

DuPont Performance Building Solutions

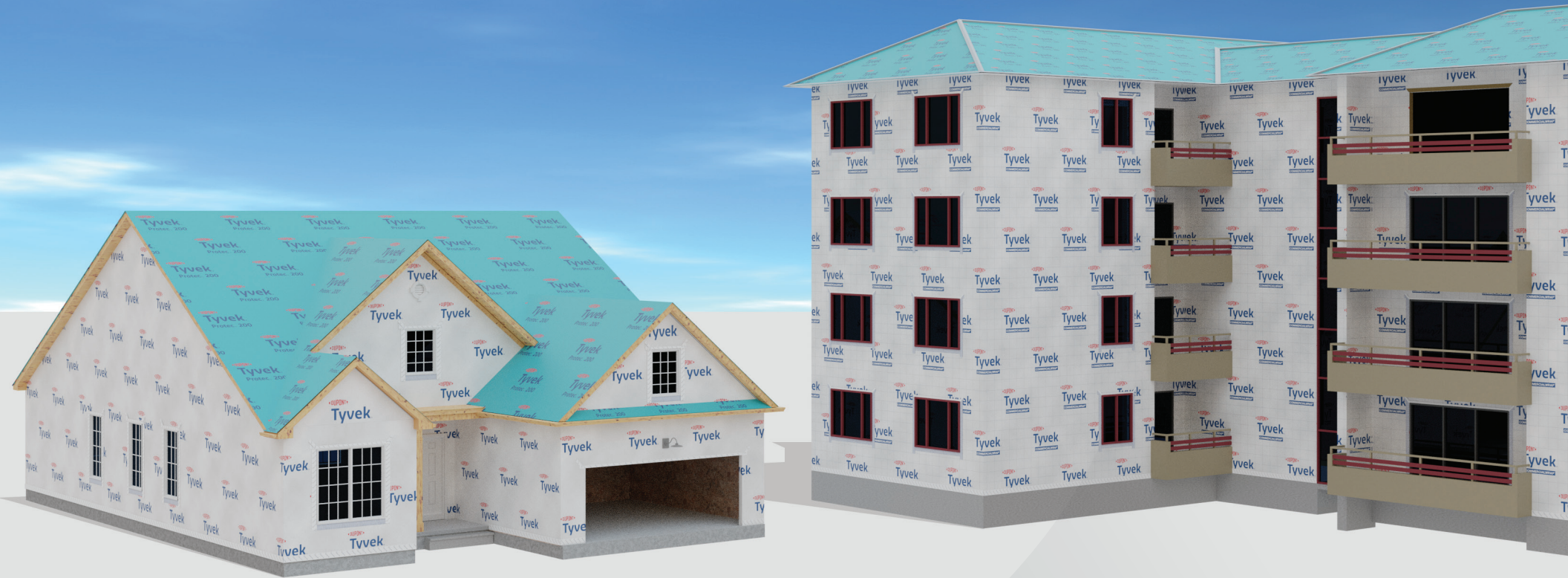


DuPont™ Tyvek® Sheathing Membranes Installation Guidelines



Canadian Version

For Buildings Less Than 5 Stories

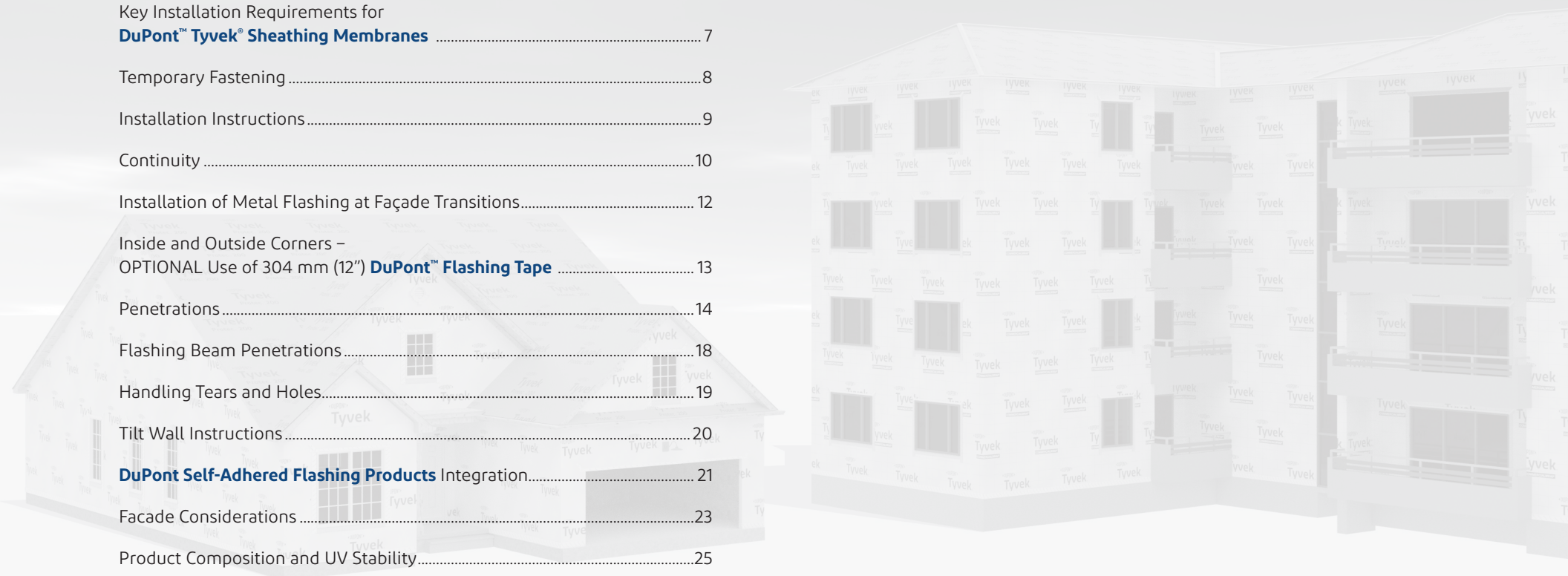


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This installation guideline outlines recommended installation techniques and details for **DuPont™ Tyvek® HomeWrap®**, **Tyvek® DrainWrap™ CA** and/or **Tyvek® CommercialWrap®**, referred to in this document as **DuPont™ Tyvek® Sheathing Membranes** and where applicable, **DuPont Self-Adhered Flashing Products**. **Tyvek® Sheathing Membranes** meet the requirements of protection from precipitation as outlined in subsection 9.27.2 of the 2015 National Building Code of Canada (NBC).

Applicable Products

Tyvek® Sheathing Membranes

Product	Dimensions	Area
DuPont™ Tyvek® HomeWrap®	0.46 m x 30.48 m (18 in x 100 ft)	13.93 m ² (150 sq ft)
	0.91 m x 30.48 m (3 ft x 100 ft)	27.87 m ² (300 sq ft)
	1.52 m x 60.96 m (5 ft x 200 ft)	92.90 m ² (1,000 sq ft)
	2.74 m x 30.48 m (9 ft x 100 ft)	83.61 m ² (900 sq ft)
	2.74 m x 45.72 m (9 ft x 150 ft)	125.42 m ² (1,350 sq ft)
	3.05 m x 30.48 m (10 ft x 100 ft)	92.90 m ² (1,000 sq ft)
	3.05 m x 45.72 m (10 ft x 150 ft)	139.35 m ² (1,500 sq ft)
DuPont™ Tyvek® DrainWrap™ CA	2.74 m x 38.10 m (9 ft x 125 ft)	104.52 m ² (1,125 sq ft)
	3.05 m x 38.10 m (10 ft x 125 ft)	118.92 m ² (1,250 sq ft)
DuPont™ Tyvek® CommercialWrap®	1.52 m x 60.96 m (5 ft x 200 ft)	92.9 m ² (1,000 sq ft)
	3.05 m x 38.10 m (10 ft x 125 ft)	118.92 m ² (1,250 sq ft)

Self-Adhered Flashing Products

Product	Width
DuPont™ FlexWrap™ EZ	69 mm (2.75 in)
DuPont™ FlexWrap™ (formerly DuPont™ FlexWrap™ NF)	152 mm (6 in) 228 mm (9 in)
DuPont™ StraightFlash™	101 mm (4 in) 228 mm (9 in)
DuPont™ VersaFlange™ (formerly DuPont™ StraightFlash™ VF)	152 mm (6 in)
DuPont™ Flashing Tape	101 mm (4 in) 152 mm (6 in) 228 mm (9 in) 304 mm (12 in)

Installation Accessories

Product	Type	Quantity
DuPont™ Tyvek® Tape	50 mm x 66 m (2 in. x 216 ft.)	36 rolls/case
	76 mm x 66 m (3 in. x 216 ft.)	24 rolls/case
Great Stuff Pro™ Window & Door Polyurethane Foam Sealant	Can (reusable dispensing gun sold separately)	567 g (20 oz)
Great Stuff Pro™ Gaps & Cracks Polyurethane Foam Sealant	Can (reusable dispensing gun sold separately)	567 g (20 oz)
Other manufacturers' staples, nails, or screws with min. 25 mm (1") plastic caps*		

* Must be equivalent to DuPont™ Tyvek® Wrap Cap Fasteners. Refer to [Key Installation Requirements for DuPont™ Tyvek® Sheathing Membranes](#) section of this document for more information regarding fastener requirements.

Required Materials Based on Project Requirements, Details, and Specifications¹

- Backer Rod
- Sealant²
- Spray Adhesive/Primer²
- Brushes for Surface Preparation
- J-Roller
- Recommended Fasteners³

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 and adhesives/primers, see technical bulletin [Chemical Compatibility of Representative Building Sealants and Adhesives/Primers](#).

³For information regarding installation of recommended fasteners, refer to the [Key Installation Requirements for DuPont™ Tyvek® Sheathing Membranes](#) 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 for DuPont™ Tyvek® Sheathing Membranes](#) 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 for DuPont™ Tyvek® Sheathing Membranes](#) exists. Please contact DuPont or a DuPont™ Tyvek® Specialist if you have any questions regarding any DuPont Installation Guideline.

