**DuPont Performance Building Solutions** 

# **Tyvek**

# DuPont<sup>™</sup> Tyvek<sup>®</sup> WRB Installation Instructions



Archways and Breezeways

For Single-Family Residential and Wood-Framed Multi-Family/Light Commercial Buildings

December 2023



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# Introduction

This Installation Guideline pertains to wood-framed buildings of any height of Type III and Type V construction, including single-family homes, multi-family buildings and light commercial buildings. See <u>Applicable Structures and</u> <u>Performance Criteria</u> for more information regarding building types and building envelope performance.

This Installation Guideline outlines recommended installation techniques and details for bump-out conditions with **DuPont Self-Adhered Flashing Products** installed **AFTER DuPont<sup>™</sup> Tyvek<sup>®</sup> Water Resistive and Air Barriers**, referred to in this document as **DuPont<sup>™</sup> Tyvek<sup>®</sup> WRBs**. This includes **DuPont<sup>™</sup> Tyvek<sup>®</sup> HomeWrap<sup>®</sup>**, **Tyvek<sup>®</sup> StuccoWrap<sup>®</sup>**, **Tyvek<sup>®</sup> DrainWrap<sup>™</sup>**, **Tyvek<sup>®</sup> CommercialWrap<sup>®</sup>** and/or **Tyvek<sup>®</sup> CommercialWrap<sup>®</sup> D**. Where applicable, **DuPont<sup>™</sup> Tyvek<sup>®</sup> Fluid Applied Products** are shown installed in conjunction with **Tyvek<sup>®</sup> WRBs** in hybrid conditions. Both **Tyvek<sup>®</sup> WRBs** and **Tyvek<sup>®</sup> Fluid Applied Products** meet or exceed the requirements of a water-resistive barrier as defined in the 2018 International Building Code (IBC).

Always check <u>building.dupont.com</u> for the latest versions of DuPont Installation Guidelines and other product literature.

# **Applicable Products**

#### Water-Resistive and Air Barriers (Tyvek® WRBs)

Product	Dimensions	Area
DuPont <sup>™</sup> Tyvek <sup>®</sup> HomeWrap <sup>®</sup>	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 <sup>™</sup> Tyvek° StuccoWrap°	5 ft x 200 ft	1,000 sq ft
DuPont <sup>™</sup> Tyvek <sup>®</sup> DrainWrap <sup>™</sup>	9 ft x 125 ft 10 ft x 125 ft	1,125 sq ft 1,250 sq ft
DuPont <sup>™</sup> Tyvek° CommercialWrap°	5 ft x 200 ft 10 ft x 125 ft	1,000 sq ft 1,250 sq ft
DuPont <sup>™</sup> Tyvek <sup>®</sup> CommercialWrap <sup>®</sup> 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 <sup>™</sup> Tyvek <sup>®</sup> Fluid Applied WB+ <sup>™</sup>	5 gal, 50 gal
DuPont <sup>™</sup> Tyvek <sup>®</sup> Fluid Applied Flashing and Joint Compound+	28 oz, 3.5 gal

#### Self-Adhered Flashing Products

Product	Width
DuPont <sup>™</sup> FlexWrap <sup>™</sup> EZ	2.75 in
DuPont <sup>™</sup> FlexWrap <sup>™</sup>	6 in 9 in
DuPont <sup>™</sup> StraightFlash <sup>™</sup>	4 in 9 in
DuPont <sup>™</sup> Flashing Tape	4 in 6 in 9 in 12 in

#### Installation Accessories

Product	Туре	Quantity
DuPont <sup>™</sup> Tyvek <sup>®</sup> Tape	2 in Bulk Pack 3 in Bulk Pack	6 rolls/bulk pack
DuPont <sup>™</sup> Tyvek <sup>®</sup> Wrap Cap Staples or other cap staples for Stinger <sup>®</sup> Cap Stapler	7/8 in, 1-1/4 in, and 1-1/2 in lengths 3/8 in and 5/8 in lengths	2,000/box 2,016/box
DuPont <sup>™</sup> Tyvek® Wrap Cap Nails	1 in electro-galvanized ring shank nail	2,000/box
DuPont <sup>™</sup> Tyvek <sup>®</sup> Wrap Cap Screws	2 in dia. plastic cap, 1-3/4 in screw length	1,000/box
Great Stuff Pro <sup>™</sup> Window & Door Polyurethane Foam Sealant	Can (reusable dispensing gun sold separately)	20 oz
Great Stuff Pro <sup>™</sup> Gaps & Cracks Polyurethane Foam Sealant	Can (reusable dispensing gun sold separately)	20 oz
DuPont <sup>™</sup> RainVent <sup>™</sup> Battens	5/8 in x 3/8 in x 8 ft	40/pack
DuPont <sup>™</sup> Tyvek <sup>®</sup> DrainVent <sup>™</sup> Rainscreen	4 ft x 50 ft roll	
Tower® Residential Sealant (formerly DuPont™ Residential Sealant)		
TRUFAST <sup>®</sup> Walls Grip-Deck <sup>®</sup> screws with Thermal-Grip FastCap <sup>™</sup> washers (TRUFAST <sup>®</sup> Walls formerly Rodenhouse) <sup>1</sup>		

<sup>1</sup>For information regarding installation of TRUFAST<sup>®</sup> Walls fasteners, refer to the applicable **Tyvek<sup>®</sup> WRB** Installation Guideline that can be found on <u>building.dupont.com</u>.

applications.

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

<sup>2</sup>For information regarding chemically compatibility of sealants, see technical bulletin <u>Chemical Compatibility</u>

# Additional Materials Based on Project Requirements, Details, and Specifications<sup>1</sup>

- Backer Rod
- Sealant<sup>2</sup>
- Adhesive/Primer<sup>2</sup>
- Brushes for Surface Preparation
- J-Roller
- Trowels

# Warranty

Please refer to the <u>DuPont Building Envelope Solutions Products 10-Year Limited</u> <u>Warranty for Single-Family, Wood-Framed Multi-Family, and Light Commercial</u> <u>Buildings</u>.

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

#### **Applicable Structures**

# These Installation Guidelines pertain to Single-Family Residential, and Wood-Framed Multi-Family and Light Commercial Buildings 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\* (International Building Code (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 steelframed or concrete/CMU floors are covered under "Wood-Framed Multi-Family and Light Commercial Buildings" unless they are "high-performance".

#### Water-Resistive Barrier Performance Requirements

These Installation Guidelines pertain to single family residential, wood-framed multifamily and light commercial buildings with air barrier performance not exceeding ASTM E1677 (10.8 psf structural load, 65 mph equivalent wind load), and water infiltration resistance criteria not exceeding 6.24 psf (50 mph equivalent wind-driven rain) when tested in accordance with ASTM E331, ASTM E1105, or equivalent.

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.

