**SECTION 07 27 26**

**FLUID APPLIED MEMBRANE AIR BARRIERS**

1. **GENERAL**
   1. SUMMARY
      1. This Section Includes
         1. Fluid applied, vapor permeable air barrier assembly

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SPEC NOTE: Coordinate with project specific Sections.

1. Section 03 00 00 - Concrete
   1. Surfaces must be smooth and without large voids, spalled areas, or sharp protrusions.
   2. Fill tie-holes.
   3. Allow concrete to cure for 3 days after removing forms.
   4. Curing compounds: resin based without oil, wax, or pigments.
   5. Substrates must be free of form release agents.
2. Section 04 20 00 – Unit Masonry
   1. Fill grout, strike mortar full, and remove mortar droppings to create a continuous and void free substrate. Mortar may be tooled or flush with face of block.
   2. Cure for 36 hours
   3. Core fill grout: cure for 48 hours
3. Section 06 16 00 – Sheathing and Section 07 92 00 – Joint Sealants
   1. Detail substrate gaps with Henry 925 BES Sealant, Henry liquid-applied flashing, or Henry self-adhered flashing. Refer to Air-Bloc All Weather STPE details for project substrate gap installation guidelines.
4. Section 07 10 00 – Dampproofing and Waterproofing, Section 07 21 00 – Thermal Insulation, Section 07 50 00 – Membrane Roofing, and Section 08 40 00 – Entrances, Storefronts, and Curtain Walls
   1. Verify chemical compatibility, attachment, and warranty requirements for tie-ins at adjacent systems.

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* + 1. RELATED REQUIREMENTS
       1. Section 03 00 00 – Concrete
       2. Section 04 20 00 – Unit Masonry
       3. Section 06 16 00 – Sheathing
       4. Section 07 10 00 – Dampproofing and Waterproofing
       5. Section 07 21 00 – Thermal Insulation
       6. Section 07 50 00 – Membrane Roofing
       7. Section 07 92 00 – Joint Sealants
       8. Section 08 40 00 – Entrances, Storefronts, and Curtain Walls
  1. REFERENCES
     1. Referenced Standards
        1. American Architectural Manufacturers Association (AAMA):
           1. AAMA 711, Specification for Self-Adhering Flashing Used for Installation of Exterior Wall Fenestration Products
        2. American Society for Testing and Materials (ASTM):
           1. ASTM E84, Standard Test Method for Surface Burning Characteristics of Building Materials
           2. ASTM E96, Standard Test Methods for Water Vapor Transmission of Materials
           3. ASTM E2112, Standard Practice for Installation of Exterior Windows, Doors and Skylights
           4. ASTM E2178, Standard Test Method for Air Permeance of Building Materials
           5. ASTM E2357, Standard Test Method for Determining Air Leakage of Air Barrier Assemblies
        3. International Living Future Institute:
           1. Declare Label, LBC Red List Free
        4. National Fire and Protection Agency (NFPA):
           1. NFPA 285, Standard Fire Test Method for Evaluation of Fire Propagation Characteristics of Exterior Non-Load-Bearing Wall Assemblies Containing Combustible Components
  2. ADMINISTRATIVE REQUIREMENTS
     1. Pre-installation Meetings
        1. Review conditions, installation procedures, schedules, and coordination with other Work.
  3. SUBMITTALS
     1. Provide submittals in accordance with Section 01 33 00 Submittal Procedures.
     2. Action submittals:
        1. Product data:
           1. Guide specification
           2. Safety data sheets
           3. Standard details
           4. Technical data sheets
        2. Certificates:
           1. Product certification stating assembly components are supplied and warranted by a single source Manufacturer.
           2. LEED HPD declaration
           3. Declaration Status: LBC Red List Free
        3. Tests and evaluation reports:
           1. NFPA 285 wall assembly compliance
           2. Air leakage compliance:

ASTM E2178 3rd party test report

ASTM E2357 3rd party test report

* 1. QUALITY ASSURANCE
     1. Qualifications
        1. Manufacturer qualifications:
           1. Minimum of 20 years of experience in the production and sales of air barriers.
        2. Installer qualifications:
           1. Experienced in similar Work as described in this section.
     2. Mock-ups
        1. Construct mockups at a size and location as directed by the [Engineer] [Architect] [Consultant] to verify project specific applications and set quality standards for materials and execution in accordance with Section 01 43 39 Mockups.
           1. Include transitions, moving joints, penetrations, flashings, and tie-ins to adjacent products as part of the mockup.
  2. DELIVERY, STORAGE, AND HANDLING
     1. Delivery and Acceptance Requirements
        1. Deliver materials in original, factory-sealed, unopened containers with intact and legible product label and manufacturer name.
     2. Storage and Handling
        1. Store materials as recommended by the Manufacturer in a protected area and out of direct sunlight. Protect materials from rain and physical damage.
  3. SITE CONDITIONS
     1. Ambient Conditions
        1. Do not perform Work during rain or inclement weather.
        2. Do not perform Work on surfaces covered in frost, snow, or wet to touch. Damp surfaces are acceptable.
        3. Refer to product specific technical data sheet.
  4. WARRANTY
     1. Manufacturer Warranty
        1. Provide Air Barrier Manufacturer’s standard 10-year material warranty.

