

Enviro-Dri® Weather-Resistant Barrier (WRB) System Installation Instructions

General:

The purpose of the Enviro-Dri Weather-Resistant Barrier (WRB) System, by Tremco Barrier Solutions, Inc. (TBS), is to coat and seal the exterior surface of the sheathing to protect the sheathing material from detrimental environmental effects prior to installation of the exterior cladding. In addition, it prevents the passage of exterior water through the Enviro-Dri WRB System, while allowing the transmission of excess water vapor. If the recommended treatment of window and door openings, as well as other building penetrations is followed, along with other sound building practices, the Enviro-Dri WRB System will serve as a valuable component in the effort to reduce air infiltration and exfiltration to acceptable levels.

The Enviro-Dri WRB System is an approved water-resistive barrier and an approved air barrier*, as specified in section 1404.2 of the 2009 and 2012 International Building Code and section R703.2 of the 2009 and 2012 International Residential Code, for application to plywood, oriented strand board, structural fiberboard (blackboard†) sheathing, and glass mat faced gypsum board (such as DensGlass® Gold Sheathing by Georgia Pacific).

Enviro-Dri WRB System Materials from TBS:

- Enviro-Dri Field Membrane, vapor-permeable field membrane emulsion
- Enviro-Dri Joint Fabric
- Enviro-Dri Counterflashing
- Enviro-Dri Window & Door
- Enviro-Dri Pan & Arch
- Enviro-Dri Pipe & Vent
- Enviro-Dri Brick Ledge

All exterior surfaces of the sheathing should be coated and the joints between individual elements of the sheathing should be sealed. The exterior surface of the sheathing is to be fully coated with Enviro-Dri Field Membrane so that none of the sheathing can be seen through the applied membrane. This is more easily checked after the applied materials have dried. The Enviro-Dri Field Membrane is to be applied at a minimum thickness of 12 wet mils measured in-place on the wall with an ASTM D4414 notch film gauge. A typical thickness range is 12-15 wet mils, which yields a coverage rate of 75 (\pm 15) ft² per gallon when used as a complete system, and re-coating over the top of Enviro-Dri Joint Fabric. Joints will be sealed by using Enviro-Dri Joint Fabric, fully coated and saturated with Enviro-Dri Field Membrane and continuously adhered to the exterior sheathing surface with Enviro-Dri Field Membrane on both sides of the joint.

Do not dilute or add any foreign materials to the Enviro-Dri WRB System emulsion products. Do not substitute any other fabrics for the Enviro-Dri WRB System fabrics.

*See Enviro-Dri ICC ES Report ESR-2843

†In AC212 Section 4.1 Tensile Bond Testing, the tensile adhesion of the Enviro-Dri WRB material exceeded the internal strength of the blackboard sheathing, which was lower than 15 psi.

Material Storage and Handling:

Storage

Enviro-Dri Field Membrane is a specially formulated polymer modified asphalt-based emulsion; it is water-based with low VOC content. Like all water-based emulsions, it must be kept from freezing. Enviro-Dri Field Membrane should be stored off the floor at an ambient temperature above 40°F (10°C). Opened drums should be tightly sealed before storage to avoid a skin developing on top of the liquid.

When shipping emulsion-based products during the winter months, there is always a risk of the material freezing while in transport. The risk is much higher on shipments of less than 40 drums because these shipments go as “less than truckload” and do not go directly from the TBS warehouse to your location. If you suspect that material you received has frozen during shipment, evidenced by an unusual appearance of the product, contact your TBS Technical Representative or Territory Manager.

Maximum storage temperature shall not exceed 100°F (38°C), and product containers should not be exposed to direct sunlight. Minimum storage temperature shall not be less than 40°F (10°C).

Safety

Use the following safety instructions when handling Enviro-Dri Field Membrane. Also review the Safety Data Sheet (SDS), as well as the safety precautions provided by application equipment manufacturers.

1. Avoid direct contact with the material. Prolonged or repeated contact can cause skin irritation. If prolonged contact is anticipated, impervious gloves should be worn.
2. Enviro-Dri Field Membrane will not support sustained combustion, and will not burn under normal circumstances. (If all water has been evaporated and the product is heated in a confined space, sufficient vapors could accumulate and flash if a source of ignition is present.)
3. If contact with eyes occurs, flush with large amounts of cool water while holding eyelids open. Get medical attention if irritation persists.
4. If spray equipment is used, mist from spray application in a confined area can cause headaches, nausea, and irritation of the nose, throat and lungs. To prevent this, a NIOSH approved respirator for ammonia should be worn. If you begin to smell ammonia through the mask, replace the cartridges.
5. If spray equipment is used, protect the eyes from contact with high-pressure spray; wear chemical safety glasses with side shields.
6. The use of extension poles or ladders made from aluminum or other electrically conducting materials may expose the user to electrical shock hazards, including but not limited to those presented by overhead wires, installed wiring, or lightning. The proper caution and safety procedures regarding these hazards should be followed. Electrically conducting equipment purchased from TBS should not be used during electrical storms, or when other non-mitigated hazards for electrical shock exist.

Application Conditions:

Weather

The Enviro-Dri WRB System can be applied in a broad range of weather conditions. Any weather condition that allows the installer to achieve a properly-cured, finished, coated and sealed Enviro-Dri WRB System that isn't damaged by subsequent precipitation or moisture condensation is permissible. It is the end result that should be evaluated. If the end result is a fully cured system, with complete coverage of the sheathing with the proper thickness of Enviro-Dri Field Membrane and proper sealing of the joints between sheathing panels, the weather was acceptable.

The air and surface temperatures at the time of application are permitted to be between 0°F (-18°C) and 130°F (54°C). The Enviro-Dri WRB System should not be installed during rain or impending rain that might damage the system before it can sufficiently dry and cure. The substrate must be sufficiently dry to achieve a quality application; see "Substrate Check" below. The experience of the installer is the best guide to when the weather is suitable; he is responsible to achieve the properly cured, coated and sealed system.

