

1. **Design Criteria:**

a. The specification of entrance and storefront systems shall include requirements for the following system components.

- i. Extruded aluminum components
- ii. Hardware requirements and specifications
- iii. Frame Types, components, and options
- iv. Performance expectations and requirements

hardware, operators, and glazing. The side of these systems and indicate related requirements. The contractor has a high chance of success in

- i. Door hardware for aluminum entrances shall be specified here. Refer to the division 8 door hardware

c. Thermally broken systems are preferred over non-thermally broken systems on the project budget. Review options with the architect to determine what is most appropriate for the project on a case-by-case basis.

d. Standard finish coating systems are preferred over custom finishes that are difficult to obtain for future maintenance.

e. Door Thickness and Rail Size:

- i. Standard Duty: 1 3/4" thick doors with 5" min. rail size for standard-duty locations with an expected 100-1000 cycles per day
- ii. Heavy Duty: 2" thick doors with 5" min. rail size for heavy-duty locations with an expected 1000-1500 cycles per day
- iii. Review expected cycles per day with the architect

Revision Date: 07/29/2021

- g. Movement and Deflection
  - i. The design consultant shall indicate the limits of expected movement/deflection of the structural system for use by the contractor's engineer, ie: initial deflection of beams/metal deck/concrete slab, deflection due to superimposed dead/live loads, column shortening, and floor to floor lateral building deflection due to seismic movement.
- h. Entrance and storefront systems shall be detailed to tie into water and air barriers as part of the exterior envelope.
- i. Review sustainability requirements of the project with the UVM project manager to determine the environmental requirements for entrance and storefront systems.

## 2. References

- a. ASTM E283 - Standard Test Method for Determining Rate of Air Leakage Through Exterior Windows, Skylights, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen.
- b. Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference
- c. ASTM E331 - Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform Static Air Pressure Difference.
- d. ASTM E2068 - Standard Test Method for Determination of Operating Force of Sliding Windows and Doors
- e. ASTM B209 - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate
- f. ASTM B221 - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes
- g. ASTM B308/B308M - Standard Specification for Aluminum-Alloy 6061-T6 Standard Structural Profiles
- h. AAMA 507-15 – Standard for Aluminum Entrances and Storefronts

Revision Date: 07/29/2021

---

- k. AAMA 2605-13 – Voluntary Specification, Performance Requirements, and Test Procedures for Superior Performing Organic Coatings on Aluminum Extrusions and Panels
  - l. AAMA 611-14 – Voluntary Specification for Anodized Architectural Aluminum
  - m. National Fenestration Rating Council (NFRC) 102-2010 – Procedure for Measuring the Steady-state Thermal Transmittance of Fenestration Systems.
  - n. Refer to the LEED Standard being applied if this is a LEED Project, and factor the U values into the building energy modeling.
- 3.

Revision Date: 07/29/2021

---

- d. Verification Samples: 12 inches long of fully finished aluminum.

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

- a. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
  - i. Kawneer North America.
  - ii. EFCO Corporation.
  - iii. Oldcastle Building Envelope.
  - iv. Tubelite.
  - v. Trulite Glass & Aluminum Solutions, LLC.
  - vi. CRL Manufacturing; United States Aluminum.
  - vii. YKK AP America Inc.
- b. Entrance Adapters: Provide all adapters and framing to accommodate entrance doors located within curtain wall.
  - i. Maintain sight lines. Do not “double up” framing at entrances.
- c. Door Closers and Automatic Door Operators: Provide framing to conceal view of closers/operators through glass.
- d. Entrances and storefronts shall utilize high performance sill pans with waterproof end dams. Thermally broken sill pans are preferred but not required.
- e. Sealants shall have a VOC content less than 25 g/l.
- f. Coordinate stile and rail dimensions with the necessary hardware so adequate mounting space is provided.
- g. Doors with mid-rails are preferred over full glass doors so panic hardware has adequate mounting sp

Revision Date: 07/29/2021

---

- d. Coordinate all related work including, without limitation, air barrier system, roof edges, hardware, electric power, and security systems.
  - i. Seal all penetrations thr

