

DuPont™ Tyvek® Fluid Applied WB+™

Fluid Applied Weather Barrier for Commercial Wall Substrates Including CMU and Gypsum Sheathing



FEATURES

Description

DuPont™ Tyvek® Fluid Applied WB+™ is a fluid applied air barrier protection engineered for the unique demands of heavy commercial construction projects. Based on a unique formulation using silyl-terminated polyether polymer technology, Tyvek® Fluid Applied WB+™ offers low shrinkage during curing, superior elongation and recovery and can be easily applied in one coat.

Air and Water Barrier Performance

- Offers an ideal combination of air and water holdout with vapor permeability.
- Air Barrier Association of America evaluated to exceed ABAA, ASHRAE 90.1 and IECC air leakage requirements when tested in accordance with ASTM E2357.

Ease of Installation

- Single component, one-coat application.
- Offers 2 to 3 times the coverage of competitive products. Approximately 50 to 65 sq. ft./gallon in one coat, depending on substrate conditions (temperature and moisture), substrate porosity, and uniformity of application.
- Spray or pressure roll for fast and easy application.
- Installation temperature range 25°F ambient (-4°C) to a maximum surface temperature 140°F (60°C). Do not install once ambient temperature exceeds 95°F (35°C), unless surface is shaded. Max in-service temperature 180°F (82°C).
- Exhibits low shrinkage during curing, helping to minimize the risk of cracking and pin-holing.

High Performance Durability

- This formulation of Tyvek® Fluid Applied is not water soluble and will not wash off the wall when exposed to bulk water, even before curing. DuPont™ Tyvek® Fluid Applied WB+™ can be installed on damp surfaces which is defined as when no moisture is transferred to the skin when the substrate is touched.
- The cured membrane exhibits exceptional elongation and recovery properties. When stretched it acts like a rubber band allowing the membrane to move with the building.
- Approved for up to 9 months of UV exposure.

Sustainable Solutions

- DuPont™ Tyvek® Fluid Applied products may contribute toward LEED® points in the areas of Energy and Atmosphere (EA): Optimizing the Building Envelope and Indoor Environmental Air Quality (EQ): Construction IAQ Management Plan and Low

Emitting Materials: Product-Specific EPD (Environmental Product Declaration) Validation. In addition, the use of a continuous air barrier is a prerequisite for LEED applications requiring compliance with ASHRAE 90.1-2010.

- By helping to effectively seal the building envelope and reducing air leakage, the DuPont™ Tyvek® Fluid Applied system helps reduce the amount of energy required for heating and cooling.
- Low VOC (25–30 g/l).

Complete System

Part of a complete, integrated fluid applied weather barrier system, all backed by a limited warranty from DuPont. For best results, use with DuPont™ Tyvek® Fluid Applied Flashing & Joint Compound+ and DuPont™ Sealant for Tyvek® Fluid Applied System.

PROPERTIES

Please contact DuPont at 1-800-448-9835 when additional guidance is required for writing specifications that include this product.

Test Method	Property	Typical Value	Units
ASTM D2369	Solids	99	%
ASTM C679	Skin Over Time @50% R.H. and 70° F	1 to 2	Hrs
ASTM E2178	Air Penetration Resistance	0.0002	cfm/ft² @ 75 Pa (1.57 psf)
Gurley Hill (Tappi T-460)	Air Penetration Resistance	>10,000	sec / 100 cc
ASTM E2357	Wall Assembly Air Penetration Resistance	<0.0002	cfm/ft² @ 75 Pa
ASTM E283	Wall Assembly Air Penetration Resistance	<0.0002	cfm/ft² @ 75 Pa
ASTM E1677	Wall Assembly Air & Water Leakage	Type I	Type
AATCC 127	Water Penetration Resistance	>1000	cm
ASTM E331	Wall Assembly Water Penetration Resistance	No Leakage	Tested to 15 psf
ASTM E96-00	Water Vapor Transmission	22 @ 25 mils Thick	Method B Perms
ASTM C1305	Low Temperature Crack Bridging	PASS	No Cracking at 25 mil Thickness
ASTM D7234	Adhesion Strength - Concrete	>33	psi
ASTM D4541	Adhesion Strength - Exterior Gypsum (delaminates fiber glass top sheet)	>25	psi
ASTM D903	Peel Strength	13 Cohesive Failure	lbf/in (aluminum)
ASTM C794	Adhesion - in - Peel	PASS	lbf/in (mortar)
ASTM D412	Tensile	140	psi
ASTM D412	Elongation at Break	320	%
ASTM D412	Recovery (held at 300% elongation)	99	%
ASTM D2240	Hardness	34	Shore A
Accelerated Weathering (ASTM G-155)	Ultraviolet Light Exposure (UV)	9	Months
ASTM D1970	Nail Sealability	PASS	No Leakage
NFPA 285	Flame Propagation. Multiple Assemblies	PASS	
		Class A	Class
ASTM E84	Surface Burning Characteristics	15	Flame Spread Index
		10	Smoke Developed Index
ASTM C1250	VOC	<2 25-30	% (by wt) g/L
AC 212	Acceptance Criteria for Water Resistive Barriers over Exterior Sheathing	Pass	

Test results shown represent averages. Individual results may vary either above or below averages due to normal manufacturing variations, while continuing to meet product specifications.

