

SECTION 072700
AIR BARRIERS - CARLISLE

PART 1 GENERAL

1.01 SECTION INCLUDES

- A Fire-resistant self-adhered membrane air barrier.

1.02 REFERENCE STANDARDS

- A ASTM D1970/D1970M - Standard Specification for Self-Adhering Polymer Modified Bituminous Sheet Materials Used as Steep Roofing Underlayment for Ice Dam Protection 2021.
- B ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials 2023.
- C ASTM E96/E96M - Standard Test Methods for Gravimetric Determination of Water Vapor Transmission Rate of Materials 2022a, with Editorial Revision (2023).
- D ASTM E2178 - Standard Test Method for Determining Air Leakage Rate and Calculation of Air Permeance of Building Materials 2021a.
- E NFPA 285 - Standard Fire Test Method for Evaluation of Fire Propagation Characteristics of Exterior Wall Assemblies Containing Combustible Components 2023.

1.03 SUBMITTALS

- A Product Data: Provide data for membrane, joint cover sheet, and joint and crack sealants.
- B Manufacturer's Installation Instructions: Indicate special procedures, perimeter conditions requiring special attention, and acceptable installation temperatures.
- C Warranty:
 - 1. Submit manufacturer warranty and ensure that forms have been completed in Owner's name and registered with manufacturer.
 - 2. Submit installer's certification that installation complies with warranty conditions for the waterproofing membrane.

1.04 QUALITY ASSURANCE

- A Manufacturer Qualifications: Company specializing in manufacturing products specified in this section, with not less than three years documented experience.

1.05 FIELD CONDITIONS

- A Maintain ambient temperatures above 40 degrees F for 24 hours before and during application.

1.06 WARRANTY

- A Manufacturer Warranty: Provide 5-year manufacturer warranty for air barrier failing to resist penetration of air. Complete forms in Owner's name and register with manufacturer.
 - 1. Exceptions are where such failures are the result of building structural failures; hairline cracking of concrete due to temperature change or shrinkage is not considered a structural failure.

PART 2 PRODUCTS

2.01 MANUFACTURER

A Air Barriers:

1. Carlisle Coatings & Waterproofing: www.carlisleccw.com/#sle.
2. Or Approved Equal.

2.02 MATERIALS

A Fire-Resistant Self-Adhered Membrane Air Barrier: Polyester composite membrane with breathable engineered film fully coated on one side with permeable acrylic adhesive, and removable silicone-coated release film that is removed during installation.

1. Product:
 - a. Carlisle Coatings & Waterproofing Inc; Fire Resist 705 VP (Vapor Permeable).
 - b. Or Approved Equal.
2. Thickness: 23 mil, 0.023 inch, nominal.
3. Width: 48 inches, nominal.
4. Suitable for installation over wood sheathing substrates.
5. Service Temperature: Range of 20 to 180 degrees F.
6. Water Vapor Permeance: 9.05 perm of membrane, measured in accordance with ASTM E96/E96M using Procedure A, Desiccant Method.
7. Air Permeance: 0.0002 cfm/sq ft maximum membrane leakage when tested at 1.57 psf pressure difference in accordance with ASTM E2178.
8. Comply with NFPA 285 wall assembly requirements.
9. Surface Burning: Flame spread index (FSI) of 10, and smoke developed index (SDI) of 5 or less, when tested in accordance with ASTM E84
10. Low Temperature Flexibility: No cracking at minus 20 degrees F with 180-degree bend over 1 inch mandrel, measured in accordance with test method ASTM D1970/D1970M.

2.03 ACCESSORIES

- A Seaming Materials:** As recommended by membrane manufacturer.
- B Membrane Sealant:** As recommended by membrane manufacturer.
- C Adhesives:** As recommended by membrane manufacturer.
- D Thinner and Cleaner:** As recommended by adhesive manufacturer, compatible with sheet membrane.
- E Sealant for Cracks and Joints In Substrates:** Resilient elastomeric joint sealant compatible with substrates and waterproofing materials, as recommended by membrane manufacturer.
- F Backer Rods:** Closed-cell polyethylene foam rod, as recommended by membrane manufacturer.

PART 3 EXECUTION

3.01 EXAMINATION

- A Verify existing conditions before starting work.**

- B Verify substrate surfaces are free of frozen matter, dampness, loose particles, cracks, pits, projections, penetrations, or foreign matter detrimental to adhesion or application of air barrier system.
- C Verify that substrate surfaces are smooth, free of honeycomb or pitting detrimental to full contact bond of air barrier materials.
- D Verify that items penetrating surfaces to receive air barrier are securely installed.
- E Where existing conditions are responsibility of another installer, notify Architect of unsatisfactory conditions.
- F Do not proceed with work until unsatisfactory conditions have been corrected.

3.02 PREPARATION

- A Remove projections, protruding fasteners, and loose or foreign matter that may interfere with proper installation.
- B Clean and prime substrate surfaces to receive adhesives and sealants in accordance with manufacturer's installation instructions.

3.03 INSTALLATION

- A Install materials in accordance with manufacturer's installation instructions.
- B Air Barriers: Install continuous airtight barrier over surfaces indicated, with sealed seams and with sealed joints to adjacent surfaces.
- C Apply sealants and adhesives within recommended temperature range in accordance with manufacturer's installation instructions.
- D Self-Adhered Sheets:
 - 1. Prepare substrate in accordance with sheet manufacturer's installation instructions; fill and tape joints in substrate and between dissimilar materials.
 - 2. Overlap sheets shingle fashion to shed water and seal laps airtight, 3 inches, minimum.
 - 3. Overlap sheets onto each side of transitions such as joints, angle changes, and substrate changes, 3 inches, minimum.
 - 4. Once sheets are in place, press firmly onto substrate with resilient hand roller; ensure that laps are firmly adhered with no gaps or fishmouths.
 - 5. Use same material, or other material approved by sheet manufacturer, to seal to adjacent substrates, and as flashing.
 - 6. At wide joints, install extra flexible membrane to allow for joint movement.

END OF SECTION