

Flashing Installation Guidelines Using DuPont™ Tyvek® Fluid Applied Flashing-Brush Formulation

INTEGRAL FLANGED WINDOW IN RECESSED OPENING
AFTER WATER-RESISTIVE BARRIER (WRB) IS INSTALLED

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Applicable Products

DuPont Self-Adhered Flashing Products

PRODUCT	DIMENSIONS	AREA
DuPont™ FlexWrap™ NF	6 in x 75 ft 9 in x 75 ft	37.50 sq ft 56.20 sq ft
DuPont™ StraightFlash™	4 in x 150 ft 9 in x 125 ft	50 sq ft 93.75 sq ft

DuPont™ Tyvek® Fluid Applied Products

PRODUCT	QUANTITY	COVERAGE*
DuPont™ Tyvek® Fluid Applied Flashing - Brush Formulation	10.3 oz, 28 oz, 3.5 gal	70 – 75 sf/gal
DuPont™ Sealant for Tyvek® Fluid Applied System	10.3 oz, 28 oz	N/A

*Estimated surface coverage at 20 mils thick.

Necessary Materials

- DuPont™ Tyvek® Fluid Applied Flashing – Brush Formulation
- DuPont™ Sealant for Tyvek® Fluid Applied System
- DuPont™ StraightFlash™
- DuPont™ Flexwrap™ NF
- Disposable Application Brushes
- Citrus based cleaner or mineral spirits

Optional Materials

- Backer Rod
- J-Roller

Warranty

If interested in reviewing warranty coverage, please see DuPont™ Tyvek® Fluid Applied products 10 Year limited warranty at www.Weatherization.Tyvek.com.

DuPont Recommended Primers* (for self-adhered flashing)

MANUFACTURER	PRODUCT NAME
3M	Hi-Strength 90**
Denso	Butyl Primer (spray or can)
Henkel	SIA 655
Henkel	Permagrip® 105™

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

**3M Hi-Strength 90 is recommended to be used with DuPont™ Tyvek® Fluid Applied products.

DuPont Recommended Low Expansion Foams*

MANUFACTURER	PRODUCT NAME
Selena	Tytan™ Window & Door Pro
Todol	E-Z Flo
Henkel	OSI TeQ::Foam™
Dow	Dow Great Stuff™ Window & Door

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

DuPont Recommended Fasteners*

MANUFACTURER	PRODUCT NAME
DuPont	DuPont™ Tyvek® Wrap Cap nails
DuPont	DuPont™ Tyvek® Wrap Cap screws
DuPont	DuPont™ Tyvek® Wrap Cap staples (for Stinger™)

* Apply 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.

** Not recommended with foam sheathing board or exterior gypsum.

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General Instructions

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. DuPont recommends the use of the SureSill™ Sloped Sill Pan™, manufactured by SureSill, Ltd, on certain exterior doors and in certain applications on windows. This best practice ensures continuous support with positive slope to the exterior. Please contact your local DuPont™ Tyvek® Specialist for additional information and installation instructions.

Substrates must be free from any materials that may affect the adhesion of DuPont™ Tyvek® Fluid Applied Flashing products and DuPont self-adhered flashing products. Remove any frost, oil, grease, mold, dust, dirt and efflorescence before applying products.

A recommended primer is required when applying DuPont self-adhered flashing products on concrete, masonry and fiber-faced exterior gypsum board substrates. Priming is generally not required for adhering DuPont self-adhered flashing products to wood. However, adverse weather conditions or cold temperatures may require use of a primer to promote adhesion. Priming is not required when applying DuPont™ Tyvek® Fluid Applied products, except when applying onto cut edges of exterior gypsum sheathing.

DuPont™ Tyvek® Fluid Applied Flashing products should be applied from the head of the window down. When trowel applying, a corner trowel can be used to smooth corners. Any cut edges of exterior gypsum sheathing in window opening should first be primed. In residential applications, DuPont™ Tyvek® Fluid Applied Flashing should be applied at 20mils (+/- 5 mils) thick.

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.

Tyvek® Fluid Applied products are designed for above grade application and should not be installed below grade.

DuPont™ Tyvek® Fluid Applied Flashing – Brush Formulation should not be applied to DuPont™ Tyvek® building wraps.

Tyvek® Fluid Applied products should be applied when air and surface temperatures are between 25°F – 100°F.

Unopened Tyvek® Fluid Applied products should be stored at temperatures between 50°F – 80°F.

When installing DuPont self-adhered flashing products, apply pressure along entire surface for a good bond using a J-roller or firm hand pressure. Remove all wrinkles and bubbles by smoothing surface and repositioning as necessary.

