

**SECTION 083213 - SLIDING ALUMINUM-FRAMED GLASS DOORS**

**PART 1 - GENERAL**

**1.1 SUMMARY**

- A. Section includes sliding aluminum-framed glass doors for exterior locations.
- B. Related Sections:
  - 1. Section 084113 "Aluminum-Framed Entrances and Storefronts" for coordinating finish among aluminum fenestration units on the building exterior.
  - 2. Section 087100 "Door Hardware" for hardware not specified in this Section.

**1.2 PERFORMANCE REQUIREMENTS**

- A. General: Provide sliding aluminum-framed glass doors capable of complying with performance requirements indicated, based on testing manufacturer's sliding doors that are representative of those specified, and that are of minimum test size indicated below:
  - 1. Size indicated on Drawings .
- B. Structural Performance: Provide sliding aluminum-framed glass doors capable of withstanding the effects of the following loads, based on testing units representative of those indicated for Project that pass AAMA/WDMA/CSA 101/I.S.2/A440, Uniform Load Structural Test:
  - 1. Deflection Limits: Design glass framing system to limit lateral deflections of glass edges to less than 1/175 of glass-edge length or 3/4 inch, whichever is less, at design pressure based on testing performed according to AAMA/WDMA/CSA 101/I.S.2/A440, Uniform Load Deflection Test, or structural computations.

**1.3 ACTION SUBMITTALS**

- A. Product Data: For each type of product indicated. Include construction details, material descriptions, fabrication methods, dimensions of individual components and profiles, hardware, finishes, and operating instructions.
- B. Shop Drawings: For sliding aluminum-framed glass doors. Include plans, elevations, sections, details, hardware, attachments to other work, operational clearances, and the following:
  - 1. Joinery details.
  - 2. Glazing details.
  - 3. Accessories.
- C. Samples for Initial Selection: For each type of sliding aluminum-framed glass door indicated.

1. Include similar Samples of hardware and accessories involving color selection.

#### **1.4 INFORMATIONAL SUBMITTALS**

- A. Product Test Reports: Based on evaluation of comprehensive tests performed by a qualified testing agency, for each class, grade, and size of sliding aluminum-framed glass door.

#### **1.5 QUALITY ASSURANCE**

- A. Manufacturer Qualifications: A manufacturer capable of fabricating sliding aluminum-framed glass doors that meet or exceed performance requirements indicated and of documenting this performance by inclusion in lists and by labels, test reports, and calculations.
- B. Installer Qualifications: An installer acceptable to sliding door manufacturer for installation of units required for this Project.
- C. Fenestration Standard: Comply with AAMA/WDMA/CSA 101/I.S.2/A440, "Standard/Specification for Windows, Doors, and Unit Skylights," for minimum standards of performance, materials, components, accessories, and fabrication. Comply with more stringent requirements if indicated.
  1. Provide AAMA or WDMA-certified, sliding aluminum-framed glass doors with an attached label.
- D. Safety Glass: Category II materials complying with testing requirements in 16 CFR 1201.
  1. Subject to compliance with requirements, permanently mark safety glass with certification label of the SGCC or another certification agency acceptable to authorities having jurisdiction.
- E. Glazing Publications: Comply with published recommendations of glass manufacturers and with GANA's "Glazing Manual" unless more stringent requirements are indicated.

#### **1.6 PROJECT CONDITIONS**

- A. Field Measurements: Verify actual dimensions of sliding aluminum-framed glass door openings by field measurements before fabrication.

#### **1.7 WARRANTY**

- A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of sliding aluminum-framed glass doors that fail in materials or workmanship within specified warranty period.
  1. Failures include, but are not limited to, the following:
    - a. Failure to meet performance requirements.
    - b. Structural failures including excessive deflection.
    - c. Faulty operation of movable sash and hardware.

2. Warranty Period:

- a. Sliding Door: Three years from date of Substantial Completion.

