DuPont Performance Building Solutions

DUPONT Tyvek®

Flashing Installation Guidelines Hybrid Condition Using DuPont™ Tyvek® Fluid Applied Flashing and Joint Compound+

Integral Flanged Window In Recessed Opening Installed **AFTER** the **DuPont™ Tyvek®** Water-Resistive and Air Barrier (WRB)

March 2020

Table of Contents

Applicable Products

DuPont™ Fluid Applied Products

Product	Quantity	Coverage
DuPont™ Tyvek® Fluid Applied	3.5 gal	50-60 sf/gal* Flashing and Joint Compound+
DuPont™ Tyvek® Fluid Applied	28 oz	2.5–3.5 lf/oz Flashing and Joint Compound+ (for gypsum sheathing seam treatment)
DuPont™ Sealant for Tyvek®	28 oz	N/A Fluid Applied System

DuPont™ Self-Adhered Flashing Products

Product	WIDTH
DuPont™ FlexWrap™ (formerly DuPont™ **FlexWrap™**)	6 in 9 in
DuPont™ StraightFlash™	4 in 9 in

Water-Resistive Barriers (WRB)

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

Installation Accessories

Product	Type	Quantity
DuPont™ Tyvek® Tape	2" Bulk Pack 3" Bulk Pack	36 rolls/case 24 rolls/case
DuPont™ Tyvek® Wrap Cap Staples or other cap staples for Stinger™ Cap Stapler	7/8", 1-1/4", and 1-1/2" lengths 3/8" and 5/8" lengths	2,000/box 2,016/box
DuPont™ Tyvek® Wrap Cap Nails	1" electro-galvanized ring shank nail	2,000/box
DuPont™ Tyvek® Wrap Cap Screws	2" dia. plastic cap, 1-3/4" screw length	1,000/box
DuPont™ Adhesive/Primer		
DuPont™ Window and Door Foam		

Safety, Handling, and Storage

WARNING: For Professional Use Only. Read and follow the entire Safety, Handling, and Storage section and the Safety Data Sheets (SDSs, formerly MSDSs or Material Safety Data Sheets) carefully before use. The information below is designed to protect the user and allow for safe use and handling of DuPont™ Fluid Applied Products. Follow all applicable federal, state, local and employer regulations.

Precautionary Statements

Use only as directed. Avoid inhalation of vapor aerosol. Avoid breathing dust/fumes/gas/mist/vapors/spray. 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. Vapor and aerosols are harmful if using spray application. Use in a well-ventilated area. Use NIOSH approved respirator. If vapors are inhaled, immediately move from exposure to fresh air and contact a physician. Avoid contact with eyes and skin. See Personal Protective Equipment section below.

Hazard Statements
May cause an allergic skin reaction. May cause serious eye damage. May cause genetic defects. May cause cancer. May damage fertility or the unborn child. 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. **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.

Personal Protective Equipment (PPE)
Personal protective equipment (PPE) used during the handling of DuPont™ Fluid Applied Products must at a minimum include:

- Protective clothing or coveralls, including long sleeves and head cover (no skin should be exposed), for example, Tyvek® non-woven laminate paint protective coveralls with hood
- Chemical-resistant nitrile, butyl rubber, neoprene or PVC gloves
- Chemical splash impact safety goggles or equivalent, unless using a full-face respirator
- Protective work safety shoes
- Hearing protection such as ear plugs when spraying
- NIOSH-approved particulate filtering full-face respirator with a P95 particulate filter or half-mask respirator with a P95 particulate filter and splash impact googles when spraying
- NIOSH-approved N95 disposable safety mask with splash impact googles for manual application such as troweling or rolling, and for clean-up.
- Clean Up

Use appropriate personal protective equipment during clean-up (see Personal Protective Equipment section). Uncured **DuPont Fluid Applied Products** can be cleaned from hands, tools, and equipment by using a citrus based cleaner or mineral spirits. Cured **DuPont Fluid Applied Products** can be removed by soaking in citrus based cleaners or using a gel-based paint stripper.

Shelf Life and Storage
The shelf life is 12 months for an unopened container from the date of manufacture. Reference the "Use By" date printed on the container. Store opened containers with a plastic protective liner to slow cure rate. Before reusing a previously opened container, first remove any cured material that may have formed (skinned over) at the top.

DuPont Fluid Applied Products should be stored in a clean, dry environment, 50°- 80°F (10° - 27°C). If stored at temperatures below 65°F (18°C), the product must be warmed to a minimum of 65°F (18°C) prior to spraying using standard industry methods for proper atomization at the spray tip. Continuous storage at high temperatures will reduce the shelf life of **DuPont Fluid Applied Products**. **DuPont Fluid Applied Products** temporarily stored outside should be stored under cover.

Disposal
Dispose of any residual Tyvek® Fluid Applied product, coated debris, or solvent in accordance with applicable federal, state, and local government regulations.

Supplemental Information
Avoid spraying **DuPont™ Tyvek® Fluid Applied WB+™** in very windy conditions. Installing professional should consider if structure should be tented to protect the surrounding area from overspray. Avoid spraying in very dusty conditions.

