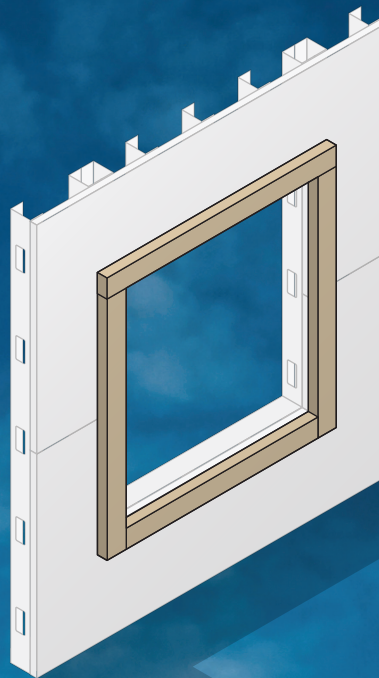


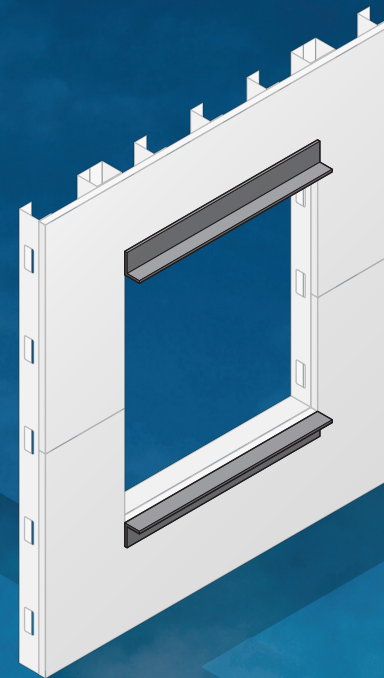
DuPont Commercial Flashing Products Installation Guidelines

Bump-Out Frame Conditions

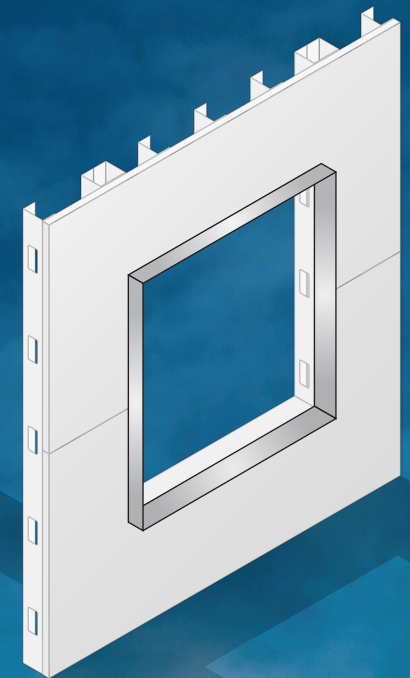
For Commercial and High-
Performance Buildings of
Any Height



Wood Bump-Out Frame



Structural Steel



Light Gauge Metal

March 2021

Table of Contents

Introduction.....	3
Applicable Products.....	3
Required Materials Based on Project Requirements, Details, and Specifications.....	3
Warranty.....	4
Applicable Structures and Performance Criteria.....	4
Flashing Products Code Requirements.....	6
Additional Codes and Standards Information for DuPont™ Tyvek® Commercial Air and Water Barrier Systems.....	6
Special Considerations.....	6
Key Installation Requirements for Drainable Window/Door Installation.....	8
Installation Methods for DuPont Self-Adhered Flashing Products Installed AFTER the DuPont™ Tyvek® WRB	9
Non-Flanged Window with Wood Bump-Out Frame Installed BEFORE the Tyvek® WRB using DuPont™ StraightFlash™	9
Non-Flanged Window with Structural Steel along the Sill and Head.....	28
Non-Flanged Window with Light Gauge Metal Installed at Rough Opening.....	39
Integral Flanged Window with Wood Bump-Out Frame Installed AFTER the Tyvek® WRB	52
Hybrid Installation Methods for DuPont Self-Adhered Flashing Products and DuPont™ Tyvek® Fluid Applied Flashing Products Installed AFTER the DuPont™ Tyvek® WRB	62
Non-Flanged Window with Wood Bump-Out Frame Installed BEFORE the Tyvek® WRB	62
Integral Flanged Window with Wood Bump-Out Frame Installed BEFORE the Tyvek® WRB	71
Installation of DuPont Exterior Continuous Insulation	81
DuPont™ Tyvek® WRB Installed UNDER DuPont Exterior Continuous Insulation	81
Product Composition and UV Stability.....	82
Design Considerations.....	82
Safety and Handling.....	82
Hazard Statement.....	83
For More Information.....	83



Introduction

This installation guideline outlines recommended installation techniques and details for bump-out conditions using **DuPont Self-Adhered Flashing Products** and where applicable, **DuPont™ Tyvek® CommercialWrap®**, **Tyvek® CommercialWrap® D**, and/or **DuPont™ Tyvek® Fluid Applied Products**. Both **Tyvek® WRBs** and **Tyvek® Fluid Applied Products** meet or exceed the requirements of a water-resistive barrier as defined in the 2018 International Building Code (IBC). **Tyvek® CommercialWrap®**, **Tyvek® CommercialWrap® D** and **Tyvek® Fluid Applied Products** also function as a high performance air barrier when tested as a part of a full wall assembly in accordance with ASTM E2357.

Applicable Products

Self-Adhered Flashing Products

Product	Width
DuPont™ FlexWrap™ (Formerly DuPont™ FlexWrap™ NF)	6 in 9 in
DuPont™ StraightFlash™	4 in 9 in

Mechanically-Fastened Water-Resistive and Air Barriers (Tyvek® WRBs)

Product	Dimensions	Area
DuPont™ Tyvek® CommercialWrap®	5 ft x 200 ft 10 ft x 125 ft	1,000 sq ft 1,250 sq ft
DuPont™ Tyvek® CommercialWrap® D	5 ft x 200 ft 10 ft x 125 ft	1,000 sq ft 1,250 sq ft

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 System¹	28 oz

Installation Accessories

Product	Type	Quantity
DuPont™ Adhesive/Primer	Can	13.5 oz
DuPont™ Tyvek® Tape	3 in Bulk Pack	24 rolls/case
DuPont™ Tyvek® Wrap Cap Screws	2 in dia. plastic cap, 1-3/4 in screw length	1,000 caps/box
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
TRUFAST® Walls Grip-Deck® screws with Thermal-Grip FastCap™ washers (TRUFAST® Walls formerly Rodenhouse) ²		

Required Materials Based on Project Requirements, Details, and Specifications³

- Backer Rod
- Sealant⁴
- Brushes for Surface Preparation
- J-Roller
- Trowels

¹DuPont™ Sealant for Tyvek® Fluid Applied System should only be used as directed in the applicable *DuPont™ Tyvek® Fluid Applied Products Installation Guidelines*.

²For information regarding installation of TRUFAST® Walls fasteners (formerly Rodenhouse), refer to the *DuPont™ Tyvek® Mechanically-Fastened Water-Resistive and Air Barriers (WRB) Installation Guidelines for Buildings Greater than 4 Stories and High Performance Installations of Any Height*.

³Apply 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.

⁴For information regarding chemical compatibility of sealants, see technical bulletin *Chemical Compatibility of Representative Building Sealants and Adhesives/Primers*.

Warranty

Please refer to [DuPont Building Envelope Solutions Products 10-Year Limited Warranty for Commercial and High-Performance Buildings of Any Height](#) for information relative to this guide. For wood framed multi-family and light commercial buildings, please refer to the [DuPont Building Envelope Solutions Products 10-Year Limited Warranty for Single-Family, Wood-Framed Multi-Family, and Light Commercial Buildings](#).

NOTE: In order to make a claim under the DuPont 10-Year Limited Product and Labor Warranty on DuPont Building Envelope Solutions Products, all terms and conditions of the warranty must be met, 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 Drainable Window / Door Installation](#) must have been followed in order to make a claim under the warranty. Compliance prior, during and post construction with the [Key Installation Requirements for Drainable Window / Door Installation](#) 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.

Applicable Structures and Performance Criteria

Applicable Structures

These Installation Guidelines pertain solely to Commercial and High-Performance Buildings of Any Height as defined below.

DuPont categorizes structures into three primary groups:

- i.) **“Single-Family Residential Buildings”** are defined as fully-detached one or two family structures, as well as townhouse structures not more than three stories above grade plane as defined in the 2018 International Residential Code (IRC) Section R101.2, both to the extent they are exclusively Residential Use building structures.
- ii.) **“Wood-Framed Multi-Family and Light Commercial Buildings”** are defined as the following (must meet **ALL** criteria):
 - a. Constructed of wood-based structural exterior framing of Type III or Type V Construction* (IBC Chapter 6); and
 - b. Does not exceed 2018 IBC max height (Table 504.3) for Type V construction (70 ft.) or Type III construction (85 ft.), including allowances for Automatic Sprinkler height increase (IBC 504.1 and Table 504.4) and ‘podium’ structures outlined in the Special Provisions* (IBC Section 510); and
 - c. Design requirements for the building envelope do not exceed air barrier performance of ASTM E1677 (10.8 psf structural load, 65 mph equivalent wind load), and water infiltration resistance criteria of 6.24 psf (50 mph equivalent wind-driven rain) when tested in accordance with ASTM E331, ASTM E1105, or equivalent.

*Special Provisions (IBC Section 510) allows for a “horizontal building separation”, or ‘podium’, to be built under the wood-framed Type III or Type V building. The podium is typically constructed of steel framing or concrete. Podium-style buildings are included under “Wood-Framed Multi-Family and Light Commercial Buildings”, as long as all other definition criteria (a. through c. above) are met.

- iii.) **“Commercial and High-Performance Buildings of Any Height”** can be defined as any of the following:
 - a. Structures constructed of steel-based structural exterior framing and any exterior sheathing, or
 - b. Structures with exterior above grade walls constructed of concrete or concrete masonry units (CMU), or
 - c. Structures of any height and construction type (including any framing type) that are designated as high-performance. “High-performance” is defined as air barrier performance exceeding ASTM E1677 and/or water infiltration resistance criteria exceeding 6.24 psf when tested in accordance with ASTM E331, ASTM E1105, or equivalent.

NOTE: “Podium” style structures with wood-framed floors built above steel-framed or concrete/CMU floors are covered under “Wood-Framed Multi-Family and Light Commercial Buildings” unless they are “high-performance”.

Applicable Structures and Performance Criteria

Water-Resistive Barrier Performance Requirements

Buildings with high-performance air barrier designs are defined by DuPont as those with air barrier performance equivalent to ASTM E2357 (or other exceeding ASTM E1677), and/or water infiltration resistance criteria greater than 6.24 psf when tested in accordance with ASTM E331, ASTM E1105, or equivalent. Installation of DuPont Building Envelope Solutions Products on high-performance buildings requires the use

of 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](#) or the [DuPont Self Adhered Flashing Products Installation Guidelines For Buildings Greater than 4 Stories and High Performance Installations of Any Height](#).

These Installation Guidelines should be used for buildings which meet the applicable structures definitions and performance criteria on the previous page. The following table provides a summary of typical installation information.

DuPont Building Envelope Solutions Products Installation Considerations for Commercial and High-Performance Buildings of Any Height	
Performance Criteria	Buildings with high-performance air barrier designs are defined by DuPont as those with air barrier performance equivalent to ASTM E2357 (or other exceeding ASTM E1677), and/or water infiltration resistance criteria greater than 6.24 psf when tested in accordance with ASTM E331, ASTM E1105, or equivalent.
DuPont™ Tyvek® WRB¹	DuPont™ Tyvek® CommercialWrap®, Tyvek® CommercialWrap® D (required on the entire building)
DuPont™ Tyvek® Tape	3" required
DuPont™ Tyvek® Fluid Applied System Products	Can be used on any above grade exterior wall where specified in hybrid details in this guide. Recommended for use on above grade exterior CMU and/or concrete walls. Refer to the Installations Guidelines for DuPont™ Tyvek® Fluid Applied Flashing and/or Tyvek® Fluid Applied WB+™ for additional information
Typical Recommended Fasteners and Spacing²	2" DuPont™ Tyvek® Wrap Cap Screws or approved TRUFAST® Walls Fasteners (formerly Rodenhouse)
Air Barrier Details	Required
Tyvek® WRB Terminations to Sheathing	DuPont Self-Adhered Flashing Products
Recommended Window/Door Head Flap Treatment	DuPont Self-Adhered Flashing Products with additional mechanical fasteners through the flashing
Self-Adhered Flashing Patches behind Cladding Fasteners	Required when water infiltration resistance criteria for the building envelope exceeds 0.56 psf Tyvek® CommercialWrap® or Tyvek® CommercialWrap® D (15 mph equivalent wind-driven rain), nominal test pressure per ASTM E1677. See <i>Alternate Fastening</i> section in 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 for more information.

¹Buildings requiring NFPA 285 compliance must use **Tyvek® CommercialWrap®** or **Tyvek® CommercialWrap® D** in accordance with [DuPont NFPA 285 documentation](#).

²For increased holding power and for higher air and water holdout performance, DuPont recommends fasteners of sufficient length to penetrate securely into the stud.

Flashing Products Code Requirements

The 2018 International Building Code (Section 1404.4 Flashing) requires that “flashing shall be installed in such a manner so as to prevent moisture from entering the wall or to redirect that moisture to the exterior. Flashing shall be installed at the perimeters of exterior door and window assemblies, penetrations and terminations of exterior wall assemblies, exterior wall intersections with roofs, chimneys, porches, decks, balconies and similar projections and at built-in gutters and similar locations where moisture could enter the wall. Flashing with projecting flanges shall be installed on both sides and the ends of copings, under sills and continuously above projecting trim. Where self-adhered membranes are used as flashings of fenestration in wall assemblies, those self-adhered flashings shall comply with AAMA 711. Where fluid applied membranes are used as flashing for exterior wall openings, those fluid applied membrane flashings shall comply with AAMA 714.”

- **DuPont Self-Adhered Flashing Products** comply with AAMA 711-13 (an FGIA Specification) Specification for Self Adhering Flashing Used for Installation of Exterior Wall Fenestration Products.
- **DuPont™ Tyvek® Fluid Applied Flashing and Joint Compound+** complies with AAMA 714-15, Voluntary Specification for Liquid Applied Flashing Used to Create a Water-Resistive Seal around Exterior Wall.

Additional Codes and Standards Information for DuPont™ Tyvek® Commercial Air and Water Barrier Systems

DuPont™ Tyvek® CommercialWrap®, Tyvek® CommercialWrap® D, DuPont™ StraightFlash™, DuPont™ FlexWrap™, and DuPont™ Tyvek® Fluid Applied Products were designed for the rigors of heavy commercial construction. These commercial products have been tested to the following standards:

- ABAA Evaluated
- ASTM E2357 *Standard Test Method for Determining Air Leakage of Air Barrier Assemblies*
- ASTM E331 *Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform Static Pressure*
- ASTM E1105 *Standard Test Method for Field Determination of Water Penetration of Installed Exterior Windows, Skylights, Door, and Curtain Walls, by Uniform or Cyclic Static Air Pressure Difference*
- ASTM E283 *Standard Test Method for Determining Rate of Air Leakage Through Exterior Windows, Curtain Walls and Doors Under Specified Pressure Differences Across the Specimen*
- AAMA 501.5 *Test Method for Thermal Cycling of Exterior Walls*
- ASTM E2273 *Standard Test Method for Determining the Drainage Efficiency of Exterior Insulation and Finish Systems (EIFS) Clad Wall Assemblies* (excludes **DuPont™ Tyvek® Fluid Applied WB+™**).

- AAMA 501.5 *Test Method for Thermal Cycling of Exterior Walls*
- NFPA 285 *Standard Fire Test Method for Evaluation of Fire Propagation Characteristics of Exterior Non-Load-Bearing Wall Assemblies Containing Combustible Components*

Energy Conservation Codes for commercial buildings are being adopted in many regions across the U.S. **DuPont™ Tyvek® Water-Resistive and Air Barriers (WRBs)** currently meet the following codes and guidelines.

- ASHRAE 90.1 Model Energy Code air barrier requirements
- 2018 International Energy Conservation Code® (IECC)
- 2018 International Green Construction Code™ (IgCC)

Special Considerations

1. **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.
2. **DuPont Self-Adhered Flashing Products** perform best when installed at temperatures above 25°F (–4°C).
3. 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. Concrete, masonry, and fiber-faced exterior gypsum board require the use of **DuPont™ Adhesive/Primer** or recommended primer. Do not apply **DuPont™ Adhesive/Primer**, or recommended primer, to exterior continuous insulation due to potential sheathing degradation.
4. 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 during installation of **DuPont Self-Adhered Flashing Products**.
5. Remove all wrinkles and bubbles by smoothing surface and repositioning as necessary.
6. When using mechanically-fastened through-wall flashing, DuPont recommends sealing top edge with **StraightFlash™** or **Tyvek® Fluid Applied Flashing and Joint Compound+** (where applicable).
7. **DuPont Self-Adhered Flashing Products** are not intended for through-wall flashing applications.
8. When flashing the sill area for windows and doors, DuPont recommends the use of 6” wide **FlexWrap™** for 2” x 4” framing and 9” wide **FlexWrap™** for 2” x 6” framing. When rigid back dams are required or desired, an option would be to use a 3/4” corner guard (back dam) cut to the length of the sill and nail into place on the interior edge of the sill prior to installation of 9” wide **FlexWrap™**. Then install 9” wide **FlexWrap™** over sill and corner guard back dam.

Special Considerations

9. **Do Not Stretch DuPont™ FlexWrap™** when installing along sills or jambs. **FlexWrap™** is only intended to be stretched when covering corners or curved sections.
10. **DuPont Self-Adhered Flashing Products** can be used to bridge non-movement gaps up to 1/4" unsupported. Flashing must maintain a 2" adhesive lap on the wall substrate.
11. **DuPont™ FlexWrap™ EZ** can not be used in lieu of **FlexWrap™** for any commercial window condition.
12. Avoid placing **DuPont™ Tyvek® Wrap Cap Fasteners**, or recommended fasteners, where flashing will be installed; however, fasteners can be installed over the flashing.
13. **Great Stuff Pro™ Window and Door Polyurethane Foam Sealant** can be used in lieu of sealant to create a continuous seal around the interior perimeter of the window openings. When using **Great Stuff Pro™ Window and Door Polyurethane Foam Sealant** in perimeter openings less than 1/2", apply using the plastic extension tip for the **Great Stuff™ Dispenser Gun** during installation.
14. For high performance installations exceeding ASTM E1677 wind loading pressures (10.8 psf, 65 mph equivalent structural load) and ASTM E331 water infiltration resistance of 6.24 psf, it is necessary to install sealant over the cured foam when using **Great Stuff Pro™ Polyurethane Foam Sealant** or other recommended foam. Sealant should be installed over the foam between the window frame and rough opening around the entire interior perimeter. If **Great Stuff Pro™ Polyurethane Foam Sealant**, or other recommended foam, extends beyond the window frame, shave the excess cured foam flush with the window frame before applying sealant. Avoid damaging the **DuPont Self-Adhered Flashing, DuPont™ Tyvek® Fluid Applied Products** or **DuPont™ Tyvek® WRB**.
15. **DuPont™ Tyvek® CommercialWrap® D** must be installed with the grooves going up and down.
16. **DuPont™ Tyvek® CommercialWrap®** offers >90% drainage efficiency and **Tyvek® CommercialWrap® D** offers >98% drainage efficiency when tested in accordance with ASTM E2273.
17. For high pressure design loads, the use of **DuPont™ StraightFlash™** with **Tyvek® Wrap Cap Fasteners**, or recommended fasteners is required to secure the head flap of the windows.
18. In lieu of temporarily taping, **Tyvek® WRB** flaps at window head and jambs can be tucked under the installed **Tyvek® WRB**.
19. 3" **Tyvek® Tape** should not be used to terminate **Tyvek® WRB** flaps at window jambs and head when the building envelope design requirements exceed ASTM E1677, 65 mph equivalent structural load and 15 mph equivalent wind-driven rainwater infiltration resistance.
20. Door and window rough sill framing must be level or slightly sloped to the exterior to ensure proper drainage to the exterior. This best practice ensures continuous support with positive slope to the exterior.
21. Suitable substrates for **Tyvek® Fluid Applied Products** include concrete masonry unit (CMU), concrete (48 hrs. cure 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).
22. **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.
23. Uncured **Tyvek® Fluid Applied Products** must not come in contact with building wraps due to potential impact on performance properties.
24. **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.
25. **Tyvek® Fluid Applied Products** can be applied to damp surfaces. A surface is considered damp if there is no visible water on the surface and no transfer of water to the skin when touched.
26. **DuPont™ Tyvek® Fluid Applied Flashing and Joint Compound+** can be troweled or brushed to the required thickness in any application outlined in the guide.
27. **Tyvek® Fluid Applied Products** should be applied when air and surface temperatures are above 25°F. Do not install once the ambient temperature exceeds 95°F (35°C), unless the application surface is shaded. The maximum surface temperature for application is 140°F (60°C).
28. **Tyvek® Fluid Applied Products** may be overcoated once a tack-free skin has formed. Exterior insulation and/or exterior facade may be installed after **Tyvek® Fluid Applied Products** have cured for 48 hours. Please refer to Drying/Curing information in the [DuPont™ Tyvek® Fluid Applied WB+™ Wall and Substrate Guidelines](#).
29. Performance testing, included but not limited to peel adhesion, pull strength analysis, field or third-party testing of air and/or water barrier properties, should be conducted after **Tyvek® Fluid Applied Products** are fully cured (~14 days).
30. **Tyvek® CommercialWrap®** and **Tyvek® CommercialWrap® D** must not come in direct contact with other manufacturers' 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.
31. DuPont requires **Tyvek® WRBs, DuPont Self-Adhered Flashing, and Tyvek® Fluid Applied Products** be covered within 9 months (270 days) of installation.
32. The maximum in-service temperature for **Tyvek® WRBs, DuPont Self-Adhered Flashing Products, and Tyvek® Fluid Applied Products** is 180°F.

Key Installation Requirements for Drainable Window/Door Installation

When flashing windows or doors, the following principles must be followed:

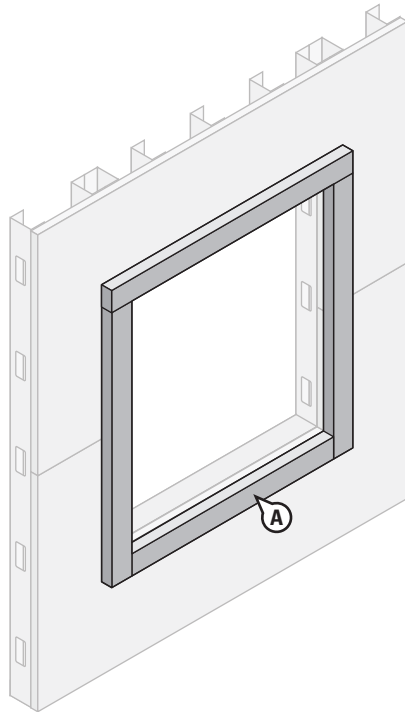
- An integral flanged window/door is defined as a window/door unit with a nailing fin or flange that is continuous around the perimeter of the window and that is a direct extrusion of the window frame.
- Any window/door that has a nailing fin or flange that is **not continuous around the perimeter** of the window/door or the fin/flange is **not a direct extrusion of the frame** (e.g. field-applied flanges) is considered a **non-integral flanged unit**.
- When installed properly, **DuPont™ FlexWrap™** and **DuPont™ StraightFlash™** provides nail sealability at window/door openings to help protect critical window-wall interfaces. Metal sill pan flashing may be used, but must not replace flexible sill flashing that provides nail sealability.
- Ensure that sill flashing does not slope to the interior. An exterior slope is recommended, but not required.
- Direct water onto an acceptable air and water barrier drainage plane with an unobstructed path to the exterior of the wall. Provide a drainage path for any water intrusion through the window/door attachment system that collects at the sill.
- Properly integrate flashing with acceptable **DuPont™ Tyvek® WRB** in accordance with the instructional drawing. Self-adhered flashing must be applied with a minimum 2" lap onto the **Tyvek® WRB**.
- DuPont requires that **FlexWrap™**, **StraightFlash™**, and **DuPont™ Tyvek® Fluid Applied Flashing and Joint Compound+** be covered within 9 months (270 days) of installation
- Properly prepare all surfaces (remove dirt, dust, or moisture, etc.) per manufacturer's recommendations.
- Barrier installations (full perimeter seal on exterior) are acceptable only in the following instances:
 - Slab on grade doors, store front windows, or other systems with built-in drainage mechanisms that have potential for exposure to standing water
 - Surface barrier wall systems with non-water sensitive framing material (i.e., CMU walls)
 - Very low wind / rain exposure regions (southwest / desert) that follow AAMA 2400 installation guideline
- Ensure that window / door and flashing system design takes into account common factors that will impact performance, such as:
 - Climate considerations: Rainfall, Wind, Temperature (hot / cold cycles), Humidity
 - Building design: Window / Wall Design (overhangs, recessed openings, bump-outs), Wall Assembly (wood frame or masonry), Window System (wood or vinyl), New Construction or Replacement Window drainage path
 - UV exposure prior to the construction of the exterior facade
 - Compliance with fire resistance code requirements. For more information about NFPA 285 compliant wall assemblies utilizing **Tyvek® WRBs** visit building.dupont.com.
- Field testing the window / door and wall installation as a complete system is a recommended best practice.
- Use of trained installers is highly recommended.

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**. Ensure the sealant materials meet the installation temperature requirements of the sealant manufacturer. Refer to [Chemical Compatibility of Representative Building Sealants and Adhesives/Primers](#) for more information about chemical compatibility.

Installation Methods for DuPont Self-Adhered Flashing Products Installed **AFTER** the DuPont™ Tyvek® WRB Non-Flanged Window with Wood Bump-Out Frame Installed **BEFORE** the Tyvek® WRB using DuPont™ StraightFlash™

Method applies to the following product: DuPont™ StraightFlash™



STEP 1

Install Wood Bump-Out Frame

- A. Install wood bump-out per Architect's guides. Securely fasten in place.
- B. Clean substrate of any material that could negatively affect adhesion as well as any sharp protrusions.



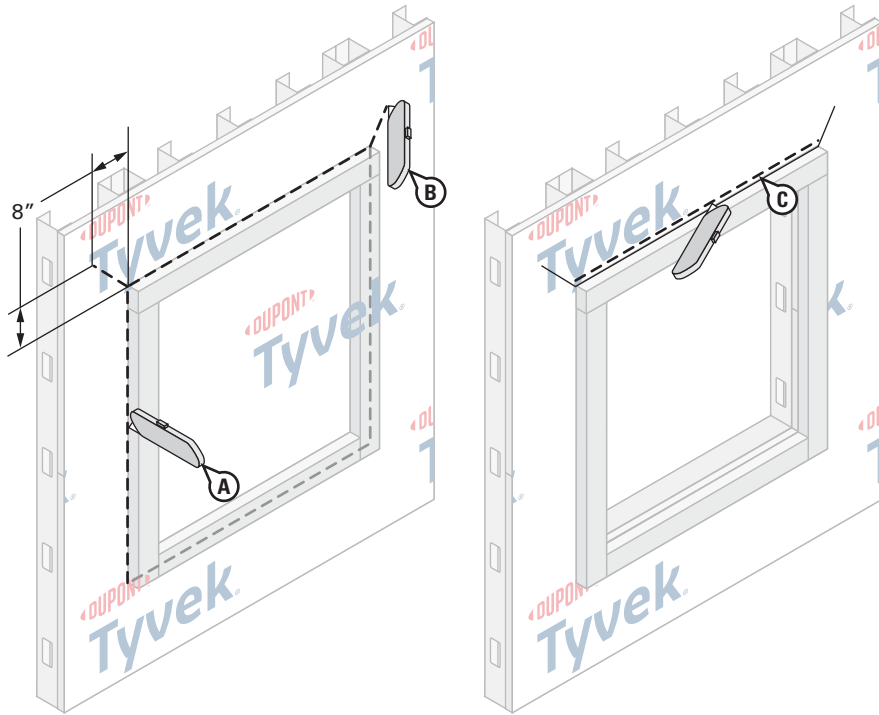
STEP 2

Install Tyvek® WRB

Wrap wall with **Tyvek® WRB** as shown in 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](#) that can be found at building.dupont.com. Do not install fasteners within 9" of the perimeter of the bump-out frame.

NOTE: DuPont Self-Adhered Flashing Product branding (label orientation) in this condition is shown to reflect actual product alignment/position to assist with proper use and installation for the complex condition.

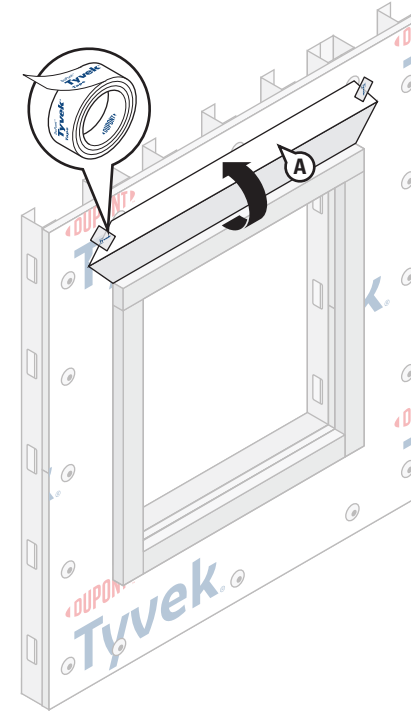
**Installation Methods for DuPont Self-Adhered Flashing Products Installed AFTER the DuPont™ Tyvek® WRB
Non-Flanged Window with Wood Bump-Out Frame Installed BEFORE the Tyvek® WRB using DuPont™ StraightFlash™**



STEP 3

Prepare the Tyvek® WRB for Window Installation

- A. Cut an opening in the Tyvek® WRB along the dashed indicated lines. Ensure that the Tyvek® WRB is cut flush with the outside edge of the wood bump-out frame.
- B. Cut a head flap in the Tyvek® WRB at 45° angle beginning at the outside corners of the wood bump-out frame to expose 8" of sheathing to allow for head flashing installation.
- C. Trim Tyvek® WRB 1"– 2" above the window opening.

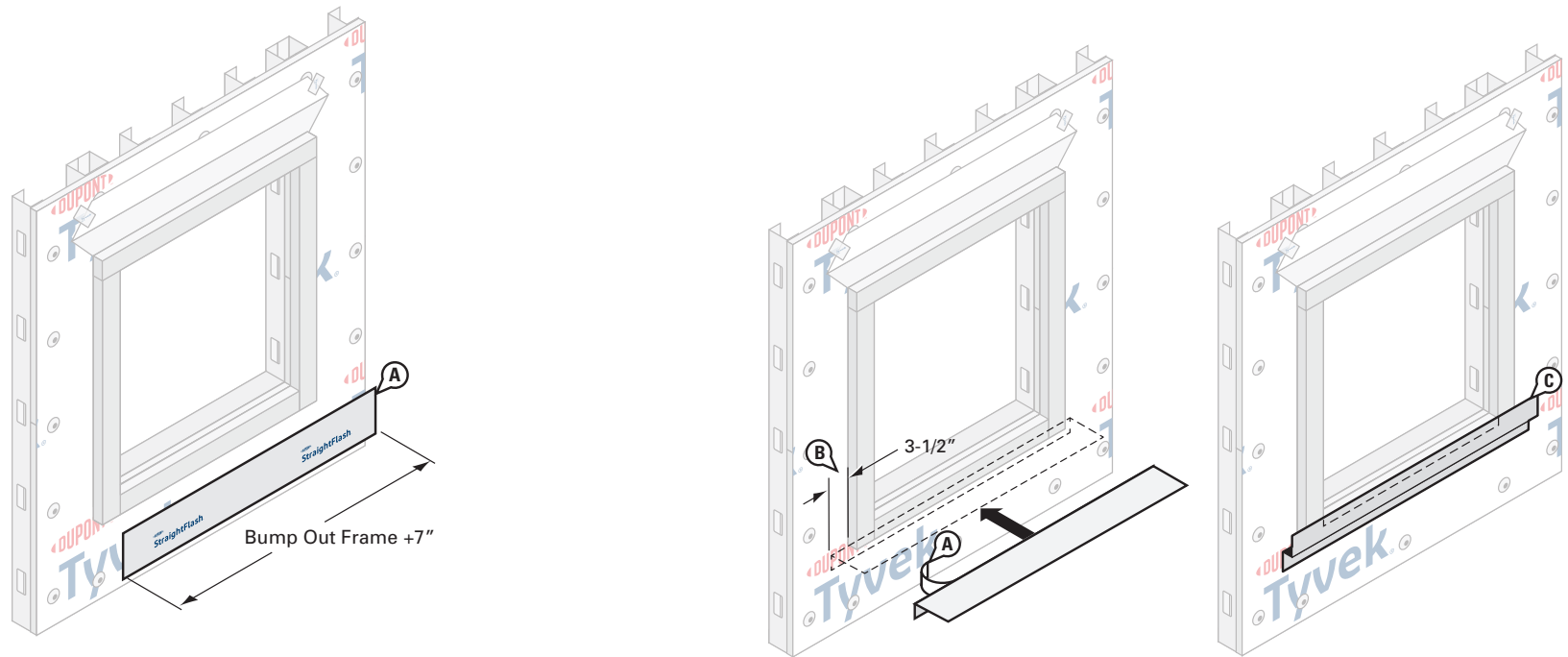


STEP 4

- A. Flip the head flap up to expose the sheathing and temporarily secure with DuPont™ Tyvek® Tape.

NOTE: In lieu of temporarily taping, Tyvek® WRB flaps at window head can be tucked under the Tyvek® WRB.

Installation Methods for DuPont Self-Adhered Flashing Products Installed AFTER the DuPont™ Tyvek® WRB
Non-Flanged Window with Wood Bump-Out Frame Installed BEFORE the Tyvek® WRB using DuPont™ StraightFlash™



STEP 5

Prepare Sill Flashing

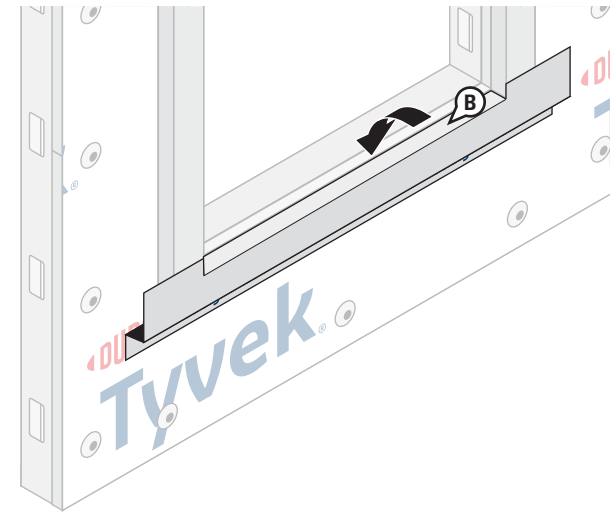
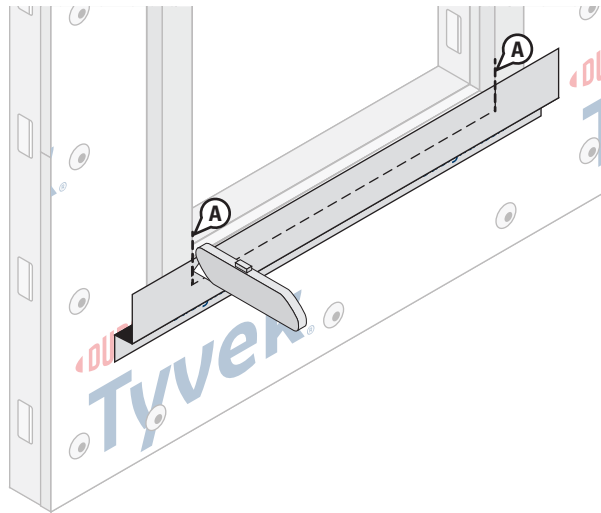
- A. Prepare sill flashing for the face of the bump-out frame by cutting a piece of 9" **StraightFlash™** that is 7" longer than the outside width of the bump-out frame.

