

DuPont Performance Building Solutions

DuPont™ Tyvek® Water-Resistive and Air Barrier (WRB) Installation Guidelines

For Buildings Less Than 5 Stories and Low-Rise
Multi-Family Residential Buildings Less than 6 Stories



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This installation guideline outlines recommended installation techniques and details for **DuPont™ Tyvek® HomeWrap®, Tyvek® StuccoWrap®, Tyvek® DrainWrap™, Tyvek® ThermaWrap® LE, Tyvek® CommercialWrap®** and/or **Tyvek® CommercialWrap® D**, referred to in this document as **DuPont™ Tyvek® Water-Resistive and Air Barriers (WRBs)** and where applicable, **DuPont Self-Adhered Flashing Products and DuPont™ Tyvek® Fluid Applied Products**. Both **Tyvek® WRBs** and **Tyvek® Fluid Applied Products** meet the requirements of a water-resistive barrier as defined in the 2018 International Residential Code (IRC) and the 2018 International Building Code (IBC).

This Installation Guideline pertains to **buildings less than 5 stories and low-rise multi-family residential buildings less than 6 stories**. For additional information regarding DuPont Installation Guidelines usage for wood framed multi-family buildings, please refer to the [Multi-Family User's Bulletin for Installation of DuPont Building Envelope Solutions Products](#).

Applicable Products

Water-Resistive and Air Barriers (Tyvek® WRBs)

Product	Dimensions	Area
DuPont™ Tyvek® HomeWrap®	3 ft x 100 ft	300 sq ft
	3 ft x 165 ft	495 sq ft
	5 ft x 200 ft	1,000 sq ft
	9 ft x 100 ft	900 sq ft
	9 ft x 150 ft	1,350 sq ft
	10 ft x 100 ft 10 ft x 150 ft	1,000 sq ft 1,500 sq ft
DuPont™ Tyvek® StuccoWrap®	5 ft x 200 ft	1,000 sq ft
DuPont™ Tyvek® DrainWrap™	9 ft x 125 ft	1,125 sq ft
	10 ft x 125 ft	1,250 sq ft
DuPont™ Tyvek® ThermaWrap® LE	5 ft x 150 ft	750 sq ft
	9 ft x 100 ft	900 sq ft
DuPont™ Tyvek® CommercialWrap®	5 ft x 200 ft	1,000 sq ft
	10 ft x 125 ft	1,250 sq ft
DuPont™ Tyvek® CommercialWrap® D	5 ft x 200 ft	1,000 sq ft
	10 ft x 125 ft	1,250 sq ft

Self-Adhered Flashing Products

Product	Width
DuPont™ FlexWrap™ EZ	2.75 in
DuPont™ FlexWrap™ (Formerly DuPont™ FlexWrap™ NF)	6 in 9 in
DuPont™ StraightFlash™	4 in 9 in
DuPont™ VersaFlange™ (Formerly DuPont™ StraightFlash™ VF)	6 in
DuPont™ Flashing Tape	4 in 6 in 9 in 12 in

Fluid Applied Products

Product	Quantity
DuPont™ Tyvek® Fluid Applied WB+™	5 gal, 50 gal
DuPont™ Tyvek® Fluid Applied Flashing and Joint Compound+	28 oz, 3.5 gal
DuPont™ Sealant for Tyvek® Fluid Applied System*	28 oz

Installation Accessories

Product	Type	Quantity
DuPont™ Tyvek® Tape	2" Bulk Pack	36 rolls/case
	3" Bulk Pack	24 rolls/case
DuPont™ Tyvek® Metallized Tape	2" x 100' Rolls	12 rolls/case
DuPont™ Tyvek® Wrap Cap Staples or other cap staples for Stinger® Cap Stapler	7/8", 1-1/4", and 1-1/2" lengths 3/8" and 5/8" lengths	2,000/box 2,016/box
DuPont™ Tyvek® Wrap Cap nails	1" electro-galvanized ring shank nail	2,000/box
DuPont™ Tyvek® Wrap Cap screws	2" dia. plastic cap, 1-3/4" screw length	1,000/box
DuPont™ Adhesive/Primer	Can	13.5 oz
Great Stuff Pro™ Window & Door Polyurethane Foam Sealant	Can (reusable dispensing gun sold separately)	20 oz
Great Stuff Pro™ Gaps & Cracks Polyurethane Foam Sealant	Can (reusable dispensing gun sold separately)	20 oz
DuPont™ RainVent™ Battens	5/8 in x 3/8 in x 8 ft	40/pack
DuPont™ Tyvek® DrainVent™ Rainscreen	4 x 50 ft	Roll

Tower® Residential Sealant (formerly DuPont™ Residential Sealant)

Required Materials Based on Project Requirements, Details, and Specifications¹

- Backer Rod
- Sealant²
- Brushes for Surface Preparation
- J-Roller
- Trowels
- Rodenhouse Grip-Deck[®] screws with Thermal-Grip FastCap[™] washers³

¹Apply per manufacturers' guidelines. For non DuPont products, DuPont assumes no liability in use of recommended products; installers need to evaluate suitability of recommended products in their end-use applications.

²For information regarding chemical compatibility of sealants, see technical bulletin [Chemical Compatibility of Representative Building Sealants and Adhesives/Primers](#).

³For information regarding installation of Rodenhouse fasteners, refer to the [Key Installation Requirements for DuPont™ Tyvek® WRBs](#) section of this document.

Warranty

Please refer to the [DuPont Building Envelope Solutions Products 10-Year Limited Warranty for Buildings Less Than 5 Stories and Low-Rise Multi-Family Buildings Less Than 6 Stories](#). For buildings greater than 4 stories, please refer to the [DuPont Building Envelope Solutions Products 10-Year Limited Warranty for Buildings Greater Than 4 Stories](#).

NOTE: In order to make a claim under the DuPont Performance Building Solutions 10-Year Limited Product and Labor Warranty, you must have met all of the terms and conditions of the warranty, including use of the applicable DuPont Installation Guidelines available at the date of original installation. In the event that a specific detail or installation technique is not covered in the DuPont Installation Guidelines at the time of construction, then the Key Installation Requirements outlined in this document must have been followed in order to make a claim under the warranty. It is in the sole discretion of DuPont to determine if full compliance with the Key Installation Requirements exists. Please contact DuPont or a DuPont™ Tyvek® Specialist if you have any questions regarding any DuPont Installation Guideline.

Water-Resistive Barrier (WRB) Code Requirements

The 2018 International Residential Code (Section R703.1.1 Water Resistance) requires that “the exterior wall envelope shall be designed and constructed in a manner that prevents the accumulation of water within the wall assembly by providing a water-resistant barrier behind the exterior cladding as required by Section R703.2 and a means of draining to the exterior water that penetrates the exterior cladding.” Section R703.2 (Water-resistive barrier) states that “one layer of No. 15 asphalt felt, free from holes and breaks, complying with ASTM D 226 for Type 1 felt or other approved water-resistive barrier shall be applied over studs or sheathing of all exterior walls. No. 15 asphalt felt shall be applied horizontally, with the upper layer lapped over the lower layer not less than 2 inches (51 mm). Where joints occur, felt shall be lapped not less than 6 inches (152 mm). Other approved materials shall be installed in accordance

with the water-resistive barrier manufacturer’s installation instructions. The No. 15 asphalt felt or other approved water-resistive barrier shall be continuous to the top of walls and terminated at penetrations and building appendages in a manner to meet the requirements of the exterior wall envelope as described in Section R703.1.”

The 2018 International Building Code (Section 1402.2 Weather Protection) requires that “exterior walls shall provide the building with a weather-resistant exterior wall envelope. The exterior wall envelope shall be designed and constructed in such a manner as to prevent the accumulation of water within the wall assembly by providing a water-resistive barrier behind the exterior veneer, as described in Section 1403.2, and a means for draining water that enters the assembly to the exterior. The exterior wall envelope shall include flashing, as described in Section 1404.4. Section 1403.2 (Water-resistive barrier) states that “not fewer than one layer of No. 15 asphalt felt, complying with ASTM D 226 for Type 1 felt or other approved materials, shall be attached to the studs or sheathing, with flashing as described in Section 1404.4 in such a manner as to provide a continuous water-resistive barrier behind the exterior veneer.”

The **DuPont™ Tyvek® WRBs** listed below qualify as approved water-resistive barriers based on ICC-ES AC38 Acceptance Criteria according to the associated Evaluation Reports:

- ICC-ES Evaluation Report ESR 2375
 - **DuPont™ Tyvek® HomeWrap®**
 - **DuPont™ Tyvek® StuccoWrap®**
 - **DuPont™ Tyvek® DrainWrap™**
 - **DuPont™ Tyvek® CommercialWrap®**
 - **DuPont™ Tyvek® CommercialWrap® D**
- ICC-ESR-1993: **DuPont™ Tyvek® ThermaWrap® LE**

DuPont™ Tyvek® Fluid Applied WB+™ meets ICC-ES AC212, Acceptance Criteria for Water-Resistive Coatings Used as Water-Resistive Barriers Over Exterior Sheathing, per the following:

- Intertek Code Report: CCRR-0307 for **Tyvek® Fluid Applied WB+™**

And Industry Standard ASTM E 2556 Type II Standard Specification for Vapor Permeable Flexible Sheet Water-Resistive Barriers Intended for Mechanical Attachment

Air leakage control and air barriers are required in the IECC-2018 Sections R402.4 and C402.5. Specifically, Section C402.5 identifies three compliance options for air barriers. **Tyvek® WRBs** comply with the option detailed in Section C402.5.1.2.1:

“C402.5.1.2.1 Materials. Materials with an air permeability no greater than 0.004 cfm/ft² (0.02 L/s x m²) under a pressure differential of 0.3 inches water gauge (75 Pa) when tested in accordance with ASTM E 2178 shall comply with this section.” **Tyvek® WRBs** have been tested in accordance with ASTM E2178 and have air permeability less than 0.004 cfm/ft² (0.02 L/s x m²).

Water-Resistive Barrier (WRB) Code Requirements (continued)

DuPont™ Tyvek® WRBs have been tested to the following standards:

- ASTM E 1677 Standard Specification for an Air Retarder (AR) Material or System for Low-Rise Framed Building Walls
- ASTM E 2178 Standard Test Method for Air Permeance of Building Materials
- ASTM E 96 Standard Test Methods for Water Vapor Transmission of Materials
- AATCC 127 Test Method for Water Resistance: Hydrostatic Pressure
- ASTM E 84 Standard Test Method for Surface Burning Characteristics of Building Materials

The application of Tyvek® WRBs is governed by the code adopted and enforced by the local jurisdiction. Consult your jurisdiction to assure compliance with the local building code.

General Instructions

The best time to install Tyvek® WRBs is:

- **AFTER** the roof sheathing is installed
- **AFTER** the step flashings and kickout flashings have been installed
- **BEFORE** the windows and doors are installed.

DuPont Self-Adhered Flashing Products are not intended for through-wall flashing applications.

Special Considerations

1. Wall assemblies using equivalent fasteners must meet or exceed ASTM E1677 performance requirements of 65 mph equivalent structural load resistance and 15 mph equivalent wind-driven rain water infiltration resistance.
2. When performance requirements exceed ASTM E1677, 65 mph equivalent structural load and 15 mph equivalent wind-driven rain water infiltration for buildings less than 5 stories, it is recommended to install a high pressure skirt to help prevent water intrusion at the sill or threshold and follow the [DuPont™ Tyvek® Mechanically-Fastened Weather-Resistive Barrier Installation Guidelines For Buildings Greater Than 4 Stories and High Performance Installations of Any Height](#) and the [DuPont Self-Adhered Flashing Systems Installation Guidelines For Buildings Greater Than 4 Stories and High Performance Installations of Any Height](#).
3. **DuPont™ Tyvek® StuccoWrap™** and **Tyvek® DrainWrap™** must be installed with drainage grooves vertical, going up and down. No surface preparation is needed for the installation of Tyvek® WRBs.
4. **DuPont™ Tyvek® ThermaWrap® LE** must be installed with shiny, metallic side facing towards a clear ¾ inch minimum air space to obtain the installed R-Value benefits. **Tyvek® ThermaWrap® LE** will still act as a water-resistive barrier without an air space. Refer to the [DuPont™ Tyvek® ThermaWrap® LE Fact Sheet](#) for more information.

