



SECTION 072500 - WEATHER BARRIERS

TIPS:

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PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section Includes:

1. Commercial weather barrier assemblies.
2. Flexible flashing.
3. Weather barrier flashing.
4. Fluid-applied flashing.
5. Weather barrier accessories.
6. Drainage material.

B. Related Requirements:

1. Section 042000 "Unit Masonry" for masonry ties and flashing installation.
2. Section 042613 "Masonry Veneer" for masonry ties and flashing installation.
3. Section 044200 "Exterior Stone Cladding" for stone masonry ties and flashing installation.
4. Section 044313.13 "Anchored Stone Masonry Veneer" for stone masonry ties and flashing installation.
5. Section 044313.16 "Adhered Stone Masonry Veneer" for stone masonry ties and flashing installation.
6. Section 047200 "Cast Stone Masonry" for stone masonry ties and flashing installation.
7. Section 072100 "Thermal Insulation" for installation of exterior insulation.
8. Section 072413 "Polymer-Based Exterior Insulation and Finish System (EIFS)" for installation of exterior insulation and finish system.
9. Section 072419 "Water-Drainage Exterior Insulation and Finish System (EIFS)" for installation of exterior insulation and finish system.
10. Section 074624 "Wood Shingle and Shake Siding" for installation of wood shingle and shake siding.



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11. Section 074646 "Fiber-Cement Siding" for installation of fiber-cement board siding.
12. Section 092400 "Cement Plastering" for installation of stucco.
13. Section <Insert Section number and title> for <insert material or product to be installed and that requires coordination>.

1.3 DEFINITIONS

- A. Weather Barrier: A combination of materials and accessories that do the following:
 1. Prevent the accumulation of water as a water-resistive barrier.
 2. Minimize the air leakage into or out of the building envelope as a continuous air barrier.
 3. Provide sufficient water vapor transmission to enable drying as a vapor-permeable membrane.
- B. Water-Resistive Barrier: A combination of materials and accessories that prevent the accumulation of water within the wall assembly per International Building Code Section 1403.2.
- C. Continuous Air Barrier: The combination of interconnected materials, assemblies, and sealed joints and components of the building envelope that minimize air leakage into or out of the building envelope per ASHRAE 90.1 section 5.4.3.1.
- D. Vapor Diffusion: A slow movement of individual water vapor molecules from regions of higher to lower water vapor concentration (higher to lower vapor pressure).
- E. Vapor Permeable Membrane: The property of having a water-vapor permeance rating of **10 perms** (575 ng/Pa x s x sq. m) or greater, when tested in accordance with the desiccant method using Procedure A of ASTM E96 per definition in International Building Code. Vapor permeable material permits the passage of moisture vapor through vapor diffusion.

1.4 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference at [**Project site**] <Insert location>.
 1. Meet with Owner, Architect, Manufacturer's Certified Installer, [**weather barrier manufacturer's designated field representative,**] and installers of work that interfaces with or affects weather barrier.
 2. Review methods and procedures related to weather barrier installation, including manufacturer's written instructions.
 3. Review and finalize construction, and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
 4. Examine substrate conditions and finishes for compliance with requirements.
 5. Review flashings, special weather barrier details, weather barrier penetrations, and condition of other construction that affects weather barrier.
 6. Review weather barrier manufacturer's Project Registration and Observation process.



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7. Review Construction Indoor Air Quality Management Plan "Moisture Protection for Absorbent Materials."
8. Review temporary protection requirements for weather barrier during and after installation.

1.5 ACTION SUBMITTALS

A. Product Data: For each type of product.

1. For weather barrier, include data on air and water-vapor permeance based on testing in accordance with referenced standards.

B. Sustainable Design Submittals:

1. Test Reports: Envelope testing and verification of the following:

- a. Water-Spray Test.
- b. Air Infiltration Test.
- c. Water Penetration Test.