Cure Time

Generally, Enviro-Dri Field Membrane dries quickly to the touch when applied to approved substrates in the appropriate conditions. At 70°F (21°C) and 50% RH it is dry to the touch within 2-4 hours. Generally, cool or damp conditions will slow drying, while hot or dry conditions will accelerate drying. Drying time will vary with substrate and individual job conditions.

When wall surface temperatures are significantly below freezing, the Enviro-Dri WRB System can be installed but will freeze before it is fully dry and cured. The freezing does not damage the installation; it will continue to "freeze-dry" in place resulting in a dry and cured system. However, if there is a change from below freezing weather to above freezing weather with rain, there is potential for the rain to damage those portions of the application that are not yet sufficiently cured. In these circumstances, it is the responsibility of the application contractor to ensure that the Enviro-Dri WRB System is protected from such damage until it is sufficiently cured.

Exposure

The Enviro-Dri WRB System should not be left exposed more than 120 days prior to being covered with the exterior cladding material. Enviro-Dri Field Membrane, when left exposed to UV conditions, may exhibit minor surface cracking, also known as 'crazing'. This condition is normal and expected, and is cosmetic only. It has no significant effect on the performance of the product.

Care should be taken to prevent water or condensation on the unprotected inside surface of sheathing. Internal moisture from temporary heaters, inadequate roof cover, concrete foundations and floors are sources of internal moisture that can be detrimental to sheathing, even when protected with the Enviro-Dri WRB System on the outside.

Pre-Application, Application, and Post-Application:

Substrate Check

- Ensure that the substrate is a type listed in the TBS Enviro-Dri WRB System Specification, and approved by the local code authority for use with the TBS Enviro-Dri WRB System.
- Ensure that the substrate is sufficiently dry. There should be no visible water in any joints, and liquid water should not transfer to your hand as it is rubbed across the exterior surface of the sheathing. Plywood or OSB moisture content shall not exceed 19% as measured by a probe type moisture meter.
- Ensure that all rough openings are in place and, if used, wedges to create outward slope on window sills are in place.
- Exterior grade gypsum sheathing facing shall not show signs of deterioration and shall be firmly bonded to the core.
- Notify the general contractor and/or builder of any deficiencies. Do not proceed with work until the deficiencies have been corrected.

Surface/Site Preparation

- The substrate shall be prepared so as to be free of foreign materials such as oil, dust, dirt, paint, wax, water repellents, liquid water, frost, snow, ice, or any other materials that may inhibit adhesion. Loose solid materials, such as dirt or mud, can most often be removed with the aid of a scraper and/or a stiff bristle brush. Other foreign materials may require the use of water or a detergent solution to properly clean the surface. If so, the substrate must be allowed to dry after completion of the cleaning.
- The Enviro-Dri Field Membrane does not require a primer for application to approved substrates.
- Protect surrounding areas, surfaces, and objects that are not receiving WRB System materials during installation of the Enviro-Dri WRB System.

System Application

- The Enviro-Dri Field Membrane can be applied using a brush, trowel, manual roller or power roller, or spray equipment over sheathing materials approved in writing by TBS.
- The Enviro-Dri Field Membrane is ready for application as supplied. For applications, the product may be applied as-is or heated. The temperature should be high enough to maintain good application characteristics during cold conditions, but should not exceed 130°F (54°C).
- All joints, backed or unbacked, must be covered with Enviro-Dri Joint Fabric and Enviro-Dri Membrane. The Enviro-Dri Joint Fabric should be adhered to the wall with Enviro-Dri Membrane that is placed around both sides of the joint prior to the placement of the fabric. It is often useful to stabilize the Enviro-Dri Joint Fabric by attaching it to the wall at each end with a standard construction staple. The Enviro-Dri Joint Fabric must be fully coated as well as adhered and totally

sealed to the exterior surface of the sheathing on both sides of the joint with Enviro-Dri Field Membrane. Sufficient care must be taken to ensure that any wrinkles or other irregularities are further treated to the extent that no water or air can penetrate the plane of the exterior sheathing by passing either through or around the coated and sealed Enviro-Dri Joint Fabric. Apply no more Enviro-Dri Joint Fabric than can be fully coated and adhered to the substrate the same day and before any rain. (Figure 1)

- The sheathing area should be fully and evenly coated with Enviro-Dri Field Membrane applied at a uniform thickness of 12-15 wet mils. When spray applying to OSB, back roll as necessary to ensure there are no pinholes, voids or gaps in the membrane. The application thickness of the wet coating can be checked using a notch film gauge.
- The proper applied thickness results in an approximate coverage rate of 75 (\pm 15) ft² per gallon of the Enviro-Dri Field Membrane material, when used as a complete system and re-coating over the top of the Enviro-Dri Joint Fabric. The coverage rate on individual installations will vary due to surface roughness, sheathing condition, and/or other varying conditions.
- For joints using Enviro-Dri Joint Fabric adhered to the wall with Enviro-Dri Field Membrane followed by application of Enviro-Dri Field Membrane, the final coat of the Enviro-Dri Field Membrane may occur at the same time as the majority of the wall area is receiving the Enviro-Dri Field Membrane application.

Plywood Substrates

- The application of Enviro-Dri over plywood sheathing requires careful attention. Before installing Enviro-Dri field membrane inspect for any overdriven fasteners into the plywood. It can be difficult to achieve a continuous wet membrane thickness of 12 to 15 mils, when framing nails are overdriven more than 1/16" into the plywood. In areas where nails are 1/16" or more overdriven, the applicator can pre-treat these areas with Enviro-Dri Membrane and a heavy nap roller (3/4" or 1" nap). The applicator can also pre-treat these areas with a brush. The pre-treatment should coat the nail hole and nail head, and leave no gaps or open areas. An alternative method, one that works well when the overdriven nails are aligned vertically or horizontally, is to install 4 inch joint fabric using the same method as if installing over a seam.
- When installing Enviro-Dri membrane over plywood, take careful precaution to avoid over-application of the membrane. Spray or roll Enviro-Dri field membrane to 12-15 wet mils. Over application may cause additional splintering of the plywood. The applicator should also carefully inspect the plywood sheathing after Enviro-Dri application to ensure the overdriven nail areas, knots, splinters, or splits in the outer ply layer, are properly coated. This may require additional Enviro-Dri Membrane. It is the responsibility of the installer that any openings in the plywood, whether from splits, splinters, knots or over-driven fasteners, are coated with Enviro-Dri field membrane.