5. DuPont requires that **DuPont™ Tyvek® HomeWrap®**, **Tyvek® StuccoWrap®**, **Tyvek® DrainWrap™** and **Tyvek® ThermaWrap® LE** be covered within 4 months (120 days) of installation. **DuPont™ Tyvek® CommercialWrap®** and **Tyvek® CommercialWrap® D** must be covered within 9 months (270 days) of installation.
6. DuPont requires that **DuPont™ FlexWrap™**, **DuPont™ FlexWrap™ EZ**, **DuPont™ StraightFlash™**, and **DuPont™ VersaFlange™** be covered within nine months (270 days) of installation. DuPont requires that **DuPont™ Flashing Tape** be covered within four months (120 days) of installation.
7. **DuPont Self-Adhered Flashing Products** perform best when installed at temperatures above 25°F (-4°C).
8. **DuPont Self-Adhered Flashing Products** should be installed on clean, dry surfaces that are free of frost. Wipe surfaces to remove moisture, dirt, grease and other debris that could interfere with adhesion.
9. Adverse weather conditions or cold temperatures may require use of a primer to promote adhesion of **DuPont Self-Adhered Flashing Products** to most common building materials.
10. When installing **DuPont Self-Adhered Flashing Products** on concrete, masonry, and fiber-faced exterior gypsum board the use of **DuPont™ Adhesive/Primer** or recommended primer is required.
11. Remove all wrinkles and bubbles that may allow for water intrusion by smoothing surface and repositioning as necessary during installation of **DuPont Self-Adhered Flashing Products**. Apply pressure along entire surface of flashing for a good bond using firm hand pressure, J-roller, or alternate tool without sharp edges (such as a plastic carpet tuck tool) to assist with application of uniform pressure.
12. **DuPont™ Tyvek® Fluid Applied Products** should only be used for wall systems that include a continuous path for drainage allowing moisture that penetrates the facade to exit to the exterior. The drainage path should be continuous throughout the wall assembly, including but not limited to areas such as eyebrows, band boards, penetrations, or other locations where transitions and changes of plane occur. For membrane drainage wall systems, ensure that the drainage path is not blocked or disrupted to prevent excess moisture buildup in the wall cavity.
13. Suitable substrates for **Tyvek® Fluid Applied Products** include concrete masonry unit (CMU), concrete (48 hrs. for green concrete), exterior gypsum, OSB, plywood, wood, and metal. Contact your local DuPont™ Tyvek® Specialist for use with pressure-treated or fire-retardant-treated wood (FRT).
14. Uncured **Tyvek® Fluid Applied Products** must not come in contact with building wraps due to potential impact on performance properties.
15. **Tyvek® CommercialWrap®** and **Tyvek® CommercialWrap® D** may be installed over **Tyvek® Fluid Applied Products** after 48 hours of curing at 70°F (20°C) and 50% RH.

Special Considerations (continued)

16. When **DuPont™ Tyvek® Fluid Applied Products** are used as the air and water barrier, **DuPont™ Tyvek® WRBs** may be installed as an “intervening layer” over **Tyvek® Fluid Applied Products** after 48 hours of curing at 70°F (20°C) and 50% RH. For additional information about the use of “intervening layers” see the Stucco section under Facade/Exterior Considerations.
17. DuPont recommends the use of the **DuPont™ Tyvek® Fluid Applied Air Barrier System** for CMU walls with embedded brick ties. Please refer to the [*DuPont® Tyvek® Fluid Applied WB+™ Wall and Substrate Guidelines*](#) for specific installation instructions.
18. **DuPont™ Tyvek® CommercialWrap®** and **Tyvek® CommercialWrap® D** must not come in direct contact with other manufacturer’s cured or uncured fluid-applied and/or deck coating waterproofing products due to potential impact on performance properties. **DuPont™ StraightFlash™** can be used as transitional membrane.
19. The maximum in-service temperature for **Tyvek® WRBs**, **DuPont Self-Adhered Flashing Products**, and **Tyvek® Fluid Applied Products** is 180°F.
20. Tower® Residential Sealant (formerly DuPont™ Residential Sealant) is designed for use with DuPont products and can be used where sealant is outlined in this guide. This change represents a branding change only—chemical composition and performance characteristics of the sealant are unchanged.

When installing windows and doors prior to the **Tyvek® WRB**, refer to the [*DuPont Self-Adhered Flashing Products Installation Guidelines for Windows and Doors Installed BEFORE the DuPont™ Tyvek® Water-Resistive and Air Barrier*](#), which will direct you back to this guide at the appropriate step.

If the windows and doors have already been installed and flashed, **integrate the Tyvek® WRB by following the DuPont Self-Adhered Flashing Products Integration section in this guide.**

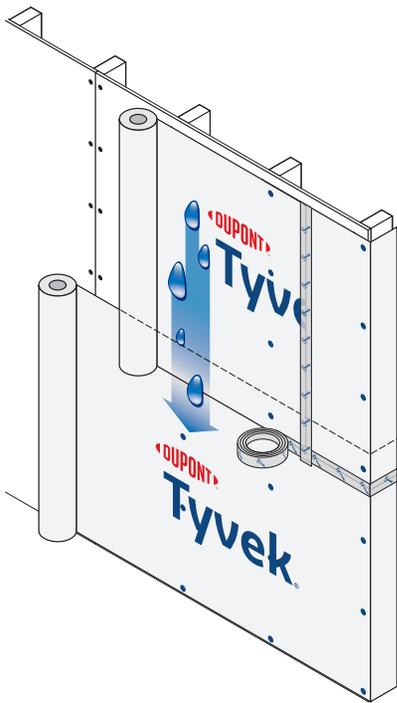
NOTE: If **DuPont™ FlexWrap™** and apron are used, install the **Tyvek® WRB** under the apron to ensure proper shingling. If a non-self adhering sill flashing product is used, please maintain proper shingling.

For additional guidance, please call 1-833-338-7668, visit our website at building.dupont.com, or consult your local DuPont Representative.

Key Installation Requirements for DuPont™ Tyvek® WRBs

Continuity

It is important to maintain the continuity of the **Tyvek® WRB** throughout the building envelope. The entire wall surface shall be wrapped, including unconditioned spaces. Special attention should be given to ensure a proper 6" overlap at all terminations, seams, penetrations, and transitions to maintain a continuous downward drainage plane and WRB. Installing the **Tyvek® WRB** as an air barrier is the preferred installation method. However, skip-taping terminations and untaped horizontal seams is allowed when the **Tyvek® WRB** is being installed as a water-resistive barrier only for buildings less than 5 Stories and low-rise multi-family buildings less than 6 Stories with design requirements that don't exceed ASTM E1677, 65 mph equivalent structural load and 15 mph equivalent wind-driven rain water infiltration. All vertical seams must be taped for both air barrier and water-resistive barrier installations.



Penetrations

Seal **Tyvek® WRBs** around all penetrations (electrical, HVAC and plumbing, etc.) with the appropriate **DuPont™ Flashing Systems product, DuPont™ Tyvek® Tape**, Tower® Residential Sealant or recommended sealant. Products that have flanges should be integrated into the **Tyvek® WRB**. The penetration rough opening can be sealed from the interior side using Tower® Residential Sealant, recommended sealant (and backer rod as necessary), or **Great Stuff Pro™ Window & Door Polyurethane Foam Sealant, Great Stuff Pro™ Gaps & Cracks Polyurethane Foam Sealant**, or recommended foam.

Overlap

Ensure proper shingling with a 6" minimum overlap of weather-resistive barrier components from the bottom to the top of the wall to help facilitate proper drainage.

Sealants and Adhesives/Primers

Review the manufacturers' literature or label to confirm that the product(s) used have the chemical and adhesive properties necessary for use with **Tyvek® WRBs, DuPont Self-Adhered Flashing Products, and DuPont™ Tyvek® Fluid Applied Products**. Refer to [Chemical Compatibility of Representative Building Sealants and Adhesives/Primers](#) for more information about chemical compatibility.

Fasteners

Use **DuPont™ Tyvek® Wrap Cap Fasteners**, Rodenhouse Grip-Deck® screws with Thermal-Grip FastCap™ washers, or recommended alternates, per the fastening schedule included in this installation guideline. Temporary fasteners should not be relied upon to permanently attach **Tyvek® WRBs**, due to the limited holding power of these fastening methods. If temporary fasteners are used, permanent fastening (cladding fasteners) must be applied as soon as practically possible in order to maintain the integrity and performance of the **Tyvek® WRB** and to be in compliance with DuPont Installation Guidelines if making a claim under the DuPont Product and Labor Warranty. Examples of recommended fasteners include:

Recommended Fasteners

Secure **Tyvek® WRB** to the stud or other nail-base material, i.e., wood sheathing. Cap nail and/or cap staple fasteners should be placed no closer than 6" and no farther than 18" on vertical stud lines. Securing along stud lines will assist in maintaining fastening pattern. Penetrating bandboard or other horizontal members may be necessary to maintain fastening pattern. Do not install fasteners within 6" of the sills and jambs and within 9" of the head of the window rough openings. Use one or more of the recommended fasteners below for use with **Tyvek® WRBs**:

- **DuPont™ Tyvek® Wrap Cap Nails**
- **DuPont™ Tyvek® Wrap Cap Staples** or other cap staples for Stinger® Cap Stapler*
- 2" **DuPont™ Tyvek® Wrap Cap Screws** (for steel frame construction, may also be used for wood frame)
- Rodenhouse Grip-Deck® screws with Thermal-Grip FastCap™ washers installed at 16" vertical spacing along stud lines for 16" o.c. framing (approved for use with **Tyvek® WRBs**). Install fasteners with standard hand drill or Grip-Lok® Autofeed Fastening System** with modified nose adaptor.

Wood frame construction:

- 1-5/8" – 6" Rodenhouse Grip-Deck® HiLo Thread Screws with 2" Thermal-Grip FastCap™ washer
- 1-5/8", 2", 2-1/2", and 3" screws can be installed with standard hand drill or Grip-Lok® Autofeed Fastening System** with modified nose adapter
- 3-1/2" to 6" screws should be installed with standard hand drill.
- Other manufacturers' equivalent fasteners.

*Except when installing Tyvek® WRB over foam and other non-nail-base sheathings.

**For more information about the Grip-Lok® Autofeed Fastening System, refer to manufacturer's instructions and contact your local DuPont™ Tyvek® Specialist.

Temporary Fastening

Selection and use of temporary fastening methods is an option dependent on building schedule, cladding options, and local building practices. Temporary fasteners should not be relied upon to permanently attach **DuPont™ Tyvek® WRBs** due to the limited holding power of these fastening methods. If temporary fasteners are used, permanent fastening should be applied as soon as practically possible in order to maintain the integrity and performance of the **Tyvek® WRB**. Permanent fasteners include cladding fasteners such as brick ties, lath fasteners for traditional stucco, exterior foam board fasteners, or siding installed with nails. Cladding shall be installed according to applicable building codes and industry standards.

Temporary fastening methods:

- DuPont fasteners or equivalent alternate fasteners at a reduced schedule of 24" to 48".
- **DuPont™ Adhesive/Primer** or other recommended adhesive applied in vertical strips at 24" to 36" spacing or along every other stud line. Vertical strips may be applied to the outer face of the sheathing or directly to the studs for open stud construction. When using adhesives, care must be taken to avoid excessive surface coverage as this may impact the vapor permeability of the **Tyvek® WRB** in that area. Refer to [*Chemical Compatibility of Representative Building Sealants and Adhesives/Primers*](#) for more information about recommended adhesives.
- If staples without caps are used to temporarily fasten **Tyvek® WRBs** to OSB, plywood, or exterior gypsum sheathing, the fastening schedule must not exceed 24" to 36" vertically, with fasteners at every other stud for 16" o.c. framing. 24" o.c. framing will require horizontal fastening on every stud, with 24" to 36" fastener spacing vertically. Staples should not be used with fiberboard or foam sheathing. If installing as an air barrier, each staple must be covered with **DuPont™ Tyvek® Tape**. Covering the staples underneath a taped air and water barrier seam is also acceptable if installing the **Tyvek® WRB** as an air barrier.

NOTE: These Temporary Fastening Guidelines are subject to change based on new technology or testing information and may be superseded at any time. It is always important to follow the latest guidelines which may be found on building.dupont.com. For additional guidance, please consult your local DuPont™ Tyvek® Specialist.

NOTE: In order to make a claim under the DuPont 10-Year Limited Product and Labor Warranty on DuPont Building Envelope Solutions Products, you must have met all of the terms and conditions of the warranty, including use of the applicable DuPont Installation Guidelines available at the date of original installation. In the event that a specific detail or installation technique is not covered in the DuPont Installation Guidelines at the time of construction, then the Key Installation Requirements outlined in this document must have been followed in order to make a claim under the warranty. Compliance prior, during and post construction with the Key Installation Requirements are at the sole discretion of DuPont. Please contact DuPont or a DuPont™ Tyvek® Specialist if you have any questions in connection with any DuPont Installation Guideline.

Installation Instructions

Start at bottom corner of structure to ensure proper shingling throughout the installation. Proper shingling is required to shed water and to prevent water from entering the wall system. Printed stud marks are available on some **DuPont™ Tyvek® WRBs** to aid in aligning with the studs (e.g. studmarks are 8" apart for **DuPont™ Tyvek® HomeWrap™**).

STEP 1

Align roll at bottom corner of structure. Roll should be plumb. Bottom edge of roll must:

- extend over sill plate interface onto foundation by at least 1" (2" or greater is recommended)
- extend to bottom of sill plate for slab on grade foundations, or,
- be properly integrated with water drainage components such as kick out flashing or weep screed (for stucco exteriors).

When bottom edge of roll is less than 2" over the sill plate interface, it is recommended to seal or skip-seal the **Tyvek® WRB** at the bottom of the wall.*

STEP 2

Unwrap roll starting at corner. Overlap all vertical seams by 6-12".