STEP 6

Install StraightFlash™ Along the Bottom of Bump-Out Frame

- A. Fold the first perforation in the **StraightFlash™** and remove the smallest width of release paper.
- B. Align the **StraightFlash™** underneath the bump-out frame to allow the flashing to extend 3-1/2" beyond each edge of the framing. Adhere the exposed butyl to the **Tyvek® WRB**.
- C. Remove the remaining release paper and adhere the **StraightFlash™** to the underside, tightly into the inside corner, and onto the face of the bump-out frame.

**Installation Methods for DuPont Self-Adhered Flashing Products Installed AFTER the DuPont™ Tyvek® WRB
Non-Flanged Window with Wood Bump-Out Frame Installed BEFORE the Tyvek® WRB using DuPont™ StraightFlash™**

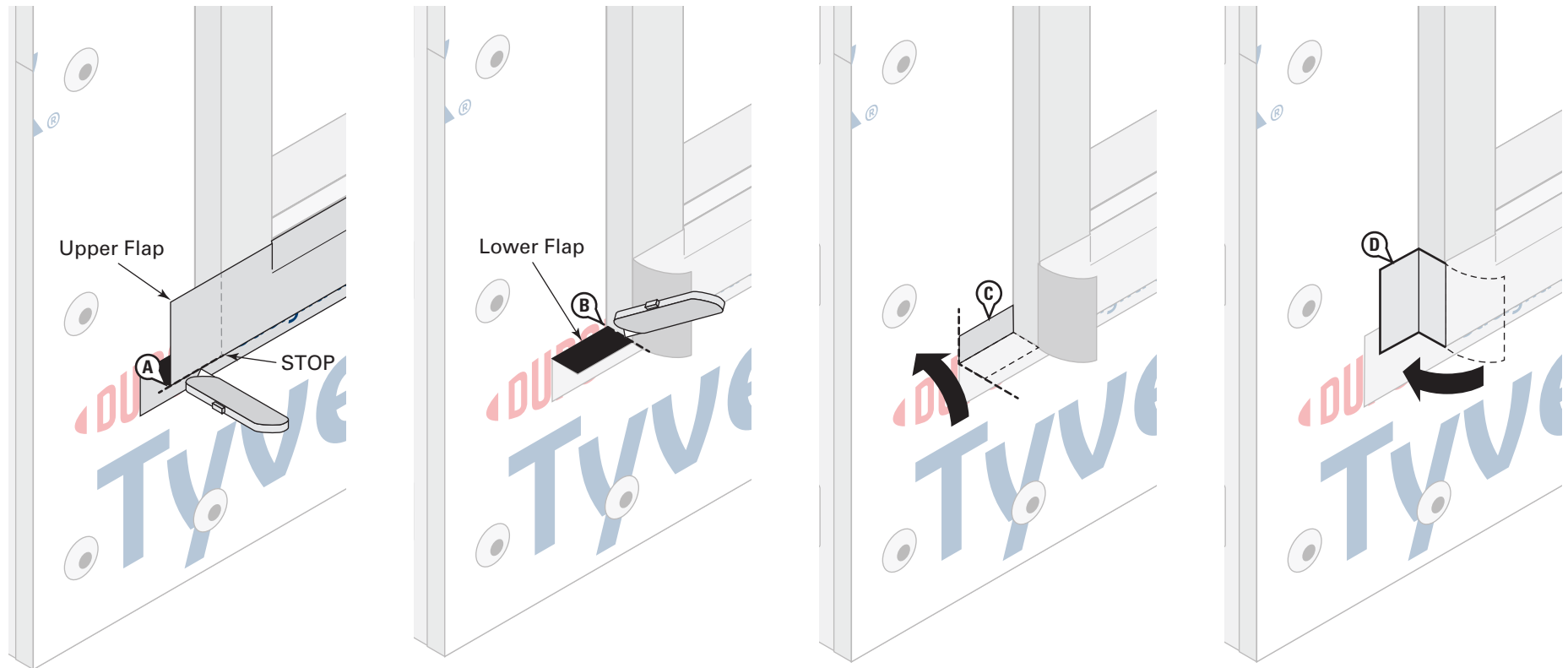


STEP 7

A. Make vertical cuts in the **StraightFlash™** along the inner edges of the bump-out frame at the jambs using a utility knife. Be careful not to cut inner jamb flashing.

B. Fold flashing down and firmly press onto the inner sill flashing.

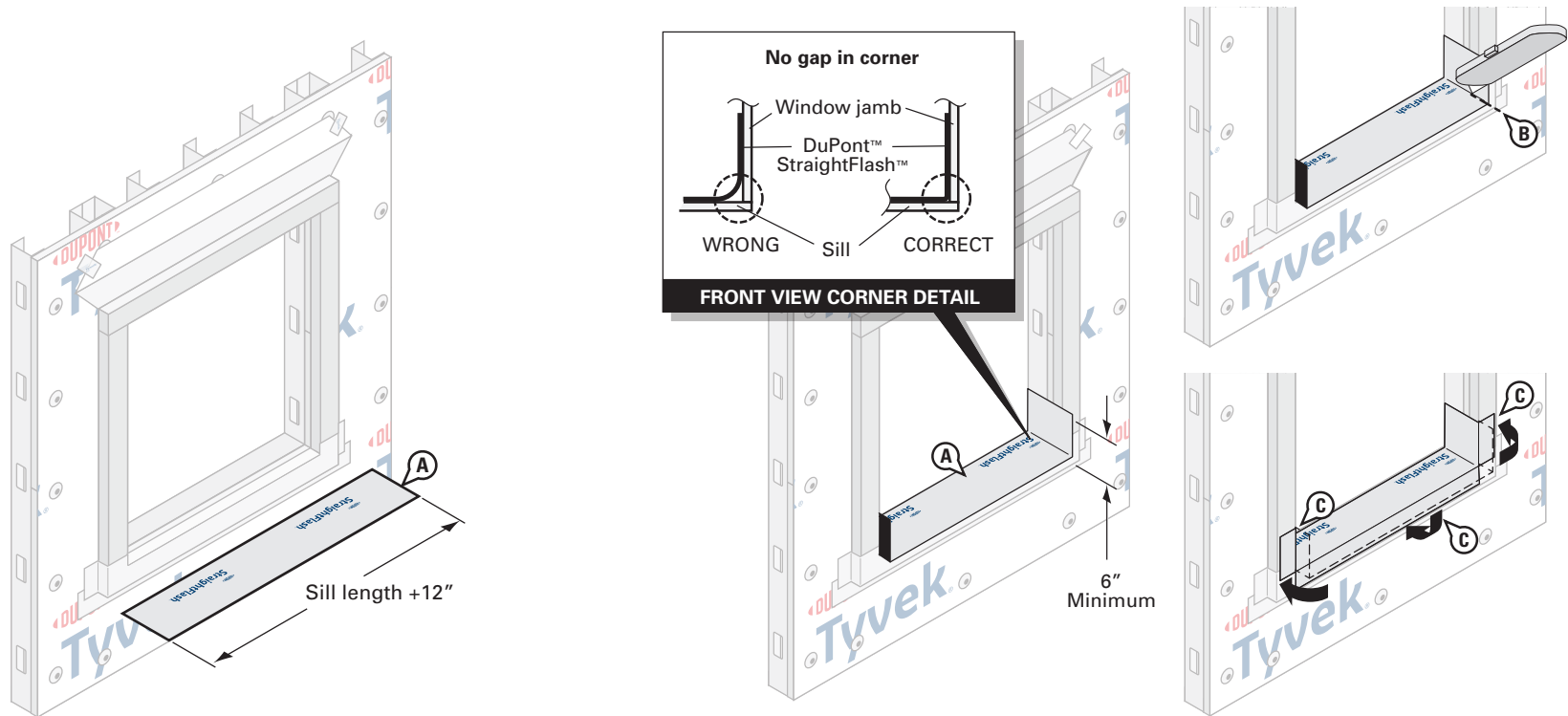
Installation Methods for DuPont Self-Adhered Flashing Products Installed AFTER the DuPont™ Tyvek® WRB
Non-Flanged Window with Wood Bump-Out Frame Installed BEFORE the Tyvek® WRB using DuPont™ StraightFlash™



STEP 8

- A. Make a horizontal cut from the edge of the un-adhered **StraightFlash™** to the outside corner of the bump-out frame to create upper flap.
- B. Make a second horizontal cut in the **StraightFlash™** from the outside corner back to the **Tyvek® WRB** to create a lower flap.
- C. Adhere the lower flap onto the **Tyvek® WRB**.
- D. Adhere the upper flap by rolling the **StraightFlash™** onto the edge of the bump-out frame, securing the flashing tightly into the corner and onto the face of the wall.
- E. Repeat Steps 8 A-D on the opposite corner.

Installation Methods for DuPont Self-Adhered Flashing Products Installed AFTER the DuPont™ Tyvek® WRB
Non-Flanged Window with Wood Bump-Out Frame Installed BEFORE the Tyvek® WRB using DuPont™ StraightFlash™



STEP 9

Prepare Sill Flashing

- A. Prepare the inner sill flashing by cutting a piece of **StraightFlash™** the length of the sill plus an additional 12”.

NOTE: Use either 4” or 9” width **StraightFlash™** depending on the width necessary to complete an interior perimeter seal with the window frame.

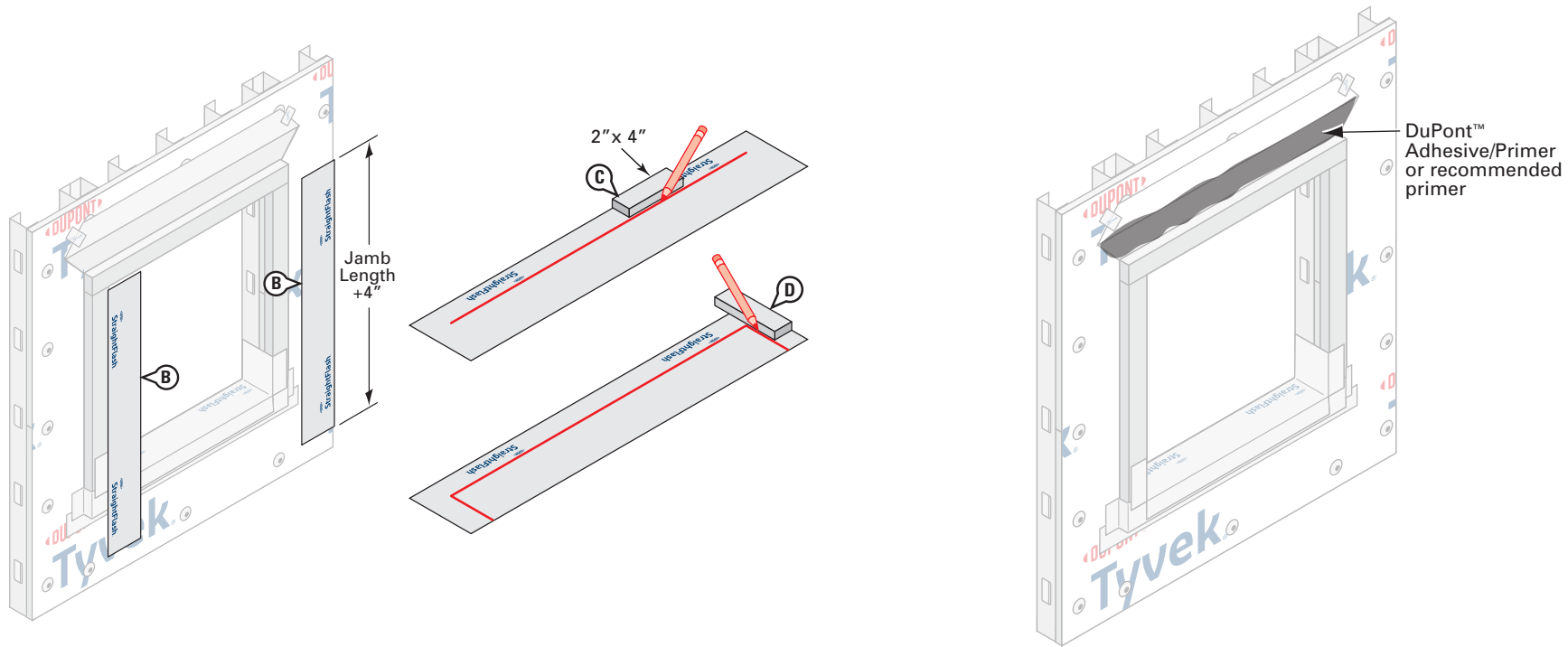
STEP 10

Install Sill Flashing

- A. Install 9” **StraightFlash™** along the inside surface of the sill and 6” up the jambs. When installed the perforation in the release paper should be aligned with the front edge of the bump-out frame.
- B. Cut the **StraightFlash™** extending from the corner of the opening out.
- C. Fold flashing down and adhere to the face of bump-out framing/**StraightFlash™**.
- D. Repeat Steps 10 B-C for opposite corner.

NOTE: All flashing should be applied with firm hand pressure and/or with J-roller to ensure maximum adhesion.

**Installation Methods for DuPont Self-Adhered Flashing Products Installed AFTER the DuPont™ Tyvek® WRB
Non-Flanged Window with Wood Bump-Out Frame Installed BEFORE the Tyvek® WRB using DuPont™ StraightFlash™**



STEP 11

Prepare Jamb Flashing for Face of Bump-Out Frame

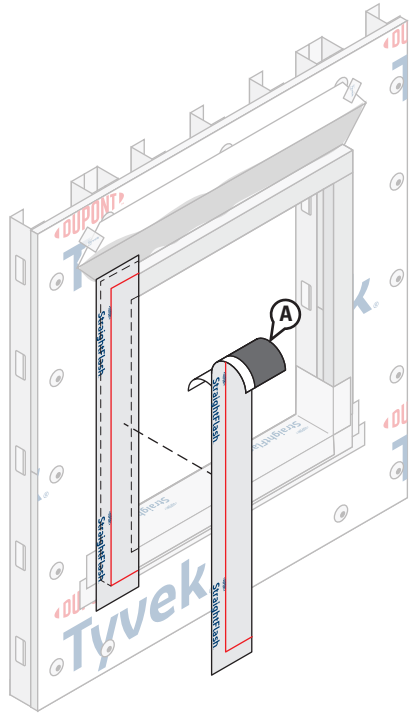
- A. Cut a piece of 2" x 4" wood blocking to create guide marks for positioning and making necessary cuts in the **StraightFlash™** that will be installed onto the face of the jamb and head of the bump-out frame. Use the 2" x 4" guide for Steps 11 C-D and 20 B-C.
- B. Cut two (2) pieces of 9" **StraightFlash™** the height of the jamb bump-out frame plus 4".
- C. Align the 2" x 4" guide along the long edge of the **StraightFlash™**. Create a mark along the 2" x 4" guide.
- D. Align the 2" x 4" guide along the short edge of the **StraightFlash™**. Create a mark along the 2" x 4" guide and repeat at the other end.
- E. Repeat Steps 11 C-D for other piece of flashing.

STEP 12

Apply Primer

Apply **DuPont™ Adhesive/Primer** or recommended primer to exposed sheathing.

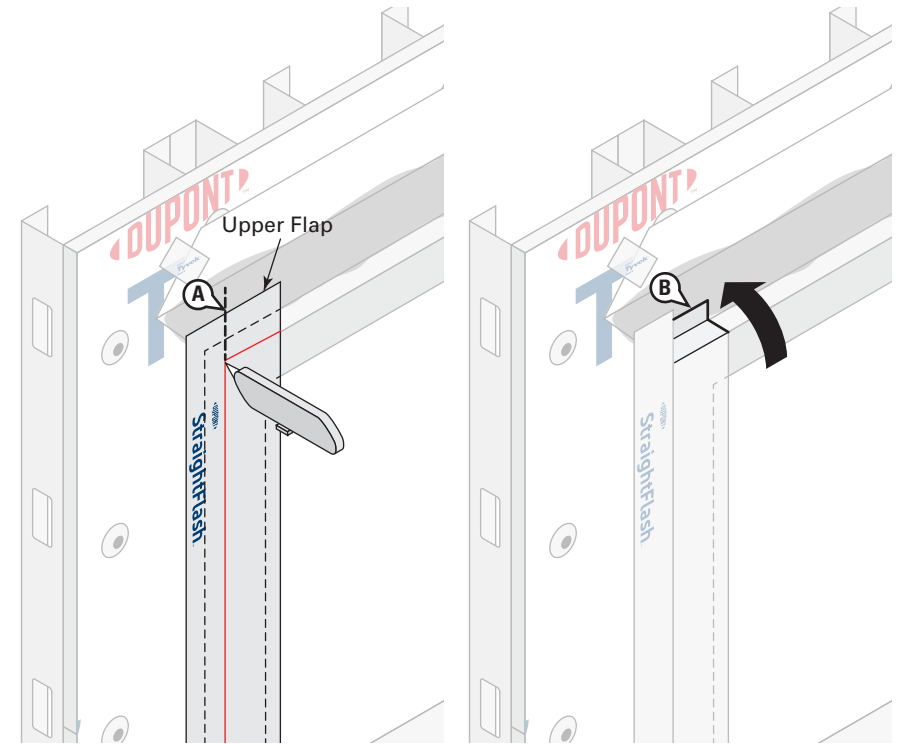
Installation Methods for DuPont Self-Adhered Flashing Products Installed **AFTER** the DuPont™ Tyvek® WRB
Non-Flanged Window with Wood Bump-Out Frame Installed **BEFORE** the Tyvek® WRB using DuPont™ StraightFlash™



STEP 13

Install Outer Jamb Flashing

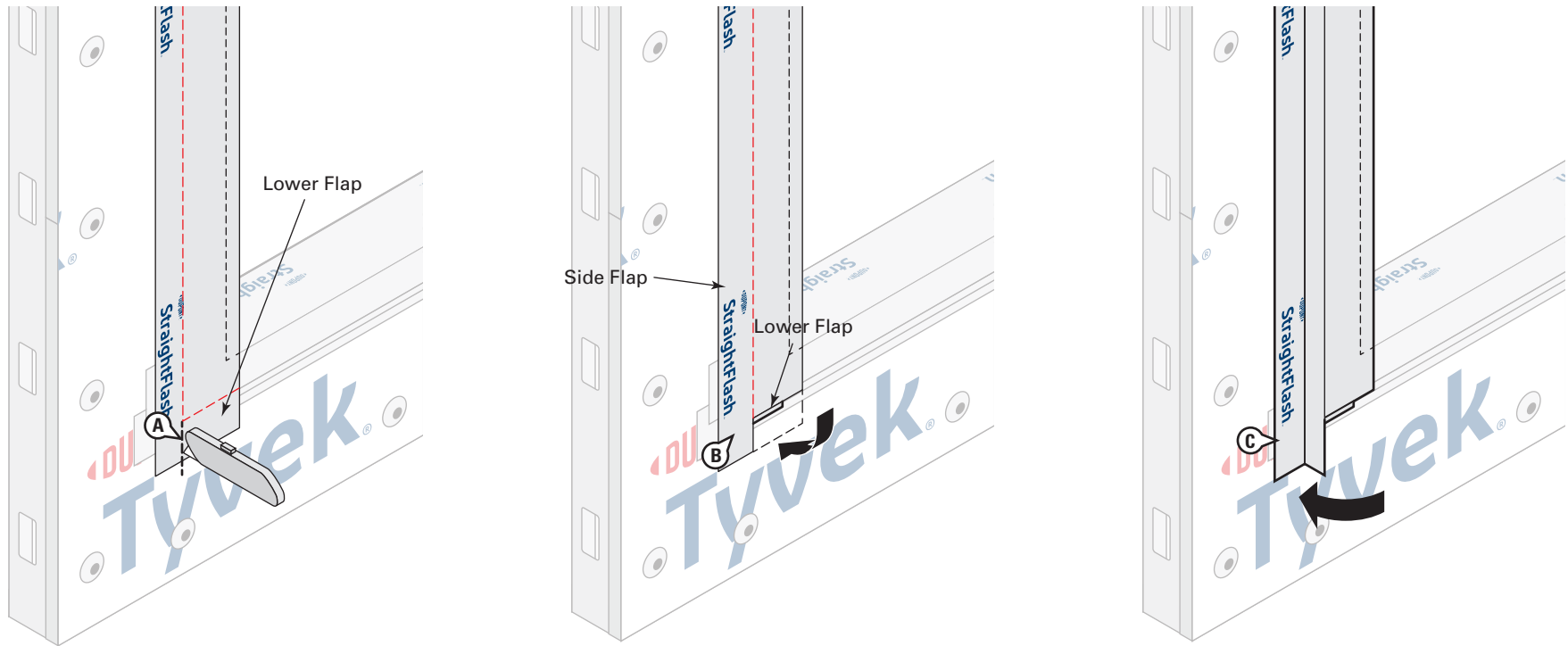
- A. Remove the two largest pieces of release paper from the first piece of **StraightFlash™** and position along the jamb bump-out frame so the guide marks are aligned with the outside edges of the bump-out frame as shown. Adhere the **StraightFlash™** to the front surface only of the bump-out frame.



STEP 14

- A. Make a vertical cut in the **StraightFlash™** beginning at the top outside corner of the bump-out frame to create an upper flap.
- B. Adhere flap by rolling the flashing onto the top edge of the bump-out frame, securing the flashing tightly into the corner and onto the exposed sheathing.

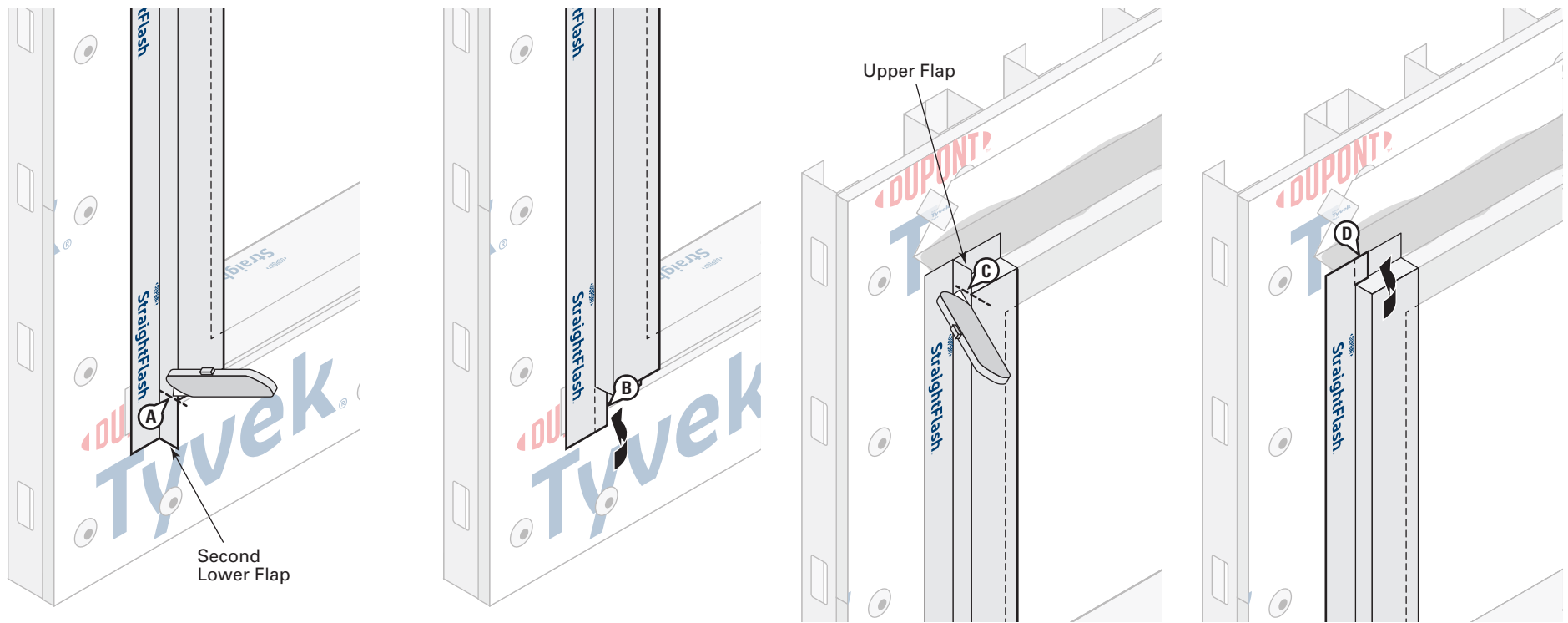
Installation Methods for DuPont Self-Adhered Flashing Products Installed **AFTER** the DuPont™ Tyvek® WRB
Non-Flanged Window with Wood Bump-Out Frame Installed **BEFORE** the Tyvek® WRB using DuPont™ StraightFlash™



STEP 15

- A. Make a vertical cut in the **StraightFlash™** from the bottom outside corner of the bump-out frame to create a lower flap.
- B. Adhere the lower flap onto the bottom edge of the bump-out frame, securing the flashing tightly into the corner and onto the face of the wall.
- C. **Remove remaining release paper** and adhere the side flap onto the edge of the bump-out frame, securing the flashing tightly into the corner and onto the face of the wall.

Installation Methods for DuPont Self-Adhered Flashing Products Installed **AFTER** the DuPont™ Tyvek® WRB
Non-Flanged Window with Wood Bump-Out Frame Installed **BEFORE** the Tyvek® WRB using DuPont™ StraightFlash™

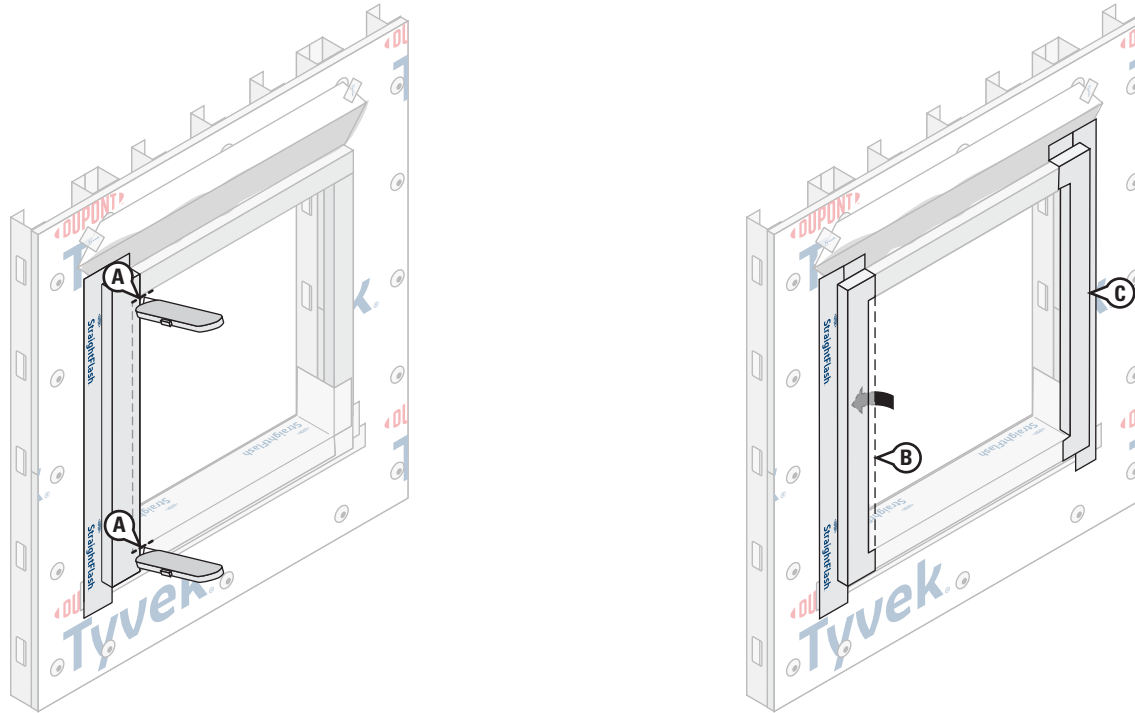


STEP 16

- A. Make a horizontal cut in the **StraightFlash™** from the bottom outside corner of the bump-out frame back to the face of the wall to create a second lower flap.
- B. Fold down flap and adhere to **StraightFlash™** on face of wall.

- C. Make a horizontal cut in the **StraightFlash™** beginning at the top outside corner of the bump-out frame back to the face of the wall to create a second upper flap.
- D. Fold down flap and adhere to **StraightFlash™** onto the face of the wall.

Installation Methods for DuPont Self-Adhered Flashing Products Installed **AFTER** the DuPont™ Tyvek® WRB
Non-Flanged Window with Wood Bump-Out Frame Installed **BEFORE** the Tyvek® WRB using DuPont™ StraightFlash™



STEP 17

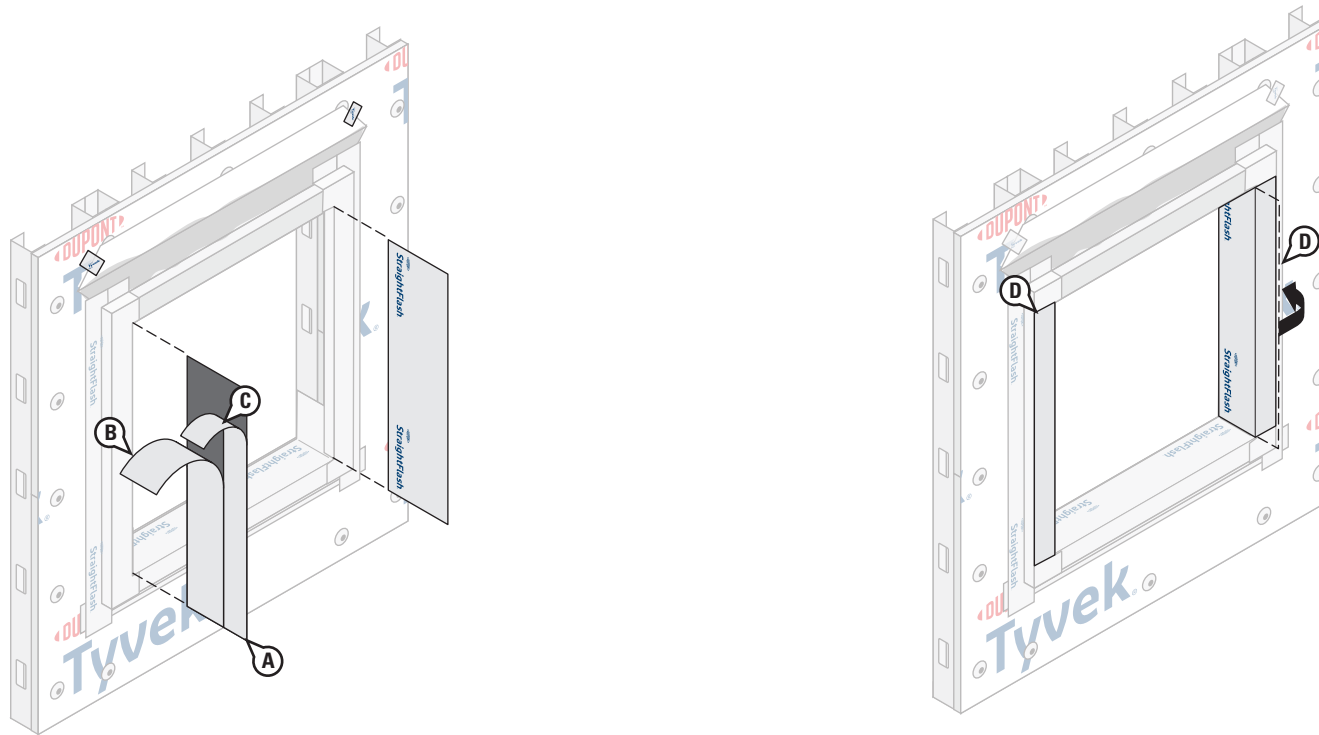
A. Make horizontal cuts in the unadhered **StraightFlash™** along the inside edge of the bump-out frame at the sill and head. Be careful not to cut inner jamb flashing.

B. Fold **StraightFlash™** into rough opening and adhere onto flashing previously installed on inside surface of rough opening.

C. Repeat [Step 13-17](#) on opposite jamb using the second piece of **StraightFlash™** from [Step 11](#).

NOTE: All flashing should be applied with firm hand pressure and/or with J-roller to ensure maximum adhesion.

Installation Methods for DuPont Self-Adhered Flashing Products Installed **AFTER** the DuPont™ Tyvek® WRB
Non-Flanged Window with Wood Bump-Out Frame Installed **BEFORE** the Tyvek® WRB using DuPont™ StraightFlash™



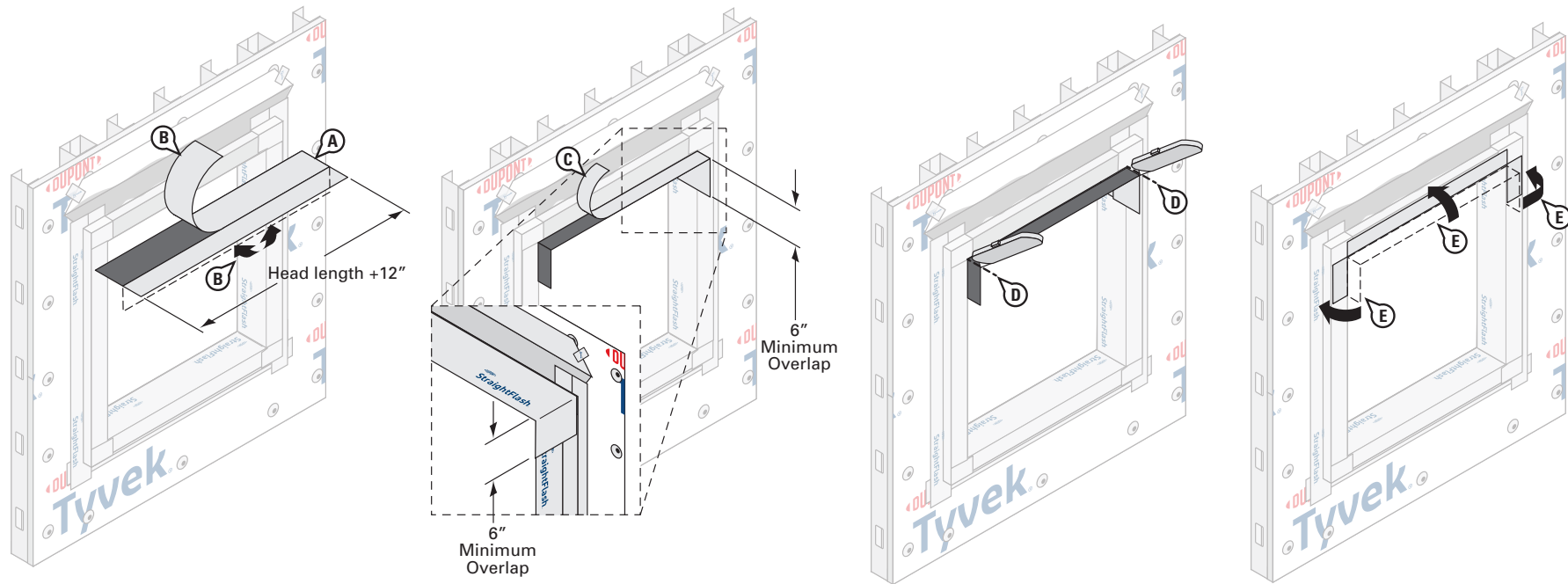
STEP 18

Prepare and Install Inner Jamb Flashing

- A. Prepare the inner jamb flashing by cutting two (2) pieces of **DuPont™ StraightFlash™** the length of the inner jambs.
- B. Remove the wide part of the release paper as shown and align remaining perforated release paper with the edge of the bump-out framing. Install the flashing on the inside surface of the bump-out framing at the jambs.
- C. Remove remaining release paper.
- D. Fold flashing onto the face of the bump-out framing / **StraightFlash™** installed during [Steps 11-17](#).
- E. Repeat Steps 18 A-D for the opposite jamb.

NOTE: All flashing should be applied with firm hand pressure and/or with J-roller to ensure maximum adhesion.