Penetrations:

Sealing & Flashing

The Enviro-Dri WRB System, in and of itself, does not seal penetrations through the sheathing exterior, such as those for window and door openings, utilities, electrical fixtures, vents, and so forth. Penetration sealing and flashing is a separate item that should be agreed upon by the application contractor and builder. Enviro-Dri Pipe & Vent or Enviro-Dri Window & Door can be used to seal penetrations. The builder, at his discretion, may elect to have a subsequent trade install flashing or counterflashing that could potentially have been installed by the Enviro-Dri WRB System application contractor, eliminating the items depicted in Figures 2-7 from the Enviro-Dri WRB System contractor's scope of work. For example, a roofer could install both flashing and counterflashing where roof sections intersect vertical walls, or window/door installers could install both flashing and counterflashing at the window and door openings. In all cases, TBS recommends following good construction practice with regard to flashing and counterflashing details, shown in-part in Figures 2 – 7.

For cases in which the Enviro-Dri WRB System application contractor and builder have agreed that the Enviro-Dri WRB System contractor is responsible for sealing and/or flashing the penetrations through the surface covered by the Enviro-Dri WRB System, the following minimum specifications should be followed or exceeded.

Rough Openings for Windows and Doors

Alternative 1 – Preferred (See Figures 4 & 5)

To provide an additional barrier to water entry at window or door openings due to deficiencies in the external sealing and/or flashing, the inner surface of the jambs and sill should be protected. In this case, the sill will be protected by Enviro-Dri Pan & Arch. Start by cutting the Enviro-Dri Pan & Arch a minimum of 6" longer than the rough opening is wide. Overlap the sill with the Enviro-Dri Pan & Arch. Then, remove the release liner and adhere it to the surface of the sill, extending up the jambs a minimum of 3". Continue removing the release liner and adhering the Enviro-Dri Pan & Arch to the sheathing surface. The Enviro-Dri Pan & Arch should extend 2"-4" onto the sheathing wall from the rough opening. Smooth out the membrane with a hand roller (J-roller, laminate roller) as you go to minimize air bubbles and creases and to ensure proper adhesion. Enviro-Dri Pan & Arch will conform to the radius or curved surface with minimal stretching. Ensure the flashing is tight to the frame as you go around the radius or curve. If the Enviro-Dri Pan & Arch is overstretched or installed onto a tight radius application, the outer edge of the Enviro-Dri Pan & Arch may need to be mechanically fastened to ensure proper adhesion around the outer edge.

The inner surface of the jambs should be coated with Enviro-Dri Field Membrane. Enviro-Dri Joint Fabric is installed to both jambs so it wraps onto the exterior surface ½" to 1", extends into the rough opening 3½" to 4", and overlaps the Enviro-Dri Pan & Arch a minimum of 4". The Enviro-Dri Joint Fabric is then fully coated and adhered to the substrate with Enviro-Dri Field Membrane, creating a waterproof seal between the jambs/sill and the sheathing, as well as to the Enviro-Dri Pan & Arch. In addition, this method is a significant step in providing a functional air barrier for the building envelope.

TBS recommends that all window sills are constructed with an outward slope; the construction providing the outward slope must be in place before the installation of the TBS Enviro-Dri WRB System. As with all rough

openings, Enviro-Dri Counterflashing is applied at the top of the rough opening so that the bottom edge of the Enviro-Dri Counterflashing is even with the top of the rough opening and the Enviro-Dri Counterflashing extends a minimum of 6” beyond the rough opening on each side. The top edge of the Enviro-Dri Counterflashing is sealed to the sheathing with Enviro-Dri Field Membrane and Enviro-Dri Joint Fabric as if the upper edge of the counter flashing was a joint to be sealed. Sufficient care must be taken to ensure that any wrinkles or other irregularities are further treated to the extent that no water or air can penetrate the plane of the exterior sheathing by passing either through or around the coated and sealed Enviro-Dri Joint Fabric. The Enviro-Dri Joint Fabric is coated and sealed with Enviro-Dri Field Membrane.

After the window is installed, final flashing details must be completed. Apply Enviro-Dri Window & Door flashing to the vertical seams in the window flanges. A minimum of 1” of Window & Door must extend onto sheathing and a minimum of 1” of Window & Door must extend onto the window flange. The Window & Door must extend at least 1” beyond the top of the window flange. After lightly adhering the flashing tape to the connection between the window flange and the Enviro-Dri coated sheathing, sufficient care must be taken to ensure that any wrinkles or other irregularities are eliminated. Wrinkles and irregularities create the opportunity for air and water to penetrate the opening. Once the flashing tape is smooth, apply pressure to ensure adequate bond between tape and the substrate.

Apply Enviro-Dri Window & Door flashing to the upper, horizontal interface of the window and wall connection. The flashing tape should extend at least 3” onto the surface of the sheathing and cover the entire window flange. Extend the Window & Door a minimum of 1” beyond the vertically installed Window & Door flashing.

After lightly adhering the flashing tape to the connection between the window flange and the Enviro-Dri coated sheathing, sufficient care must be taken to ensure that any wrinkles or other irregularities are eliminated. Wrinkles and irregularities create the opportunity for air and water to penetrate the opening. Once the flashing tape is smooth, apply pressure to ensure adequate bond between tape and the substrate.