STEP 3

Secure **Tyvek® WRB** to the stud or other nail-base material, i.e., wood sheathing. Fasteners should be placed no closer than 6" and no farther than 18" on vertical stud lines. Securing along stud lines will assist in maintaining fastening pattern. Penetrating bandboard or other horizontal members may be necessary to maintain fastening pattern. **Do not install fasteners within 6" of the sills and jambs and within 9" of the head of the window rough openings.** Use one or more of the recommended fasteners below for use with **Tyvek® WRBs**:

- **DuPont™ Tyvek® Wrap Cap Nails**
- **DuPont™ Tyvek® Wrap Cap Screws**
- **DuPont™ Tyvek® Wrap Cap Staples** or other cap staples for Stinger® Cap Stapler**
- Rodenhouse Grip-Deck® Screws with Thermal-Grip FastCap™ Washers
- Other manufacturers' equivalent cap fasteners

Please see *Key Installation Requirements for DuPont™ Tyvek® WRBs* section above for equivalent fastener requirements and "Temporary Fastening" section above for more information on alternative fastening schedules and requirements.

*Use **DuPont Self-Adhered Flashing Products** with **DuPont™ Adhesive/Primer** (or recommended primer) as applicable to seal the **Tyvek® WRB** directly to concrete, wood, or other rough surfaces. The **Tyvek® WRB** can also be sealed to rough surfaces using Tower® Residential Sealant (or recommended sealant).

Except when installing **Tyvek® WRB over foam and other non-nail-base sheathings.

STEP 4

Unroll directly over windows and doors. Upper layer of **Tyvek® WRB** should overlap bottom layer by a minimum of 6". **NOTE:** If windows are already installed, the **Tyvek® WRB** must be integrated with window flashing using proper shingling. If **DuPont™ FlexWrap™** and apron are used according to the [DuPont Self-Adhered Flashing Products Installation Guidelines for Windows and Doors Installed BEFORE the DuPont™ Tyvek® Water-Resistive and Air Barrier \(WRB\)](#), install the **Tyvek® WRB** under the apron to ensure proper shingling. If non-self-adhering sill flashing is used, install the **Tyvek® WRB** under the bottom of the sill flashing to maintain proper shingling. In either case, follow the steps included in the **DuPont Self-Adhered Flashing Products Integration** section in this guide to tie the **Tyvek® WRB** into the flashing.

STEP 5

Tape all vertical seams with **DuPont™ Tyvek® Tape**. If the **Tyvek® WRB** is not being installed as an air barrier, **Tyvek® Tape** is not required on horizontal seams but is considered a recommended best practice. Use 3" **Tyvek® Tape** for the horizontal seams of **DuPont™ Tyvek® StuccoWrap™** and **Tyvek® DrainWrap™**. Use **DuPont™ Tyvek® Metalized Tape** when taping **DuPont™ Tyvek® ThermoWrap™ LE**.

STEP 6 (FOR AIR BARRIER INSTALLATIONS)

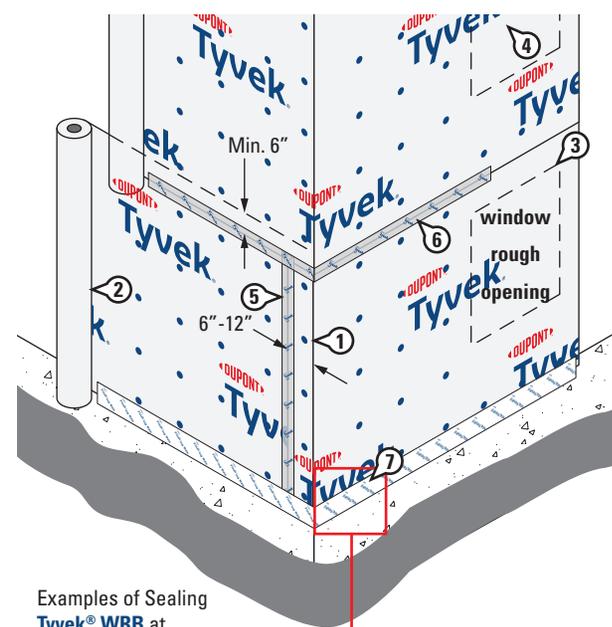
When installing as an air barrier, the horizontal seams must be taped. The use of 3" **Tyvek® Tape** is required for both vertical and horizontal seams of **Tyvek® StuccoWrap™** and **Tyvek® DrainWrap™** for air barrier installations.

STEP 7 (FOR AIR BARRIER INSTALLATIONS)

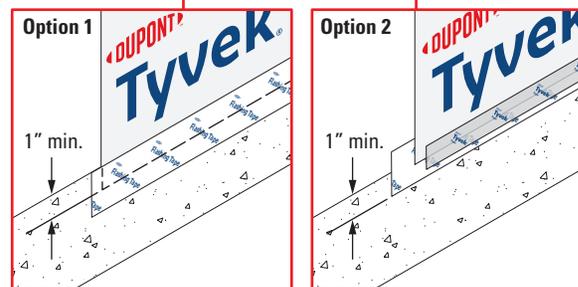
Taping or sealing all terminations of **Tyvek® WRBs** (including, but not limited to, top-of-wall and bottom-of-wall interfaces) using **Tyvek® Tape**, Tower® Residential Sealant (or recommended sealant), **DuPont™ StraightFlash™**, or **DuPont™ Flashing Tape** is required when installing as an air barrier.*

After the **Tyvek® WRB** is installed refer to the [DuPont Self-Adhered Flashing Products Installation Guidelines for Windows and Doors Installed AFTER the DuPont™ Tyvek® Water-Resistive and Air Barrier \(WRB\)](#) to prepare and flash windows and doors.

For additional Installation Guidelines and more information about DuPont Performance Building Solutions, please visit building.dupont.com or call 1-833-338-7668.



Examples of Sealing **Tyvek® WRB** at Bottom of Wall



Overlap **Tyvek® WRB** onto foundation by a minimum of 1" and seal with **DuPont Self-Adhered Flashing Product**.*

Seal interface of sheathing and foundation using **DuPont Self-Adhered Flashing Product**, overlap **Tyvek® WRB** onto **DuPont Self-Adhered Flashing Product** by a minimum of 1" and terminate using **Tyvek® Tape**.*

Continuity

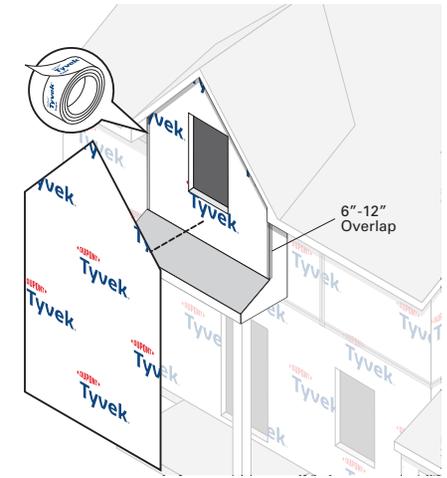
It is important to maintain the continuity of the **DuPont™ Tyvek® WRB** from bottom to top with proper shingling. Starting from the bottom of the structure, continue wrapping all the way up, overlapping the previous layer of **Tyvek® WRB** by a minimum of 6". Wrap the entire wall surface including unconditioned spaces.



Gable Ends

Completely cover the Gable End with the **Tyvek® WRB** including a 6"-12" overlap at each outside corner. At top-of-wall, cut the **Tyvek® WRB** flush with the roof line. If rafters extend at the top of the wall to create a roof overhang, the **Tyvek® WRB** can be cut around each rafter or cut flush with the bottom of the rafters if the top edge of the **Tyvek® WRB** will extend above the soffit line.

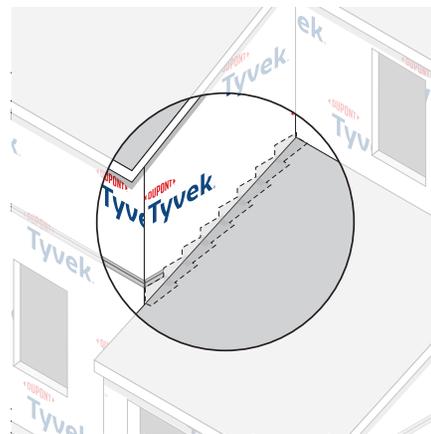
NOTE: For air barrier installations, terminate the **Tyvek® WRB** to the sheathing using **DuPont Self-Adhered Flashing Product** or Tower® Residential Sealant (or recommended sealant).



Terminations

Lap **Tyvek® WRB** over all flashing (e.g. step flashing, wall to roof intersections and through wall flashings).

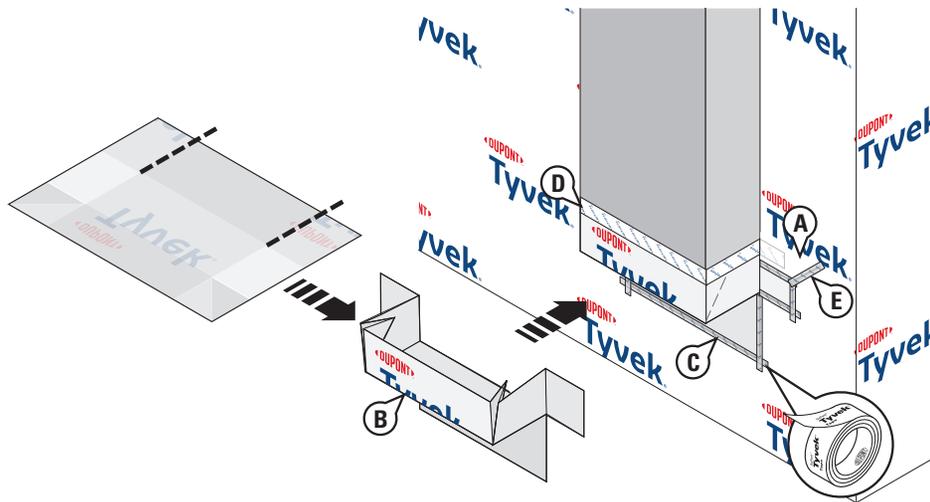
Weep screeds and expansion joints need to be integrated with flashings and the **Tyvek® WRB**.



Cantilever Floors

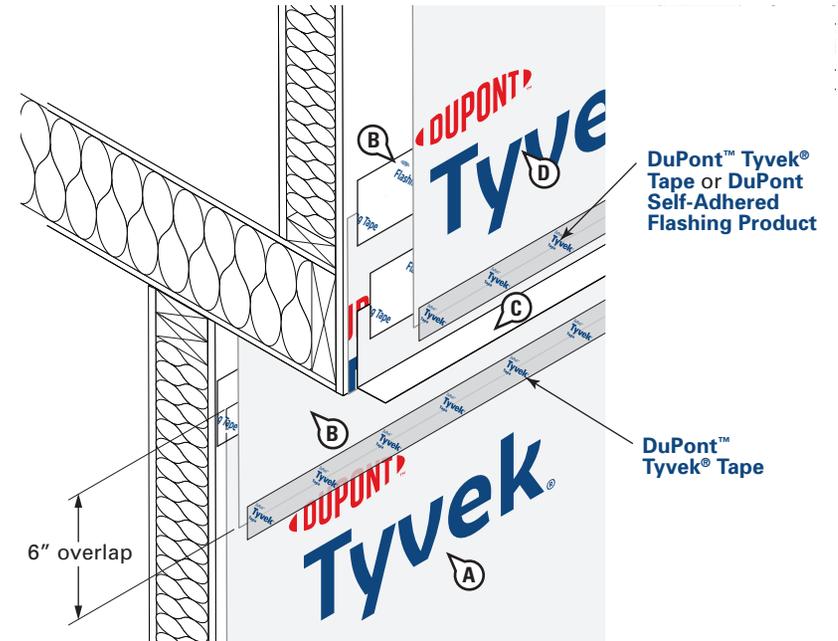
- A. At outside edges of cantilever, cut a flap minimum 6" above bottom edge of cantilever. Fold up and temporarily secure in place to expose sheathing.
- B. Wrap the **DuPont™ Tyvek® WRB** under and up the cantilever floor and fold the **Tyvek® WRB** up the sides of the cantilever wall a minimum of 6". The **Tyvek® WRB** should also overlap the layer below by minimum 6".
- C. Tape all **Tyvek® WRB** seams with **DuPont™ Tyvek® Tape**.
- D. Seal the top edge of the **Tyvek® WRB** to the sheathing using **DuPont Self-Adhered Flashing Product**.
- E. Fold down flap at outside edges of cantilever and seal with **Tyvek® Tape**.
- F. Install upper course of **Tyvek® WRB**, overlapping bottom layer minimum 6".

NOTE: Make the inside corner as tight as possible using a 1x4 or similar.