#### Allowable Building Height and Number of Stories

Chapter 5 of the 2018 IBC contains information regarding the maximum height and number of stories for buildings of Group R Occupancy Classification (IBC Section 310). Including increased allowances for automatic sprinklers and a "podium" horizontal building separation (Section 510), Group R buildings of Type III or Type V construction can have the following **maximum heights above grade plane**:

#### Buildings with Group R (Residential) Occupancy Classification

Type of Construction	Maximum Building Height in Feet Per 2018 IBC Table 504.3
VA	70
VB	60
IIIA	85
IIIB	75

For Wood-Framed Multi-Family and Light Commercial Buildings up to 70 feet in height, any DuPont<sup>™</sup> Tyvek<sup>®</sup> WRB can be used. For buildings between 70 and 85 feet in height, DuPont<sup>™</sup> Tyvek<sup>®</sup> CommercialWrap<sup>®</sup> or DuPont<sup>™</sup> Tyvek<sup>®</sup> CommercialWrap<sup>®</sup> D must be used on all above grade wood-framed exterior walls, and 3" Tyvek<sup>®</sup> Tape must be used.

**NOTE**: In general, **Tyvek**<sup>®</sup> **CommercialWrap**<sup>®</sup> or **Tyvek**<sup>®</sup> **CommercialWrap**<sup>®</sup> **D** are recommended for Wood-Framed Multi-Family and Light Commercial Buildings due to their increased durability and UV exposure limit which can help accommodate longer construction times. See <u>Product Composition and UV Stability</u> section for more information.

# **Applicable Structures and Performance Criteria**

## DuPont Building Envelope Solutions Products Installation Considerations for Single-Family Residential Buildings

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.

Installation Considerations	Non-Air Barrier Installations (water details only)	Air Barrier Installations
Tyvek <sup>®</sup> WRB	DuPont <sup>™</sup> Tyvek® HomeWrap®, Tyvek® DrainWrap <sup>™</sup> , Tyvek® StuccoWrap®, Tyvek® CommercialWrap®, and Tyvek® CommercialWrap® D	
DuPont <sup>™</sup> Tyvek <sup>®</sup> Fluid Applied 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 <u>DuPont<sup>™</sup> Tyvek® Fluid</u> <u>Applied WB+<sup>™</sup> and DuPont Flashing Products Installation Guidelines</u> for additional information.	
DuPont <sup>™</sup> Tyvek <sup>®</sup> Tape	2" (3" <b>required</b> when using <b>Tyvek<sup>®</sup> DrainWrap<sup>™</sup>, Tyvek<sup>®</sup> StuccoWrap<sup>®</sup></b> , or <b>Tyvek<sup>®</sup> CommercialWrap<sup>®</sup> D</b> )	
Typical Recommended Fasteners and Spacing <sup>1</sup>	1" <b>DuPont<sup>™</sup> Tyvek® Wrap Cap Staples or Nails</b> (or equivalent) fastened along stud lines spaced at 6"– 18" vertically	
Tyvek <sup>®</sup> WRB Top of Wall Termination	Skip-sealing along top of wall using Tower® Residential Sealant, a recommended sealant², or <b>Tyvek® Tape</b>	Full seal along top of wall using Tower® Residential Sealant, a recommended sealant², or <b>Tyvek® Tape</b> .
Tyvek <sup>®</sup> WRB Bottom of Wall Termination	Skip-sealing along bottom of wall using Tower® Residential Sealant, a recommended sealant², or <b>Tyvek® Tape</b>	Full seal along bottom of wall using Tower® Residential Sealant, a recommended sealant <sup>2</sup> , or <b>Tyvek® Tape</b> .
Recommended Window/Door Head Flap Treatment	Skip-sealing along horizontal edge using <b>Tyvek<sup>®</sup> Tape</b> is acceptable	Full seal along horizontal edge and 45° cuts using <b>Tyvek° Tape</b> .

<sup>1</sup>For increased holding power and for higher air and water holdout performance, DuPont recommends fasteners of sufficient length to penetrate securely into the stud. Temporary Fastening methods can be used. For more information, refer to the applicable **Tyvek**<sup>®</sup> **WRB** Installation Guideline that can be found on <u>building.dupont.com</u>.

<sup>2</sup>For information regarding chemically compatibility of sealants, see technical bulletin <u>Chemical Compatibility of Representative Building Sealants and Adhesives/Primers</u>.

# **Applicable Structures and Performance Criteria**

## DuPont Building Envelope Solutions Products Installation Considerations for Wood-Framed Multi-Family and Light Commercial Buildings

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.

Installation Considerations	Total Building Height Above Grade Plane <sup>1</sup>	
	70 Feet and Under	70 – 85 Feet
Performance Criteria	Building air barrier performance not exceeding ASTM E1677, <b>AND</b> WRB and self-adhered flashing water infiltration resistance criteria not exceeding 6.24 psf when tested in accordance with ASTM E331, ASTM E1105, or equivalent.	
Tyvek <sup>®</sup> WRB <sup>2</sup>	DuPont <sup>™</sup> Tyvek° HomeWrap°, Tyvek° DrainWrap <sup>™</sup> , Tyvek° StuccoWrap°, Tyvek° CommercialWrap°, and Tyvek° CommercialWrap° D	<b>Tyvek<sup>®</sup> CommercialWrap<sup>®</sup></b> , <b>Tyvek<sup>®</sup> CommercialWrap<sup>®</sup> D</b> (required on all above grade wood-framed exterior walls)
DuPont <sup>™</sup> Tyvek <sup>®</sup> Fluid Applied 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 <u>DuPont<sup>™</sup> Tyvek<sup>®</sup> Fluid Applied WB+<sup>™</sup> and DuPont</u> <u>Flashing Products Installation Guidelines</u> for additional information.	
DuPont <sup>™</sup> Tyvek <sup>®</sup> Tape	2" (3" <b>required</b> when using <b>Tyvek® DrainWrap™, Tyvek®</b> <b>StuccoWrap®</b> , or <b>Tyvek® CommercialWrap® D</b> )	3"
Typical Recommended Fasteners and Spacing <sup>3</sup>	1" <b>DuPont<sup>™</sup> Tyvek<sup>®</sup> Wrap Cap Staples or Nails</b> (or equivalent) fastened along stud lines spaced at 6" – 18" vertically	2" <b>DuPont<sup>™</sup> Tyvek<sup>®</sup> Wrap Cap Screws</b> or approved TRUFAST <sup>®</sup> Walls Fasteners (formerly Rodenhouse) 1" plastic cap fasteners are considered temporary fasteners
Air Barrier Details	Required when the designated building envelope performance requirements are equivalent to ASTM E1677	
Tyvek <sup>®</sup> WRB Terminations to Sheathing	DuPont Self-Adhered Flashing Products	
Self-Adhered Flashing Patches behind Cladding Fasteners	Required when water infiltration resistance criteria for the building envelope exceeds 0.56 psf (15 mph equivalent wind-driven rain), nominal test pressure per ASTM E1677.	
Recommended Window/Door Head Flap Treatment	DuPont <sup>™</sup> Tyvek <sup>®</sup> Tape or DuPont Self-Adhered Flashing Products	DuPont Self-Adhered Flashing Products Install mechanical fasteners through flashing as needed for increased holding power

<sup>1</sup>Height above grade plane based on the approved calculation method as defined in architectural plans/construction documents.

<sup>2</sup>Buildings requiring NFPA 285 compliance must use **Tyvek**<sup>®</sup> **CommercialWrap**<sup>®</sup> or **Tyvek**<sup>®</sup> **CommercialWrap**<sup>®</sup> **D** in accordance with <u>DuPont NFPA 285 documentation</u>.

<sup>3</sup>For increased holding power and for higher air and water holdout performance, DuPont recommends fasteners of sufficient length to penetrate securely into the stud. Temporary Fastening methods can be used. For more information, refer to the applicable **Tyvek**<sup>®</sup> **WRB** Installation Guideline that can be found on <u>building.dupont.com</u>.