**Installation Methods for DuPont Self-Adhered Flashing Products Installed AFTER the DuPont™ Tyvek® WRB
Non-Flanged Window with Wood Bump-Out Frame Installed BEFORE the Tyvek® WRB using DuPont™ StraightFlash™**



STEP 19

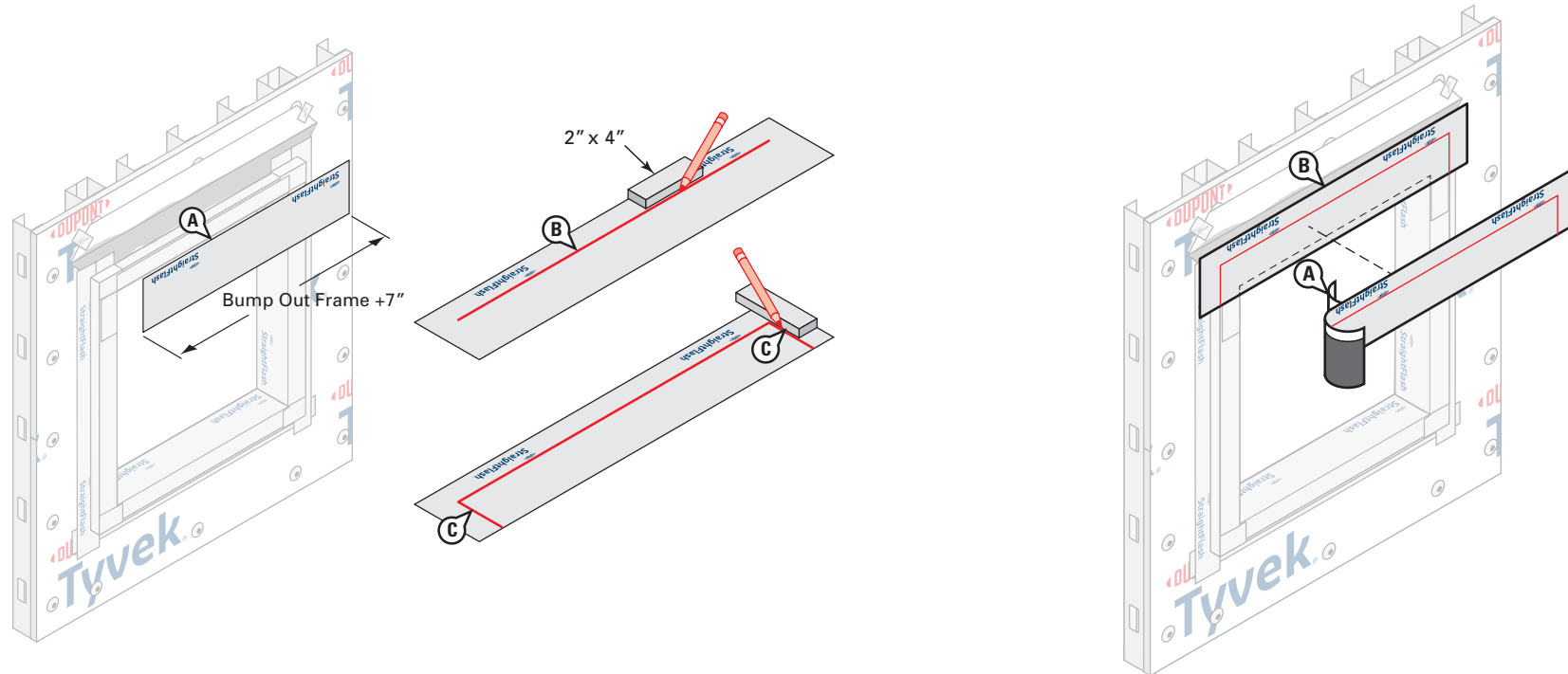
Prepare and Install Head Flashing

- A. Prepare the inner head flashing by cutting one piece of **StraightFlash™** the length of the head plus an additional 12\".
- B. Fold the **StraightFlash™** along the wider perforated release paper. Remove the largest release paper, as this part of the flashing will be adhered to the inner head area and 6\" down the jambs as shown.

- C. Remove the remaining release paper.
- D. Use a utility knife to cut **StraightFlash™** from the outer head/jamb corner.
- E. Fold the flashing and adhere to the bump-out frame as shown.

NOTE: All flashing should be applied with firm hand pressure and/or with J-roller to ensure maximum adhesion.

Installation Methods for DuPont Self-Adhered Flashing Products Installed **AFTER** the DuPont™ Tyvek® WRB Non-Flanged Window with Wood Bump-Out Frame Installed **BEFORE** the Tyvek® WRB using DuPont™ StraightFlash™



STEP 20

Prepare Outer Head Flashing

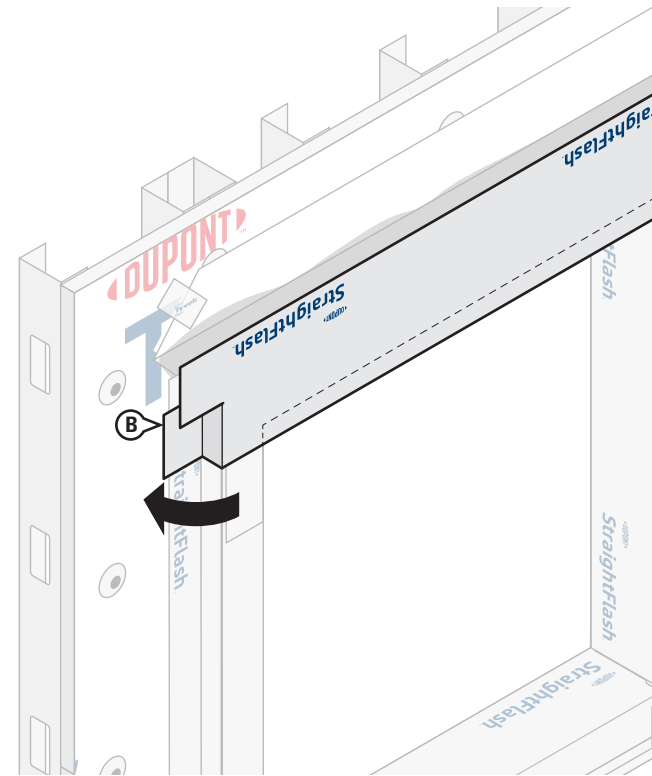
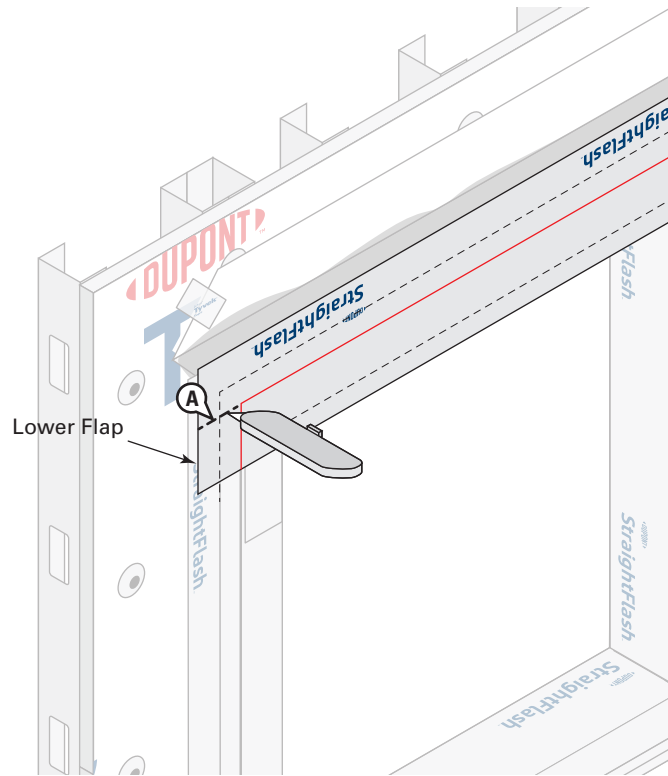
- Cut one piece of 9" **StraightFlash™** the length of the outer edge of the bump-out frame at the head plus an additional 7" to allow flashing to extend 3-1/2" beyond each side of the bump-out frame.
- Align the 2" x 4" guide along the long edge of the **StraightFlash™**. Create a mark along the 2" x 4" guide.
- Align the 2" x 4" guide along the short edge of the **StraightFlash™**. Create a mark along the 2" x 4" guide and repeat at the other end.

STEP 21

Install Outer Head Flashing

- Remove release paper and position the 9" **StraightFlash™** along the head bump-out frame so the guide marks are aligned with the outside edge of the bump-out frame as shown.
- Adhere the **StraightFlash™** to only the front surface of the bump-out frame.

Installation Methods for DuPont Self-Adhered Flashing Products Installed **AFTER** the DuPont™ Tyvek® WRB
Non-Flanged Window with Wood Bump-Out Frame Installed **BEFORE** the Tyvek® WRB using DuPont™ StraightFlash™



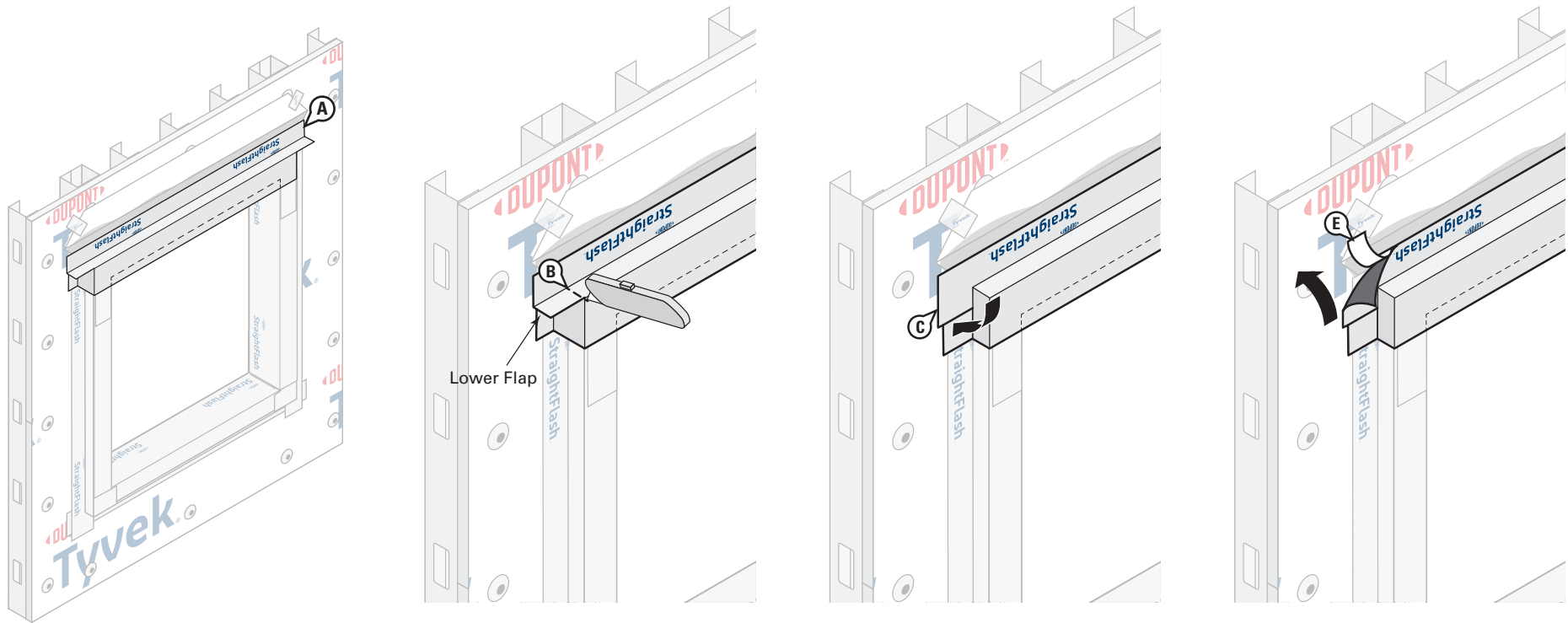
STEP 22

A. Make a horizontal cut in the **StraightFlash™** starting at the top outside corner of bump-out frame.

B. Adhere the lower flap of **StraightFlash™** by rolling the flashing onto the side edge of the bump-out frame, securing the flashing tightly into the corner and onto the face of the wall.

C. Repeat Steps 22 A–B on the opposite side.

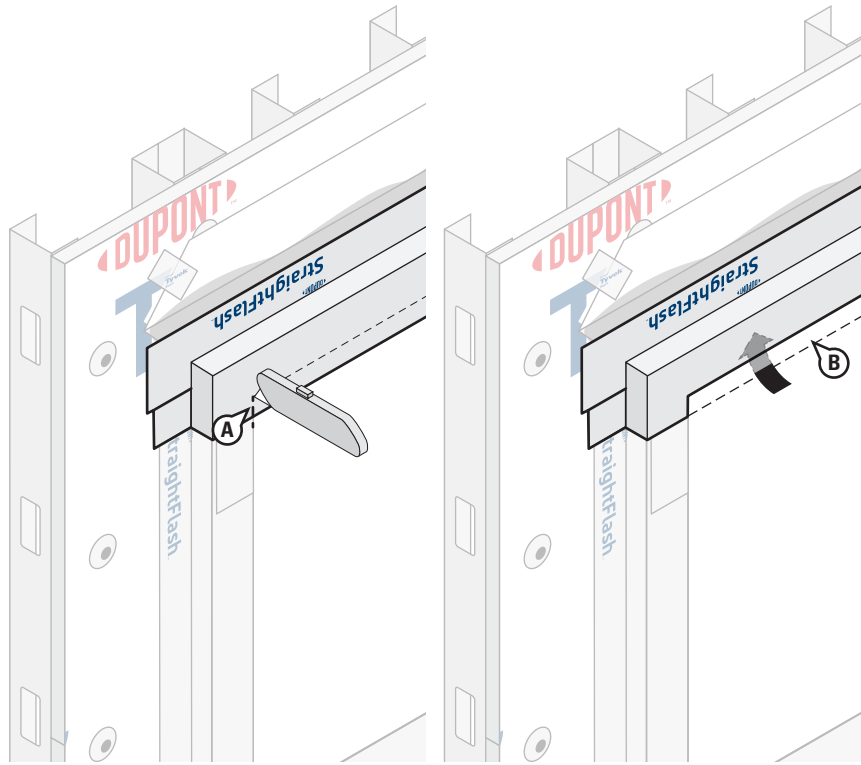
**Installation Methods for DuPont Self-Adhered Flashing Products Installed AFTER the DuPont™ Tyvek® WRB
Non-Flanged Window with Wood Bump-Out Frame Installed BEFORE the Tyvek® WRB using DuPont™ StraightFlash™**



STEP 23

- A. Fold the un-adhered **StraightFlash™** onto the outside edge of the head bump-out frame, securing the flashing tightly into the corner.
- B. Make a cut in the **StraightFlash™** from the outside corner of the bump-out frame back to the face of the wall to create a lower flap.
- C. Fold down lower flap and adhere **StraightFlash™** onto the face of wall.
- D. Repeat Steps 23 B-C on the opposite head/jamb corner.
- E. Remove remaining release paper and fold the un-adhered **StraightFlash™** onto the face of the wall.

**Installation Methods for DuPont Self-Adhered Flashing Products Installed AFTER the DuPont™ Tyvek® WRB
Non-Flanged Window with Wood Bump-Out Frame Installed BEFORE the Tyvek® WRB using DuPont™ StraightFlash™**

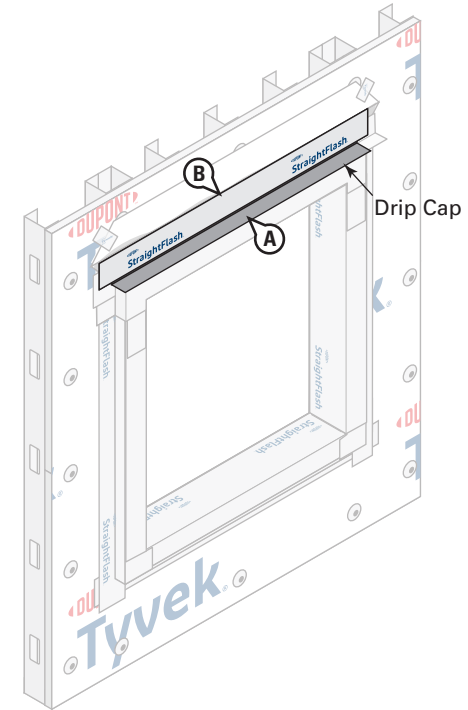


STEP 24

Finish Outer Head Flashing

- A. Make vertical cuts in the un-adhered **StraightFlash™** starting from the upper inside corners of the bump-out frame along the inside edges. Be careful not to cut inner jamb flashing.
- B. Fold flashing into rough opening and adhere onto **StraightFlash™** already installed on inside surface of bump-out framing.

NOTE: All flashing should be applied with firm hand pressure and/or with J-roller to ensure maximum adhesion.

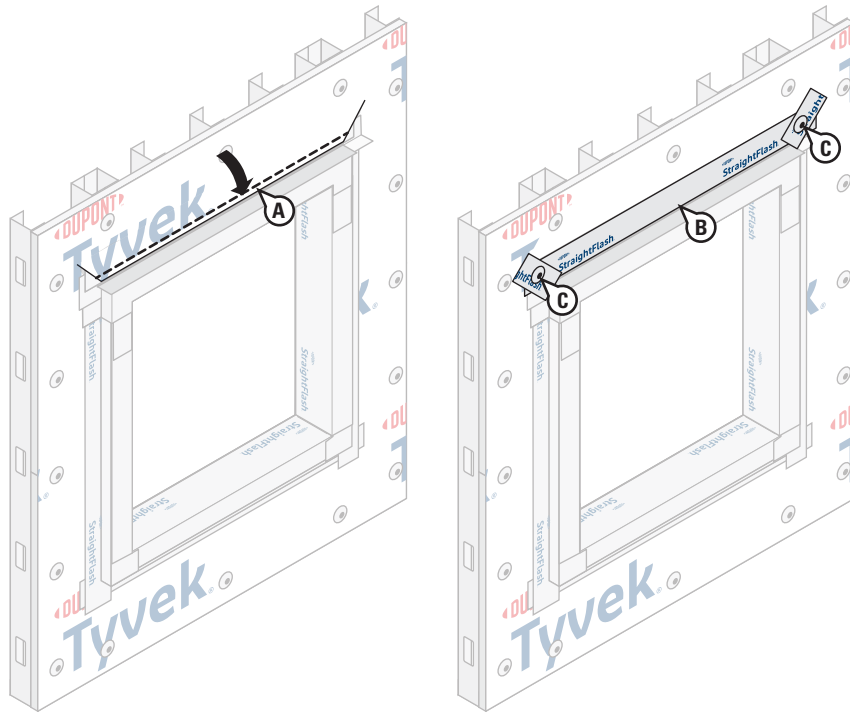


STEP 25

Install Drip Cap

- A. As a best practice for high exposure areas, install metal drip cap tight against the bump-out frame.
- B. Apply a strip of 4" **StraightFlash™** over the vertical leg of the drip cap.

Installation Methods for DuPont Self-Adhered Flashing Products Installed **AFTER** the DuPont™ Tyvek® WRB Non-Flanged Window with Wood Bump-Out Frame Installed **BEFORE** the Tyvek® WRB using DuPont™ StraightFlash™

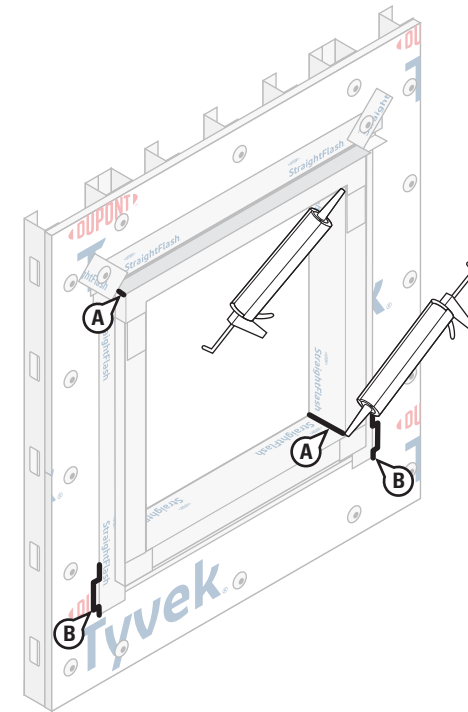


STEP 26

Terminate Tyvek® WRB Head Flap

- Flip down upper flap of the Tyvek® WRB so it lays flat across head flashing. Ensure flap is trimmed 1" - 2" above the window opening.
- Tape along all cuts in Tyvek® WRB and across head of the window with 3" DuPont™ Tyvek® Tape or 4" StraightFlash™. See *General Instructions* for when 3" Tyvek® Tape is allowed.
- Install DuPont™ Tyvek® Wrap Cap Screws or recommended fasteners at appropriate spacing at head.

NOTE: For high performance designs or areas of extreme exposure install additional mechanical fasteners through the flashing at the head flap and perimeter of window.

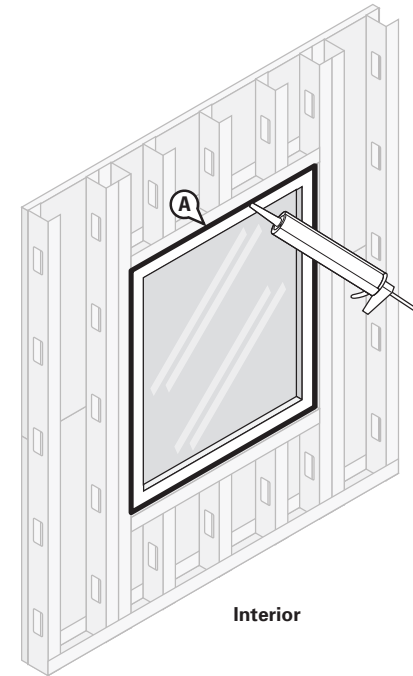
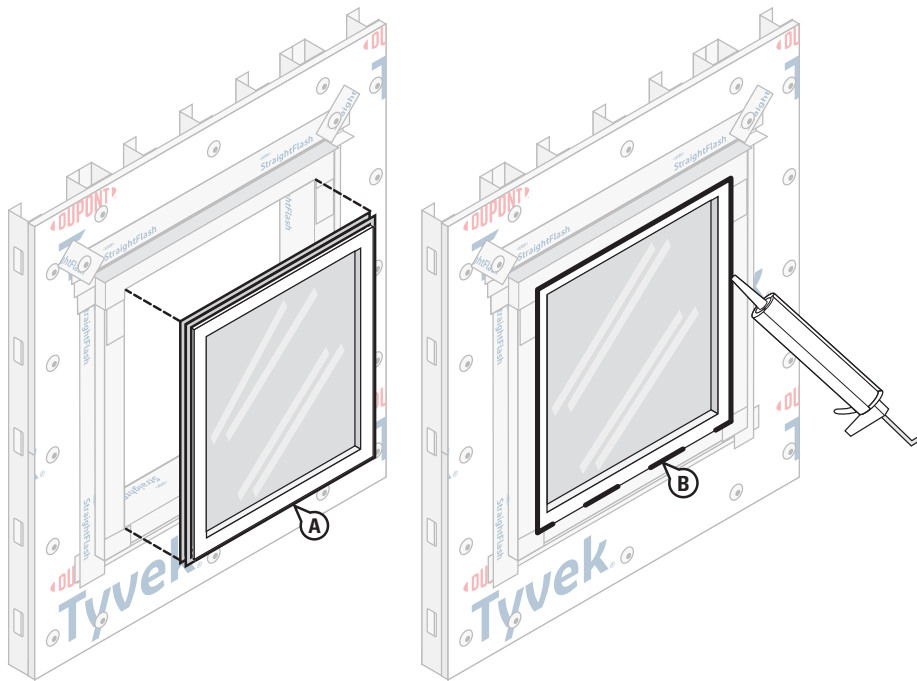


STEP 27

Apply Sealant

- Seal all inside and outside corner seams of StraightFlash™ with a liberal bead of recommended sealant. Extend sealant approximately 1/2" onto the face of the bump-out framing.
- Apply a liberal bead of recommended sealant to flashing extending beyond the edge of jamb flashing.
- Trowel the sealant bead to ensure interface is covered

Installation Methods for DuPont Self-Adhered Flashing Products Installed **AFTER** the DuPont™ Tyvek® WRB Non-Flanged Window with Wood Bump-Out Frame Installed **BEFORE** the Tyvek® WRB using DuPont™ StraightFlash™



STEP 28

Install Window

- Install window per manufacturer's installation instructions.
- Apply an exterior perimeter seal using backer rod and sealant along the jambs and head of the window opening.

NOTE: Ensure window and sealant installation allows for drainage at the sill. If sealant is applied at the sill, as a best practice, ensure that there are at least two (2) 2" gaps in the sealant bead for every 4" of window to allow for drainage.

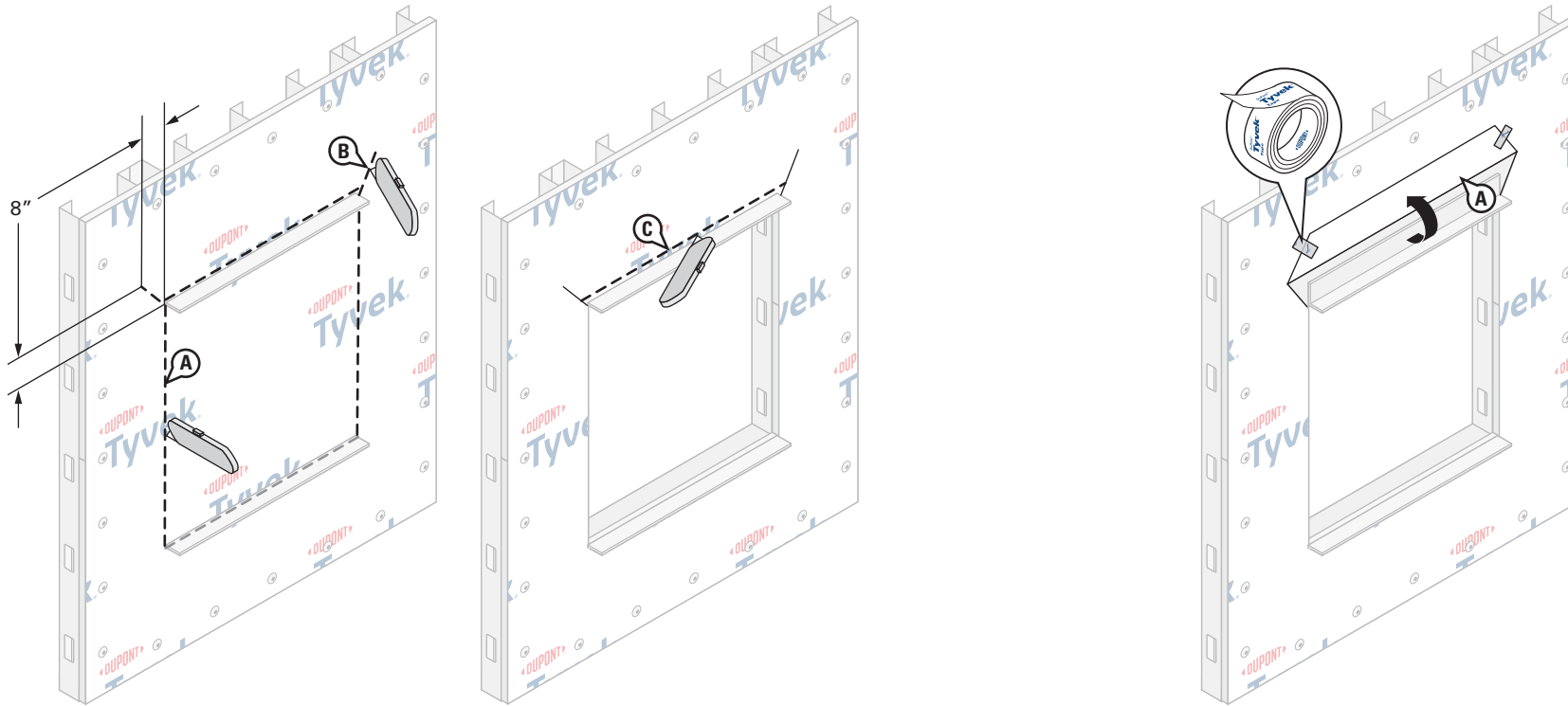
STEP 29

Create Interior Perimeter Seal

- Create a continuous perimeter seal using backer rod and sealant or **Great Stuff Pro™ Window and Door Polyurethane Foam Sealant** on window interior to resist air and water infiltration. When using **Great Stuff Pro™ Window and Door Polyurethane Foam Sealant** in perimeter openings less than 1/2", apply using the plastic extension tip for the **Great Stuff Pro™ Dispenser Gun** during installation.

NOTE: For high performance installations exceeding ASTM E1677 wind loading pressures (10.8 psf, 65 mph equivalent structural load) and ASTM E331 water infiltration resistance of 6.24 psf, it is necessary to install sealant over the cured foam when using **Great Stuff Pro™ Window and Door Polyurethane Foam Sealant** or other recommended foam. Sealant should be installed over the foam between the window frame and rough opening around the entire interior perimeter. If **Great Stuff Pro™ Window and Door Polyurethane Foam Sealant** or other recommended foam extends beyond the window frame, shave the excess cured foam flush with the window frame before applying sealant. Avoid damaging the **DuPont Self-Adhered Flashing Products** or **Tyvek® WRB**.

Installation Methods for DuPont Self-Adhered Flashing Products Installed AFTER the DuPont™ Tyvek® WRB Non-Flanged Window with Structural Steel along the Sill and Head



STEP 2

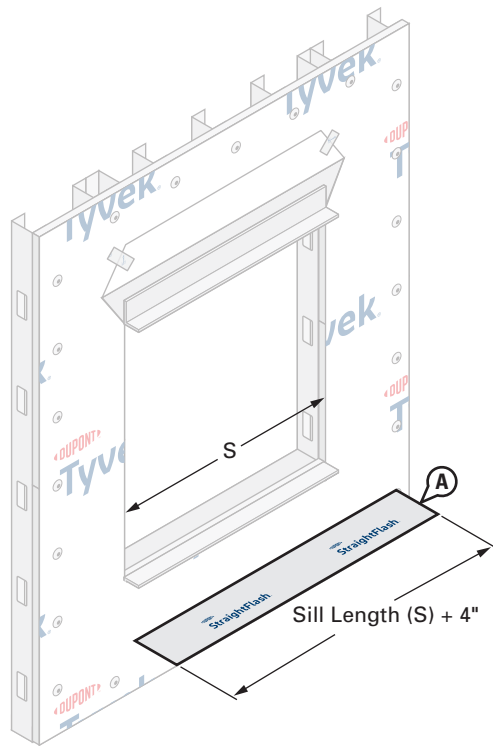
- Cut the **Tyvek® WRB** flush with the rough opening at jambs. Continue cut above and below the structural steel at the window head and sill, respectively, if cuts were not made in Step 1.
- Cut a head flap in the **Tyvek® WRB** at 45° to expose 8" of sheathing to allow for head flashing installation.
- Trim **Tyvek® WRB** 1"– 2" above the window opening.

STEP 3

- Flip the head flap up to expose the steel angle and sheathing and temporarily secure with **DuPont™ Tyvek® Tape**.

NOTE: In lieu of temporarily taping, **Tyvek® WRB** flaps at window head can be tucked under the **Tyvek® WRB**.

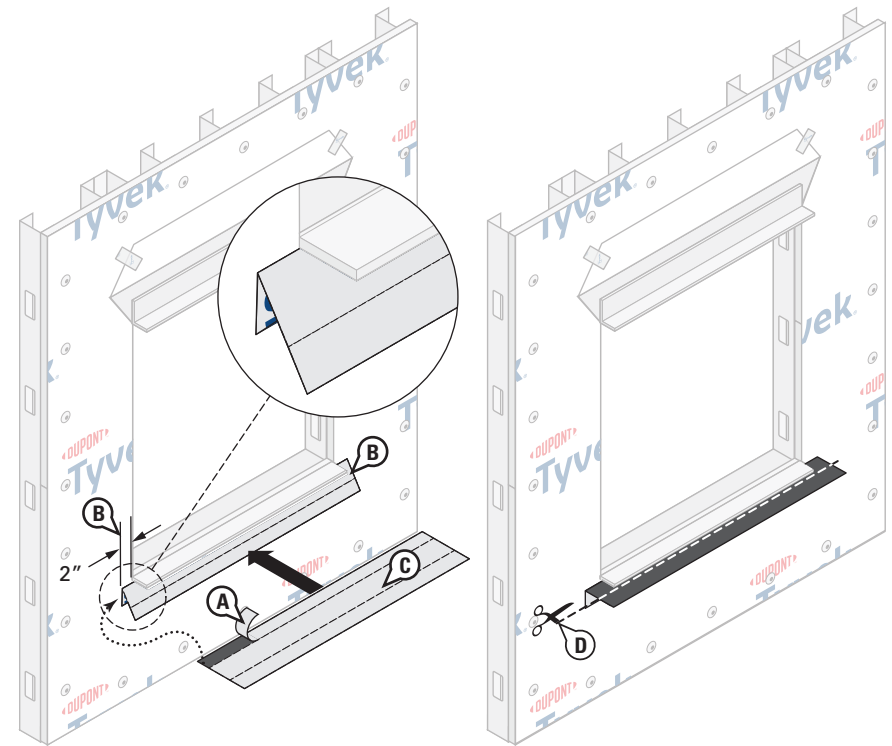
Installation Methods for DuPont Self-Adhered Flashing Products Installed AFTER the DuPont™ Tyvek® WRB Non-Flanged Window with Structural Steel along the Sill and Head



STEP 4

Prepare Outer Sill Flashing

- A. Cut a piece of 9" DuPont™ StraightFlash™ the length of the sill (S) plus an additional 4".

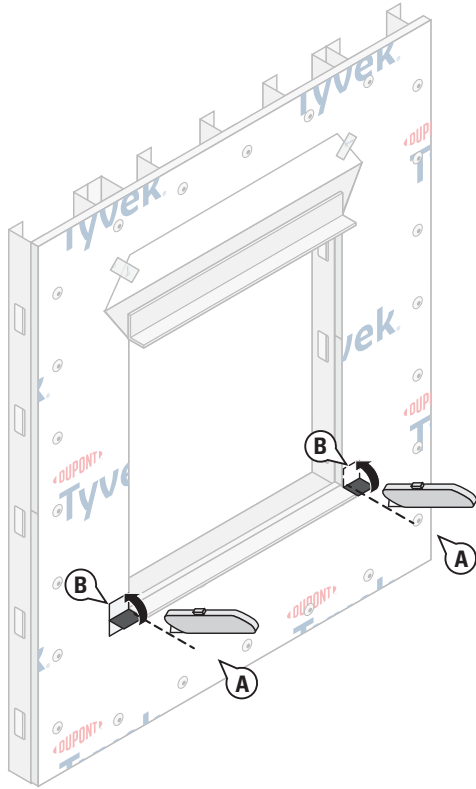


STEP 5

Install StraightFlash™ onto Bottom of Structural Steel at Sil

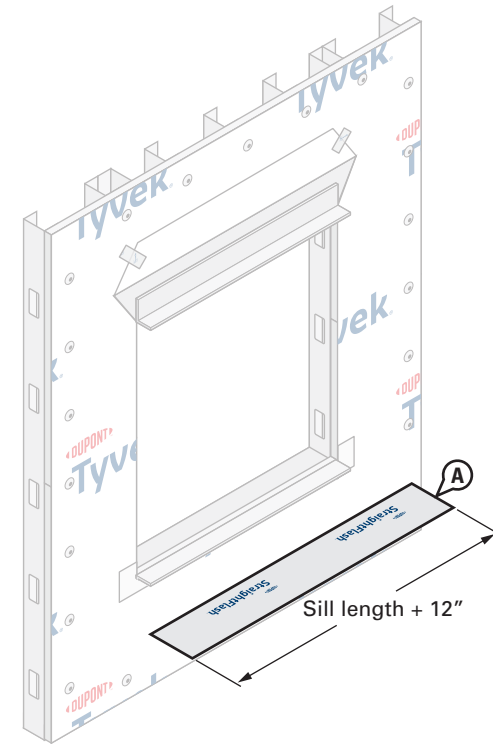
- A. Fold StraightFlash™ along the most narrow piece of release paper to break perforations, then remove the most narrow piece to expose butyl.
- B. Center the folded StraightFlash™ under the structural steel so it extends 2" beyond each edge of the steel. Adhere the exposed butyl tightly into the corner along the structural steel and onto the Tyvek® WRB. Use the remaining release papers to guide the StraightFlash™ tight into the corner.
- C. Starting with the middle piece, remove the remaining release papers, one at a time, and adhere the exposed butyl to the underside of the structural steel.
- D. If necessary, trim any StraightFlash™ that extends beyond the front edge of the structural steel.