When flashing the sill area for windows and doors using DuPont self-adhered flashing, DuPont recommends the use of 6" wide DuPont™ FlexWrap™ NF for 2"x 4" framing and 9" wide DuPont™ FlexWrap™ NF for 2" x 6" framing. When rigid back dams are required or desired, an option would be to use a ¾" 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 DuPont™ FlexWrap™ NF. Then install DuPont™ FlexWrap™ NF over sill and corner guard back dam.

Do not stretch DuPont™ FlexWrap™ NF when installing along sills or jambs.

DuPont™ FlexWrap™ NF is only intended to be stretched when covering corners or curved sections.

DuPont self-adhered flashing products perform best when installed at temperatures above 25°F (-4°C).

Avoid placing DuPont™ Tyvek® Wrap Caps where self-adhered flashing will be installed; however, DuPont™ Tyvek® Wrap Caps can be applied over the flashing.

For additional guidance, please call 1-800-44-Tyvek (800-448-9835), visit our website at www.Weatherization.Tyvek.com, or consult your local DuPont™ Tyvek® Specialist.

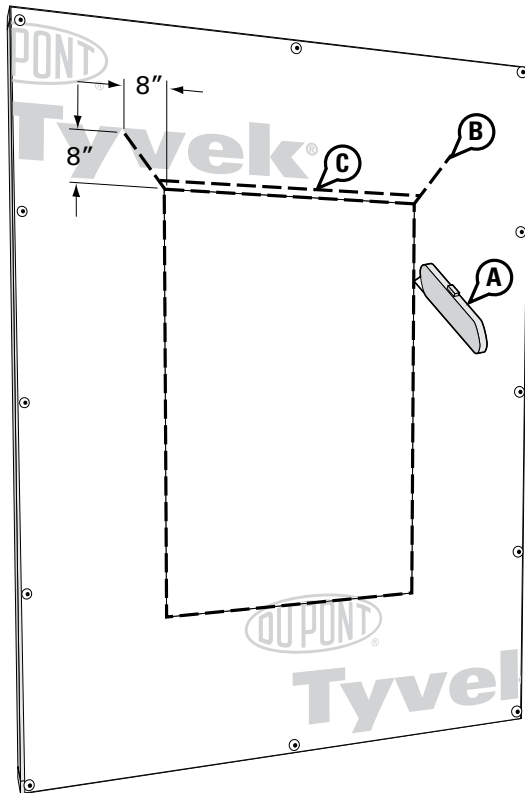
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Integral Flanged Window in Recessed Opening AFTER Water-Resistive Barrier (WRB) is Installed

As best practice DuPont recommends sloping the recessed sill at 1" per foot.

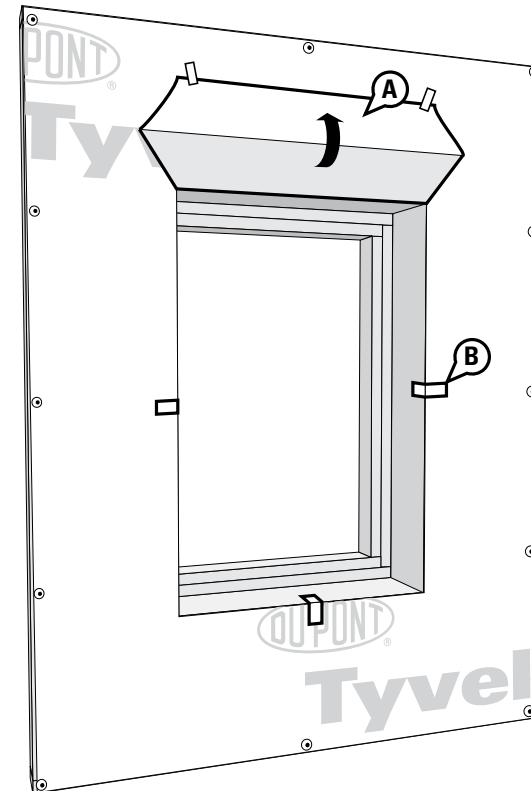
STEP 1

- Cut an opening in the water-resistive barrier (WRB) using a square cut around the perimeter of the rough opening. Cuts should be made along the dashed indicated lines. (Ensure that the WRB is cut flush with the sheathing and is not wrapped into the rough opening.)
- Cut a head flap at 45° angle to expose 8" of sheathing to allow for head flashing installation.
- Cut an additional 1" off of the head flap to allow for future taping.