INSTALLATION

Please refer to **DuPont™ Tyvek® Fluid Applied WB+™** Wall and Substrate Guidelines and DuPont Tyvek Fluid Applied Flashing Installation Guidelines.

Use Conditions

- **Tyvek® Fluid Applied WB+™** is intended to be installed as part of membrane drainage wall system. Do not install on a wall that does not feature a continuous path for moisture drainage (as defined below*).
- Stirring is not necessary. If separation should occur, gently fold material until mixture is uniform. Avoid any type of mixing that will introduce air into the product.
- The temperature of the **Tyvek® Fluid Applied WB+™** at the spray tip of standard spray equipment should be 65°F (18°C) or higher. Avoid spraying in very dusty conditions.
- **Tyvek® Fluid Applied WB+™** should be covered with the façade within the 9-month approved UV exposure limit. Follow façade manufacturer's installation and maintenance requirements in order to maintain water holdout. Depending on job site conditions, stains may appear, but will not alter the performance of the product.
- For more information, refer to the DuPont™ Tyvek® Commercial Solutions Technical Bulletin Additional Considerations When Spraying DuPont™ Tyvek® Fluid Applied WB+™. See DuPont™ Tyvek® Fluid Applied WB+™ Wall and Substrate Guidelines as well for detailed application instructions.

*A "Continuous Path for Moisture Drainage to the Exterior" consists of a designed path for continuous moisture drainage which must allow moisture to drain freely and without interruption along the drainage plane. Examples of obstructions that can interrupt drainage are: eyebrows, band boards, building returns, etc. The intent is to ensure that any moisture that penetrates the exterior cladding and reaches DuPont™ Tyvek® Fluid Applied WB+™ can drain and exit the building envelope. The wall system should be designed to prevent moisture accumulation (trapping moisture) within the assembly. Materials should be installed in shingle fashion to provide positive drainage; with sealed penetrations, kick-out or diverter flashing at windows, doors, and any vertical to horizontal changes of the building plane. Proper shingling and integration with kick-out or diverter flashings and/or through wall membranes is essential to moisture management.

Preparation

- Surface must be clean, free from frost, grease, dirt, or other contaminants and must be reasonably smooth. Remove all surface dust, dirt, fins, ridges, mortar, and other projections and fill honeycomb, aggregate pockets, holes, recessed mortar joints and other voids in concrete with substrate-patching material.

- Mortar joints in concrete block and voids in poured concrete should be filled flush and smooth and allowed to cure for a minimum of 48 hours.
- Product can be installed on damp surfaces provided no moisture is transferred to the skin when the substrate is touched. This flexibility reduces substrate preparation and protection requirements.

Application

- Complete all joint treatment and flashing prior to any spraying or rolling of **Tyvek® Fluid Applied WB+™**.
- **Tyvek® Fluid Applied WB+™** can be applied in a single application at 25 mils thick; spot check with a wet mil gauge. Inspect surface for voids and pinholes and repair as necessary.
- Refer to the Wall and Substrate Guidelines for complete information.

Curing

- **Tyvek® Fluid Applied WB+™** skins over and is tack free or dry to touch within 2 hours at 70°F and 50% relative humidity. Tack free time and complete cure can vary with temperature, humidity and substrate conditions.
- Uncured DuPont™ Tyvek® Fluid Applied products should not come in contact with DuPont™ Tyvek® Wrap products.
- Performance testing should be done after product is fully cured (~14 days). See curing table in *DuPont™ Tyvek® Fluid Applied WB+™ Wall and Substrate Guidelines (K29398)* for details.

Equipment

Tyvek® Fluid Applied WB+™ may be sprayed using a high-pressure, airless sprayer or applied using a pressure roller in conjunction with a variety of pumps. See *DuPont™ Tyvek® Fluid Applied WB+™ Wall and Substrate Guidelines (K29398)*, for pump, equipment and tip configurations. All manufacturer limitations should be followed.

TESTING

Moisture Protection – Weather-Resistant Barriers

The 2012/2015 International Building Code (IBC, Section 1403.2 Weather Protection) requires that exterior walls shall provide the building with a weather-resistant exterior wall envelope. This shall include flashing as described in Section 1405.4. Tyvek® Fluid Applied System products have been tested and meet weather-resistant barrier codes and standards requirements. The following test methodologies were used:

- ASTM E96-00, Standard Test Methods for Water Vapor Transmission of Materials; Water resistive barriers are typically vapor permeable, which is generally desirable because it allows for drying of incidental moisture intrusion into the wall assembly
- AATCC 127, Hydrostatic Head Test for WRB Materials, measuring pressure to failure or time of failure at a given pressure
- ASTM E331, Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, And Curtain Walls by Uniform Static Pressure.