Sheathing Membrane Code Requirements

The 2015 National Building Code (NBC) of Canada (Sections 9.27.2.3, 9.27.3.1 and 9.27.3.2) requires first and second planes of protection from precipitation and water intrusion into a wall. The second plane of protection is described as “a drainage plane having an appropriate inner boundary and flashing to dissipate rainwater to the exterior.” A sheathing membrane meeting CAN/CGSB-51.32-M77 is listed as a suitable second plane of protection. **DuPont™ Tyvek® Sheathing Membranes** perform as second planes of protection as recognized in the following CCMC Evaluation Reports and associated Listing Number:

- CCMC Evaluation Report 12808-R: **DuPont™ Tyvek® HomeWrap®**
- CCMC Evaluation Report 13119-R: **DuPont™ Tyvek® CommercialWrap®**
- CCMC Evaluation Report 11955-R: **DuPont™ Tyvek® Tape**

NOTE: Section 3 of the CCMC Evaluation Reports outlines specific conditions and limitations required for a conforming installation. These conditions and limitations may differ from DuPont's Installation Guidelines. It is recommended that the CCMC Evaluation Report be reviewed, and the Authority Having Jurisdiction be contacted to confirm local building envelope installation requirements.

The 2015 NBC (Section 9.27.2.2) requires “a second plane of protection incorporating a capillary break, where: a) the number of degree-days is less than 3400 and the moisture index is greater than 0.90, or b) the number of degree-days is 3400 or more, and the moisture index is greater than 1.00.”

Therefore, the installation of **Tyvek® Sheathing Membranes** in conjunction with an air space may be required behind specific claddings in some locations. It is recommended that the Authority Having Jurisdiction be contacted to confirm local building code requirements.

Tyvek® Sheathing Membranes have been tested to the following standards:

- ASTM E1677 Standard Specification for an Air Retarder (AR) Material or System for Low-Rise Framed Building Walls
- ASTM E2178 Standard Test Method for Air Permeance of Building Materials
- ASTM E96 Standard Test Methods for Water Vapor Transmission of Materials
- AATCC 127 Test Method for Water Resistance: Hydrostatic Pressure
- ASTM E84 Standard Test Method for Surface Burning Characteristics of Building Materials

According to the 2015 NBC, minimum protection from precipitation ingress is met if, sentence 9.27.2.2 1) a) “there is a drained and vented air space not less than 10 mm deep behind the cladding. NBC 2015 Sentence 9.27.3.3 1) states “...at least one layer of sheathing membrane shall be applied beneath the cladding”. NBC 2015 requires that the sheathing membrane be installed with 150 mm overlaps and if horizontally applied that the upper sheet overlap the lower sheet.

NBC 2015 Sentence 9.25.3.1 1) states “Wall, ceiling and floor assemblies separating conditioned space from unconditioned space from the ground shall be constructed so as to include an air barrier system that will provide a continuous barrier to air leakage.”

The 2015 NBC requires that sheathing membranes used as air barriers have a maximum air leakage rate by ASTM E2178 or CAN/ULC S-741 of 0.02 l/s·m² at 75 Pa. **Tyvek® Sheathing Membranes** have been tested in accordance with ASTM E2178 and have air permeability less than 0.02 L/s x m² (0.004 cfm/ft²).

The application of **Tyvek® Sheathing Membranes** 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® Sheathing Membranes** 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 105 kph (65 mph) equivalent structural load resistance and 24 kph (15 mph) equivalent wind-driven rain water infiltration resistance.
2. When performance requirements exceed ASTM E1677, 105 kph (65 mph) equivalent structural load and 24 kph (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 Water-Resistive and Air Barrier \(WRB\) 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. **Tyvek® DrainWrap™ CA** must be installed with drainage grooves vertical, going up and down. No surface preparation is needed for the installation of **Tyvek® Sheathing Membranes**.
4. DuPont requires that **DuPont™ Tyvek® HomeWrap®** be covered within 4 months (120 days) of installation. **Tyvek® CommercialWrap®** and **Tyvek® DrainWrap™ CA** must be covered within 9 months (270 days) of installation.
5. DuPont requires that **DuPont™ FlexWrap™**, **DuPont™ FlexWrap™ EZ**, **DuPont™ StraightFlash™**, and **DuPont™ VersaFlange™** be covered within 9 months (270 days) of installation. DuPont requires that **DuPont™ Flashing Tape** be covered within 4 months (120 days) of installation.
6. **DuPont Self-Adhered Flashing Products** perform best when installed at temperatures above -4°C (25°F).

7. **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.
8. 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.
9. When installing **DuPont Self-Adhered Flashing Products** on concrete, masonry, and fiber-faced exterior gypsum board the use of a recommended primer is required.
10. 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.
11. **DuPont™ Tyvek® Sheathing Membranes** must not come in direct contact with 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.
12. The maximum in-service temperature for **Tyvek® Sheathing Membranes** and **DuPont Self-Adhered Flashing Products** is 82°C (180°F).

When installing windows and doors prior to the **Tyvek® Sheathing Membrane**, refer to the [DuPont Self-Adhered Flashing Products Installation Guidelines for Windows and Doors Installed BEFORE the DuPont™ Tyvek® Water-Resistive and Air Barrier \(WRB\)](#), 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® Sheathing Membrane by following the DuPont Self-Adhered Flashing Products Integration section in this guide.**

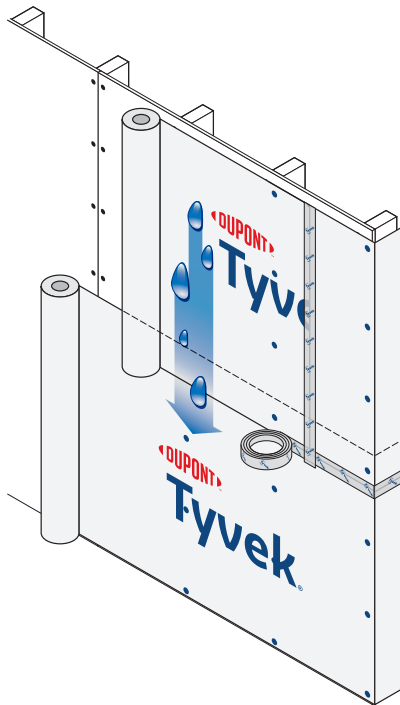
NOTE: If **DuPont™ FlexWrap™** and apron are used, install the **Tyvek® Sheathing Membrane** under the apron to ensure proper shingling. If a non-self adhering sill flashing product is used, please maintain proper shingling.

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® Sheathing Membranes

Continuity

It is important to maintain the continuity of the **Tyvek® Sheathing Membrane** throughout the building envelope. The entire wall surface shall be wrapped, including unconditioned spaces. Special attention should be given to ensure a proper 152 mm (6") overlap at all terminations, seams, penetrations, and transitions to maintain a continuous downward drainage plane and Sheathing Membrane. Installing the **Tyvek® Sheathing Membrane** as an air barrier is the preferred installation method. However, skip-taping terminations and untaped horizontal seams is allowed when the **Tyvek® Sheathing Membrane** is being installed as a water-resistive barrier only for buildings less than 5 Stories with design requirements that don't exceed ASTM E1677, 105 kph (65 mph) equivalent structural load and 24 kph (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® Sheathing Membranes** around all penetrations (electrical, HVAC and plumbing, etc.) with the appropriate **DuPont Self-Adhered Flashing Product, DuPont™ Tyvek® Tape** or recommended sealant. Products that have flanges should be integrated into the **Tyvek® Sheathing Membrane**. The penetration rough opening can be sealed from the interior side using 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 152 mm (6") minimum overlap of water-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® Sheathing Membranes** and **DuPont Self-Adhered Flashing 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® Sheathing Membranes**, 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® Sheathing Membrane** and to be in compliance with DuPont Installation Guidelines if making a claim under the DuPont Product and Labor Warranty.

Recommended Fasteners

Secure **Tyvek® Sheathing Membrane** 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 152 mm (6") and no farther than 457 mm (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 152 mm (6") of the sills and jambs and within 228 mm (9") of the head of the window rough openings. Use one or more of the recommended fasteners below for use with **Tyvek® Sheathing Membranes**:

- **Other manufacturers' staples, nails, or screws with min. 25 mm (1") plastic caps** (must be equivalent to **DuPont™ Tyvek® Wrap Cap Fasteners**¹)
- **DuPont™ Tyvek® Wrap Cap Nails**
- **DuPont™ Tyvek® Wrap Cap Staples** or other cap staples for Stinger® Cap Stapler²
- 50 mm (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 406 mm (16") vertical spacing along stud lines for 406 mm (16") o.c. framing (approved for use with **Tyvek® Sheathing Membranes**). Install fasteners with standard hand drill or Grip-Lok® Autofeed Fastening System³ with modified nose adaptor.

Wood frame construction:

- 41-152 mm (1-5/8" - 6") Rodenhouse Grip-Deck® HiLo Thread Screws with 50 mm (2") Thermal-Grip FastCap™ washer
- 41 mm, 51 mm, 63 mm, and 76 mm (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
- 89 mm-152 mm (3-1/2" to 6") screws should be installed with standard hand drill.

¹Contact your local DuPont™ Tyvek® Specialist for more information regarding fasteners for Tyvek® Sheathing Membranes.

²Except when installing Tyvek® Sheathing Membrane over foam and other non-nail-base sheathings.

³For 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® Sheathing Membranes** 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® Sheathing Membrane**. 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 600 mm to 1200 mm (24" to 48").
- A recommended adhesive applied in vertical strips at 600 mm to 900 mm (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® Sheathing Membrane** 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® Sheathing Membranes** to OSB, plywood, or exterior gypsum sheathing, the fastening schedule must not exceed 600 mm to 900 mm (24" to 36") vertically, with fasteners at every other stud for 406 mm (16") o.c. framing. 610 mm (24") o.c. framing will require horizontal fastening on every stud, with 600 mm to 900 mm (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® Sheathing Membrane** 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® Sheathing Membranes** to aid in aligning with the studs (e.g. studmarks are 203 mm (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 25 mm (1") (50 mm (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 50 mm (2") over the sill plate interface, it is recommended to seal or skip-seal the **Tyvek® Sheathing Membrane** at the bottom of the wall.*

STEP 2

Unwrap roll starting at corner. Overlap all vertical seams by 152 mm-304 mm (6"-12").