Warranty Information

Please call 1-800-44-Tyvek or visit building.dupont.com for complete warranty information.

Special Considerations

Air barrier performance requirements exceeding ASTM E1677 (65 mph equivalent structural load and 15 mph equivalent wind-driven rain water infiltration) or buildings over 60' require the use of **DuPont™ Tyvek® CommercialWrap®** or **DuPont™ Tyvek® CommercialWrap® D** installed according to the *DuPont™ Tyvek® Mechanically Fastened Air and Water Barrier Installation Guidelines*, including, but not limited to fastener type, fastener schedule, and sealing **DuPont™ Tyvek® WRB** seams with 3" **DuPont™ Tyvek® Tape**. In addition, 4" **DuPont™ StraightFlash™** secured with mechanical fasteners through the flashing is required for sealing the head flap

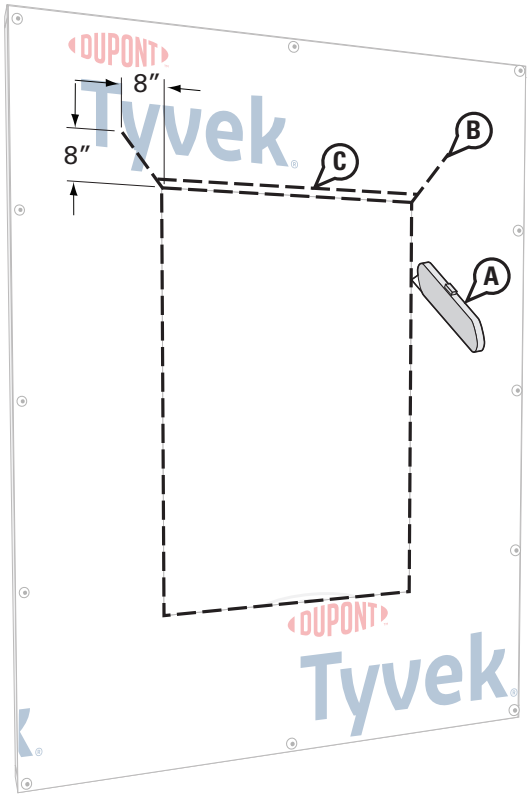
1. **DuPont Fluid Applied Products** can be applied to damp surfaces. A surface is considered damp if there is no visible water on the surface and no transfer of water to the skin when touched.
2. Suitable substrates for **DuPont Fluid Applied Products** include concrete masonry unit (CMU), concrete (>48 hours for green concrete), exterior gypsum, OSB, plywood, wood, treated wood and metal.
3. When applying **DuPont Fluid Applied Products** over wood-based substrates such as OSB, plywood, lumber, and treated lumber, the installing professional should ensure the moisture content, measured with a wood moisture meter in the core of the substrate, shall be below 20%. Do not cover wood based substrates with **DuPont Fluid Applied Products** if moisture content is 20% or above.
4. Priming is only required for **DuPont Fluid Applied Products** when applied to cut edges of exterior gypsum sheathing.
5. **DuPont™ Tyvek® Fluid Applied Flashing and Joint Compound+** can be troweled or brushed to the required thickness in any application outlined in the guide.
6. **DuPont 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).
7. The maximum in-service temperature of the final cured **DuPont Fluid Applied Products** is 180°F (82°C).