2. Product Data: Including the following information:

- a. Provide Environmental Product Declarations (EPDs)
- b. Provide SDS (formerly MSDS), third-party certifications, or product technical data confirming that systems meet or exceed emissions guidelines for volatile organic compounds (VOCs) and hazardous air pollutants (HAPs), as follows:
 - 1) Commercial weather barrier complies with California Department of Public Health (CDPH) Standard.
 - 2) Adhesives and sealants wet-applied on-site are to meet/exceed VOC content requirements for wet-applied products and comply with SCAQMD Rule 1168.
 - 3) Flashing systems comply with SCAQMD Rule 1168 on VOC limits.

C. Shop Drawings: Show details of weather barrier at terminations, openings, and penetrations. Show details of flexible flashing applications.

D. Preconstruction Laboratory Mockup Testing Submittals:

1. **[Engage] [Owner will engage]** in a third-party testing program: Develop[ed] specifically for Project.
2. Test Reports: Prepared by a qualified preconstruction testing agency for each mockup test.
3. Record Drawings: As-built drawings of preconstruction laboratory mockups showing changes made during preconstruction laboratory mockup testing.



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1.6 INFORMATIONAL SUBMITTALS

- A. Evaluation Reports: For [**weather barrier**] [**and**] [**flexible flashing**], from ICC-ES.
- B. Manufacturer's Instructions: For installation of each product specified.
- C. Qualification Data: For Installer[**and**] [**laboratory mockup testing agency**] [**field testing agency**].
- D. Sample Warranty: For manufacturer's warranty.
- E. Reports: Field test and inspection reports.
- F. Installer's weather barrier manufacturer-training certificate.

1.7 QUALITY ASSURANCE

- A. Installer Qualifications: A qualified firm that is certified by weather barrier system manufacturer to install manufacturer's product.
- B. Laboratory Mockup Testing Agency Qualifications: Qualified in accordance with ASTM E699 for testing indicated[**and accredited by IAS or ILAC Mutual Recognition Arrangement in compliance with ISO/IEC 17025**].
- C. Mockups: Build mockups to set quality standards for materials and execution.
 - 1. Build integrated mockups of exterior wall assembly [**as indicated on Drawings**] [**150 sq. ft. (14 sq. m)**] <Insert area or dimensions>, incorporating backup wall construction, external cladding, window, storefront, door frame and sill, insulation, ties and other penetrations, and flashing to demonstrate surface preparation, crack and joint treatment, application of weather barriers, and sealing of gaps, terminations, and penetrations of air-barrier assembly.
 - a. Include junction with roofing membrane [**building corner condition,**] [**and**] [**foundation wall intersection**] [**fenestration and wall interface**].
 - b. If Architect determines mockups do not comply with requirements, reconstruct mockups and apply weather barrier until mockups are approved.
 - 2. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.
 - 3. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.



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- D. Manufacturer's Field Service: Register Project with weather barrier manufacturer prior to installation of weather barrier and comply with weather barrier manufacturer's Project registration and observation process.
- E. Preconstruction Laboratory Mockups:
1. Preconstruction Testing Service: **[Owner will engage]** **[Engage]** a qualified testing agency to perform testing on preconstruction laboratory mockups.
 2. Build preconstruction laboratory mockups at testing agency facility; use personnel, products, and methods of construction to be used at Project site.
 - a. Size and Configuration: As indicated on Drawings.
 - b. Notify Architect **[seven]** **<Insert number>** days in advance of the dates and times when preconstruction laboratory mockups will be constructed and tested.
 3. Preconstruction Laboratory Mockup Testing Program: Test preconstruction laboratory mockups in accordance with requirements in "Performance Requirements" Article. Perform following tests on base wall to conform to ASTM E2357 Section A2.2.1.2 Specimen 2 for penetrated assemblies.
 - a. Water Penetration by Uniform Static Air Pressure: **[2.86 lb/sq. ft. (137 Pa)] [12.5 lb/sq. ft. (575 Pa)]** pressure for **[15]** **<Insert duration time>**-minute duration tested in accordance with ASTM E331.
 - b. AAMA 501.1 Test Parameters: **[2.86 lb/sq. ft. (137 Pa)] [12.5 lb/sq. ft. (575 Pa)]** **<Insert pressure>** pressure for **[15]** **<Insert duration time>**-minute duration.
 - c. ASTM E330 Test Parameters: **[30 lb/sq. ft. (1440 Pa)] [75 lb/sq. ft. (3500 Pa)]** **<Insert pressure>** pressure for **[10-second]** **<Insert duration time>** duration.
 - d. AAMA 501.5 Test Parameters:
 - 1) Cycle Temperature Range: **0 to 180 deg F (minus 18 to 82 deg C)**.
 - 2) Number of Cycles: **[3] [28]** **<Insert number of cycles>**.
 - 3) Repeat **[ASTM E331]** **[AAMA 501]** **[ASTM E283]** test after thermal cycling.
 - e. Test Results: Laboratory mockup passes if the following results are achieved by the above tests **[individually]** **[collectively]**:
 - 1) No water penetration.
 - 2) No structural failure.
 - 3) No expansion or contraction failures.
 - 4) **<Insert test results>**.