Alternatively, the seams of the window flanges can be sealed by using Enviro-Dri field membrane and joint fabric. The Enviro-Dri Joint Fabric must be fully coated as well as adhered and totally sealed to the exterior surface of the window flange and sheathing with Enviro-Dri field membrane. Sufficient care must be taken to ensure that any wrinkles or other irregularities are further treated to the extent that no water or air can penetrate the plane of the exterior sheathing or window flange by passing through or around the coated and sealed Enviro-Dri Joint Fabric. Extend treatment of the vertical joints 3” beyond the top and bottom of the joint. The horizontal joint must completely cover the termination of the vertical seams to create a positive shingle effect. Extend the horizontal sheathing joints at least 6” beyond the window flange.

Alternative 2 – Preferred

To provide an additional barrier to water entry at window or door openings due to deficiencies in the external sealing and/or flashing, the inner surface of the jambs and sill should be coated with Enviro-Dri Field Membrane. Enviro-Dri Joint Fabric is installed to both jambs and the sill so it wraps onto the exterior surface ½” to 1” and extends into the rough opening 3½” to 4”. Cuts are made in the lower two corners of the opening to facilitate

the wrapping onto vertical and horizontal exterior surfaces. The Enviro-Dri Joint Fabric is then fully coated and adhered to the substrate with Enviro-Dri Field Membrane, creating a waterproof seal between the jambs/sill and the sheathing. In addition, this method is a significant step in providing a functional air barrier for the building envelope. TBS recommends that all window sills are constructed with an outward slope; the construction providing the outward slope must be in place before the installation of the TBS Enviro-Dri WRB System.

Alternatively, TBS Pan & Arch may be used to form the window pan. The installation should be completed in accordance with Pan & Arch application instructions.

As with all rough openings, Enviro-Dri Counterflashing is applied at the top of the rough opening so that the bottom edge of the Enviro-Dri Counterflashing is even with the top of the rough opening and the Enviro-Dri Counterflashing extends a minimum of 6” beyond the rough opening on each side. The top edge of the Enviro-Dri Counterflashing is sealed to the sheathing with Enviro-Dri Field Membrane and Enviro-Dri Joint Fabric as if the upper edge of the counter flashing was a joint to be sealed. Sufficient care must be taken to ensure that any wrinkles or other irregularities are further treated to the extent that no water or air can penetrate the plane of the exterior sheathing by passing either through or around the coated and sealed Enviro-Dri Joint Fabric. The Enviro-Dri Joint Fabric is coated and sealed with Enviro-Dri Field Membrane.

After the window is installed properly, flash the flanges using one of the methods outlined in Alternative 1 (see pages 5 and 6)

Alternative 3 - Permitted

The Enviro-Dri Field Membrane is applied to the exterior surface of the sheathing. The interior edge of the sheathing and the jamb and sill framing are sealed by application of Enviro-Dri Field Membrane; the Enviro-Dri Field Membrane must continue a minimum of 1” onto the jamb and sill framing. Enviro-Dri Counterflashing is applied at the top of the rough opening so that the bottom edge of the Enviro-Dri Counterflashing is even with the top of the rough opening and the Enviro-Dri Counterflashing extends a minimum of 6” beyond the rough opening on each side. The top edge of the Enviro-Dri Counterflashing is sealed to the sheathing with Enviro-Dri Field Membrane and Enviro-Dri Joint Fabric as if the upper edge of the counterflashing was a joint to be sealed.

Alternative 4 - Permitted

The Enviro-Dri Field Membrane material is applied only to the exterior surface of the sheathing with no continuation into rough openings. Enviro-Dri Counterflashing is applied at the top of the rough opening so that the bottom edge of the Enviro-Dri Counterflashing is even with the top of the rough opening and the Enviro-Dri Counterflashing extends a minimum of 6” beyond the rough opening on each side. The top edge of the Enviro-Dri Counterflashing is sealed to the sheathing with Enviro-Dri Field Membrane and Enviro-Dri Joint as if the upper edge of the counterflashing was a joint to be sealed.

Compatible Materials:

TBS' Enviro-Dri WRB System materials are compatible with a broad range of construction materials including but not limited to the following:

Sheathing

OSB, plywood, structural fiberboard (blackboard) sheathing, and glass mat faced gypsum board (such as DensGlass Gold Sheathing by Georgia Pacific),

Cladding

Brick, stone, stucco, cementitious siding, vinyl, aluminum, wood, and most other common building materials

Stucco and Cementitious Coatings Note

Building codes require a bond break between a water resistive barrier and cementitious coatings. For Enviro-Dri, it is best practice to use one layer of building paper on top of Enviro-Dri as a bond break. Building codes state that a bond break shall be provided between the water resistive barrier and the cement plaster, consisting of one of the following:

1. Two layers of an approved water resistant barrier or
2. One layer of an approved water resistant barrier over an approved plastic house wrap or
3. Other approved methods or materials applied in accordance with the manufacturers installation instructions.

Exterior Insulation in contact with the Enviro-Dri WRB System

Expanded and extruded polystyrene, fiberglass

Flashing

Galvanized metal, aluminum, painted aluminum, copper, stainless steel, vinyl, butyl rubber or polymer-modified asphalt flashing fabrics. Please check with TBS prior to using primers to adhere any of these flashing materials. Water based or emulsion based primers should be used instead of solvent based primers.

For all other materials, determination of compatibility is the responsibility of the manufacturer of the material to ensure compatibility with the Enviro-Dri WRB System materials and approve its use in conjunction with Enviro-Dri WRB System applications.

Recommended Application Tools:

For a list of equipment, tools, and supplies commonly used for application of the Enviro-Dri WRB System, contact a TBS Technical Representative or Territory Manager at the address or number given below.

Damage by Subsequent Trades:

Neither TBS nor any application contractor applying TBS products is responsible for any damage to the Enviro-Dri WRB System by subsequent trades or for any consequential damage resulting from damage to the Enviro-Dri WRB System.