Installation Methods for DuPont Self-Adhered Flashing Products Installed AFTER the DuPont™ Tyvek® WRB Non-Flanged Window with Structural Steel along the Sill and Head



STEP 6

- A. Cut the **DuPont™ StraightFlash™** along the side edges of the structural steel to the bottom corners of the rough opening to create flaps.
- B. Adhere the resulting **StraightFlash™** flaps to the **Tyvek® WRB**.

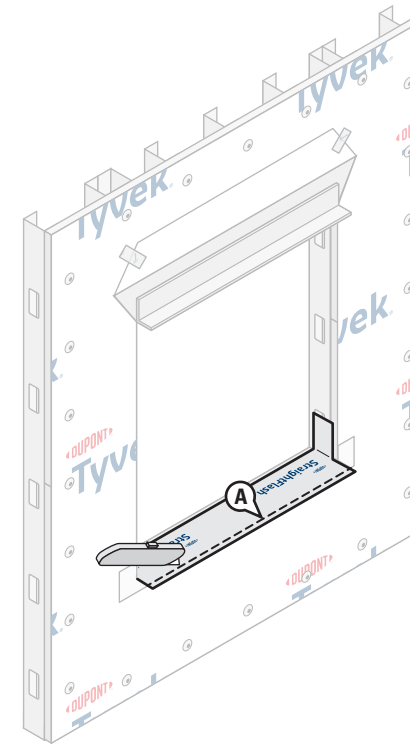
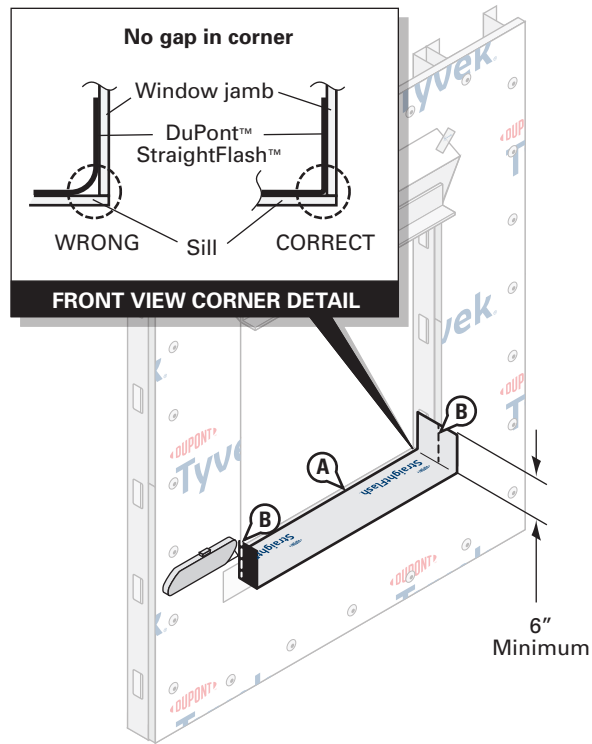


STEP 7

Prepare Inner Sill Flashing

- A. Prepare the inner sill flashing by cutting a piece of 9" **StraightFlash™** the length of the sill plus an additional 12".

Installation Methods for DuPont Self-Adhered Flashing Products Installed AFTER the DuPont™ Tyvek® WRB Non-Flanged Window with Structural Steel along the Sill and Head



STEP 8

- Align the **DuPont™ StraightFlash™** along the inside edge of the window sill framing and adhere onto framing surface and structural steel, extending 6" up the jambs.
- Make vertical cuts in the **StraightFlash™** along the edges of the window jamb to the corners of the sill rough opening.
- Fold the resulting **StraightFlash™** flap around the structural steel and adhere onto the **StraightFlash™** installed at the underside of the structural steel.

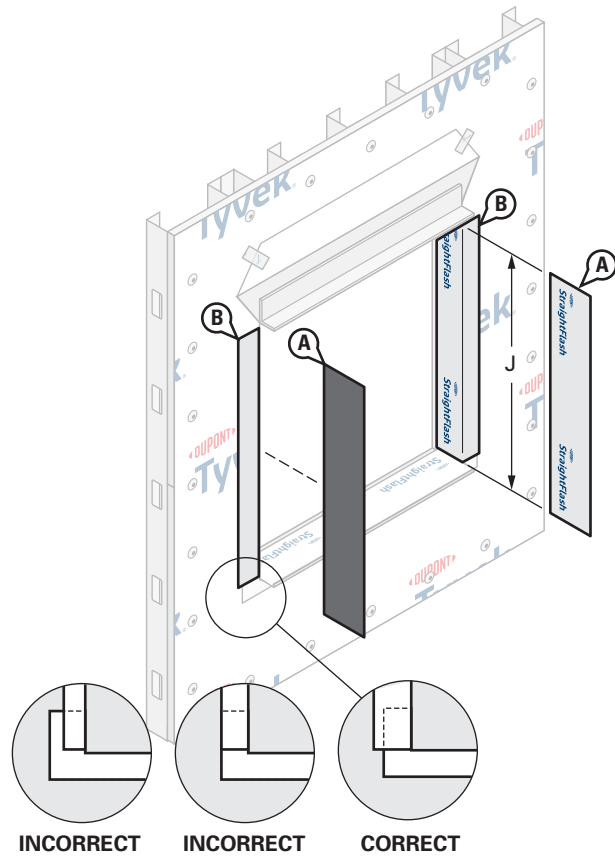
NOTE: All flashing should be applied with firm hand pressure and/or with J-roller to ensure maximum adhesion.

STEP 9

- If necessary, trim any **StraightFlash™** that extends beyond the front edge of the structural steel.

NOTE: Be careful not to cut the previously installed **StraightFlash™** or **Tyvek® WRB**.

Installation Methods for DuPont Self-Adhered Flashing Products Installed AFTER the DuPont™ Tyvek® WRB Non-Flanged Window with Structural Steel along the Sill and Head

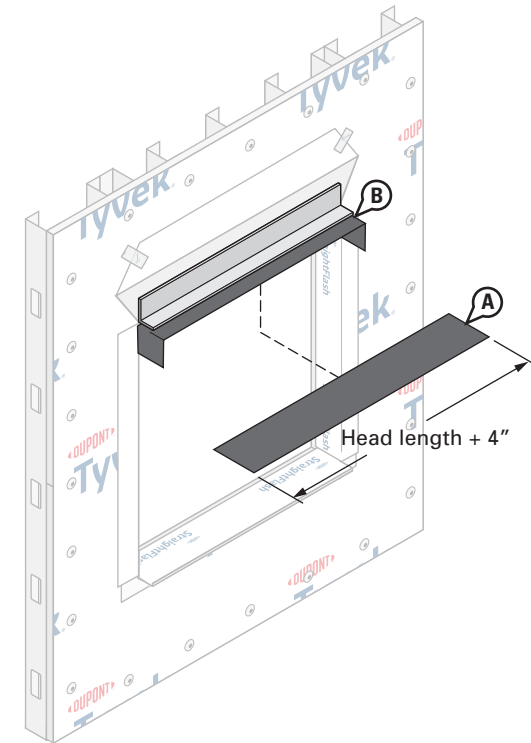


STEP 10

Prepare Jamb Flashing

- Prepare the inner jamb flashing by cutting two (2) pieces of DuPont™ StraightFlash™ the height (J) of the jamb rough opening.
- Align the StraightFlash™ with the interior edge of the jamb framing. Adhere onto inside surface of jamb framing, extending a minimum of 2" onto the Tyvek® WRB on the face of the wall.

NOTE: The StraightFlash™ on the face of the wall must extend beyond the side edges of the StraightFlash™ installed at the sill.

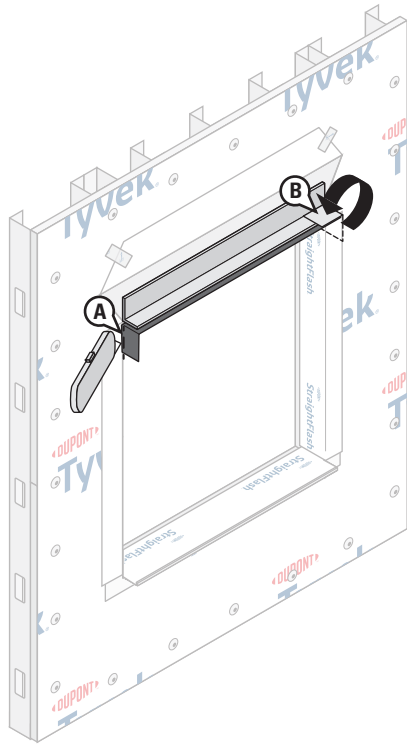


STEP 11

Prepare Inner Head Flashing

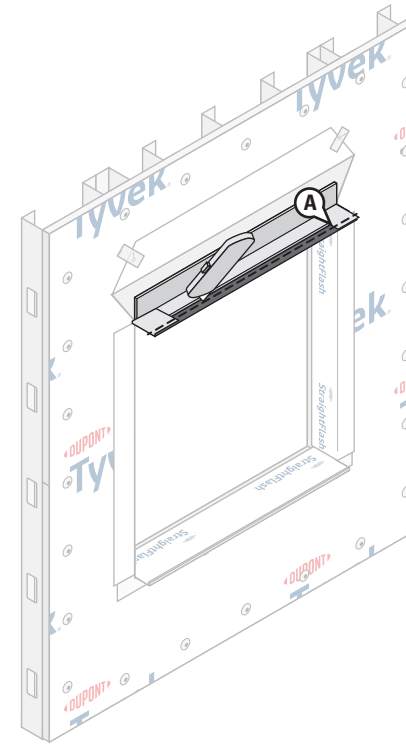
- Prepare the inner head flashing by cutting a piece of 9" StraightFlash™ the length of the head rough opening plus 4".
- Align the StraightFlash™ along the inside edge of the window head framing and adhere onto framing surface and underside of structural steel, extending 2" down each jamb.

Installation Methods for DuPont Self-Adhered Flashing Products Installed AFTER the DuPont™ Tyvek® WRB Non-Flanged Window with Structural Steel along the Sill and Head



STEP 12

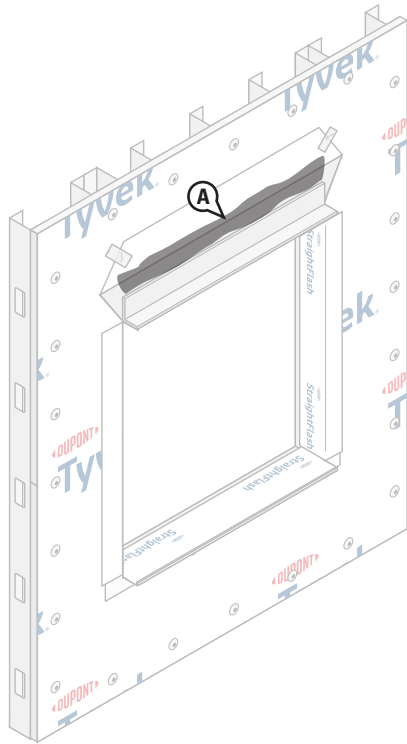
- A. Make cuts in the **DuPont™ StraightFlash™** along each jamb of the rough opening to the corner of the window head.
- B. Adhere the resulting **StraightFlash™** flaps onto the top of the structural steel.



STEP 13

- A. If necessary, trim any **StraightFlash™** that extends beyond the front edge of the structural steel.

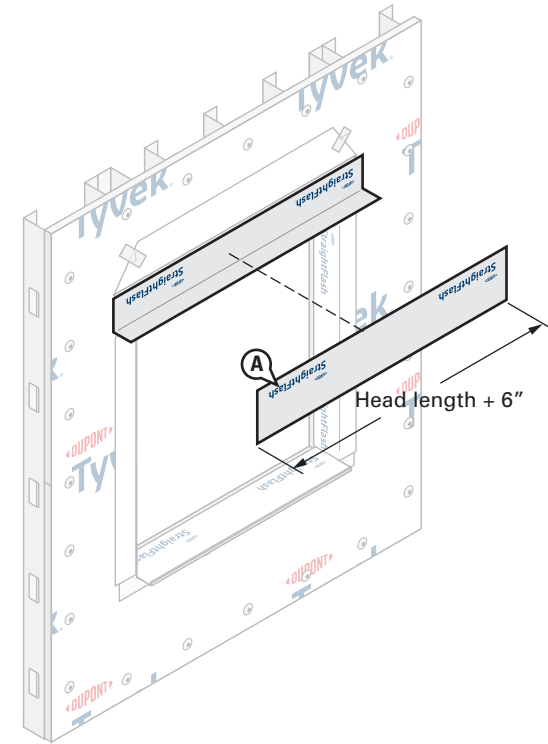
Installation Methods for DuPont Self-Adhered Flashing Products Installed AFTER the DuPont™ Tyvek® WRB Non-Flanged Window with Structural Steel along the Sill and Head



STEP 14

Apply Primer

- A. Apply **DuPont™ Adhesive/Primer** or recommended primer to the top of the jamb and exposed sheathing.

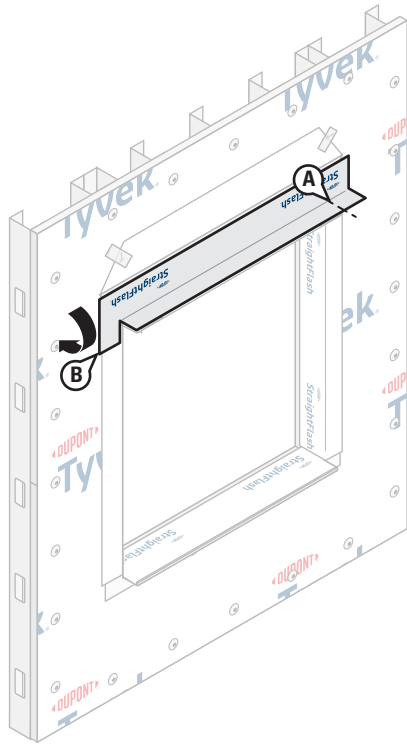


STEP 15

Prepare Outer Head Flashing

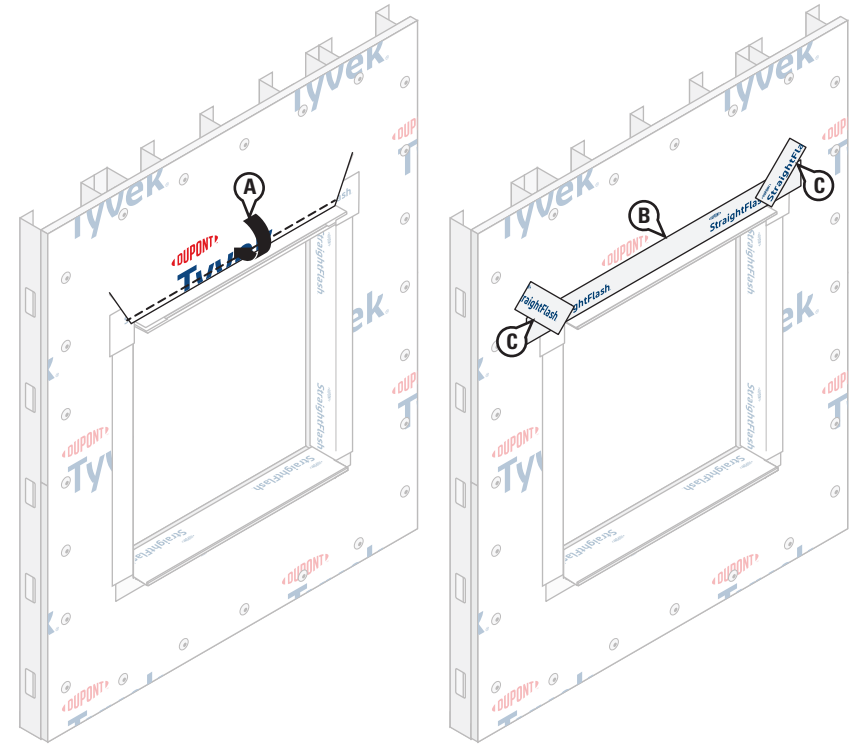
- A. Prepare flashing for the top of the structural steel by cutting a piece of 9" **DuPont™ StraightFlash™** the length of the head rough opening plus 6".
- B. Align the **StraightFlash™** along the front edge of the structural steel and adhere onto the top surface and vertical leg of the structural steel, extending onto sheathing above. The **StraightFlash™** should extend beyond the flashing at each jamb.

Installation Methods for DuPont Self-Adhered Flashing Products Installed AFTER the DuPont™ Tyvek® WRB Non-Flanged Window with Structural Steel along the Sill and Head



STEP 16

- A. Cut the **DuPont™ StraightFlash™** along the outside edges of the structural steel to the top corners of the rough opening.
- B. Adhere the resulting **StraightFlash™** flaps onto the jamb flashing.



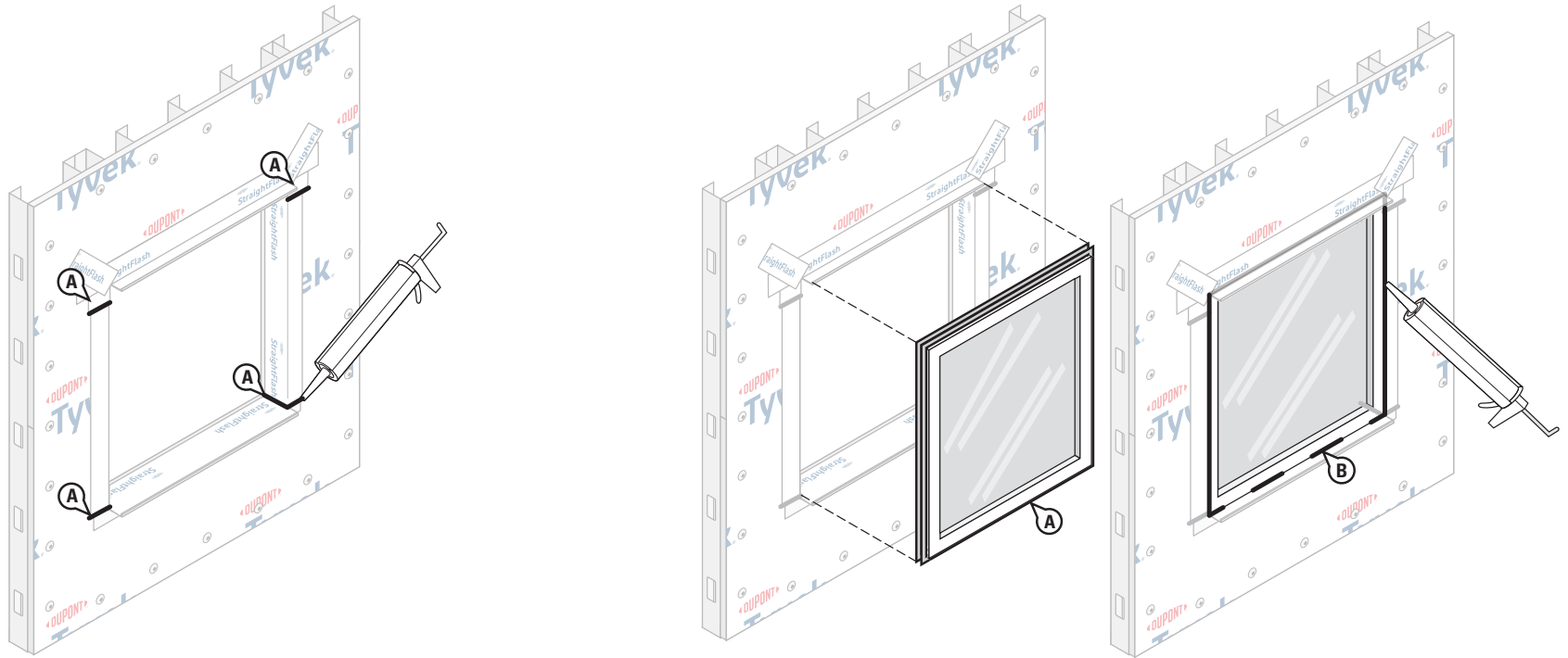
STEP 17

Terminate Head Flap

- A. Flip down upper flap of the **Tyvek® WRB** so it lays flat across head flashing. Ensure flap is trimmed 1"– 2" above the window opening.
- B. Terminate the **Tyvek® WRB** with 4" **StraightFlash™**.
- C. Apply 4" **StraightFlash™** over the diagonal seams.

NOTE: For high performance designs or areas of extreme exposure install additional mechanical fasteners through the flashing at the perimeter of window.

Installation Methods for DuPont Self-Adhered Flashing Products Installed AFTER the DuPont™ Tyvek® WRB Non-Flanged Window with Structural Steel along the Sill and Head



STEP 18

- A. Seal all inside and outside corner seams of **DuPont™ StraightFlash™** with a liberal bead of recommended sealant.

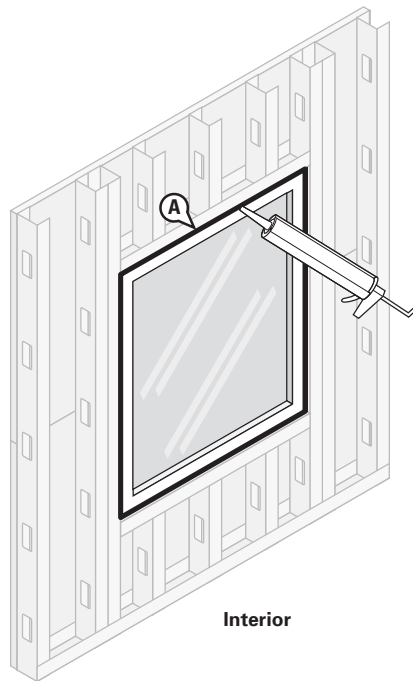
STEP 19

Install Window

- A. Install window per manufacturer's installation instructions.
- B. Apply an exterior perimeter seal using backer rod and sealant along the jambs and head of the window opening.

NOTE: Ensure window and sealant installation allows for drainage at the sill. If sealant is applied at the sill, as a best practice, ensure that there are at least two (2) 2" gaps in the sealant bead for every 4" of window to allow for drainage.

Installation Methods for DuPont Self-Adhered Flashing Products Installed AFTER the DuPont™ Tyvek® WRB Non-Flanged Window with Structural Steel along the Sill and Head



STEP 20

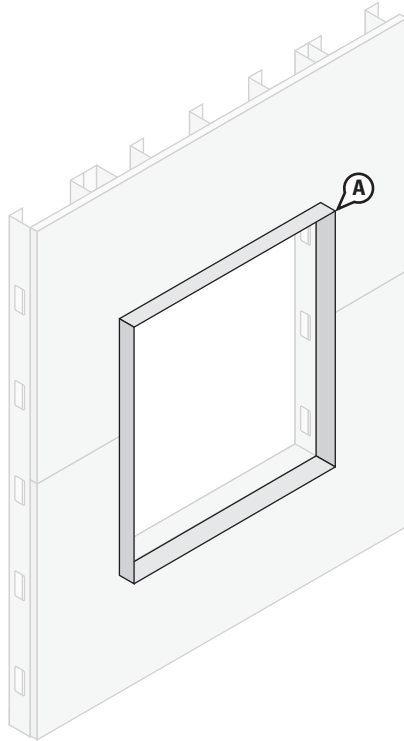
Create Interior Perimeter Seal

- A. Create a continuous perimeter seal using backer rod and recommended sealant or **Great Stuff Pro™ Window and Door Polyurethane Foam Sealant** on window interior to resist air and water infiltration. When using **Great Stuff Pro™ Window and Door Polyurethane Foam Sealant** in perimeter openings less than 1/2", apply using the plastic extension tip for the **Great Stuff Pro™ Dispenser Gun** during installation.

NOTE: For high performance installations exceeding ASTM E1677 wind loading pressures (10.8 psf, 65 mph equivalent structural load) and ASTM E331 water infiltration resistance of 6.24 psf, it is necessary to install sealant over the cured foam when using **Great Stuff Pro™ Window and Door Polyurethane Foam Sealant** or other recommended foam. Sealant should be installed over the foam between the window frame and rough opening around the entire interior perimeter. If **Great Stuff Pro™ Window and Door Polyurethane Foam Sealant** or other recommended foam extends beyond the window frame, shave the excess cured foam flush with the door frame before applying sealant. Avoid damaging the **DuPont Self-Adhered Flashing Product** or **Tyvek® WRB**.

Installation Methods for DuPont Self-Adhered Flashing Products Installed AFTER the DuPont™ Tyvek® WRB Non-Flanged Window with Light Gauge Metal Installed at Rough Opening

Method applies to the following product: DuPont™ StraightFlash™

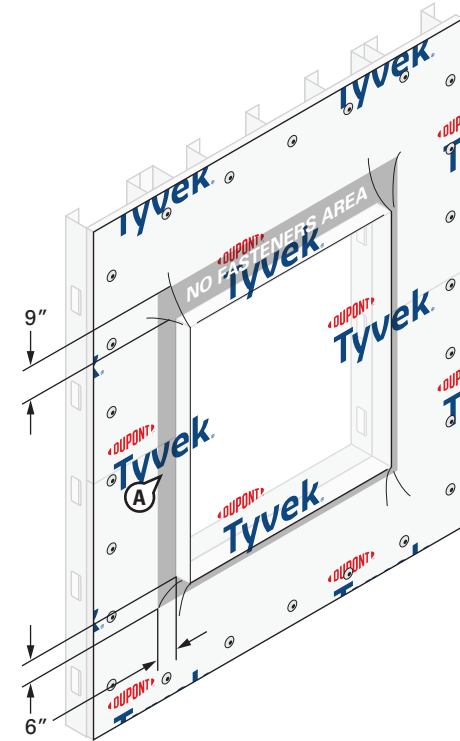


STEP 1

Prepare Opening

A. Install light gauge metal per plans and specifications. Securely fasten in place.

NOTE: DuPont Self-Adhered Flashing Product branding (label orientation) in this condition is shown to reflect actual product alignment/position to assist with proper use and installation for the complex condition.



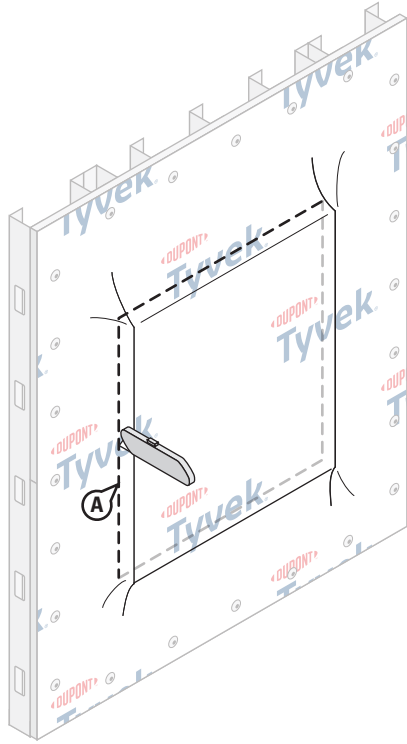
STEP 2

Install Tyvek® WRB

A. Wrap wall with **Tyvek® WRB** as shown in 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](#) that can be found at building.dupont.com.

NOTE: Do not install fasteners within 6" of the sill and jambs and within 9" of the head of the window rough opening.

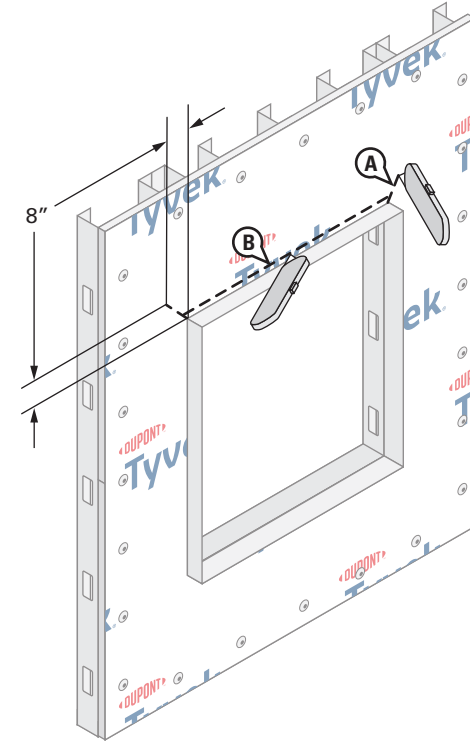
Installation Methods for DuPont Self-Adhered Flashing Products Installed AFTER the DuPont™ Tyvek® WRB Non-Flanged Window with Light Gauge Metal Installed at Rough Opening



STEP 3

Cut Tyvek® WRB

- A. Cut an opening in the **Tyvek® WRB** flush with the outside edges of the light gauge metal frame so it lays flat against the sheathing. **NOTE:** It may be necessary to make cut prior to completing the fastener schedule close to the window rough opening so the **Tyvek® WRB** will lay flat.

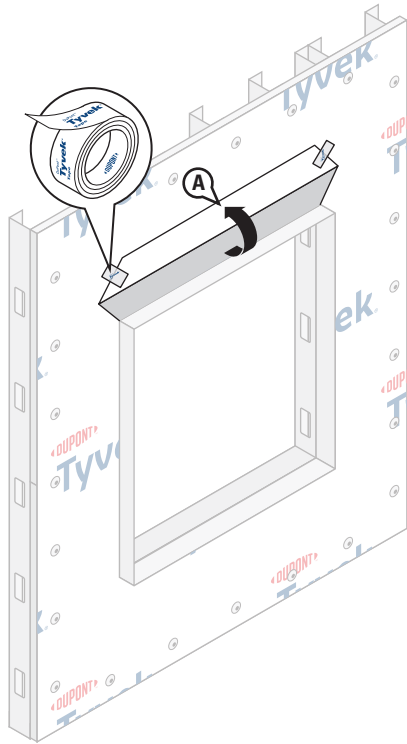


STEP 4

Create Head Flap

- A. Cut a head flap in the **Tyvek® WRB** at 45° to expose 8" of sheathing to allow for head flashing installation.
- B. Trim **Tyvek® WRB** 1"– 2" above the window opening.

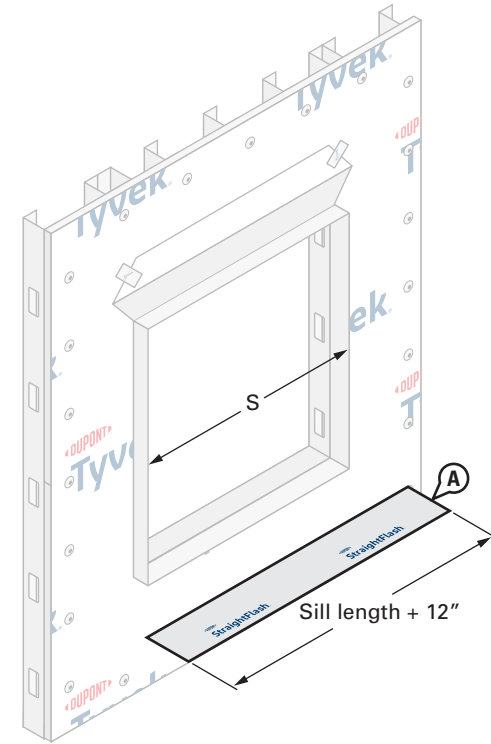
Installation Methods for DuPont Self-Adhered Flashing Products Installed AFTER the DuPont™ Tyvek® WRB Non-Flanged Window with Light Gauge Metal Installed at Rough Opening



STEP 5

A. Flip the head flap up to expose the sheathing and temporarily secure with **DuPont™ Tyvek® Tape**.

NOTE: In lieu of temporarily taping, flap at window head can be tucked under the **Tyvek® WRB**.

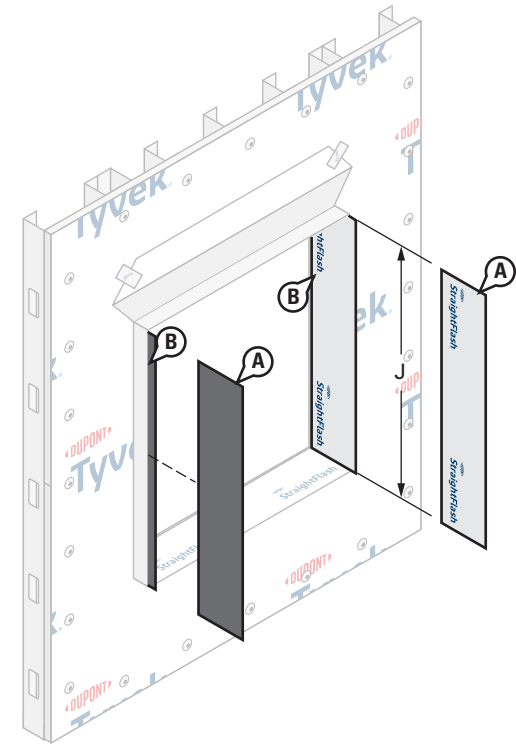
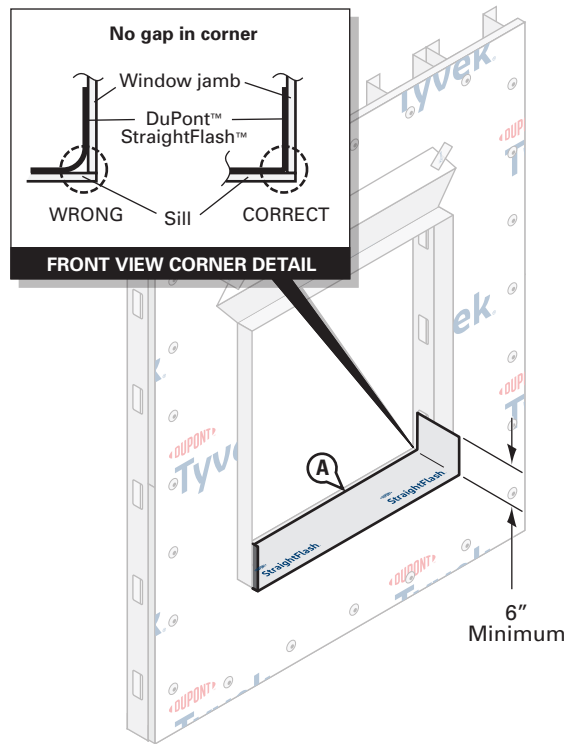


STEP 6

Prepare **DuPont™ StraightFlash™** for the Inner Sill and Head

A. Cut two (2) pieces of 9" **StraightFlash™** that are 12" **LONGER** than the length of the sill (S).

Installation Methods for DuPont Self-Adhered Flashing Products Installed AFTER the DuPont™ Tyvek® WRB Non-Flanged Window with Light Gauge Metal Installed at Rough Opening



STEP 7

Install Inner Sill Flashing

- A. Install the first piece of **DuPont™ StraightFlash™** so it is aligned along the inside edge of the window sill framing, and adhere onto inner surface of the light gauge metal frame, extending 6" up the jambs. The second piece of **StraightFlash™** will be installed at the window head in STEP 9 after installing flashing at the inner jambs.

NOTE: All flashing should be applied with firm hand pressure and/or with J-roller to ensure maximum adhesion.

NOTE: Any flashing extending beyond the metal frame will be trimmed at a later step.

STEP 8

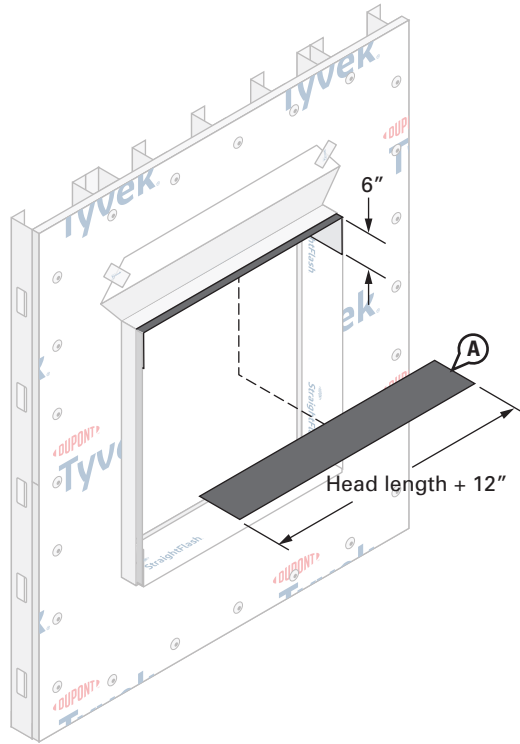
Prepare DuPont™ StraightFlash™ for the Inner Jambs

- A. Cut two (2) pieces of 9" **StraightFlash™** the height (I) of the rough opening.
- B. Align the **StraightFlash™** so it is aligned along the inside edges of the window jamb framing, and adhere onto inner surfaces of the light gauge metal frame.