1.8 DELIVERY, STORAGE, AND HANDLING

- A. Do not store near heat source or open flame.



1.9 WARRANTY

- A. Manufacturer's Product Warranty: To repair or replace weather barrier product that fails in materials within specified warranty period.
 - 1. Warranty Period: 10 years from date of purchase.
- B. Manufacturer's Product and Labor Warranty: Manufacturer agrees to repair or replace weather barrier that fails in materials within specified warranty period, including removal and replacement of affected construction up to manufacturer's limits.
 - 1. Warranty Period: 10 years from date of purchase.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Source Limitations: Obtain weather barrier assembly components, including [**weather barrier flashing**] [**and**] [**foam insulation**] <Insert products> from [**same manufacturer as weather barrier**] [**or**] [**manufacturer approved by weather barrier manufacturer**].

2.2 PERFORMANCE REQUIREMENTS

- A. General Performance: Installed weather barrier and accessories shall withstand specified wind pressures, liquid water penetration, and water vapor pressures without failure due to defective manufacture of products.
- B. High-Performance Installations:
 - 1. For installation with one of the following building envelope performance or structural characteristics:
 - a. Exceeding **65 mph (100 km/h)** equivalent structural load.
 - b. Exceeding **15 mph (24 km/h)** equivalent wind-driven rainwater infiltration.
 - c. Buildings with **60 ft. (18 m)** or more total height above grade plane, as defined in the International Building Code.
 - d. Construction with gypsum or cement-based exterior sheathing.
 - e. Non-wood based primary structure such as steel, light gage steel, masonry, or concrete.