Air Leakage Control – Air Barriers

ASHRAE 90.1 2010 requires that the entire building envelope shall be designed and constructed with a continuous air barrier. This is a mandatory provision for the building envelope. IECC 2012/2015 (International Energy Conservation Code) for commercial buildings also requires a continuous air barrier. These codes are being adopted in many states across the United States. Tyvek® Fluid Applied System products have been tested and meet air barrier codes and standard requirements. The following test methodologies were used:

- ASTM E2178, Standard Test Method for Air Permeance of Building Materials
- 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
- ASTM E2357 Standard Test Method for Determining Air Leakage of Air Barrier Assemblies
- ASTM E1677, Standard Specification for Air Barrier (AB) Material or System for Low-Rise Framed Building Walls
- ASTM E779-10 Standard Test Method for Determining Air Leakage Rate by Fan Pressurization (whole building)
- ASTM E96 Standard Test Methods for Water Vapor Transmission of Materials

Other

- ASTM E 84 Standard Test Method for Surface Burning Characteristics of Building Materials
- NFPA 285 Standard Fire Test Method for Evaluation of Fire Propagation Characteristics of Exterior Non-Load-Bearing Wall Assemblies Containing Combustible Components
- AC 212 Acceptance Criteria for Water Resistive Coatings used as Water Resistive Barriers over Exterior Sheathing

Tyvek® Fluid Applied System products have been evaluated according to Air Barrier Association of America (ABAA) protocol and are listed at the ABAA website under “ABAA evaluated Air Barrier Assemblies.”

Packaging

DuPont™ Tyvek® Fluid Applied WB+™ is available in 5 gallon pails or 55 gallon drums. The lid contains a reclosable integrated pouring spout / hose inlet designed to assist with spraying and pressure rolling applications while minimizing waste generation.

Warranty

Backed by a limited product warranty, visit building.dupont.com/ warranties or contact your DuPont representative for details.

Limitation

Tyvek® Fluid Applied WB+™ should not be used for below grade applications or in applications in which it will be permanently exposed. Asphalt based adhesives and/or mastics are not recommended for use with this product.

HANDLING

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

Precautionary Statements

- Use only as directed. Avoid inhalation of vapor aerosol. Avoid breathing dust/fumes/gas/mist/vapors/spray.
- Wear protective gloves/protective clothing/eye protection/face protection/respirator. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse.
- 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.
- Store locked up. Dispose of contents/container to an approved waste disposal plant.
- Vapor and aerosols are harmful if using spray application. Use in a well-ventilated area. Use NIOSH approved respirator. If vapors are inhaled, immediately move from exposure to fresh air and contact a physician. Avoid contact with eyes and skin. See Personal Protective Equipment section below.

Hazard Statements

- May cause an allergic skin reaction. May cause serious eye damage. May cause genetic defects. May cause cancer. May damage fertility or the unborn child. May cause irritation.

- Repeated or prolonged skin contact may cause allergic reactions with susceptible persons. May cause irritation of respiratory tract.
- This product is a mixture. Health Hazard information is based on its components.
- **KEEP OUT OF REACH OF CHILDREN**, children can fall in to bucket and drown. Keep children away from bucket with even a small amount of liquid.

Personal Protective Equipment (PPE)

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

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

Clean Up and Purge

- Use appropriate personal protective equipment during clean-up (see Personal Protective Equipment section).
- Uncured Tyvek® Fluid Applied products can be cleaned from hands, tools, and equipment by using a citrus based cleaner or mineral spirits.
- Cured Tyvek® Fluid Applied products can be removed by soaking in citrus based cleaners or using a gel-based paint stripper.
- Clean sprayer components and tools with 100% mineral spirits, naphtha, citrus-based cleaners, or gel-based paint stripper.
- Spray tips can be cleaned in 100% mineral spirits or naphtha using airbrush cleaning tools.
- Material should not be left in the pump, hose, gun, or roller. After applying, flush system with a citrus-based cleaner, or 100% mineral spirits until the system is clean. Avoid using water for cleanup.
- Low pressure portions of the system should be taken apart and cleaned by hand. Before the next usage, flush any remaining solvent out of the system before applying **DuPont™ Tyvek® Fluid Applied WB+™** to the wall substrate.
- Be sure that system is fully clean of any residual Tyvek® Fluid Applied product before introducing a different product. If system is not fully clean, ingredients can react and cause products to cure in the system.

Shelf Life and Storage

- The shelf life is 12 months for an unopened container from the date of manufacture. Reference the “Use By” date printed on the container.
- Store opened containers with a plastic protective liner to slow cure rate. Before reusing a previously opened container, first remove any cured material that may have formed (skinned over) at the top.
- DuPont™ Tyvek® Fluid Applied products should be stored in a clean, dry environment, 50°- 80°F (10° - 27°C). If stored at temperatures below 65°F (18°C), the product must be warmed to a minimum of 65°F (18°C) using standard industry methods prior to spraying for proper atomization at the spray tip.
- Continuous storage at high temperatures will reduce the shelf life of DuPont™ Tyvek® Fluid Applied products.
- Tyvek® Fluid Applied products temporarily stored outside should be stored under cover.

Disposal

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

Supplemental Information

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



**For more information visit us at
tyvek.com/fluidapplied
or call 1-800-448-9835**

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