NOTE: Any flashing extending beyond the metal frame will be trimmed at a later step.

NOTE: DuPont Self-Adhered Flashing Product branding (label orientation) in this condition is shown to reflect actual product alignment/position to assist with proper use and installation for the complex condition.

Installation Methods for DuPont Self-Adhered Flashing Products Installed AFTER the DuPont™ Tyvek® WRB Non-Flanged Window with Light Gauge Metal Installed at Rough Opening

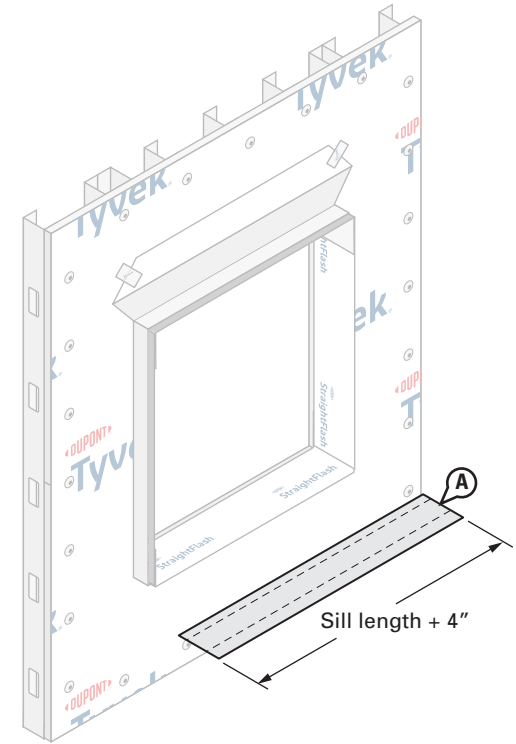


STEP 9

Install Inner Head Flashing

- A. Install the second piece of **DuPont™ StraightFlash™** prepared in STEP 6 along the inside edge of the window head framing and adhere onto inner surface of the light gauge metal frame, extending 6" down each jamb.

NOTE: Any flashing extending beyond the metal frame will be trimmed at a later step.

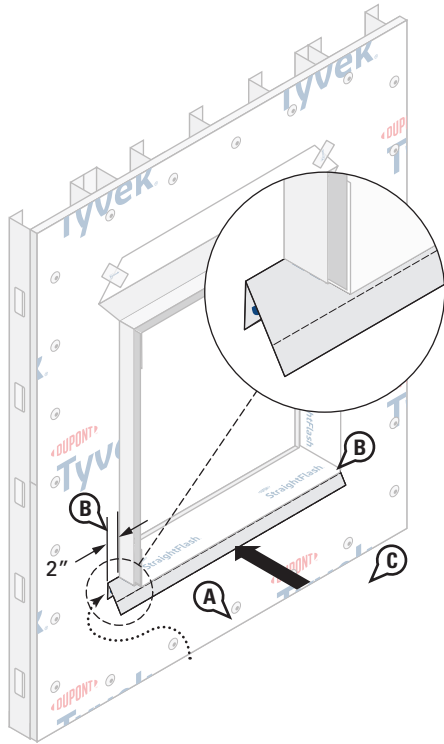


STEP 10

Prepare the StraightFlash™ for the Outer Sill

- A. Cut a piece of 9" **StraightFlash™** the length of the sill plus an additional 4".

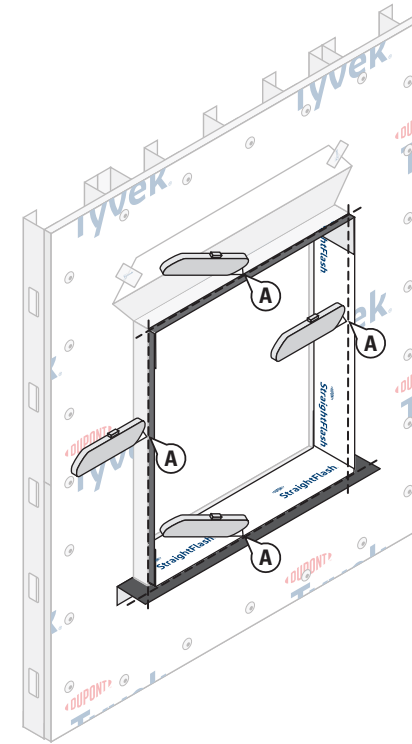
Installation Methods for DuPont Self-Adhered Flashing Products Installed AFTER the DuPont™ Tyvek® WRB Non-Flanged Window with Light Gauge Metal Installed at Rough Opening



STEP 11

Install DuPont™ StraightFlash™ onto Bottom of Light Gauge Metal Frame at Sill

- Fold **StraightFlash™** along the most narrow piece of release paper to break perforations, then remove the most narrow piece to expose butyl.
- Center the folded **StraightFlash™** under the metal frame at sill so it extends 2" beyond each edge of the frame. Adhere the exposed butyl tightly into the corner along the metal frame and onto the **Tyvek® WRB**. Use the remaining release papers to guide the **StraightFlash™** tight into the corner.
- Starting with the middle piece, remove the remaining release papers, one at a time, and adhere the exposed butyl to the underside of the metal frame.

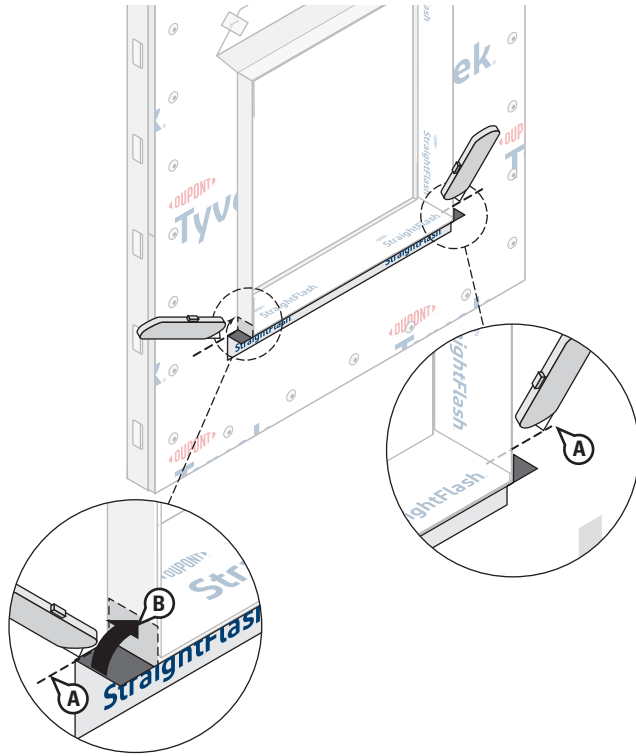


STEP 12

Trim StraightFlash™ at Edge of Light Gauge Metal Frame

- If necessary, trim any **StraightFlash™** that extends beyond the front edge of the metal frame.

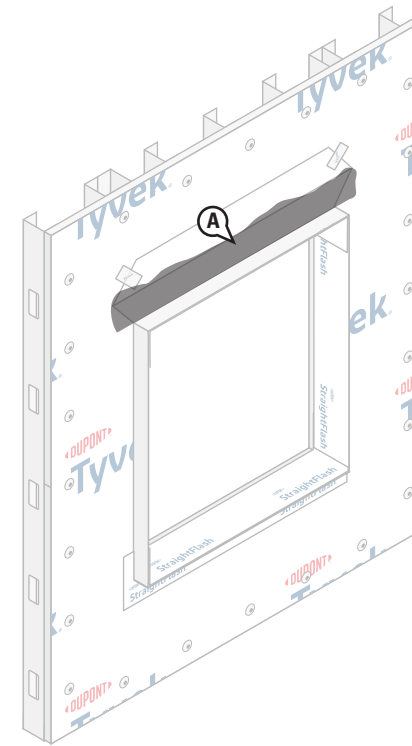
Installation Methods for DuPont Self-Adhered Flashing Products Installed AFTER the DuPont™ Tyvek® WRB Non-Flanged Window with Light Gauge Metal Installed at Rough Opening



STEP 13

Prepare Outer Sill Flashing

- A. Cut the **DuPont™ StraightFlash™** at the face of the wall to the bottom corners of the metal frame to create flaps.
- B. Adhere the resulting **StraightFlash™** flaps onto the metal frame.

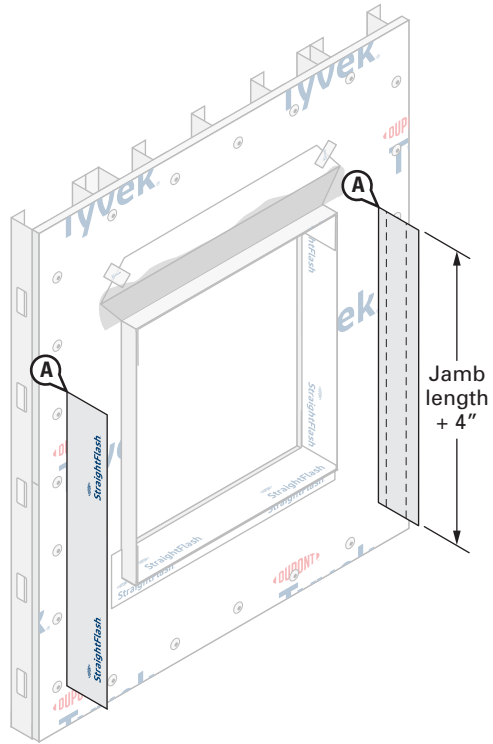


STEP 14

Apply Primer

- A. Apply **DuPont™ Adhesive/Primer** or recommended primer to the top of the jamb and exposed sheathing.

Installation Methods for DuPont Self-Adhered Flashing Products Installed **AFTER** the DuPont™ Tyvek® WRB Non-Flanged Window with Light Gauge Metal Installed at Rough Opening

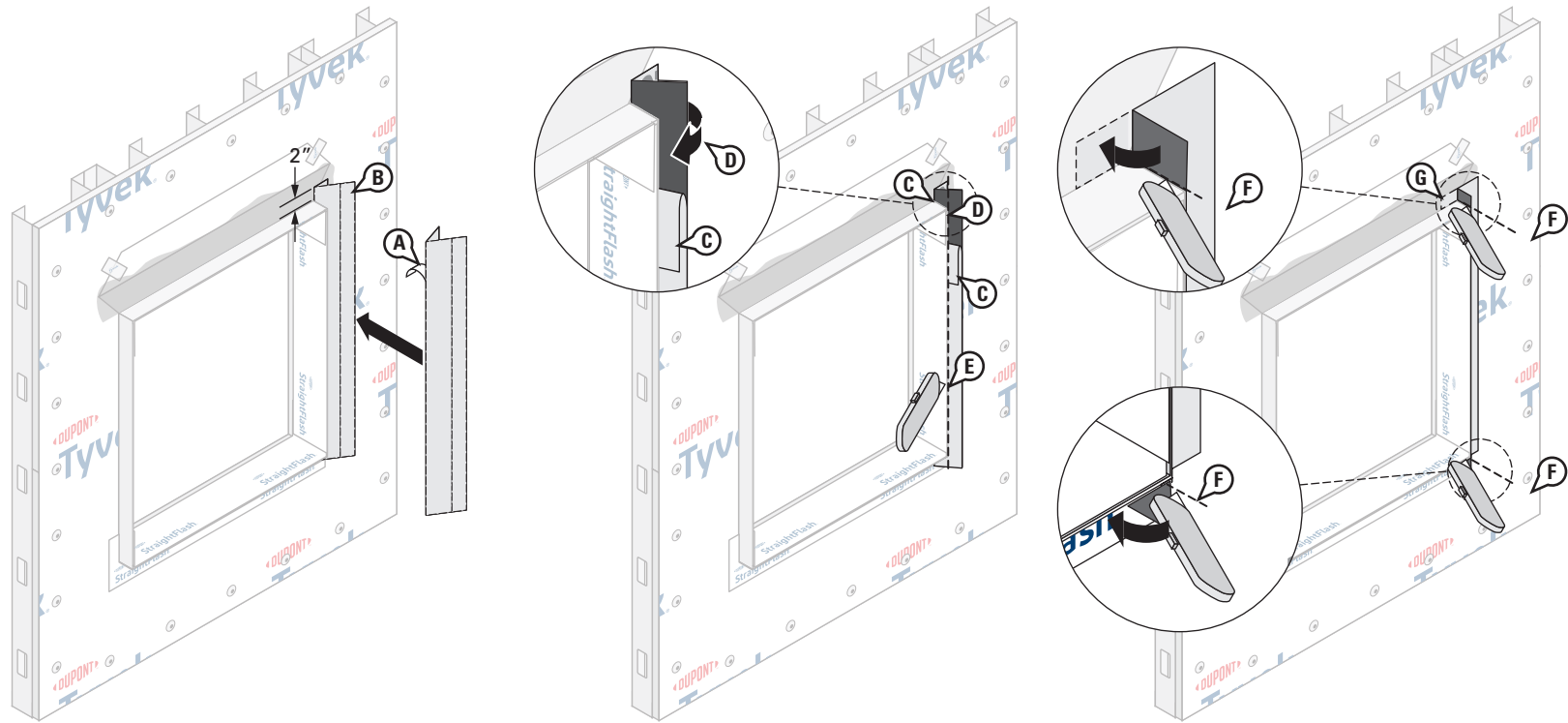


STEP 15

Prepare DuPont™ StraightFlash™ for the Outer Jambs

- A. Cut two (2) pieces of 9" of StraightFlash™ the length of the jamb plus an additional 4".

Installation Methods for DuPont Self-Adhered Flashing Products Installed **AFTER** the DuPont™ Tyvek® WRB Non-Flanged Window with Light Gauge Metal Installed at Rough Opening

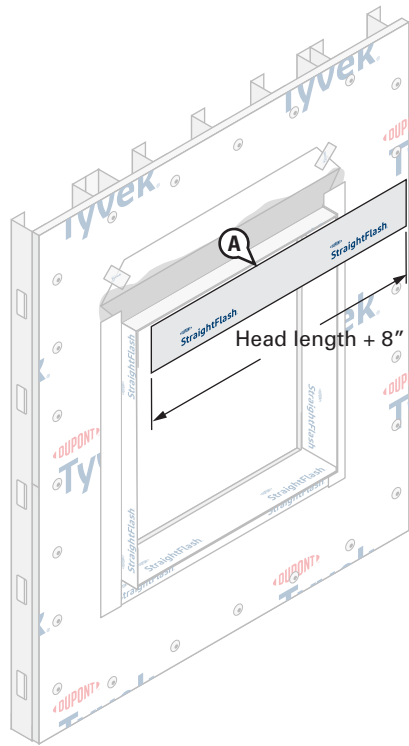


STEP 16

Install DuPont™ StraightFlash™ onto Sides of Light Gauge Metal Frame at Jamb

- A. Fold **StraightFlash™** along the most narrow piece of release paper to break perforations, then remove the most narrow piece.
- B. Center the folded **StraightFlash™** along the metal frame so it extends 2" beyond each edge of the frame. Adhere the exposed butyl tightly into the corner along the metal frame and onto the **DuPont™ Tyvek® WRB**. The remaining release paper can be used as a guide to position the **StraightFlash™** tight into the corner.
- C. Remove remaining release papers.
- D. Adhere the **StraightFlash™** onto the side of the metal frame.
- E. If necessary, trim any **StraightFlash™** that extends beyond the front edge of the light gauge metal frame.
- F. Cut the **StraightFlash™** from the outside corners of the light gauge metal frame back to the face of the wall. Be sure not to cut or damage previously installed flashing and/or **Tyvek® WRB** on face of wall.
- G. Adhere the resulting **StraightFlash™** flaps onto the face of wall.
- H. Repeat steps A-G on the other jamb.

Installation Methods for DuPont Self-Adhered Flashing Products Installed **AFTER** the DuPont™ Tyvek® WRB Non-Flanged Window with Light Gauge Metal Installed at Rough Opening

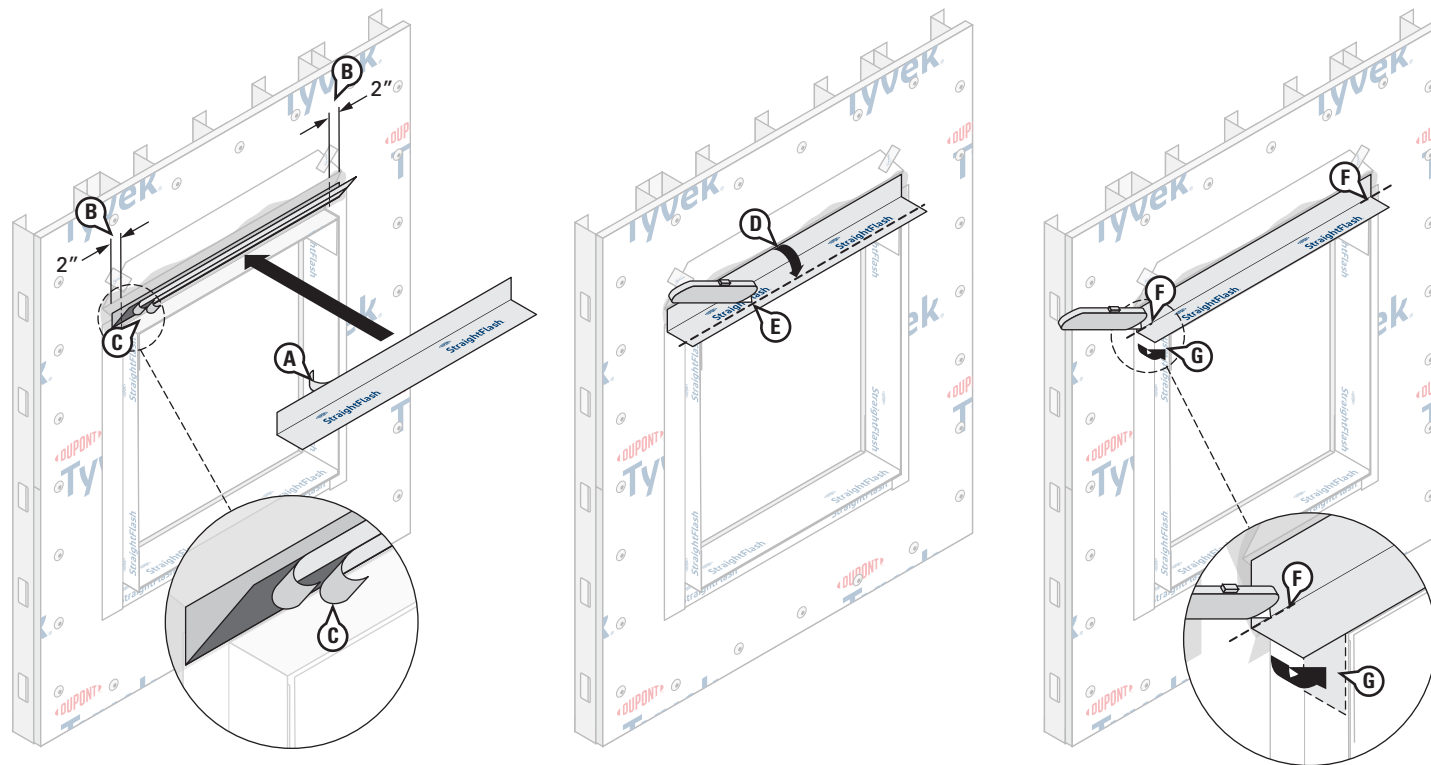


STEP 17

Prepare Outer Head Flashing

- A. Cut a piece of 9" DuPont™ StraightFlash™ the length of the head rough opening plus 8".

Installation Methods for DuPont Self-Adhered Flashing Products Installed **AFTER** the DuPont™ Tyvek® WRB Non-Flanged Window with Light Gauge Metal Installed at Rough Opening

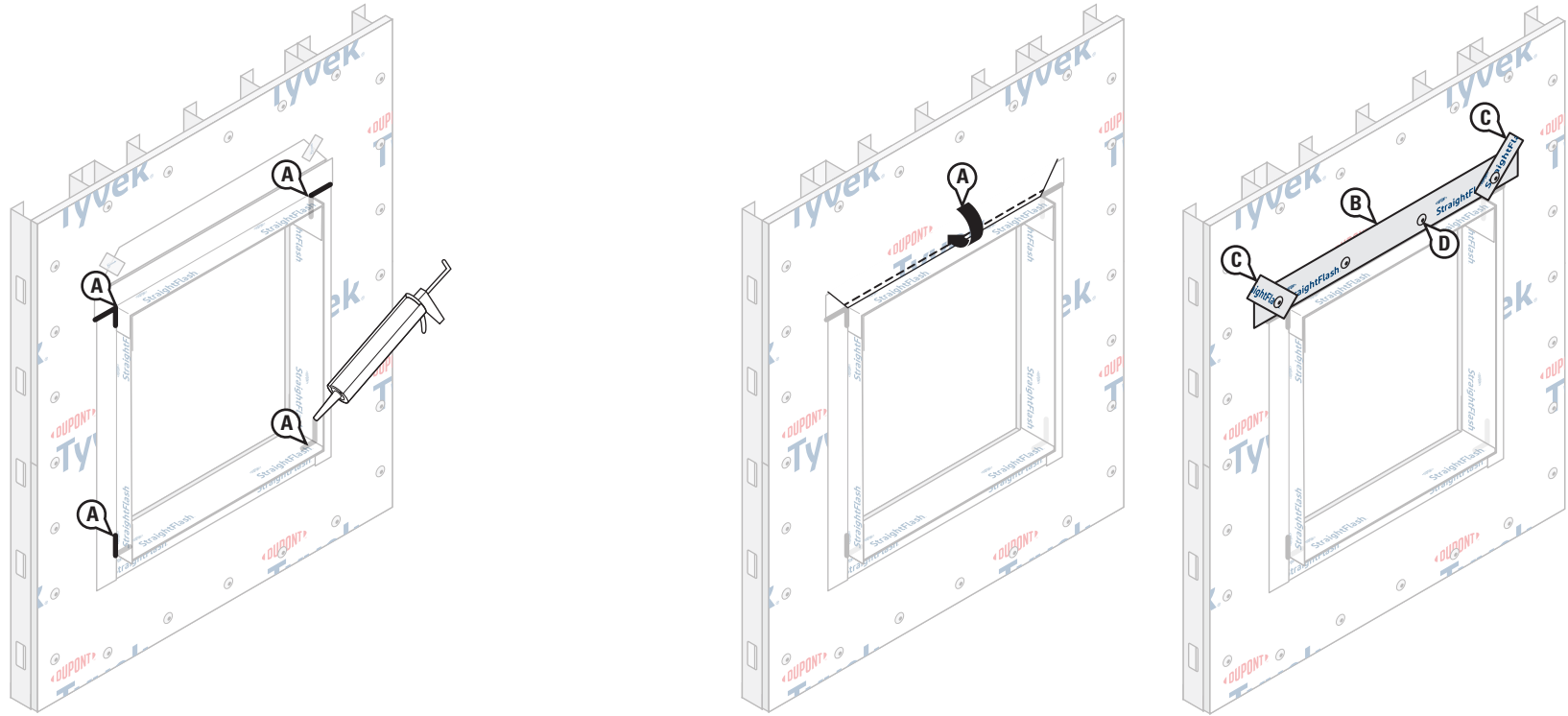


STEP 18

Install DuPont™ StraightFlash™ onto Top of Light Gauge Metal Frame at Head

- A. Fold **StraightFlash™** along the most narrow piece of release paper to break perforations, then remove the most narrow piece.
- B. Center the folded **StraightFlash™** on top of the metal frame so it extends 2" beyond each edge of the frame. Adhere the exposed butyl tightly into the corner along the metal frame and onto the primed sheathing. The remaining release paper can be used as a guide to position the **StraightFlash™** tight into the corner.
- C. Remove remaining release paper.
- D. Adhere the **StraightFlash™** to the top of the light gauge metal frame. The **StraightFlash™** should extend beyond the flashing at each jamb.
- E. If necessary, trim any **StraightFlash™** that extends beyond the front edge of the light gauge metal frame.
- F. Cut the **StraightFlash™** at the face of the wall to the top corners of the metal frame to create flaps.
- G. Adhere the resulting **StraightFlash™** flaps onto the metal frame.

Installation Methods for DuPont Self-Adhered Flashing Products Installed AFTER the DuPont™ Tyvek® WRB Non-Flanged Window with Light Gauge Metal Installed at Rough Opening



STEP 19

- A. Seal all outside corner seams of **DuPont™ StraightFlash™** with a liberal bead of sealant.

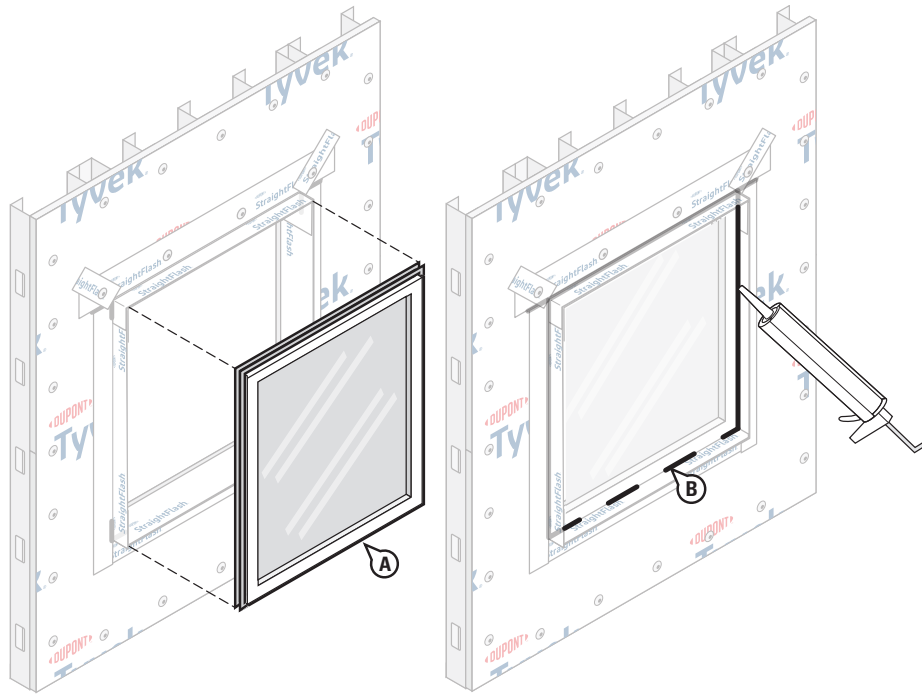
STEP 20

Terminate Head Flap

- A. Flip down upper flap of the **Tyvek® WRB** so it lays flat across head flashing. Ensure flap is trimmed 1"– 2" above the window opening.
- B. Terminate the **Tyvek® WRB** with 4" **StraightFlash™**.
- C. Apply 4" **StraightFlash™** over the diagonal seams.
- D. For high performance installation, install **DuPont™ Tyvek® Wrap Cap Screws** or recommended fasteners into sheathing at appropriate spacing above window head.

NOTE: For high performance designs or areas of extreme exposure install additional mechanical fasteners through the flashing at the perimeter of window.

Installation Methods for DuPont Self-Adhered Flashing Products Installed AFTER the DuPont™ Tyvek® WRB Non-Flanged Window with Light Gauge Metal Installed at Rough Opening

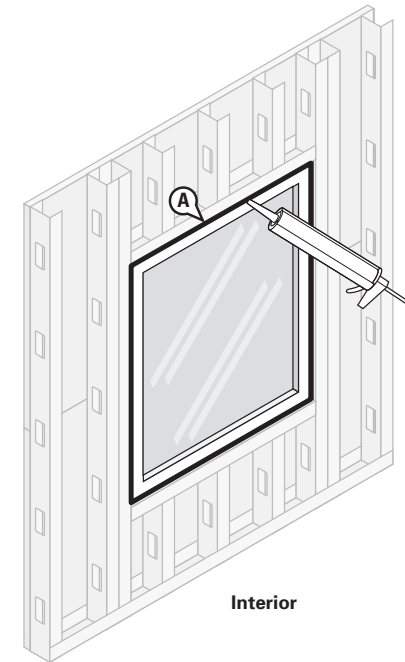


STEP 21

Install Window

- Install window per manufacturer's installation instructions.
- Apply an exterior perimeter seal using backer rod and sealant along the jambs and head of the window opening.

NOTE: Ensure window and sealant installation allows for drainage at the sill. If sealant is applied at the sill, as a best practice, ensure that there are at least two (2) 2" gaps in the sealant bead for every 4" of window to allow for drainage.



Interior

STEP 22

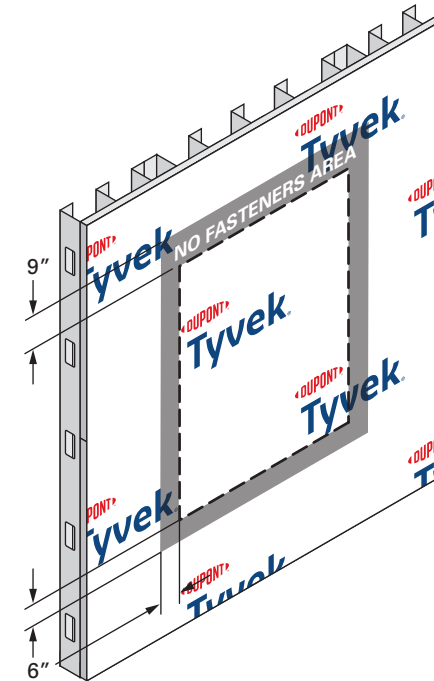
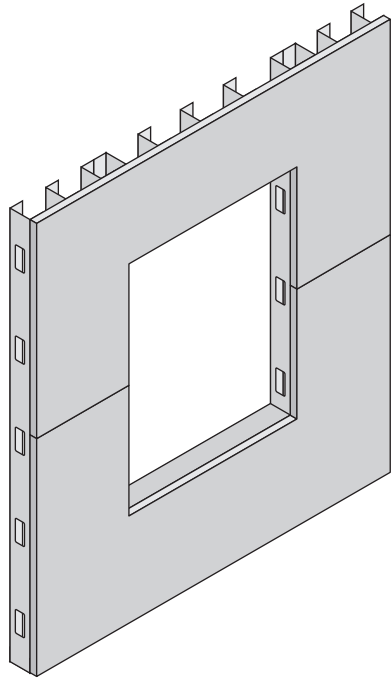
Create Interior Perimeter Seal

- Create a continuous perimeter seal using backer rod and recommended sealant or **Great Stuff Pro™ Window and Door Polyurethane Foam Sealant** on window interior to resist air and water infiltration. When using **Great Stuff Pro™ Window and Door Polyurethane Foam Sealant** in perimeter openings less than 1/2", apply using the plastic extension tip for the **Great Stuff Pro™ Dispenser Gun** during installation.

NOTE: For high performance installations exceeding ASTM E1677 wind loading pressures (10.8 psf, 65 mph equivalent structural load) and ASTM E331 water infiltration resistance of 6.24 psf, it is necessary to install sealant over the cured foam when using **Great Stuff Pro™ Window and Door Polyurethane Foam Sealant** or other recommended foam. Sealant should be installed over the foam between the window frame and rough opening around the entire interior perimeter. If **Great Stuff Pro™ Window and Door Polyurethane Foam Sealant** or other recommended foam extends beyond the window frame, shave the excess cured foam flush with the door frame before applying sealant. Avoid damaging the **DuPont Self-Adhered Flashing Product** or **Tyvek® WRB**.

Installation Methods for DuPont Self-Adhered Flashing Products Installed **AFTER** the DuPont™ Tyvek® WRB Integral Flanged Window with Wood Bump-Out Frame Installed **AFTER** the Tyvek® WRB

Method applies to the following products: DuPont™ FlexWrap™ and DuPont™ StraightFlash™



STEP 1

Prepare Rough Opening

- A. Cut rough opening in sheathing for window. Ensure that sheathing is cut flush with, or slightly below, the sill framing to allow for positive drainage.

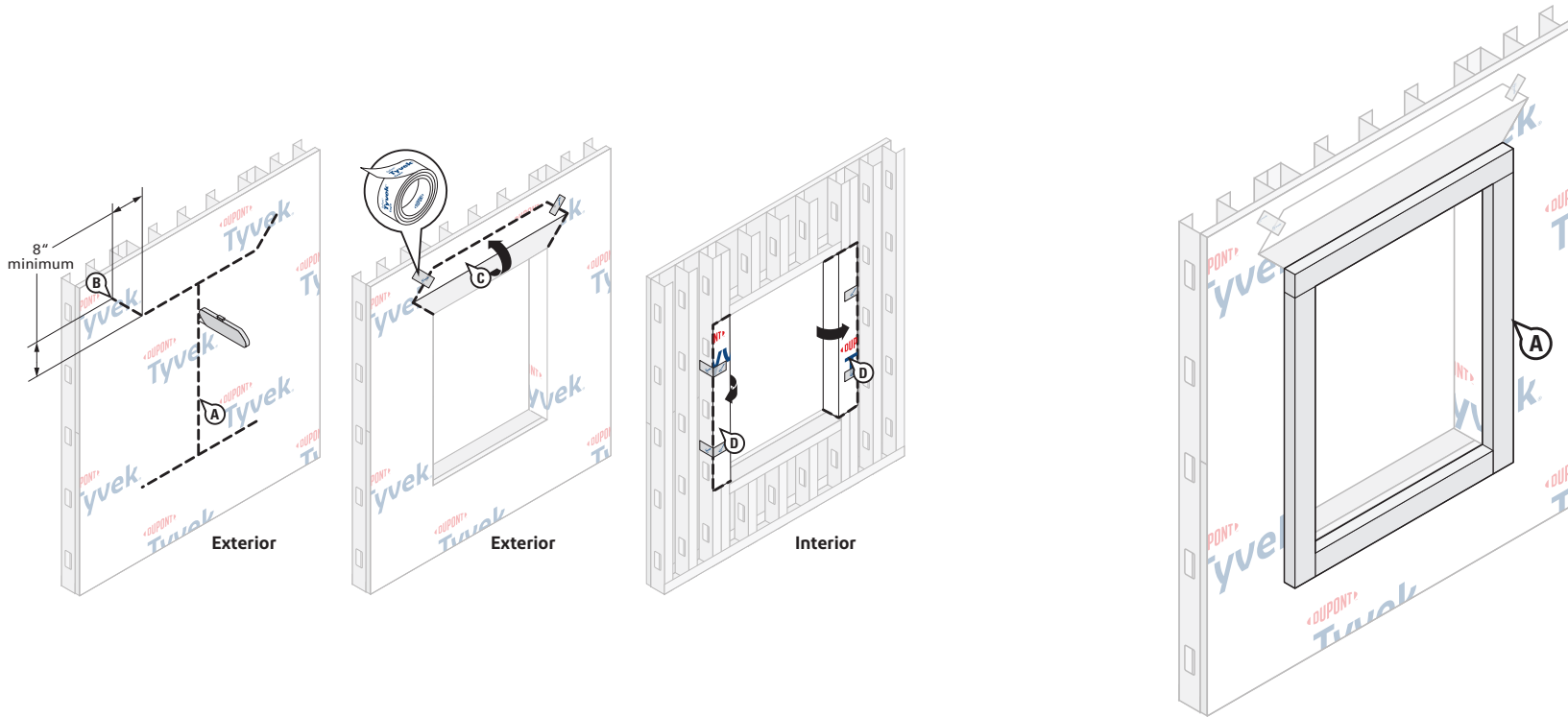
STEP 2

Install Tyvek® WRB

- A. Wrap wall as shown in [DuPont™ Tyvek® Mechanically-Fastened Water-Resistive and Air Barrier \(WRB\) Installation Guidelines for Buildings Greater Than 4 Stories](#) that can be found at building.dupont.com. Do not install fasteners within 6" of the sill and jambs of the openings and within 9" of the head of the openings.

NOTE: DuPont Self-Adhered Flashing Products branding (label orientation) in this condition is shown to reflect actual product alignment/position to assist with proper use and installation for the complex condition.