# **Flashing Products Code Requirements**

The 2018 International Residential Code (Section R703.4 Flashing) requires that "approved corrosion-resistant flashing shall be applied shingle-fashion in a manner to prevent entry of water into the wall cavity or penetration of water to the building structural framing components. Self-adhered membrane used as flashing shall comply with **AAMA 711**. Fluid-applied membranes used as flashing in exterior walls shall comply with **AAMA 714**. The flashing shall extend to the surface of the exterior wall finish.

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 (an FGIA Specification) Specification for Self Adhering Flashing Used for Installation of Exterior Wall Fenestration Products.

**DuPont<sup>™</sup> Tyvek<sup>®</sup> Fluid Applied Flashing and Joint Compound+** complies with AAMA 714, Voluntary Specification for Liquid Applied Flashing Used to Create a Water-Resistive Seal around Exterior Wall.

# Water-Resistive Barrier (WRB) Code Requirements

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

The 2018 International Building Code (Section 1402.2 Weather Protection) requires that "exterior walls shall provide the building with a weather-resistant exterior wall envelope. The exterior wall envelope shall be designed and constructed in such a manner as to prevent the accumulation of water within the wall assembly by providing a water-resistive barrier behind the exterior veneer, as described in Section 1403.2, and a means for draining water that enters the assembly to the exterior. The exterior wall envelope shall include flashing, as described in Section 1404.4. Section 1403.2 (Water-resistive barrier) states that "not fewer than one layer of No. 15 asphalt felt, complying with ASTM D226 for Type 1 felt or other approved materials, shall be attached to the studs or sheathing, with flashing as described in Section 1404.4 in such a manner as to provide a continuous water-resistive barrier behind the exterior veneer."

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

- ICC-ES Evaluation Report ESR 2375
  - DuPont<sup>™</sup> Tyvek<sup>®</sup> HomeWrap<sup>®</sup>
  - DuPont<sup>™</sup> Tyvek<sup>®</sup> StuccoWrap<sup>®</sup>
  - DuPont<sup>™</sup> Tyvek<sup>®</sup> DrainWrap<sup>™</sup>
  - DuPont<sup>™</sup> Tyvek<sup>®</sup> CommercialWrap<sup>®</sup>
  - DuPont<sup>™</sup> Tyvek<sup>®</sup> CommercialWrap<sup>®</sup> D

All **DuPont<sup>™</sup> Tyvek<sup>®</sup> WRBs** have been tested to the following standards:

- ASTM E2556 Type II Standard Specification for Vapor Permeable Flexible Sheet Water-Resistive Barriers Intended for Mechanical Attachment
- ASTM E1677 Standard Specification for an Air Retarder (AR) Material or System for Low-Rise Framed Building Walls

- ASTM E2178 Standard Test Method for Air Permeance of Building Materials
- ASTM E96 Standard Test Methods for Water Vapor Transmission of Materials
- AATCC 127 Test Method for Water Resistance: Hydrostatic Pressure
- ASTM E84 Standard Test Method for Surface Burning Characteristics of Building Materials
- ASTM E2273 Standard Test Method for Determining the Drainage Efficiency of Exterior Insulation and Finish Systems (EIFS) Clad Wall Assemblies (excludes DuPont<sup>™</sup> Tyvek<sup>®</sup> Fluid Applied WB+<sup>™</sup>)

The application of **DuPont<sup>™</sup> Tyvek<sup>®</sup> WRBs** is governed by the code adopted and enforced by the local jurisdiction. Consult your jurisdiction to assure compliance with the local building code.

# Additional Codes and Standards Information for DuPont<sup>™</sup> Tyvek<sup>®</sup> Commercial Air and Water Barrier Systems

DuPont<sup>™</sup> Tyvek<sup>®</sup> CommercialWrap<sup>®</sup>, Tyvek<sup>®</sup> CommercialWrap<sup>®</sup> D, DuPont<sup>™</sup> StraightFlash<sup>™</sup>, DuPont<sup>™</sup> FlexWrap<sup>™</sup>, and DuPont<sup>™</sup> Tyvek<sup>®</sup> 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
- 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<sup>™</sup> Tyvek<sup>®</sup> 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<sup>®</sup> (IECC)
- 2018 International Green Construction Code® (IgCC)

# **General Instructions**

The best time to install Tyvek® WRBs is:

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

# DuPont Self-Adhered Flashing Products and Tyvek<sup>®</sup> Fluid Applied Products are not intended for through-wall flashing applications.

# **Special Considerations**

- These Installation Guidelines, including the allowable use of DuPont Products, are based on building air barrier performance not exceeding ASTM E1677, and Tyvek<sup>®</sup> WRBs and self-adhered flashing water infiltration resistance criteria not exceeding 6.24 psf when tested in accordance with ASTM E331, ASTM E1105, or equivalent.
- Buildings requiring NFPA 285 compliance must use Tyvek<sup>®</sup> CommercialWrap<sup>®</sup> or Tyvek<sup>®</sup> CommercialWrap<sup>®</sup> D in accordance with DuPont NFPA 285 documentation. See <u>NFPA 285 Compliant Wall Assemblies with DuPont™ Tyvek<sup>®</sup> Commercial Air and Water Barrier Systems and building.dupont.com for more information.
  </u>
- 3. **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.
- 4. **DuPont Self-Adhered Flashing Products** perform best when installed at temperatures above 25°F (-4°C).
- 5. 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 a recommended primer. Do not apply the recommended primer, to exterior continuous insulation due to potential sheathing degradation.
- 6. Remove all wrinkles and bubbles that may allow for water intrusion by smoothing surface and repositioning as necessary during installation of **DuPont Self-Adhered Flashing Products**. Apply pressure along entire surface of flashing for a good bond using firm hand pressure, J-roller, or alternate tool without sharp edges (such as a plastic carpet tuck tool) to assist with application of uniform pressure.
- 7. Building envelope design requirements exceeding 0.56 psf (15 mph equivalent wind-driven rain) water infiltration resistance per ASTM E1677 require DuPont<sup>™</sup> StraightFlash<sup>™</sup>, DuPont<sup>™</sup> Flashing Tape or recommended alternate patches behind fastening plates (brick tie base plates, metal fastening clips, metal channels, etc.). When used behind the cladding fasteners and/or fastening plates, the flashing patch must be adhered to the Tyvek<sup>®</sup> WRB.
- 8. **DuPont Self-Adhered Flashing Products** are not intended for through-wall flashing applications.
- 9. When using mechanically fastened through-wall flashing, DuPont recommends sealing top edge with **DuPont<sup>™</sup> Flashing Tape** or **StraightFlash<sup>™</sup>**.

