANER TO PREPARE SURFACES OF WEATHERBOND PRO AND CLEANED EPDM MEMBRANE.

4. A MINIMUM 1-1/2" (40 mm) HOT AIR WELD MAY BE PROVIDED IN LIEU OF SEAM ADHESIVE (USE CUT-EDGE SEALANT IN LIEU OF PT 304 SEALANT).

5. WEATHERBOND MULTIPURPOSE PRIMER MUST BE USED TO PREPARE MEMBRANE SURFACES PRIOR TO APPLYING PT 304 SEALANT.
NOTE:
1. BEGIN INSTALLATION OF FASTENING PLATES 6" TO 9" (150 TO 230 mm) FROM THE CORNER.
2. POSITION FASTENING PLATES 1/2" TO 1" (13 mm to 25 mm) FROM EDGE OF MEMBRANE.
3. APPROXIMATELY 1/8" (3 mm) DIAMETER BEAD OF CUT-EDGE SEALANT IS REQUIRED ON CUT EDGES OF WEATHERBOND PRO REINFORCED MEMBRANE.
4. REFER TO SPECIFICATION FOR ACCEPTABLE FASTENERS AND PLATES.
WeatherBond™ Pro ROOFING SYSTEM

CUT A SECTION OF WEATHERBOND PRO NON-REINFORCED MEMBRANE WITH ROUNDED CORNERS OR USE INSIDE/OUTSIDE CORNER; FOLD ALONG LINE AS INDICATED.

HEAT WELD APPROXIMATELY 1/4 OF AREA AS SHOWN

TRIM TRIANGULAR FLAP BEYOND EXPOSED CORNER AS SHOWN

POSITION AND HEAT WELD CORNER IN PLACE AS SHOWN

REINFORCED MEMBRANE
WEATHERBOND PRO INSIDE/OUTSIDE CORNER OR FIELD FABRICATED NON-REINFORCED FLASHING
NOTES:

1. BEGIN INSTALLATION OF FASTENING PLATES APPROXIMATELY 6" (150 mm) FROM CORNER.

2. POSITION FASTENING PLATES 1/2" TO 1" (13 mm to 25 mm) FROM EDGE OF DECK MEMBRANE.

3. APPROXIMATELY 1/8" (3 mm) DIAMETER BEAD OF CUT-EDGE SEALANT IS REQUIRED ON CUT EDGES OF WEATHERBOND PRO REINFORCED MEMBRANE.

4. REFER TO SPECIFICATION FOR ACCEPTABLE FASTENERS AND PLATES.
WeatherBond™ Pro ROOFING SYSTEM

APPLY HEAT TO WEATHERBOND PRO NON-REINFORCED MEMBRANE AND FORM BY HAND PRIOR TO HOT AIR WELDING CORNER IN PLACE.

POSITION AND HEAT WELD CORNER IN PLACE AS SHOWN

WEATHERBOND PRO NON-REINFORCED MEMBRANE

ROUND CORNERS OF NON-REINFORCED MEMBRANE

APPROX. 6" (150 mm)
WeatherBond™ Pro ROOFING SYSTEM

1. 6" WIDE WEATHERBOND PRO PS RUSS
   - APPROVED PLATE AND FASTENER, MAX. 12" O.C.
   - PRE-APPLIED QA TAPE
   - INSTALL PS RUSS AND FASTEN TO ROOF DECK WITH APPROVED FASTENERS AND PLATES, MAX. 12" O.C.

2. PRIMER
   - BONDING ADHESIVE
   - 6" WIDE PS RUSS
   - FOR RUSS SECUREMENT, REFER TO DETAIL WBPC-12.2.

3. CUT LINE
   - WEATHERBOND PRO MEMBRANE
   - 6" WIDE PS RUSS
   - THE CUT SECTION OF VERTICAL MEMBRANE WILL BE FOLDED UNDER THE FIELD MEMBRANE AS SHOWN IN STEP 4.