2.3 WEATHER BARRIER

- A. Commercial Building Wrap: ASTM E2357 passed, ABAA (Air Barrier Association of America) evaluated air barrier assembly, and assembly water resistance per ASTM E331; with flame-spread and smoke-developed indexes of less than 25 and 450, respectively, when tested in accordance with ASTM E84; UV stabilized for nine-month exposure; and acceptable to authorities having jurisdiction.
1. Basis-of-Design Product: Subject to compliance with requirements, provide DuPont de Nemours, Inc.; [**Tyvek CommercialWrap**] [**and**] [**Tyvek CommercialWrap D**] or comparable product by one of the following:
 - a. **<Insert manufacturer's name>**.
 2. System Description, Single-Layer Weather Barrier: Single-layer weather barrier, including flashing and sealing of penetrations and seams.
 3. System Description, Single-Layer Drainable: Single-layer weather barrier with integral drainage, including flashing and sealing of penetrations and seams.
 4. System Description, Double-Layer Drainable: Double-layer weather barrier, including flashing and sealing of penetrations and seams, arranged as follows:
 - a. Primary Layer: Commercial building wrap [**with**] [**without**] integral drainage installed closest to building interior.
 - b. Secondary Layer: Commercial building wrap [**with**] [**without**] integral drainage installed over primary layer.
 5. Drainability: 98 percent or greater when tested in accordance with ASTM E2273.
 6. Air Permeance, Product: Not more than [**0.001 cfm/sq. ft. at 1.57 lbf/sq. ft. (0.005 L/s x sq. m at 75 Pa)**] [**0.004 cfm/sq. ft. at 1.57 lbf/sq. ft. (0.02 L/s x sq. m at 75 Pa)**] when tested in accordance with ASTM E2178.
 7. Air Permeance, Assembly: Not more than **0.04 cfm/sq. ft. at 1.57 lbf/sq. ft. (0.2 L/s x sq. m at 75 PA)** when tested in accordance with ASTM E 2357 and evaluated by ABAA.
 8. Water Penetration Resistance, Product: Hydrostatic head resistance greater than **7.7 ft. (2.35 m)** in accordance with AATTC 127.
 9. Water Penetration Resistance, Assembly: Assembly wall specimen described in ASTM E2357 to water resistance in accordance with ASTM E331 to [**2.86 lbf/sq. ft. (137 Pa)**] [**6.24 lbf/sq. ft. (300 Pa)**] [**10.4 lbf/sq. ft. (500 Pa)**] [**12.5 lbf/sq. ft. (575 Pa)**] [**15 lbf/sq. ft. (718 Pa)**].
 10. Water-Vapor Permeance: Not less than **23 perms (1300 ng/Pa x s x sq. m)** per ASTM E96/E96M, Desiccant Method (Procedure A) or not less than **28 perms (1600 ng/Pa x s x sq. m)** per ASTM E96/E96M, Water Method (Procedure B).
 11. Water-Vapor Permeance: Not less than **30 perms (1700 ng/Pa x s x sq. m)** per ASTM E96/E96M, Desiccant Method (Procedure A) or not less than **46 perms (2600 ng/Pa x s x sq. m)** per ASTM E96/E96M, Water Method (Procedure B).
 12. Allowable UV Exposure Time: Not less than nine months when tested in accordance with ASTM G155 (Accelerated Weathering).



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13. Flame Propagation Test: Materials and construction shall be as tested in accordance with NFPA 285.
14. Heat and Visible Smoke Release Rates: Maximum rates in accordance with NFPA 285.
 - a. Peak Heat Release: 13,217 Btu/sq. ft. (150 kW/sq. m).
 - b. Total Heat Release: 1762 Btu/sq. ft. (20 MJ/sq. m)
 - c. Effective Heat of Combustion: 7744 Btu/lb (18 MJ/kg)
15. Weather barrier system to have a VOC content of 30 g/L or less.

2.4 WEATHER BARRIER FLASHING

- A. Conformable Weather Barrier Flashing: Composite flashing material composed of micro-creped, polyethylene laminate with a 100 percent butyl-based adhesive layer; AAMA 711 Class A (no primer), Level 3 thermal exposure, 176 deg F (80 deg C) for seven days.
 1. Basis-of-Design Product: Subject to compliance with requirements, provide DuPont de Nemours, Inc.; FlexWrap NF or comparable product by one of the following:
 - a. <Insert manufacturer's name>.
 2. Conformability: Able to create a seamless sill pan extending up the jambs without cuts, patches, or fasteners.
 3. Water Penetration: No leakage at 15 psf (720 Pa) per ASTM E331.
 4. Low Temperature Adhesion: Exceeds minimum value of 1.5 lb./in. (0.26N/mm) at 25 deg F (minus 4 deg C) as Class A (without primer use).
 5. Adhesion After Water Immersion: Exceeds minimum value of 1.5 lb./in. (0.26N/mm), after AAMA 800, Sections 2.4.1.3.1/2.4.1.4.3, Test B.
- B. Strip Flashing: Composite flashing material composed of spunbonded polyethylene laminate with 100 percent butyl-based, dual-sided, adhesive layer; AAMA 711, Class A (no primer), Level 3 thermal exposure, 176 deg F (80 deg C) for seven days.
 1. Basis-of-Design Product: Subject to compliance with requirements, provide DuPont de Nemours, Inc.; [StraightFlash] [StraightFlash VF] or comparable product by one of the following:
 - a. <Insert manufacturer's name>.
 2. Water Penetration: No leakage at 15 psf (720 Pa) per ASTM E331.
 3. Low Temperature Adhesion: Exceeds minimum value of 1.5 lb./in. (0.26N/mm) at 25 deg F (minus 4 deg C) as Class A without primer use.
 4. Adhesion After Water Immersion: Exceeds minimum value of 1.5 lb./in. (0.26N/mm), after AAMA 800, Sections 2.4.1.3.1/2.4.1.4.3, Test B.