- 10. When flashing the sill area for windows and doors, DuPont recommends the use of 6" wide DuPont<sup>™</sup> FlexWrap<sup>™</sup> for 2" x 4" framing and 9" wide FlexWrap<sup>™</sup> 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<sup>™</sup>. Then install 9" wide FlexWrap<sup>™</sup> over sill and corner guard back dam.
- Use DuPont Self-Adhered Flashing Products with roll widths sufficient to achieve a minimum of 1" adhesion BEYOND where the back of the window or door frame will be located to allow for the creation of the interior perimeter seal.
- 12. **DO NOT STRETCH FlexWrap**<sup>™</sup> when installing along sills or jambs. **FlexWrap**<sup>™</sup> is only intended to be stretched when covering corners or curved sections.
- When installing DuPont<sup>™</sup> FlexWrap<sup>™</sup> EZ and FlexWrap<sup>™</sup> on penetrations or other wall conditions, ensure the flashing will not be exposed after completion of cladding.
- 14. **DuPont Self-Adhered Flashing Products** can be used to bridge non-movement gaps up to 1" unsupported. Flashing must maintain a 2" adhesive lap on the wall substrate.
- DO NOT APPLY DuPont<sup>™</sup> Tyvek<sup>®</sup> Tape or DuPont Self-Adhered Flashing Products over DuPont<sup>™</sup> Tyvek<sup>®</sup> Wrap Cap Fasteners, or recommended fasteners however, fasteners can be installed over the flashing.
- 16. When installing the **DuPont<sup>™</sup> Tyvek<sup>®</sup> WRB**, **DO NOT INSTALL** fasteners within 6" of the sills and jambs of the openings and within 9" of the head of the openings.
- 17. Great Stuff Pro<sup>™</sup> 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<sup>™</sup> Window and Door Polyurethane Foam Sealant in perimeter openings less than 1/2", apply using the plastic extension tip for the Great Stuff<sup>™</sup> Dispenser Gun during installation.
- 18. For additional wind load resistance, the use of DuPont<sup>™</sup> Flashing Tape or DuPont<sup>™</sup> StraightFlash<sup>™</sup> with Tyvek<sup>®</sup> Wrap Cap Fasteners, or recommended fasteners can be installed to secure the head flap of the windows.
- DuPont<sup>™</sup> Tyvek<sup>®</sup> Tape is a seam tape primarily designed to seal Tyvek<sup>®</sup> WRB seams. Tyvek<sup>®</sup> Tape is NOT a flashing product, and should not be used in applications where a flashing product is required.
- 20. Before applying **Tyvek**<sup>®</sup> **Tape**, surfaces should be dry and clean. During installation apply firm, even pressure with hand or "J" roller.
- 21. In lieu of temporarily taping, **Tyvek**<sup>®</sup> **WRB** flaps at window head and jambs can be tucked under the installed **Tyvek**<sup>®</sup> **WRB**.
- 22. 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.
- 23. For window or door openings greater than 6 feet wide, DuPont<sup>™</sup> Flashing Tape or StraightFlash<sup>™</sup> can be used with FlexWrap<sup>™</sup> in 3-piece sill applications. DuPont<sup>™</sup> Flashing Tape or StraightFlash<sup>™</sup> should be applied the length of the sill prior to placing the FlexWrap<sup>™</sup> corners. The FlexWrap<sup>™</sup> corners should be at least 12<sup>″</sup> long allowing for 6″ up the jamb and 6″ of overlap on the FlexWrap<sup>™</sup> sill flashing. When applying the 3-piece flashing detail to the head of the opening, the DuPont<sup>™</sup> Flashing Tape or StraightFlash<sup>™</sup> head piece should be applied prior to installing the FlexWrap<sup>™</sup> corner flashing. Minimum overlapping of the FlexWrap<sup>™</sup> head flashing and jamb flashing should be a minimum of 6″.

- 24. **DuPont<sup>™</sup> Tyvek<sup>®</sup> DrainWrap<sup>™</sup>**, **DuPont<sup>™</sup> Tyvek<sup>®</sup> StuccoWrap<sup>®</sup>**, and **DuPont<sup>™</sup> Tyvek<sup>®</sup> CommercialWrap<sup>®</sup> D must** be installed with the grooves going up and down.
- 25. DuPont<sup>™</sup> Tyvek<sup>®</sup> HomeWrap<sup>®</sup> and DuPont<sup>™</sup> Tyvek<sup>®</sup> CommercialWrap<sup>®</sup> provide >90% drainage efficiency, and Tyvek<sup>®</sup> DrainWrap<sup>™</sup>, Tyvek<sup>®</sup> StuccoWrap<sup>®</sup>, and Tyvek<sup>®</sup> CommercialWrap<sup>®</sup> D provide >98% drainage efficiency when tested in accordance with ASTM E2273.
- 26. No surface preparation is needed for the installation of Tyvek® WRBs.
- 27. Suitable substrates for DuPont<sup>™</sup> Tyvek<sup>®</sup> Fluid Applied Products include concrete masonry unit (CMU), concrete (48 hr. cure for green concrete), exterior gypsum, OSB, plywood, wood, and metal. Contact your local DuPont Representative for use with pressure treated or fire retardant treated wood (FRT).
- 28. DuPont recommends the use of the DuPont<sup>™</sup> Tyvek<sup>®</sup> Fluid Applied Air Barrier System for CMU walls with embedded brick ties. Please refer to the <u>DuPont<sup>™</sup></u> <u>Tyvek<sup>®</sup> Fluid Applied WB+<sup>™</sup> and DuPont Flashing Products Installation Guidelines</u> for specific installation instructions.
- 29. Tyvek<sup>®</sup> 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.
- 30. When Tyvek<sup>®</sup> Fluid Applied Products are used as the air and water barrier, Tyvek<sup>®</sup> WRBs may be installed as an "intervening layer" over Tyvek<sup>®</sup> Fluid Applied Products after 48 hours of curing at 70°F (20°C) and 50% RH. For additional information about the use of "intervening layers" see the Stucco section under *Facade Considerations* in the applicable Tyvek<sup>®</sup> WRB Installation Guideline.
- 31. Uncured **Tyvek<sup>®</sup> Fluid Applied Products** must not come in contact with building wraps due to potential impact on performance properties.
- Tyvek<sup>®</sup> CommercialWrap<sup>®</sup> and Tyvek<sup>®</sup> CommercialWrap<sup>®</sup> D may be installed over Tyvek<sup>®</sup> Fluid Applied Products after 48 hours of curing at 70°F (20°C) and 50% RH.
- 33. Tyvek<sup>®</sup> HomeWrap<sup>®</sup>, Tyvek<sup>®</sup> StuccoWrap<sup>®</sup>, and/or Tyvek<sup>®</sup> DrainWrap<sup>™</sup> should not come in direct contact with cured or uncured Tyvek<sup>®</sup> Fluid Applied Products.
- 34. **Tyvek**<sup>®</sup> **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.
- 35. **DuPont<sup>™</sup> Tyvek<sup>®</sup> Fluid Applied Flashing and Joint Compound+** can be troweled or brushed to the required thickness in any application outlined in the guide.
- 36. 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).
- 37. Tyvek<sup>®</sup> Fluid Applied Products may be overcoated once a tack-free skin has formed. Exterior insulation and/or exterior facade may be installed after Tyvek<sup>®</sup> Fluid Applied Products have cured for 48 hours. Please refer to Drying/Curing information in the <u>DuPont<sup>™</sup> Tyvek<sup>®</sup> Fluid Applied WB+<sup>™</sup> and DuPont Flashing</u> Products Installation Guidelines.