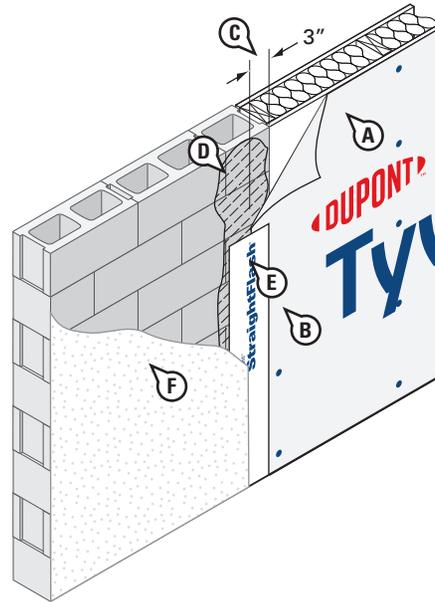
Horizontal Plane Transition

Detail isolates horizontal plane from vertical walls for water management



- A. Install **DuPont™ Tyvek® WRB** on wall below horizontal plane and terminate with **DuPont Self-Adhered Flashing Product**.
- B. Install **Tyvek® WRB** on horizontal plane, overlapping the **Tyvek® WRB** below by 6", and extend a minimum of 6" onto the vertical wall above. Install **Tyvek® Tape** to seal horizontal seam below and terminate onto upper wall with **DuPont Self-Adhered Flashing Product**.
- C. **Optional:** Install a kick-out flashing at outside corner as recommended best practice per plans and specifications. Terminate vertical leg of kick-out flashing with **DuPont Self-Adhered Flashing Product** as a recommended best practice.
- D. Install **Tyvek® WRB** on wall above horizontal plane and terminate onto kick-out flashing with **Tyvek® Tape**. **NOTE:** If kick-out flashing is not used, ensure a 6" overlap and seal the horizontal seam with **Tyvek® Tape**.

Hybrid Wall – Transition to DuPont™ Tyvek® Fluid Applied Products



- A. Install **DuPont™ Tyvek® WRB** prior to application of **DuPont™ Tyvek® Fluid Applied WB+™**.
- B. Fasten the **Tyvek® WRB** to the stud adjoining the transition substrate.
- C. Cut the **Tyvek® WRB** so that approximately 3" will overlap the adjoining substrate.
- D. Fold back the 3" flap of **Tyvek® WRB** and prime adjoining substrate with **DuPont™ Adhesive/Primer** or recommended primer.
- E. Fold the **Tyvek® WRB** back down over the interface and seal it to the primed substrate using 4" **DuPont™ StraightFlash™**, overlapping both surfaces evenly by approximately 2". Apply pressure along entire surface of flashing. Refer to the Special Consideration section for additional information.
- F. Apply **Tyvek® Fluid Applied WB+™** onto wall surface, overlapping the **StraightFlash™** by a minimum of 2". Refer to the [DuPont™ Tyvek™ Fluid Applied WB+™ Wall and Substrate Guidelines](#) for additional information.

Uncured Tyvek® Fluid Applied Products must not come in contact with Tyvek® WRBs due to potential impact on performance properties. Therefore, use of a spray guard or other physical barrier to avoid overspray onto the Tyvek® WRB is recommended.

- G. Upon completion, inspect surface to ensure that **Tyvek® Fluid Applied WB+™** is continuous and free of any voids or pinholes.

NOTE: When spraying, the outer edge of **DuPont Self-Adhered Flashing Product** at the interface with the **Tyvek® Fluid Applied WB+™** can be treated with **DuPont Tyvek® Fluid Applied Flashing and Joint Compound+** tapered to the wall substrate to help ensure installation is free of pinholes and voids..

Installation of Metal Flashing at Façade Transitions

The following options for terminating metal flashing can be used for various exterior façade transitions. The cladding materials shown below are for general reference.

Option 1: Metal Flashing Terminated onto DuPont™ Tyvek® WRB

STEP 1

Install the “Z” or “L” metal flashing over the lower façade and onto the **Tyvek® WRB** with mechanical fasteners.

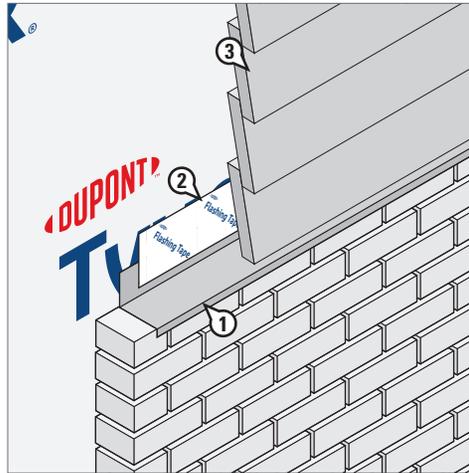
NOTE: Do not install **Tyvek® WRB** fasteners where the metal flashing or **DuPont Self-Adhered Flashing Product** will be installed.

STEP 2

Terminate the vertical leg of the metal flashing to **Tyvek® WRB** with **DuPont Self-Adhered Flashing Product** so there is a minimum of 2” adhesion onto the **Tyvek® WRB**.

STEP 3

Install the upper façade according to the manufacturer’s instructions.



Option 2: Metal Flashing Terminated onto Sheathing

STEP 1

Install the first course of **Tyvek® WRB** so it extends a minimum of 2” beyond where the top edge of the lower façade will be located.

NOTE: Do not install **Tyvek® WRB** fasteners where the metal flashing or **DuPont Self-Adhered Flashing Product** will be installed.

STEP 2

Install the “Z” or “L” metal flashing along the top edge of the lower façade with the vertical leg overlapping the **Tyvek® WRB**.

STEP 3

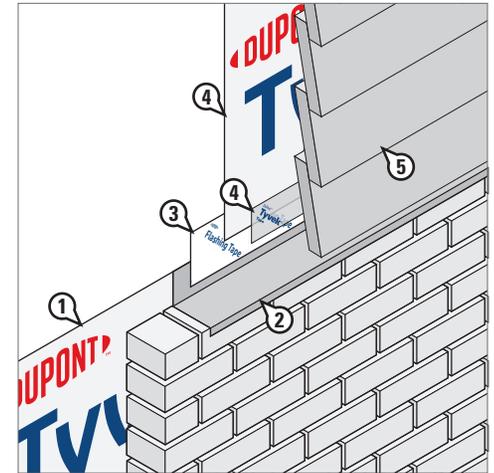
Terminate the vertical leg of the metal flashing directly to the sheathing with **DuPont Self-Adhered Flashing Product** with minimum of 2” adhesion onto the sheathing.

STEP 4

Install the next course of **Tyvek® WRB** to overlap the **DuPont Self-Adhered Flashing Products** by a minimum of 2” and seal with **DuPont™ Tyvek® Tape** or Tower® Residential Sealant, or recommend sealant.

STEP 5

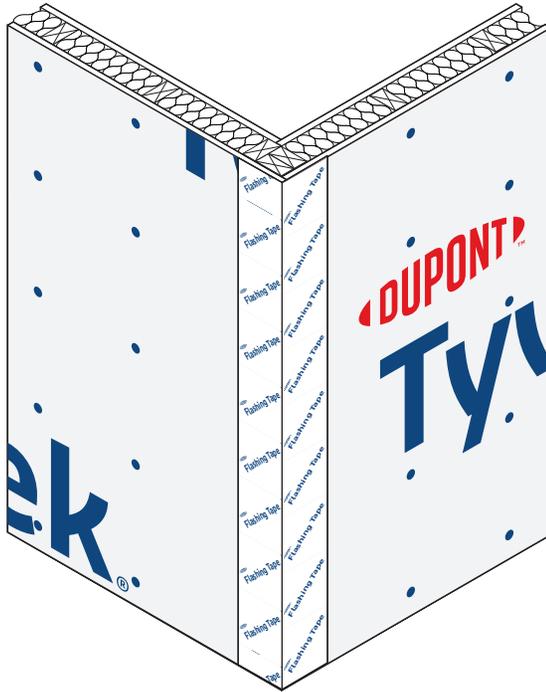
Install upper façade according to the manufacturer’s instructions.



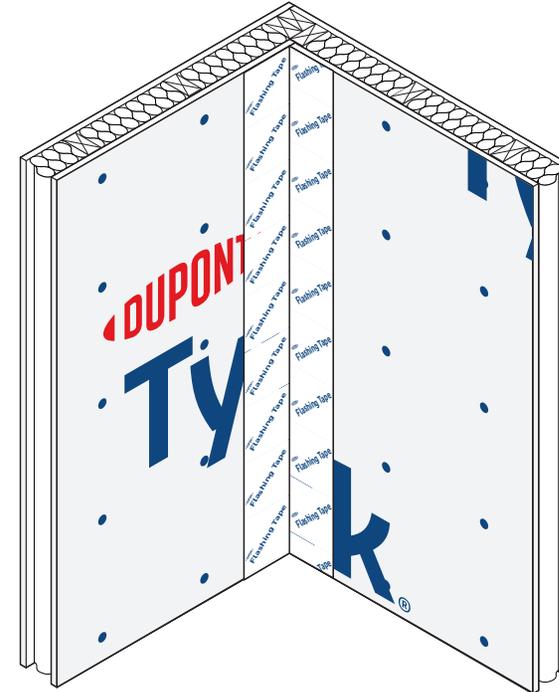
Inside and Outside Corners – OPTIONAL Use of 12” DuPont™ Flashing Tape

12” wide **DuPont™ Flashing Tape** can be used for additional protection during the construction process at inside and outside corners. The diagrams below show 12” **DuPont™ Flashing Tape** installed over the **DuPont™ Tyvek® WRB**; however, the flashing could alternatively be installed directly to the sheathing prior to the **Tyvek® WRB** installation. Ensure the **Tyvek® WRB** and 12” **DuPont™ Flashing Tape** are installed tightly into or around the inside or outside corners, respectively. If using multiple pieces of **DuPont™ Flashing Tape**, ensure a minimum of 2” overlap of each piece. For more information regarding the installation of 12” **DuPont™ Flashing Tape** at building corners, refer to the Installation Bulletin: [DuPont™ Flashing Tape for Inside and Outside Wall Corners](#).

Outside Corner



Inside Corner

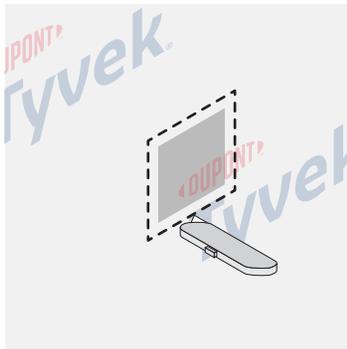


Penetrations

Seal around plumbing pipes, HVAC components, electrical outlets, exterior lights, flashing panels, and other objects that penetrate the **DuPont™ Tyvek® WRB**. Always use positive shingling by installing **Tyvek® WRBs** and **DuPont Self-Adhered Flashing Products** from bottom to top, with upper layer installed over lower layer. **NOTE:** A backing support for flashing made of solid OSB or wood sheathing must be installed around the penetration before the **Tyvek® WRB** and flashing for open stud applications.

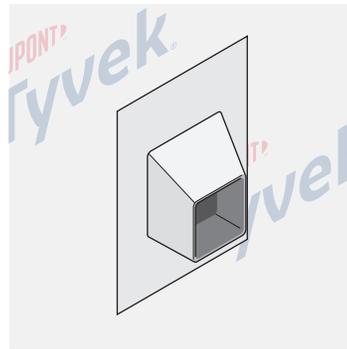
Flashing Integral Flanged Products Installed AFTER DuPont™ Tyvek™ WRB

Method 1



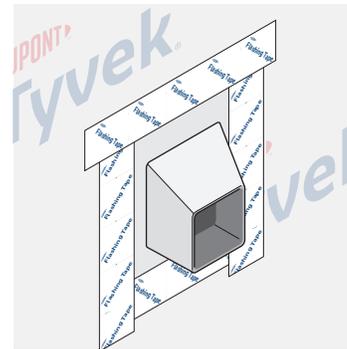
STEP 1

Install **Tyvek® WRB** and cut as necessary to accommodate integral flanged product.



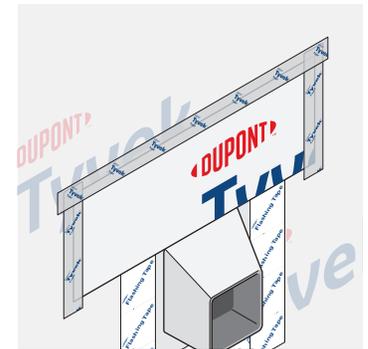
STEP 2

Install integral flanged product per manufacturer's instructions.



STEP 3

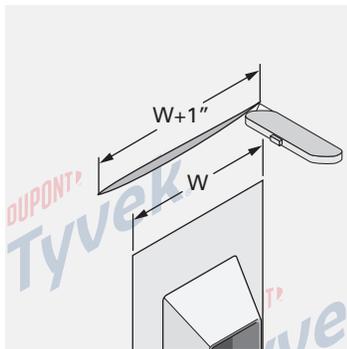
Install **DuPont Self-Adhered Flashing Product** (recommended best practice) or **Tyvek® Tape** onto bottom, sides, and top flanges, extending onto **Tyvek® WRB** by a minimum of 2". **NOTE:** Bottom piece is optional, but is recommended as a best practice and is required for air barrier installations.



STEP 4 (OPTIONAL)

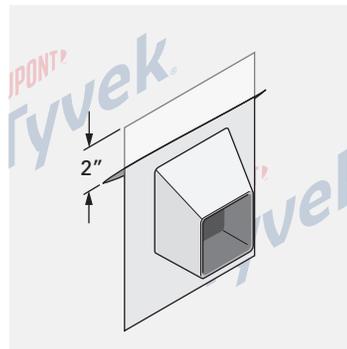
Install a piece of **Tyvek® WRB** to overlap the top edge of the **DuPont Self-Adhered Flashing Product**. Seal sides and top with **DuPont™ Tyvek® Tape**.