Installation Methods for DuPont Self-Adhered Flashing Products Installed **AFTER** the DuPont™ Tyvek® WRB Integral Flanged Window with Wood Bump-Out Frame Installed **AFTER** the Tyvek® WRB



STEP 3

Prepare Tyvek® WRB for Window

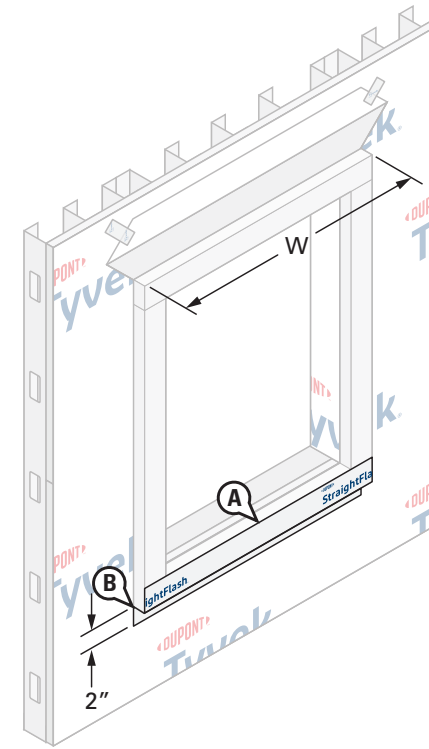
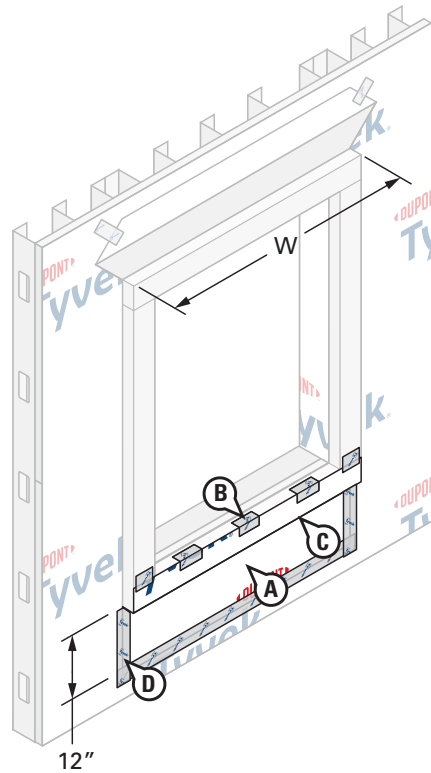
- Make an "I-Cut" in the Tyvek® WRB. For an "I-Cut" begin with a horizontal cut across the bottom and the top of the rough opening, cut from the center cut straight down to the sill.
- Cut two 45° slits a minimum of 8" from the corner of the header to create a flap above the rough opening to expose sheathing or framing members. The slits may need to be extended to make a larger flap in order to provide space to install the bump-out frame in Step 4 and to allow head flashing installation ([see Step 11](#)).
- Flip head flap up and temporarily secure with DuPont™ Tyvek® Tape.
- Fold side flaps into rough opening and secure to inside wall. Cut off excess flaps if desired.

STEP 4

Install 2" x 4" Wood Bump-Out Frame

- Install wood bump-out frame per plans and specifications. Securely fasten in place.
- Clean substrate of any material that could negatively affect adhesion as well as any sharp protrusions.

Installation Methods for DuPont Self-Adhered Flashing Products Installed AFTER the DuPont™ Tyvek® WRB Integral Flanged Window with Wood Bump-Out Frame Installed AFTER the Tyvek® WRB



STEP 5

Install Tyvek® WRB Apron

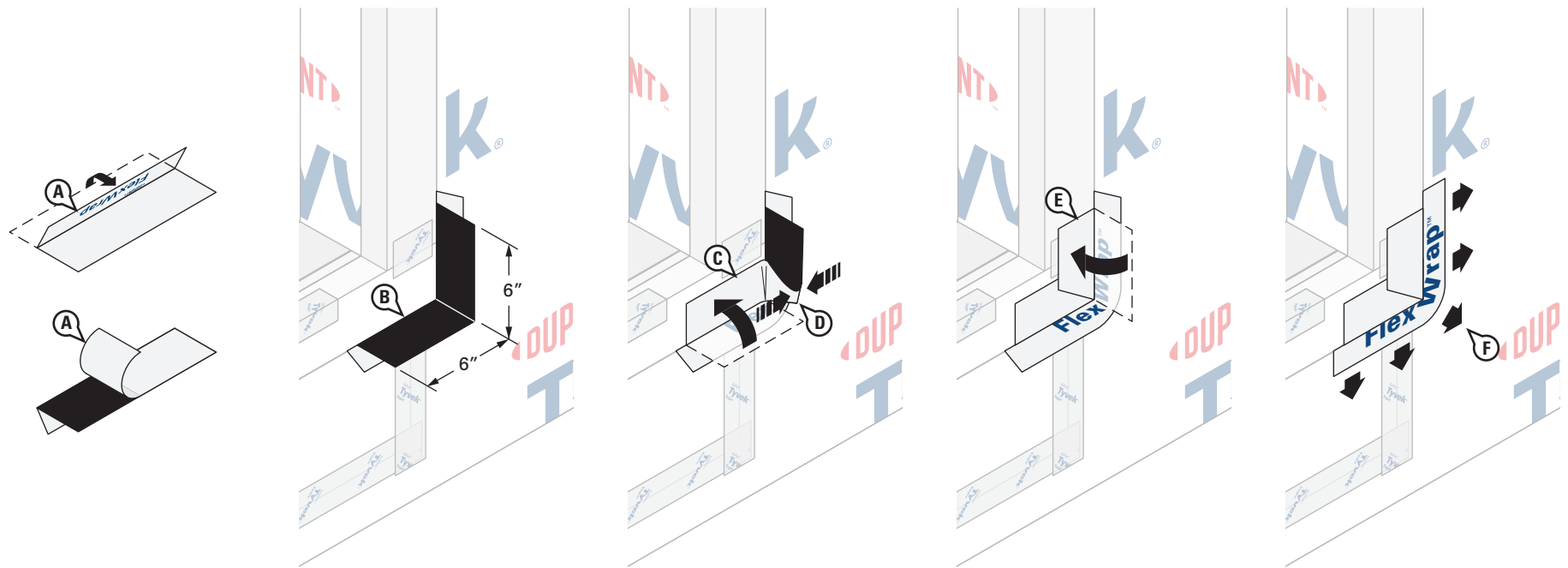
- A. Cut a piece of **Tyvek® WRB** the width of the outside of the wood bump-out frame (W) and long enough to cover bump-out frame plus an additional 12" below the bottom edge of bump-out frame.
- B. Temporarily secure the apron in place using small pieces of **DuPont™ Tyvek® Tape** so the top edge is flush with the sill of the rough opening.
- C. Install **Tyvek® WRB** apron along the bump-out and to the underside, tightly into the inside corner, and onto the face of the wall. Install additional fasteners as needed to assist with apron installation and provide additional holding power. Do not install fasteners where **Tyvek® Tape** or **DuPont Self Adhered Flashing Products** will be installed.
- D. Seal the outside edges of the apron to the field of the **Tyvek® WRB** on the wall using 3" **Tyvek® Tape**, beginning with the bottom of the apron and then the sides. Ensure the side pieces of tape are flush with the bottom edge of the wood bump-out frame.

STEP 5 – ALTERNATE

DuPont™ StraightFlash™ can be installed onto the bump-out frame at sill in place of the Tyvek® WRB apron using the following steps:

- A. Cut a piece of 9" **StraightFlash™** the width of the outside of the wood bump-out frame (W) and remove release paper.
- B. Position the **StraightFlash™** with the top edge flush with the sill of the rough opening and adhere to the face of the bump-out, along the underside edge, and onto the **Tyvek® WRB** below. Ensure the butyl is adhered tight into the inside corner of the bump-out frame and wall, and extends a minimum of 2" onto the **Tyvek® WRB** below.

**Installation Methods for DuPont Self-Adhered Flashing Products Installed AFTER the DuPont™ Tyvek® WRB
Integral Flanged Window with Wood Bump-Out Frame Installed AFTER the Tyvek® WRB**



STEP 6

Prepare and Install DuPont™ FlexWrap™ Corner Pieces at Bottom of Bump-Out Frame

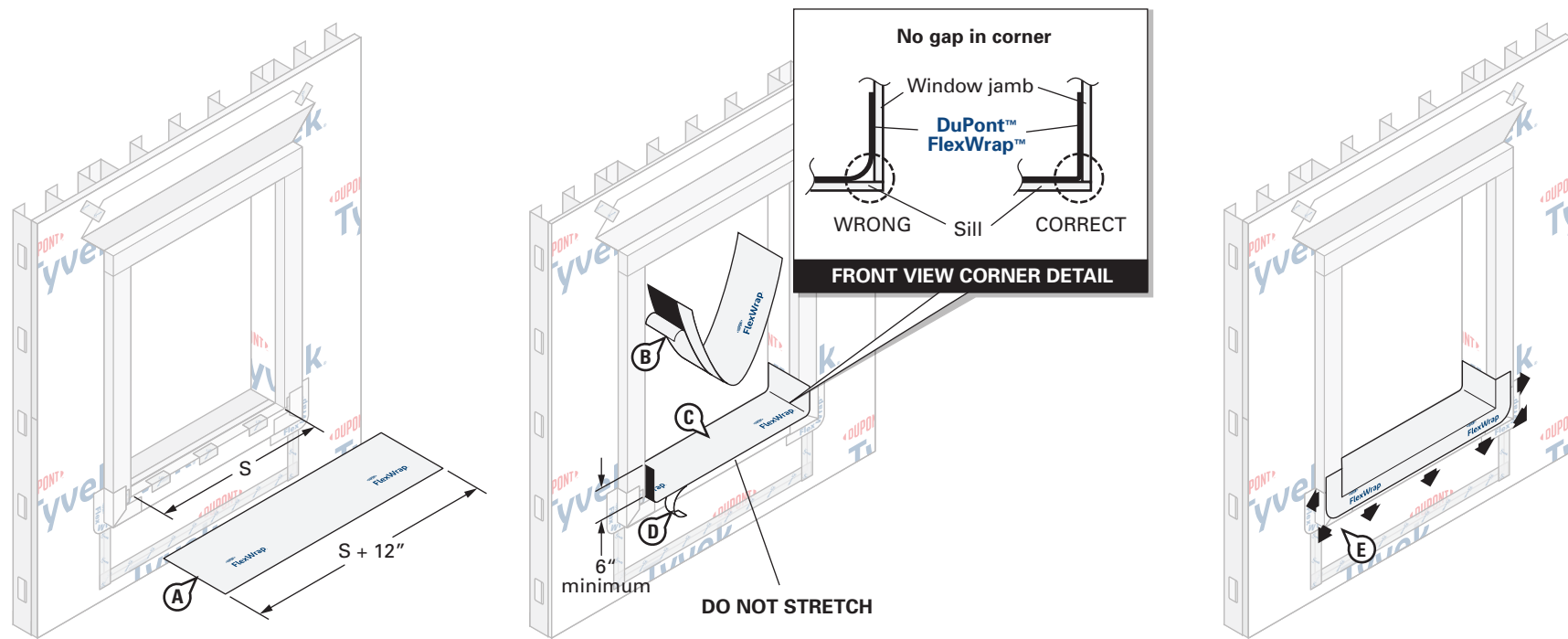
- A. Cut two (2) 12" long pieces of **FlexWrap™**. Break the perforations on one piece of **FlexWrap™** by folding along the perforated release paper. While still folded, remove the wider piece of release paper.
- B. Starting at the bottom sill portion of the bump-out frame and working up to the jamb portion, install the exposed butyl adhesive to extend 6" along the bottom edge of the bump-out frame and 6" along the side edge. Use the inside edge of the narrow release paper as a guide to ensure the butyl is adhered tight into the inside corner of the bump-out frame and the wall.
- C. Fold the exposed butyl of the lower half of the **FlexWrap™** onto the face of the bump-out frame.

- D. Create a diagonal "dog-ear" flap by pressing the exposed butyl onto itself at the corner of the bump-out.
- E. Fold flap down onto the face of the side bump-out frame. Continue pressing the remaining exposed butyl onto the face of the bump-out frame.

NOTE: If using 9" **FlexWrap™**, the flashing should be trimmed flush with the inside edge of the bump-out corner at the sill/jamb.

- F. Remove the remaining release paper from the **FlexWrap™** corner piece. Fan out the exposed butyl onto the face of the wall using uniform hand pressure.
- G. Repeat Steps B–F on opposite corner of bump-out frame.

Installation Methods for DuPont Self-Adhered Flashing Products Installed **AFTER** the DuPont™ Tyvek® WRB Integral Flanged Window with Wood Bump-Out Frame Installed **AFTER** the Tyvek® WRB



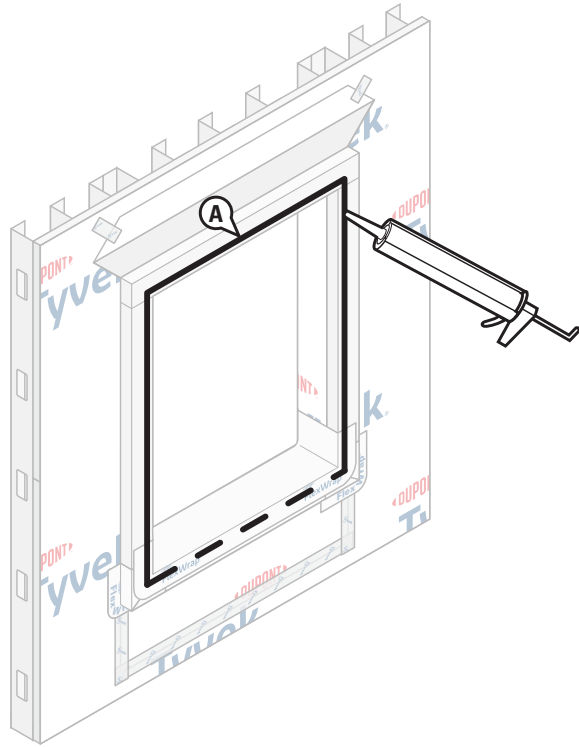
STEP 7

Install DuPont™ FlexWrap™ at Sill

- A. Cut **FlexWrap™** at least 12" **LONGER** than width of rough opening sill (S). Use roll widths sufficient to achieve a minimum of 1" adhesion **beyond** where the window frame will be located, ensuring 2"– 3" adhesion onto the face of the bump-out frame.
- B. Remove wide piece of release paper. Position on horizontal sill by aligning the inside edge of the narrow release paper with the face of the bump-out frame to ensure 2"– 3" of the **FlexWrap™** will be adhered to the face of the bump-out frame with a minimum of 6" up each jamb.
- C. Adhere into rough opening ensuring the **FlexWrap™** is installed tightly into the corners by first working along the sill before adhering up the jambs.
- D. Remove narrow release paper.
- E. Using uniform hand pressure, fan out the **FlexWrap™** at corners and adhere onto the face of the bump-out frame. Continue adhering onto bump-out frame along sill. Coverage of the **FlexWrap™** should be 2"– 3" onto the face of the bump-out frame.

DO NOT STRETCH MATERIAL ALONG THE SILL OR JAMBS.

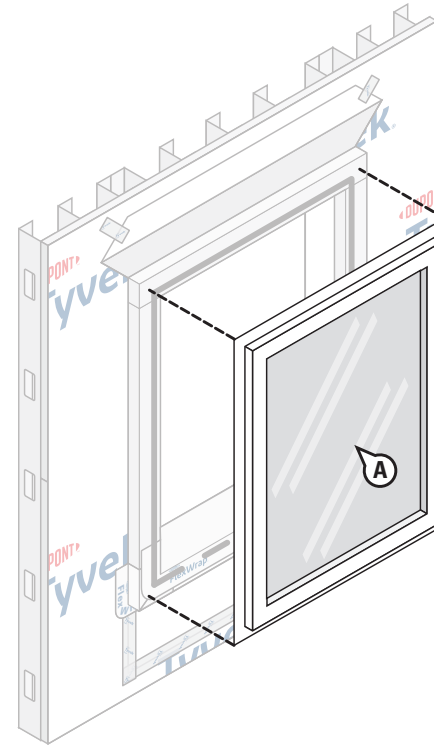
**Installation Methods for DuPont Self-Adhered Flashing Products Installed AFTER the DuPont™ Tyvek® WRB
Integral Flanged Window with Wood Bump-Out Frame Installed AFTER the Tyvek® WRB**



STEP 8

Apply Sealant

- A. Apply continuous bead of recommend sealant at the window head and jambs to either the bump-out frame or the back side of the window mounting flange. **Do not apply continuous sealant bead across bottom sill flange.** If sealant is applied to the sill, ensure that there are at least two (2) 2" gaps in the sealant bead for every 4' of window to allow for drainage.

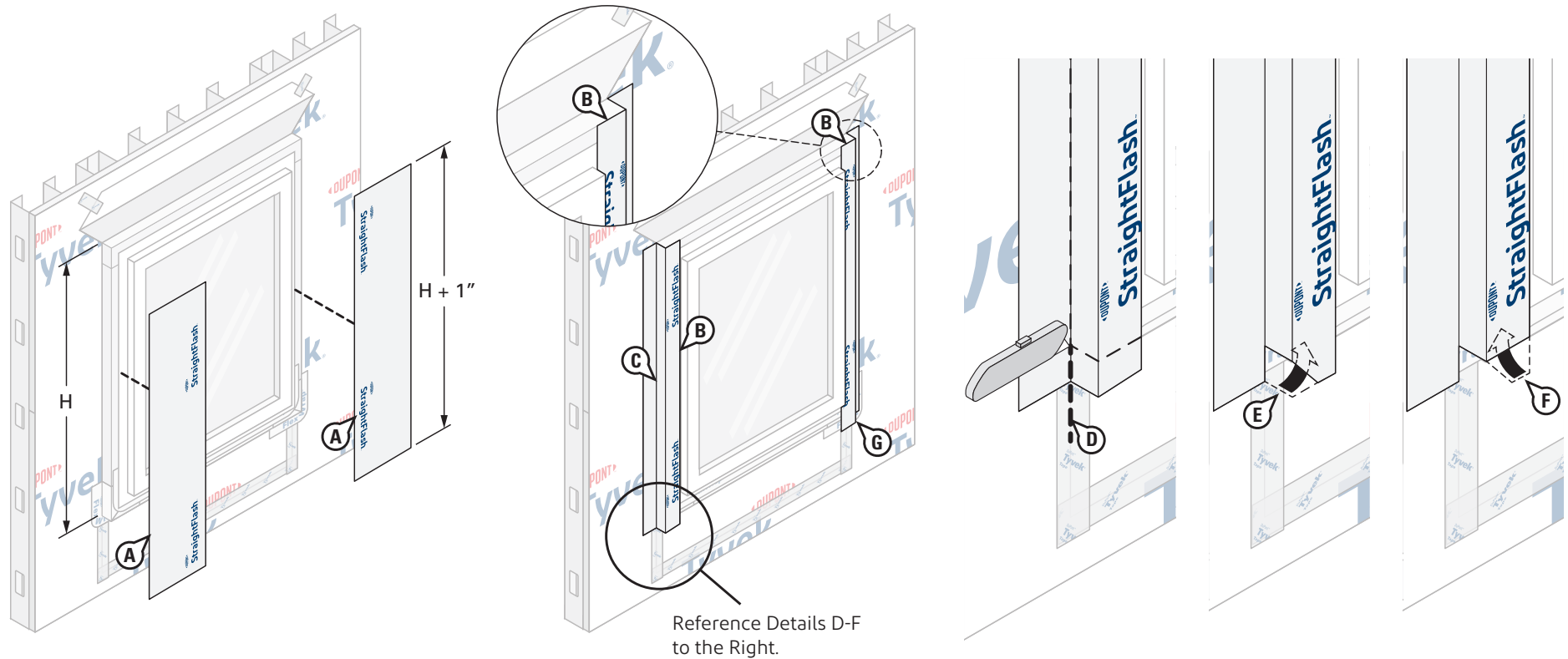


STEP 9

Install Window

- A. Install window per manufacturer's installation instructions.

**Installation Methods for DuPont Self-Adhered Flashing Products Installed AFTER the DuPont™ Tyvek® WRB
Integral Flanged Window with Wood Bump-Out Frame Installed AFTER the Tyvek® WRB**

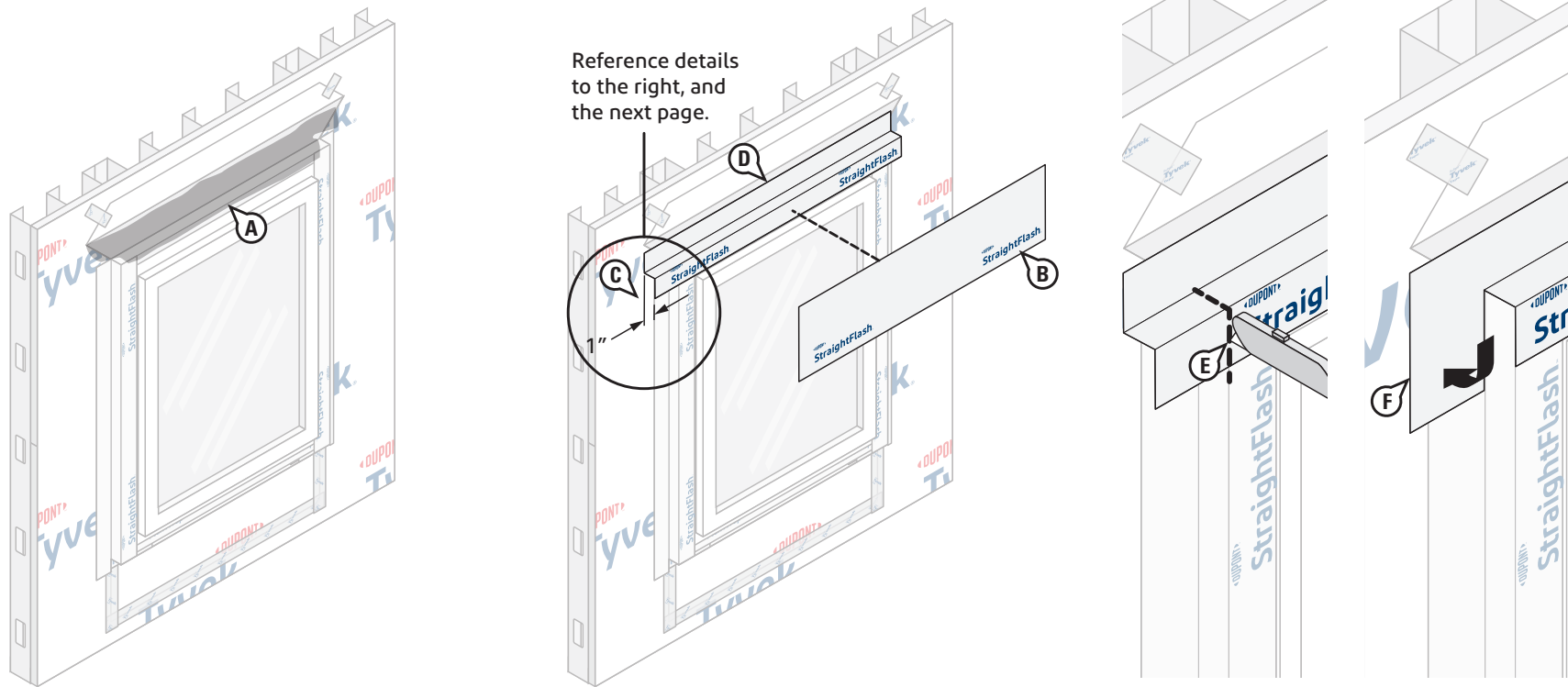


STEP 10

Install Jamb Flashing

- A. Cut two (2) pieces of 9" DuPont™ StraightFlash™ the height of the bump-out frame (H) plus 1".
- B. Beginning at the jamb flanges, install the first piece of StraightFlash™ flush with the top of the bump-out frame so it will extend 1" below the bottom edge of the bump-out frame.
- C. Continue installing around the bump-out frame and onto the Tyvek® WRB on the face of the wall. Ensure it is installed tight into the inside corner of the bump-out frame and wall.
- D. Make a vertical cut in the StraightFlash™ beginning at the bottom inside corner of the bump-out frame, and downward along the face of the wall. **Do not cut the Tyvek® WRB or DuPont™ FlexWrap™ corners previously installed.**
- E. Fold the exposed butyl up and onto the bottom edge of the bump-out frame and press the remaining exposed butyl together to create a diagonal fold.
- F. Fold the resulting flap upward and adhere onto to the bottom side of the bump-out frame.
- G. Repeat at opposite side of bump-out frame.

Installation Methods for DuPont Self-Adhered Flashing Products Installed **AFTER** the DuPont™ Tyvek® WRB Integral Flanged Window with Wood Bump-Out Frame Installed **AFTER** the Tyvek® WRB

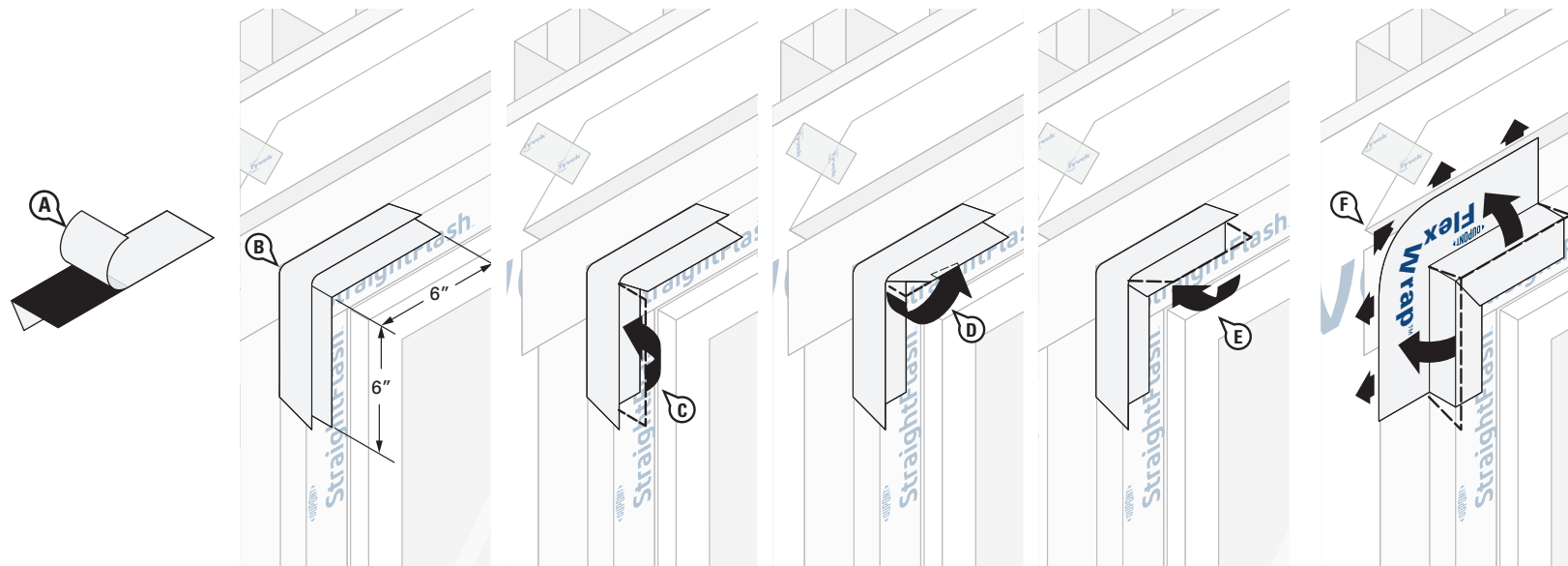


STEP 11

Install Head Flashing

- A. Apply **DuPont™ Adhesive/Primer** or recommended primer to the exposed sheathing.
- B. Cut one piece of 9" wide **DuPont™ StraightFlash™** long enough to extend a minimum of 1" beyond the jamb flashing on either side.
- C. Remove release paper and position over the head flange and onto the face of the bump-out frame, ensuring it extends 1" beyond the jamb flashing on either side.
- D. Adhere onto window flange, face and top edge of bump-out frame, and onto the face of the wall. Ensure it is installed tight into the inside corner of the bump-out frame and wall. **Do not adhere the exposed butyl to the side edges of the bump-out frame or beyond.**
- E. Make a vertical cut in the **StraightFlash™** along the side edge of the bump-out frame to the face of the wall. **Do not cut Tyvek™ WRB or any additional flashing.**
- F. Fold down resulting flap and adhere flat onto the face of the wall.

**Installation Methods for DuPont Self-Adhered Flashing Products Installed AFTER the DuPont™ Tyvek® WRB
Integral Flanged Window with Wood Bump-Out Frame Installed AFTER the Tyvek® WRB**



STEP 12

Install DuPont™ FlexWrap™ Corner Pieces at Top of Bump-Out Frame

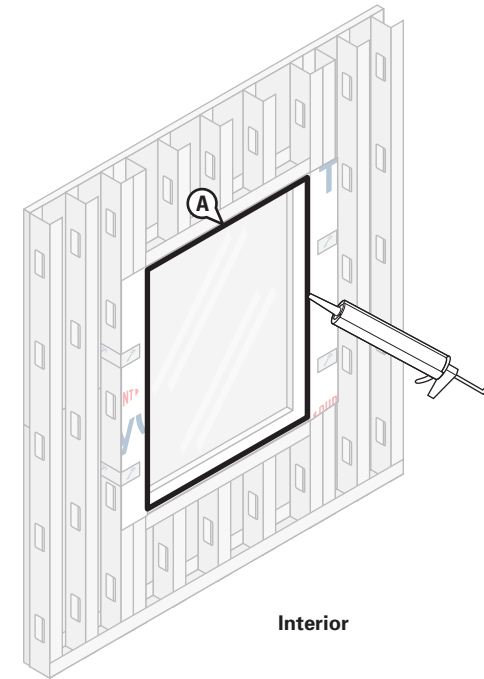
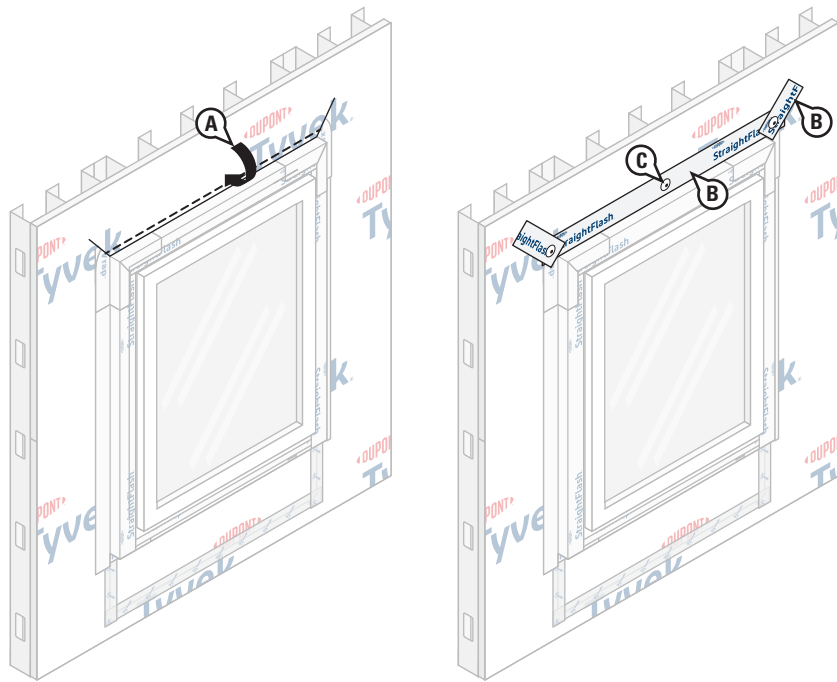
- A. Cut two (2) 12" long pieces of **FlexWrap™**. Break the perforations on one piece of **FlexWrap™** by folding along the perforated release paper. While still folded, remove the wider piece of release paper.
- B. Starting at the top corner of the jamb portion of the bump-out framing, adhere 6" along the side edge, extending another 6" along the top edge. Use the inside edge of the narrow release paper as a guide to ensure the butyl is adhered tight into the inside corner of the bump-out frame and the wall.
- C. Fold the exposed butyl at the side edge onto the face of the jamb portion of the bump-out frame.

- D. Create a diagonal "dog-ear" flap by first pressing the exposed butyl onto itself at the corner of the bump-out.
- E. Fold resulting flap down onto the face of the head portion of the bump-out frame. Continue pressing the remaining exposed butyl onto the face of the bump-out frame.
- F. Remove the remaining release paper from the **FlexWrap™** corner piece. Fan out the exposed butyl onto the face of the wall using uniform hand pressure
- G. Repeat Steps A–F on opposite corner of bump-out frame.

NOTE: If using 9" **FlexWrap™**, the flashing should be trimmed flush with the frame of the window. **Do not cut the previously installed flashing underneath.**

NOTE: DuPont Self-Adhered Flashing Products branding (label orientation) in this condition is shown to reflect actual product alignment/position to assist with proper use and installation for the complex condition.

Installation Methods for DuPont Self-Adhered Flashing Products Installed **AFTER** the DuPont™ Tyvek® WRB Integral Flanged Window with Wood Bump-Out Frame Installed **AFTER** the Tyvek® WRB



STEP 13

Terminate Head Flap

- Flip down upper flap of the **Tyvek® WRB** so it lays flat across head flashing. Ensure flap is trimmed 1"– 2" above the window opening.
- Terminate the **Tyvek® WRB** with 4" **DuPont™ StraightFlash™**.
- Apply 4" **StraightFlash™** over the diagonal seams.
- Install **DuPont™ Tyvek® Wrap Cap Screws**, or recommended fasteners, at appropriate spacing at head.

NOTE: For high performance designs or areas of extreme exposure use 4" **StraightFlash™** to seal the head flap and install additional mechanical fasteners through the flashing at the head flap and perimeter of the outside of the bump-out frame.

STEP 14

Create Interior Perimeter Seal

- Create a continuous perimeter seal using backer rod and sealant or **Great Stuff Pro™ Window and Door Polyurethane Foam Sealant** on window interior to resist air and water infiltration. When using **Great Stuff Pro™ Window and Door Polyurethane Foam Sealant** in perimeter openings less than 1/2", apply using the plastic extension tip for the **Great Stuff Pro™ Dispenser Gun** during installation.

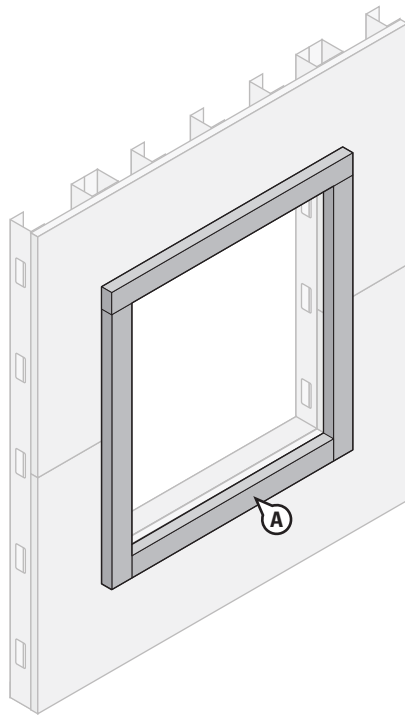
NOTE: For high performance installations exceeding ASTM E1677 wind loading pressures (10.8 psf, 65 mph equivalent structural load) and ASTM E331 water infiltration resistance of 6.24 psf, it is necessary to install sealant over the cured foam when using **Great Stuff Pro™ Window and Door Polyurethane Foam Sealant** or other recommended foam. Sealant should be installed over the foam between the window frame and rough opening around the entire interior perimeter. If **Great Stuff Pro™ Window and Door Polyurethane Foam Sealant** or other recommended foam extends beyond the window frame, shave the excess cured foam flush with the window frame before applying sealant. Avoid damaging the **DuPont Self-Adhered Flashing Products** or **Tyvek® WRB**.

Hybrid Installation Methods for DuPont Self-Adhered Flashing Products and DuPont™ Tyvek® Fluid Applied Flashing Products Installed AFTER the DuPont™ Tyvek® WRB

Non-Flanged Window with Wood Bump-Out Frame Installed BEFORE the Tyvek® WRB

This detail involves terminating the Tyvek® WRB along the exterior wall with DuPont™ StraightFlash™ and using DuPont™ Tyvek® Flashing and Joint Compound+ to protect the rough opening, bump-out framing, and to maintain continuity of the air and water barrier.