STEP 3

Secure **Tyvek® Sheathing Membrane** to the stud or other nail-base material, i.e., wood sheathing. Fasteners should be placed no closer than 152 mm (6") and no farther than 457 mm (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 152 mm (6") of the sills and jambos and within 228 mm (9") of the head of the window rough openings.** Use one or more of the recommended fasteners below for use with **Tyvek® Sheathing Membranes**:

- Other manufacturers' staples, nails, or screws with min. 25 mm (1") plastic caps (must be equivalent to **DuPont™ Tyvek® Wrap Cap Fasteners**)
- **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

Please see [Key Installation Requirements for DuPont™ Tyvek® Sheathing Membranes](#) section for equivalent fastener requirements and "Temporary Fastening" section for more information on alternative fastening schedules and requirements.

*Use **DuPont Self-Adhered Flashing Products** with a recommended primer as applicable to seal the **Tyvek® Sheathing Membrane** directly to concrete, wood, or other rough surfaces. The **Tyvek® Sheathing Membrane** can also be sealed to rough surfaces using a recommended sealant.

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

STEP 4

Unroll directly over windows and doors. Upper layer of **Tyvek® Sheathing Membrane** should overlap bottom layer by a minimum of 152 mm (6"). **NOTE:** If windows are already installed, the **Tyvek® Sheathing Membrane** 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® Sheathing Membrane** under the apron to ensure proper shingling. If non-self-adhering sill flashing is used, install the **Tyvek® Sheathing Membrane** 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® Sheathing Membrane** into the flashing.

STEP 5

Tape all vertical seams with **DuPont™ Tyvek® Tape**. If the **Tyvek® Sheathing Membrane** is not being installed as an air barrier, **Tyvek® Tape** is not required on horizontal seams but is considered a recommended best practice. Use 76 mm (3") **Tyvek® Tape** for the horizontal seams of **DuPont™ DrainWrap™ CA**.

STEP 6 (FOR AIR BARRIER INSTALLATIONS)

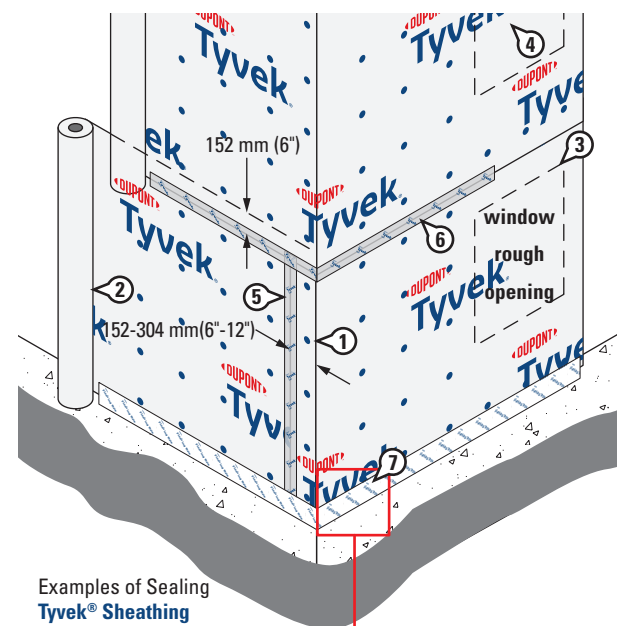
When installing as an air barrier, the horizontal seams must be taped. The use of 76 mm (3") **Tyvek® Tape** is required for both vertical and horizontal seams of **Tyvek® DrainWrap™ CA** for air barrier installations.

STEP 7 (FOR AIR BARRIER INSTALLATIONS)

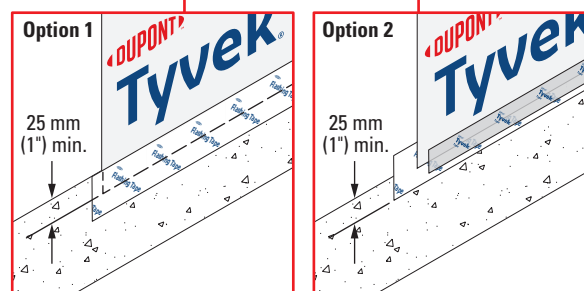
Taping or sealing all terminations of **Tyvek® Sheathing Membranes** (including, but not limited to, top-of-wall and bottom-of-wall interfaces) using **Tyvek® Tape**, **DuPont™ StraightFlash™**, **DuPont™ Flashing Tape**, or recommended sealant is required when installing as an air barrier.*

After the **Tyvek® Sheathing Membrane** 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® Sheathing Membrane** at Bottom of Wall

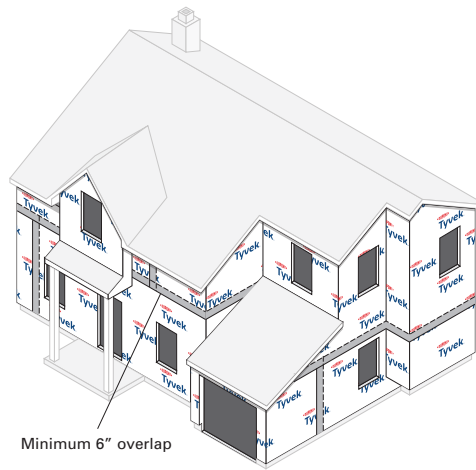


Overlap **Tyvek® Sheathing Membrane** onto foundation by a minimum of 25 mm (1") and seal with **DuPont Self-Adhered Flashing Product**.*

Seal interface of sheathing and foundation using **DuPont Self-Adhered Flashing Product**, overlap **Tyvek® Sheathing Membrane** onto **DuPont Self-Adhered Flashing Product** by a minimum of 25 mm (1") and terminate using **Tyvek® Tape**.*

Continuity

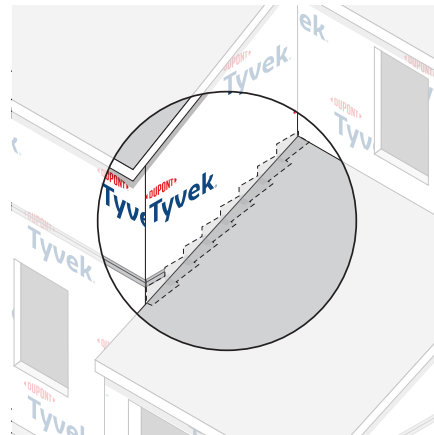
It is important to maintain the continuity of the **DuPont™ Tyvek® Sheathing Membrane** from bottom to top with proper shingling. Starting from the bottom of the structure, continue wrapping all the way up, overlapping the previous layer of **Tyvek® Sheathing Membrane** by a minimum of 152 mm (6"). Wrap the entire wall surface including unconditioned spaces.



Terminations

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

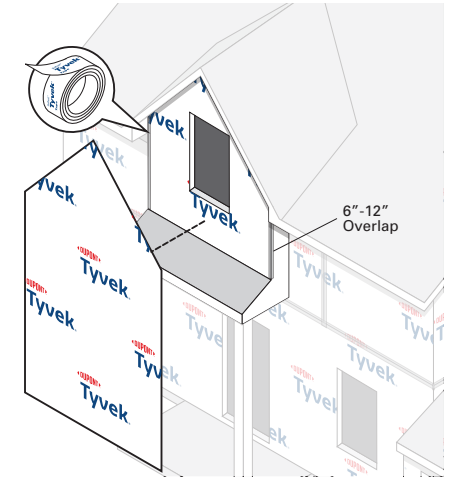
Weep screeds and expansion joints need to be integrated with flashings and the **Tyvek® Sheathing Membrane**.



Gable Ends

Completely cover the gable end with the **Tyvek® Sheathing Membrane** including a 152 mm – 304 mm (6" – 12") overlap at each outside corner. At top-of-wall, cut the **Tyvek® Sheathing Membrane** flush with the roof line. If rafters extend at the top of the wall to create a roof overhang, the **Tyvek® Sheathing Membrane** can be cut around each rafter or cut flush with the bottom of the rafters if the top edge of the **Tyvek® Sheathing Membrane** will extend above the soffit line.

NOTE: For air barrier installations, terminate the **Tyvek® Sheathing Membrane** to the sheathing using **DuPont Self-Adhered Flashing Product** or recommended sealant.