- 38. 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<sup>™</sup> Tyvek<sup>®</sup> Fluid Applied Products** are fully cured (~14 days).
- 39. DuPont<sup>™</sup> Tyvek<sup>®</sup> WRBs 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<sup>™</sup> StraightFlash<sup>™</sup> can be used as transitional membrane.
- 40. DuPont requires DuPont<sup>™</sup> Tyvek<sup>®</sup> HomeWrap<sup>®</sup>, DuPont<sup>™</sup> Tyvek<sup>®</sup> StuccoWrap<sup>®</sup>, and DuPont<sup>™</sup> Tyvek<sup>®</sup> DrainWrap<sup>™</sup> be covered within 4 months (120 days) of installation. DuPont requires DuPont<sup>™</sup> Tyvek<sup>®</sup> CommercialWrap<sup>®</sup> and DuPont<sup>™</sup> Tyvek<sup>®</sup> CommercialWrap<sup>®</sup> D and Tyvek<sup>®</sup> Fluid Applied Products be covered within 9 months (270 days) of installation.
- 41. DuPont requires that DuPont<sup>™</sup> FlexWrap<sup>™</sup>, DuPont<sup>™</sup> FlexWrap<sup>™</sup> EZ, and StraightFlash<sup>™</sup> be covered within 9 months (270 days) of installation. DuPont requires that DuPont<sup>™</sup> Flashing Tape be covered within four months (120 days) of installation.
- 42. The maximum in-service temperature for Tyvek<sup>®</sup> WRBs, DuPont Self-Adhered Flashing Products, and Tyvek<sup>®</sup> Fluid Applied Products is 180°F.
- 43. Tower<sup>®</sup> Residential Sealant (formerly DuPont<sup>™</sup> Residential Sealant) is designed for use with DuPont products and can be used where sealant is outlined in this guide. This change represents a branding change only—chemical composition and performance characteristics of the sealant are unchanged.
- 44. For details regarding flashing garage door openings, refer to <u>Installation</u> <u>Instructions for Garage Doors Installed AFTER the DuPont™ Tyvek® Water-Resistive</u> <u>and Air Barrier (WRB) is Installed</u>.
- 45. When applying Tower<sup>®</sup> Residential Sealant or recommended sealant during window installation, DuPont recommends minimizing or removing excess sealant that may interfere with adhesion of **DuPont Self-Adhered Flashing Products**.

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

# DuPont<sup>™</sup> Tyvek<sup>®</sup> WRB Installation Instructions (Windows/Doors Installed **AFTER** the Tyvek<sup>®</sup> WRB) Key Installation Requirements for DuPont<sup>™</sup> Tyvek<sup>®</sup> WRBs

#### Continuity

It is important to maintain the continuity of the **Tyvek**<sup>®</sup> **WRB** throughout the building envelope. The entire wall surface shall be wrapped, including unconditioned spaces. Special attention should be given to ensure a proper 6" overlap at all terminations, seams, penetrations, and transitions to maintain a continuous downward drainage plane and WRB. Installing the **Tyvek**<sup>®</sup> **WRB** as an air barrier is the preferred installation method. However, skip-taping terminations and untaped horizontal seams is allowed when the **Tyvek**<sup>®</sup> **WRB** is being installed as a water-resistive barrier only. Buildings between 70-85 ft. in height require an air barrier installation (see <u>Applicable Structures and Performance</u>. <u>Criteria</u> section). All vertical seams must be taped for both air barrier and water-resistive barrier installations.



#### Penetrations

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

#### Overlap

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

#### Sealants and Adhesives/Primers

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

## Fasteners

Use **DuPont**<sup>™</sup> **Tyvek**<sup>®</sup> **Wrap Cap Fasteners**, TRUFAST<sup>®</sup> Walls<sup>1</sup> Grip-Deck<sup>®</sup> screws with Thermal-Grip FastCap<sup>™</sup> washers, or recommended alternates, per the fastening schedule included in this installation guideline. Temporary fasteners should not be relied upon to permanently attach **Tyvek**<sup>®</sup> **WRBs**, due to the limited holding power of these fastening methods. If temporary fasteners are used, permanent fastening (cladding fasteners) must be applied as soon as practically possible in order to maintain the integrity and performance of the **Tyvek**<sup>®</sup> **WRB** and to be in compliance with DuPont Installation Guidelines if making a claim under the DuPont Product and Labor component of the DuPont Building Envelope Solutions Products 10-Year Limited Warranty.

## **Recommended Fasteners**

For increased holding power and for higher air and water holdout performance, DuPont recommends fasteners of sufficient length to penetrate securely into the stud. Taller buildings are subjected to increased wind loads. and this should be taken into account when selecting fasteners for the **Tvvek**<sup>®</sup> **WRB**. Plastic cap screws provide the highest level of holding power. **The recommended** fasteners for buildings between 70-85 ft. in height are 2" cap screws as listed below. Secure Typek<sup>®</sup> WRB to the stud or other nail-base material, i.e., wood sheathing. Cap nail and/or cap staple fasteners should be placed no closer than 6" and no farther than 18" on vertical stud lines. Securing along stud lines will assist in maintaining fastening pattern. Penetrating bandboard or other horizontal members may be necessary to maintain fastening pattern. Do not install fasteners within 6" of the sills and jambs and within 9" of the head of the window rough openings. Use one or more of the recommended fasteners below for use with Tyvek® WRBs:

- DuPont<sup>™</sup> Tyvek<sup>®</sup> Wrap Cap Nails
- DuPont<sup>™</sup> Tyvek<sup>®</sup> Wrap Cap Staples or other cap staples for Stinger<sup>®</sup> Cap Stapler<sup>2</sup>
- 2" DuPont<sup>™</sup> Tyvek<sup>®</sup> Wrap Cap Screws (for steel frame construction, may also be used for wood frame)
- TRUFAST<sup>®</sup> Walls Grip-Deck<sup>®</sup> screws with Thermal-Grip FastCap<sup>™</sup> washers installed at 16" vertical spacing along stud lines for 16" o.c. framing (approved for use with **Tyvek<sup>®</sup> WRBs**). Install fasteners with standard hand drill or Grip-Lok<sup>®</sup> Autofeed Fastening System<sup>3</sup> with modified nose adaptor.

## Wood frame construction:

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

<sup>2</sup>Except when installing Tyvek<sup>®</sup> WRB over foam and other non-nail-base

#### sheathings.

<sup>3</sup>For more information about the Grip-Lok® Autofeed Fastening System, refer to manufacturer's instructions and contact your local DuPont<sup>™</sup> Tyvek® Specialist.

# DuPont<sup>™</sup> Tyvek<sup>®</sup> WRB Installation Instructions (Windows/Doors Installed AFTER the Tyvek<sup>®</sup> WRB)

# **Temporary Fastening**

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

Temporary fastening methods:

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

**NOTE**: For buildings between 70-85 ft. in height, temporary fasteners include 4d nails with 1" plastic cap or 1" plastic cap staple with leg length sufficient to achieve 5/8" penetration into wood stud.

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

# Alternate Fastening

- A. Standard brick tie base plates and metal plates with **DuPont<sup>™</sup> Flashing Tape**, **DuPont<sup>™</sup> StraightFlash<sup>™</sup>** or DuPont recommended alternate patches behind. The selected alternate flashing should satisfy ASTM D1970, AAMA 711, or equivalent.
- B. Metal channels, z-girts, etc. with **DuPont<sup>™</sup> Flashing Tape**, **StraightFlash<sup>™</sup>** or DuPont recommended alternate patches behind.
- C. Wood furring strips mounted vertically. **DuPont<sup>™</sup> Flashing Tape**, **StraightFlash<sup>™</sup>**, or DuPont recommended alternate not required unless the furring strips are shimmed.