STEP 2

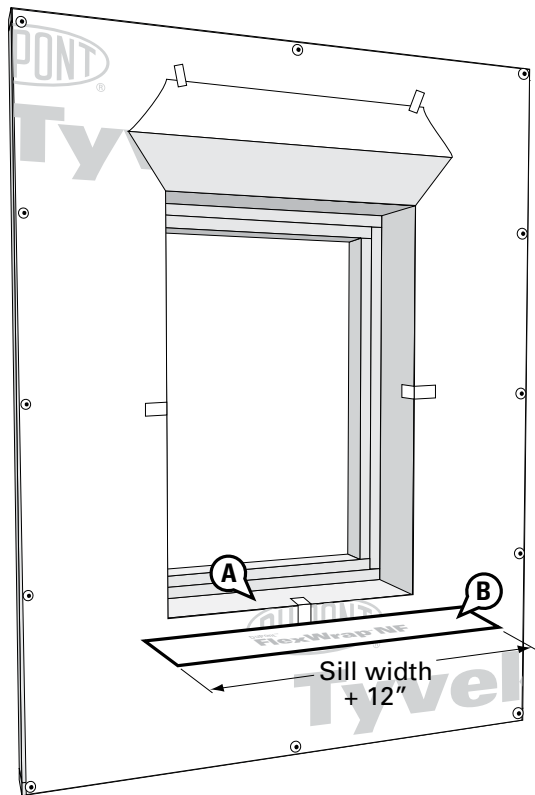
- Flip the head flap up to expose the sheathing and temporarily secure with tape.
- Temporarily secure WRB with DuPont™ Tyvek® Tape around rough opening before flashing is installed to help facilitate flashing installation.



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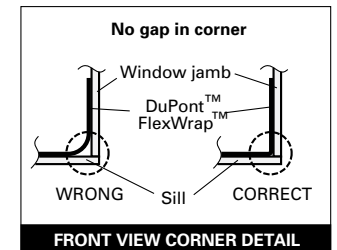
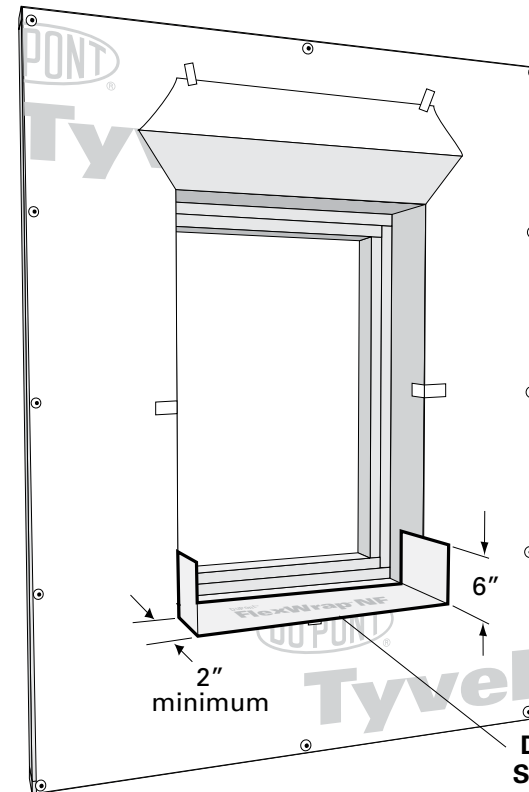
STEP 3

- A. Inspect installation surface to ensure surface is free of dirt or substances that could interfere with adhesion as well as any sharp protrusions.
- B. Prepare the sill flashing by cutting a piece of DuPont™ FlexWrap™ NF that is at least 12" longer than sill length.



STEP 4

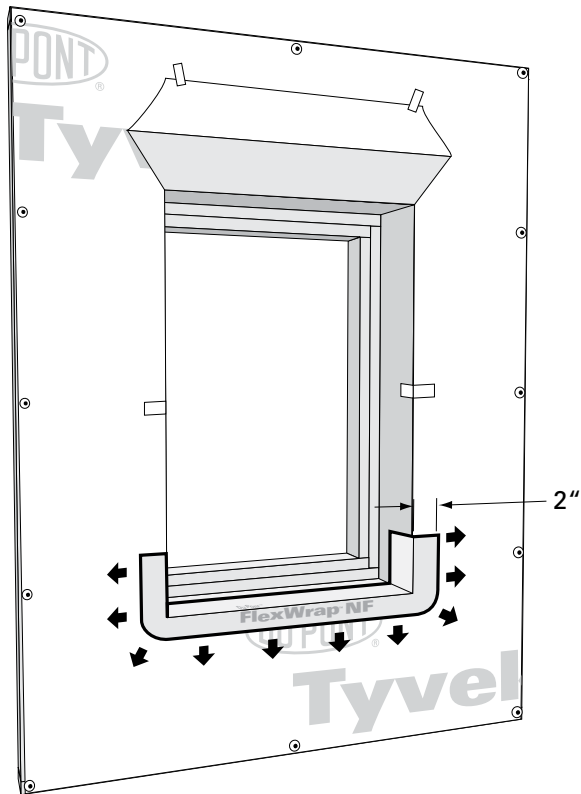
Install the sill flashing. Remove the largest strip of release paper and align the flashing with the exterior edge of recessed sill so that a minimum of 2" will extend onto the face of the wall. Install into rough opening across sill and up the recessed jambs (min 6"). Apply working from the middle of the sill towards the sides. Secure DuPont™ FlexWrap™ NF tightly into the corners by first working in along the sill before adhering up the jambs. **Do not stretch material along the sill or jambs.**



