

SECTION 072716

METAL-CLAD AIR BARRIERS

PART 1 - GENERAL

1.1 GENERAL PROVISIONS

- A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all Sections within DIVISION 01 - GENERAL REQUIREMENTS which are hereby made a part of this Section of the Specifications.

1.2 DESCRIPTION OF WORK

- A. Work Included: Provide labor, materials and equipment necessary to complete the work of this Section, including but not limited to the following:
 - 1. Self-adhering foil-faced, air- vapor- and water-resistive barrier membrane. (AIRLUX MC)
- B. Related Work: The following items are not specified in this Section:
 - 1. Section 054000 - COLD-FORMED METAL FRAMING for lateral support.
 - 2. Section 061600 - SHEATHING for sheathing under air barrier.
 - 3. Section 076200 - SHEET METAL FLASHING AND TRIM for adjacent materials.

1.3 SUBMITTALS

- A. Product Data: Include manufacturer's product specifications, standard details, test results, and general recommendations.
- B. Shop Drawings: Show details of construction and relationship with adjacent materials.
- C. Verification Samples: Submit two 12x12 inch samples.

1.4 QUALITY ASSURANCE

- A. Installer Qualifications: Engage an experienced installer acceptable to the membrane manufacturer who has completed projects similar in material, design, and extent to that indicated for this Project and with a record of successful in-service performance.
- B. Mockups: Provide an in-place mock-up of at location on the building acceptable to the Architect. Accepted mock-up may remain in place.
- C. Preinstallation Conference: Conduct conference at Project site to comply with requirements in Division 01. Review methods and procedures related to air barrier.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Deliver, store and handle materials in accordance with manufacturer's recommendations. Protect from weather and heat over 120 degrees F.

1.6 PROJECT CONDITIONS

- A. Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit installation to be performed according to manufacturers' written instructions and warranty requirements.

1.7 WARRANTY

- A. Warranty: Provide manufacturer's standard limited warranty against defects in materials.

PART 2 - PRODUCTS

2.1 METAL-CLAD AIR BARRIERS

- A. Basis-of-Design: AIRLUX Metal Clad as distributed by Middlesex Building Products, 1635 Shawsheen Street, Tewksbury, MA 01876, Tel. 978-528-7985, Email srancier@middlesexbuildingproducts.com, www..middlesexbuildingproducts.com.

- 1. Description: Vapor-impermeable, self-adhering rubberized asphalt membrane with a factory-applied adhesive applied to a composite facer of cross-laminated HDPE and aluminum foil.
 - a. Self-gasketing when penetrated and under compression with self-tapping screws.
 - b. UV exposure prior to covering, up to one year.
- 2. Physical Properties:
 - a. Peel Resistance of Adhesives ASTM D1876-2015: 8.04 lbf/in.
 - b. Ice Dam Protection -29C ASTM D1970-21: Pass.
 - c. Tensile-Tear Strength ASTM D4073: MD39.6/CD38.8 lbf.
 - d. Tensile Strength ASTM D412-21: 1,020 psi.
 - e. Water Absorption of Plastics ASTM D570-22: 0.74 %.
 - f. Tensile Properties – Plastic Sheet ASTM D882-18: MD695/CD762 psi.
 - g. Peel Strength of Adhesive Bonds ASTM D903-17: 3.5 lbf/in.
 - h. Water Vapor Retarders ASTM E154: 86.3 lbf.
 - i. Air Permeance at 75Pa ASTM D2178-21a: 0.000006 L/Pa*m²*s.
 - j. Surface Burning Characteristics ASTM E84-23b: Pass Class A.
 - k. Water Vapor Transmission ASTM E96 - Desiccant: -0.036 g/(24hr*m²).
 - l. Water Vapor Permeance ASTM E96 - Desiccant: 0.01 perms.
 - m. Water Vapor Transmission ASTM E96 - Water: -0.0936 g/(24hr*m²).
 - n. Water Vapor Permeance ASTM E96 - Water: 0.005 perms.

- B. Accessory Products: Manufacturer's recommended seam tape at joints and perimeter.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates and conditions, with Installer present, for compliance with requirements indicated for conditions affecting performance. Do not proceed with installation until unsatisfactory conditions have been corrected.

3.2 SURFACE PREPARATION

- A. Comply with manufacturer's recommendations including the following:
 - 1. Substrate shall be clean of oil, dust, and excess materials.

2. Acceptable substrates are exterior-grade gypsum sheathing, plywood, OSB, precast or cast-in-place concrete, concrete block, primed steel, aluminum mill finish, anodized aluminum, and galvanized metal.
3. Where applicable, strike masonry joints flush.
4. Concrete surfaces shall be smooth and without large voids, spalled areas, or sharp protrusions. Concrete must be cured a minimum of 14 days and must be dry before application. Where curing compounds are used, they shall be clear resin based, without oil, wax, or pigments.

3.3 INSTALLATION

- A. Install membrane in accordance with manufacturer's instructions, approved submittals and in proper relationship with adjacent construction.
 1. Coordinate with subsequent installation of insulation with self-tapping screws to avoid damage to membrane.
 2. Coordinate to avoid direct contact with flexible PVC/vinyl membranes or gaskets.
- B. Cleaning: On completion of system installation, clean finished surfaces as recommended by manufacturer.

END OF SECTION