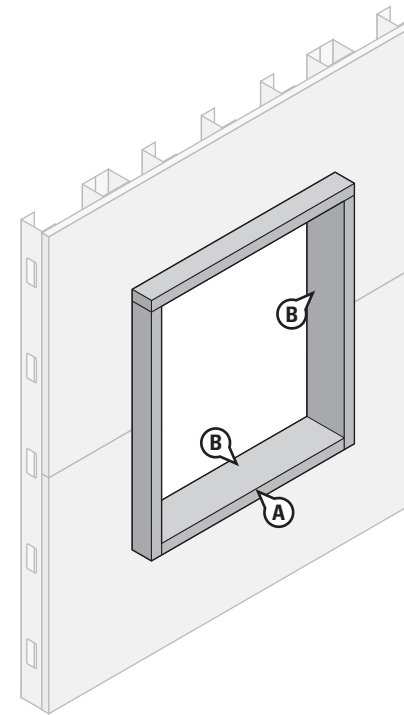
Method applies to the following products: StraightFlash™ and Tyvek® Fluid Applied Flashing and Joint Compound+



STEP 1

Install Bump-Out

- A. Install wood bump-out frame per project plans and specifications. Securely fasten in place.
- B. Clean substrate of any material that could negatively affect adhesion as well as any sharp protrusions.



STEP 1 – ALTERNATE

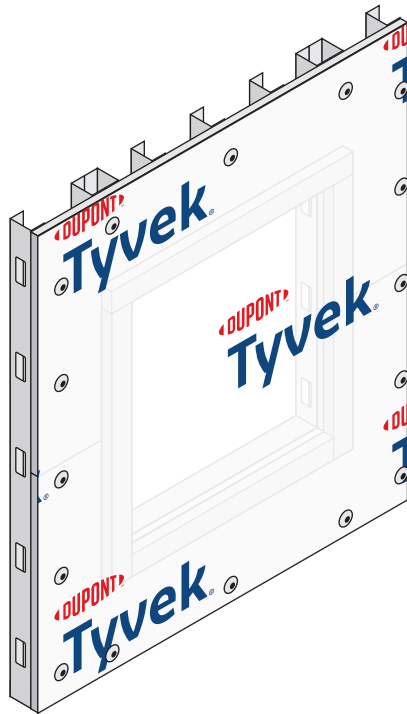
Bump-Out (Framing Extends from Rough Opening)

- A. Install wood bump-out frame per project plans and specifications. Securely fasten in place.
- B. Clean substrate of any material that could negatively affect adhesion as well as any sharp protrusions.

NOTE: The remaining steps depict bump-out framing installed on the face of the wall; however, these steps are identical when framing extends from the rough opening.

Hybrid Installation Methods for DuPont Self-Adhered Flashing Products and DuPont™ Tyvek® Fluid Applied Flashing Products Installed AFTER the DuPont™ Tyvek® WRB

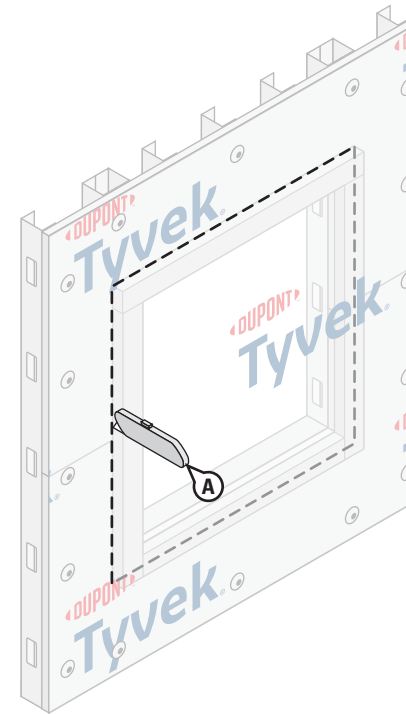
Non-Flanged Window with Wood Bump-Out Frame Installed BEFORE the Tyvek® WRB



STEP 2

Install Tyvek® WRB

Wrap wall with **Tyvek® WRB** as shown in the [DuPont™ Tyvek® Mechanically-Fastened Water-Resistive and Air Barrier \(WRB\) Installation Guidelines for Buildings Greater Than 4 Stories](#) that can be found at building.dupont.com. Do not install fasteners within 9" of the perimeter of the bump-out frame.



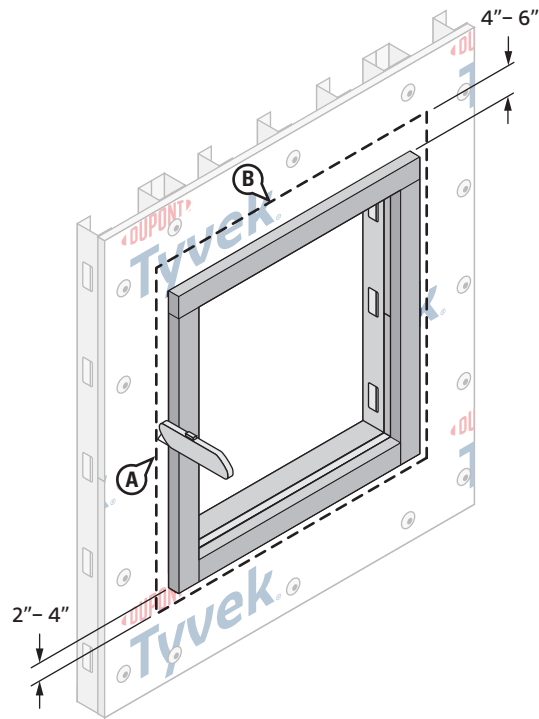
STEP 3

Prepare the Tyvek® WRB for Window Installation

- A. Cut an opening in the **Tyvek® WRB** along the dashed indicated lines. Ensure that the **Tyvek® WRB** is cut flush with the outside edge of the wood bump-out frame.

Hybrid Installation Methods for DuPont Self-Adhered Flashing Products and DuPont™ Tyvek® Fluid Applied Flashing Products Installed AFTER the DuPont™ Tyvek® WRB

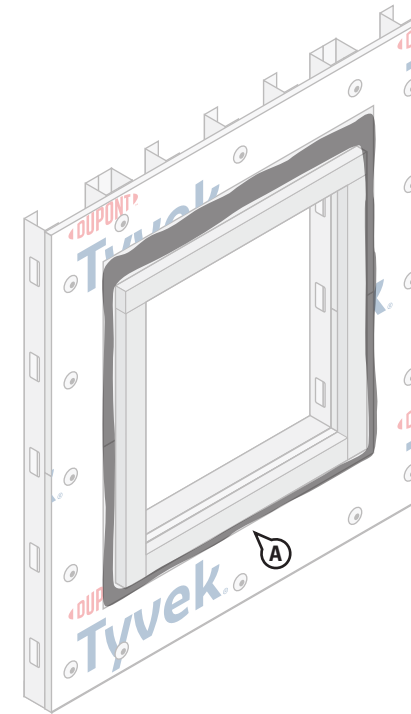
Non-Flanged Window with Wood Bump-Out Frame Installed BEFORE the Tyvek® WRB



STEP 4

Cut/Trim Tyvek® WRB

- A. Cut/Trim the **Tyvek® WRB** back from the edge of the bump-out framing along the sill and jamb areas 2"– 4" to expose the exterior sheathing.
- B. Cut/Trim the **Tyvek® WRB** back from the top edge of bump-out framing 4"– 6" to expose the exterior sheathing.



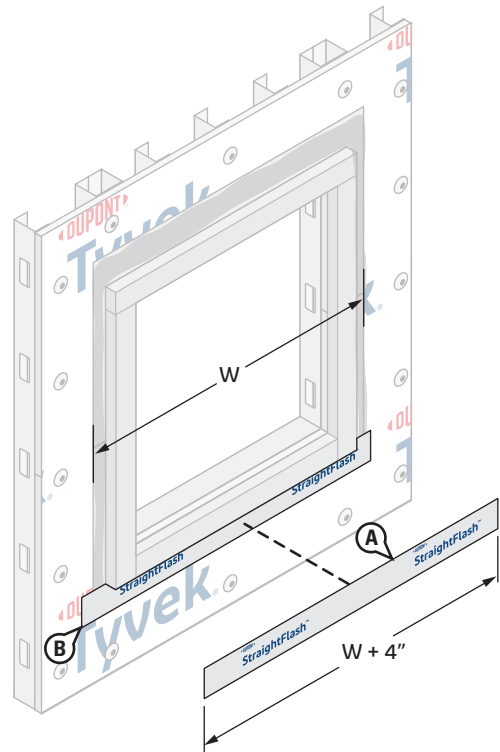
STEP 5

Apply Primer

- A. Apply **DuPont™ Adhesive/Primer** or recommend primer to the exposed exterior sheathing/wall substrate.

Hybrid Installation Methods for DuPont Self-Adhered Flashing Products and DuPont™ Tyvek® Fluid Applied Flashing Products Installed AFTER the DuPont™ Tyvek® WRB

Non-Flanged Window with Wood Bump-Out Frame Installed BEFORE the Tyvek® WRB



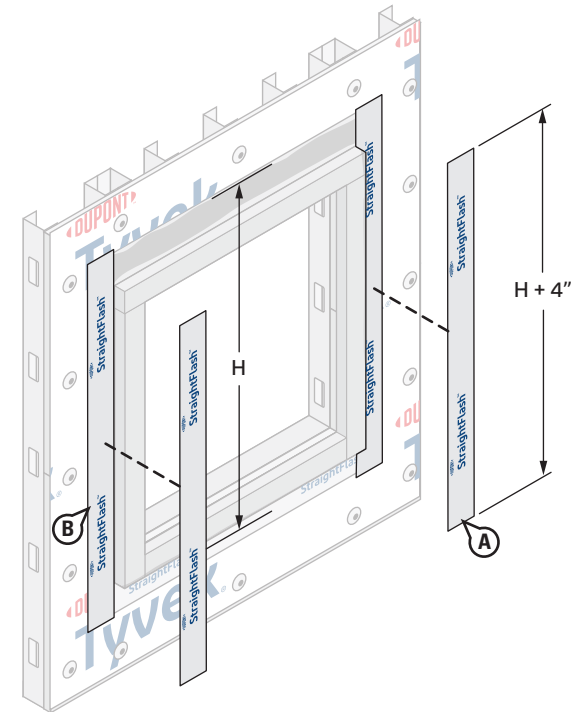
STEP 6

Terminate Tyvek® WRB Below the Bump-Out Frame

- A. Cut a piece of 4" (min) DuPont™ StraightFlash™ the width of the exposed sheathing (W) plus an additional 4".

NOTE: When using the width of the bump-out framing as a guide, the total length of the StraightFlash™ piece would include the width of the bump-out framing, plus the exposed sheathing on both sides of the bump-out framing, plus an additional 4" to allow 2" (min) of adhesion to the Tyvek® WRB.

- B. Install StraightFlash™ as shown. Ensure flashing is properly positioned and installed so that half is on Tyvek® WRB and half is on the primed exposed sheathing. StraightFlash™ must be positioned so that flashing has at least 2" (min) of adhesion onto the Tyvek® WRB beyond the edge of the vertical cutline on both sides of the prepared area.



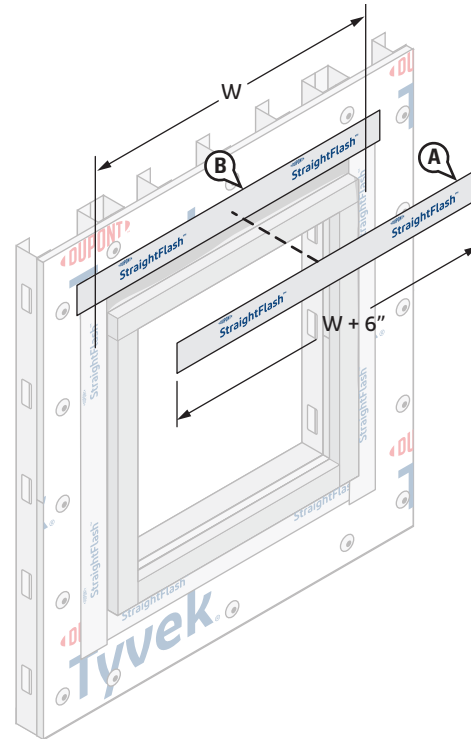
STEP 7

Terminate the Tyvek® WRB Outside the Jamb Area

- A. Cut two (2) pieces 4" (min) DuPont™ StraightFlash™ the height of the exposed vertical sheathing (H) plus an additional 4".
- B. Install the flashing from the outer edge of the bump-out frame, over the exposed primed sheathing and extend 2" (min) onto the Tyvek® WRB.
- C. Repeat flashing installation along the opposite side.

Hybrid Installation Methods for DuPont Self-Adhered Flashing Products and DuPont™ Tyvek® Fluid Applied Flashing Products Installed AFTER the DuPont™ Tyvek® WRB

Non-Flanged Window with Wood Bump-Out Frame Installed BEFORE the Tyvek® WRB



STEP 8

Terminate Tyvek® WRB Above the Bump-Out Frame

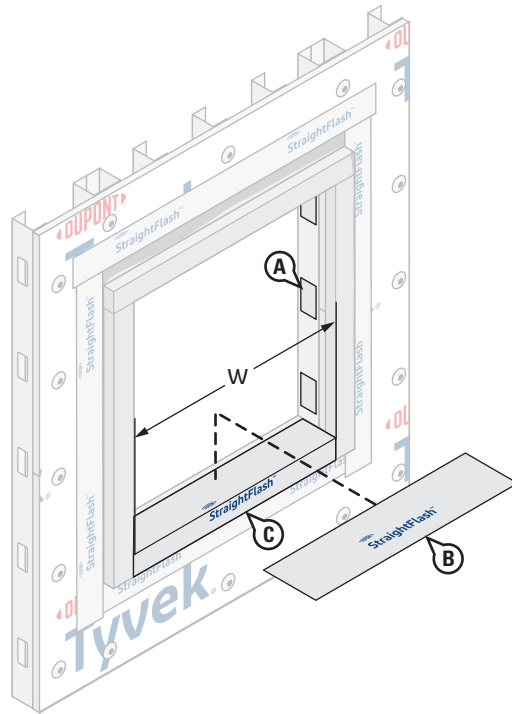
- A. Cut a piece of 4" (min) **StraightFlash™** the width of the exposed sheathing (W) plus an additional 6".

NOTE: When using the width of the bump-out framing as a guide, total length of **StraightFlash™** piece would include the width of the bump-out framing, plus the exposed sheathing on both sides of the bump-out framing, plus an additional 6" to allow 2" (min) of adhesion to the **Tyvek® WRB** and 2" overlap on **StraightFlash™** outside jamb area of bump-out frame

- B. Install **StraightFlash™** as shown. Ensure flashing is properly positioned and installed so that half is on the **Tyvek® WRB** and half is on the primed exposed sheathing. **StraightFlash™** must be positioned so that flashing has at least 2" (min) of adhesion onto the **Tyvek® WRB** beyond the edge of the vertical cutline on both sides of the prepared area.

Hybrid Installation Methods for DuPont Self-Adhered Flashing Products and DuPont™ Tyvek® Fluid Applied Flashing Products Installed AFTER the DuPont™ Tyvek® WRB

Non-Flanged Window with Wood Bump-Out Frame Installed BEFORE the Tyvek® WRB

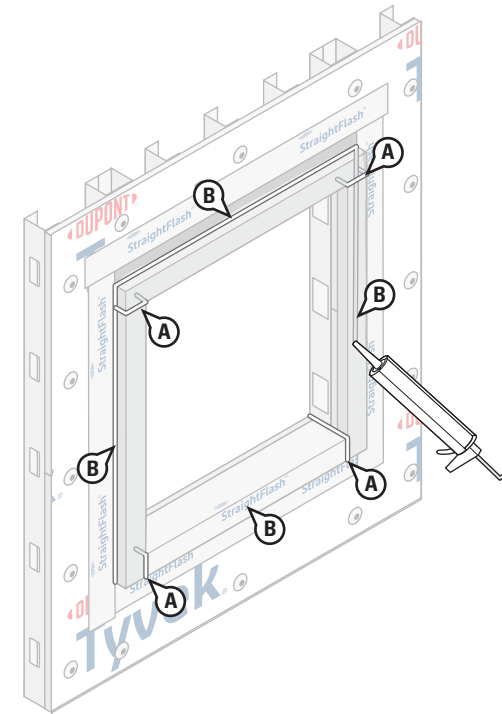


STEP 9

Prepare the Inner Sill Flashing and Inner Jambs

- Cover holes in studs with patches of **DuPont™ StraightFlash™** as necessary.
- Prepare the inner sill flashing by cutting a piece of **StraightFlash™** the width (W) of the sill (inner sill)
- Install **StraightFlash™** along the inner sill and face of wood bump-out frame. Ensure the **StraightFlash™** is aligned along the outer edge of the sill and jamb bump-out frame. **StraightFlash™ is not required in cases where no fasteners are being installed through the window sill.**

NOTE: Use either 4" or 9" width **StraightFlash™** depending on the width necessary to complete an interior perimeter seal with the window frame.



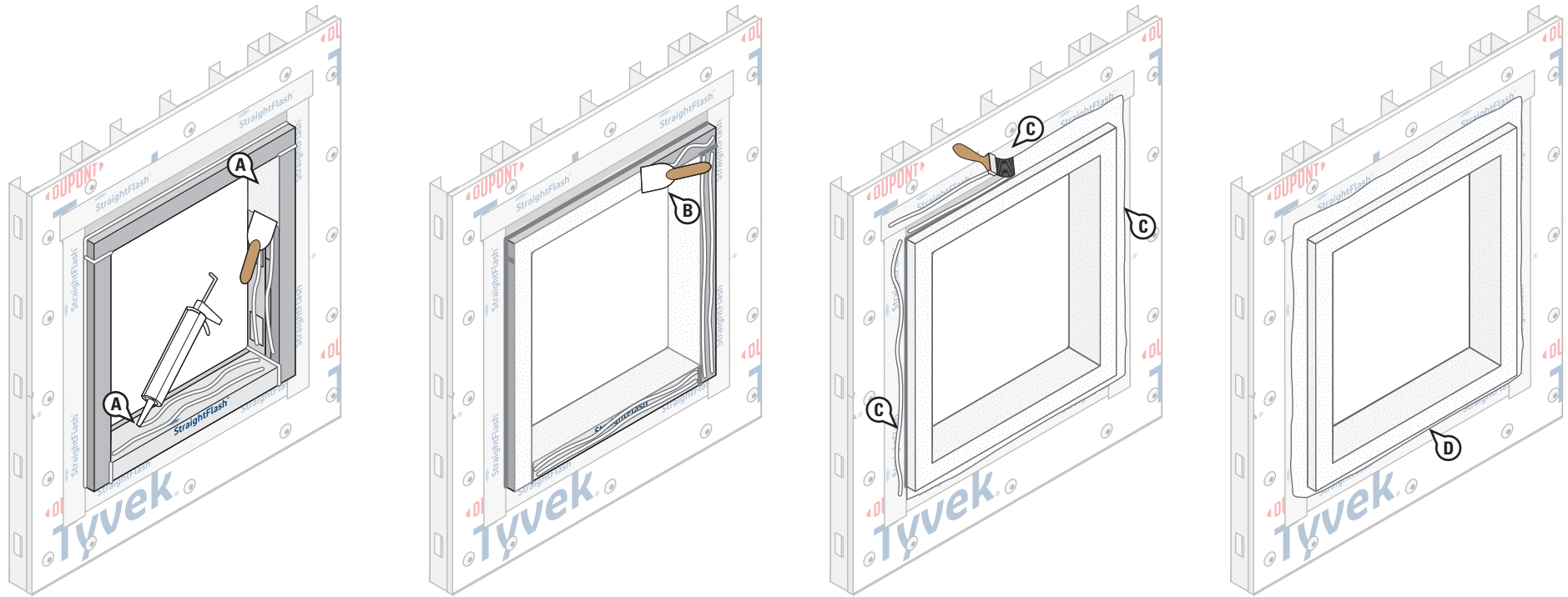
STEP 10

Pre-treat Edges of Wood Bump-Out Frame

- Apply a bead of **DuPont™ Tyvek® Fluid Applied Flashing and Joint Compound+** or **DuPont™ Sealant for DuPont™ Tyvek® Fluid Applied System** to all the seams and fill any holes or cracks in the bump-out framing and tool flat.
- Apply a fillet bead of **Tyvek® Fluid Applied Flashing and Joint Compound+** or **Sealant for Tyvek® Fluid Applied System** around the perimeter of the wood bump-out framing and wall interface. The fillet bead should extend approximately 1/2" onto both surfaces.
- Tool sealant to achieve optimal joint design.

Hybrid Installation Methods for DuPont Self-Adhered Flashing Products and DuPont™ Tyvek® Fluid Applied Flashing Products Installed AFTER the DuPont™ Tyvek® WRB

Non-Flanged Window with Wood Bump-Out Frame Installed BEFORE the Tyvek® WRB



STEP 11

Apply DuPont™ Tyvek® Fluid Applied Flashing and Joint Compound+

- Starting at the window head, apply a bead of **Tyvek® Fluid Applied Flashing and Joint Compound+** onto the inside surface of the rough opening. Use a trowel or brush to smooth out flashing to a thickness of approximately 25 mils. The flashing should cover the inside of the rough opening.
- Apply a bead of **Tyvek® Fluid Applied Flashing and Joint Compound+** onto the face of the bump-out framing. Use a trowel or brush to smooth out flashing to a thickness of approximately 25mils.
- Apply **Tyvek® Fluid Applied Flashing and Joint Compound+** to the outer edge of the bump-out frame and partially onto the topsheet of the **DuPont™ StraightFlash™** along the jambs and underneath the bump-out framing along the sill. At the head area, apply **Tyvek® Fluid Applied Flashing and Joint Compound+** along the edge of the bump-out frame, exposed sheathing and partially onto the

StraightFlash™. Use a brush or trowel to smooth out **Tyvek® Fluid Applied Flashing and Joint Compound+**. Be sure all inside corners are filled and integrated with the **StraightFlash™**. A corner trowel may be used to smooth outside corners.

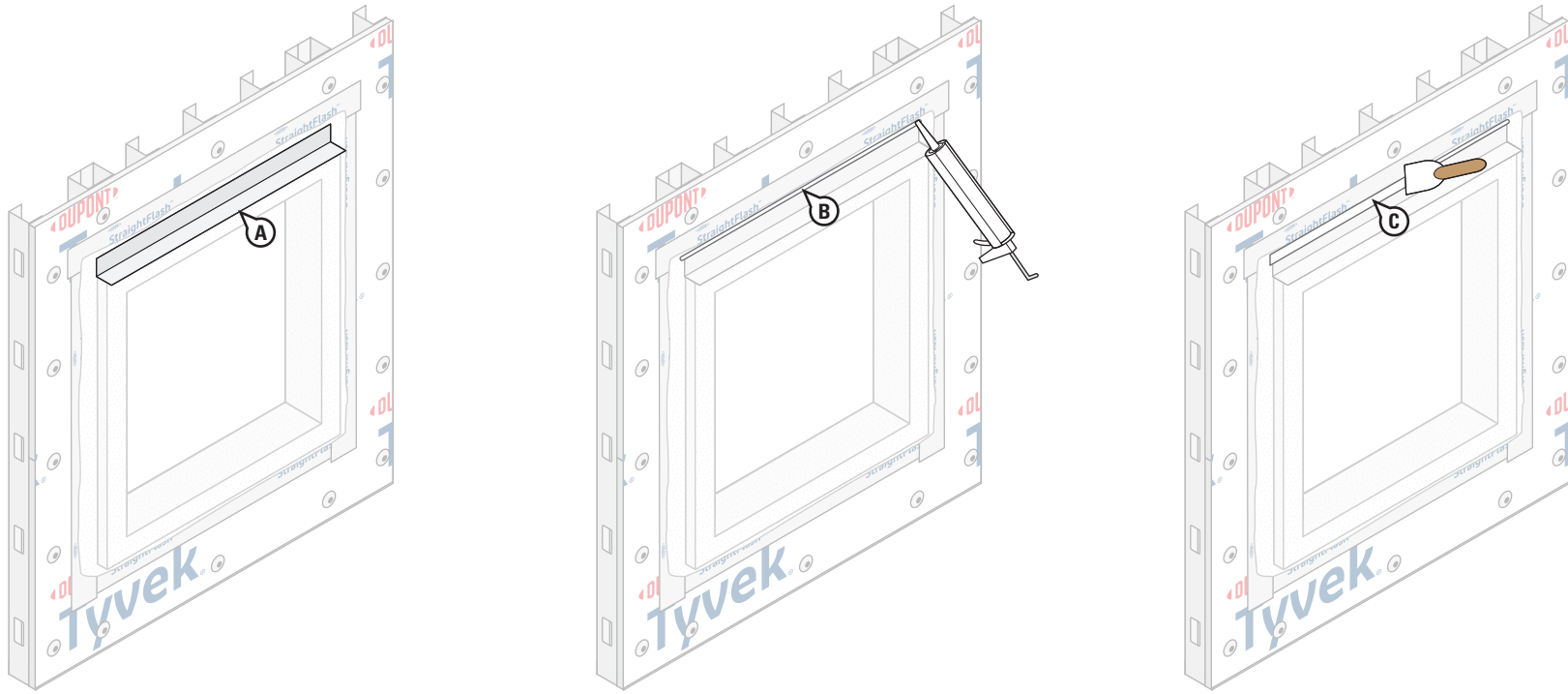
- Inspect product surface area to ensure continuity of the flashing exists from the rough opening, face of bump framing and outer edge of bump-out frame to 2" on the face of the **StraightFlash™**. Ensure final application is free of pinholes and voids.

NOTE: Be sure not to get uncured **Tyvek® Fluid Applied Products** onto the surface of **Tyvek® WRB**.

NOTE: Apply the **Tyvek® Fluid Applied Flashing and Joint Compound+** and **DuPont Self-Adhered Flashing Products** and window per the [DuPont™ Tyvek® Fluid Applied Flashing Installations Guidelines For Buildings Greater than 4 Stories and High-Performance Installations of Any Height](https://www.dupont.com/resources/guidelines-for-buildings-greater-than-4-stories-and-high-performance-installations-of-any-height) that can be found at [building.dupont.com](https://www.dupont.com).

Hybrid Installation Methods for DuPont Self-Adhered Flashing Products and DuPont™ Tyvek® Fluid Applied Flashing Products Installed AFTER the DuPont™ Tyvek® WRB

Non-Flanged Window with Wood Bump-Out Frame Installed BEFORE the Tyvek® WRB



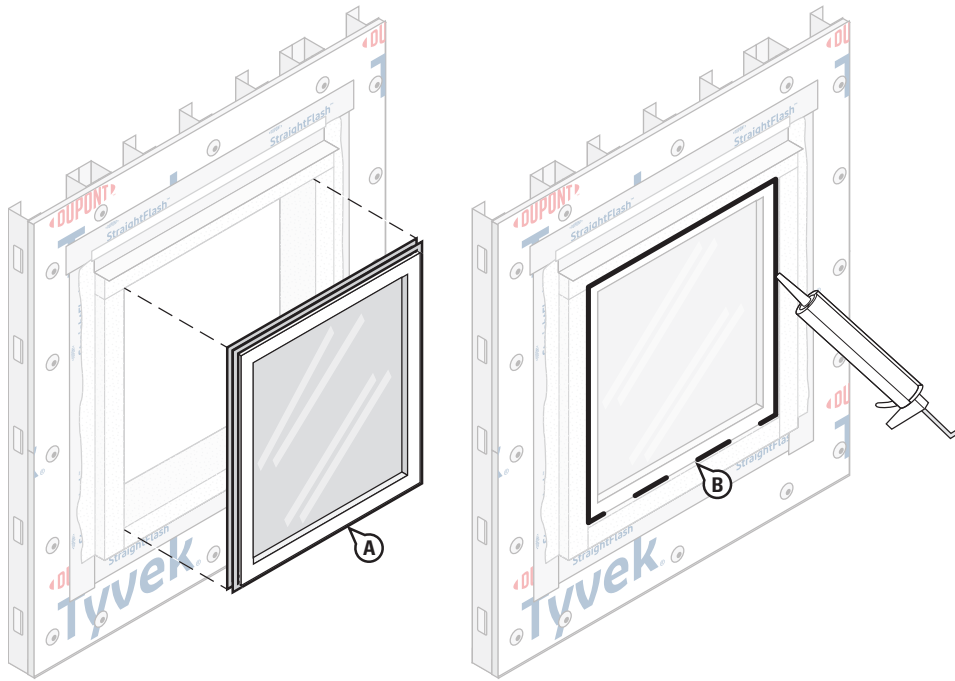
STEP 12

Install Drip Cap

- A. As a best practice, install metal drip cap above the bump-out framing as shown above or as specified by others.
- B. Apply **DuPont™ Tyvek® Fluid Applied Flashing and Joint Compound+** along the top edge of the metal drip cap.
- C. Trowel **Tyvek® Fluid Applied Flashing and Joint Compound+** to continuous 25 mils. Ensure 1" min onto either side of the drip cap to wall interface.

Hybrid Installation Methods for DuPont Self-Adhered Flashing Products and DuPont™ Tyvek® Fluid Applied Flashing Products Installed AFTER the DuPont™ Tyvek® WRB

Non-Flanged Window with Wood Bump-Out Frame Installed BEFORE the Tyvek® WRB

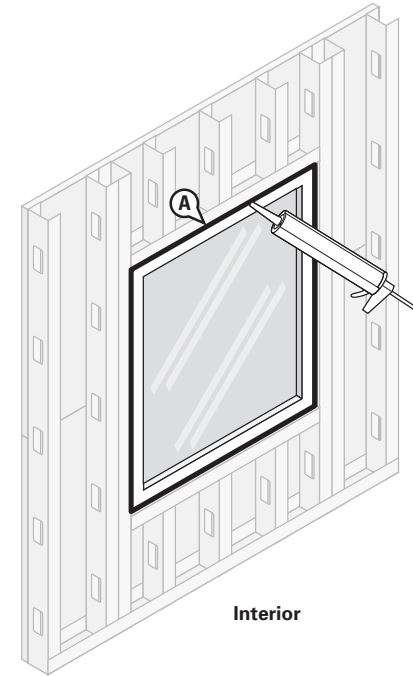


STEP 13

Install Window

- A. Install window per manufacturer's installation instructions.
- B. Apply an exterior perimeter seal using backer rod and sealant along the jambs and head of the window opening.

NOTE: Ensure window and sealant installation allows for drainage at the sill. If sealant is applied at the sill, as a best practice, ensure that there are at least two (2) 2" gaps in the sealant bead for every 4" of window to allow for drainage.



STEP 14

Create Interior Perimeter Seal

- A. Create a continuous perimeter seal using backer rod and **DuPont™ Sealant for Tyvek® Fluid Applied System**, recommended sealant, or **Great Stuff Pro™ Window and Door Polyurethane Foam Sealant** on window interior to resist air and water infiltration. When using **Great Stuff Pro™ Window and Door Polyurethane Foam Sealant** in perimeter openings less than ½", apply using the plastic extension tip for the **Great Stuff Pro™ Dispenser Gun** during installation.

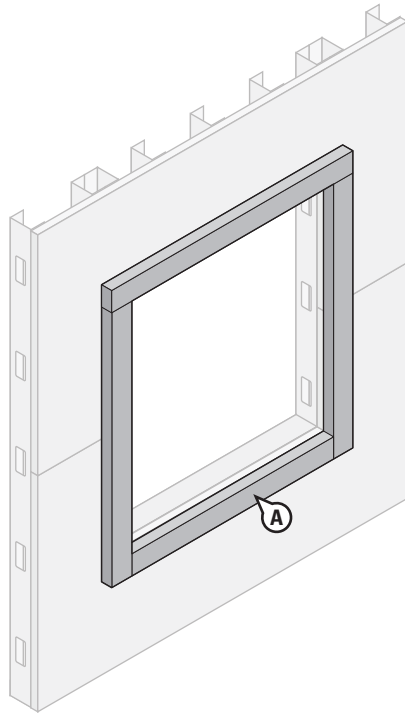
NOTE: For high performance installations exceeding ASTM E1677 wind loading pressures (10.8 psf, 65 mph equivalent structural load) and ASTM E331 water infiltration resistance of 6.24 psf, it is necessary to install sealant over the cured foam when using **Great Stuff Pro™ Window and Door Polyurethane Foam Sealant** or other recommended foam. Sealant should be installed over the foam between the window frame and rough opening around the entire interior perimeter. If **Great Stuff Pro™ Window and Door Polyurethane Foam Sealant** or other recommended foam extends beyond the window frame, shave the excess cured foam flush with the window frame before applying sealant. Avoid damaging the **DuPont Self-Adhered Flashing** or **Tyvek® WRB**.

Hybrid Installation Methods for DuPont Self-Adhered Flashing Products and DuPont™ Tyvek® Fluid Applied Flashing Products Installed AFTER the DuPont™ Tyvek® WRB

Integral Flanged Window with Wood Bump-Out Frame Installed BEFORE the Tyvek® WRB

This detail involves terminating the Tyvek® WRB along the exterior wall with DuPont™ StraightFlash™ and using DuPont™ Tyvek® Flashing and Joint Compound+ to protect the rough opening, bump-out framing, and to maintain continuity of the air and water barrier.

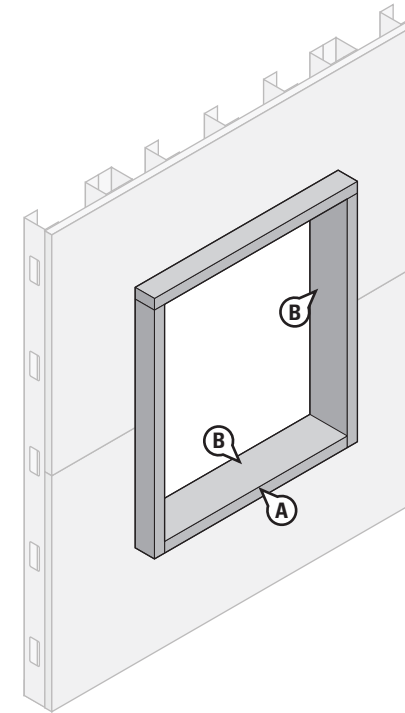
Method applies to the following products: StraightFlash™ and Tyvek® Fluid Applied Flashing and Joint Compound+



STEP 1

Install Bump-Out

- A. Install wood bump-out frame per project plans and specifications. Securely fasten in place.
- B. Clean substrate of any material that could negatively affect adhesion as well as any sharp protrusions.



STEP 1 – ALTERNATE

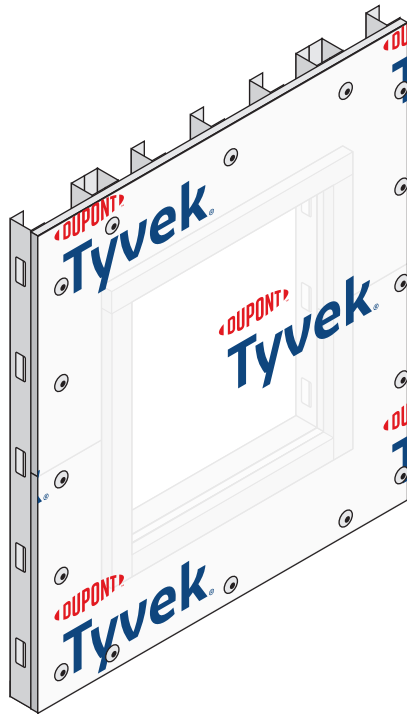
Bump-Out (Framing Extends from Rough Opening)

- A. Install wood bump-out frame per project plans and specifications. Securely fasten in place.
- B. Clean substrate of any material that could negatively affect adhesion as well as any sharp protrusions.

NOTE: The remaining steps depict bump-out framing installed on the face of the wall; however, these steps are identical when framing extends from the rough opening.