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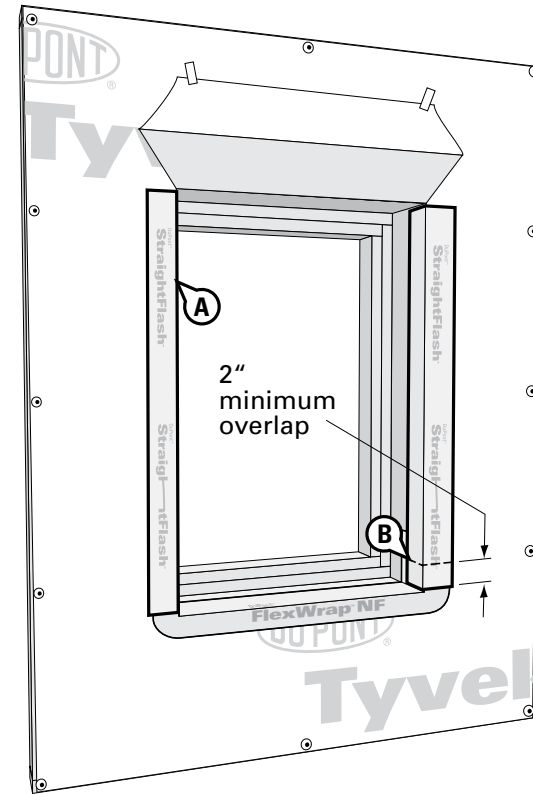
STEP 5

- A. Remove second half of the release paper.
- B. Fan DuPont™ FlexWrap™ NF at bottom corners and adhere onto face of wall.
- C. Firmly press sill flashing to ensure full adhesion on all surfaces. Eliminate wrinkles and bubbles by smoothing surface and repositioning as necessary.



STEP 6

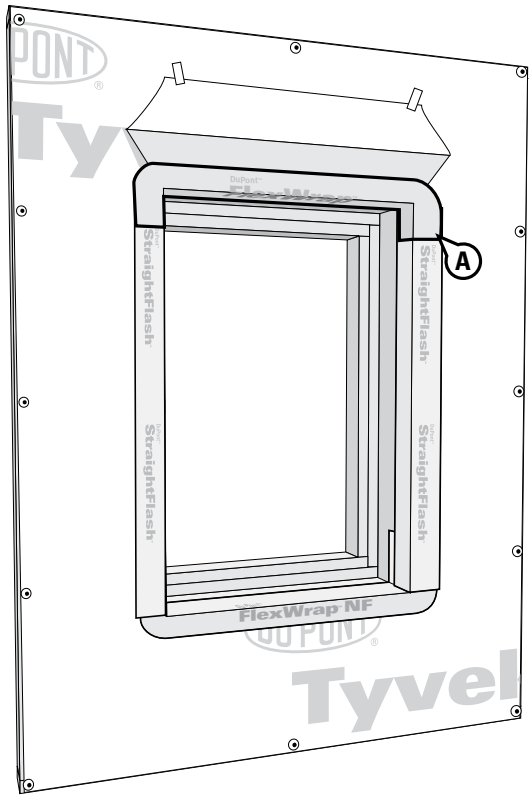
- A. Cut the jamb flashing the vertical length of the rough opening.
- B. Wrap DuPont™ StraightFlash™ into the recessed rough opening at each jamb and onto wall face. The flashing should extend a minimum of 2" onto both surfaces.
- C. Jamb flashing should be long enough to overlap the sill flashing by at least 2" and to be overlapped by future head flashing by at least 2"