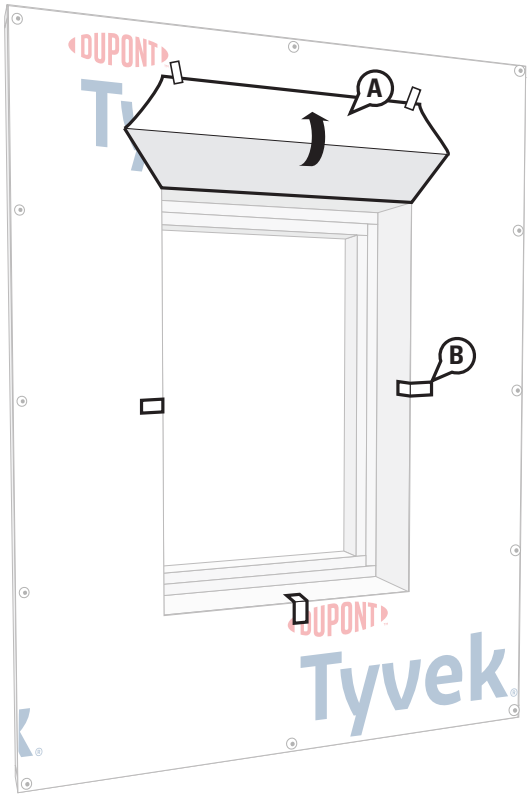
8. **DuPont Fluid Applied Products** may be overcoated once a tack-free skin has formed. Exterior insulation and/or exterior facade may be installed after **DuPont Fluid Applied Products** have cured for 48 hours. Please refer to Drying/Curing information in the **DuPont™ Tyvek® Fluid Applied WB+™** Wall and Substrate Guidelines (K-29398).
9. 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 **DuPont Fluid Applied Products** are fully cured (~14 days).
10. DuPont requires that **DuPont Fluid Applied Products** be covered within nine months (270 days) of installation.
11. Asphalt based adhesives are not recommended for use with **DuPont Fluid Applied Products**.
12. Minor discoloration of **DuPont Fluid Applied Products** at wood knots, sap, or sheathing inks may occur after curing.
13. A sloping outer sill of the recessed window framing is best practice. Door and window rough sill framing must be level or slightly sloped to the exterior to ensure proper drainage to the exterior.
14. As a best practice, apply Tyvek® Fluid Applied and Joint Compound+ from the head of the window down. **DuPont™ Tyvek® Fluid Applied** Flashing and Joint Compound can be brushed or troweled. A corner trowel may be used as needed to ensure membrane is continuous and free of pinholes and/or voids.
15. **Uncured DuPont Fluid Applied Products must not come in contact with DuPont™ Tyvek® Mechanically-Fastened Air and Water Barriers due to potential impact on performance properties**.
16. When **DuPont Fluid Applied Products** are used as the primary air and water barrier, DuPont™ Tyvek® Mechanically-Fastened Air and Water Barrier products may be installed as an "intervening layer" over **DuPont Fluid Applied Products** after 24 hours of curing at 70°F (20°C) and 50% RH. For additional information about the use of "intervening layers" see the Stucco section under Facade/Exterior Considerations in the **DuPont™ Tyvek® Fluid Applied WB+™** Wall and Substrate Guidelines (K-29398).
17. **DuPont™ Self-Adhered Flashing Products** perform best when air and surface temperatures are above 25°F (–4°C).
18. **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.
19. **DuPont™ Adhesive/Primer**, or recommended primer, is required when applying **DuPont™ Self-Adhered Flashing Products** on concrete, masonry, and fiber faced exterior gypsum board substrates. The use of **DuPont™ Adhesive/Primer**, or recommended primer, is a recommended best practice for application of **DuPont™ Self-Adhered Flashing Products** onto wood substrates.
20. **DuPont Fluid Applied Products** and **DuPont™ Self-Adhered Flashing Products** are designed for above grade application and should not be installed below grade.
21. DuPont requires that **DuPont™ FlexWrap™** and StraightFlash™ be covered within nine months (270 days) of installation.
22. **DuPont™ Self-Adhered Flashing Products** are not intended for throughwall flashing applications.
23. **Do not stretch DuPont™ FlexWrap™** when installing along the length of sills or jambs. **DuPont™ FlexWrap™** is only intended to be extended when covering corners or curved sections.
24. Avoid placing DuPont™ Tyvek® Wrap Cap Fasteners where flashing or **DuPont™ Tyvek® Tape** will be installed; however, DuPont™ Tyvek® Wrap Cap Fasteners can be applied over the flashing.
25. For **DuPont™ Self-Adhered Flashing Products**, remove all wrinkles and bubbles that may allow for water intrusion by smoothing surface and repositioning as necessary during installation.
26. Apply pressure along entire surface of **DuPont™ Self-Adhered Flashing Products** 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.

For additional guidance, please call 1-800-448-9835, visit our website at building.dupont.com.

Installation Instructions

Integral Flanged Window in Recessed Opening Installed AFTER the DuPont™ Tyvek® Water-Resistive and Air Barrier (WRB)
As best practice DuPont recommends sloping the recessed sill at 1" per foot.





STEP 1

A. Install the **DuPont™ Tyvek® WRB** according to the *DuPont™ Tyvek® Air- and Water-Resistive Barrier Installation Guidelines* and cut an opening using a square cut around the perimeter of the rough opening. Cuts should be made along the dashed indicated lines. Ensure that the **Tyvek® WRB** is cut flush with the sheathing and is not wrapped into the rough opening.

B. Cut a head flap at 45° angle to expose 8" of sheathing to allow for head flashing installation.

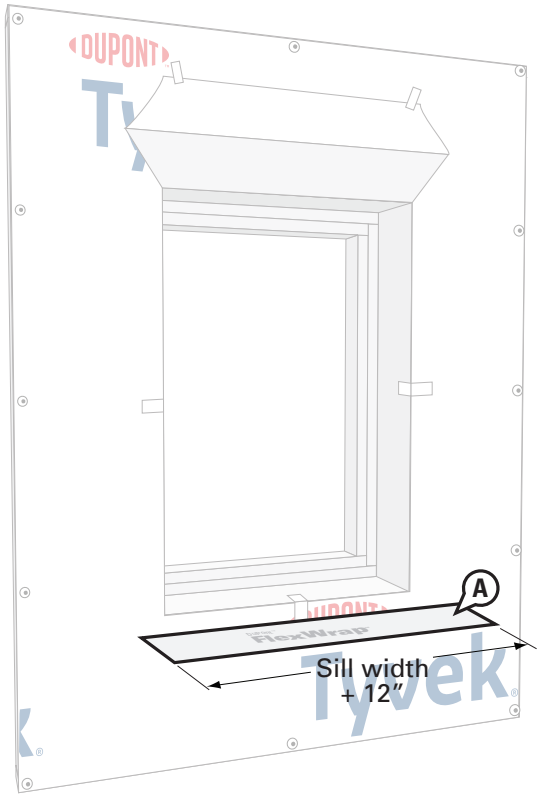
C. Cut ~1" strip of the **Tyvek® WRB** at lower horizontal edge of head flap.