DISCLAIMER

Information contained in these application instructions conforms to standard detail and product recommendations for the installation of the TBS Enviro-Dri WRB System products as of the date of date of publication of this document and is presented in good faith. Tremco Barrier Solutions, Inc. assumes no liability, expressed or implied, as to the architecture, engineering or workmanship of any project. To ensure that you are using the latest, most complete information, contact:

Tremco Barrier Solutions, Inc.
Enviro-Dri Technical Department
6402 E. Main Street, Suite 201
Reynoldsburg, OH 43068
(800) 876-5624

Figure 1 - Enviro-Dri Joint Sealing Illustration

1. Gap using Enviro-Dri Joint Fabric.

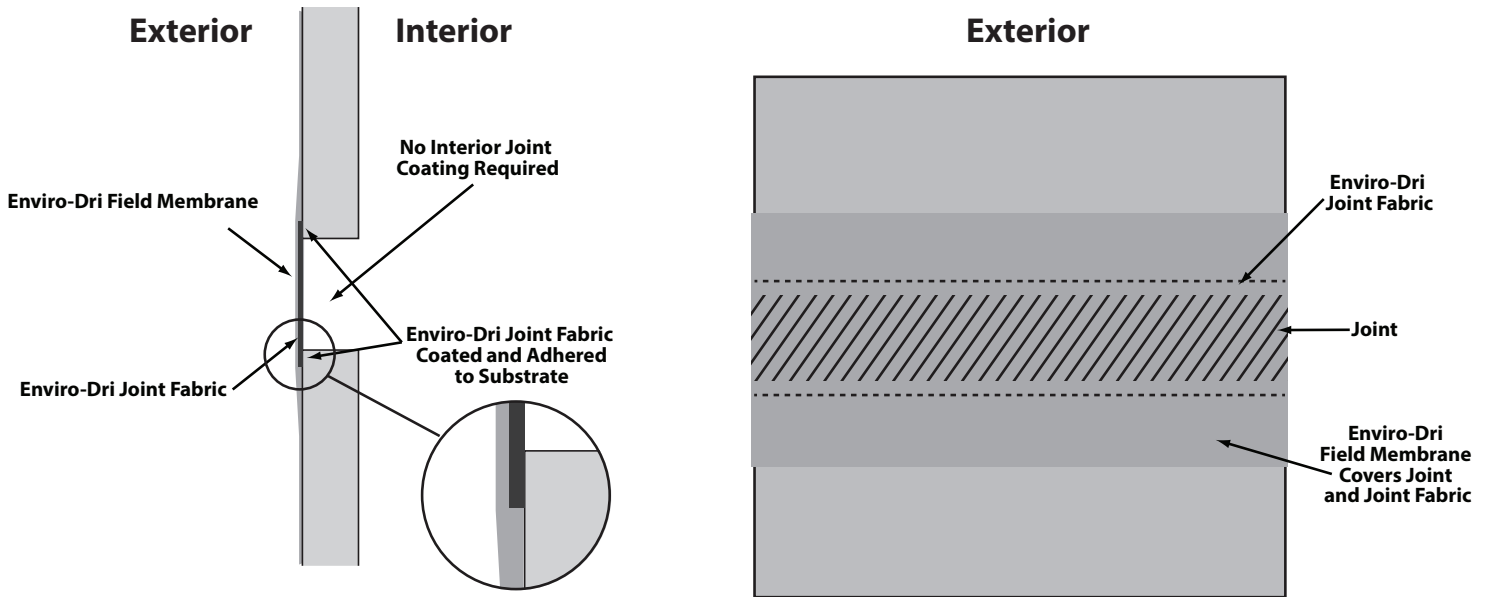


Figure 2 - Enviro-Dri Sill Plate Detail

2. **Option 1:** Install TBS Enviro-Dri Counterflashing by sealing it to the sheathing with Enviro-Dri Field Membrane and Enviro-Dri Joint Fabric as if the upper edge of the counter flashing was a joint to be sealed. Where practical, extend the Enviro-Dri Field Membrane and Enviro-Dri Joint Fabric at least 2" beyond the termination of the Enviro-Dri Counterflashing.