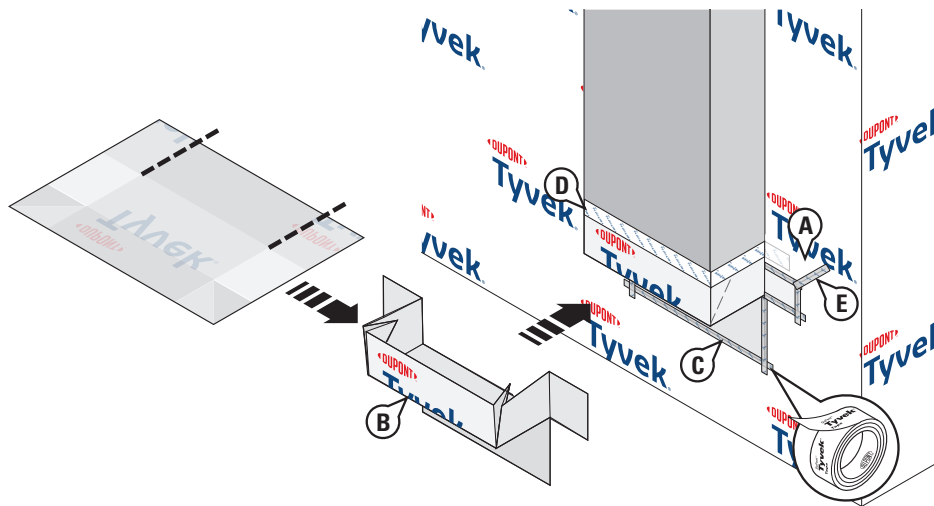


Continuity

Cantilever Floors

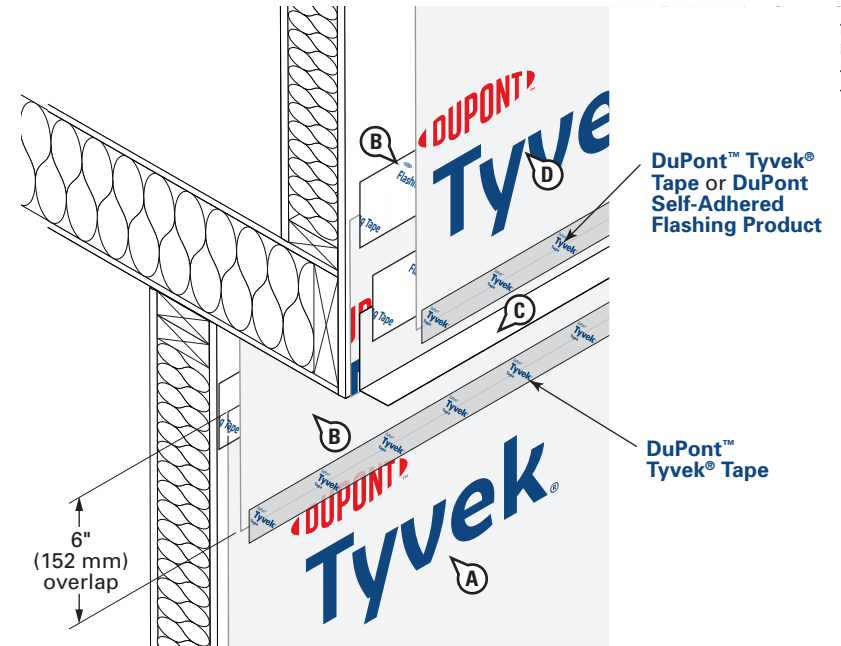
- A. At outside edges of cantilever, cut a flap minimum 152 mm (6") above bottom edge of cantilever. Fold up and temporarily secure in place to expose sheathing.
- B. Wrap the **DuPont™ Tyvek® Sheathing Membrane** under and up the cantilever floor and fold the **Tyvek® Sheathing Membrane** up the sides of the cantilever wall a minimum of 152 mm (6"). The **Tyvek® Sheathing Membrane** should also overlap the layer below by minimum 152 mm (6").
- C. Tape all **Tyvek® Sheathing Membrane** seams with **DuPont™ Tyvek® Tape**.
- D. Seal the top edge of the **Tyvek® Sheathing Membrane** 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® Sheathing Membrane**, overlapping bottom layer minimum 152 mm (6").

NOTE: Make the inside corner as tight as possible using a 1 x 4 (25 mm x 100 mm) or similar.



Horizontal Plane Transition

Detail isolates horizontal plane from vertical walls for water management



- A. Install **Tyvek® Sheathing Membrane** on wall below horizontal plane and terminate with **DuPont Self-Adhered Flashing Product**.
- B. Install **Tyvek® Sheathing Membrane** on horizontal plane, overlapping the **Tyvek® Sheathing Membrane** below by 152 mm (6"), and extend a minimum of 152 mm (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® Sheathing Membrane** on wall above horizontal plane and terminate onto kick-out flashing with **Tyvek® Tape**. **NOTE:** If kick-out flashing is not used, ensure a 152 mm (6") overlap and seal the horizontal seam with **Tyvek® Tape**.

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® Sheathing Membrane

STEP 1

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

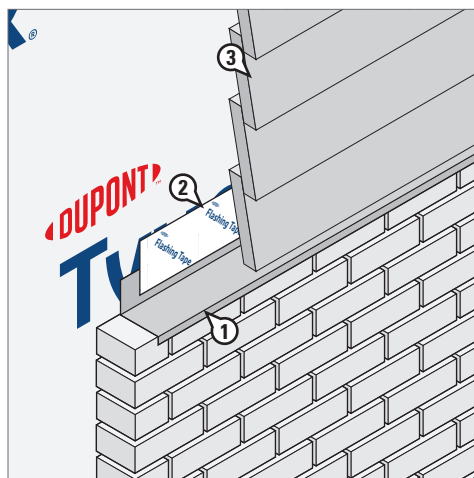
NOTE: Do not install **Tyvek® Sheathing Membrane** fasteners where the metal flashing or **DuPont Self-Adhered Flashing Product** will be installed.

STEP 2

Terminate the vertical leg of the metal flashing to **Tyvek® Sheathing Membrane** with **DuPont Self-Adhered Flashing Product** so there is a minimum of 50 mm (2”) adhesion onto the **Tyvek® Sheathing Membrane**.

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® Sheathing Membrane** so it extends a minimum of 50 mm (2”) beyond where the top edge of the lower façade will be located.

NOTE: Do not install **Tyvek® Sheathing Membrane** 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® Sheathing Membrane**.

STEP 3

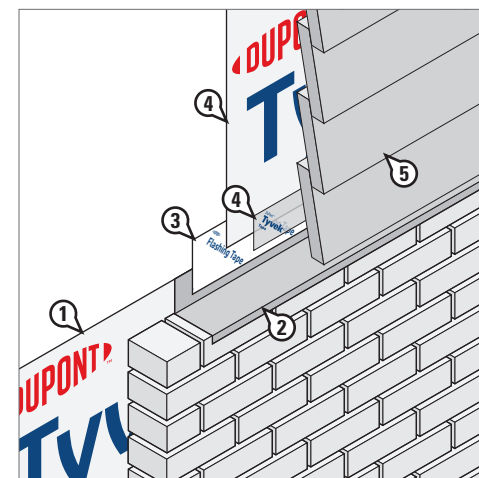
Terminate the vertical leg of the metal flashing directly to the sheathing with **DuPont Self-Adhered Flashing Product** with minimum of 50 mm (2”) adhesion onto the sheathing.

STEP 4

Install the next course of **Tyvek® Sheathing Membrane** to overlap the **DuPont Self-Adhered Flashing Products** by a minimum of 50 mm (2”) and seal with **DuPont™ Tyvek® Tape** or recommended sealant.

STEP 5

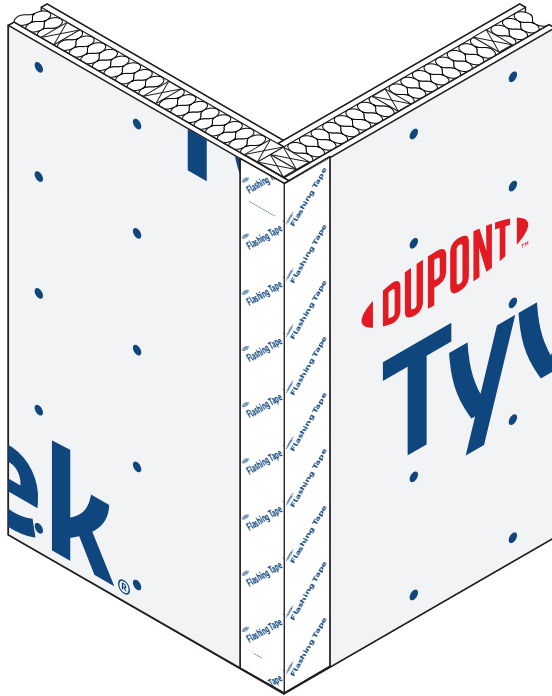
Install upper façade according to the manufacturer’s instructions.



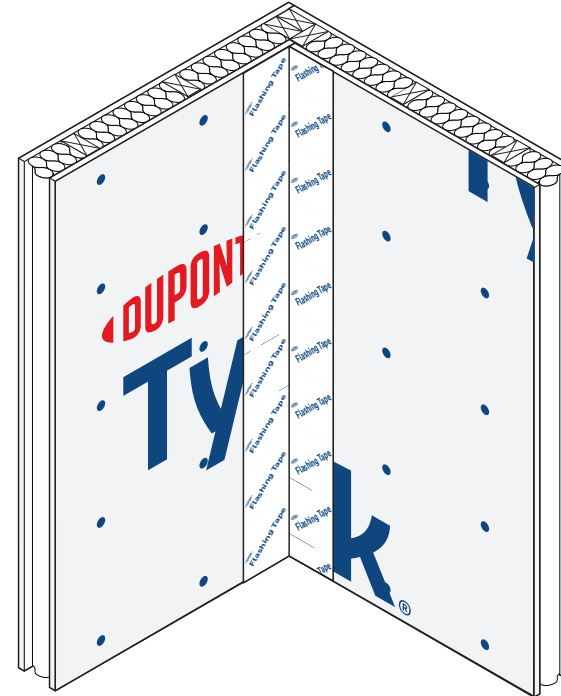
Inside and Outside Corners – OPTIONAL Use of 304 mm (12") DuPont™ Flashing Tape

304 mm (12") wide **DuPont™ Flashing Tape** can be used for additional protection during the construction process at inside and outside corners. The diagrams below show 304 mm (12") **DuPont™ Flashing Tape** installed over the **DuPont™ Tyvek® Sheathing Membrane**; however, the flashing could alternatively be installed directly to the sheathing prior to the **Tyvek® Sheathing Membrane** installation. Ensure the **Tyvek® Sheathing Membrane** and 304 mm (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 50 mm (2") overlap of each piece. For more information regarding the installation of 304 mm (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

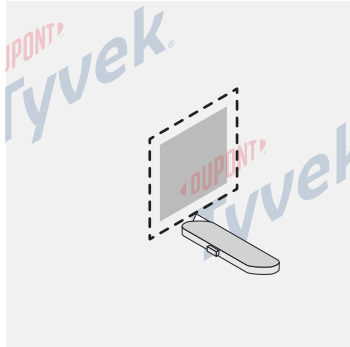


Penetrations

Seal around plumbing pipes, HVAC components, electrical outlets, exterior lights, flashing panels, and other objects that penetrate the **DuPont™ Tyvek® Sheathing Membrane**. Always use positive shingling by installing **Tyvek® Sheathing Membranes** and **DuPont Self-Adhered Flashing Products** from bottom to top, with upper layer installed over lower layer.