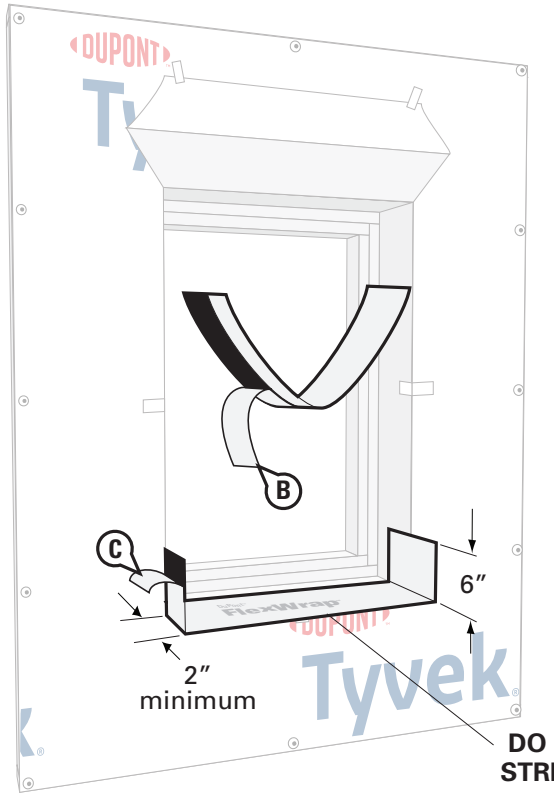
STEP 2

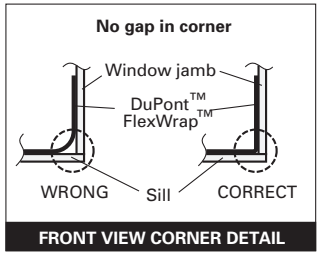
A. Flip the head flap up to expose the sheathing and temporarily secure with **DuPont™ Tyvek® Tape**.

B. Temporarily secure **Tyvek® WRB** at the rough opening with **Tyvek® Tape** to help facilitate flashing installation.

ALTERNATE METHOD TO SECURE HEAD FLAP: In lieu of temporarily taping, the head flap can be tucked under the **Tyvek® WRB**.





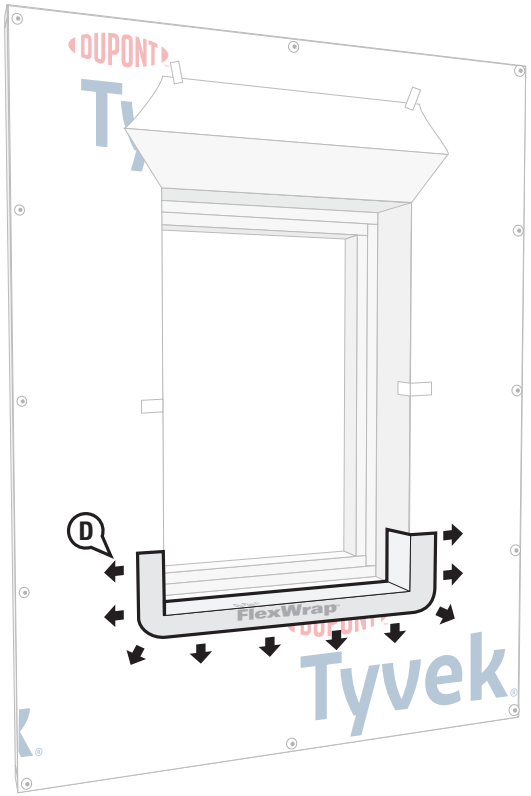


STEP 3

A. Prepare the sill flashing by cutting a piece of **DuPont™ FlexWrap™** that is at least 12″ longer than outer sill length.

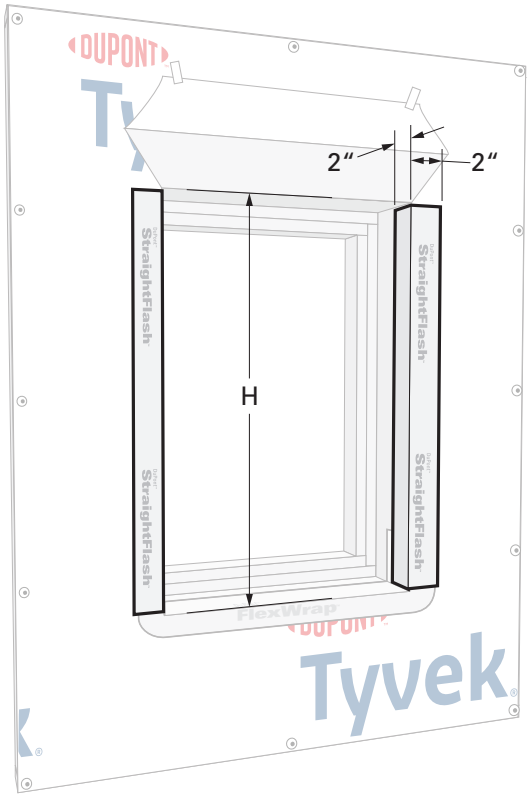
B. Remove wide piece of release paper. Position on outer horizontal sill by aligning the inside edge of the narrow release paper with the face of the wall to ensure 2″–3″ of the **FlexWrap™** will be adhered to the face of the wall with a minimum of 6″ up each jamb. Adhere into rough opening.