Option 1

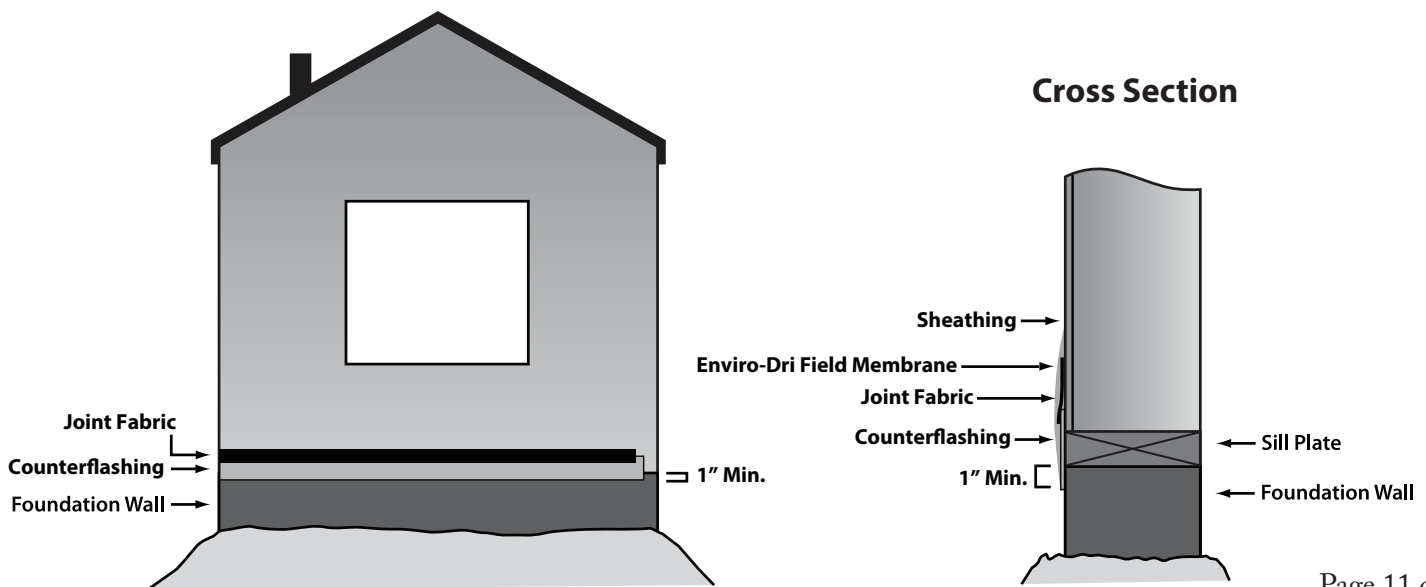


Figure 2 - Enviro-Dri Sill Plate Detail Cont.

Option 2: Install 4" or 6" Enviro-Dri Joint Fabric with fabric fully sealed to sheathing and to foundation wall covering the sill plate.

Option 2

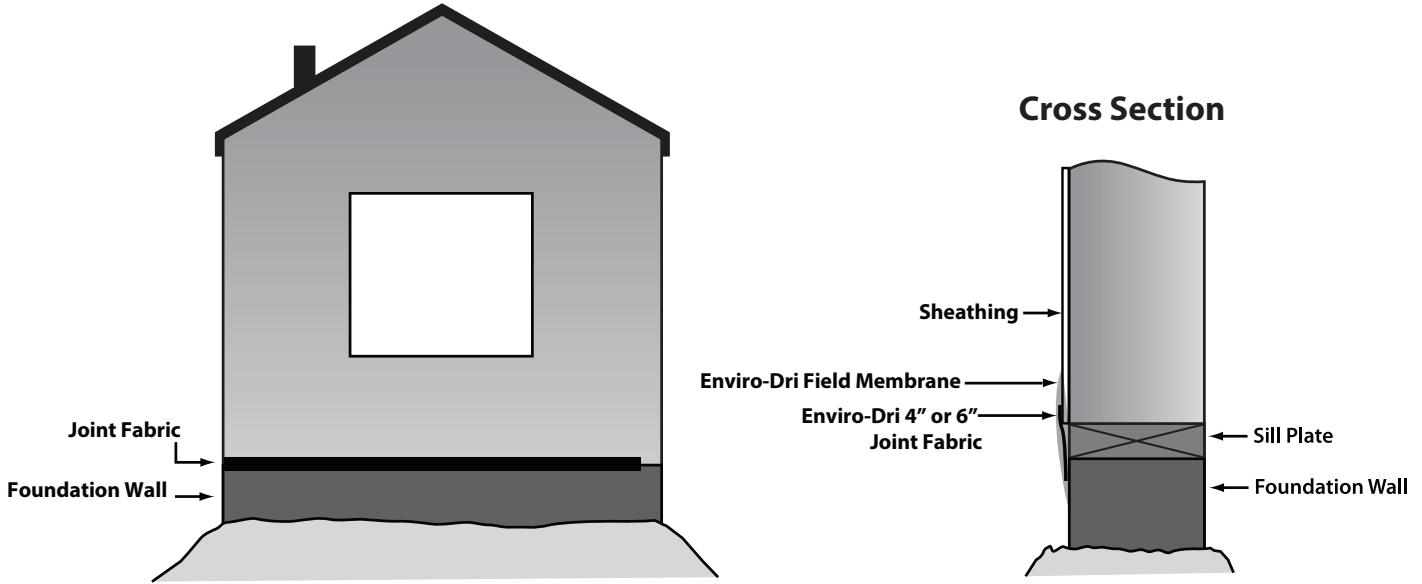


Figure 3 - Enviro-Dri Roof to Wall Intersections Detail

3. Enviro-Dri Counterflashing shall be installed at the bottom of all wall sections that intersect roof sections. Counterflash the continuous flashing or the step flashing with Enviro-Dri Counterflashing such that the lower edge of the counterflashing is ~2" above the roof/wall intersection and extends a minimum of 4" beyond the flashing where feasible and appropriate. (See Figure 2 for Enviro-Dri Counterflashing System installation details). Depending on housing market details, the counterflashing may need to be installed 12 to 18 inches above roof wall intersection.