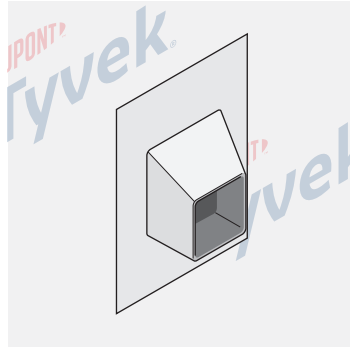
Flashing Integral Flanged Products Installed AFTER DuPont™ Tyvek™ Sheathing Membrane

Method 1



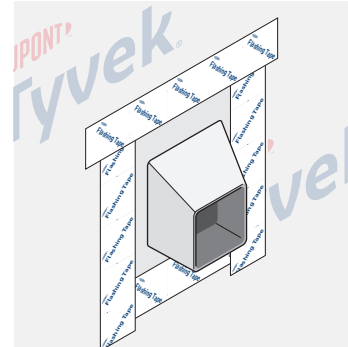
STEP 1

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



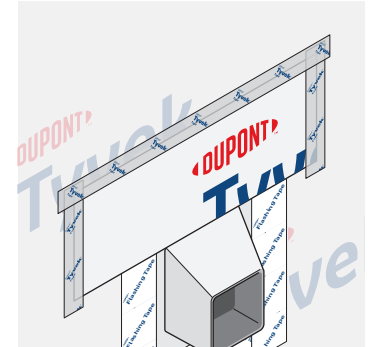
STEP 2

Install integral flanged product per manufacturer's instructions.



STEP 3

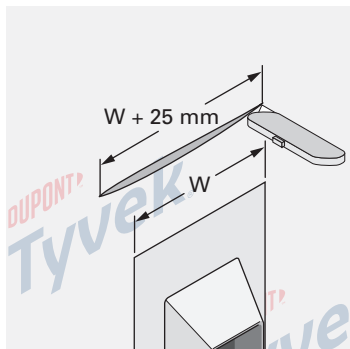
Install **DuPont Self-Adhered Flashing Product** (recommended best practice) or **Tyvek® Tape** onto bottom, sides, and top flanges, extending onto **Tyvek® Sheathing Membrane** by a minimum of 50 mm (2"). **NOTE:** Bottom piece is optional, but is recommended as a best practice and is required for air barrier installations.



STEP 4 (OPTIONAL)

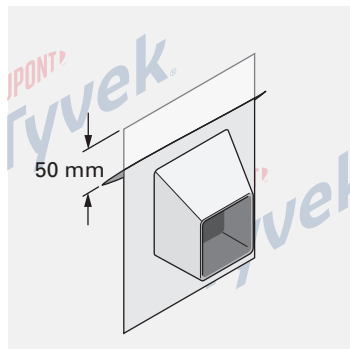
Install a piece of **Tyvek® Sheathing Membrane** to overlap the top edge of the **DuPont Self-Adhered Flashing Product**. Seal sides and top with **DuPont™ Tyvek® Tape**.

Method 2



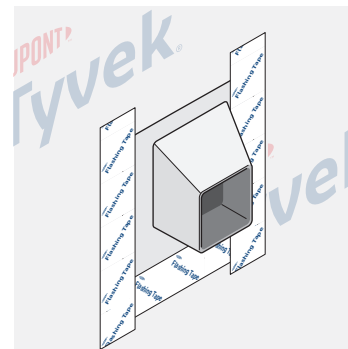
STEP 1

Install **Tyvek® Sheathing Membrane** and make horizontal cut a minimum of 25 mm (1") wider than flange.



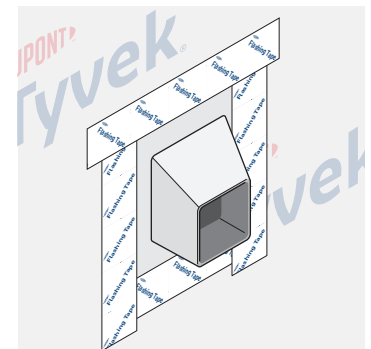
STEP 2

Slide top flange into slit with minimum 50 mm (2") overlap of **Tyvek® Sheathing Membrane**, and install per manufacturer's instructions.



STEP 3

Adhere **DuPont Self-Adhered Flashing Product** (recommended best practice) or **Tyvek® Tape** to bottom and side flanges, extending onto **Tyvek® Sheathing Membrane** by 50 mm (2"). **NOTE:** Bottom piece is optional, but is recommended as a best practice and is required for air barrier installations.



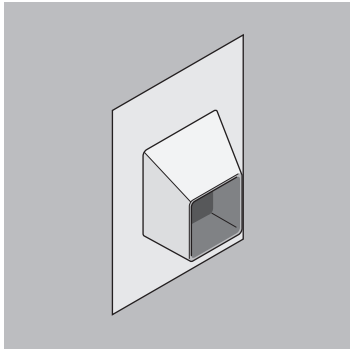
STEP 4

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.

Penetrations

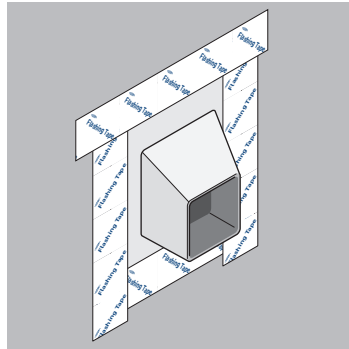
Flashing Integral Flanged Products – Installed BEFORE DuPont™ Tyvek™ Sheathing Membrane

Method 1



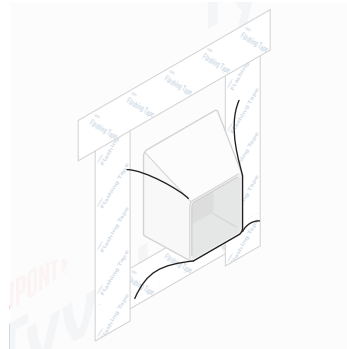
STEP 1

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



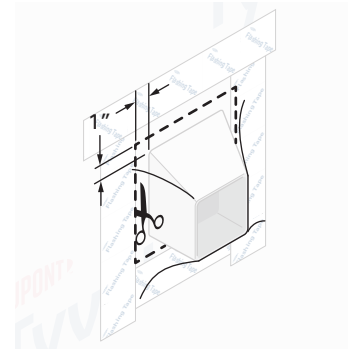
STEP 2

Install **DuPont Self-Adhered Flashing Product** onto flanges, extending onto sheathing by a minimum of 50 mm (2").



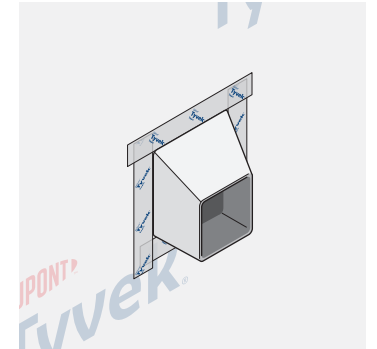
STEP 3

Install **Tyvek Sheathing Membrane**.



STEP 4

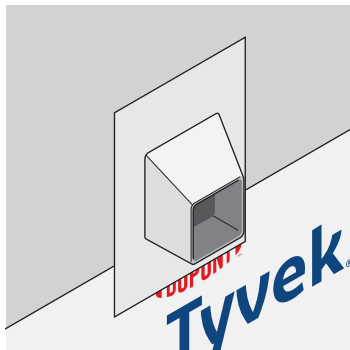
Make cut in **Tyvek Sheathing Membrane**, ensuring a minimum of 25 mm (1") gap for adhesion of **DuPont™ Tyvek™ Tape**.



STEP 5

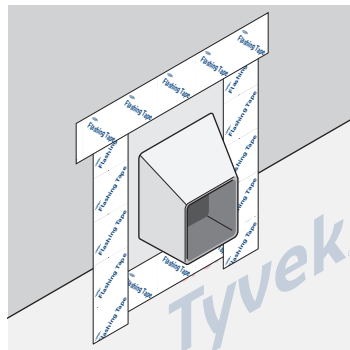
Seal edges of **Tyvek Sheathing Membrane** with **Tyvek Tape**.

Method 2



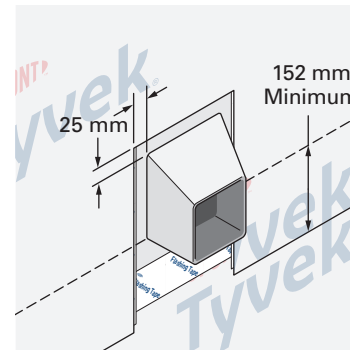
STEP 1

Install **Tyvek Sheathing Membrane** under bottom flange.



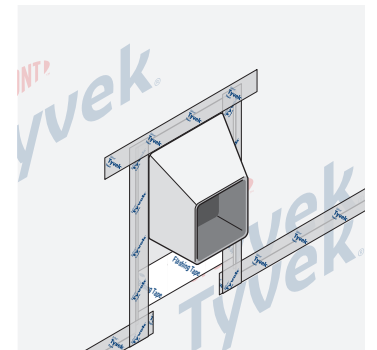
STEP 2

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 Sheathing Membrane** with a minimum of 152 mm (6") overlap. Cut back 25 mm (1") to expose flanges.



STEP 4

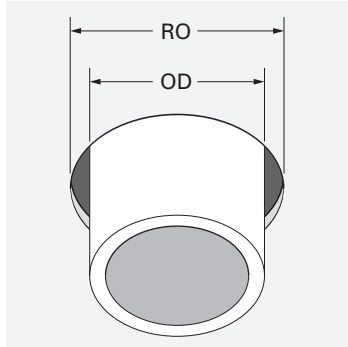
Seal seams using **Tyvek Tape**.

Penetrations

Flashing Non-Flanged Products – Installed AFTER DuPont™ Tyvek™ Sheathing Membrane

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

For non-flanged products with **OD GREATER** than 50 mm (2")



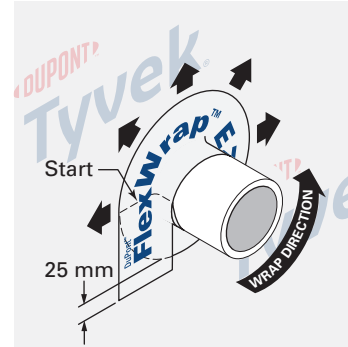
Use **FlexWrap™ EZ** only when penetration rough opening (RO) is not more than 12 mm (1/2") larger than the outside diameter/ dimension (OD) of non-flanged product.