Method 2



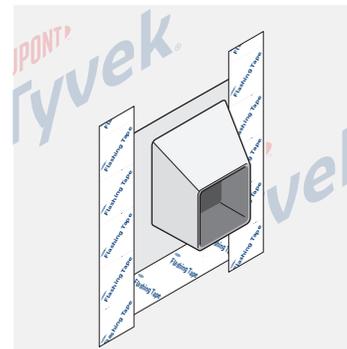
STEP 1

Install **Tyvek® WRB** and make horizontal cut a minimum of 1" wider than flange.



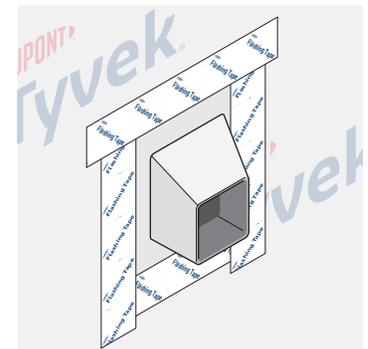
STEP 2

Slide top flange into slit with minimum 2" overlap of **Tyvek® WRB**, and install per manufacturer's instructions.



STEP 3

Adhere **DuPont Self-Adhered Flashing Product** (recommended best practice) or **Tyvek® Tape** bottom and side flanges, extending onto **Tyvek® WRB** by 2". **NOTE:** Bottom piece is optional, but is recommended as a best practice and is required for air barrier installations.

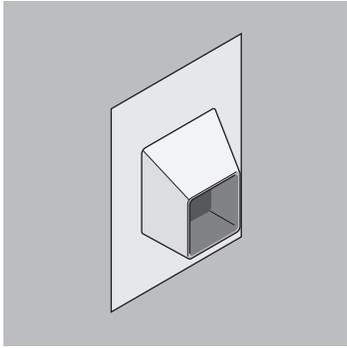


STEP 4

Install **DuPont Self-Adhered Flashing Product** (recommended best practice) or **Tyvek® Tape** to top flange, extending beyond **DuPont Self-Adhered Flashing Product**, or **Tyvek® Tape**, on side flanges.

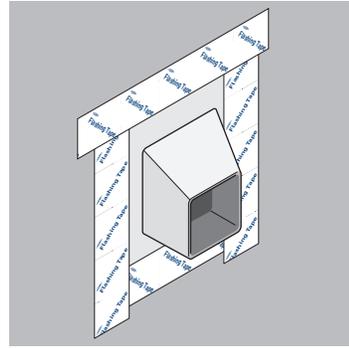
Flashing Integral Flanged Products – Installed BEFORE DuPont™ Tyvek™ WRB

Method 1



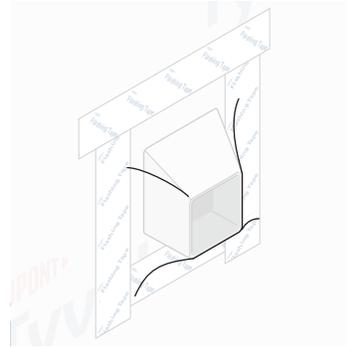
STEP 1

Install integral flanged product onto sheathing per manufacturer's instructions.



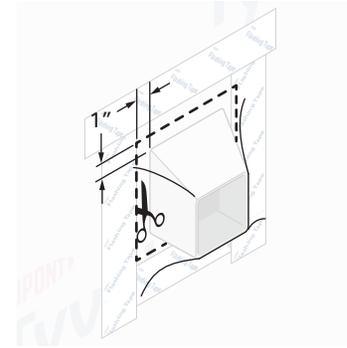
STEP 2

Install **DuPont Self-Adhered Flashing Product** onto flanges, extending onto sheathing by a minimum of 2".



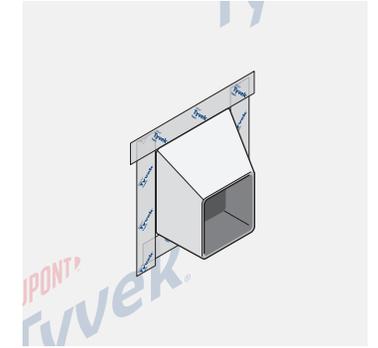
STEP 3

Install **Tyvek® WRB**.



STEP 4

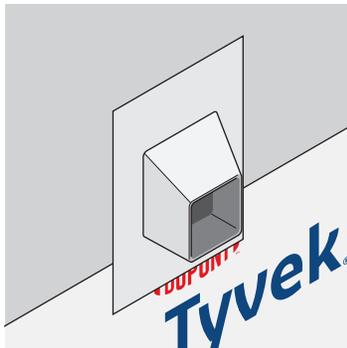
Make cut in **Tyvek® WRB**, ensuring a minimum of 1" gap for adhesion of **DuPont™ Tyvek® Tape**.



STEP 5

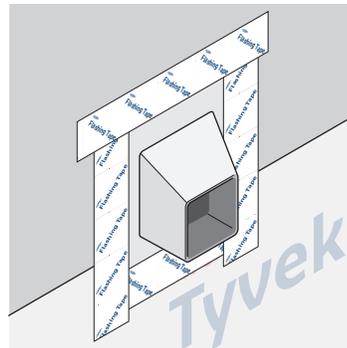
Seal edges of **Tyvek® WRB** with **Tyvek® Tape**.

Method 2



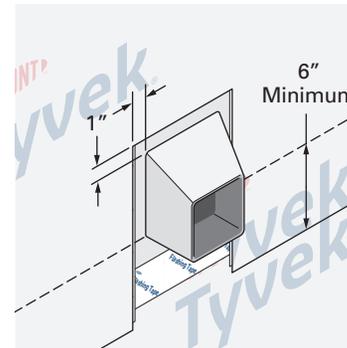
STEP 1

Install **Tyvek® WRB** under bottom flange.



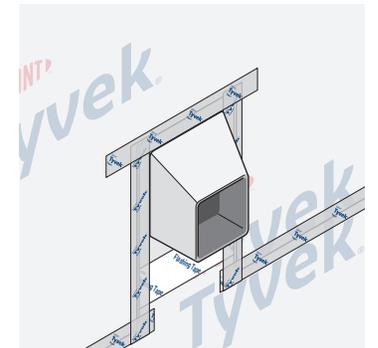
STEP 2

Adhere **DuPont Self-Adhered Flashing Product** onto sides and top flange. **NOTE:** Also install at bottom flange as a recommended best practice and for air barrier installations.



STEP 3

Install next course of **Tyvek® WRB** with a minimum of 6" overlap. Cut back 1" to expose flanges.



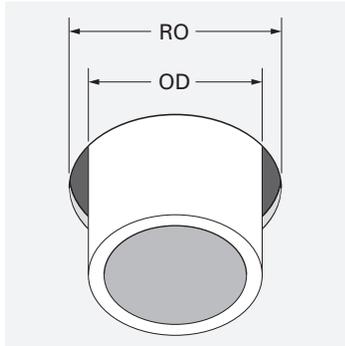
STEP 4

Seal seams using **Tyvek® Tape**.

Flashing Non-Flanged Products – Installed AFTER DuPont™ Tyvek™ WRB

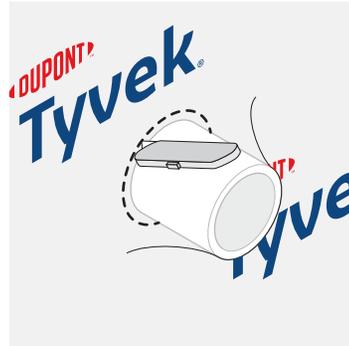
Method 1: Flashing Non-Flanged Products Using DuPont™ FlexWrap™ EZ

For non-flanged products with **OD GREATER** than 2"



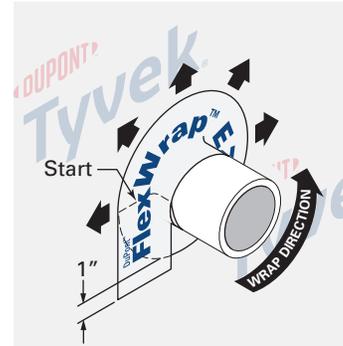
Use **FlexWrap™ EZ** only when penetration rough opening (RO) is not more than 1/2" larger than the outside diameter/dimension (OD) of non-flanged product.

NOTE: For more information regarding the installation of **FlexWrap™ EZ**, refer to the [Installation Information Bulletin for FlexWrap™ EZ](#).



STEP 1

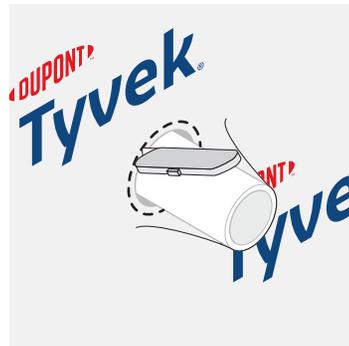
Install **Tyvek® WRB** over non-flanged product and cut around penetration.



STEP 2

Cut a piece of **FlexWrap™ EZ** longer than the circumference of non-flanged product to ensure a minimum 1" overlap onto the **Tyvek® WRB**. Starting at the horizontal position on either side, adhere around penetration and onto **Tyvek® WRB**.

For non-flanged products with **OD LESS** than 2"



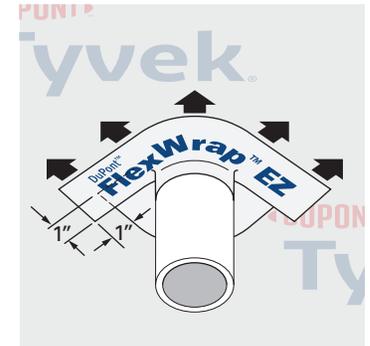
STEP 1

Install **Tyvek® WRB** over non-flanged product and cut around penetration.



STEP 2

Cut a piece of **FlexWrap™ EZ** the length of 1/2 the circumference of the non-flanged product. Adhere onto bottom section and fan out onto **Tyvek® WRB**.



STEP 3

Cut a second piece of **FlexWrap™ EZ** the length of the pipe circumference. Adhere onto top section and fan out onto face of wall with a minimum of 1" overlap of the edges of **FlexWrap™ EZ** below.

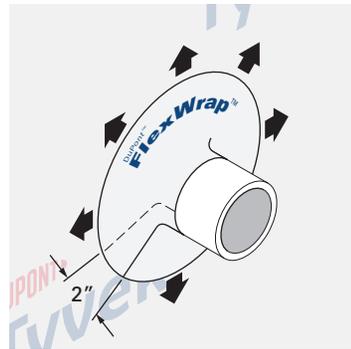
Method 2: Flashing Non-Flanged Products Using DuPont™ FlexWrap™

FlexWrap™ installed onto DuPont™ Tyvek® WRB around penetration



STEP 1

Install **Tyvek® WRB** over non-flanged product and cut around penetration.



STEP 2

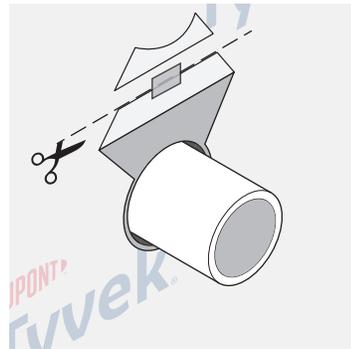
Starting at the horizontal position on either side, install **FlexWrap™** around penetration with a minimum 2" overlap.

FlexWrap™ adhered to sheathing above penetration*



STEP 1

Install **Tyvek® WRB** over non-flanged product and cut around penetration.



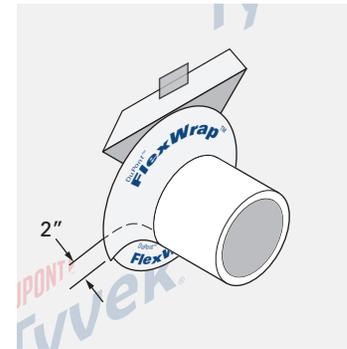
STEP 2

Cut diagonal flap in **Tyvek® WRB**, trim back ~1" to make straight edge, and temporarily secure.



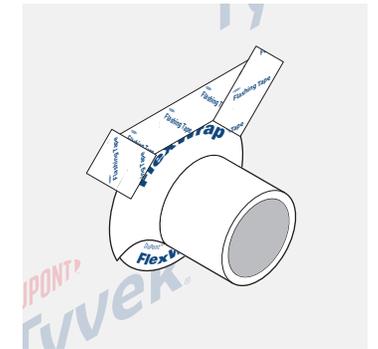
STEP 3

Install **FlexWrap™** around bottom of penetration.



STEP 4

Install **FlexWrap™** around top of penetration, overlapping bottom layer of **FlexWrap™** by 2" on either side.



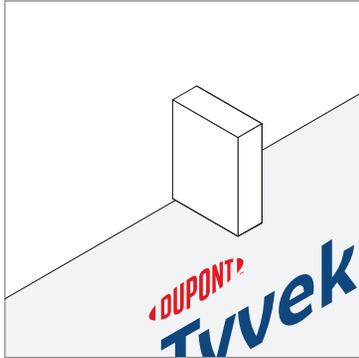
STEP 5

Flip down and secure head flap using **DuPont Self-Adhered Flashing Product**.