**PART 2 - PRODUCTS**

**2.1 MATERIALS**

- A. Aluminum Extrusions: Provide alloy and temper recommended by sliding aluminum-framed glass door manufacturer for strength, corrosion resistance, and application of required finish. Comply with AAMA/WDMA/CSA 101/I.S.2/A440.
- B. Fasteners: Provide fasteners of aluminum, nonmagnetic stainless steel, or other materials warranted by manufacturer to be noncorrosive for SC 3 severe service conditions and compatible with members, trim, hardware, anchors, and other components of sliding aluminum-framed glass doors. Comply with AAMA/WDMA/CSA 101/I.S.2/A440.
1. Exposed Fasteners: Unless unavoidable for applying hardware, do not use exposed fasteners. For application of hardware, use fasteners that match finish of member or hardware being fastened, as appropriate.
- C. Anchors, Clips, and Accessories: Provide anchors, clips, and accessories of aluminum, nonmagnetic stainless steel, or zinc-coated steel or iron for sliding aluminum-framed glass doors, complying with ASTM B 456 or ASTM B 633 for SC 3 severe service conditions; provide sufficient strength to withstand design pressure indicated.
- D. Compression-Type Weather Stripping: Provide compressible weather stripping designed for permanently resilient sealing under bumper or wiper action, and completely concealed when sliding aluminum-framed glass door is closed.
1. Weather-Stripping Material: Manufacturer's standard system and materials complying with AAMA/WDMA/CSA 101/I.S.2/A440.
- E. Sliding-Type Weather Stripping: Provide woven-pile weather stripping of wool, polypropylene, or nylon pile and resin-impregnated backing fabric. Comply with AAMA 701.
1. Weather Seals: Provide weather stripping with integral barrier fin or fins of semirigid, polypropylene sheet or polypropylene-coated material. Comply with AAMA 702.
- F. Sealant: For sealants required within fabricated sliding doors, provide sliding aluminum-framed glass door manufacturer's standard, permanently elastic, nonshrinking, and nonmigrating type recommended by sealant manufacturer for joint size and movement.

**2.2 SLIDING DOOR**

- A. AAMA/WDMA/CSA Performance Requirements: Provide sliding aluminum-framed glass doors of performance indicated that comply with AAMA/WDMA/CSA 101/I.S.2/A440 unless more stringent

performance requirements are indicated.

1. Performance Class and Grade: C30.

B. Air Leakage Resistance: Maximum rate not more than indicated when tested according to AAMA/WDMA/CSA 101/I.S.2/A440, Air Leakage Resistance Test.

1. Maximum Rate: 0.3 cfm/sq. ft. of area at an inward test pressure of 1.6 lbf/sq. ft..

C. Water Penetration Resistance: No water leakage as defined in the AAMA/WDMA/CSA referenced test methods at a water test pressure equaling that indicated, when tested according to AAMA/WDMA/CSA 101/I.S.2/A440, Water Penetration Resistance Test.

1. Test Pressure: 15 percent of positive design pressure, but not less than 2.9 lbf/sq. ft. or more than 12 lbf/sq. ft..

## **2.3 GLAZING**

A. Glass and Glazing System: Comply with Section 088000 "Glazing" for safety glass, insulating-glass units, laminated glass, and glazing requirements applicable to glazed sliding aluminum-framed glass doors.

## **2.4 HARDWARE**

A. General: Provide manufacturer's standard hardware, fabricated from a corrosion-resistant material compatible with aluminum complying with AAMA 907 and designed to smoothly operate, tightly close, and securely lock sliding aluminum-framed glass doors. Do not use aluminum in frictional contact with other metals. Where exposed, provide extruded, cast, or wrought aluminum or nonmagnetic stainless steel.

1. Hardware Finish: BHMA 626.

B. Roller Assemblies: Provide movable panels with adjustable-height roller assemblies, complying with AAMA 906, consisting of self-lubricating, dual tandem stainless-steel ball-bearing rollers; with two roller assemblies per panel.

C. Threshold and Sill Cap/Track: Provide extruded-aluminum threshold and track of thickness, dimensions, and profile indicated; designed to comply with performance requirements indicated; with manufacturer's standard finish.