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



STEP 1

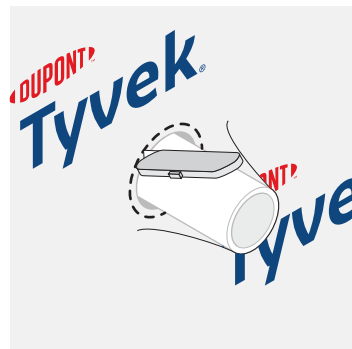
Install **Tyvek® Sheathing Membrane** over non-flanged product and cut around penetration.



STEP 2

Cut a piece of **FlexWrap™ EZ** longer than the circumference of non-flanged product to ensure a minimum 25 mm (1") overlap onto the **Tyvek® Sheathing Membrane**. Starting at the horizontal position on either side, adhere around penetration and onto **Tyvek® Sheathing Membrane**.

For non-flanged products with **OD LESS** than 50 mm (2")



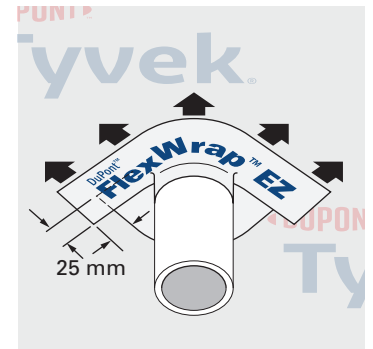
STEP 1

Install **Tyvek® Sheathing Membrane** 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® Sheathing Membrane**.



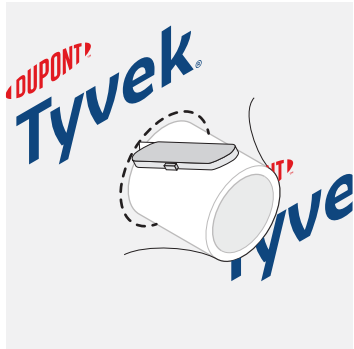
STEP 3

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 25 mm (1") overlap of the edges of **FlexWrap™ EZ** below.

Penetrations

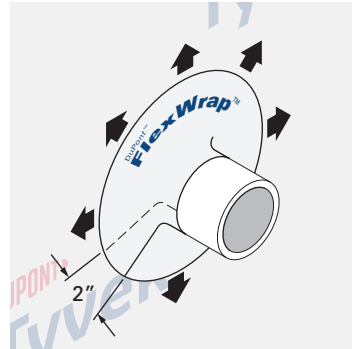
Method 2: Flashing Non-Flanged Products Using DuPont™ FlexWrap™

FlexWrap™ installed onto **DuPont™ Tyvek® Sheathing Membrane** around penetration



STEP 1

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



STEP 2

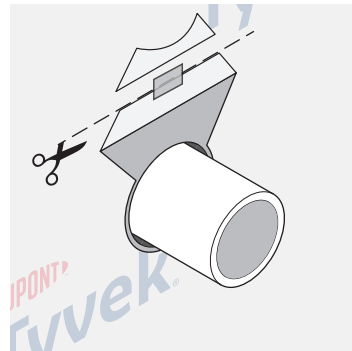
Starting at the horizontal position on either side, install **FlexWrap™** around penetration with a minimum 50 mm (2") overlap.

FlexWrap™ adhered to sheathing above penetration*



STEP 1

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



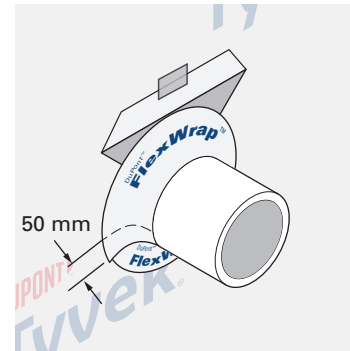
STEP 2

Cut diagonal flap in **Tyvek® Sheathing Membrane**, trim back ~25 mm (1") to make straight edge, and temporarily secure.



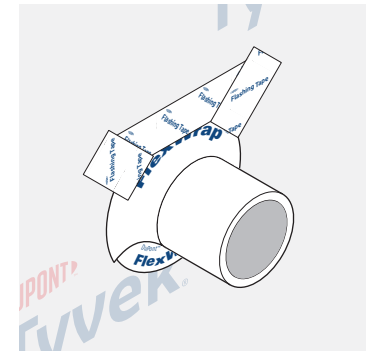
STEP 3

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



STEP 4

Install **FlexWrap™** around top of penetration, overlapping bottom layer of **FlexWrap™** by 50 mm (2") on either side.



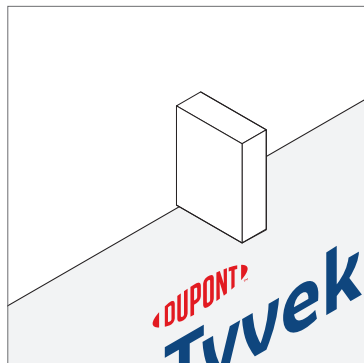
STEP 5

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

*Allows positive shingling of **Tyvek® Sheathing Membrane**

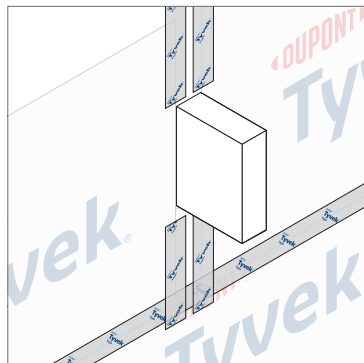
Flashing Beam Penetrations

NOTE: A backing support for flashing made of solid OSB or wood sheathing must be installed around the beam before the **DuPont™ Tyvek® Sheathing Membrane** 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 12 mm (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.



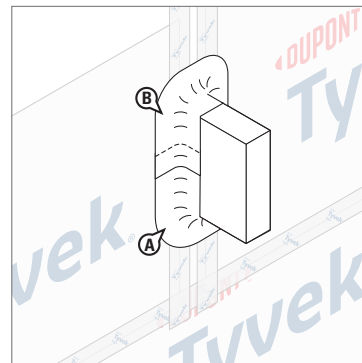
STEP 1

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



STEP 2

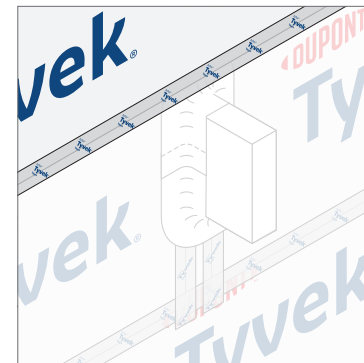
Cut pieces of **Tyvek® Sheathing Membrane** to fit between beams. The pieces should extend a minimum of 177 mm (7") above the beams and overlap the course below by a minimum of 152 mm (2"). Seal the vertical seams with **DuPont™ Tyvek® Tape**. **NOTE:** For air barrier installations, seal all vertical and horizontal seams.



STEP 3

Seal around the beam using two pieces of 152 mm (6") wide **FlexWrap™** (or **FlexWrap™ EZ** as captured in the note above).

- 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® Sheathing Membrane** on the face of the wall.
- 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 50 mm (2"). Install along the top of the beam and down each side, overlapping the lower piece of **FlexWrap™** by 50 mm (2") using the method above.



STEP 4

Install the top course of the **Tyvek® Sheathing Membrane**, overlapping the **Tyvek® Sheathing Membrane** below with 25 mm (1") gap above the beam. Tape all vertical seams with **DuPont™ Tyvek® Tape**. **NOTE:** For air barrier installations, seal all vertical and horizontal seams.

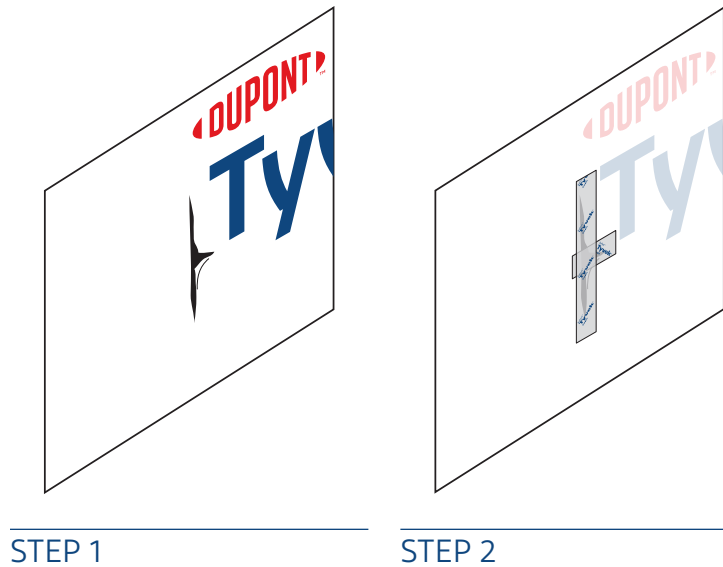
Handling Tears and Holes

During the course of installing the **DuPont™ Tyvek® Sheathing Membrane**, minor tears may occur. Be sure to tape all tears. Tears can easily be covered with **DuPont™ Tyvek® Tape** (50 mm (2") or 75 mm (3")) or **DuPont Self-Adhered Flashing Products**.

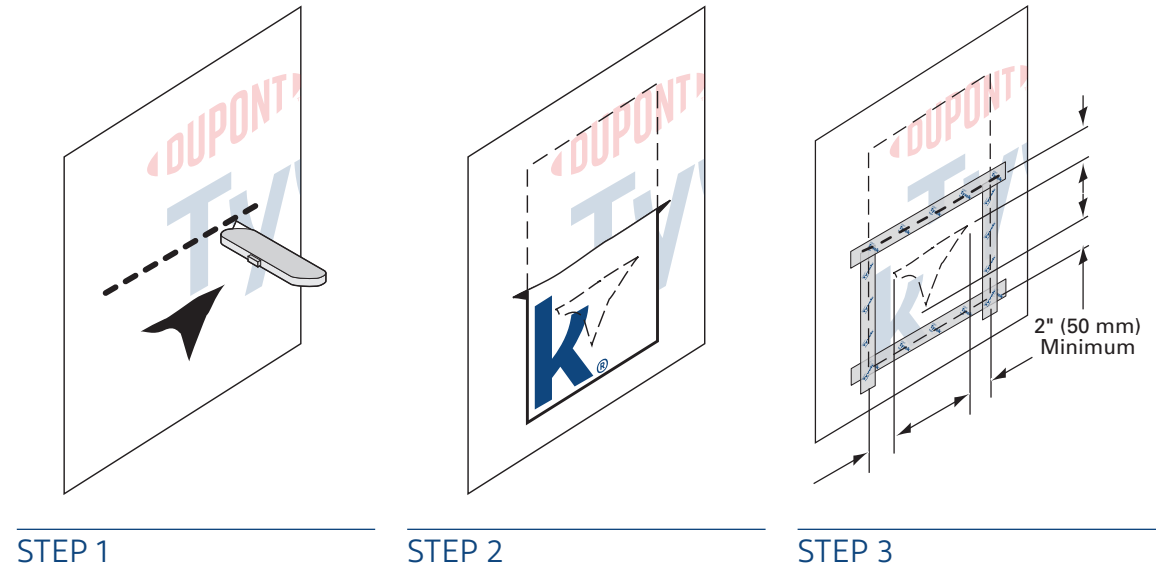
Larger holes (greater than 25 mm (1")) may require cutting a piece of **Tyvek® Sheathing Membrane** to cover the hole, maintaining proper shingling.