C. Remove narrow release paper.



STEP 3 (CONTINUED)

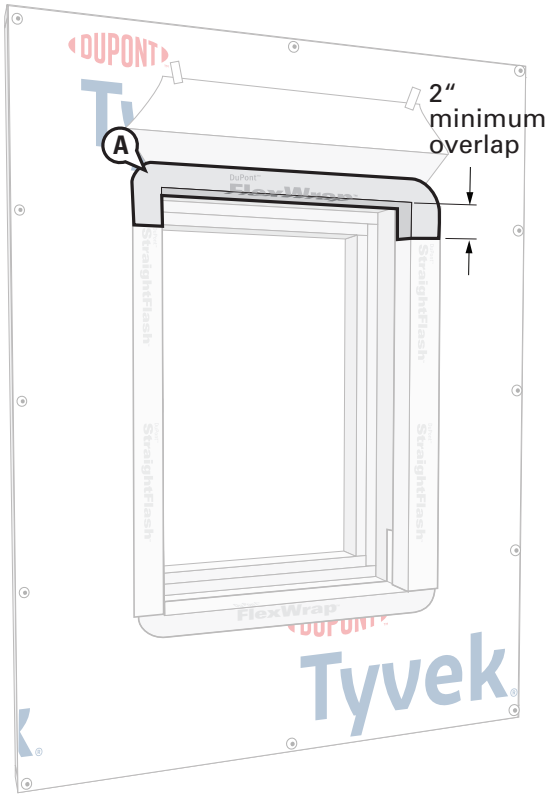
D. Fan out **DuPont™ FlexWrap™** at corners and adhere onto face of wall. Continue adhering onto face of wall along sill. Coverage of **FlexWrap™** should be 2"– 3" onto the face of the wall.



STEP 4

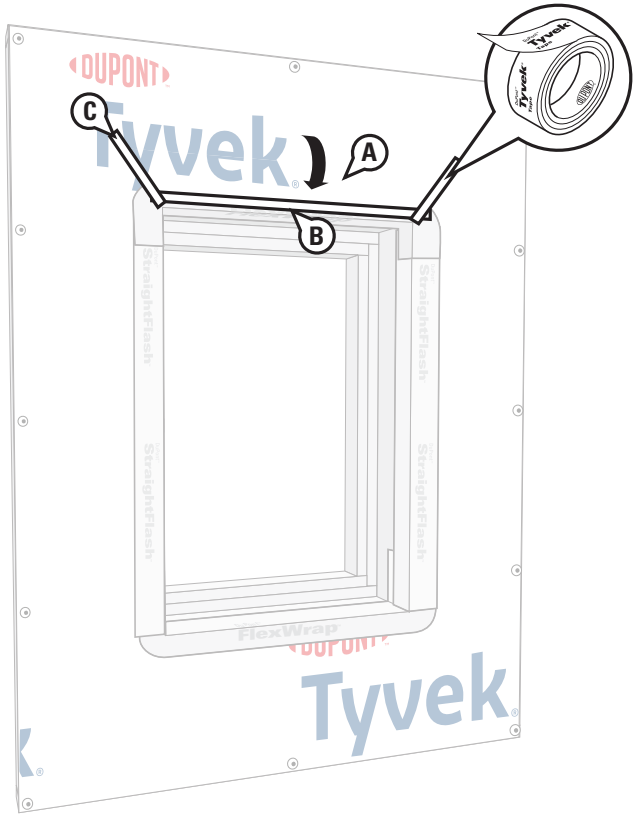
A. Cut two pieces of **DuPont™ StraightFlash™** the height of the outer rough opening (H).

B. Adhere **StraightFlash™** into the recessed rough opening at each jamb and onto wall face. The flashing should extend a minimum of 2" onto both surfaces.



STEP 5

A. Adhere **DuPont™ FlexWrap™** to the head using the same installation process as shown in Step 3 for the sill flashing. Make sure the **FlexWrap™** is cut long enough to overlap the jamb flashing by at least 2”.