1. Low-Profile Floor Track: ADA-ABA compliant.

D. Door Pulls: Provide manufacturer's standard extruded-aluminum pull grips.

E. Lock: Install manufacturer's keyed cylinder lock and locking device on each movable panel, lockable from the inside and outside. Adjust locking device to allow unobstructed movement of the panel across adjacent panel in the direction indicated.

1. Keying System: Keyed as directed by Architect.

## **2.5 FABRICATION**

A. Fabricate sliding aluminum-framed glass doors in sizes indicated.

Include a complete system for assembling components and anchoring doors.

- B. Fabricate sliding aluminum-framed glass doors that are reglazable without dismantling panel framing.
- C. Weather Stripping: Provide operable panels with a double row of sliding weather stripping in horizontal rails and single- row weather stripping in meeting or jamb stiles. Provide compression-type weather stripping at the perimeter of each movable panel where sliding-type weather stripping is not appropriate.
  - 1. Provide weather stripping locked into extruded grooves in door panels or frames.
- D. Factory-Glazed Fabrication: Glaze sliding aluminum-framed glass doors in the factory where practical and possible for applications indicated. Comply with requirements in Section 088000 "Glazing" and with AAMA/WDMA/CSA 101/I.S.2/A440.
- E. Glazing Stops: Provide snap-on glazing stops coordinated with Section 088000 "Glazing" and with glazing system indicated. Provide glazing stops to match panel frames.

## **2.6 GENERAL FINISH REQUIREMENTS**

- A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.
- B. Protect mechanical finishes on exposed surfaces from damage by applying a strippable, temporary protective covering before shipping.
- C. Appearance of Finished Work: Noticeable variations in same piece are not acceptable. Variations in appearance of adjoining components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

## **2.7 ALUMINUM FINISHES**

- A. Clear Anodic Finish: AAMA 611, or thicker.

## **PART 3 - EXECUTION**

### **3.1 EXAMINATION**

- A. Examine openings, substrates, structural support, anchorage, and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of work.
  - 1. Metal Surfaces: Dry; clean; free of grease, oil, dirt, rust, corrosion, and welding slag; without sharp edges or offsets at joints.
- B. Verify rough opening dimensions, levelness of threshold substrate, and operational clearances.

- C. Examine wall and other built-in components to ensure a coordinated, sliding aluminum-framed glass door installation.
- D. Proceed with installation only after unsatisfactory conditions have been corrected.

### **3.2 INSTALLATION**

- A. Comply with Drawings, Shop Drawings, and manufacturer's written instructions for installing doors, hardware, accessories, and other components.
- B. Install sliding aluminum-framed glass doors level, plumb, square, true to line, without distortion, warp or rack of frames and panels, or impeding thermal movement, anchored securely in place to structural support, and in proper relation to adjacent construction.
- C. Set sill members in bed of sealant or with gaskets, as indicated, to provide weathertight construction.
- D. Separate aluminum and other corrodible surfaces from sources of corrosion or electrolytic action at points of contact with other materials according to ASTM E 2112, Section 5.12 "Dissimilar Materials."

### **3.3 ADJUSTING, CLEANING, AND PROTECTION**

- A. Lubricate hardware and moving parts.
- B. Adjust operating panels and screens to provide a tight fit at contact points and weather stripping for smooth operation, without binding, and a weathertight closure.
- C. Adjust hardware for proper alignment, smooth operation, and proper latching without unnecessary force or excessive clearance.
- D. Clean aluminum surfaces immediately after installing sliding doors. Comply with manufacturer's written recommendations for final cleaning and maintenance. Avoid damaging protective coatings and finishes. Remove nonpermanent labels, and clean surfaces.
- E. Clean glass immediately after installing sliding aluminum-framed glass doors. Comply with manufacturer's written recommendations for final cleaning and maintenance. Remove nonpermanent labels and clean surfaces.
- F. Remove and replace glass that has been broken, chipped, cracked, abraded, or damaged during construction period.
- G. Protect sliding door surfaces from contact with contaminating substances resulting from construction operations.
- H. Refinish or replace sliding aluminum-framed glass doors with damaged finishes.
- I. Replace damaged components.

**END OF SECTION 083213**