4. FOLD MEMBRANE UNDER
   - 6" WIDE PS RUSS

WEATHERBOND PRO PS RUSS

MIN. 6"

STOP CUT

MIN." (150 mm)

THIS CUT SECTION WILL BE FOLDED UNDER AS SHOWN IN STEP 4.

WBPC-15.5 (continued on next page)
INSIDE CORNER/PS RUSS
WeatherBond™ Pro ROOFING SYSTEM

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WEATHERBOND PRO MEMBRANE

PRIMER
BONDING ADHESIVE
6" WIDE PS RUSS
BONDING ADHESIVE

6

1-1/2" (40 mm) WIDE MIN.
WEATHERBOND PRO MEMBRANE

HOT AIR WELD FLAP IN STEP 7
CUT AT 45°

7

HOT AIR WELD 1-1/2" (40 mm) MIN.

8

APPLY WEATHERBOND PRO INSIDE CORNER IN ACCORDANCE WITH WEATHERBOND PRO DETAIL WBPC-15.1 OR WBPC-15.2

APPLY CUT-EDGE SEALANT TO CUT EDGES OF WEATHERBOND PRO REINFORCED MEMBRANE.

WBPC-15.5 (continued from previous page)
INSIDE CORNER/PS RUSS
WeatherBond™ Pro ROOFING SYSTEM

1. VERTICAL LINE OF CORNER
   COATED METAL
   FLASHING HEIGHT
   APPROX. 3” (75 mm) WIDE DECK FLANGE
   VIRSH LINE
   45°
   CUT ALONG LINES

   CREESE COATED METAL FLASHING ALONG DASHED LINES AFTER CUTTING AND REMOVING SHADED TRIANGLE.

2. 1/4” (6 mm) GAP AT ADJOINING SECTIONS
   OVERLAP FLANGE OF COATED METAL
   COATED METAL FLASHING

   OVERLAP FLANGE AT CORNER AND FASTEN TO WOOD NAILERS USING 1-1/4” (32 mm) RING SHANK NAILS SPACED 6” (150 mm) O.C., STAGGERED 1/2” (13 mm).

3. 2” (50 mm) WIDE FOIL GRIP ALUMINUM TAPE

   INSTALL 2” (50 mm) WIDE FOIL GRIP ALUMINUM TAPE OVER VERTICAL JOINT IN COATED METAL AND OVER CUT EDGE AT CORNER AS SHOWN.

WBPC-15.6 (continued on next page)
INSIDE CORNER WITH COATED METAL WALL FLASHING
INSIDE CORNER WITH COATED METAL WALL FLASHING

4

HEAT WELD 6" (150 mm) WIDE PIECE OF REINFORCED MEMBRANE OVER FOIL GRIP ALUMINUM TAPE.

5

INSTALL FIELD MEMBRANE AND HEAT WELD TO FLANGE OF COATED METAL. ALSO INSTALL INSIDE CORNER FLASHING PER DETAIL WBPC-15.1 OR WBPC-15.2.
WeatherBond™ Pro ROOFING SYSTEM