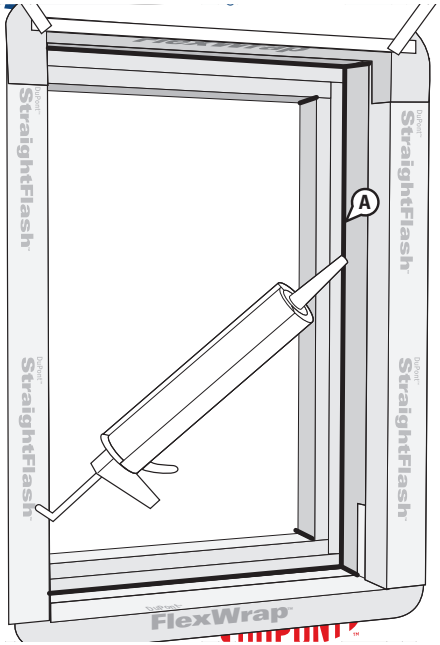
STEP 6

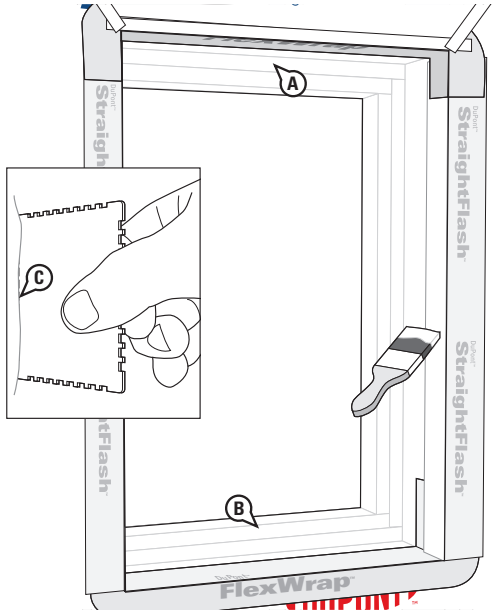
A. Flip down the head flap.

B. Continuously tape the seams at the head of the recess opening as shown with **DuPont™ Tyvek® Tape**; if an air barrier is not required or if additional drainage is desired, then skip tape at the head.

C. Continuous tape diagonal seams as shown with **Tyvek® Tape** or **DuPont Self Adhered Flashing Products**.

After the outside portion of the recessed opening has been integrated with the **DuPont™ Tyvek® WRB** using **DuPont™ FlexWrap™** and **DuPont™ StraightFlash™**, coat the remaining rough opening using **DuPont™ Tyvek® Fluid Applied Flashing and Joint Compound+** according to Step s 7 and 8.





STEP 7

A. Pretreat all inside corners, nail holes and small gaps by applying a bead of **DuPont™ Tyvek® Fluid Applied Flashing and Joint Compound+** or **DuPont™ Sealant for Tyvek® Fluid Applied System** to the surface. If gaps in framing are over 1/4" wide, apply self-adhered fiberglass mesh tape over the gap or into corner before applying sealant. Primer may be needed to promote adhesion of the mesh tape.

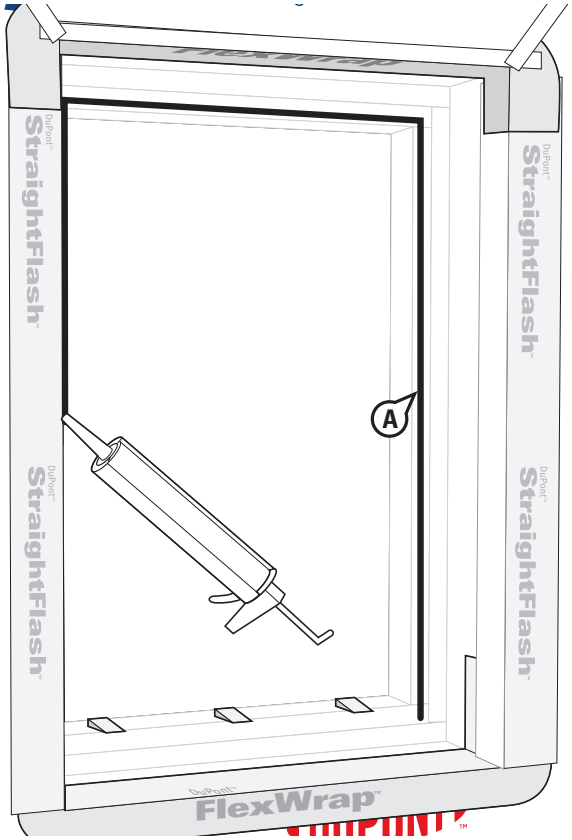
STEP 8

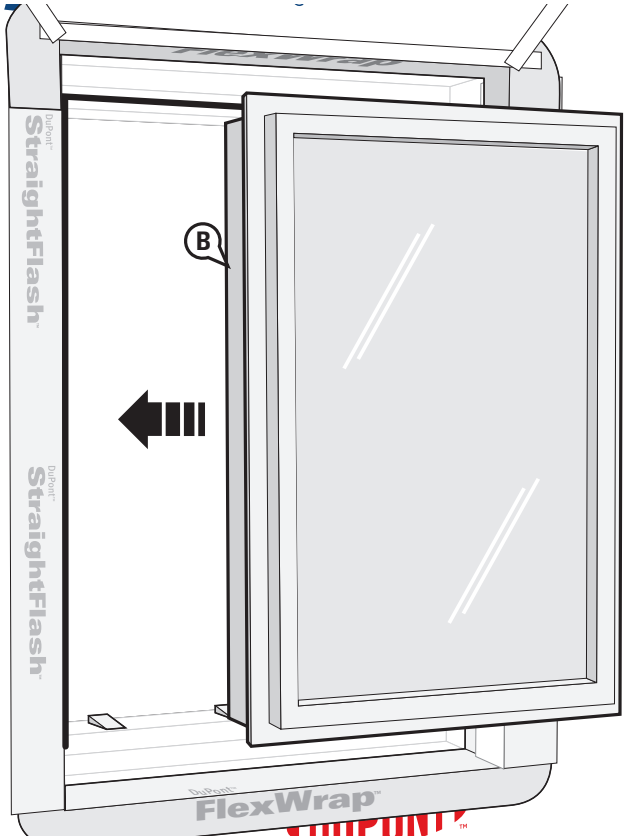
After the **Tyvek® Fluid Applied Flashing and Joint Compound+** or Sealant pretreatment has skinned over, begin applying **Tyvek® Fluid Applied Flashing and Joint Compound+**. DuPont recommends using a stiff disposable brush or trowel to apply.