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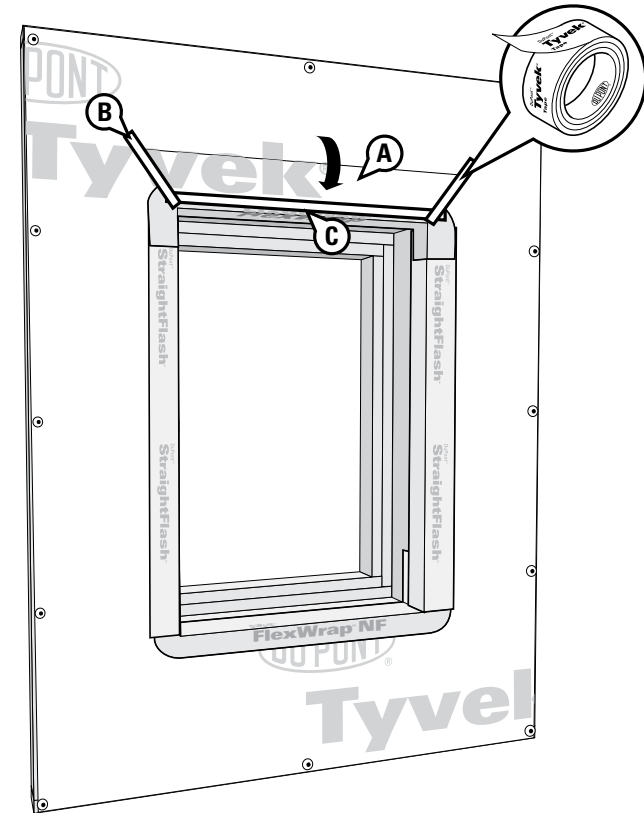
STEP 7

- A. Adhere DuPont™ FlexWrap™ NF to the head using the same installation process as shown in steps 4 and 5 for the sill flashing. Make sure the DuPont™ FlexWrap™ NF is cut long enough to overlap the jamb flashing by at least 2”.



STEP 8

- A. Flip down upper flap of WRB so it lays flat across head flashing. WRB should be approximately 1” short of the edge of the recess opening.
- B. Tape down diagonal seams of WRB.
- C. 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.

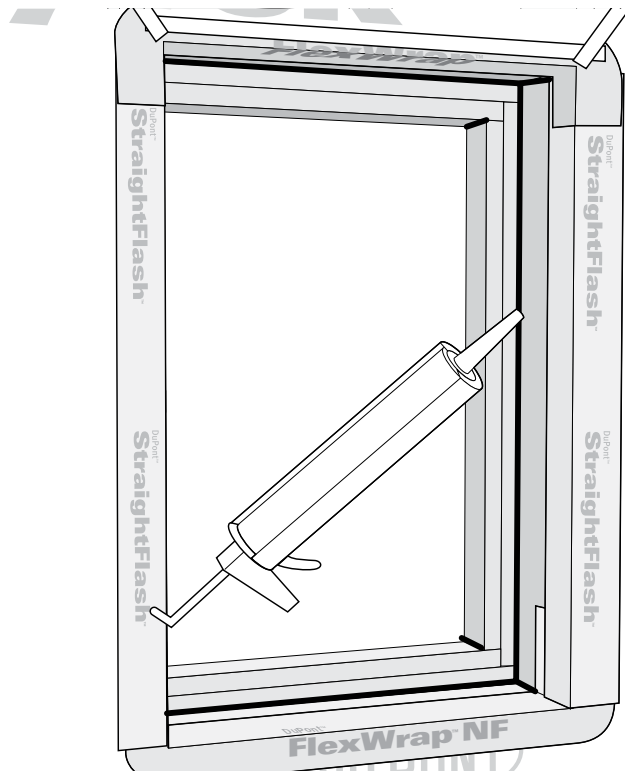


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After the outside portion of the recessed opening has been integrated with the WRB using DuPont™ FlexWrap™ NF, and DuPont™ StraightFlash™. The remaining rough opening should be coated using DuPont™ Tyvek® Fluid Applied – Brush Formulation. Before beginning be sure to clean surface of any loose material or debris that may affect adhesion of the Fluid Applied product.

STEP 9

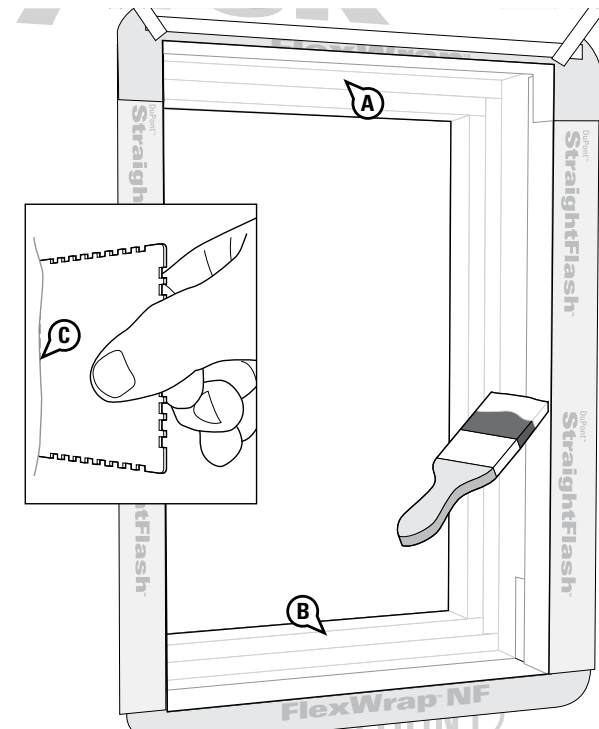
Pretreat all inside corners, nail holes and small gaps by applying a bead of DuPont™ Sealant for Tyvek® Fluid Applied System to the surface. If gaps in framing are over 3/16" wide, apply self-adhered fiberglass mesh tape over the gap or into corner before applying sealant. Primer may be needed to promote adhesion of the mesh tape.