#### Notes:

- Additional fasteners may be needed between brick ties, and other alternate fasteners to maintain recommended fastener spacing.
- **DuPont**<sup>™</sup> **Flashing Tape, StraightFlash**<sup>™</sup>, or DuPont recommended alternate patches are required behind fastening plates (brick tie base plates, metal fastening clips, metal channels, etc.) when building envelope design requirements exceed 15 mph equivalent wind-driven rain water infiltration resistance per ASTM E1677.



This method applies to the following products: DuPont<sup>™</sup> Flashing Tape, DuPont<sup>™</sup> StraightFlash<sup>™</sup>, DuPont<sup>™</sup> FlexWrap<sup>™</sup>, and DuPont<sup>™</sup> FlexWrap<sup>™</sup> EZ



# STEP 1

## Install Tyvek® WRB onto Face of Wall and Into Archway

- A. Install the **Tyvek® WRB** onto face of wall, making sure the top edge is aligned with bottom of the arch and continue installation into archway to cover depth of the arch (D). Refer to the DuPont<sup>™</sup> Tyvek<sup>®</sup> WRB Installation Instructions section in the applicable Tyvek<sup>®</sup> WRB Installation Guideline found on building.dupont.com.
- B. Install DuPont<sup>™</sup> Flashing Tape or StraightFlash<sup>™</sup> along the top edge of the Tyvek<sup>®</sup> WRB inside the arch, extending 2" onto the face of the wall.

**NOTE**: Remove all wrinkles and bubbles that may allow for water intrusion by smoothing surface and repositioning as necessary during installation of **DuPont Self-Adhered Flashing Products**. Apply pressure along entire surface of flashing for a good bond using firm hand pressure, J-roller, or alternate tool without sharp edges (such as a plastic carpet tuck tool) to assist with application of uniform pressure.



# STEP 2

## Install Tyvek® WRB at Top of Archway

- A. Cut a piece of **Tyvek® WRB** as wide as the depth (D) and at least 12" **LONGER** than the length of the arc (L), long enough to overlap the **Tyvek® WRB** installed in STEP 1 by a minimum of 6" on either side.
- B. Install the **Tyvek® WRB** at top of the arch so the edge is flush with face of wall.
- C. Tape the horizontal seams inside arch with **DuPont<sup>™</sup> Tyvek<sup>®</sup> Tape**.

NOTE: 3" Tyvek<sup>®</sup> Tape is required when using DuPont<sup>™</sup> Tyvek<sup>®</sup> DrainWrap<sup>™</sup>, Tyvek<sup>®</sup> StuccoWrap<sup>®</sup>, or Tyvek<sup>®</sup> CommercialWrap<sup>®</sup> D.



# STEP 3

## Install DuPont<sup>™</sup> FlexWrap<sup>™</sup> at Top of Archway

- A. Cut a piece of **DuPont<sup>™</sup> FlexWrap<sup>™</sup>** at least 12" **LONGER** than the length of the arc (L).
- B. Fold the FlexWrap<sup>™</sup> in half lengthwise to create a slight crease at the center. Remove the wide piece of release paper on one side of the fold. Align the inside edge of the narrow release paper with the face of the wall to ensure 2"-3" of the FlexWrap<sup>™</sup> will be adhered to the face of the wall.
- C. Starting at the crease, adhere the exposed butyl adhesive to the center of the arch and continue along the arch until there is a minimum of 6" extending onto the **Tyvek® WRB**. Remove the remaining release paper and continue the process of adhering the **FlexWrap™** along other side of the arch and 6" onto the **Tyvek® WRB**.



# STEP 3 (CONTINUED)

# Install DuPont<sup>™</sup> FlexWrap<sup>™</sup> at Top of Archway

D. Remove the remaining release paper.

E. Fan out the **FlexWrap™** and adhere\* onto face of wall. 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.



# STEP 4

#### Install the Next Course of Tyvek® WRB onto Face of Wall

- A. Install the next course of **Tyvek<sup>®</sup> WRB** onto face of wall to ensure it overlaps the first course below by a minimum of 6". Trim along edge of archway. Do not cut through the **DuPont<sup>™</sup> FlexWrap<sup>™</sup>**.
- B. Trim the **Tyvek<sup>®</sup> WRB** by approximately 1" beyond the edge of the archway to expose the **FlexWrap™** underneath.



# STEP 5

A. Tape horizontal seams with **DuPont<sup>™</sup> Tyvek<sup>®</sup> Tape**.

NOTE: 3" Tyvek® Tape is required when using DuPont<sup>™</sup> Tyvek® DrainWrap<sup>™</sup>, Tyvek® StuccoWrap<sup>®</sup>, or Tyvek® CommercialWrap<sup>®</sup> D.

B. Terminate the Tyvek<sup>®</sup> WRB by continuously sealing the arc with DuPont<sup>™</sup> FlexWrap<sup>™</sup> EZ or FlexWrap<sup>™</sup>. Terminating using overlapping pieces of Tyvek<sup>®</sup> Tape<sup>\*</sup>, DuPont<sup>™</sup> Flashing Tape, or DuPont<sup>™</sup> StraightFlash<sup>™</sup> is an alternative option. If an air barrier is not required and additional drainage is desired, skip-sealing at head with a maximum of two (2) 2" gaps for every 3' of window is acceptable.

**NOTE**: If using **Tyvek**<sup>®</sup> **Tape**, maintain proper shingling from top to bottom.

\*For a more robust termination, seal with **FlexWrap™**, **FlexWrap™ EZ**, **DuPont™ Flashing Tape**, or **StraightFlash™**. Install mechanical fasteners through flashing as needed for increased holding power.

# **Façade Considerations**

Water-resistive barrier performance is dependent upon the ability of the facade to drain. **DuPont**<sup>™</sup> **Tyvek**<sup>®</sup> **HomeWrap**<sup>®</sup> and **Tyvek**<sup>®</sup> **CommercialWrap**<sup>®</sup> provide >90% drainage efficiency, and **Tyvek**<sup>®</sup> **DrainWrap**<sup>™</sup>, **Tyvek**<sup>®</sup> **StuccoWrap**<sup>®</sup>, and **Tyvek**<sup>®</sup> **CommercialWrap**<sup>®</sup> **D** provide >98% drainage efficiency when tested in accordance with ASTM E2273. The following must be considered for specific facades:

#### Stucco

When stucco is installed over wood-based sheathing, the 2018 International Building Code (Section 2510.6) requires a water-resistive vapor-permeable barrier with a performance at least equivalent to two layers of water resistive barrier complying with ASTM E 2556, Type I, or a water resistive barrier which is separated from the stucco by an intervening, substantially nonwater-absorbing layer or drainage space. "The individual layers shall be installed independently such that each layer provides a separate continuous plane and any flashing intended to drain to the water-resistive barrier is directed between the layers." **DuPont<sup>™</sup> Tyvek<sup>®</sup> WRBs** used behind stucco should be separated from the stucco by a second layer of **Tyvek<sup>®</sup> WRB**, a layer of Grade D building paper, felt, rigid foam board or the paper backing of paper-backed lath. **DuPont<sup>™</sup> Tyvek<sup>®</sup> DrainVent<sup>™</sup> Rainscreen** can also be used as the intervening layer over the WRB. The first layer (directly over sheathing or studs) serves as the wall system's water-resistive barrier and is integrated with window and door flashings, the weep screed at the bottom of the wall and any through wall flashings or expansion joints. Lath shall be installed over the intervening layer in accordance with ASTM C1063 Standard Specification for Installation of Lathing and Furring to Receive Interior and Exterior Portland Cement-Based Plaster and applicable codes. Rigid foam board, when installed over Tyvek® WRB as an intervening layer, will provide enhanced structural support to the Tyvek<sup>®</sup> WRB and may reduce the required number of fasteners used for the attachment of the **Tyvek**<sup>®</sup> **WRB** if installed as soon as practically possible. **Tyvek**<sup>®</sup> StuccoWrap<sup>®</sup>, Tyvek<sup>®</sup> DrainWrap<sup>™</sup> or Tyvek<sup>®</sup> CommercialWrap<sup>®</sup> D is recommended for this application, since these products provide >98% drainage efficiency when tested in accordance with ASTM E2273.