REFER TO TECHNICAL DATA BULLETIN (TDB) FOR STEP-BY-STEP INSTALLATION PROCEDURES

NOTES:
1. TEMPERATURE OF PIPE MUST NOT EXCEED 120º F (49º C).
2. PRIMER MUST BE APPLIED TO ALL INSIDE SURFACES AND PENETRATIONS PRIOR TO FILLING WITH SEALANT.
3. FILL POCKET COMPLETELY WITH THERMOPLASTIC ONE-PART SEALANT UNTIL RIM IS COVERED WITH SEALANT; ENSURE ALL VOIDS ARE FILLED.
4. SEALANT POCKET TO BE MINIMUM 1" (25 mm) FROM PENETRATION ON ANY SIDE.
5. ON MECHANICALLY-ATTACHED SYSTEMS, INSTALL A MINIMUM OF 4 FASTENING PLATES AROUND SEALANT POCKETS WITH A DIAMETER UP TO 6” (150 mm). ADDITIONAL FASTENING PLATES WILL BE REQUIRED FOR SEALANT POCKETS GREATER THAN 6" IN DIAMETER AND SHALL BE SPACED 12" (300 mm) ON CENTER MAXIMUM. FASTENERS/PLATES ARE NOT REQUIRED ON ADHERED SYSTEMS UNLESS SEALANT POCKET DIAMETER EXCEEDS 12" (300 mm).
6. REFER TO “ATTACHMENT I, MEMBRANE FASTENING CRITERIA” FOR PROPER FASTENERS AND PLATES.
7. APPROXIMATELY 1/8” (3 mm) DIAMETER BEAD OF CUT-EDGE SEALANT IS REQUIRED ON CUT EDGES OF WEATHERBOND PRO REINFORCED MEMBRANE.

WBPC-16.2
MOLDED TPO SEALANT POCKET

WBPC-16.2
MOLDED TPO SEALANT POCKET

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WeatherBond™ Pro ROOFING SYSTEM

WEATHERBOND PRO THERMOPLASTIC ONE-PART SEALANT (SEE NOTE 3)

WEATHERBOND PRO TPO PRE-FABRICATED SEALANT POCKET

WEATHERBOND PRO REINFORCED MEMBRANE

ACCEPTABLE INSULATION

HOT AIR WELD

PRIMER (SEE NOTE 2)

APPROVED FASTENER AND FASTENING PLATE 12" (300 mm) O.C. MAX. (NOTES 5 & 6)

NOTES:
1. TEMPERATURE OF PIPE MUST NOT EXCEED 120º F (49º C).
2. APPLY PRIMER TO THE TPO MEMBRANE AND PENETRATION(S) SURFACES ONLY. DO NOT APPLY PRIMER TO THE GALVANIZED METAL SURFACE ON THE INSIDE OF THE SEALANT POCKET.
3. FILL POCKET COMPLETELY WITH THERMOPLASTIC ONE-PART SEALANT UNTIL RIM IS COVERED WITH SEALANT; ENSURE ALL VOIDS ARE FILLED.
4. SEALANT POCKET TO BE MINIMUM 1" (25 mm) FROM PENETRATION ON ANY SIDE.
5. ON MECHANICALLY-ATTACHED SYSTEMS, INSTALL A MINIMUM OF 4 FASTENING PLATES AROUND SEALANT POCKETS WITH A DIAMETER UP TO 6" (150 mm). ADDITIONAL FASTENING PLATES WILL BE REQUIRED FOR SEALANT POCKETS GREATER THAN 6" IN DIAMETER AND SHALL BE SPACED 12" (300 mm) ON CENTER MAXIMUM. FASTENERS/PLATES ARE NOT REQUIRED ON ADHERED SYSTEMS UNLESS SEALANT POCKET DIAMETER EXCEEDS 12" (300 mm).
6. REFER TO "ATTACHMENT I, MEMBRANE FASTENING CRITERIA" FOR PROPER FASTENERS AND PLATES.
7. APPROXIMATELY 1/8" (3 mm) DIAMETER BEAD OF CUT-EDGE SEALANT IS REQUIRED ON CUT EDGES OF WEATHERBOND PRO REINFORCED MEMBRANE.

SEALANT POCKET EXTENSION LEGS CAN BE USED TO EXTEND THE LENGTH IN 10" (150 mm) INCREMENTS. REFER TO TECHNICAL DATA BULLETIN (TDB) FOR STEP-BY-STEP INSTALLATION PROCEDURES.