2.5 FLUID-APPLIED FLASHING

- A. Fluid-Applied Flashing: Trowel or brush applied, non-water soluble, single component, silyl terminated polyether technology (STPE), vapor permeable, flashing material.
1. Basis-of-Design Product: Subject to compliance with requirements, provide DuPont de Nemours, Inc.; Tyvek Fluid Applied Flashing & Joint Compound+ or comparable product by one of the following:
 - a. **<Insert manufacturer's name>**.
 2. VOC Content: ASTM C1250, less than 2 percent by weight and between 25 to 30 g/L.
 3. Water Vapor Transmission: ASTM E96, Method B, greater than **20 perms (1100 ng/Pa x s x sq. m)** at **25 mils (0.635 mm)** thick.
 4. Minimum Tensile Strength: ASTM D412, **165 lb/sq. ft. (1140 kPa)**.
 5. Minimum Elongation at Break: ASTM D412; 360 percent.

2.6 WEATHER BARRIER ACCESSORIES

- A. Building-Wrap Tape: Pressure-sensitive plastic tape recommended by weather barrier manufacturer for sealing joints and penetrations in commercial building wrap.
1. Basis-of-Design Product: Subject to compliance with requirements, provide DuPont de Nemours, Inc.; Tyvek Tape or comparable product.
- B. Closed-Cell Polyurethane Foam Insulation: Low-pressure, low-expansion, single-component polyurethane foam, with maximum flame-spread and smoke-developed indexes of 15 and 25, respectively, per ASTM E84.
1. Basis-of-Design Product: Subject to compliance with requirements, provide DuPont de Nemours, Inc.; GS Pro or comparable product.
- C. Fasteners with Self-Gasketing Washers: Commercial building wrap manufacturer's recommended pneumatically or hand-applied fasteners with [**1-inch- (25-mm-)**] [**2-inch- (50-mm-)**] diameter, high-density polyethylene cap washers with UV inhibitors.
1. Basis-of-Design Product: Subject to compliance with requirements, provide DuPont de Nemours, Inc.; Tyvek Wrap Caps or comparable product.
- D. Primer for Flashings: Synthetic rubber-based product; spray applied. Strengthen adhesive bond at low temperature applications between weather products such as self-adhered flashing products, commercial building wraps, and common building sheathing materials.
1. Basis-of-Design Product: Subject to compliance with requirements, provide DuPont de Nemours, Inc.; DuPont Adhesive Primer or comparable product.



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2. Peel Adhesion Test: Passes in accordance with ASTM D3330, Test Method F, for the following.
 - a. Peel Angles: 0, 25, 72, and 180 degrees.
 - b. Substrates: Concrete masonry units (CMUs), exterior gypsum sheathing, oriented strand board (OSB), aluminum, and vinyl.
3. Chemical Compatibility: Pass; AAMA 713.
4. Flame Spread Index: 5; ASTM E84.
5. Smoke Development Index: 0; ASTM E84.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, with Installer present, for compliance with requirements.
- B. Verify that substrate and surface conditions are in accordance with commercial weather barrier manufacturer recommendations prior to installation.
 1. Verify that rough sill framing for doors and windows is sloped downwards towards the exterior and is level across width of the opening.
- C. Verify that surfaces to receive weather barrier flashing are clean, dry, and free of frost.
- D. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Direct water onto an acceptable weather barrier drainage plane with an unobstructed path to exterior of wall.
 1. Provide a drainage path for water intrusion through window and door attachment system that collects at window and door sills and directs water to the exterior or weather barrier.

3.3 COMMERCIAL BUILDING WRAP INSTALLATION

- A. General: Comply with weather barrier manufacturer's written installation guidelines and warranty requirements.
- B. Cover exposed exterior surface of sheathing with weather barrier securely fastened to framing immediately after sheathing is installed.