**Tyvek**<sup>®</sup> **HomeWrap**<sup>®</sup> and **Tyvek**<sup>®</sup> **CommercialWrap**<sup>®</sup> provide >90% drainage efficiency when tested in accordance with ASTM E2273. **DuPont Self-Adhered Flashing Products** or recommended alternate may be required for high performance installations.

#### Brick (or Other Stacked/Anchored Masonry Veneers)

The Brick Industry Association recommends a 1-inch air-space in front of wood stud construction and a 2 inch air-space in front of steel stud construction. Consistent with these requirements and recommendations, **Tyvek® WRBs** shall be separated from the brick veneer by a nominal 1 inch air-space. Window and door flashing, and throughwall flashing shall be integrated with the **Tyvek® WRB** layer ensuring proper shingling. For maximum moisture management and drying of the wall system, the airspace in front of the **Tyvek® WRB** shall be vented to the exterior at the top and bottom of the wall. Some types of brick ties will act as additional fasteners for **Tyvek® WRBs**, and if installed as soon as practically possible after the **Tyvek**<sup>®</sup> **WRB**, may reduce the required number of fasteners used for the initial attachment of the **Tyvek**<sup>®</sup> **WRB**. **DuPont Self-Adhered Flashing Products** or recommended alternate patch is required for high performance installations.

#### Stone Veneer (or Other Adhered Masonry Veneers)

The 2018 International Building Code (Section 1404.7) requires two layers of air and water barrier behind stone veneers over wood frame construction. When used behind stone veneer, Tyvek<sup>®</sup> WRBs shall be installed in a similar manner as they are installed behind stucco. The **Tyvek**<sup>®</sup> **WRB** should be separated from the stone and mortar by a second layer of **Tyvek**<sup>®</sup> **WRB**, a layer of grade D building paper, felt, exterior continuous foam insulation or the paper backing of paper-backed lath. Tyvek<sup>®</sup> DrainVent<sup>™</sup> Rainscreen can also be used as the intervening layer over the WRB. The first layer (directly over sheathing or studs) serves as the wall system's air and water barrier and shall be integrated with window and door flashings, the weep screed at the bottom of the wall and any through wall flashing or expansion joints. Lath shall be installed over the intervening layer (second layer) in accordance with ASTM C1063 Standard Specification for Installation of Lathing and Furring to Receive Interior and Exterior Portland Cement-Based Plaster and applicable codes. When exterior continuous foam insulation is used as the second layer, it is installed over the **Tyvek**<sup>®</sup> **WRB**. **Tyvek**<sup>®</sup> StuccoWrap<sup>®</sup>, Tyvek<sup>®</sup> DrainWrap<sup>™</sup> or Tyvek<sup>®</sup> CommercialWrap<sup>®</sup> D is recommended for this application, since these products provide >98% drainage efficiency when tested in accordance with ASTM E2273. Tyvek<sup>®</sup> HomeWrap<sup>®</sup> and Tyvek<sup>®</sup> CommercialWrap<sup>®</sup> provide >90% drainage efficiency when tested in accordance with ASTM E2273. DuPont Self-Adhered Flashing Products or recommended alternate patch is required for high performance installations.

#### Wood Siding

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

- Use thicker siding patterns in widths of 8 inches or less. Thick, narrow siding is more stable than thinner, wider patterns and better able to resist dimensional changes.
- Use kiln-dried siding over rigid foam sheathing.
- Proper pre-finishing is essential.
- Use light color finish coats to maximize heat reflection and reduce dimensional movement.

# **Façade Considerations**

DuPont<sup>™</sup> Tyvek<sup>®</sup> StuccoWrap<sup>®</sup>, DuPont<sup>™</sup> Tyvek<sup>®</sup> DrainWrap<sup>™</sup> or DuPont<sup>™</sup> Tyvek<sup>®</sup>
 CommercialWrap<sup>®</sup> D applied over the foam sheathing is recommended for this application.

In high exposure installations, enhanced drainage and water management may be provided by using **Tyvek**<sup>°</sup> **StuccoWrap**<sup>°</sup>, **Tyvek**<sup>°</sup> **DrainWrap**<sup>™</sup> or **Tyvek**<sup>°</sup> **CommercialWrap**<sup>°</sup> **D**, by installing **DuPont<sup>™</sup> Tyvek**<sup>°</sup> **DrainVent<sup>™</sup> Rainscreen** or other drainage mesh over the water-resistive barrier, or by creating rainscreen cladding with a larger air space behind the siding using furring strips. If furring is installed over the **DuPont<sup>™</sup> Tyvek**<sup>°</sup> **WRB** to create a rainscreen, the primary fastener spacing can exceed 18″. **DuPont<sup>™</sup> Tyvek**<sup>°</sup> **HomeWrap**<sup>°</sup> and **Tyvek**<sup>°</sup> **CommercialWrap**<sup>°</sup> provide >90% drainage efficiency, and **Tyvek**<sup>°</sup> **DrainWrap<sup>™</sup>**, **Tyvek**<sup>°</sup> **StuccoWrap**<sup>°</sup>, and **Tyvek**<sup>°</sup> **CommercialWrap**<sup>®</sup> **D** provide >98% drainage efficiency when tested in accordance with ASTM E2273.

#### **Fiber Cement Siding**

Tyvek<sup>®</sup> WRBs and fiber cement siding shall be installed according to manufacturer's instructions and industry standards. In high exposure installations, enhanced drainage and water management may be provided by using Tyvek<sup>®</sup> StuccoWrap<sup>®</sup>, Tyvek<sup>®</sup> DrainWrap<sup>™</sup> or Tyvek<sup>®</sup> CommercialWrap<sup>®</sup> D, by installing Tyvek<sup>®</sup> DrainVent<sup>™</sup> Rainscreen or other drainage mesh over the water-resistive barrier, or by creating rainscreen cladding with a larger air space behind the siding using furring strips. If furring is installed over the Tyvek<sup>®</sup> WRB to create a rainscreen, the primary fastener spacing can exceed 18". In high wind areas at gable end walls, FEMA recommends fiber cement siding be installed over wood sheathing rather than over plastic foam sheathing. Tyvek<sup>®</sup> WRBs and fiber cement siding shall be installed according to manufacturer's instructions, industry standards and applicable codes. Tyvek<sup>®</sup> HomeWrap<sup>®</sup> and Tyvek<sup>®</sup> StuccoWrap<sup>®</sup>, and Tyvek<sup>®</sup> CommercialWrap<sup>®</sup> D provide >98% drainage efficiency when tested in accordance with ASTM E2273.