Hybrid Installation Methods for DuPont Self-Adhered Flashing Products and DuPont™ Tyvek® Fluid Applied Flashing Products Installed AFTER the DuPont™ Tyvek® WRB

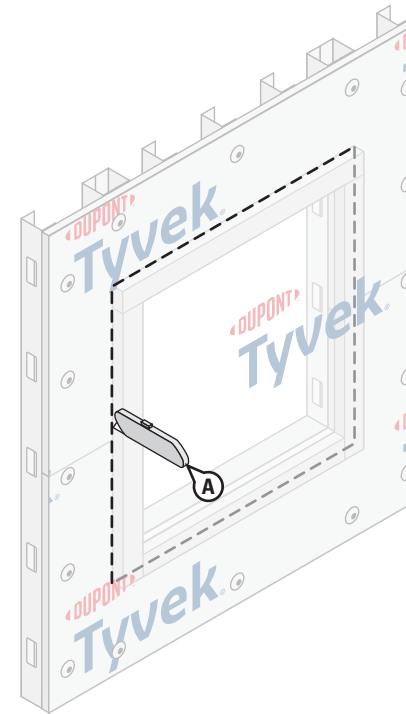
Integral Flanged Window with Wood Bump-Out Frame Installed BEFORE the Tyvek® WRB



STEP 2

Install Tyvek® WRB

Wrap wall with **Tyvek® WRB** as shown in the [DuPont™ Tyvek® Mechanically-Fastened Water-Resistive and Air Barrier \(WRB\) Installation Guidelines for Buildings Greater Than 4 Stories](#) that can be found at building.dupont.com. Do not install fasteners within 9" of the perimeter of bump-out frame.



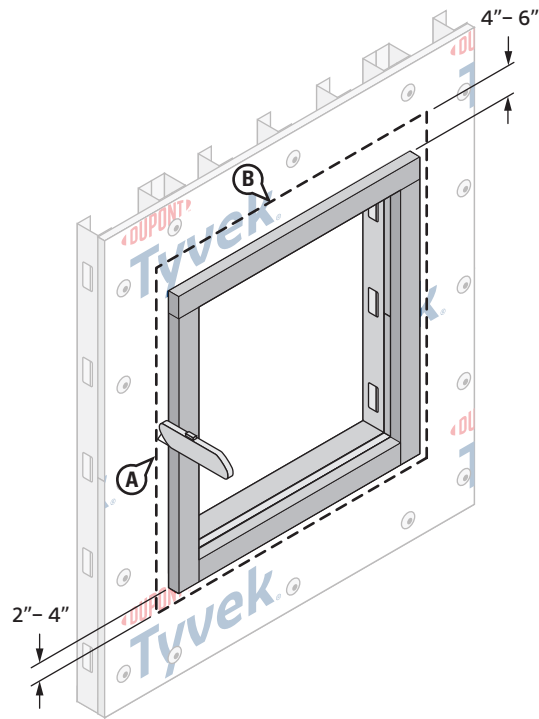
STEP 3

Prepare the Tyvek® WRB for Window Installation

- A. Cut an opening in the **Tyvek® WRB** along the dashed indicated lines. Ensure that the **Tyvek® WRB** is cut flush with the outside edge of the wood bump-out frame.

Hybrid Installation Methods for DuPont Self-Adhered Flashing Products and DuPont™ Tyvek® Fluid Applied Flashing Products Installed AFTER the DuPont™ Tyvek® WRB

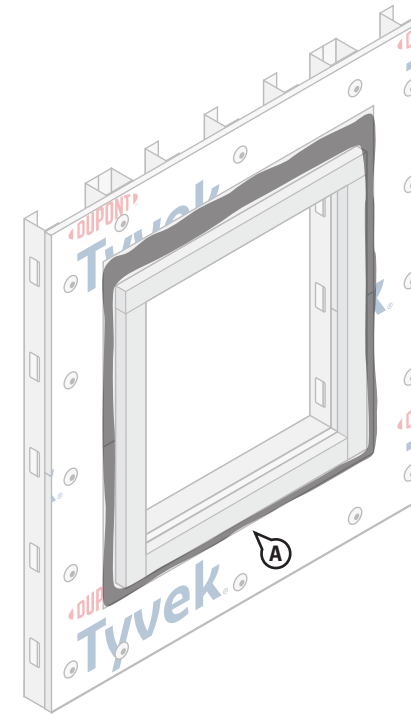
Integral Flanged Window with Wood Bump-Out Frame Installed BEFORE the Tyvek® WRB



STEP 4

Cut/Trim Tyvek® WRB

- Cut/Trim the **Tyvek® WRB** back from the edge of the bump-out framing along the sill and jamb areas 2"– 4" to expose the exterior sheathing.
- Cut/Trim the **Tyvek® WRB** back from the top edge of bump-out framing 4"– 6" to expose the exterior sheathing.



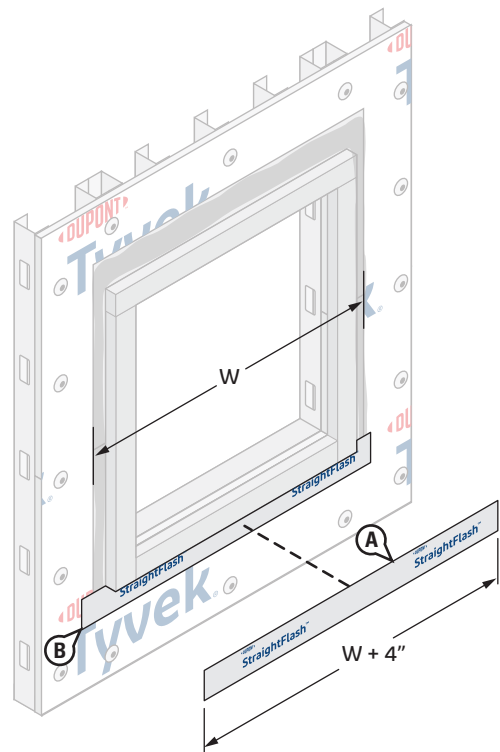
STEP 5

Apply Primer

- Apply **DuPont™ Adhesive/Primer** or recommend primer to the exposed exterior sheathing/wall substrate.

Hybrid Installation Methods for DuPont Self-Adhered Flashing Products and DuPont™ Tyvek® Fluid Applied Flashing Products Installed AFTER the DuPont™ Tyvek® WRB

Integral Flanged Window with Wood Bump-Out Frame Installed BEFORE the Tyvek® WRB



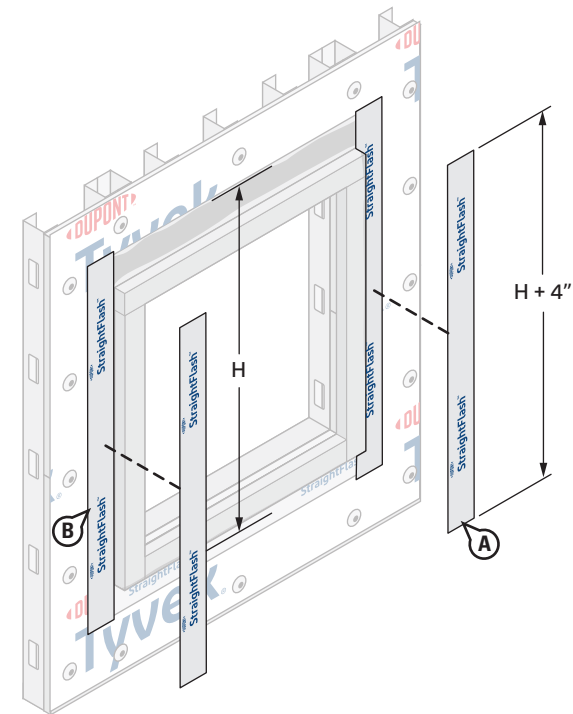
STEP 6

Terminate Tyvek® WRB Below the Bump-Out Frame

- A. Cut a piece of 4" (min) DuPont™ StraightFlash™ the width of the exposed sheathing (W) plus an additional 4".

NOTE: When using the width of the bump-out framing as a guide, the total length of the StraightFlash™ piece would include the width of the bump-out framing, plus the exposed sheathing on both sides of the bump-out framing, plus an additional 4" to allow 2" (min) of adhesion to the Tyvek® WRB.

- B. Install StraightFlash™ as shown. Ensure flashing is properly positioned and installed so that half is on Tyvek® WRB and half is on the primed exposed sheathing. StraightFlash™ must be positioned so that flashing has at least 2" (min) of adhesion onto the Tyvek® WRB beyond the edge of the vertical cutline on both sides of the prepared area.



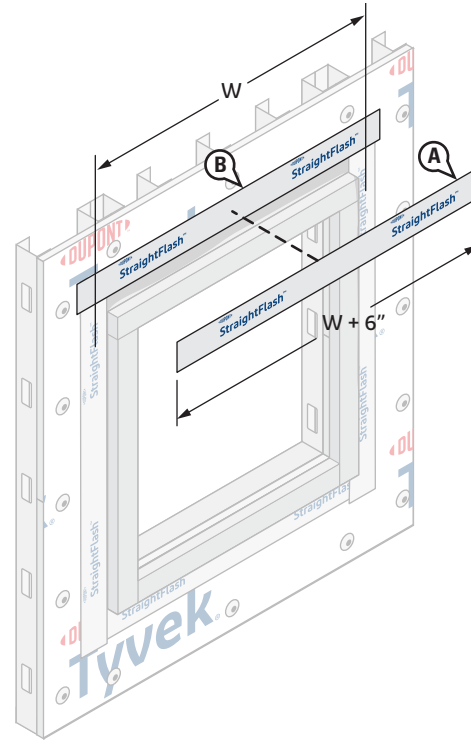
STEP 7

Terminate the Tyvek® WRB Outside the Jamb Area

- A. Cut two (2) pieces 4" (min) DuPont™ StraightFlash™ the height of the exposed vertical sheathing (H) plus an additional 4".
- B. Install the flashing from the outer edge of the bump-out frame, over the exposed primed sheathing and extend 2" (min) onto the Tyvek® WRB.
- C. Repeat flashing installation along the opposite side.

Hybrid Installation Methods for DuPont Self-Adhered Flashing Products and DuPont™ Tyvek® Fluid Applied Flashing Products Installed AFTER the DuPont™ Tyvek® WRB

Integral Flanged Window with Wood Bump-Out Frame Installed BEFORE the Tyvek® WRB



STEP 8

Terminate Tyvek® WRB Above the Bump-Out Frame

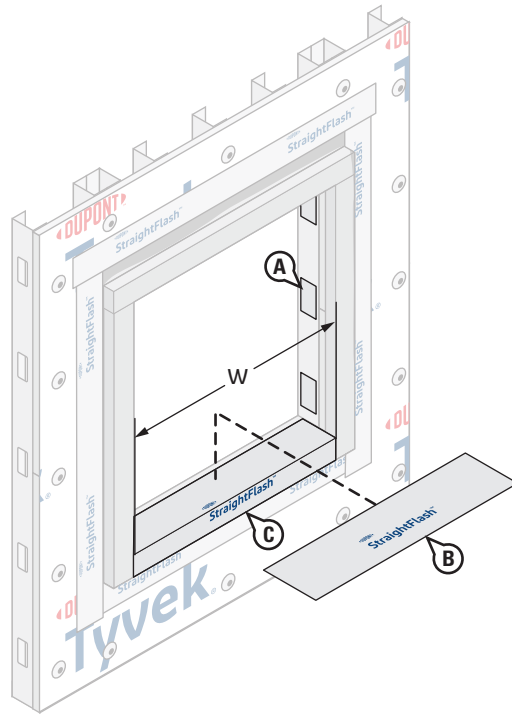
- A. Cut a piece of 4" (min) **StraightFlash™** the width of the exposed sheathing (W) plus an additional 6".

NOTE: When using the width of the bump-out framing as a guide, total length of **StraightFlash™** piece would include the width of the bump-out framing, plus the exposed sheathing on both sides of the bump-out framing, plus an additional 6" to allow 2" (min) of adhesion to the **Tyvek® WRB** and 2" overlap on **StraightFlash™** outside jamb area of bump-out frame

- B. Install **StraightFlash™** as shown. Ensure flashing is properly positioned and installed so that half is on the **Tyvek® WRB** and half is on the primed exposed sheathing. **StraightFlash™** must be positioned so that flashing has at least 2" (min) of adhesion onto the **Tyvek® WRB** beyond the edge of the vertical cutline on both sides of the prepared area.

Hybrid Installation Methods for DuPont Self-Adhered Flashing Products and DuPont™ Tyvek® Fluid Applied Flashing Products Installed AFTER the DuPont™ Tyvek® WRB

Integral Flanged Window with Wood Bump-Out Frame Installed BEFORE the Tyvek® WRB

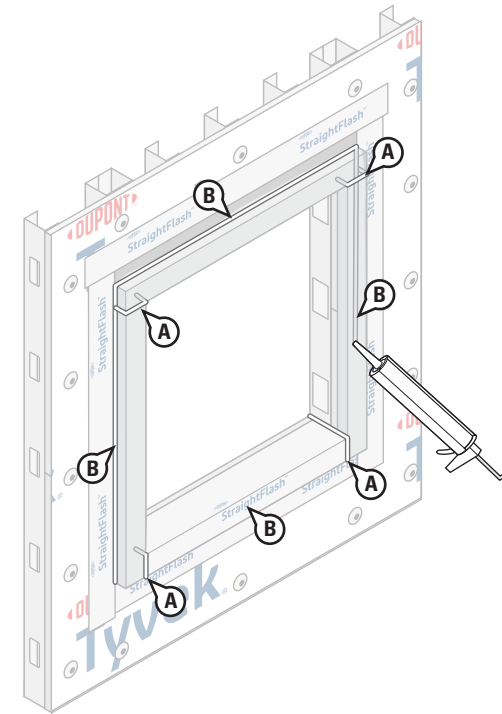


STEP 9

Prepare the Inner Jambs and Inner Sill Flashing

- Cover holes in studs with patches of **DuPont™ StraightFlash™** as necessary.
- Prepare the inner sill flashing by cutting a piece of **StraightFlash™** the width (W) of the sill (inner sill)
- Install **StraightFlash™** along the inner sill and face of wood bump-out frame. Ensure the **StraightFlash™** is aligned along the outer edge of the sill and jamb bump-out frame. **StraightFlash™ is not required in cases where no fasteners are being installed through the window sill.**

NOTE: Use either 4" or 9" width **StraightFlash™** depending on the width necessary to complete an interior perimeter seal with the window frame.



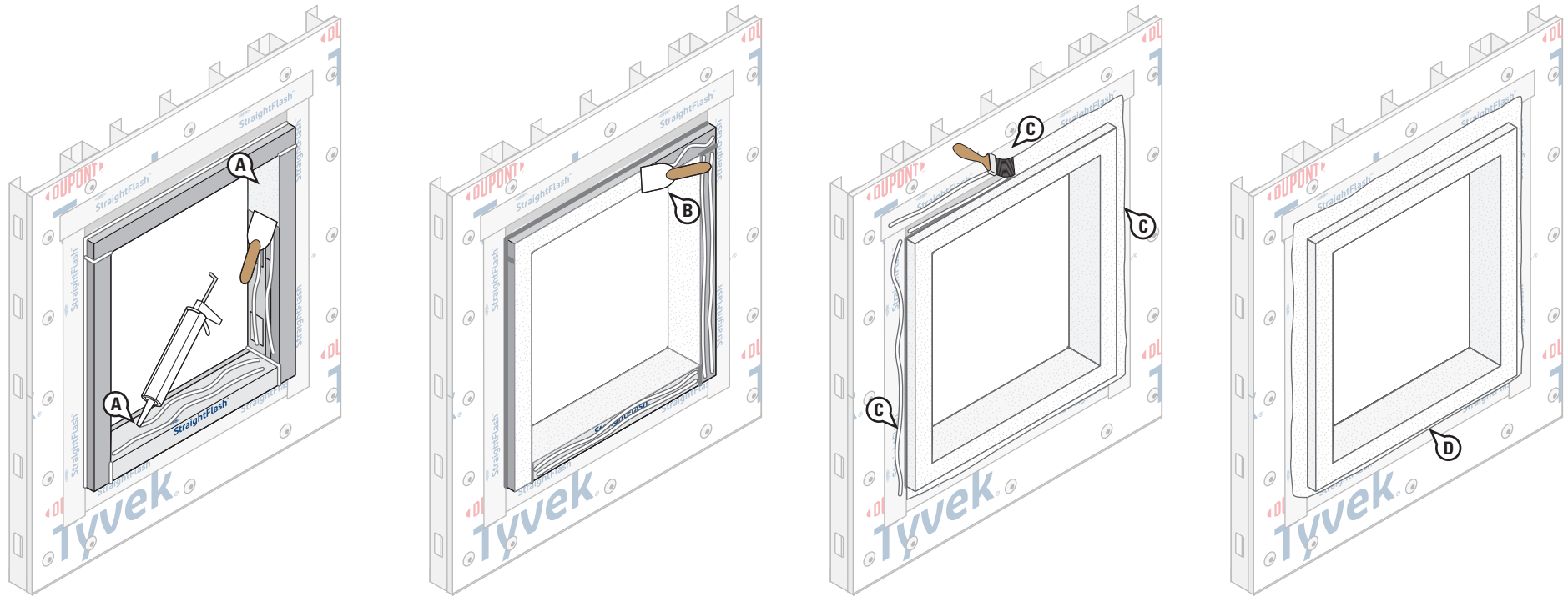
STEP 10

Pre-treat Edges of Wood Bump-Out Frame

- Apply a bead of **DuPont™ Tyvek® Fluid Applied Flashing and Joint Compound+** or **DuPont™ Sealant for DuPont™ Tyvek® Fluid Applied System** to all the seams and fill any holes or cracks in the bump-out framing and tool flat.
- Apply a fillet bead of **Tyvek® Fluid Applied Flashing and Joint Compound+** or **Sealant for Tyvek® Fluid Applied System** around the perimeter of the wood bump-out framing and wall interface. The fillet bead should extend approximately 1/2" onto both surfaces.
- Tool sealant to achieve optimal joint design.

Hybrid Installation Methods for DuPont Self-Adhered Flashing Products and DuPont™ Tyvek® Fluid Applied Flashing Products Installed AFTER the DuPont™ Tyvek® WRB

Integral Flanged Window with Wood Bump-Out Frame Installed BEFORE the Tyvek® WRB



STEP 11

Apply DuPont™ Tyvek® Fluid Applied Flashing and Joint Compound+

- Starting at the window head, apply a bead of **Tyvek® Fluid Applied Flashing and Joint Compound+** onto the inside surface of the rough opening. Use a trowel or brush to smooth out flashing to a thickness of approximately 25 mils. The flashing should cover the inside of the rough opening.
- Apply a bead of **Tyvek® Fluid Applied Flashing and Joint Compound+** onto the face of the bump-out framing. Use a trowel to trowel or brush to smooth out flashing to a thickness of approximately 25mils.
- Apply **Tyvek® Fluid Applied Flashing and Joint Compound+** to the outer edge of the bump-out frame and partially onto the topsheet of the **DuPont™ StraightFlash™** along the jambs and underneath the bump-out framing along the sill. At the head area, apply **Tyvek® Fluid Applied Flashing and Joint Compound+** along the edge of the bump-out frame, exposed sheathing and partially onto the

StraightFlash™. Use a brush or trowel to smooth out **Tyvek® Fluid Applied Flashing and Joint Compound+**. Be sure all inside corners are filled and integrated with the **StraightFlash™**. A corner trowel may be used to smooth outside corners.

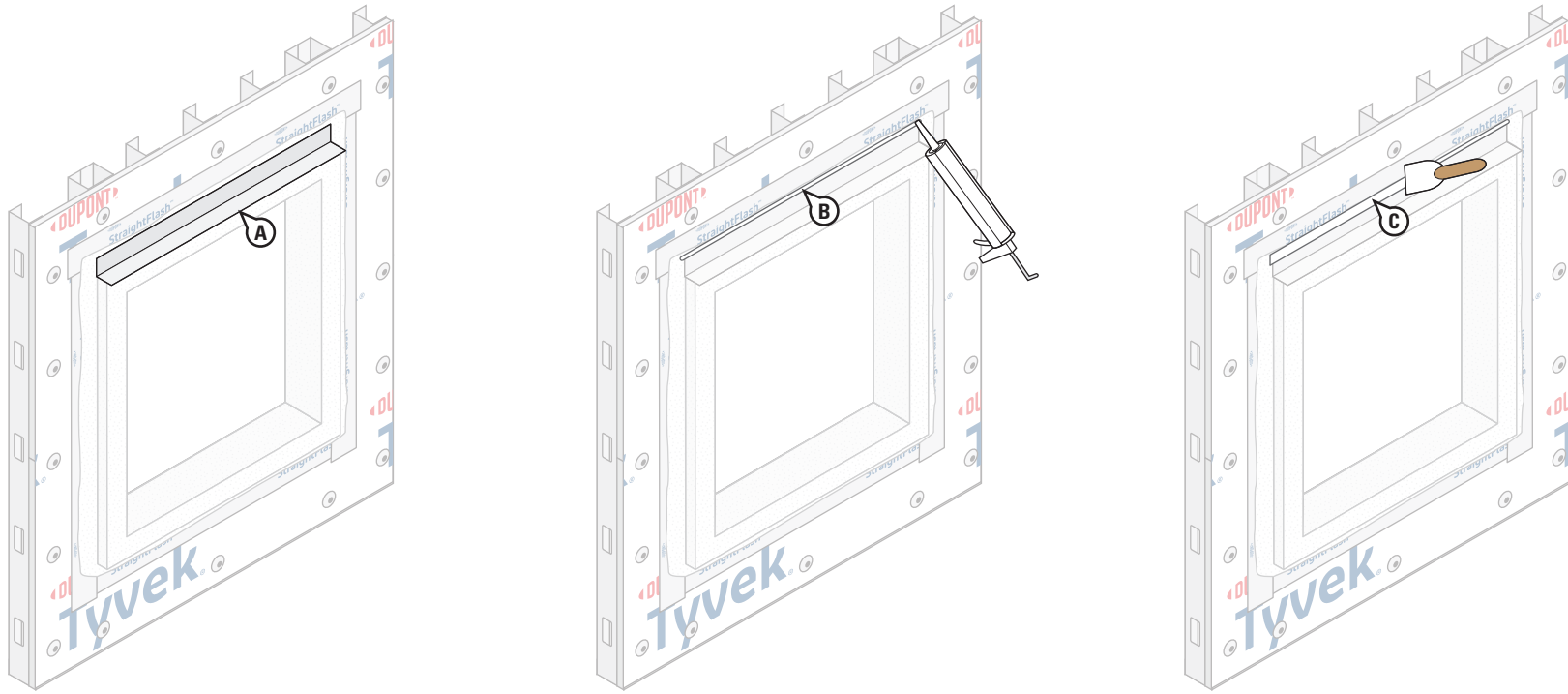
- Inspect product surface area to ensure continuity of the flashing exists from the rough opening, face of bump framing and outer edge of bump-out frame to 2" on the face of the **StraightFlash™**. Ensure final application is free of pinholes and voids.

NOTE: Be sure not to get uncured **Tyvek® Fluid Applied Products** onto the surface of **Tyvek® WRB**.

NOTE: Apply the **Tyvek® Fluid Applied Flashing and Joint Compound+** and **DuPont Self-Adhered Flashing Products** and window per the [DuPont™ Tyvek® Fluid Applied Flashing Installations Guidelines For Buildings Greater than 4 Stories and High-Performance Installations of Any Height](https://www.dupont.com/resources/guidelines/flashing-installations-guidelines-for-buildings-greater-than-4-stories-and-high-performance-installations-of-any-height) that can be found at building.dupont.com.

Hybrid Installation Methods for DuPont Self-Adhered Flashing Products and DuPont™ Tyvek® Fluid Applied Flashing Products Installed AFTER the DuPont™ Tyvek® WRB

Integral Flanged Window with Wood Bump-Out Frame Installed BEFORE the Tyvek® WRB



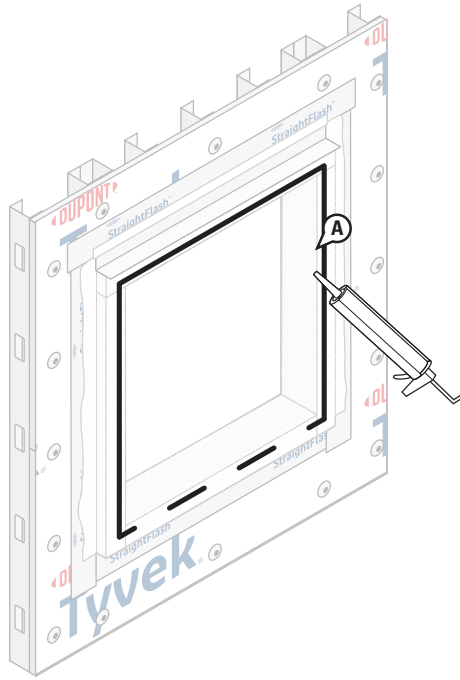
STEP 12

Install Drip Cap

- A. As a best practice, install metal drip cap above the bump-out framing as shown above or as specified by others.
- B. Apply **DuPont™ Tyvek® Fluid Applied Flashing and Joint Compound+** along the top edge of the metal drip cap.
- C. Trowel **Tyvek® Fluid Applied Flashing and Joint Compound+** to continuous 25 mils. Ensure 1" min onto either side of the drip cap to wall interface.

Hybrid Installation Methods for DuPont Self-Adhered Flashing Products and DuPont™ Tyvek® Fluid Applied Flashing Products Installed AFTER the DuPont™ Tyvek® WRB

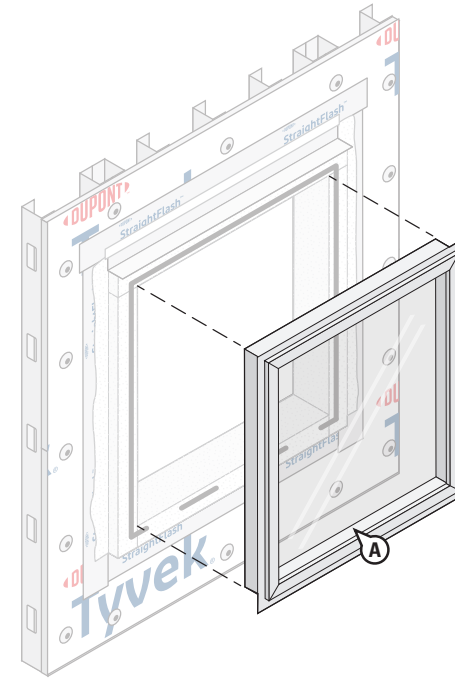
Integral Flanged Window with Wood Bump-Out Frame Installed BEFORE the Tyvek® WRB



STEP 13

Apply Sealant

- A. After **DuPont™ Tyvek® Fluid Applied Flashing and Joint Compound+** has cured, apply a continuous bead of **DuPont™ Sealant for Tyvek® Fluid Applied System** or recommended sealant at the window head and jambs to the wall or back side of window mounting flange. **Do not apply continuous sealant bead across bottom sill flange** to allow for drainage. If sealant is applied to the sill, ensure that there are at least two (2) 2" gaps in the sealant bead for every 4' of window to allow for drainage.



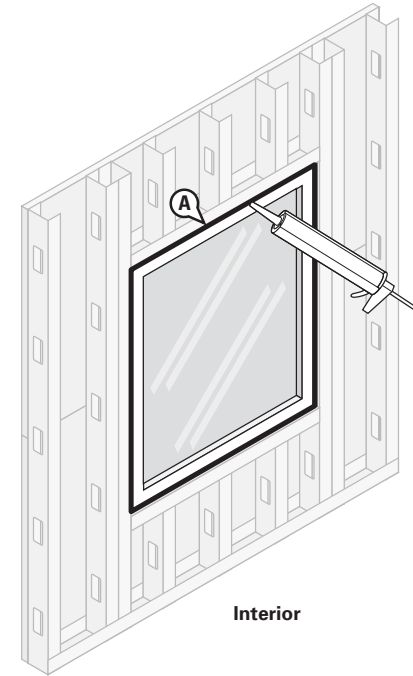
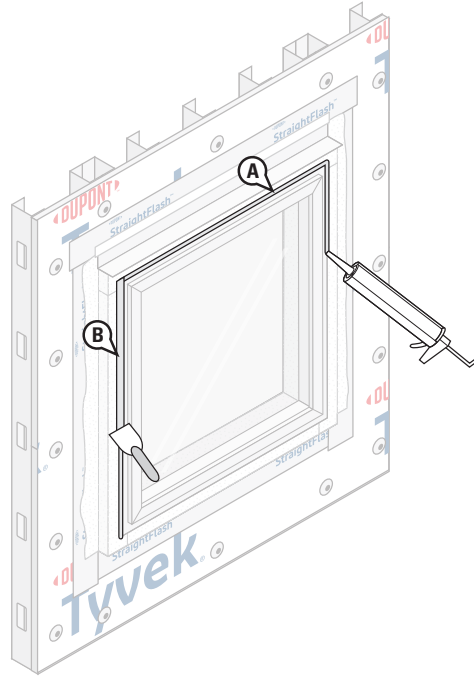
STEP 14

Install Window

- A. Install integral flanged window per manufacturer's instructions.

Hybrid Installation Methods for DuPont Self-Adhered Flashing Products and DuPont™ Tyvek® Fluid Applied Flashing Products Installed AFTER the DuPont™ Tyvek® WRB

Integral Flanged Window with Wood Bump-Out Frame Installed BEFORE the Tyvek® WRB



STEP 15

Flash Window Jamb and Head Flanges

- Apply a continuous bead of **DuPont™ Tyvek® Fluid Applied Flashing and Joint Compound+** along the interface between the window flange and the wall on the jambs and head of the window.
- Use a trowel or brush to smooth flashing to approximately 2" wide x 60 mils thick. The **Tyvek® Fluid Applied Flashing and Joint Compound+** should extend onto the window flange a minimum of a 1/2" past the flange fasteners (approximately 1" onto either side of the flange/wall interface). Upon completion, inspect surface to ensure that **Tyvek® Fluid Applied Flashing and Joint Compound+** application is continuous and free of any voids or pinholes.

STEP 16

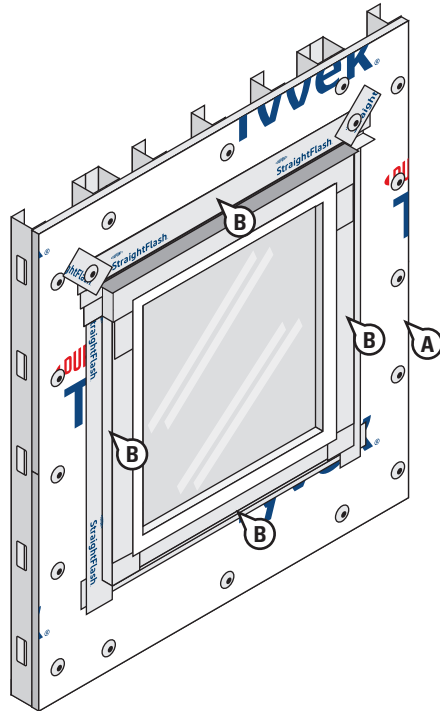
Create Interior Perimeter Seal

- Create a continuous perimeter seal using backer rod and **DuPont™ Sealant for Tyvek® Fluid Applied System**, recommended sealant, or **Great Stuff Pro™ Window and Door Polyurethane Foam Sealant** on window interior to resist air and water infiltration. When using **Great Stuff Pro™ Window and Door Polyurethane Foam Sealant** in perimeter openings less than 1/2", apply using the plastic extension tip for the **Great Stuff Pro™ Dispenser Gun** during installation.

NOTE: For high performance installations exceeding ASTM E1677 wind loading pressures (10.8 psf, 65 mph equivalent structural load) and ASTM E331 water infiltration resistance of 6.24 psf, it is necessary to install sealant over the cured foam when using **Great Stuff Pro™ Window and Door Polyurethane Foam Sealant** or other recommended foam. Sealant should be installed over the foam between the window frame and rough opening around the entire interior perimeter. If **Great Stuff Pro™ Window and Door Polyurethane Foam Sealant** or other recommended foam extends beyond the window frame, shave the excess cured foam flush with the window frame before applying sealant. Avoid damaging the **DuPont Self-Adhered Flashing** or **Tyvek® WRB**.

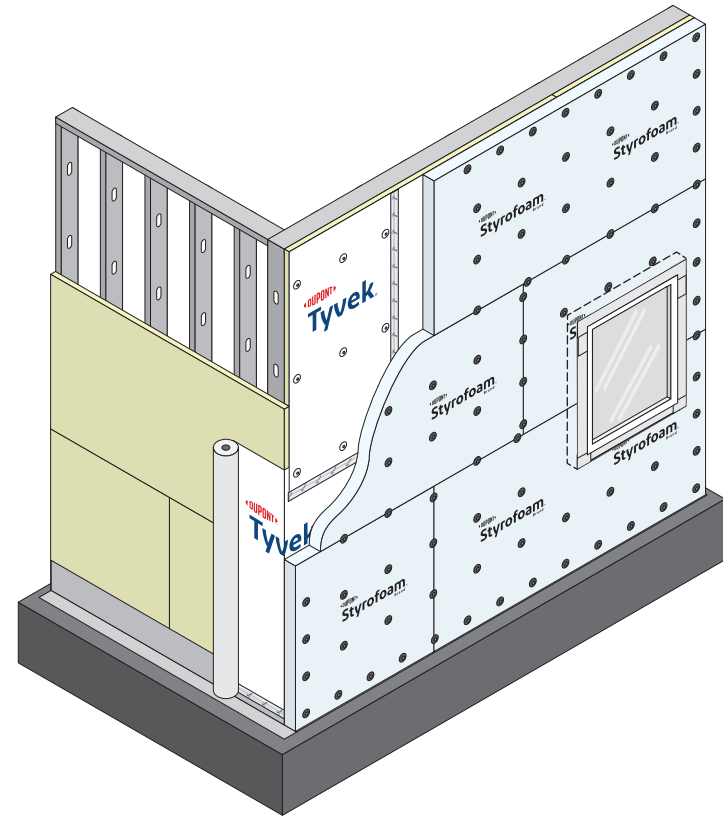
Installation of DuPont Exterior Continuous Insulation

DuPont™ Tyvek® WRB Installed UNDER DuPont Exterior Continuous Insulation



STEP 1

- A. Install the **Tyvek® WRB** per 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](#).
- B. Install the **DuPont Flashing Products** in accordance with the applicable detail in this document, and install window per manufacturer's instructions.



STEP 2

- A. Install **DuPont Exterior Continuous Insulation** per the [DuPont Commercial Wall² System - DuPont™ Tyvek® CommercialWrap® or CommercialWrap® D Weather-Resistive Barrier \(WRB\) UNDER DuPont Exterior Continuous Insulation Installation Bulletin](#).

Product Composition and UV Stability

DuPont Self-Adhered Flashing Products are made from a synthetic rubber 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™** and **DuPont™ StraightFlash™** be covered within 9 months (270 days) of installation.

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® CommercialWrap®** and **Tyvek® CommercialWrap® D** be covered within 9 months (270 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.

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® 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.

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.

NOTICE: No freedom from any patent owned by DuPont or others is to be inferred. Because use conditions and applicable laws may differ from one location to another and may change with time, Customer is responsible for determining whether products and the information in this document are appropriate for Customer's use and for ensuring that Customer's workplace and disposal practices are in compliance with applicable laws and other government enactments. The product shown in this literature may not be available for sale and/or available in all geographies where DuPont is represented. The claims made may not have been approved for use in all countries or regions. DuPont assumes no obligation or liability for the information in this document. References to "DuPont" or the "Company" mean the DuPont legal entity selling the products to Customer unless otherwise expressly noted. NO EXPRESS WARRANTIES ARE GIVEN EXCEPT FOR ANY APPLICABLE WRITTEN WARRANTIES SPECIFICALLY PROVIDED BY DUPONT. ALL IMPLIED WARRANTIES INCLUDING THOSE OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE EXPRESSLY EXCLUDED. The buyer assumes all risks as to the use of the material. Buyer's exclusive remedy or any claim (including without limitations, negligence, strict liability, or tort) shall be limited to the refund of the purchase price of the material. Failure to strictly adhere to any recommended procedures shall release DuPont de Nemours, Inc., and its affiliates, of all liability with respect to the materials or the use thereof. The information herein is not intended for use by non-professional designers, applicators or other persons who do not purchase or utilize this product in the normal course of their business.

© 2021 DuPont. DuPont™, the DuPont Oval Logo, and all trademarks and service marks denoted with ™, SM or ® are owned by affiliates of DuPont de Nemours, Inc. unless otherwise noted. Grip-Lok®, Thermal-Grip FastCap™, and TRUFAST® are trademarks or registered trademarks of TRUFAST.

43-D100937-enNA-0321



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