A. Begin applying **Tyvek® Fluid Applied Flashing and Joint Compound+** at the head of the opening and work down to the jambs and then sill.

B. Continue to apply the **Tyvek® Fluid Applied Flashing and Joint Compound+** over the entire inside portion of the rough opening, overlapping the **FlexWrap™** and **StraightFlash™** up to the outer edge of the rough opening at the face of the wall. Be sure to work the **Tyvek® Fluid Applied Flashing and Joint Compound+** into any small cracks, holes, and edges of the **FlexWrap™** and **StraightFlash™**.

C. **Tyvek® Fluid Applied Flashing and Joint Compound+** should be applied at 25 mils thick. Use a wet mil thickness gauge to check application thickness. Upon completion, inspect surface to ensure that **Tyvek® Fluid Applied Flashing and Joint Compound+** is continuous and **free of any voids or pinholes**.

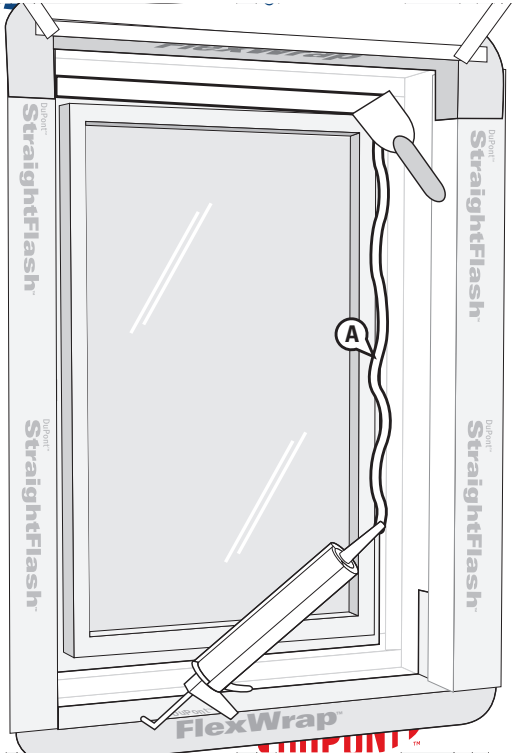


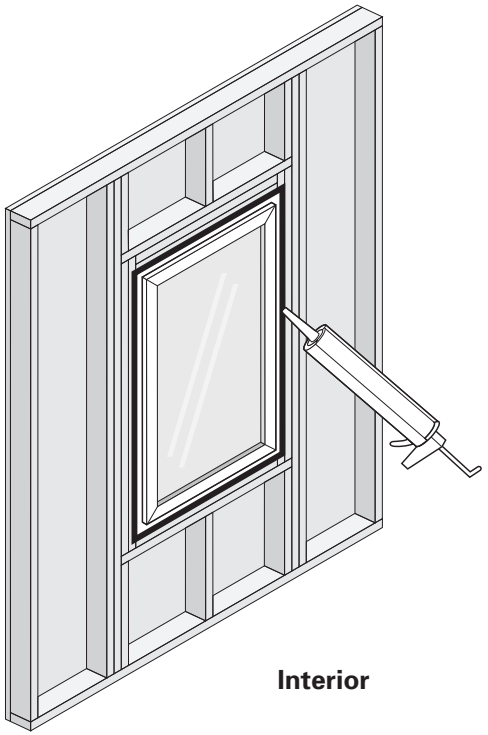


STEP 9

A. After the **Tyvek® Fluid Applied Flashing and Joint Compound+** has skinned over, apply a continuous bead of **DuPont™ Sealant for Tyvek® Fluid Applied System** onto three sides of the face of the inner rough opening or back side of the window mounting flange. Do not apply sealant across bottom sill flange. Place shims under bottom of the window to allow for drainage.

B. Install window per manufacturer's instructions.





STEP 10

A. Apply a continuous bead of **DuPont™ Tyvek® Fluid Applied Flashing and Joint Compound+** over the head and jamb flanges, and along the interface between the flange and the wall. Do not apply across bottom sill flange to allow for drainage.

B. Use a small trowel to smooth **Tyvek® Fluid Applied Flashing and Joint Compound+** to approximately 2" wide x 60 mils thick, extending 1" on either side of flange/wall interface, and covering all holes and screws in the flange.

C. Upon completion, inspect surfaces to ensure that **Tyvek® Fluid Applied Flashing and Joint Compound+** is continuous and free of any voids or pinholes.

OPTIONAL: If installing a drip cap as part of the window installation, see Drip Cap Installation on the next page.