Cut a slit 50 mm (2") above the hole and extending a minimum of 50 mm (2") on each side of the hole. Measure and cut a piece of **Tyvek® Sheathing Membrane** to fit into the slit and cover the hole. Tuck the cut piece of **Tyvek® Sheathing Membrane** into the slit. Tape along the perimeter by starting at the bottom of the patch, shingling upper tape over bottom tape.

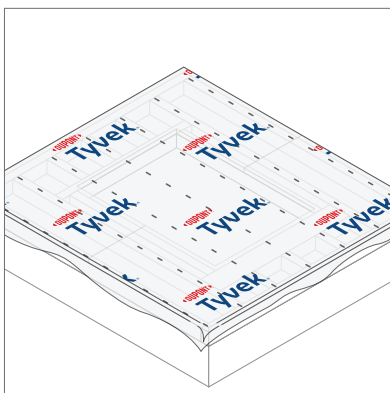
Tears



Holes

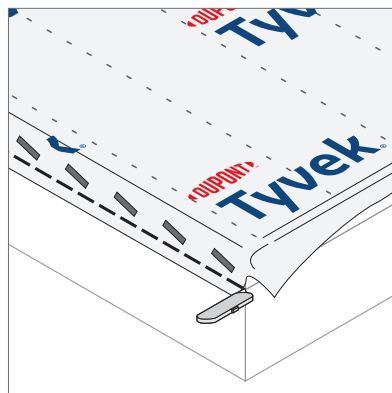


Tilt Wall Instructions



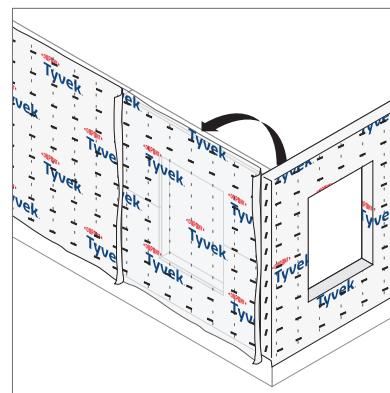
STEP 1

Unroll and secure **DuPont™ Tyvek® Sheathing Membrane** over the wall panel. Leave enough excess at sides and bottom to ensure a minimum 152 mm (6") overlap of the **Tyvek® Sheathing Membrane** onto adjacent wall panels and minimum 25 mm (1") overlap of the foundation below. These flaps allow for a **Tyvek® Sheathing Membrane-to-Tyvek® Sheathing Membrane** seal with adjacent sides. Position/cut the **Tyvek® Sheathing Membrane** so that it is flush with the top of the wall. When taping, make sure the stud marks printed on the **Tyvek® Sheathing Membrane** line up with the first stud and that the roll is plumb.



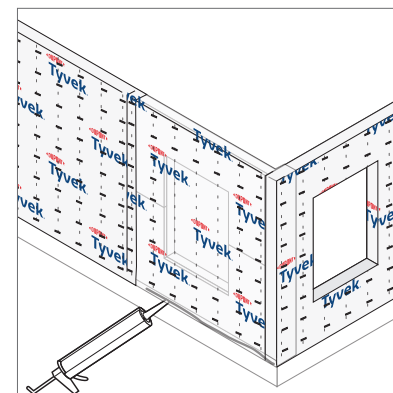
STEP 2

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 recommended sealant, **DuPont™ Tyvek® Tape**, **DuPont™ StraightFlash™** or **DuPont™ Flashing Tape**.

STEP 5

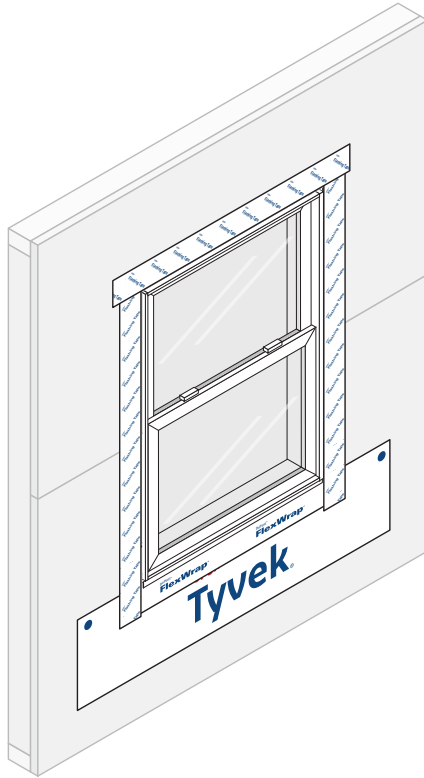
All vertical seams shall be taped with **Tyvek® Tape**. When installing as an air barrier, also tape all horizontal seams. Taping all vertical and horizontal seams, and taping or sealing all terminations (including, but not limited to, roof-wall interfaces and sill plates) is required when installing **Tyvek® Sheathing Membranes** as air barriers. Use 75 mm (3") **Tyvek® Tape** when taping horizontal laps of **DuPont™ Tyvek® DrainWrap™ CA**.

STEP 6

After **Tyvek® Sheathing Membrane** 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

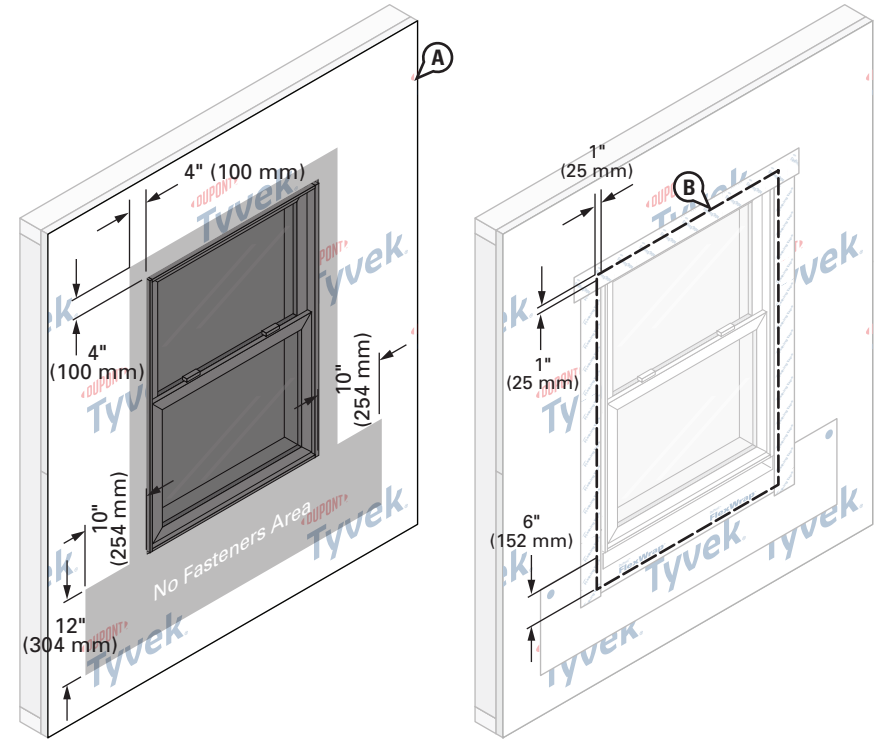
If windows and doors have not been installed, reference the [DuPont Self-Adhered Flashing Products Installation Guidelines for Windows and Doors Installed AFTER the DuPont™ Tyvek® Water-Resistive and Air Barrier \(WRB\)](#), Installation Instructions for Windows and Doors AFTER Sheathing Membrane is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

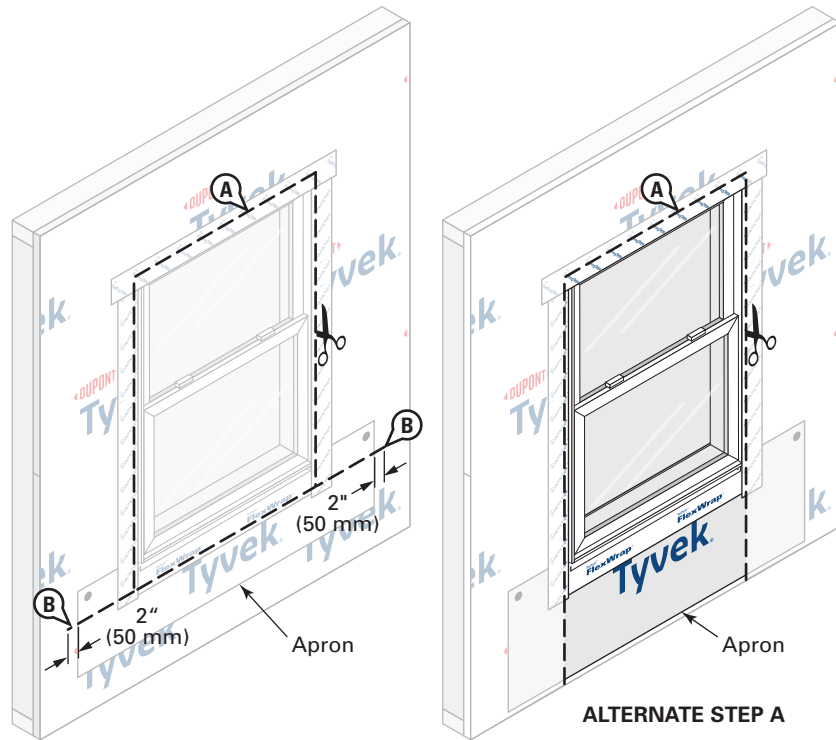
If windows and doors will be installed before the Sheathing Membrane, then follow these last 4 integration steps to tie the **DuPont™ Tyvek® Sheathing Membrane** into the flashing.