STEP 10

After DuPont™ Sealant for Tyvek® Fluid Applied System has skinned over, begin applying DuPont™ Tyvek® Fluid Applied Flashing – Brush Formulation. DuPont recommends using a stiff disposable brush to apply.

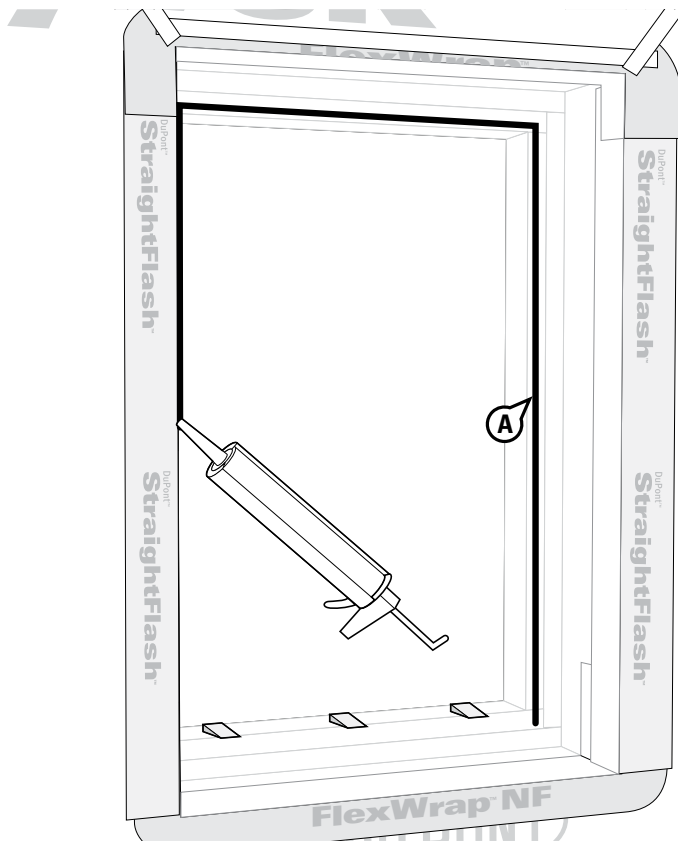
- Begin applying Fluid Applied Flashing – Brush Formulation at the head of the opening and working down to the jambs and then sill.
- Apply Fluid Applied Flashing – Brush Formulation over the entire inside portion of the rough opening, overlapping the DuPont™ FlexWrap™ and DuPont™ StraightFlash™ up to the outer edge of the rough opening. Be sure to work the Fluid Applied Flashing – Brush Formulation into any small cracks, holes, and edges of the DuPont™ FlexWrap™ NF and DuPont™ StraightFlash™.
- Fluid Applied Flashing – Brush Formulation should be applied at 20 mils (+/- 5 mils) thick. Use a wet mil thickness gauge to check application thickness. Upon completion, inspect surface to insure that Fluid Applied Flashing – Brush Formulation is continuous and **free of any voids or pinholes**.