*Allows positive shingling of **Tyvek® WRB**

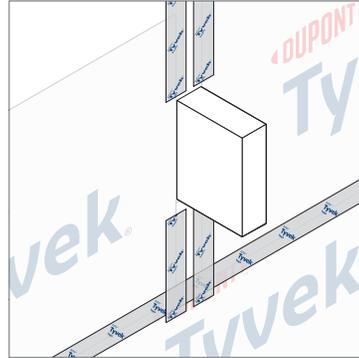
Flashing Beam Penetrations

NOTE: A backing support for flashing made of solid OSB or wood sheathing must be installed around the beam before the **DuPont™ Tyvek® WRB** and flashing for open stud applications. **OPTIONAL:** **DuPont™ FlexWrap™ EZ** may be used in place of **DuPont™ FlexWrap™** (STEP 3) when the beam penetration rough opening (RO) is not more than 1/2" larger than the outside diameter/dimension (OD) of the beam. Refer to the detail *Method 1 – Flashing Non-Flanged Products Using DuPont™ FlexWrap™ EZ* in this guide.



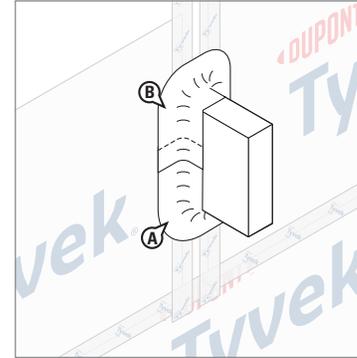
STEP 1

Install the first course of **Tyvek® WRB** so the top edge is flush with the bottom of the beam.



STEP 2

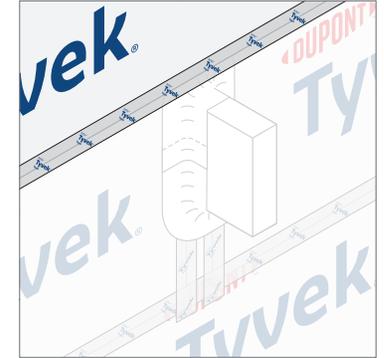
Cut pieces of **Tyvek® WRB** to fit between beams. The pieces should extend a minimum of 7" above the beams and overlap the course below by a minimum of 6". Seal the vertical seams with **DuPont™ Tyvek® Tape**. **NOTE:** For air barrier installations, seal all vertical and horizontal seams.



STEP 3

Seal around the beam using two pieces of 6" wide **FlexWrap™** (or **FlexWrap™ EZ** as captured in the note above).

- A. Cut the first piece of **FlexWrap™** long enough to wrap around the bottom half of the beam. Break the perforation in the release paper by folding the **FlexWrap™** top sheet to the inside of the fold. With the **FlexWrap™** still folded, remove the narrow piece of release paper and adhere the exposed butyl to the bottom and up each side of the beam. Remove the remaining release paper and fan the **FlexWrap™** out onto the **Tyvek® WRB** on the face of the wall.
- B. Cut the second piece of **FlexWrap™** long enough to wrap around the top half of the beam, overlapping the first piece of **FlexWrap™** on each side by 2". Install along the top of the beam and down each side, overlapping the lower piece of **FlexWrap™** by 2" using the method above.



STEP 4

Install the top course of the **Tyvek® WRB**, overlapping the **Tyvek® WRB** below with 1" gap above the beam. Tape all vertical seams with **DuPont™ Tyvek® Tape**. **NOTE:** For air barrier installations, seal all vertical and horizontal seams.

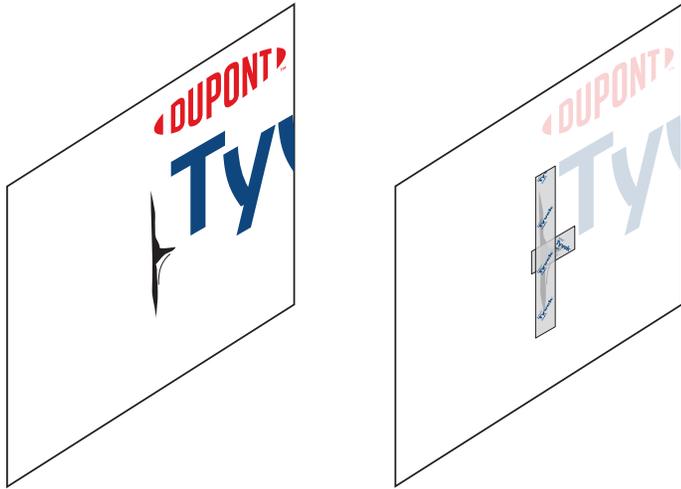
Handling Tears and Holes

During the course of installing the **DuPont™ Tyvek® WRB**, minor tears may occur. Be sure to tape all tears. Tears can easily be covered with **DuPont™ Tyvek® Tape** (2" or 3") or **DuPont Self-Adhered Flashing Products**.

Larger holes (greater than 1") may require cutting a piece of **Tyvek® WRB** to cover the hole, maintaining proper shingling.

Cut a slit 2" above the hole and extending a minimum of 2" on each side of the hole. Measure and cut a piece of **Tyvek® WRB** to fit into the slit and cover the hole. Tuck the cut piece of **Tyvek® WRB** into the slit. Tape along the perimeter by starting at the bottom of the patch, shingling upper tape over bottom tape.

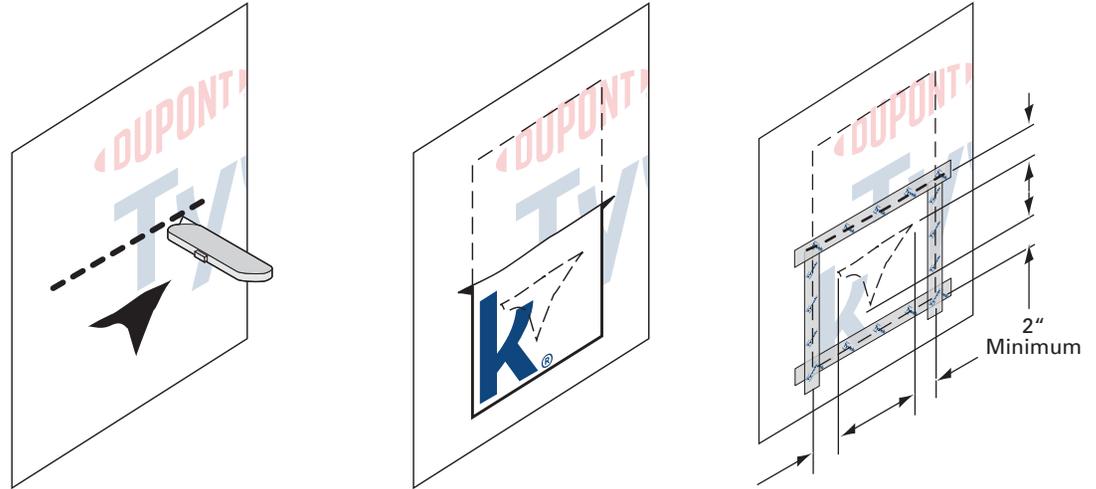
Tears



STEP 1

STEP 2

Holes

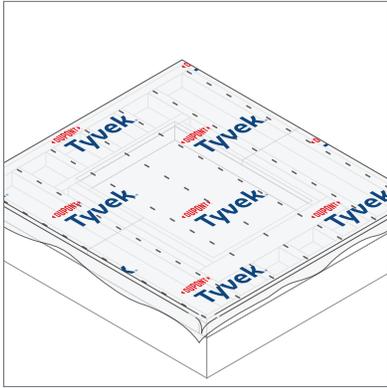


STEP 1

STEP 2

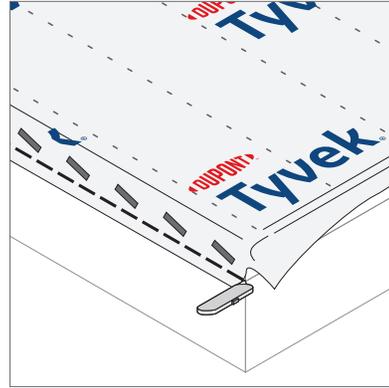
STEP 3

Tilt Wall Instructions



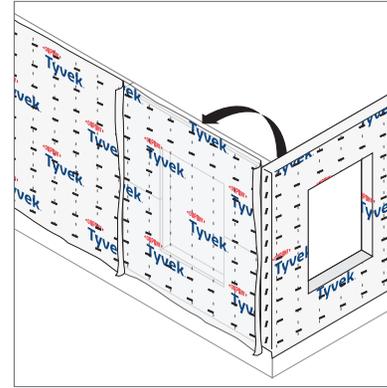
STEP 1

Unroll and secure **DuPont™ Tyvek® WRB** over the wall panel. Leave enough excess at sides and bottom to ensure a minimum 6" overlap of the **Tyvek® WRB** onto adjacent wall panels and minimum 1" overlap of the foundation below. These flaps allow for a **Tyvek® WRB-to-Tyvek® WRB** seal with adjacent sides. Position/cut the **Tyvek® WRB** so that it is flush with the top of the wall. When taping, make sure the stud marks printed on the **Tyvek® WRB** line up with the first stud and that the roll is plumb.



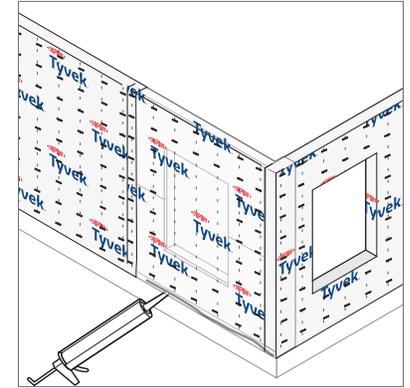
STEP 2

When starting a wall section, fold the beginning side flap over the vertical side of the stud and secure. Trim off excess. Only one side flap is needed (either left or right side of wall panel) to overlap adjacent panels; however, having the flap on the same side of each panel will ensure proper overlap from panel to panel and at building corners. Fold the flap that will overlap the adjacent panel onto the exterior face of the panel to assist with raising the panel upright. Ensure that the bottom flap overhangs enough so that, when the wall is tilted upright, it overlaps the sill plate.



STEP 3

As each wall section is raised, ensure that the bottom flaps overlap the sill plate and that the side flaps are on the exterior of the house.



STEP 4

Fasten the side flaps and secure the bottom flap to the foundation. For maximum air leakage reduction (when installing as an air barrier), seal wrap at the bottom of the wall with **Tower® Residential Sealant**, or recommended sealant, **DuPont™ Tyvek® Tape**, **DuPont™ StraightFlash™** or **DuPont™ Flashing Tape**.

STEP 5

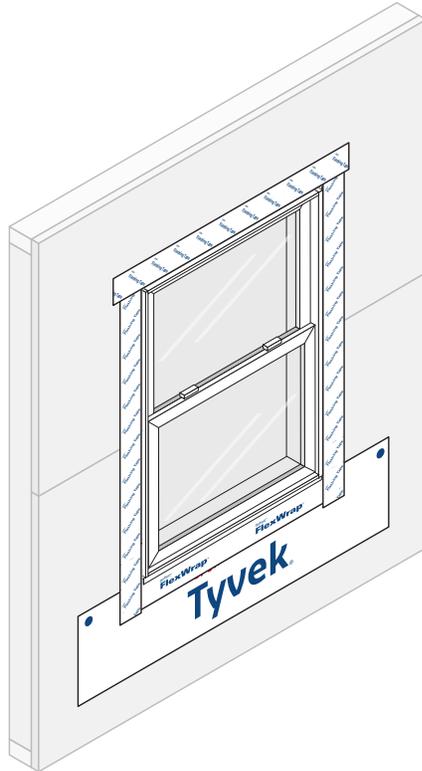
All vertical seams shall be taped with **Tyvek® Tape**. When installing as an air barrier, also tape all horizontal seams. Taping all vertical and horizontal seams, and taping or sealing all terminations (including, but not limited to, roof-wall interfaces and sill plates) is required when installing **Tyvek® WRBs** as air barriers. Use 3" **Tyvek® Tape** when taping horizontal laps of **DuPont™ Tyvek® StuccoWrap®** and **Tyvek® DrainWrap™**. Use **DuPont™ Tyvek® Metalized Tape** when taping **DuPont™ Tyvek® ThermaWrap® LE**.

STEP 6

After **Tyvek® WRB** is installed refer to the [DuPont Self-Adhered Flashing Products Installation Guidelines for Windows and Doors Installed AFTER the DuPont™ Tyvek® Water-Resistive and Air Barrier \(WRB\)](#).