STEP 2

- Install the **Tyvek® Sheathing Membrane**. Do not install fasteners within 100 mm (4") of the window frame at jambs and head, and within 304 mm (12") of the window frame at sill or location of apron.
- Mark a perimeter on the **Tyvek® Sheathing Membrane** around the rough opening a minimum of 25 mm (1") from the jambs and head of the window frame, and 152 mm (6") below the sill of the window frame.

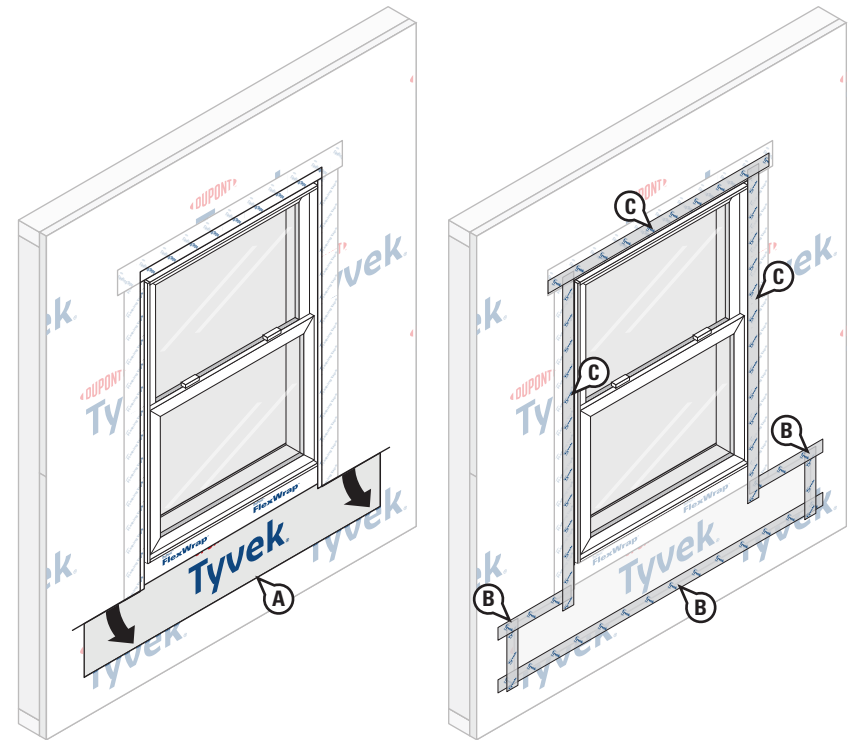
DuPont Self-Adhered Flashing Products Integration



STEP 3

- Cut the **DuPont™ Tyvek® Sheathing Membrane** along perimeter marking to expose window. Do not cut through the **DuPont Self-Adhered Flashing Products** or **Tyvek® Sheathing Membrane** apron underneath.
- Create horizontal slits in the **Tyvek® Sheathing Membrane** at each lower corner of the perimeter cut that extend a minimum of 50 mm (2") beyond **Tyvek® Sheathing Membrane** 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® Sheathing Membrane** below, the **Tyvek® Sheathing Membrane** can be cut along jambs and head only to overlap apron.



STEP 4

- Bring the bottom portion of the **Tyvek® Sheathing Membrane** apron through the sill perimeter cut and horizontal slits so it laps over the top layer of **Tyvek® Sheathing Membrane**.
- Working from bottom to top, install **DuPont™ Tyvek® Tape** to secure horizontal and vertical seams of **Tyvek® Sheathing Membrane** apron.
- Install **Tyvek® Tape** along jambs and head to seal **Tyvek® Sheathing Membrane** 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 as per NBC 2015 Subsection 9.27.1.1. 2) a secondary plane of protection is required as per NBC 2015 Sentence 9.27.3.1 1): “The second plane of protection shall consist of a drainage plane having an appropriate inner boundary and flashing to dissipate rainwater to the exterior”. The secondary plane can consist of at least one layer of sheathing membrane as per NBC 2015 Sentence 9.27.3.3 1) or insulating sheathing installed as per NBC 2015 Subsection 9.27.3.4 Insulating Sheathing in lieu of Sheathing Membrane.” **To be eligible for the DuPont Building Envelope Solutions Product and Labor component of the 10-Year Limited Warranty, the sheathing membrane must be separated from the stucco by an intervening, substantially non-water absorbing layer, or by a 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® Sheathing Membranes** used behind stucco should be separated from the stucco by a second layer of **Tyvek® Sheathing Membrane**, a layer of CSA 123.3 Type S roofing felt, a layer of Grade D building paper, rigid foam board or the paper backing of paper-backed lath. 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® Sheathing Membrane** as an intervening layer, will provide enhanced structural support to the **Tyvek® Sheathing Membrane** and may reduce the required number of fasteners used for the attachment of the **Tyvek® Sheathing Membrane** if installed as soon as practically possible. **DuPont™ Tyvek® DrainWrap™ CA** is recommended for this application.

Brick (or Other Stacked/Anchored Masonry Veneers)

The 2015 National Building Code (Section 9.20.6.4) requires a minimum 25 mm (1”) air space separating the brick from the sheathing membrane. Consistent with these requirements, **Tyvek® Sheathing Membranes** shall be separated from the brick veneer by a nominal 1 inch (25 mm) air-space. Window and door flashing, and through-wall flashing shall be integrated with the **Tyvek® Sheathing Membrane** layer ensuring proper shingling. For maximum moisture management and drying of the wall system the airspace in front of the **Tyvek® Sheathing Membrane** 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® Sheathing Membranes**, and, if installed as soon as practically possible after the **Tyvek® Sheathing Membrane**, may reduce the required number of fasteners used for the initial attachment of the **Tyvek® Sheathing Membrane**.

Stone Veneer (or Other Adhered Masonry Veneers)

When used behind stone veneer, **Tyvek® Sheathing Membranes** shall be installed in a similar manner as they are installed behind stucco. The **Tyvek® Sheathing Membrane** should be separated from the stone and mortar by a second layer of **Tyvek® Sheathing Membrane**, a layer of CSA 123.3 Type S roofing felt, a layer of Grade D building paper, exterior continuous foam insulation or the paper backing of paper-backed lath. 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® Sheathing Membrane**. **Tyvek® DrainWrap™ CA** is recommended for this application.

Facade Considerations

Wood Siding

The **DuPont™ Tyvek® Sheathing Membrane** and wood siding shall be installed according to manufacturer's instructions, industry standards, NBC 2015 Subsection 9.27.6 Lumber siding, or other 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 203 mm (8") 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.
- **DuPont™ Tyvek® DrainWrap™ CA** 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® DrainWrap™ CA**, by installing a 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® Sheathing Membrane** to create a rainscreen, the primary fastener spacing can exceed 457 mm (18").

Fiber Cement Siding

Tyvek® Sheathing Membranes 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 **Tyvek® DrainWrap™ CA**, by installing a 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® Sheathing Membrane** to create a rainscreen, the primary fastener spacing can exceed 18". In high wind areas at gable end walls, it is recommended that fiber cement siding be installed over wood sheathing rather than over plastic foam sheathing. **Tyvek® Sheathing Membranes** 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® Sheathing Membranes**. 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® Sheathing Membranes and EIFS cladding shall be installed according to manufacturer's instructions and industry standards. In order to promote drainage, it is recommended that **Tyvek® DrainWrap™ CA** be installed behind the exterior insulation. Window and door flashing, and through wall flashing shall be integrated with the **Tyvek® Sheathing Membrane** 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® Sheathing Membranes 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® Sheathing Membranes** and **DuPont Self-Adhered Flashing Products** is 82°C (180°F).

Exterior Insulation

When using **Tyvek® Sheathing Membranes** with **DuPont Exterior Continuous Insulation Products**, please refer to the Installation Bulletin: [*Integrating DuPont Building Envelope Solutions Products with DuPont Exterior Continuous Insulation*](#) for guidance on fasteners and product installation. **Tyvek® Sheathing Membranes** and exterior continuous insulation shall be installed according to the manufacturer's instructions and industry standards. **Tyvek® Sheathing Membranes** 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® DrainWrap™ CA** be used when installing the **Tyvek® Sheathing Membrane** layer between the sheathing and exterior continuous insulation. Window flashing, door flashing, and through wall flashing shall be integrated with the **Tyvek® Sheathing Membrane** 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.

Product Composition and UV Stability

DuPont™ Tyvek® Sheathing Membranes 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®** and **Tyvek® DrainWrap™ CA** be covered within 4 months (120 days) of installation. DuPont requires that **DuPont™ Tyvek® CommercialWrap®** 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 9 months (270 days) of installation. DuPont requires that **DuPont™ Flashing Tape** be covered within 4 months (120 days) of installation.

Design Considerations

When installed in conjunction with other building materials, **Tyvek® Sheathing Membranes** and **DuPont Self-Adhered Flashing Products** must be properly shingled with these materials such that water is diverted to the exterior of the wall system. **Tyvek® Sheathing Membranes** 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® Sheathing Membranes**. 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 **Tyvek® Sheathing Membranes**. Use of additives, coatings or cleansers on or in the facade system may impact the performance of **Tyvek® Sheathing Membranes**. DuPont Building Envelope Solutions Products are to be used as outlined in this installation guideline. **DuPont Self-Adhered Flashing** should only be used to seal penetrations and flash openings in buildings. **Tyvek® Sheathing Membranes** 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® Sheathing Membranes** 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.

Safety and Handling

Warning

Tyvek® Sheathing Membranes 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 CSA Standard CAN3-Z11-M81 for portable ladders and 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 135°C (275°F) and if the temperature of **DuPont™ Tyvek®** reaches 400°C (750°F), 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 121°C (250°F). **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.

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.

Safety and Handling (continued)

Caution

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 116°C (240°F). 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

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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