STEP 11 (FINAL STEP)

Create a continuous perimeter seal between the interior of the window and the flashing using backer rod and **DuPont™ Sealant for Tyvek® Fluid Applied System** along all four sides of the window.

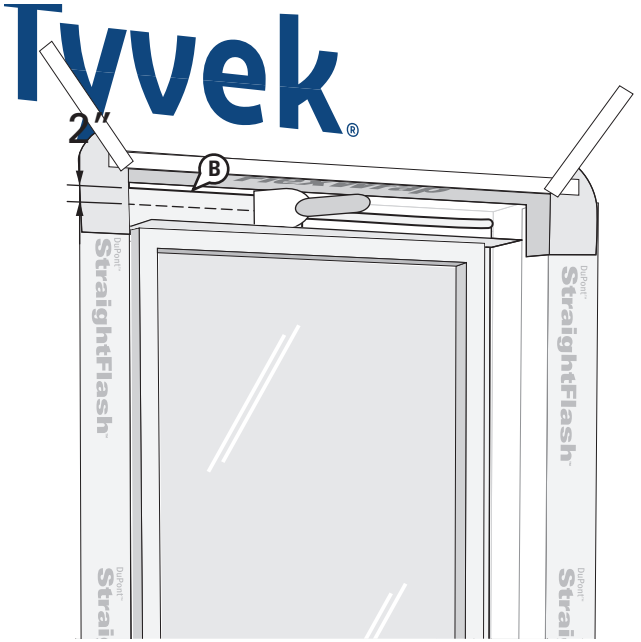
When the facade is complete, place a continuous sealant bead integrating the window to the facade.

Drip Cap Installation

After the window is installed and the **DuPont™ Tyvek® Fluid Applied Flashing and Joint Compound+** has cured, a drip cap can be installed at the window head flange and integrated with the **Tyvek® Fluid Applied Flashing and Joint Compound+** installed at the head of the window.

NOTE: When using this method, the vertical leg of the drip cap must not be taller than the window head flange when installed.

A. Place a bead of **DuPont™ Sealant for Tyvek® Fluid Applied System**, **DuPont™ Residential Sealant**, or recommended sealant, on the rear side of the vertical leg and a bead on the rear side of the bottom horizontal leg. Install the drip cap tight against the window head flange per the drip cap manufacturer's instructions.



B. Apply a bead of **Tyvek® Fluid Applied Flashing and Joint Compound+** along the top edge of the drip cap and trowel or brush to cover the vertical leg, extending 2" onto the recessed wall surface if possible.

Technical Specifications

Technical Specifications

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 of installation

DuPont™ FlexWrap™, **DuPont™ FlexWrap™ EZ**, and **DuPont™ StraightFlash™** are made from 100% butyl adhesive and a top sheet of flash spunbonded high density polyethylene fibers. Additives have been incorporated into these materials to help provide UV light resistance. DuPont requires that **FlexWrap™**, **FlexWrap™ EZ**, and **StraightFlash™** be covered within 9 months of installation.

FlexWrap™, **FlexWrap™ EZ**, and **StraightFlash™** and their release paper are slippery and should not be walked on. Remove release paper from work area immediately. **Tyvek® Fluid Applied Products** are combustible and should be protected from flame and other high heat sources. If burning occurs, ignited droplets may fall away from the point of ignition.

DuPont™ Sealant for Tyvek® Fluid Applied System should be covered within 9 months of installation.

For more information, call 1-800-44-Tyvek

Note

When installed in conjunction with other building materials, **DuPont Self-Adhered Flashing Products** and **Tyvek® Fluid Applied Products** must be properly integrated so that water is diverted to the exterior of the wall system. **Tyvek® Fluid Applied WB+™** is a secondary weather barrier. The outer facade is the primary barrier. 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. You must follow facade manufacturer's installation and maintenance requirements for all facade systems in order to maintain water holdout properties and ensure performance of **Tyvek® Fluid Applied WB+™**. Use of additives, coatings or cleansers on or in the facade system may impact the performance of **Tyvek® Fluid Applied Products**. DuPont products are to be used as outlined in this installation guideline. **DuPont Self-Adhered Flashing Products** and **Tyvek® Fluid Applied Products** should only be used to seal penetrations and flash openings in buildings. Uncured **Tyvek® Fluid Applied Products must not** come in contact with **DuPont™ Tyvek® Mechanically-Fastened Air and Water Barrier Products** due to potential impact on performance properties. **DuPont Self-Adhered Flashing** and **Tyvek® Fluid Applied 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 weather barrier and exterior sheathing, high quality windows and doors, and appropriate flashing materials paying attention to proper installation of each component.

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

DuPont believes this information to be reliable and accurate. The information may be subject to revision as additional experience and knowledge is gained. It is the user's responsibility to determine the proper construction materials needed.

For complete warranty information please call 1-800-44-Tyvek or visit building.dupont.com.

This information is not intended to be used by others for advertising, promotion, or other publication for commercial purposes.

43-D100701-enNA-0121

DUPONT™ Tyvek®

For more information about DuPont Performance Building Solutions, please call 1-800-448-9835 or visit us at building.dupont.com