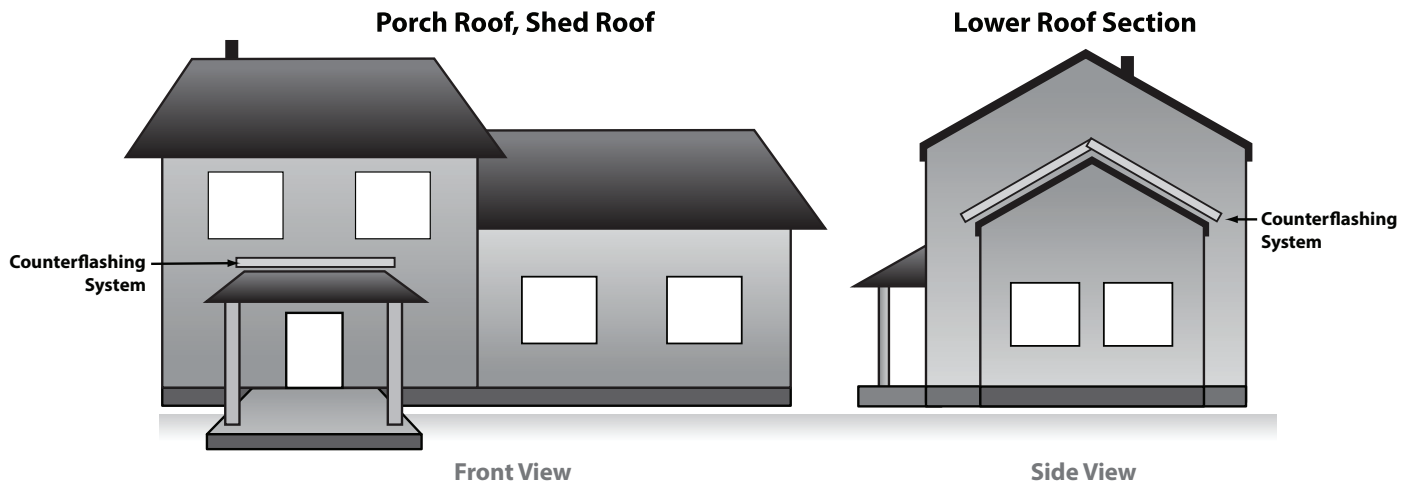


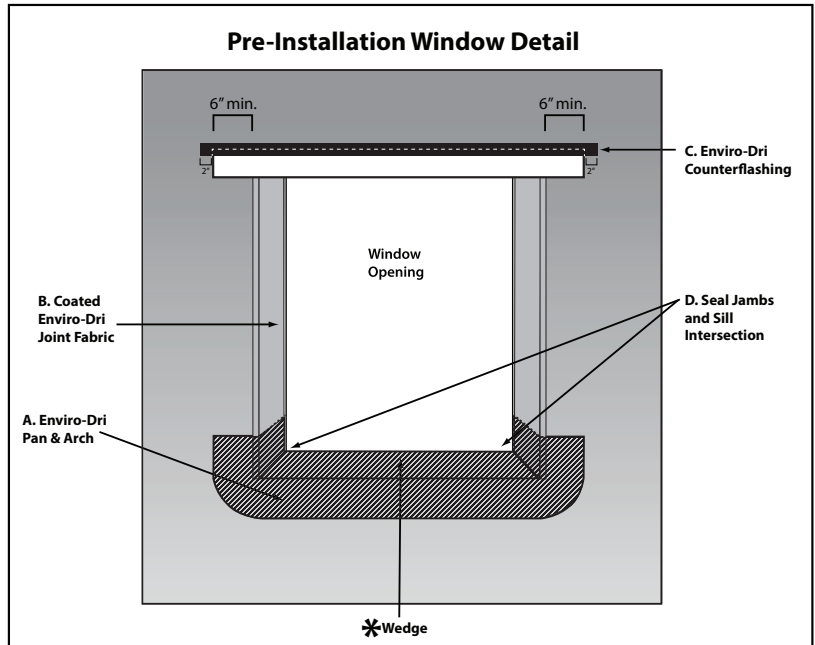
Figure 4 - Enviro-Dri Window Detail

4. Detail window and door openings per the following procedure.

* TBS recommends the installation of an outward sloping wedge on the sill prior to installing and coating the Enviro-Dri Joint Fabric and/or Enviro-Dri Pan & Arch.

A. Enviro-Dri Pan & Arch is installed as shown, covering the entire sill extending 2"-4" down onto the outer wall surface and onto the side wall surfaces.

B. Enviro-Dri Joint Fabric is installed on both jambs and sill of window openings. The coated Enviro-Dri Joint Fabric will extend from the interior of the opening outward to the outside edge of the sheathing and wrapped onto the exterior surface up to 1" depending on the quality of the sheathing. The coated fabric shall extend down the window jamb, over the top edge of the Enviro-Dri Pan & Arch, creating positive shingling.



C. Enviro-Dri Counterflashing is sealed to the sheathing with Enviro-Dri Field Membrane and Enviro-Dri Joint Fabric as if the upper edge of the counter flashing was a joint to be sealed. Where practical extend the Enviro-Dri Field Membrane and Enviro-Dri Joint Fabric at least 2" beyond the termination of the Enviro-Dri Counterflashing.

D. Any portion of the sill/jamb intersection not covered with Enviro-Dri Joint Fabric must be sealed with a TBS approved sealant.

Figure 5 - Window Flashing Detail

5. To Enviro-Dri Window & Door or other approved flashing membrane may be used. Enviro-Dri Membrane and joint fabric may also be used.

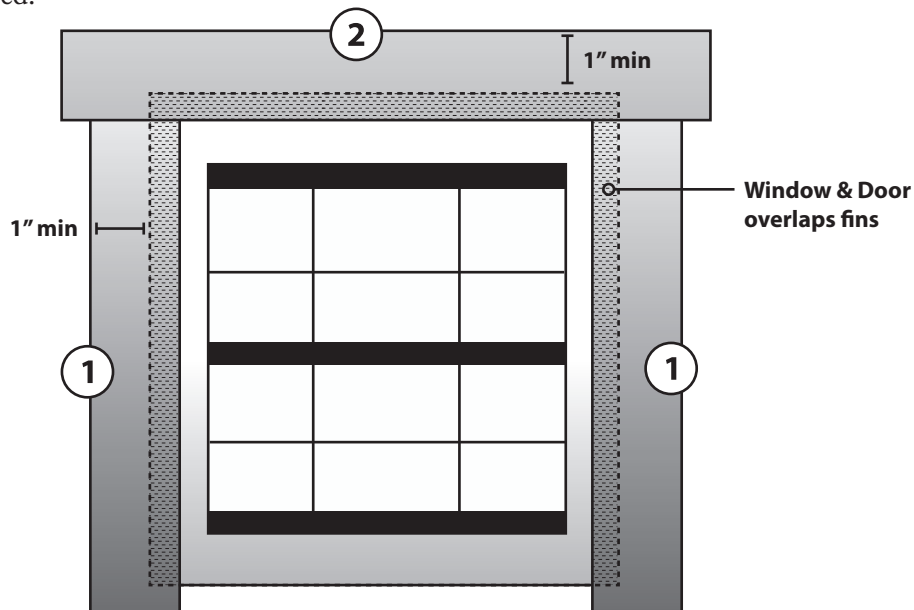


Figure 6 - Enviro-Dri Window Detail

6. Enviro-Dri Counterflashing shall be installed over the top of all window and door openings with the bottom edge of the Enviro-Dri Counterflashing aligned with the top edge of the opening. The Enviro-Dri Counterflashing shall extend a minimum of 6" beyond the vertical edges of the opening onto the sheathing surface.