DuPont Self-Adhered Flashing Products Integration

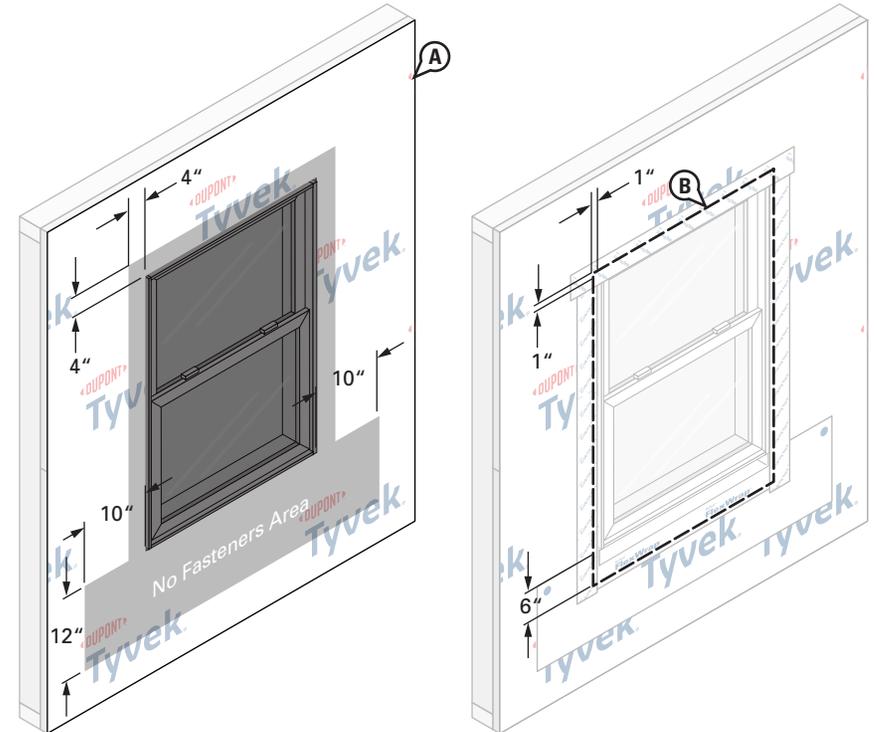
If windows and doors have not been installed, reference the [DuPont Self-Adhered Flashing Products Installation Guidelines for Windows and Doors Installed AFTER the DuPont™ Tyvek® Water-Resistive and Air Barrier \(WRB\)](#), Installation Instructions for Windows and Doors AFTER Water-Resistive Barrier (WRB) is Installed to prepare the rough opening.



STEP 1

Install flashing and the window or door following the steps detailed in the [DuPont Self-Adhered Flashing Products Installation Guidelines for Windows and Doors Installed BEFORE the DuPont™ Tyvek® Water-Resistive and Air Barrier \(WRB\)](#).

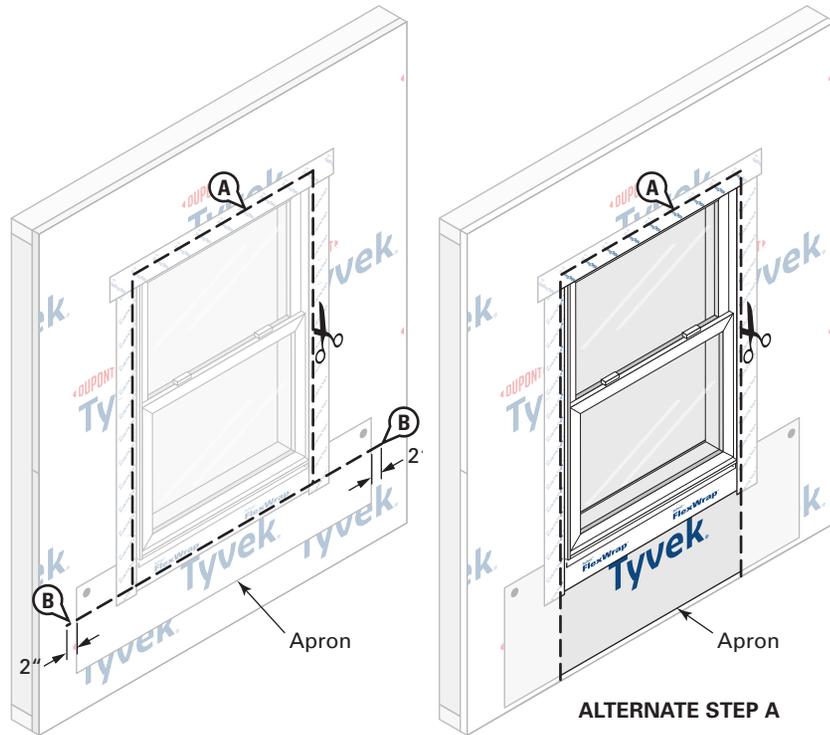
If windows and doors will be installed before the WRB, then follow these last 4 integration steps to tie the **DuPont™ Tyvek® WRB** into the flashing.



STEP 2

- Install the **Tyvek® WRB**. Do not install fasteners within 4" of the window frame at jambs and head, and within 12" of the window frame at sill or location of apron.
- Mark a perimeter on the **Tyvek® WRB** around the rough opening a minimum of 1" from the jambs and head of the window frame, and 6" below the sill of the window frame.

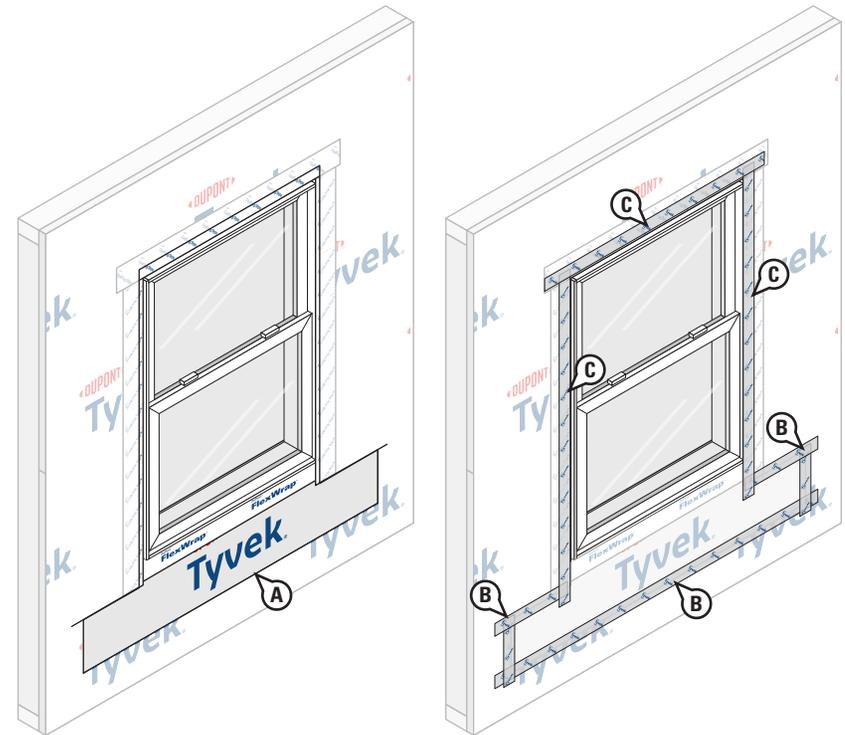
DuPont Self-Adhered Flashing Products Integration



STEP 3

- A. Cut the **DuPont™ Tyvek® WRB** along perimeter marking to expose window. Do not cut through the **DuPont Self-Adhered Flashing Products** or **Tyvek® WRB** apron underneath.
- B. Create horizontal slits in the **Tyvek® WRB** at each lower corner of the perimeter cut that extend a minimum of 2" beyond **Tyvek® WRB** apron.

ALTERNATE STEP A: If apron extends far enough below the sill rough opening to overlap the sill plate, base of wall flashing, or the **Tyvek® WRB** below, the **Tyvek® WRB** can be cut along jambs and head only to overlap apron.



STEP 4

- A. Bring the bottom portion of the **Tyvek® WRB** apron through the sill perimeter cut and horizontal slits so it laps over the top layer of **Tyvek® WRB**.
- B. Working from bottom to top, install **DuPont™ Tyvek® Tape** to secure horizontal and vertical seams of **Tyvek® WRB** apron.
- C. Install **Tyvek® Tape** along jambs and head to seal **Tyvek® WRB** around window.

Facade Considerations

Water-resistive barrier performance is dependent upon the ability of the facade to drain. The following must be considered for specific facades.

Stucco

When stucco is installed over wood-based sheathing, the 2018 International Building Code (Section 2510.6) requires a water-resistive vapor-permeable barrier with a performance at least equivalent to two layers of water resistive barrier complying with ASTM E 2556, Type I, or a water resistive barrier which is separated from the stucco by an intervening, substantially nonwater-absorbing layer or drainage space. When stucco is installed over wood-based sheathing, the 2018 International Residential Code (Section R703.7.3) requires a water-resistive vapor-permeable barrier with a performance at least equivalent to two layers of Grade D paper or a water-resistive barrier which is separated from the stucco by an intervening, substantially nonwater-absorbing layer or designed drainage space. The individual layers shall be installed independently such that each layer provides a separate continuous plane and any flashing intended to drain to the water-resistive barrier is directed between the layers. **DuPont™ Tyvek® WRBs** used behind stucco should be separated from the stucco by a second layer of **Tyvek® WRB**, a layer of Grade D building paper, felt, rigid foam board or the paper backing of paper-backed lath. **DuPont™ Tyvek® DrainVent™ Rainscreen** can also be used as the intervening layer over the WRB. The first layer (directly over sheathing or studs) serves as the wall system's water-resistive barrier and is integrated with window and door flashings, the weep screed at the bottom of the wall and any through wall flashings or expansion joints. Lath shall be installed over the intervening layer in accordance with ASTM C1063-03 Standard Specification for Installation of Lathing and Furring to Receive Interior and Exterior Portland Cement-Based Plaster and applicable codes. Rigid foam board, when installed over **Tyvek® WRB** as an intervening layer, will provide enhanced structural support to the **Tyvek® WRB** and may reduce the required number of fasteners used for the attachment of the **Tyvek® WRB** if installed as soon as practically possible. **DuPont™ Tyvek® StuccoWrap®, Tyvek® DrainWrap™** or **Tyvek® CommercialWrap® D** is recommended for this application.

Brick (or Other Stacked/Anchored Masonry Veneers)

The 2018 International Residential Code (Section R703.8.4) requires a nominal 1 inch airspace separating the brick from the water-resistive barrier (WRB). The Brick Industry Association recommends a 1 inch air-space in front of wood stud construction and a 2 inch air-space in front of steel stud construction. Consistent with these requirements and recommendations, **Tyvek® WRBs** shall be separated from the brick veneer by a nominal 1 inch air-space. Window and door flashing, and through-wall flashing shall be integrated with the **Tyvek® WRB** layer ensuring proper shingling. For maximum moisture management and drying of the wall system the airspace in front of the **Tyvek® WRB** shall be vented to the exterior at the top and bottom of the wall. Some types of brick ties will act as additional fasteners for **Tyvek® WRBs**, and, if installed as soon as practically possible after the **Tyvek® WRB**, may reduce the required number of fasteners used for the initial attachment of the **Tyvek® WRB**.

Stone Veneer (or Other Adhered Masonry Veneers)

The 2018 International Building Code (Section 1404.7) requires two layers of air and water barrier behind stone veneers over wood frame construction. When used behind stone veneer, **Tyvek® WRBs** shall be installed in a similar manner as they are installed behind stucco. The **Tyvek® WRB** should be separated from the stone and mortar by a second layer of **Tyvek® WRB**, a layer of grade D building paper, felt, exterior continuous foam insulation or the paper backing of paper-backed lath. **Tyvek® DrainVent™ Rainscreen** can also be used as the intervening layer over the WRB. The first layer (directly over sheathing or studs) serves as the wall system's air and water barrier and shall be integrated with window and door flashings, the weep screed at the bottom of the wall and any through wall flashing or expansion joints. Lath shall be installed over the intervening layer (second layer) in accordance with ASTM C1063-03 Standard Specification for Installation of Lathing and Furring to Receive Interior and Exterior Portland Cement-Based Plaster and applicable codes. When exterior continuous foam insulation is used as the second layer, it is installed over the **Tyvek® WRB**. **Tyvek® StuccoWrap®, Tyvek® DrainWrap™** or **Tyvek® CommercialWrap® D** is recommended for this application.

Wood Siding

The **Tyvek® WRB** and wood siding shall be installed according to manufacturer's instructions, industry standards and applicable codes. As recommended by the Western Red Cedar Lumber Association and U. S. Forest Product Laboratory, wood siding should be primed on all six sides before installation. When installed over exterior continuous insulation, the Western Red Cedar Lumber Association and other wood siding manufacturers recommend that furring strips are used to create an air space between foam sheathing and siding. Other recommendations that should be followed to minimize potential problems are:

- Use thicker siding patterns in widths of 8 inches or less. Thick, narrow siding is more stable than thinner, wider patterns and better able to resist dimensional changes.
- Use kiln-dried siding over rigid foam sheathing.
- Proper pre-finishing is essential.
- Use light color finish coats to maximize heat reflection and reduce dimensional movement.
- **Tyvek® StuccoWrap®, Tyvek® DrainWrap™** or **Tyvek® CommercialWrap® D** applied over the foam sheathing is recommended for this application.

In high exposure installations, enhanced drainage and water management may be provided by using **Tyvek® StuccoWrap®, Tyvek® DrainWrap™** or **Tyvek® CommercialWrap® D**, by installing **Tyvek® DrainVent™ Rainscreen** or other drainage mesh over the water-resistive barrier, or by creating rainscreen cladding with a larger air space behind the siding using furring strips. If furring is installed over the **Tyvek® WRB** to create a rainscreen, the primary fastener spacing can exceed 18".