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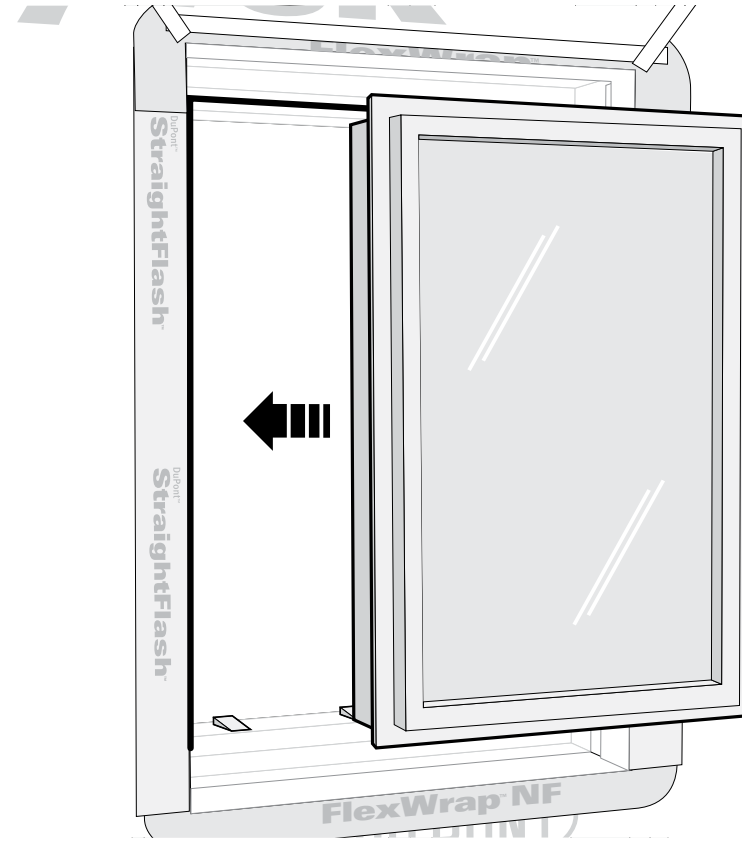
STEP 11

- A. Apply continuous bead of DuPont™ Sealant for Tyvek® Fluid Applied System onto three sides of the 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.



STEP 12

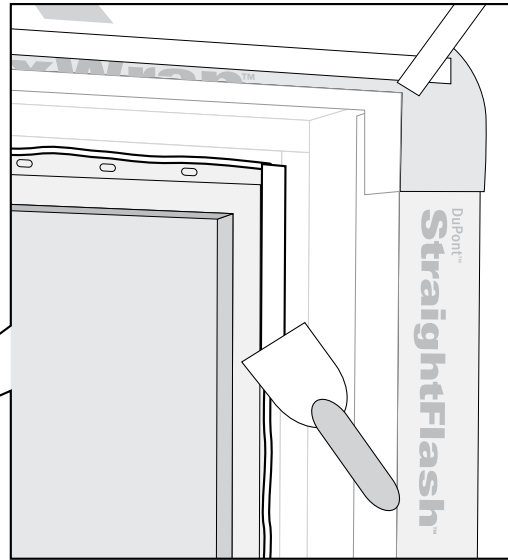
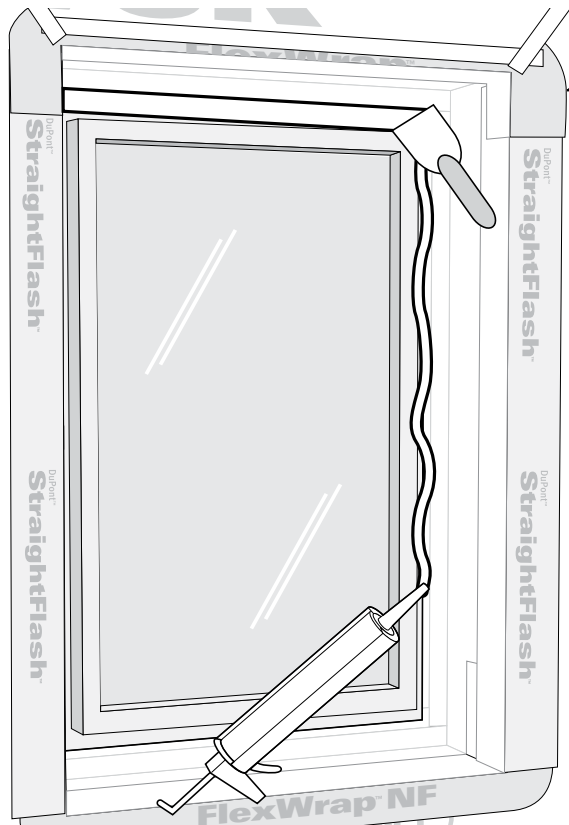
- Install window per manufacturer's instructions.



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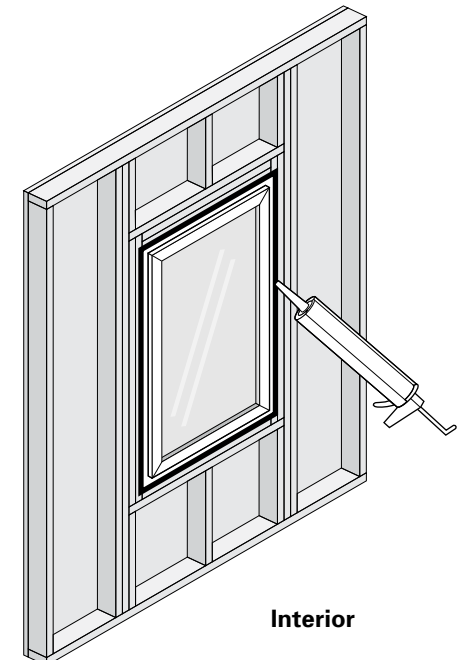
STEP 13