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1. Maintain continuity of air and water barrier assemblies.
 2. Start weather barrier installation at a building corner, leaving **12 inches (300 mm)** of weather barrier extended beyond corner to overlap.
 3. Install weather barrier horizontally starting at lower portion of wall surface.
 4. Provide minimum **6 inches (150 mm)** overlap at horizontal- and vertical-wrap seams in a shingle manner to maintain continuous downward drainage plane and air and water barrier.
- C. Seams: Seal seams with building wrap tape per manufacturer's recommended installation instructions.
1. Shiplap horizontal seams in weather barrier to facilitate proper drainage.
- D. Fasteners: Use weather barrier manufacturer's recommended fasteners to secure weather barrier and install fasteners according to weather barrier manufacturer's installation guidelines.
1. Do not use temporary fasteners to permanently attach weather barrier.
 2. Do not place fasteners with gasketing washers where weather barrier flashing will be installed.
 3. Install fasteners with gasketing washers through flashing where recommended by manufacturer.
- E. Openings: Completely cover openings with weather barrier, then cut weather barrier membrane to openings in accordance with weather barrier manufacturer's installation guidelines.
1. Provide head and jamb flaps and seam overlaps to maintain continuous drainage.
 2. Repair damage to weather barrier using method recommended by weather barrier manufacturer.
 3. Install flashing in accordance with weather barrier manufacturer's installation guidelines.
- 3.4 WEATHER BARRIER FLASHING INSTALLATION
- A. Installation: Remove wrinkles and bubbles, reposition weather barrier as necessary to produce a uniform, smooth surface.
1. Ensure that ambient and substrate surface temperatures are acceptable in accordance with manufacturer instructions and recommendations.
 2. Wipe surfaces to remove moisture, dirt, grease and other debris that could interfere with adhesion.
 3. Apply weather barrier manufacturer's recommended primer over concrete, masonry, and glass-mat gypsum wall sheathing substrates to receive weather barrier flashing.
 4. Lap weather barrier flashing a minimum of **2 inches (50 mm)** onto weather barrier.
 5. Apply pressure over entire surface using roller or firm hand pressure



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- B. Rough Openings: Shiplap flashing with weather barrier in a shingle manner to maintain a continuous downward drainage plane and air and water barrier in accordance with manufacturer's written instructions.
1. Apply [**6-inch- (150-mm-)**] [**9-inch- (230-mm-)**] wide conformable weather barrier flashing at door and window sills.
 2. Ensure that sill flashing does not slope to the interior.
 3. Install backer rod in joint between frame of opening product and flashed rough opening on the interior.
 4. Apply sealant or closed-cell polyurethane foam insulation around entire opening/fenestration product to create air seal around interior perimeter of window openings in accordance with weather barrier manufacturer's instructions.
 5. Around door and window openings, apply butyl-based flashing to flaps of weather barrier.
 6. Use strip flashing with wrap cap screws to secure head flap of the windows.
- C. Penetrations: Apply weather barrier manufacturer's recommended weather barrier flashing patches behind fastening plates, such as brick-tie base plates, metal-flashing clips, and metal channels.
1. Seal weather barrier around each penetration with weather barrier manufacturer's recommended self-adhered flashing product or sealant. Integrate products with flanges into the weather barrier.
- D. Terminations: Provide minimum **2 inches (50 mm)** overlap using strip flashing on adjoining roof and base of wall systems to maintain continuous downward drainage plane.
1. Secure weather barrier with fasteners and weather barrier flashing.

3.5 FLUID-APPLIED FLASHING INSTALLATION

- A. General: Before installing fluid-applied flashing, do the following:
1. Ensure drainage path is not blocked or disrupted. Do not install on walls that do not feature a continuous path for moisture drainage. Blocked or disrupted paths for drainage can result in excess moisture buildup in wall cavity. Do not install below grade.
 2. Remove surface dust, dirt, and loose mortar.
 3. Verify that surface is free of grease and other contaminants and that surface is smooth.
 4. Fill joints in CMUs and voids in cast-in-place concrete with trowel-applied fluid-applied flashing to ensure surface is flush and smooth.
 5. Allow masonry mortar and cast-in-place concrete a minimum of 24 hours to cure before installing fluid-applied flashing.
- B. Fluid-Applied Flashing Installation: Using a trowel or brush, apply fluid-applied flashing around perimeter of recessed window and door openings to a minimum thickness of **25 mils (0.635 mm)**.

