1. This information is intended to provide information for aluminum entrances and storefront systems. Temporary facilities and controls are covered in other parts of these standards or are available from the Facilities Management project representative.

2. General: Provide aluminum entrance and curtainwall systems capable of withstanding loads and thermal and structural movement requirements indicated without failure, based on testing manufacturer’s standard units in assemblies similar to those planned. Failure includes the following:
   a. Air infiltration and water penetration exceeding specified limits.
   b. Framing members transferring stresses, including those caused by thermal and structural movement, to glazing units.

3. Glazing: Physically and thermally isolate glazing from framing members.

4. Thermally broken construction: Provide systems that isolate aluminum exposed to exterior from aluminum exposed to interior with a material of low thermal conductance.

5. Wind loads: Provide entrance and curtainwall systems, including anchorage, capable of withstanding wind load design pressures calculated according to requirements of authorities having jurisdiction or the American Society of Civil Engineers’ ASCE 7, “Minimum Design Loads for Buildings and Other Structures,” 6.4.2, “Analytical Procedure,” whichever are more stringent.
   a. Deflection of framing members in a direction normal to wall plane is limited to 1/175 of clear span or 3/4", whichever is smaller, unless otherwise indicated.
   b. Static-pressure test performance: Provide entrance and curtainwall systems that do not evidence material failures, structural distress, failure of operating components to function normally, or permanent deformation of main framing members exceeding 0.2% of clear span when tested according to ASTM E 330.

6. Seismic loads: Provide entrance and curtainwall systems, including anchorage, capable of withstanding the effects of earthquake motions calculated according to requirements of authorities having jurisdiction or ASCE 7, “Minimum Design Loads for Buildings and Other Structures,” Section 9, “Earthquake Loads,” whichever are more stringent.

7. Dead loads: Provide entrance and curtainwall system members that do not deflect an amount which will reduce glazing bite below 75% of design dimension when carrying full dead load.

8. Live loads: Provide entrance and curtainwall systems, including anchorage, that accommodate the supporting structure’s deflection from uniformly distributed and concentrated live loads indicated without failure of materials or permanent deformation.

9. Air infiltration: Provide entrance and curtainwall systems with permanent resistance to air leakage through fixed glazing and frame areas of not more than 0.06 cfm/sq. ft. of fixed wall area when tested according to ASTM E 283 at a static-air-pressure difference of 1.57 lbf/sq. ft.

10. Water penetration: Provide entrance and curtainwall systems that do not evidence water leakage through fixed glazing and frame areas when tested according to ASTM E 331 at minimum differential pressure of 20% of inward-acting wind-load design pressure as defined by ASCE 7, “Minimum Design Loads for Buildings and Other Structures,” but not less than 6.24 lbf/sq. ft.
11. Thermal movements: Provide entrance and curtainwall systems, including anchorage, that accommodate thermal movements of systems and supporting elements resulting from the following maximum change (range) in ambient and surface temperatures without buckling, damaging stresses on glazing, failure of joint sealants, damaging loads on fasteners, failure of doors or other operating units to function properly, and other detrimental effects. Temperature change (range): 120°F, ambient; 180°F, material surfaces.

12. Structural support movement: Provide entrance and curtainwall systems that accommodate structural movements including sway and deflection.

13. Condensation resistance: Provide storefront systems with condensation resistance factor (CRF) of not less than 45 when tested according to AAMA 1503.1.

14. Average thermal conductance: Provide storefront systems with average U-values of not more than 0.63 Btu/sq. ft. x h x deg F when tested according to AAMA 1503.1 or as required by energy code if more stringent.

15. Building entrance doors shall be extra heavy duty, welded construction rated for high frequency use. Prefer Pacific Aluminum Company entrances. Coordinate closers, hinges, and other hardware with adequate access for future servicing and adjustments. Floor-mounted closers are prohibited. Avoid over-sized doors. All other aluminum doors shall be heavy duty construction with reinforced corners rated for high-frequency use. Head rail for motor operators needs to be reinforced.

16. Provide mitered corners for framing members.

17. Install components for through drainage of water passing joints, condensation occurring within framing members, moisture migrating within the system, all to the exterior via weeps.

18. Detail the perimeter of all assemblies for waterproof performance with flashings and/or compensation channels that avoid sealants being used as the primary weather barrier.

19. Warranty: Submit a written warranty executed by the manufacturer agreeing to repair or replace components of entrance and curtainwall systems that fail in materials or workmanship within the specified warranty period. Failures include the following:
   a. Structural failures including, but limited to, excessive deflection.
   b. Failure of system to meet performance requirements.
   c. Deterioration of metals, metal finishes, and other materials beyond normal weathering.
   d. Failure of operating components to function normally.
   e. Water leakage through fixed glazing or frame areas.

20. Warranty period workmanship: 2 years from date of Substantial Completion.

21. Warranty for metal finishes: 10 years from Substantial Completion.

22. Warranty period for glass: 10 years from Substantial Completion.

23. Manufacturers:
   a. Pacific Aluminum Company
   b. EFCO Corporation
c. Kawneer Company, Inc.

24. Finish: 3 coat Kynar finish meeting AAMA 2605.

End