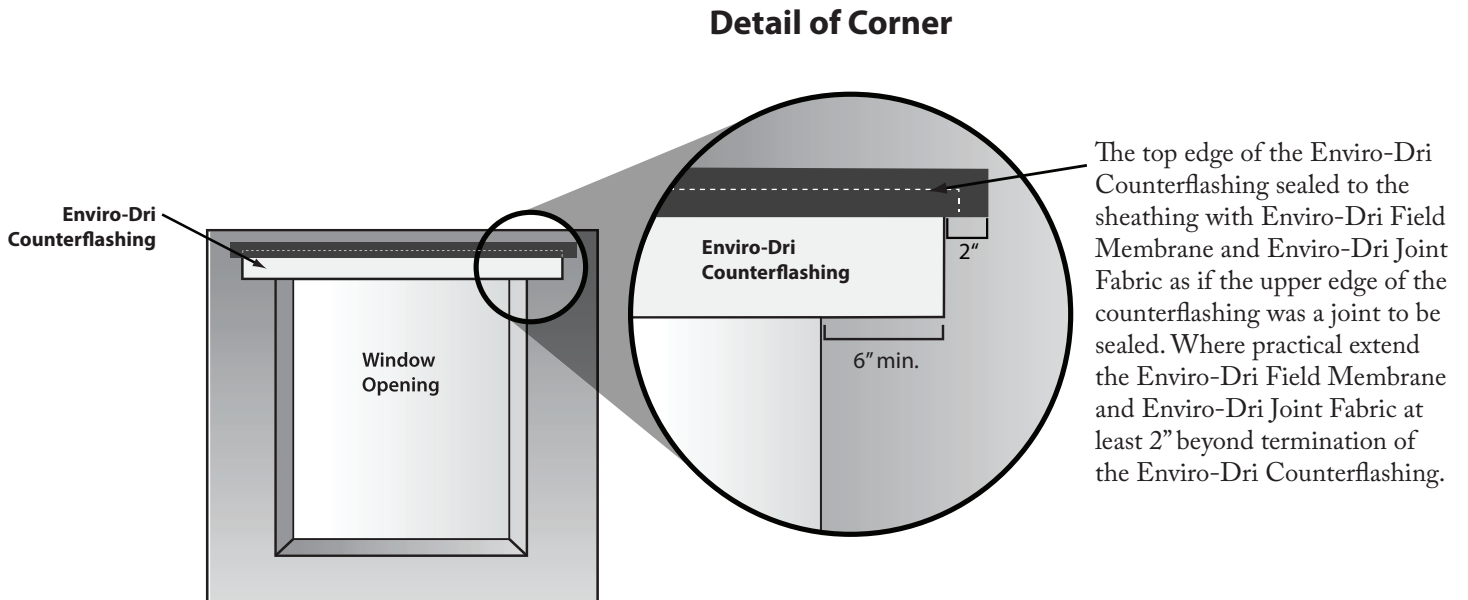
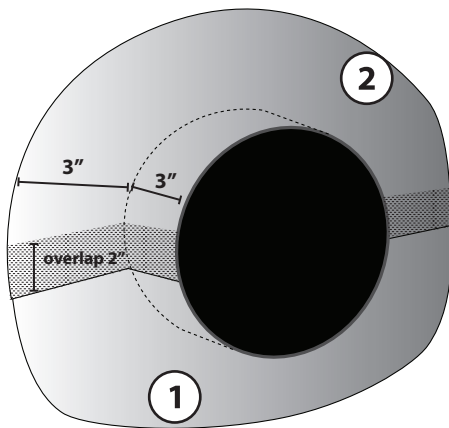
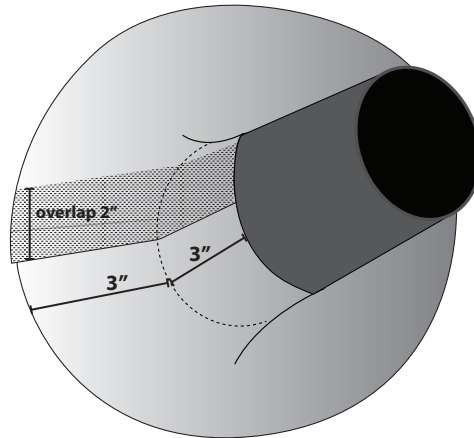


Figure 7 - Pipe & Vent Flashing Detail

7. Detail through-wall applications with the following procedure:

Option 1 - Pipe Detail

Start 6" Pipe & Vent at a horizontal area, 3" on a sheathing wall and 3" on the pipe. Install Pipe & Vent around pipe in a circular motion and overlap the starting point at least 2" creating a positive shingle overlap.



Option 2 - Pipe Detail

Start with 2 pieces of 6" Pipe & Vent flashing tape. Start the first piece at a horizontal area, 3" on a sheathing wall and 3" on the pipe and install the Pipe & Vent downward around pipe in a circular motion. Bring the piece of Pipe & Vent back to a horizontal position on the other side of the penetration. Install the second piece of Pipe & Vent with 3" on a sheathing wall and 3" on the pipe and install the Pipe & Vent upward around the pipe in a circular motion. Overlap the first piece by at least 2" creating a positive shingle overlap on each side.

Vent Detail

Install 4" or 6" Pipe & Vent on the bottom of the vent fins first, placing half of the Pipe & Vent on the fins and half on the sheathing. Extend the Pipe & Vent 3" to 4" past the fins to always create a positive shingle overlap. Install side pieces second and the top piece last.