1. Extend flashing a minimum of **2 inches (50 mm)** onto top of transition membrane.
2. Inspect for gaps and pinholes in fluid-applied flashing and apply additional coats until no gaps and pinholes appear.
3. Joint Applications: Using a trowel or a brush, fill cracks and voids up to **1/4 inch (6 mm)** in width.
 - a. For joints and cracks between **1/4 and 1/2 inch (6 and 12 mm)** wide, cover first with mesh tape.
 - b. For joints and cracks between **1/2 and 1 inch (12 and 24 mm)** wide, cover first with butyl-based strip flashing.
 - c. Apply a bead, then trowel smooth.
 - d. Seam coverage should be a minimum of **2 inches (50 mm)** wide and **15 to 20 mils (0.38 to 0.51 mm)** thick.
 - e. Inspect for gaps and pinholes in fluid-applied flashing and apply additional coats until no gaps and pinholes appear.

3.6 DRAINAGE MATERIAL INSTALLATION

- A. Install drainage material with grooves or channels running vertically in compliance with manufacturer's written instructions.

3.7 FIELD QUALITY CONTROL

- A. Manufacturer's Field Service: Engage a factory-authorized service representative to train installers and observe subject test-wall areas and installations.
- B. Testing Agency: **[Owner will engage]** **[Engage]** a qualified third-party testing agency to perform tests and inspections.
- C. Test Area: Perform tests on **[one bay at least 30 ft. (9.15 m), by one story]** **[representative areas of structural-sealant-glazed curtain walls]** **[mockups]** **<Insert requirements>**.
- D. Field Quality Control Testing: Perform the following test on **[representative areas of structural-sealant-glazed curtain walls]** **[mockups]** **<Insert requirements>**.
 1. Air Infiltration Whole Building: ASTM E779 at not more than **[0.40 cfm/sf (2.00 L/s per sq. m)]** **[0.25 cfm/sf (1.25 L/s per sq. m)]** **[0.15 cfm/sf (0.75 L/s per sq. m)]** at **1.57 lb/sq. ft. (75 Pa)**.
 2. Water Penetration: ASTM E1105 at a minimum **[uniform]** **[and]** **[cyclic]** static-air-pressure differential of 0.67 times the static-air-pressure differential specified for laboratory testing in "Performance Requirements" Article, but not less than **[2.86 lbf/sq. ft. (137 Pa)]** **[6.24 lbf/sq. ft. (300 Pa)]** **[10.0 lbf/sq. ft. (500 Pa)]** **[12.5 lbf/sq. ft. (600 Pa)]**. No water penetration shall occur as defined in ASTM E1105.



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- a. Perform a minimum of [two] [three] <Insert number> tests in areas as directed by Architect.
 - b. Perform tests in each test area as directed by Architect. Perform at least three tests, prior to [10, 30, and 70 percent completion] <Insert requirements>.
- E. Prepare test and inspection reports.

3.8 CLEANING

- A. Immediately remove release paper and scrap from work area and dispose of material in accordance with requirements of [Section 017300 "Execution."] [Section 017419 "Construction Waste Management and Disposal."] [Section 017300 "Execution" and Section 017419 "Construction Waste Management and Disposal."]

3.9 PROTECTION

- A. Protect installed weather barrier from the following:
- 1. Damage from cladding, structure, or a component of the structure (for example, window, door, or wall system).
 - 2. Contamination from building site chemicals, premature deterioration of building materials, or nonstandard use or application of products.
 - 3. Foreign objects or agents, including the use of materials incompatible with weather barrier products.
 - 4. UV exposure in excess of products' stated limits.

END OF SECTION 072500