#### Vinyl Siding

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

#### EIFS

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

**Tyvek**<sup>®</sup> **HomeWrap**<sup>®</sup> and **Tyvek**<sup>®</sup> **CommercialWrap**<sup>®</sup> provide >90% drainage efficiency, and **Tyvek**<sup>®</sup> **DrainWrap**<sup>™</sup>, **Tyvek**<sup>®</sup> **StuccoWrap**<sup>®</sup>, and **Tyvek**<sup>®</sup> **CommercialWrap**<sup>®</sup> **D** provide >98% drainage efficiency when tested in accordance with ASTM E2273.

#### Metal Panel

Tyvek<sup>®</sup> WRBs and metal panel cladding systems shall be installed according to manufacturer's instructions and industry standards. **DuPont<sup>™</sup> StraightFlash<sup>™</sup>**, **DuPont<sup>™</sup>** Flashing Tape, or recommended alternate patch can be installed behind all metal installation brackets and hat-channels fasteners for additional air and water infiltration resistance.

NOTE: The maximum in-service temperature for Tyvek<sup>®</sup> WRBs, DuPont Self- Adhered Flashing Products, and DuPont<sup>™</sup> Tyvek<sup>®</sup> Fluid Applied Products is 180°F.

#### **Exterior Insulation**

When using **Tyvek**<sup>®</sup> **WRBs** with **DuPont Exterior Continuous Insulation Products**, please refer to the Installation Bulletin: <u>Integrating DuPont Building Envelope</u> <u>Solutions Products with DuPont Exterior Continuous Insulation</u> for guidance on fasteners and product installation. **Tyvek**<sup>®</sup> **WRBs** and exterior continuous insulation shall be installed according to the manufacturer's instructions and industry standards.

Tyvek<sup>®</sup> WRBs can be installed either over the rigid exterior continuous insulation or underneath between the sheathing and the exterior insulation. In order to promote drainage, it is recommended that Tyvek<sup>®</sup> StuccoWrap<sup>®</sup>, Tyvek<sup>®</sup> DrainWrap<sup>™</sup> or Tyvek<sup>®</sup> CommercialWrap<sup>®</sup> D be used when installing the Tyvek<sup>®</sup> WRB layer between the sheathing and exterior continuous insulation. Window flashing, door flashing, and through wall flashing shall be integrated with the Tyvek<sup>®</sup> WRB layer ensuring proper shingling. The successful installation and performance of exterior continuous insulation is dependent upon the proper design and construction of adjacent materials and systems of the structure.

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

# **Product Composition and UV Stability**

#### DuPont<sup>™</sup> Tyvek<sup>®</sup> 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 polvethylene to provide ultraviolet light resistance. DuPont requires that **DuPont<sup>™</sup> Tyvek<sup>®</sup>** HomeWrap<sup>®</sup>, Tyvek<sup>®</sup> DrainWrap<sup>™</sup>, Tyvek<sup>®</sup> StuccoWrap<sup>®</sup>, and Tyvek<sup>®</sup> ThermaWrap<sup>®</sup> LE be covered within 4 months (120 days) of installation. DuPont requires that **DuPont**<sup>™</sup> Tyvek<sup>®</sup> CommercialWrap<sup>®</sup> and Tyvek<sup>®</sup> **CommercialWrap**<sup>®</sup> **D** be covered within 9 months (270 days) of installation.

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

#### DuPont<sup>™</sup> Tyvek<sup>®</sup> Fluid Applied Products

are silyl-terminated polyether based. They 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**<sup>™</sup> **Tyvek<sup>®</sup> Fluid Applied WB+**<sup>™</sup> and **DuPont**<sup>™</sup> **Tyvek<sup>®</sup> Fluid Applied Flashing and Joint Compound+** are to be covered within 9 months (270 days) of installation.

# **Design Considerations**

DuPont Building Envelope Solutions Products are to be used as outlined in this installation guideline. **DuPont Self-Adhered Flashing** and **Tyvek**<sup>®</sup> **Fluid Applied Flashing and Joint Compound+** should only be used to seal penetrations and flash openings in buildings. **Tyvek**<sup>®</sup> **WRBs, Tyvek**<sup>®</sup> **Fluid Applied Products**, and **DuPont Self-Adhered Flashing Products** are not to be used in roofing applications.

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+**<sup>™</sup> 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**<sup>®</sup> **WRBs** and **Tyvek**<sup>®</sup> **Fluid Applied WB+**<sup>™</sup>.

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 cleaners on or in the facade system may impact the performance of **Tyvek**<sup>®</sup> **WRBs** and **Tyvek**<sup>®</sup> **Fluid Applied WB+**<sup>™</sup>.

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**<sup>®</sup> **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, stains may appear on the **Tyvek**<sup>®</sup> **Fluid Applied Products**, these discolorations will not alter the products' performance.

# Safety and Handling Warning

Tyvek<sup>®</sup> 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<sup>™</sup> Tyvek<sup>®</sup>** is combustible and should be protected from flames and other high heat sources. **DuPont<sup>™</sup> Tyvek**<sup>®</sup> will melt at 275°F (135°C) and if the temperature of **DuPont<sup>™</sup> Tyvek**<sup>®</sup> reaches 750°F (400°C), it will burn and the fire may spread and fall away from the point of ignition. For more information, call 1-833-338-7668.

#### **DuPont Self-Adhered Flashing Products**

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

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

Tyvek<sup>®</sup> Fluid Applied Products may cause irritation. Repeated or prolonged skin contact may cause allergic reactions with susceptible persons. May cause irritation of respiratory tract. Tyvek<sup>®</sup> Fluid Applied Products are mixtures. Safety and Handling information is based on the products' components. Refer to each product's Safety Data Sheet (SDS) for further information.

# Safety and Handling (continued)

#### 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

## DuPont<sup>™</sup> Tyvek<sup>®</sup> Fluid Applied Products are FOR PROFESSIONAL USE ONLY. 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 when using a spray application. If airborne particles are inhaled while spraying, immediately, immediately move from exposure to fresh air and contact a physician. Use in a well-ventilated area. A 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 ust be used when spraying. NIOSH-approved N95 disposable safety mask with splash impact goggles can be used 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 aloves/protective clothing/eve 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<sup>™</sup> Window & Door Polyurethane Foam Sealant is

combustible and will burn if exposed to open flame or sparks from highenergy sources. Do not expose to temperatures above 240°F (116°C). For more information, consult the Safety Data Sheet (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: <u>https://www.nrel.gov/docs/</u> fy14osti/61326.pdf.

In Canada visit: <u>https://nrc-publications.</u> <u>canada.ca/eng/view/ft/?id=96acba7c-</u> <u>afd4-4ea1-94b0-1f8f3500c582</u>. **Great Stuff Pro**<sup>™</sup> polvurethane foam sealant and adhesive products contain isocvanate and a flammable blowing agent. Read all instructions and the Safety Data Sheet (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 the Safety Data Sheet (SDS) carefully before use.

For more information, visit <u>greatstuffpro.com</u> or <u>building.dupont.com</u>

# 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<sup>®</sup> 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 <u>building.dupont.com</u>.

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**Tyvek** 

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

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