

1. **Design Criteria:**

- a. Design consultant is responsible for reviewing air infiltration and water resistance standards that shall apply to the exterior doors in the project with the UVM project manager. ASTM E 283 shall be used as a basis for air infiltration testing and ASTM E 331 shall be used as a basis for water resistance testing. These standards shall be included in the specifications to establish thresholds for acceptable installation during construction, depending on the determined applicability to the project by the design consultant and UVM project manager.
- b. Finish Coordination: It is critical that metal composite wall panels, aluminum-framed entrances and storefronts, fire-rated aluminum storefront framing, metal soffits, and louvers have the same finish, color and coating system; obtain finish system from the same source for color and finish uniformity.
- c. Rail caps or other face sheet capture methods are not acceptable.
- d. Glue: Use of glue to bond sheet to core or extrusions is not acceptable.
- e. Tubular framing for exterior aluminum door systems shall be thermally broken.
- f. Lites in exterior doors shall allow for thermal expansion.
- g. Keying of doors shall match UVM's key core standard - Kaba Peaks SCIF.
- h. Stiles and rails shall be sized to accommodate specified hardware attachment.

2. **References**

- a. 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.
- b. ASTM E331 - Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform Static Air Pressure Difference.
- c. ASTM E330 - Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference
- d. ASTM E1886 - Standard Test Method for Performance of Exterior Windows, Curtain Walls, Doors, and Impact Protective Systems Impacted by Missile(s) and Exposed to Cyclic Pressure Differentials.
- e. ASTM E2068 – Standard Test Method to Determine the Operating and Breakaway Forces of Sliding Windows and Doors.
- f. SFBC 3603.2 – Forced Entry Test
- g. SFBC PA 203 – Cyclic Load Test

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- h. SFBC PA 201 – Large Missile Impact Test
- i. AAMA 1304 - Voluntary Specification for Determining Forced Entry Resistance of Side-Hinged Door Systems.
- j. AAMA 1503-09 – Voluntary Test Method for Thermal Transmittance and Condensation Resistance of Windows, Doors, and Glazed Wall Sections.
- k. AAMA 507-15 – Standard Practice for Determining the Thermal Performance Characteristics of Fenestration Systems in Commercial Buildings.
- l. AAMA 2605-13 – Voluntary Specification, Performance Requirements, and Test Procedures for Superior Performing Organic Coatings on Aluminum Extrusions and Panels.
- m. AAMA 611-14 – Voluntary Specification for Anodized Architectural Aluminum.
- n. Cycle Slam Test Method, NWWDA T.M. 7-90: Minimum 5,000,000 Cycles.
- o. Swinging Security Door Assembly, Doors and Frames, ASTM F 476: Grade 40.
- p. Salt Spray, Exterior Doors and Frames, ASTM B 117: Minimum of 500 hours.
- q. Sound Transmission, Exterior Doors, STC, ASTM E 90: Minimum of 25.
- r. Thermal Transmission, Exterior Doors, U-Value, AAMA 1503-98: Maximum of 0.29 BTU/hr x sf x degrees F. Minimum of 55 CRF value.
- s. National Fenestration Rating Council (NFRC) 102-2010 – Procedure for Measuring the Steady-state Thermal Transmittance of Fenestration Systems.
- t. US Access Board Americans with Disabilities Act

**3. Required Submittals:**

- a. Product Data: Submit manufacturer's product data, including description of materials, components, fabrication, finishes, and installation.
- b. Shop Drawings: Submit manufacturer's shop drawings, including elevations, sections, and details, indicating dimensions, tolerances, materials, fabrication, doors, panels, framing, hardware schedule, and finish.
- c. Samples:
  - i. Door: Submit manufacturer's sample of door showing face sheets, core, framing, and finish.
  - ii. Color: Submit manufacturer's samples of standard colors of doors and frames.

**4. Products, Materials & Equipment:**

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- a. High-Performance Organic Finish: Three-coat metallic fluoropolymer finish complying with AAMA 2605 and containing not less than 70 percent PVDF resin by weight in metallic color coat and clear topcoat. Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturers' written instructions.
- b. Door finishes shall be high performing organic coatings meeting AAMA 2605-13 or anodized coating meeting AAMA 611-14.

5. **Installation, Fabrication, and Construction:**

- a. Separate aluminum from other metal surfaces with bituminous coatings or other means.
- b. Adjust doors, hinges, and locksets for smooth operation without binding.
- c. Adjust closers so that exterior doors latch in windy conditions.
- d. Handicap door operators, card readers/card swipes and security key code pads are to be carefully reviewed, designed, and coordinated at all doors. Card readers and key keeper cabinets shall be connected to an emergency power circuit.

6. **Warranties:**

- a. Warrant doors, frames, and factory hardware against failure in materials and workmanship, including excessive deflection, faulty operation, defects in hardware installation, and deterioration of finish or construction in excess of normal weathering.
- b. Warranty Period: Ten years starting on date of shipment. In addition, a limited lifetime (while the door is in its specified application in its original installation) warranty covering: failure of corner joinery, core deterioration, delamination or bubbling of door skin.