POCKET SIZE

<table>
<thead>
<tr>
<th>DIMENSIONS</th>
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<tr>
<td>&quot;A&quot;</td>
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<tr>
<td>12&quot; (300 mm)</td>
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<tr>
<td>16&quot; (400 mm)</td>
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<tr>
<td>20&quot; (500 mm)</td>
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NOTES 5 & 6:
- PENETRATIONS FILLER 1" (25 mm) MIN.
- WEATHERBOND PRO THERMOPLASTIC ONE-PART SEALANT 2" (50 mm) MIN.
- PLATE 12" (300 mm) MAX.
- APPROVED FASTENER AND FASTENING PLATE 12" (300 mm) O.C. MAX.
- NOTE 7: APPROXIMATELY 1/8" (3 mm) DIAMETER BEAD OF CUT-EDGE SEALANT IS REQUIRED ON CUT EDGES OF WEATHERBOND PRO REINFORCED MEMBRANE.

WBPC-16.3
TPO PRE-FABRICATED SEALANT POCKET

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WEATHERBOND Pro ROOFING SYSTEM

NOTES:

1. WOOD NAILER MUST EXTEND PAST TOTAL WIDTH OF DECK FLANGE.

2. INSTALL WALL FLASHING PRIOR TO SCUPPER INSTALLATION.

3. DISCONTINUE FASTENING PLATES AT SCUPPER OPENING AS SHOWN.

4. METAL SCUPPER BOX MUST HAVE CONTINUOUS SIDES; METAL FLANGE MUST BE CONTINUOUS WITH ROUNDED CORNERS.

5. PRIOR TO APPLYING SPLICE ADHESIVE, CLEAN METAL SCUPPER SLEEVE WITH WEATHERED MEMBRANE CLEANER.

6. WATER CUT-OFF MASTIC UNDER SCUPPER FLANGE MUST BE UNDER CONSTANT COMPRESSION.

7. MINIMUM 2" (50 mm) SEAM FROM NAIL HEAD.

8. PT 304 SEALANT IS REQUIRED AT FLASHING EDGE ON SCUPPER EDGE. PRIMER MUST BE USED TO PREPARE SURFACES PRIOR TO APPLYING PT 304 SEALANT.

WBPC-18.1
SCUPPER AT DECK
NOTES:

1. WOOD NAILER MUST EXTEND PAST TOTAL WIDTH OF DECK FLANGE.

2. INSTALL WALL FLASHING PRIOR TO SCUPPER INSTALLATION.

3. DISCONTINUE FASTENING PLATES AT SCUPPER OPENING AS SHOWN.

4. METAL SCUPPER BOX MUST HAVE CONTINUOUS SIDES; METAL FLANGE MUST BE CONTINUOUS WITH ROUNDED CORNERS.

5. WATER CUT-OFF MASTIC UNDER SCUPPER FLANGE MUST BE UNDER CONSTANT COMPRESSION.

6. MINIMUM 2" (50 mm) SPLICE FROM NAIL HEAD.

7. PT 304 SEALANT IS REQUIRED AT FLASHING EDGE ON SCUPPER EDGE. PRIMER MUST BE USED TO PREPARE SURFACES PRIOR TO APPLYING PT 304 SEALANT.
NOTES:

1. CLEAN EXPOSED MEMBRANE WITH WEATHERED MEMBRANE CLEANER.

2. APPLY SPLICE ADHESIVE OR PRIMER TO THE MEMBRANE AND LIGHTNING ROD BASE. ALLOW SPLICE ADHESIVE TO DRY UNTIL IT IS TACK FREE.

3. INSTALL A SECTION OF SEAM TAPE (APPROXIMATELY THE SIZE OF THE METAL BASE) TO THE MEMBRANE SURFACE. LEAVE THE RELEASE FILM IN PLACE AND ROLL TAPE FROM THE CENTER TO THE OUTER EDGES.

4. REMOVE RELEASE FILM AND CAREFULLY PLACE METAL BASE OVER SPLICE TAPE.

5. APPLY SPLICE ADHESIVE OR PRIMER TO WEATHERBOND PRO MEMBRANE WHERE PT 304 SEALANT IS TO BE APPLIED. ALLOW TO DRY UNTIL TACK FREE. SEAL ALL EDGES AND ANY EXPOSED AREAS OF TAPE (AT PERFORATED BASE) WITH PT 304 SEALANT.
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