Apply a continuous bead of DuPont™ Sealant for Tyvek® Fluid Applied System over the flange, and along the interface between the flange and the wall. Do not apply sealant across bottom sill flange to allow for drainage. After the bead of sealant has been applied, use a small trowel to smooth sealant to approximately 2" wide x 60 mils thick. Be sure that the DuPont™ Sealant for Tyvek® Fluid Applied System extends 1" on either side of flange / wall interface and covers all holes and screws in the flange. Upon completion, inspect surfaces to ensure that DuPont™ Sealant for Tyvek® Fluid Applied System is continuous and free of any voids or pinholes.



STEP 14 (Final Step)

Seal the interior side of the window by creating a continuous interior air and water perimeter seal between the interior of the window frame and the DuPont™ Tyvek® Fluid Applied Flashing. Use backer rod (if necessary) and DuPont™ Sealant for Tyvek® Fluid Applied System or an DuPont approved sealant along all four sides of the window. Alternatively, DuPont recommended Low Expansion Foam may be used.



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, DuPont™ Tyvek® Fluid Applied Flashing and Joint Treatment Compound, and DuPont™ Tyvek® Fluid Applied – Brush Formulation are to 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 commercial wrap WRB's be covered within 9 months (270 days) of installation and that all other DuPont WRB's be covered within 4 months (120 days) of installation.

DuPont self-adhered flashing products are made from a synthetic rubber adhesive and a laminate of polyethylene film, polypropylene film, elastic fiber, synthetic rubber adhesive, polyurethane adhesive, and a top sheet of flash spunbonded high density polyethylene fibers. Additives have been incorporated into these materials to provide ultraviolet light resistance. DuPont requires that DuPont self-adhered flashing products be covered within four months (120 days) of installation.

Warning

Use only as directed. Avoid contact with eyes and skin, gloves are recommended. First Aid: Eye & Skin Contact; Wash thoroughly with water. If irritation persists, contact a physician. DuPont™ Tyvek® Fluid Applied – Brush Formulation should not be applied to DuPont™ Tyvek® building wraps.

DuPont™ Tyvek® WRBs are slippery and should not be used in any application where it will be walked on. In addition, because they are slippery, DuPont recommends using kickjacks or scaffolding 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 a flame and other high heat sources. DuPont™ Tyvek® will melt at 275°F (135°C); 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 1-800-44-Tyvek.

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 1-800-44-Tyvek.

DuPont™ Residential Sealant and DuPont™ Commercial Sealant are irritating to skin, eyes and respiratory tract. For proper usage, follow directions stated on the product label. For health information, refer to the Material Safety Data Sheet or call Chemtrec at 1-800-424-9300.

Clean Up

Uncured Fluid Applied product can be cleaned from hands, tools, and equipment by using a citrus based cleaner or mineral spirits. Cured product can be removed by soaking in citrus based cleaners or using a gel-based paint stripper.

Health and Safety

Use protective apparel to avoid unnecessary contact of Fluid Applied product with skin. Refer to the MSDS for complete health and safety information.

Disposal

Dispose of any residual fluid applied material or fluid applied coated debris in accordance with applicable federal, state, and local government regulations.

Note

When installed in conjunction with other building materials, DuPont Self-Adhered Flashing and DuPont™ Tyvek® Fluid Applied products must be properly shingled so that water is diverted to the exterior of the wall system. DuPont™ Tyvek® weather barrier products are secondary water barriers and not the primary water barrier. The outer facade is the primary barrier. You must follow facade manufacturer's installation and maintenance requirements for all facade systems in order to maintain water holdout properties and ensure performance. Use of additives, coatings or cleansers on or in the facade system may impact the performance of DuPont™ Tyvek® water-resistive barriers. DuPont™ Tyvek® Weatherization Systems products are to be used as outlined in this installation guideline. DuPont Flashing Systems products should only be used to seal penetrations and flash openings in houses or buildings. DuPont Flashing Systems 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. In a system where no exterior sheathing is used and DuPont™ Tyvek® weather barrier is 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.

DuPont believes this information to be reliable and accurate. This 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 on each project.

For complete warranty information, please call 1-800-44-Tyvek or visit www.Weatherization.Tyvek.com

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

For more information about DuPont Weatherization Systems, please call 1-800-44-Tyvek or visit us at www.Weatherization.Tyvek.com

DuPont
Flashing Systems