Fiber Cement Siding

DuPont™ Tyvek® WRBs and fiber cement siding shall be installed according to manufacturer's instructions and industry standards. In high exposure installations, enhanced drainage and water management may be provided by using **DuPont™ Tyvek® StuccoWrap®**, **Tyvek® DrainWrap™** or **Tyvek® CommercialWrap® D**, by installing **DuPont™ Tyvek® DrainVent™ Rainscreen** or other drainage mesh over the water-resistive barrier, or by creating rainscreen cladding with a larger air space behind the siding using furring strips. If furring is installed over the **Tyvek® WRB** to create a rainscreen, the primary fastener spacing can exceed 18". In high wind areas at gable end walls, FEMA recommends fiber cement siding be installed over wood sheathing rather than over plastic foam sheathing. **Tyvek® WRBs** and fiber cement siding shall be installed according to manufacturer's instructions, industry standards and applicable codes.

Vinyl Siding

Vinyl Siding is installed directly over **Tyvek® WRBs**. Vinyl siding shall be installed in accordance with manufacturer's instructions, industry standards and applicable codes, including ASTM D4756-15 Standard Practice for Installation of Rigid Poly(Vinyl Chloride) (PVC) Siding and Soffit. In high wind areas at gable end walls, FEMA recommends vinyl siding be installed over wood sheathing rather than over plastic foam sheathing.

EIFS

Tyvek® WRBs and EIFS cladding shall be installed according to manufacturer's instructions and industry standards. In order to promote drainage, it is recommended that **Tyvek® StuccoWrap®**, **Tyvek® DrainWrap™** or **Tyvek® CommercialWrap® D** be installed behind the exterior insulation. Window and door flashing, and through wall flashing shall be integrated with the **Tyvek® WRB** layer ensuring proper shingling. The successful installation and performance of EIFS cladding is dependent upon the proper design and construction of the adjacent materials and systems of the structure.

Metal Panel

Tyvek® WRBs and metal panel cladding systems shall be installed according to manufacturer's instructions and industry standards. **DuPont™ StraightFlash™**, **DuPont™ Flashing Tape**, or recommended alternate patch can be installed behind all metal installation brackets and hat-channels fasteners for additional air and water infiltration resistance. **NOTE:** The maximum in-service temperature for **Tyvek® WRBs**, **DuPont Self-Adhered Flashing Products**, and **DuPont™ Tyvek® Fluid Applied Products** is 180°F.

Exterior Insulation

When using **Tyvek® WRBs** with **DuPont Exterior Continuous Insulation Products**, please refer to the Installation Bulletin: [*Integrating DuPont™ Tyvek® Weatherization Systems with DuPont Exterior Continuous Insulation*](#) for guidance on fasteners and product installation. **Tyvek® WRBs** and exterior continuous insulation shall be installed according to the manufacturer's instructions and industry standards. **Tyvek® WRBs** can be installed either over the rigid exterior continuous insulation or underneath between the sheathing and the exterior insulation. In order to promote drainage, it is recommended that **Tyvek® StuccoWrap®**, **Tyvek® DrainWrap™** or **Tyvek® CommercialWrap® D** be used when installing the **Tyvek® WRB** layer between the sheathing and exterior continuous insulation. Window flashing, door flashing, and through wall flashing shall be integrated with the **Tyvek® WRB** layer ensuring proper shingling. The successful installation and performance of exterior continuous insulation is dependent upon the proper design and construction of adjacent materials and systems of the structure.

NOTE: **DuPont™ Tyvek® DrainVent™ Rainscreen** and **DuPont™ RainVent™ Battens** can be used to improve the ventilation and draining space behind wood, stucco or stone masonry, vinyl, and fiber cement cladding types.

Product Composition and UV Stability

DuPont™ Tyvek® WRBs used in construction products are made from 100% flash spunbonded high density polyethylene fibers which have been bonded together by heat and pressure, without binders or fillers, into a tough durable sheet structure. Additives have been incorporated into the polyethylene to provide ultraviolet light resistance. DuPont requires that **DuPont™ Tyvek® HomeWrap®**, **Tyvek® DrainWrap™**, **Tyvek® StuccoWrap®**, and **Tyvek® ThermaWrap® LE** be covered within 4 months (120 days) of installation. DuPont requires that **DuPont™ Tyvek® CommercialWrap®** and **Tyvek® CommercialWrap® D** be covered within 9 months (270 days) of installation.

DuPont Self-Adhered Flashing Products are made from a synthetic rubber adhesive and a laminate of polyethylene film, polypropylene film, elastic fiber, synthetic rubber adhesive, polyurethane adhesive, and a top sheet of flash spunbonded high density polyethylene fibers or polypropylene film. Additives have been incorporated into these materials to provide ultraviolet light resistance. DuPont requires that **DuPont™ FlexWrap™**, **DuPont™ FlexWrap™ EZ**, **DuPont™ StraightFlash™** and **DuPont™ VersaFlange™** be covered within nine months (270 days) of installation. DuPont requires that **DuPont™ Flashing Tape** be covered within 4 months (120 days) of installation.

DuPont™ Tyvek® Fluid Applied Products are formulated to include elastomeric polymers that cure to a continuous, fully-adhered, tough, durable membrane. Additives have been incorporated to provide ultraviolet light resistance.

DuPont requires that the **DuPont™ Tyvek® Fluid Applied WB+™** and **DuPont™ Tyvek® Fluid Applied Flashing and Joint Compound+** are to be covered within 9 months (270 days) of installation.

Design Considerations

When installed in conjunction with other building materials, **Tyvek® WRBs**, **DuPont Self-Adhered Flashing Products**, and **Tyvek® Fluid Applied Products** must be properly shingled with these materials such that water is diverted to the exterior of the wall system. **Tyvek® WRBs** and **Tyvek® Fluid Applied WB+™** are secondary weather barriers. The outer facade is the primary barrier. Follow facade manufacturer's installation and maintenance requirements for all facade systems in order to maintain water holdout properties and ensure performance of **Tyvek® WRBs** and **Tyvek® Fluid Applied WB+™**. Do not install on a wall that does not feature a continuous path for moisture drainage. Any standing water must be allowed to drain off the membrane. Follow facade manufacturer's installation and maintenance requirements for all facade systems in order to maintain water holdout properties and ensure performance of **DuPont™ Tyvek® WRBs** and **Tyvek® Fluid Applied WB+™**. Use of additives, coatings or cleansers on or in the facade system may impact the performance of **DuPont™ Tyvek® WRBs** and **Tyvek® Fluid Applied WB+™**. DuPont Building Envelope Solutions Products are to be used as outlined in this installation guideline. **DuPont Self-Adhered Flashing** and **Tyvek® Fluid Applied Flashing and Joint Compound+** should only be used to seal penetrations and flash openings in buildings. **Tyvek® WRBs**, **Tyvek® Fluid**

Applied Products, and **DuPont Self-Adhered Flashing Products** are not to be used in roofing applications. For superior protection against bulk water penetration, DuPont suggests a system combining a quality exterior facade, a good secondary air and water barrier and exterior sheathing, high quality windows and doors, and appropriate flashing materials paying attention to proper installation of each component.

In a system where no exterior sheathing is used and **Tyvek® WRBs** are installed directly over the wall studs, exterior facade materials should be selected to ensure maximum protection against water intrusion. Careful workmanship and proper installation of each component is very important.

Depending on job site conditions, it is possible that stains may appear, but will not alter performance of the **Tyvek® Fluid Applied Product**.

Safety and Handling

Warning

Tyvek® WRBs are slippery and should not be used in any application where they will be walked on. In addition, because they are slippery, DuPont recommends using kickjacks, scaffolding, or lifts for exterior work above the first floor. If ladders must be used, extra caution must be taken to use them safely by following the requirements set forth in ANSI Standards 14.1, 14.2, and 14.5 for ladders made of wood, aluminum, and fiberglass, respectively. **DuPont™ Tyvek®** is combustible and should be protected from flames and other high heat sources. **DuPont™ Tyvek®** will melt at 275°F (135°C) and if the temperature of **DuPont™ Tyvek®** reaches 750°F (400°C), it will burn and the

fire may spread and fall away from the point of ignition. For more information, call 1-833-338-7668.

DuPont Self-Adhered Flashing Products and their release paper are slippery and should not be walked on. Remove release paper from work area immediately. **DuPont Self-Adhered Flashing Products** will melt at temperatures greater than 250°F (121°C). **DuPont Self-Adhered Flashing Products** are combustible and should be protected from flames and other high heat sources. **DuPont Self-Adhered Flashing Products** will not support combustion if the heat source is removed. However, if burning occurs, ignited droplets may fall away from the point of ignition. For more information, call 1-833-338-7668.

Tower® Residential Sealant (formerly DuPont™ Residential Sealant) is irritating to skin, eyes, and respiratory tract. For proper usage, follow directions stated on the product label. For health information, refer to the (Material) Safety Data Sheet ((M)SDS) or call Chemtrec at 1-800-424-9300.

Tyvek® Fluid Applied Products may cause irritation. Repeated or prolonged skin contact may cause allergic reactions with susceptible persons. May cause irritation of respiratory tract. This product is a mixture. Health Hazard information is based on its components. Refer to Safety Data Sheet (SDS) for further information.

KEEP OUT OF REACH OF CHILDREN.

Children can fall in to bucket and drown. Keep children away from bucket with even a small amount of liquid.

Use only as directed. Avoid inhalation of vapor aerosol.

Caution

Obtain special instructions for **Tyvek® Fluid Applied Products** before use. Do not handle until all safety precautions have been read and understood. Avoid breathing dust/fumes/gas/mist/vapors/spray. Vapor and aerosols are harmful if using spray application. Use in a well-ventilated area. Use NIOSH approved respirator. NIOSH-approved particulate filtering full-face respirator with a P95 particulate filter or half-mask respirator with a P95 particulate filter and splash impact goggles when spraying. NIOSH-approved N95 disposable safety mask with splash impact goggles for manual application such as troweling or rolling, and for clean-up. If vapors are inhaled, immediately move from exposure to fresh air and contact a physician. Contaminated work clothing should not be allowed out of the workplace. Wear protective gloves/protective clothing/eye protection/face protection. IF ON SKIN: Wash with plenty of soap and water. IF IN EYES: Rinse cautiously with water for several minutes.

Remove contact lenses, if present and easy to do. Continue rinsing. IF exposed or concerned: Get medical advice/attention. Immediately call a POISON CENTER/doctor. If skin irritation or rash occurs: Get medical advice/ attention. Wash contaminated clothing before reuse. Store locked up. Dispose of contents/container to an approved waste disposal plant. Avoid contact with eyes and skin.

When cured, **Great Stuff Pro™ Window & Door Polyurethane Foam Sealant** is combustible and will burn if exposed to open flame or sparks from high-energy sources. Do not expose to temperatures above 240°F (116°C). For more information, consult (Material) Safety Data Sheet ((M)SDS), call DuPont at 1-866-583-2583. When air sealing buildings, ensure that combustion appliances, such as furnaces, water heaters, wood burning stoves, gas stoves and gas dryers are properly vented to the outside. See website: <https://www.nrel.gov/docs/fy14osti/61326.pdf>.

In Canada visit: <https://nrc-publications.canada.ca/eng/view/ft/?id=96acba7c-afd4-4ea1-94b0-1f8f3500c582>.

Great Stuff Pro™ polyurethane foam sealant and adhesive products contain isocyanate and a flammable blowing agent. Read all instructions and (Material) Safety Data Sheet ((M)SDS), carefully before use. Eliminate all sources of ignition before use. Cover all skin. Wear long sleeves, gloves, and safety glasses or goggles. Not for use in aviation, or food/beverage contact, or as structural support in marine applications. Provide adequate ventilation or wear proper respiratory protection. Contents under pressure. Not to be used for filling closed cavities or voids such as behind walls and under tub surrounds; this improper use of the product could result in the accumulation of flammable vapors and/or uncured material. Failure to follow the warnings and instructions provided with the product, and/or all applicable rules and regulations, can result in injury or death.

Building and/or construction practices unrelated to building materials could greatly affect moisture and the potential for mold formation. No material supplied by DuPont can give assurance that mold will not develop in any specific system.

Read all instructions and (Material) Safety Data Sheet ((M)SDS) carefully before use.

For more information, visit greatstuffpro.com or building.dupont.com

Hazard Statement

Tyvek® Fluid Applied Products may cause an allergic skin reaction. May cause serious eye damage. May cause genetic defects. May damage fertility or the unborn child. As it relates to California Prop 65, Tyvek® Fluid Applied Products can expose you to substances including Crystalline silica, which is /are known to the State of California to cause cancer. For more information, visit p65Warnings.ca.gov.

For More Information

Visit the *Quick Links* section of our website (<https://www.dupont.com/building/resources.html>) where you'll find links to essential documents and resources to help you get the job done right:

- Installation Guidelines
- Safety Data Sheets (SDS)
- CAD Drawings
- DuPont Performance Building Solutions Document Library

For complete warranty information please call 1-833-338-7668 or visit us at building.dupont.com.

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43-D100683-enNA-0820



For more information about
DuPont Performance Building Solutions,
please call 1-833-338-7668 or visit us at
building.dupont.com