1. **PRODUCTS**
   1. ASSEMBLIES
      1. Manufacturers
         1. Acceptable manufacturers
            1. AVM Industries

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* + 1. Performance Criteria
       1. Substrate conditions: Can be applied to damp surfaces
       2. Surface burning characteristics meet ASTM E84 Class A
       3. Rain ready within 15 minutes
       4. Minimum application temperature: 40 degrees F (5 degrees C)
       5. Service temperature: minus 40 to 248 degrees F (-40 degrees C to 120 degrees C)
       6. Water vapor permeance:
          1. ASTM E96 (Method A): 13.6 perms
          2. ASTM E96 (Method B): 20.5 perms
       7. Air leakage (ASTM E2357): Pass
       8. Elongation (ASTM D412): 230%
       9. Flame spread and smoke development (ASTM E84): Class A
       10. UV resistance:
           1. Accelerated UV Aging (ASTM G154): ≥ 5 pli
           2. UV resistance during construction: 12 months
           3. Allowed under open joint cladding: 2-inch (5 millimeter) joint and 40 percent area exposure maximum
       11. VOC content, max (EPA Method 24): 25 g/L
    2. Materials
       1. Fluid applied vapor permeable air barrier
          1. UV-resistant, moisture cure, single-component STPE water-resistive air barrier, having the following typical properties:

Basis of Design: Aussie Shield 300 – PLM, permeable liquid membrane, Silyl Terminated Polymer Technology

Color: Dark Grey

Substrate conditions: Can be applied to damp surfaces

Meets ASTM E84: Surface Burning Characteristics Class A

Minimum application temperature: 40 degrees F (minus 5 degrees C)

Service temperature: -40 degrees F to 248 degrees F ( -40 degrees C to 120 degrees C)

Water vapor permeance:

ASTM E96 (Method A): 13.6 perms

ASTM E96 (Method B): 20.5 perms

Air leakage (ASTM E2357): Pass

Elongation (ASTM D412): 230%

Flame spread and smoke development (ASTM E84): Class A

UV resistance:

Accelerated UV aging (ASTM G154): ≥ 5 pli

UV resistance during construction: 1 year

Allowed under open joint cladding: 2-inch (5 millimeter) joint and 40 percent area exposure maximum

VOC content, max (EPA Method 24): 25 g/L

* + - 1. Flashings
         1. Liquid-applied flashing

UV-resistant, moisture cure, single-component STPE air barrier:

Basis of design: Aussie Shield 300 – PLM, permeable liquid membrane

Moisture-cure, single component STP flashing:

Basis of design: Aussie Shield 300 – FLM, permeable liquid flashing

* + - 1. Primers and adhesives for self-adhered flashing

None Needed

Basis of design: Air-Bloc LF Liquid-Applied Flashing

1. **EXECUTION**
   1. EXAMINATION
      1. Verification of Conditions
         1. Verify the substrate is in accordance with Air Barrier Manufacturer requirements and as specified in this Section prior to air barrier installation. Commencement of the Work indicates installer acceptance of the substrate.
            1. Verify surfaces are sound, clean, and free of frost, oil, grease, dirt, excess mortar or other contaminants.
            2. Verify substrates are continuous and secure, smooth and without large voids, spalled areas, or sharp protrusions.
            3. Install sheathing fasteners into solid backing and set flush with sheathing.

Fill grout, strike mortar full, and remove mortar droppings to create a continuous and void free substrate.

Cure for 36 hours

Core fill grout: cure for 48 hours

* + - * 1. Concrete surfaces:

Fill tie-holes.

Allow concrete to cure for 3 days after removing forms.

Curing compounds: resin based without oil, wax, or pigments.

Substrates must be free of form release agents.

* 1. PREPARATION
     1. Protection of In-Place Conditions
        1. Protect areas and surfaces not included in scope of Work against damage or soiling.
        2. Cap and protect exposed back-up walls against wet weather conditions prior to, during, and after application of air barrier assembly.
  2. INSTALLATION
     1. Detailing and Flashing
        1. Install detailing and flashings per Air Barrier Manufacturer’s details.
     2. Air Barrier
        1. Install air barrier in accordance with Air Barrier Manufacturer product specific technical data sheet to create a continuous air and watertight assembly without sags, runs or voids.
        2. Application Rate:
           1. Application rates and wet film thickness as verified with a comb gauge are approximate and may vary depending on texture and porosity of surface.
           2. Wet film thickness (WFT): 20 mils as measured with a comb gauge
           3. Resulting theoretical dry film thickness (DFT): 20 mils
     3. Fastener Penetrations
        1. It is the responsibility of the post-applied fastening component installer to preserve the integrity of the air barrier.
        2. Supplemental sealant may be required at the point of fastener penetration depending on fastened component profiles, substrate type, and fastener installation workmanship.
        3. Contact the Air Barrier Manufacturer for project specific recommendations.
  3. SITE QUALITY CONTROL
     1. Installation Observations
        1. Observe air barrier installation during the following phases:
           1. Air barrier membrane installation start
           2. Prior to cladding installation
  4. CLEANING
     1. Waste Management
        1. As the Work proceeds, and upon completion, promptly clean up and remove from the premises all rubbish and surplus materials resulting from the foregoing Work.
        2. Clean soiled surfaces, spatters, and damage caused by Work of this Section.
  5. PROTECTION
     1. Protect air barrier from damage by other trades.
     2. Install cladding as soon as practical after application. Refer to product specific technical data sheet for product limitations.

END OF SECTION